

water passion

# 1959

## CALPEDA, MORE THAN 65 YEARS OF HISTORY

We want to continue that which was started many years ago by Vinicio Mettifogo, founder and pioneer.
Today, we are a reality that has evolved over the years, always looking to the future with a spirit that has brought us to being a respected reference point in the great world of water.
A long history that has taken our tradition and strength to you, acknowledged for our professionalism, quality, reliability and service.

## 65 AÑOS DE HISTORIA

Queremos continuar hoy lo que inició hace muchos años Vinicio Mettifogo, fundador y pionero.
Actualmente somos una empresa que ha evolucionado con el paso del tiempo y que mira siempre al futuro con el espíritu que la caracteriza que ha permitido que seamos un punto de referencia y de respeto en el gran mundo del agua.
Una historia que ha hecho que nuestra tradición sea nuestra fuerza y la vuestra, caracterizada por la seriedad, calidad, fiabilidad y servicio.



# 2024

## CALPEDA TODAY

Employees: 280
Offices: Montorso V. (Vicenza) Italy
Main factory: 35,000 sq. metres (covered)
Types of pumps: more than 2,000
Power outputs: from 0.5 kW to 200 kW

## CALPEDA HOY

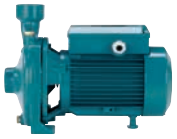
Los empleados: 280
La sede: Montorso Vicentino (Vicenza) Italia
El establecimiento industrial principal: 35.000 mq (cubiertos)
Los tipos de bombas: más de 2.000
Las potencias: de 0,5 a 200 kW



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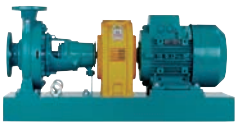
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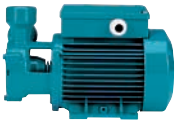
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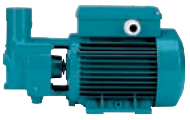
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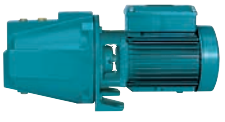
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Multi-Stage Submersible Clean Water Pumps

*Bombas sumergibles multicelulares para agua limpia*



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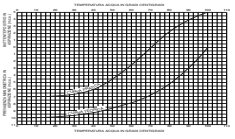
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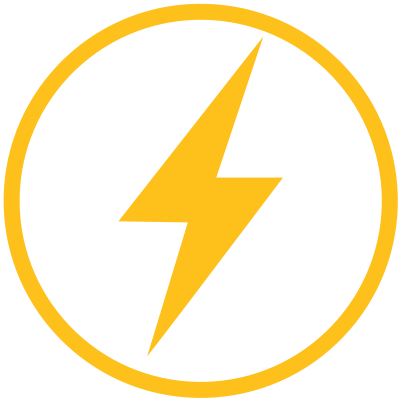
Información técnica

calpeda®

e-ido's® products

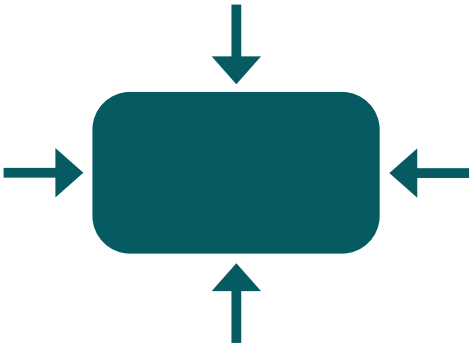
# PLUG AND PLAY SOLUTION





# ENERGY EFFICIENCY

# COMPACT DESIGN



# mèta

## Variable speed pressure boosting system with integrated control

calpeda®

e-idos® products



## Construction

Self-priming booster set with built in frequency converter.

MÈTA is a plug and play solution, the pump is equipped with an integrated pressure transducer, an integrated check valve and a built-in pressure vessel.

The VSD controls the start and stop of the pump and allows to keep a constant pressure.

**Boosting sets with 2 pumps**
Suction and delivery manifolds in stainless steel AISI 304.
Connections are located on the delivery manifold for the installation of one vessel G1 connection.

## Applications

For water supply.
For domestic use, for garden use and irrigation.

## Features

- integrated frequency converter
- built-in pressure vessel
- high efficiency asynchronous motor
- motor power control
- programmable re-start pressure
- no hydraulic losses due to the measuring devices
- voltage and current control
- monitoring of maximum starting current

**EASY TO INSTALL**
Plug And Play solution

**ECONOMIC SAVING**
High efficiency asynchronous motor

**EASY TO USE**
Equipped with a programmable software and, thanks to the analogic pressure sensor, the product allows to set the restart pressure.

## Protections

- dry-run protection
- detects the presence of air in the pump casing
- overload control and overheating motor control
- pump blockage
- power supply control
- starts per hour control
- detects small leakages in the system

## Operating conditions

Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Pump Shaft | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Suction casing | PPO-GF20 (Noryl) |
| Stage casing | PPO-GF20 (Noryl) (AISI 304 for MÈTA SMALL) |
| Impeller | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Membrane | Butyl |
| Tank cover | POM - POLYACETAL |
| Membrane cap | POM - POLYACETAL |
| Non-return valve | POM - POLYACETAL |
| Plug | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Carbon - Ceramic - NBR |

## Motor

2-pole induction motor.
Nominal speed 4500 rpm (5800 rpm per MÈTA SMALL)
Motor: variable speed
Frequency: 50 Hz
Single-phase 220-240V~50Hz/220V~60Hz, with thermal protector.
Cable: H07RN8-F, 3G1,5 mm2, length 1,5 m, with plug CEIUNEL 47166.
Insulation class F.
Protection IP X4.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

# mèta

## Variable speed pressure boosting system with integrated control

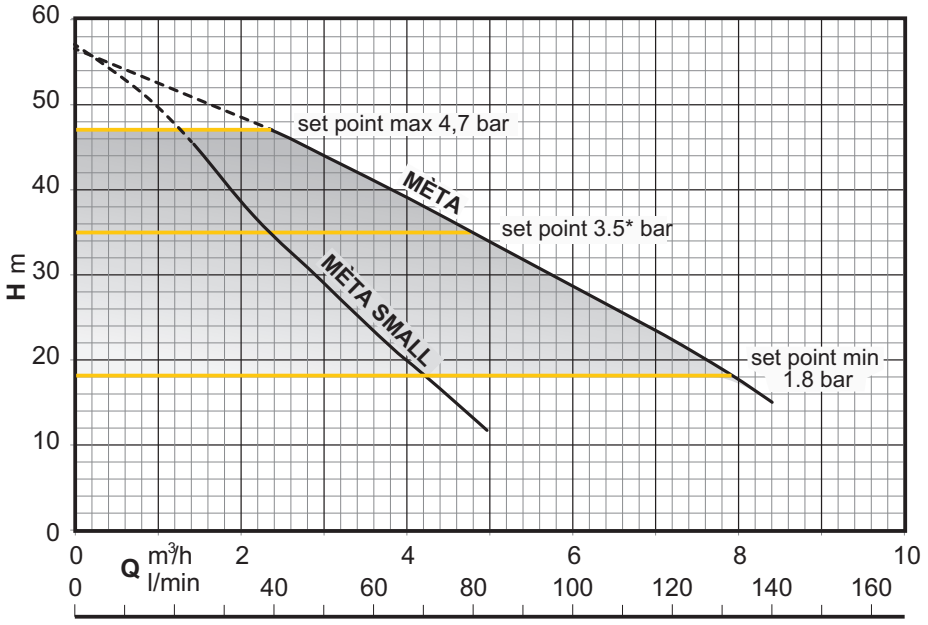
calpeda®

## Performance

| 1 ~ | 230 V | $P_1$ | Q $m^3/h$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 6,5 | 7 | 8 | 8,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | kW | l/min | 0 | 16,6 | 33,3 | 50 | 66,6 | 83,5 | 100 | 108,3 | 116 | 133 | 140 |
| **MÉTA SMALL** | 2,8 | 0,65 | **H** m | 57 | 50 | 37,3 | 28,5 | 20,5 | 11,3 | | | | | |
| **MÉTA** | 5,9 | 1,35 | | 55 | | 48 | 43,5 | 38,7 | 33,8 | 28,6 | 26 | 23,4 | 18,2 | 15 |

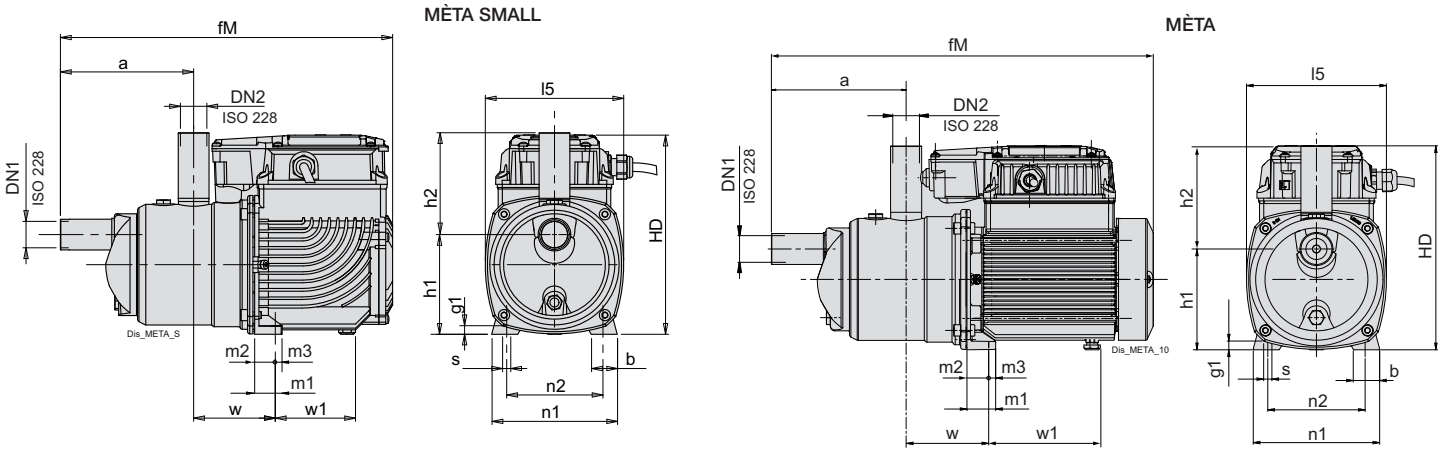
$P_1$ Max. power input. Test results with clean cold water, without gas content. Tolerances according to UNI EN ISO 9906:2012

## Characteristic curves




* Factory settings

## Dimensions and weights




| Nome | ISO 228 | | mm | | | | | | | | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | h1 | h2 | HD | l5 | m1 | m2 | m3 | n1 | n2 | s | w | Peso |
| **MÈTA SMALL** | G 1 | G 1 | 155 | 30 | 387 | 10 | 116 | 119 | 235 | 161 | 33 | 25 | 8 | 146 | 112.5 | 9 | 95 | 10 |
| **MÈTA** | G 1 | G 1 | 155 | 30 | 440 | 10 | 116 | 119 | 235 | 161 | 33 | 25 | 8 | 146 | 112.5 | 9 | 95 | 12.7 |

With cable length: 1,5 m

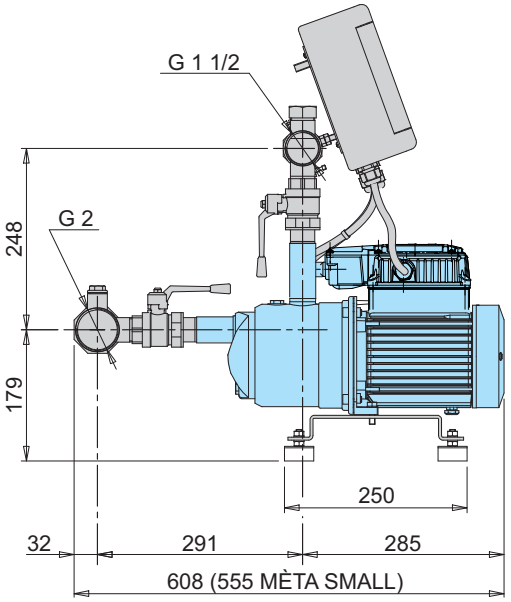
## Performance n ≈ 4500 rpm

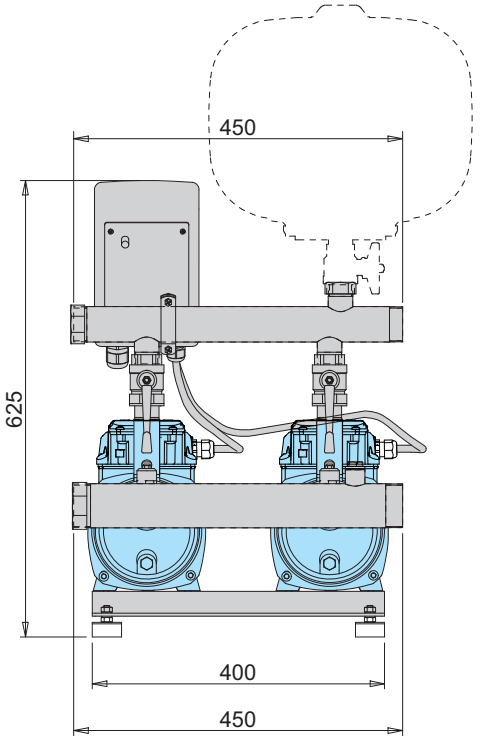
| 1 ~ | 230 V | $P_1$ | **Q** $m^3/h$ | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 13 | 14 | 16 | 16,8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | kW | l/min | 0 | 33,3 | 66,6 | 100 | 133,2 | 166,6 | 200 | 216,6 | 233,3 | 266,6 | 280 |
| **BSM2V 2MÉTA SMALL** | 2,8x2 | 0,65x2 | **H** m | 57 | 50 | 37,3 | 28,5 | 20,5 | 11,3 | | | | | |
| **BSM2V 2MÉTA** | 5,9x2 | 1,35x2 | | 55 | | 48 | 43,5 | 38,7 | 33,8 | 28,6 | 26 | 23,4 | 18,2 | 15 |

$P_1$ Max. power input. Test results with clean cold water, without gas content. Tolerances according to UNI EN ISO 9906:2012

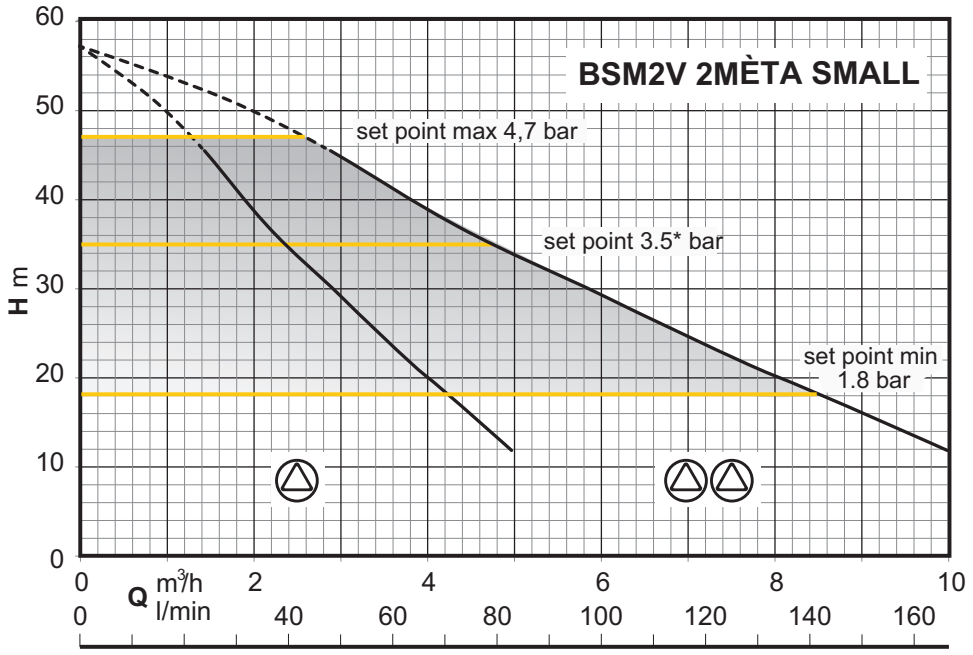
## Dimensions and weights

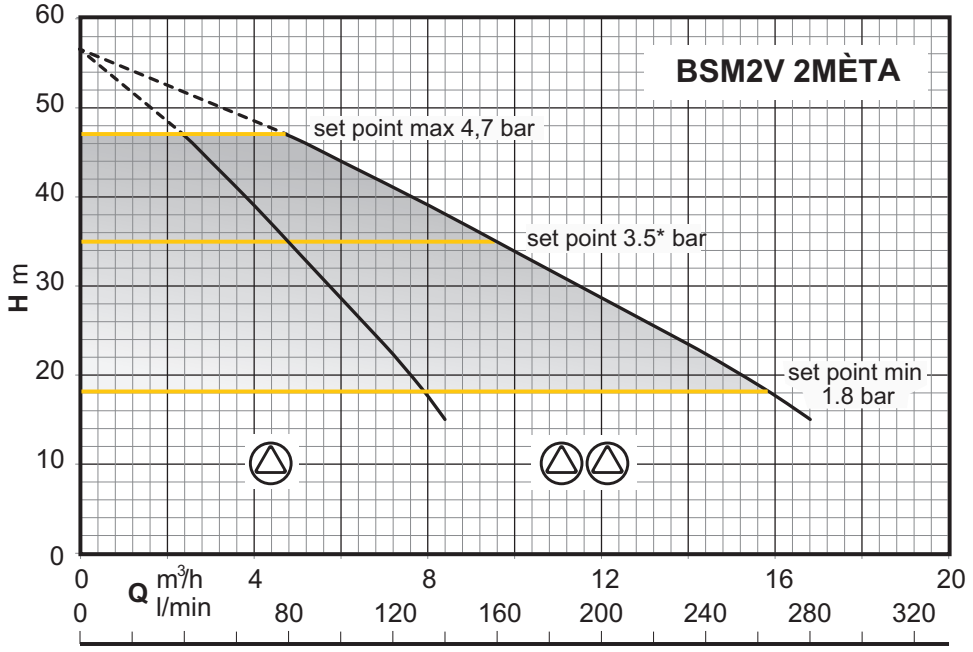
Net weight
BSM2V 2MÈTA SMALL 31,6 kg
BSM2V 2MÈTA 37 kg



## Characteristic curves n ≈ 4500 rpm




* Factory settings

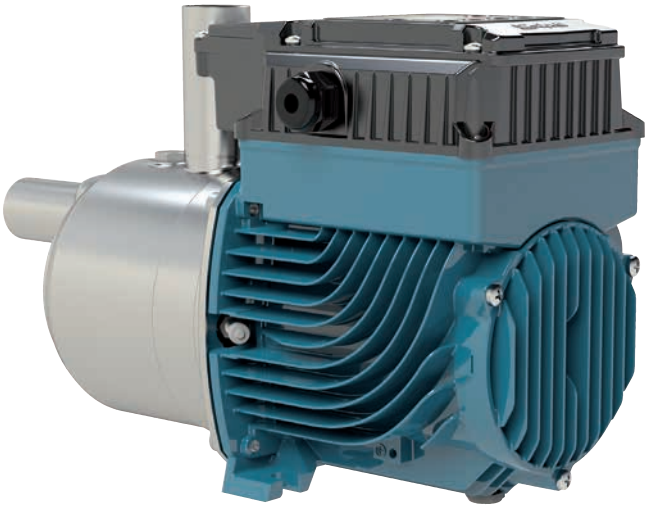
## Control Panel




They allow to visualize:
- Initial screen (rUn, OFF, StB, Err)
- Motor Operating Frequency
- Delivery pressure measured by the transducer
- Supply current input
- Supply electrical power input
- Supply voltage

mèta small

new design without cooling fan



# think outside the box



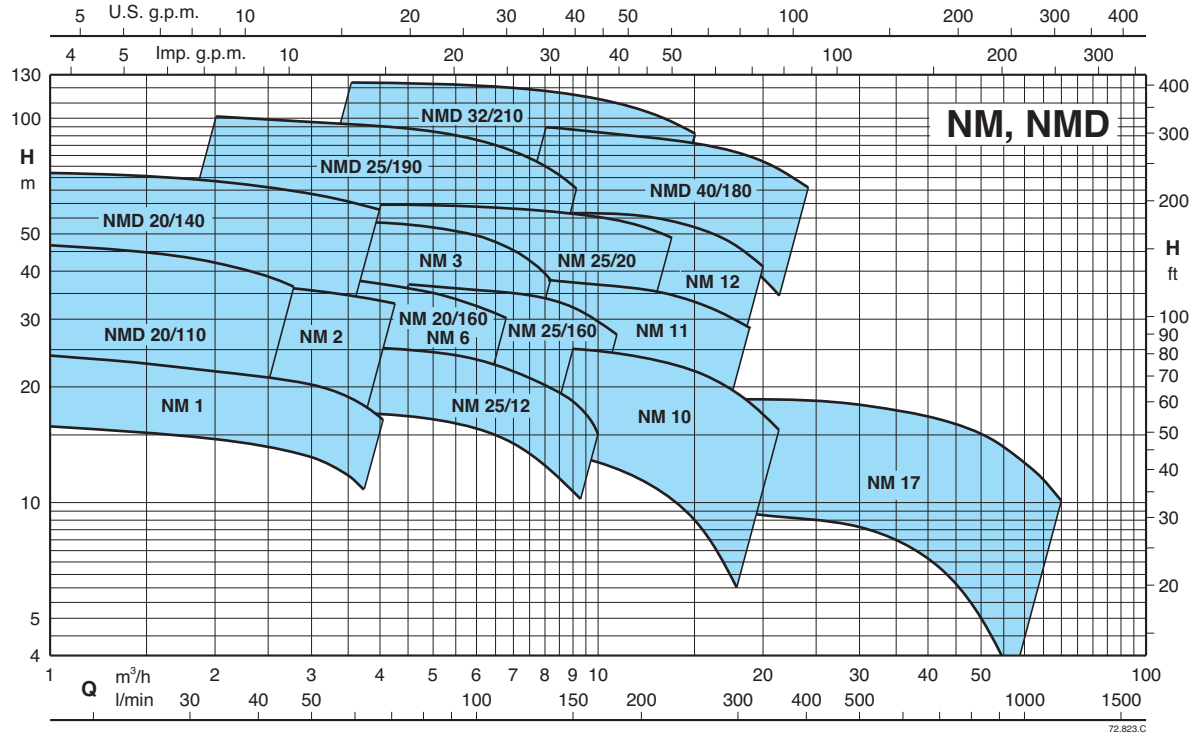
# NM, NMD 60 Hz

## Close Coupled Centrifugal Pumps with threaded ports
## Bombas centrífugas monobloc con orificios roscados



## Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# NM, NMD 60 Hz

## Construction
Close-coupled, centrifugal pumps; electric motor with extended shaft directly connected to the pump.
**NM**: single-impeller
**NMD**: with two back-to-back impellers (with axial thrust balancing).
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
NM, NMD: version with pump casing and lantern bracket in cast iron.
B-NM, B-NMD: version with pump casing and lantern bracket in bronze.
(the pumps are supplied fully painted).

## Applications
- For clean liquids without abrasives, which are, non-aggressive for the pump materials ( solids content up to 0.2%).
- For water supply.
- For heating, air-conditioning, cooling and circulation plants.
- For civil and industrial applications.
- For fire fighting applications.
- For irrigation.

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 10 bar
(16 bar for pumps NMD 25/190; NMD 32/210; NMD 40/180).
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**NM, NMD**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 9,2 kW;
**NMM, NMDM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
With thermal protector up to 1.1 kW only 220V.
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW.

## Ejecución
Electrobombas centrífugas monobloc con acoplamiento directo motor-bomba y eje único.
**NM**: con un rodete.
**NMD**: con dos rodetes contrapuestos (con empuje axial equilibrado).
**Orificios**: Roscados **UNI-ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
NM, NMD: Ejecución con cuerpo bomba y acoplamiento en hierro.
B-NM, B-NMD: Ejecución con cuerpo bomba y acoplamiento en bronce.
(Las bombas en bronce se suministran totalmente pintadas).

## Aplicaciones
- Para líquidos límpios sin partes abrasivas, y no agresivas para los materiales de la bomba (con partes sólidas hasta 0,2% máx).
- Para el aprovisionamiento de agua.
- Para instalaciones de calefacción, acondicionamiento, refrigeración y circulación.
- Para aplicaciones civiles e industriales.
- Para instalaciones contra incendios. - Para irrigación.

## Límites de empleo
Temperatura del líquido de -10 °C a +90 °C.
Temperatura ambiente hasta 40 °C.
Altura de aspiración manométrica hasta 7 metros.
Presión final máxima admitida en el cuerpo de la bomba 10 bar.
(16 bar para bombas NMD 25/190; NMD 32/210; NMD 40/180).
Servicio continuo.

## Motor
Motor a inducción a 2 polos, 60 Hz (n = 3450 1/min).
**NM, NMD**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 9,2 kW;
**NMM, NMDM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 1,1 kW.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.
- Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,75 kW.

## Materials

| Components | | NM, NMD | B-NM, B-NMD |
|---|---|---|---|
| Pump casing<br>Lantern bracket | | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Impeller | | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| | NM 17 | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Shaft | | Cr steel AISI 430 | Cr Ni Mo steel<br>AISI 316 |
| | | Cr Ni steel AISI 303<br>1,1 -1,5 - 2,2 kW | |
| Mechanical seal | | Carbon - Ceramic - NBR | |

## Materiales

| Componentes | | NM, NMD | B-NM, B-NMD |
|---|---|---|---|
| Cuerpo bomba<br>Acoplamiento | | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| Rodete | | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| | NM 17 | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| Eje | | Acero al Cr AISI 430 | Acero al Cr Ni Mo<br>AISI 316 |
| | | Acero al Cr Ni AISI 303<br>de 1,1-1,5-2,2 kW | |
| Sello mecánico | | Carbón - Cerámica - NBR | |

# NM, NMD 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| NM | $P_2$ kW | $P_2$ HP | Q m³/h | 1 | 1,2 | 1,5 | 1,89 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 5,4 | 6 | 6,6 | 7,5 | 8,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min | 16 | 20 | 25 | 31,5 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 125 | 140 |
| NM 1/AE-60 ● | 0,37 | 0,5 | | 22 | 21,8 | 21,5 | 21 | 20,6 | 19,4 | 18,1 | 16,3 | 14,2 | | | | | |
| NM 1/S-60 ● | 0,45 | 0,6 | | 26 | 25,9 | 25,6 | 25,2 | 24,6 | 23,8 | 22,7 | 21,3 | 19,5 | | | | | |
| NM 2/B-60/A ● | 0,55 | 0,75 | | 27 | 26,5 | 26 | 25,5 | 25 | 24 | 23 | 22 | 20 | | | | | |
| NM 2/S-60/A ● | 0,55 | 0,75 | | 32 | 31,5 | 31 | 30,5 | 30 | 28 | 25,5 | 23 | 19,5 | | | | | |
| NM 2/A-60/B ● | 0,75 | 1 | | 36 | 35,5 | 35 | 34,5 | 34 | 32,5 | 31,5 | 30 | 28,5 | 27 | | | | |
| NM 6/B-60 ● | 0,75 | 1 | H | 31,7 | 31,6 | 31,4 | 31,1 | 30,7 | 30 | 29,2 | 28,1 | 26,7 | 25 | 23 | 20,6 | 16,2 | |
| NM 6/A-60 ● | 1,1 | 1,5 | m | 36,6 | 36,4 | 36,3 | 36 | 35,6 | 35 | 34,3 | 33,3 | 32,2 | 30,7 | 28,8 | 26,6 | 22,5 | 17,2 |
| NMM 3/CE-60 | 1,1 | 1,5 | | | 39,5 | 39 | 39 | 38 | 37 | 36,5 | 35 | 33,5 | | | | | |
| NM 3/C-60/A | 1,1 | 1,5 | | | 40 | 39,5 | 39,5 | 39 | 38 | 37 | 36 | 34 | 32* | 29* | | | |
| NMM 3/BE-60 | 1,5 | 2 | | | 45,5 | 45 | 45 | 44,5 | 44 | 43 | 42 | 41 | 39* | 36* | 32* | | |
| NM 3/B-60/A | 1,5 | 2 | | | 47 | 46,5 | 46 | 45,5 | 45 | 44,5 | 43,5 | 42 | 40* | 37* | 33,5* | 28* | |
| NMM 3/A-60/A | 1,8 | 2,5 | | | 53 | 53 | 53 | 53 | 52,5 | 52 | 51 | 49,5 | 48 | 45,5 | 42 | 35,5 | 27 |
| NM 3/A-60/B | 2,2 | 3 | | | 55,5 | 55 | 54,5 | 54 | 53,5 | 53 | 52,5 | 52 | 51* | 49* | 46,5* | 42* | 35* |

| B-NM B-NMD | NM NMD | $P_2$ kW | $P_2$ HP | Q m³/h | 1 | 1,2 | 1,5 | 1,89 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 5,4 | 6 | 6,6 | 7,5 | 8,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | l/min | 16 | 20 | 25 | 31,5 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 125 | 140 |
| B-NMD 20/110B-60/A ● | NMD 20/110B-60/A ● | 0,45 | 0,6 | | 36,5 | 35,5 | 34 | 32 | 28,5 | 24 | 19* | | | | | | | |
| B-NMD 20/110Z-60/A ● | NMD 20/110Z-60/A ● | 0,55 | 0,75 | | 41 | 40 | 38 | 36 | 32,5 | 28 | 23 | 17* | | | | | | |
| B-NMD 20/110A-60/B ● | NMD 20/110A-60/B ● | 0,75 | 1 | | 47 | 46,5 | 45 | 42,5 | 39 | 34 | 29 | 23,5* | | | | | | |
| B-NMDM 20/140BE-60 | NMDM 20/140BE-60 | 1,1 | 1,5 | H | 59 | 58,5 | 58 | 57 | 55 | 52 | 47,5 | | | | | | | |
| B-NMD 20/140B-60/A | NMD 20/140B-60/A | 1,1 | 1,5 | m | 60 | 59,5 | 59 | 58 | 56 | 53 | 49 | 45 | | | | | | |
| B-NMDM 20/140AE-60 | NMDM 20/140AE-60 | 1,5 | 2 | | 66,5 | 65,5 | 65 | 64 | 62,5 | 60 | 57,5 | 55 | 51 | 47,5 | | | | |
| B-NMD 20/140A-60/A | NMD 20/140A-60/A | 1,5 | 2 | | 77 | 76,5 | 76 | 75 | 73,5 | 71 | 69 | 66 | 63 | 59 | 54 | | | |
| B-NM 20/160BE-60 ● | NM 20/160BE-60 ● | 0,75 | 1 | | | | | 33 | 33 | 32 | 31 | 30 | 28,5 | 26,5 | 25 | 23* | | |
| B-NM 20/160A-60/A ● | NM 20/160A-60/A ● | 1,1 | 1,5 | | | | | 39 | 38,5 | 38 | 37 | 36 | 35 | 34 | 33 | 31* | | |

| B-NM B-NMD | NM NMD | $P_2$ kW | $P_2$ HP | Q m³/h | 2,4 | 3 | 3,6 | 4,8 | 6 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | l/min | 40 | 50 | 60 | 80 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 300 |
| B-NM 25/12B-60/A ● | NM 25/12B-60/A ● | 0,55 | 0,75 | | 20,8 | 20,8 | 20,7 | 20,3 | 19,6 | 19,2 | 18,4 | 17,6 | 16,1 | 14,3 | 12 | 9,3 | | | |
| B-NM 25/12A-60/B ● | NM 25/12A-60/B ● | 0,75 | 1 | | 24,5 | 24,6 | 24,6 | 24,3 | 23,6 | 23,1 | 22,4 | 21,6 | 20,4 | 19 | 17 | 14,5 | | | |
| B-NM 25/160B-60/A ● | NM 25/160B-60/A ● | 1,1 | 1,5 | | | 32 | 31,5 | 31 | 30 | 29 | 28 | 26,5 | 23,5* | | | | | | |
| B-NM 25/160A-60/A ● | NM 25/160A-60/A ● | 1,5 | 2 | | | 38 | 37,5 | 37 | 36 | 35,5 | 34,5 | 33 | 31 | 27,5 | 22,5* | | | | |
| B-NM 25/200B-60/C | NM 25/20B-60/C | 2,2 | 3 | H | 44,3 | 44 | 43,7 | 43,2 | 42,6 | 42,1 | 41,5 | 40,8 | 39,6 | 38,1 | 36,3 | 34 | 30,1 | | |
| B-NM 25/200A-60/B | NM 25/20A-60/B | 3 | 4 | m | 52,0 | 51,7 | 51,6 | 51,2 | 50,7 | 50,3 | 49,8 | 49,2 | 48,2 | 47,1 | 45,7 | 43,9 | 40,9 | 37,2 | |
| B-NM 25/200S-60/C | NM 25/20S-60/C | 4 | 5,5 | | 60,2 | 60 | 59,8 | 59,4 | 58,8 | 58,5 | 58 | 57,4 | 56,6 | 55,6 | 54,5 | 53 | 50,5 | 47,4 | 44,5 |
| B-NMD 25/190C-60/B | NMD 25/190C-60/B | 2,2 | 3 | | 69 | 67 | 65 | 60 | 53 | 50 | 42 | | | | | | | | |
| B-NMD 25/190B-60/A | NMD 25/190B-60/A | 3 | 4 | | 81 | 80 | 78 | 73 | 67,5 | 64 | 58 | 51,5 | 41* | | | | | | |
| B-NMD 25/190A-60/B | NMD 25/190A-60/B | 4 | 5,5 | | 98 | 97 | 95 | 92 | 87 | 84 | 79 | 72,5 | 63* | | | | | | |

| NM | $P_2$ kW | $P_2$ HP | Q m³/h | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | l/min | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 |
| NM 10/FE-60 ● | 0,55 | 0,75 | | 12,4 | 12,1 | 11,7 | 11,1 | 10,4 | 9,6 | 8,6 | 7 | | | | | | |
| NM 10/DE-60 ● | 0,75 | 1 | | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | 16,5 | 15,8 | 14,4 | | | | | | |
| NM 10/A-60/A ● | 1,1 | 1,5 | | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | 22,2 | 21,4 | 20,1 | | | | | | |
| NM 10/S-60/A ● | 1,5 | 2 | | 25,2 | 25 | 24,8 | 24,3 | 23,8 | 23,2 | 22,5 | 21,2 | 19,7 | 17,8 | 15,6 | 12 | | |
| NMM 11/BE-60 | 1,5 | 2 | H | 29,5 | 29 | 28,5 | 28 | 27 | 26 | 25 | 22,5 | 20 | | | | | |
| NM 11/B-60/A | 1,5 | 2 | m | 31 | 30,5 | 30 | 29,5 | 29 | 28 | 27 | 25 | 23* | | | | | |
| NMM 11/A-60/B | 2,2 | 3 | | 35,7 | 35,4 | 35,2 | 34,7 | 34,2 | 33,6 | 32,8 | 31,6 | 30 | | | | | |
| NM 11/A-60/B | 2,2 | 3 | | 39 | 38,8 | 38,5 | 38 | 37,4 | 36,6 | 35,8 | 34,4 | 32,8 | | | | | |
| NM 12/D-60/B | 2,2 | 3 | | 39 | 38 | 37,5 | 36,5 | 35 | 34 | 32* | | | | | | | |
| NM 12/C-60/A | 3 | 4 | | 45 | 44,5 | 44 | 43 | 42 | 41 | 40 | 37 | 34* | | | | | |
| NM 12/A-60/B | 4 | 5,5 | | 57 | 56,5 | 56 | 55,5 | 55 | 54 | 53 | 51 | 49* | | | | | |

# NM, NMD 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| B-NMD | NMD | P2 kW | P2 HP | Q m³/h / l/min | 5,4 / 90 | 6 / 100 | 6,6 / 110 | 7,5 / 125 | 8,4 / 140 | 9,6 / 160 | 10,8 / 180 | 12 / 200 | 13,2 / 220 | 15 / 250 | 16,8 / 280 | 18,9 / 315 | 21 / 350 | 24 / 400 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-NMD 32/210D-60/B | NMD 32/210D-60/B | 4 | 5,5 | | 68 | 67 | 65 | 63 | 60 | 55 | 50 | 45 | 40* | | | | | |
| B-NMD 32/210C-60/A | NMD 32/210C-60/A | 5,5 | 7,5 | | 89 | 88 | 87 | 85 | 83 | 79 | 74 | 68 | 63 | 52* | | | | |
| B-NMD 32/210B-60/A | NMD 32/210B-60/A | 7,5 | 10 | | 110 | 109 | 108 | 106 | 104 | 100 | 96 | 91 | 86 | 78* | | | | |
| B-NMD 32/210A-60/A | NMD 32/210A-60/A | 9,2 | 12,5 | H | 121 | 120 | 119 | 118 | 117 | 114 | 110 | 105 | 99 | 89* | | | | |
| B-NMD 40/180D-60/B | NMD 40/180D-60/B | 4 | 5,5 | m | | | | 60 | 58,5 | 57 | 55,5 | 53,5 | 51,5 | 47,5 | 43,5 | 38,5 | 33,5 | |
| B-NMD 40/180C-60/A | NMD 40/180C-60/A | 5,5 | 7,5 | | | | | 68 | 67,5 | 66,5 | 65,5 | 64 | 63 | 59,5 | 57 | 50 | 47,5 | |
| B-NMD 40/180B-60/A | NMD 40/180B-60/A | 7,5 | 10 | | | | | 86,5 | 86 | 84,5 | 83,5 | 82 | 80 | 77,5 | 74 | 68 | 65,5 | 58* |
| B-NMD 40/180A-60/A | NMD 40/180A-60/A | 9,2 | 12,5 | | | | | 93,5 | 92,5 | 91,5 | 90,5 | 89 | 87 | 84,5 | 83 | 75,5 | 73,5 | 66* |

| B-NM | NM | P2 kW | P2 HP | Q m³/h / l/min | 21 / 350 | 24 / 400 | 27 / 450 | 30 / 500 | 33 / 550 | 37,8 / 630 | 42 / 700 | 48 / 800 | 54 / 900 | 60 / 1000 | 66 / 1100 | 75 / 1250 | 84 / 1400 | 96 / 1600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-NM 17/H-60/A● | NM 17/H-60/A● | 1,1 | 1,5 | | 9,2 | 9 | 8,7 | 8,5 | 8 | 7,5 | 6,5 | 5 | 3,5* | | | | | |
| B-NM 17/G-60/A● | NM 17/G-60/A● | 1,5 | 2 | H | 12 | 11,8 | 11,6 | 11,5 | 11 | 10,5 | 9,5 | 8 | 6,5 | 4,5* | | | | |
| B-NM 17/F-60/B | NM 17/F-60/B | 2,2 | 3 | m | | 16 | 15,8 | 15,5 | 15 | 14,5 | 14 | 12,7 | 11,5 | 10 | 8* | | | |
| B-NM 17/D-60/A | NM 17/D-60/A | 3 | 4 | | | | 18 | 17,7 | 17,5 | 17 | 16,5 | 15,5 | 14 | 12,5 | 11* | | | |

**NM, NMD** Standard construction.
Ejecución normal.

**B-NM, B-NMD** Bronze construction.
Ejecución en bronce.

P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

● With single-phase motor = NMM - NMDM.
Con motor monofásico = NMM - NMDM.

* Maximum suction lift 1-2 m.
Altura máxima de aspiración manométrica 1-2 m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

| | P2 kW | P2 HP | single-phase - monofásico 1~ 220V In A | 127V In A | 110V In A | 110/220V In A | Ia/In |
|---|---|---|---|---|---|---|---|
| * | 0,37 | 0,5 | 3,4 | 5,9 | 6,8 | - | 2,7 |
| NMM 1/S-60 | 0,45 | 0,6 | 4,2 | 7,3 | 8,4 | - | 2,6 |
| * | 0,45 | 0,6 | 4,1 | 7,1 | 8,2 | 7.1/3.8 | 2,5 |
| * | 0,55 | 0,75 | 5,2 | 9 | 10,4 | 9.2/4.7 | 3,1 |
| NMM 10/FE-60 | 0,55 | 0,75 | 6,5 | 11,3 | 13 | - | 2,9 |
| NMM 25/12A-60 | 0,75 | 1 | 6,5 | 11,3 | 13 | 12.5/6.4 | 2,9 |
| * | 0,75 | 1 | 6,9 | 12 | 13,8 | 12.5/6.4 | 2,9 |
| NMM 10/DE-60<br>NMM 20/160BE-60 | 0,75 | 1 | 6,5 | 11,3 | 13 | - | 2,9 |
| * | 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| * | 1,5 | 2 | 11 | - | - | - | 3,8 |
| * | 1,8 | 2,5 | 13,5 | - | - | - | 4,5 |

| | P2 kW | P2 HP | three-phase - trifásico 3~ 220/380V In A | 380/660V In A | 220/440V In A | Ia/In |
|---|---|---|---|---|---|---|
| * | 0.37 | 0.5 | 3/1,7 | - | 3,1/1,8 | 3,8 |
| * | 0.45 | 0.6 | 2,6/1,5 | - | 2,7/1,6 | 3,5 |
| * | 0,55 | 0,75 | 3,3/1,9 | - | 3,5/2 | 4,3 |
| NM 10/FE-60 | 0,55 | 0,75 | 4,5/2,6 | - | 4,7/2,7 | 5,2 |
| * | 0,75 | 1 | 4,8/2,8 | - | 5/2,9 | 6 |
| NM 10/DE-60<br>NM 20/160BE-60 | 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| * | 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| * | 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 5 |
| * | 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 9 |
| * | 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| * | 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| * | 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| * | 7,5 | 10 | | 17/9,8 | | 9,2 |
| * | 9,2 | 12,5 | | 22/12,7 | | 8,3 |

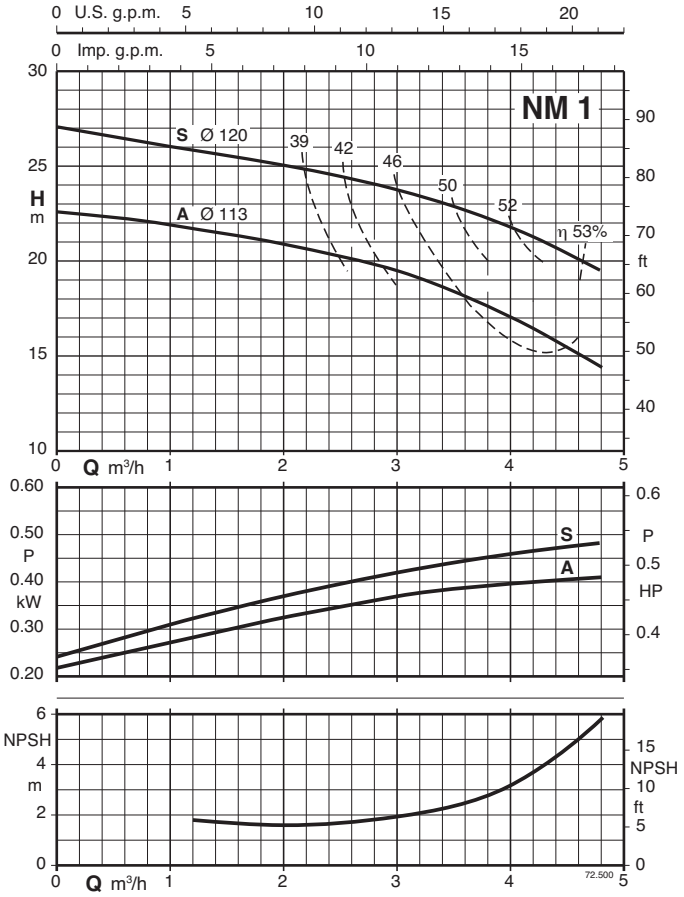
* For all types.
Para todos los tipos.

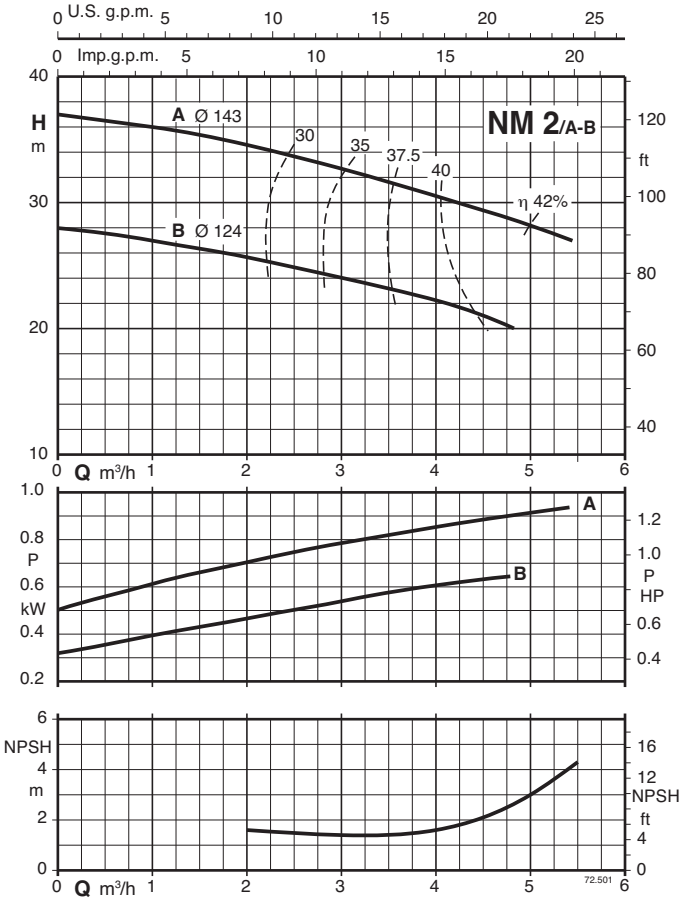
P2 Rated motor power output.
Potencia nominal del motor.

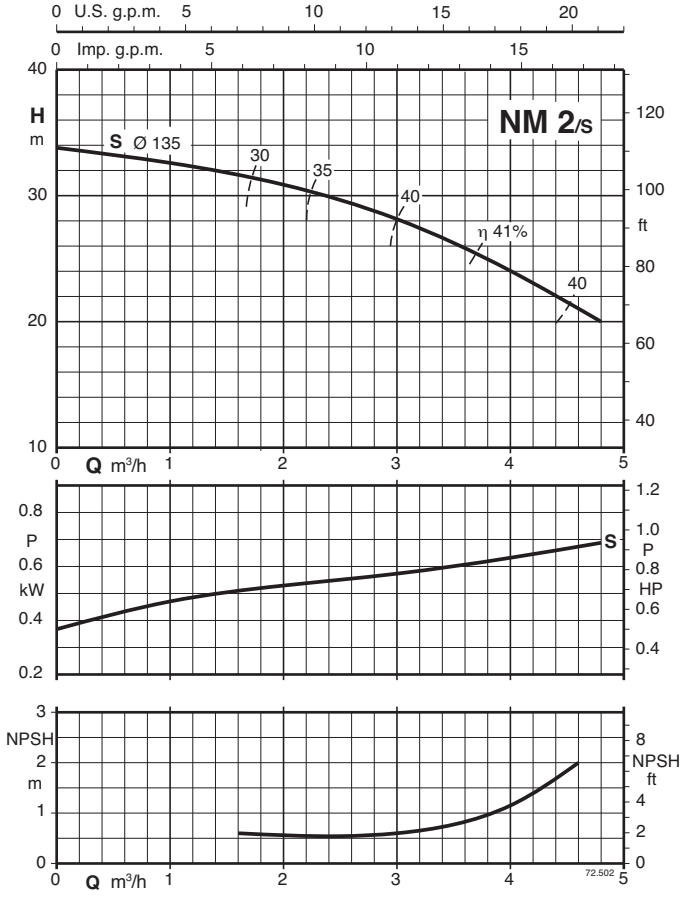
Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

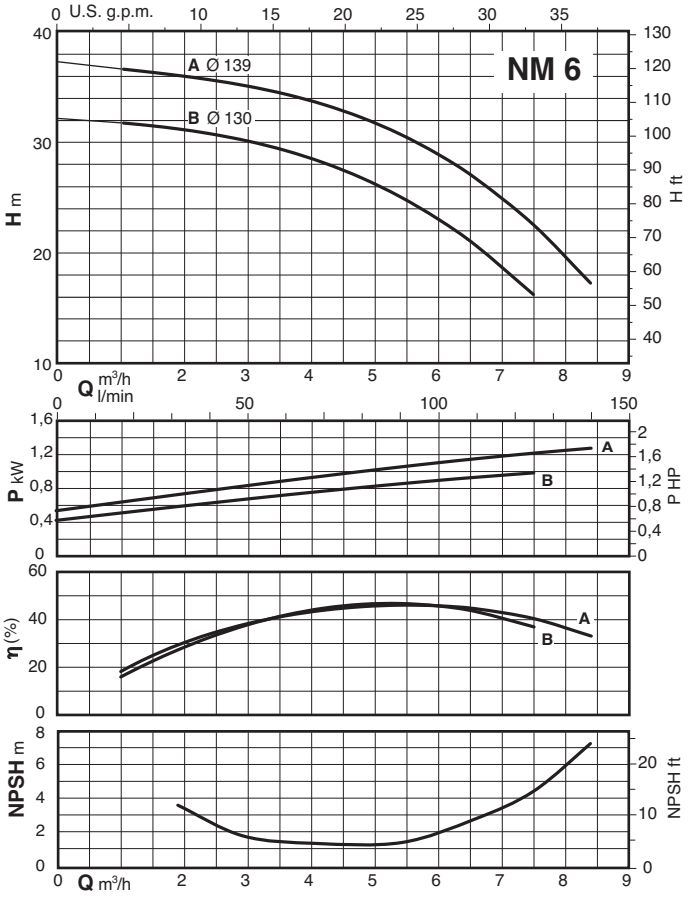
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



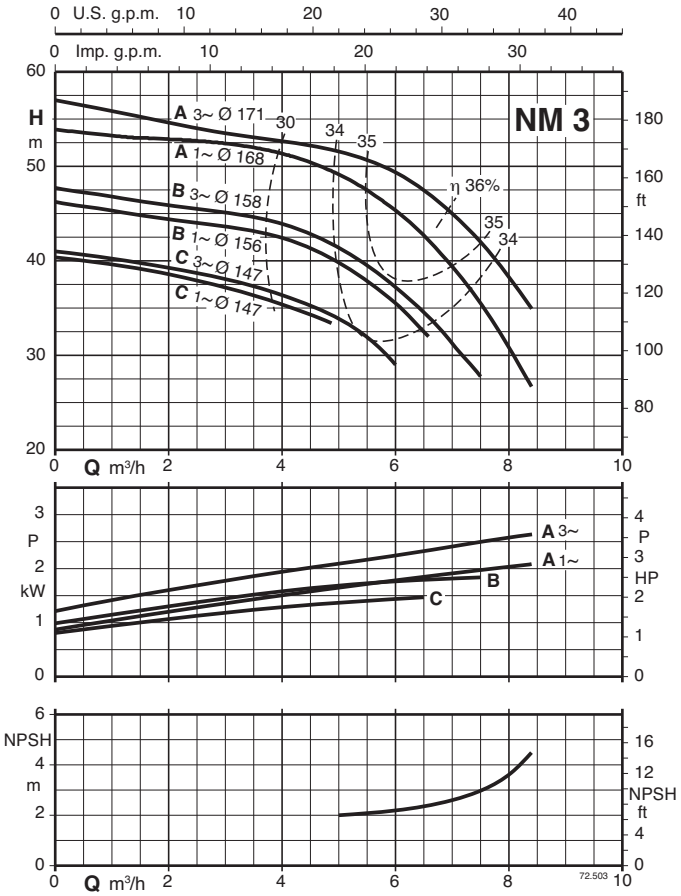



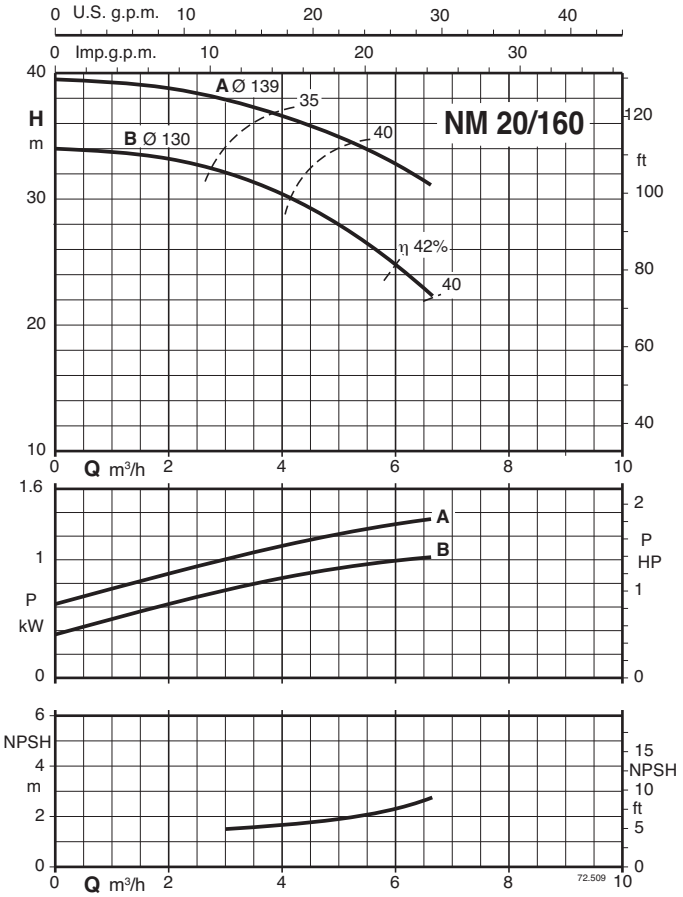



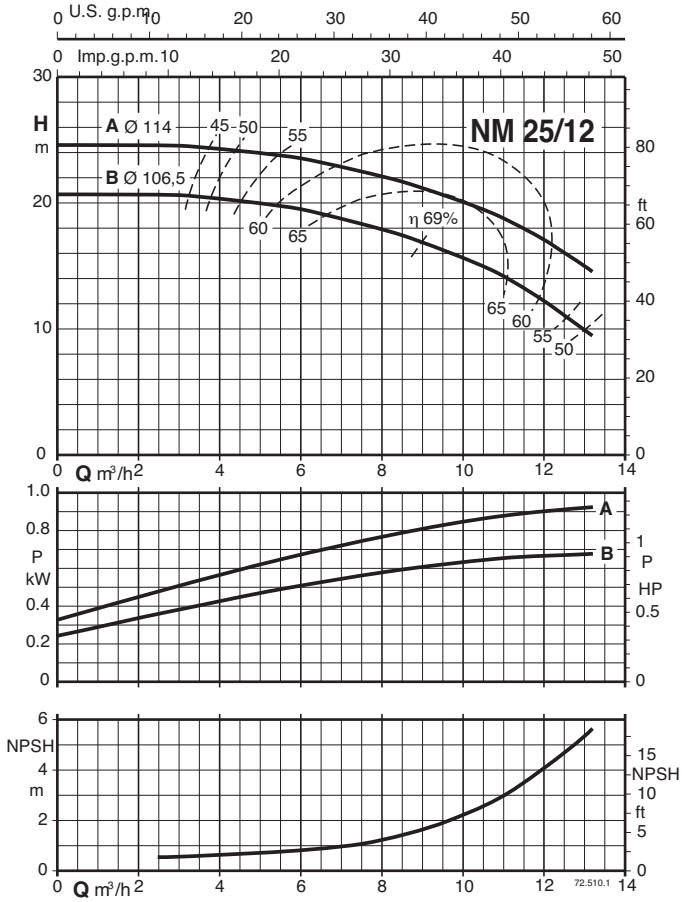



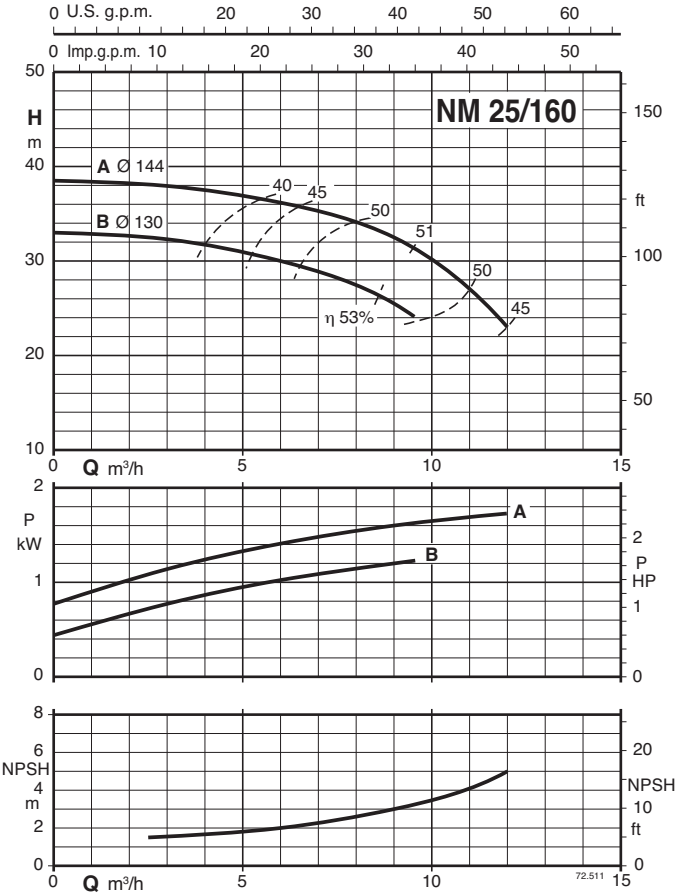
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



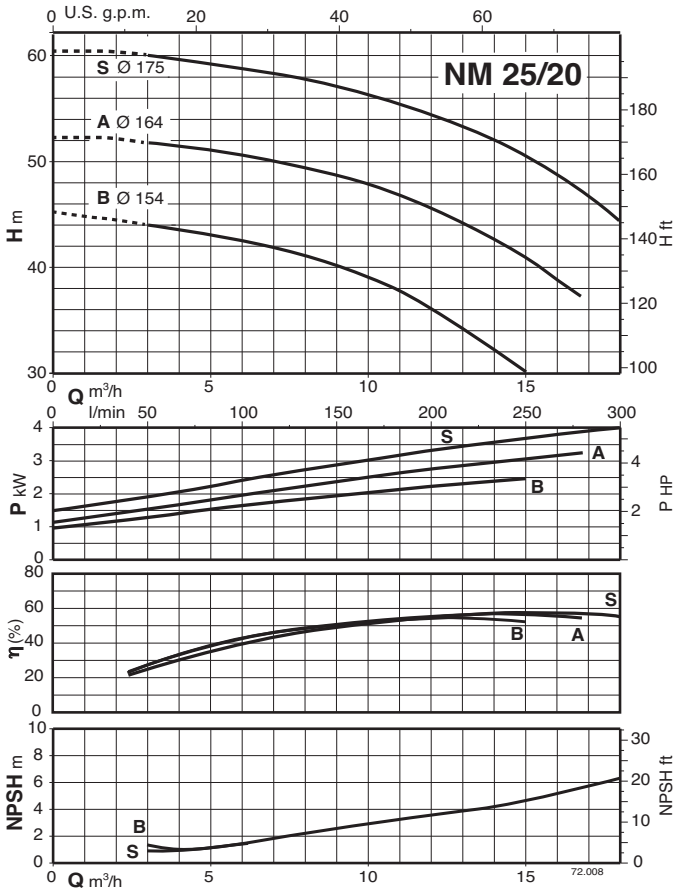



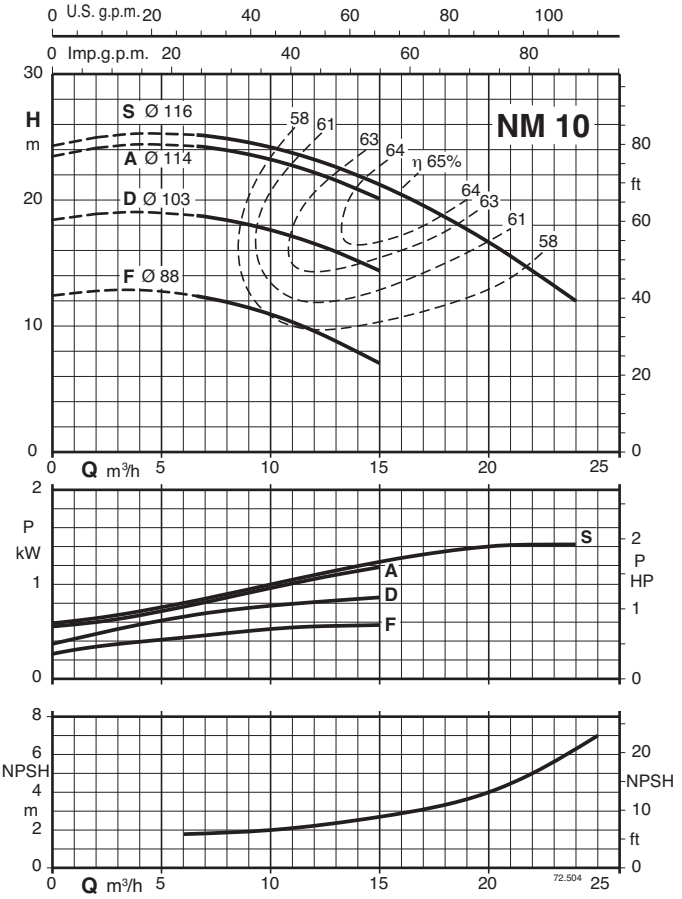



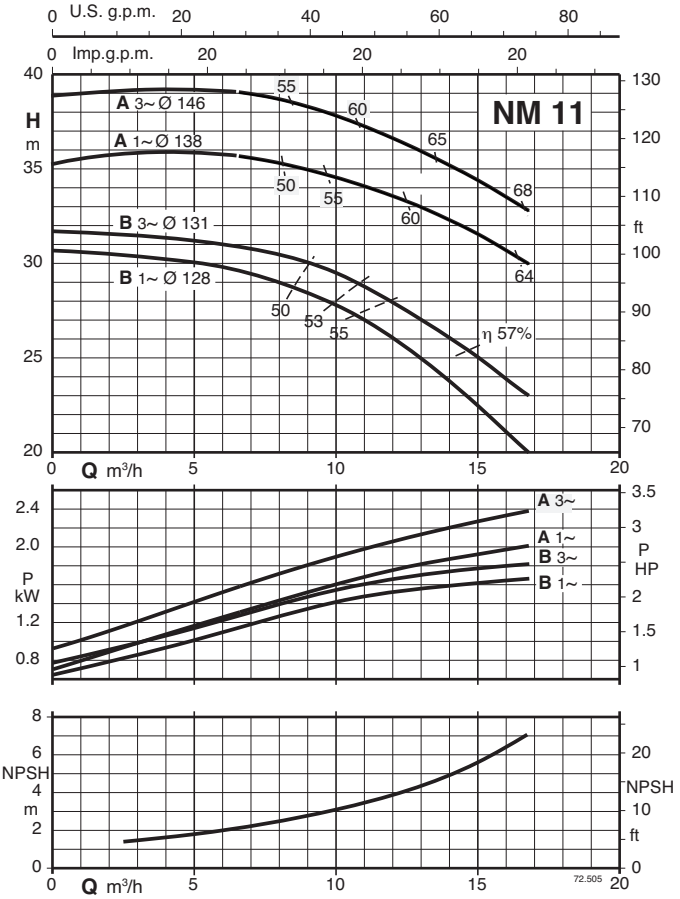



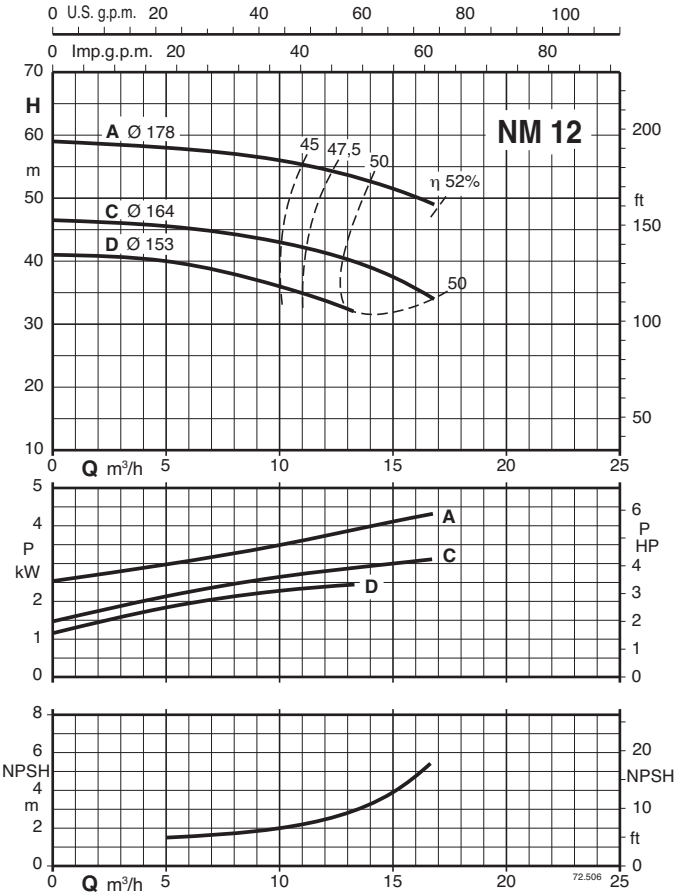
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



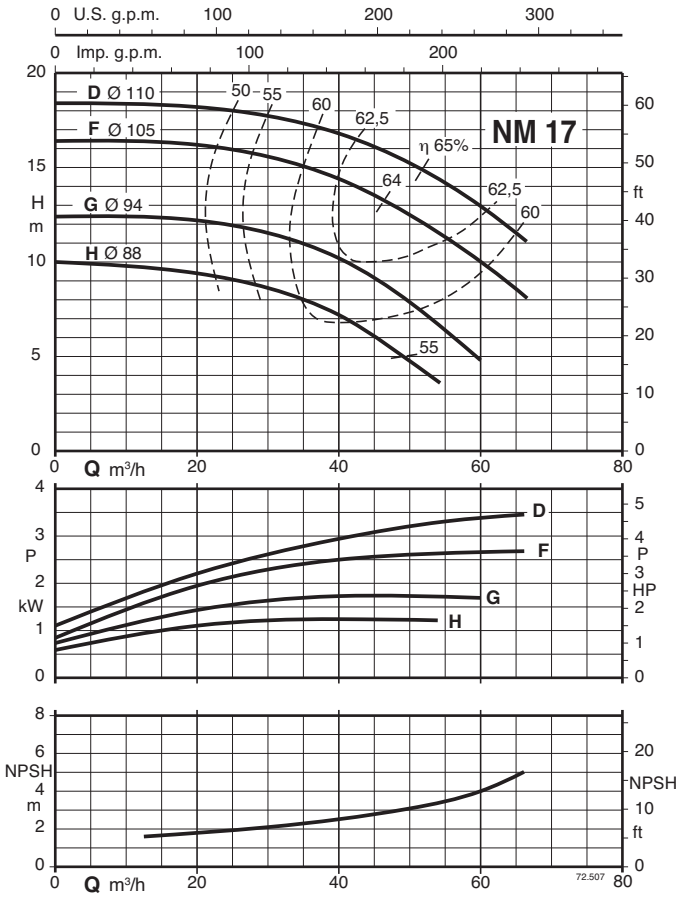



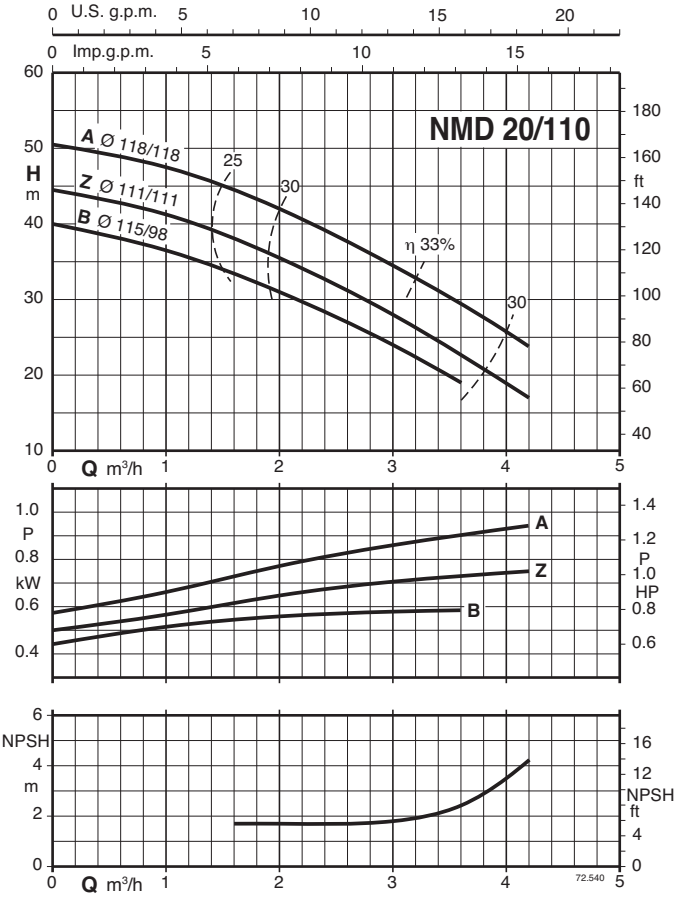



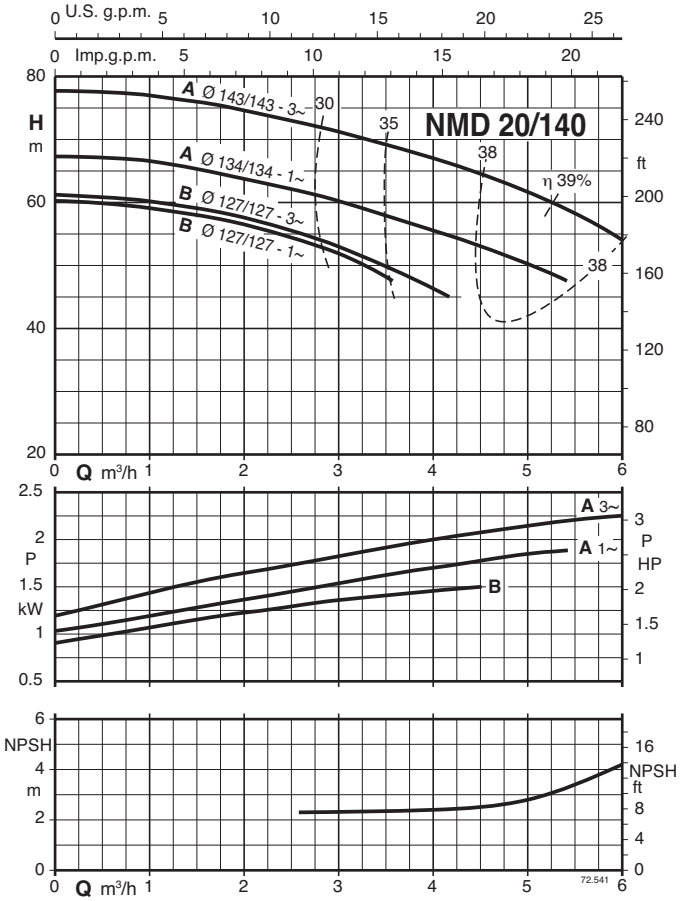



## Characteristic curves - Curvas Características

n ≈ 3450 rpm

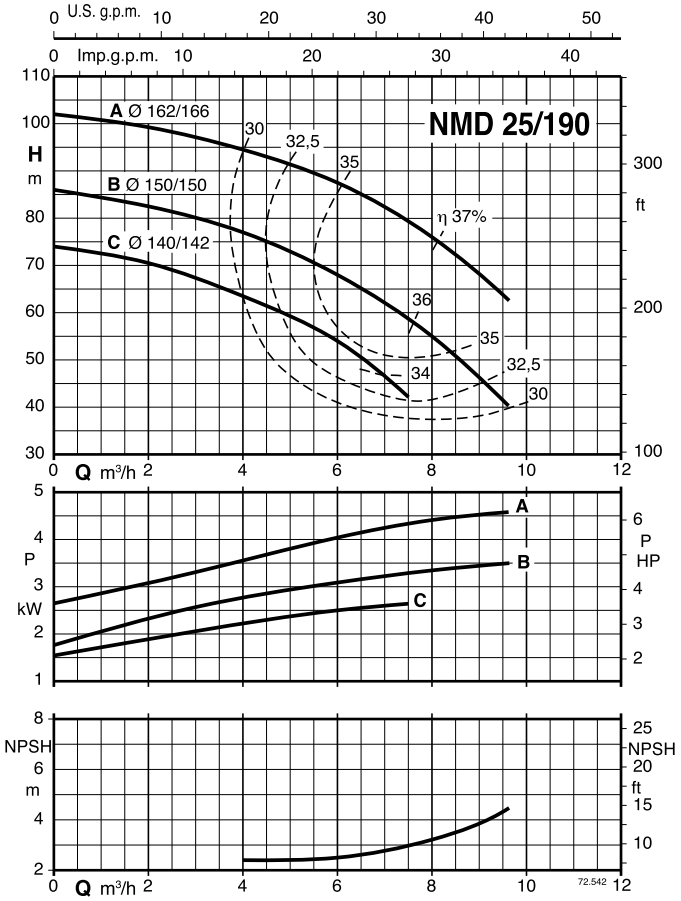


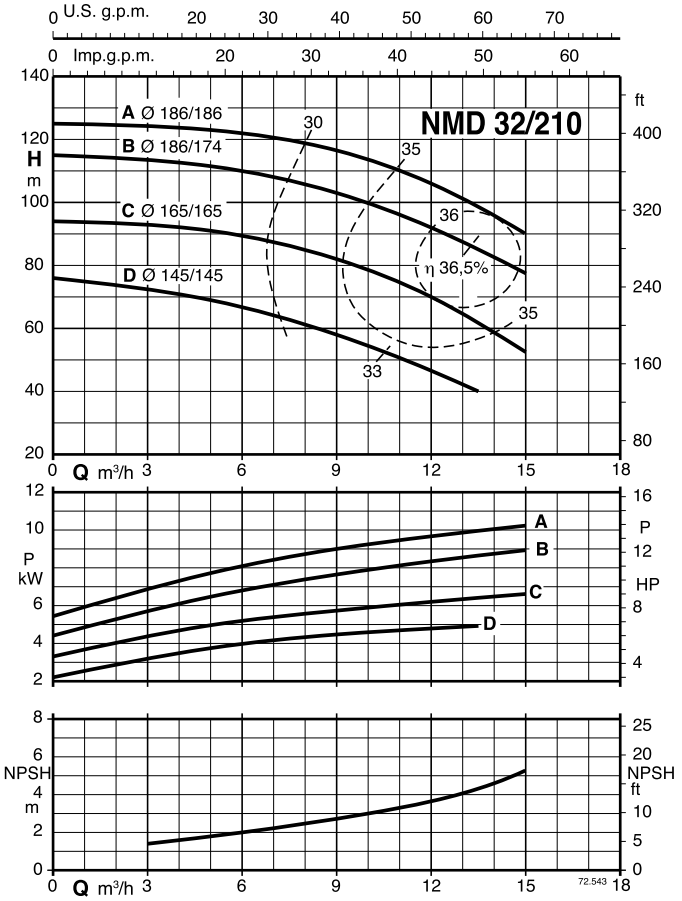



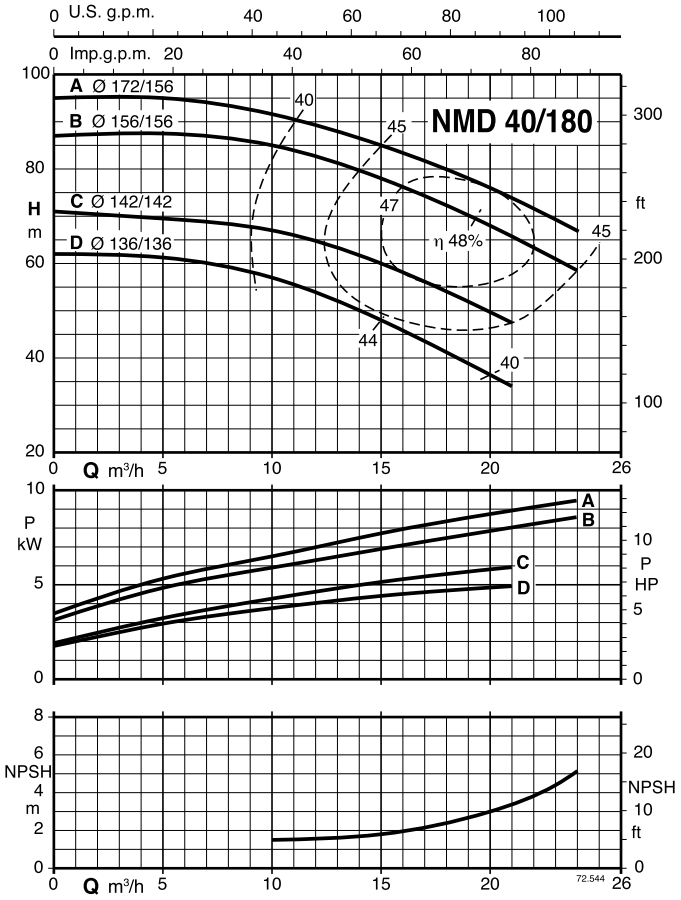



## Characteristic curves - Curvas Características

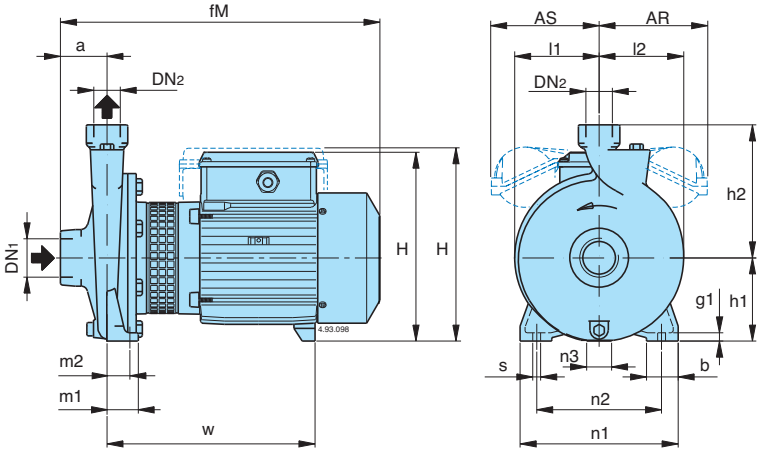
n ≈ 3450 rpm



## Dimensions and weights - Dimensiones y pesos




| | H | AS mm | | | | AR mm | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | 220V | 127V | 110V | 110/220V |
| **NMM 1/AE-60** | 181 | ● | ● | ● | ❑ | - | - | - | - |
| **NMM 1/S-60** | 181 | ● | ● | ● | ❑ | - | - | - | - |
| **NMM 2/B-60/A** | 212 | - | - | - | - | ● | ● | ● | 116 |
| **NMM 2/S-60/A** | 212 | - | - | - | - | ● | ● | ● | 116 |
| **NMM 2/A-60/A** | 212 | - | - | - | - | ● | 116 | 116 | 131 |
| **NMM 6/B-60** | 218 | - | - | - | - | ● | 131 | 131 | ❑ |
| **NMM 6/A-60** | 218 | - | - | - | - | ● | 131 | ❑ | ❑ |
| **NMM 3/CE-60** | 245 | ● | 131 | ❑ | ❑ | - | - | - | - |
| **NMM 3/BE-60** | 245 | ● | ❑ | ❑ | ❑ | - | - | - | - |
| **NMM 3/A-60/A** | 245 | 131 | ❑ | ❑ | ❑ | - | - | - | - |
| B- **NMM 20/160BE-60** | 233 | ● | 131 | 131 | ❑ | - | - | - | - |
| B- **NMM 20/160AE-60** | 233 | ● | 131 | ❑ | ❑ | - | - | - | - |
| B- **NMM 25/12B-60/A** | 204 | - | - | - | - | ● | ● | ● | 116 |
| B- **NMM 25/12A-60/A** | 204 | - | - | - | - | ● | 116 | 116 | 131 |
| B- **NMM 25/160BE-60** | 233 | ● | 131 | ❑ | ❑ | - | - | - | - |
| B- **NMM 25/160AE-60** | 233 | ● | ❑ | ❑ | ❑ | - | - | - | - |
| **NMM 10/FE-60** | 233 | ● | 116 | 131 | ❑ | - | - | - | - |
| **NMM 10/DE-60** | 233 | ● | 116 | 131 | ❑ | - | - | - | - |
| **NMM 10/AE-60** | 233 | ● | 131 | ❑ | ❑ | - | - | - | - |
| **NMM 10/SE-60** | 233 | ● | ❑ | ❑ | ❑ | - | - | - | - |
| **NMM 11/BE-60** | 245 | ● | 131 | ❑ | ❑ | - | - | - | - |
| **B- NMM 17/HE-60** | 245 | ● | 131 | ❑ | ❑ | - | - | - | - |
| **B- NMM 17/GE-60** | 245 | ● | ❑ | ❑ | ❑ | - | - | - | - |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

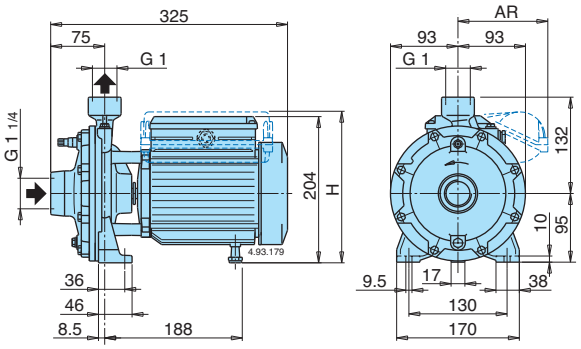
| | NMM kg | NM kg | B-NM kg |
|---|---|---|---|
| **NM 1/AE-60** | 8,7 | 8,6 | |
| **NM 1/S-60** | 9,3 | 9,2 | |
| **NM 2/B-60/A** | 14 | 13,1 | |
| **NM 2/S-60/A** | 14,2 | 13,3 | |
| **NM 2/A-60/B** | 15,1 | 15 | |
| **NM 6/B-60** | 17,8 | 17,6 | |
| **NM 6/A-60** | 19,3 | 19 | |
| **NM 3/C-60/A** | 24 | 22,9 | |
| **NM 3/B-60/A** | 26 | 25,1 | |
| **NM 3/A-60/B** | 30,4 | 29,1 | |
| B- **NM 20/160BE-60** | 19,9 | 18,4 | 21 |
| B- **NM 20/160A-60/A** | 20,7 | 19,7 | 22,5 |
| B- **NM 25/12B-60/A** | 13,2 | 12,3 | 13,5 |
| B- **NM 25/12A-60/B** | 14,2 | 14,1 | 14,5 |
| B- **NM 25/160B-60/A** | 20,4 | 19,7 | 22,8 |
| B- **NM 25/160A-60/A** | 22,5 | 21,5 | 24 |
| **NM 25/20B-60/C** | | 31,6 | |
| **NM 25/20A-60/B** | | 40,9 | |
| **NM 25/20S-60/C** | | 42,2 | |
| **B- NM 25/200B-60/C** | | | 35,7 |
| **B- NM 25/200A-60/C** | | | 43,7 |
| **B- NM 25/200S-60/C** | | | 45,2 |
| **NM 10/FE-60** | 19,3 | 18,5 | |
| **NM 10/DE-60** | 19,4 | 18,8 | |
| **NM 10/A-60/A** | 20,2 | 19,3 | |
| **NM 10/S-60/A** | 22,1 | 21,5 | |
| **NM 11/B-60/A** | 24,7 | 24,1 | |
| **NM 11/A-60/B** | | 28,1 | |
| **NM 12/D-60/B** | | 33,5 | |
| **NM 12/C-60/A** | | 42 | |
| **NM 12/A-60/B** | | 43,5 | |
| **B- NM 17/H-60/A** | 23 | 22,2 | 29,2 |
| **B- NM 17/G-60/A** | 24,2 | 23,2 | 30,2 |
| **B- NM 17/F-60/B** | | 28,2 | 35,2 |
| **B- NM 17/D-60/A** | | 36,2 | 43,2 |

| B-NM | NM | DN1 ISO 228 | DN2 ISO 228 | NPT | mm a | fM | h1 | h2 | H | m1 | m2 | n1 | n2 | n3 | b | s | l1 | l2 | w | g1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **NM 1/S-60,AE-60** | G 1 | G 1 | ✓ | 40 | 261 | 80 | 132 | 176 | 40 | 32 | 170 | 140 | 17 | 35 | 9,5 | 77 | 81 | 171 | 10 |
| | **NM 2/A-60/B,S-60/A,B-60/A** | G 1 | G 1 | ✓ | 45 | 305 | 95 | 150 | 207 | 40 | 32 | 190 | 160 | 17 | 35 | 9,5 | 87 | 90 | 203 | 10 |
| | **NM 6/A-60,B-60** | G 1¼ | G ¾ | ✓ | 53 | 349 | 100 | 150 | 213 | 37,5 | 27,5 | 190 | 150 | 17 | 38 | 9,5 | 102 | 102 | 225 | 10 |
| | **NM 3/B-60/A,C-60/A** | G 1 | G 1 | ✓ | 50 | 375 | 112 | 180 | 240 | 55 | 43 | 245 | 205 | 37 | 45 | 11,5 | 110 | 113 | 244 | 12 |
| | **NM 3/A-60/B** | | | | | 415 | | | | | | | | | | | | | 284 | |
| **B-NM 20/160A-60/A,BE-60** | **NM 20/160A-60/A,BE-60** | G 1¼ | G ¾ | ✓ | 53 | 375 | 100 | 150 | 228 | 37,5 | 27,5 | 190 | 150 | 30 | 38 | 9,5 | 102 | 102 | 246 | 10 |
| **B-NM 25/12A-60/B,B-60/A** | **NM 25/12A-60/B,B-60/A** | G 1½ | G 1 | ✓ | 56 | 313 | 90 | 140 | 199 | 37,5 | 27,5 | 170 | 130 | 9 | 38 | 9,5 | 85 | 88 | 195 | 10 |
| **B-NM 25/160A-60/A,B-60/A** | **NM 25/160A-60/A,B-60/A** | G 1½ | G 1 | ✓ | 56 | 380 | 100 | 160 | 228 | 37,5 | 27,5 | 190 | 150 | 30 | 38 | 9,5 | 102 | 102 | 246 | 10 |
| | **NM 25/20B-60/C** | G 1½ | G 1 | ✓ | 63 | 433 | 125 | 180 | 253 | 45 | 32,5 | 245 | 200 | 49 | 45 | 11,5 | 125 | 125 | 291 | 11 |
| | **NM 25/20A-60/B,S-60/C** | | | | | 460 | | | 263 | | | | | 42 | | | | | 295 | |
| **B-NM 25/200B-60/C** | | G 1½ | G 1 | ✓ | 63 | 445 | 125 | 180 | 253 | 45 | 32,5 | 245 | 200 | 49 | 45 | 11,5 | 125 | 125 | 303 | 11 |
| **B-NM 25/200A-60/B,-S-60/C** | | | | | | 460 | | | 263 | | | | | 42 | | | | | 295 | |
| | **NM 10/S-60/A,A-60/A,DE-60,FE-60** | G 2 | G 1¼ | ✓ | 63 | 382 | 100 | 150 | 228 | 50 | 35 | 190 | 140 | 30 | 50 | 13 | 90 | 97 | 239 | 14 |
| | **NM 11/B-60/A** | G 2 | G 1¼ | ✓ | 70 | 400 | 112 | 170 | 240 | 50 | 35 | 210 | 160 | 37 | 50 | 15 | 103 | 110 | 247 | 14 |
| | **NM 11/A-60/B** | | | | | 440 | | | | | | | | | | | | | 287 | |
| | **NM 12/D-60/B** | G 2 | G 1¼ | ✓ | 70 | 440 | 132 | 190 | 260 | 50 | 35 | 240 | 190 | 47 | 50 | 15 | 125 | 127 | 287 | 14 |
| | **NM 12/A-60/B,C-60/A** | | | | | 470 | | | 270 | | | | | 45 | | | | | 300 | |
| **B-NM 17/G-60/A,H-60/A** | **NM 17/G-60/A,H-60/A** | | | | | 417 | | | 240 | | | | | 37 | | | | | 257 | |
| **B-NM 17/F-60/B** | **NM 17/F-60/B** | G 2½ | G 2½ | ✓ | 80 | 463 | 112 | 160 | 240 | 50 | 35 | 210 | 160 | 37 | 50 | 14 | 96 | 113 | 304 | 14 |
| **B-NM 17/D-60/A** | **NM 17/D-60/A** | | | | | 480 | | | 250 | | | | | 20 | | | | | 295 | |

✓ NPT Version on demand - Ejecuciones bajo demanda

## Dimensions and weights - Dimensiones y pesos

### NMD 20/110

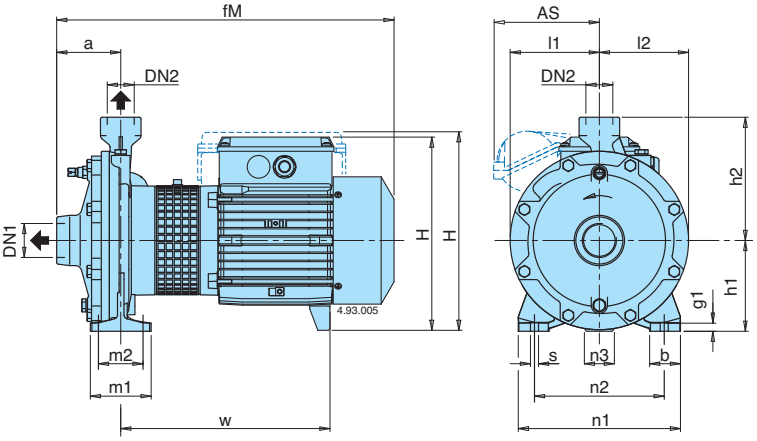



| | NMDM kg | NMD kg | B-NMD kg |
|---|---|---|---|
| B- **NMD 20/110B-60/A** | 13 | 12,1 | 13,4 |
| B- **NMD 20/110Z-60/A** | 14 | 13 | 14,2 |
| B- **NMD 20/110A-60/B** | 15,1 | 15 | 17,4 |

| | H | AR mm | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V |
| B- **NMDM 20/110B-60/A** | 209 | ● | ● | ● | 116 |
| B- **NMDM 20/110Z-60/A** | 209 | ● | ● | ● | 116 |
| B- **NMDM 20/110A-60/A** | 209 | ● | 116 | 116 | 131 |

● Standard dimensions - Dimensiones estándar

### NMD 20/140, NMD 25/190



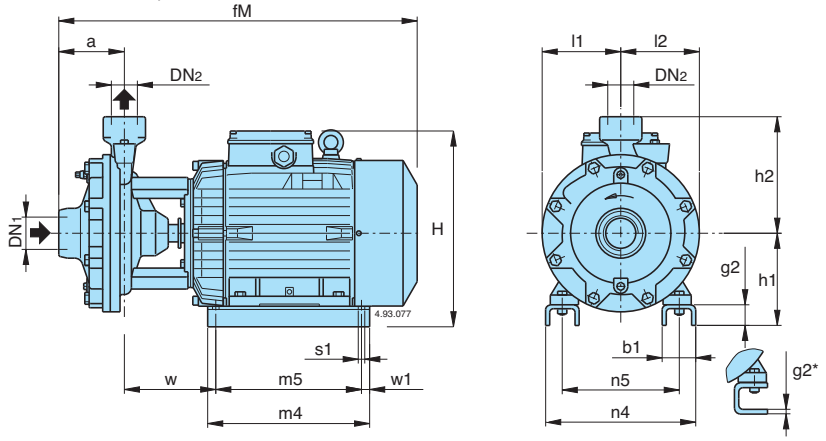

| | NMDM kg | NMD kg | B-NMD kg |
|---|---|---|---|
| B- **NMD 20/140B-60/A** | 23,9 | 22,7 | 25,2 |
| B- **NMD 20/140A-60/A** | 25,2 | 24,8 | 27,6 |
| B- **NMD 25/190C-60/B** | | 42 | 45,7 |
| B- **NMD 25/190B-60/A** | | 49,7 | 54 |
| B- **NMD 25/190A-60/B** | | 51,5 | 55,5 |

| | H | AS mm | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V |
| B- **NMDM 20/140BE-60/A** | 248 | ● | 131 | 131 | ❑ |
| B- **NMDM 20/140AE-60/A** | 248 | ● | 131 | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar ❑ Cannot constructed - Non fatibles

| B-NMD | NMD | DN1 ISO 228 | DN2 ISO 228 | NPT | mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | a | fM | h1 | h2 | H | m1 | m2 | n1 | n2 | n3 | b | s | l1 | l2 | w | g1 |
| B-NMD 20/140A-60/A,B-60/A | NMD 20/140A-60/A,B-60/A | G 1 1/4 | G 1 | ✓ | 80 | 417 | 112 | 152 | 243 | 75 | 55 | 200 | 160 | 37 | 38 | 9,5 | 110 | 110 | 256 | 10 |
| B-NMD 25/190C-60/B | NMD 25/190C-60/B | G 1 1/2 | G 1 | ✓ | 97 | 487 | 140 | 180 | 268 | 100 | 70 | 240 | 190 | 50 | 50 | 14 | 133 | 133 | 314 | 13 |
| B-NMD 25/190A-60/B,B-60/B | NMD 25/190A-60/B,B-60/B | | | | | 500 | | | 278 | | | | | 49 | | | | | 306 | |

### NMD 32/210, NMD 40/180




| | NMD kg | B-NMD kg |
|---|---|---|
| B- **NMD 32/210D-60/B** | 60,5 | 66,5 |
| B- **NMD 32/210C-60/A** | 71 | 77 |
| B- **NMD 32/210B-60/A** | 77 | 82,5 |
| B- **NMD 32/210A-60/A** | 99 | 105 |
| B- **NMD 40/180D-60/B** | 59,5 | 65,5 |
| B- **NMD 40/180C-60/A** | 70 | 76 |
| B- **NMD 40/180B-60/A** | 76 | 81,5 |
| B- **NMD 40/180A-60/A** | 97 | 102 |

| B-NMD | NMD | DN1 ISO 228 | DN2 ISO 228 | NPT | mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | a | fM | h1 | h2 | H | m4 | m5 | n4 | n5 | w1 | b1 | s1 | l1 | l2 | w | g2 |
| B-NMD 32/210D-60/B | NMD 32/210D-60/B | | | | | 530 | 155 | | 293 | 205 | 175 | 194 | 140 | | 54 | 10 | | | 139 | 6* |
| B-NMD 32/210B-60/A,C-60/A | NMD 32/210B-60/A,C-60/A | G 2 | G 1 1/4 | ✓ | 110 | 550 | 150 | 215 | 310 | 280 | 250 | 258 | 190 | 15 | 68 | 12 | 150 | 150 | 108 | 38 |
| B-NMD 32/210A-60/A | NMD 32/210A-60/A | | | | | 625 | 170 | | 355 | 298 | 268 | 286 | 216 | | 70 | 12 | | | 152 | 38 |
| B-NMD 40/180D-60/B | NMD 40/180D-60/B | | | | | 535 | 155 | | 293 | 205 | 175 | 194 | 140 | | 54 | 10 | | | 133 | 6* |
| B-NMD 40/180B-60/A,C-60/A | NMD 40/180B-60/A,C-60/A | G 2 | G 1 1/2 | ✓ | 121 | 555 | 150 | 215 | 310 | 280 | 250 | 258 | 190 | 15 | 68 | 12 | 145 | 145 | 102 | 38 |
| B-NMD 40/180A-60/A | NMD 40/180A-60/A | | | | | 630 | 170 | | 355 | 298 | 268 | 286 | 216 | | 70 | 12 | | | 145 | 38* |

✓ NPT Version on demand - Ejecuciones bajo demanda

## Features - Características constructivas

### Compact Design
The compact design allows for easy installtion even in confined spaces.

### Robustness
The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistence to mechanical stress.

### A unique design
The lantern bracket design prevents contact with the pumps rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

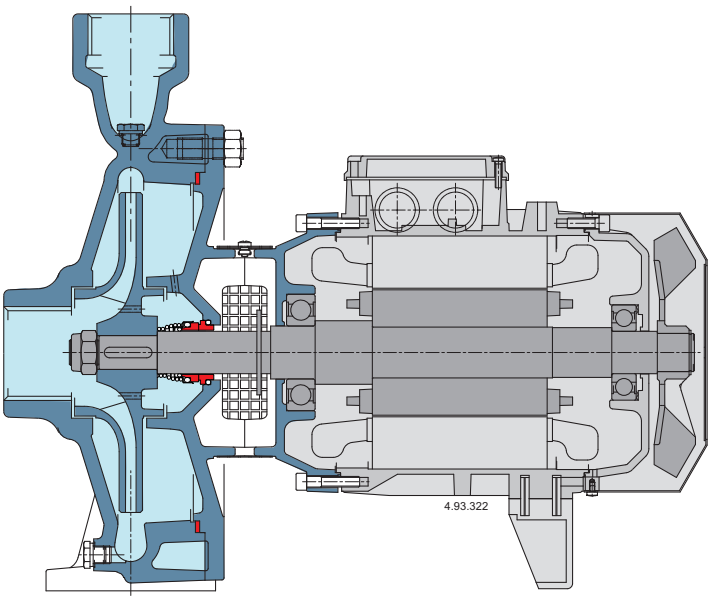
### Diseño compacto
El diseño compacto permite una fácil instalación incluso en espacios reducidos.

### Robustez
La estructura mecánica de las partes hidráulicas en contacto con el líquido bombeado están dimensionadas para garantizar la máxima resistencia a la tensión mecánica.

### Diseño exclusivo
Un innovador protector patentado evita el contacto con las partes rotantes, lo que demuestra la protección para el usuario final mientras le permite la inspección del sello mecánico.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones de funcionamiento.

**NM**




### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows NMD series pumps to be selected for use with different types of liquids.

### Robustness
The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistence to mechanical stress.

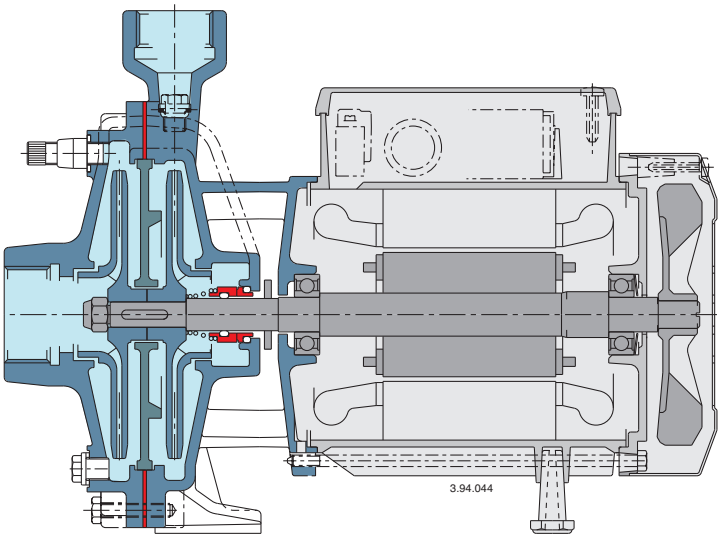
### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Flexibilidad
La opción de elegir entre el hierro fundido y Materias bronce para las partes hidráulicas en contacto con el líquido bombeado permite bombas de la serie NMD a ser seleccionadas para su uso con diferentes tipos de líquidos.

### Robustez
La estructura mecánica de las partes hidráulicas en contacto con el líquido bombeado están dimensionadas para garantizar la máxima resistencia a la tensión mecánica.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones de funcionamiento.

**NMD**

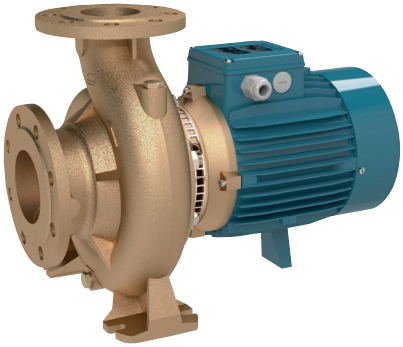


# NM, NMS 60 Hz

NM, NM4 ( close-coupled cast iron version)



BNM, BNM4 (close-coupled bronze version)



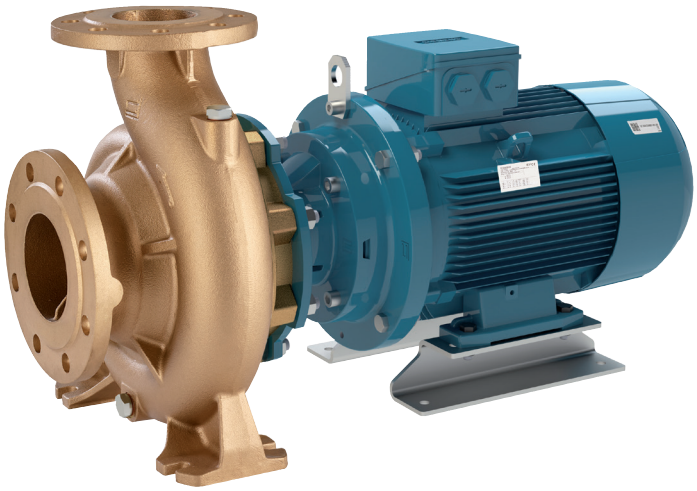
NM EI, NM4 EI (close-coupled with I-MAT version)



NMS, NMS4 (Stub-shaft cast iron version)



BNMS, BNMS4 (Stub-shaft bronze version)



## Close coupled centrifugal pumps with flanged connections

# NM, NMS 60 Hz

## Construction

NM, NM4 Close-coupled centrifugal pumps; electric motor with extended shaft directly connected to the pump up to 22 kW (15 kW for NM4).

NMS, NMS4 Close-coupled centrifugal pumps, new bracket construction for standard motors (stub-shaft construction) with integrated thrust bearing.

Rated speed of rotation (60 Hz):
NM, NMS ≈ 3450 1/min.
NM4, NMS4 ≈ 1750 1/min.

Pump casing with axial suction and radial delivery on top, main dimensions and performance according to EN 733 with additional sizes for completion. (NMS4 80/400).
**N 40-250C** version with pump casing and lantern bracket in cast iron.
**BNM(S), BNM(S)4:** version with pump casing and lantern bracket/casing cover in bronze.
The pumps are supplied fully painted.
**Version with frequency converter (on request)**

**Connections:** Flanges PN 10, EN 1092-2 (PN 10 for DN 200)

**Counter-flanges** (on request)

| Sizes | Flanges |
|---|---|
| from NM, NM4 32/.. to NM, NM4 50/.. | Screwed flanges EN 1092-1, PN 16 |
| from NM, NM4 65/.. to NMS4 150/.. | Flanges for welding EN 1092-1, PN 10-16 (PN 10 for DN 200) |

## Applications

For clean liquids without abrasives, which are non-aggressive for the pump materials ( solids content up to 0.2%).
For water supply.
For heating, air-conditioning, cooling and circulation plants.
For civil and industrial applications.
For irrigation.

## Operating conditions

Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40° C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 16 bar (10 bar for NM 32/12; NM,NM4 32/16,20; NM,NM4 40/25; NM,NM4 50/20,25; NM4 65/31; NM,NM4 100/25; NM4 100/315,400; NM4 125/250 and bronze version).
Continuous duty.

## Motor

2-pole induction motor, 60 Hz (n ≈ 3450 1/min).

**NM, NMS:** three-phase 230/400 V ± 10% up to 3 kW;
400/690 V ± 10% from 4 to 75 kW.

4-pole induction motor, 60 Hz (n ≈ 1750 1/min).

**NM4, NMS4:** three-phase 230/400 V ± 10% up to 3 kW;
400/690 V ± 10%, from 4 to 90 kW;

Insulation class F.
Protection IP 54 (IP 55 for NMS).
Motor suitable for operation with frequency converter.
**Three-phase motors with efficiency class IE2 up to 0.65 kW, IE3 from 0.75 to 55 kW, IE4 from 75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.

## Special features on request

Other voltages.
Impeller in chrome-nickel stainless steel for: 32/12, 40/12-16, 50/12-16
Protection IP 55.
Special mechanical seal
IE4 efficiency class for three-phase motors
Single-phase motor (NMM) up to 1,8 kW.
Higher or lower liquid or ambient temperatures.

## Designation

Example: BNMS(4) EI 32/16A/B-60
B = Bronze version (without Cast Iron version indication)
NM = Series
S = Series Version Stub-Shaft
4 = 4-pole version (without indication, 2-pole version)
EI = With frequency converter I-MAT
32 = Delivery port diameter in mm
16 = Nominal impeller diameter
A = Impeller size
/B = It refers to a revision
60 = Frequency 60Hz

**The electropumps comply with the European Regulation no. 547/2012.**

## Materials

| **Components** | **NM, NM4, NMS, NMS4** | **BNM, BNM4, BNMS, BNMS4** |
|---|---|---|
| Pump casing | Cast iron GJL 250 EN 1561 for PN 10<br>Cast iron GJS 400-15 EN 1563 for PN 16 | Bronze CC480K EN 1982 |
| Lantern bracket NM | Cast iron GJL 200 EN 1561 | Bronze CC480K EN 1982 |
| Casing cover for NMS(4) | Cast iron GJL 200 EN 1561 | Bronze CC480K EN 1982 |
| Lantern bracket NMS(4) | Cast iron GJL 200 EN 1561 | Cast iron GJL 200 EN 1561 |
| Impeller | Cast iron GJL 200 EN 1561 | Bronze CC480K EN 1982 |
| | Cast iron GJL 250 EN 1561<br>For ..80/315,400; 100/315,400; 125/315,400; 150/315,400 | |
| | Brass CW617N EN 12167<br>For 32/12, 32/16, 32/20, 32L/20, 40/20 | Brass CW617N EN 12167<br>For 32/12, 32/16, 32/20, 32L/20, 40/20 |
| Shaft | Chrome-nickel steel 1.4305 EN 10088 (AISI 303) | Steel 1.4401 EN 10088 (AISI 316) |
| | Steel 1.4104 EN 10088 (AISI 430F) from 3kW to 75kW | Steel 1.4401 EN 10088 (AISI 316) |
| | Steel 1.4462 EN 10088 (AISI 2205) for NMS4150/400S | Steel 1.4462 EN 10088 (AISI 2205) for BNMS4150/400S |
| Mechanical seal | Carbon - Ceramic - NBR | Carbon - Ceramic - NBR |
| Counter-flanges | Steel 1.0044 EN 10025-2 (Fe 430B) | Steel 1.0044 EN 10025-2 (Fe 430B) |

# NM, NMS 60 Hz

## EI: Pumps with frequency converter

The NM EI pumps are available with power from 0,55 kW up to 37 kW, the pumps are equipped with I-MAT installed on board
Which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.

### Features

- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability



### Construction

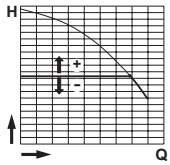
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

### Main features

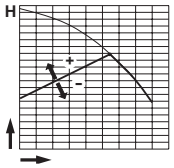
Rated motor power output from 0,37 kW to 37 kW.
Control range from 1750 to 2900 rpm (2-pole)
Control range 870÷1750 1/min (4-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against  system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

### Operating modes

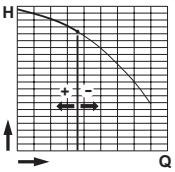
**Constant pressure mode**
with pressure transducer
In this mode, the system maintains the preset pressure when the flow required by the installation changes.



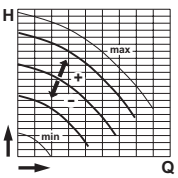

**Proportional pressure mode**
with pressure transducer
In this mode the system changes the working pressure according to the required flow rate.




**Constant flow mode**
with flow meter
In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.



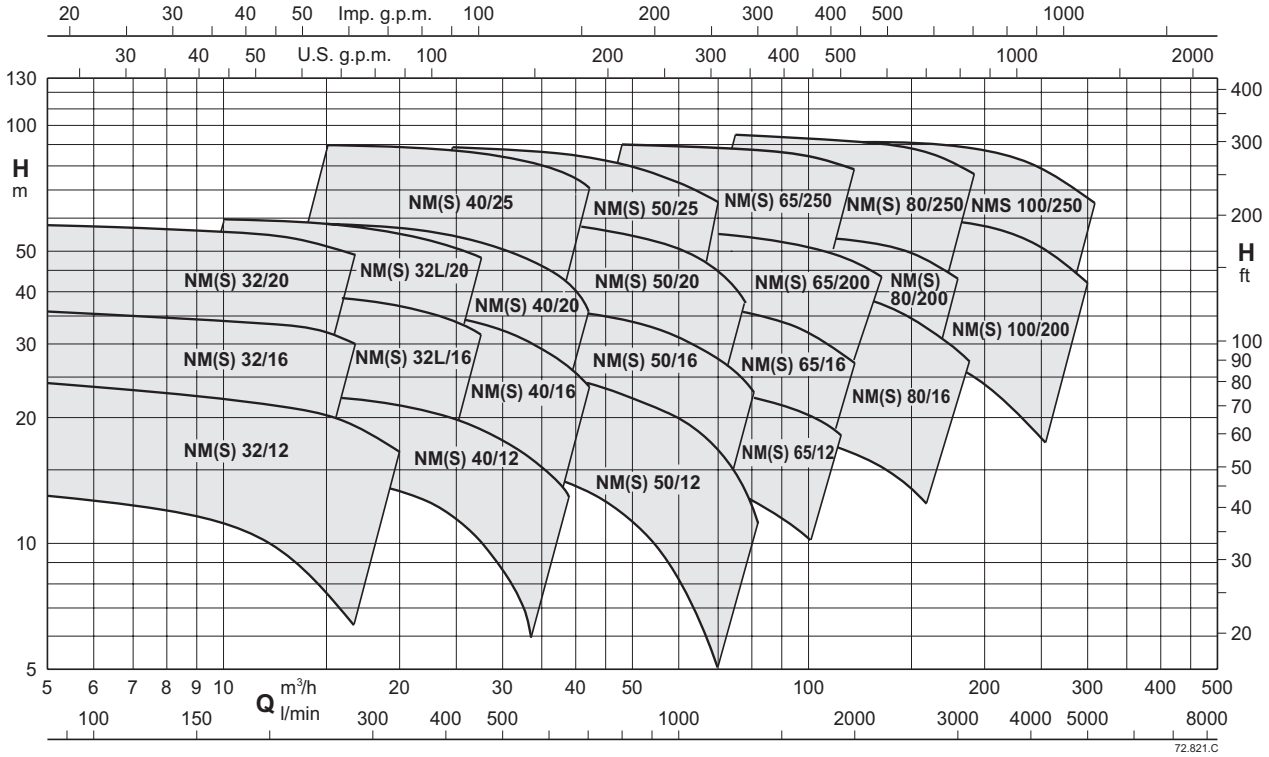

**Fixed speed mode**
with setting of the speed preferential rotation.
In this mode, by changing the working frequency, you may choose any operational curve included within the working range.




**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

# NM, NMS 60 Hz

## Coverage chart n ≈ 3450 1/min




## Performance n ≈ 3450 1/min

### Three-phase

| | | | | | | | | Q = Flow | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | m³/h | 0 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 |
| Model | | 230V | 400V | 690V | P2 | | l/min | | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | |
| BNM | NM 32/12F-60 | 4,5 | 2,6 | - | 0,55 | 0,75 | | 12,2 | 12,4 | 12,1 | 11,7 | 11,1 | 10,4 | 9,6 | 8,6 | 7 | - | - | - | - |
| BNM | NM 32/12D-60 | 4,8 | 2,8 | - | 0,75 | 1 | | 18,1 | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | 16,5 | 15,8 | 14,4 | - | - | - | - |
| BNMS | NMS 32/125D-60 | - | - | - | 0,75 | 1 | | 18,4 | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | - | - | - | - | - | - | - |
| BNMS | NMS 32/125D-60-S | - | - | - | 1,1 | 1,5 | | 18,4 | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | 16,5 | 15,8 | 14,4 | - | - | - | - |
| BNM | NM 32/12A-60/A | 5,7 | 3,3 | - | 1,1 | 1,5 | | 23,9 | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | 22,2 | 21,4 | 20,1 | - | - | - | - |
| BNMS | NMS 32/125A-60 | - | - | - | 1,1 | 1,5 | | 24,3 | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | - | - | - | - | - | - | - |
| BNMS | NMS 32/125A-60-S | - | - | - | 1,5 | 2 | | 24,3 | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | 22,2 | 21,4 | 20,1 | - | - | - | - |
| BNM | NM 32/12S-60/A | 9 | 5,2 | - | 1,5 | 2 | | 24,1 | 25,2 | 25 | 24,8 | 24,3 | 23,8 | 23,2 | 22,5 | 21,2 | 19,7 | 17,8 | 15,6 | 12 |
| BNMS | NMS 32/125S-60 | - | - | - | 1,5 | 2 | | 25 | 25,2 | 25 | 24,8 | 24,3 | 23,8 | 23,2 | 22,5 | 21,2 | 19,7 | 17,8 | 15,6 | 12 |
| BNM | NM 32/16B-60/A | 9 | 5,2 | - | 1,5 | 2 | | 31,8 | 31 | 30,5 | 30 | 29,5 | 29 | 28 | 27 | 25 | 23 | - | - | - |
| BNMS | NMS 32/160B-60 | - | - | - | 1,5 | 2 | | 29,3 | 30,9 | 30,6 | 30,3 | 29,7 | 29 | - | - | - | - | - | - | - |
| BNMS | NMS 32/160B-60-S | - | - | - | 2,2 | 3 | | 31,8 | 30,9 | 30,6 | 30,3 | 29,7 | 29 | 28 | 26,9 | 25 | 23 | - | - | - |
| BNM | NM 32/16A-60/B | 11,1 | 6,4 | - | 2,2 | 3 | | 38,1 | 36,5 | 36 | 35,5 | 35 | 34 | 33 | 32,5 | 31 | 29 | - | - | - |
| BNMS | NMS 32/160A-60 | - | - | - | 2,2 | 3 | | 36 | 36,6 | 36,2 | 35,7 | 35 | 34,3 | 33,5 | - | - | - | - | - | - |
| BNMS | NMS 32/160A-60-S | - | - | - | 3 | 4 | | 36 | 36,6 | 36,2 | 35,7 | 35 | 34,3 | 33,5 | 32,6 | 30,9 | 28,8 | - | - | - |
| BNM | NM 32/20D-60/B | 11,1 | 6,4 | - | 2,2 | 3 | | 41 | 39 | 38,4 | 37,6 | 36,4 | 35 | 33,6 | 32 | - | - | - | - | - |
| BNMS | NMS 32/200D-60 | - | - | - | 2,2 | 3 | | 41 | 39 | 38,4 | 37,6 | 36,4 | 35 | - | - | - | - | - | - | - |
| BNMS | NMS 32/200D-60-S | - | - | - | 3 | 4 | | 41 | 39 | 38,4 | 37,6 | 36,4 | 35 | 33,6 | 31,9 | - | - | - | - | - |
| BNM | NM 32/20C-60/A | 13,4 | 7,7 | - | 3 | 4 | | 46 | 45 | 44,5 | 44 | 43 | 42 | 41 | 39,6 | 37 | 34 | - | - | - |
| BNMS | NMS 32/200C-60 | - | - | - | 3 | 4 | | 46,1 | 45 | 44,5 | 43,9 | 43 | 42 | 40,9 | 39,6 | 37 | 34 | - | - | - |
| BNM | NM 32/20A-60/B | - | 11,2 | 6,5 | 4 | 5,5 | | 58,5 | 57 | 56,5 | 56 | 55,5 | 55 | 54 | 53 | 51 | 49 | - | - | - |
| BNMS | NMS 32/200A-60 | - | - | - | 4 | 5,5 | | 58,7 | 57 | 56,5 | 56 | 55,5 | 55 | 54 | 53 | - | - | - | - | - |
| BNMS | NMS 32/200A-60-S | - | - | - | 5,5 | 7,5 | | 58,7 | 57 | 56,5 | 56 | 55,5 | 54,9 | 54,1 | 52,9 | 51 | 49 | - | - | - |

**P1:** Maximum power input.
**P2:** Rated motor power output.
**H:** Total head in m

# NM, NMS 60 Hz

## Performance n ≈ 3450 1/min

### Three-phase

| Model | | 230V | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 29 | 32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | l/min | | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 483 | 533 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | |
| BNM | NM 32L/16C-60 | 11,1 | 6,4 | - | 2,2 | 3 | | 26 | 26,1 | 25,9 | 25,6 | 25,3 | 24,6 | 23,7 | 22,3 | 20,6 | 17,6 | 13,7 | - | - |
| BNMS | NMS 32L/160C-60 | - | - | - | 2,2 | 3 | | 25,7 | 26,1 | 25,9 | 25,6 | 25,3 | 24,6 | 23,7 | 22,3 | 20,6 | 17,6 | 13,7 | - | - |
| BNM | NM 32L/16B-60 | 13,4 | 7,7 | - | 3 | 4 | | 30 | 30,3 | 30,2 | 30 | 29,8 | 29,3 | 28,6 | 27,5 | 26,1 | 23,5 | 20,1 | - | - |
| BNMS | NMS 32L/160B-60 | - | - | - | 3 | 4 | | 30,4 | 30,3 | 30,2 | 30 | 29,8 | 29,3 | 28,6 | 27,5 | 26,1 | 23,5 | 20,1 | - | - |
| BNM | NM 32L/16A-60 | - | 11,2 | 6,5 | 4 | 5,5 | | 38 | 38,7 | 38,6 | 38,5 | 38,4 | 38 | 37,6 | 36,8 | 35,7 | 33,6 | 30,7 | 28,3 | 23,9 |
| BNMS | NMS 32L/160A-60 | - | - | - | 4 | 5,5 | | 38,5 | 38,7 | 38,6 | 38,5 | 38,4 | 38 | 37,6 | 36,8 | 35,7 | 33,6 | 30,7 | 28,3 | 23,9 |
| BNM | NM 32L/20C-60 | - | 11,2 | 6,5 | 4 | 5,5 | | 47 | 46,1 | 45,8 | 45,3 | 44,7 | 43,6 | 42,1 | 39,9 | 37 | 31,9 | 25,6 | - | - |
| BNMS | NMS 32L/200C-60 | - | - | - | 4 | 5,5 | | 41,3 | 46,1 | 45,8 | 45,3 | 44,7 | 43,6 | 42,1 | 39,9 | 37 | 31,9 | 25,6 | - | - |
| BNM | NM 32L/20B-60 | - | 13,7 | 7,9 | 5,5 | 7,5 | | 53 | 52,4 | 52,2 | 51,9 | 51,5 | 50,6 | 49,4 | 47,4 | 44,9 | 40,3 | 34,8 | 30,6 | - |
| BNMS | NMS 32L/200B-60 | - | - | - | 5,5 | 7,5 | | 53 | 52,4 | 52,2 | 51,9 | 51,5 | 50,6 | 49,4 | 47,4 | 44,9 | 40,3 | 34,8 | 30,6 | - |
| BNM | NM 32L/20A-60 | - | 17 | 9,8 | 7,5 | 10 | | 61 | 60,4 | 60,3 | 60,1 | 59,8 | 59,2 | 58,4 | 57 | 55 | 51,2 | 46,2 | 42,2 | 35,3 |
| BNMS | NMS 32L/200A-60 | - | - | - | 7,5 | 10 | | 57,7 | 60,4 | 60,3 | 60,1 | 59,8 | 59,2 | 58,4 | 57 | 55 | 51,2 | 46,2 | 42,2 | 35,3 |

### Three-phase

| Model | | 230V | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 39 | 42 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | l/min | | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 650 | 700 | 750 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | |
| BNM | NM 40/12F-60/B | 5,7 | 3,3 | - | 1,1 | 1,5 | | 15 | 15,4 | 14,9 | 14,3 | 13,4 | 11,8 | 10 | 7,8 | 5,6 | - | - | - | - |
| BNMS | NMS 40/125F-60 | - | - | - | 1,1 | 1,5 | | 14 | 15,4 | 14,9 | 14,3 | 13,4 | 11,8 | 10 | 7,7 | 5,5 | - | - | - | - |
| BNM | NM 40/12C-60/B | 9 | 5,2 | - | 1,5 | 2 | | 17,8 | 18,5 | 18,1 | 17,6 | 17 | 15,8 | 14,2 | 12,4 | 10,5 | 6,9 | - | - | - |
| BNMS | NMS 40/125C-60 | - | - | - | 1,5 | 2 | | 17 | 18,5 | 18,1 | 17,6 | 17 | 15,8 | 14,2 | 12,4 | 10,5 | 6,9 | - | - | - |
| BNM | NM 40/12A-60/C | 11,1 | 6,4 | - | 2,2 | 3 | | 21 | 22,5 | 22,3 | 21,9 | 21,4 | 20,6 | 19,6 | 18,3 | 16,7 | 13,7 | 12,9 | - | - |
| BNMS | NMS 40/125A-60 | - | - | - | 2,2 | 3 | | 21,8 | 22,5 | 22,3 | 21,9 | 21,4 | 20,6 | 19,6 | 18,3 | 16,7 | 13,7 | 12,9 | - | - |
| BNM | NM 40/16C-60/C | 11,1 | 6,4 | - | 2,2 | 3 | | 25 | 25,5 | 25,1 | 24,4 | 23,6 | 22,1 | 20,1 | 17,8 | 15,4 | 10,6 | - | - | - |
| BNMS | NMS 40/160C-60 | - | - | - | 2,2 | 3 | | 23 | 25,5 | 25,1 | 24,4 | 23,6 | 22,1 | - | - | - | - | - | - | - |
| BNM | NM 40/16B-60/B | 13,4 | 7,7 | - | 3 | 4 | | 29 | 31 | 30,6 | 30,3 | 29,6 | 28,5 | 27,1 | 25,4 | 23,2 | 19,2 | 18,1 | - | - |
| BNMS | NMS 40/160B-60 | - | - | - | 3 | 4 | | 29,9 | 31 | 30,7 | 30,2 | 29,6 | 28,5 | 27,1 | 25,4 | 23,2 | 19,2 | 18,1 | - | - |
| BNM | NM 40/16A-60/C | - | 11,2 | 6,5 | 4 | 5,5 | | 35 | 37,1 | 36,9 | 36,5 | 36,1 | 35,2 | 34,3 | 33,2 | 31,8 | 28,8 | 27,9 | 25,6 | 23 |
| BNMS | NMS 40/160A-60 | - | - | - | 4 | 5,5 | | 36 | 37,1 | 36,9 | 36,5 | 36,1 | 35,2 | 34,3 | 33,2 | 31,8 | - | - | - | - |
| BNMS | NMS 40/160A-60-S | - | - | - | 5,5 | 7,5 | | 36 | 37,1 | 36,9 | 36,5 | 36 | 35,2 | 34,3 | 33,2 | 31,8 | 28,8 | 27,9 | 25,6 | 23 |
| BNM | NM 40/20C-60/B | - | 11,2 | 6,5 | 4 | 5,5 | | 46 | 44 | 43 | 42 | 41 | 39 | 36 | - | - | - | - | - | - |
| BNMS | NMS 40/200C-60 | - | - | - | 4 | 5,5 | | 43 | 44 | 43 | 42 | 41 | - | - | - | - | - | - | - | - |
| BNMS | NMS 40/200C-60-S | - | - | - | 5,5 | 7,5 | | 43 | 44 | 43 | 42 | 41 | 39 | 36 | - | - | - | - | - | - |
| BNM | NM 40/20B-60/A | - | 13,7 | 7,9 | 5,5 | 7,5 | | 52 | 52 | 51,5 | 50,5 | 49,5 | 47,5 | 44,5 | 40 | 35 | - | - | - | - |
| BNMS | NMS 40/200B-60 | - | - | - | 5,5 | 7,5 | | 50,5 | 52 | 51,5 | 50,5 | 49,5 | 47,5 | 44,5 | 40 | 35 | - | - | - | - |
| BNM | NM 40/20AR-60/A | - | 13,7 | 7,9 | 5,5 | 7,5 | | 56,5 | 56,5 | 56 | 55 | 54 | 52 | 49 | - | - | - | - | - | - |
| BNMS | NMS 40/200AR-60 | - | - | - | 5,5 | 7,5 | | 55 | 56,5 | 56 | 55 | 54 | 52 | - | - | - | - | - | - | - |
| BNMS | NMS 40/200AR-60-S | - | - | - | 7,5 | 10 | | 55 | 56,5 | 56 | 55 | 54 | 52 | 49 | - | - | - | - | - | - |
| BNM | NM 40/20A-60/A | - | 17 | 9,8 | 7,5 | 10 | | 59 | 59,5 | 59 | 58,5 | 58 | 56 | 53,5 | 50,5 | 47 | 38,5 | - | - | - |
| BNMS | NMS 40/200A-60 | - | - | - | 7,5 | 10 | | 57,5 | 59,5 | 59 | 58,6 | 57,9 | 56 | 53,5 | 50,5 | 47 | 38,4 | - | - | - |
| BNM | NM 40/25C-60/C | - | 22 | 12,7 | 9,2 | 12,5 | | 66 | 65,4 | 65 | 64,4 | 63,5 | 61,5 | 58,6 | 54,2 | 49 | - | - | - | - |
| BNMS | NMS 40/250C-60 | - | - | - | 11 | 15 | | 62 | 65,4 | 65 | 64,4 | 63,5 | 61,5 | 58,6 | 54,2 | 49 | - | - | - | - |
| BNM | NM 40/25B-60/C | - | 25,8 | 14,9 | 11 | 15 | | 72 | 71,5 | 71,3 | 70,8 | 70,3 | 68,9 | 66,4 | 63,3 | 59,2 | 50 | - | - | - |
| BNMS | NMS 40/250B-60 | - | - | - | 11 | 15 | | 70 | 71,5 | 71,3 | 70,9 | 70,3 | 68,8 | 66,5 | 63,3 | 59,2 | 50 | - | - | - |
| BNM | NM 40/25A-60/C | - | 33,2 | 19,2 | 15 | 20 | | 90 | 90,4 | 90,2 | 89,7 | 89,1 | 88,5 | 87,3 | 86,1 | 83,8 | 78 | 76 | - | - |
| BNMS | NMS 40/250A-60 | - | - | - | 15 | 20 | | 90 | 90,4 | 90,2 | 89,7 | 89,2 | 88,4 | 87,4 | 86 | 83,8 | 78 | 76 | - | - |

**P1:** Maximum power input.
**P2:** Rated motor power output.
**H:** Total head in m

# NM, NMS 60 Hz

## Performance n ≈ 3450 1/min

### Three-phase

| Model | | 230V | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 69 | 72 | 75 | 84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | l/min | | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1150 | 1200 | 1250 | 1400 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | | |
| BNM | NM 50/12F-60/C | 11,1 | 6,4 | - | 2,2 | 3 | | 17 | - | - | 16,1 | 15,4 | 14,2 | 13 | 11,1 | 8,6 | 5,8 | - | - | - | - | - |
| BNMS | NMS 50/125F-60 | - | - | - | 2,2 | 3 | | 16,5 | - | - | 16,1 | 15,4 | 14,2 | 13 | 11,1 | 8,6 | 5,8 | - | - | - | - | - |
| BNM | NM 50/12D-60/B | 13,4 | 7,7 | - | 3 | 4 | | 18,5 | - | - | 19,4 | 19 | 18 | 17 | 15,5 | 13,5 | 11,1 | 8,4 | - | - | - | - |
| BNMS | NMS 50/125D-60 | - | - | - | 3 | 4 | | 20,5 | - | - | 19,4 | 19 | 18 | 17 | 15,5 | 13,5 | 11,1 | 8,4 | - | - | - | - |
| BNM | NM 50/12A-60/C | - | 11,2 | 6,5 | 4 | 5,5 | | 24,4 | - | - | 24,8 | 24,6 | 24 | 23,4 | 22,3 | 20,8 | 19 | 17 | 16 | 14,8 | 13,6 | - |
| BNMS | NMS 50/125A-60 | - | - | - | 4 | 5,5 | | 24,1 | - | - | 24,8 | 24,6 | 24 | 23,4 | 22,3 | - | - | - | - | - | - | - |
| BNM | NM 50/16B-60/B | - | 13,7 | 7,9 | 5,5 | 7,5 | | 33 | - | - | 35,3 | 34,9 | 33,6 | 32,4 | 30,1 | 27,5 | 24,5 | 20,9 | 19 | 17,1 | 15,1 | - |
| BNMS | NMS 50/160B-60 | - | - | - | 5,5 | 7,5 | | 30,5 | - | - | 35,3 | 34,9 | 33,6 | - | - | - | - | - | - | - | - | - |
| BNM | NM 50/16A-60/B | - | 17 | 9,8 | 7,5 | 10 | | 38 | - | - | 41,7 | 41,6 | 41,2 | 40,3 | 38,5 | 36,3 | 33,8 | 30,9 | 29,4 | 27,8 | 26,1 | 20,4 |
| BNMS | NMS 50/160A-60 | - | - | - | 7,5 | 10 | | 38 | - | - | 41,7 | 41,6 | 41,2 | 40,3 | 38,5 | 36,3 | 33,8 | 30,9 | 29,4 | 27,8 | 26,1 | 20,4 |
| BNM | NM 50/20B-60/C | - | 22 | 12,7 | 9,2 | 12,5 | | 48 | 51 | 50,6 | 50,3 | 49,9 | 48,6 | 47 | 44,1 | 40,5 | 36 | 30,2 | 27,3 | - | - | - |
| BNMS | NMS 50/200B-60 | - | - | - | 11 | 15 | | 48,4 | 51 | 50,6 | 50,3 | 49,9 | 48,6 | 47 | 44,1 | 40,5 | 36 | 30,2 | 27,3 | - | - | - |
| BNM | NM 50/20A-60/C | - | 25,8 | 14,9 | 11 | 15 | | 54 | 57,6 | 57,6 | 57,4 | 56,8 | 55,7 | 54,4 | 52,2 | 49,5 | 46,1 | 41,7 | 39,1 | 36,2 | 33,2 | - |
| BNMS | NMS 50/200A-60 | - | - | - | 11 | 15 | | 54 | 57,6 | 57,6 | 57,4 | 56,8 | 55,7 | 54,4 | 52,2 | 49,5 | 46,1 | 41,7 | 39,1 | 36,2 | 33,2 | - |
| BNM | NM 50/25C-60/C | - | 25,8 | 14,9 | 11 | 15 | | 62 | 61,9 | 61,2 | 60,3 | 59,2 | 57,3 | 54,9 | 50 | 43,9 | 36,4 | - | - | - | - | - |
| BNMS | NMS 50/250C-60 | - | - | - | 11 | 15 | | 55,1 | 61,9 | 61,2 | 60,3 | 59,2 | 57,3 | 54,9 | 50 | 43,9 | 36,4 | - | - | - | - | - |
| BNM | NM 50/25B-60/C | - | 33,2 | 19,2 | 15 | 20 | | 73 | 74,6 | 73,9 | 73,2 | 72 | 70,1 | 68,1 | 64,3 | 59,3 | 52,8 | 43,8 | - | - | - | - |
| BNMS | NMS 50/250B-60 | - | - | - | 15 | 20 | | 69 | 74,6 | 73,9 | 73,2 | 72 | 70,1 | 68,1 | 64,3 | 59,3 | 52,8 | 43,8 | - | - | - | - |
| BNM | NM 50/25A-60/D | - | 40,8 | 23,6 | 18,5 | 25 | | 85 | 87,6 | 87,3 | 86,9 | 86,2 | 84,7 | 83 | 79,8 | 76 | 72 | 66,9 | - | - | - | - |
| BNMS | NMS 50/250A-60 | - | - | - | 18,5 | 25 | | 80 | 87,6 | 87,3 | 86,9 | 86,2 | 84,7 | 83 | 79,8 | 76 | 72 | 66,9 | - | - | - | - |

### Three-phase

| Model | | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 141 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | l/min | | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2350 |
| | | A | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | |
| BNM | NM 65/12E-60/C | 11,2 | 6,5 | 4 | 5,5 | | 16,5 | 16 | 15,8 | 15,5 | 15,2 | 14,8 | 14,3 | 13,5 | 12,7 | 11,4 | 9,9 | - | - | - |
| BNMS | NMS 65/125E-60 | - | - | 4 | 5,5 | | 16,2 | 16 | 15,8 | 15,5 | 15,2 | 14,8 | 14,3 | 13,5 | 12,7 | 11,4 | 9,9 | - | - | - |
| BNM | NM 65/12C-60/B | 13,7 | 7,9 | 5,5 | 7,5 | | 21 | 21,4 | 21,2 | 21 | 20,6 | 20,3 | 19,8 | 19,1 | 18,3 | 17 | 15,3 | 13,1 | - | - |
| BNMS | NMS 65/125C-60 | - | - | 5,5 | 7,5 | | 20,8 | 21,4 | 21,2 | 21 | 20,6 | 20,3 | 19,8 | 19,1 | 18,3 | 17 | 15,3 | 13,1 | - | - |
| BNM | NM 65/12A-60/B | 17 | 9,8 | 7,5 | 10 | | 26 | 26,4 | 26,4 | 26,2 | 26,1 | 25,8 | 25,5 | 24,9 | 24,1 | 22,8 | 21,1 | 18,9 | - | - |
| BNMS | NMS 65/125A-60 | - | - | 7,5 | 10 | | 26 | 26,4 | 26,4 | 26,2 | 26,1 | 25,8 | 25,5 | 24,9 | 24,1 | 22,8 | 21,1 | 18,9 | - | - |
| BNM | NM 65/16D-60/B | 17 | 9,8 | 7,5 | 10 | | 24,1 | - | - | 24,4 | 24,2 | 23,9 | 23,6 | 23 | 22,3 | 21,2 | 19,7 | 17,6 | - | - |
| BNMS | NMS 65/160D-60 | - | - | 7,5 | 10 | | 24 | - | - | 24,4 | 24,2 | 23,9 | 23,6 | 23 | 22,3 | 21,2 | 19,7 | 17,6 | - | - |
| BNM | NM 65/16C-60/C | 22 | 12,7 | 9,2 | 12,5 | | 27,8 | - | - | 27,9 | 27,8 | 27,6 | 27,3 | 26,7 | 26 | 24,9 | 23,4 | 21,5 | 19 | - |
| BNMS | NMS 65/160C-60 | - | - | 11 | 15 | | 27,8 | - | - | 27,9 | 27,8 | 27,6 | 27,3 | 26,7 | 26 | 24,9 | 23,4 | 21,5 | 19 | - |
| BNM | NM 65/16B-60/C | 25,8 | 14,9 | 11 | 15 | | 32 | - | - | 32,8 | 32,7 | 32,5 | 32,2 | 31,7 | 31 | 29,9 | 28,5 | 26,8 | 24,4 | - |
| BNMS | NMS 65/160B-60 | - | - | 11 | 15 | | 31,8 | - | - | 32,8 | 32,7 | 32,5 | 32,2 | 31,7 | 31 | 29,9 | 28,5 | 26,8 | 24,4 | - |
| BNM | NM 65/16AR-60 | 33,2 | 19,2 | 15 | 20 | | 35 | - | - | 35,9 | 35,9 | 35,8 | 35,7 | 35,3 | 34,7 | 33,6 | 32,3 | 30,7 | 28,5 | - |
| BNMS | NMS 65/160AR-60 | - | - | 15 | 20 | | 35,8 | - | - | 35,9 | 35,9 | 35,8 | 35,7 | 35,3 | 34,7 | 33,6 | 32,3 | 30,7 | 28,5 | - |
| BNM | NM 65/16A-60/C | 33,2 | 19,2 | 15 | 20 | | 29 | - | - | 40,7 | 40,7 | 40,6 | 40,5 | 40,1 | 39,6 | 38,6 | 37,3 | 35,5 | 33,2 | - |
| BNMS | NMS 65/160A-60 | - | - | 15 | 20 | | 38,8 | - | - | 40,7 | 40,7 | 40,6 | 40,5 | 40,1 | 39,6 | 38,6 | 37,3 | 35,5 | 33,2 | - |
| BNM | NM 65/20C-60/C | 33,2 | 19,2 | 15 | 20 | | 42 | - | - | 45,1 | 44,9 | 44,5 | 44,1 | 43,2 | 42,2 | 40,5 | 38,6 | 36,2 | 33,2 | 30,4 |
| BNMS | NMS 65/200C-60 | - | - | 15 | 20 | | 41 | - | - | 45,1 | 44,9 | 44,5 | 44,1 | 43,2 | 42,2 | 40,5 | 38,6 | 36,2 | 33,2 | 30,4 |
| - | NM 65/20B-60/D | 40,8 | 23,6 | 18,5 | 25 | | 48,8 | - | - | 52,8 | 52,8 | 52,6 | 52,3 | 51,5 | 50,5 | 48,8 | 46,7 | 44,3 | 41,4 | 38,7 |
| BNMS | NMS 65/200B-60 | - | - | 18,5 | 25 | | 47 | - | - | 52,8 | 52,8 | 52,6 | 52,3 | 51,5 | 50,5 | 48,8 | 46,7 | 44,3 | 41,4 | 38,7 |
| - | NM 65/20A-60/A | 48,9 | 28,2 | 22 | 30 | | 55 | - | - | 58,5 | 58,3 | 58,2 | 58 | 57,4 | 56,6 | 55 | 53 | 50,5 | 47,5 | 45,5 |
| BNMS | NMS 65/200A-60 | - | - | 22 | 30 | | 54 | - | - | 58,5 | 58,3 | 58,2 | 58 | 57,4 | 56,6 | 55 | 53 | 50,5 | 47,5 | 45,5 |
| BNM | NM 65/25C-60/A | 48,9 | 28,2 | 22 | 30 | | 58,5 | - | - | 63 | 63 | 62,6 | 61,9 | 60,6 | 59 | 56,4 | 53,1 | 49 | 43 | - |
| BNMS | NMS 65/250C-60 | - | - | 22 | 30 | | 56 | - | - | 63 | 63 | 62,6 | 61,9 | 60,6 | 59 | 56,4 | 53,1 | 49 | 43 | - |
| BNMS | NMS 65/250B-60/B | - | - | 30 | 40 | | 70 | - | - | 74 | 74 | 74,1 | 73,9 | 73,1 | 71,9 | 70 | 67,5 | 64 | 60,5 | - |
| BNMS | NMS 65/250A-60/B | - | - | 37 | 50 | | 81 | - | - | 87 | 87,4 | 87,5 | 87,4 | 86,9 | 86,2 | 84,4 | 81,6 | 78 | 74,5 | - |

**P1:** Maximum power input.
**P2:** Rated motor power output.
**H:** Total head in m

# NM, NMS 60 Hz

## Performance n ≈ 3450 1/min

### Three-phase

| Model | | 400V | 690V | P2 | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | m³/h | 0 | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 |
| | | | | | | l/min | | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 |
| | | A | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | |
| BNM | NM 80/16E-60/B | 17 | 9,8 | 7,5 | 10 | | 26 | 23,3 | 22,2 | 20,6 | 19 | 17,5 | 16 | 14 | 11,9 | - | - | - | - | - | - |
| BNMS | NMS 80/160E-60 | - | - | 7,5 | 10 | | 23 | 23,3 | 22,2 | 20,6 | 19 | 17,5 | 16 | 14 | 11,9 | - | - | - | - | - | - |
| BNM | NM 80/16D-60/C | 22 | 12,7 | 9,2 | 12,5 | | 29 | 26,9 | 25,9 | 24,6 | 23,1 | 21,6 | 19,9 | 17,5 | 15,1 | - | - | - | - | - | - |
| BNMS | NMS 80/160D-60 | - | - | 11 | 15 | | 26 | 26,9 | 25,9 | 24,6 | 23,1 | 21,6 | 19,9 | 17,5 | 15,1 | - | - | - | - | - | - |
| BNM | NM 80/16C-60/C | 25,8 | 14,9 | 11 | 15 | | 32 | 30,7 | 29,9 | 28,7 | 27,4 | 26 | 24,4 | 22 | 19,5 | 17,9 | - | - | - | - | - |
| BNMS | NMS 80/160C-60 | - | - | 11 | 15 | | 29 | 30,7 | 29,9 | 28,7 | 27,4 | 26 | 24,4 | 22 | 19,5 | 17,9 | - | - | - | - | - |
| BNM | NM 80/16B-60/C | 33,2 | 19,2 | 15 | 20 | | 36 | 35,5 | 34,9 | 34 | 32,9 | 31,6 | 30,2 | 27,8 | 25 | 23,1 | 21 | - | - | - | - |
| BNMS | NMS 80/160B-60 | - | - | 15 | 20 | | 35 | 35,5 | 34,9 | 34 | 32,9 | 31,6 | 30,2 | 27,8 | 25 | 23,1 | 21 | - | - | - | - |
| BNM | NM 80/16A-60/D | 40,8 | 23,6 | 18,5 | 25 | | 41 | 41,3 | 40,9 | 40,2 | 39,3 | 38,3 | 37,1 | 35 | 32,5 | 30,7 | 28,8 | - | - | - | - |
| BNMS | NMS 80/160A-60 | - | - | 18,5 | 25 | | 40 | 41,3 | 40,9 | 40,2 | 39,3 | 38,3 | 37,1 | 35 | 32,5 | 30,7 | 28,8 | - | - | - | - |
| - | NM 80/20B-60/A | 48,9 | 28,2 | 22 | 30 | | 40,2 | 43 | 42,7 | 42 | 41,2 | 40,2 | 39,2 | 37,4 | 35,3 | 33,8 | 32,2 | - | - | - | - |
| BNMS | NMS 80/200B-60/B | - | - | 22 | 30 | | 42 | 43 | 42,7 | 42 | 41,2 | 40,2 | 39,2 | 37,4 | 35,3 | 33,8 | 32,2 | - | - | - | - |
| BNMS | NMS 80/200A-60/B | - | - | 30 | 40 | | 9 | 58 | 57,7 | 57,2 | 56,5 | 55,6 | 54,5 | 52,6 | 50,6 | 49,2 | 47,8 | - | - | - | - |
| - | NM 80/25E-60 | 48,9 | 28,2 | 22 | 30 | | 52 | 51 | 50 | 48,5 | 46,6 | 44,4 | 42 | 38 | 33 | 29 | - | - | - | - | - |
| BNMS | NMS 80/250E-60 | - | - | 22 | 30 | | 52 | 51 | 50 | 48,5 | 46,6 | 44,4 | 42 | 38 | 33 | 29 | - | - | - | - | - |
| BNMS | NMS 80/250D-60/A | - | - | 30 | 40 | | 65 | 65 | 63,9 | 62,7 | 61 | 58,9 | 56,6 | 53,1 | 48,9 | 45,2 | 41,1 | - | - | - | - |
| BNMS | NMS 80/250C-60/A | - | - | 37 | 50 | | 74 | 73,5 | 73 | 72 | 70,6 | 68,9 | 66,9 | 63,2 | 58,8 | 55,1 | 51 | - | - | - | - |
| BNMS | NMS 80/250B-60/A | - | - | 45 | 60 | | 84 | 84 | 83,5 | 82,5 | 81 | 80 | 78 | 74 | 70 | 67 | 62,5 | - | - | - | - |
| BNMS | NMS 80/250A-60/A | - | - | 55 | 75 | | 95 | 94,6 | 93,8 | 93,2 | 92,4 | 91,3 | 90 | 87,6 | 83,7 | 80,1 | 76,4 | - | - | - | - |
| - | NM 100/20E-60/A | 40,8 | 23,6 | 18,5 | 25 | | 30,5 | - | - | - | 29,9 | 29,5 | 29,1 | 28,2 | 27 | 26 | 24,8 | 22,8 | 18,8 | - | - |
| BNMS | NMS 100/200E-60 | - | - | 18,5 | 25 | | 30 | - | - | - | 29,9 | 29,5 | 29,1 | 28,2 | 27 | 26 | 24,8 | 22,8 | 18,8 | - | - |
| - | NM 100/20D-60 | 48,9 | 28,2 | 22 | 30 | | 36 | - | - | - | 35,9 | 35,5 | 35 | 34,1 | 32,9 | 32 | 30,9 | 28,9 | 24,2 | - | - |
| BNMS | NMS 100/200D-60/A | - | - | 22 | 30 | | 36 | - | - | - | 35,9 | 35,5 | 35 | 34,1 | 32,9 | 32 | 30,9 | 28,9 | 24,2 | - | - |
| BNMS | NMS 100/200C-60 | - | - | 30 | 40 | | 45 | - | - | - | 44,8 | 44,5 | 44,2 | 43,6 | 42,7 | 41,9 | 41 | 39 | 34,5 | 28,6 | - |
| BNMS | NMS 100/200B-60/A | - | - | 37 | 50 | | 54 | - | - | - | 53,8 | 53,5 | 53,1 | 52,3 | 51,3 | 50,5 | 49,5 | 47,6 | 43,5 | 38,2 | - |
| BNMS | NMS 100/200A-60/A | - | - | 45 | 60 | | 60 | - | - | - | 61,2 | 61 | 60,8 | 60,3 | 59,6 | 59 | 58,2 | 56,7 | 53 | 47,9 | 42 |
| BNMS | NMS 100/250B-60/A | - | - | 55 | 75 | | 74 | - | - | - | 73,3 | 72,8 | 72,3 | 71,2 | 69,8 | 68,7 | 67,4 | 65,2 | 60,6 | 54,9 | 48,5 |
| BNMS | NMS 100/250A-60/A | - | - | 75 | 100 | | 92 | - | - | - | 90,8 | 90,6 | 90,2 | 89,6 | 88,7 | 87,9 | 86,9 | 85,1 | 80,8 | 74,7 | 67,1 |

**P2:** Rated motor power output.
**H:** Total head in m

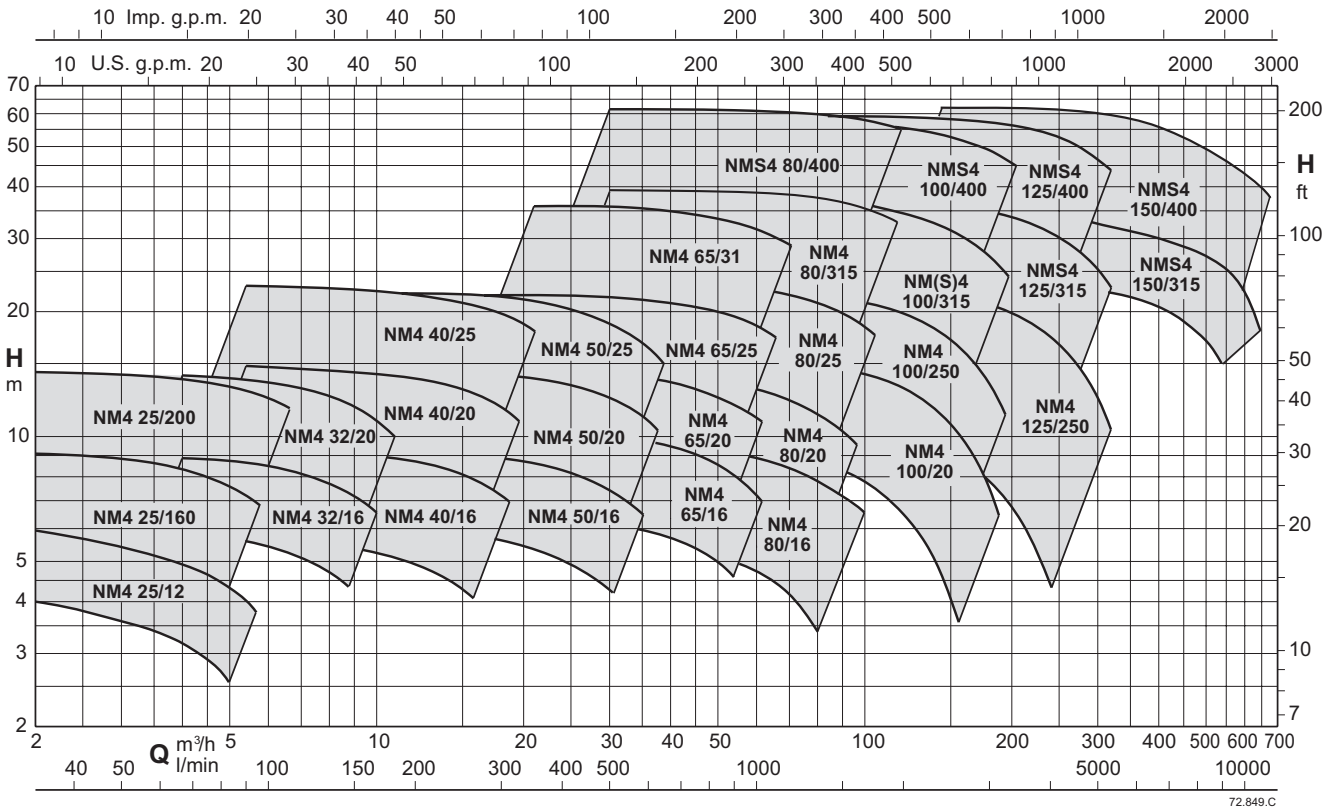
### Rated current

| P2 | | P2* | | 220V Δ/ 380V Y | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 380V Δ/ 660V Y | | 220V Δ/ 440V Y | | 440V Δ | |
| kW | HP | kW | SF | In A | In A | In A | In A | In A | In A | Ia/In |
| 0.55 | 0.75 | 0.63 | 1.15 | 4.5 | 2.6 | | 4.7 | 2.7 | | 5.2 |
| 0.75 | 1 | 0.86 | 1.15 | 4.8 | 2.8 | | 5 | 3 | | 6 |
| 1.1 | 1.5 | 1.27 | 1.15 | 5.7 | 3.3 | | 6 | 3.5 | | 5.4 |
| 1.5 | 2 | 1.75 | 1.15 | 9 | 5.2 | | 9.4 | 5.5 | | 6.1 |
| 2.2 | 3 | 2.55 | 1.15 | 11.1 | 6.4 | | 11.7 | 6.8 | | 8.4 |
| 3 | 4 | 3.45 | 1.15 | 13.4 | 7.7 | | 14 | 8.1 | | 8.4 |
| 4 | 5.5 | 4.55 | 1.15 | | 11.2 | 6.5 | | | | 9.2 |
| 5.5 | 7.5 | 6.3 | 1.15 | | 13.7 | 7.9 | | | | 8.7 |
| 7.5 | 10 | 8.6 | 1.15 | | 17 | 9.8 | | | | 9.2 |
| 9.2 | 12.5 | 10.6 | 1.15 | | 22 | 12.7 | | | | 8.3 |
| 11 | 15 | 12.6 | 1.15 | | 25.8 | 14.9 | | | | 8.9 |
| 15 | 20 | 17.3 | 1.15 | | 33.2 | 19.2 | | | | 9.4 |
| 18.5 | 25 | 21.3 | 1.15 | | 40.8 | 23.6 | | | | 9.4 |
| 22 | 30 | 24.5 | 1.15 | | 48.9 | 28.3 | | | | 9.6 |
| 30 | 40 | 33.5 | 1.15 | | 65.4 | 37.8 | | | 55 | 8.7 |
| 37 | 50 | 41.5 | 1.15 | | 82 | 47 | | | 66 | 8.5 |
| 45 | 60 | 51 | 1.15 | | 97 | 56 | | | 81 | 8 |
| 55 | 75 | 62 | 1.15 | | 119 | 68.5 | | | 97 | 7.2 |
| 75 | 100 | 84 | 1.15 | | 157 | 90 | | | 132 | 6 |

**A*:** Calpeda motor Standard
**Ia/In** D.O.L. starting current / Nominal current

# NM4, NMS4 60 Hz

## Performance n ≈ 1750 1/min




## Performance n ≈ 1750 1/min

### Three-phase

| | | | | | | Q = Flow | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | m³/h | 0 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 |
| Model | | 230V | 400V | P2 | | l/min | | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 |
| | | A | | kW | HP | | H (m) = Total head | | | | | | | | | | | | | |
| BNM4 | NM4 32/16B-60/A | 2 | 1,1 | 0,37 | 0,5 | | 7,6 | 7,6 | 7,6 | 7,5 | 7,4 | 7,4 | 7,3 | 7,1 | 6,6 | 6,1 | 5,3 | 4,4 | - | - |
| BNM4 | NM4 32/16A-60/A | 2 | 1,1 | 0,37 | 0,5 | | 9,2 | 9,2 | 9,2 | 9,1 | 9,1 | 9 | 9 | 8,8 | 8,3 | 7,8 | 7,2 | 6,4 | 5,4 | - |
| BNM4 | NM4 32/20B-60/A | 3,1 | 1,8 | 0,55 | 0,75 | | 13,2 | 13,1 | 13 | 12,9 | 12,8 | 12,6 | 12,4 | 12,2 | 11,4 | 10,8 | 9,8 | 8,7 | 7,3 | 5,7 |
| BNM4 | NM4 32/20A-60/B | 3,8 | 2,2 | 0,75 | 1 | | 15 | 14,9 | 14,8 | 14,7 | 14,6 | 14,5 | 14,3 | 14,1 | 13,6 | 13,2 | 12,4 | 11,4 | 10 | 8,5 |

### Three-phase

| | | | | | | Q = Flow | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | m³/h | 0 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 |
| Model | | 230V | 400V | P2 | | l/min | | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 |
| | | A | | kW | HP | | H (m) = Total head | | | | | | | | | | | | | | | |
| BNM4 | NM4 40/16C-60/B | 2 | 1,1 | 0,37 | 0,5 | | 6,5 | 6,7 | 6,7 | 6,6 | 6,5 | 6,3 | 6,1 | 5,9 | 5,5 | 4,9 | 4,2 | 3,2 | - | - | - | - |
| BNM4 | NM4 40/16B-60/B | 3,1 | 1,8 | 0,55 | 0,75 | | 7,7 | 8,1 | 8,1 | 8 | 7,9 | 7,8 | 7,6 | 7,4 | 7,2 | 6,8 | 6,2 | 5,5 | 4,6 | - | - | - |
| BNM4 | NM4 40/16A-60/C | 3,8 | 2,2 | 0,75 | 1 | | 9,4 | 9,7 | 9,7 | 9,6 | 9,6 | 9,5 | 9,4 | 9,2 | 9 | 8,7 | 8,3 | 7,8 | 7 | 5,8 | - | - |
| BNM4 | NM4 40/20B-60/B | 5,8 | 3,3 | 1,1 | 1,5 | | 13,2 | 13,3 | 13,2 | 13,1 | 13 | 12,8 | 12,5 | 12 | 11,5 | 10,5 | 9,5 | 7,8 | - | - | - | - |
| BNM4 | NM4 40/20A-60/B | 5,8 | 3,3 | 1,1 | 1,5 | | 15,2 | 15,3 | 15,2 | 15,1 | 15 | 14,8 | 14,4 | 14,1 | 13,7 | 13 | 12,2 | 10,8 | 9,3 | - | - | - |
| BNM4 | NM4 40/25C-60/C | 7 | 4 | 1,5 | 2 | | 18 | 18,3 | 18,2 | 18,1 | 18 | 17,9 | 17,6 | 17,3 | 16,8 | 15,7 | 14,2 | 11,8 | 8,9 | 4,4 | - | - |
| BNM4 | NM4 40/25B-60/C | 9,8 | 5,7 | 2,2 | 3 | | 22,3 | 22,7 | 22,7 | 22,7 | 22,6 | 22,6 | 22,5 | 22,3 | 22,1 | 21,5 | 20,7 | 19,2 | 17,4 | 14,2 | 10,1 | - |
| BNMS4 | NMS4 40/250B-60 | - | - | 2,2 | 3 | | 21,4 | 22,7 | 22,7 | 22,7 | 22,6 | 22,6 | 22,5 | 22,3 | 22,1 | 21,5 | 20,7 | 19,2 | 17,4 | 14,2 | 10,1 | - |
| BNM4 | NM4 40/25A-60/B | 13,5 | 7,8 | 3 | 4 | | 24,6 | 25,1 | 25,1 | 25 | 24,9 | 24,9 | 24,7 | 24,6 | 24,4 | 24,1 | 23,5 | 22,6 | 21,3 | 18,6 | 15 | 10,7 |
| BNMS4 | NMS4 40/250A-60 | - | - | 3 | 4 | | 22,8 | 25,1 | 25,1 | 25 | 24,9 | 24,9 | 24,7 | 24,6 | 24,4 | 24,1 | 23,5 | 22,6 | 21,3 | 18,6 | 15 | 10,7 |

**P2:** Rated motor power output.
**H:** Total head in m
Tolerances according to UNI EN ISO 9906:2012

# NM4, NMS4 60 Hz

## Performance n ≈ 1750 1/min

### Three-phase

| | | | | | | | Q = Flow | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | m³/h | 0 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 |
| Model | | 230V | 400V | 690V | P2 | | l/min | | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | | | |
| BNM4 | NM4 50/16B-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 8,5 | 9 | 9 | 9 | 8,9 | 8,8 | 8,6 | 8,3 | 7,7 | 7 | 6,2 | 5,4 | 3,8 | - | - | - |
| BNM4 | NM4 50/16A-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 10 | 10,5 | 10,6 | 10,6 | 10,6 | 10,6 | 10,5 | 10,3 | 9,9 | 9,3 | 8,6 | 7,9 | 6,6 | 5,3 | - | - |
| BNM4 | NM4 50/20C-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 10,5 | 11,2 | 11,2 | 11,1 | 11 | 10,8 | 10,4 | 10 | 9,1 | 8 | 6,8 | 5,3 | 2,7 | - | - | - |
| BNM4 | NM4 50/20B-60/C | 7 | 4 | - | 1,5 | 2 | | 12 | 12,8 | 12,8 | 12,8 | 12,7 | 12,6 | 12,3 | 12 | 11,3 | 10,5 | 9,4 | 8,1 | 5,8 | 3,4 | - | - |
| BNM4 | NM4 50/20A-60/C | 9,8 | 5,7 | - | 2,2 | 3 | | 15,6 | 16,7 | 16,8 | 16,9 | 16,9 | 16,9 | 16,8 | 16,6 | 16,3 | 15,8 | 15,2 | 14,4 | 12,9 | 11,3 | 8,5 | 5,4 |
| BNMS4 | NMS4 50/200A-60 | - | - | - | 2,2 | 3 | | 14,4 | 16,7 | 16,8 | 16,9 | 16,9 | 16,9 | 16,8 | 16,6 | 16,3 | 15,8 | 15,2 | 14,4 | 12,9 | 11,3 | 8,5 | 5,4 |
| BNM4 | NM4 50/25C-60/C | 9,8 | 5,7 | - | 2,2 | 3 | | 18 | 18,9 | 18,9 | 18,9 | 18,8 | 18,5 | 18,2 | 17,8 | 17,1 | 16,2 | 15,1 | 13,3 | 10,3 | 7,2 | - | - |
| BNMS4 | NMS4 50/250C-60 | - | - | - | 2,2 | 3 | | 17,2 | 18,9 | 18,9 | 18,9 | 18,8 | 18,5 | 18,2 | 17,8 | 17,1 | 16,2 | 15,1 | 13,3 | 10,3 | 7,2 | - | - |
| BNM4 | NM4 50/25B-60/B | 13,5 | 7,8 | - | 3 | 4 | | 22 | 23,1 | 23,1 | 23,1 | 23 | 22,9 | 22,6 | 22,2 | 21,5 | 20,6 | 19,5 | 18,2 | 15,3 | 12 | - | - |
| BNMS4 | NMS4 50/250B-60 | - | - | - | 3 | 4 | | 20,2 | 23,1 | 23,1 | 23,1 | 23 | 22,9 | 22,6 | 22,2 | 21,5 | 20,6 | 19,5 | 18,2 | 15,3 | 12 | - | - |
| BNM4 | NM4 50/25A-60/B | - | 10,2 | 5,9 | 4 | 5,5 | | 23 | 24,1 | 24,1 | 24,1 | 24 | 23,8 | 23,6 | 23,2 | 22,6 | 21,9 | 21 | 19,7 | 17 | 14 | - | - |
| BNMS4 | NMS4 50/250A-60 | - | - | - | 4 | 5,5 | | 24,2 | 24,1 | 24,1 | 24,1 | 24 | 23,8 | 23,6 | 23,2 | 22,6 | 21,9 | 21 | 19,7 | 17 | 14 | - | - |

### Three-phase

| | | | | | | | Q = Flow | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | m³/h | 0 | 21 | 24 | 27 | 30 | 33 | 37,8 | 38 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 |
| Model | | 230V | 400V | 690V | P2 | | l/min | | 350 | 400 | 450 | 500 | 550 | 630 | 633 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | | | |
| BNM4 | NM4 65/16C-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 6,2 | 6,2 | 6,2 | 6,1 | 6,1 | 6 | 5,9 | - | 5,7 | 5,4 | 4,9 | 4,3 | - | - | - | - |
| BNM4 | NM4 65/16B-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 7,2 | 7,2 | 7,1 | 7,1 | 7 | 6,9 | 6,8 | - | 6,6 | 6,3 | 5,8 | 5,3 | 4,6 | - | - | - |
| BNM4 | NM4 65/16A-60/C | 7 | 4 | - | 1,5 | 2 | | 8,8 | 8,9 | 8,9 | 8,9 | 8,8 | 8,8 | 8,7 | - | 8,6 | 8,3 | 7,9 | 7,5 | 6,9 | 5,7 | - | - |
| BNM4 | NM4 65/16S-60/A | 9,8 | 5,7 | - | 2,2 | 3 | | 10,1 | 10,3 | 10,3 | 10,3 | 10,3 | 10,3 | 10,2 | - | 10,1 | 9,9 | 9,6 | 9,1 | 8,6 | 7,6 | 6,2 | - |
| BNMS4 | NMS4 65/160S-60 | - | - | - | 2,2 | 3 | | 9,9 | 10,3 | 10,3 | 10,3 | 10,3 | 10,3 | 10,2 | - | 10,1 | 9,9 | 9,6 | 9,1 | 8,6 | 7,6 | 6,2 | - |
| BNM4 | NM4 65/20B-60/C | 9,8 | 5,7 | - | 2,2 | 3 | | 11,4 | 12,2 | 12,2 | 12,2 | 12,1 | 12,1 | - | 11,9 | 11,6 | 11,2 | 10,6 | 9,9 | 9,1 | 7,7 | 6 | 3,2 |
| BNMS4 | NMS4 65/200B-60 | - | - | - | 2,2 | 3 | | 11,1 | 12,2 | 12,2 | 12,2 | 12,1 | 12,1 | - | 11,9 | 11,6 | 11,2 | 10,6 | 9,9 | 9,1 | 7,7 | 6 | 3,2 |
| BNM4 | NM4 65/20A-60/B | 13,5 | 7,8 | - | 3 | 4 | | 13,8 | 14,6 | 14,6 | 14,6 | 14,6 | 14,6 | - | 14,4 | 14,3 | 13,9 | 13,4 | 12,8 | 12,1 | 10,8 | 9,3 | 6,8 |
| BNMS4 | NMS4 65/200A-60 | - | - | - | 3 | 4 | | 13,8 | 14,6 | 14,6 | 14,6 | 14,6 | 14,6 | - | 14,4 | 14,3 | 13,9 | 13,4 | 12,8 | 12,1 | 10,8 | 9,3 | 6,8 |
| BNM4 | NM4 65/25B-60/B | - | 10,2 | 5,9 | 4 | 5,5 | | 17 | 19,6 | 19,6 | 19,7 | 19,7 | 19,6 | - | 19,4 | 19,2 | 18,6 | 17,8 | 16,8 | 15,6 | 13,5 | 10,9 | 7,1 |
| BNMS4 | NMS4 65/250B-60 | - | - | - | 4 | 5,5 | | 16,5 | 19,6 | 19,6 | 19,7 | 19,7 | 19,6 | - | 19,4 | 19,2 | 18,6 | 17,8 | 16,8 | 15,6 | 13,5 | 10,9 | 7,1 |
| BNM4 | NM4 65/25A-60/C | - | 15 | 8,7 | 5,5 | 7,5 | | 22,1 | 23,8 | 23,9 | 24 | 24,1 | 24,1 | 24 | - | 23,9 | 23,5 | 22,9 | 22,1 | 21,2 | 19,4 | 17,2 | 13,7 |
| BNMS4 | NMS4 65/250A-60 | - | - | - | 5,5 | 7,5 | | 21 | 23,8 | 23,9 | 24 | 24,1 | 24,1 | 24 | - | 23,9 | 23,5 | 22,9 | 22,1 | 21,2 | 19,4 | 17,2 | 13,7 |
| BNM4 | NM4 65/31C-60/B | - | 15 | 8,7 | 5,5 | 7,5 | | 26,4 | 27 | 26,9 | 26,6 | 26,2 | 25,8 | 25,4 | - | 25,1 | 24,5 | 23,5 | 21,9 | 20 | 17 | 13 | - |
| BNMS4 | NMS4 65/315C-60 | - | - | - | 5,5 | 7,5 | | 26 | 27 | 26,9 | 26,6 | 26,2 | 25,8 | 25,4 | - | 25,1 | 24,5 | 23,5 | 21,9 | 20 | 17 | 13 | - |
| BNM4 | NM4 65/31B-60/B | - | 19,2 | 11,1 | 7,5 | 10 | | 32 | 32 | 31,9 | 31,6 | 31,2 | 30,9 | 30,4 | - | 30,1 | 29,6 | 28,9 | 27,9 | 26,6 | 24 | 20,5 | - |
| BNMS4 | NMS4 65/315B-60 | - | - | - | 7,5 | 10 | | 31 | 32 | 31,9 | 31,6 | 31,2 | 30,9 | 30,4 | - | 30,1 | 29,6 | 28,9 | 27,9 | 26,6 | 24 | 20,5 | - |
| BNM4 | NM4 65/31A-60/B | - | 24,2 | 13,9 | 9,2 | 12,5 | | 35,8 | 36,1 | 35,8 | 35,5 | 35,2 | 34,9 | 34,4 | - | 34,1 | 33,6 | 32,9 | 32,1 | 31 | 29 | 26,5 | - |
| BNMS4 | NMS4 65/315A-60 | - | - | - | 11 | 15 | | 36 | 36,1 | 35,8 | 35,5 | 35,2 | 34,9 | 34,4 | - | 34,1 | 33,6 | 32,9 | 32,1 | 31 | 29 | 26,5 | - |

**P2:** Rated motor power output.
**H:** Total head in m
Tolerances according to UNI EN ISO 9906:2012

# NM4, NMS4 60 Hz

## Performance n ≈ 1750 1/min

### Three-phase

| Model | | 230V | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | l/min | | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | | | | | |
| - | NM4 80/16C-60/C | 5,8 | 3,3 | - | 1,1 | 1,5 | | 7,3 | 6,9 | 6,8 | 6,6 | 6,4 | 6,1 | 5,7 | 5,3 | 4,9 | 4,3 | 3,7 | - | - | - | - | - | - | - |
| - | NM4 80/16B-60/C | 7 | 4 | - | 1,5 | 2 | | 9,9 | 8,6 | 8,5 | 8,3 | 8,2 | 7,9 | 7,6 | 7,3 | 6,9 | 6,3 | 5,6 | 4,5 | - | - | - | - | - | - |
| - | NM4 80/16A-60/C | 9,8 | 5,7 | - | 2,2 | 3 | | 11,5 | 11,3 | 11,3 | 11,2 | 11 | 10,8 | 10,6 | 10,3 | 10 | 9,4 | 8,7 | 7,7 | 6,6 | - | - | - | - | - |
| BNMS4 | NMS4 80/160A-60 | - | - | - | 2,2 | 3 | | 10,1 | 11,3 | 11,3 | 11,2 | 11 | 10,8 | 10,6 | 10,3 | 10 | 9,4 | 8,7 | 7,7 | 6,6 | - | - | - | - | - |
| BNM4 | NM4 80/20C-60/C | 9,8 | 5,7 | - | 2,2 | 3 | | 9 | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,6 | 8,3 | 7,9 | 7,3 | 6,6 | 5,6 | 4,5 | - | - | - | - | - |
| BNMS4 | NMS4 80/200C-60 | - | - | - | 2,2 | 3 | | 8,7 | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,6 | 8,3 | 7,9 | 7,3 | 6,6 | 5,6 | 4,5 | - | - | - | - | - |
| BNM4 | NM4 80/20B-60/A | 13,5 | 7,8 | - | 3 | 4 | | 11,5 | 12,2 | 12,1 | 12 | 11,9 | 11,8 | 11,6 | 11,4 | 11,1 | 10,6 | 10 | 9,1 | 7,9 | 6,4 | 4,5 | - | - | - |
| BNMS4 | NMS4 80/200B-60 | - | - | - | 3 | 4 | | 11,2 | 12,2 | 12,1 | 12 | 11,9 | 11,8 | 11,6 | 11,4 | 11,1 | 10,6 | 10 | 9,1 | 7,9 | 6,4 | 4,5 | - | - | - |
| BNM4 | NM4 80/20A-60/B | - | 10,2 | 5,9 | 4 | 5,5 | | 13,9 | 14,7 | 14,7 | 14,6 | 14,5 | 14,4 | 14,2 | 14 | 13,7 | 13,2 | 12,7 | 11,8 | 10,7 | 9,3 | 7,3 | - | - | - |
| BNMS4 | NMS4 80/200A-60 | - | - | - | 4 | 5,5 | | 13,8 | 14,7 | 14,7 | 14,6 | 14,5 | 14,4 | 14,2 | 14 | 13,7 | 13,2 | 12,7 | 11,8 | 10,7 | 9,3 | 7,3 | - | - | - |
| BNM4 | NM4 80/25C-60/A | - | 10,2 | 5,9 | 4 | 5,5 | | 16,8 | 17,4 | 17,3 | 17,1 | 16,9 | 16,6 | 16,2 | 15,7 | 15,2 | 14,2 | 13 | 11,3 | 9,5 | - | - | - | - | - |
| BNMS4 | NMS4 80/250C-60 | - | - | - | 4 | 5,5 | | 17 | 17,4 | 17,3 | 17,1 | 16,9 | 16,6 | 16,2 | 15,7 | 15,2 | 14,2 | 13 | 11,3 | 9,5 | - | - | - | - | - |
| - | NM4 80/25B-60/B | - | 15 | 8,7 | 5,5 | 7,5 | | 20 | 20,8 | 20,8 | 20,7 | 20,7 | 20,5 | 20,2 | 19,8 | 19,3 | 18,4 | 17,3 | 15,7 | 13,8 | 11,5 | - | - | - | - |
| BNMS4 | NMS4 80/250B-60 | - | - | - | 5,5 | 7,5 | | 20,8 | 20,8 | 20,8 | 20,7 | 20,7 | 20,5 | 20,2 | 19,8 | 19,3 | 18,4 | 17,3 | 15,7 | 13,8 | 11,5 | - | - | - | - |
| - | NM4 80/25A-60/B | - | 19,2 | 11,1 | 7,5 | 10 | | 23,8 | 24,2 | 24,2 | 24,1 | 24,1 | 24 | 23,8 | 23,5 | 23 | 22,1 | 21 | 19,4 | 17,5 | 15,2 | 12,7 | - | - | - |
| BNMS4 | NMS4 80/250A-60 | - | - | - | 7,5 | 10 | | 23,8 | 24,2 | 24,2 | 24,1 | 24,1 | 24 | 23,8 | 23,5 | 23 | 22,1 | 21 | 19,4 | 17,5 | 15,2 | 12,7 | - | - | - |
| BNM4 | NM4 80/31C-60/B | - | 24,2 | 13,9 | 9,2 | 12,5 | | 25,8 | 26,2 | 26,2 | 26,2 | 26,2 | 26,1 | 26 | 25,8 | 25,5 | 24,9 | 24,1 | 22,7 | 21 | 18,8 | 16,2 | - | - | - |
| BNMS4 | NMS4 80/315C-60 | - | - | - | 11 | 15 | | 24,2 | 26,2 | 26,2 | 26,2 | 26,2 | 26,1 | 26 | 25,8 | 25,5 | 24,9 | 24,1 | 22,7 | 21 | 18,8 | 16,2 | - | - | - |
| - | NM4 80/31B-60 | - | 26,8 | 15,5 | 11 | 15 | | 29,4 | 31,1 | 31,2 | 31,3 | 31,3 | 31,3 | 31,2 | 31 | 30,8 | 30,2 | 29,5 | 28,1 | 26,3 | 24,2 | 21,8 | 17,5 | - | - |
| BNMS4 | NMS4 80/315B-60/A | - | - | - | 11 | 15 | | 28,3 | 31,1 | 31,2 | 31,3 | 31,3 | 31,3 | 31,2 | 31 | 30,8 | 30,2 | 29,5 | 28,1 | 26,3 | 24,2 | 21,8 | 17,5 | - | - |
| - | NM4 80/31A-60 | - | 34,6 | 20 | 15 | 20 | | 35 | 36,9 | 37,1 | 37,2 | 37,3 | 37,4 | 37,4 | 37,4 | 37,2 | 36,7 | 36 | 34,8 | 33,2 | 31,2 | 29 | 25,1 | 20,6 | - |
| BNMS4 | NMS4 80/315A-60 | - | - | - | 15 | 20 | | 34,8 | 36,9 | 37,1 | 37,2 | 37,3 | 37,4 | 37,4 | 37,4 | 37,2 | 36,7 | 36 | 34,8 | 33,2 | 31,2 | 29 | 25,1 | 20,6 | - |
| BNMS4 | NMS4 80/315S | - | - | - | 18,5 | 25 | | 38 | 39,1 | 39,2 | 39,3 | 39,4 | 39,5 | 39,4 | 39,3 | 39,2 | 38,7 | 38,1 | 37,1 | 35,7 | 34,1 | 32,1 | 28,3 | 22,5 | - |
| BNMS4 | NMS4 80/400C/B | - | - | - | 18,5 | 25 | | 42 | 42,8 | 42,8 | 42,9 | 42,9 | 42,7 | 42,5 | 42,2 | 41,8 | 40,9 | 39,8 | 37,9 | 35,4 | 32,5 | 29 | - | - | - |
| BNMS4 | NMS4 80/400B/B | - | - | - | 22 | 30 | | 47 | 48,2 | 48,2 | 48,2 | 48,2 | 48,1 | 47,9 | 47,7 | 47,3 | 46,6 | 45,7 | 44,1 | 42,1 | 39,5 | 36,3 | 30,5 | - | - |
| BNMS4 | NMS4 80/400A/B | - | - | - | 30 | 40 | | 60 | 61,4 | 61,5 | 61,5 | 61,6 | 61,5 | 61,5 | 61,3 | 61,1 | 60,7 | 60,1 | 59 | 57,6 | 55,8 | 53,6 | 49,5 | - | - |
| BNMS4 | NMS4 80/400S | - | - | - | 37 | 50 | | 60 | 61,4 | 61,5 | 61,5 | 61,6 | 61,6 | 61,5 | 61,3 | 61,1 | 60,7 | 60,1 | 59 | 57,6 | 55,8 | 53,7 | 49,5 | 43,9 | 39,2 |

### Three-phase

| Model | | 230V | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | l/min | | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 |
| | | A | | | kW | HP | H (m) = Total head | | | | | | | | | | | | | | | | |
| BNM4 | NM4 100/20C-60/A | 13,5 | 7,8 | - | 3 | 4 | | 9,1 | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,5 | 8 | 7,2 | 6,4 | 5,5 | 4 | - | - | - | - |
| BNMS4 | NMS4 100/200C-60 | - | - | - | 3 | 4 | | 9,3 | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,5 | 8 | 7,2 | 6,4 | 5,5 | 4 | - | - | - | - |
| BNM4 | NM4 100/20B-60/A | - | 10,2 | 5,9 | 4 | 5,5 | | 11,2 | 11,7 | 11,6 | 11,6 | 11,5 | 11,4 | 11,2 | 10,7 | 10,1 | 9,2 | 8,2 | 6,5 | 4,6 | - | - | - |
| BNMS4 | NMS4 100/200B-60 | - | - | - | 4 | 5,5 | | 12 | 11,7 | 11,6 | 11,6 | 11,5 | 11,4 | 11,2 | 10,7 | 10,1 | 9,2 | 8,2 | 6,5 | 4,6 | - | - | - |
| BNM4 | NM4 100/20A-60/C | - | 15 | 8,7 | 5,5 | 7,5 | | 13,4 | 14 | 14 | 13,9 | 13,9 | 13,8 | 13,7 | 13,3 | 12,7 | 12 | 11,3 | 9,8 | 8,2 | 7 | 5,5 | - |
| BNMS4 | NMS4 100/200A-60 | - | - | - | 5,5 | 7,5 | | 15,1 | 14 | 14 | 13,9 | 13,9 | 13,8 | 13,7 | 13,3 | 12,7 | 12 | 11,3 | 9,8 | 8,2 | 7 | 5,5 | - |
| - | NM4 100/25B-60/B | - | 19,2 | 11,1 | 7,5 | 10 | | 19,5 | 19,4 | 19,4 | 19,3 | 19,2 | 19 | 18,6 | 18 | 17,4 | 16,5 | 15,5 | 13,8 | 11,5 | 10 | 8,2 | 5,5 |
| BNMS4 | NMS4 100/250B-60 | - | - | - | 7,5 | 10 | | 19,3 | 19,4 | 19,4 | 19,3 | 19,2 | 19 | 18,6 | 18 | 17,4 | 16,5 | 15,5 | 13,8 | 11,5 | 10 | 8,2 | 5,5 |
| - | NM4 100/25A-60/B | - | 24,2 | 13,9 | 9,2 | 12,5 | | 22,5 | 22,4 | 22,4 | 22,2 | 22,1 | 21,9 | 21,4 | 21 | 20,4 | 19,6 | 18,8 | 17 | 15 | 13,3 | 11,6 | 8,8 |
| BNMS4 | NMS4 100/250A-60/A | - | - | - | 11 | 15 | | 22,1 | 22,4 | 22,4 | 22,2 | 22,1 | 21,9 | 21,4 | 21 | 20,4 | 19,6 | 18,8 | 17 | 15 | 13,3 | 11,6 | 8,8 |
| - | NM4 100/31C-60 | - | 26,8 | 15,5 | 11 | 15 | | 28 | 28 | 28 | 28 | 27,8 | 27,5 | 27 | 26 | 24,9 | 23,6 | 22,1 | 19,3 | 15,7 | 12,9 | 10 | - |
| BNMS4 | NMS4 100/315C-60/A | - | - | - | 11 | 15 | | 26,8 | 28 | 28 | 28 | 27,8 | 27,5 | 27 | 26 | 24,9 | 23,6 | 22,1 | 19,3 | 15,7 | 12,9 | 10 | - |
| - | NM4 100/31B-60 | - | 34,6 | 20 | 15 | 20 | | 32,5 | 32,5 | 32,5 | 32,5 | 32,3 | 31,9 | 31,5 | 31 | 30,4 | 29,6 | 28,5 | 25,9 | 22,6 | 20 | 17,4 | 13,5 |
| BNMS4 | NMS4 100/315B-60/A | - | - | - | 15 | 20 | | 31,8 | 32,5 | 32,5 | 32,5 | 32,3 | 31,9 | 31,5 | 31 | 30,4 | 29,6 | 28,5 | 25,9 | 22,6 | 20 | 17,4 | 13,5 |
| BNMS4 | NMS4 100/315A-60/A | - | - | - | 18,5 | 25 | | 36,4 | 38,5 | 38,5 | 38,4 | 38,2 | 38,1 | 37,9 | 37,5 | 37 | 36,1 | 34,9 | 32,6 | 29,9 | 28,1 | 26 | 21 |
| BNMS4 | NMS4 100/400C-60/A | - | - | - | 22 | 30 | | 41,8 | 43 | 42,7 | 42,6 | 42,4 | 42,2 | 41,8 | 41,1 | 40 | 38,6 | 36,9 | 34 | 30,5 | 28 | - | - |
| BNMS4 | NMS4 100/400B-60/A | - | - | - | 30 | 40 | | 50 | 51,6 | 51,2 | 51 | 50,8 | 50,6 | 50,4 | 49,9 | 49 | 47,8 | 46,4 | 43,8 | 41 | 39,1 | 37 | 33 |
| BNMS4 | NMS4 100/400A-60/A | - | - | - | 37 | 50 | | 58 | 59,5 | 59,3 | 59 | 58,8 | 58,5 | 58,3 | 58,1 | 57,7 | 57 | 55,9 | 53,7 | 50,9 | 49 | 47,1 | 44 |

**P2:** Rated motor power output.
**H:** Total head in m
Tolerances according to UNI EN ISO 9906:2012

# NM4, NMS4 60 Hz

## Performance n ≈ 1750 1/min

### Three-phase

| Model | | 400V | 690V | P2 | | Q = Flow m³/h | 0 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 | 330 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | kW | HP | l/min | 0 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 |
| | | | | | | H (m) = Total head | | | | | | | | | | | | | | | |
| - | NM4 125/25E-60/B | 15 | 8,7 | 5,5 | 7,5 | | 11,5 | 11,2 | 11 | 10,7 | 10,4 | 10 | 9,4 | 8,6 | 8 | 7,3 | 6,2 | - | - | - | - |
| BNMS4 | NMS4 125/250E-60 | - | - | 5,5 | 7,5 | | 11 | 11,2 | 11 | 10,7 | 10,4 | 10 | 9,4 | 8,6 | 8 | 7,3 | 6,2 | - | - | - | - |
| - | NM4 125/25D-60/B | 19,2 | 11,1 | 7,5 | 10 | | 14,1 | 14 | 13,9 | 13,7 | 13,4 | 13 | 12,4 | 11,6 | 11 | 10,4 | 9,3 | 7,3 | 5 | - | - |
| BNMS4 | NMS4 125/250D-60 | - | - | 7,5 | 10 | | 14 | 14 | 13,9 | 13,7 | 13,4 | 13 | 12,4 | 11,6 | 11 | 10,4 | 9,3 | 7,3 | 5 | - | - |
| - | NM4 125/25C-60/B | 24,2 | 13,9 | 9,2 | 12,5 | | 17 | 16,8 | 16,6 | 16,4 | 16,1 | 15,8 | 15,2 | 14,5 | 14 | 13,4 | 12,3 | 10,3 | 8 | 5,4 | - |
| BNMS4 | NMS4 125/250C-60/A | - | - | 11 | 15 | | 16,8 | 16,8 | 16,6 | 16,4 | 16,1 | 15,8 | 15,2 | 14,5 | 14 | 13,4 | 12,3 | 10,3 | 8 | 5,4 | - |
| - | NM4 125/25B-60 | 26,8 | 15,5 | 11 | 15 | | 19,1 | 19,4 | 19,2 | 19 | 18,8 | 18,5 | 18,1 | 17,4 | 16,9 | 16,3 | 15,2 | 13,2 | 10,8 | 8 | - |
| BNMS4 | NMS4 125/250B-60/A | - | - | 11 | 15 | | 19,1 | 19,4 | 19,2 | 19 | 18,8 | 18,5 | 18,1 | 17,4 | 16,9 | 16,3 | 15,2 | 13,2 | 10,8 | 8 | - |
| - | NM4 125/25A-60 | 34,5 | 20 | 15 | 20 | | 22,8 | 23 | 22,9 | 22,8 | 22,7 | 22,5 | 22,1 | 21,4 | 20,9 | 20,3 | 19,2 | 17,2 | 14,9 | 12,2 | 9 |
| BNMS4 | NMS4 125/250A-60/A | - | - | 15 | 20 | | 22,8 | 23 | 22,9 | 22,8 | 22,7 | 22,5 | 22,1 | 21,4 | 20,9 | 20,3 | 19,2 | 17,2 | 14,9 | 12,2 | 9 |
| BNMS4 | NMS4 125/315C/A | - | - | 18,5 | 25 | | 28 | 27,9 | 27,9 | 27,7 | 27,5 | 27,2 | 26,5 | 25,6 | 24,9 | 24,1 | 22,8 | 20,1 | 17 | 13,5 | 9,5 |
| BNMS4 | NMS4 125/315B/A | - | - | 22 | 30 | | 31,9 | 31,8 | 31,7 | 31,6 | 31,4 | 31,1 | 30,5 | 29,8 | 29,2 | 28,5 | 27,3 | 24,9 | 22 | 18,4 | 14,3 |
| BNMS4 | NMS4 125/315A/A | - | - | 30 | 40 | | 36,4 | 36,8 | 36,8 | 36,7 | 36,6 | 36,4 | 35,9 | 35,2 | 34,7 | 34,2 | 33,2 | 31 | 28,4 | 25,3 | 21,6 |
| BNMS4 | NMS4 125/400C/A | - | - | 37 | 50 | | 45,5 | 45,3 | 45,5 | 45,5 | 45,3 | 45,1 | 44,4 | 43,5 | 42,7 | 41,8 | 40,2 | 37 | 33,1 | 28,6 | 23,4 |
| BNMS4 | NMS4 125/400B/A | - | - | 45 | 60 | | 51,8 | 51,4 | 51,3 | 51,2 | 51,1 | 50,9 | 50,4 | 49,7 | 49 | 48,2 | 46,8 | 44 | 40,5 | 36 | 31,5 |
| BNMS4 | NMS4 125/400A/A | - | - | 55 | 75 | | 59,2 | 59,2 | 59,1 | 59,1 | 58,9 | 58,7 | 58,3 | 57,7 | 57,2 | 56,6 | 55,6 | 53,4 | 50,5 | 46,8 | 42,3 |

### Three-phase

| Model | | P2 | | Q = Flow m³/h | 0 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 540 | 600 | 660 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 9000 | 10000 | 11000 |
| | | | | H (m) = Total head | | | | | | | | | | | | | | | | | | | |
| BNMS4 | NMS4 150/315D-60/A | 18,5 | 25 | | 22,5 | 22,8 | 22,6 | 22,3 | 22 | 21,8 | 21,2 | 20 | 18,5 | 16,7 | 14,7 | 12,4 | 10 | 7,4 | - | - | - | - | - |
| BNMS4 | NMS4 150/315C-60/A | 22 | 30 | | 26 | 25,8 | 25,6 | 25,4 | 25,2 | 24,9 | 24,4 | 23,2 | 21,9 | 20,2 | 18,4 | 16,2 | 14 | 11,4 | - | - | - | - | - |
| BNMS4 | NMS4150/315B-60/B | 30 | 40 | | 25,6 | 26,5 | 26,4 | 26,2 | 26 | 25,8 | 25,5 | 24,8 | 24 | 23,1 | 22,1 | 21,1 | 20,1 | 19,2 | 18,3 | 17,4 | - | - | - |
| BNMS4 | NMS4150/315A-60/B | 37 | 50 | | 29 | 30,9 | 30,9 | 30,8 | 30,7 | 30,6 | 30,3 | 29,8 | 29,1 | 28,3 | 27,5 | 26,6 | 25,6 | 24,7 | 23,8 | 22,8 | 20,7 | 17,8 | - |
| BNMS4 | NMS4 150/315S-60 | 45 | 60 | | 33,2 | 35,6 | 35,6 | 35,5 | 35,4 | 35,3 | 35 | 34,5 | 33,9 | 33,3 | 32,5 | 31,7 | 30,9 | 30 | 29,1 | 28,1 | 26 | 23,3 | 19,8 |
| BNMS4 | NMS4 150/400B-60/B | 55 | 75 | | 38,6 | 42,4 | 42,4 | 42,3 | 42,2 | 42,1 | 41,9 | 41,4 | 40,9 | 40,4 | 39,8 | 39,1 | 38,3 | 37,5 | 36,5 | 35,3 | 32 | 27,1 | - |
| BNMS4 | NMS4 150/400A-60/B | 75 | 100 | | 47,9 | 51,9 | 52,2 | 52,3 | 52,3 | 52,3 | 52,2 | 51,8 | 51,3 | 50,6 | 49,8 | 49 | 48 | 47 | 45,9 | 44,7 | 41,6 | 37,5 | 32,7 |
| BNMS4 | NMS4 150/400S-60 | 90 | 120 | | 56,3 | 60,6 | 60,9 | 61,1 | 61,2 | 61,2 | 61,2 | 61 | 60,6 | 60 | 59,3 | 58,4 | 57,5 | 56,4 | 55,2 | 53,8 | 50,8 | 47 | 42,5 |

**P2:** Rated motor power output.**H:** Total head in m
Tolerances according to UNI EN ISO 9906:2012

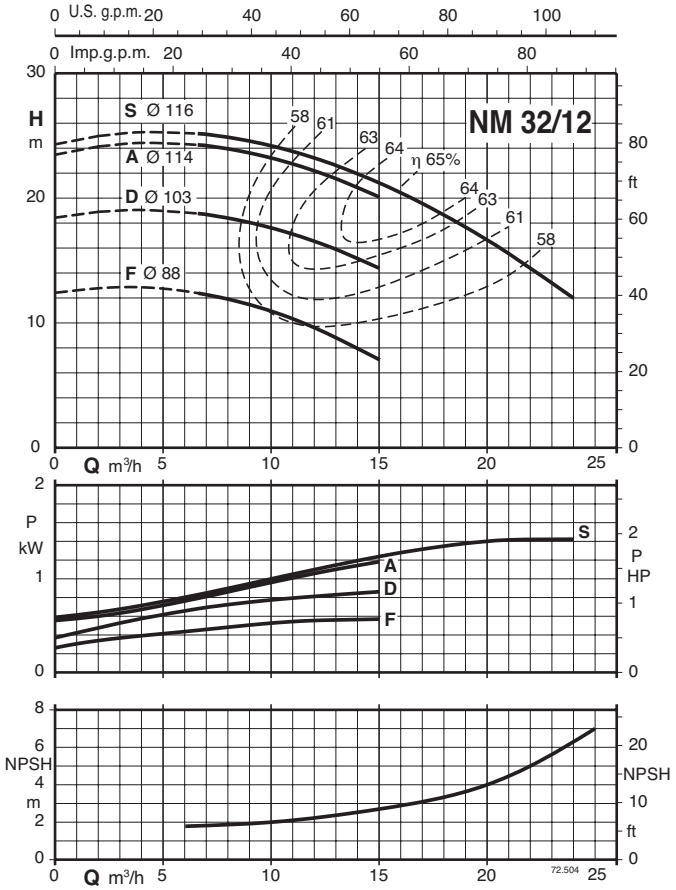
### Rated current

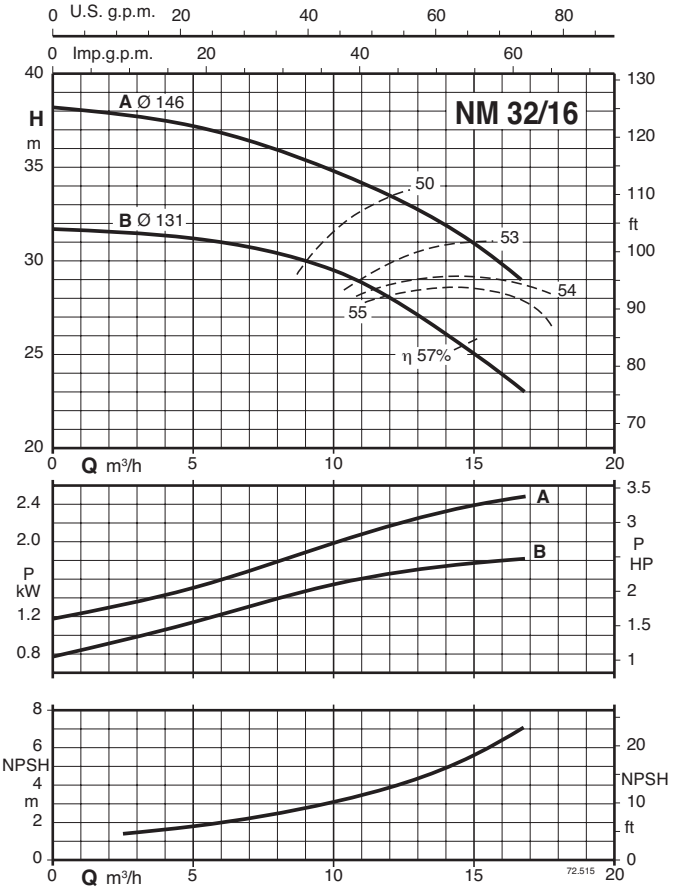
| P2 | | P2* | | 220V Δ/ 380V Y | | | 220V Δ/ 440V Y | | 440V Δ | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 380V Δ/ 660V Y | | | | | |
| kW | HP | kW | SF | In A | In A | In A | In A | In A | In A | Ia/In |
| 0.25 | 0.34 | 0.28 | 1.15 | 1.7 | 1 | | 1.8 | 1.1 | | 3.5 |
| 0.37 | 0.5 | 0.43 | 1.15 | 2 | 1.1 | | 1.7 | 1 | | 4.1 |
| 0.55 | 0.75 | 0.63 | 1.15 | 3.1 | 1.8 | | 2.7 | 1.6 | | 4.5 |
| 0.75 | 1 | 0.86 | 1.15 | 3.8 | 2.2 | | 4 | 2.3 | | 7.5 |
| 1.1 | 1.5 | 1.27 | 1.15 | 5.8 | 3.3 | | 6 | 3.5 | | 7 |
| 1.5 | 2 | 1.75 | 1.15 | 7 | 4 | | 7.3 | 4.2 | | 8.7 |
| 2.2 | 3 | 2.55 | 1.15 | 9.8 | 5.7 | | 10.4 | 6 | | 9.1 |
| 3 | 4 | 3.45 | 1.15 | 13.5 | 7.8 | | 14.2 | 8.2 | | 5.7 |
| 4 | 5.5 | 4.55 | 1.15 | | 10.2 | 5.9 | | | | 7 |
| 5.5 | 7.5 | 6.3 | 1.15 | | 15.3 | 8.7 | | | | 7.1 |
| 7.5 | 10 | 8.6 | 1.15 | | 19.1 | 11.1 | | | | 7.1 |
| 9.2 | 12.5 | 10.6 | 1.15 | | 22.6 | 13.2 | | | | 7.5 |
| 11 | 15 | 12.6 | 1.15 | | 26.8 | 15.5 | | | | 9.7 |
| 15 | 20 | 17.3 | 1.15 | | 34.5 | 20 | | | | 9.2 |
| 18.5 | 25 | 21.3 | 1.15 | | 42 | 24.2 | | | 36 | 7.2 |
| 22 | 30 | 25.3 | 1.15 | | 49.6 | 28.5 | | | 43 | 6.9 |
| 30 | 40 | 34.5 | 1.15 | | 64.5 | 37.2 | | | 58 | 7.3 |
| 37 | 50 | 42.5 | 1.15 | | 84 | 48.5 | | | 70 | 6.7 |
| 45 | 60 | 52 | 1.15 | | 95.5 | 55 | | | 85 | 6.3 |
| 55 | 75 | 63 | 1.15 | | 120 | 69 | | | 102 | 6.7 |
| 75 | 100 | 86 | 1.15 | | 166 | 95.5 | | | 138 | 6.8 |

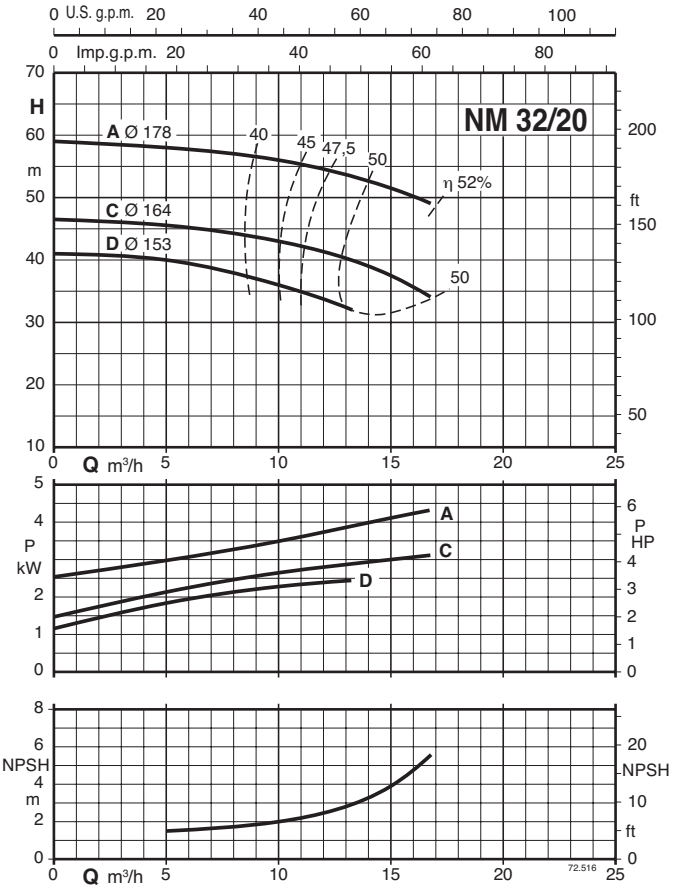
**P2:** Rated motor power output.
**Ia/In** D.O.L. starting current / Nominal current
* Rated motor power S.F.

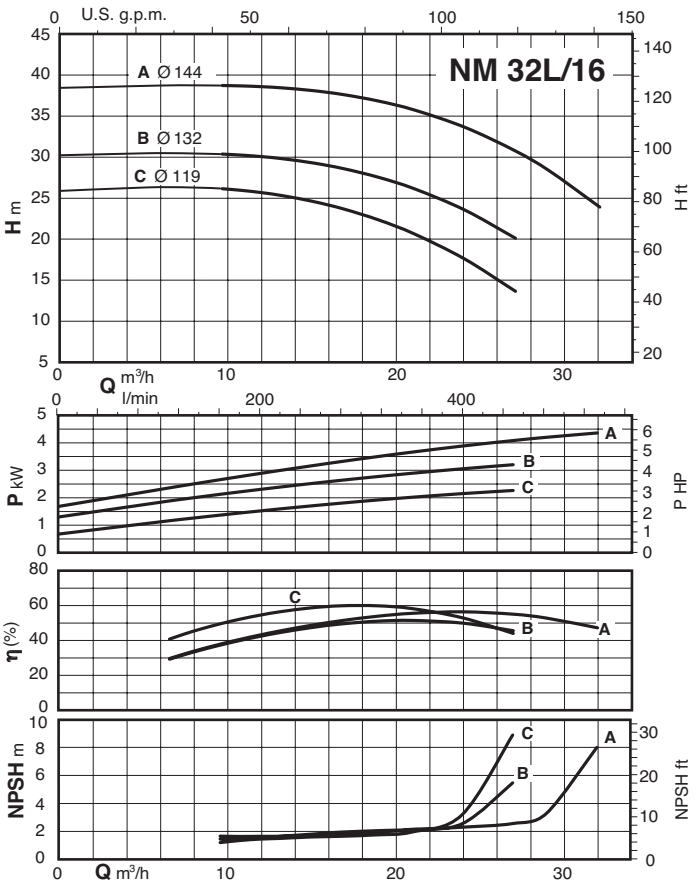
# NM, NMS 60 Hz

**Characteristic curves n ≈ 3450 rpm**



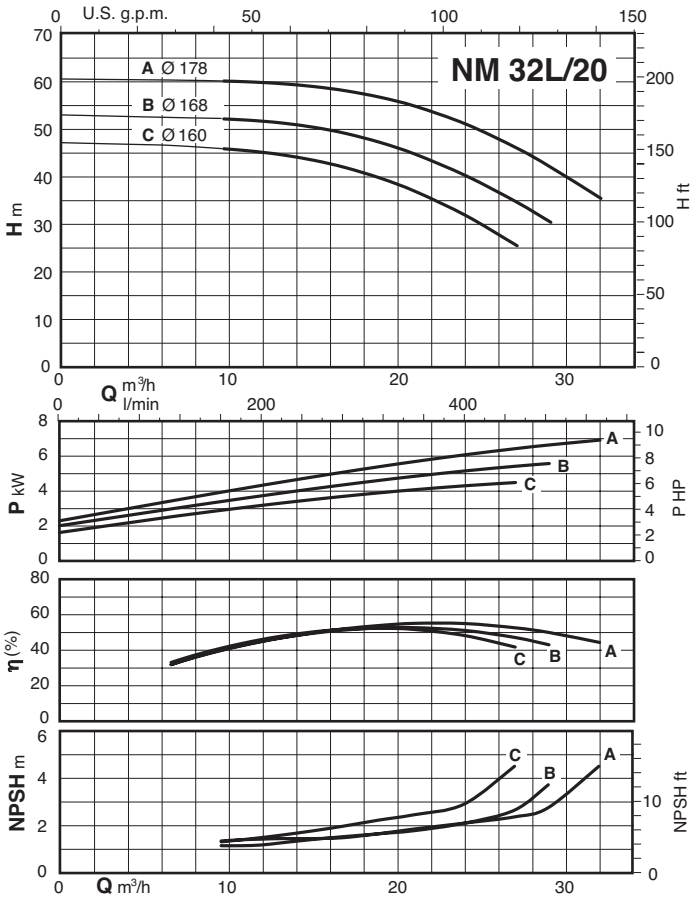



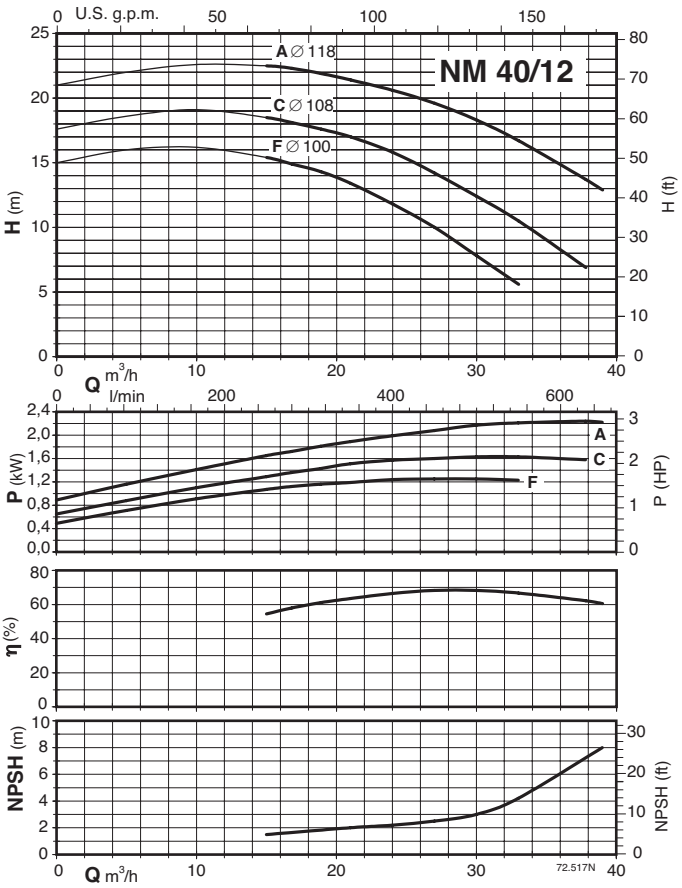



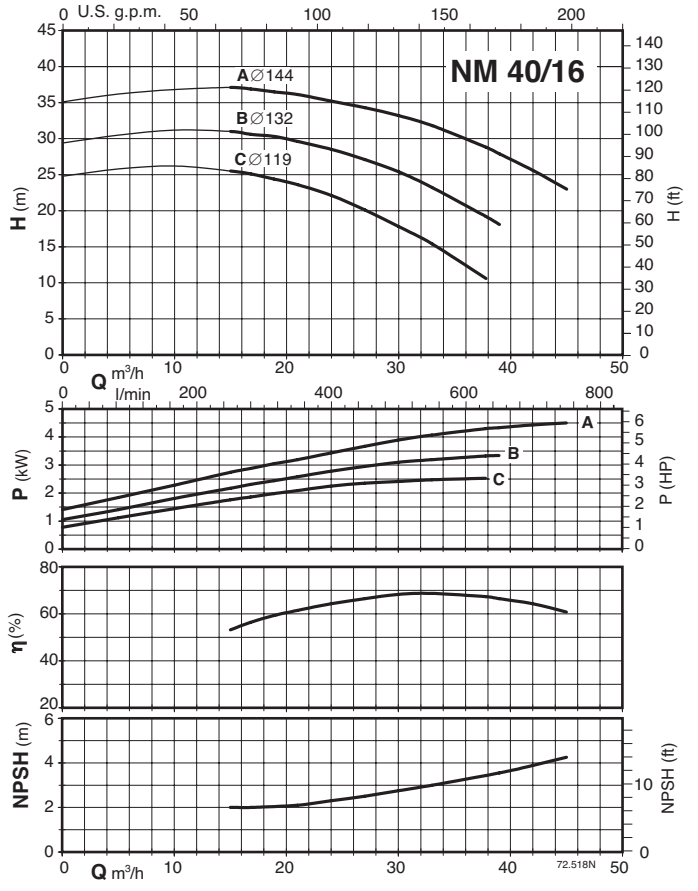



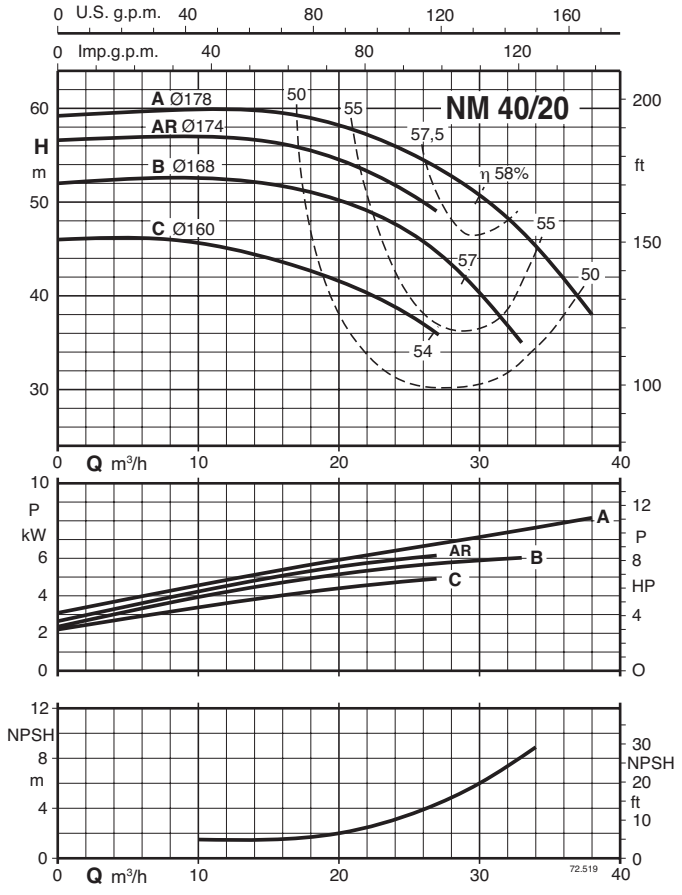
# NM, NMS 60 Hz

**Characteristic curves n ≈ 3450 rpm**



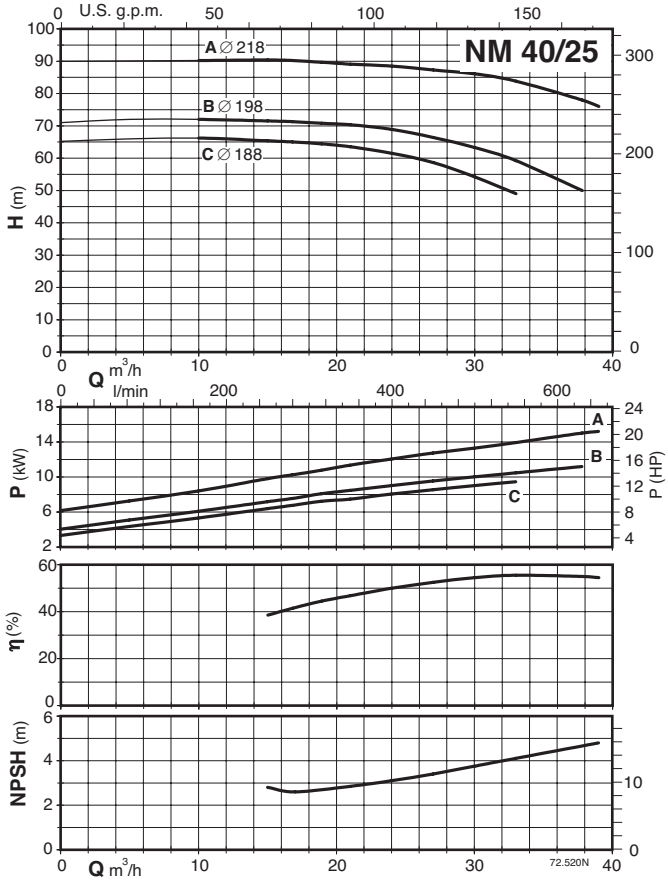



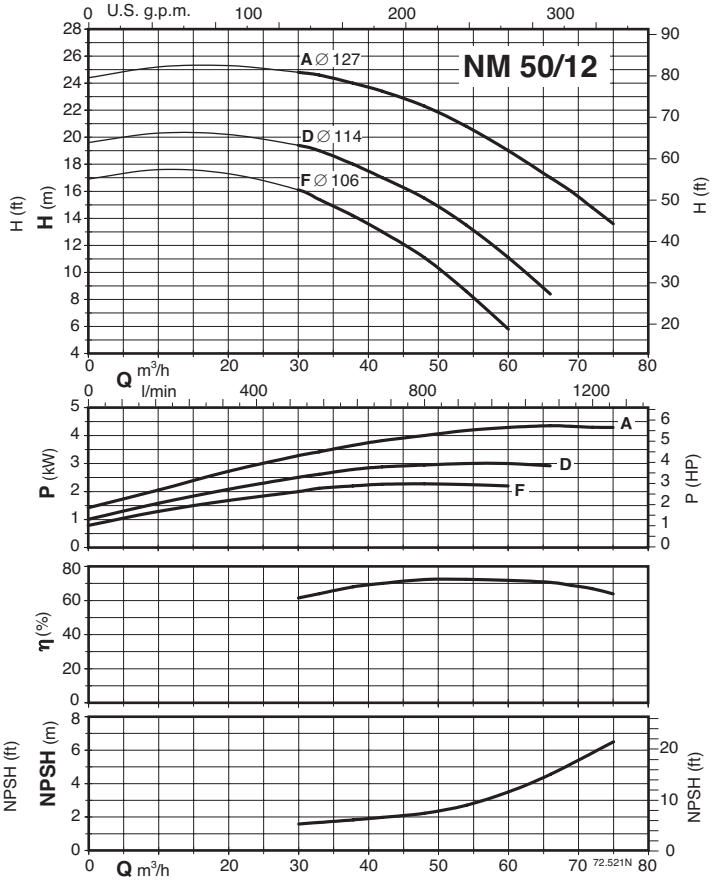



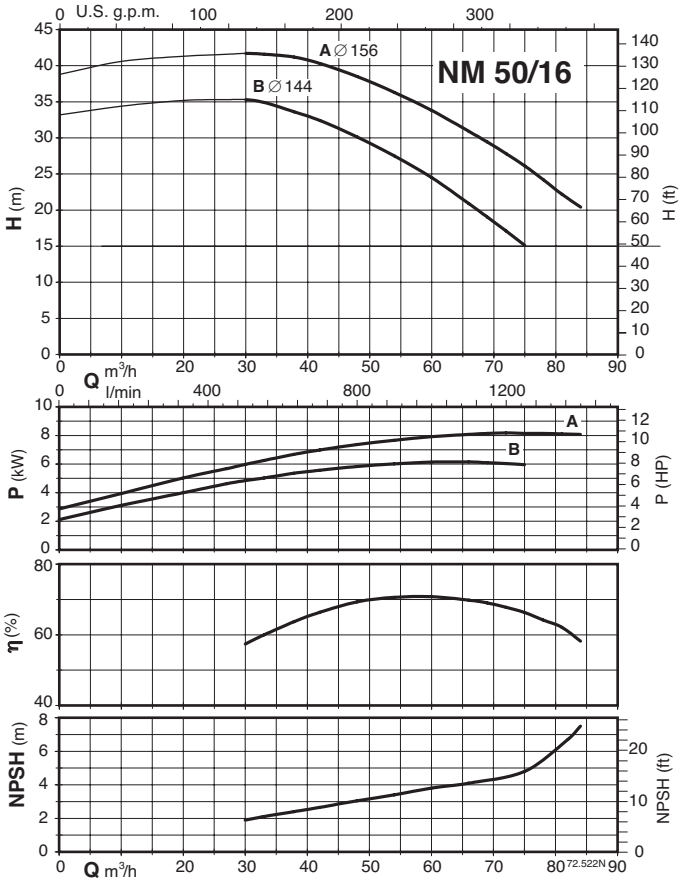



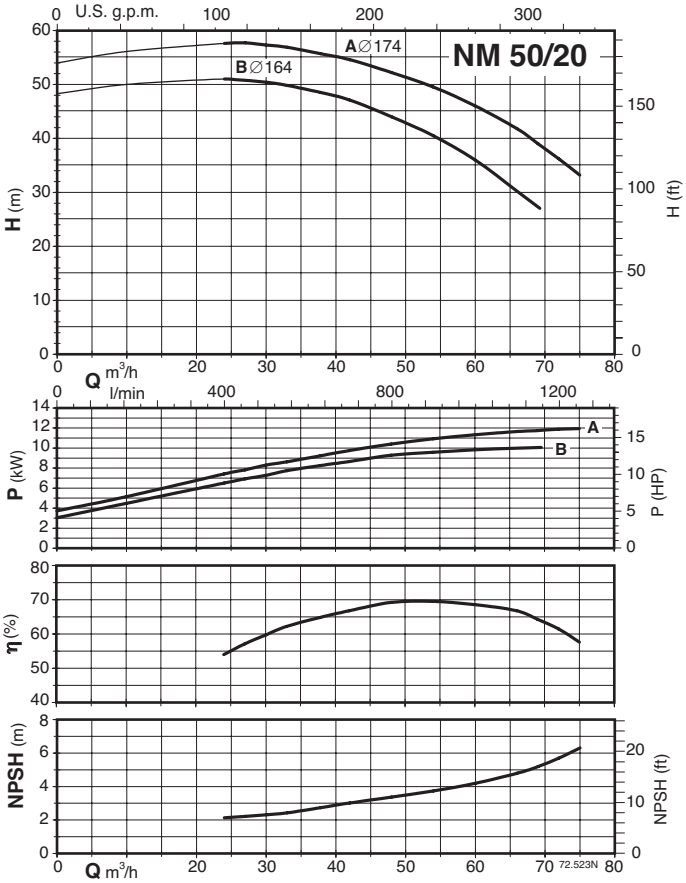
# NM, NMS 60 Hz

**Characteristic curves n ≈ 3450 rpm**



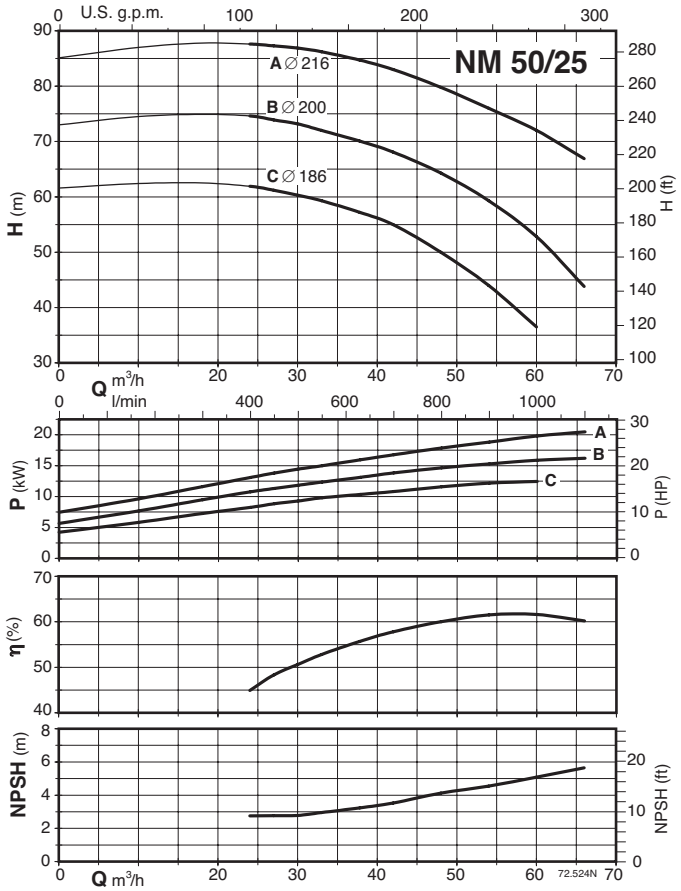



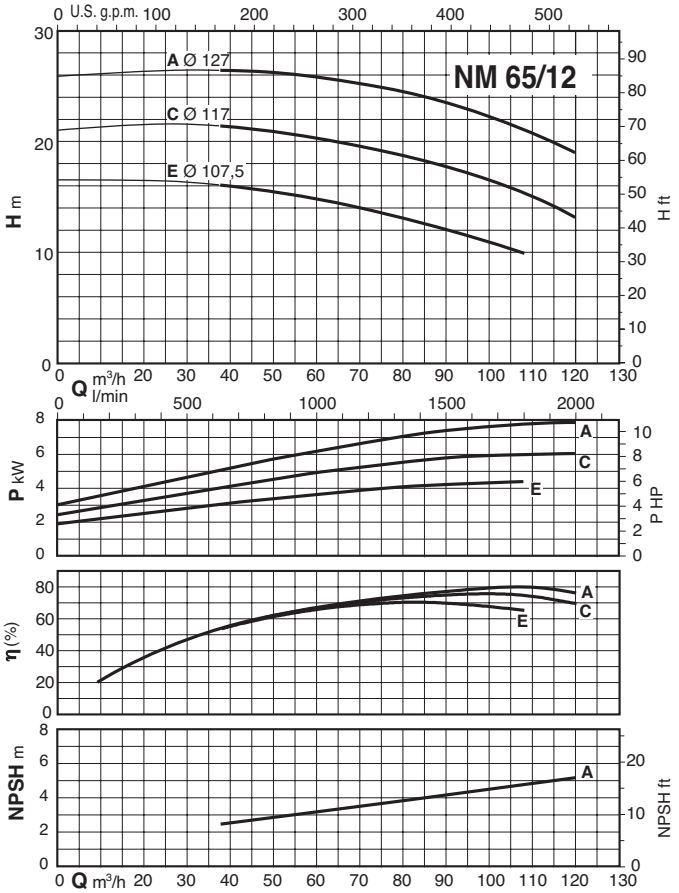



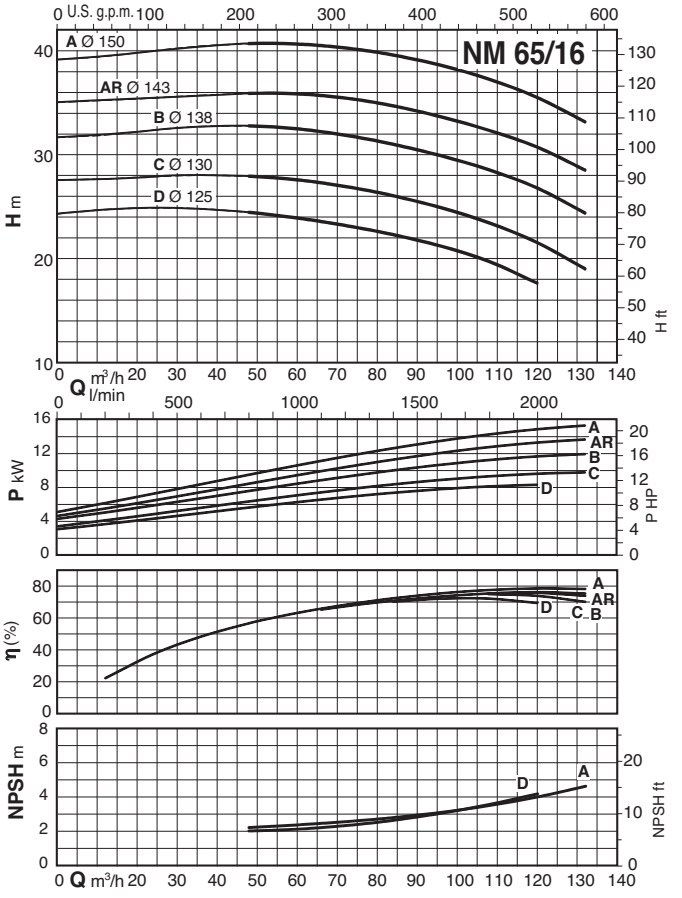



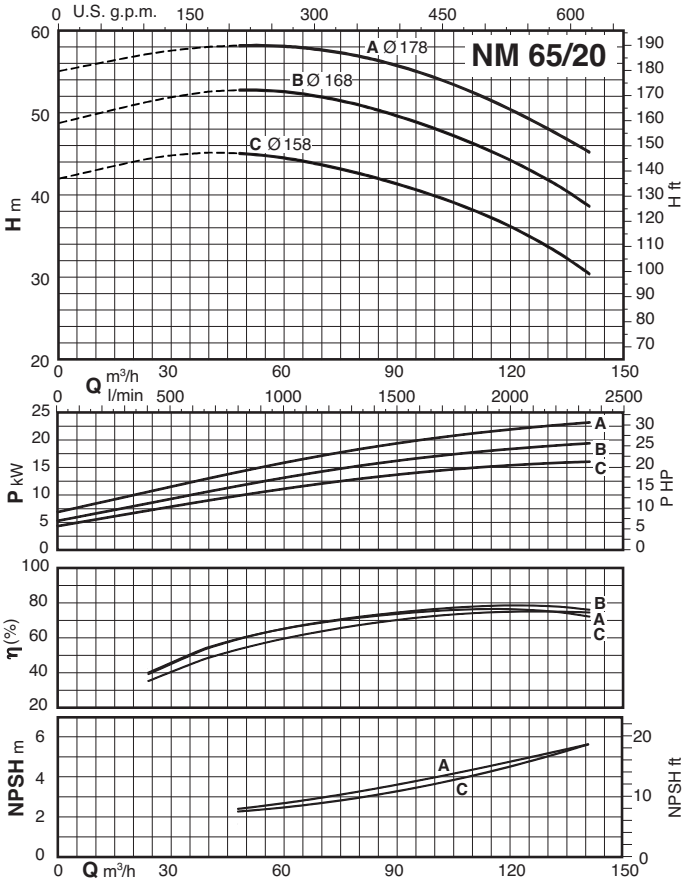
# NM, NMS 60 Hz

**Characteristic curves n ≈ 3450 rpm**



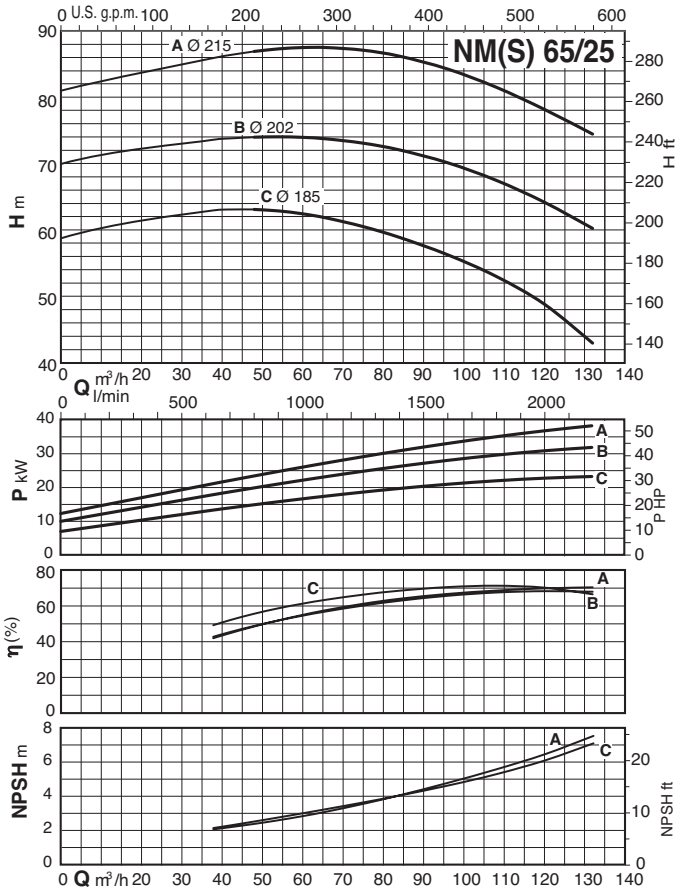



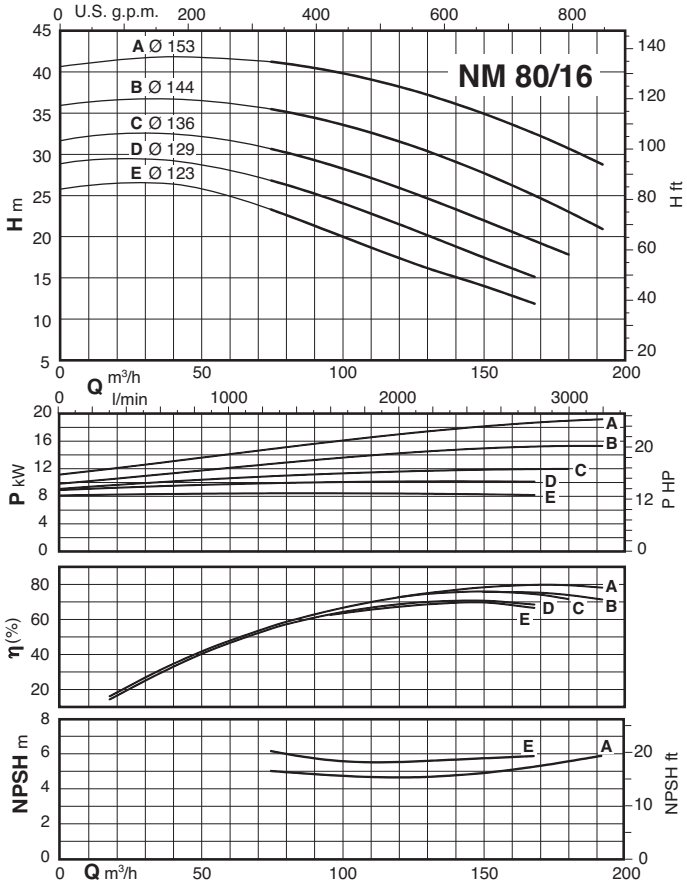



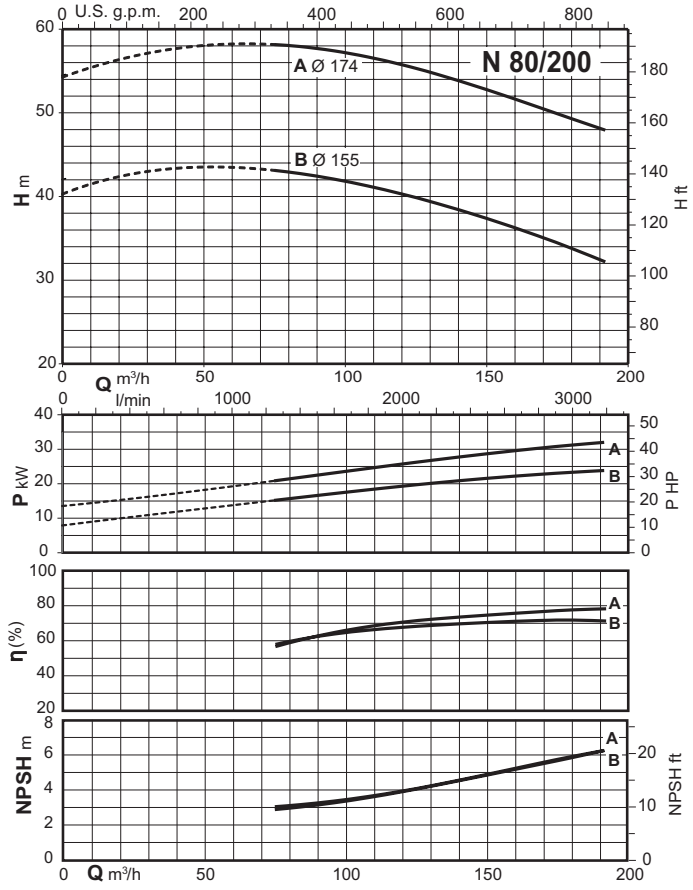



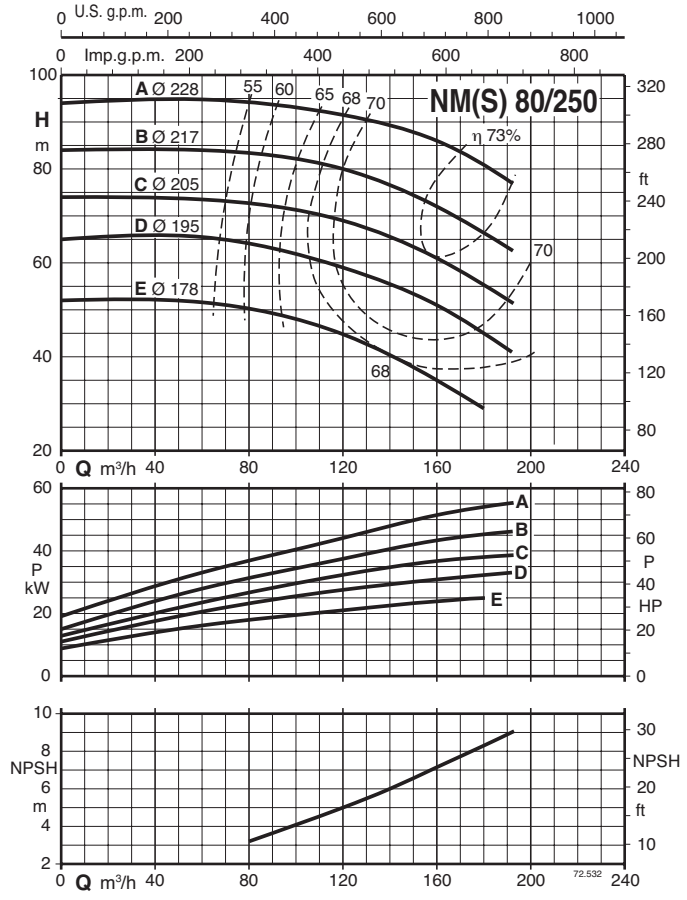
# NM, NMS 60 Hz

**Characteristic curves n ≈ 3450 rpm**



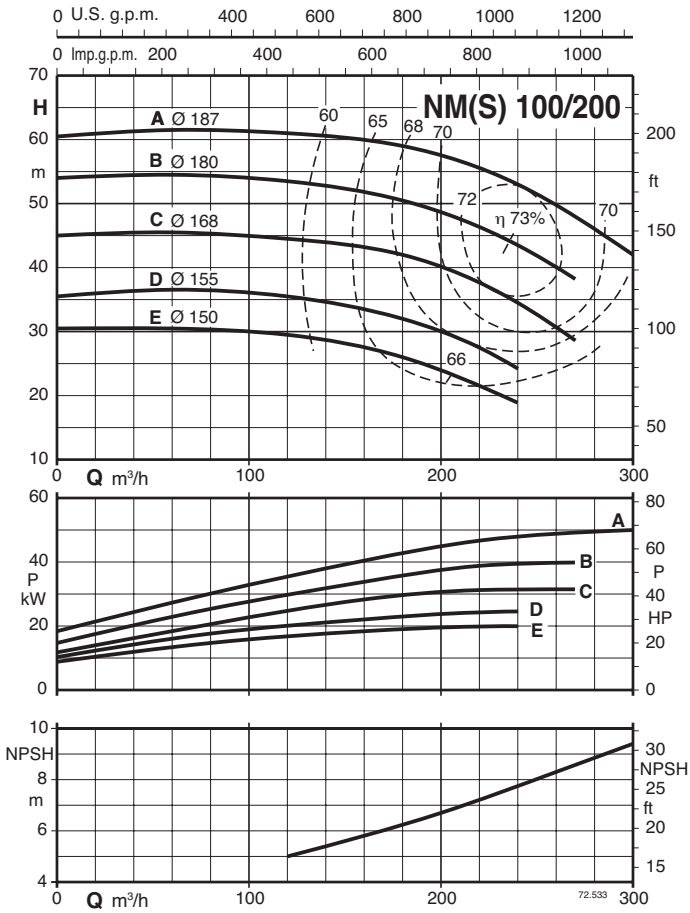



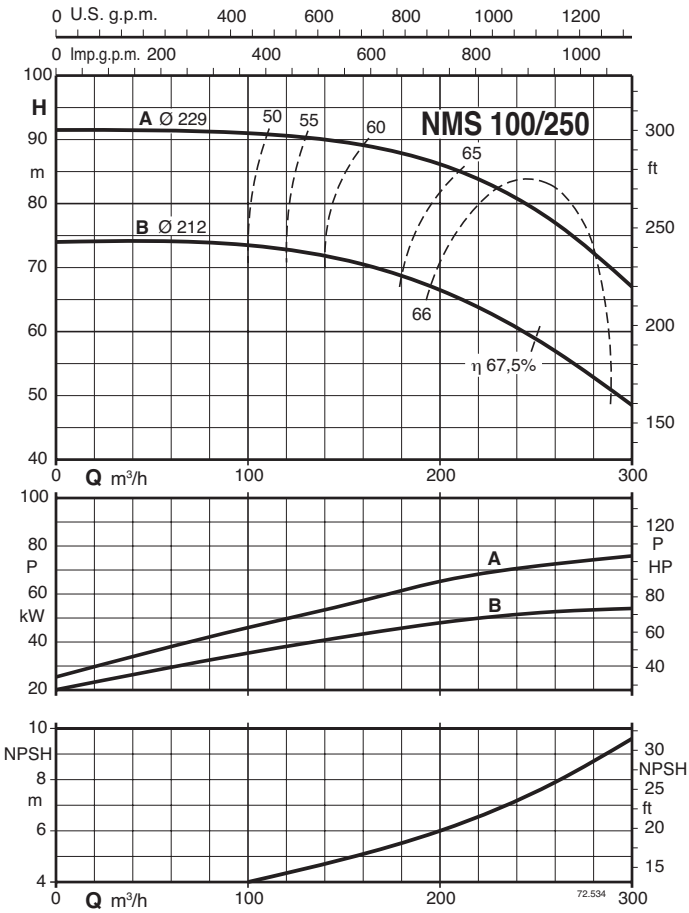



# NM, NMS 60 Hz

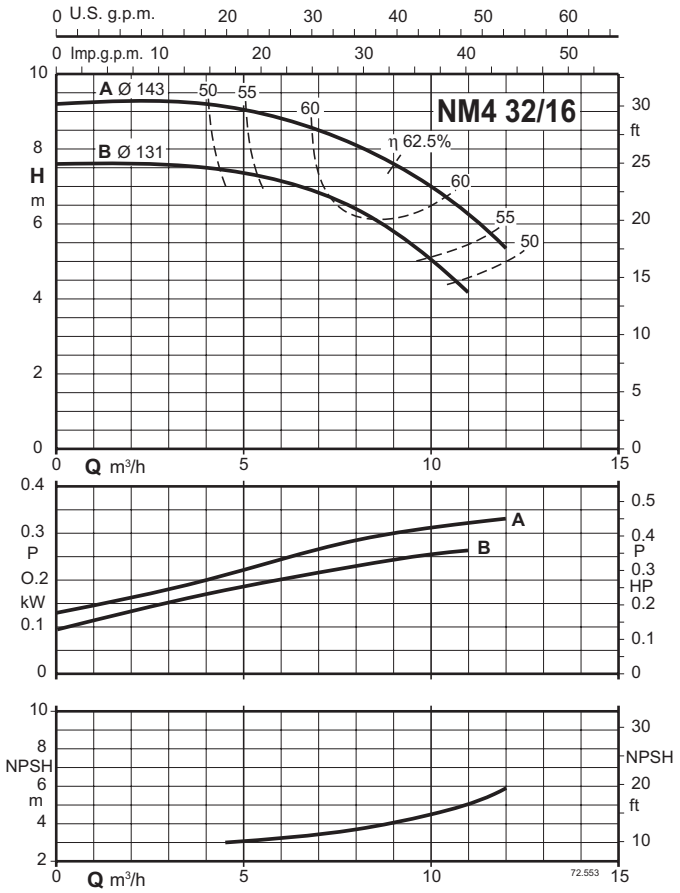
**Characteristic curves n ≈ 3450 rpm**

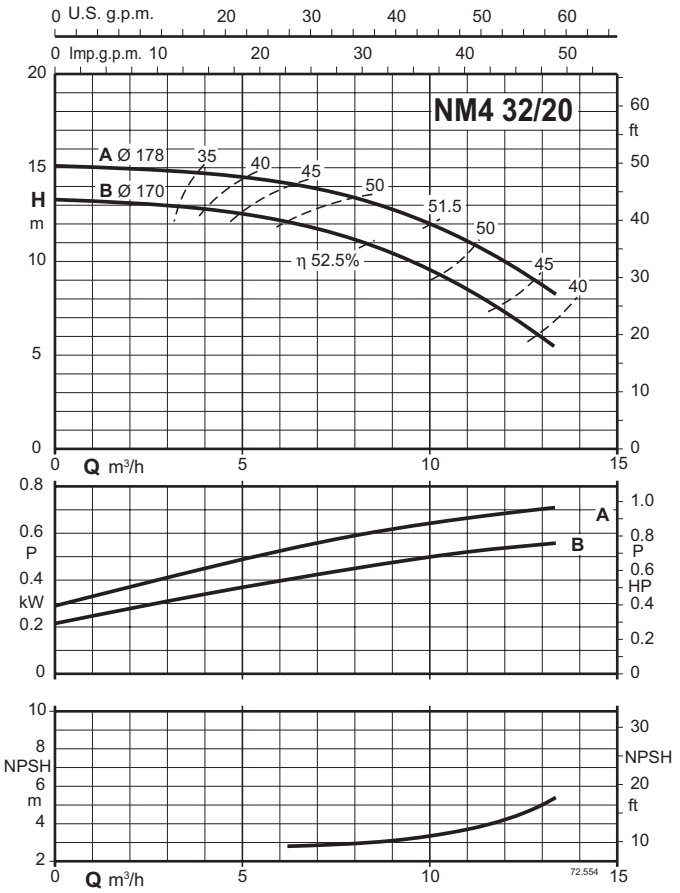


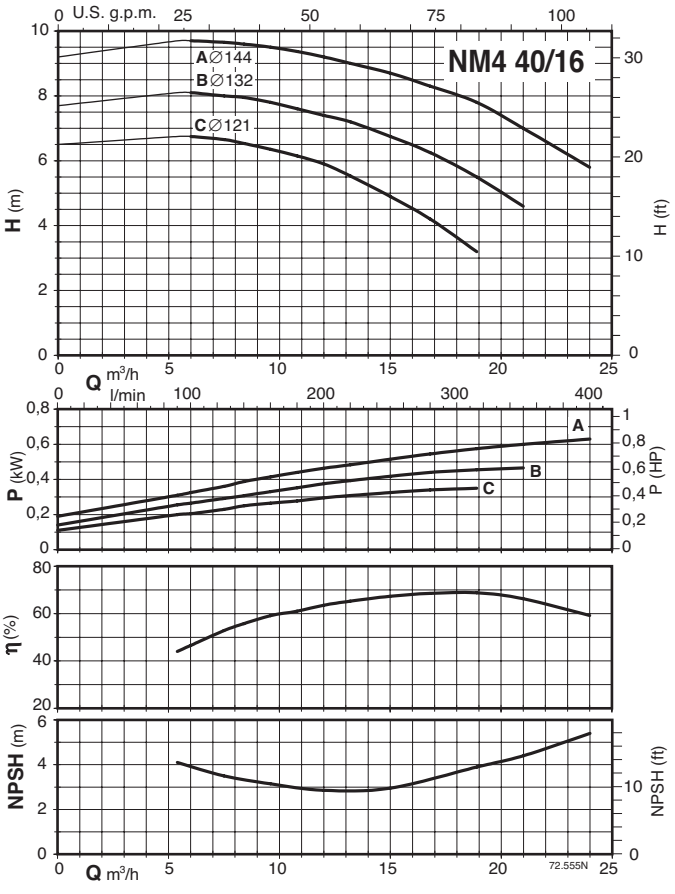



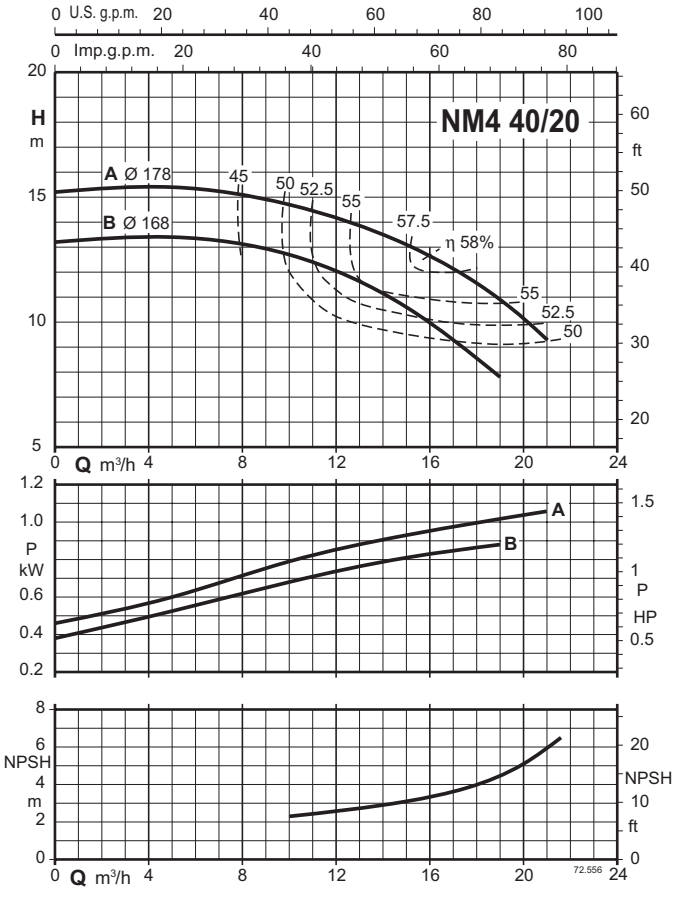
# NM4, NMS4 60 Hz

**Characteristic curves n ≈ 1750 rpm**



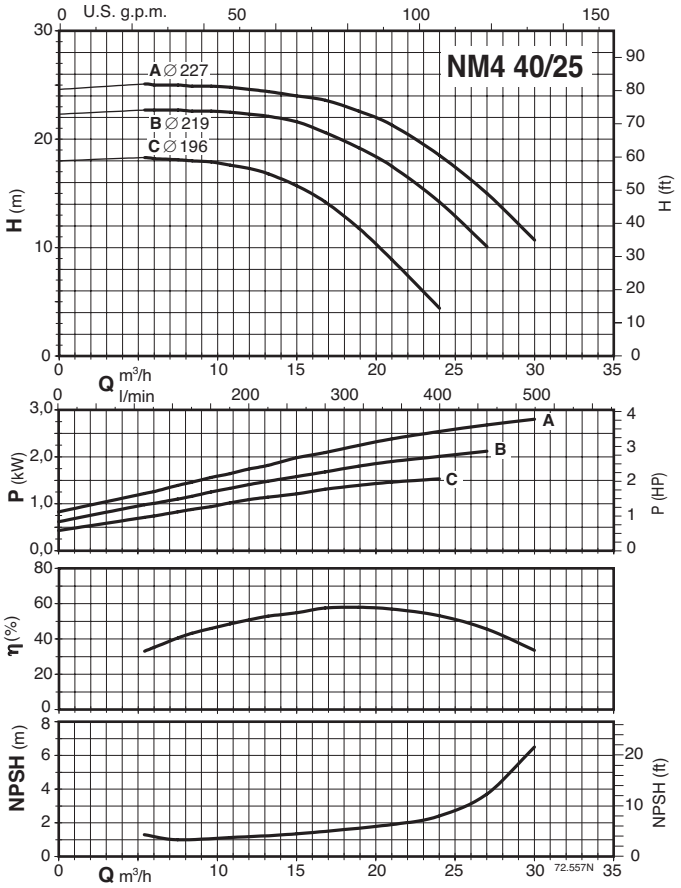



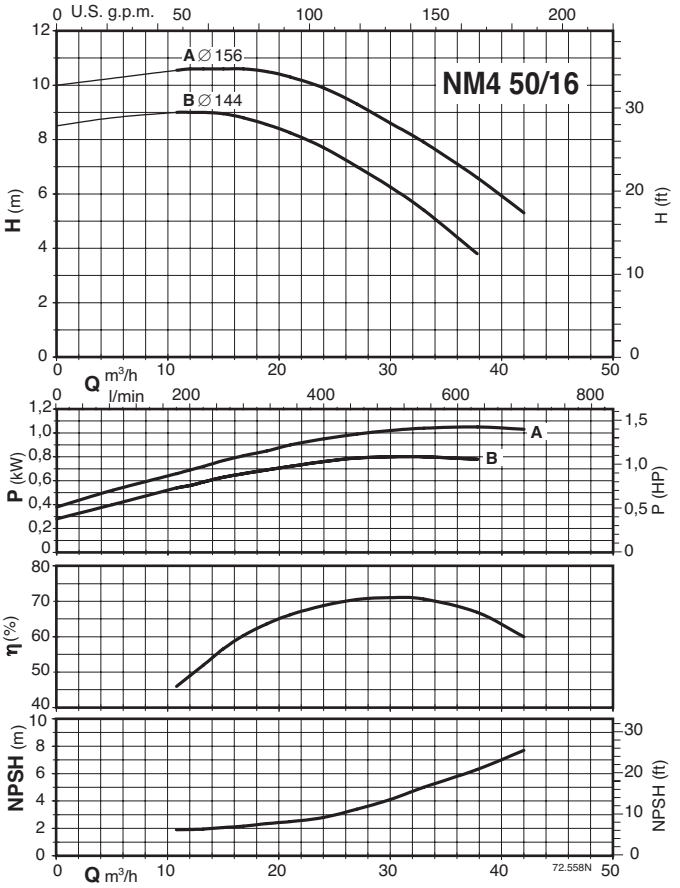



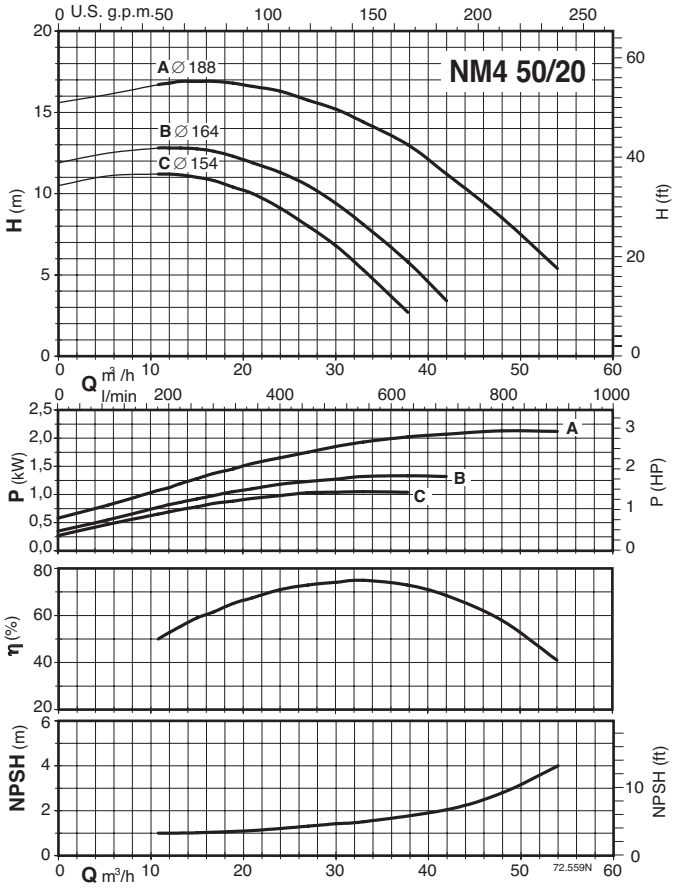



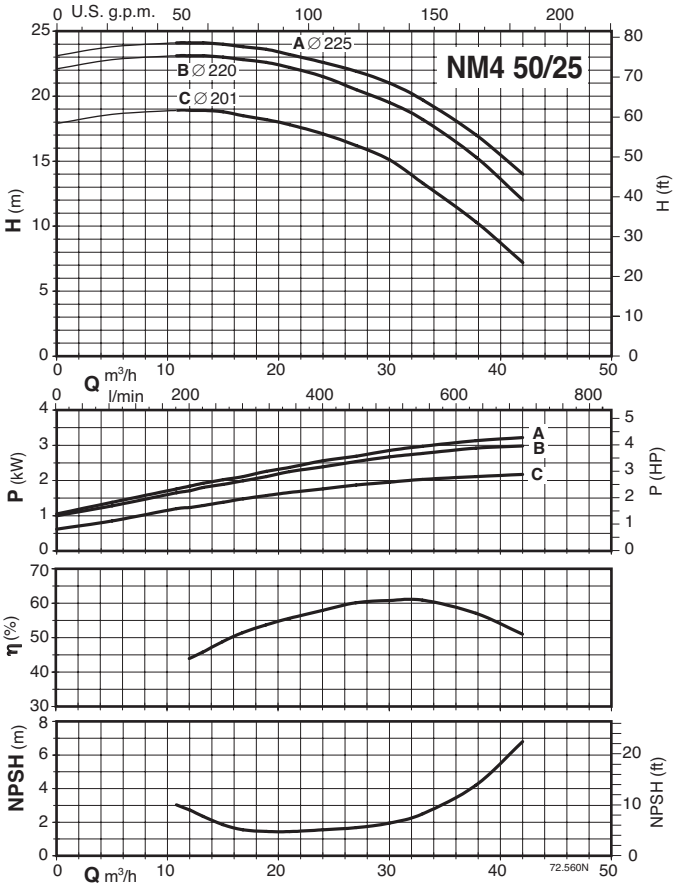
# NM4, NMS4 60 Hz

**Characteristic curves n ≈ 1750 rpm**



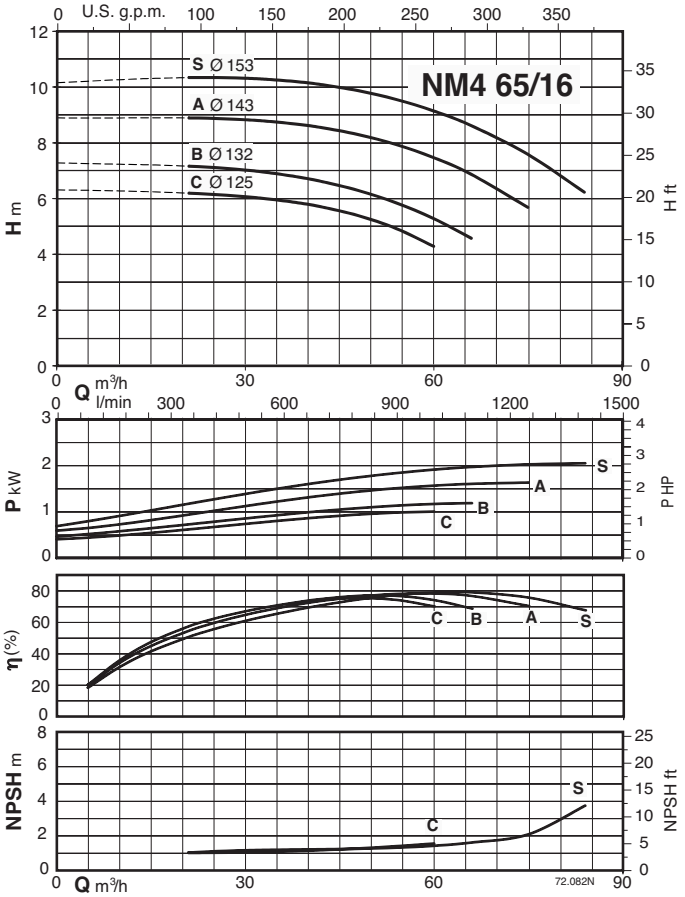



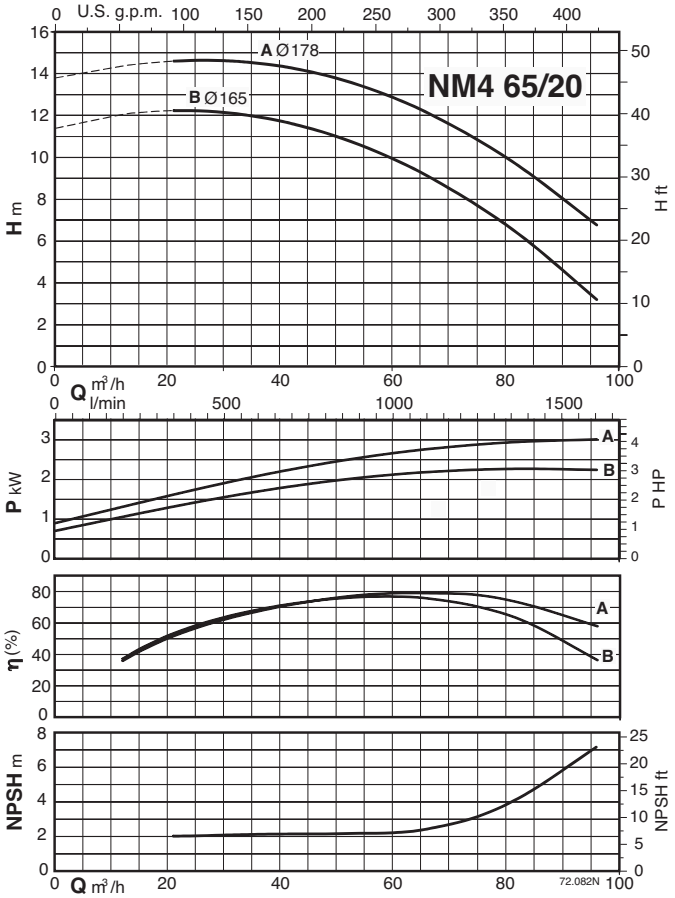



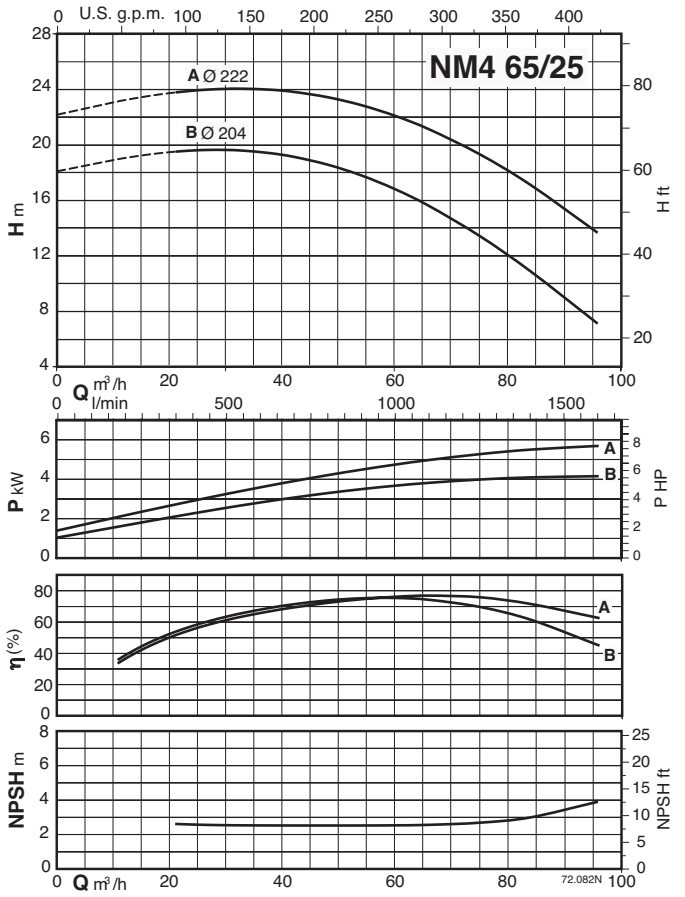



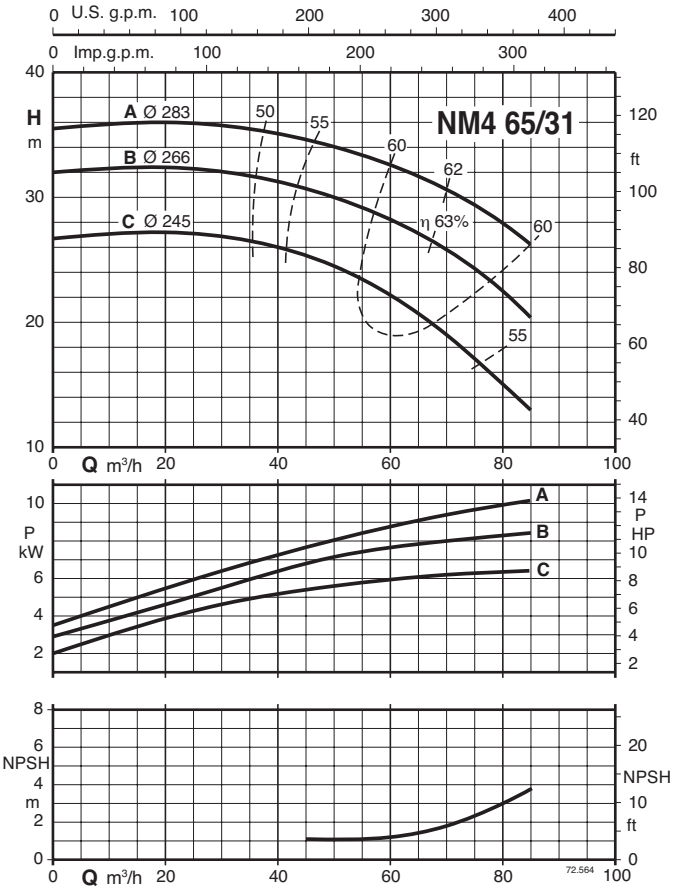
# NM4, NMS4 60 Hz

## Characteristic curves n ≈ 1750 rpm



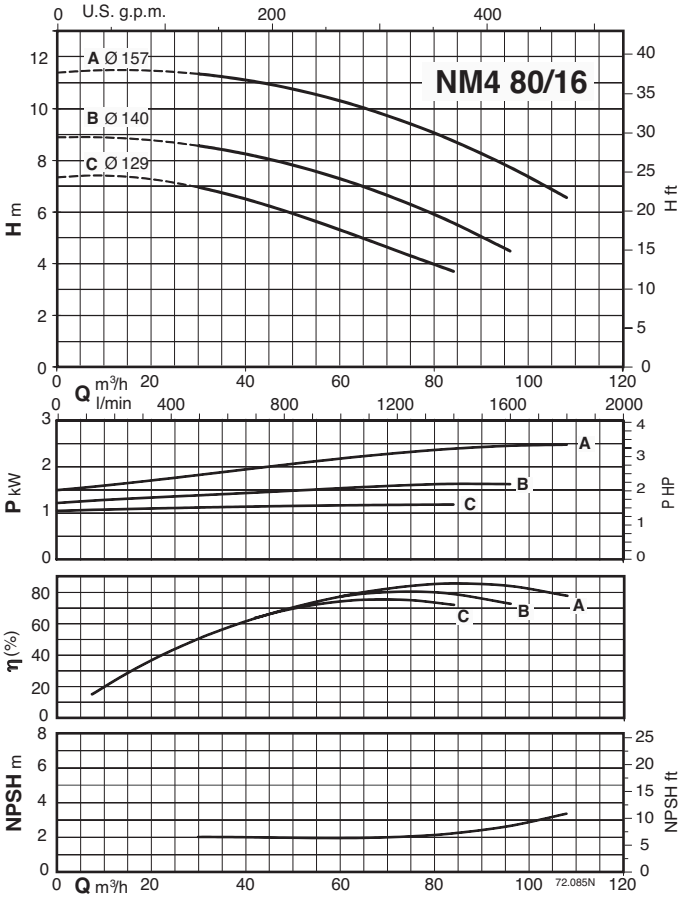



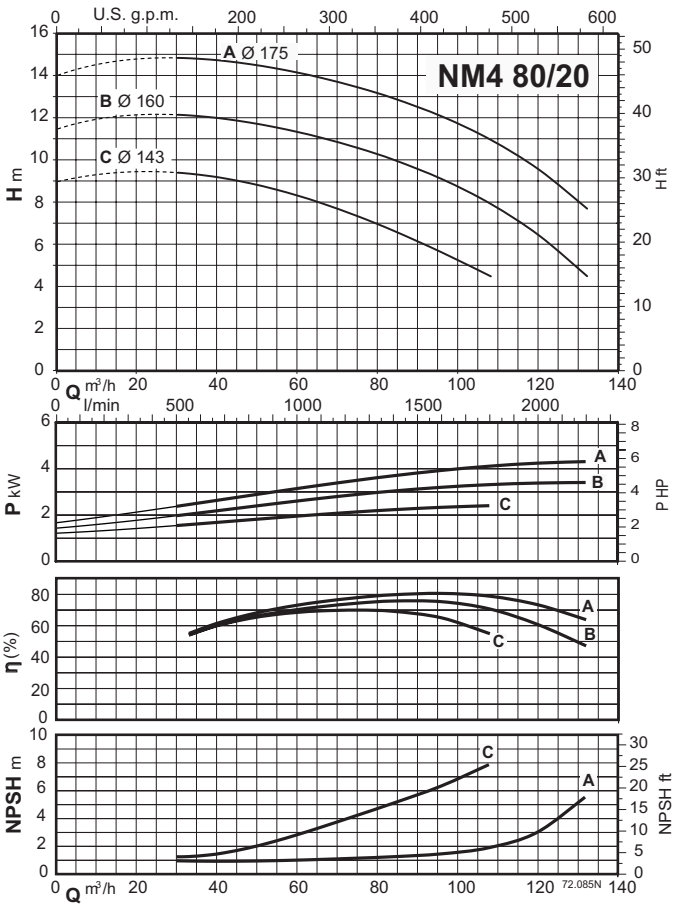



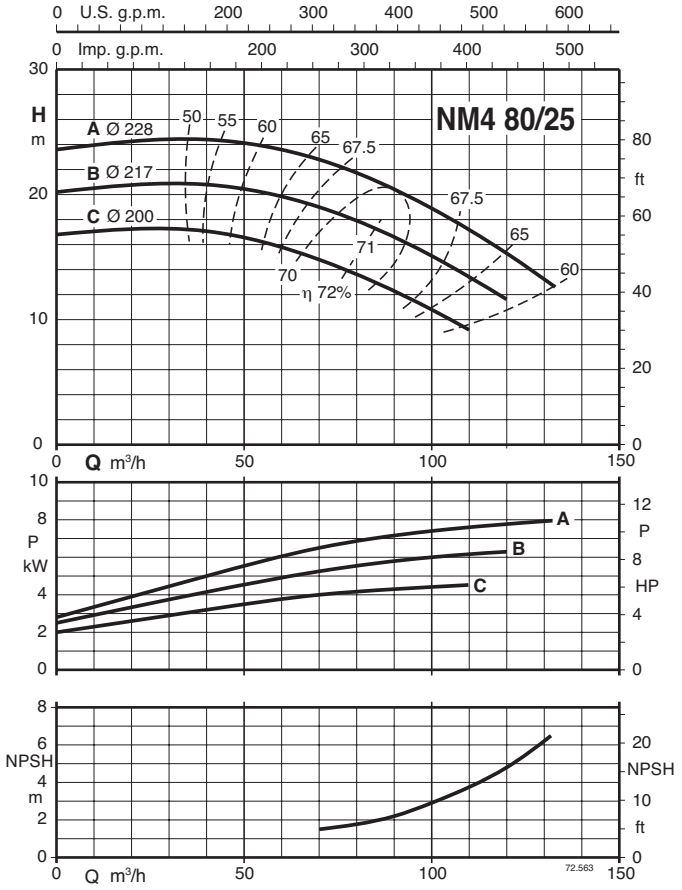



# NM4, NMS4 60 Hz

**Characteristic curves n ≈ 1750 rpm**

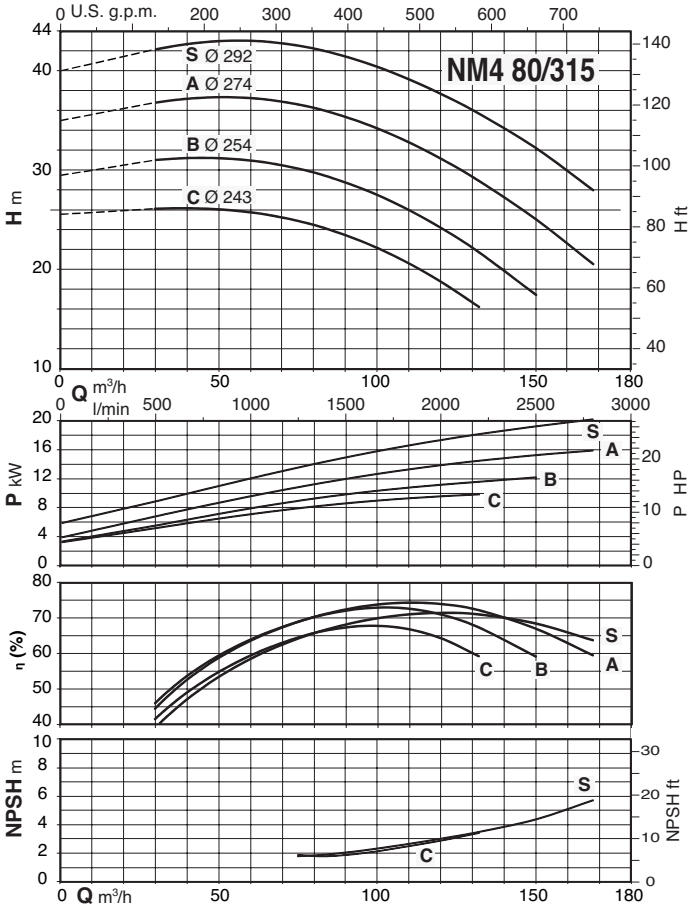


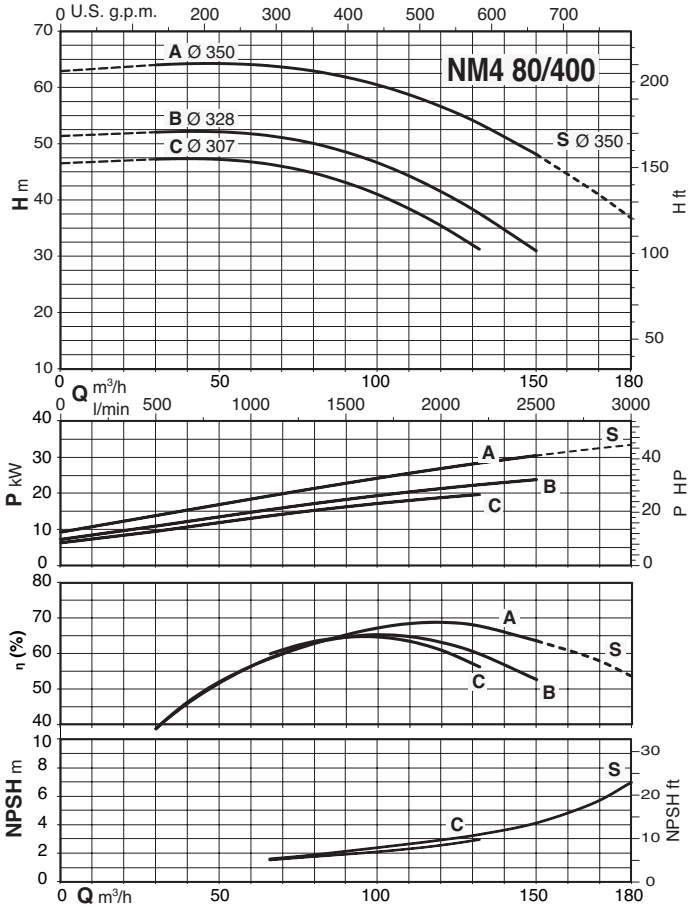



# NM4, NMS4 60 Hz

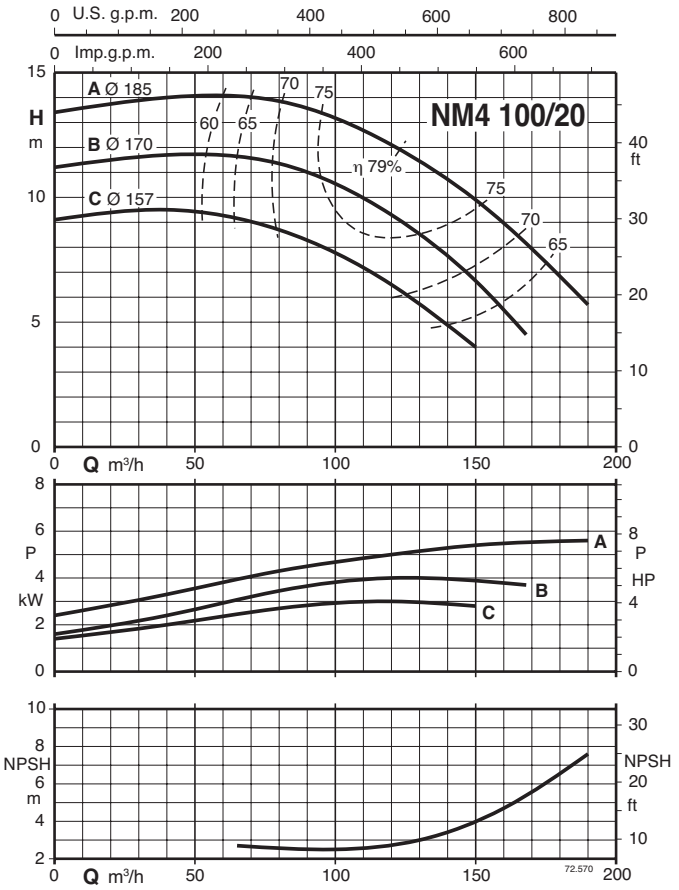
**Characteristic curves n ≈ 1750 rpm**

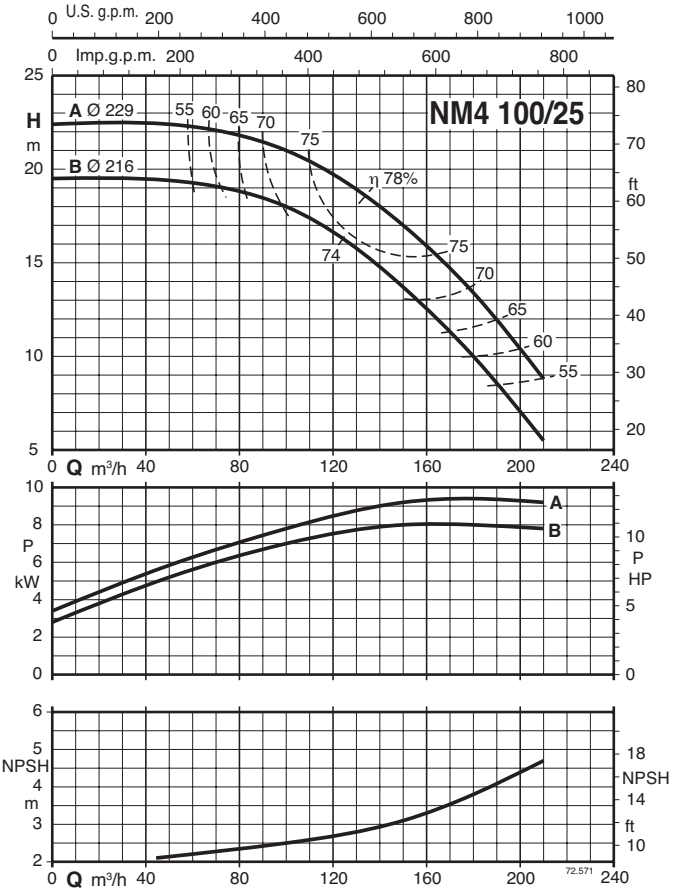


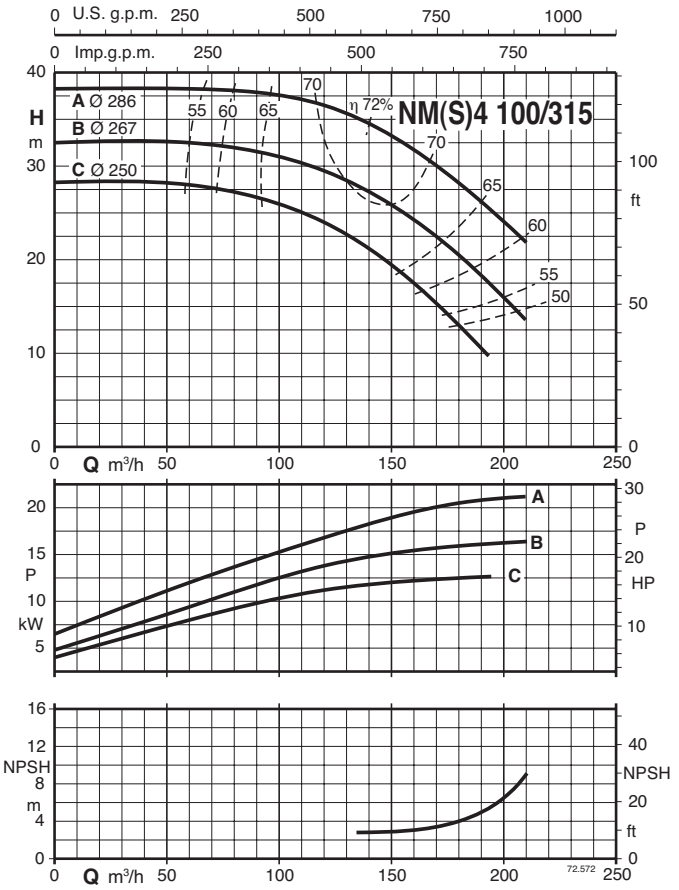



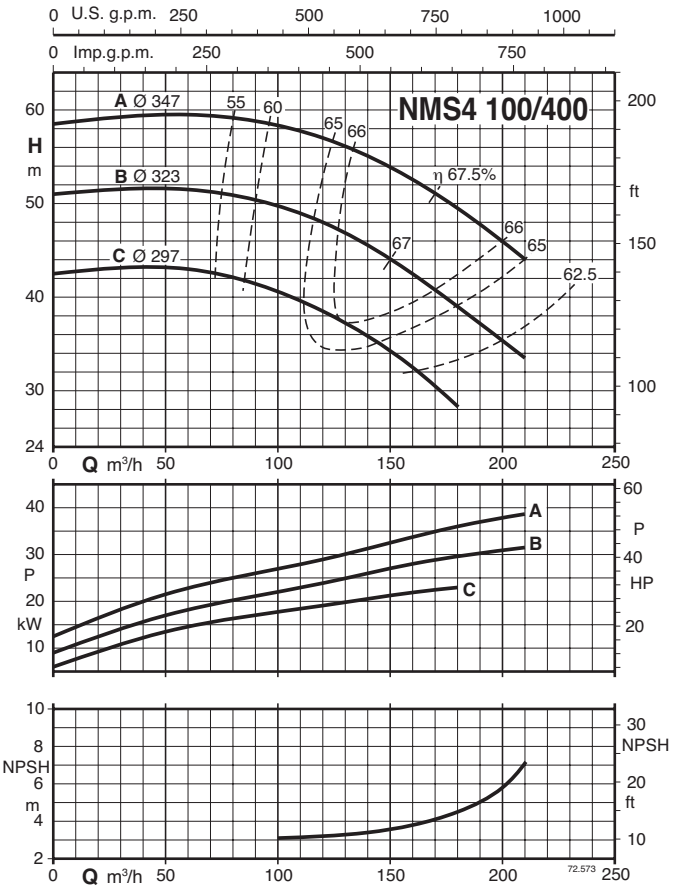
# NM4, NMS4 60 Hz

## Characteristic curves n ≈ 1750 rpm



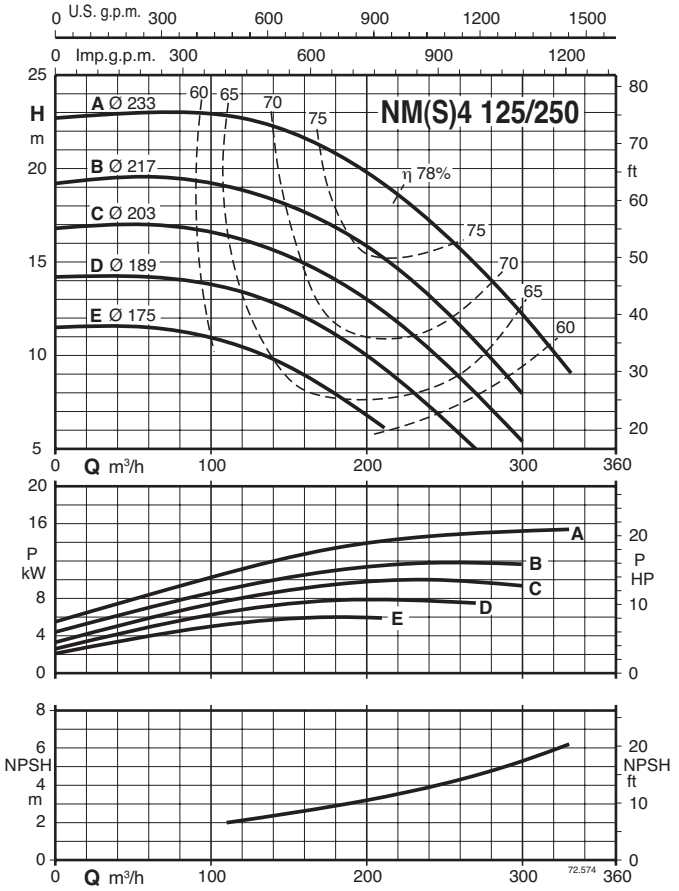



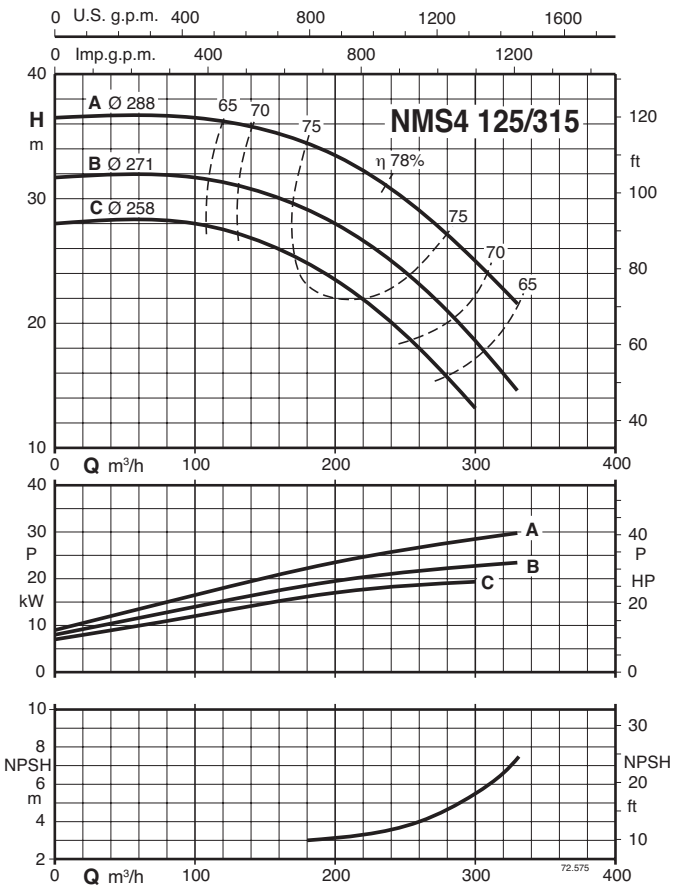



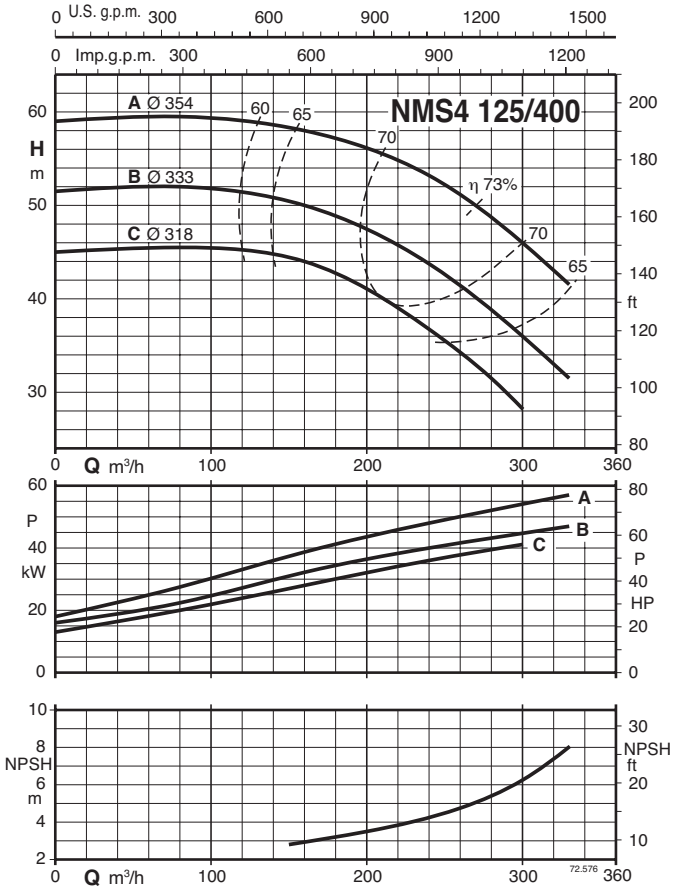



# NM4, NMS4 60 Hz

**Characteristic curves n ≈ 1750 rpm**

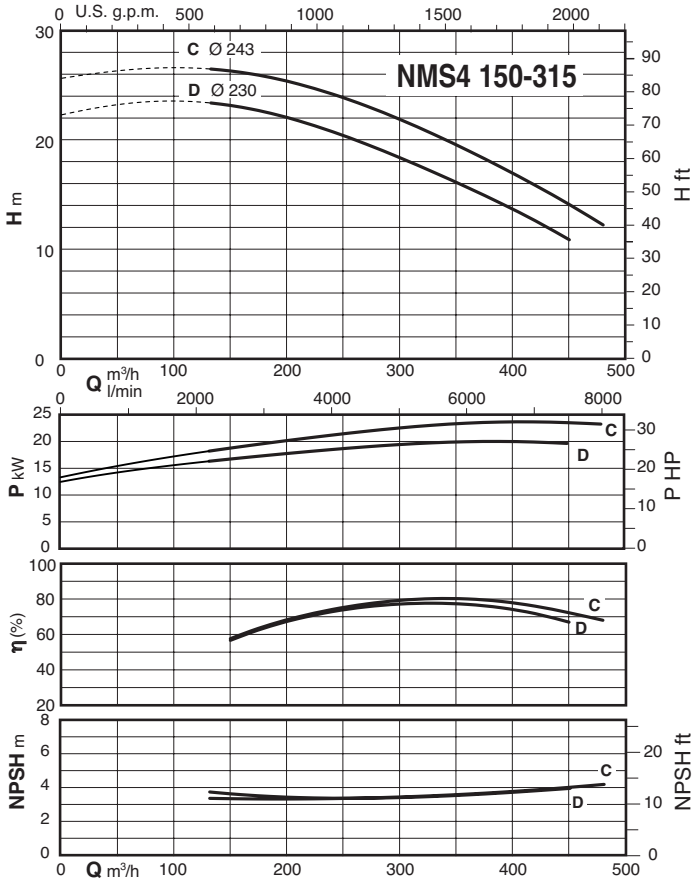


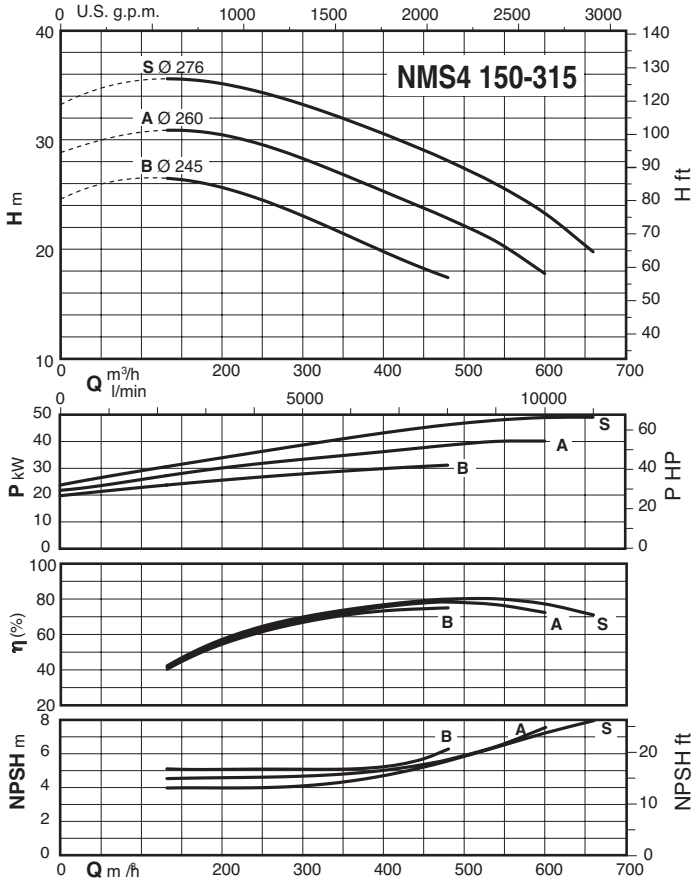



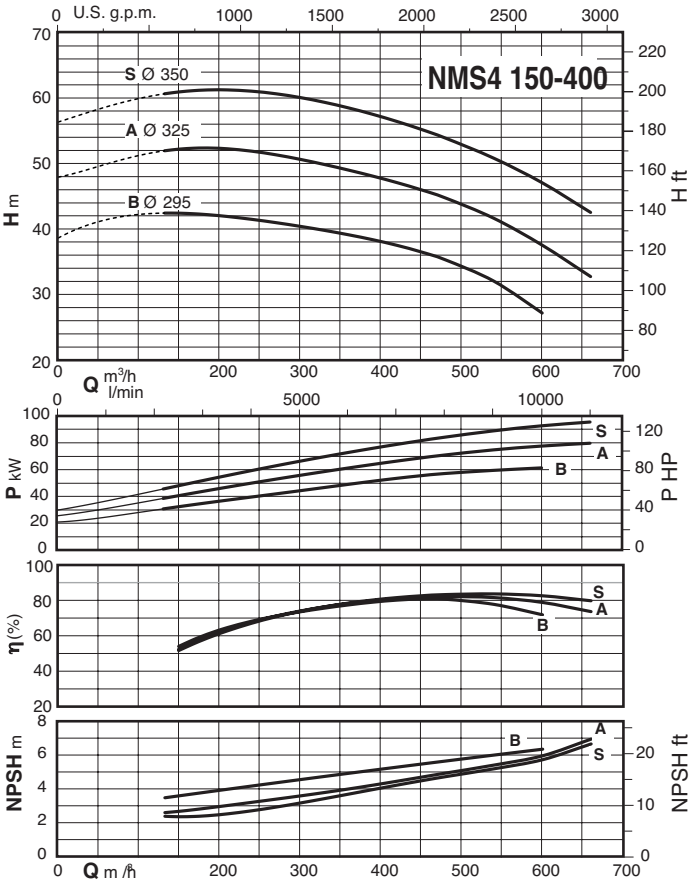



# NM4, NMS4 60 Hz

**Characteristic curves n ≈ 1750 rpm**

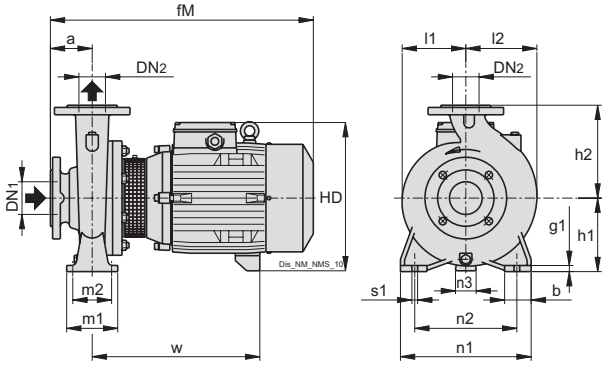


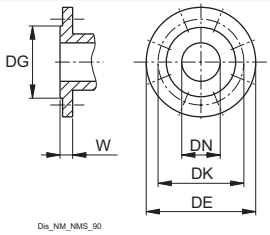



# NM, NMS 60 Hz

## Dimensions and weights




**Flanges EN 1092-2** PN 10-16

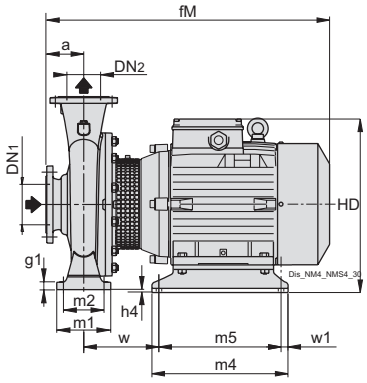


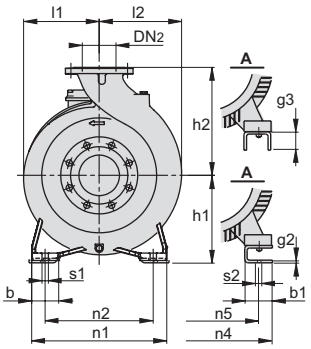

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

## Three-phase

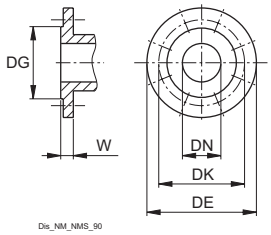
| TYPE | | | mm | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | H | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | n1 | n2 | n3 | s1 | w | Weight |
| NM 32/12F-60 | 50 | 32 | 80 | 50 | 408 | 12 | 242 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 23.3 |
| NM 32/12D-60 | 50 | 32 | 80 | 50 | 408 | 12 | 242 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 23.5 |
| NM 32/12A-60/A | 50 | 32 | 80 | 50 | 408 | 12 | 242 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 25.7 |
| NM 32/12S-60/A | 50 | 32 | 80 | 50 | 408 | 12 | 242 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 27.2 |
| NM 32/16B-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 262 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | 34.5 |
| NM 32/16A-60/B | 50 | 32 | 80 | 50 | 453 | 12 | 262 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | 36.4 |
| NM 32L/16C-60 | 50 | 32 | 80 | 50 | 453 | 10 | 262 | 132 | 160 | 2.2 | 262 | 121 | 121 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| NM 32L/16B-60 | 50 | 32 | 80 | 50 | 479 | 10 | 272 | 132 | 160 | 2 | 272 | 121 | 121 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 42 |
| NM 32L/16A-60 | 50 | 32 | 80 | 50 | 479 | 10 | 272 | 132 | 160 | 2 | 272 | 121 | 121 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | - |
| NM 32L/20C-60 | 50 | 32 | 80 | 50 | 479 | 12 | 300 | 160 | 180 | 2 | 300 | 142 | 142 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | - |
| NM 32L/20B-60 | 50 | 32 | 80 | 50 | 539 | 12 | 327 | 160 | 180 | 7 | 327 | 142 | 142 | 100 | 70 | 240 | 190 | 34 | 14 | 335 | - |
| NM 32L/20A-60 | 50 | 32 | 80 | 50 | 539 | 12 | 327 | 160 | 180 | 7 | 327 | 142 | 142 | 100 | 70 | 240 | 190 | 34 | 14 | 335 | - |
| NM 32/20D-60/B | 50 | 32 | 80 | 50 | 453 | 12 | 290 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 297 | - |
| NM 32/20C-60/A | 50 | 32 | 80 | 50 | 479 | 12 | 300 | 160 | 180 | 2 | 300 | 140 | 140 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | 48.6 |
| NM 32/20A-60/B | 50 | 32 | 80 | 50 | 479 | 12 | 300 | 160 | 180 | 2 | 300 | 140 | 140 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | 51.9 |
| NM 40/12F-60/B | 65 | 40 | 80 | 50 | 413 | 12 | 242 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 253 | 27.6 |
| NM 40/12C-60/B | 65 | 40 | 80 | 50 | 413 | 12 | 242 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 253 | 28.7 |
| NM 40/12A-60/C | 65 | 40 | 80 | 50 | 453 | 12 | 242 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 293 | 32.2 |
| NM 40/16C-60/C | 65 | 40 | 80 | 50 | 453 | 10 | 262 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | 36.4 |
| NM 40/16B-60/B | 65 | 40 | 80 | 50 | 479 | 10 | 272 | 132 | 160 | 2 | 272 | 120 | 122 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 44.2 |
| NM 40/16A-60/C | 65 | 40 | 80 | 50 | 479 | 10 | 272 | 132 | 160 | 2 | 272 | 120 | 122 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 47.5 |
| NM 40/20C-60/B | 65 | 40 | 100 | 50 | 499 | 12 | 300 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | 52.2 |
| NM 40/20B-60/A | 65 | 40 | 100 | 50 | 559 | 12 | 327 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 64.4 |
| NM 40/20AR-60/A | 65 | 40 | 100 | 50 | 559 | 12 | 327 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 65 |
| NM 40/20A-60/A | 65 | 40 | 100 | 50 | 559 | 12 | 327 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 70.1 |
| NM 40/25C-60/C | 65 | 40 | 100 | 65 | 639 | 15 | 370 | 180 | 225 | - | 370 | 177 | 177 | 125 | 95 | 320 | 250 | 35 | 14 | 397 | - |
| NM 40/25B-60/C | 65 | 40 | 100 | 65 | 639 | 15 | 370 | 180 | 225 | - | 370 | 177 | 177 | 125 | 95 | 320 | 250 | 35 | 14 | 397 | 115 |
| NM 40/25A-60/C | 65 | 40 | 100 | 65 | 714 | 15 | 370 | 180 | 225 | - | 370 | 177 | 177 | 125 | 95 | 320 | 250 | 35 | 14 | 472 | - |
| NM 50/12F-60/C | 65 | 50 | 100 | 50 | 473 | 10 | 262 | 132 | 160 | 2.2 | 262 | 122 | 137 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | 37.2 |
| NM 50/12D-60/B | 65 | 50 | 100 | 50 | 499 | 10 | 272 | 132 | 160 | 2 | 272 | 122 | 137 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 44.8 |
| NM 50/12A-60/C | 65 | 50 | 100 | 50 | 499 | 10 | 272 | 132 | 160 | 2 | 272 | 122 | 137 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 48.2 |
| NM 50/16B-60/B | 65 | 50 | 100 | 50 | 559 | 12 | 327 | 160 | 180 | 7 | 327 | 125 | 140 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 63 |
| NM 50/16A-60/B | 65 | 50 | 100 | 50 | 559 | 12 | 327 | 160 | 180 | 7 | 327 | 125 | 140 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 64.3 |
| NM 50/20B-60/C | 65 | 50 | 100 | 50 | 639 | 14 | 350 | 160 | 200 | 1 | 350 | 142 | 152 | 100 | 70 | 265 | 212 | 31 | 14 | 395 | 98.3 |
| NM 50/20A-60/C | 65 | 50 | 100 | 50 | 639 | 14 | 350 | 160 | 200 | 1 | 350 | 142 | 152 | 100 | 70 | 265 | 212 | 31 | 14 | 395 | 107.2 |
| NM 50/25C-60/C | 65 | 50 | 100 | 65 | 644 | 15 | 370 | 180 | 225 | - | 370 | 177 | 177 | 125 | 95 | 320 | 250 | 35 | 14 | 402 | 119.6 |
| NM 50/25B-60/C | 65 | 50 | 100 | 65 | 719 | 15 | 370 | 180 | 225 | - | 370 | 177 | 177 | 125 | 95 | 320 | 250 | 35 | 14 | 477 | - |
| NM 65/12E-60/C | 80 | 65 | 100 | 65 | 504 | 12 | 300 | 160 | 180 | 2 | 300 | 130 | 154 | 125 | 95 | 280 | 212 | 37 | 14 | 302 | - |
| NM 65/12C-60/B | 80 | 65 | 100 | 65 | 564 | 12 | 327 | 160 | 180 | 7 | 327 | 130 | 154 | 125 | 95 | 280 | 212 | 34 | 14 | 340 | 64.5 |
| NM 65/12A-60/B | 80 | 65 | 100 | 65 | 564 | 12 | 327 | 160 | 180 | 7 | 327 | 130 | 154 | 125 | 95 | 280 | 212 | 34 | 14 | 340 | 69.8 |
| NM 65/16D-60/B | 80 | 65 | 100 | 65 | 559 | 12 | 327 | 160 | 200 | 7 | 327 | 140 | 161 | 125 | 95 | 280 | 212 | 34 | 14 | 335 | 70.3 |
| NM 65/16C-60/C | 80 | 65 | 100 | 65 | 639 | 12 | 350 | 160 | 200 | 1 | 350 | 140 | 161 | 125 | 95 | 280 | 212 | 31 | 14 | 395 | - |
| NM 65/16B-60/C | 80 | 65 | 100 | 65 | 639 | 12 | 350 | 160 | 200 | 1 | 350 | 140 | 161 | 125 | 95 | 280 | 212 | 31 | 14 | 395 | 101.1 |
| NM 65/16A-60/C | 80 | 65 | 100 | 65 | 714 | 12 | 350 | 160 | 200 | 1 | 350 | 140 | 161 | 125 | 95 | 280 | 212 | 31 | 14 | 470 | 120 |
| NM 65/16AR-60 | 80 | 65 | 100 | 65 | 714 | 12 | 350 | 160 | 200 | 1 | 350 | 140 | 161 | 125 | 95 | 280 | 212 | 31 | 14 | 470 | - |
| NM 65/20C-60/C | 80 | 65 | 100 | 65 | 714 | 12 | 370 | 180 | 225 | - | 370 | 159 | 179 | 125 | 95 | 320 | 250 | 35 | 14 | 472 | 130.4 |
| NM 80/16E-60/B | 100 | 80 | 125 | 65 | 584 | 12 | 347 | 180 | 225 | 7 | 347 | 152 | 181 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| NM 80/16D-60/C | 100 | 80 | 125 | 65 | 669 | 12 | 370 | 180 | 225 | - | 370 | 152 | 181 | 125 | 95 | 320 | 250 | 35 | 14 | 402 | - |
| NM 80/16C-60/C | 100 | 80 | 125 | 65 | 669 | 12 | 370 | 180 | 225 | - | 370 | 152 | 181 | 125 | 95 | 320 | 250 | 35 | 14 | 402 | - |
| NM 80/16B-60/C | 100 | 80 | 125 | 65 | 744 | 12 | 370 | 180 | 225 | - | 370 | 152 | 181 | 125 | 95 | 320 | 250 | 35 | 14 | 477 | 133 |

# NM, NMS 60 Hz




**Flanges EN 1092-2** PN 10-16



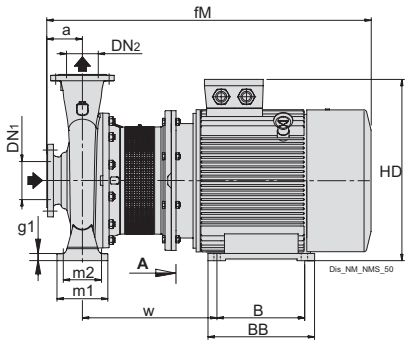

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

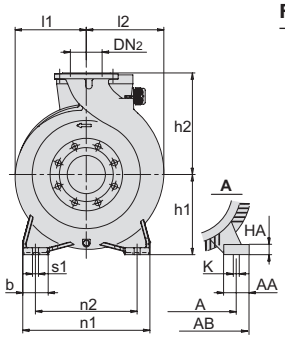
**Three-phase**

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | H | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s | s1 | w | w1 | Weight |
| **NM 50/25A-60/D** | 65 | 50 | 100 | 65 | 80 | 765 | 15 | 20 | 388 | 180 | 225 | - | 388 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | 167.5 |
| **NM 65/20B-60/D** | 80 | 65 | 100 | 65 | 80 | 765 | 12 | 20 | 388 | 180 | 225 | - | 388 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | 161.8 |
| **NM 65/20A-60/A** | 80 | 65 | 100 | 65 | 80 | 765 | 12 | 20 | 388 | 180 | 225 | - | 388 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | 167.4 |
| **NM 65/25C-60/A** | 80 | 65 | 100 | 80 | 90 | 765 | 15 | 42 | 408 | 200 | 250 | 2 | 408 | 178 | 195 | 160 | 120 | 400 | 360 | 360 | 280 | 344 | 254 | 18 | 14 | 182 | 20 | - |
| **NM 80/16A-60/D** | 100 | 80 | 125 | 65 | 80 | 790 | 12 | 20 | 388 | 180 | 225 | - | 388 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | 157.8 |
| **NM 80/20B-60/A** | 100 | 80 | 125 | 65 | 90 | 790 | 15 | 42 | 388 | 180 | 250 | 22 | 388 | 170 | 194 | 125 | 95 | 400 | 360 | 345 | 280 | 344 | 254 | 14 | 14 | 182 | 20 | - |
| **NM 80/25E-60** | 100 | 80 | 125 | 80 | 90 | 790 | 20 | 42 | 408 | 200 | 280 | 2 | 408 | 191 | 211 | 160 | 120 | 400 | 360 | 400 | 315 | 344 | 254 | 18 | 14 | 182 | 20 | - |
| **NM 100/20E-60/A** | 125 | 100 | 125 | 80 | 60 | 790 | 15 | 40 | 408 | 200 | 280 | - | 408 | 179 | 211 | 160 | 120 | 394 | 354 | 360 | 280 | 314 | 254 | 18 | 15 | 185 | 20 | - |
| **NM 100/20D-60** | 125 | 100 | 125 | 80 | 60 | 790 | 15 | 40 | 408 | 200 | 280 | - | 408 | 179 | 211 | 160 | 120 | 394 | 354 | 360 | 280 | 314 | 254 | 18 | 15 | 185 | 20 | 181.1 |

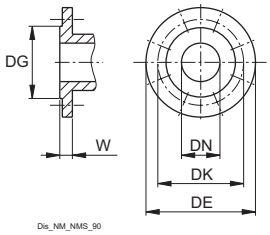
# NM, NMS 60 Hz

## Dimensions and weights with IE3 motor



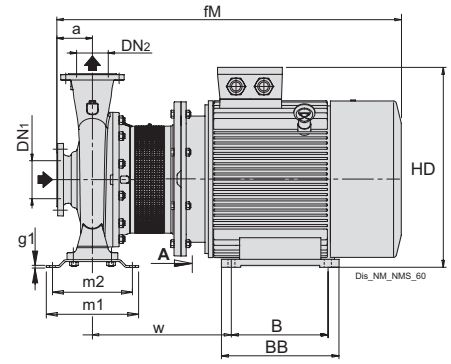



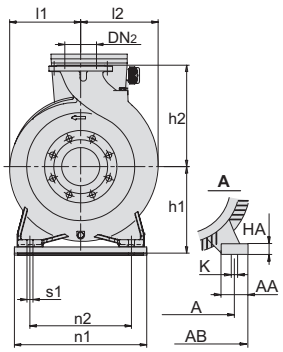

**Flanges EN 1092-2**



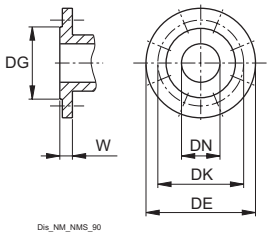

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | b | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **NMS 65/200A-60** | 80 | 65 | 100 | 279 | 65 | 339 | 65 | 241 | 328 | 961 | 12 | 180 | 225 | 20 | 439 | 15 | 159 | 179 | 125 | 95 | 320 | 250 | 14 | 394 |
| **NMS 65/250B-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 65/250A-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 80/250D-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **NMS 80/250C-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **NMS 80/200B-60/B** | 100 | 80 | 125 | 279 | 65 | 339 | 65 | 241 | 328 | 986 | 15 | 180 | 250 | 20 | 439 | 15 | 170 | 194 | 125 | 95 | 345 | 280 | 14 | 394 |
| **NMS 100/200B-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 100/200C-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |




**Flanges EN 1092-2** PN 10-16

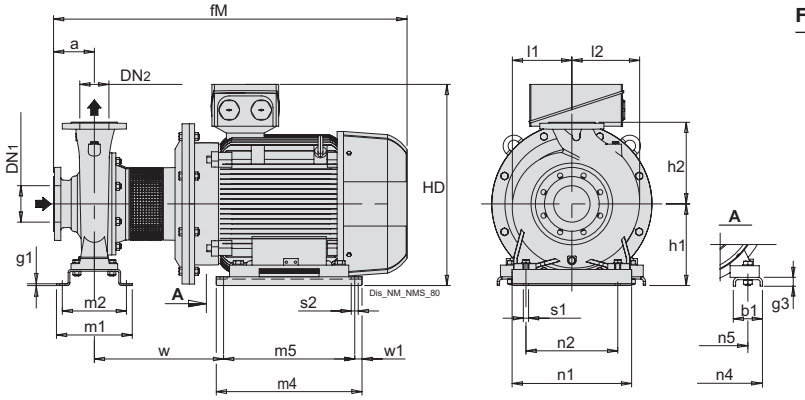



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

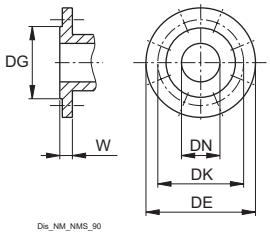
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **NMS 80/200A-60/B** | 100 | 80 | 125 | 318 | 70 | 378 | 305 | 355 | 1034 | 6 | 200 | 250 | 25 | 496 | 18.5 | 170 | 194 | 227 | 191 | 350 | 280 | 14 | 406 |
| **NMS 80/250B-60/A** | 100 | 80 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 191 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/200A-60/A** | 125 | 100 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 179 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/250A-60/A** | 125 | 100 | 140 | 457 | 100 | 540 | 368 | 479 | 1286 | 6 | 280 | 280 | 40 | 713 | 24 | 205 | 233 | 260 | 220 | 410 | 315 | 18 | 516 |

# NM, NMS 60 Hz

## Dimensions and weights with IE3 motor

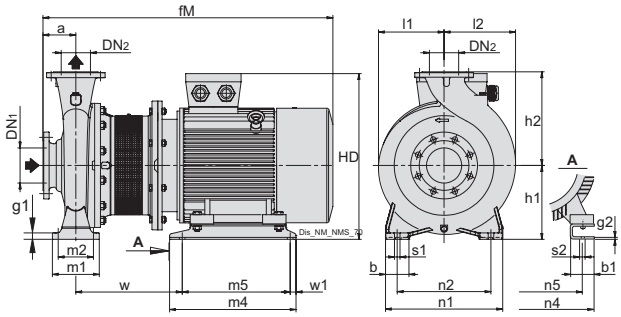



**Flanges EN 1092-2**

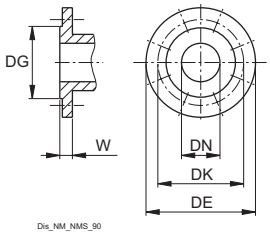



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **NMS 80/200A-60/B** | 100 | 80 | 125 | 318 | 70 | 378 | 305 | 355 | 1034 | 6 | 200 | 250 | 25 | 496 | 18.5 | 170 | 194 | 227 | 191 | 350 | 280 | 14 | 406 |
| **NMS 80/250B-60/A** | 100 | 80 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 191 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/200A-60/A** | 125 | 100 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 179 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/250A-60/A** | 125 | 100 | 140 | 457 | 100 | 540 | 368 | 479 | 1286 | 6 | 280 | 280 | 40 | 713 | 24 | 205 | 233 | 260 | 220 | 410 | 315 | 18 | 516 |




**Flanges EN 1092-2** PN 10-16

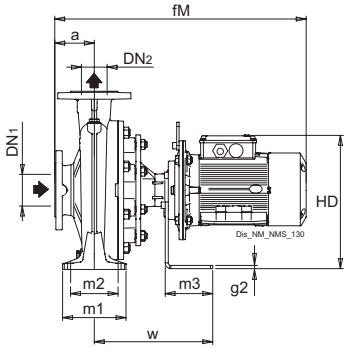


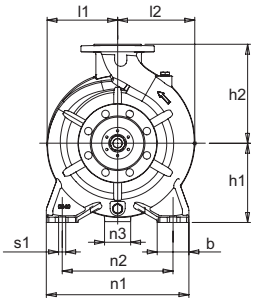

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b1 | fM | g1 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| **NMS 80/250A-60/A** | 100 | 80 | 125 | 100 | 1198 | 6 | 280 | 280 | 690 | 191 | 211 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |
| **NMS 100/250B-60/A** | 125 | 100 | 140 | 100 | 1213 | 6 | 280 | 280 | 690 | 205 | 233 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |

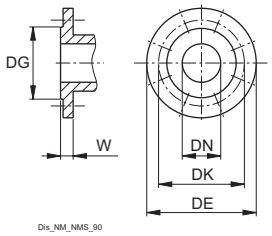
# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16

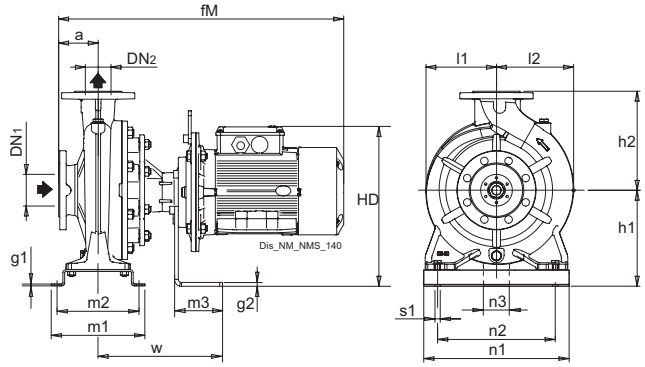



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

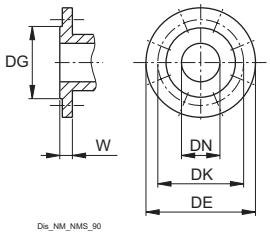
| TYPE | | | mm | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| NMS 32/125D-60 | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| NMS 32/125D-60-S | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| NMS 32/125A-60 | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| NMS 32/125A-60-S | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| NMS 32/125S-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| NMS 32/160B-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/160B-60-S | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/160A-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/160A-60-S | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 132 | 160 | 270 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/200D-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 160 | 180 | 289 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/200D-60-S | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 160 | 180 | 298 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/200C-60 | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 160 | 180 | 298 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/200A-60 | 50 | 32 | 80 | 50 | 633 | 12 | 8 | 160 | 180 | 337 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32/200A-60-S | 50 | 32 | 80 | 50 | 646 | 12 | 8 | 160 | 180 | 320 | 140 | 140 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| NMS 32L/160C-60 | 50 | 32 | 80 | 50 | 576 | 10 | 8 | 132 | 160 | 261 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32L/160B-60 | 50 | 32 | 80 | 50 | 590 | 10 | 8 | 132 | 160 | 270 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32L/160A-60 | 50 | 32 | 80 | 50 | 633 | 10 | 8 | 132 | 160 | 309 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32L/200C-60 | 50 | 32 | 80 | 50 | 633 | 12 | 8 | 160 | 180 | 337 | 142 | 142 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 32L/200B-60 | 50 | 32 | 80 | 50 | 646 | 12 | 8 | 160 | 180 | 320 | 142 | 142 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| NMS 32L/200A-60 | 50 | 32 | 80 | 50 | 691 | 12 | 8 | 160 | 180 | 362 | 142 | 142 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| NMS 40/125F-60 | 65 | 40 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| NMS 40/125C-60 | 65 | 40 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| NMS 40/125A-60 | 65 | 40 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| NMS 40/160C-60 | 65 | 40 | 80 | 50 | 576 | 10 | 8 | 132 | 160 | 261 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 40/160B-60 | 65 | 40 | 80 | 50 | 590 | 10 | 8 | 132 | 160 | 270 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 40/160A-60 | 65 | 40 | 80 | 50 | 633 | 10 | 8 | 132 | 160 | 309 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 40/200C-60 | 65 | 40 | 100 | 50 | 653 | 12 | 8 | 160 | 180 | 337 | 141 | 141 | 100 | 70 | 120 | 265 | 212 | 65 | 14 | 274 |
| NMS 40/200C-60-S | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 40/200B-60 | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 40/200AR-60 | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 40/200AR-60-S | 65 | 40 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 40/200A-60 | 65 | 40 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 50/125F-60 | 65 | 50 | 100 | 50 | 596 | 10 | 8 | 132 | 160 | 261 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 50/125D-60 | 65 | 50 | 100 | 50 | 610 | 10 | 8 | 132 | 160 | 270 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 50/125A-60 | 65 | 50 | 100 | 50 | 653 | 10 | 8 | 132 | 160 | 309 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| NMS 50/160B-60 | 65 | 50 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 125 | 140 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 50/160A-60 | 65 | 50 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 125 | 140 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| NMS 65/125E-60 | 80 | 65 | 100 | 65 | 653 | 12 | 8 | 160 | 180 | 337 | 130 | 154 | 125 | 95 | 120 | 280 | 212 | 65 | 14 | 274 |
| NMS 65/125C-60 | 80 | 65 | 100 | 65 | 666 | 12 | 8 | 160 | 180 | 320 | 130 | 154 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| NMS 65/125A-60 | 80 | 65 | 100 | 65 | 711 | 12 | 8 | 160 | 180 | 362 | 130 | 154 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| NMS 65/160D-60 | 80 | 65 | 100 | 65 | 711 | 12 | 8 | 160 | 200 | 362 | 140 | 161 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| NMS 80/160E-60 | 100 | 80 | 125 | 65 | 736 | 12 | 8 | 180 | 225 | 382 | 152 | 181 | 125 | 95 | 250 | 320 | 250 | 130 | 14 | 407 |

# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor

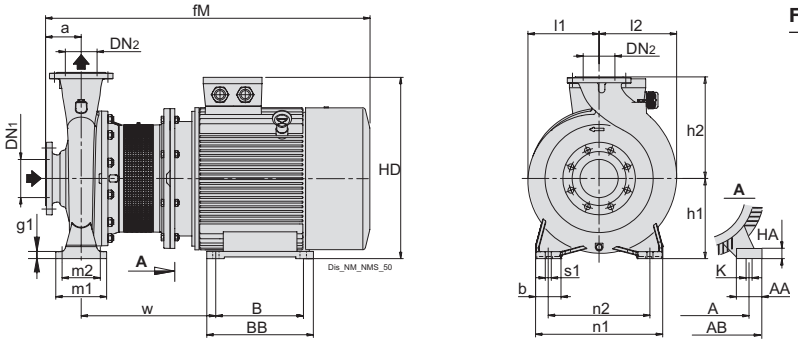



**Flanges EN 1092-2**

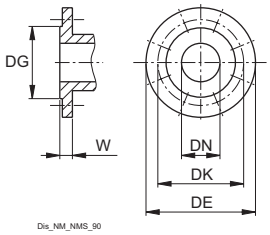



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| **NMS 40/160A-60-S** | 65 | 40 | 80 | 646 | 4 | 8 | 180 | 160 | 340 | 120 | 122 | 190 | 190 | 250 | 250 | 190 | 130 | 14 | 407 |

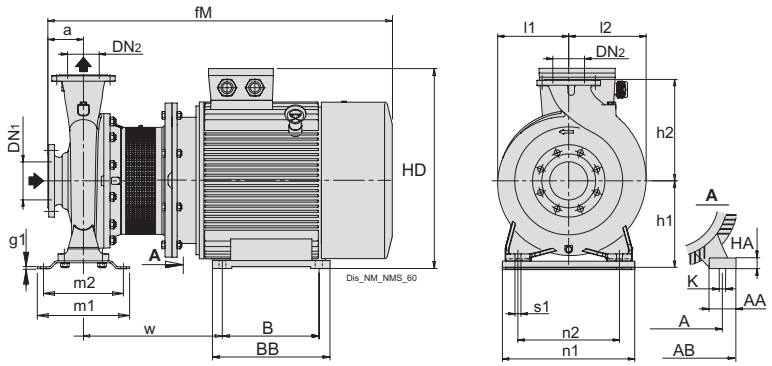



**Flanges EN 1092-2** PN 10-16

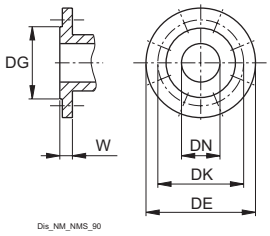



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | b | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **NMS 65/200A-60** | 80 | 65 | 100 | 279 | 65 | 339 | 65 | 241 | 328 | 961 | 12 | 180 | 225 | 20 | 439 | 15 | 159 | 179 | 125 | 95 | 320 | 250 | 14 | 394 |
| **NMS 65/250B-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 65/250A-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 80/200B-60/B** | 100 | 80 | 125 | 279 | 65 | 339 | 65 | 241 | 328 | 986 | 15 | 180 | 250 | 20 | 439 | 15 | 170 | 194 | 125 | 95 | 345 | 280 | 14 | 394 |
| **NMS 80/250D-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **NMS 80/250C-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **NMS 100/200C-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |
| **NMS 100/200B-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |




**Flanges EN 1092-2** PN 10-16

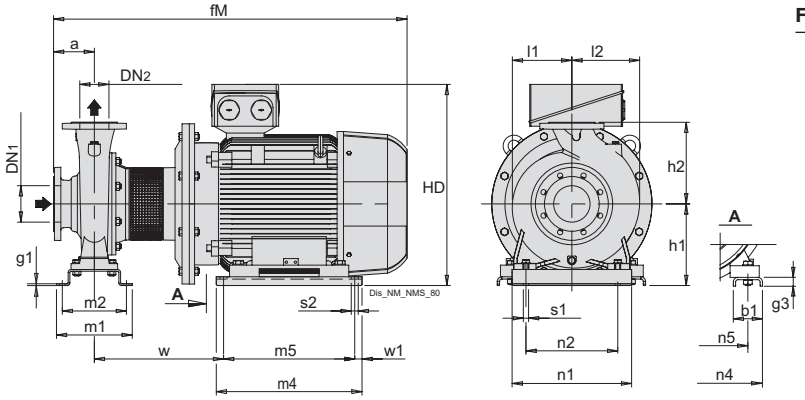



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

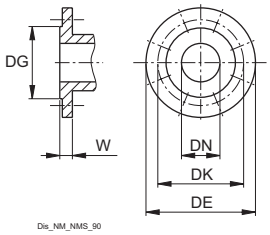
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **NMS 80/200A-60/B** | 100 | 80 | 125 | 318 | 70 | 378 | 305 | 355 | 1034 | 6 | 200 | 250 | 25 | 496 | 18.5 | 170 | 194 | 227 | 191 | 350 | 280 | 14 | 406 |
| **NMS 80/250B-60/A** | 100 | 80 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 191 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/200A-60/A** | 125 | 100 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 179 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **NMS 100/250A-60/A** | 125 | 100 | 140 | 457 | 100 | 540 | 368 | 479 | 1396 | 6 | 280 | 280 | 40 | 713 | 24 | 205 | 233 | 260 | 220 | 410 | 315 | 18 | 516 |

# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor

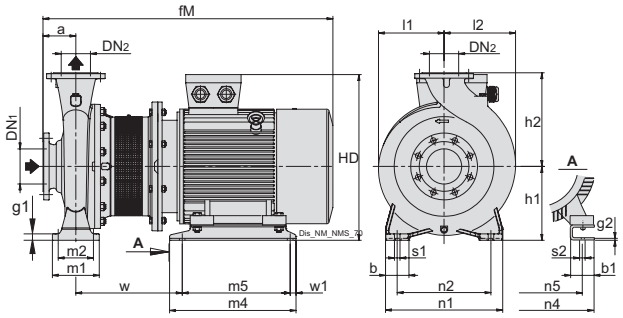



### Flanges EN 1092-2



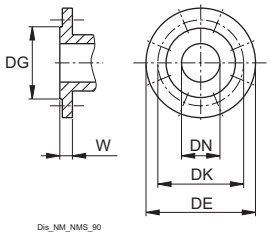

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b1 | fM | g1 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| NMS 50/200B-60 | 65 | 50 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 142 | 152 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 50/200A-60 | 65 | 50 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 142 | 152 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/160C-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/160B-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/160AR-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/160A-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 80/250A-60/A | 100 | 80 | 125 | 100 | 1198 | 6 | 30 | 280 | 280 | 690 | 191 | 211 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |
| NMS 100/250B-60/A | 125 | 100 | 140 | 100 | 1213 | 6 | 30 | 280 | 280 | 690 | 205 | 233 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |




### Flanges EN 1092-2

PN 10-16

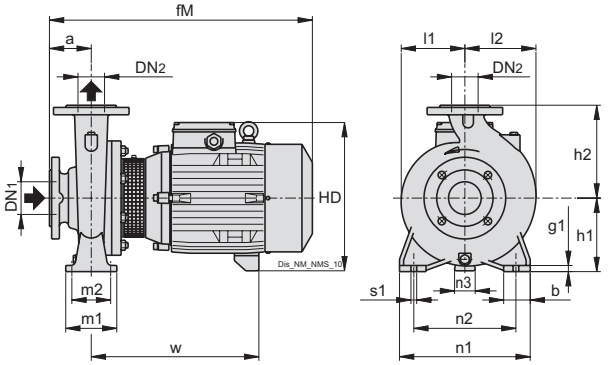



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

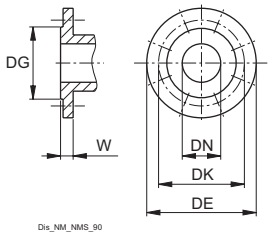
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| NMS 40/250C-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 40/250B-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 40/250A-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 50/250C-60 | 65 | 50 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 50/250B-60 | 65 | 50 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 50/250A-60 | 65 | 50 | 100 | 65 | 80 | 910 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/200C-60 | 80 | 65 | 100 | 65 | 80 | 850 | 12 | 20 | 180 | 225 | 417 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/200B-60 | 80 | 65 | 100 | 65 | 80 | 910 | 12 | 20 | 180 | 225 | 417 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 65/250C-60 | 80 | 65 | 100 | 80 | 70 | 961 | 15 | 20 | 200 | 250 | 459 | 178 | 195 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |
| NMS 80/160D-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 80/160C-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 80/160B-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 80/160A-60 | 100 | 80 | 125 | 65 | 80 | 935 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| NMS 80/250E-60 | 100 | 80 | 125 | 80 | 70 | 986 | 20 | 20 | 200 | 280 | 459 | 191 | 211 | 160 | 120 | 440 | 400 | 400 | 315 | 349 | 279 | 18 | 15 | 333 | 20 |
| NMS 100/200E-60 | 125 | 100 | 125 | 80 | 60 | 960 | 15 | 40 | 200 | 280 | 437 | 179 | 211 | 160 | 120 | 394 | 354 | 360 | 280 | 314 | 254 | 18 | 15 | 339 | 20 |
| NMS 100/200D-60/A | 125 | 100 | 125 | 80 | 70 | 986 | 15 | 20 | 200 | 280 | 459 | 179 | 211 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |

# NM, NMS 60 Hz

## Dimensions and weights




**Flanges EN 1092-2** PN 10-16



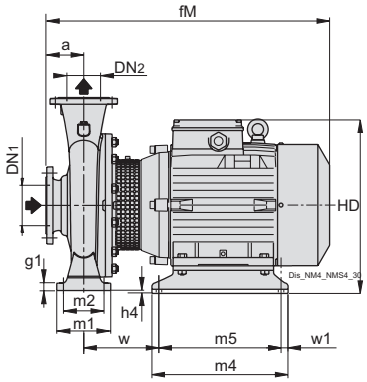

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

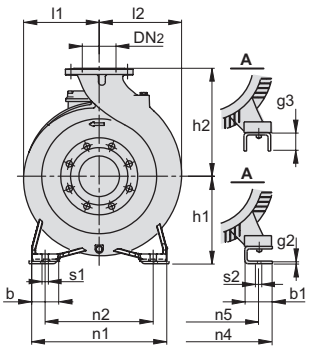
| TYPE | | | mm | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | n1 | n2 | n3 | s1 | w | Weight |
| **BNM 32L/16C-60** | 50 | 32 | 80 | 50 | 453 | 10 | 132 | 160 | 2.2 | 262 | 121 | 121 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| **BNM 32L/16B-60** | 50 | 32 | 80 | 50 | 479 | 10 | 132 | 160 | 2 | 272 | 121 | 121 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | - |
| **BNM 32L/16A-60** | 50 | 32 | 80 | 50 | 479 | 10 | 132 | 160 | 2 | 272 | 121 | 121 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | - |
| **BNM 32L/20C-60** | 50 | 32 | 80 | 50 | 479 | 12 | 160 | 180 | 2 | 300 | 142 | 142 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | - |
| **BNM 32L/200B-60** | 50 | 32 | 80 | 50 | 594 | 12 | 160 | 180 | 7 | 327 | 142 | 142 | 100 | 70 | 240 | 190 | 34 | 14 | 390 | - |
| **BNM 32L/200A-60** | 50 | 32 | 80 | 50 | 594 | 12 | 160 | 180 | 7 | 327 | 142 | 142 | 100 | 70 | 240 | 190 | 34 | 14 | 390 | - |
| **BNM 32/12F-60** | 50 | 32 | 80 | 50 | 408 | 12 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | - |
| **BNM 32/12D-60** | 50 | 32 | 80 | 50 | 408 | 12 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 26.1 |
| **BNM 32/12A-60/A** | 50 | 32 | 80 | 50 | 408 | 12 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 29.4 |
| **BNM 32/12S-60/A** | 50 | 32 | 80 | 50 | 408 | 12 | 112 | 140 | 3.2 | 242 | 93 | 98 | 100 | 70 | 190 | 140 | 31 | 14 | 248 | 29.3 |
| **BNM 32/16B-60/A** | 50 | 32 | 80 | 50 | 413 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| **BNM 32/16A-60/B** | 50 | 32 | 80 | 50 | 453 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| **BNM 32/20D-60/B** | 50 | 32 | 80 | 50 | 453 | 12 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 297 | 44.4 |
| **BNM 32/20C-60/A** | 50 | 32 | 80 | 50 | 479 | 12 | 160 | 180 | 2 | 300 | 140 | 140 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | - |
| **BNM 32/20A-60/B** | 50 | 32 | 80 | 50 | 479 | 12 | 160 | 180 | 2 | 300 | 140 | 140 | 100 | 70 | 240 | 190 | 37 | 14 | 297 | - |
| **BNM 40/12F-60/A** | 65 | 40 | 80 | 50 | 413 | 12 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 253 | 31.3 |
| **BNM 40/12C-60/A** | 65 | 40 | 80 | 50 | 413 | 12 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 253 | 32.1 |
| **BNM 40/12A-60/B** | 65 | 40 | 80 | 50 | 453 | 12 | 112 | 140 | 3.2 | 242 | 100 | 112 | 100 | 70 | 210 | 160 | 31 | 14 | 293 | 35.3 |
| **BNM 40/16C-60/B** | 65 | 40 | 80 | 50 | 453 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| **BNM 40/16B-60/A** | 65 | 40 | 80 | 50 | 479 | 10 | 132 | 160 | 2 | 272 | 120 | 122 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 50.2 |
| **BNM 40/16A-60/B** | 65 | 40 | 80 | 50 | 479 | 10 | 132 | 160 | 2 | 272 | 120 | 122 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 54 |
| **BNM 40/20C-60/B** | 65 | 40 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| **BNM 40/200B-60/A** | 65 | 40 | 100 | 50 | 614 | 12 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 390 | 73.2 |
| **BNM 40/200AR-60/A** | 65 | 40 | 100 | 50 | 614 | 12 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 390 | 75 |
| **BNM 40/200A-60/A** | 65 | 40 | 100 | 50 | 614 | 12 | 160 | 180 | 7 | 327 | 141 | 141 | 100 | 70 | 265 | 212 | 34 | 14 | 390 | - |
| **BNM 50/12F-60/B** | 65 | 50 | 100 | 50 | 473 | 10 | 132 | 160 | 2.2 | 262 | 122 | 137 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | 42.9 |
| **BNM 50/12D-60/A** | 65 | 50 | 100 | 50 | 499 | 10 | 132 | 160 | 2 | 272 | 122 | 137 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 50.6 |
| **BNM 50/12A-60/B** | 65 | 50 | 100 | 50 | 499 | 10 | 132 | 160 | 2 | 272 | 122 | 137 | 100 | 70 | 240 | 190 | 32 | 14 | 294 | 53.3 |
| **BNM 50/160B-60/B** | 65 | 50 | 100 | 50 | 614 | 12 | 160 | 180 | 7 | 327 | 125 | 140 | 100 | 70 | 265 | 212 | 34 | 14 | 390 | - |
| **BNM 50/160A-60/B** | 65 | 50 | 100 | 50 | 614 | 12 | 160 | 180 | 7 | 327 | 125 | 140 | 100 | 70 | 265 | 212 | 34 | 14 | 390 | - |
| **BNM 65/12E-60/A** | 80 | 65 | 100 | 65 | 504 | 12 | 160 | 180 | 2 | 300 | 130 | 154 | 125 | 95 | 280 | 212 | 37 | 14 | 302 | 57.6 |
| **BNM 65/125C-60/B** | 80 | 65 | 100 | 65 | 619 | 12 | 160 | 180 | 7 | 327 | 130 | 154 | 125 | 95 | 280 | 212 | 34 | 14 | 395 | - |
| **BNM 65/125A-60/B** | 80 | 65 | 100 | 65 | 619 | 12 | 160 | 180 | 7 | 327 | 130 | 154 | 125 | 95 | 280 | 212 | 34 | 14 | 395 | - |
| **BNM 65/160D-60/B** | 80 | 65 | 100 | 65 | 614 | 12 | 160 | 200 | 7 | 327 | 140 | 161 | 125 | 95 | 280 | 212 | 34 | 14 | 390 | - |
| **BNM 65/160C-60/C** | 80 | 65 | 100 | 65 | 659 | 12 | 160 | 200 | 1 | 350 | 140 | 161 | 125 | 95 | 280 | 212 | 31 | 14 | 415 | - |
| **BNM 80/160E-60/B** | 100 | 80 | 125 | 65 | 639 | 12 | 180 | 225 | 7 | 347 | 152 | 181 | 125 | 95 | 320 | 250 | 37 | 14 | 392 | 90.1 |
| **BNM 80/160D-60/C** | 100 | 80 | 125 | 65 | 684 | 12 | 180 | 225 | - | 370 | 152 | 181 | 125 | 95 | 320 | 250 | 35 | 14 | 417 | - |

Version without coupling guard
BNM 40/200A/A-AR/A-B/A
BNM 50/160A/B-B/B
BNM 65/125A/B-C/B
BNM 65/160 D/B-C/C
BNM 80/160E/B-D/C

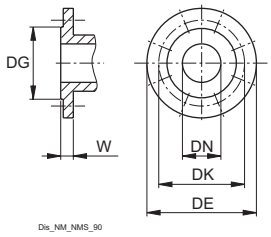
# NM, NMS 60 Hz

## Dimensions and weights




**Flanges EN 1092-2** PN 10-16



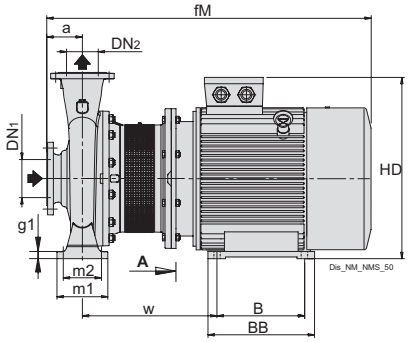

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

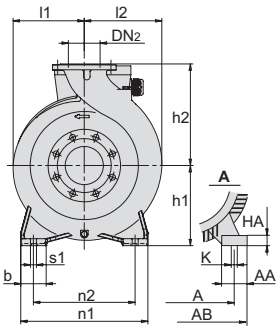
## Three-phase

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | H | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s | s1 | w | w1 | Weight |
| **BNM 4025/C-60/C** | 65 | 40 | 100 | 65 | 69 | 634 | 15 | 6 | 370 | 180 | 225 | 12 | 370 | 177 | 177 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 174 | 20 | - |
| **BNM 4025/B-60/C** | 65 | 40 | 100 | 65 | 69 | 634 | 15 | 6 | 370 | 180 | 225 | 12 | 370 | 177 | 177 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 174 | 20 | - |
| **BNM 4025/A-60/C** | 65 | 40 | 100 | 65 | 69 | 709 | 15 | 6 | 370 | 180 | 225 | 12 | 370 | 177 | 177 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 174 | 20 | - |
| **BNM 50/200B-60/C** | 65 | 50 | 100 | 50 | 69 | 694 | 14 | 6 | 350 | 160 | 200 | 32 | 350 | 142 | 152 | 100 | 70 | 298 | 258 | 265 | 212 | 285 | 216 | 14 | 12 | 234 | 20 | 124.9 |
| **BNM 50/200A-60/C** | 65 | 50 | 100 | 50 | 69 | 694 | 14 | 6 | 350 | 160 | 200 | 32 | 350 | 142 | 152 | 100 | 70 | 298 | 258 | 265 | 212 | 285 | 216 | 14 | 12 | 234 | 20 | - |
| **BNM 5025/C-60/C** | 65 | 50 | 100 | 65 | 69 | 634 | 15 | 6 | 370 | 180 | 225 | 12 | 370 | 177 | 177 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 174 | 20 | - |
| **BNM 5025/B-60/C** | 65 | 50 | 100 | 65 | 69 | 709 | 15 | 6 | 370 | 180 | 225 | 12 | 370 | 177 | 177 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 174 | 20 | - |
| **BNM 50/25A-60** | 65 | 50 | 100 | 65 | 80 | 765 | 15 | 20 | 388 | 180 | 225 | - | 388 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | - |
| **BNM 65/160B-60/C** | 80 | 65 | 100 | 65 | 69 | 694 | 12 | 6 | 350 | 160 | 200 | 32 | 350 | 140 | 161 | 125 | 95 | 298 | 258 | 280 | 212 | 285 | 216 | 14 | 12 | 234 | 20 | - |
| **BNM 65/160A-60/C** | 80 | 65 | 100 | 65 | 69 | 769 | 12 | 6 | 350 | 160 | 200 | 32 | 350 | 140 | 161 | 125 | 95 | 298 | 258 | 280 | 212 | 285 | 216 | 14 | 12 | 234 | 20 | - |
| **BNM 65/160AR-60** | 80 | 65 | 100 | 65 | 69 | 769 | 12 | 6 | 350 | 160 | 200 | 32 | 350 | 140 | 161 | 125 | 95 | 298 | 258 | 280 | 212 | 285 | 216 | 14 | 12 | 234 | 20 | - |
| **BNM 65/200C-60/C** | 80 | 65 | 100 | 65 | 69 | 774 | 12 | 6 | 370 | 180 | 225 | 12 | 370 | 159 | 179 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 239 | 20 | - |
| **BNM 65/250C-60/B** | 80 | 65 | 100 | 80 | 90 | 828 | 15 | 42 | 408 | 200 | 250 | 2 | 408 | 178 | 195 | 160 | 120 | 400 | 360 | 360 | 280 | 344 | 254 | 18 | 14 | 245 | 20 | - |
| **BNM 80/160C-60/C** | 100 | 80 | 125 | 65 | 69 | 724 | 12 | 6 | 370 | 180 | 225 | 12 | 370 | 152 | 181 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 239 | 20 | - |
| **BNM 80/160B-60/C** | 100 | 80 | 125 | 65 | 69 | 799 | 12 | 6 | 370 | 180 | 225 | 12 | 370 | 152 | 181 | 125 | 95 | 298 | 258 | 320 | 250 | 285 | 216 | 14 | 12 | 239 | 20 | - |
| **BNM 80/16A-60** | 100 | 80 | 125 | 65 | 80 | 790 | 12 | 20 | 388 | 180 | 225 | - | 388 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 185 | 20 | - |

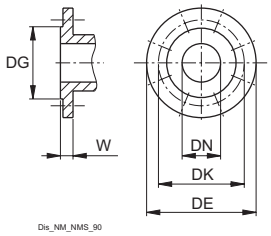
# NM, NMS 60 Hz

## Dimensions and weights with IE3 motor



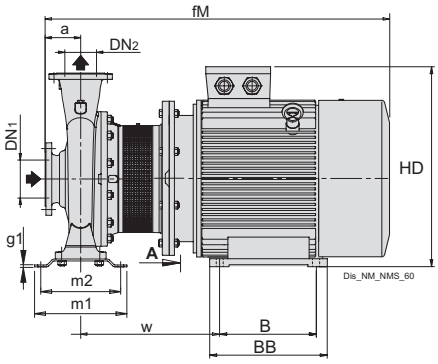



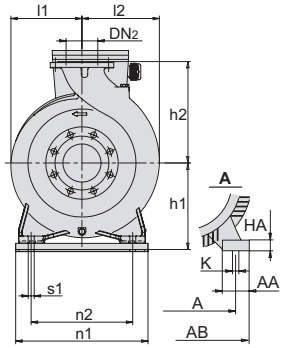

**Flanges EN 1092-2** PN 10-16



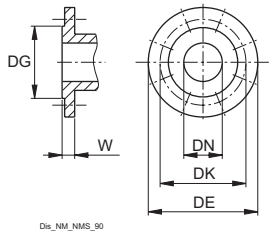

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | b | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **BNMS 65/200A-60** | 80 | 65 | 100 | 279 | 65 | 339 | 65 | 241 | 328 | 961 | 12 | 180 | 225 | 20 | 439 | 15 | 159 | 179 | 125 | 95 | 320 | 250 | 14 | 394 |
| **BNMS 65/250B-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **BNMS 65/250A-60/B** | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| **BNMS 80/200B-60/B** | 100 | 80 | 125 | 279 | 65 | 339 | 65 | 241 | 328 | 986 | 15 | 180 | 250 | 20 | 439 | 15 | 170 | 194 | 125 | 95 | 345 | 280 | 14 | 394 |
| **BNMS 80/250D-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **BNMS 80/250C-60/A** | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| **BNMS 100/200C-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |
| **BNMS 100/200B-60/A** | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |




**Flanges EN 1092-2** PN 10-16

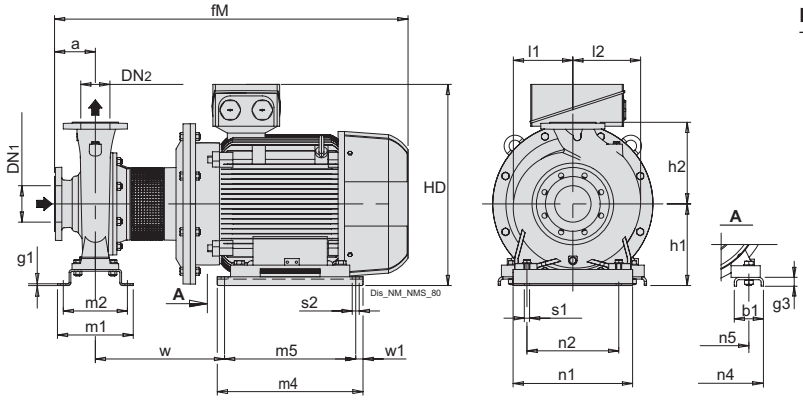



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

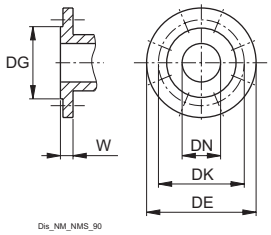
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| **BNMS 80/200A-60/B** | 100 | 80 | 125 | 318 | 70 | 378 | 305 | 355 | 1034 | 6 | 200 | 250 | 25 | 496 | 18.5 | 170 | 194 | 227 | 191 | 350 | 280 | 14 | 406 |
| **BNMS 80/250B-60/A** | 100 | 80 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 191 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **BNMS 100/200A-60/A** | 125 | 100 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 179 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| **BNMS 100/250A-60/A** | 125 | 100 | 140 | 457 | 100 | 540 | 368 | 479 | 1286 | 6 | 280 | 280 | 40 | 713 | 24 | 205 | 233 | 260 | 220 | 410 | 315 | 18 | 516 |

# NM, NMS 60 Hz

## Dimensions and weights

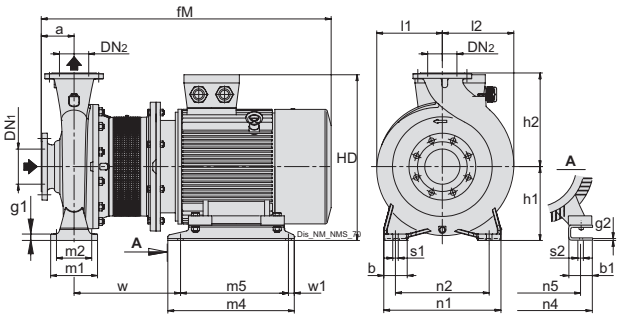



**Flanges EN 1092-2** PN 10-16

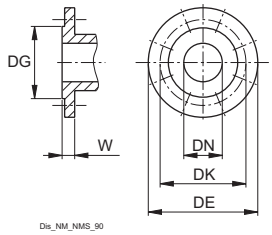



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b1 | fM | g1 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| **BNMS 80/250A-60/A** | 100 | 80 | 125 | 100 | 1198 | 6 | 30 | 280 | 280 | 690 | 191 | 211 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |
| **BNMS 100/250B-60/A** | 125 | 100 | 140 | 100 | 1213 | 6 | 30 | 280 | 280 | 690 | 205 | 233 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |




**Flanges EN 1092-2** PN 10-16

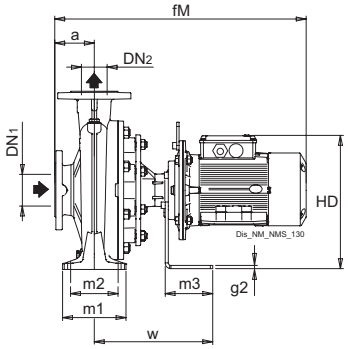


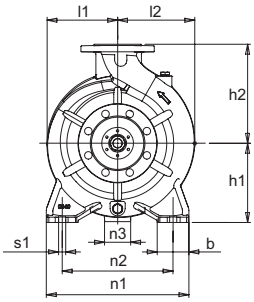

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| **BNMS 65/250C-60** | 80 | 65 | 100 | 80 | 70 | 961 | 15 | 200 | 250 | 459 | 178 | 195 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |
| **BNMS 80/250E-60** | 100 | 80 | 125 | 80 | 70 | 986 | 20 | 200 | 280 | 459 | 191 | 211 | 160 | 120 | 440 | 400 | 400 | 315 | 349 | 279 | 18 | 15 | 333 | 20 |
| **BNMS 100/200D-60/A** | 125 | 100 | 125 | 80 | 70 | 986 | 15 | 200 | 280 | 459 | 179 | 211 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |

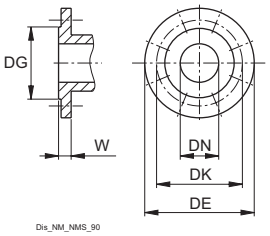
# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16

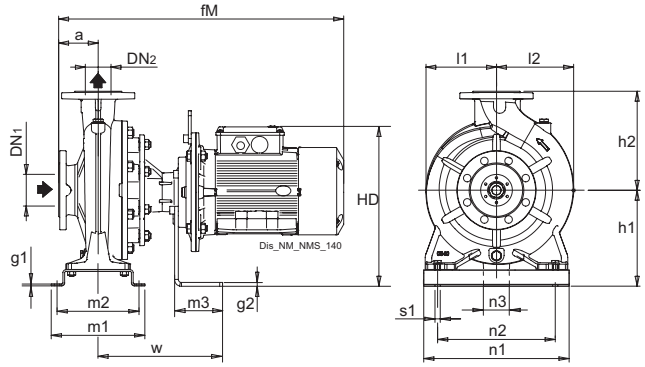



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

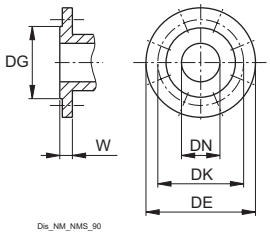
| TYPE | | | mm | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| BNMS 32/125D-60 | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| BNMS 32/125D-60-S | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| BNMS 32/125A-60 | 50 | 32 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| BNMS 32/125A-60-S | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| BNMS 32/125S-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 93 | 98 | 100 | 70 | 120 | 190 | 140 | 65 | 14 | 274 |
| BNMS 32/160B-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/160B-60-S | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/160A-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 132 | 160 | 261 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/160A-60-S | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 132 | 160 | 270 | 119 | 119 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/200D-60 | 50 | 32 | 80 | 50 | 576 | 12 | 8 | 160 | 180 | 289 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/200D-60-S | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 160 | 180 | 298 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/200C-60 | 50 | 32 | 80 | 50 | 590 | 12 | 8 | 160 | 180 | 298 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/200A-60 | 50 | 32 | 80 | 50 | 633 | 12 | 8 | 160 | 180 | 337 | 140 | 140 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32/200A-60-S | 50 | 32 | 80 | 50 | 646 | 12 | 8 | 160 | 180 | 320 | 140 | 140 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| BNMS 32L/160C-60 | 50 | 32 | 80 | 50 | 576 | 10 | 8 | 132 | 160 | 261 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32L/160B-60 | 50 | 32 | 80 | 50 | 590 | 10 | 8 | 132 | 160 | 270 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32L/160A-60 | 50 | 32 | 80 | 50 | 633 | 10 | 8 | 132 | 160 | 309 | 121 | 121 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32L/200C-60 | 50 | 32 | 80 | 50 | 633 | 12 | 8 | 160 | 180 | 337 | 142 | 142 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 32L/200B-60 | 50 | 32 | 80 | 50 | 646 | 12 | 8 | 160 | 180 | 320 | 142 | 142 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| BNMS 32L/200A-60 | 50 | 32 | 80 | 50 | 691 | 12 | 8 | 160 | 180 | 362 | 142 | 142 | 100 | 70 | 250 | 240 | 190 | 130 | 14 | 407 |
| BNMS 40/125F-60 | 65 | 40 | 80 | 50 | 536 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| BNMS 40/125C-60 | 65 | 40 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| BNMS 40/125A-60 | 65 | 40 | 80 | 50 | 576 | 12 | 8 | 112 | 140 | 241 | 100 | 112 | 100 | 70 | 120 | 210 | 160 | 65 | 14 | 274 |
| BNMS 40/160C-60 | 65 | 40 | 80 | 50 | 576 | 10 | 8 | 132 | 160 | 261 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 40/160B-60 | 65 | 40 | 80 | 50 | 590 | 10 | 8 | 132 | 160 | 270 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 40/160A-60 | 65 | 40 | 80 | 50 | 633 | 10 | 8 | 132 | 160 | 309 | 120 | 122 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 40/200C-60 | 65 | 40 | 100 | 50 | 653 | 12 | 8 | 160 | 180 | 337 | 141 | 141 | 100 | 70 | 120 | 265 | 212 | 65 | 14 | 274 |
| BNMS 40/200C-60-S | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 40/200B-60 | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 40/200AR-60 | 65 | 40 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 40/200AR-60-S | 65 | 40 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 40/200A-60 | 65 | 40 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 141 | 141 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 50/125F-60 | 65 | 50 | 100 | 50 | 596 | 10 | 8 | 132 | 160 | 261 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 50/125D-60 | 65 | 50 | 100 | 50 | 610 | 10 | 8 | 132 | 160 | 270 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 50/125A-60 | 65 | 50 | 100 | 50 | 653 | 10 | 8 | 132 | 160 | 309 | 122 | 137 | 100 | 70 | 120 | 240 | 190 | 65 | 14 | 274 |
| BNMS 50/160B-60 | 65 | 50 | 100 | 50 | 666 | 12 | 8 | 160 | 180 | 320 | 125 | 140 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 50/160A-60 | 65 | 50 | 100 | 50 | 711 | 12 | 8 | 160 | 180 | 362 | 125 | 140 | 100 | 70 | 250 | 265 | 212 | 130 | 14 | 407 |
| BNMS 65/125E-60 | 80 | 65 | 100 | 65 | 653 | 12 | 8 | 160 | 180 | 337 | 130 | 154 | 125 | 95 | 120 | 280 | 212 | 65 | 14 | 274 |
| BNMS 65/125C-60 | 80 | 65 | 100 | 65 | 666 | 12 | 8 | 160 | 180 | 320 | 130 | 154 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| BNMS 65/125A-60 | 80 | 65 | 100 | 65 | 711 | 12 | 8 | 160 | 180 | 362 | 130 | 154 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| BNMS 65/160D-60 | 80 | 65 | 100 | 65 | 711 | 12 | 8 | 160 | 200 | 362 | 140 | 161 | 125 | 95 | 250 | 280 | 212 | 130 | 14 | 407 |
| BNMS 80/160E-60 | 100 | 80 | 125 | 65 | 736 | 12 | 8 | 180 | 225 | 382 | 152 | 181 | 125 | 95 | 250 | 320 | 250 | 130 | 14 | 407 |

# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor

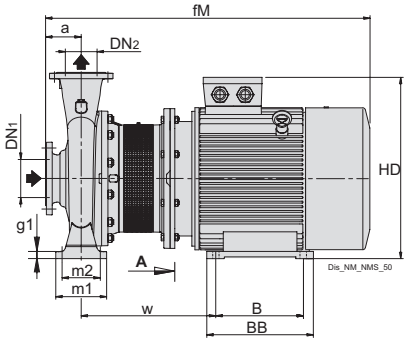


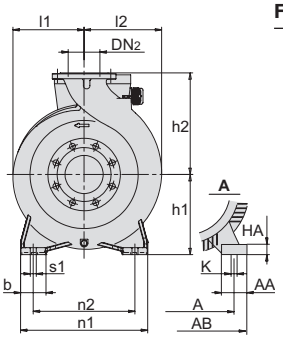

**Flanges EN 1092-2**



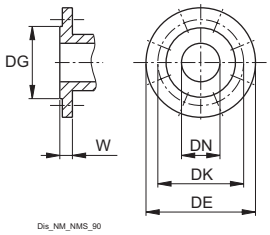

| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| BNMS 40/160A-60-S | 65 | 40 | 80 | 646 | 4 | 8 | 180 | 160 | 340 | 120 | 122 | 190 | 190 | 250 | 250 | 190 | 130 | 14 | 407 |



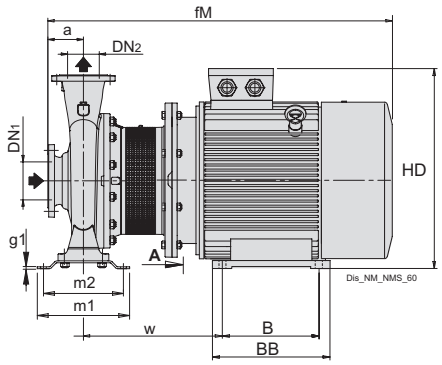



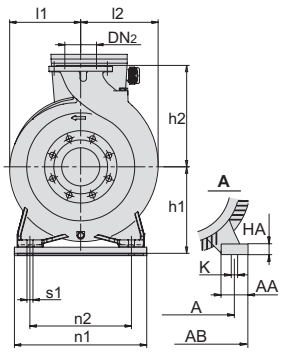

**Flanges EN 1092-2** PN 10-16



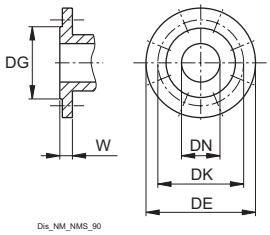

| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | b | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| BNMS 65/200A-60 | 80 | 65 | 100 | 279 | 65 | 339 | 65 | 241 | 328 | 961 | 12 | 180 | 225 | 20 | 439 | 15 | 159 | 179 | 125 | 95 | 320 | 250 | 14 | 394 |
| BNMS 65/250B-60/B | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| BNMS 65/250A-60/B | 80 | 65 | 100 | 318 | 70 | 378 | 80 | 305 | 355 | 1009 | 15 | 200 | 250 | 25 | 496 | 18.5 | 178 | 195 | 160 | 120 | 360 | 280 | 18 | 406 |
| BNMS 80/200B-60/B | 100 | 80 | 125 | 279 | 65 | 339 | 65 | 241 | 328 | 986 | 15 | 180 | 250 | 20 | 439 | 15 | 170 | 194 | 125 | 95 | 345 | 280 | 14 | 394 |
| BNMS 80/250D-60/A | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| BNMS 80/250C-60/A | 100 | 80 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 20 | 200 | 280 | 25 | 496 | 18.5 | 191 | 211 | 160 | 120 | 400 | 315 | 18 | 406 |
| BNMS 100/200C-60/A | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |
| BNMS 100/200B-60/A | 125 | 100 | 125 | 318 | 70 | 378 | 80 | 305 | 355 | 1034 | 15 | 200 | 280 | 25 | 496 | 18.5 | 179 | 211 | 160 | 120 | 360 | 280 | 18 | 406 |




**Flanges EN 1092-2** PN 10-16

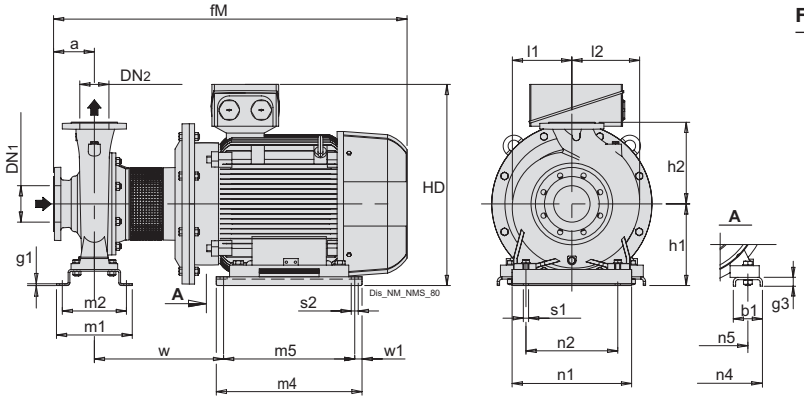



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

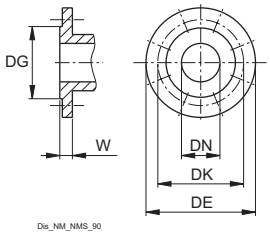
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | A | AA | AB | B | BB | fM | g1 | h1 | h2 | HA | HD | K | l1 | l2 | m1 | m2 | n1 | n2 | s1 | w |
| BNMS 80/200A-60/B | 100 | 80 | 125 | 318 | 70 | 378 | 305 | 355 | 1034 | 6 | 200 | 250 | 25 | 496 | 18.5 | 170 | 194 | 227 | 191 | 350 | 280 | 14 | 406 |
| BNMS 80/250B-60/A | 100 | 80 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 191 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| BNMS 100/200A-60/A | 125 | 100 | 125 | 356 | 80 | 436 | 311 | 361 | 1129 | 6 | 225 | 280 | 34 | 563 | 19 | 179 | 211 | 298 | 258 | 410 | 315 | 18 | 445 |
| BNMS 100/250A-60/A | 125 | 100 | 140 | 457 | 100 | 540 | 368 | 479 | 1396 | 6 | 280 | 280 | 40 | 713 | 24 | 205 | 233 | 260 | 220 | 410 | 315 | 18 | 516 |

# NM, NMS 60 Hz

## Dimensions and weights with IE4 motor

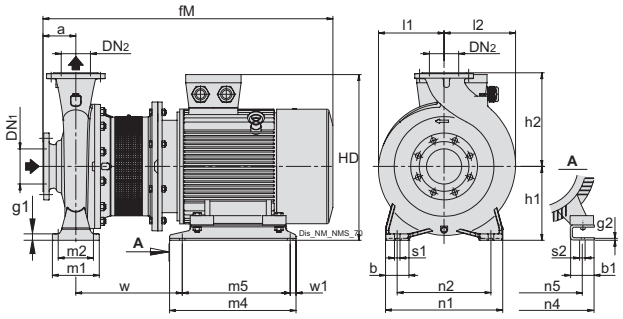



### Flanges EN 1092-2

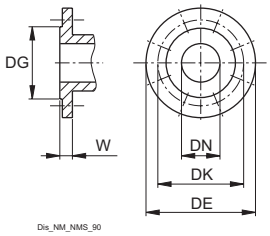



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b1 | fM | g1 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| BNMS 50/200B-60 | 65 | 50 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 142 | 152 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 50/200A-60 | 65 | 50 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 142 | 152 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/160C-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/160B-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/160AR-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/160A-60 | 80 | 65 | 100 | 80 | 850 | 4 | 20 | 180 | 200 | 417 | 140 | 161 | 245 | 212 | 394 | 354 | 290 | 215 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 80/250A-60/A | 100 | 80 | 125 | 100 | 1198 | 6 | 30 | 280 | 280 | 690 | 191 | 211 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |
| BNMS 100/250B-60/A | 125 | 100 | 140 | 100 | 1213 | 6 | 30 | 280 | 280 | 690 | 205 | 233 | 260 | 220 | 570 | 520 | 410 | 315 | 506 | 406 | 18 | 24 | 408 | 25 |




### Flanges EN 1092-2 PN 10-16

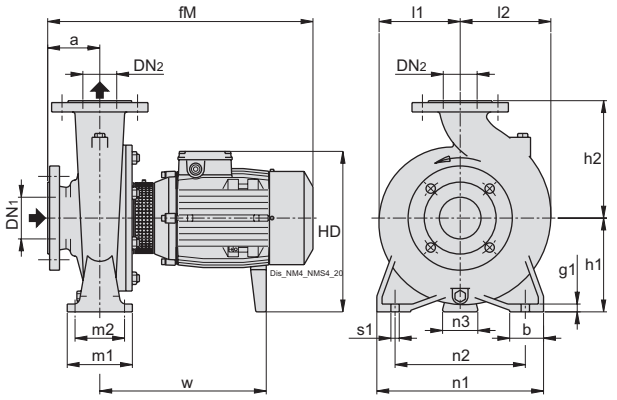



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

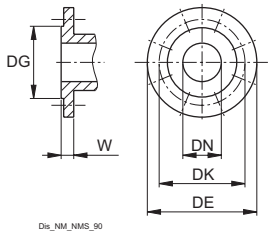
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| BNMS 40/250C-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 40/250B-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 40/250A-60 | 65 | 40 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 50/250C-60 | 65 | 50 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 50/250B-60 | 65 | 50 | 100 | 65 | 80 | 850 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 50/250A-60 | 65 | 50 | 100 | 65 | 80 | 910 | 15 | 20 | 180 | 225 | 417 | 177 | 177 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/200C-60 | 80 | 65 | 100 | 65 | 80 | 850 | 12 | 20 | 180 | 225 | 417 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/200B-60 | 80 | 65 | 100 | 65 | 80 | 910 | 12 | 20 | 180 | 225 | 417 | 159 | 179 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 65/250C-60 | 80 | 65 | 100 | 80 | 70 | 961 | 15 | 20 | 200 | 250 | 459 | 178 | 195 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |
| BNMS 80/160D-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 80/160C-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 80/160B-60 | 100 | 80 | 125 | 65 | 80 | 875 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 80/160A-60 | 100 | 80 | 125 | 65 | 80 | 935 | 12 | 20 | 180 | 225 | 417 | 152 | 181 | 125 | 95 | 394 | 354 | 320 | 250 | 334 | 254 | 14 | 15 | 314 | 20 |
| BNMS 80/250E-60 | 100 | 80 | 125 | 80 | 70 | 986 | 20 | 20 | 200 | 280 | 459 | 191 | 211 | 160 | 120 | 440 | 400 | 400 | 315 | 349 | 279 | 18 | 15 | 333 | 20 |
| BNMS 100/200E-60 | 125 | 100 | 125 | 80 | 60 | 960 | 15 | 40 | 200 | 280 | 437 | 179 | 211 | 160 | 120 | 394 | 354 | 360 | 280 | 314 | 254 | 18 | 15 | 339 | 20 |
| BNMS 100/200D-60/A | 125 | 100 | 125 | 80 | 70 | 986 | 15 | 20 | 200 | 280 | 459 | 179 | 211 | 160 | 120 | 440 | 400 | 360 | 280 | 349 | 279 | 18 | 15 | 333 | 20 |

# NM4, NMS4 60 Hz

## Dimensions and weights




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)

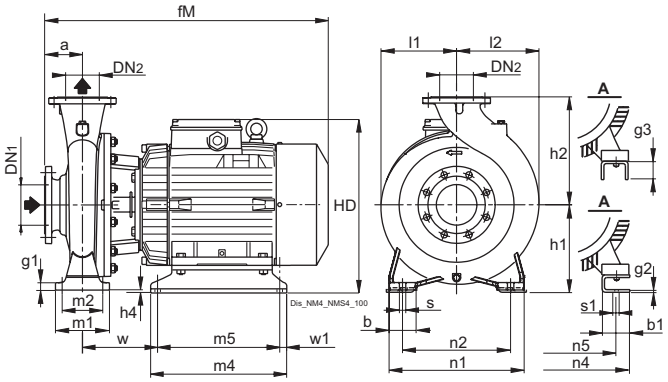



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

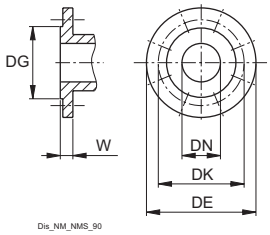
| TYPE | | | mm | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | n1 | n2 | n3 | s1 | w | Weight |
| NM4 32/16B-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| NM4 32/16A-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| NM4 32/20B-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 257 | 35.6 |
| NM4 32/20A-60/B | 50 | 32 | 80 | 50 | 453 | 12 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 297 | 40.7 |
| NM4 40/16C-60/B | 65 | 40 | 80 | 50 | 413 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| NM4 40/16B-60/B | 65 | 40 | 80 | 50 | 413 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| NM4 40/16A-60/C | 65 | 40 | 80 | 50 | 453 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| NM4 40/20B-60/B | 65 | 40 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| NM4 40/20A-60/B | 65 | 40 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | 48.9 |
| NM4 40/25C-60/C | 65 | 40 | 100 | 65 | 499 | 15 | 180 | 225 | 1 | 320 | 177 | 177 | 125 | 95 | 320 | 250 | 41 | 14 | 299 | - |
| NM4 40/25B-60/C | 65 | 40 | 100 | 65 | 559 | 15 | 180 | 225 | 7 | 347 | 177 | 177 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| NM4 40/25A-60/B | 65 | 40 | 100 | 65 | 559 | 15 | 180 | 225 | 7 | 347 | 177 | 177 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | 77.4 |
| NM4 50/16B-60/C | 65 | 50 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 125 | 140 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| NM4 50/16A-60/C | 65 | 50 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 125 | 140 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| NM4 50/20C-60/C | 65 | 50 | 100 | 50 | 509 | 14 | 160 | 200 | 2 | 300 | 142 | 152 | 100 | 70 | 265 | 212 | 37 | 14 | 307 | - |
| NM4 50/20B-60/C | 65 | 50 | 100 | 50 | 509 | 14 | 160 | 200 | 2 | 300 | 142 | 152 | 100 | 70 | 265 | 212 | 37 | 14 | 307 | 55.6 |
| NM4 50/20A-60/C | 65 | 50 | 100 | 50 | 559 | 14 | 160 | 200 | 7 | 327 | 142 | 152 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | 64.6 |
| NM4 50/25C-60/C | 65 | 50 | 100 | 65 | 559 | 15 | 180 | 225 | 7 | 347 | 177 | 177 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| NM4 50/25B-60/B | 65 | 50 | 100 | 65 | 559 | 15 | 180 | 225 | 7 | 347 | 177 | 177 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| NM4 50/25A-60/B | 65 | 50 | 100 | 65 | 559 | 15 | 180 | 225 | 7 | 347 | 177 | 177 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| NM4 65/16C-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | - |
| NM4 65/16B-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | 47.6 |
| NM4 65/16A-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | 52 |
| NM4 65/16S-60/A | 80 | 65 | 100 | 65 | 559 | 12 | 160 | 200 | 7 | 327 | 140 | 161 | 125 | 95 | 280 | 212 | 34 | 14 | 335 | 62.1 |
| NM4 65/20B-60/C | 80 | 65 | 100 | 65 | 559 | 12 | 180 | 225 | 7 | 347 | 159 | 179 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | 68.2 |
| NM4 65/20A-60/B | 80 | 65 | 100 | 65 | 559 | 12 | 180 | 225 | 7 | 347 | 159 | 179 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | 68.7 |
| NM4 65/31C-60/B | 80 | 65 | 125 | 80 | 669 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 406 | - |
| NM4 65/31B-60/B | 80 | 65 | 125 | 80 | 669 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 406 | - |
| NM4 65/31A-60/B | 80 | 65 | 125 | 80 | 744 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 481 | - |
| NM4 80/16C-60/C | 100 | 80 | 125 | 65 | 524 | 12 | 180 | 225 | 1 | 320 | 152 | 181 | 125 | 95 | 320 | 250 | 41 | 14 | 299 | - |
| NM4 80/16B-60/C | 100 | 80 | 125 | 65 | 524 | 12 | 180 | 225 | 1 | 320 | 152 | 181 | 125 | 95 | 320 | 250 | 41 | 14 | 299 | 57.8 |
| NM4 80/16A-60/C | 100 | 80 | 125 | 65 | 584 | 12 | 180 | 225 | 7 | 347 | 152 | 181 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | 69.4 |
| NM4 80/20C-60/C | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | - |
| NM4 80/20B-60/A | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | 76.3 |
| NM4 80/20A-60/B | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | - |
| NM4 80/25C-60/A | 100 | 80 | 125 | 80 | 599 | 20 | 200 | 280 | 6 | 367 | 191 | 211 | 160 | 120 | 400 | 315 | 41 | 18 | 354 | 98.8 |
| NM4 80/25B-60/B | 100 | 80 | 125 | 80 | 669 | 20 | 200 | 280 | 1 | 390 | 191 | 211 | 160 | 120 | 400 | 315 | 38 | 18 | 403 | 119.5 |
| NM4 80/25A-60/B | 100 | 80 | 125 | 80 | 669 | 20 | 200 | 280 | 1 | 390 | 191 | 211 | 160 | 120 | 400 | 315 | 38 | 18 | 403 | 130.2 |
| NM4 80/31C-60/B | 100 | 80 | 125 | 80 | 744 | 17 | 250 | 315 | 1 | 440 | 222 | 234 | 160 | 120 | 400 | 315 | 47 | 18 | 483 | - |
| NM4 100/20C-60/A | 125 | 100 | 125 | 80 | 594 | 15 | 200 | 280 | 6 | 367 | 179 | 211 | 160 | 120 | 360 | 280 | 41 | 18 | 349 | 82.2 |
| NM4 100/20B-60/A | 125 | 100 | 125 | 80 | 594 | 15 | 200 | 280 | 6 | 367 | 179 | 211 | 160 | 120 | 360 | 280 | 41 | 18 | 349 | 89.6 |
| NM4 100/20A-60/C | 125 | 100 | 125 | 80 | 669 | 15 | 200 | 280 | 1 | 390 | 179 | 211 | 160 | 120 | 360 | 280 | 38 | 18 | 403 | 109.3 |
| NM4 100/25B-60/B | 125 | 100 | 140 | 80 | 684 | 20 | 225 | 280 | 1 | 415 | 205 | 233 | 160 | 120 | 400 | 315 | 43 | 18 | 406 | 140.2 |
| NM4 100/25A-60/B | 125 | 100 | 140 | 80 | 759 | 20 | 225 | 280 | 1 | 415 | 205 | 233 | 160 | 120 | 400 | 315 | 43 | 18 | 481 | 150.2 |
| NM4 125/25E-60/B | 150 | 125 | 140 | 80 | 684 | 20 | 250 | 355 | 1 | 440 | 236 | 268 | 160 | 120 | 400 | 315 | 47 | 18 | 408 | - |
| NM4 125/25D-60/B | 150 | 125 | 140 | 80 | 684 | 20 | 250 | 355 | 1 | 440 | 236 | 268 | 160 | 120 | 400 | 315 | 47 | 18 | 408 | - |
| NM4 125/25C-60/B | 150 | 125 | 140 | 80 | 759 | 20 | 250 | 355 | 1 | 440 | 236 | 268 | 160 | 120 | 400 | 315 | 47 | 18 | 483 | 169.2 |

# NM4, NMS4 60 Hz

## Dimensions and weights




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)

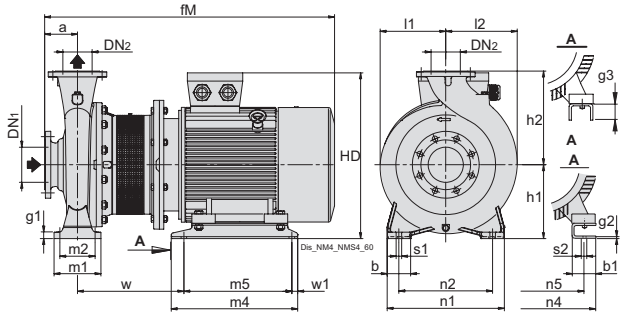



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

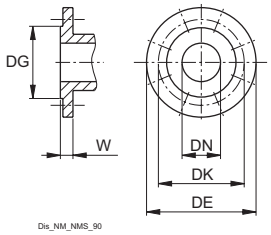
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | H | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s | s1 | w | w1 | Weight |
| **NM4 80/31B-60** | 100 | 80 | 125 | 80 | 74 | 790 | 20 | 6 | 458 | 250 | 315 | 10 | 458 | 222 | 234 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | - |
| **NM4 80/31A-60** | 100 | 80 | 125 | 80 | 74 | 790 | 20 | 6 | 458 | 250 | 315 | 10 | 458 | 222 | 234 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | - |
| **NM4 100/31C-60** | 125 | 100 | 140 | 80 | 74 | 805 | 20 | 6 | 458 | 250 | 315 | 10 | 458 | 229 | 251 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | - |
| **NM4 100/31B-60** | 125 | 100 | 140 | 80 | 74 | 805 | 20 | 6 | 458 | 250 | 315 | 10 | 458 | 229 | 251 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | - |
| **NM4 125/25B-60** | 150 | 125 | 140 | 80 | 74 | 805 | 20 | 6 | 458 | 250 | 355 | 10 | 458 | 236 | 268 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | 208.2 |
| **NM4 125/25A-60** | 150 | 125 | 140 | 80 | 74 | 805 | 20 | 6 | 458 | 250 | 355 | 10 | 458 | 236 | 268 | 160 | 120 | 435 | 395 | 400 | 315 | 328 | 254 | 18 | 14 | 147 | 20 | 223.5 |

# NM4, NMS4 60 Hz

## Dimensions and weights with IE3 motor




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)

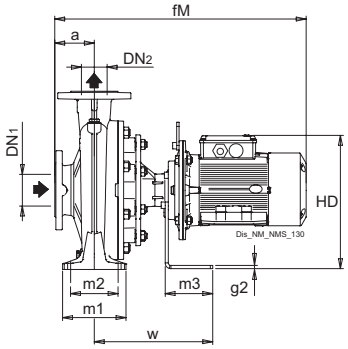


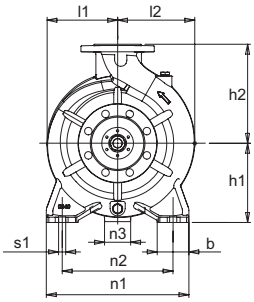

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| NMS4 65/315A-60 | 80 | 65 | 125 | 80 | 85 | 904 | 20 | - | 225 | 280 | 462 | 223 | 223 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 343 | 20 |
| NMS4 80/315C-60 | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315B-60/A | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315A-60 | 100 | 80 | 125 | 80 | 60 | 964 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315S-60 | 100 | 80 | 125 | 80 | 70 | 998 | 20 | 6 | 250 | 315 | 509 | 222 | 234 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| NMS4 80/400C-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| NMS4 80/400B-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| NMS4 80/400A-60/B | 125 | 80 | 125 | 80 | 83 | 1051 | 15 | 6 | 280 | 355 | 576 | 267 | 269 | 160 | 120 | 540 | 455 | 435 | 355 | 401 | 318 | 18 | 19 | 334 | 25 |
| NMS4 80/400S-60 | 125 | 80 | 125 | 80 | 103 | 1118 | 15 | - | 280 | 355 | 618 | 267 | 269 | 160 | 120 | 540 | 490 | 435 | 355 | 459 | 356 | 18 | 19 | 379 | 25 |
| NMS4 100/250A-60/A | 125 | 100 | 140 | 80 | 85 | 907 | 20 | - | 225 | 280 | 462 | 205 | 233 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 331 | 20 |
| NMS4 100/315C-60/A | 125 | 100 | 140 | 80 | 60 | 919 | 20 | 6 | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 100/315B-60/A | 125 | 100 | 140 | 80 | 60 | 979 | 20 | 6 | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 100/315A-60/A | 125 | 100 | 140 | 80 | 70 | 1013 | 20 | 6 | 250 | 315 | 509 | 229 | 251 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| NMS4 100/400C-60/A | 125 | 100 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 268 | 280 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 100/400B-60/A | 125 | 100 | 140 | 100 | 83 | 1066 | 27 | 6 | 280 | 355 | 576 | 268 | 280 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 100/400A-60/A | 125 | 100 | 140 | 100 | 103 | 1138 | 27 | - | 280 | 355 | 618 | 268 | 280 | 200 | 150 | 540 | 490 | 500 | 400 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 125/250C-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/250B-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/250A-60/A | 150 | 125 | 140 | 80 | 60 | 967 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/315C-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 125/315B-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 125/315A-60/A | 150 | 125 | 140 | 100 | 83 | 1066 | 27 | 6 | 280 | 355 | 576 | 249 | 278 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 125/400C-60/A | 150 | 125 | 140 | 100 | 103 | 1138 | 27 | 8 | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| NMS4 125/400B-60/A | 150 | 125 | 140 | 100 | 103 | 1198 | 27 | 8 | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| NMS4 125/400A-60/A | 150 | 125 | 140 | 100 | 100 | 1237 | 27 | - | 315 | 400 | 725 | 280 | 305 | 200 | 150 | 580 | 530 | 500 | 400 | 506 | 406 | 22 | 24 | 427 | 25 |
| NMS4 150/315D-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 150/315C-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 150/315B-60/B | 200 | 150 | 160 | 100 | 83 | 1086 | 27 | 6 | 280 | 400 | 576 | 256 | 307 | 200 | 150 | 540 | 455 | 550 | 450 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 150/315A-60/B | 200 | 150 | 160 | 100 | 103 | 1158 | 27 | - | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 150/315S-60 | 200 | 150 | 160 | 100 | 103 | 1218 | 27 | - | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 150/400B-60/B | 200 | 150 | 160 | 100 | 100 | 1257 | 27 | - | 315 | 450 | 725 | 295 | 328 | 200 | 150 | 580 | 530 | 550 | 450 | 506 | 406 | 22 | 24 | 427 | 25 |
| NMS4 150/400A-60/B | 200 | 150 | 160 | 100 | 100 | 1330 | 27 | - | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |
| NMS4 150/400S-60 | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |

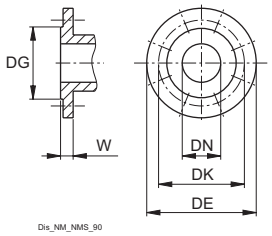
# NM4, NMS4 60 Hz

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16

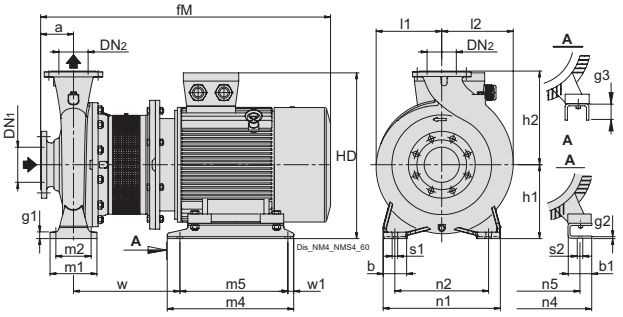



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

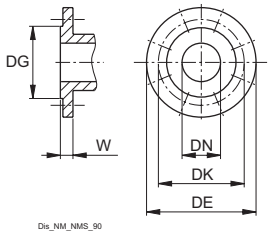
| TYPE | | | mm | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| **NMS4 40/250A-60** | 65 | 40 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 40/250B-60** | 65 | 40 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 50/200A-60** | 65 | 50 | 100 | 50 | 670 | 14 | 8 | 160 | 200 | 326 | 142 | 152 | 100 | 70 | 120 | 265 | 212 | 65 | 14 | 274 |
| **NMS4 50/250A-60** | 65 | 50 | 100 | 65 | 653 | 15 | 8 | 180 | 225 | 357 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 50/250B-60** | 65 | 50 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 50/250C-60** | 65 | 50 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 65/160S-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 160 | 200 | 326 | 140 | 161 | 125 | 95 | 120 | 280 | 212 | 65 | 14 | 274 |
| **NMS4 65/200A-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 180 | 225 | 346 | 159 | 179 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 65/200B-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 180 | 225 | 346 | 159 | 179 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 65/250B-60** | 80 | 65 | 100 | 80 | 678 | 15 | 8 | 200 | 250 | 377 | 178 | 195 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |
| **NMS4 80/160A-60** | 100 | 80 | 125 | 65 | 695 | 12 | 8 | 180 | 225 | 346 | 152 | 181 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **NMS4 80/200A-60** | 100 | 80 | 125 | 65 | 703 | 15 | 8 | 180 | 250 | 357 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **NMS4 80/200B-60** | 100 | 80 | 125 | 65 | 720 | 15 | 8 | 180 | 250 | 346 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **NMS4 80/200C-60** | 100 | 80 | 125 | 65 | 720 | 15 | 8 | 180 | 250 | 346 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **NMS4 80/250C-60** | 100 | 80 | 125 | 80 | 703 | 20 | 8 | 200 | 280 | 377 | 191 | 211 | 160 | 120 | 120 | 400 | 315 | 65 | 18 | 299 |
| **NMS4 100/200B-60** | 125 | 100 | 125 | 80 | 703 | 15 | 8 | 200 | 280 | 377 | 179 | 211 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |
| **NMS4 100/200C-60** | 125 | 100 | 125 | 80 | 720 | 15 | 8 | 200 | 280 | 366 | 179 | 211 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |

# NM4, NMS4 60 Hz

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)

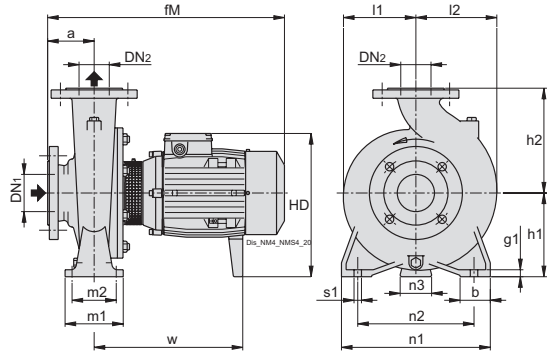



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

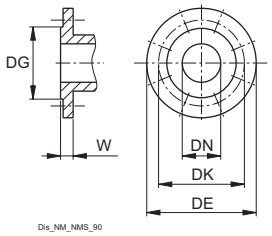
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| NMS4 65/250A-60 | 80 | 65 | 100 | 80 | 69 | 736 | 15 | 6 | - | 200 | 250 | 402 | 178 | 195 | 160 | 120 | 298 | 258 | 360 | 280 | 285 | 216 | 18 | 12 | 281 | 20 |
| NMS4 65/315C-60 | 80 | 65 | 125 | 80 | 69 | 761 | 20 | 6 | - | 225 | 280 | 427 | 223 | 223 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| NMS4 65/315B-60 | 80 | 65 | 125 | 80 | 69 | 811 | 20 | 6 | - | 225 | 280 | 427 | 223 | 223 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| NMS4 65/315A-60 | 80 | 65 | 125 | 80 | 85 | 904 | 20 | - | 65 | 225 | 280 | 462 | 223 | 223 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 343 | 20 |
| NMS4 80/250B-60 | 100 | 80 | 125 | 80 | 69 | 761 | 20 | 6 | - | 200 | 280 | 402 | 191 | 211 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| NMS4 80/250A-60 | 100 | 80 | 125 | 80 | 69 | 811 | 20 | 6 | - | 200 | 280 | 402 | 191 | 211 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| NMS4 80/315C-60 | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315B-60/A | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315A-60 | 100 | 80 | 125 | 80 | 60 | 964 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 80/315S-60 | 100 | 80 | 125 | 80 | 70 | 998 | 20 | 6 | - | 250 | 315 | 509 | 222 | 234 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| NMS4 80/400C-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | - | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| NMS4 80/400B-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | - | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| NMS4 80/400A-60/B | 125 | 80 | 125 | 80 | 83 | 1051 | 15 | 6 | - | 280 | 355 | 576 | 267 | 269 | 160 | 120 | 540 | 455 | 435 | 355 | 401 | 318 | 18 | 19 | 334 | 25 |
| NMS4 80/400S-60 | 125 | 80 | 125 | 80 | 103 | 1178 | 15 | - | 55 | 280 | 355 | 618 | 267 | 269 | 160 | 120 | 540 | 490 | 435 | 355 | 459 | 356 | 18 | 19 | 379 | 25 |
| NMS4 100/200A-60 | 125 | 100 | 125 | 80 | 69 | 761 | 15 | 6 | - | 200 | 280 | 402 | 179 | 211 | 160 | 120 | 298 | 258 | 360 | 280 | 285 | 216 | 18 | 12 | 281 | 20 |
| NMS4 100/250B-60 | 125 | 100 | 140 | 80 | 69 | 826 | 20 | 6 | - | 225 | 280 | 427 | 205 | 233 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| NMS4 100/250A-60/A | 125 | 100 | 140 | 80 | 85 | 907 | 20 | - | 65 | 225 | 280 | 462 | 205 | 233 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 331 | 20 |
| NMS4 100/315C-60/A | 125 | 100 | 140 | 80 | 60 | 919 | 20 | 6 | - | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 100/315B-60/A | 125 | 100 | 140 | 80 | 60 | 979 | 20 | 6 | - | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| NMS4 100/315A-60/A | 125 | 100 | 140 | 80 | 70 | 1013 | 20 | 6 | - | 250 | 315 | 509 | 229 | 251 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| NMS4 100/400C-60/A | 125 | 100 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 268 | 280 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 100/400B-60/A | 125 | 100 | 140 | 100 | 83 | 1066 | 27 | 6 | - | 280 | 355 | 576 | 268 | 280 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 100/400A-60/A | 125 | 100 | 140 | 100 | 103 | 1198 | 27 | - | 55 | 280 | 355 | 618 | 268 | 280 | 200 | 150 | 540 | 490 | 500 | 400 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 125/250E-60 | 150 | 125 | 140 | 80 | 69 | 776 | 20 | 6 | - | 250 | 355 | 427 | 236 | 268 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| NMS4 125/250D-60 | 150 | 125 | 140 | 80 | 69 | 826 | 20 | 6 | - | 250 | 355 | 427 | 236 | 268 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| NMS4 125/250C-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/250B-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/250A-60/A | 150 | 125 | 140 | 80 | 60 | 967 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| NMS4 125/315C-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 125/315B-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 125/315A-60/A | 150 | 125 | 140 | 100 | 83 | 1066 | 27 | 6 | - | 280 | 355 | 576 | 249 | 278 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 125/400C-60/A | 150 | 125 | 140 | 100 | 103 | 1198 | 27 | 8 | - | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| NMS4 125/400B-60/A | 150 | 125 | 140 | 100 | 103 | 1278 | 27 | 8 | - | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| NMS4 125/400A-60/A | 150 | 125 | 140 | 100 | 100 | 1307 | 27 | - | 65 | 315 | 400 | 725 | 280 | 305 | 200 | 150 | 580 | 530 | 500 | 400 | 506 | 406 | 22 | 24 | 427 | 25 |
| NMS4 150/315D-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | - | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 150/315C-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | - | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| NMS4 150/315B-60/B | 200 | 150 | 160 | 100 | 83 | 1086 | 27 | 6 | - | 280 | 400 | 576 | 256 | 307 | 200 | 150 | 540 | 455 | 550 | 450 | 401 | 318 | 22 | 19 | 334 | 25 |
| NMS4 150/315A-60/B | 200 | 150 | 160 | 100 | 103 | 1218 | 27 | - | 55 | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 150/315S-60 | 200 | 150 | 160 | 100 | 103 | 1298 | 27 | - | 55 | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| NMS4 150/400B-60/B | 200 | 150 | 160 | 100 | 100 | 1327 | 27 | - | 65 | 315 | 450 | 725 | 295 | 328 | 200 | 150 | 580 | 530 | 550 | 450 | 506 | 406 | 22 | 24 | 427 | 25 |
| NMS4 150/400A-60/B | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 35 | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |
| NMS4 150/400S-60 | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 35 | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |

# NM4(EI), NMS4

## Dimensions and weights

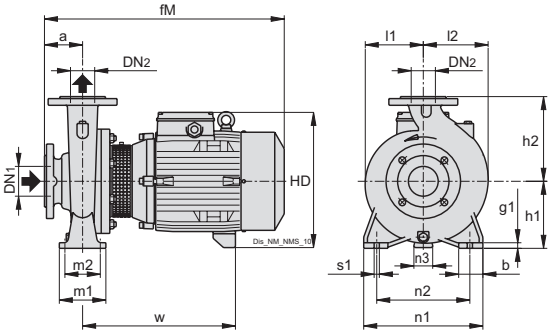



**Flanges EN 1092-2** PN 10-16

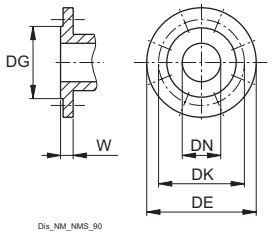



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | n1 | n2 | n3 | s1 | w | Weight |
| BNM4 32/16B-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| BNM4 32/16A-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 132 | 160 | 2.2 | 262 | 119 | 119 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| BNM4 32/20B-60/A | 50 | 32 | 80 | 50 | 413 | 12 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 257 | - |
| BNM4 32/20A-60/B | 50 | 32 | 80 | 50 | 453 | 12 | 160 | 180 | 1.2 | 290 | 140 | 140 | 100 | 70 | 240 | 190 | 40 | 14 | 297 | - |
| BNM4 40/16C-60/A | 65 | 40 | 80 | 50 | 413 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| BNM4 40/16B-60/A | 65 | 40 | 80 | 50 | 413 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 255 | - |
| BNM4 40/16A-60/B | 65 | 40 | 80 | 50 | 453 | 10 | 132 | 160 | 2.2 | 262 | 120 | 122 | 100 | 70 | 240 | 190 | 35 | 14 | 295 | - |
| BNM4 40/20B-60/B | 65 | 40 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| BNM4 40/20A-60/B | 65 | 40 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 141 | 141 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| BNM4 50/16B-60/B | 65 | 50 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 125 | 140 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| BNM4 50/16A-60/B | 65 | 50 | 100 | 50 | 499 | 12 | 160 | 180 | 2 | 300 | 125 | 140 | 100 | 70 | 265 | 212 | 37 | 14 | 297 | - |
| BNM4 50/20C-60/C | 65 | 50 | 100 | 50 | 509 | 14 | 160 | 200 | 2 | 300 | 142 | 152 | 100 | 70 | 265 | 212 | 37 | 14 | 307 | 59.6 |
| BNM4 50/20B-60/C | 65 | 50 | 100 | 50 | 509 | 14 | 160 | 200 | 2 | 300 | 142 | 152 | 100 | 70 | 265 | 212 | 37 | 14 | 307 | - |
| BNM4 50/20A-60/C | 65 | 50 | 100 | 50 | 559 | 14 | 160 | 200 | 7 | 327 | 142 | 152 | 100 | 70 | 265 | 212 | 34 | 14 | 335 | - |
| BNM4 65/16C-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | - |
| BNM4 65/16B-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | - |
| BNM4 65/16A-60/C | 80 | 65 | 100 | 65 | 499 | 12 | 160 | 200 | 2 | 300 | 140 | 161 | 125 | 95 | 280 | 212 | 37 | 14 | 297 | - |
| BNM4 65/16S-60/A | 80 | 65 | 100 | 65 | 559 | 12 | 160 | 200 | 7 | 327 | 140 | 161 | 125 | 95 | 280 | 212 | 34 | 14 | 335 | - |
| BNM4 65/20B-60/A | 80 | 65 | 100 | 65 | 559 | 12 | 180 | 225 | 7 | 347 | 159 | 179 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| BNM4 65/20A-60/A | 80 | 65 | 100 | 65 | 559 | 12 | 180 | 225 | 7 | 347 | 159 | 179 | 125 | 95 | 320 | 250 | 37 | 14 | 337 | - |
| BNM4 65/25B-60/B | 80 | 65 | 100 | 80 | 574 | 15 | 200 | 250 | 6 | 367 | 178 | 195 | 160 | 120 | 360 | 280 | 41 | 18 | 354 | - |
| BNM4 65/25A-60/C | 80 | 65 | 100 | 80 | 644 | 15 | 200 | 250 | 1 | 390 | 178 | 195 | 160 | 120 | 360 | 280 | 38 | 18 | 403 | - |
| BNM4 65/31C-60/B | 80 | 65 | 125 | 80 | 669 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 406 | 170.2 |
| BNM4 65/31B-60/B | 80 | 65 | 125 | 80 | 669 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 406 | - |
| BNM4 65/31A-60/B | 80 | 65 | 125 | 80 | 744 | 20 | 225 | 280 | 1 | 415 | 223 | 223 | 160 | 120 | 400 | 315 | 43 | 18 | 481 | - |
| BNM4 80/20C-60/A | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | - |
| BNM4 80/20B-60/A | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | - |
| BNM4 80/20A-60/A | 100 | 80 | 125 | 65 | 594 | 15 | 180 | 250 | 7 | 347 | 170 | 194 | 125 | 95 | 345 | 280 | 37 | 14 | 347 | - |
| BNM4 80/25C-60/A | 100 | 80 | 125 | 80 | 599 | 20 | 200 | 280 | 6 | 367 | 191 | 211 | 160 | 120 | 400 | 315 | 41 | 18 | 354 | 114.7 |
| BNM4 80/31C-60/B | 100 | 80 | 125 | 80 | 744 | 17 | 250 | 315 | 1 | 440 | 222 | 234 | 160 | 120 | 400 | 315 | 47 | 18 | 483 | - |
| BNM4 100/20C-60/A | 125 | 100 | 125 | 80 | 594 | 15 | 200 | 280 | 6 | 367 | 179 | 211 | 160 | 120 | 360 | 280 | 41 | 18 | 349 | 96.6 |
| BNM4 100/20B-60/A | 125 | 100 | 125 | 80 | 594 | 15 | 200 | 280 | 6 | 367 | 179 | 211 | 160 | 120 | 360 | 280 | 41 | 18 | 349 | 103 |
| BNM4 100/20A-60/C | 125 | 100 | 125 | 80 | 669 | 15 | 200 | 280 | 1 | 390 | 179 | 211 | 160 | 120 | 360 | 280 | 38 | 18 | 403 | 123 |




**Flanges EN 1092-2** PN 10-16

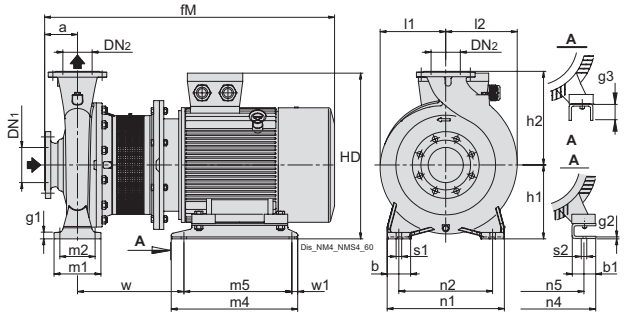



| DN | mm DG | DK | DE | Holes N° | Holes ø | W |
|---|---|---|---|---|---|---|
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

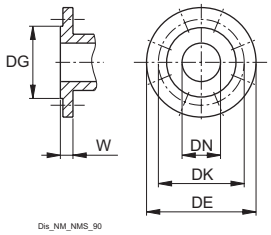
| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | H | h1 | h2 | h4 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s | s1 | w | w1 |
| BNM4 4025/C-60/C | 65 | 40 | 100 | 65 | 54 | 537 | 15 | 6 | 320 | 180 | 225 | 10 | 320 | 177 | 177 | 125 | 95 | 205 | 175 | 320 | 250 | 194 | 140 | 14 | 10 | 157 | 15 |
| BNM4 4025/B-60/C | 65 | 40 | 100 | 65 | 60 | 590 | 15 | 6 | 347 | 180 | 225 | 10 | 347 | 177 | 177 | 125 | 95 | 280 | 250 | 320 | 250 | 250 | 190 | 14 | 12 | 126 | 15 |
| BNM4 4025/A-60/B | 65 | 40 | 100 | 65 | 60 | 590 | 15 | 6 | 347 | 180 | 225 | 10 | 347 | 177 | 177 | 125 | 95 | 280 | 250 | 320 | 250 | 250 | 190 | 14 | 12 | 126 | 15 |
| BNM4 5025/C-60/C | 65 | 50 | 100 | 65 | 60 | 590 | 15 | 6 | 347 | 180 | 225 | 10 | 347 | 177 | 177 | 125 | 95 | 280 | 250 | 320 | 250 | 250 | 190 | 14 | 12 | 126 | 15 |
| BNM4 5025/B-60/B | 65 | 50 | 100 | 65 | 60 | 590 | 15 | 6 | 347 | 180 | 225 | 10 | 347 | 177 | 177 | 125 | 95 | 280 | 250 | 320 | 250 | 250 | 190 | 14 | 12 | 126 | 15 |
| BNM4 5025/A-60/B | 65 | 50 | 100 | 65 | 60 | 590 | 15 | 6 | 347 | 180 | 225 | 10 | 347 | 177 | 177 | 125 | 95 | 280 | 250 | 320 | 250 | 250 | 190 | 14 | 12 | 126 | 15 |

# NM4(EI), NMS4

## Dimensions and weights with IE3 motor




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)

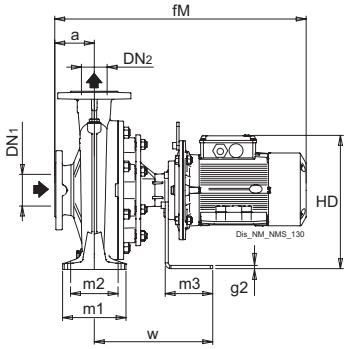


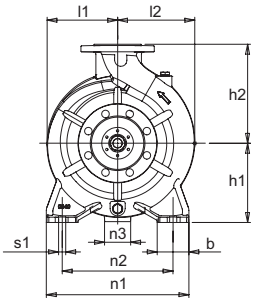

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| **BNMS4 65/315A-60** | 80 | 65 | 125 | 80 | 85 | 904 | 20 | - | 225 | 280 | 462 | 223 | 223 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 343 | 20 |
| **BNMS4 80/315C-60** | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| **BNMS4 80/315B-60/A** | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| **BNMS4 80/315A-60** | 100 | 80 | 125 | 80 | 60 | 964 | 20 | 6 | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| **BNMS4 80/315S-60** | 100 | 80 | 125 | 80 | 70 | 998 | 20 | 6 | 250 | 315 | 509 | 222 | 234 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| **BNMS4 80/400C-60/B** | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| **BNMS4 80/400B-60/B** | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| **BNMS4 80/400A-60/B** | 125 | 80 | 125 | 80 | 83 | 1051 | 15 | 6 | 280 | 355 | 576 | 267 | 269 | 160 | 120 | 540 | 455 | 435 | 355 | 401 | 318 | 18 | 19 | 334 | 25 |
| **BNMS4 80/400S-60** | 125 | 80 | 125 | 80 | 103 | 1118 | 15 | - | 280 | 355 | 618 | 267 | 269 | 160 | 120 | 540 | 490 | 435 | 355 | 459 | 356 | 18 | 19 | 379 | 25 |
| **BNMS4 100/250A-60/A** | 125 | 100 | 140 | 80 | 85 | 907 | 20 | - | 225 | 280 | 462 | 205 | 233 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 331 | 20 |
| **BNMS4 100/315C-60/A** | 125 | 100 | 140 | 80 | 60 | 919 | 20 | 6 | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| **BNMS4 100/315B-60/A** | 125 | 100 | 140 | 80 | 60 | 979 | 20 | 6 | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| **BNMS4 100/315A-60/A** | 125 | 100 | 140 | 80 | 70 | 1013 | 20 | 6 | 250 | 315 | 509 | 229 | 251 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| **BNMS4 100/400C-60/A** | 125 | 100 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 268 | 280 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| **BNMS4 100/400B-60/A** | 125 | 100 | 140 | 100 | 83 | 1066 | 27 | 6 | 280 | 355 | 576 | 268 | 280 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| **BNMS4 100/400A-60/A** | 125 | 100 | 140 | 100 | 103 | 1138 | 27 | - | 280 | 355 | 618 | 268 | 280 | 200 | 150 | 540 | 490 | 500 | 400 | 459 | 356 | 22 | 19 | 384 | 25 |
| **BNMS4 125/250C-60/A** | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| **BNMS4 125/250B-60/A** | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| **BNMS4 125/250A-60/A** | 150 | 125 | 140 | 80 | 60 | 967 | 20 | 6 | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| **BNMS4 125/315C-60/A** | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| **BNMS4 125/315B-60/A** | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| **BNMS4 125/315A-60/A** | 150 | 125 | 140 | 100 | 83 | 1066 | 27 | 6 | 280 | 355 | 576 | 249 | 278 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| **BNMS4 125/400C-60/A** | 150 | 125 | 140 | 100 | 103 | 1138 | 27 | 8 | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| **BNMS4 125/400B-60/A** | 150 | 125 | 140 | 100 | 103 | 1198 | 27 | 8 | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| **BNMS4 125/400A-60/A** | 150 | 125 | 140 | 100 | 100 | 1237 | 27 | - | 315 | 400 | 725 | 280 | 305 | 200 | 150 | 580 | 530 | 500 | 400 | 506 | 406 | 22 | 24 | 427 | 25 |
| **BNMS4 150/315D-60/B** | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| **BNMS4 150/315C-60/B** | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| **BNMS4 150/315B-60/B** | 200 | 150 | 160 | 100 | 83 | 1086 | 27 | 6 | 280 | 400 | 576 | 256 | 307 | 200 | 150 | 540 | 455 | 550 | 450 | 401 | 318 | 22 | 19 | 334 | 25 |
| **BNMS4 150/315A-60/B** | 200 | 150 | 160 | 100 | 103 | 1158 | 27 | - | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| **BNMS4 150/315S-60** | 200 | 150 | 160 | 100 | 103 | 1218 | 27 | - | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| **BNMS4 150/400B-60/B** | 200 | 150 | 160 | 100 | 100 | 1257 | 27 | - | 315 | 450 | 725 | 295 | 328 | 200 | 150 | 580 | 530 | 550 | 450 | 506 | 406 | 22 | 24 | 427 | 25 |
| **BNMS4 150/400A-60/B** | 200 | 150 | 160 | 100 | 100 | 1330 | 27 | - | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |
| **BNMS4 150/400S-60** | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |

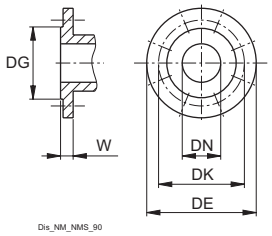
# NM4(EI), NMS4

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16

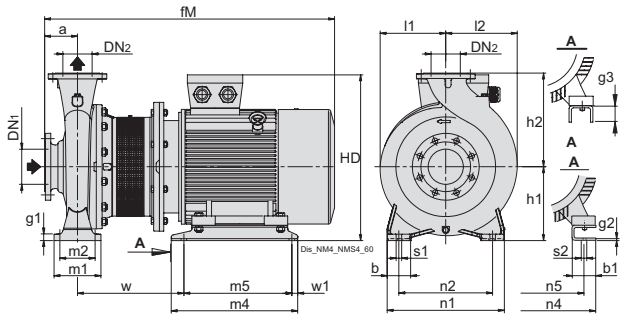



| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

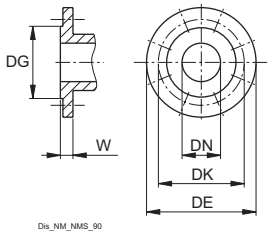
| TYPE | | | mm | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | fM | g1 | g2 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m3 | n1 | n2 | n3 | s1 | w |
| **BNMS4 40/250B-60** | 65 | 40 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 40/250A-60** | 65 | 40 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 50/200A-60** | 65 | 50 | 100 | 50 | 670 | 14 | 8 | 160 | 200 | 326 | 142 | 152 | 100 | 70 | 120 | 265 | 212 | 65 | 14 | 274 |
| **BNMS4 50/250C-60** | 65 | 50 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 50/250B-60** | 65 | 50 | 100 | 65 | 670 | 15 | 8 | 180 | 225 | 346 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 50/250A-60** | 65 | 50 | 100 | 65 | 653 | 15 | 8 | 180 | 225 | 357 | 177 | 177 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 65/160S-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 160 | 200 | 326 | 140 | 161 | 125 | 95 | 120 | 280 | 212 | 65 | 14 | 274 |
| **BNMS4 65/200B-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 180 | 225 | 346 | 159 | 179 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 65/200A-60** | 80 | 65 | 100 | 65 | 670 | 12 | 8 | 180 | 225 | 346 | 159 | 179 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 65/250B-60** | 80 | 65 | 100 | 80 | 678 | 15 | 8 | 200 | 250 | 377 | 178 | 195 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |
| **BNMS4 80/160A-60** | 100 | 80 | 125 | 65 | 695 | 12 | 8 | 180 | 225 | 346 | 152 | 181 | 125 | 95 | 120 | 320 | 250 | 65 | 14 | 274 |
| **BNMS4 80/200C-60** | 100 | 80 | 125 | 65 | 720 | 15 | 8 | 180 | 250 | 346 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **BNMS4 80/200B-60** | 100 | 80 | 125 | 65 | 720 | 15 | 8 | 180 | 250 | 346 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **BNMS4 80/200A-60** | 100 | 80 | 125 | 65 | 703 | 15 | 8 | 180 | 250 | 357 | 170 | 194 | 125 | 95 | 120 | 345 | 280 | 65 | 14 | 299 |
| **BNMS4 80/250C-60** | 100 | 80 | 125 | 80 | 703 | 20 | 8 | 200 | 280 | 377 | 191 | 211 | 160 | 120 | 120 | 400 | 315 | 65 | 18 | 299 |
| **BNMS4 100/200C-60** | 125 | 100 | 125 | 80 | 720 | 15 | 8 | 200 | 280 | 366 | 179 | 211 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |
| **BNMS4 100/200B-60** | 125 | 100 | 125 | 80 | 703 | 15 | 8 | 200 | 280 | 377 | 179 | 211 | 160 | 120 | 120 | 360 | 280 | 65 | 18 | 299 |

# NM4(EI), NMS4

## Dimensions and weights with IE4 motor




**Flanges EN 1092-2** PN 10-16 (DN 200 PN 10)



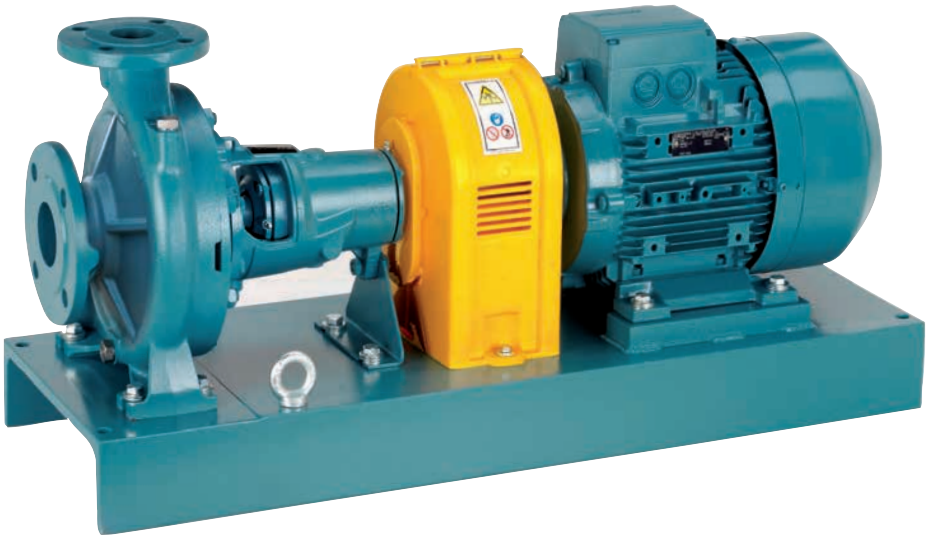

| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes | | W |
| | | | | N° | ø | |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

| TYPE | | | mm | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | b | b1 | fM | g1 | g2 | g3 | h1 | h2 | HD | l1 | l2 | m1 | m2 | m4 | m5 | n1 | n2 | n4 | n5 | s1 | s2 | w | w1 |
| BNMS4 65/250A-60 | 80 | 65 | 100 | 80 | 69 | 736 | 15 | 6 | - | 200 | 250 | 402 | 178 | 195 | 160 | 120 | 298 | 258 | 360 | 280 | 285 | 216 | 18 | 12 | 281 | 20 |
| BNMS4 65/315C-60 | 80 | 65 | 125 | 80 | 69 | 761 | 20 | 6 | - | 225 | 280 | 427 | 223 | 223 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| BNMS4 65/315B-60 | 80 | 65 | 125 | 80 | 69 | 811 | 20 | 6 | - | 225 | 280 | 427 | 223 | 223 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| BNMS4 65/315A-60 | 80 | 65 | 125 | 80 | 85 | 904 | 20 | - | 65 | 225 | 280 | 462 | 223 | 223 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 343 | 20 |
| BNMS4 80/250B-60 | 100 | 80 | 125 | 80 | 69 | 761 | 20 | 6 | - | 200 | 280 | 402 | 191 | 211 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| BNMS4 80/250A-60 | 100 | 80 | 125 | 80 | 69 | 811 | 20 | 6 | - | 200 | 280 | 402 | 191 | 211 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| BNMS4 80/315C-60 | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| BNMS4 80/315B-60/A | 100 | 80 | 125 | 80 | 60 | 904 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| BNMS4 80/315A-60 | 100 | 80 | 125 | 80 | 60 | 964 | 20 | 6 | - | 250 | 315 | 487 | 222 | 234 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| BNMS4 80/315S-60 | 100 | 80 | 125 | 80 | 70 | 998 | 20 | 6 | - | 250 | 315 | 509 | 222 | 234 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| BNMS4 80/400C-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | - | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| BNMS4 80/400B-60/B | 125 | 80 | 125 | 80 | 70 | 1003 | 15 | 6 | - | 280 | 355 | 539 | 267 | 269 | 160 | 120 | 520 | 435 | 435 | 355 | 349 | 279 | 18 | 15 | 318 | 25 |
| BNMS4 80/400A-60/B | 125 | 80 | 125 | 80 | 83 | 1051 | 15 | 6 | - | 280 | 355 | 576 | 267 | 269 | 160 | 120 | 540 | 455 | 435 | 355 | 401 | 318 | 18 | 19 | 334 | 25 |
| BNMS4 80/400S-60 | 125 | 80 | 125 | 80 | 103 | 1178 | 15 | - | 55 | 280 | 355 | 618 | 267 | 269 | 160 | 120 | 540 | 490 | 435 | 355 | 459 | 356 | 18 | 19 | 379 | 25 |
| BNMS4 100/200A-60 | 125 | 100 | 125 | 80 | 69 | 761 | 15 | 6 | - | 200 | 280 | 402 | 179 | 211 | 160 | 120 | 298 | 258 | 360 | 280 | 285 | 216 | 18 | 12 | 281 | 20 |
| BNMS4 100/250B-60 | 125 | 100 | 140 | 80 | 69 | 826 | 20 | 6 | - | 225 | 280 | 427 | 205 | 233 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| BNMS4 100/250A-60/A | 125 | 100 | 140 | 80 | 85 | 907 | 20 | - | 65 | 225 | 280 | 462 | 205 | 233 | 160 | 120 | 394 | 354 | 400 | 315 | 339 | 254 | 18 | 14 | 331 | 20 |
| BNMS4 100/315C-60/A | 125 | 100 | 140 | 80 | 60 | 919 | 20 | 6 | - | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| BNMS4 100/315B-60/A | 125 | 100 | 140 | 80 | 60 | 979 | 20 | 6 | - | 250 | 315 | 487 | 229 | 251 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 281 | 20 |
| BNMS4 100/315A-60/A | 125 | 100 | 140 | 80 | 70 | 1013 | 20 | 6 | - | 250 | 315 | 509 | 229 | 251 | 160 | 120 | 432 | 382 | 400 | 315 | 349 | 279 | 18 | 15 | 312 | 25 |
| BNMS4 100/400C-60/A | 125 | 100 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 268 | 280 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| BNMS4 100/400B-60/A | 125 | 100 | 140 | 100 | 83 | 1066 | 27 | 6 | - | 280 | 355 | 576 | 268 | 280 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| BNMS4 100/400A-60/A | 125 | 100 | 140 | 100 | 103 | 1198 | 27 | - | 55 | 280 | 355 | 618 | 268 | 280 | 200 | 150 | 540 | 490 | 500 | 400 | 459 | 356 | 22 | 19 | 384 | 25 |
| BNMS4 125/250E-60 | 150 | 125 | 140 | 80 | 69 | 776 | 20 | 6 | - | 250 | 355 | 427 | 236 | 268 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 281 | 20 |
| BNMS4 125/250D-60 | 150 | 125 | 140 | 80 | 69 | 826 | 20 | 6 | - | 250 | 355 | 427 | 236 | 268 | 160 | 120 | 298 | 258 | 400 | 315 | 285 | 216 | 18 | 12 | 300 | 20 |
| BNMS4 125/250C-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| BNMS4 125/250B-60/A | 150 | 125 | 140 | 80 | 60 | 907 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| BNMS4 125/250A-60/A | 150 | 125 | 140 | 80 | 60 | 967 | 20 | 6 | - | 250 | 355 | 487 | 236 | 268 | 160 | 120 | 480 | 440 | 400 | 315 | 314 | 254 | 18 | 15 | 269 | 20 |
| BNMS4 125/315C-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| BNMS4 125/315B-60/A | 150 | 125 | 140 | 100 | 70 | 1018 | 27 | 6 | - | 280 | 355 | 539 | 249 | 278 | 200 | 150 | 520 | 435 | 500 | 400 | 349 | 279 | 22 | 15 | 318 | 25 |
| BNMS4 125/315A-60/A | 150 | 125 | 140 | 100 | 83 | 1066 | 27 | 6 | - | 280 | 355 | 576 | 249 | 278 | 200 | 150 | 540 | 455 | 500 | 400 | 401 | 318 | 22 | 19 | 334 | 25 |
| BNMS4 125/400C-60/A | 150 | 125 | 140 | 100 | 103 | 1198 | 27 | 8 | - | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| BNMS4 125/400B-60/A | 150 | 125 | 140 | 100 | 103 | 1278 | 27 | 8 | - | 315 | 400 | 653 | 280 | 305 | 200 | 150 | 540 | 461 | 500 | 400 | 459 | 356 | 22 | 19 | 409 | 25 |
| BNMS4 125/400A-60/A | 150 | 125 | 140 | 100 | 100 | 1307 | 27 | - | 65 | 315 | 400 | 725 | 280 | 305 | 200 | 150 | 580 | 530 | 500 | 400 | 506 | 406 | 22 | 24 | 427 | 25 |
| BNMS4 150/315D-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | - | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| BNMS4 150/315C-60/B | 200 | 150 | 160 | 100 | 70 | 1038 | 27 | 6 | - | 280 | 400 | 539 | 256 | 307 | 200 | 150 | 520 | 435 | 550 | 450 | 349 | 279 | 22 | 15 | 318 | 25 |
| BNMS4 150/315B-60/B | 200 | 150 | 160 | 100 | 83 | 1086 | 27 | 6 | - | 280 | 400 | 576 | 256 | 307 | 200 | 150 | 540 | 455 | 550 | 450 | 401 | 318 | 22 | 19 | 334 | 25 |
| BNMS4 150/315A-60/B | 200 | 150 | 160 | 100 | 103 | 1218 | 27 | - | 55 | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| BNMS4 150/315S-60 | 200 | 150 | 160 | 100 | 103 | 1298 | 27 | - | 55 | 280 | 400 | 618 | 256 | 307 | 200 | 150 | 540 | 490 | 550 | 450 | 459 | 356 | 22 | 19 | 384 | 25 |
| BNMS4 150/400B-60/B | 200 | 150 | 160 | 100 | 100 | 1327 | 27 | - | 65 | 315 | 450 | 725 | 295 | 328 | 200 | 150 | 580 | 530 | 550 | 450 | 506 | 406 | 22 | 24 | 427 | 25 |
| BNMS4 150/400A-60/B | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 35 | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |
| BNMS4 150/400S-60 | 200 | 150 | 160 | 100 | 100 | 1440 | 27 | - | 35 | 315 | 450 | 748 | 295 | 328 | 200 | 150 | 690 | 600 | 550 | 450 | 557 | 457 | 22 | 24 | 449 | 45 |

# N, N4 60 Hz

**End-Suction Centrifugal Pumps according to EN 733**
**Bombas centrífugas de aspiración axial según EN 733**





# N, N4 60 Hz

## Construction

Single-stage end-suction centrifugal pumps, with bearing bracket.
Nominal duty points and main dimensions in accordance with EN 733 (DIN 24255).
Back Pull-Out construction, for simple and quick dismantling and reassembly.
The pumps in bronze are supplied fully painted.
Rated speed of rotation (60 Hz): **N** = 3450 rpm
**N4** = 1750 rpm

**Connections:** PN 10 flanges EN 1092-2.
**Counter-flanges** (on request)

| Sizes | Flanges |
|---|---|
| from 32-160 to 50-250 | Screwed flanges PN 16 EN 1092-1 |
| from 65-125 to 150-400 | Flanges for welding PN 10-16 EN 1092-1 (PN 10 for DN 200) |
| for 200-400 | Flanges for welding PN 16 EN 1092-1 |

**Shaft sealing**
– Standardized mechanical seal in accordance with ISO 3069.
– Stuffing box seal (on request).

## Applications

- For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).
- For water supply.
- For heating, air conditioning, cooling and circulation plants.
- For civil and industrial applications and for agriculture.
- For fire fighting applications.
- For irrigation.

## Operating conditions

Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40° C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 10 bar (16 bar for N 32L-160,200; N,N4 40-160,200; N,N4 50-125,160; N,N4 65-125,160,200,250; N,N4 80-160,250,315,400; N,N4 100-200; N4 125-315; N4 150-315,400 (Flanges PN10); N4 200-400). (10 bar bronze version)
Maximum permissible rotation speed: see table on page 82.

## Pump-Motor unit

N,N4 pump connected to a standard electric motor in B3 construction form (EN 60072-1), by means of a baseplate, driven by a flexible coupling and with coupling protection.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Protection IP 55.
Three-phase 60 Hz, 220/380 V, 254/440 V, up to 3 kW;
380/660 V, 440 V Δ from 4 to 75 kW;,
Motor suitable for operation with frequency converter.

## Special features on request

- Special mechanical seal.
- Chrome-nickel steel AISI 316 pump-shaft.
- Higher or lower liquid or ambient temperatures.
- Other motor protection.
- Motor for other voltage.

## Materials

| Components | **N, N4** Mechanical seal | **N, N4** Stuffing box | **B-N, B-N4** Mechanical seal |
|---|---|---|---|
| Pump casing<br>Lantern bracket | Cast iron<br>GJL 200 EN 1561 | | Bronze<br>G-Cu Sn 10 EN 1982 |
| Impeller | Cast iron<br>GJL 200 EN 1561 | | Bronze<br>G-Cu Sn 10 EN 1982 |
| | Brass P- Cu Zn 40 Pb 2 UNI 5705<br>For 32-125, 32-160, 32-200, 40-200 | | |
| Shaft | Chrome steel<br>1.4104 EN 10088<br>(AISI 430) | Carbon steel<br>C 40 UNI 7845 | Cr-Ni-Mo steel<br>1.4401 EN 10088<br>(AISI 316) |
| Shaft sleeve | – | Bronze<br>with chromate surface | – |
| Mechanical seal | Carbon - Ceramic - NBR | – | Carbon - Ceramic - NBR |
| Counter-flanges | Steel Fe 430B UNI 7070 | | |

## Ejecución

Bombas centrífugas con un solo rodete de aspiración axial, con soporte.
Prestaciones nominales y dimensiones principales según EN 733.
Construcción “Back Pull-Out”, (sistema constructivo de la bomba de proceso), para un fácil y rápido desmontaje y montaje.
Las bombas en bronce se suministran totalmente pintadas.
Velocidad de rotación rominal (60 Hz): **N** = 3450 1/min
**N4** = 1750 1/min.

**Brida**: Brida PN 10, EN 1092-2.
**Contrabridas** (bajo demanda).

| Modelos | Bridas |
|---|---|
| de 32-160 a 50-250 | Brida roscada PN 16, EN 1092-1 |
| de 65-125 a 150-400 | Bridas para soldar con aportación PN 10-16 EN 1092-1 (PN 10 for DN 200) |
| for 200-400 | Flanges for welding PN 16 EN 1092-1 |

**Cierre sobre el eje**
- Sello rnecánico normalizacdo según ISO 3069.
- Prensa estopa (bajo dernanda).

## Aplicaciones

- Para liquidos limpios sin partes abrasivas, no agresivas para los materiales de la bomba (con partes sólidas hasta 0,2% max.).
- Para aprovisionamiento de agua.
- Para instalaciones de calefacción, acondicionamiento, refrigeración y circulación.
- Para ap!icaciones civiles, industriales y agrícolas.
- Para instalaciones contra incendios.
- Para irrigación.

## Límites de empleo

Temperatura del líquido de -10 °C a +90 °C.
Temperatura ambiente hasta 40 °C.
Altura de aspiración manométrica hasta 7 m.
Presión máxima admitida en el cuerpo de la bomba 10 bar (16 bar para N 32L-160,200; N,N4 40-160,200; N,N4 50-125,160; N,N4 65-125,160,200,250; N,N4 80-160,250,315,400; N,N4 100-200; N4 125-315; N4 150-315,400 (Bridas PN10); N4 200-400). (10 bar ejecución en bronce)
Velocidad máxima de rotación: ver tabla pag. 82.

## Grupo electrobomba

Bomba N, N4 acoplada a un motor eléctrico estándard en forma constructiva B3 (EN 60072-1), sobre bancada con acoplamiento elástico y protector.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Protección IP 55.
Trifasico 60 Hz, 220/380 V, 254/440 V, hasta 3 kW.
380/660 V, 440 V Δ, de 4 a 75 kW.
Motor preparado al funcionamiento con convertidor de frecuencia.

## Otras ejecuciones bajo demanda

- Sello mecánico especial.
- Eje bomba en acero al níquel-cromo AISI 316.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.
- Motor con otras protecciones.
- Motor para otras tensiones.

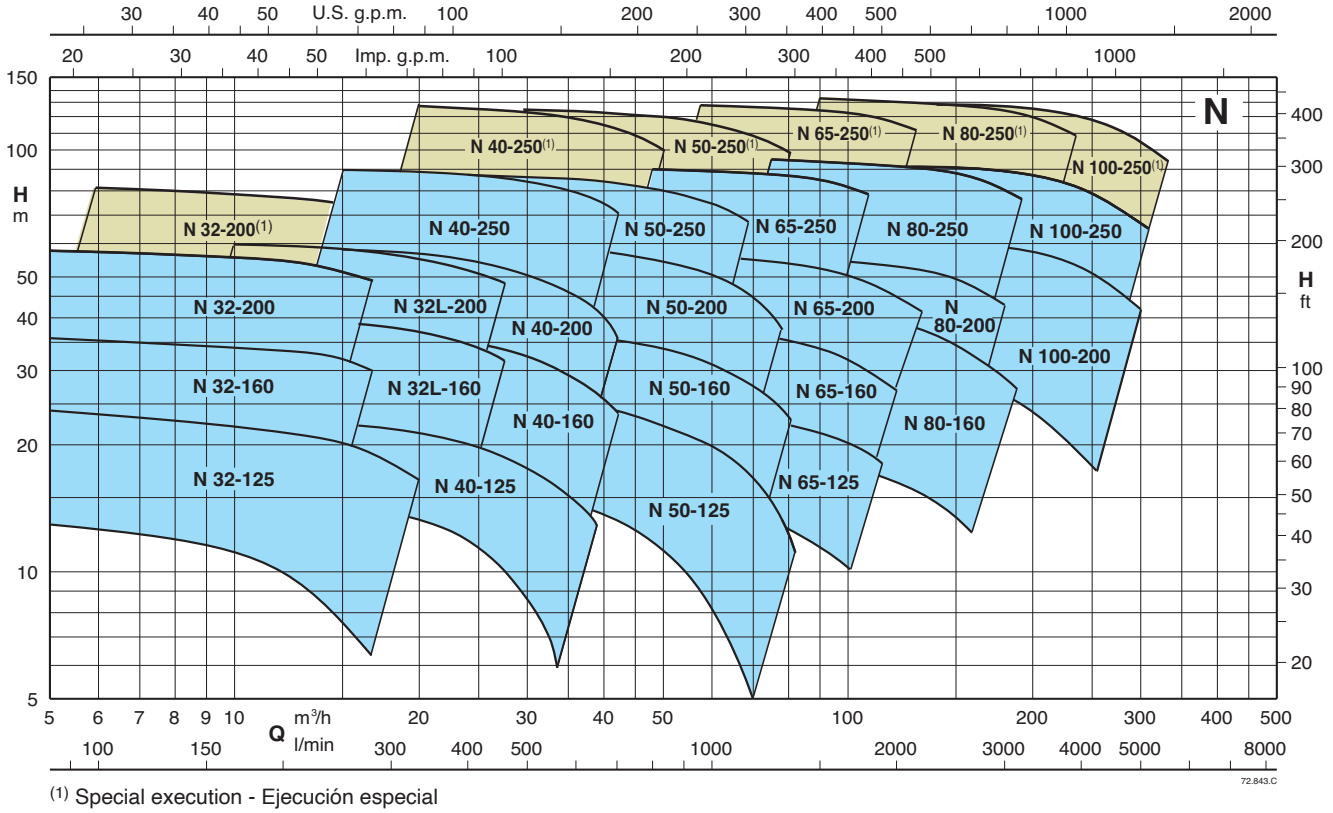
## Materiales

| Componentes | **N, N4** Sello mecánico | **N, N4** Prensa estopas | **B-N, B-N4** Sello mecánico |
|---|---|---|---|
| Cuerpo bomba<br>Tapa del cuerpo | Hierro<br>GJL 200 EN 1561 | | Bronce<br>G-Cu Sn 10 EN 1982 |
| Rodete | Hierro<br>GJL 200 EN 1561 | | Bronce<br>G-Cu Sn 10 EN 1982 |
| | Latón P- Cu Zn 40 Pb 2 UNI 5705<br>Para 32-125, 32-160, 32-200, 40-200 | | |
| Eje | Acero al cromo<br>1.4104 EN 10088<br>(AISI 430) | Acero al carbono<br>C 40 UNI 7845 | Acero al Cr-Ni-Mo<br>1.4401 EN 10088<br>(AISI 316) |
| Camisa protección eje | – | Bronce<br>con superficie cromada | – |
| Sello mecánico | Carbón, Cerámica - NBR | – | Carbón, Cerámica - NBR |
| Contrabridas | Acero Fe 430B UNI 7070 | | |

# N 60 Hz

## Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm




(1) Special execution - Ejecución especial

## Performance - Prestaciones

n ≈ 3450 rpm

| B-N | N | P2 | | Q m³/h | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 |
| B-N 32-125F-60/A | N 32-125F-60/A | 0,55 | 0,75 | | 12,4 | 12,1 | 11,7 | 11,1 | 10,4 | 9,6 | 8,6 | 7 | | | | | | |
| B-N 32-125D-60/A | N 32-125D-60/A | 0,75 | 1 | | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | | | | | | | | | |
| B-N 32-125D-60/A | N 32-125D-60/A | 1,1 | 1,5 | | 18,8 | 18,5 | 18,3 | 17,8 | 17,2 | 16,5 | 15,8 | 14,4 | | | | | | |
| B-N 32-125A-60/A | N 32-125A-60/A | 1,1 | 1,5 | | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | | | | | | | | | |
| B-N 32-125A-60/A | N 32-125A-60/A | 1,5 | 2 | | 24,3 | 24,1 | 23,8 | 23,4 | 22,8 | 22,2 | 21,4 | 20,1 | | | | | | |
| B-N 32-125S-60/A | N 32-125S-60/A | 1,5 | 2 | H | 25,2 | 25 | 24,8 | 24,3 | 23,8 | 23,2 | 22,5 | 21,2 | 19,7* | 17,8* | 15,6* | 12* | | |
| B-N 32-160B-60/A | N 32-160B-60/A | 1,5 | 2 | m | 31 | 30,5 | 30 | 29,5 | 29 | | | | | | | | | |
| B-N 32-160B-60/A | N 32-160B-60/A | 2,2 | 3 | | 31 | 30,5 | 30 | 29,5 | 29 | 28 | 27 | 25* | 23* | | | | | |
| B-N 32-160A-60/A | N 32-160A-60/A | 2,2 | 3 | | 36,5 | 36 | 35,5 | 35 | 34 | 33 | | | | | | | | |
| B-N 32-160A-60/A | N 32-160A-60/A | 3 | 4 | | 36,5 | 36 | 35,5 | 35 | 34 | 33 | 32,5 | 31* | 29* | | | | | |
| B-N 32-200D-60/A | N 32-200D-60/A | 2,2 | 3 | | 39 | 38 | 37,5 | 36,9 | 35 | | | | | | | | | |
| B-N 32-200D-60/A | N 32-200D-60/A | 3 | 4 | | 39 | 38 | 37,5 | 36,9 | 35 | 34 | 32 | | | | | | | |
| B-N 32-200C-60/A | N 32-200C-60/A | 3 | 4 | | 45 | 44,5 | 44 | 43 | 42 | 41 | 40 | 37 | 34* | | | | | |
| B-N 32-200A-60/A | N 32-200A-60/A | 4 | 5,5 | | 57 | 56,5 | 56 | 55,5 | 55 | 54 | 53 | | | | | | | |
| B-N 32-200A-60/A | N 32-200A-60/A | 5,5 | 7,5 | | 57 | 56,5 | 56 | 55,5 | 55 | 54 | 53 | 51 | 49* | | | | | |

| B-NM | NM | P2 | | Q m³/h | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 29 | 32 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 483 | 533 | | | |
| B-N 32L/16C-60 | N 32L/16C-60 | 2,2 | 3 | | 26,1 | 25,9 | 25,6 | 25,3 | 24,6 | 23,7 | 22,3 | 20,6 | 17,6 | 13,7 | | | | | |
| B-N 32L/16B-60 | N 32L/16B-60 | 3 | 4 | | 30,3 | 30,2 | 30 | 29,8 | 29,3 | 28,6 | 27,5 | 26,1 | 23,5 | 20,1 | | | | | |
| B-M 32L/16A-60 | N 32L/16A-60 | 4 | 5,5 | H | 38,7 | 38,6 | 38,5 | 38,4 | 38 | 37,6 | 36,8 | 35,7 | 33,6 | 30,7 | 28,3 | 23,9 | | | |
| B-N 32L/20C-60 | N 32L/20C-60 | 4 | 5,5 | m | 46,1 | 45,8 | 45,3 | 44,7 | 43,6 | 42,1 | 39,9 | 37 | 31,9 | 25,6 | | | | | |
| B-N 32L/20B-60 | N 32L/20B-60 | 5,5 | 7,5 | | 52,4 | 52,2 | 51,9 | 51,5 | 50,6 | 49,4 | 47,4 | 44,9 | 40,3 | 34,8 | 30,6 | | | | |
| B-N 32L/20A-60 | N 32L/20A-60 | 7,5 | 10 | | 60,4 | 60,3 | 60,1 | 59,8 | 59,2 | 58,4 | 57 | 55 | 51,2 | 46,2 | 42,2 | 35,3 | | | |

**N** Standard construction.
Ejecución normal.

**B-N** Bronze construction.
Ejecución en bronce.

$P_2$ Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

* Maximum suction lift 1-2 m.
Altura máxima de aspiración manométrica 1-2 m.

° With 1 m suction head.
Carga positiva minima 1 m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# N 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| N | N | P2 | | Q m³/h | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 39 | 42 | 45 | 48 | 54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 650 | 700 | 750 | 800 | 900 |
| B-N 40-125F-60/A | N 40-125F-60/A | 1,1 | 1,5 | | 15,4 | 14,9 | 14,3 | 13,4 | 11,8 | 10 | 7,8 | 5,6 | | | | | | |
| B-N 40-125C-60/A | N 40-125C-60/A | 1,5 | 2 | | 18,5 | 18,1 | 17,6 | 17 | 15,8 | 14,2 | 12,4 | 10,5 | 6,9 | | | | | |
| B-N 40-125A-60/A | N 40-125A-60/A | 2,2 | 3 | | 22,5 | 22,3 | 21,9 | 21,4 | 20,6 | 19,6 | 18,3 | 16,7 | 13,7 | 12,9 | | | | |
| B-N 40-160C-60/A | N 40-160C-60/A | 2,2 | 3 | | 25,5 | 25,1 | 24,4 | 23,6 | 22,1 | | | | | | | | | |
| B-N 40-160C-60/A | N 40-160C-60/A | 3 | 4 | | 25,5 | 25,1 | 24,4 | 23,6 | 22,1 | 20,1 | 17,8 | 15,4 | 10,6 | | | | | |
| B-N 40-160B-60/A | N 40-160B-60/A | 2,2 | 3 | | 31 | 30,6 | 30,3 | 29,6 | 28,5 | 27,1 | | | | | | | | |
| B-N 40-160B-60/A | N 40-160B-60/A | 3 | 4 | | 31 | 30,6 | 30,3 | 29,6 | 28,5 | 27,1 | 25,4 | 23,2 | 19,2 | 18,1 | | | | |
| B-N 40-160A-60/A | N 40-160A-60/A | 4 | 5,5 | | 37,1 | 36,9 | 36,5 | 36,1 | 35,2 | 34,3 | 33,2 | 31,8 | | | | | | |
| B-N 40-160A-60/A | N 40-160A-60/A | 5,5 | 7,5 | H | 37,1 | 36,9 | 36,5 | 36,1 | 35,2 | 34,3 | 33,2 | 31,8 | 28,8 | 27,9 | 25,6 | 23 | | |
| B-N 40-200C-60/A | N 40-200C-60/A | 4 | 5,5 | m | 44 | 43 | 42 | 41 | | | | | | | | | | |
| B-N 40-200C-60/A | N 40-200C-60/A | 5,5 | 7,5 | | 44 | 43 | 42 | 41 | 39 | 36 | | | | | | | | |
| B-N 40-200B-60/A | N 40-200B-60/A | 5,5 | 7,5 | | 52 | 51,5 | 50,5 | 49,5 | 47,5 | 44,5 | 40 | 35 | | | | | | |
| B-N 40-200AR-60/A | N 40-200AR-60/A | 5,5 | 7,5 | | 56,5 | 56 | 55 | 54 | 52 | | | | | | | | | |
| B-N 40-200AR-60/A | N 40-200AR-60/A | 7,5 | 10 | | 56,5 | 56 | 55 | 54 | 52 | 49 | | | | | | | | |
| B-N 40-200A-60/A | N 40-200A-60/A | 7,5 | 10 | | 59,5 | 59 | 58,5 | 58 | 56 | 53,5 | 50,5 | 47 | 38,5 | | | | | |
| B-N 40-250C-60/A | N 40-250C-60/A | 11 | 15 | | 65,4 | 65 | 64,4 | 63,5 | 61,5 | 58,6 | 54,2 | 49 | | | | | | |
| B-N 40-250B-60/A | N 40-250B-60/A | 11 | 15 | | 71,5 | 71,3 | 70,8 | 70,3 | 68,9 | 66,4 | 63,3 | 59,2 | 50 | | | | | |
| B-N 40-250A-60/A | N 40-250A-60/A | 15 | 20 | | 90,4 | 90,2 | 89,7 | 89,1 | 88,5 | 87,3 | 86,1 | 83,8 | 78 | 76 | | | | |

| B-N | N | P2 | | Q m³/h | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 69 | 72 | 75 | 84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1150 | 1200 | 1250 | 1400 |
| B-N 50-125F-60/A | N 50-125F-60/A | 2,2 | 3 | | | | 16,1 | 15,4 | 14,2 | 13 | 11,1 | 8,6 | 5,8 | | | | | |
| B-N 50-125D-60/A | N 50-125D-60/A | 3 | 4 | | | | 19,4 | 19 | 18 | 17 | 15,5 | 13,5 | 11,1 | 8,4 | | | | |
| B-N 50-125A-60/A | N 50-125A-60/A | 4 | 5,5 | | | | 24,8 | 24,6 | 24 | 23,4 | 22,3 | | | | | | | |
| B-N 50-125A-60/A | N 50-125A-60/A | 5,5 | 7,5 | | | | 24,8 | 24,6 | 24 | 23,4 | 22,3 | 20,8 | 19 | 17 | 16 | 14,8 | 13,6 | |
| B-N 50-160B-60/A | N 50-160B-60/A | 5,5 | 7,5 | | | | 35,3 | 34,9 | 33,6 | | | | | | | | | |
| B-N 50-160B-60/A | N 50-160B-60/A | 7,5 | 10 | H | | | 35,3 | 34,9 | 33,6 | 32,4 | 30,1 | 27,5 | 24,5 | 20,9 | 19 | 17,1 | 15,1 | |
| B-N 50-160A-60/A | N 50-160A-60/A | 7,5 | 10 | m | | | 41,7 | 41,6 | 41,2 | 40,3 | 38,5 | 36,3 | 33,8 | 30,9 | 29,4 | 27,8 | 26,1 | 20,4 |
| B-N 50-200B-60/A | N 50-200B-60/A | 11 | 15 | | 51 | 50,6 | 50,4 | 49,8 | 48,5 | 47,1 | 44 | 40,5 | 36 | 30,2 | 27,3 | | | |
| B-N 50-200A-60/A | N 50-200A-60/A | 11 | 15 | | 57,6 | 57,7 | 57,3 | 56,9 | 55,7 | 54,6 | 52,2 | 49,5 | 46 | 41,8 | 39 | 36,2 | 33,2 | |
| B-N 50-250C-60/A | N 50-250C-60/A | 11 | 15 | | 61,9 | 61,2 | 60,3 | 59,3 | 57,2 | 55 | 50 | 44 | 36,5 | | | | | |
| B-N 50-250B-60/A | N 50-250B-60/A | 15 | 20 | | 74,6 | 73,9 | 73,2 | 72 | 70,1 | 68,1 | 64,3 | 59,3 | 52,8 | 43,8 | | | | |
| B-N 50-250A-60/A | N 50-250A-60/A | 18,5 | 25 | | 87,6 | 87,3 | 86,9 | 86,2 | 84,7 | 83 | 79,8 | 76 | 72 | 66,9 | | | | |

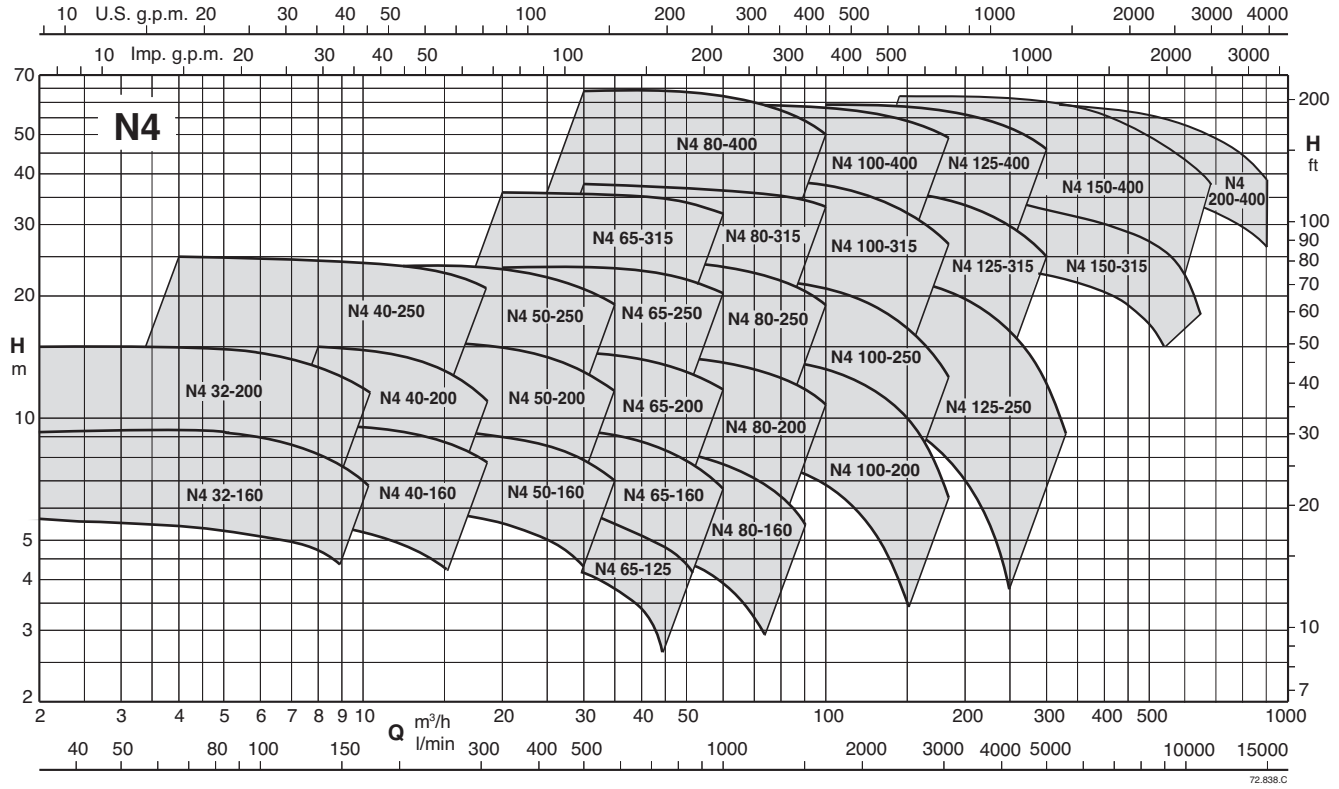
| B-N | N | P2 | | Q m³/h | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 141 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2350 | 2500 |
| B-N 65-125E-60/B | N 65-125E-60/B | 4 | 5,5 | | 16 | 15,8 | 15,5 | 15,2 | 14,8 | 14,3 | 13,5 | 12,7 | 11,4 | 9,9 | | | | |
| B-N 65-125C-60/B | N 65-125C-60/B | 5,5 | 7,5 | | 21,4 | 21,2 | 21 | 20,6 | 20,3 | 19,8 | 19,1 | 18,3 | 17 | 15,3 | 13,1 | | | |
| B-N 65-125A-60/B | N 65-125A-60/B | 7,5 | 10 | | 26,4 | 26,4 | 26,2 | 26,1 | 25,8 | 25,5 | 24,9 | 24,1 | 22,8 | 21,1 | 18,9 | | | |
| B-N 65-160D-60/B | N 65-160D-60/B | 7,5 | 10 | | | | 24,4 | 24,2 | 23,9 | 23,6 | 23 | 22,3 | 21,2 | 19,7 | 17,6 | | | |
| B-N 65-160C-60/B | N 65-160C-60/B | 11 | 15 | | | | 27,9 | 27,8 | 27,6 | 27,3 | 26,7 | 26 | 24,9 | 23,4 | 21,5 | 19 | | |
| B-N 65-160B-60/B | N 65-160B-60/B | 11 | 15 | | | | 32,8 | 32,7 | 32,5 | 32,2 | 31,7 | 31 | 29,9 | 28,5 | 26,8 | 24,4 | | |
| B-N 65-160AR-60 | N 65-160AR-60 | 15 | 20 | H | | | 35,9 | 35,9 | 35,8 | 35,7 | 35,3 | 34,7 | 33,6 | 32,3 | 30,7 | 28,5 | | |
| B-N 65-160A-60/B | N 65-160A-60/B | 15 | 20 | m | | | 40,7 | 40,7 | 40,6 | 40,5 | 40,1 | 39,6 | 38,6 | 37,3 | 35,5 | 33,2 | | |
| B-N 65-200C-60/B | N 65-200C-60/B | 15 | 20 | | | | 45,1 | 44,9 | 44,5 | 44,1 | 43,2 | 42,2 | 40,5 | 38,6 | 36,2 | 33,2 | 30,4 | |
| B-N 65-200B-60/B | N 65-200B-60/B | 18,5 | 25 | | | | 52,8 | 52,8 | 52,6 | 52,3 | 51,5 | 50,5 | 48,8 | 46,7 | 44,3 | 41,4 | 38,7 | |
| B-N 65-200A-60/B | N 65-200A-60/B | 22 | 30 | | | | 58,5 | 58,5 | 58 | 58 | 57,5 | 56,5 | 55 | 53 | 50,5 | 47,5 | 45,5 | |
| B-N 65-250C-60/B | N 65-250C-60/B | 22 | 30 | | | | 63 | 63 | 62,5 | 62 | 60,5 | 59 | 56,5 | 53 | 49 | 43 | | |
| B-N 65-250B-60/B | N 65-250B-60/B | 30 | 40 | | | | 74 | 74 | 74 | 74 | 73 | 72 | 70 | 67,5 | 64 | 60,5 | | |
| B-N 65-250A-60/B | N 65-250A-60/B | 37 | 50 | | | | 87 | 87,5 | 87,5 | 87,5 | 87 | 86 | 84,5 | 81,5 | 78 | 74,5 | | |

| B-N | N | P2 | | Q m³/h | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 |
| B-N 80-160E-60/B | N 80-160E-60/B | 7,5 | 10 | | 23,3 | 22,2 | 20,6 | 19 | 17,5 | 16 | 14,1 | 11,9 | | | | | | |
| B-N 80-160D-60/B | N 80-160D-60/B | 11 | 15 | | 26,9 | 25,9 | 24,6 | 23,1 | 21,6 | 19,9 | 17,5 | 15,1 | | | | | | |
| B-N 80-160C-60/B | N 80-160C-60/B | 11 | 15 | | 30,7 | 29,9 | 28,7 | 27,4 | 26 | 24,4 | 22 | 19,5 | 17,9 | | | | | |
| B-N 80-160B-60/B | N 80-160B-60/B | 15 | 20 | | 35,5 | 34,9 | 34 | 32,9 | 31,6 | 30,2 | 27,8 | 25 | 23,1 | 21 | | | | |
| B-N 80-160A-60/C | N 80-160A-60/C | 18,5 | 25 | | 41,3 | 40,9 | 40,2 | 39,3 | 38,3 | 37,1 | 35 | 32,5 | 30,7 | 28,8 | | | | |
| B-N 80-200B-60/B | N 80-200B-60/B | 22 | 30 | | 43 | 42,7 | 42,0 | 41,2 | 40,2 | 39,2 | 37,4 | 35,3 | 33,8 | 32,2 | | | | |
| B-N 80-200A-60/B | N 80-200A-60/B | 30 | 40 | | 58 | 57,7 | 57,2 | 56,5 | 55,6 | 54,5 | 52,6 | 50,6 | 49,2 | 47,8 | | | | |
| B-N 80-250E-60/A | N 80-250E-60/A | 22 | 30 | | 51 | 50 | 48,5 | 46,5 | 44,5* | 42* | 38* | 33* | 29* | | | | | |
| B-N 80-250D-60/A | N 80-250D-60/A | 30 | 40 | | 65 | 64 | 62,5 | 61 | 59* | 56,5* | 53* | 49* | 45* | 41* | | | | |
| B-N 80-250C-60/A | N 80-250C-60/A | 37 | 50 | H | 73,5 | 73 | 72 | 70,5 | 69* | 67* | 63* | 59* | 55* | 51* | | | | |
| B-N 80-250B-60/A | N 80-250B-60/A | 45 | 60 | m | 84 | 83,5 | 82,5 | 81 | 80* | 78* | 74* | 70* | 67* | 62,5* | | | | |
| B-N 80-250A-60/A | N 80-250A-60/A | 55 | 75 | | 94,5 | 94 | 93 | 92,5 | 91,5* | 90* | 87,5* | 84* | 80* | 76,5* | | | | |
| B-N 100-200E-60/A | N 100-200E-60/A | 18,5 | 25 | | | | | 30 | 29,5 | 29 | 28 | 27 | 26* | 24,5* | 22,5* | 19* | | |
| B-N 100-200D-60/A | N 100-200D-60/A | 22 | 30 | | | | | 36 | 35,5 | 35 | 34 | 33 | 32* | 31* | 29* | 24* | | |
| B-N 100-200C-60/A | N 100-200C-60/A | 30 | 40 | | | | | 45 | 44,5 | 44 | 43 | 42,5 | 41* | 40* | 39* | 34* | 28* | |
| B-N 100-200B-60/A | N 100-200B-60/A | 37 | 50 | | | | | 54 | 53,5 | 53 | 52,5 | 51,5 | 50* | 49* | 47,5* | 43* | 38* | |
| B-N 100-200A-60/A | N 100-200A-60/A | 45 | 60 | | | | | 61,5 | 61 | 60,5 | 60 | 59,5 | 59* | 58* | 56* | 52,5* | 48* | 42° |
| B-N 100-250B-60/A | N 100-250B-60/A | 55 | 75 | | | | | 73,5 | 73 | 72,5 | 71,5 | 70 | 69* | 67* | 65* | 60* | 55* | 48° |
| B-N 100-250A-60/A | N 100-250A-60/A | 75 | 100 | | | | | 90,5 | 90 | 90 | 89 | 88,5 | 87,5* | 87* | 85* | 81* | 75* | 67° |

# N4 60 Hz

## Coverage chart - Campo de aplicaciones

**n ≈ 1750 rpm**




## Performance - Prestaciones

**n ≈ 1750 rpm**

| | N4 | P2 | | Q m³/h | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 |
| B-N4 32-160B-60/A | N4 32-160B-60/A | 0,37 | 0,5 | | 7,6 | 7,6 | 7,5 | 7,4 | 7,4 | 7,3 | 7,1 | 6,6 | 6,1 | 5,3 | 4,4 | | | | | | | | | |
| B-N4 32-160A-60/A | N4 32-160A-60/A | 0,37 | 0,5 | | 9,2 | 9,2 | 9,1 | 9,1 | 9 | 9 | 8,8 | 8,3 | 7,8 | 7,2 | 6,4 | 5,4* | | | | | | | | |
| B-N4 32-200B-60/A | N4 32-200B-60/A | 0,55 | 0,75 | | 13,1 | 13 | 12,9 | 12,8 | 12,6 | 12,4 | 12,2 | 11,4 | 10,8 | 9,8 | 8,7 | 7,3* | 5,7* | | | | | | | |
| B-N4 32-200A-60/A | N4 32-200A-60/A | 0,75 | 1 | | 14,9 | 14,8 | 14,7 | 14,6 | 14,5 | 14,3 | 14,1 | 13,6 | 13,2 | 12,4 | 11,4 | 10* | 8,5* | | | | | | | |
| B-N4 40-160C-60/A | N4 40-160C-60/A | 0,37 | 0,5 | | | | | | | 6,75 | 6,75 | 6,65 | 6,53 | 6,35 | 6,15 | 5,9 | 5,53 | 4,9 | 4,2 | 3,2 | | | | |
| B-N4 40-160B-60/A | N4 40-160B-60/A | 0,55 | 0,75 | H | | | | | | 8,1 | 8,1 | 8 | 7,95 | 7,8 | 7,6 | 7,4 | 7,2 | 6,75 | 6,25 | 5,5 | 4,6 | | | |
| B-N4 40-160A-60/A | N4 40-160A-60/A | 0,75 | 1 | m | | | | | | 9,7 | 9,7 | 9,65 | 9,6 | 9,5 | 9,37 | 9,2 | 9 | 8,7 | 8,3 | 7,8 | 7 | 5,8 | | |
| B-N4 40-200B-60/A | N4 40-200B-60/A | 1,1 | 1,5 | | | | | | | 13,3 | 13,2 | 13,1 | 13 | 12,7 | 12,5 | 12 | 11,5 | 10,5 | 9,5 | 7,8 | | | | |
| B-N4 40-200A-60/A | N4 40-200A-60/A | 1,1 | 1,5 | | | | | | | 15,3 | 15,2 | 15,1 | 15 | 14,7 | 14,5 | 14 | 13,7 | 13 | 12,2 | 10,8 | 9,3 | | | |
| B-N4 40-250C-60/A | N4 40-250C-60/A | 1,5 | 2 | | | | | | | 18,3 | 18,2 | 18,1 | 18 | 17,9 | 17,6 | 17,3 | 16,8 | 15,7 | 14,2 | 11,8 | 8,9 | 4,4 | | |
| B-N4 40-250B-60/A | N4 40-250B-60/A | 2,2 | 3 | | | | | | | 22,7 | 22,7 | 22,7 | 22,6 | 22,6 | 22,5 | 22,3 | 22,1 | 21,6 | 20,6 | 19,2 | 17,5 | 14,2 | 10,1 | |
| B-N4 40-250A-60/A | N4 40-250A-60/A | 3 | 4 | | | | | | | 25,1 | 25 | 25 | 24,9 | 24,9 | 24,8 | 24,6 | 24,4 | 24 | 23,6 | 22,6 | 21,3 | 18,5 | 15 | 10,7* |

| B - N4 | N4 | P2 | | Q m³/h | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 |
| B-N4 50-160B-60/A | N4 50-160B-60/A | 1,1 | 1,5 | | 9 | 9 | 9 | 8,95 | 8,8 | 8,55 | 8,25 | 7,7 | 7 | 6,25 | 5,4 | 3,8* | | | | | | | | |
| B-N4 50-160A-60/A | N4 50-160A-60/A | 1,1 | 1,5 | | 10,55 | 10,6 | 10,6 | 10,6 | 10,6 | 10,5 | 10,3 | 9,9 | 9,3 | 8,6 | 7,9 | 6,6* | 5,3* | | | | | | | |
| B-N4 50-200C-60/A | N4 50-200C-60/A | 1,1 | 1,5 | | 11,2 | 11,2 | 11,1 | 11 | 10,8 | 10,4 | 10 | 9,1 | 8 | 6,8 | 5,3 | 2,7 | | | | | | | | |
| B-N4 50-200B-60/A | N4 50-200B-60/A | 1,5 | 2 | H | 12,8 | 12,8 | 12,8 | 12,75 | 12,6 | 12,3 | 11,9 | 11,3 | 10,5 | 9,4 | 8,1 | 5,8 | 3,4 | | | | | | | |
| B-N4 50-200A-60/A | N4 50-200A-60/A | 2,2 | 3 | m | 16,7 | 16,8 | 16,9 | 16,9 | 16,9 | 16,8 | 16,6 | 16,3 | 15,74 | 15,2 | 14,4 | 13 | 11,2 | 8,5 | 5,4 | | | | | |
| B-N4 50-250C-60/A | N4 50-250C-60/A | 2,2 | 3 | | 18,9 | 18,9 | 18,9 | 18,8 | 18,5 | 18,2 | 17,8 | 17,1 | 16,2 | 15,1 | 13,3 | 10,3 | 7,2* | | | | | | | |
| B-N4 50-250B-60/A | N4 50-250B-60/A | 3 | 4 | | 23,1 | 23,1 | 23,1 | 23 | 22,8 | 22,6 | 22,2 | 21,5 | 20,5 | 19,5 | 18,2 | 15,3 | 12* | | | | | | | |
| B-N4 50-250A-60/A | N4 50-250A-60/A | 4 | 5,5 | | 24,1 | 24,1 | 24,1 | 24 | 23,8 | 23,6 | 23,2 | 22,6 | 21,9 | 21 | 19,7 | 17 | 14* | | | | | | | |
| B-N4 65-125E-60/B | N4 65-125E-60/B | 0,75 | 1 | | | | | | | | 4,0 | 3,9 | 3,8 | 3,7 | 3,6 | 3,4 | 3,2 | 2,9 | 2,5 | | | | | |
| B-N4 65-125C-60/B | N4 65-125C-60/B | 0,75 | 1 | | | | | | | | 5,3 | 5,3 | 5,2 | 5,1 | 5,0 | 4,8 | 4,6 | 4,3 | 3,8 | 3,3 | | | | |
| B-N4 65-125A-60/B | N4 65-125A-60/B | 1,1 | 1,5 | | | | | | | | 6,6 | 6,6 | 6,5 | 6,5 | 6,4 | 6,2 | 6,0 | 5,7 | 5,3 | 4,7 | | | | |
| B-N4 65-160C-60/B | N4 65-160C-60/B | 1,1 | 1,5 | | | | | | | | 6,2 | 6,2 | 6,1 | 6,1 | 6 | 5,9 | 5,7 | 5,4 | 4,9 | 4,3 | | | | |
| B-N4 65-160B-60/B | N4 65-160B-60/B | 1,1 | 1,5 | | | | | | | | 7,2 | 7,1 | 7,1 | 7 | 6,9 | 6,8 | 6,6 | 6,3 | 5,8 | 5,3 | 4,6 | | | |
| B-N4 65-160A-60/B | N4 65-160A-60/B | 1,5 | 2 | | | | | | | | 8,9 | 8,9 | 8,9 | 8,8 | 8,8 | 8,7 | 8,6 | 8,3 | 7,9 | 7,5 | 6,9 | 5,7 | | |
| B-N4 65-160S-60 | N4 65-160S-60 | 2,2 | 3 | | | | | | | | 10,3 | 10,3 | 10,3 | 10,3 | 10,3 | 10,2 | 10,1 | 9,9 | 9,6 | 9,1 | 8,6 | 7,6 | 6,2 | |
| B-N4 65-200B-60/A | N4 65-200B-60/B | 2,2 | 3 | | | | | | | | 12,2 | 12,2 | 12,2 | 12,1 | 12,1 | 11,9 | 11,6 | 11,2 | 10,6 | 9,9 | 9,1 | 7,7 | 6 | 3,2 |
| B-N4 65-200A-60/A | N4 65-200A-60/B | 3 | 4 | | | | | | | | 14,6 | 14,6 | 14,6 | 14,6 | 14,6 | 14,4 | 14,3 | 13,9 | 13,4 | 12,9 | 12,1 | 10,8 | 9,3 | 6,8 |
| B-N4 65-250B-60/B | N4 65-250B-60/B | 4 | 5,5 | | | | | | | | 19,6 | 19,6 | 19,7 | 19,7 | 19,6 | 19,4 | 19,2 | 18,6 | 17,8 | 16,8 | 15,6 | 13,5 | 10,9 | 7,1 |
| B-N4 65-250A-60/B | N4 65-250A-60/B | 5,5 | 7,5 | | | | | | | | 23,8 | 24 | 24 | 24,1 | 24,1 | 24 | 23,9 | 23,5 | 22,9 | 22,1 | 21,2 | 19,4 | 17,2 | 13,7 |
| B-N4 65-315C-60/A | N4 65-315C-60/A | 5,5 | 7,5 | | | | | | | | 27 | 27 | 26,5 | 26 | 26 | 25,5 | 25 | 24,5 | 23,5 | 22 | 20* | 17* | 13* | |
| B-N4 65-315B-60/A | N4 65-315B-60/A | 7,5 | 10 | | | | | | | | 32 | 32 | 31,5 | 31 | 31 | 30,5 | 30 | 29,5 | 29 | 28 | 26,5* | 24* | 20,5* | |
| B-N4 65-315A-60/A | N4 65-315A-60/A | 11 | 15 | | | | | | | | 36 | 36 | 35,5 | 35 | 35 | 34,5 | 34 | 33,5 | 33 | 32 | 31* | 29* | 26,5* | |

# N4 60 Hz

## Performance - Prestaciones

n ≈ 1750 rpm

| B-N4 | N4 | P2 | | Q m³/h | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 |
| B-N4 80-160C-60/B | N4 80-160C-60/B | 1,1 | 1,5 | H m | 6,9 | 6,8 | 6,6 | 6,4 | 6,1 | 5,7 | 5,3 | 4,9 | 4,3 | 3,7 | | | | | | | | | |
| B-N4 80-160B-60/B | N4 80-160B-60/B | 1,5 | 2 | | 8,6 | 8,5 | 8,3 | 8,2 | 7,9 | 7,6 | 7,3 | 6,9 | 6,3 | 5,6 | 4,5 | | | | | | | | |
| B-N4 80-160A-60/B | N4 80-160A-60/B | 2,2 | 3 | | 11,3 | 11,3 | 11,2 | 11 | 10,8 | 10,6 | 10,3 | 10 | 9,4 | 8,7 | 7,7 | 6,6 | | | | | | | |
| B-N4 80-200C-60/B | N4 80-200C-60/B | 2,2 | 3 | | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,6 | 8,3 | 7,9 | 7,3 | 6,6 | 5,6 | 4,5 | | | | | | | |
| B-N4 80-200B-60/B | N4 80-200B-60/B | 3 | 4 | | 12,2 | 12,1 | 12,0 | 11,9 | 11,8 | 11,6 | 11,3 | 11,1 | 10,6 | 10,0 | 9,1 | 7,9 | 6,4 | 4,5 | | | | | |
| B-N4 80-200A-60/B | N4 80-200A-60/B | 4 | 5,5 | | 14,8 | 14,8 | 14,8 | 14,7 | 14,5 | 14,4 | 14,1 | 13,9 | 13,4 | 12,9 | 12,1 | 11,0 | 9,5 | 7,7 | | | | | |
| B-N4 80-250C-60/A | N4 80-250C-60/A | 4 | 5,5 | | 17,4 | 17,3 | 17,1 | 17 | 16,6 | 16,1 | 15,8 | 15,2 | 14,1 | 13 | 11,3 | 9,5* | | | | | | | |
| B-N4 80-250B-60/A | N4 80-250B-60/A | 5,5 | 7,5 | | 20,8 | 20,8 | 20,7 | 20,7 | 20,5 | 20,1 | 19,8 | 19,4 | 18,3 | 17,3 | 15,7 | 13,8* | 11,5* | | | | | | |
| B-N4 80-250A-60/A | N4 80-250A-60/A | 7,5 | 10 | | 24,2 | 24,2 | 24,1 | 24 | 24 | 23,9 | 23,4 | 23 | 22 | 21,1 | 19,4 | 17,5* | 15,2* | 12,7* | | | | | |
| B-N4 80-315C-60/B | N4 80-315C-60/B | 11 | 15 | | 26,2 | 26,2 | 26,2 | 26,2 | 26,1 | 26 | 25,8 | 25,5 | 24,9 | 24,1 | 22,7 | 21 | 18,8 | 16,2 | | | | | |
| B-N4 80-315B-60/B | N4 80-315B-60/B | 11 | 15 | | 31,1 | 31,2 | 31,3 | 31,3 | 31,3 | 31,2 | 31 | 30,8 | 30,2 | 29,5 | 28,1 | 26,3 | 24,2 | 21,8 | 17,5 | | | | |
| B-N4 80-315A-60/B | N4 80-315A-60/B | 15 | 20 | | 36,9 | 37,1 | 37,2 | 37,3 | 37,4 | 37,4 | 37,4 | 37,2 | 36,7 | 36 | 34,8 | 33,2 | 31,2 | 29 | 25,1 | 20,6 | | | |
| B-N4 80-315S-60 | N4 80-315S-60 | 18,5 | 25 | | 42,3 | 42,5 | 42,7 | 42,9 | 43,1 | 43,2 | 43,2 | 43 | 42,7 | 42,1 | 41 | 39,5 | 37,8 | 35,8 | 32,3 | 28 | | | |
| B-N4 80-400C-60/B | N4 80-400C-60/B | 18,5 | 25 | | 47.2 | 47.3 | 47.3 | 47.3 | 47.3 | 47.1 | 46.8 | 46.3 | 45.4 | 44.1 | 41.9 | 39 | 35.4 | 31.3 | | | | | |
| B-N4 80-400B-60/B | N4 80-400B-60/B | 22 | 30 | | 52.1 | 52.1 | 52.2 | 52.2 | 52.2 | 52 | 51.8 | 51.4 | 50.6 | 49.5 | 47.4 | 44.8 | 41.5 | 37.6 | 31 | | | | |
| B-N4 80-400A-60/B | N4 80-400A-60/B | 30 | 40 | | 64 | 64.1 | 64.2 | 64.3 | 64.3 | 64.2 | 64.1 | 63.9 | 63.3 | 62.5 | 61.1 | 59.1 | 56.6 | 53.6 | 48.1 | | | | |
| B-N4 80-400S-60 | N4 80-400S-60 | 37 | 50 | | 64 | 64.1 | 64.2 | 64.3 | 64.3 | 64.2 | 64.1 | 63.9 | 63.3 | 62.5 | 61.1 | 59.1 | 56.6 | 53.6 | 48.1 | 41.6 | 36.8 | | |

| B-N4 | N4 | P2 | | Q m³/h | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 | 330 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 |
| B-N4 100-200C-60/A | N4 100-200C-60/A | 3 | 4 | H m | 9,4 | 9,4 | 9,2 | 9,1 | 8,9 | 8,5 | 8 | 7,2 | 6,4 | 5,5 | 4* | | | | | | | | |
| B-N4 100-200B-60/A | N4 100-200B-60/A | 4 | 5,5 | | 11,7 | 11,7 | 11,6 | 11,5 | 11,4 | 11,2 | 10,8 | 10 | 9,2 | 8,3 | 6,5* | 4,6* | | | | | | | |
| B-N4 100-200A-60/A | N4 100-200A-60/A | 5,5 | 7,5 | | 14 | 14 | 13,9 | 13,9 | 13,8 | 13,7 | 13,3 | 12,7 | 12 | 11,3 | 9,8* | 8,2* | 7* | 5,5* | | | | | |
| B-N4 100-250B-60/A | N4 100-250B-60/A | 7,5 | 10 | | 19,4 | 19,4 | 19,3 | 19,2 | 19 | 18,6 | 18 | 17,4 | 16,5 | 15,5 | 13,8* | 11,5* | 10* | 8,2* | 5,5* | | | | |
| B-N4 100-250A-60/A | N4 100-250A-60/A | 11 | 15 | | 22,4 | 22,4 | 22,2 | 22,1 | 21,9 | 21,4 | 21 | 20,4 | 19,6 | 18,8 | 17* | 15* | 13,3* | 11,6* | 8,8* | | | | |
| B-N4 100-315C-60/A | N4 100-315C-60/A | 11 | 15 | | 28 | 28 | 27,9 | 27,9 | 27,5 | 27 | 26 | 25 | 23,5 | 22 | 19,5* | 15,5* | 13* | 10* | | | | | |
| B-N4 100-315B-60/A | N4 100-315B-60/A | 15 | 20 | | 32,5 | 32,5 | 32,4 | 32,3 | 32 | 31,5 | 31 | 30,5 | 29,5 | 28,5 | 26* | 22,5* | 20* | 17,5* | 13,5* | | | | |
| B-N4 100-315A-60/A | N4 100-315A-60/A | 18,5 | 25 | | 38,5 | 38,5 | 38,3 | 38,3 | 38 | 37,9 | 37,5 | 37 | 36 | 35 | 32,5* | 30* | 28* | 26* | 21* | | | | |
| B-N4 100-400C-60/A | N4 100-400C-60/A | 22 | 30 | | 43 | 42,8 | 42,5 | 42,5 | 42 | 42 | 41 | 40 | 38,5 | 37 | 34* | 30,5* | 28* | | | | | | |
| B-N4 100-400B-60/A | N4 100-400B-60/A | 30 | 40 | | 51,5 | 51,3 | 51 | 50,8 | 50,5 | 50,3 | 50 | 49 | 48 | 46 | 44* | 41* | 39* | 37* | 33* | | | | |
| B-N4 100-400A-60/A | N4 100-400A-60/A | 37 | 50 | | 59,5 | 59,3 | 59 | 58,8 | 58,5 | 58,3 | 58 | 57,7 | 57 | 56 | 53,5* | 51* | 49* | 47* | 44* | | | | |

| B-N4 | N4 | P2 | | Q m³/h | 84 | 96 | 108 | 120 | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 1400 | 1600 | 1800 | 2000 | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 |
| B-N4 125/250E-60/A | N4 125/250E-60/A | 5,5 | 7,5 | H m | 11,2 | 11 | 10,7 | 10,4 | 10 | 9,4 | 8,5 | 8 | 7,3 | 6,2 | | | | | | | | | |
| B-N4 125/250D-60/A | N4 125/250D-60/A | 7,5 | 10 | | 14 | 13,9 | 13,7 | 13,4 | 13 | 12,4 | 11,6 | 11 | 10,4 | 9,3 | 7,3* | 5* | | | | | | | |
| B-N4 125/250C-60/A | N4 125/250C-60/A | 9,2 | 12,5 | | 16,8 | 16,6 | 16,4 | 16,1 | 15,8 | 15,2 | 14,6 | 14 | 13,3 | 12,3 | 10,3* | 8* | 5,4* | | | | | | |
| B-N4 125/250B-60/A | N4 125/250B-60/A | 11 | 15 | | 19,4 | 19,2 | 19 | 18,8 | 18,6 | 18 | 17,4 | 17 | 16,3 | 15,2 | 13,2* | 10,8* | 8* | | | | | | |
| B-N4 125/250A-60/A | N4 125/250A-60/A | 15 | 20 | | 23 | 22,9 | 22,8 | 22,7 | 22,5 | 22 | 21,5 | 20,9 | 20,3 | 19,2 | 17,2* | 14,9* | 12,2* | 9* | | | | | |
| B-N4 125/315C-60/A | N4 125/315C-60/A | 18,5 | 25 | | 28 | 27,8 | 27,5 | 27,3 | 27 | 26,5 | 25,5 | 25 | 24 | 23 | 20* | 17* | 13* | | | | | | |
| B-N4 125/315B-60/A | N4 125/315B-60/A | 22 | 30 | | 32 | 31,7 | 31,5 | 31 | 30,8 | 30,5 | 29,5 | 29 | 28,5 | 27 | 25* | 22* | 18,5* | 14,5* | | | | | |
| B-N4 125/315A-60/A | N4 125/315A-60/A | 30 | 40 | | 37 | 36,7 | 36,5 | 36 | 35,8 | 35,5 | 35 | 34,5 | 34 | 32,5 | 30,5* | 28* | 25* | 21,5* | | | | | |
| B-N4 125/400C-60/A | N4 125/400C-60/A | 37 | 50 | | 45,5 | 45 | 44,8 | 44,6 | 44,5 | 44,3 | 43,5 | 43 | 42 | 40 | 36,5* | 32,5* | 28* | | | | | | |
| B-N4 125/400B-60/A | N4 125/400B-60/A | 45 | 60 | | 51,7 | 51,5 | 51,3 | 51 | 50,7 | 50 | 49,5 | 49 | 48 | 46,5 | 43,5* | 40* | 35,5* | 31* | | | | | |
| B-N4 125/400A-60/A | N4 125/400A-60/A | 55 | 75 | | 59,5 | 59,3 | 59 | 58,8 | 58,7 | 58 | 57,5 | 57 | 56,5 | 55,5 | 53* | 50* | 46* | 41,5* | | | | | |

| B-N4 | N4 | P2 | | Q m³/h | 132 | 150 | 168 | 180 | 192 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 540 | 600 | 660 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 2200 | 2500 | 2800 | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 9000 | 10000 | 11000 | |
| B-N4 150/315B-60/B | N4 150/315B-60/B | 30 | 40 | H m | 26.5 | 26.4 | 26.2 | 26.0 | 25.8 | 25.5 | 24.8 | 24.0 | 23.1 | 22.1 | 21.1 | 20.1 | 19.2 | 18.3 | 17.4 | | | | |
| B-N4 150/315A-60/B | N4 150/315A-60/B | 37 | 50 | | 30.9 | 30.9 | 30.8 | 30.7 | 30.6 | 30.3 | 29.8 | 29.1 | 28.3 | 27.5 | 26.6 | 25.6 | 24.7 | 23.8 | 22.8 | 20.7 | 17.8 | | |
| B-N4 150/315S-60 | N4 150/315S-60 | 45 | 60 | | 35.6 | 35.6 | 35.5 | 35.4 | 35.3 | 35.0 | 34.5 | 33.9 | 33.3 | 32.5 | 31.7 | 30.9 | 30.0 | 29.1 | 28.1 | 26.0 | 23.3 | 19.8 | |
| B-N4 150-400B-60-B | N4 150-400B-60-B | 55 | 75 | | 42,4 | 42,4 | 42,3 | 42,2 | 42,1 | 41,9 | 41,4 | 40,9 | 40,4 | 39,8 | 39,1 | 38,3 | 37,5 | 36,5 | 35,3 | 32,0 | 27,1 | | |
| B-N4 150-400A-60-B | N4 150-400A-60-B | 75 | 100 | | 51,9 | 52,2 | 52,3 | 52,3 | 52,3 | 52,2 | 51,8 | 51,3 | 50,6 | 49,8 | 49,0 | 48,0 | 47,0 | 45,9 | 44,7 | 41,6 | 37,5 | 32,7 | |
| B-N4 150-400S-60 | N4 150-400S-60 | 90 | 120 | | 60,6 | 60,9 | 61,1 | 61,2 | 61,2 | 61,2 | 61,0 | 60,6 | 60,0 | 59,3 | 58,4 | 57,5 | 56,4 | 55,2 | 53,8 | 50,8 | 47,0 | 42,5 | |

| B-N4 | N4 | P2 | | Q m³/h | 180 | 192 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 540 | 600 | 660 | 720 | 810 | 900 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 3000 | 3200 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 9000 | 10000 | 11000 | 12000 | 13500 | 15000 | |
| | N4 200-400C-60 | 90 | 120 | H m | 48,5 | 48,4 | 48,4 | 48,1 | 47,8 | 47,5 | 47 | 46,6 | 46,1 | 45,5 | 44,9 | 44,3 | 43 | 41,5 | 39,7 | 37,6 | 33,5 | 27,6 | |
| | N4 200-400B-60 | 110 | 150 | | 54,2 | 54,2 | 54,1 | 54 | 53,7 | 53,4 | 53 | 52,6 | 52,1 | 51,6 | 51 | 50,4 | 49,1 | 47,6 | 45,9 | 43,9 | 40 | 34,6 | |
| | N4 200-400A-60 | 132 | 180 | | 59,9 | 60 | 60 | 59,9 | 59,7 | 59,5 | 59,1 | 58,7 | 58,3 | 57,7 | 57,1 | 56,5 | 55,1 | 53,4 | 51,5 | 49,4 | 45,6 | 40,8 | |

**N4** Standard construction.
Ejecución normal.

**B-N4** Bronze construction.
Ejecución en bronce.

P2 Rated motor power output.
Potencia nominal del motor.

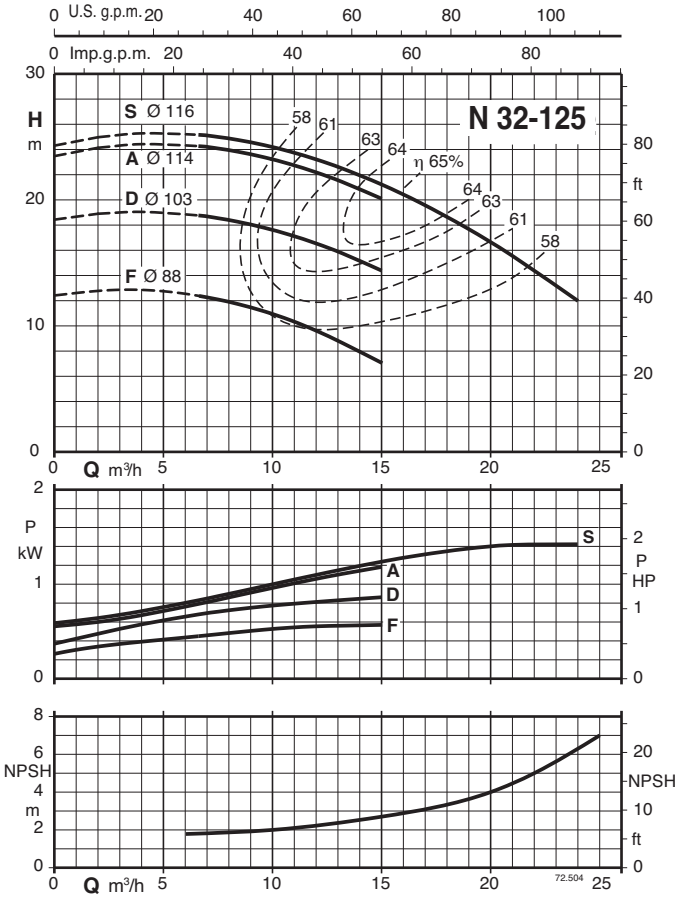
**H** Total head in m.
Altura total en m.

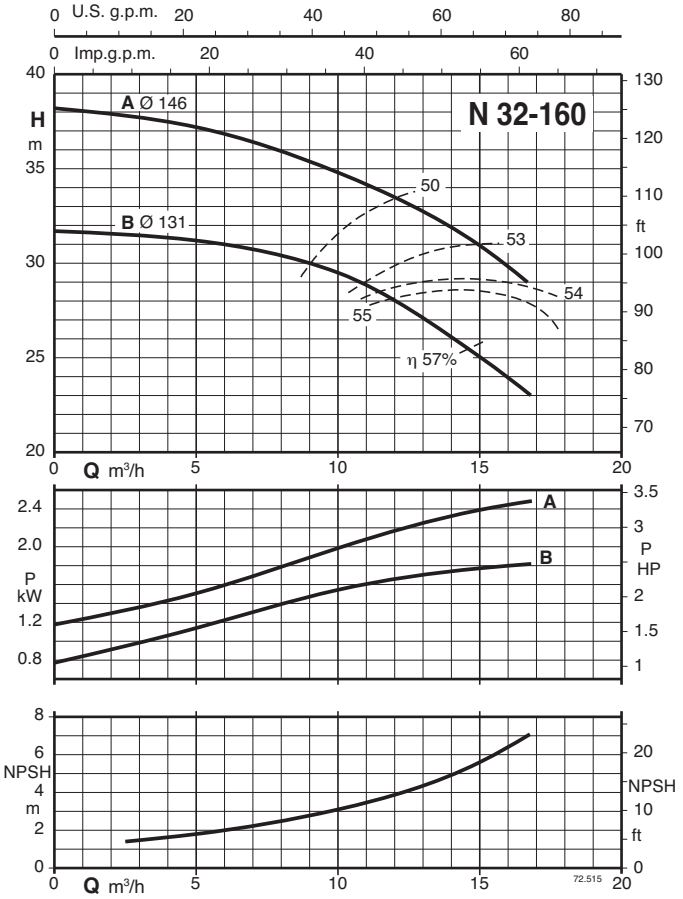
* Maximum suction lift 1-2 m.
Altura máxima de aspiración manométrica 1-2 m.

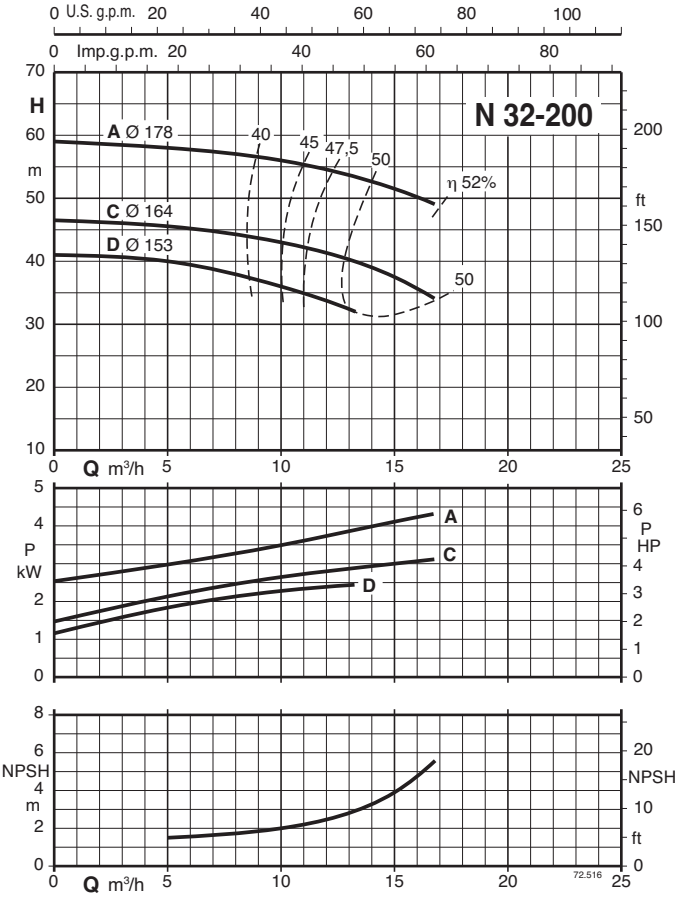
Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

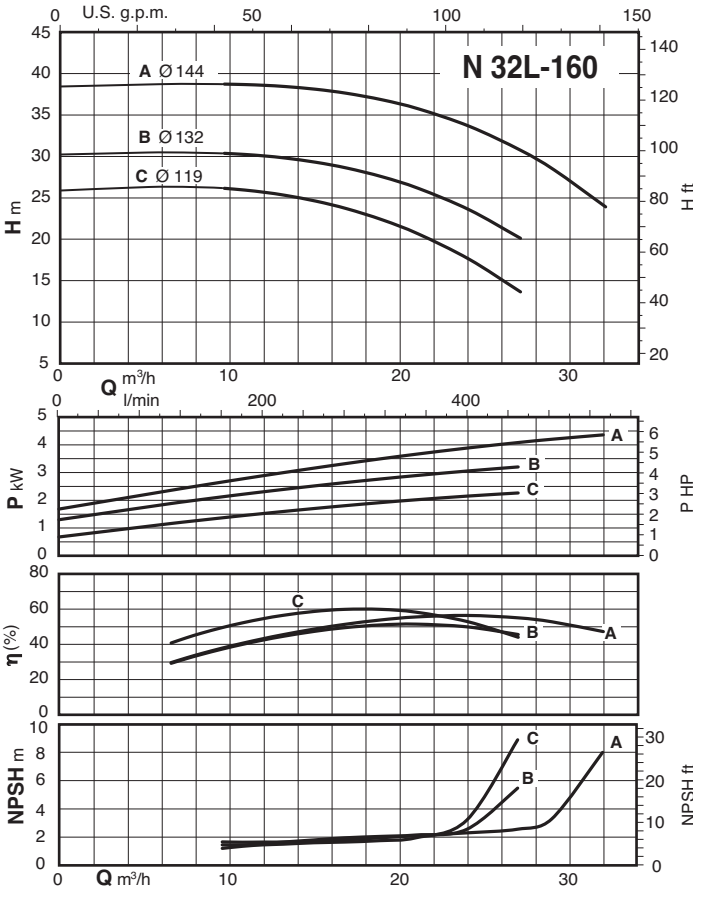
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



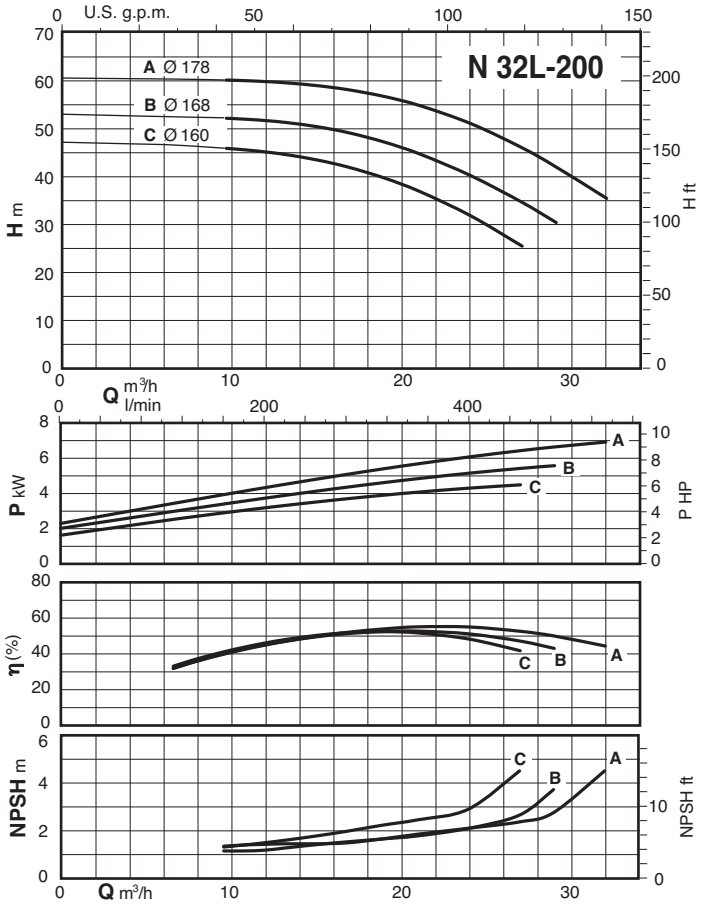



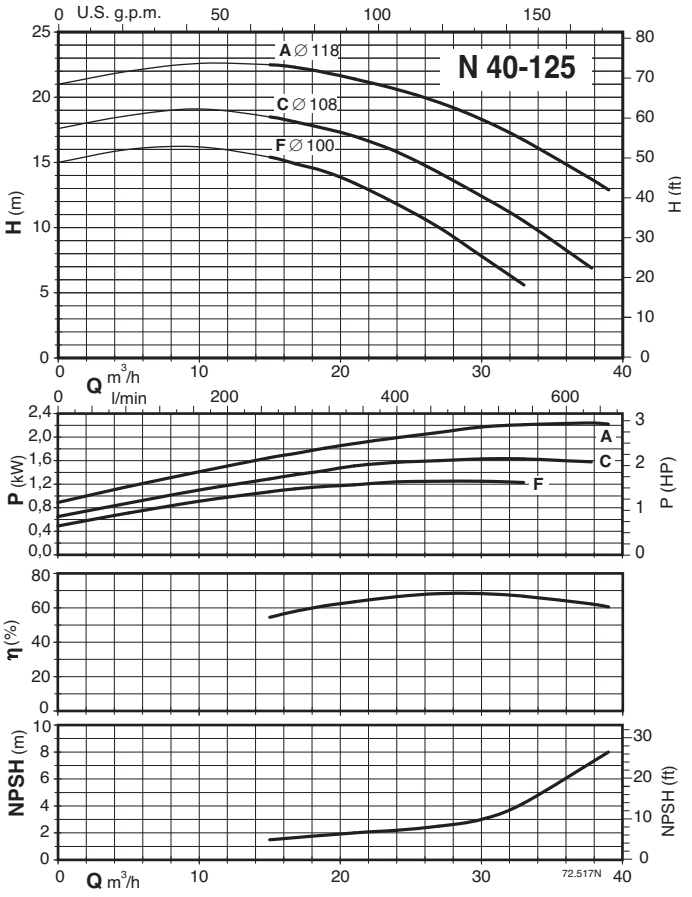



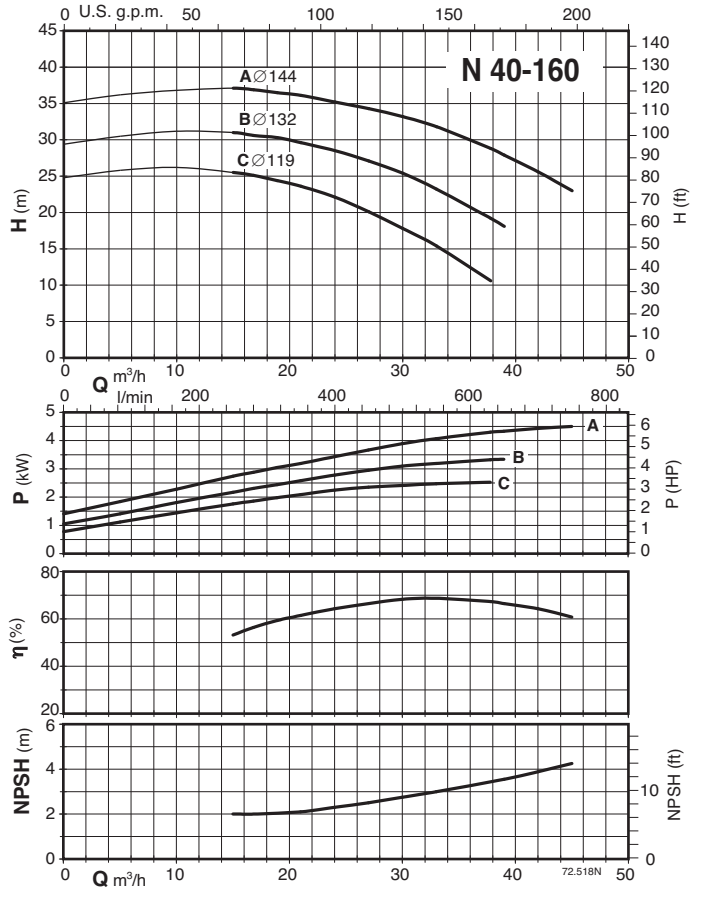



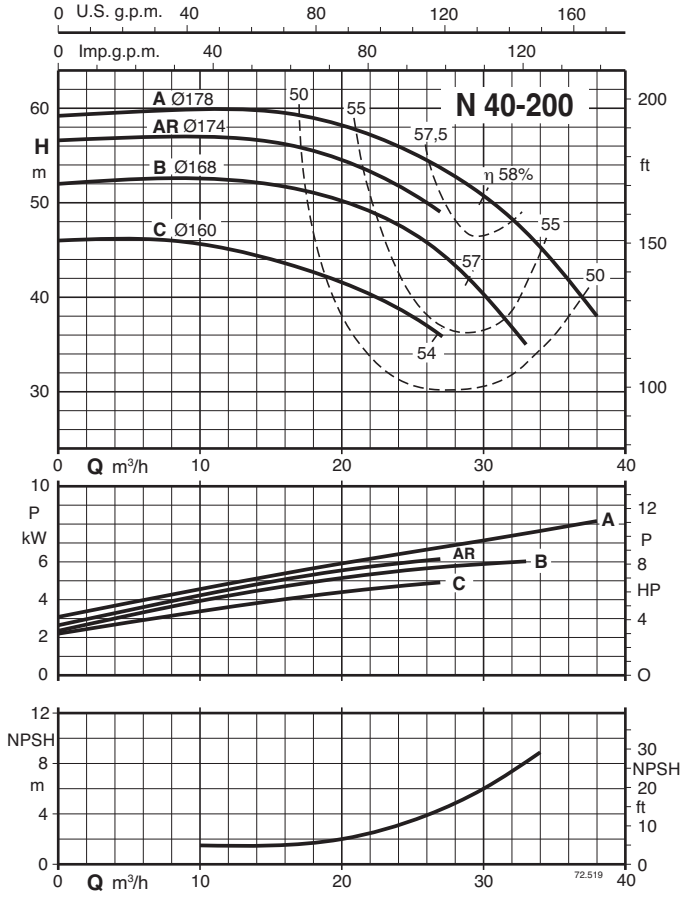
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



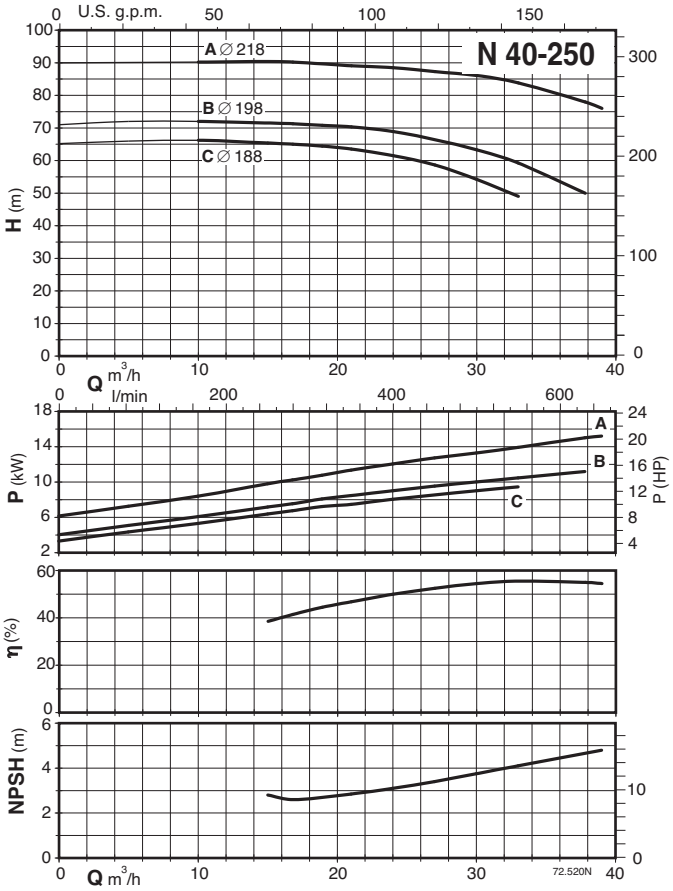



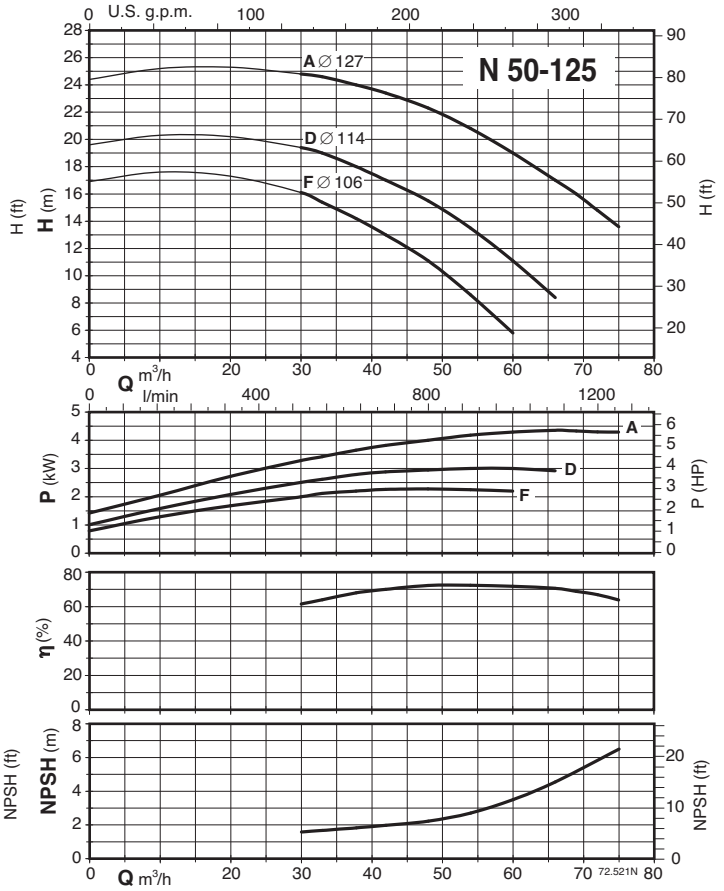



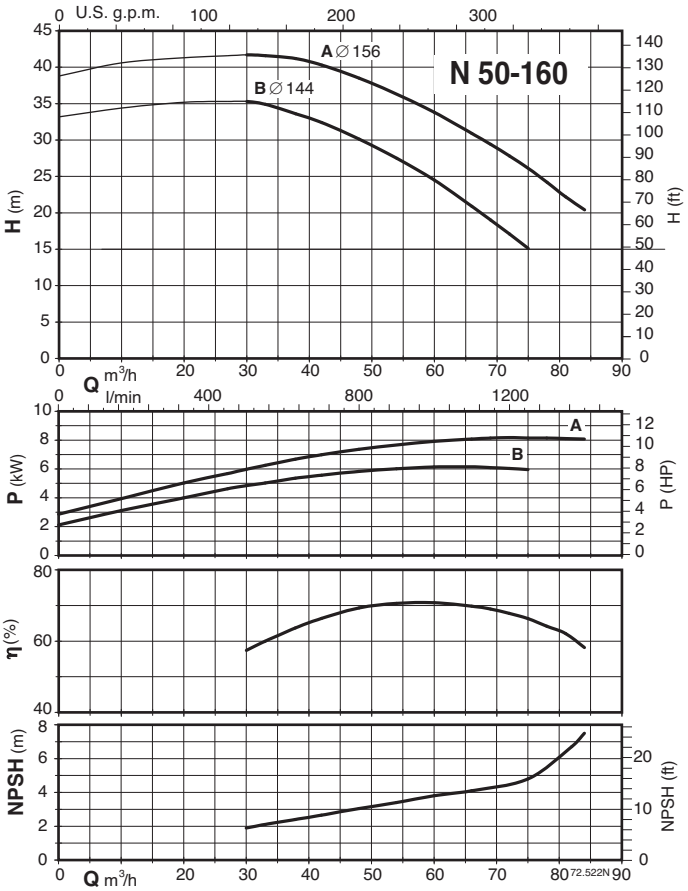



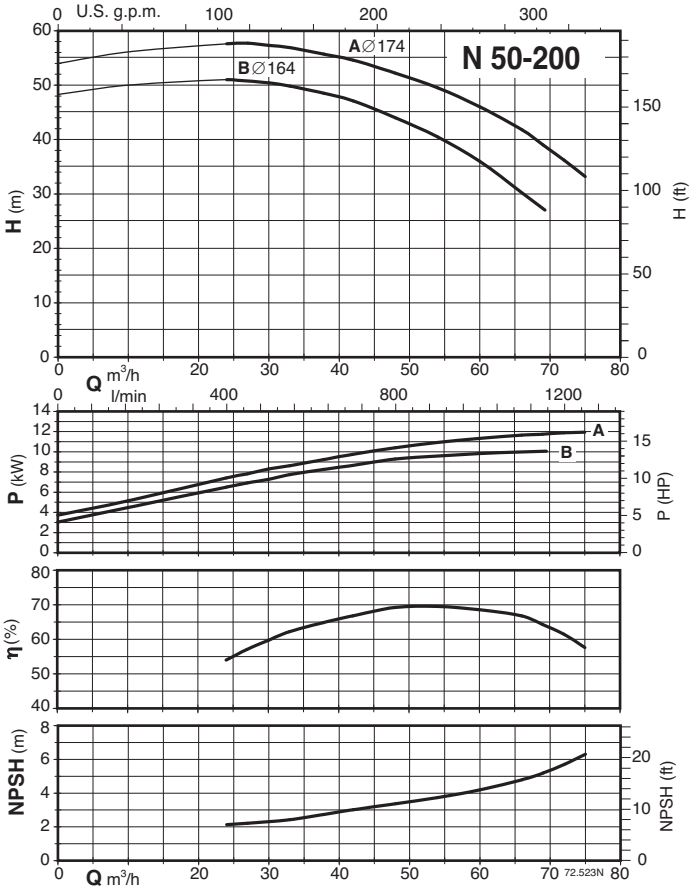
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



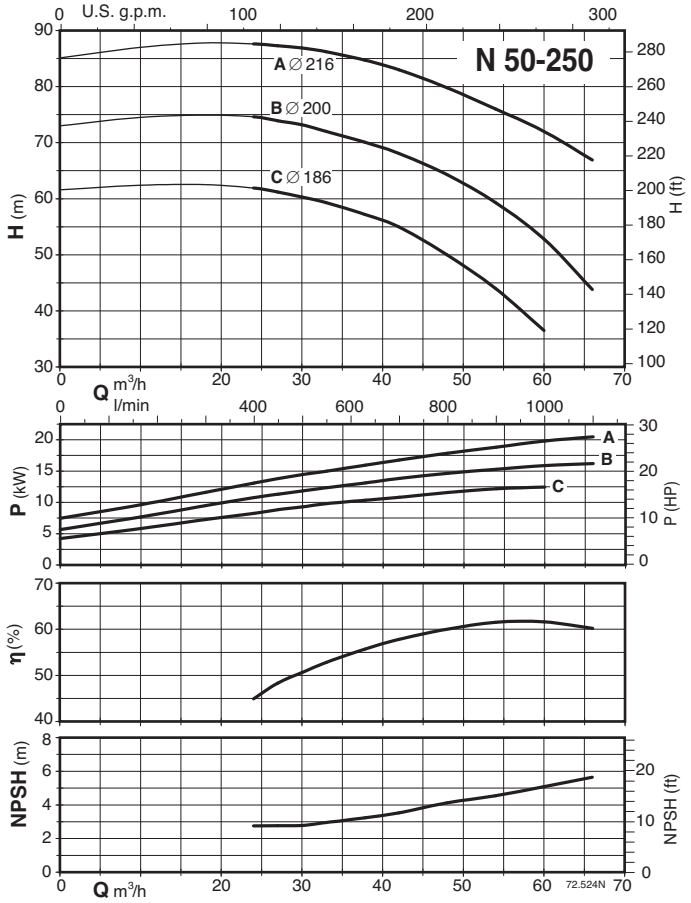



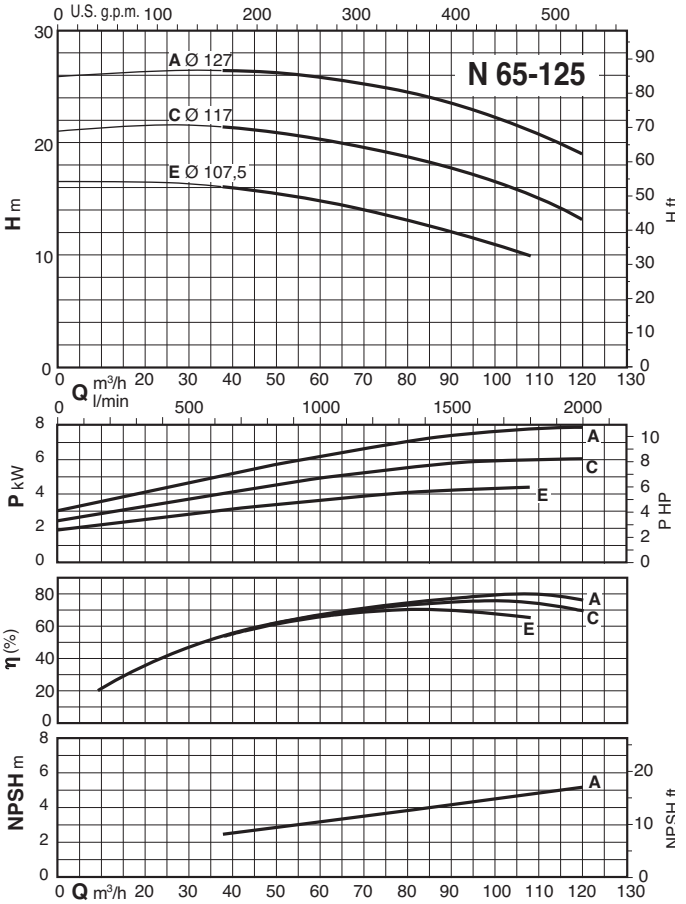



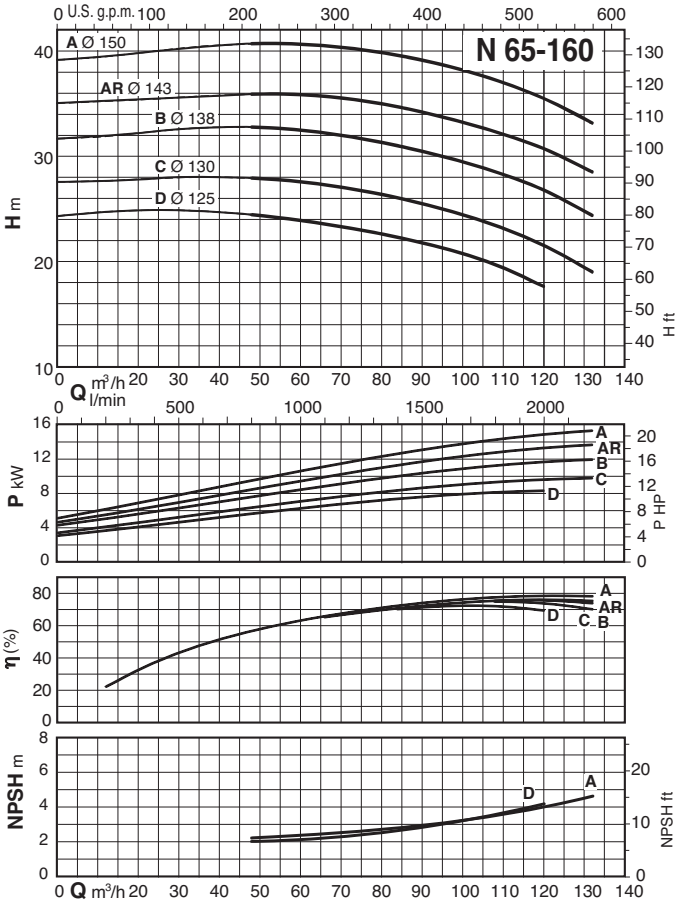



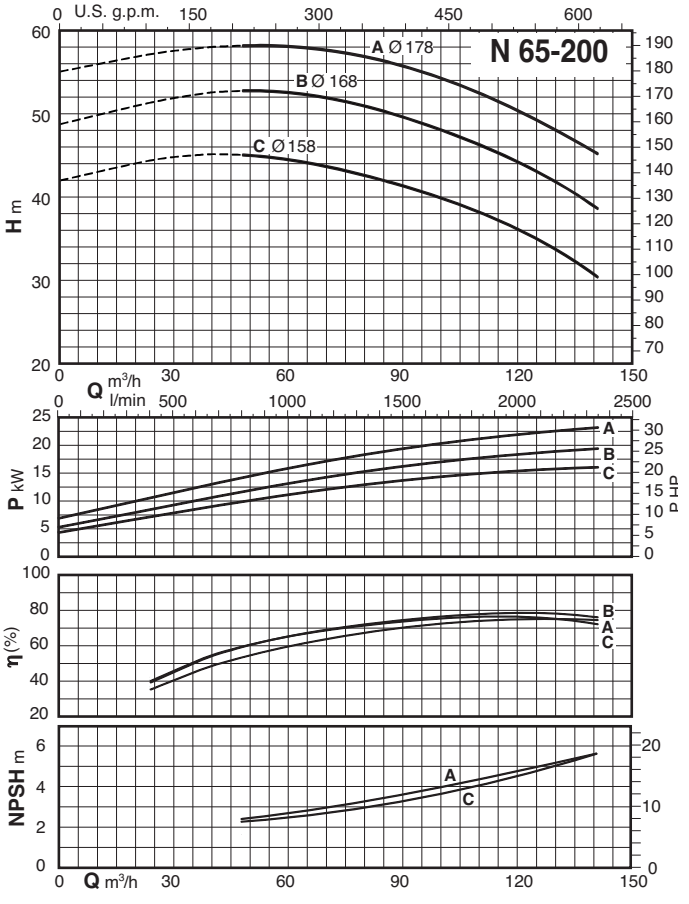
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



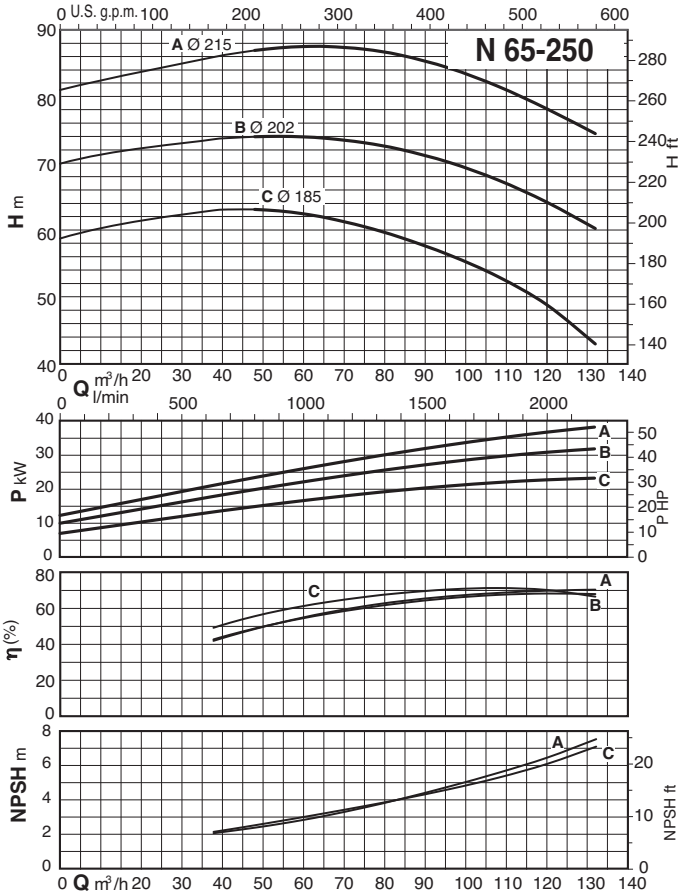



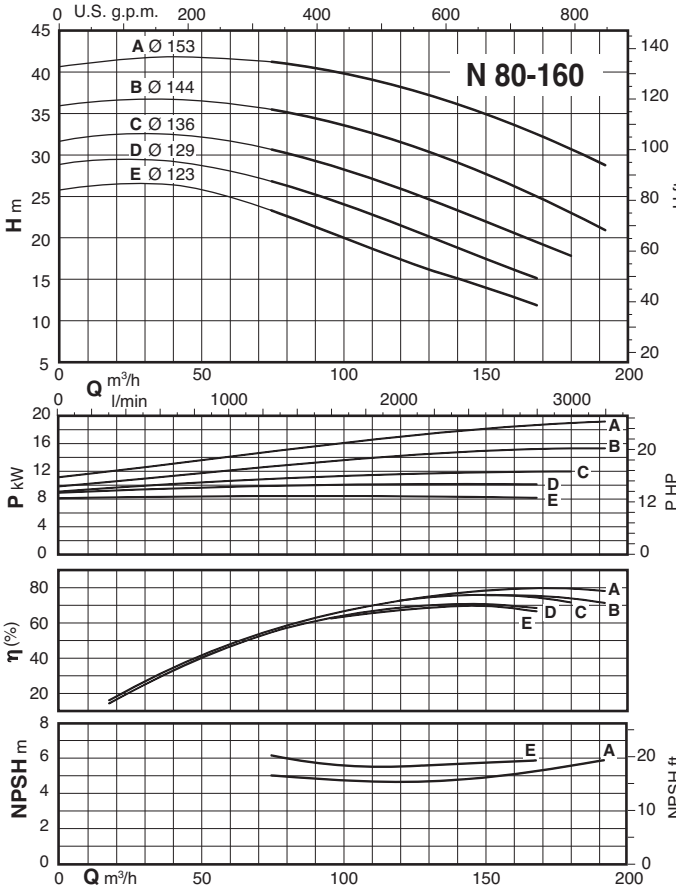



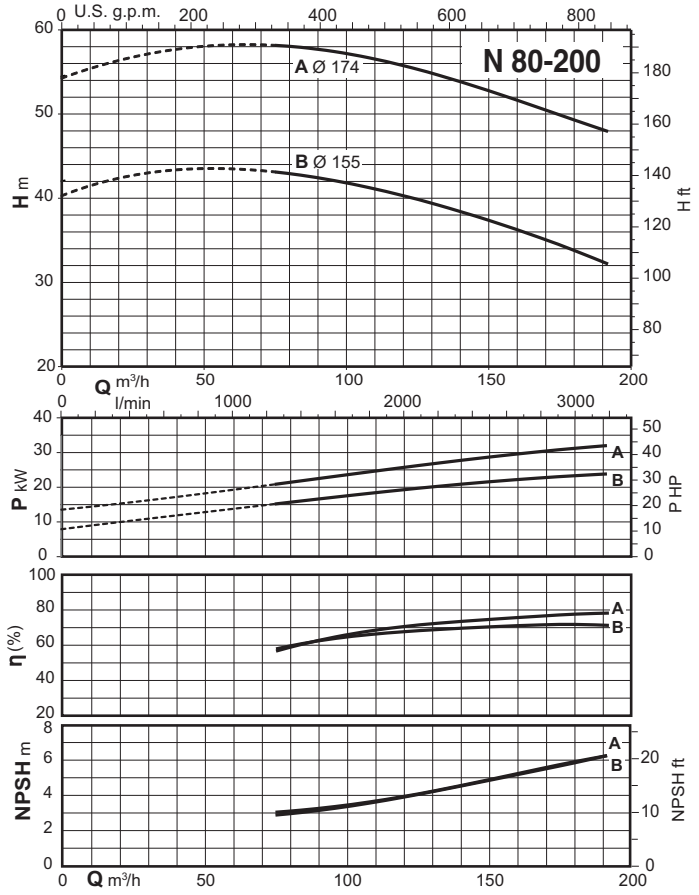



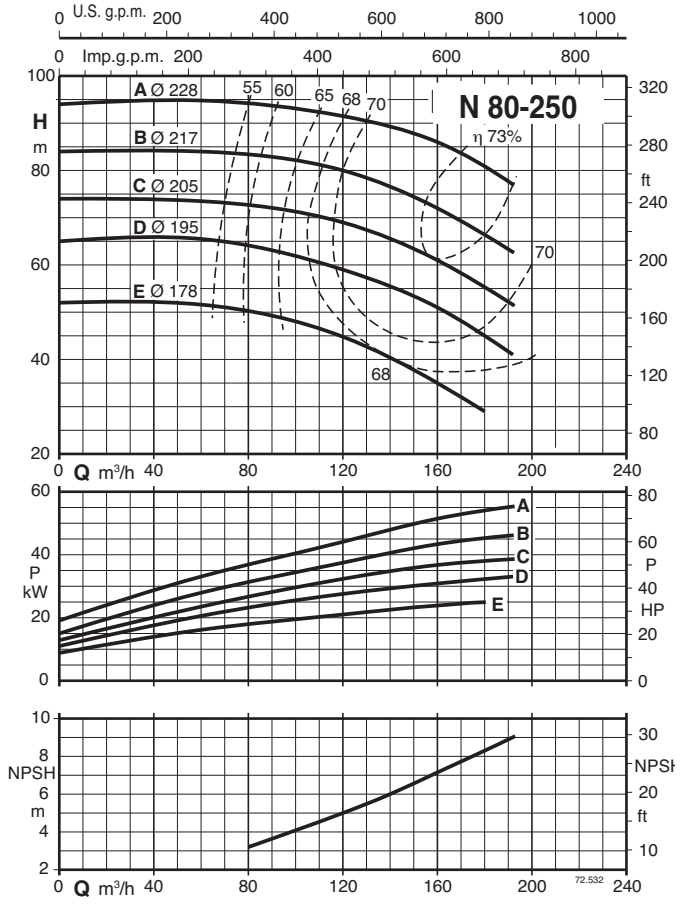
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



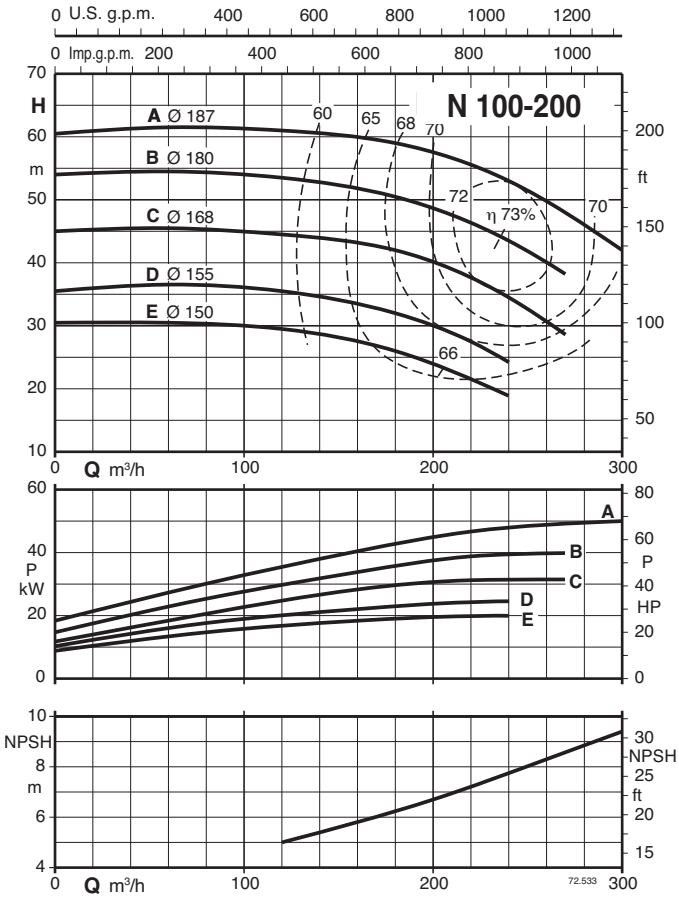



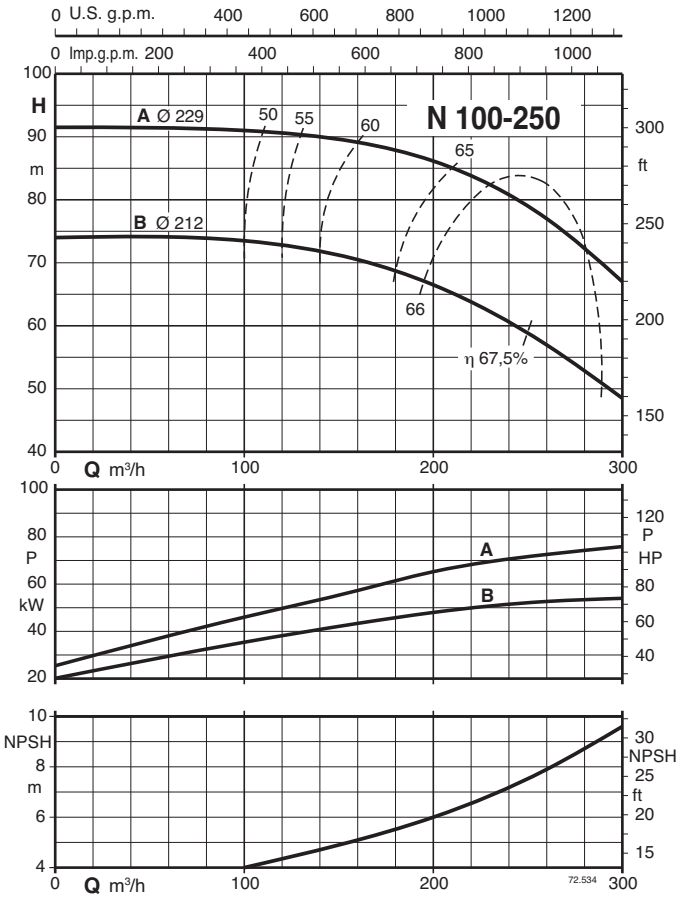



## Characteristic curves - Curvas Características

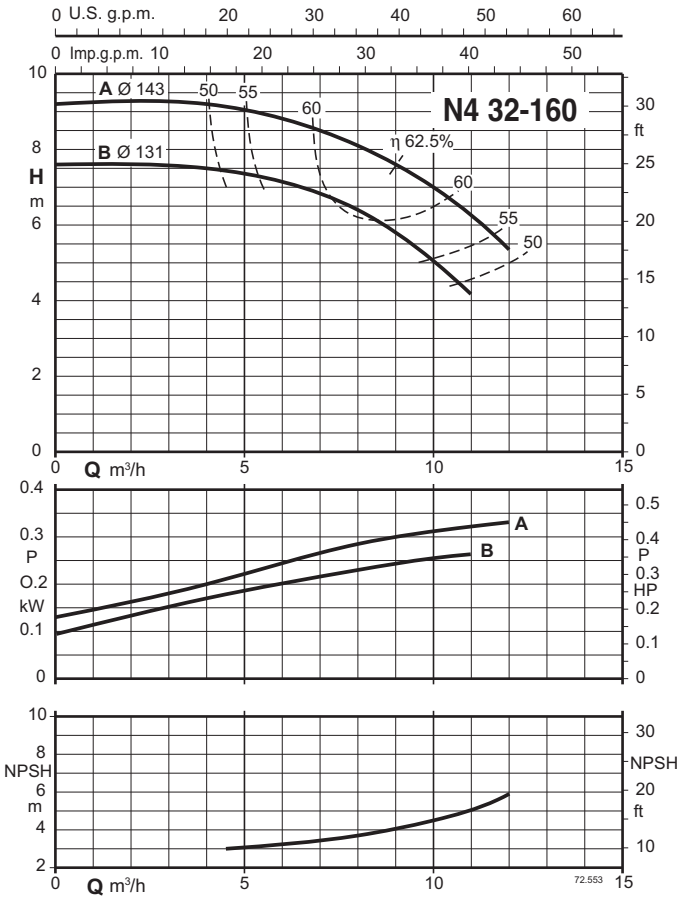
n ≈ 3450 rpm

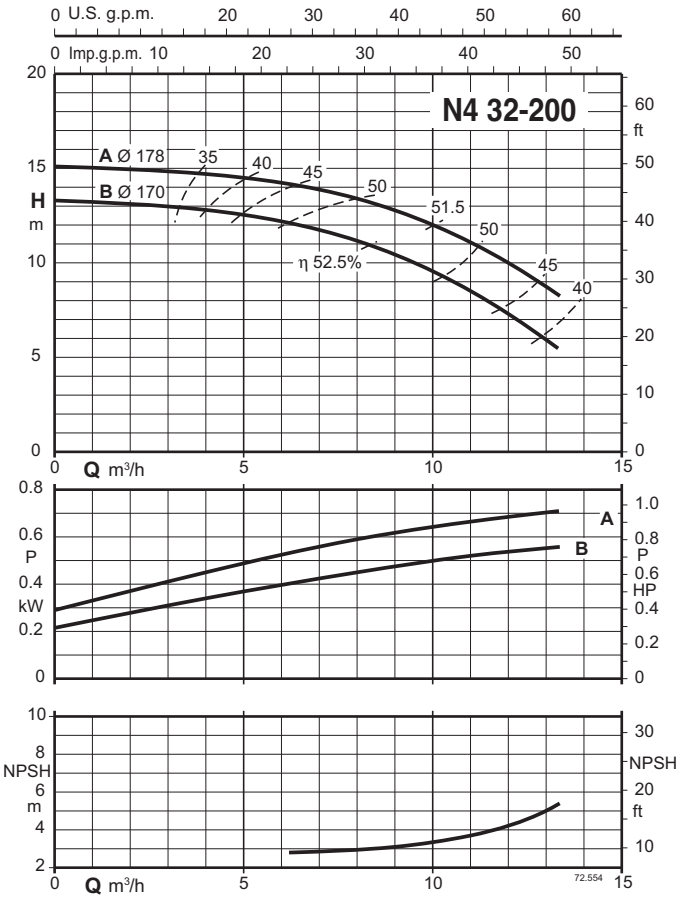


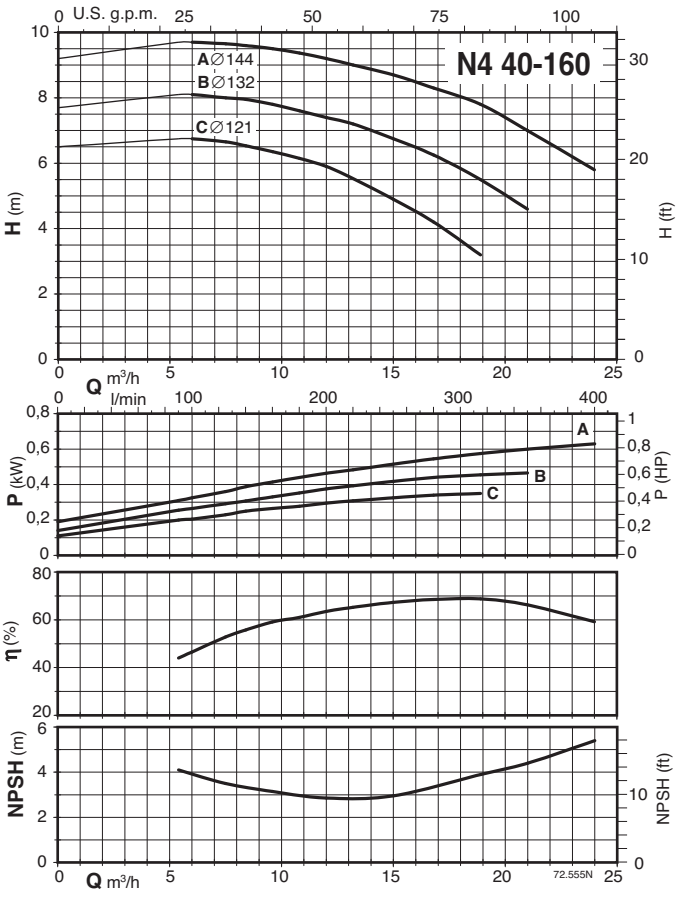



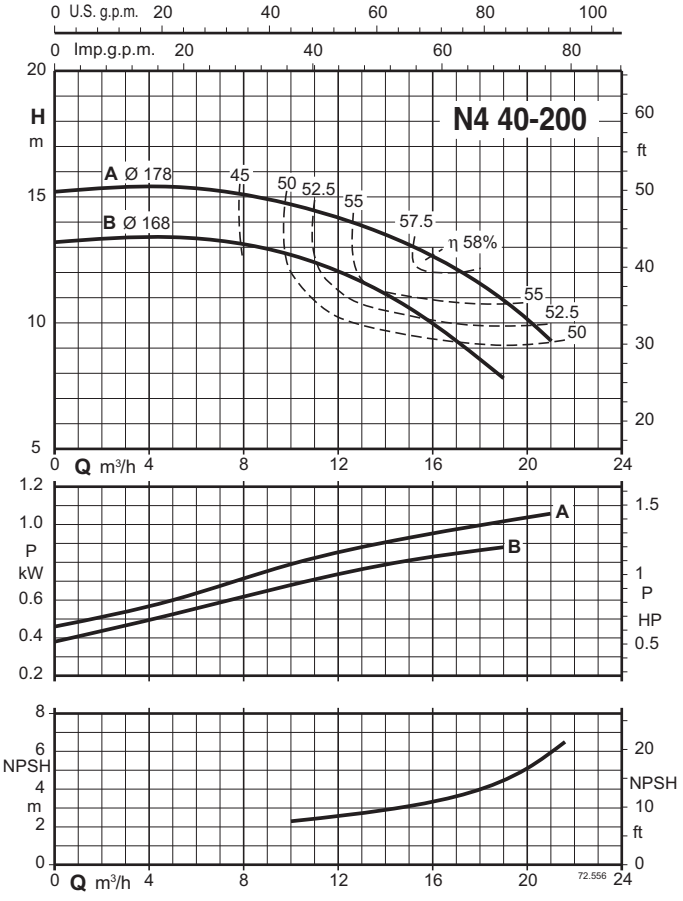
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



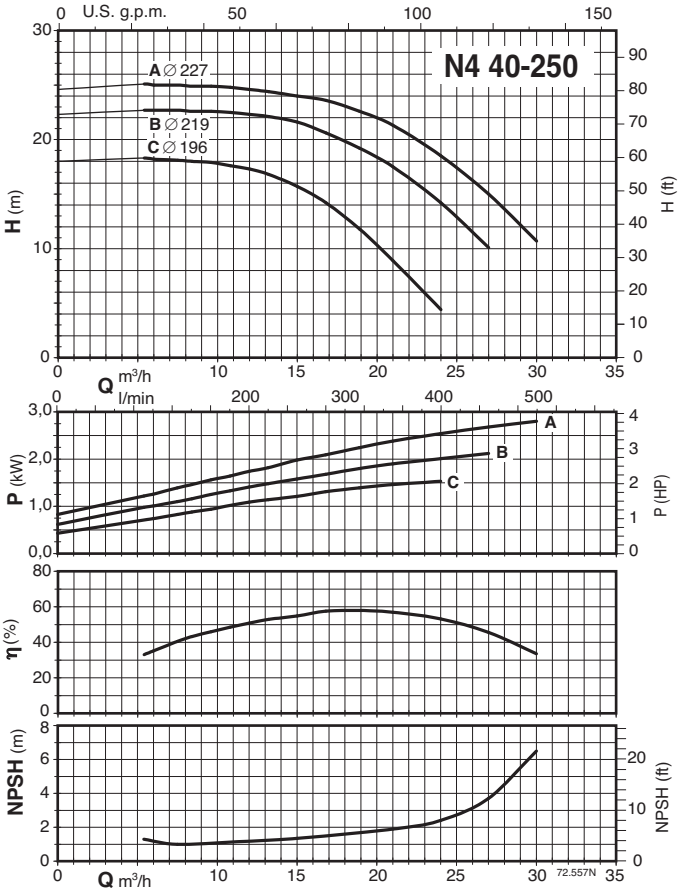



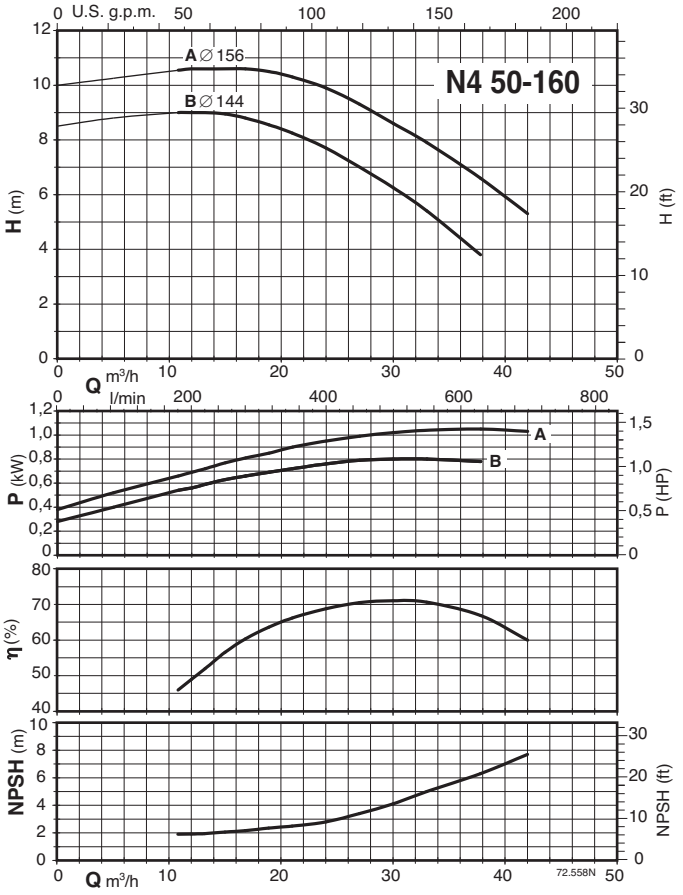



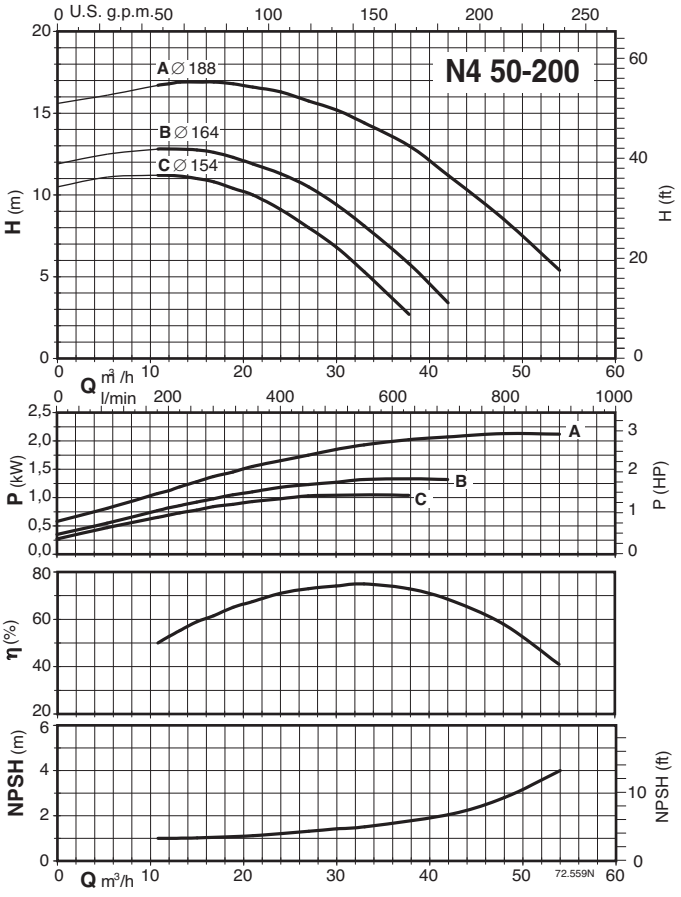



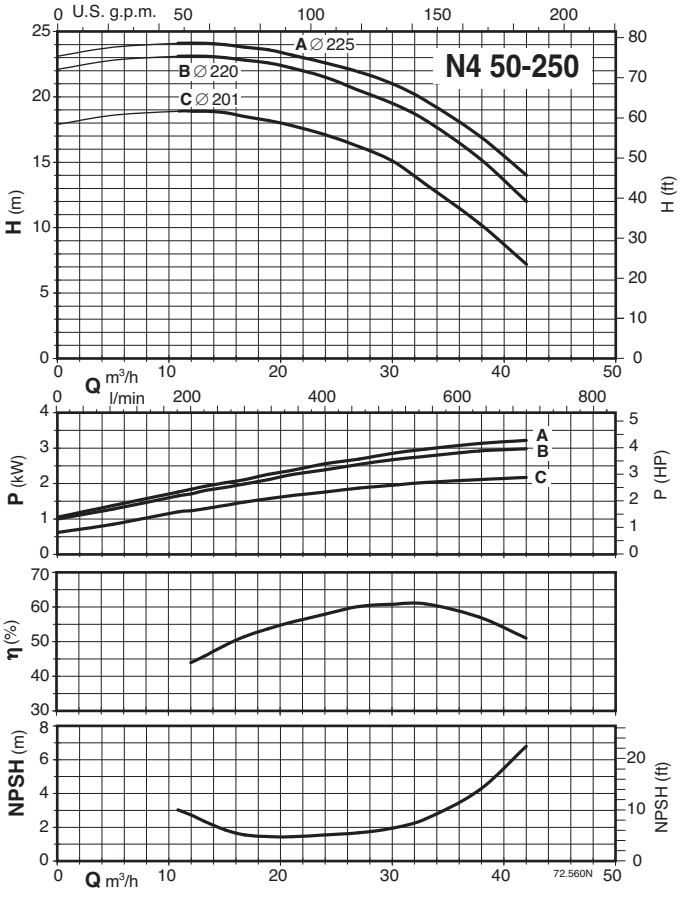
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



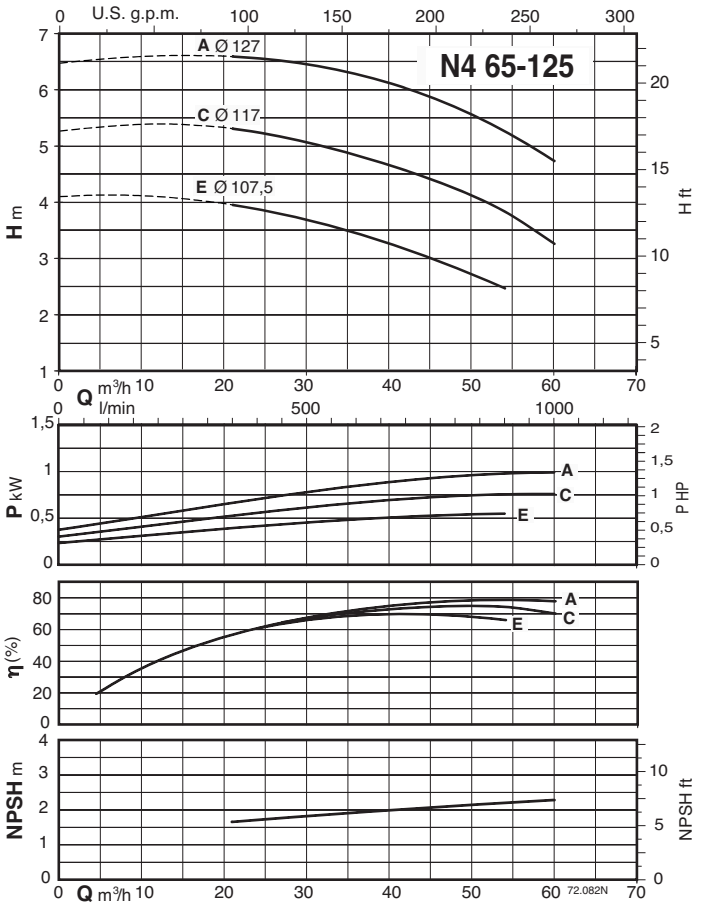



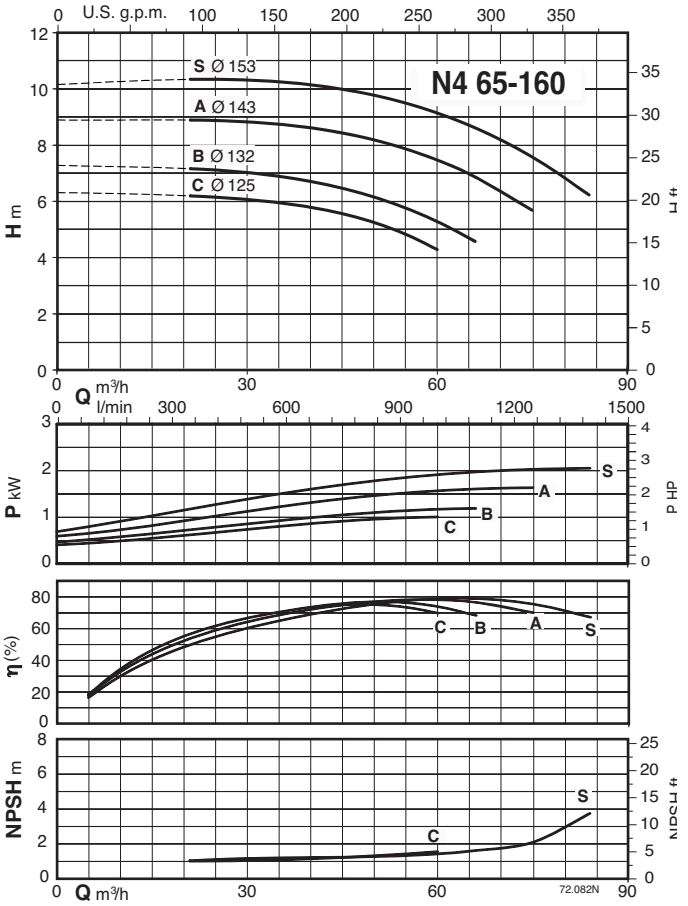



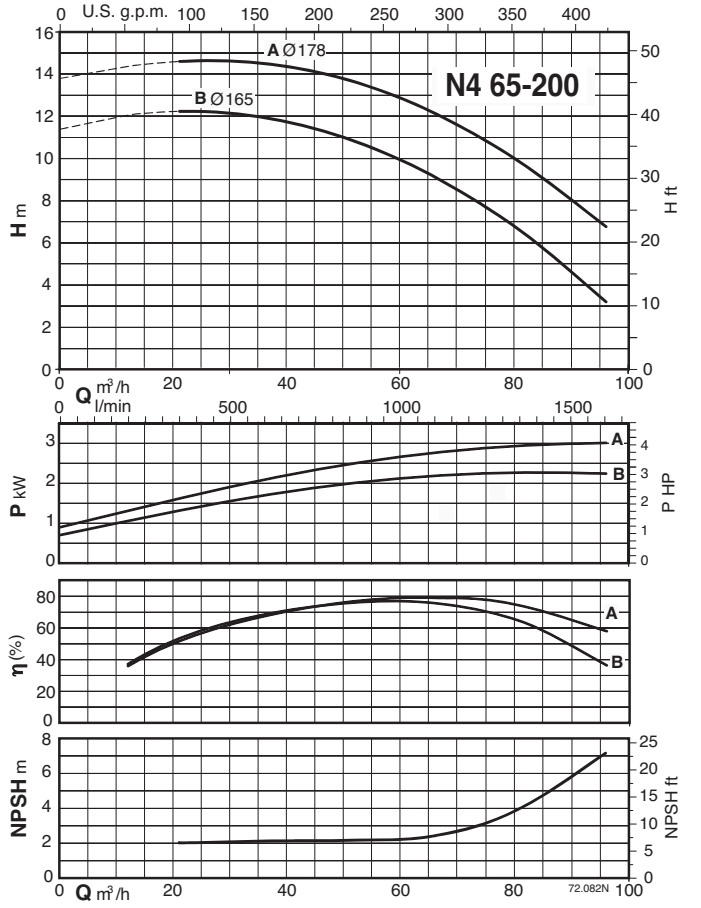



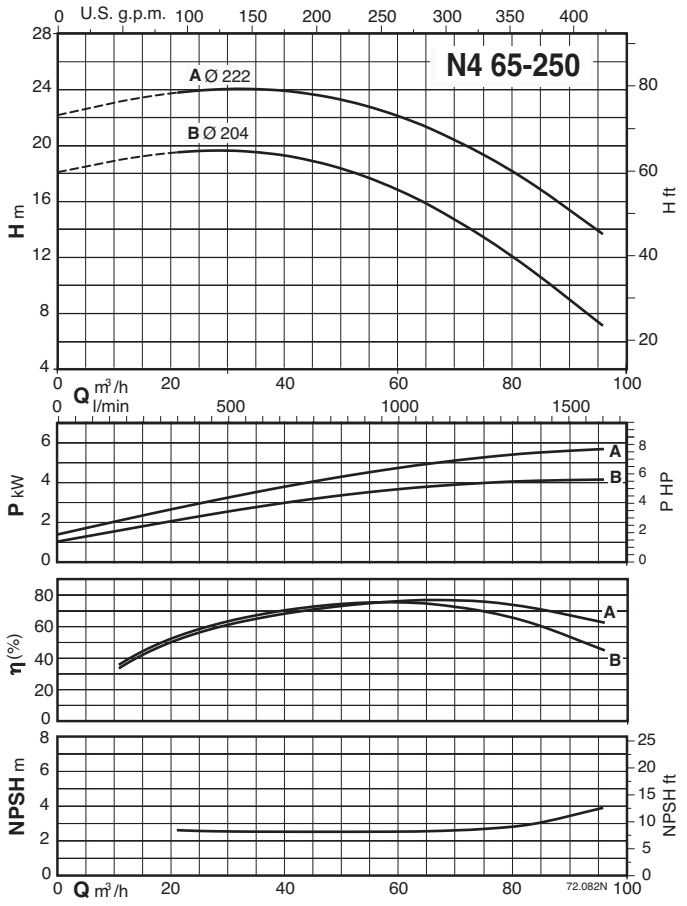
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



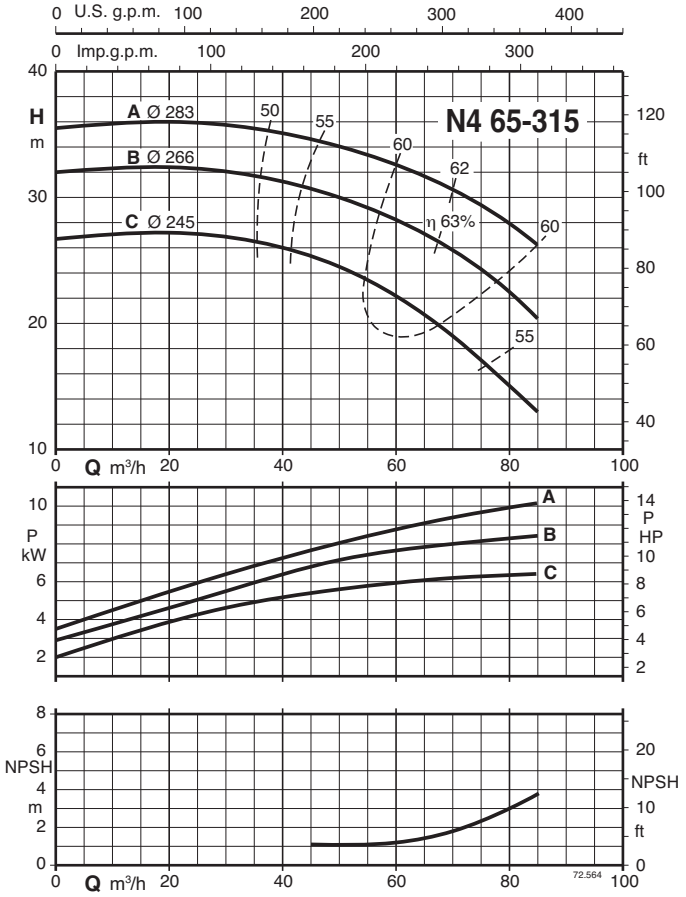



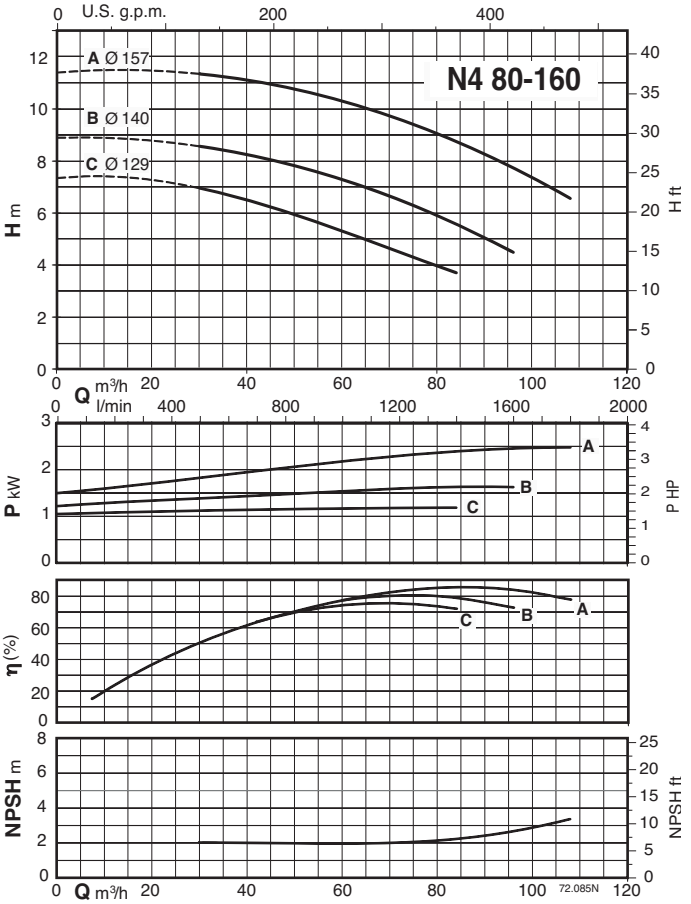



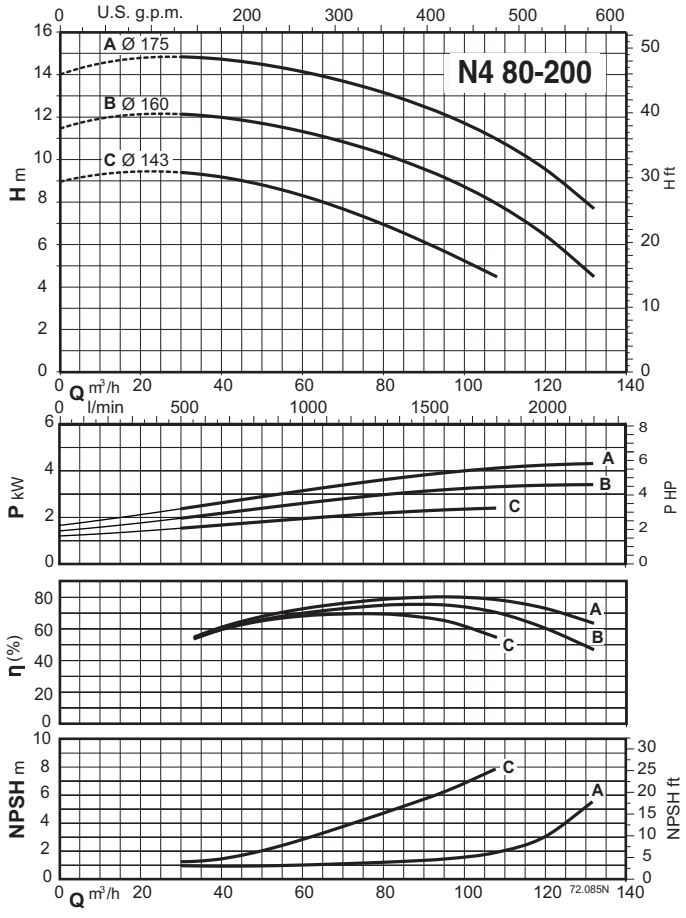



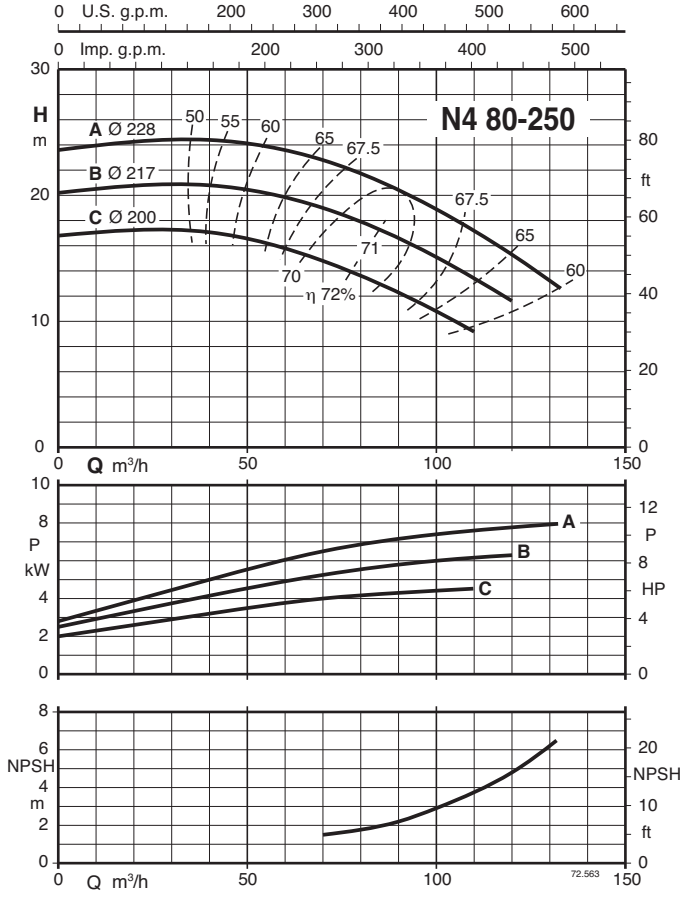
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



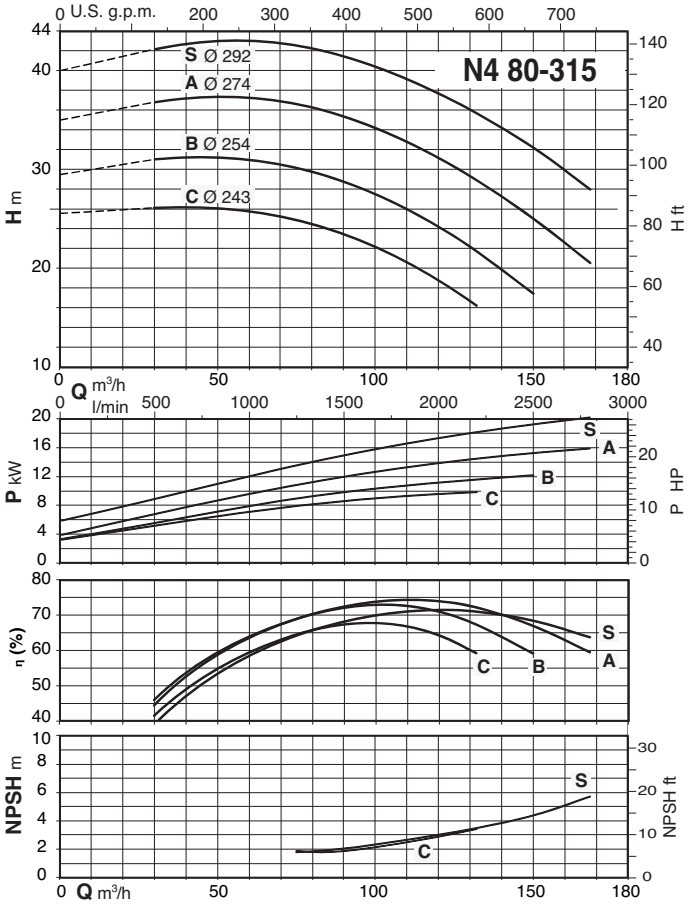



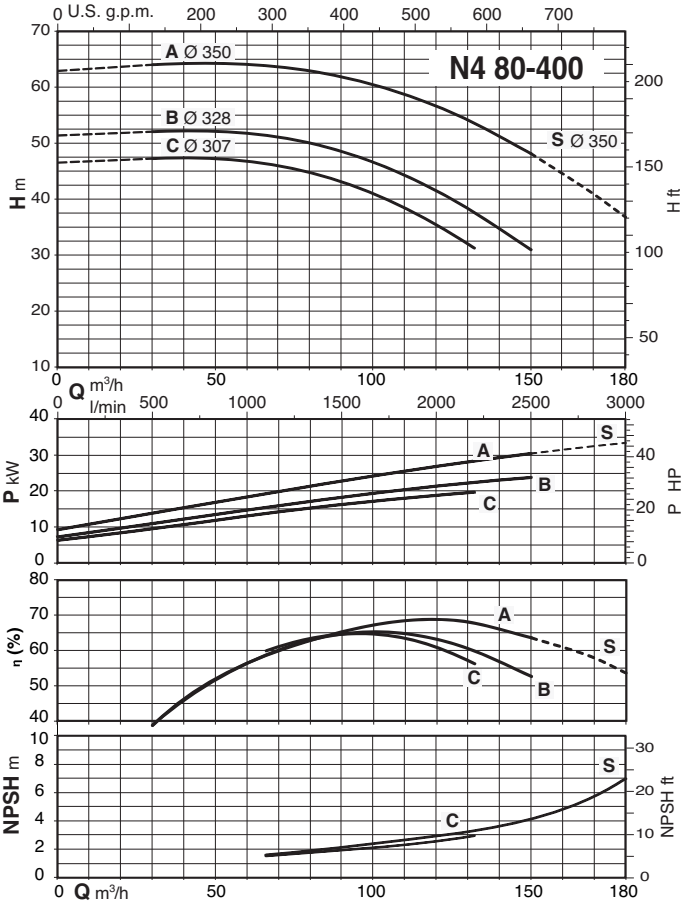



## Characteristic curves - Curvas Características

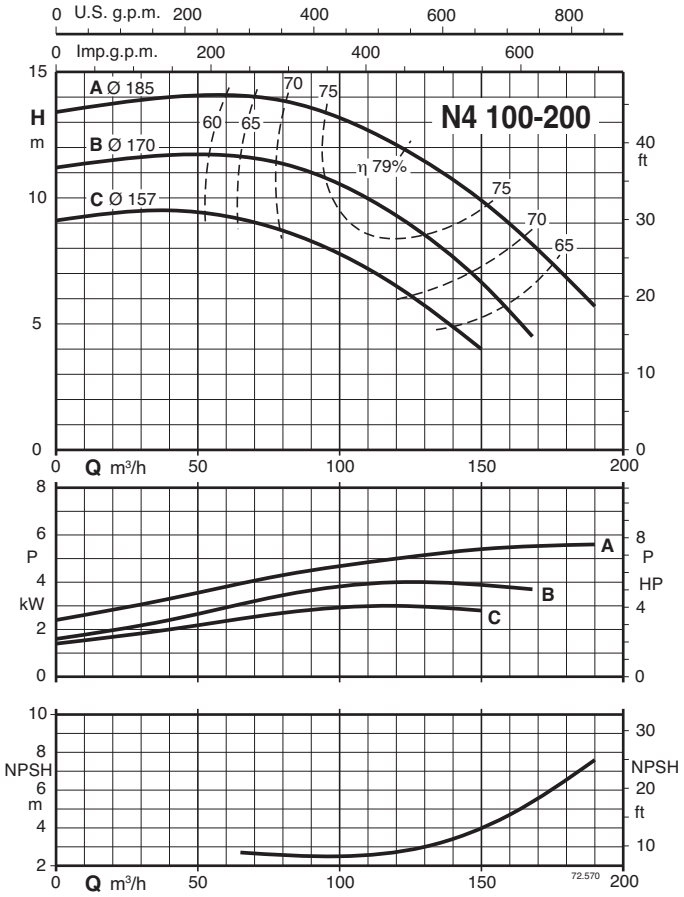
n ≈ 1750 rpm

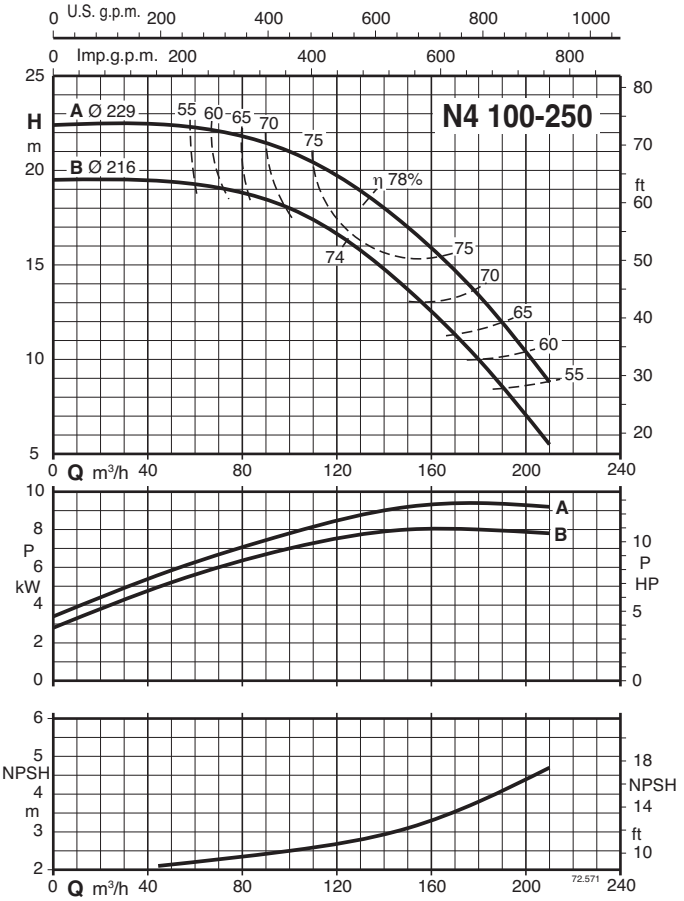


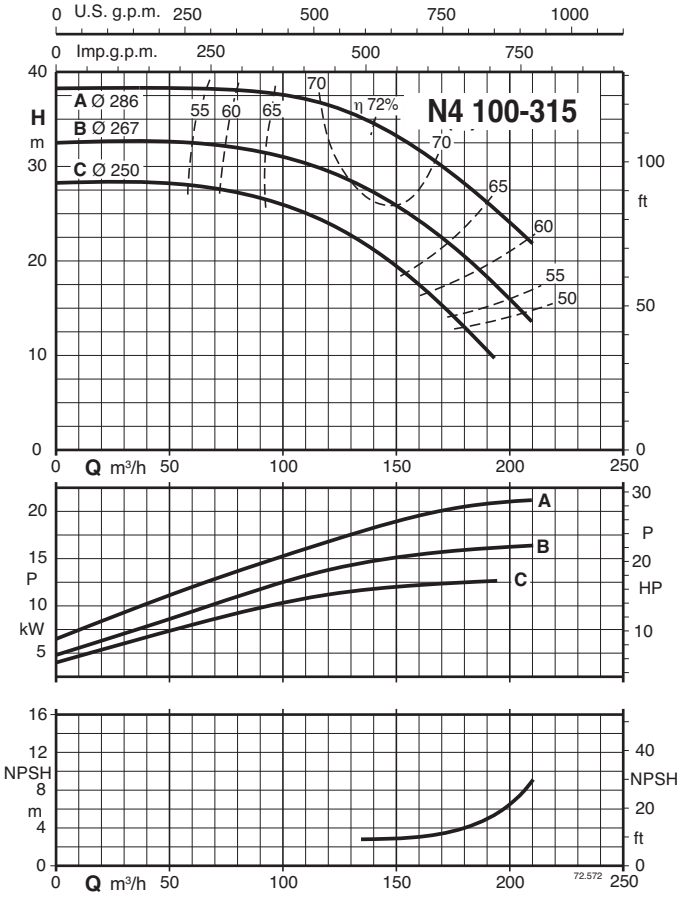



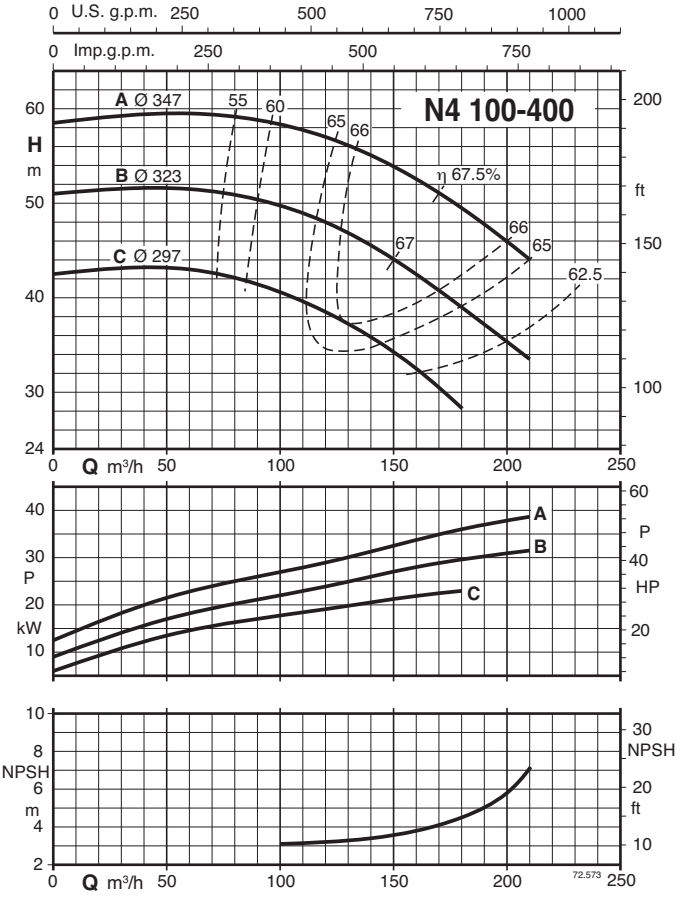
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



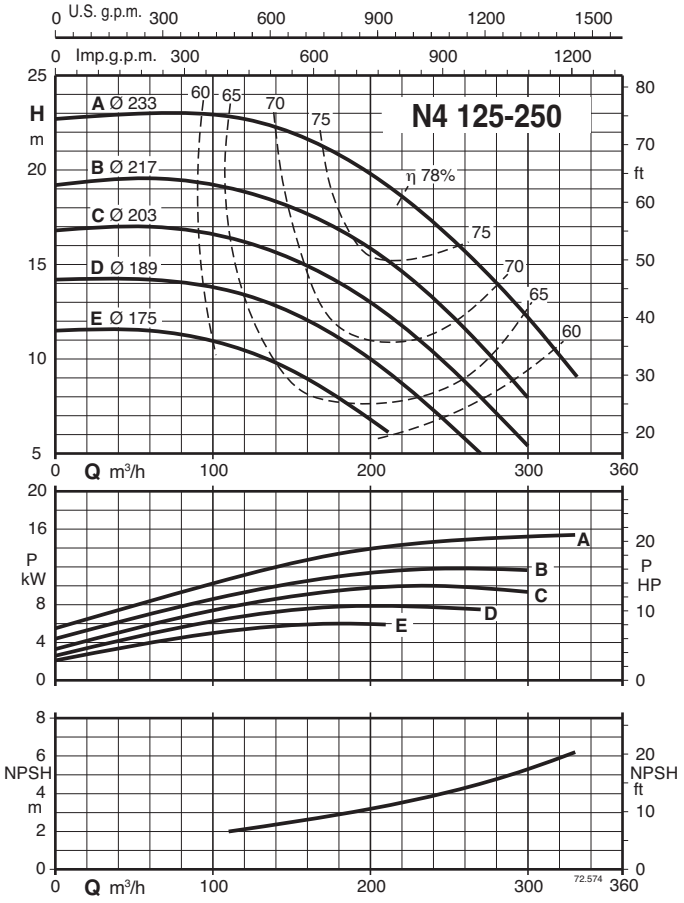



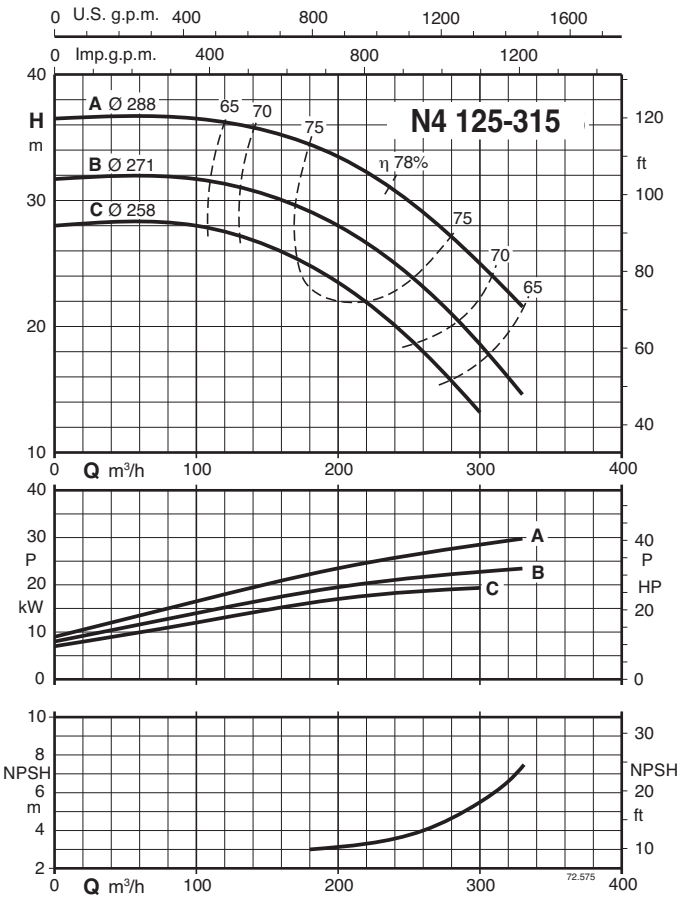



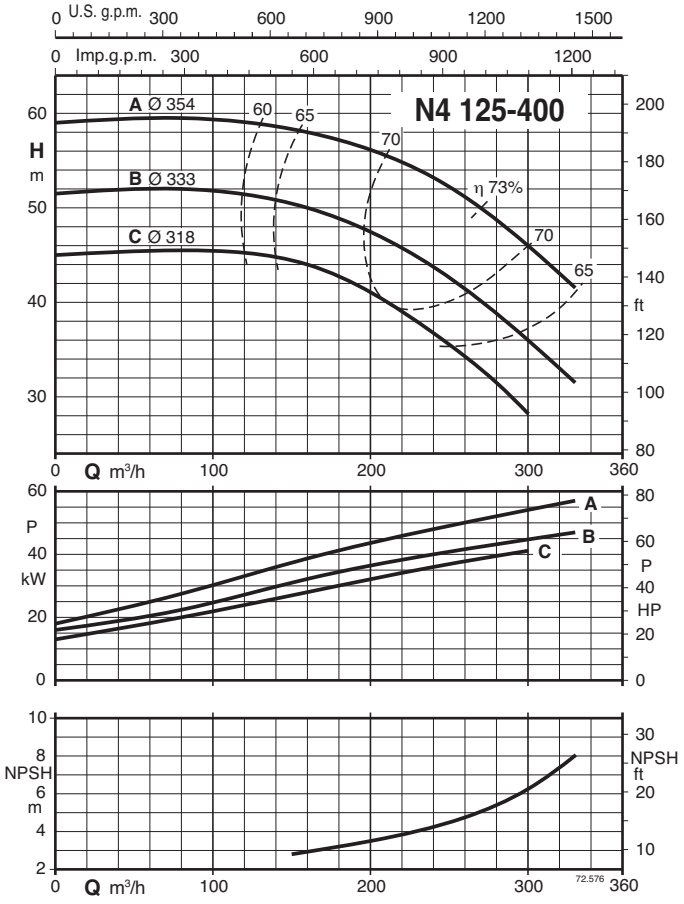



## Characteristic curves - Curvas Características

n ≈ 1750 rpm

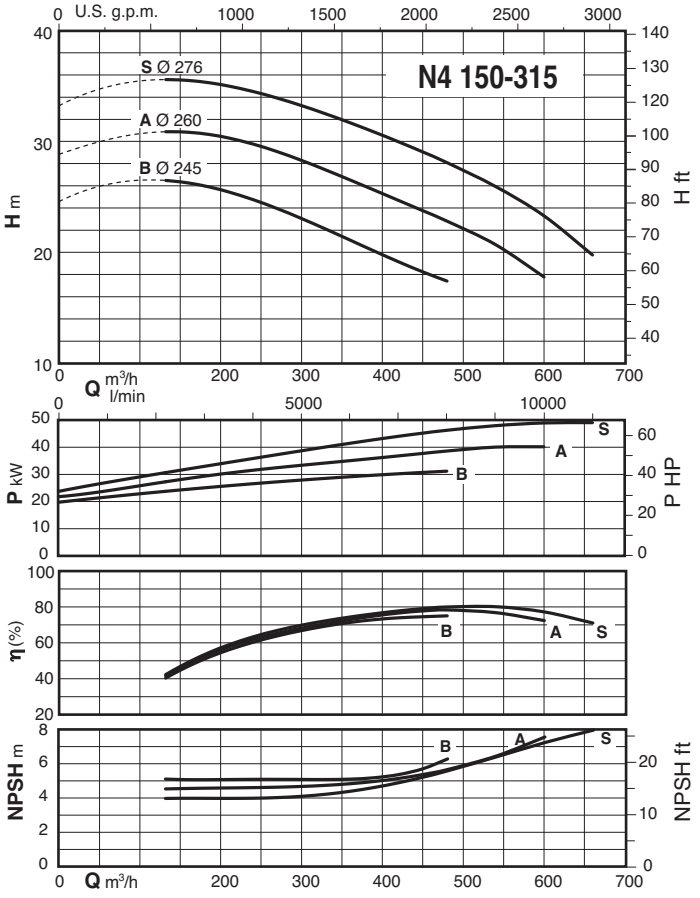


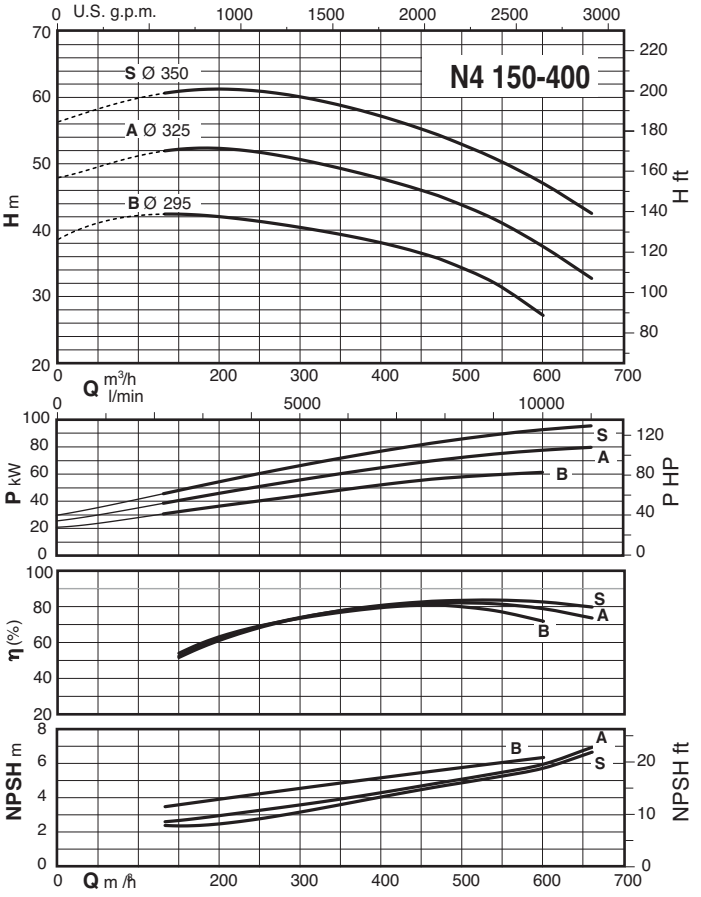



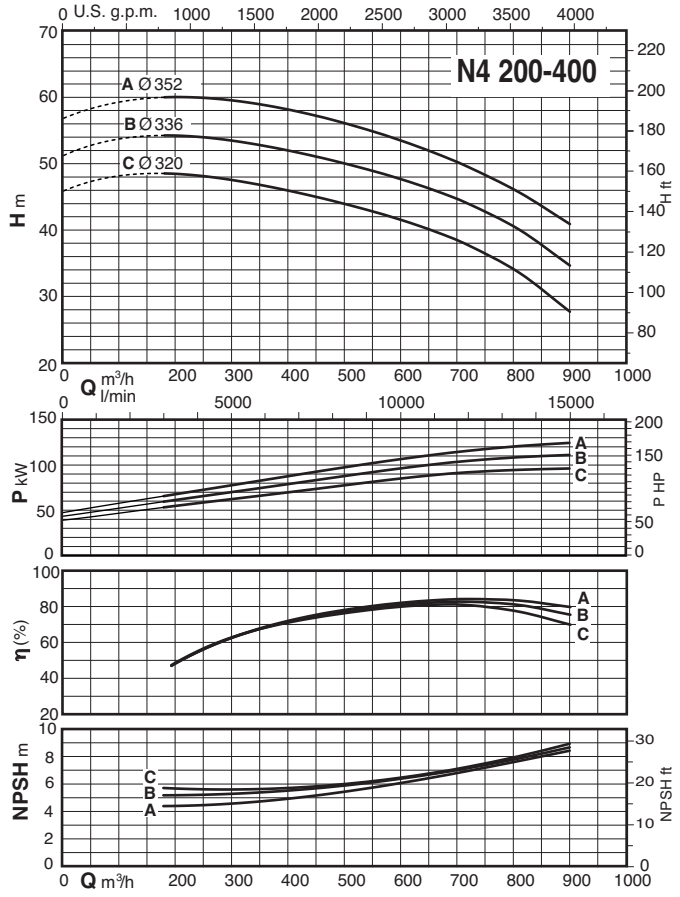



## Characteristic curves - Curvas Características

n ≈ 1750 rpm



# N, N4 60 Hz

## Interchangeability of parts - Intercambiabilidad de componentes

| TYPE<br>TIPO | Bearing housing<br>Cuerpo soporte | | | Pump shaft<br>Eje bomba | | | | | Ball bearings<br>Rodamientos | | | | Shaft sealing<br>Sello sobre el eje | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | I | II | III | IV | V | 6207 2Z<br>6306 2Z | 6207 2Z<br>3306 2Z | 6309 Z<br>3309 | 6311 Z<br>3311 | Ø 32 | Ø 40 | Ø 50 |
| N,N4 32-125 | ● | | | ● | | | | | ● | | | | ● | | |
| N,N4 32-160 | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 32-200 | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 40-125 | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 40-160 | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 40-200C | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 40-200A-AR-B | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 40-250 | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 50-125 | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 50-160 | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 50-200 | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 50-250 | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 65-125E | ● | | | | ● | | | | ● | | | | ● | | |
| N,N4 65-125A-C | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 65-160 | ● | | | | | ● | | | | ● | | | ● | | |
| N,N4 65-200 | | | | | | ● | | | | ● | | | ● | | |
| N,N4 65-250 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 65-315 | ● | ● | | | | | ● | | | | ● | | | ● | |
| N,N4 80-160 | | | | | | ● | | | | ● | | | ● | | |
| N,N4 80-200 | | ● | | | | | ● | | | | ● | | | ● | |
| N,N4 80-250 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 80-315 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 80-400 | | | ● | | | | | ● | | | | ● | | | ● |
| N,N4 100-200 | | ● | | | | | ● | | | | ● | | | ● | |
| N,N4 100-250 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 100-315 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 100-400 | | | ● | | | | | ● | | | | ● | | | ● |
| N4 125-250 | | ● | | | | | ● | | | | ● | | | ● | |
| N4 125-315 | | | ● | | | | | ● | | | | ● | | | ● |
| N4 125-400 | | | ● | | | | | ● | | | | ● | | | ● |
| N4 150-315 | | | ● | | | | | ● | | | | ● | | | ● |
| N4 150-400 | | | ● | | | | | ● | | | | ● | | | ● |

## Maximum permissible rotation speed - Velocidad de rotación máxima admitida.

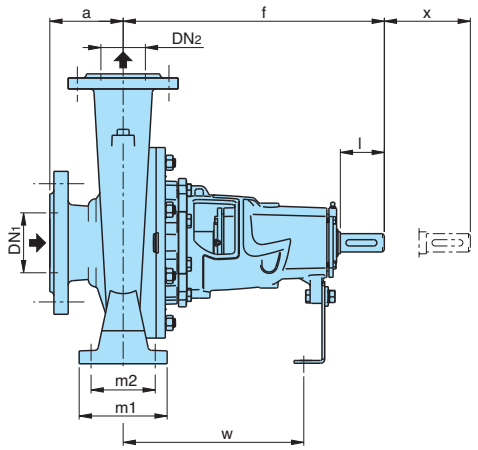
| **3600** 1/min | **3000** 1/min | **1800** 1/min |
|---|---|---|
| 32-125 32-160 32-200<br>40-125 40-160 40-200<br>50-125 50-160 50-200<br>65-125 65-160<br>80-200<br>100-200 | 80-160<br>65-200 65-250<br>40-250<br>50-250<br>80-250<br>100-250 | 65-315<br>80-315 80-400<br>100-315 100-400<br>125-250 125-315 125-400<br>150-315 150-400 |

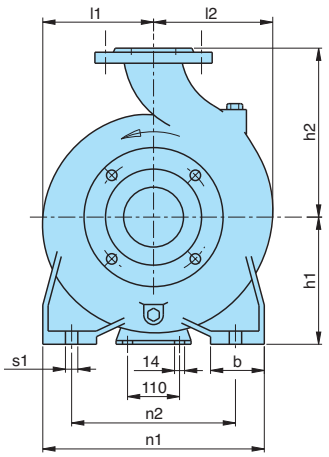
## Suction pipe: *recommended minimum inside diameter (DN) for different capacities (Q)*
## Tubo aspiración: diámetro interno (DM) mínimo aconsejado para diversos caudales (Q).

| Threaded pipe<br>Tubo roscado | | G 2 | G 2 1/2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| DN | mm | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| Q max | m³/h | 10,5 | 19 | 28,8 | 45 | 75 | 108 | 215 | 350 | 508 |

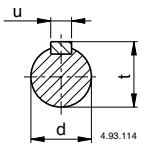
# N, N4 60 Hz

## Dimensions and weights - Dimensiones y pesos



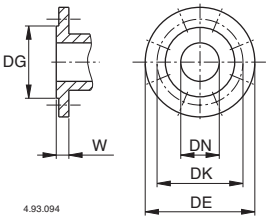




Shaft extension ISO 775 Parallel key UNI 6604
Extremidad del eje ISO 775 Chaveta UNI 6604




| mm | | | |
|---|---|---|---|
| d | l | u | t |
| 24 j6 | 50 | 8 | 27 |
| 32 k6 | 80 | 10 | 35 |
| 42 k6 | 110 | 12 | 45 |

Flanges
Bridas PN 10, EN 1092-2




| mm | | | | | | |
|---|---|---|---|---|---|---|
| DN | DG | DK | DE | Holes Agujeros N° | Holes Agujeros Ø | W |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |
| 150 | 211 | 240 | 285 | 8 | 23 | 26 |
| 200 | 266 | 295 | 340 | 8 | 23 | 30 |

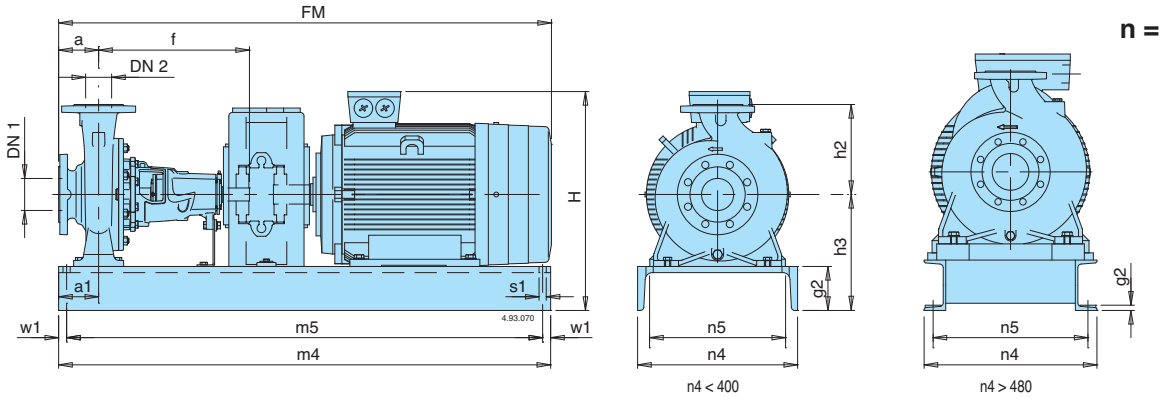
**N** **n = 3450 rpm**
**N4** **n = 1750 rpm**

| TYPE TIPO | mm | | | | | | | | | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | f | h1 | h2 | l1 | l2 | m1 | m2 | n1 | n2 | b | s1 | d | w | x | B-N B-N4 | N N4 |
| B-N, B-N4 - N, N4 32-125 | 50 | 32 | 80 | 360 | 112 | 140 | 93 | 97 | 100 | 70 | 190 | 140 | 50 | 14 | 24 | 260 | 100 | 30 | 26,5 |
| B-N, B-N4 - N, N4 32-160 | | | | | 132 | 160 | 120 | 120 | | | 240 | 190 | | | | | | 37 | 33 |
| B-N, B-N4 - N, N4 32-200 | | | | | 160 | 180 | 140 | 140 | | | | | | | | | | 44 | 38,4 |
| B-N, - N, 32L-160 | | | | | 132 | 160 | 120 | 120 | | | | | | | | | | 35,8 | 33,2 |
| B-N, - N, 32L-200 | | | | | 160 | 180 | 140 | 140 | | | | | | | | | | 43,8 | 40 |
| B-N, - N, 40-125 | 65 | 40 | 80 | 360 | 112 | 140 | 100 | 113 | 100 | 70 | 210 | 160 | 50 | 14 | 24 | 260 | 100 | 32 | 28,4 |
| B-N, B-N4 - N, N4 40-160 | | | | | 132 | 160 | 119 | 119 | | | 240 | 190 | | | | | | 38 | 33,6 |
| B-N, B-N4 - N, N4 40-200 | | | 100 | | 160 | 180 | 140 | 140 | | | 265 | 212 | | | | | | 47,1 | 40,4 |
| B-N, B-N4 - N, N4 40-250 | | | | | 180 | 225 | 175 | 175 | 125 | 95 | 320 | 250 | 65 | | | | | 63 | 55 |
| B-N, B-N4 - N, N4 50-125 | 65 | 50 | 100 | 360 | 132 | 160 | 121 | 137 | 100 | 70 | 240 | 190 | 50 | 14 | 24 | 260 | 100 | 42,4 | 36,5 |
| B-N, B-N4 - N, N4 50-160 | | | | | 160 | 180 | 127 | 141 | | | 265 | 212 | | | | | | 45 | 39,2 |
| B-N, B-N4 - N, N4 50-200 | | | | | | 200 | 140 | 153 | | | | | | | | | | 54 | 47 |
| B-N, B-N4 - N, N4 50-250 | | | | | 180 | 225 | 175 | 175 | 125 | 95 | 320 | 250 | 65 | | | | | 66 | 57,5 |
| B-N, B-N4 - N, N4 65-125 | 80 | 65 | 100 | 360 | 160 | 180 | 134 | 155 | 125 | 95 | 280 | 212 | 65 | 14 | 24 | 260 | 100 | 48 | 38,7 |
| B-N, B-N4 - N, N4 65-160 | | | | | | 200 | 150 | 172 | | | | | | | | | | 50,6 | 44,5 |
| B-N, B-N4 - N, N4 65-200 | | | | | 180 | 225 | 155 | 175 | | | 320 | 250 | | | | | | 55,5 | 50 |
| B-N, B-N4 - N, N4 65-250 | | | | 470 | 200 | 250 | 175 | 190 | 160 | 120 | 360 | 280 | 80 | 18 | 32 | 340 | 140 | 103 | 90 |
| B-N4 - N4 65-315 | | | 125 | | 225 | 280 | 220 | 220 | | | 400 | 315 | | | | | | 149 | 130 |
| B-N, B-N4 - N, N4 80-160 | 100 | 80 | 125 | 360 | 180 | 225 | 165 | 193 | 125 | 95 | 320 | 250 | 65 | 14 | 24 | 260 | 140 | 61 | 53 |
| B-N, B-N4 - N, N4 80-200 | | | | 470 | | 250 | 170 | 194 | | | 345 | 280 | | | 32 | 340 | | 93 | 80,5 |
| B-N, B-N4 - N, N4 80-250 | | | | | 200 | 280 | 191 | 210 | 160 | 120 | 400 | 315 | 80 | 18 | | | | 110 | 95 |
| B-N4 - N4 80-315 | | | | | 250 | 315 | 220 | 232 | | | | | | | | | | 154 | 134 |
| B-N4 - N4 80-400 (1 | 125 | 80 | 125 | 530 | 280 | 355 | 268 | 268 | 160 | 120 | 435 | 355 | 80 | 18 | 42 | 370 | 140 | 220 | 192 |
| B-N, B-N4 - N, N4 100-200 | 125 | 100 | 125 | 470 | 200 | 280 | 180 | 212 | 160 | 120 | 360 | 280 | 80 | 18 | 32 | 340 | 140 | 103 | 89 |
| B-N, B-N4 - N, N4 100-250 | | | 140 | | 225 | | 205 | 233 | | | 400 | 315 | | | | | | 123 | 104 |
| B-N4 - N4 100-315 | | | | | 250 | 315 | 230 | 250 | | | | | | | | | | 158 | 138 |
| B-N4 - N4 100-400 | | | | 530 | 280 | 355 | 268 | 280 | 200 | 150 | 500 | 400 | 100 | 22 | 42 | 370 | | 230 | 200 |
| B-N4 - N4 125-250 | 150 | 125 | 140 | 470 | 250 | 355 | 235 | 268 | 160 | 120 | 400 | 315 | 80 | 18 | 32 | 340 | 140 | 150 | 129 |
| B-N4 - N4 125-315 | | | | 530 | 280 | | 247 | 278 | 200 | 150 | 500 | 400 | 100 | 22 | 42 | 370 | | 217 | 189 |
| B-N4 - N4 125-400 | | | | | 315 | 400 | 280 | 305 | | | | | | | | | | 255 | 222 |
| B-N4 - N4 150-315 | 200 | 150 | 160 | 530 | 280 | 400 | 256 | 307 | 200 | 150 | 550 | 450 | 100 | 22 | 42 | 370 | 140 | 211 | 192 |
| B-N4 - N4 150-400 | | | | | 315 | 450 | 295 | 328 | | | | | | | | | | 284 | 247 |
| N4 200-400 | 250 | 200 | 180 | 630 | 355 | 500 | 322 | 370 | 250 | 190 | 630 | 500 | 125 | 24 | 42 | 370 | 200 | | |

1) Additional size - Modelo añadido

## Dimensions - Dimensiones

**n = 3450 rpm**




| TYPE TIPO | MOTOR | kW | mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DN1 | DN2 | a | f | h3 | h2 | m4 | m5 | w1 | n4 | n5 | a1 | g2 | s1 | FM≈ | H≈ |
| B-N, N 32-125 | 71 M2 | 0,55 | 50 | 32 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 718 | 308 |
| | 80 M2 | 0,75 | 50 | 32 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 319 |
| | 80 M2 | 1,1 | 50 | 32 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 319 |
| | 90 S2 | 1,5 | 50 | 32 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 825 | 323 |
| B-N, N 32-160 | 90 S2 | 1,5 | 50 | 32 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 825 | 343 |
| | 90 L2 | 2,2 | 50 | 32 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 865 | 343 |
| | 100 L2 | 3 | 50 | 32 | 80 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 920 | 398 |
| B-N, N 32-200 | 90 L2 | 2,2 | 50 | 32 | 80 | 360 | 245 | 180 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 865 | 371 |
| | 100 L2 | 3 | 50 | 32 | 80 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 920 | 426 |
| | 112 M2 | 4 | 50 | 32 | 80 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 903 | 437 |
| | 132 S2 | 5,5 | 50 | 32 | 80 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 954 | 462 |
| B-N, N 32L-160 | 90 L2 | 2,2 | 50 | 32 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 865 | 343 |
| | 100 L2 | 3 | 50 | 32 | 80 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 920 | 398 |
| | 112 M2 | 4 | 50 | 32 | 80 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 903 | 409 |
| B-N, N 32L-200 | 112 M2 | 4 | 50 | 32 | 80 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 903 | 437 |
| | 132 S2 | 5,5 | 50 | 32 | 80 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 953 | 462 |
| | 132 S2 | 7,5 | 50 | 32 | 80 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 953 | 462 |
| B-N, N 40-125 | 80 M2 | 1,1 | 65 | 40 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 319 |
| | 90 S2 | 1,5 | 65 | 40 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 825 | 323 |
| | 90 L2 | 2,2 | 65 | 40 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 865 | 323 |
| B-N, N 40-160 | 90 L2 | 2,2 | 65 | 40 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 865 | 343 |
| | 100 L2 | 3 | 65 | 40 | 80 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 920 | 398 |
| | 112 M2 | 4 | 65 | 40 | 80 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 903 | 409 |
| | 132 S2 | 5,5 | 65 | 40 | 80 | 360 | 232 | 160 | 1020 | 990 | 15 | 350 | 290 | 90 | 100 | 14 | 953 | 434 |
| B-N, N 40-200 | 112 M2 | 4 | 65 | 40 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 923 | 437 |
| | 132 S2 | 5,5 | 65 | 40 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| | 132 S2 | 7,5 | 65 | 40 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| B-N, N 40-250 | 160 M2 | 11 | 65 | 40 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 517 |
| | 160 M2 | 15 | 65 | 40 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 517 |
| B-N, N 50-125 | 90 L2 | 2,2 | 65 | 50 | 100 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 885 | 343 |
| | 100 L2 | 3 | 65 | 50 | 100 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 940 | 398 |
| | 112 M2 | 4 | 65 | 50 | 100 | 360 | 232 | 160 | 880 | 850 | 15 | 300 | 240 | 90 | 100 | 14 | 923 | 409 |
| | 132 S2 | 5,5 | 65 | 50 | 100 | 360 | 232 | 160 | 1020 | 990 | 15 | 350 | 290 | 90 | 100 | 14 | 973 | 434 |
| B-N, N 50-160 | 132 S2 | 5,5 | 65 | 50 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| | 132 S2 | 7,5 | 65 | 50 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| B-N, N 50-200 | 160 M2 | 11 | 65 | 50 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 497 |
| | 160 M2 | 15 | 65 | 50 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 497 |
| B-N, N 50-250 | 160 M2 | 11 | 65 | 50 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 517 |
| | 160 M2 | 15 | 65 | 50 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 517 |
| | 160 L2 | 18,5 | 65 | 50 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1142 | 517 |
| | 180 M2 | 22 | 65 | 50 | 100 | 360 | 280 | 225 | 1140 | 1110 | 15 | 350 | 290 | 100 | 100 | 14 | 1218 | 566 |
| B-N, N 65-125 | 112 M2 | 4 | 80 | 65 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 923 | 437 |
| | 132 S2 | 5,5 | 80 | 65 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| | 132 S2 | 7,5 | 80 | 65 | 100 | 360 | 260 | 180 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| B-N, N 65-160 | 132 S2 | 5,5 | 80 | 65 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| | 132 S2 | 7,5 | 80 | 65 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 973 | 462 |
| | 160 M2 | 11 | 80 | 65 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1112 | 497 |
| | 160 M2 | 15 | 80 | 65 | 100 | 360 | 260 | 200 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 497 |
| B-N, N 65-200 | 160 M2 | 15 | 80 | 65 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1082 | 517 |
| | 160 L2 | 18,5 | 80 | 65 | 100 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1142 | 517 |
| | 180 M2 | 22 | 80 | 65 | 100 | 360 | 280 | 225 | 1140 | 1110 | 15 | 350 | 290 | 100 | 100 | 14 | 1218 | 566 |
| B-N, N 65-250 | 180 M2 | 22 | 80 | 65 | 100 | 470 | 310 | 250 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1328 | 596 |
| | 200 L2 | 30 | 80 | 65 | 100 | 470 | 310 | 250 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1348 | 625 |
| | 200 L2 | 37 | 80 | 65 | 100 | 470 | 310 | 250 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1348 | 625 |
| B-N, N 80-160 | 132 S2 | 7,5 | 100 | 80 | 125 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 998 | 482 |
| | 160 M2 | 11 | 100 | 80 | 125 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1107 | 517 |
| | 160 M2 | 15 | 100 | 80 | 125 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1107 | 517 |
| | 160 L2 | 18,5 | 100 | 80 | 125 | 360 | 280 | 225 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1167 | 517 |
| B-N, N 80-200 | 180 M2 | 22 | 100 | 80 | 125 | 470 | 290 | 250 | 1230 | 1190 | 20 | 400 | 340 | 100 | 110 | 18 | 1353 | 576 |
| | 200 L2 | 30 | 100 | 80 | 125 | 470 | 310 | 250 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1373 | 625 |
| B-N, N 80-250 | 180 M2 | 22 | 100 | 80 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1353 | 596 |
| | 200 L2 | 30 | 100 | 80 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1373 | 625 |
| | 200 L2 | 37 | 100 | 80 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1373 | 625 |
| B-N, N 80-250 | 225 M2 | 45 | 100 | 80 | 125 | 470 | 385 | 280 | 1250 | 840 | 205 | 480 | 430 | 95 | 16 | 24 | 1470 | 723 |
| | 250 M2 | 55 | 100 | 80 | 125 | 470 | 415 | 280 | 1250 | 840 | 205 | 480 | 430 | 95 | 16 | 24 | 1509 | 825 |
| B-N, N 100-200 | 160 L2 | 18,5 | 125 | 100 | 125 | 470 | 310 | 280 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1263 | 547 |
| | 180 M2 | 22 | 125 | 100 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1353 | 596 |
| | 200 L2 | 30 | 125 | 100 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1373 | 625 |
| | 200 L2 | 37 | 125 | 100 | 125 | 470 | 310 | 280 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1373 | 625 |
| B-N, N 100-200 | 225 M2 | 45 | 125 | 100 | 125 | 470 | 385 | 280 | 1250 | 840 | 205 | 480 | 430 | 95 | 16 | 24 | 1470 | 723 |
| B-N, N 100-250 | 250 M2 | 55 | 125 | 100 | 140 | 470 | 415 | 280 | 1250 | 840 | 205 | 480 | 430 | 95 | 16 | 24 | 1524 | 825 |
| | 280 S2 | 75 | 125 | 100 | 140 | 470 | 505 | 280 | 1400 | 940 | 230 | 510 | 450 | 95 | 17,5 | 24 | 1597 | 938 |

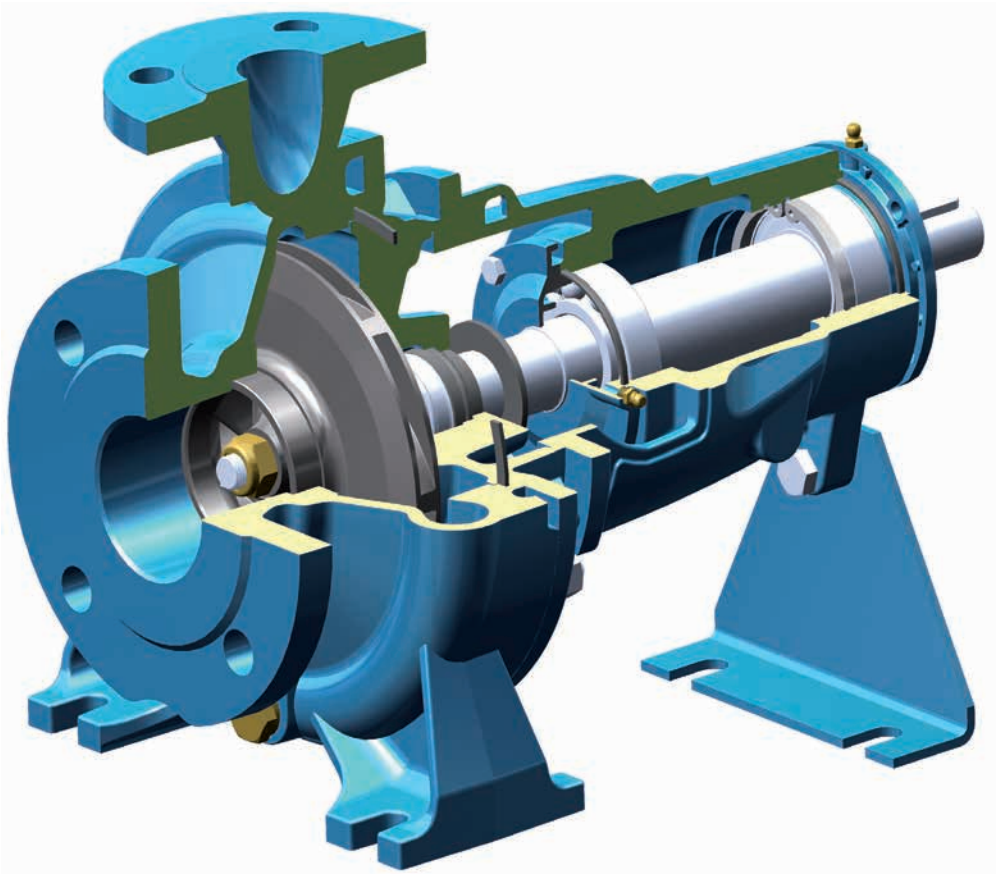
# N4 60 Hz

## Dimensions - Dimensiones

**n = 1750 rpm**

| TYPE TIPO | MOTOR | kW | mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DN1 | DN2 | a | f | h3 | h2 | m4 | m5 | w1 | n4 | n5 | a1 | g2 | s1 | fM≈ | H≈ |
| B-N4, N4 32-125 | 71 M4 | 0,25 | 50 | 32 | 80 | 360 | 197 | 140 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 718 | 308 |
| B-N4, N4 32-160 | 71 M4 | 0,37 | 50 | 32 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 718 | 328 |
| B-N4, N4 32-200 | 80 M4 | 0,55 | 50 | 32 | 80 | 360 | 245 | 180 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 367 |
| | 80 M4 | 0,75 | 50 | 32 | 80 | 360 | 245 | 180 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 367 |
| B-N4, N4 40-160 | 71 M4 | 0,37 | 65 | 40 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 718 | 328 |
| | 80 M4 | 0,55 | 65 | 40 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 339 |
| | 80 M4 | 0,75 | 65 | 40 | 80 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 770 | 339 |
| B-N4, N4 40-200 | 90 S4 | 1,1 | 65 | 40 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 845 | 386 |
| B-N4, N4 40-250 | 90 L4 | 1,5 | 65 | 40 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 885 | 406 |
| | 100 L4 | 2,2 | 65 | 40 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| | 100 L4 | 3 | 65 | 40 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| B-N4, N4 50-125 | 71 M4 | 0,37 | 65 | 50 | 100 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 738 | 328 |
| | 80 M4 | 0,55 | 65 | 50 | 100 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 790 | 339 |
| | 80 M4 | 0,75 | 65 | 50 | 100 | 360 | 217 | 160 | 780 | 750 | 15 | 240 | 180 | 90 | 85 | 14 | 790 | 339 |
| B-N4, N4 50-160 | 90 S4 | 1,1 | 65 | 50 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 845 | 386 |
| B-N4, N4 50-200 | 90 S4 | 1,1 | 65 | 50 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 845 | 386 |
| | 90 L4 | 1,5 | 65 | 50 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 885 | 386 |
| | 100 L4 | 2,2 | 65 | 50 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 929 | 426 |
| B-N4, N4 50-250 | 100 L4 | 2,2 | 65 | 50 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| | 100 L4 | 3 | 65 | 50 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| | 112 M4 | 4 | 65 | 50 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 912 | 457 |
| B-N4, N4 65-125 | 80 M4 | 0,75 | 80 | 65 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 790 | 382 |
| | 90 S4 | 1,1 | 80 | 65 | 100 | 360 | 260 | 180 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 845 | 386 |
| B-N4, N4 65-160 | 90 S4 | 1,1 | 80 | 65 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 845 | 386 |
| | 90 L4 | 1,5 | 80 | 65 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 300 | 240 | 100 | 100 | 14 | 885 | 386 |
| | 100 L4 | 2,2 | 80 | 65 | 100 | 360 | 260 | 200 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 426 |
| B-N4, N4 65-200 | 100 L4 | 2,2 | 80 | 65 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| | 100 L4 | 3 | 80 | 65 | 100 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 929 | 446 |
| B-N4, N4 65-250 | 112 M4 | 4 | 80 | 65 | 100 | 470 | 310 | 250 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1022 | 487 |
| | 132 S4 | 5,5 | 80 | 65 | 100 | 470 | 310 | 250 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1123 | 512 |
| B-N4, N4 65-315 | 132 S4 | 5,5 | 80 | 65 | 125 | 470 | 335 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1148 | 537 |
| | 132 M4 | 7,5 | 80 | 65 | 125 | 470 | 335 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1148 | 537 |
| | 160 M4 | 11 | 80 | 65 | 125 | 470 | 335 | 280 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1237 | 572 |
| B-N4, N4 80-160 | 90 S4 | 1,1 | 100 | 80 | 125 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 870 | 406 |
| | 90 L4 | 1,5 | 100 | 80 | 125 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 910 | 406 |
| | 100 L4 | 2,2 | 100 | 80 | 125 | 360 | 280 | 225 | 880 | 850 | 15 | 350 | 290 | 100 | 100 | 14 | 954 | 446 |
| B-N4, N4 80-200 | 100 L4 | 2,2 | 100 | 80 | 125 | 470 | 280 | 250 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1064 | 446 |
| | 100 L4 | 3 | 100 | 80 | 125 | 470 | 280 | 250 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1064 | 446 |
| | 112 M4 | 4 | 100 | 80 | 125 | 470 | 280 | 250 | 1020 | 990 | 15 | 350 | 290 | 100 | 100 | 14 | 1047 | 457 |
| B-N4, N4 80-250 | 112 M4 | 4 | 100 | 80 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1047 | 487 |
| | 132 S4 | 5,5 | 100 | 80 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1148 | 512 |
| | 132 M4 | 7,5 | 100 | 80 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1148 | 512 |
| B-N4, N4 80-315 | 160 M4 | 11 | 100 | 80 | 125 | 470 | 360 | 315 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1237 | 597 |
| | 160 L4 | 15 | 100 | 80 | 125 | 470 | 360 | 315 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1297 | 597 |
| | 180 M4 | 18,5 | 100 | 80 | 125 | 470 | 360 | 315 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1301 | 646 |
| B-N4, N4 80-400 | 180 M4 | 18,5 | 125 | 80 | 125 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1361 | 731 |
| | 180 L4 | 22 | 125 | 80 | 125 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1391 | 760 |
| | 200 L4 | 30 | 125 | 80 | 125 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1439 | 760 |
| | 225 S4 | 37 | 125 | 80 | 125 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1481 | 783 |
| B-N4, N4 100-200 | 100 L4 | 3 | 125 | 100 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1064 | 476 |
| | 112 M4 | 4 | 125 | 100 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1047 | 487 |
| | 132 S4 | 5,5 | 125 | 100 | 125 | 470 | 310 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1148 | 512 |
| B-N4, N4 100-250 | 132 M4 | 7,5 | 125 | 100 | 140 | 470 | 335 | 280 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1163 | 537 |
| | 160 M4 | 11 | 125 | 100 | 140 | 470 | 335 | 280 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1252 | 572 |
| B-N4, N4 100-315 | 160 M4 | 11 | 125 | 100 | 140 | 470 | 360 | 315 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1252 | 597 |
| | 160 L4 | 15 | 125 | 100 | 140 | 470 | 360 | 315 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1312 | 597 |
| | 180 M4 | 18,5 | 125 | 100 | 140 | 470 | 360 | 315 | 1360 | 1320 | 20 | 400 | 340 | 130 | 110 | 18 | 1316 | 646 |
| B-N4, N4 100-400 | 180 L4 | 22 | 125 | 100 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1406 | 760 |
| | 200 L4 | 30 | 125 | 100 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1454 | 760 |
| | 225 S4 | 37 | 125 | 100 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1496 | 783 |
| B-N4, N4 125-250 | 132 S4 | 5,5 | 150 | 125 | 140 | 470 | 360 | 355 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1163 | 562 |
| | 132 M4 | 7,5 | 150 | 125 | 140 | 470 | 360 | 355 | 1030 | 990 | 20 | 400 | 340 | 130 | 110 | 18 | 1163 | 562 |
| | 160 M4 | 11 | 150 | 125 | 140 | 470 | 360 | 355 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1252 | 597 |
| | 160 L4 | 15 | 150 | 125 | 140 | 470 | 360 | 355 | 1230 | 1190 | 20 | 400 | 340 | 130 | 110 | 18 | 1312 | 597 |
| B-N4, N4 125-315 | 180 M4 | 18,5 | 150 | 125 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1376 | 731 |
| | 180 L4 | 22 | 150 | 125 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1406 | 760 |
| | 200 L4 | 30 | 150 | 125 | 140 | 530 | 445 | 355 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1454 | 760 |
| B-N4, N4 125-400 | 225 S4 | 37 | 150 | 125 | 140 | 530 | 480 | 400 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1496 | 818 |
| | 225 M4 | 45 | 150 | 125 | 140 | 530 | 480 | 400 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1556 | 818 |
| | 250 M4 | 55 | 150 | 125 | 140 | 530 | 540 | 400 | 1400 | 940 | 230 | 510 | 450 | 115 | 17,5 | 24 | 1595 | 950 |
| B-N4, N4 150-315 | 200 L4 | 30 | 200 | 150 | 160 | 530 | 445 | 400 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1474 | 760 |
| | 225 S4 | 37 | 200 | 150 | 160 | 530 | 445 | 400 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1516 | 783 |
| | 225 M4 | 45 | 200 | 150 | 160 | 530 | 445 | 400 | 1250 | 840 | 205 | 480 | 430 | 115 | 16 | 24 | 1576 | 783 |
| B-N4, N4 150-400 | 250 M4 | 55 | 200 | 150 | 160 | 530 | 540 | 450 | 1400 | 940 | 230 | 510 | 450 | 115 | 17,5 | 24 | 1615 | 950 |
| | 280 S4 | 75 | 200 | 150 | 160 | 530 | 540 | 450 | 1400 | 940 | 230 | 510 | 450 | 115 | 17,5 | 24 | 1688 | 973 |
| | 280 M4 | 90 | 200 | 150 | 160 | 530 | 540 | 450 | 1400 | 940 | 230 | 510 | 450 | 115 | 17,5 | 24 | 1798 | 973 |
| N4 200-400 | 280 M4 | 90 | 250 | 200 | 180 | 630 | 580 | 500 | 1800 | 1340 | 230 | 690 | 630 | 150 | 17 | 24 | 1886 | 970 |
| | 315 M4 | 110 | 250 | 200 | 180 | 630 | 580 | 500 | 1800 | 1340 | 230 | 690 | 630 | 150 | 17 | 24 | 2141 | 1110 |
| | 315 M4 | 132 | 250 | 200 | 180 | 630 | 580 | 500 | 1800 | 1340 | 230 | 690 | 630 | 150 | 17 | 24 | 2141 | 1110 |

## Features - Características constructivas



### Cutting edge hydraulics
The geometry of the impeller and the pump casing are optimized to achieve maximum efficiency and the best suction capability.

### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows N-N4 series pumps to be selected for use with different types of liquids.

### Robustness
The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistence to mechanical stress. Also the casing cover is provided with wings that prevent turbulence in the area of the mechanical sea, increasing the reliability.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Hidráulica de vanguardia
La geometría del impulsor y la carcasa de la bomba han sido mejoradas para conseguir la máxima eficiencia y la mejor capacidad de succión.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie N-N4 puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Robustez
La estructura mecánica de las partes hidráulicas en contacto con el líquido bombeado están dimensionadas para garantizar la máxima resistencia a la tensión mecánica. También la tapa de la caja está provista de alas que impiden la turbulencia en la zona del cierre mecánico, el aumento de la fiabilidad.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones.

# NR(D), NR(D)4 60 Hz

**In-line Pumps**
**Bombas in-line**





# NR(D), NR(D)4 60 Hz

## Construction
Close-coupled, single-impeller, centrifugal pumps; electric motor with extended shaft directly connected to the pump.
NR, NR4: Single head pump.
NRD, NRD4: Twin head pump with built-in automatic switching valve. The two head can operate singularly or in parallel.
Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).

**Connections**: Flanges PN 10, EN 1092-2.

**Counterflanges** (on request)

| Sizes | Flanges |
|---|---|
| NR,NR4 32,40, 50, 65<br>NRD, NRD4 50,65 | Screwed flanges PN 16, EN 1092-1 |
| NR 80,<br>NR4 100, NR4 125 | Flanges for welding<br>PN 10-16, EN 1092-1 |

**Version with frequency converter** (on request)

## Applications
For clean liquids, without abrasives, which are non-aggressive for the pump materials (contents of solids up to 0.2%).
For heating, conditioning, cooling and circulation plants.
For civil and industrial applications.
When low noise operation is required (n = 1750 rpm).

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 10 bar.
Continuous duty.

## Motor
4-pole induction motor, 60 Hz (n = 1750 rpm).
**NR(D)4**: three-phase220/380 V, 220/440 V, up to 3 kW;
380/660 V, for 4 kW;
**NRM4**: single-phase 110 V, 127 V, 220 V.

2-pole induction motor, 60 Hz (n = 3450 rpm).
**NR(D)**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 18,5 kW;
**NRM**: single-phase 110 V, 127 V, 220 V.
with thermal protector up to 1.1 kW only 220V.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 0,37 kW for NR(D)4 and from 1,1 kW for NR(D).
Constructed in accordance with EN 60034-1, EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages. - Protection IP 55.
- Special mechanical seal.
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,33 kW for NR(D)4 and up to 0,75 kW for NR(D).

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Lantern bracket | Cast iron GJL 200 EN 1561 |
| Impeller | Cast iron GJL 200 EN 1561<br>(Brass P-Cu Zn 40 Pb 2 UNI 5705 for NR-NR4 32,40,50) |
| Shaft | Cr Ni steel AISI 303 up to 1.1 kW<br>Cr steel AISI 430 from 1.5 to 18,5 kW |
| Valve | Chrome-nickel steel AISI 304 - NBR |
| Mechanical seal | Carbon - Ceramic - NBR |
| Counterflanges | Steel Fe 430B UNI 7070 |

## Ejecución
Electrobomba centrífuga, con un solo rodete, monobloc con acoplamiento directo motor-bomba y eje único.
Serie NR, NR4: Electrobombas de una cabeza.
Serie NRD, NRD4: Electrobombas de doble cabezal conectadas por una válvula de conmutación automático. Las dos bombas pueden funcionar individualmente o en paralelo.
Cuerpo bomba con orificios de aspiración e impulsión del mismo diámetro y dispuestos sobre el mismo eje (ejecución “in-line”).

**Conexiónes**: Bridas PN 10, EN 1092-2.

**Contrabridas** (bajo demanda)

| Dimensiones | Bridas |
|---|---|
| NR,NR4 32,40,50,65<br>NRD, NRD4 50,65 | Bridas roscadas PN 16, EN 1092-1 |
| NR 80<br>NR4 100, NR4 125 | Bridas a soldar por aportación<br>PN 10, EN 1092-1 |

**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciónes
Para líquidos límpios sin partes abrasivas, y no agresivas para los materiales de la bomba (con partes solidas hasta 0,2% max).
Instalaciones de calefación, acondicionamiento, refrigeración, recirculación en circuitos cerrados, etc.
Para aplicaciones civiles e industriales.
Cuando es particularmente requerido un funcionamiento con bajo nivel de rumorosidad (n = 1750 1/min).

## Limites de empleo
Temperatura líquido: de -10 °C a +90 °C.
Temperatura ambiente hasta 40 °C.
Altura de aspiración manométrica hasta 7 m.
Presión máxima admitida en el cuerpo de la bomba 10 bar.
Servicio continuo.

## Motor
Motor a inducción a 4 polos, 60 Hz (n = 1750 1/min).
**NR(D)4**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, para 4 kW.
**NR4M**: monofásico 110 V, 127 V, 220 V.

Motor a inducción a 2 polos, 60 Hz (n = 3450 1/min).
**NR(D)**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 18,5 kW.
**NRM:** monofásico 110 V, 127 V, 220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 0,37 kW para NR(D)4 y 1,1 kW para NR(D).
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

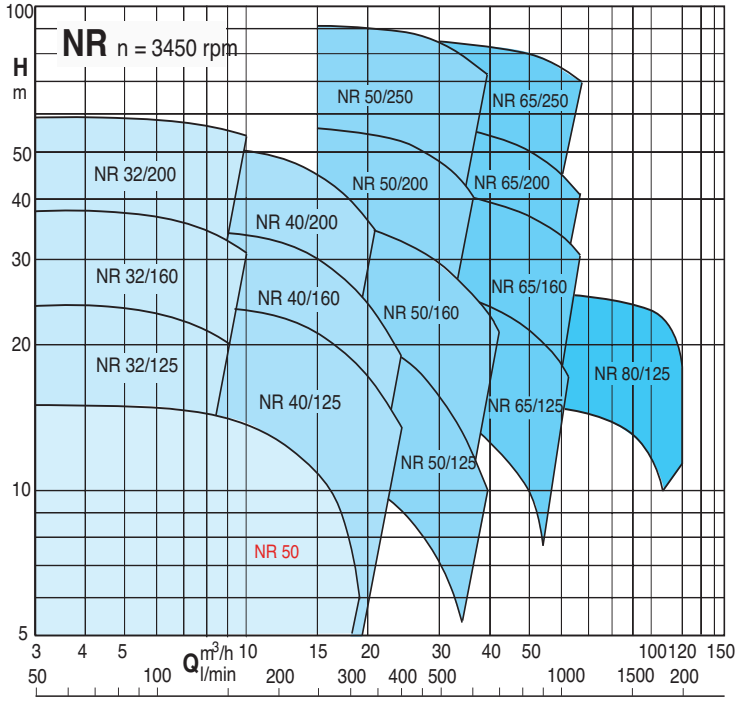
## Ejecuciónes especiales bajo demanda
- Otras tensiones. - Protección IP 55.
- Sello mecánico especial.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.
- Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,33 kW para NR(D)4 y 0,75 kW para NR(D).

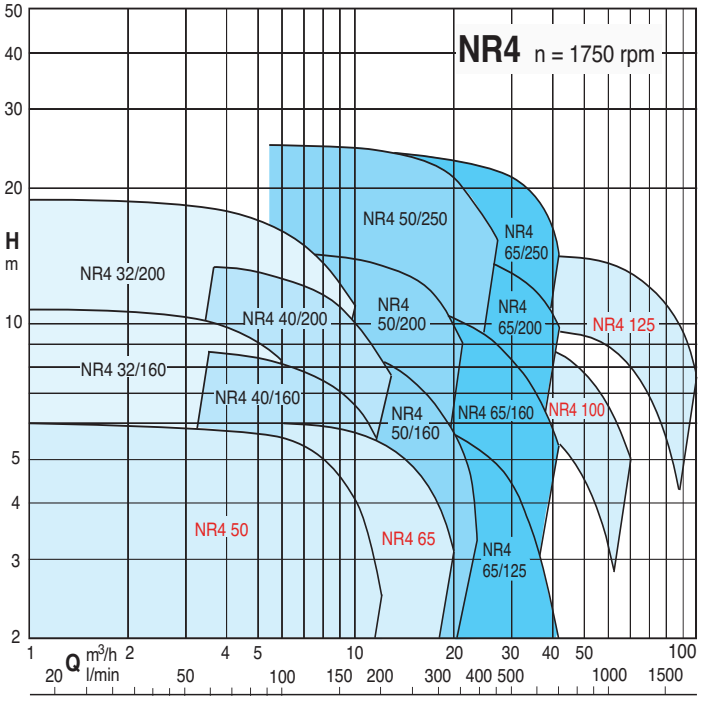
## Materiales

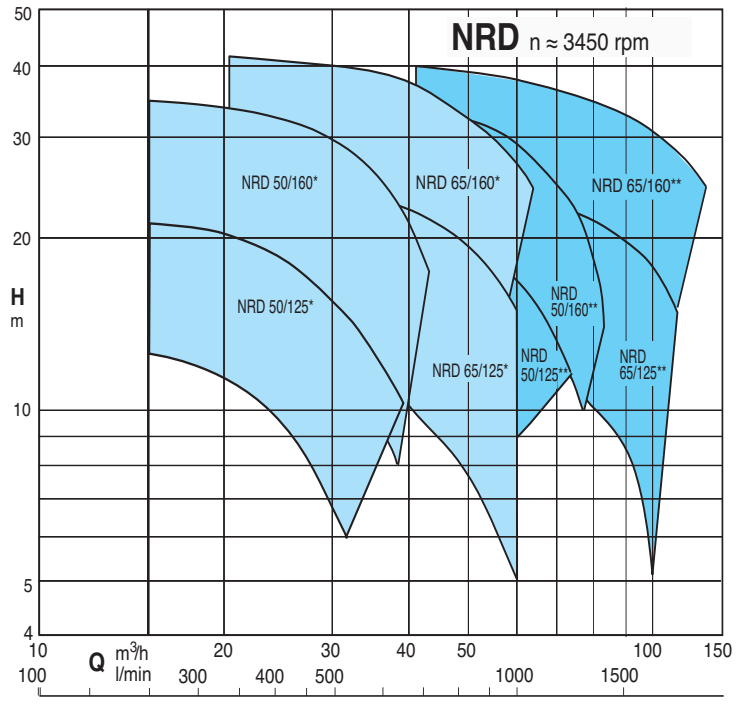
| Componente | Materiale |
|---|---|
| Cuerpo bomba<br>Acoplamiento | Hierro GJL 200 EN 1561 |
| Rodete | Hierro GJL 200 EN 1561<br>(Latón P-Cu Zn 40 Pb 2 UNI 5705 para NR-NR4 32,40,50) |
| Eje | Acero al Cr Ni AISI 303 hasta 1,1 kW<br>Acero AISI 430 de 1,5 a 18,5 kW |
| Válvula de clapet | Acero Ni-Cr AISI 304 - NBR |
| Sello mecánico | Carbón - Cerámica - NBR |
| Contrabridas | Acero Fe 430B UNI 7070 |

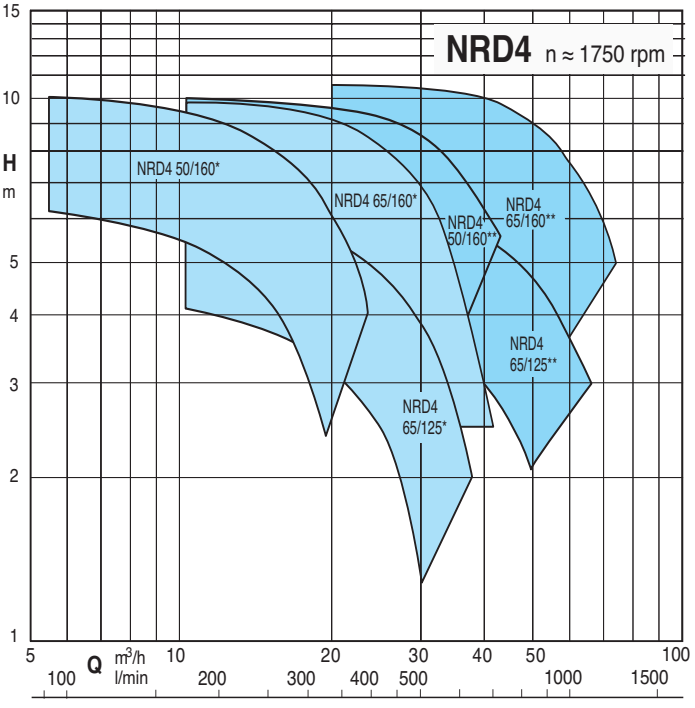
# NR(D), NR(D)4 60 Hz

## Coverage chart - Campo de aplicaciones




* Single operation
* Funcionamiento único

** Parallel operation
** Funcionamiento en paralelo

# NR(D) EI, NR(D)4 EI 60 Hz

## Pumps with frequency converter

The **NR(D) EI, NR(D)4 EI,** pumps are available with power from 0,25 kW up to 18,5 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.



### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor (2 for NRD, NRD4)
- I-MAT Frequency converter (2 for NRD, NRD4)
- Motor adapter for the motor mounting of the frequency converter (2 for NRD, NRD4)
- Connection cable between frequency converter and induction motor
- Transducers
- Communication cable for cascade mode for NRD, NRD4
- 2 Cascade mode expansion board for NRD, NRD4

### Main features
Rated motor power output from 0,25 kW to 18,5 kW
Control range from 1750 to 3450 rpm (2-pole)
Control range from 870 to 1750 rpm (4-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

## Bomba a velocidad variable

La bomba **NR(D) EI, NR(D)4 EI,** se encuentra disponible con potencias de 0,25 kW a 18,5 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción (dos para NRD, NRD4)
- I-MAT variador de frecuencia (dos para NRD, NRD4)
- Adaptador del motor para el montaje del variador de frecuencia (dos para NRD, NRD4)
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores
- Cable de comunicación multibomba paraNRD, NRD4
- 2 Tarjeta expansión multibomba para NRD, NRD4

### Límites de utilización
Potencia nominal del motor desde 0,25 kW hasta 18,5 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Rango de control desde 870 hasta 1750 rpm (4 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

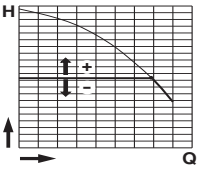
**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

## Modos de operación

**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.

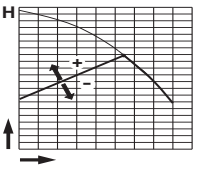



**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.

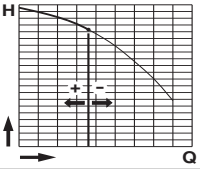



**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.

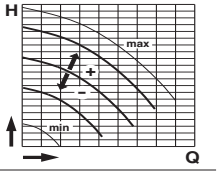



**Fixed speed mode**
with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.




**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# NR 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 6 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | | | | |
| NR 50D-60/A | NRM 50D-60/A | 0,45 | 0,6 | H | 12,5 | 11,7 | 11,5 | 11,2 | 10,8 | 10 | 8,8 | 7,3 | 5,5 | | | | | | | |
| NR 50C-60/B | NRM 50C-60/A | 0,75 | 1 | m | 17,7 | 17,4 | 17,3 | 17,1 | 16,9 | 16,4 | 15,7 | 14,9 | 13,7 | 11,5 | 8,7 | 4,8 | | | | |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 2,4 | 3 | 3,6 | 4,8 | 6 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 40 | 50 | 60 | 80 | 100 | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 300 |
| NR 32/125B-60 | NRM 32/125B-60 | 0,55 | 0,75 | | 18,7 | 18,6 | 18,4 | 18,1 | 17,6 | 16,9 | 16,5 | 15,9 | 15,2 | | | | | | | |
| NR 32/125A-60 | NRM 32/125A-60 | 0,75 | 1 | | 23,9 | 24,0 | 23,9 | 23,7 | 23,2 | 22,5 | 22,1 | 21,5 | 20,7 | 19,6 | | | | | | |
| NR 32/160B-60/A | NRM 32/160B-60 | 1,1 | 1,5 | H | 29,4 | 29,2 | 29 | 28,6 | 27,8 | 26,9 | 26,4 | 25,5 | 24,4 | 22,5 | 20,1 | 17 | | | | |
| NR 32/160A-60/A | NRM 32/160A-60 | 1,5 | 2 | m | 38,2 | 37,1 | 37,9 | 37,5 | 36,7 | 35,8 | 35,3 | 34,5 | 33,6 | 32,3 | 30,5 | 28,4 | | | | |
| NR 32/200B-60/A | | 2,2 | 3 | | 44,4 | 43,7 | 43,5 | 43,2 | 42,5 | 41,6 | 41,2 | 40,4 | 39,5 | 38,1 | 36,2 | 33,6 | 30,2 | 24,3 | | |
| NR 32/200A-60 | | 3 | 4 | | 52 | 51,6 | 51,4 | 51,1 | 50,5 | 49,7 | 49,3 | 48,5 | 47,8 | 46,6 | 45,2 | 43,4 | 40,9 | 35,9 | 29,2 | |
| NR 32/200S-60/A | | 4 | 5,5 | | 60 | 59,6 | 59,5 | 59,3 | 58,8 | 58 | 57,5 | 56,8 | 56 | 54,9 | 53,7 | 52,3 | 50,7 | 47,2 | 42,1 | 37,7 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 110 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | | | |
| NR 40/125C-60 | NRM 40/125C-60 | 0,75 | 1 | | 16,6 | 16,3 | 16,1 | 15,8 | 15,3 | 14,8 | 14,2 | 13,5 | 12 | 10,2 | 8 | 5,4 | | | | |
| NR 40/125B-60/A | NRM 40/125B-60 | 1,1 | 1,5 | | 20,6 | 20,6 | 20,4 | 20,2 | 19,8 | 19,3 | 18,8 | 18,2 | 17,1 | 15,8 | 13,8 | 11,4 | 7,6 | | | |
| NR 40/125A-60/A | NRM 40/125A-60 | 1,5 | 2 | H | 25 | 25,4 | 25,3 | 25 | 24,7 | 24,3 | 23,8 | 23,2 | 22,2 | 21 | 19,6 | 17,6 | 14,2 | | | |
| NR 40/160B-60/A | NRM 40/160B-60 | 1,5 | 2 | m | 29,2 | 28,5 | 28,2 | 27,9 | 27,4 | 26,8 | 26,2 | 25,5 | 24,1 | 22,3 | 19,7 | 16,7 | 11,9 | | | |
| NR 40/160A-60/A | | 2,2 | 3 | | 37,5 | 36,5 | 36,1 | 35,8 | 35,2 | 34,6 | 33,9 | 33,2 | 31,9 | 30,5 | 28,4 | 25,8 | 21 | | | |
| NR 40/200B-60 | | 3 | 4 | | 43,4 | 41,2 | 40,7 | 39,4 | 39,4 | 38,5 | 37,4 | 36,1 | 33,4 | 29,7 | 25,1 | 20 | | | | |
| NR 40/200A-60/A | | 4 | 5,5 | | 54,9 | 52,3 | 51,8 | 50,5 | 50,5 | 49,7 | 48,7 | 47,6 | 45,8 | 43,4 | 39,3 | 34,5 | | | | |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 39 | 42 | 45 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 650 | 700 | 750 | | | |
| NR 50/125F-60/A | NRM 50/125F-60 | 1,1 | 1,5 | | 15,2 | 14,7 | 14,2 | 13,4 | 12,5 | 11,1 | 9,5 | 7,6 | 5,5 | | | | | | | |
| NR 50/125C-60/A | NRM 50/125C-60 | 1,5 | 2 | | 17,9 | 17,8 | 17,3 | 16,7 | 15,9 | 14,7 | 13,4 | 11,8 | 10,1 | | | | | | | |
| NR 50/125A-60/B | | 2,2 | 3 | | 21,3 | 21,7 | 21,4 | 20,9 | 20,4 | 19,4 | 18,3 | 17 | 15,6 | 13 | 12,2* | | | | | |
| NR 50/160C-60/B | | 2,2 | 3 | | 23,1 | 24,4 | 23,9 | 23,1 | 22,2 | 20,6 | 19 | 17,1 | 14,9 | 10,7 | 9,4* | | | | | |
| NR 50/160B-60/A | | 3 | 4 | | 29,9 | 29,9 | 29,4 | 28,8 | 28,1 | 26,9 | 25,5 | 23,9 | 22,1 | 18,9 | 18* | | | | | |
| NR 50/160A-60/B | | 4 | 5,5 | H | 36,1 | 36,5 | 36,1 | 35,5 | 34,9 | 33,7 | 32,1 | 30,4 | 28,6 | 25,3 | 24,3* | 22* | | | | |
| NR 50/200C-60/B | | 4 | 5,5 | m | 48,4 | 45,4 | 44,4 | 43,2 | 41,7 | 39,4 | 37 | 34 | | | | | | | | |
| NR 50/200B-60/A | | 5,5 | 7,5 | | 53,4 | 50,8 | 50 | 48,6 | 47,3 | 45,4 | 43,3 | 40,7 | 37,5 | | | | | | | |
| NR 50/200A-60/A | | 7,5 | 10 | | 60 | 57,8 | 57 | 56 | 54,8 | 53 | 51,1 | 48,8 | 46,2 | 41,4 | | | | | | |
| NR 50/250C-60/B | | 9,2 | 12,5 | | 68,9 | 65,5 | 64,5 | 63,3 | 62,3 | 60,3 | 58,1 | 55,3 | 52,5 | | | | | | | |
| NR 50/250B-60/B | | 11 | 15 | | 76,4 | 73,5 | 72,8 | 71,5 | 70,5 | 68,8 | 66,8 | 64,3 | 61,5 | 56,9 | | | | | | |
| NR 50/250A-60/B | | 15 | 20 | | 92,6 | 90,2 | 89,5 | 88,6 | 87,6 | 86,4 | 84,5 | 82,6 | 80,6 | 76,7 | 75,4 | | | | | |

| 3 ~ | | P2 | | Q m³/h | 0 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 69 | 72 | 75 | 84 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1150 | 1200 | 1250 | 1400 |
| NR 65/125F-60/B | | 2,2 | 3 | | 16,9 | 16,7 | 16,3 | 15,9 | 15,3 | 14,6 | 13,4 | 12,2 | 10,1 | 7,6* | 4,8* | | | | | |
| NR 65/125D-60/A | | 3 | 4 | | 19,7 | 19,7 | 19,4 | 19 | 18,6 | 18 | 17 | 16 | 14,3 | 12,2* | 9,8* | | | | | |
| NR 65/125A-60/B | | 4 | 5,5 | | 24,3 | 24,7 | 24,6 | 24,3 | 24 | 23,7 | 22,9 | 22,2 | 20,9 | 19* | 17,6* | | | | | |
| NR 65/160B-60/A | | 5,5 | 7,5 | | 34,8 | 35,5 | 35,1 | 34,7 | 34,3 | 33,8 | 32,6 | 31,5 | 29,2 | 26,7 | 23,7* | | | | | |
| NR 65/160A-60/A | | 7,5 | 10 | H | 41 | 41,8 | 41,6 | 41,4 | 41 | 40,6 | 39,8 | 38,9 | 37,3 | 35,4 | 32,8* | 30,1* | | | | |
| NR 65/200B-60/B | | 9,2 | 12,5 | m | 51,2 | 50,5 | 49,9 | 49,1 | 48,3 | 47,3 | 45,4 | 43,9 | 41,5 | 38,6 | 35,1 | 30,9 | | | | |
| NR 65/200A-60/B | | 11 | 15 | | 57,6 | 57,4 | 57 | 56,2 | 55,5 | 54,5 | 52,9 | 51,4 | 49,1 | 46,8 | 43,9 | 40,5 | | | | |
| NR 65/250C-60/B | | 11 | 15 | | 63,2 | 63 | 62,3 | 61,5 | 60,6 | 59,6 | 57,6 | 55,6 | 52,8 | 49,4 | | | | | | |
| NR 65/250B-60/B | | 15 | 20 | | 73,1 | 73,4 | 72,8 | 72,3 | 71,5 | 70,8 | 69,1 | 67,4 | 64,8 | 61,8 | 58,4 | | | | | |
| NR 65/250A-60/C | | 18,5 | 25 | | 85,3 | 86,1 | 85,7 | 85,3 | 84,8 | 84 | 82,5 | 81,2 | 79 | 76,5 | 73,6 | 70,3 | | | | |

| 3 ~ | | P2 | | Q m³/h | 0 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | | | | |
| NR 80/125E-60 | | 4 | 5,5 | | 18,5 | 17,2 | 16,9 | 16,2 | 15,5 | 14,8 | 14,2 | 13,2 | 12,4 | 11,5 | 10,1 | - | | | | |
| NR 80/125C-60 | | 5,5 | 7,5 | H | 22,8 | 21,8 | 21,4 | 20,9 | 20,3 | 19,7 | 19,2 | 18,4 | 17,7 | 16,8 | 15,4 | 12,8 | | | | |
| NR 80/125A-60 | | 7,5 | 10 | m | 27,9 | 27 | 26,7 | 26,2 | 25,7 | 25,3 | 24,9 | 24,3 | 23,7 | 22,7 | 21,1 | 18,5 | | | | |

P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# NR4 60 Hz

## Performance - Prestaciones

n ≈ 1750 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 25 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 33 | 67 | 100 | 133 | 167 | 200 | 233 | 267 | 300 | 333 | 417 | | | | |
| NR4 50C-60/A | NR4M 50C-60/A | 0,25 | 0,34 | | 3,9 | 4 | 3,9 | 3,7 | 2,7 | | | | | | | | | | | |
| NR4 50B-60/A | NR4M 50B-60/A | 0,25 | 0,34 | | 4,7 | 5 | 4,9 | 4,7 | 3,8 | 2,5 | | | | | | | | | | |
| NR4 50A-60/A | NR4M 50A-60/A | 0,25 | 0,34 | H | 5,6 | 6 | 5,9 | 5,8 | 5,2 | 4,1 | 2,6 | | | | | | | | | |
| NR4 65C-60/A | NR4M 65C-60/A | 0,25 | 0,34 | m | 3,8 | | | 4,2 | 4,2 | 4 | 3,6 | 3 | 2,4 | | | | | | | |
| NR4 65B-60/A | | 0,37 | 0,5 | | 4,7 | | | 5,1 | 5 | 4,9 | 4,6 | 4,2 | 3,7 | 2,9 | | | | | | |
| NR4 65A-60/A | | 0,37 | 0,5 | | 5,6 | | | 6 | 5,9 | 5,8 | 5,5 | 5,2 | 4,7 | 4,1 | 3,2 | | | | | |

| 3 ~ | | P2 | | Q m³/h | 0 | 1 | 1,2 | 1,5 | 1,89 | 2,4 | 3 | 3,6 | 4,8 | 5,4 | 6 | 6,6 | 7,5 | 8,4 | 9,6 | 10,8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 20 | 25 | 31,5 | 40 | 50 | 60 | 80 | 90 | 100 | 110 | 125 | 140 | 160 | 180 |
| NR4 32/160B-60 | | 0,37 | 0,5 | | 8,1 | 8,1 | 8,1 | 8,1 | 8 | 7,9 | 7,6 | 7,4 | 6,7 | 6,2 | 5,6 | 4,8 | | | | |
| NR4 32/160A-60 | | 0,37 | 0,5 | | 10,2 | 10,3 | 10,2 | 10,2 | 101 | 9,9 | 9,8 | 9,5 | 9 | 8,6 | 8,1 | 7,6 | | | | |
| NR4 32/200C-60 | | 0,37 | 0,5 | H | 12 | 11,8 | 11,8 | 11,7 | 11,6 | 11,5 | 11,2 | 11 | 10,3 | 9,9 | 9,3 | 8,4 | 6,9 | 5,5 | | |
| NR4 32/200B-60 | | 0,55 | 0,75 | m | 15,2 | 15,1 | 15,1 | 15,1 | 15 | 14,9 | 14,7 | 14,5 | 13,9 | 13,6 | 13,3 | 12,8 | 11,9 | 10,6 | 8,1 | |
| NR4 32/200A-60/A | | 0,75 | 1 | | 19,1 | 19,1 | 19,1 | 19,1 | 19 | 18,8 | 18,7 | 18,5 | 18 | 17,7 | 17,4 | 17 | 16,2 | 15,3 | 13,9 | 12,2 |

| 3 ~ | | P2 | | Q m³/h | 0 | 2,4 | 3 | 3,6 | 4,8 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 40 | 50 | 60 | 80 | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | | |
| NR4 40/160B-60 | | 0,37 | 0,5 | | 7,8 | 7,7 | 7,6 | 7,5 | 7,3 | 7,2 | 7 | 6,5 | 6,1 | 5,4 | 4,5 | 3,6 | 2,5 | | | |
| NR4 40/160A-60 | | 0,37 | 0,5 | H | 9,4 | 9,4 | 9,3 | 9,3 | 9,1 | 8,9 | 8,7 | 8,3 | 7,9 | 7,3 | 6,6 | 5,7 | 4,7 | 3 | | |
| NR4 40/200B-60 | | 0,55 | 0,75 | m | 13,6 | 13,2 | 13 | 12,8 | 12,4 | 12,2 | 11,9 | 11,2 | 10,5 | 9,3 | 7,8 | 6,2 | 4,3 | | | |
| NR4 40/200A-60/A | | 0,75 | 1 | | 15,3 | 14,9 | 14,8 | 14,6 | 14,2 | 14 | 13,8 | 13,1 | 12,6 | 11,7 | 10,4 | 8,9 | 7,2 | 4,1 | | |

| 3 ~ | | P2 | | Q m³/h | 0 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 |
| NR4 50/160C-60 | | 0,37 | 0,5 | | 6,4 | 6,5 | 6,5 | 6,3 | 6,2 | 6 | 5,7 | 5,5 | 5,1 | 4,5 | 3,9 | 3 | | | | |
| NR4 50/160B-60 | | 0,55 | 0,75 | | 7,6 | 7,8 | 7,8 | 7,7 | 7,6 | 7,5 | 7,3 | 7 | 6,8 | 6,3 | 5,8 | 5,1 | 4,3* | | | |
| NR4 50/160A-60/B | | 0,75 | 1 | | 9,2 | 9,4 | 9,4 | 9,3 | 9,1 | 9 | 8,7 | 8,5 | 8,2 | 7,7 | 7 | 6,2 | 5,3* | 3,8* | | |
| NR4 50/200B-60/B | | 1,1 | 1,5 | | 13,3 | 13,1 | 13 | 12,7 | 12,4 | 12 | 11,6 | 11,2 | 10,7 | 9,9 | 8,9 | 7,8 | | | | |
| NR4 50/200A-60/B | | 1,1 | 1,5 | | 14,9 | 14,8 | 14,7 | 14,4 | 14,1 | 13,8 | 13,4 | 13,1 | 12,7 | 12,0 | 11,1 | 10 | 9 | | | |
| NR4 50/250C-60/B | | 1,5 | 2 | H | 18,5 | 18,5 | 18,4 | 18,1 | 17,9 | 17,6 | 17,2 | 16,9 | 16,5 | 15,8 | 15 | 13,4 | 11,3 | 7,2 | | |
| NR4 50/250B-60/B | | 2,2 | 3 | m | 23 | 23 | 22,9 | 22,7 | 22,6 | 22,4 | 22,1 | 21,8 | 21,4 | 20,9 | 20,3 | 19,4 | 18,4 | 16,3 | 13 | |
| NR4 50/250A-60/A | | 3 | 4 | | 25,4 | 25,4 | 25,3 | 25,2 | 25 | 24,8 | 24,6 | 24,3 | 24 | 23,5 | 23 | 22,2 | 21,4 | 19,9 | 17,5 | 14 |

| 3 ~ | | P2 | | Q m³/h | 0 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | |
| NR4 65/125F-60 | | 0,37 | 0,5 | | 4 | 3,8 | 3,8 | 3,7 | 3,6 | 3,4 | 3,3 | 3,1 | 2,7 | 2,3 | 1,9 | 1,4 | | | | |
| NR4 65/125D-60 | | 0,55 | 0,75 | | 5 | 4,7 | 4,7 | 4,6 | 4,5 | 4,4 | 4,3 | 4 | 3,7 | 3,3 | 2,9 | 2,4 | 1,6 | | | |
| NR4 65/125A-60/B | | 0,75 | 1 | | 6,4 | 6,4 | 6,4 | 6,3 | 6,2 | 6,1 | 5,9 | 5,7 | 5,3 | 4,8 | 4,3 | 3,8 | 2,9 | 1,9 | | |
| NR4 65/160B-60/B | | 1,1 | 1,5 | | 8,9 | 9,2 | 9,1 | 9,1 | 8,9 | 8,8 | 8,6 | 8,3 | 7,8 | 7,2 | 6,6 | 5,8 | 4,4* | | | |
| NR4 65/160A-60/B | | 1,1 | 1,5 | H | 10,5 | 10,8 | 10,8 | 10,8 | 10,7 | 10,6 | 10,4 | 10,2 | 9,8 | 9,3 | 8,8 | 8,2 | 7* | 5,8* | | |
| NR4 65/200C-60/B | | 1,1 | 1,5 | m | 11,1 | 10,9 | 10,8 | 10,6 | 10,4 | 10,1 | 9,6 | 9,1 | 8,3 | 7,2 | 5,8 | 4,3 | | | | |
| NR4 65/200B-60/B | | 1,5 | 2 | | 12,6 | 12,6 | 12,4 | 12,3 | 12,1 | 11,8 | 11,5 | 11 | 10,3 | 9,4 | 8,4 | 7,1 | 4,7 | | | |
| NR4 65/200A-60/B | | 2,2 | 3 | | 16,6 | 16,8 | 16,7 | 16,6 | 16,4 | 16,2 | 16 | 15,7 | 15,2 | 14,6 | 13,8 | 13 | 11,6 | 9,9 | | |
| NR4 65/250C-60/B | | 2,2 | 3 | | 18,9 | 19,2 | 19,1 | 19 | 18,8 | 18,5 | 18,1 | 17,7 | 16,9 | 16 | 15,1 | 14,1 | 12,3 | 10,4 | | |
| NR4 65/250B-60/A | | 3 | 4 | | 22,7 | 23,1 | 23,1 | 22,95 | 22,9 | 22,7 | 22,3 | 22 | 21,5 | 20,8 | 19,9 | 19 | 17,5 | 16 | | |
| NR4 65/250A-60/A | | 4 | 5,5 | | 23,7 | 24,2 | 24,2 | 24,2 | 24,1 | 23,9 | 23,6 | 23 | 22,7 | 22 | 21,2 | 20,4 | 18,9 | 17,4 | | |

| 3 ~ | | P2 | | Q m³/h | 0 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 333 | 417 | 500 | 583 | 667 | 833 | 1000 | 1167 | 1333 | 1500 | 1667 | 1840 | | | | |
| NR4 100C-60/B | | 1,1 | 1,5 | | 6,75 | 6,75 | 6,7 | 6,6 | 6,3 | 6 | 4,9 | 3,5 | | | | | | | | | |
| NR4 100B-60/B | | 1,1 | 1,5 | | 7,7 | 7,7 | 7,6 | 7,5 | 7,2 | 6,9 | 6 | 4,5 | | | | | | | | | |
| NR4 100A-60/B | | 1,5 | 2 | H | 9,5 | 9,4 | 9,3 | 9,2 | 9 | 8,6 | 7,7 | 6,5 | 5 | | | | | | | | |
| NR4 125C-60/B | | 2,2 | 3 | m | 10,8 | | | 10,9 | 10,8 | 10,7 | 10,5 | 9,7 | 8,9 | 7,7 | 5,7 | | | | | | |
| NR4 125B-60/A | | 3 | 4 | | 12,4 | | | 12,7 | 12,6 | 12,5 | 12,4 | 12 | 11,2 | 10,2 | 8,8 | 7 | | | | | |
| NR4 125A-60/A | | 4 | 5,5 | | 13,9 | | | 13,9 | 13,8 | 13,8 | 13,7 | 13,5 | 12,9 | 12 | 10,9 | 9,4 | 7,7 | | | | |

P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# NRD 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

### Single operation - Funcionamiento único

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 39 | 42 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 650 | 700 | | | | |
| NRD 50/125F-60 | 1,1 | 1,5 | | 14,5 | 13,8 | 13,3 | 12,7 | 12,0 | 10,8 | 9,5 | 7,9 | 6,0 | | | | | | | |
| NRD 50/125C-60 | 1,5 | 2 | | 18,1 | 18,0 | 17,5 | 16,9 | 16,1 | 14,9 | 13,5 | 12,0 | 10,2 | | | | | | | |
| NRD 50/125A-60 | 2,2 | 3 | H | 22,6 | 23,2 | 22,8 | 22,3 | 21,6 | 20,5 | 19,1 | 17,6 | 15,8 | 12,6 | 11,7 | | | | | |
| NRD 50/160C-60 | 2,2 | 3 | m | 23,2 | 22,8 | 22,3 | 21,6 | 20,7 | 19,3 | 17,7 | 15,7 | 13,3 | 8,9 | 7,8 | | | | | |
| NRD 50/160B-60 | 3 | 4 | | 26,8 | 25,5 | 25,2 | 24,7 | 24,1 | 23,1 | 21,7 | 19,8 | 17,3 | 12,5 | 11,2 | | | | | |
| NRD 50/160A-60 | 4 | 5,5 | | 35,8 | 35,1 | 34,7 | 34,2 | 33,6 | 32,6 | 31,4 | 29,9 | 27,9 | 23,5 | 22,2 | 18,5 | | | | |

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | | | | |
| NRD 65/125F-60 | 2,2 | 3 | | 15,1 | 14,7 | 14,3 | 13,7 | 13,1 | 12,5 | 11,3 | 10,3 | 8,6 | 6,9 | 4,9 | | | | | |
| NRD 65/125D-60 | 3 | 4 | | 19,2 | 18,8 | 18,5 | 18,0 | 17,5 | 16,9 | 15,8 | 14,8 | 13,1 | 11,2 | 8,9 | | | | | |
| NRD 65/125A-60 | 4 | 5,5 | H | 26,2 | 25,4 | 25,0 | 24,6 | 24,2 | 23,7 | 22,8 | 21,8 | 20,1 | 18,1 | 15,6 | | | | | |
| NRD 65/160B-60 | 5,5 | 7,5 | m | 31,2 | 31,6 | 31,4 | 31,1 | 30,7 | 30,1 | 28,9 | 27,6 | 25,2 | 22,3 | 19,2 | | | | | |
| NRD 65/160A-60 | 7,5 | 10 | | 39,6 | 40,7 | 40,7 | 40,5 | 40,2 | 39,8 | 38,7 | 37,5 | 35,2 | 32,4 | 29,1 | 25,4 | | | | |

### Parallel operation - Funcionamiento en paralelo

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | | | | | |
| NRD 50/125F-60 | 1,1 x2 | 1,5 x2 | | 14,5 | 13,7 | 13,3 | 12,5 | 11,6 | 10,2 | 8,6 | 6,7 | | | | | | | | |
| NRD 50/125C-60 | 1,5 x2 | 2 x2 | | 18,1 | 17,9 | 17,5 | 16,8 | 15,9 | 14,5 | 12,9 | 11,2 | 9,0 | | | | | | | |
| NRD 50/125A-60 | 2,2 x2 | 3 x2 | H | 22,6 | 23,0 | 22,8 | 22,3 | 21,6 | 20,3 | 18,7 | 16,9 | 15,1 | 11,8 | | | | | | |
| NRD 50/160C-60 | 2,2 x2 | 3 x2 | m | 23,2 | 22,8 | 22,4 | 21,7 | 20,8 | 19,0 | 17,0 | 14,6 | 11,9 | | | | | | | |
| NRD 50/160B-60 | 3 x2 | 4 x2 | | 26,8 | 25,6 | 25,2 | 24,6 | 23,8 | 22,4 | 20,7 | 18,5 | 15,9 | 11,4 | | | | | | |
| NRD 50/160A-60 | 4 x2 | 5,5 x2 | | 35,8 | 35,3 | 34,9 | 34,2 | 33,5 | 32,2 | 30,8 | 29,0 | 26,7 | 22,3 | 17,1 | | | | | |

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 | | | | | |
| NRD 65/125F-60 | 2,2 x2 | 3 x2 | | 15,1 | 14,4 | 14,0 | 13,5 | 12,9 | 12,1 | 10,8 | 9,3 | 7,2 | 5,1 | | | | | | |
| NRD 65/125D-60 | 3 x2 | 4 x2 | | 19,2 | 18,6 | 18,3 | 17,9 | 17,3 | 16,7 | 15,5 | 14,1 | 12,0 | 9,7 | 7,2 | | | | | |
| NRD 65/125A-60 | 4 x2 | 5,5 x2 | H | 26,2 | 25,9 | 25,6 | 25,2 | 24,7 | 24,1 | 23,0 | 21,7 | 19,6 | 17,0 | 14,2 | | | | | |
| NRD 65/160B-60 | 5,5 x2 | 7,5 x2 | m | 31,2 | 31,6 | 31,3 | 30,8 | 30,3 | 29,6 | 28,2 | 26,5 | 23,6 | 20,2 | | | | | | |
| NRD 65/160A-60 | 7,5 x2 | 10 x2 | | 39,6 | 40,0 | 39,8 | 39,5 | 39,1 | 38,5 | 37,5 | 36,0 | 33,5 | 30,3 | 26,2 | | | | | |

$P_2$ Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# NRD4 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

### Single operation - Funcionamiento único

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 5,4 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 90 | 100 | 125 | 140 | 160 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | |
| NRD4 50/160C-60 | 0,37 | 0,5 | H m | 6,5 | 6,5 | 6,5 | 6,3 | 6,2 | 6,0 | 5,8 | 5,5 | 5,2 | 4,6 | 3,8 | 2,8 | | | | |
| NRD4 50/160B-60 | 0,55 | 0,75 | | 8,0 | 8,2 | 8,1 | 8,0 | 7,9 | 7,7 | 7,4 | 7,2 | 6,9 | 6,4 | 5,7 | 4,8 | 3,7 | | | |
| NRD4 50/160A-60 | 0,75 | 1 | | 9,8 | 10,0 | 10,0 | 9,9 | 9,8 | 9,7 | 9,5 | 9,2 | 8,9 | 8,5 | 7,9 | 7,0 | 6,0 | 4,3 | | |

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | | |
| NRD4 65/125F-60 | 0,37 | 0,5 | H m | 4,2 | 4,0 | 3,9 | 3,9 | 3,7 | 3,5 | 3,2 | 2,9 | 2,5 | 2,0 | 1,5 | | | | | |
| NRD4 65/125D-60 | 0,55 | 0,75 | | 5,1 | 4,9 | 4,8 | 4,7 | 4,6 | 4,4 | 4,2 | 3,9 | 3,5 | 3,0 | 2,4 | 1,8 | | | | |
| NRD4 65/125A-60 | 0,75 | 1 | | 6,7 | 6,7 | 6,6 | 6,5 | 6,4 | 6,2 | 6,0 | 5,7 | 5,2 | 4,7 | 4,1 | 3,4 | 2,3 | | | |
| NRD4 65/160B-60 | 1,1 | 1,5 | | 8,9 | 9,1 | 9,1 | 9,0 | 8,9 | 8,7 | 8,4 | 8,1 | 7,5 | 6,7 | 5,9 | 5,0 | 3,2 | | | |
| NRD4 65/160A-60 | 1,1 | 1,5 | | 10,6 | 10,9 | 10,9 | 10,9 | 10,8 | 10,7 | 10,5 | 10,2 | 9,7 | 9,0 | 8,2 | 7,3 | 5,6 | 4,0 | | |

### Parallel operation - Funcionamiento en paralelo

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 10,8 | 12 | 13,2 | 15 | 16,8 | 18,9 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 180 | 200 | 220 | 250 | 280 | 315 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | | |
| NRD4 50/160C-60 | 0,37 x2 | 0,5 x2 | H m | 6,5 | 6,5 | 6,5 | 6,4 | 6,4 | 6,2 | 6,1 | 5,8 | 5,5 | 5,0 | 4,4 | 3,7 | | | | |
| NRD4 50/160B-60 | 0,55 x2 | 0,75 x2 | | 8,0 | 8,1 | 8,0 | 8,0 | 7,9 | 7,8 | 7,7 | 7,5 | 7,2 | 6,7 | 6,2 | 5,6 | 4,4 | | | |
| NRD4 50/160A-60 | 0,75 x2 | 1 x2 | | 9,8 | 9,9 | 9,9 | 9,9 | 9,9 | 9,8 | 9,7 | 9,6 | 9,3 | 8,9 | 8,4 | 7,8 | 6,8 | 5,7 | | |

| 3 ~ | $P_2$ | | Q $m^3/h$ | 0 | 21 | 24 | 27 | 30 | 33 | 37,8 | 42 | 48 | 54 | 60 | 66 | 75 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 350 | 400 | 450 | 500 | 550 | 630 | 700 | 800 | 900 | 1000 | 1100 | 1250 | | | |
| NRD4 65/125F-60 | 0,37 x2 | 0,5 x2 | H m | 4,2 | 4,0 | 3,9 | 3,8 | 3,6 | 3,5 | 3,1 | 2,7 | 2,2 | | | | | | | |
| NRD4 65/125D-60 | 0,55 x2 | 0,75 x2 | | 5,1 | 4,9 | 4,8 | 4,7 | 4,6 | 4,5 | 4,2 | 3,8 | 3,3 | 2,7 | | | | | | |
| NRD4 65/125A-60 | 0,75 x2 | 1 x2 | | 6,7 | 6,6 | 6,6 | 6,5 | 6,3 | 6,2 | 5,9 | 5,7 | 5,2 | 4,5 | 3,8 | 3,0 | | | | |
| NRD4 65/160B-60 | 1,1 x2 | 1,5 x2 | | 8,9 | 8,9 | 8,8 | 8,8 | 8,7 | 8,6 | 8,3 | 8,0 | 7,4 | 6,6 | 5,6 | 4,4 | | | | |
| NRD4 65/160A-60 | 1,1 x2 | 1,5 x2 | | 10,6 | 10,8 | 10,7 | 10,7 | 10,6 | 10,5 | 10,2 | 10,0 | 9,4 | 8,7 | 7,7 | 6,7 | 5,0 | | | |

$P_2$ Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# NR(D), NR(D)4 60 Hz

## Rated currents - Intensidades nominales

### 2 Pole - Polos

| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | In A | In A | In A | In A | Ia/In |
| 0,45 | 0,6 | 4,1 | 7,1 | 8,2 | - | 2,5 |
| 0,55 | 0,75 | 5,2 | 9 | 10,4 | 9.2/4.7 | 3,1 |
| 0,75 | 1 | 6,9 | 12 | 13,8 | - | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| 1,5 | 2 | 1 | - | - | - | 3,8 |

| | P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|---|
| | | | 220/380V | 380/660V | 220/440V | |
| | kW | HP | In A | In A | In A | Ia/In |
| | 0,45 | 0,6 | 2,6/1,5 | - | 2,7/1,6 | 3,5 |
| | 0,55 | 0,75 | 3,3/1,9 | - | 3,5/2 | 4,3 |
| NR 50C-60/A | 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| | 0,75 | 1 | 4,8/2,8 | - | 5,1/2,9 | 6 |
| | 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| | 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 6,1 |
| | 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| | 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| | 4 | 5,5 | - | 11,2/6,5 | - | 9,2 |
| | 5,5 | 7,5 | - | 13,7/7,9 | - | 8,7 |
| | 7,5 | 10 | - | 17/9,8 | - | 9,2 |
| | 9,2 | 12,5 | - | 22/12,7 | - | 8,3 |
| | 11 | 15 | - | 25,8/14,9 | - | 8,9 |
| | 15 | 18,5 | - | 33,2/19,2 | - | 9,4 |
| | 18,5 | 25 | | 40,8/23,6 | - | 9,3 |

### 4 Pole - Polos

| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | In A | In A | In A | Ia/In |
| 0,25 | 0,34 | 2,5 | 4,3 | 5 | 3,9 |

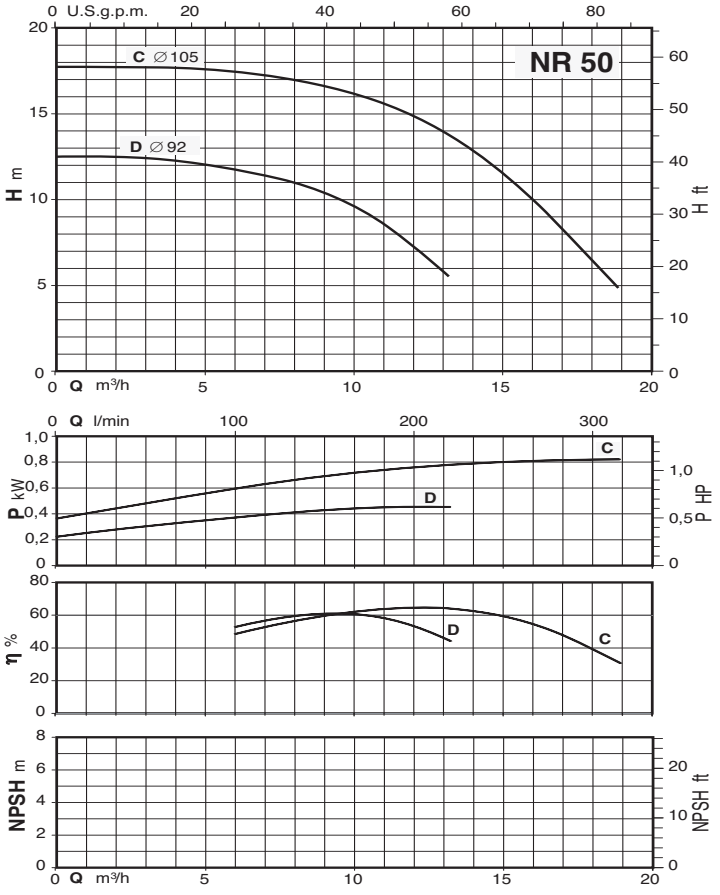
| | P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|---|
| | | | 220/380V | 380/660V | 220/440V | |
| | kW | HP | In A | In A | In A | Ia/In |
| | 0,25 | 0,34 | 1,7/1 | - | 1,8/1,1 | 3,5 |
| | 0,37 | 0,5 | 2/1,1 | - | 2,1/1,2 | 4,1 |
| NR4 65A,B-60/A | 0,37 | 0,5 | 2,4/1,4 | - | 1,5/2,5 | 3,6 |
| | 0,55 | 0,75 | 3,1/1,8 | - | 3,3/1,7 | 4,5 |
| | 0,75 | 1 | 3,8/2,2 | - | 4,0/2,3 | 7,5 |
| | 1,1 | 1,5 | 5,8/3,3 | - | 6,0/3,5 | 7 |
| | 1,5 | 2 | 7/4 | - | 7,3/4,2 | 8,7 |
| | 2,2 | 3 | 9,8/5,7 | - | 10,4/6,0 | 9,1 |
| | 3 | 4 | 13,5/7,8 | - | 14,2/8,2 | 5,7 |
| | 4 | 5,5 | | 10,2/5,9 | | 7 |

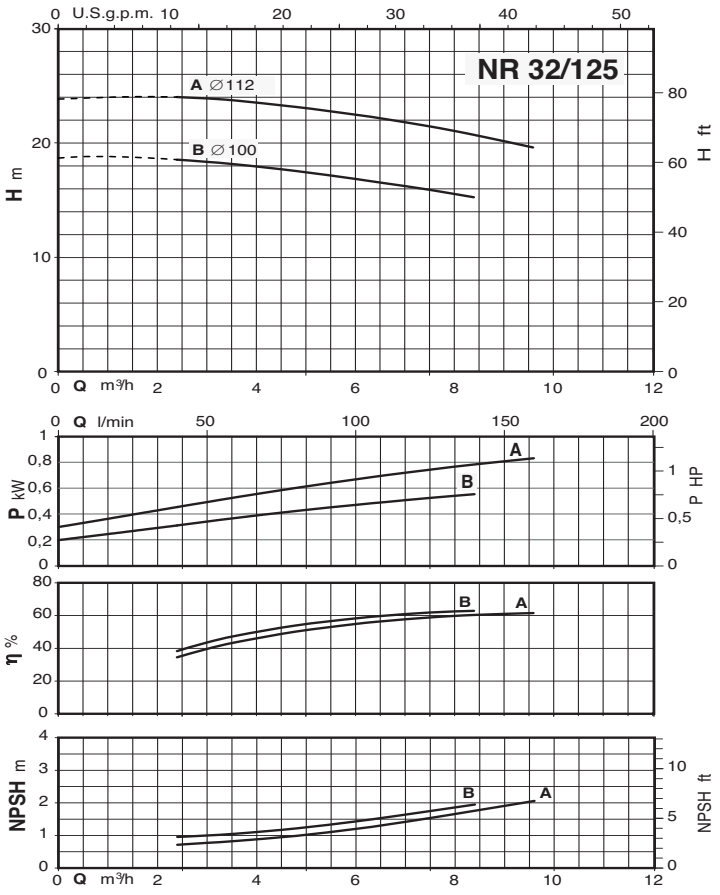
P2 Rated motor power output.
Potencia nominal del motor.

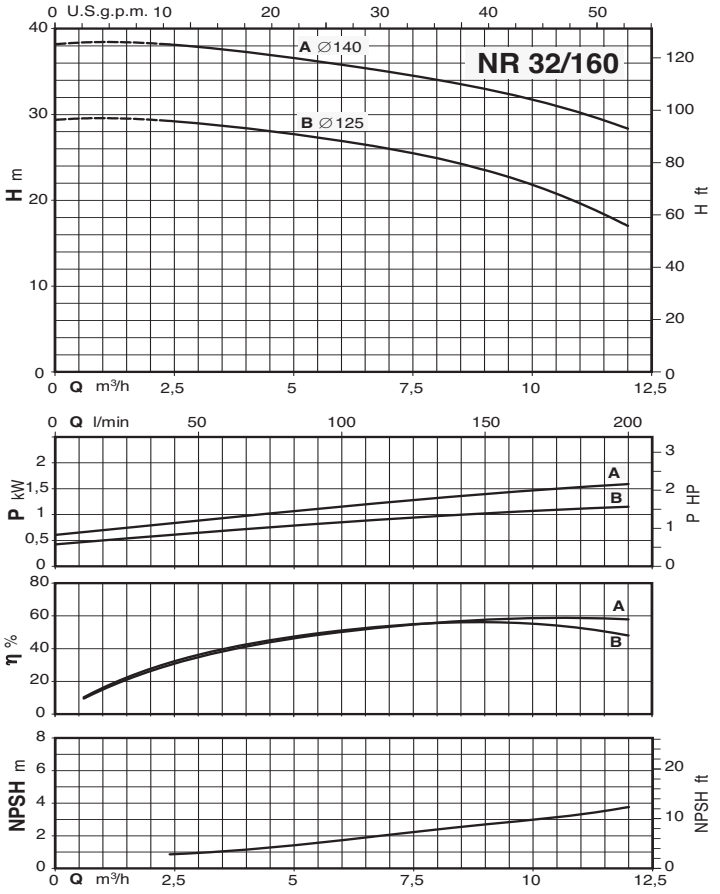
Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

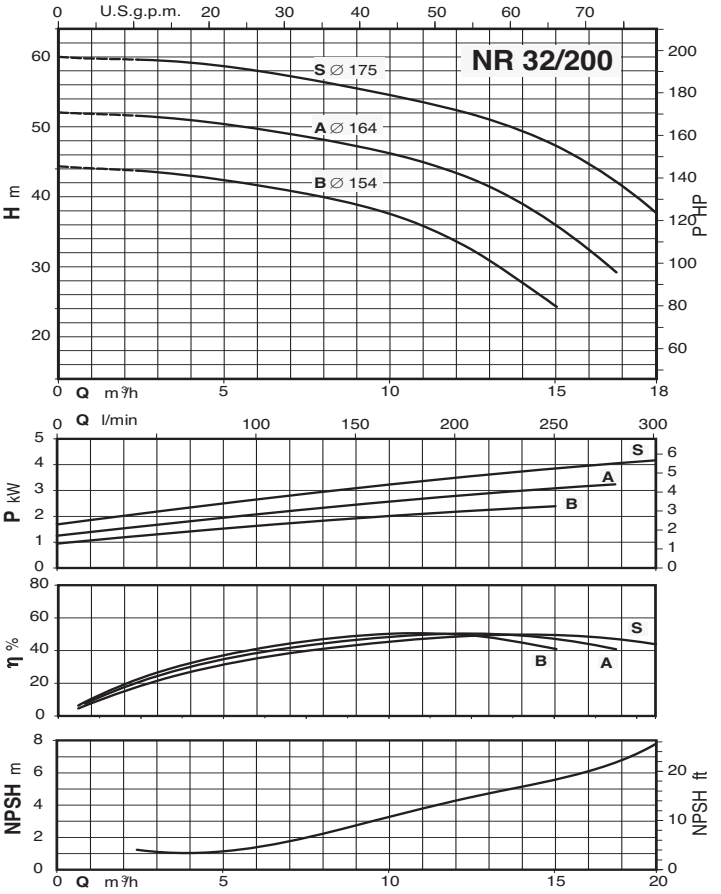
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



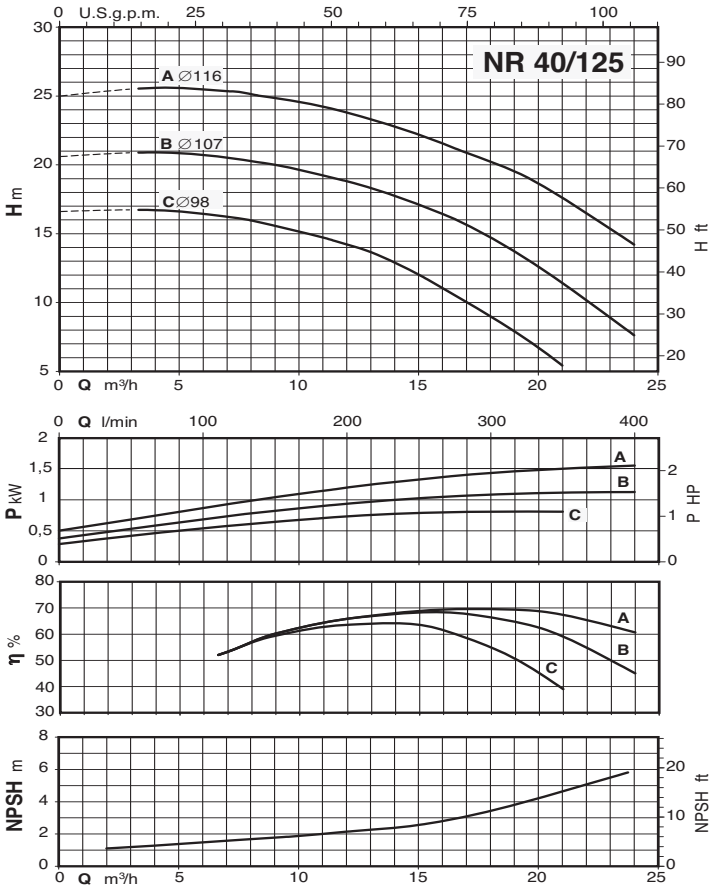



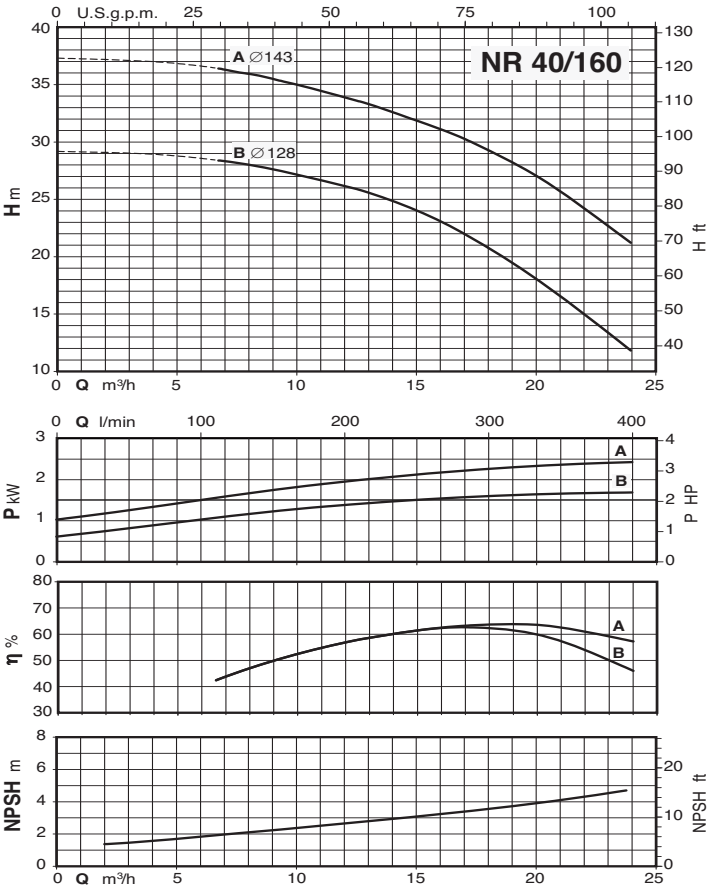



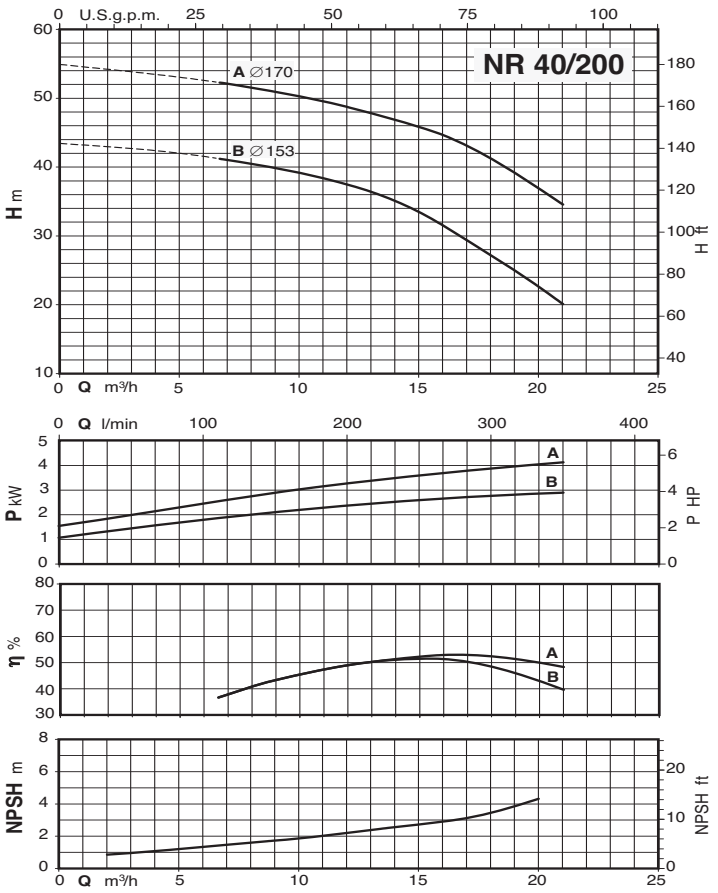



## Characteristic curves - Curvas Características

n ≈ 3450 rpm

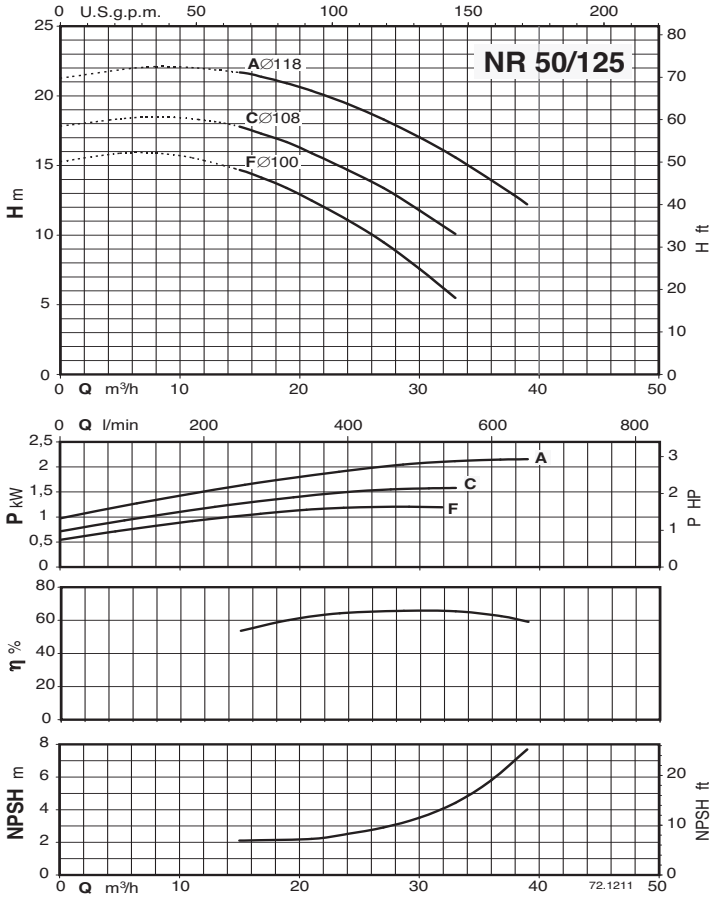


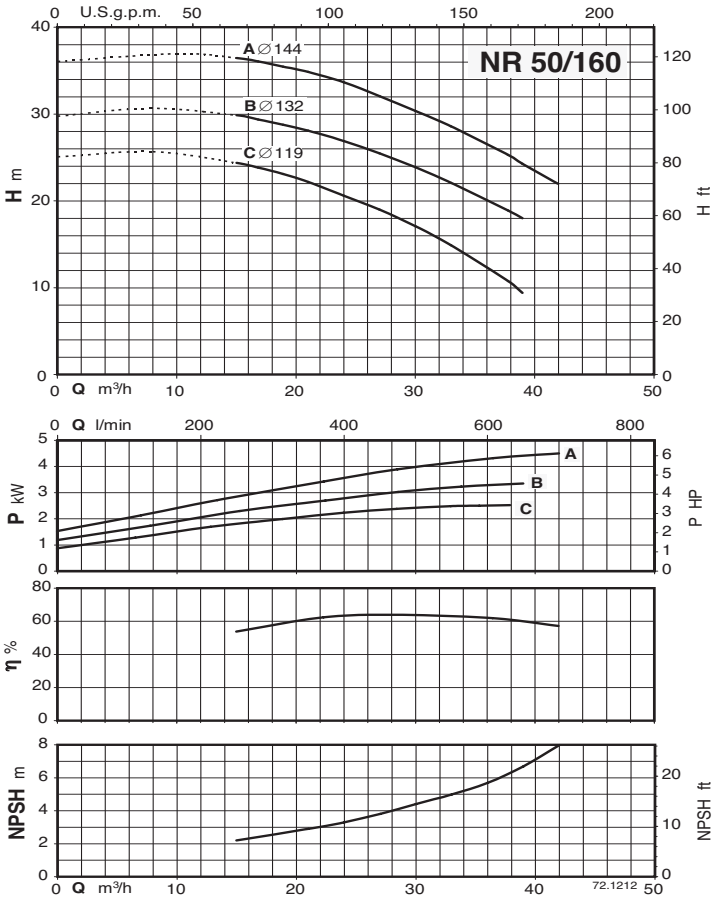
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



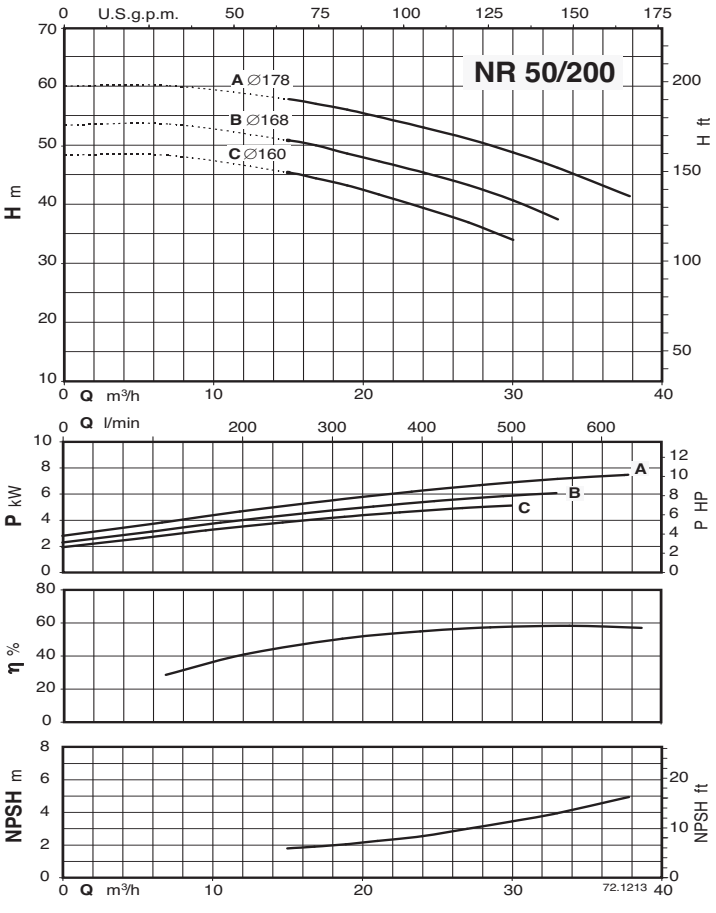






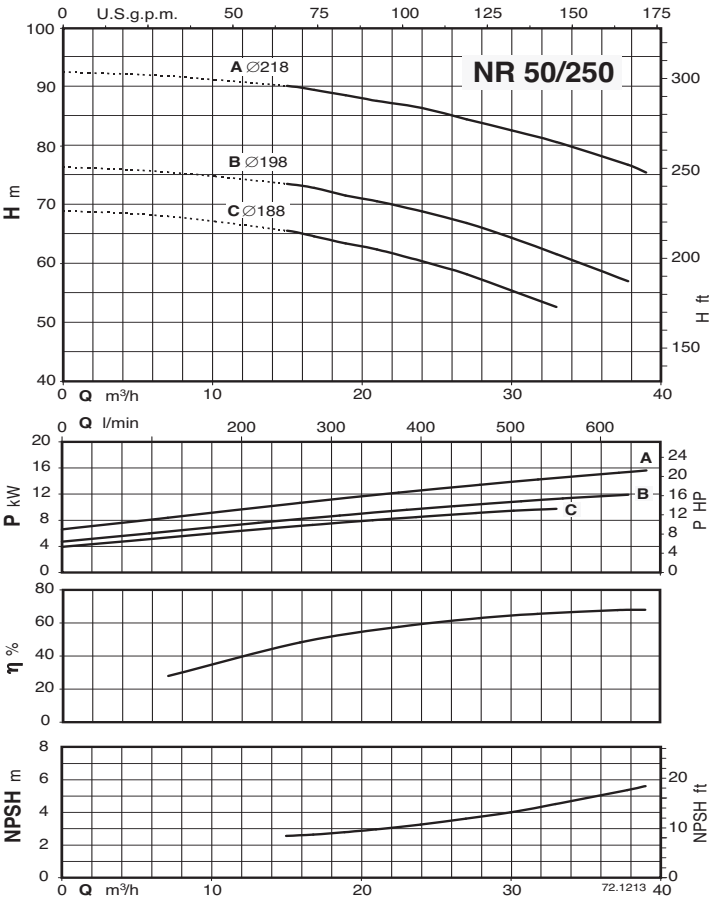






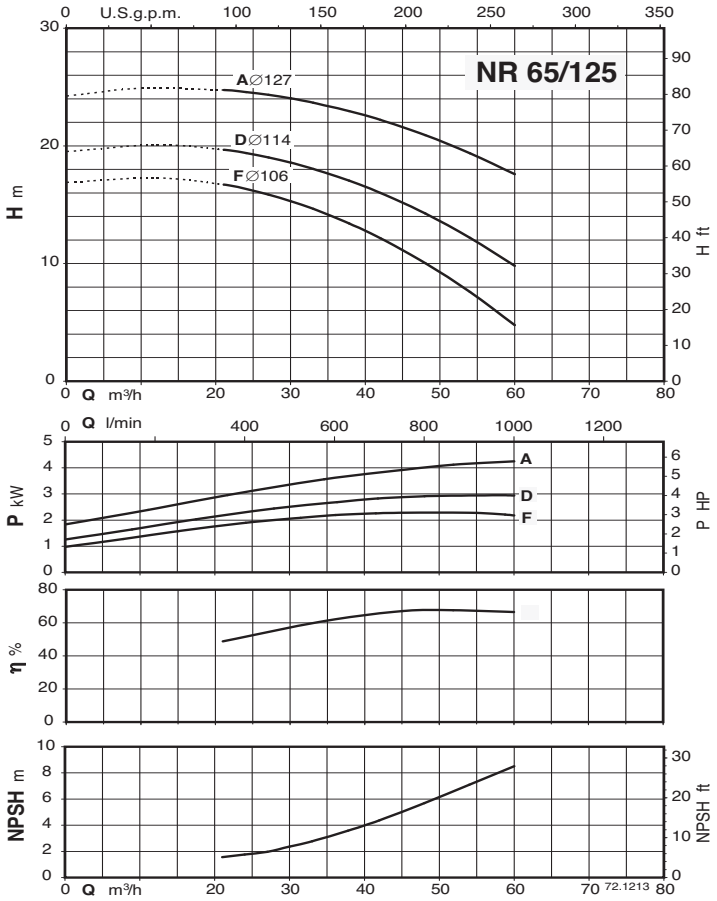


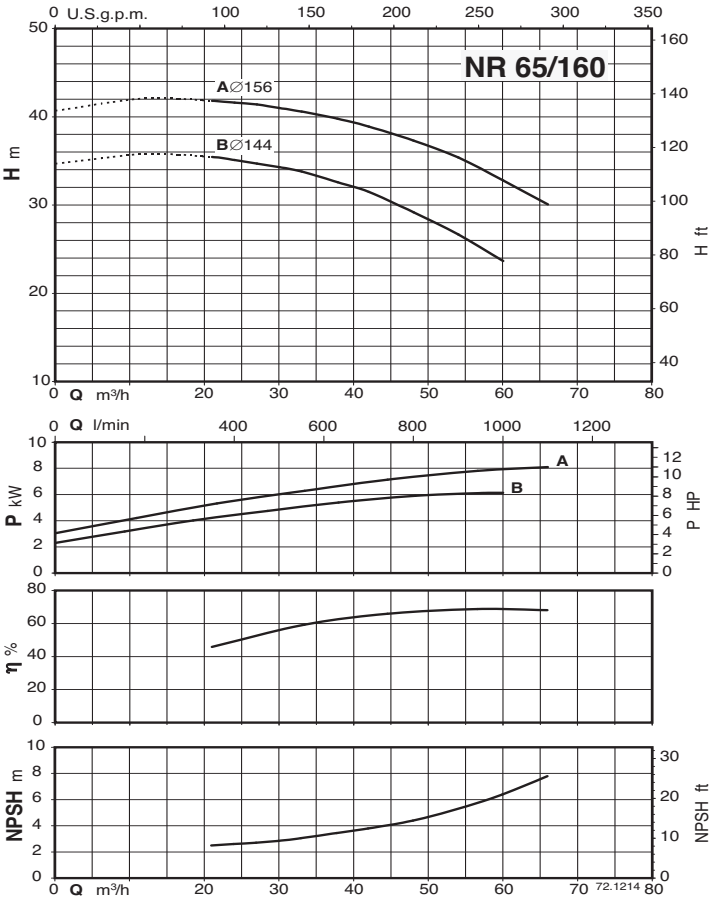


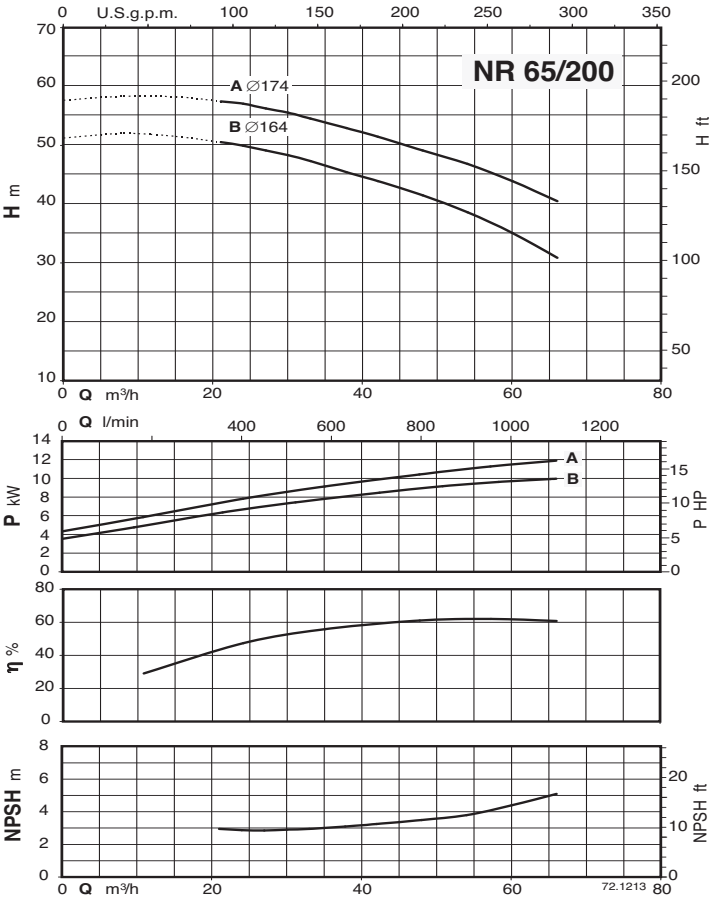


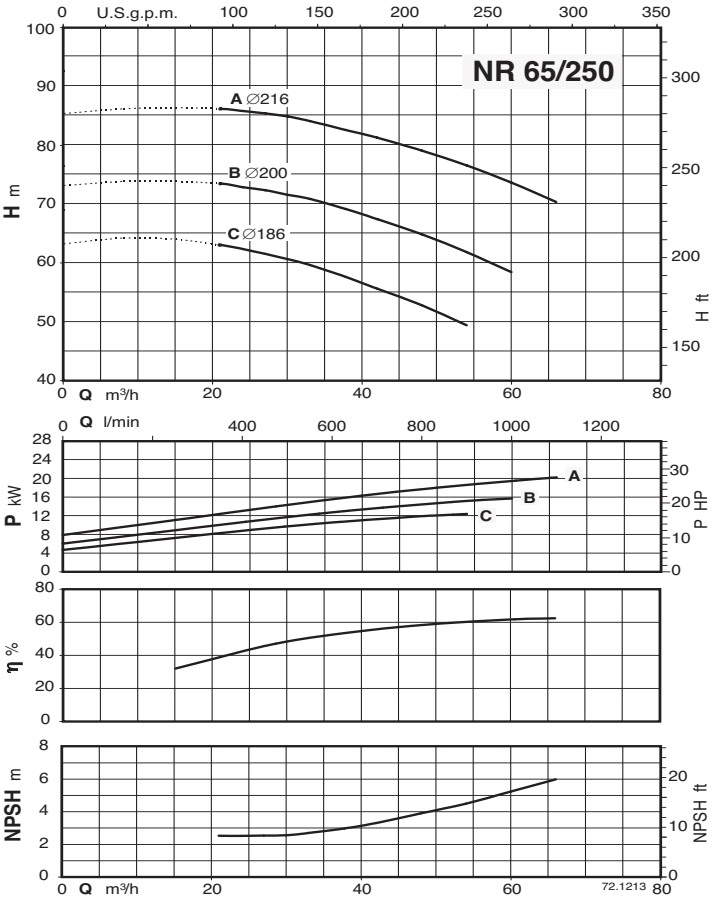
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



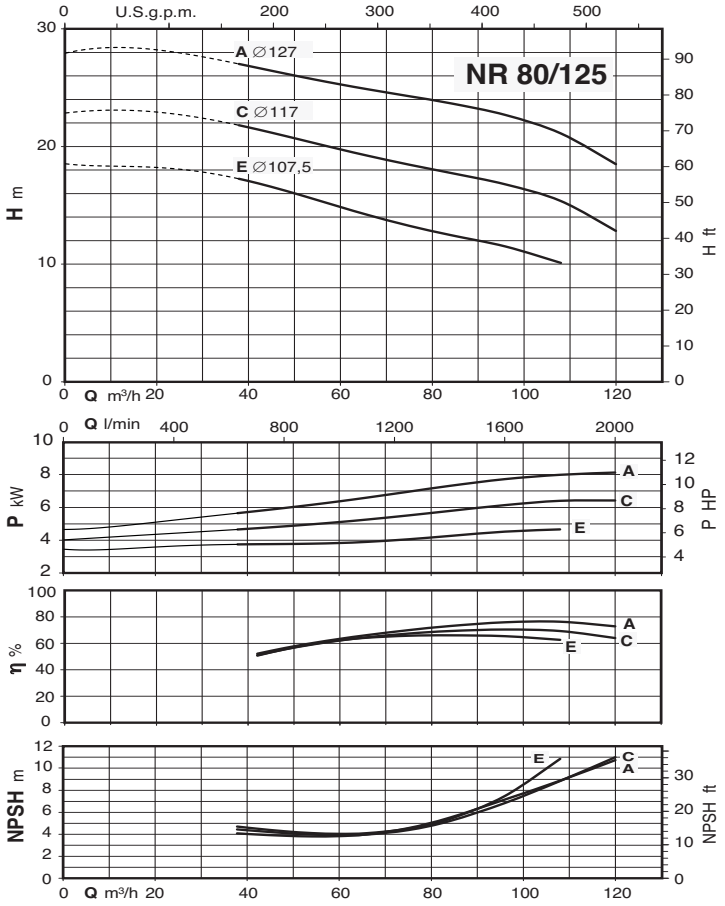



## Characteristic curves - Curvas Características

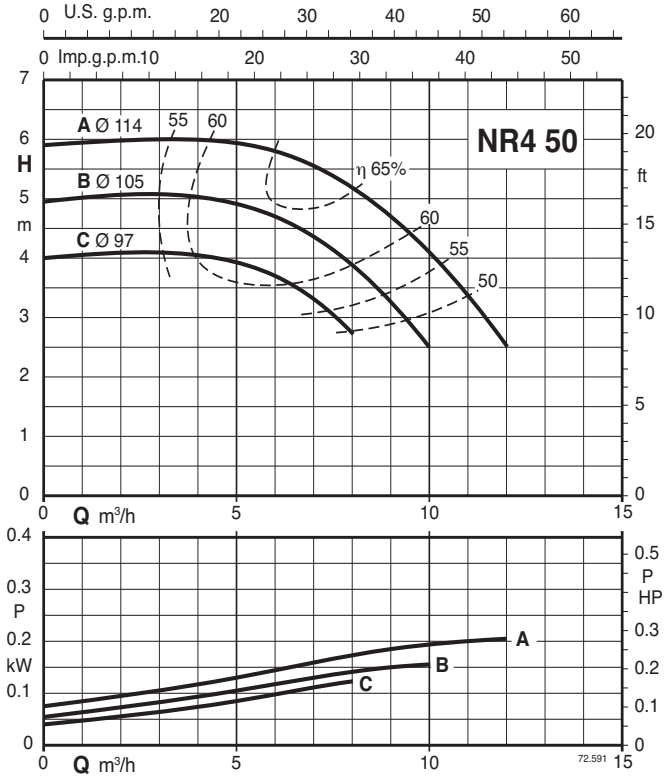
n ≈ 3450 rpm

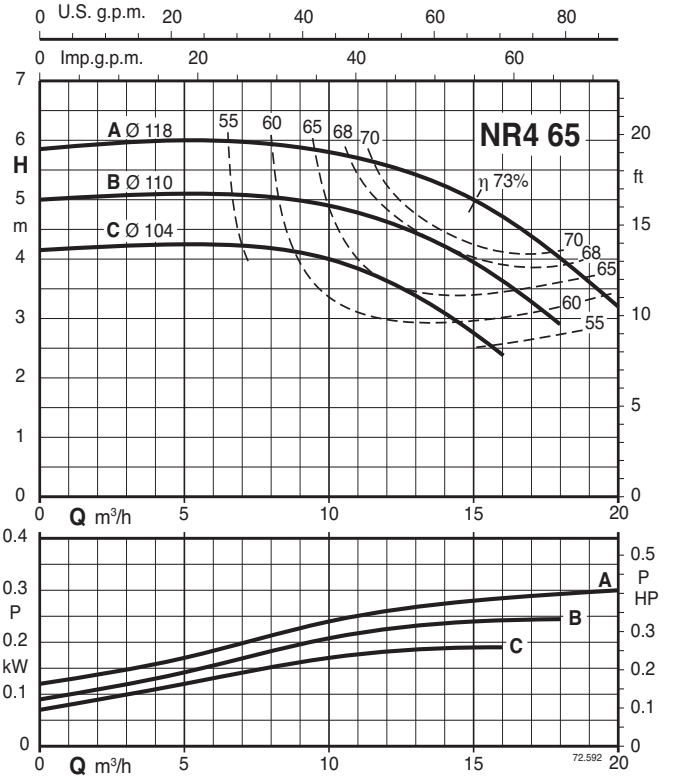


# NR4 60 Hz

## Characteristic curves - Curvas Características

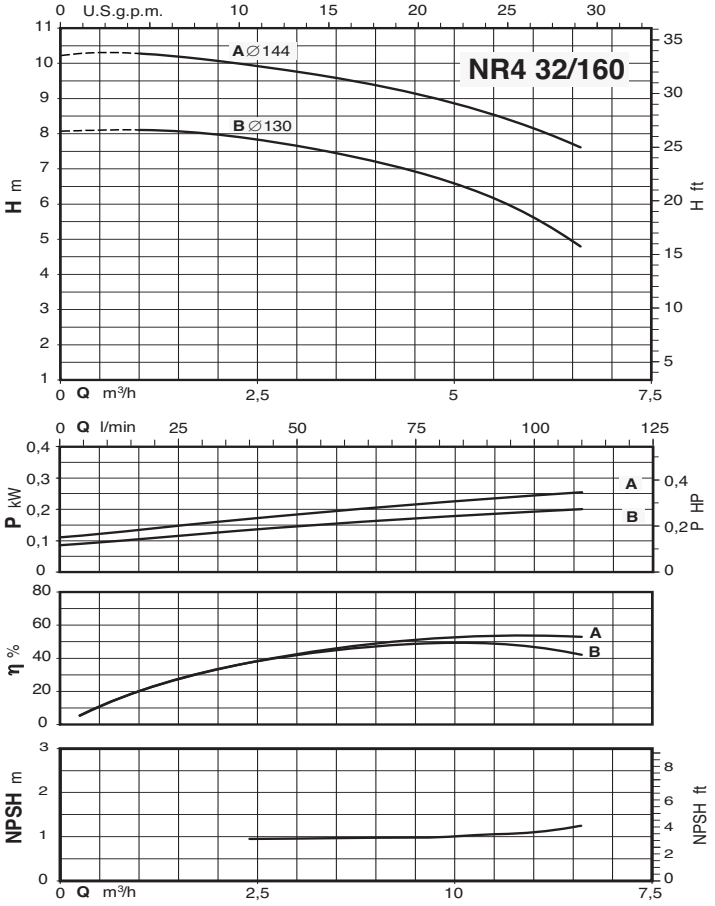
n ≈ 1750 rpm

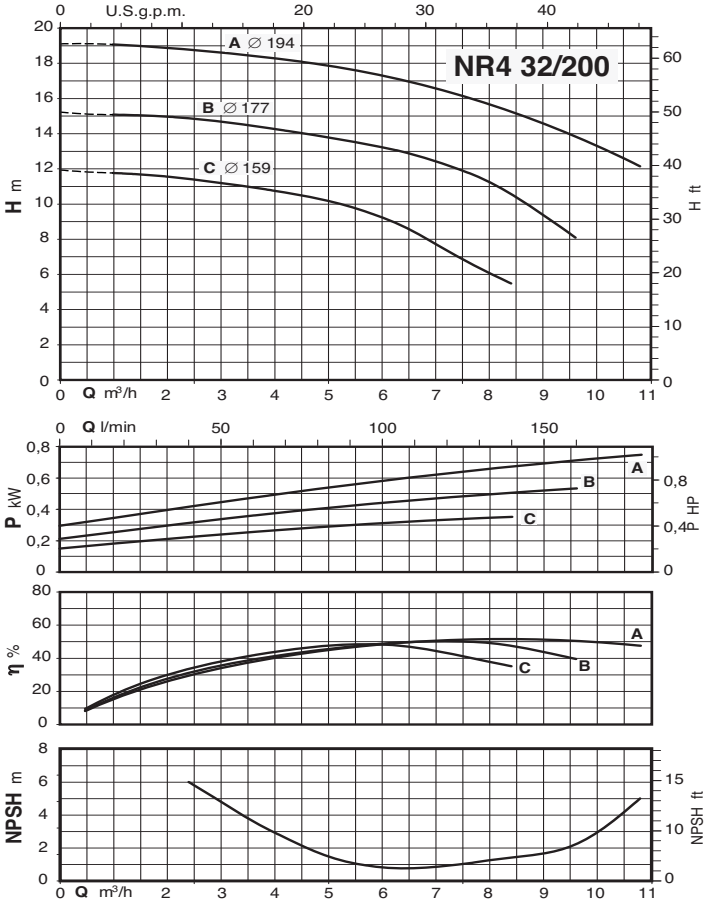


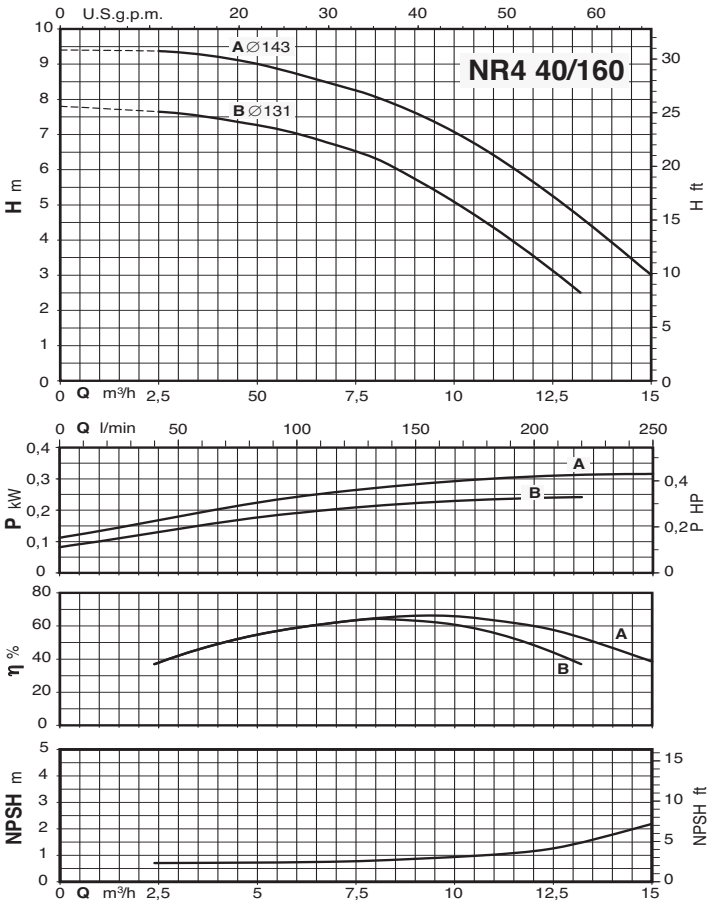



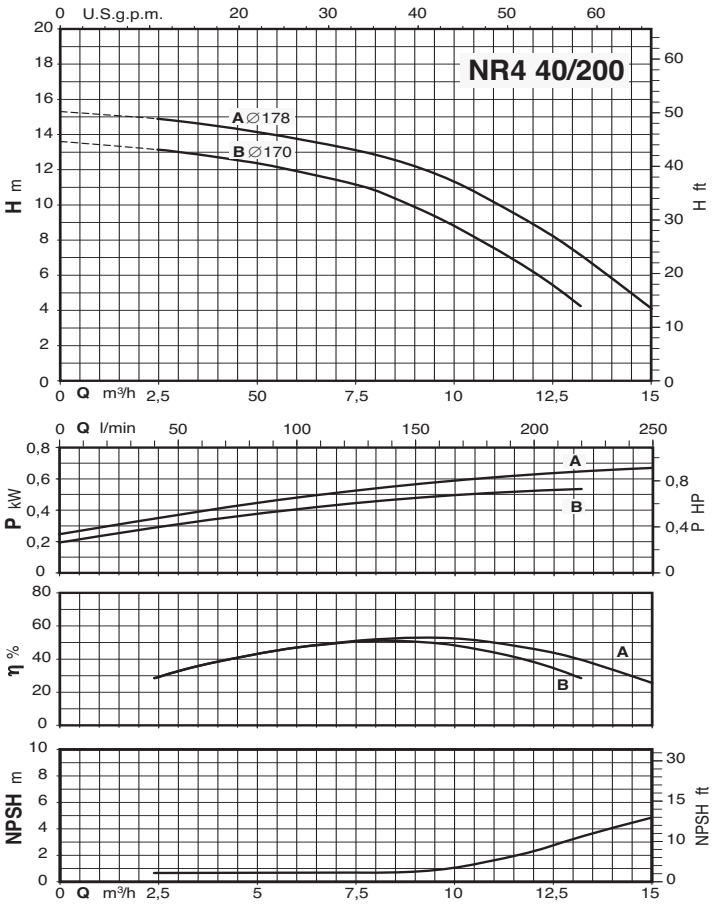
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



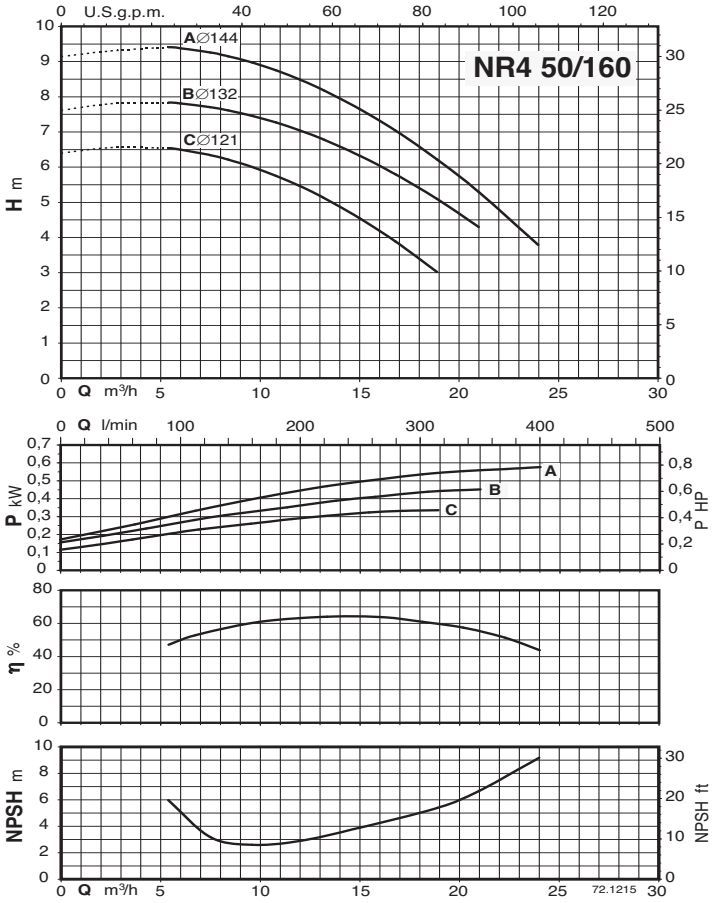



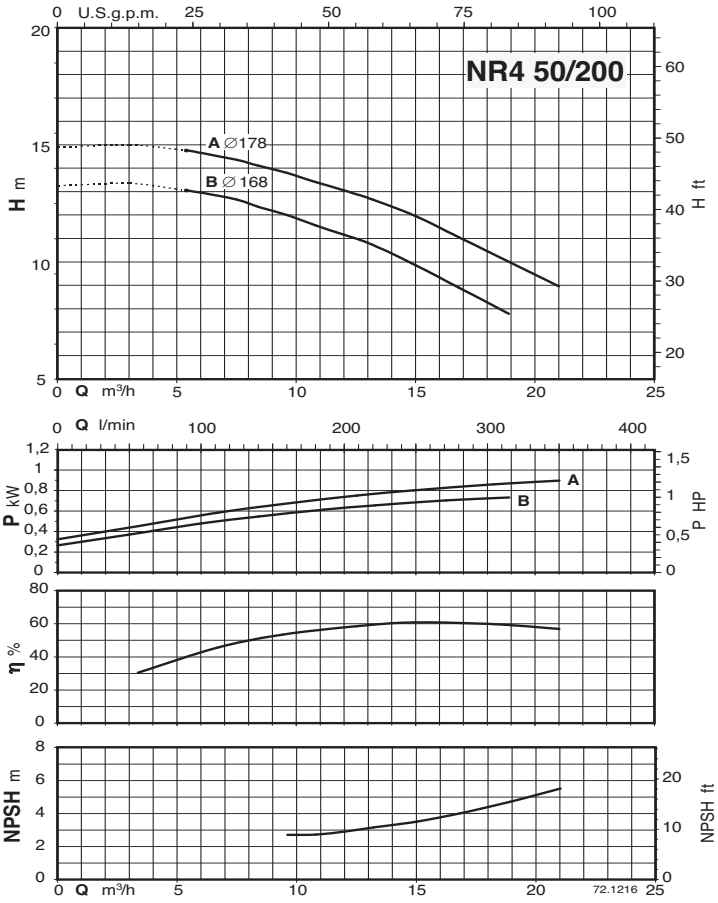



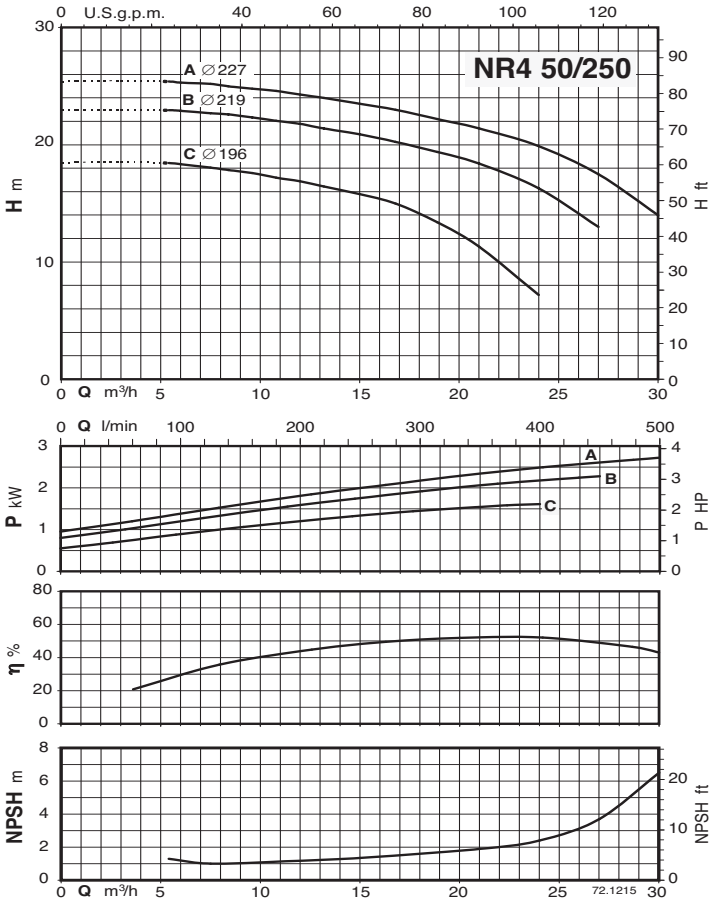
# NR4 60 Hz

## Characteristic curves - Curvas Características

n ≈ 1750 rpm

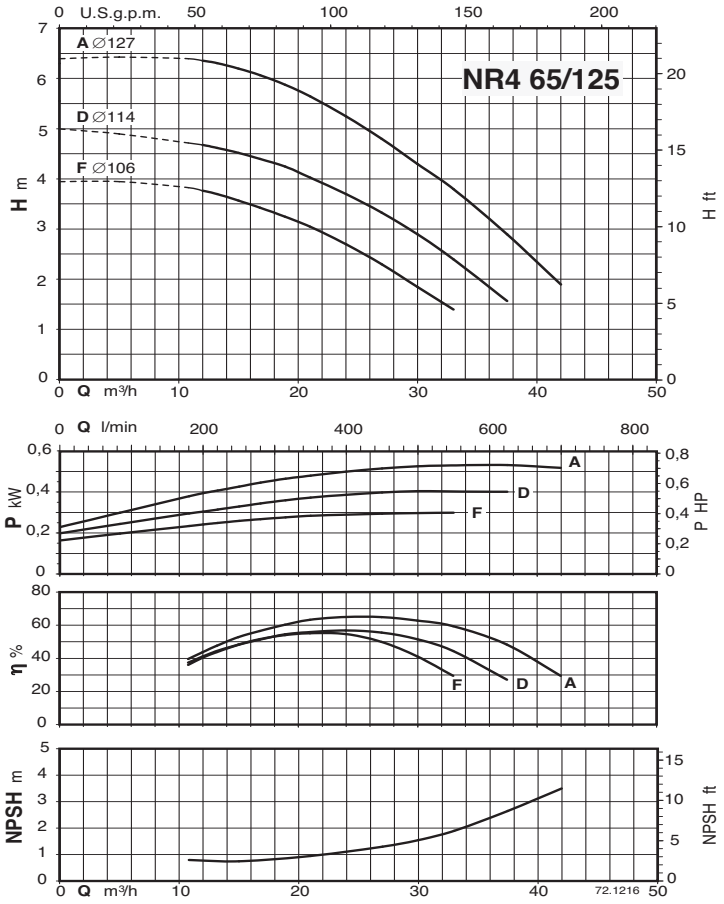


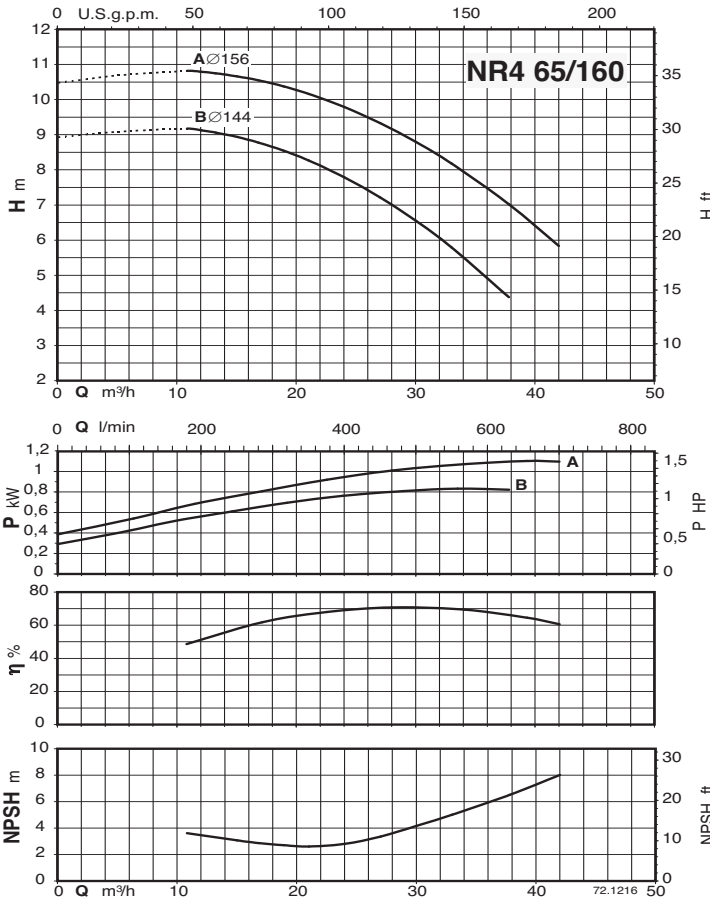



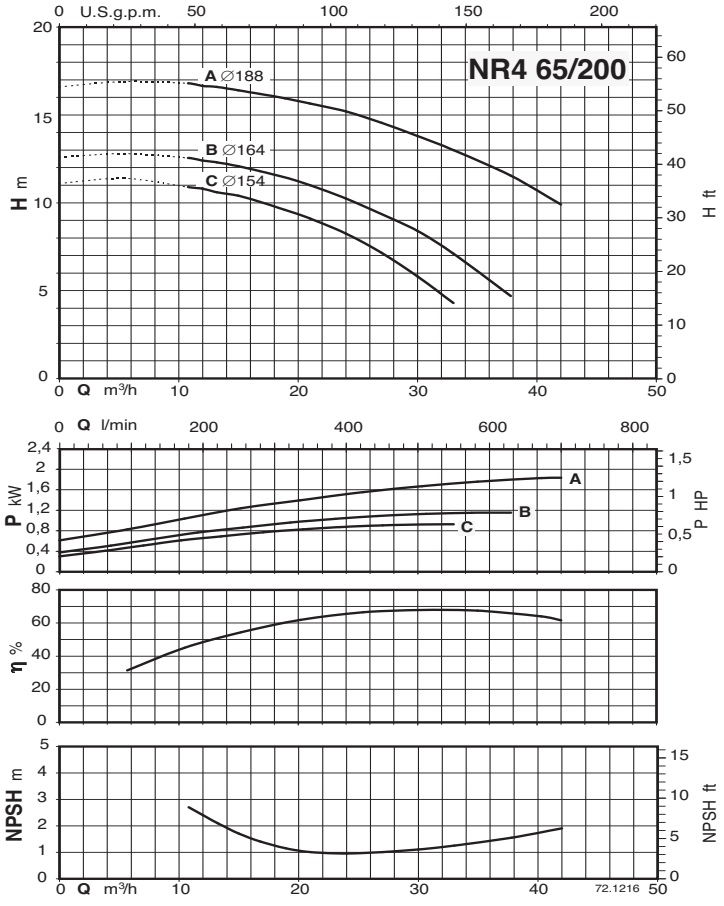



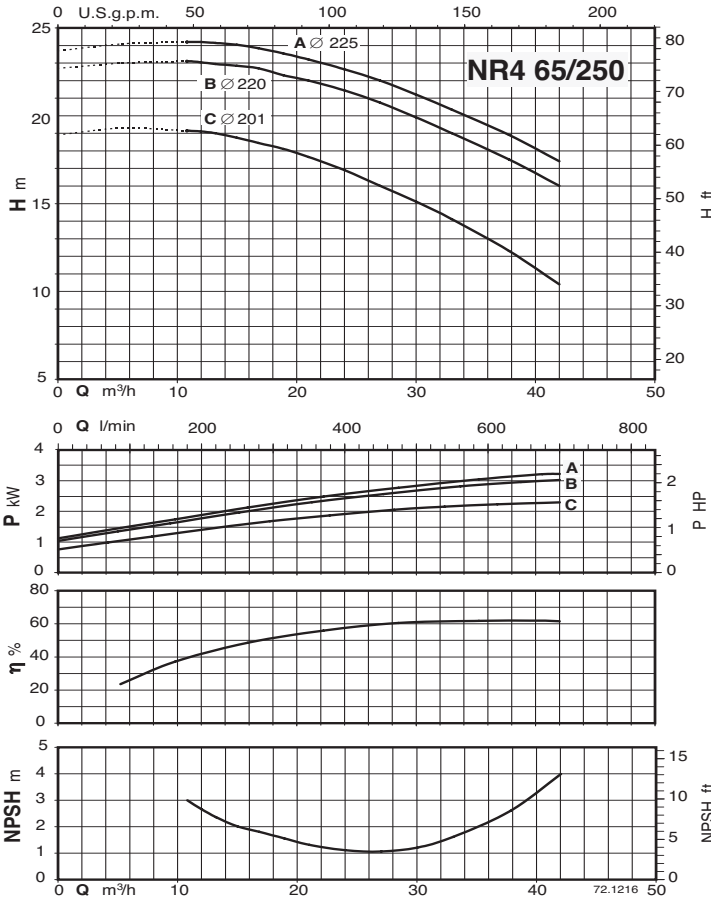
## Characteristic curves - Curvas Características

n ≈ 1750 rpm



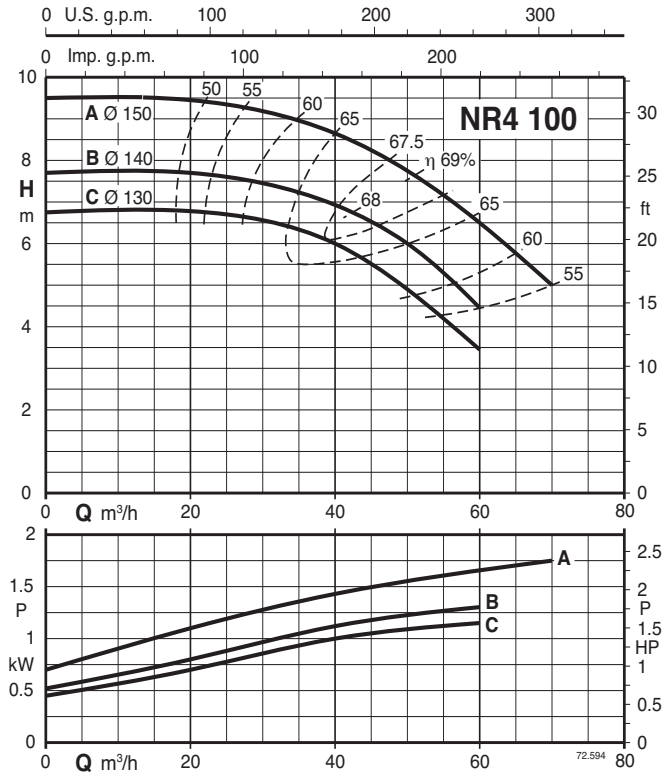



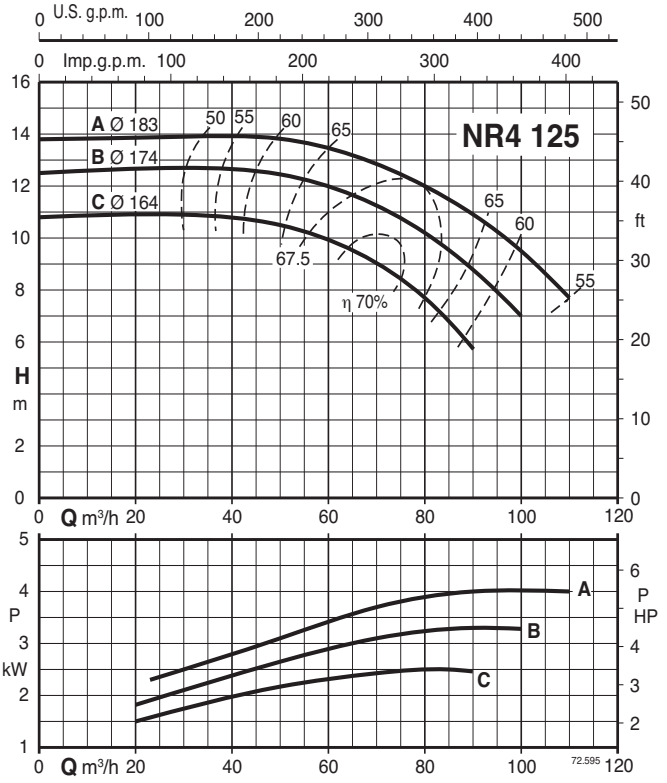



# NR4 60 Hz

## Characteristic curves - Curvas Características

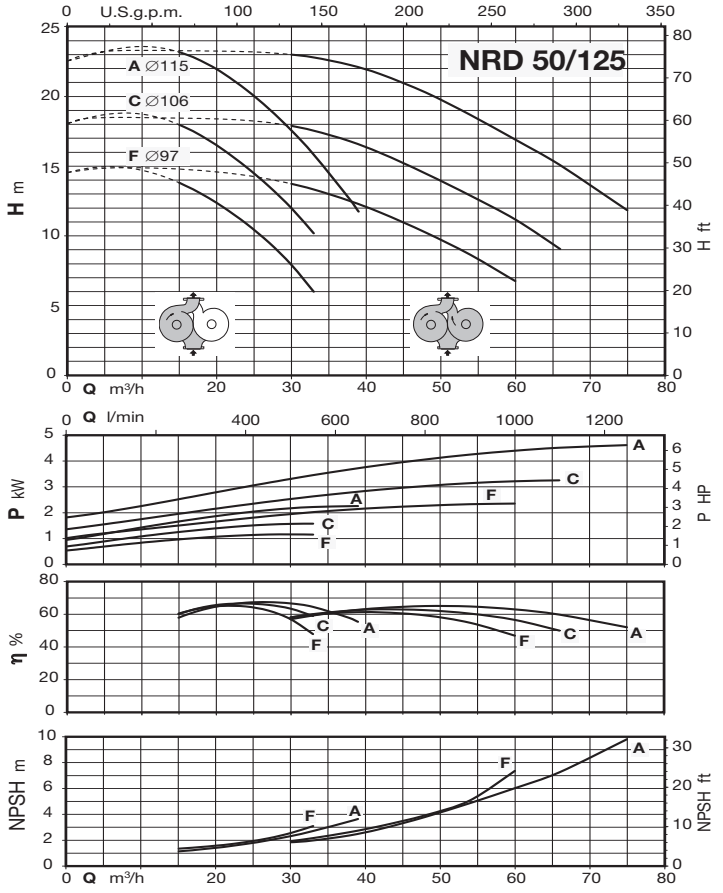
n ≈ 1750 rpm

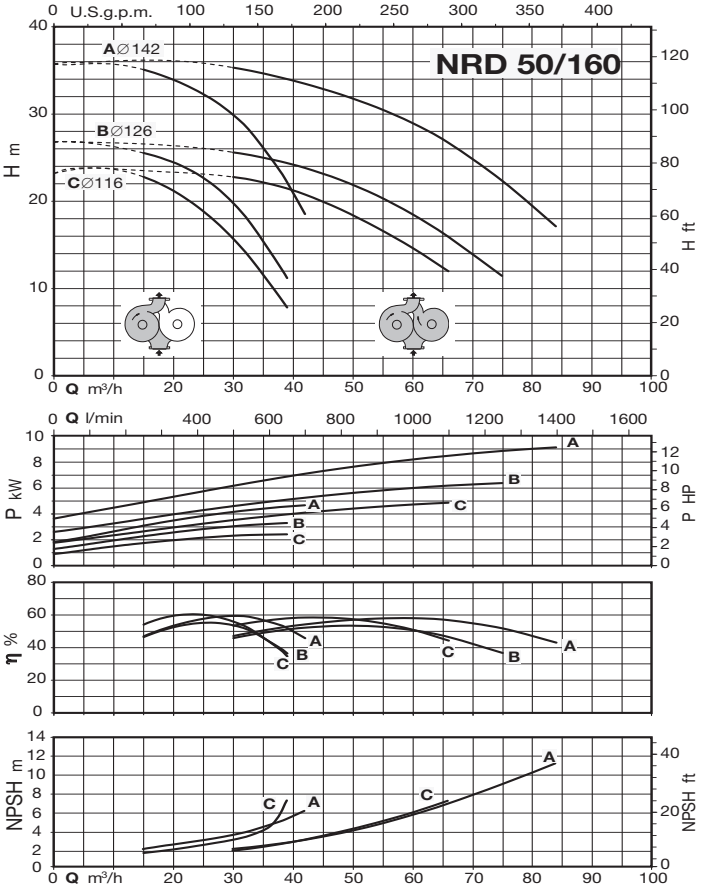


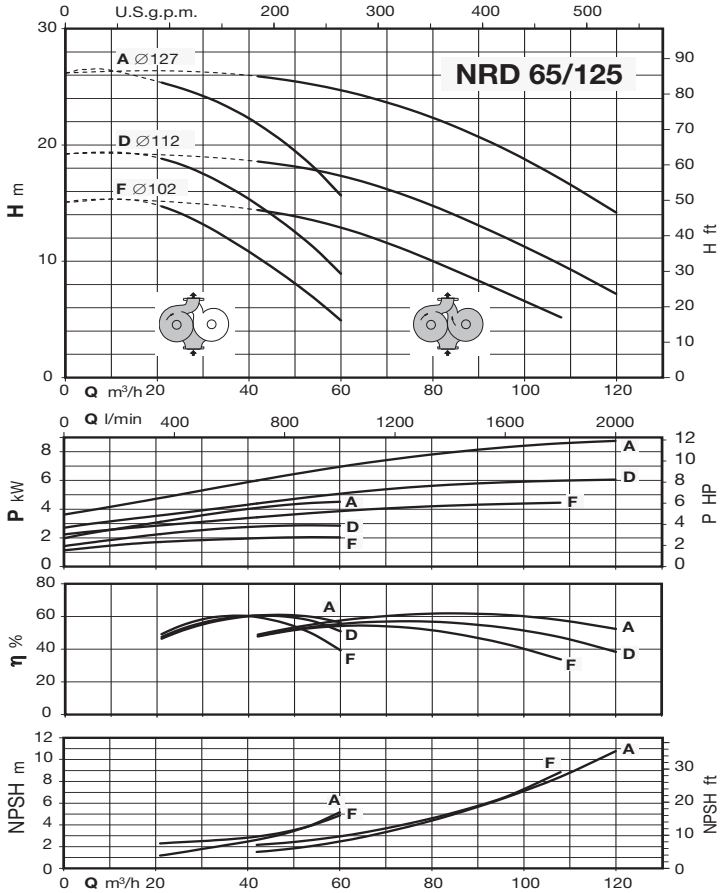



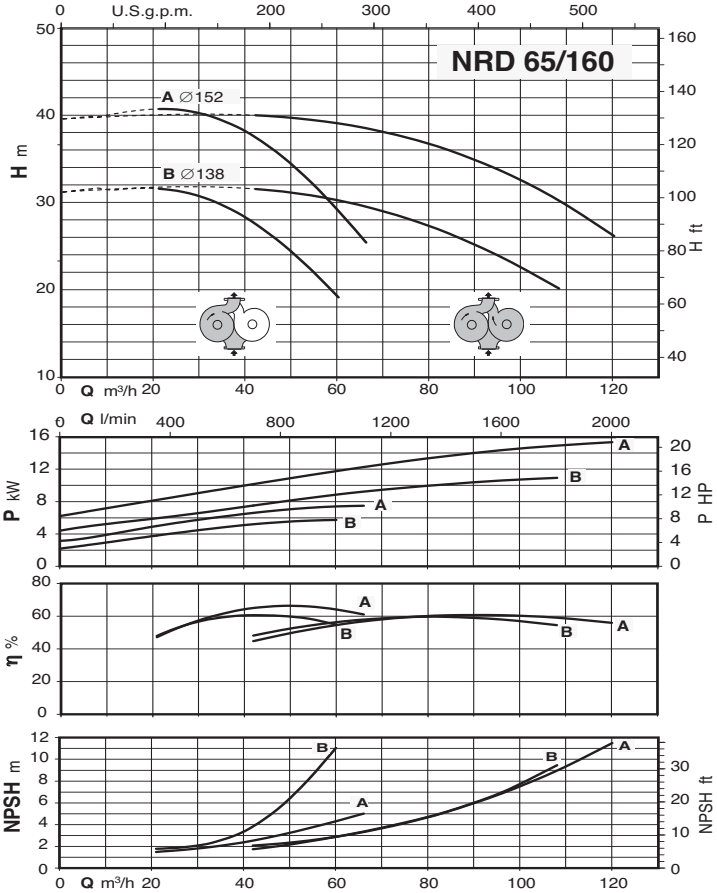
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



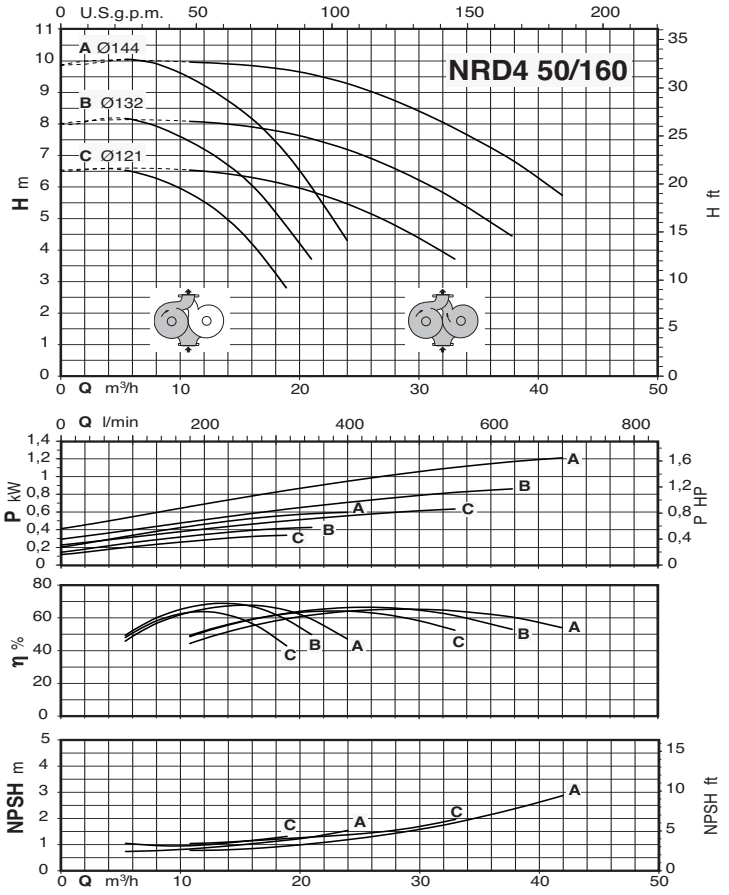



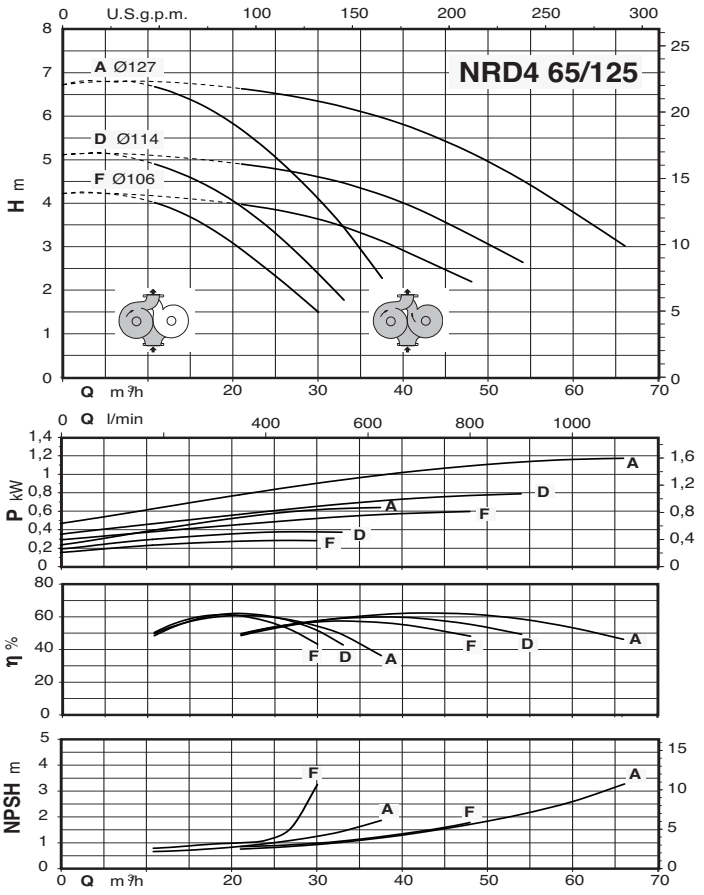



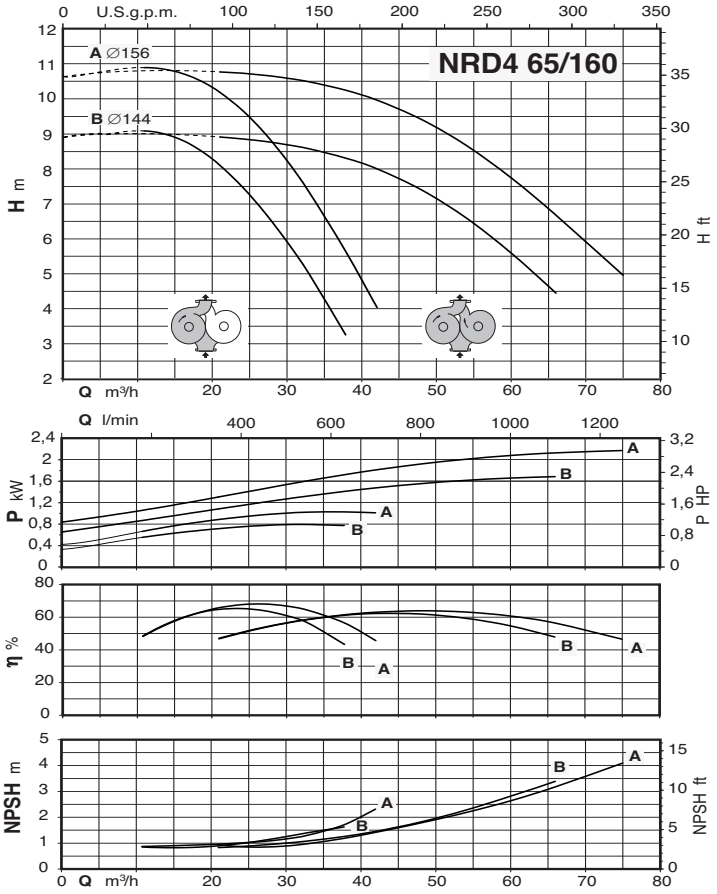
# NRD4 60 Hz

## Characteristic curves - Curvas Características

n ≈ 1750 rpm

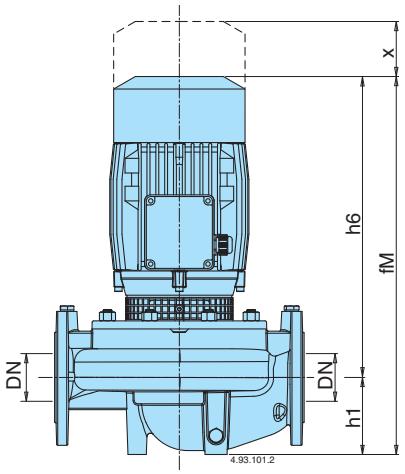


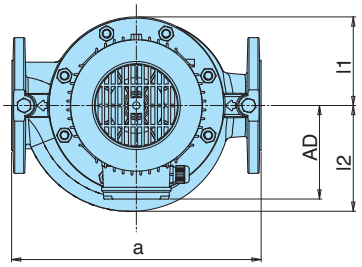



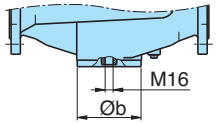



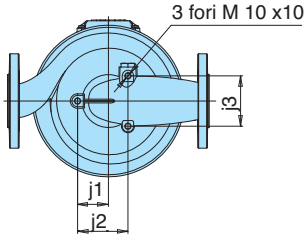
# NR, NR4 60 Hz

## Dimensions and weights - Dimensiones y pesos

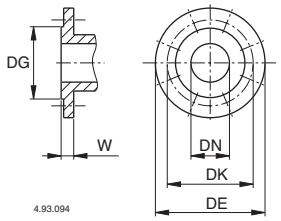



Flanges
Bridas PN 10, EN 1092-2

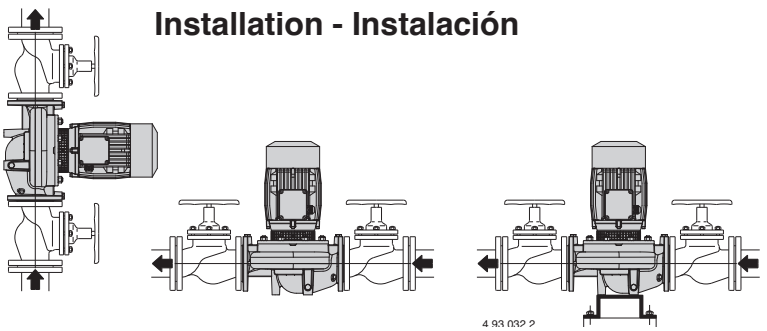



| DN | mm | | | | | |
|---|---|---|---|---|---|---|
| | DG | DK | DE | Holes N° | Holes Ø | W |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

| TYPE TIPO | mm | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | j3 | j2 | j1 | Øb | AD | l1 | l2 | x | |
| NR 50D-60/A, C-60/B | 50 | 320 | 360 | 90 | 270 | - | - | - | 98 | 111 | 93 | 100 | 70 | 21,7-23,8 |
| NR 32/125A-60 ,B-60 | 32 | 260 | 351 | 80 | 271 | 71 | 81 | 49 | - | 112 | 93 | 100 | 70 | - |
| NR 32/160A-60/A, B-60/A | 32 | 340 | 421 | 80 | 341 | 76 | 90 | 50 | - | 128 | 102 | 102 | 60 | 28,6-27 |
| NR 32/200B-60 | 32 | 440 | 469 | 85 | 384 | 84 | 104 | 60 | - | 128 | 126 | 126 | 60 | 36,3 |
| NR 32/200A-60/A, S-60/A | 32 | 440 | 495 | 85 | 410 | 84 | 104 | 60 | - | 138 | 126 | 126 | 60 | 44-47 |
| NR 40/125A-60/A,B-60/A,C-60 | 40 | 320 | 420 | 81 | 339 | 80 | 80 | 49 | - | 128 | 93 | 98 | 70 | 29,5-27,5-26,5 |
| NR 40/160B-60/A | 40 | 320 | 430 | 81 | 349 | 80 | 80 | 49 | - | 128 | 119 | 119 | 75 | 35,0 |
| NR 40/160A-60/A | 40 | 320 | 470 | 81 | 389 | 80 | 80 | 49 | - | 128 | 119 | 119 | 75 | 40,0 |
| NR 40/200A-60/A, B-60 | 40 | 440 | 496 | 81 | 430 | 95 | 102 | 62 | - | 138 | 140 | 140 | 75 | 56,6-53,4 |
| NR 50/125C-60/A, F-60/A | 50 | 340 | 437 | 90 | 347 | 79 | 85 | 45 | - | 128 | 96 | 115 | 75 | 31,5-29,5 |
| NR 50/125A-60/B | 50 | 340 | 477 | 90 | 387 | 79 | 85 | 45 | - | 128 | 96 | 115 | 75 | 36,1 |
| NR 50/160C-60/B | 50 | 340 | 480 | 90 | 390 | 79 | 85 | 45 | - | 128 | 120 | 128 | 75 | 41,6 |
| NR 50/160A-60/B, B-60/A | 50 | 340 | 506 | 90 | 416 | 79 | 85 | 45 | - | 138 | 120 | 128 | 75 | 51,8-48,5 |
| NR 50/200C-60/B | 50 | 440 | 516 | 100 | 416 | 79 | 85 | 45 | - | 138 | 140 | 140 | 80 | 59,7 |
| NR 50/200A-60/A, B-60/A | 50 | 440 | 544 | 100 | 444 | 79 | 85 | 45 | - | 160 | 140 | 140 | 80 | 77,2-69,7 |
| NR 50/250B-60/B, C-60/B | 50 | 440 | 657 | 100 | 557 | 79 | 85 | 45 | - | 185 | 175 | 175 | 85 | --114 |
| NR 50/250A-60/B | 50 | 440 | 732 | 100 | 632 | 79 | 85 | 45 | - | 185 | 175 | 175 | 85 | 149,5 |
| NR 65/125F-60/B | 65 | 340 | 494 | 105 | 389 | 110 | 110 | 60 | - | 128 | 121 | 145 | 95 | 46 |
| NR 65/125A-60/B, D-60/A | 65 | 340 | 520 | 105 | 415 | 110 | 110 | 60 | - | 138 | 121 | 145 | 95 | 56,1-56,1-54,6 |
| NR 65/160A-60/A, B-60/A | 65 | 340 | 552 | 105 | 447 | 110 | 110 | 60 | - | 160 | 121 | 142 | 95 | 74-67,5 |
| NR 65/200A-60/A, B-60/B | 65 | 475 | 666 | 105 | 561 | 110 | 110 | 60 | - | 185 | 140 | 153 | 90 | - - 108 |
| NR 65/250C-60/A | 65 | 475 | 672 | 105 | 517 | 110 | 110 | 60 | - | 185 | 175 | 175 | 90 | - |
| NR 65/250B-60/B | 65 | 475 | 747 | 105 | 642 | 110 | 110 | 60 | - | 185 | 175 | 175 | 90 | 155 |
| NR 65/250A-60/C | 65 | 475 | 793 | 105 | 688 | 110 | 110 | 60 | - | 206 | 175 | 175 | 90 | - |
| NR 80/125E-60 | 80 | 440 | 534 | 105 | 429 | 147 | 127,5 | 85 | | 138 | 129 | 152 | 105 | - |
| NR 80/125C-60 | 80 | 440 | 595 | 105 | 490 | 147 | 127,5 | 85 | | 166 | 129 | 152 | 105 | - |
| NR 80/125A-60 | 80 | 440 | 595 | 105 | 490 | 147 | 127,5 | 85 | | 166 | 129 | 152 | 105 | 79.2 |

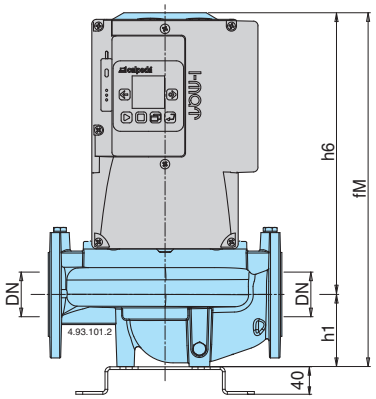
| TYPE TIPO | mm | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | j3 | j2 | j1 | Øb | AD | l1 | l2 | x | |
| NR4 50A-60/A,B-60/A,C-60/A | 50 | 320 | 360 | 90 | 270 | - | - | - | 98 | 111 | 93 | 100 | 70 | 22-22-22 |
| NR4 65A-60/A,B-60/A,C-60/A | 65 | 360 | 370 | 100 | 270 | - | - | - | 118 | 111 | 102 | 114 | 70 | 28-28-28 |
| NR4 100A-60/B,B-60/B,C-60/B | 100 | 500 | 549 | 150 | 399 | - | - | - | 162 | 138 | 153 | 173 | 105 | 67-59-59 |
| NR4 125C-60/B | 125 | 600 | 589 | 170 | 419 | - | - | - | 194 | 138 | 172 | 195 | 120 | 91,5 |
| NR4 125A-60/A, B-60/A | 125 | 600 | 608 | 160 | 438 | - | - | - | 194 | 160 | 172 | 195 | 120 | 110-108 |
| NR4 32/160A-60, B-60 | 32 | 340 | 421 | 80 | 341 | 76 | 90 | 50 | - | 128 | 102 | 102 | 60 | 24,6-24,5 |
| NR4 32/200B-60, C-60 | 32 | 440 | 429 | 85 | 344 | 84 | 104 | 60 | - | 128 | 126 | 126 | 60 | 32,4-30,8 |
| NR4 32/200A-60/A | 32 | 440 | 469 | 85 | 344 | 84 | 104 | 60 | - | 128 | 126 | 126 | 60 | 36,8 |
| NR4 40/160A-60, B-60 | 40 | 320 | 430 | 81 | 349 | 80 | 80 | 49 | - | 128 | 119 | 119 | 75 | 33,1 - 32,6 |
| NR4 40/200B-60 | 40 | 440 | 430 | 81 | 349 | 95 | 102 | 62 | - | 128 | 140 | 140 | 75 | 41,1 |
| NR4 40/200A-60/A | 40 | 440 | 470 | 81 | 349 | 95 | 102 | 62 | - | 128 | 140 | 140 | 75 | 43 |
| NR4 50/160B-60, C-60 | 50 | 340 | 440 | 90 | 350 | 79 | 85 | 45 | - | 128 | 120 | 128 | 75 | 37,1-35,1 |
| NR4 50/160A-60/B | 50 | 340 | 480 | 90 | 350 | 79 | 85 | 45 | - | 128 | 120 | 128 | 75 | 37,5 |
| NR4 50/200A-60/B, B-60/B | 50 | 440 | 516 | 100 | 416 | 79 | 85 | 45 | - | 138 | 140 | 140 | 80 | 56 |
| NR4 50/250C-60/B | 50 | 440 | 516 | 100 | 416 | 79 | 85 | 45 | - | 138 | 175 | 175 | 85 | 77,5 |
| NR4 50/250A-60/A, B-60/B | 50 | 440 | 545 | 100 | 445 | 79 | 85 | 45 | - | 160 | 175 | 175 | 85 | 93,5-80 |
| NR4 65/125D-60, F-60 | 65 | 340 | 454 | 105 | 349 | 110 | 110 | 60 | - | 128 | 121 | 145 | 95 | 40.6-38,6 |
| NR4 65/125A-60/B | 65 | 340 | 494 | 105 | 349 | 110 | 110 | 60 | - | 128 | 121 | 145 | 95 | 42-41,5 |
| NR4 65/160A-60/B, B-60/B | 65 | 340 | 504 | 105 | 399 | 110 | 110 | 60 | - | 138 | 121 | 142 | 95 | 42,7-42,5 |
| NR4 65/200C-60/B | 65 | 475 | 536 | 105 | 431 | 110 | 110 | 60 | - | 138 | 140 | 153 | 90 | 52 |
| NR4 65/200B-60/B | 65 | 475 | 536 | 105 | 431 | 110 | 110 | 60 | - | 138 | 140 | 153 | 90 | 60 |
| NR4 65/200A-60/B | 65 | 475 | 552 | 105 | 447 | 110 | 110 | 60 | - | 160 | 140 | 153 | 90 | 64,5 |
| NR4 65/250C-60/B | 65 | 475 | 555 | 105 | 450 | 110 | 110 | 60 | - | 160 | 175 | 175 | 90 | 75,5-75,5 |
| NR4 65/250A-60/A, B-60/A | 65 | 475 | 555 | 105 | 450 | 110 | 110 | 60 | | 160 | 175 | 175 | 90 | 98-85 |

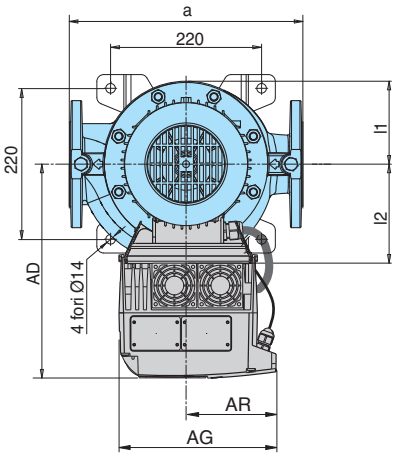
## Installation - Instalación



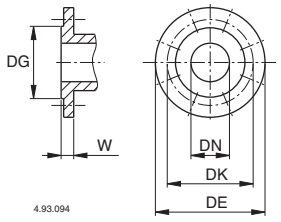
# NR EI,NR4 EI 60 Hz

## Dimensions and weights - Dimensiones y pesos




Flanges
Bridas PN 10, EN 1092-2



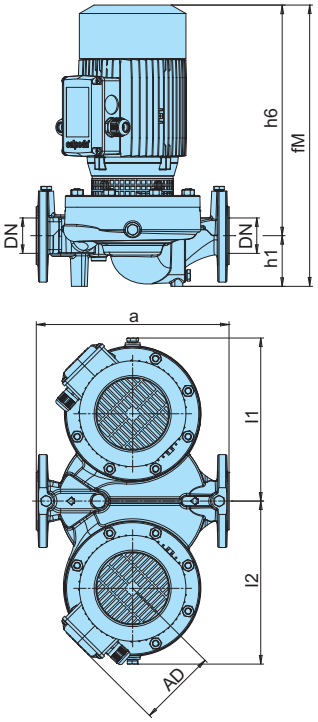

| DN | mm | | | | | |
|---|---|---|---|---|---|---|
| | DG | DK | DE | Holes N° | Holes Ø | W |
| 32 | 76 | 100 | 140 | 4 | 19 | 18 |
| 40 | 84 | 110 | 150 | 4 | 19 | 18 |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |
| 80 | 132 | 160 | 200 | 8 | 19 | 22 |
| 100 | 156 | 180 | 220 | 8 | 19 | 24 |
| 125 | 184 | 210 | 250 | 8 | 19 | 24 |

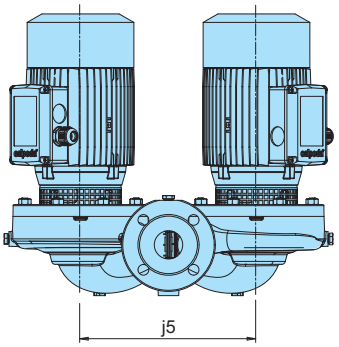
| TYPE TIPO | mm | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | AD | AG | AR | l1 | l2 | x | |
| NR EI 50D-60/A, C-60/B | 50 | 320 | 360 | 90 | 270 | 270 | 190 | 105 | 93 | 100 | 70 | 28-30,2 |
| NR EI 32/125A-60, B-60 | 32 | 260 | 351 | 80 | 271 | 266 | 190 | 105 | 86 | 88 | 60 | - |
| NR EI 32/160A-60/A, B-60/A | 32 | 340 | 421 | 80 | 341 | 286 | 190 | 105 | 102 | 102 | 60 | 35-33,3 |
| NR EI 32/200B-60 | 32 | 440 | 469 | 85 | 384 | 286 | 210 | 118 | 126 | 126 | 60 | 43,8 |
| NR EI 32/200A-60/A, S-60/A | 32 | 440 | 495 | 85 | 410 | 294 | 210 | 118 | 126 | 126 | 60 | 51,5-54,5 |
| NR EI 40/125A-60/A, B-60/A, C-60 | 40 | 320 | 420 | 81 | 339 | 286 | 190 | 105 | 93 | 98 | 70 | 35,9-33,9-32,9 |
| NR EI 40/160B-60/A | 40 | 320 | 430 | 81 | 349 | 286 | 190 | 105 | 119 | 119 | 75 | 41,4 |
| NR EI 40/160A-60/A | 40 | 320 | 470 | 81 | 389 | 286 | 210 | 118 | 119 | 119 | 75 | 47,5 |
| NR EI 40/200A-60/A, B-60 | 40 | 440 | 496 | 81 | 430 | 294 | 210 | 118 | 140 | 140 | 75 | 64,1-61 |
| NR EI 50/125C-60/A, F-60/A | 50 | 340 | 437 | 90 | 347 | 286 | 190 | 105 | 96 | 115 | 75 | 37,9-35,9 |
| NR EI 50/125A-60/B | 50 | 340 | 477 | 90 | 387 | 286 | 210 | 118 | 96 | 115 | 75 | 43,6 |
| NR EI 50/160C-60/B | 50 | 340 | 480 | 90 | 390 | 286 | 210 | 118 | 120 | 128 | 75 | 49,1 |
| NR EI 50/160A-60/B, B-60/A | 50 | 340 | 506 | 90 | 416 | 294 | 210 | 118 | 120 | 128 | 75 | 59,3-56 |
| NR EI 50/200C-60/B | 50 | 440 | 516 | 100 | 416 | 294 | 210 | 118 | 140 | 140 | 80 | 67,2 |
| NR EI 50/200A-60/A, B-60/A | 50 | 440 | 544 | 100 | 444 | 368 | 281 | 153 | 140 | 140 | 80 | 92-84,5 |
| NR EI 50/250B-60/A, C-60/B | 50 | 440 | 657 | 100 | 557 | 393 | 281 | 153 | 175 | 175 | 85 | - 128,8 |
| NR EI 50/250A-60/B | 50 | 440 | 732 | 100 | 632 | 471 | 350 | 190 | 175 | 175 | 85 | 184,5 |
| NR EI 65/125F-60/B | 65 | 340 | 494 | 105 | 389 | 286 | 210 | 118 | 121 | 145 | 95 | 53,5 |
| NR EI 65/125A-60/B, D-60/A | 65 | 340 | 520 | 105 | 415 | 294 | 210 | 118 | 121 | 145 | 95 | 63,6-63,6-62,1 |
| NR EI 65/160A-60/A, B-60/A | 65 | 340 | 552 | 105 | 447 | 368 | 281 | 153 | 121 | 142 | 95 | 88,8-82,3 |
| NR EI 65/200A-60/A, B-60/B | 65 | 475 | 666 | 105 | 561 | 368 | 281 | 153 | 140 | 153 | 90 | - 122,8 |
| NR EI 65/250C-60/A | 65 | 475 | 672 | 105 | 517 | 393 | 281 | 153 | 175 | 175 | 90 | 148,8 |
| NR EI 65/250B-60/B | 65 | 475 | 747 | 105 | 642 | 471 | 350 | 190 | 175 | 175 | 90 | 190 |
| NR EI 65/250A-60/C | 65 | 475 | 793 | 105 | 688 | 491 | 350 | 190 | 175 | 175 | 90 | - |
| NR EI 80/125E-60 | 80 | 440 | 534 | 105 | 429 | 293 | 210 | 118 | 129 | 152 | 105 | - |
| NR EI 80/125C-60 | 80 | 440 | 595 | 105 | 490 | 324 | 210 | 118 | 129 | 152 | 105 | - |
| NR EI 80/125A-60 | 80 | 440 | 595 | 105 | 490 | 366 | 281 | 153 | 129 | 152 | 105 | - |

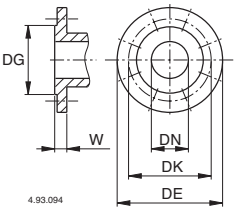
| TYPE TIPO | mm | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h6 | h2 | AD | AG | AR | l1 | l2 | x | |
| NR4 EI 50A-60/A, B-60/A, C-60/A | 50 | 320 | 399 | 90 | 270 | 270 | 190 | 105 | 93 | 100 | 70 | 28,4-28,4-28,4 |
| NR4 EI 65A-60/A, B-60/A, C-60/A | 65 | 360 | 409 | 100 | 270 | 270 | 190 | 105 | 102 | 114 | 70 | 34,4-34,4-34,4 |
| NR4 EI 100B-60/B, C-60/B | 100 | 500 | 549 | 150 | 399 | 294 | 190 | 105 | 153 | 173 | 105 | 65,4-65,4 |
| NR4 EI 100A-60/B | 100 | 500 | 549 | 150 | 399 | 294 | 190 | 105 | 153 | 173 | 105 | 73,4 |
| NR4 EI 125A-60/A, B-60/A, C-60/B | 125 | 600 | 608 | 160 | 438 | 368 | 210 | 118 | 172 | 195 | 120 | 117,5-115,5-97,9 |
| NR4 EI 32/160A-60, B-60 | 32 | 340 | 421 | 80 | 341 | 286 | 190 | 105 | 102 | 102 | 60 | 29,4-29,3 |
| NR4 EI 32/200B-60, C-60 | 32 | 440 | 429 | 85 | 344 | 286 | 190 | 105 | 126 | 126 | 60 | 37,2-35,2 |
| NR4 EI 32/200A-60/A | 32 | 440 | 469 | 85 | 344 | 286 | 190 | 105 | 126 | 126 | 60 | - |
| NR4 EI 40/160A-60, B-60 | 40 | 320 | 430 | 81 | 349 | 286 | 190 | 105 | 119 | 119 | 75 | 37,9-37,4 |
| NR4 EI 40/200B-60 | 40 | 440 | 430 | 81 | 349 | 286 | 190 | 105 | 140 | 140 | 75 | 45,9 |
| NR4 EI 40/200A-60/A | 40 | 440 | 470 | 81 | 349 | 286 | 190 | 105 | 140 | 140 | 75 | 49,4 |
| NR4 EI 50/160B-60, C-60 | 50 | 340 | 440 | 90 | 350 | 286 | 190 | 105 | 120 | 128 | 75 | 41,9-39,9 |
| NR4 EI 50/160A-60/B | 50 | 340 | 480 | 90 | 350 | 286 | 190 | 105 | 120 | 128 | 75 | 43,9 |
| NR4 EI 50/200A-60/B, B-60/B | 50 | 440 | 516 | 100 | 416 | 294 | 190 | 105 | 140 | 140 | 80 | 62,4 |
| NR4 EI 50/250C-60/B | 50 | 440 | 516 | 100 | 416 | 294 | 190 | 105 | 175 | 175 | 85 | 83,9 |
| NR4 EI 50/250A-60/A, B-60/B | 50 | 440 | 545 | 100 | 445 | 368 | 210 | 118 | 175 | 175 | 85 | 101-86,4 |
| NR4 EI 65/125D-60, F-60 | 65 | 340 | 454 | 105 | 349 | 286 | 190 | 105 | 121 | 145 | 95 | 45,4-43,4 |
| NR4 EI 65/125A-60/B | 65 | 340 | 494 | 105 | 349 | 286 | 190 | 105 | 121 | 145 | 95 | 48,4-48 |
| NR4 EI 65/160A-60/B, B-60/B | 65 | 340 | 504 | 105 | 399 | 294 | 190 | 105 | 121 | 142 | 95 | 49,1-48,9 |
| NR4 EI 65/200C-60/B | 65 | 475 | 536 | 105 | 431 | 294 | 190 | 105 | 140 | 153 | 90 | 58,4 |
| NR4 EI 65/200B-60/B | 65 | 475 | 536 | 105 | 431 | 294 | 190 | 105 | 140 | 153 | 90 | 66,4 |
| NR4 EI 65/200A-60/B | 65 | 475 | 552 | 105 | 447 | 368 | 210 | 118 | 175 | 175 | 90 | 70,9 |
| NR4 EI 65/250C-60/B | 65 | 475 | 555 | 105 | 450 | 365 | 210 | 118 | 175 | 175 | 90 | 81,9-81,9 |
| NR4 EI 65/250A-60/A, B-60/A | 65 | 475 | 555 | 105 | 450 | 368 | 210 | 118 | 175 | 175 | 90 | 105,5-92,5 |

# NRD,NRD4 60 Hz

## Dimensions and weights - Dimensiones y pesos



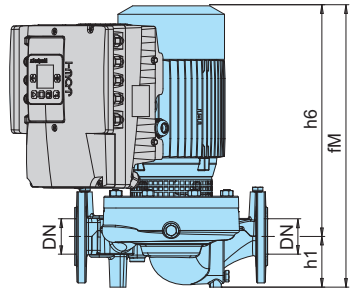



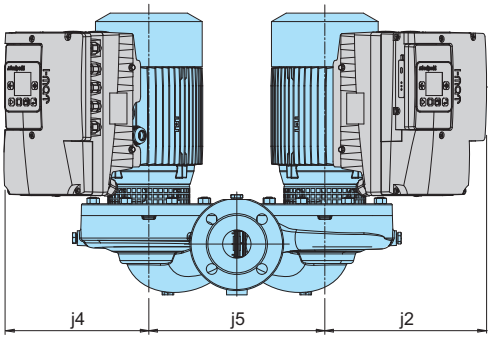

Flanges, Bridas
PN 10, EN 1092-2

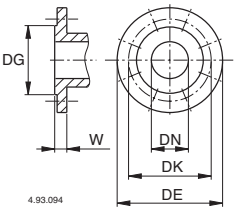
| DN | mm | | | | | |
|---|---|---|---|---|---|---|
| | DG | DK | DE | Holes N° | Holes Ø | W |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |

| TYPE TIPO | mm | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | AD | j5 | l1 | l2 | |
| NRD 50/125C-60, F-60 | 50 | 340 | 433,5 | 90 | 343,5 | 130 | 310 | 278,5 | 278,5 | .. - 62,7 |
| NRD 50/125A-60 | 50 | 340 | 473,5 | 90 | 383,5 | 130 | 310 | 278,5 | 278,5 | 72 |
| NRD 50/160C-60 | 50 | 340 | 473,5 | 90 | 383,5 | 130 | 310 | 291,5 | 291,5 | 79 |
| NRD 50/160A-60, B-60 | 50 | 340 | 499,5 | 90 | 409,5 | 139 | 310 | 291,5 | 291,5 | 101,5-94,8 |
| NRD 65/125F-60 | 65 | 340 | 488,5 | 105 | 383,5 | 130 | 310 | 303,5 | 303,5 | 86,8 |
| NRD 65/125A-60, D-60 | 65 | 340 | 514,5 | 105 | 409,5 | 139 | 310 | 303,5 | 303,5 | 106,2-99,6 |
| NRD 65/160A-60, B-60 | 65 | 340 | 543,5 | 105 | 438,5 | 160 | 310 | 303,5 | 303,5 | - |

| TYPE TIPO | mm | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | AD | j5 | l1 | l2 | |
| NRD4 50/160B-60, C-60 | 50 | 340 | 433,5 | 90 | 343,5 | 130 | 310 | 291,5 | 291,5 | - |
| NRD4 50/160A-60 | 50 | 340 | 473,5 | 90 | 383,5 | 130 | 310 | 291,5 | 291,5 | - |
| NRD4 65/125D-60, F-60 | 65 | 340 | 448,5 | 105 | 343,5 | 130 | 310 | 303,5 | 303,5 | - |
| NRD4 65/125A-60 | 65 | 340 | 488,5 | 105 | 383,5 | 130 | 310 | 303,5 | 303,5 | - |
| NRD4 65/160A-60, B-60 | 65 | 340 | 514,5 | 105 | 409,5 | 138 | 310 | 303,5 | 303,5 | - |

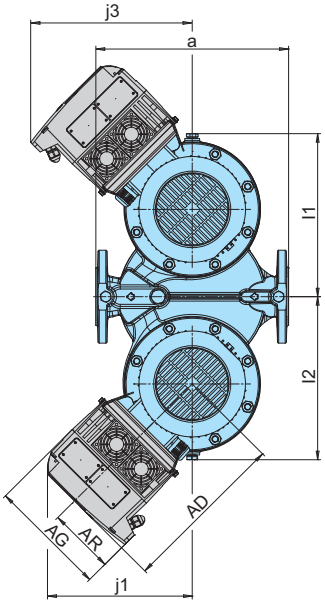



Flanges, Bridas
PN 10, EN 1092-2

| DN | mm | | | | | |
|---|---|---|---|---|---|---|
| | DG | DK | DE | Holes N° | Holes Ø | W |
| 50 | 99 | 125 | 165 | 4 | 19 | 20 |
| 65 | 118 | 145 | 185 | 4 | 19 | 20 |

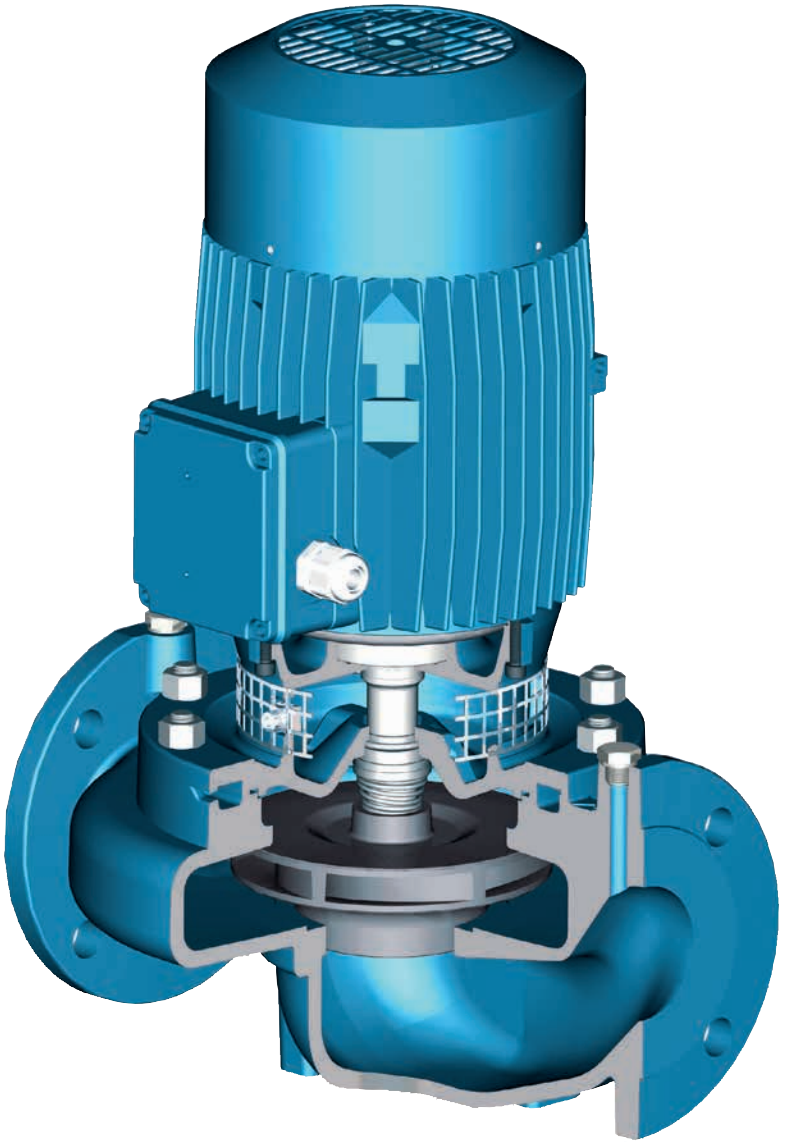



| TYPE TIPO | mm | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | AD | AG | AR | j1 | j2 | j3 | j4 | j5 | l1 | l2 | |
| NRD EI 50/125C-60, F-60 | 50 | 340 | 433,5 | 90 | 343,5 | 284 | 190 | 105 | 243 | 269 | 269 | 243 | 310 | 278,5 | 278,5 | |
| NRD EI 50/125A-60 | 50 | 340 | 473,5 | 90 | 383,5 | 284 | 210 | 118 | 249 | 277 | 277 | 249 | 310 | 278,5 | 278,5 | |
| NRD EI 50/160C-60 | 50 | 340 | 473,5 | 90 | 383,5 | 284 | 210 | 118 | 249 | 277 | 277 | 249 | 310 | 291,5 | 291,5 | |
| NRD EI 50/160A-60, B-60 | 50 | 340 | 499,5 | 90 | 409,5 | 293 | 210 | 118 | 256 | 283 | 283 | 256 | 310 | 291,5 | 291,5 | |
| NRD EI 65/125F-60 | 65 | 340 | 488,5 | 105 | 383,5 | 284 | 210 | 118 | 249 | 277 | 277 | 249 | 310 | 303,5 | 303,5 | 102,7 |
| NRD EI 65/125A-60, D-60 | 65 | 340 | 514,5 | 105 | 409,5 | 293 | 210 | 118 | 256 | 283 | 283 | 256 | 310 | 303,5 | 303,5 | 121,3-114,3 |
| NRD EI 65/160B-60 | 65 | 340 | 543,5 | 105 | 438,5 | 322 | 210 | 118 | 274 | 304 | 304 | 274 | 310 | 303,5 | 303,5 | - |
| NRD EI 65/160A-60 | 65 | 340 | 543,5 | 105 | 438,5 | 364 | 283 | 156 | 331 | 358 | 358 | 331 | 310 | 303,5 | 303,5 | - |

| TYPE TIPO | mm | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | a | fM | h1 | h6 | AD | AG | AR | j1 | j2 | j3 | j4 | j5 | l1 | l2 | |
| NRD4 EI 50/160B-60, C-60 | 50 | 340 | 433,5 | 90 | 343,5 | 284 | 190 | 105 | 243 | 269 | 269 | 243 | 310 | 291,5 | 291,5 | - |
| NRD4 EI 50/160A-60 | 50 | 340 | 473,5 | 90 | 383,5 | 284 | 190 | 105 | 243 | 269 | 269 | 243 | 310 | 291,5 | 291,5 | - |
| NRD4 EI 65/125D-60, F-60 | 65 | 340 | 448,5 | 105 | 343,5 | 284 | 190 | 105 | 243 | 269 | 269 | 243 | 310 | 303,5 | 303,5 | - |
| NRD4 EI 65/125A-60 | 65 | 340 | 488,5 | 105 | 383,5 | 284 | 190 | 105 | 243 | 269 | 269 | 243 | 310 | 303,5 | 303,5 | - |
| NRD4 EI 65/160A-60, B-60, | 65 | 340 | 514,5 | 105 | 409,5 | 293 | 190 | 105 | 250 | 275 | 275 | 249 | 310 | 303,5 | 303,5 | - |

# NR,NR4 60 Hz

## Features - Características constructivas



### New Compact Design
A compact structure allows for simple installation even in confined spaces.

### A Unique Design
An innovative guard (patented) prevents contact with rotating parts, providing protection to the end user whilst allowing for inspection of the mechanical seal.

### Exceptional Fluid Dynamics
The fluid dynamics through the impeller and casing are designed to minimize losses and increase performance.

### Advanced hydraulics
Optimum impeller geometry provides maximum efficiency and excellent suction characteristics.

### Silent operation
Specially designed fluid ducts provide very quiet operation.

### Nuevo diseño compacto
Una estructura compacta permite una sencilla instalación incluso en espacios reducidos.

### Un diseño único
Un protector (patentado) evita el contacto con las partes en rotación, proporcionando protección al usuario final, mientras que permite la inspección del sello mecánico.

### Dinámica de fluidos excepcionales
El dinamismo de la carcasa con el impulsor hacen mínimas las perdidas y aumenta su rendimiento.

### Avanzado sistema hidráulico
La geometría del impulsor proporciona la máxima eficiencia y excelente características de succión.

### Funcionamiento silencioso
Diseño especial para la conducción de los fluidos hacen su funcionamiento muy silencioso.

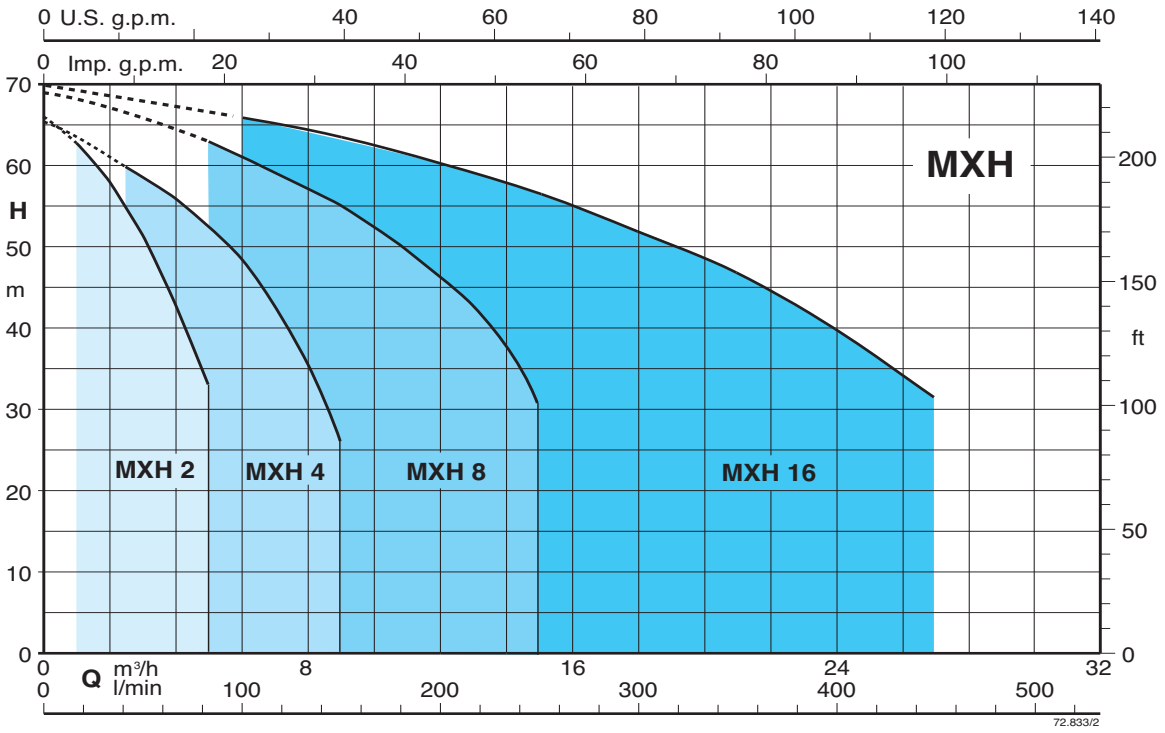
# MXH 2,4,8,16 60 Hz

**Horizontal multi-stage close coupled pumps in stainless steel**
**Bombas multicelulares horizontales monobloc de acero inoxidable**



## Coverage chart - Campo de aplicaciones

**n ≈ 3450 rpm**



# MXH 2,4,8,16 60 Hz

## Construction
Horizontal multi-stage close coupled pumps in **chrome-nickel stainless steel**.
Compact and robust construction, without protruding flange and with single-piece lantern bracket and base.
Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top.
Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).

**Version with frequency converter** (on request)

## Applications
For water supply.
For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).
Universal pump, for domestic use, for civil and industrial applications, for garden use and irrigation.

## Operating conditions
Liquid temperature from - 15 °C to + 110 °C.
Ambient temperature up to 40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MXH**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 3,7 to 4 kW;
**MXHM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
**Classification scheme IE3 for three-phase motor from 0,75 kW.**
Constructed in accordance with EN 60034-1, EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Stage casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Wear ring | PTFE |
| Impeller | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Spacer sleeve | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Pump shaft | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Plug | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Ceramic alumina, carbon, EPDM |
| ISO 3069 - KU | (Other materials on request) |

## Ejecución
Bombas multicelulares horizontales monobloc de acero **inoxidable al cromo-níquel**.
Construcción compacta y robusta, sin brida sobresaliente y acoplamiento bomba motor único con pie soporte.
Cuerpo bomba en una sola pieza, abierto por un solo lado (barriel casing), con boca de aspiración frontal sobre el eje de la bomba y boca de impulsión radial en la parte superior.
Tapones de cebado y vaciado en posiciones medias, accesibles desde cada lado (como la tapa de bornes).

**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciones
Para aprovisionamiento de agua.
Para líquidos limpios, sin partes abrasivas, no agresivos para el acero inoxidable (con adaptación, bajo demanda, de los materiales del sello mecánico).
Bomba universal, para uso doméstico, para aplicaciones civiles e industriales, para jardinería e irrigación.

## Límites de empleo
Temperatura líquido de - 15 °C a + 110 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXH**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 3,7 a 4 kW;
**MXHM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 1,1 kW.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según: IEN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Anillos de cierre cuerpo bomba en FPM.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.
- Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,75 kW.

## Materiales

| Componentes | Materiales |
|---|---|
| Cuerpo bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Cuerpo elemento | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Anillo de cierre rodete | PTFE |
| Rodete | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Manguito distanciador | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Tapón | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Sello mecánico | Cerámica alúmina, carbón, EPDM |
| según ISO 3069 - KU | (Otros materiales bajo demanda) |

# MXH EI 60 Hz

### Pumps with frequency converter

The **MXH EI** pumps are available with power from 0,55 kW up to 4 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.



### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

### Main features
Rated motor power output from 0,55 kW to 4 kW
Control range from 1750 to 3450 rpm (2-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

## Bomba a velocidad variable

La bomba **MXH EI** se encuentra disponible con potencias de 0,55 kW a 4 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción
- I-MAT variador de frecuencia
- Adaptador del motor para el montaje del variador de frecuencia
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores

### Límites de utilización
Potencia nominal del motor desde 0,55 kW hasta 4 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

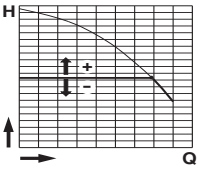
**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

## Modos de operación

**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.

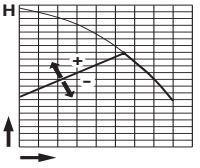



**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.

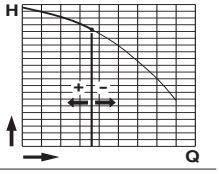



**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.

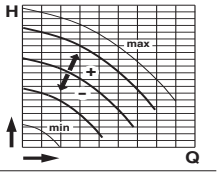



**Fixed speed mode**
with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.




**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# MXH 2,4,8,16 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MXH 201-60E** | **MXHM 201-60E** | 0,25 | 0,34 | | 16 | 15,2 | 14,5 | 13,7 | 13 | 12 | 10,7 | 9,6 | 8,5 | 7 |
| **MXH 202-60/A** | **MXHM 202-60/A** | 0,55 | 0,75 | | 33 | 31 | 30 | 28,5 | 27 | 25,5 | 23,5 | 21 | 19 | 16 |
| **MXH 203-60/B** | **MXHM 203-60/A** | 0,75 | 1 | **H** m | 49,5 | 47 | 45,5 | 43,5 | 41 | 38,5 | 35,5 | 32 | 28,5 | 24 |
| **MXH 204-60/C** | **MXHM 204-60** | 1,1 | 1,5 | | 66 | 63 | 60,5 | 58 | 55 | 51,5 | 47,5 | 43 | 38,5 | 33 |

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MXH 401-60E** | **MXHM 401-60E** | 0,33 | 0,45 | | 16 | 14,5 | 14 | 13,5 | 13 | 11,7 | 10,2 | 8,5 | 6,5 | 4 |
| **MXH 402-60/B** | **MXHM 402-60/A** | 0,75 | 1 | | 32,5 | 29,5 | 29 | 28,5 | 27,5 | 26 | 23,5 | 20,5 | 17 | 12,5 |
| **MXH 403-60/C** | **MXHM 403-60** | 1,1 | 1,5 | **H** m | 49 | 45,5 | 44,5 | 43,5 | 42 | 39,5 | 36 | 31,5 | 26,5 | 20 |
| **MXH 404-60/A** | **MXHM 404-60** | 1,5 | 2 | | 65,5 | 60 | 59 | 57,5 | 56 | 52,5 | 48,5 | 42,5 | 35,5 | 26 |

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 0 | 5 | 6,5 | 8 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 83,3 | 108 | 133 | 166 | 183 | 200 | 216 | 233 | 250 |
| **MXH 801-60/A** | **MXHM 801-60/A** | 0,55 | 0,75 | | 16,5 | 15,6 | 14,4 | 14 | 12,3 | 11,3 | 10 | 8,8 | 7,3 | 5,6 |
| **MXH 802-60/A** | **MXHM 802-60** | 1,5 | 2 | | 33,5 | 31,3 | 30,4 | 29 | 26,5 | 25 | 23 | 20,5 | 18 | 15 |
| **MXH 803-60/B** | **MXHM 803-60** | 1,8 | 2,5 | **H** m | 51 | 47 | 45 | 42,5 | 38,5 | 36,5 | 33,5 | 30,5 | 26,5 | 22,5 |
| **MXH 804-60/B** | | 2,2 | 3 | | 69 | 63 | 60 | 57,5 | 53 | 50,5 | 47 | 43 | 38 | 31 |

| 3 ~ | | P2 kW | P2 HP | Q m³/h | 0 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | |
| **MXH 1602-60/B** | | 2,2 | 3 | | 35 | 33 | 31,8 | 30,2 | 28,3 | 26 | 23,5 | 20 | 15,8 | |
| **MXH 1603-60/A** | | 3 | 4 | **H** m | 52,5 | 49,5 | 47,7 | 45,3 | 42,5 | 39 | 35,2 | 30 | 23,7 | |
| **MXH 1604-60/B** | | 4 | 5,5 | | 70 | 66 | 63,5 | 60,4 | 56,5 | 52 | 47 | 40 | 31,5 | |

P2 Rated motor power output.
Potencia nominal del motor.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

+ 0,5 m security margin on NPSH-value is necessary.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Test results with clean cold water, without gas content.
Resultados de las pruebas con agua fría y limpia, sin gas.

## Rated currents - Intensidades nominales

| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,25 | 0,34 | 2,3 | 4 | 4,6 | - | 1,8 |
| 0,33 | 0,45 | 2,8 | 4,8 | 5,6 | - | 2,7 |
| 0,55 | 0,75 | 5 | 8,7 | 10 | 9.2/4.7 | 3,1 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |
| 1,8 | 2,5 | 13,5 | - | - | - | 4,5 |

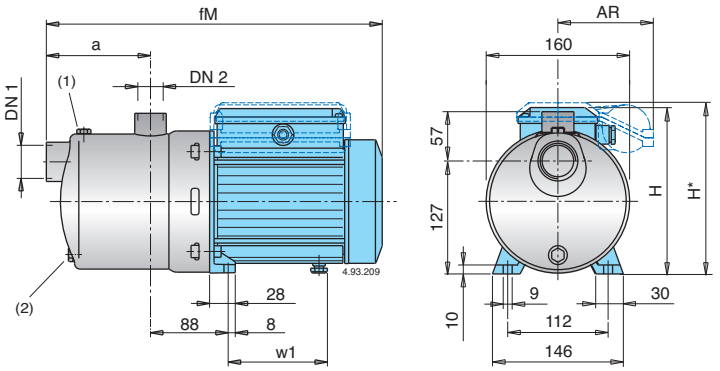
| P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|
| | | 220/380V | 380/660V | 220/440V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 0,25 | 0,34 | 1,7/1 | - | 1,8/1,1 | 4,7 |
| 0,33 | 0,45 | 2/1,2 | - | 2,2/1,3 | 4 |
| 0,55 | 0,75 | 3,3/1,9 | - | 3,5/2,0 | 4,3 |
| 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 7,4/4,3 | - | 7,8/4,5 | 7,3 |
| 1,8 | 2,5 | 10,0/5,8 | - | 10,4/6,1 | 9 |
| 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| 4 | 5,5 | | 11,2/6,5 | | 9,2 |

P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

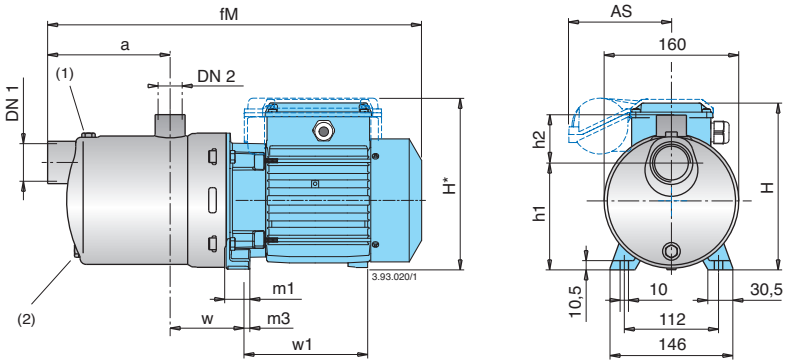
# MXH 2,4,8,16 60 Hz

## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN1 | DN2 | mm | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | | | | | | AR | | | | | |
| | | | fM | a | H | w1 | H* | 220V | 127V | 110V | 110/220V | MXH | MXHM |
| **MXH 201-60E - MXHM 201-60E** | G 1 1/4 | G 1 | 331 | 94 | 176 | 98,5 | - | ● | ● | ● | ❑ | 6,6 | 6,7 |
| **MXH 202-60/A - MXHM 202-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | ● | ● | 116 | 9,1 | 10,1 |
| **MXH 203-60/B - MXHM 203-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 11,3 | 11,5 |
| **MXH 401-60E - MXHM 401-60E** | G 1 1/4 | G 1 | 331 | 94 | 176 | 98,5 | - | ● | ● | ● | ❑ | 6,6 | 6,7 |
| **MXH 402-60/B - MXHM 402-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,8 | 11 |
| **MXH 801-60/A - MXHM 801-60/A** | G 1 1/2 | G 1 | 381 | 118 | 192 | 112 | 197 | ● | ● | ● | 116 | 9,7 | 10,5 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles




| TYPE<br>TIPO | DN1 | DN2 | mm | | | | | | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | | | | | | | | | | AS | | | | | | |
| | | | fM | a | w | m1 | m3 | h1 | h2 | H | w1 | H* | 220V | 127V | 110V | 110/220V | MXH | MXHM |
| **MXH 204-60/C - MXHM 204-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | 215 | ● | 131 | ❑ | ❑ | - | 17,7 |
| **MXH 403-60/C - MXHM 403-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | 215 | ● | 131 | ❑ | ❑ | - | 17,2 |
| **MXH 404-60/A - MXHM 404-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | 215 | ● | ❑ | ❑ | ❑ | 18,5 | 19,2 |
| **MXH 802-60/A - MXHM 802-60** | G 1 1/2 | G 1 | 453 | 118 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | 215 | ● | ❑ | ❑ | ❑ | 18 | 18,9 |
| **MXH 803-60/B - MXHM 803-60** | G 1 1/2 | G 1 | 493 | 118 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | 215 | 131 | ❑ | ❑ | ❑ | 18,3 | 19,3 |
| **MXH 804-60/B** | G 1 1/2 | G 1 | 522 | 148 | 88 | 31 | 10 | 127 | 57 | 210 | 167 | - | - | - | - | - | 19,8 | - |
| **MXH 1602-60/B** | G 2 | G 1 1/2 | 504 | 128 | 101 | 31 | 10 | 117 | 70 | 210 | 167 | - | - | - | - | - | 18,3 | - |
| **MXH 1603-60/A** | G 2 | G 1 1/2 | 575 | 128 | 113 | 45 | 12 | 132 | 70 | 235 | 232 | - | - | - | - | - | 30 | |
| **MXH 1604-60/B** | G 2 | G 1 1/2 | 612 | 166 | 113 | 45 | 12 | 132 | 70 | 235 | 232 | - | - | - | - | - | 31 | |

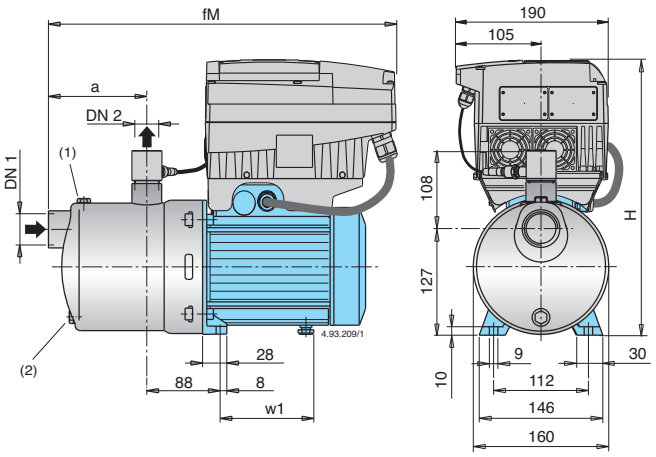
● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

(1) Filling
Cebado

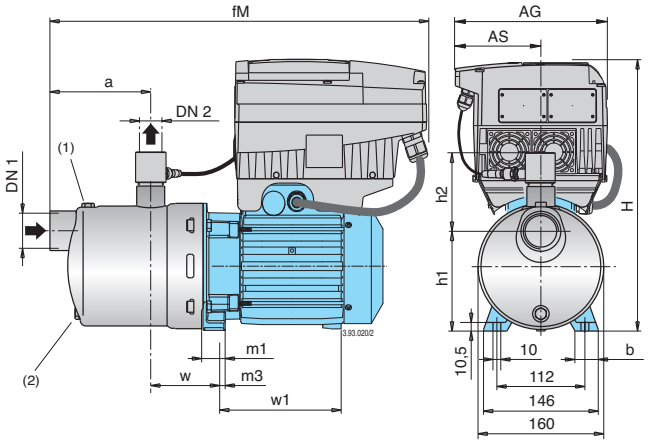
(2) Draining
Vaciado

# MXH EI 2,4,8,16 60 Hz

## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN1 | DN2<br>ISO 228 | mm | | | | kg |
|---|---|---|---|---|---|---|---|
| | | | fM | a | H | w1 | |
| **MXH EI 202-60/A** | G 1 1/4 | G 1 | 420 | 94 | 349 | 112 | 14,7 |
| **MXH EI 203-60/B** | G 1 1/4 | G 1 | 420 | 94 | 349 | 112 | 16,9 |
| **MXH EI 402-60/B** | G 1 1/4 | G 1 | 420 | 94 | 349 | 112 | 16,4 |
| **MXH EI 801-60/A** | G 1 1/2 | G 1 | 444 | 118 | 349 | 112 | 15,3 |




| TYPE<br>TIPO | DN1 | DN2<br>ISO 228 | mm | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | fM | AG | AS | a | w | H | h1 | h2 | m1 | m3 | b | w1 | |
| **MXH EI 204-60/C** | G 1 1/4 | G 1 | 485 | 190 | 105 | 118 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 31,3 |
| **MXH EI 403-60/C** | G 1 1/4 | G 1 | 485 | 190 | 105 | 118 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 30,8 |
| **MXH EI 404-60/A** | G 1 1/4 | G 1 | 485 | 190 | 105 | 118 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 32,3 |
| **MXH EI 802-60/A** | G 1 1/2 | G 1 | 485 | 190 | 105 | 118 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 28,6 |
| **MXH EI 803-60/B** | G 1 1/2 | G 1 | 525 | 190 | 105 | 118 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 31 |
| **MXH EI 804-60/B** | G 1 1/2 | G 1 | 554 | 190 | 105 | 148 | 88 | 368 | 127 | 108 | 31 | 10 | 30,5 | 167 | 34,2 |
| **MXH EI 1602-60/B** | G 2 | G 1 1/2 | 504 | 190 | 105 | 128 | 101 | 368 | 117 | 122 | 31 | 10 | 30,5 | 167 | 31 |
| **MXH EI 1603-60/A** | G 2 | G 1 1/2 | 590 | 210 | 118 | 128 | 113 | 391 | 132 | 122 | 45 | 12 | 38 | 232 | 34,7 |
| **MXH EI 1604-60/B** | G 2 | G 1 1/2 | 627 | 210 | 118 | 166 | 113 | 391 | 132 | 122 | 45 | 12 | 38 | 232 | 48,8 |

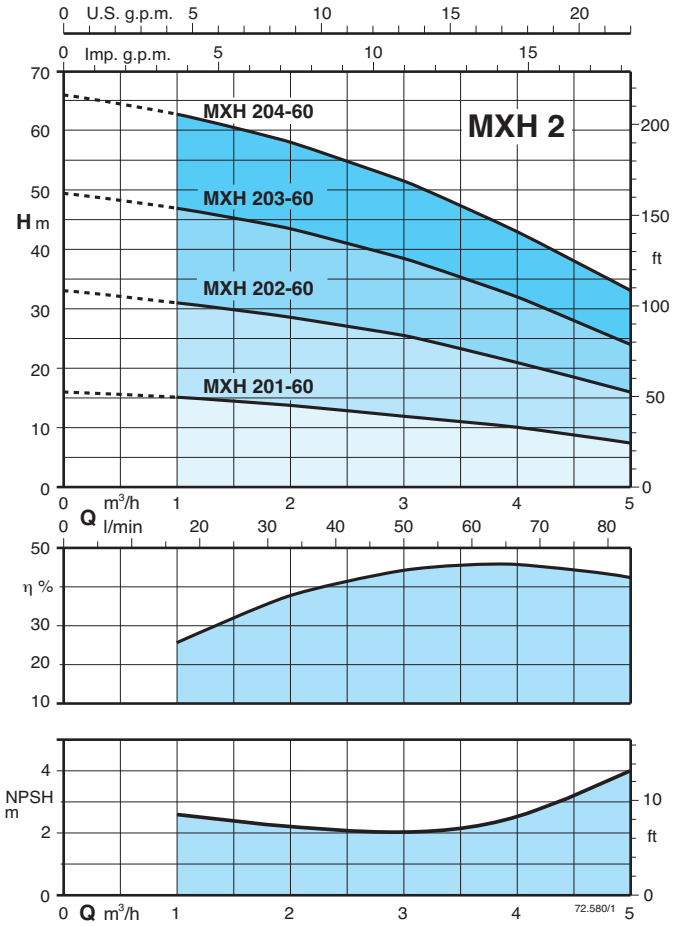
(1) Filling
Cebado

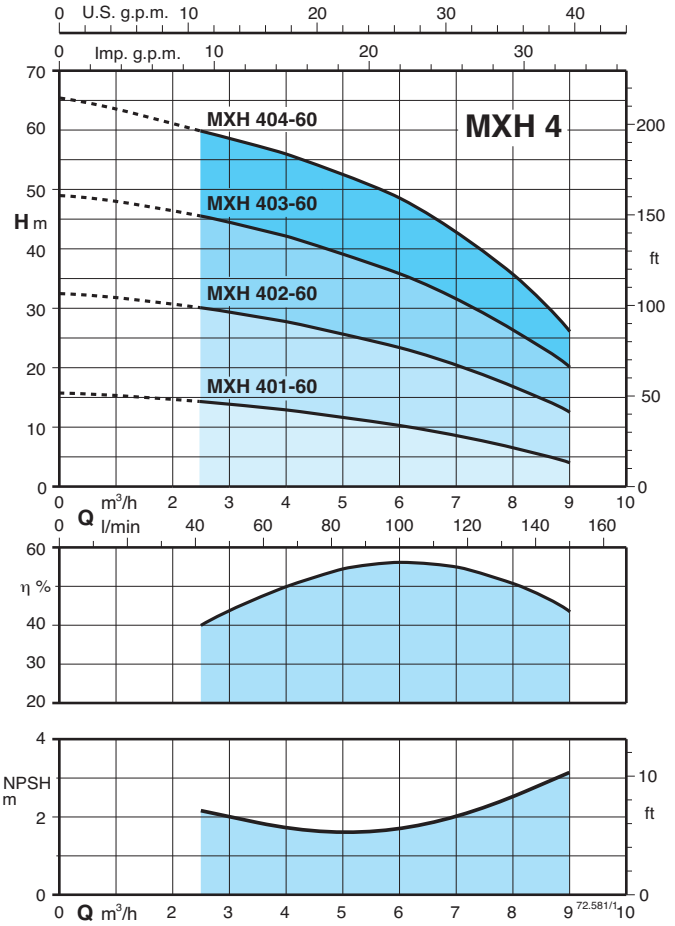
(2) Draining
Vaciado

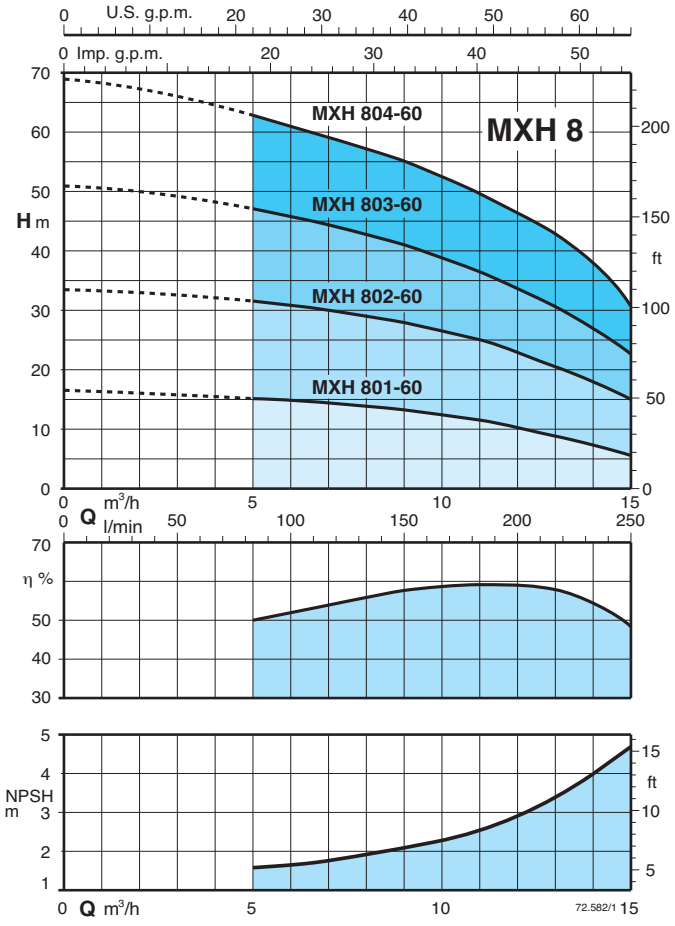
# MXH 2,4,8,16 60 Hz

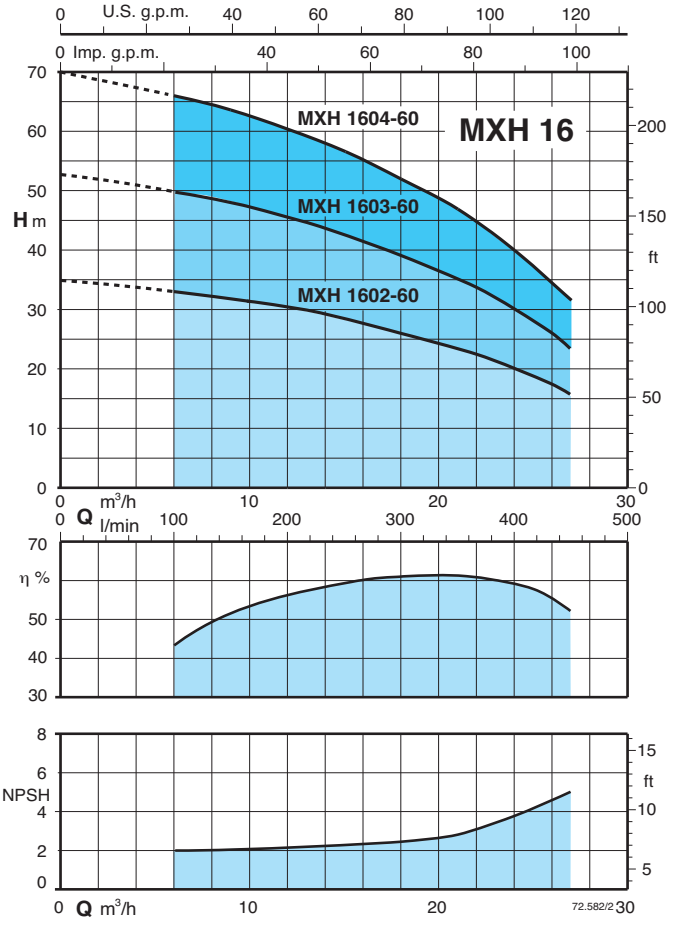
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



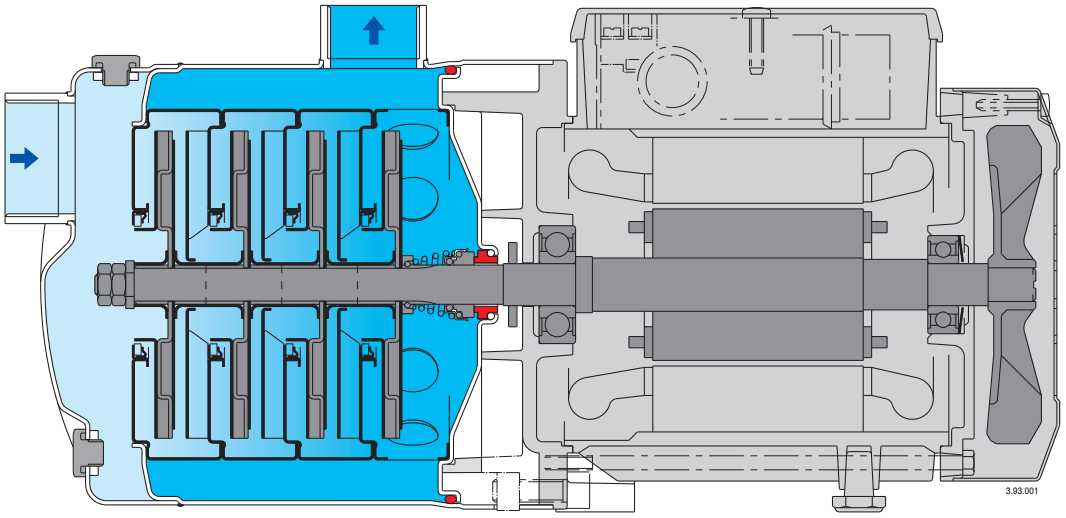



# MXH 2,4,8,16 60 Hz

## Features - Características constructivas




**Extra safety**
against running dry, with the suction port above pump axis.

**Reliable**
All hydraulic parts in contact with the pumped liquid are of stainless steel.
For liquids from -15 °C to 110 °C.

**Robust**
Single-piece, thick barrel casing.

**Compact**
Single-piece lantern bracket and base.
Without protruding flange.

**Greater protection**
Against leakage, with the pump casing cover separated from the motor shield.
Possibility of inspecting the seal through the side apertures between the two walls.
Greater protection against water entering the motor from outside provided by an extension of the pump casing around the lantern bracket.

**Más seguridad**
Contra el funcionamiento en seco, con la boca de aspiración sobre el eje de la bomba.

**Fiable**
Todas las partes hidráulicas en contacto con el líquido son de acero inoxidable.
Para líquidos de -15 °C a +110 °C.

**Robusta**
Cuerpo bomba de una sola pieza de grueso espesor, abierto por un solo lado.

**Compacta**
Acoplamiento bomba motor y base soporte de una sola pieza.
Sin brida sobresaliente.

**Mayor protección**
Contra las pérdidas del cierre, con la tapa de la bomba separada de la tapa del motor. Posibilidad de inspección del sello mecánico a través de la abertura lateral entre las dos paredes.
Mayor protección contra la penetración del agua en el motor, obtenida por medio del cuerpo bomba prolongad o sobre el acoplamiento.

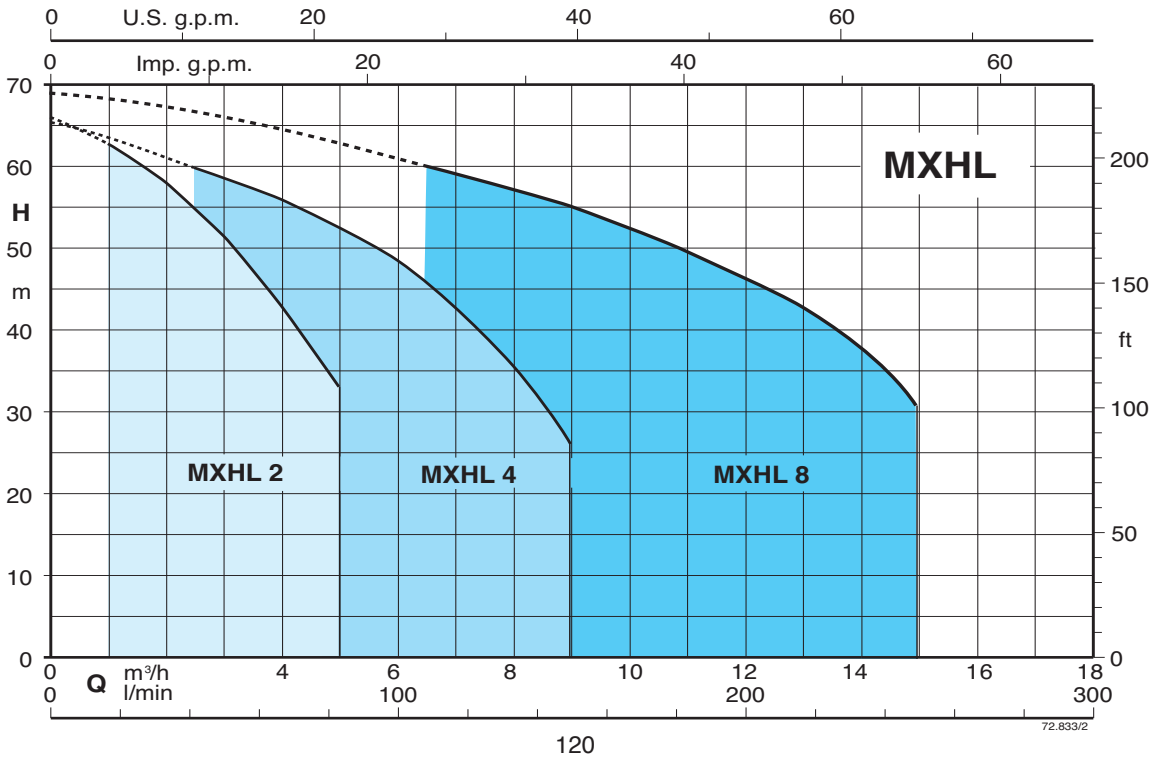
# MXHL 60 Hz AISI 316

**Horizontal multi-stage close coupled pumps in stainless steel**
**Bombas multicelulares horizontales monobloc de acero inoxidable**



## Coverage chart - Campo de aplicaciones

**n ≈ 3450 rpm**



# MXHL 60 Hz AISI 316

## Construction
Horizontal multi-stage close coupled pumps in **chrome-nickel-molybdenum stainless steel AISI 316L.**
Compact and robust construction, without protruding flange and with single-piece lantern bracket and base.
Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top.
Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).

**Version with frequency converter** (on request)

## Applications
For water supply.
For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).
Universal pump, for domestic use, for civil and industrial applications, for garden use and irrigation.

## Operating conditions
Liquid temperature from - 15 °C to + 110 °C.
Ambient temperature up to 40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MXHL**: three-phase 220/380 V, 220/440 V.
**MXHLM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
**Classification scheme IE3 for three-phase motor from 0,75 kW.**
Constructed in accordance with EN 60034-1, EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Seal rings in FPM.
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW.

## Ejecución
Bombas multicelulares horizontales monobloc de acero **inoxidable al cromo-níquel-molibdeno AISI 316L**
Construcción compacta y robusta, sin brida sobresaliente y acoplamiento bomba motor único con pie soporte.
Cuerpo bomba en una sola pieza, abierto por un solo lado (barriel casing), con boca de aspiración frontal sobre el eje de la bomba y boca de impulsión radial en la parte superior.
Tapones de cebado y vaciado en posiciones medias, accesibles desde cada lado (como la tapa de bornes).
**Versión variador de frecuencia** (bajo demanda)

## Aplicaciones
Para aprovisionamiento de agua.
Para líquidos limpios, sin partes abrasivas, no agresivos para el acero inoxidable (con adaptación, bajo demanda, de los materiales del sello mecánico).
Bomba universal, para uso doméstico, para aplicaciones civiles e industriales, para jardinería e irrigación.

## Límites de empleo
Temperatura líquido de - 15 °C a + 110 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXHL**: trifásico 220/380 V, 220/440 V.
**MXHLM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 1,1 kW.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
Otras tensiones.
Protección IP 55.
Sello mecánico especial.
Anillos de cierre cuerpo bomba en FPM.
Para líquidos o ambientes con temperaturas más elevadas o más bajas.
Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,75 kW.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Stage casing | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Wear ring | PTFE |
| Impeller | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Casing cover | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Spacer sleeve | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Pump shaft | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Plug | Cr-Ni-Mo steel 1.4404 EN 10088 (AISI 316L) |
| Mechanical seal | Ceramic alumina, carbon, EPDM |
| ISO 3069 - KU | (Other materials on request) |

## Materiales

| Componentes | Materiales |
|---|---|
| Cuerpo bomba | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Cuerpo elemento | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Anillo de cierre rodete | PTFE |
| Rodete | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Tapa del cuerpo | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Manguito distanciador | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Eje bomba | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Tapón | Acero al Cr-Ni-Mo 1.4404 EN 10088 (AISI 316L) |
| Sello mecánico | Cerámica alúmina, carbón, EPDM |
| según ISO 3069 - KU | (Otros materiales bajo demanda) |

# MXHL 60 Hz AISI 316

### Pumps with frequency converter

The **MXHL EI** pumps are available with power from 0,55 kW up to 2,2 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.

### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers



### Main features
Rated motor power output from 0,55 kW to 2,2 kW
Control range from 1750 to 3450 rpm (2-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

## Bomba a velocidad variable

La bomba **MXHL EI** se encuentra disponible con potencias de 0,55 kW a 2,2 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción
- I-MAT variador de frecuencia
- Adaptador del motor para el montaje del variador de frecuencia
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores

### Límites de utilización
Potencia nominal del motor desde 0,55 kW hasta 2,2 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Fixed speed mode**
with setting of the speed preferential rotation.

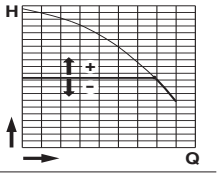
In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

## Modos de operación

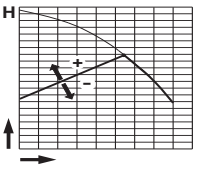
**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.



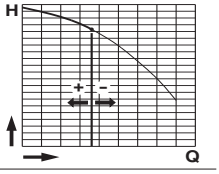

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.



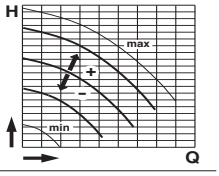

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.




**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.




**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# MXHL 60 Hz AISI 316

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MXHL 201-60E** | **MXHLM 201-60E** | 0,25 | 0,34 | | 16 | 15,2 | 14,5 | 13,7 | 13 | 12 | 10,7 | 9,6 | 8,5 | 7 |
| **MXHL 202-60/A** | **MXHLM 202-60/A** | 0,55 | 0,75 | | 33 | 31 | 30 | 28,5 | 27 | 25,5 | 23,5 | 21 | 19 | 16 |
| **MXHL 203-60/B** | **MXHLM 203-60/A** | 0,75 | 1 | **H** m | 49,5 | 47 | 45,5 | 43,5 | 41 | 38,5 | 35,5 | 32 | 28,5 | 24 |
| **MXHL 204-60/C** | **MXHLM 204-60** | 1,1 | 1,5 | | 66 | 63 | 60,5 | 58 | 55 | 51,5 | 47,5 | 43 | 38,5 | 33 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MXHL 401-60E** | **MXHLM 401-60E** | 0,33 | 0,45 | | 16 | 14,5 | 14 | 13,5 | 13 | 11,7 | 10,2 | 8,5 | 6,5 | 4 |
| **MXHL 402-60/B** | **MXHLM 402-60/A** | 0,75 | 1 | | 32,5 | 29,5 | 29 | 28,5 | 27,5 | 26 | 23,5 | 20,5 | 17 | 12,5 |
| **MXHL 403-60/C** | **MXHLM 403-60** | 1,1 | 1,5 | **H** m | 49 | 45,5 | 44,5 | 43,5 | 42 | 39,5 | 36 | 31,5 | 26,5 | 20 |
| **MXHL 404-60/A** | **MXHLM 404-60** | 1,5 | 2 | | 65,5 | 60 | 59 | 57,5 | 56 | 52,5 | 48,5 | 42,5 | 35,5 | 26 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 5 | 6,5 | 8 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 83,3 | 108 | 133 | 166 | 183 | 200 | 216 | 233 | 250 |
| **MXHL 801-60/A** | **MXHLM 801-60/A** | 0,55 | 0,75 | | 16,5 | 15,6 | 14,4 | 14 | 12,3 | 11,3 | 10 | 8,8 | 7,3 | 5,6 |
| **MXHL 802-60/A** | **MXHLM 802-60** | 1,5 | 2 | | 33,5 | 31,3 | 30,4 | 29 | 26,5 | 25 | 23 | 20,5 | 18 | 15 |
| **MXHL 803-60/B** | **MXHLM 803-60** | 1,8 | 2,5 | **H** m | 51 | 47 | 45 | 42,5 | 38,5 | 36,5 | 33,5 | 30,5 | 26,5 | 22,5 |
| **MXHL 804-60/B** | | 2,2 | 3 | | 69 | 63 | 60 | 57,5 | 53 | 50,5 | 47 | 43 | 38 | 31 |

P2 Rated motor power output.
Potencia nominal del motor.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

+ 0,5 m security margin on NPSH-value is necessary.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Test results with clean cold water, without gas content.
Resultados de las pruebas con agua fría y limpia, sin gas.

## Rated currents - Intensidades nominales

| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,25 | 0,34 | 2,3 | 4 | 4,6 | - | 1,8 |
| 0,33 | 0,45 | 2,8 | 4,8 | 5,6 | - | 2,7 |
| 0,55 | 0,75 | 5 | 8,7 | 10 | 9.2/4.7 | 3,1 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |
| 1,8 | 2,5 | 13,5 | - | - | - | 4,5 |

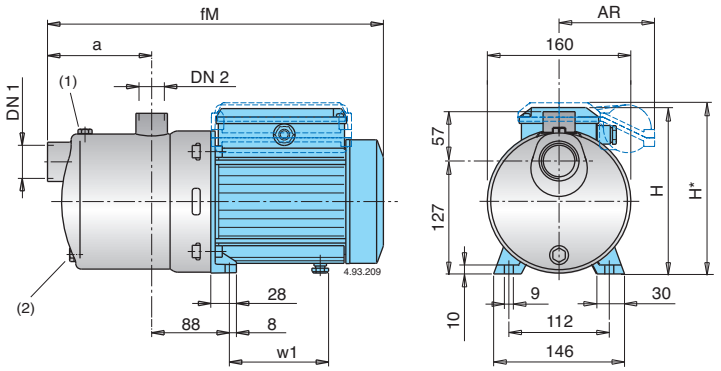
| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,25 | 0,34 | 1,7/1 | 1,8/1,1 | 4,7 |
| 0,33 | 0,45 | 2/1,2 | 2,2/1,3 | 4 |
| 0,55 | 0,75 | 3,3/1,9 | 3,5/2,0 | 4,3 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 7,4/4,3 | 7,8/4,5 | 7,3 |
| 1,8 | 2,5 | 10,0/5,8 | 10,4/6,1 | 9 |
| 2,2 | 3 | 11,1/6,4 | 11,6/6,7 | 8,4 |

P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

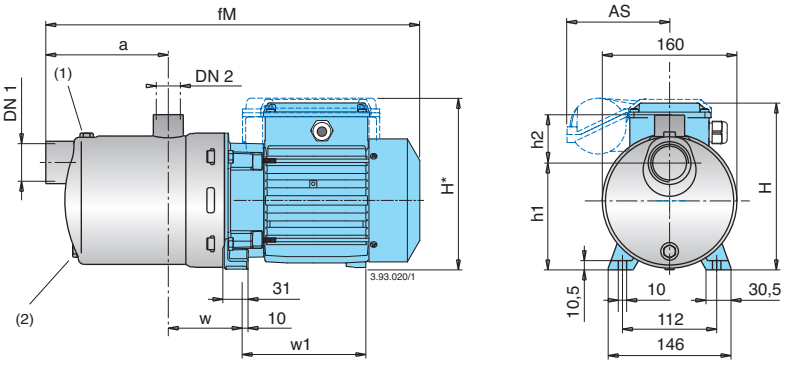
# MXHL 60 Hz AISI 316

## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN1 | DN2 | mm | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | | | | | | AR | | | | | |
| | | | fM | a | H | w1 | H* | 220V | 127V | 110V | 110/220V | MXH | MXHM |
| **MXHL 201-60E - MXHLM 201-60E** | G 1 1/4 | G 1 | 331 | 94 | 176 | 98,5 | 181 | ● | ● | ● | ❑ | 6,6 | 6,7 |
| **MXHL 202-60/A - MXHLM 202-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | ● | ● | 116 | 9,1 | 10,1 |
| **MXHL 203-60/B - MXHLM 203-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 11,3 | 11,5 |
| **MXHL 401-60E - MXHLM 401-60E** | G 1 1/4 | G 1 | 331 | 94 | 176 | 98,5 | 181 | ● | ● | ● | ❑ | 6,6 | 6,7 |
| **MXHL 402-60/B - MXHLM 402-60/A** | G 1 1/4 | G 1 | 357 | 94 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,8 | 11 |
| **MXHL 801-60/A - MXHLM 801-60/A** | G 1 1/2 | G 1 | 381 | 118 | 192 | 112 | 197 | ● | ● | ● | 116 | 9,7 | 10,5 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles




| TYPE<br>TIPO | DN1 | DN2 | mm | | | | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | | | | | | | | AS | | | | | | |
| | | | fM | a | w | h1 | h2 | H | w1 | H* | 220V | 127V | 110V | 110/220V | MXH | MXHM |
| **MXHL 204-60/C - MXHLM 204-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 127 | 57 | 210 | 167 | 215 | ● | 131 | ❑ | ❑ | - | 17,7 |
| **MXHL 403-60/C - MXHLM 403-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 127 | 57 | 210 | 167 | 215 | ● | 131 | ❑ | ❑ | - | 17,2 |
| **MXHL 404-60/A - MXHLM 404-60** | G 1 1/4 | G 1 | 453 | 118 | 88 | 127 | 57 | 210 | 167 | 215 | ● | ❑ | ❑ | ❑ | 18,5 | 19,2 |
| **MXHL 802-60/A - MXHLM 802-60** | G 1 1/2 | G 1 | 453 | 118 | 88 | 127 | 57 | 210 | 167 | 215 | ● | ❑ | ❑ | ❑ | 18 | 18,9 |
| **MXHL 803-60/B - MXHLM 803-60** | G 1 1/2 | G 1 | 493 | 118 | 88 | 127 | 57 | 210 | 167 | 215 | 131 | ❑ | ❑ | ❑ | 18,3 | 19,3 |
| **MXHL 804-60/B** | G 1 1/2 | G 1 | 522 | 148 | 88 | 127 | 57 | 210 | 167 | - | - | - | - | - | 19,8 | - |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

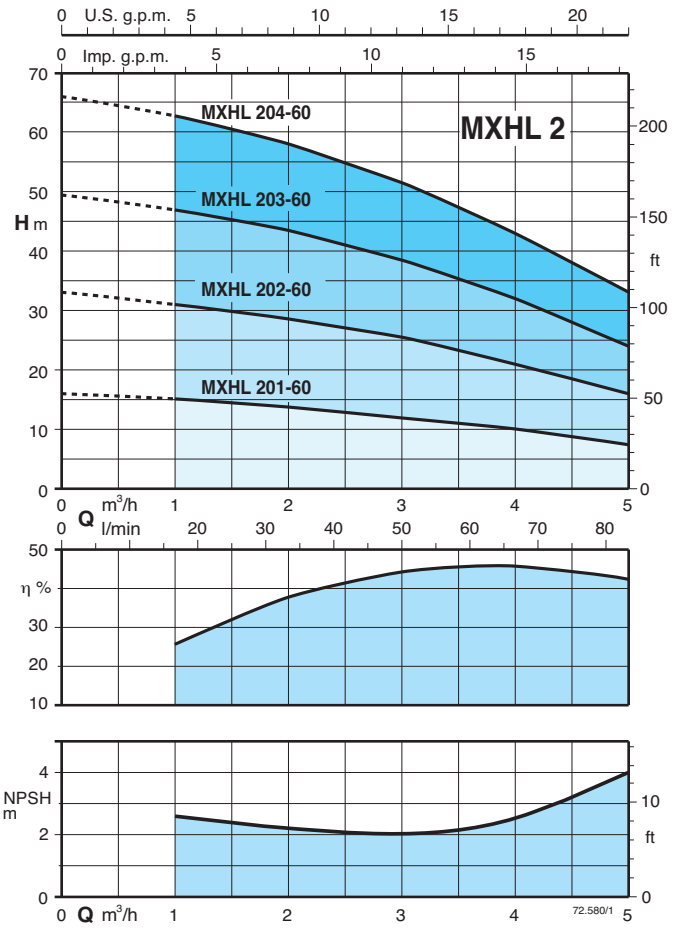
(1) Filling
Cebado

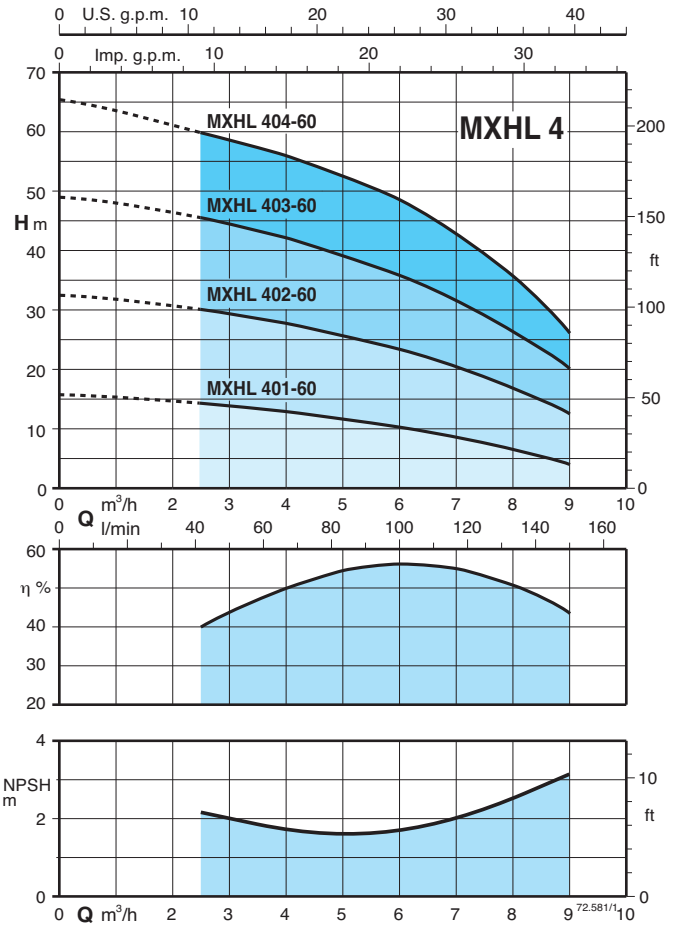
(2) Draining
Vaciado

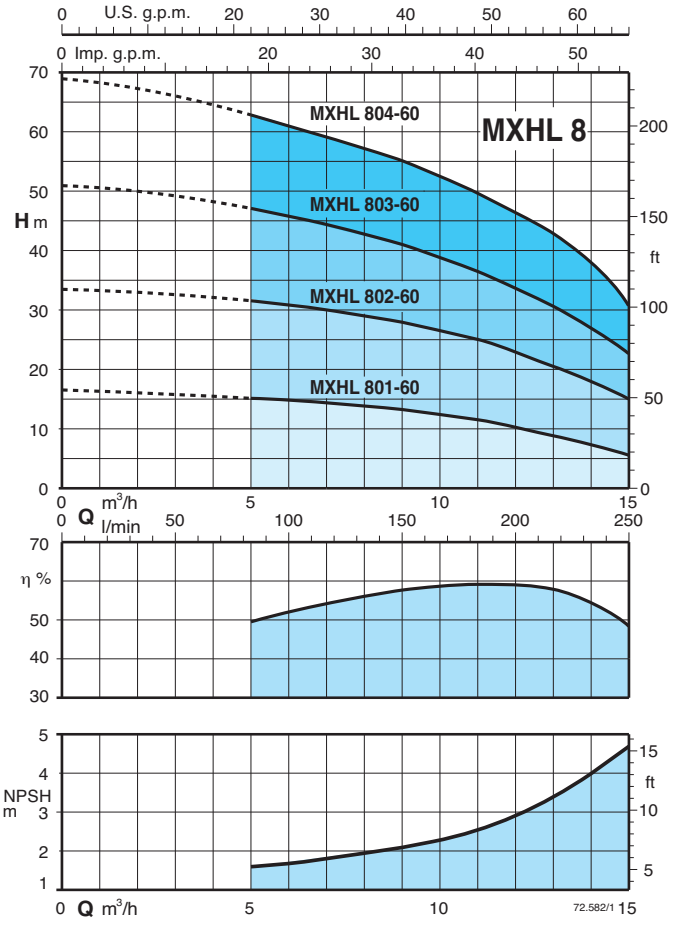
# MXHL 60 Hz AISI 316

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

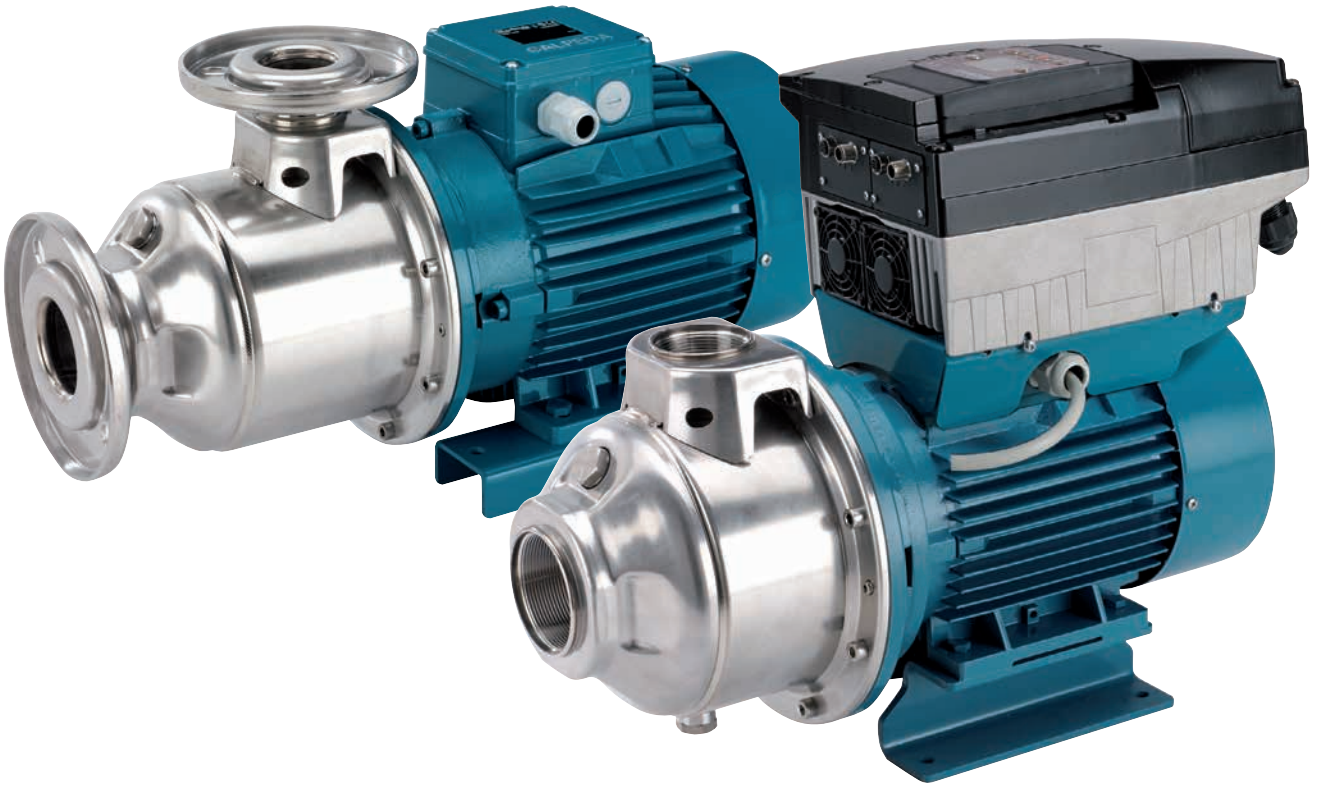


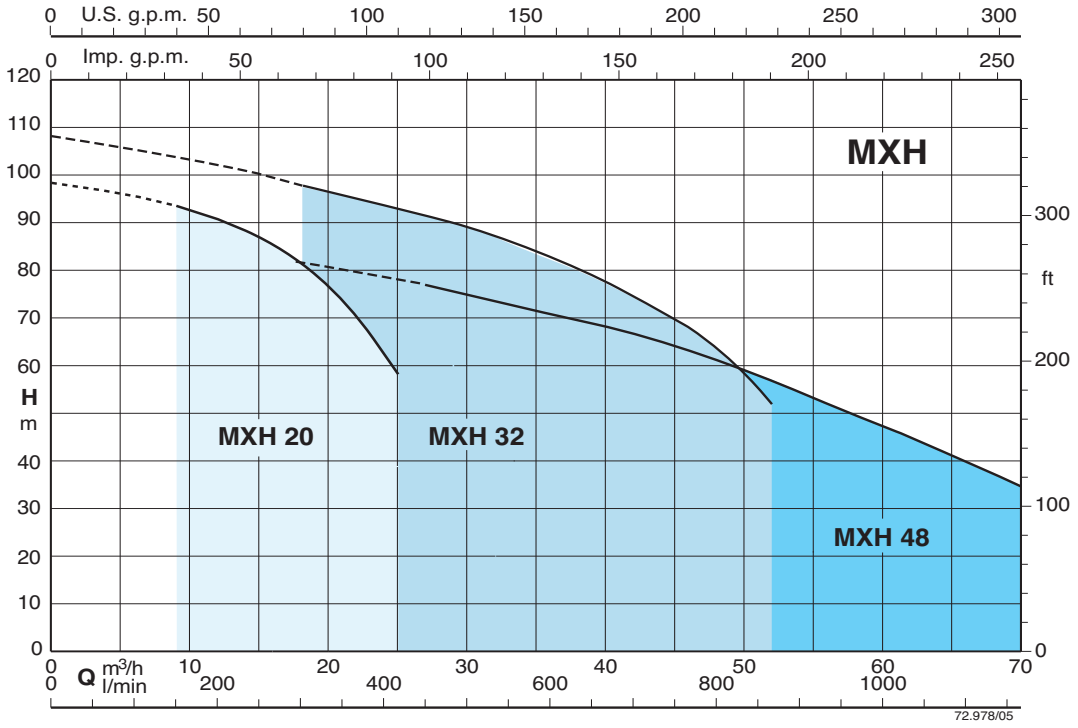
# MXH 20,32,48 60 Hz

**Horizontal multi-stage close coupled pumps in stainless steel**
**Bombas multicelulares horizontales monobloc de acero inoxidable**



## Coverage chart - Campo de aplicaciones

**n ≈ 3450 rpm**



# MXH 20,32,48 60 Hz

## Construction
Horizontal multi-stage close coupled pumps in **chrome-nickel stainless steel**.
Compact and robust construction,with compact lantern bracket and motor with feet.
Single-piece barrel casing, with front suction port above pumps axis and radial delivery at top. Filling and draining plugs on the middle of the pump, accessible from any side (like the terminal box).
**Version with frequency converter** (on request)

## Applications
For water supply.
For clean liquids, without abrasives, which are non-aggressive for stainless steel (with suitable seal materials, on request).
Universal pump, for civil and industrial applications, for garden use and irrigation.

## Operating conditions
Liquid temperature from - 15 °C to + 110 °C.
Ambient temperature up to 40 °C.
Maximum permissible pressure in the pump casing: 10 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MXH**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 15 kW;
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1;
EN 60034-30-1.

## Special features on request
- Pump with flanged ports (MXH-**F**).
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Seal rings in FPM.
- Higher or lower ambient temperatures.

## Ejecución
Bombas multicelulares horizontales monobloc de acero **inoxidable al cromo-níquel**.
Construccion compacta y muy robusta, con acoplamiento bomba motor compacto y motor con pie soporte.
Cuerpo bomba en una sola pieza, abierto por un solo lado (barriel casing), con boca de aspiración frontal sobre el eje de la bomba y boca de impulsión radial en la parte superior.
**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciones
Para aprovisionamiento de agua.
Para líquidos limpios, sin partes abrasivas, no agresivos para el acero inoxidable (con adaptación, bajo demanda, de los materiales del sello mecánico).
Bomba universal, para aplicaciones civiles e industriales, para jardinería e irrigación.

## Límites de empleo
Temperatura líquido de - 15 °C a + 110 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 10 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXH**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 15 kW.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según: EN 60034-1;
EN 60034-30.

## Otras ejecuciones bajo demanda
- Bomba con bridas (MXH-**F**).
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Anillos de cierre cuerpo bomba en FPM.
- Para ambientes con temperaturas más elevadas o más bajas.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Stage casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Wear ring | PTFE |
| Impeller | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Spacer sleeve | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Pump shaft | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Plug | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Ceramic alumina, carbon, EPDM |
| ISO 3069 - KU | (Other materials on request) |

## Materiales

| Componentes | Materiales |
|---|---|
| Cuerpo bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Cuerpo elemento | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Anillo de cierre rodete | PTFE |
| Rodete | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Manguito distanciador | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Tapón | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Sello mecánico | Cerámica alúmina, carbón, EPDM |
| ISO 3069 - KU | (Otros materiales bajo demanda) |

## Designation

MXH- F 32 04 - 60 *

Series
No code = threaded ports
Flanged ports — F
Rated capacity in m³/h
Number of stages
Frequency 60 Hz

**Construction variants**
special seal code (no code = standard seal)

## Designación

MXH- F 32 04 - 60 *

Serie
Sin indicación orificios roscados
Orificios con bridas — F
Caudal nominal en m³/h
Número de elementos
Frequencia 60 Hz

**Variantes costructivas**
código sello especial (sin indicación = sello estándar)

# MXH EI 20,32,48 60 Hz

### Pumps with frequency converter

The **MXH EI** pumps are available with power from 1,5 kW up to 15 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.

### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers



### Main features
Rated motor power output from 1,5 kW to 15 kW
Control range from 1750 to 3450 rpm (2-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

## Bomba a velocidad variable

La bomba **MXH EI** se encuentra disponible con potencias de 1,5 kW a 15 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción
- I-MAT variador de frecuencia
- Adaptador del motor para el montaje del variador de frecuencia
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores

### Límites de utilización
Potencia nominal del motor desde 1,5 kW hasta 15 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Fixed speed mode**
with setting of the speed preferential rotation.

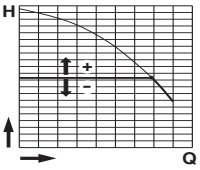
In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

## Modos de operación

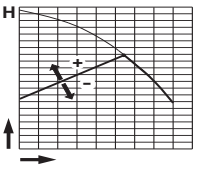
**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.



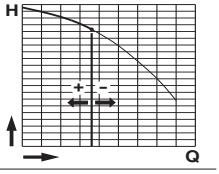

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.



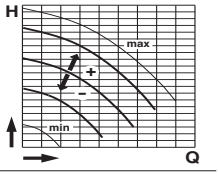

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.




**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.




**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# MXH 20,32,48 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | $P_2$ | | Q | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | $m^3/h$ | 0 | 9 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | |
| | | | l/min | 0 | 150 | 200 | 233 | 266 | 300 | 333 | 366 | 416 | |
| **MXH 2001-60** | 1,5 | 2 | **H** m | 25,3 | 22,7 | 21,8 | 21 | 20 | 18,8 | 17,4 | 15,7 | 12,4 | |
| **MXH 2002-60** | 3 | 4 | | 51,9 | 47 | 45,3 | 44 | 42,4 | 40,4 | 38 | 35,1 | 29,6 | |
| **MXH 2003-60** | 5,5 | 7,5 | | 78 | 71,5 | 69 | 67 | 65 | 62,5 | 59 | 54,5 | 45,5 | |
| **MXH 2004-60** | 7,5 | 10 | | 103,5 | 95 | 91,5 | 89 | 86 | 82,5 | 78 | 72,5 | 62 | |

| 3 ~ | $P_2$ | | Q | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | $m^3/h$ | 0 | 18 | 22 | 26 | 30 | 34 | 38 | 42 | 47 | 52 |
| | | | l/min | 0 | 300 | 366 | 433 | 500 | 566 | 633 | 700 | 783 | 866 |
| **MXH 3201-60/B** | 4 | 5,5 | **H** m | 27 | 24,5 | 23,7 | 23 | 22 | 20,5 | 19 | 17,5 | 15 | 11 |
| **MXH 3202-60/A** | 7,5 | 10 | | 54 | 49 | 47,5 | 46 | 44 | 41,5 | 38,5 | 35 | 29 | 23 |
| **MXH 3203-60/B** | 11 | 15 | | 81 | 73,5 | 71 | 69 | 66,5 | 63,5 | 60 | 55 | 47,5 | 37,5 |
| **MXH 3204-60/A** | 15 | 20 | | 107 | 98 | 94,5 | 92 | 89 | 84,5 | 80 | 73,5 | 64,5 | 52 |

| 3 ~ | $P_2$ | | Q | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | $m^3/h$ | 0 | 27 | 33 | 39 | 45 | 48 | 54 | 60 | 65 | 70 |
| | | | l/min | 0 | 450 | 550 | 650 | 750 | 800 | 900 | 1000 | 1083 | 1166 |
| **MXH 4801-60/B** | 4 | 5,5 | **H** m | 29,5 | 25,5 | 24,5 | 23 | 21 | 20 | 17,5 | 15 | 13 | 10,5 |
| **MXH 4802-60/B** | 9,2 | 12,5 | | 59 | 51 | 49 | 46 | 42,5 | 40,5 | 36,5 | 32 | 27,5 | 23,5 |
| **MXH 4803-60/A** | 15 | 20 | | 88,5 | 76,5 | 73,5 | 68,5 | 63,5 | 61 | 54,5 | 47,5 | 40,5 | 34,5 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

+ 0,5 m security margin on NPSH-value is necessary.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Test results with clean cold water, without gas content.
Resultados de las pruebas con agua fría y limpia, sin gas.

## Rated currents - Intensidades nominales

| $P_2$ | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|
| | | 220/380V | 380/660V | 220/440V | |
| kW | HP | $I_N$ A | $I_N$ A | $I_N$ A | $I_A/I_N$ |
| 1,5 | 2 | 7,4/4,3 | - | 7,8/4,5 | 7,3 |
| 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| 7,5 | 10 | | 17/9,8 | | 9,2 |
| 9,2 | 12,5 | | 22/12,7 | | 8,3 |
| 11 | 15 | | 25,8/14,9 | | 8,9 |
| 15 | 18,5 | | 33,2/19,2 | | 9,4 |

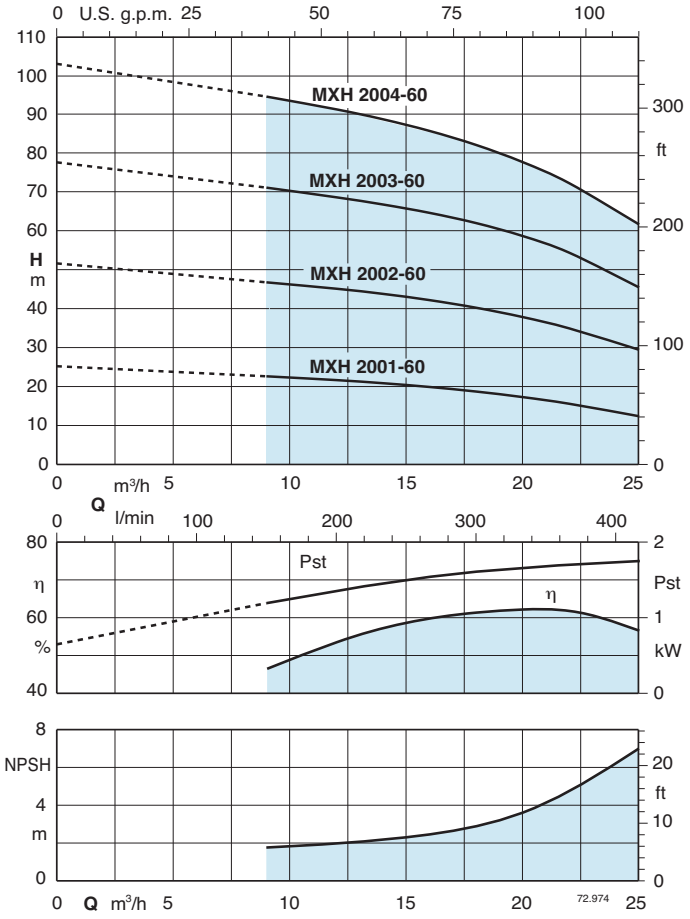
$P_2$ Rated motor power output.
Potencia nominal del motor.

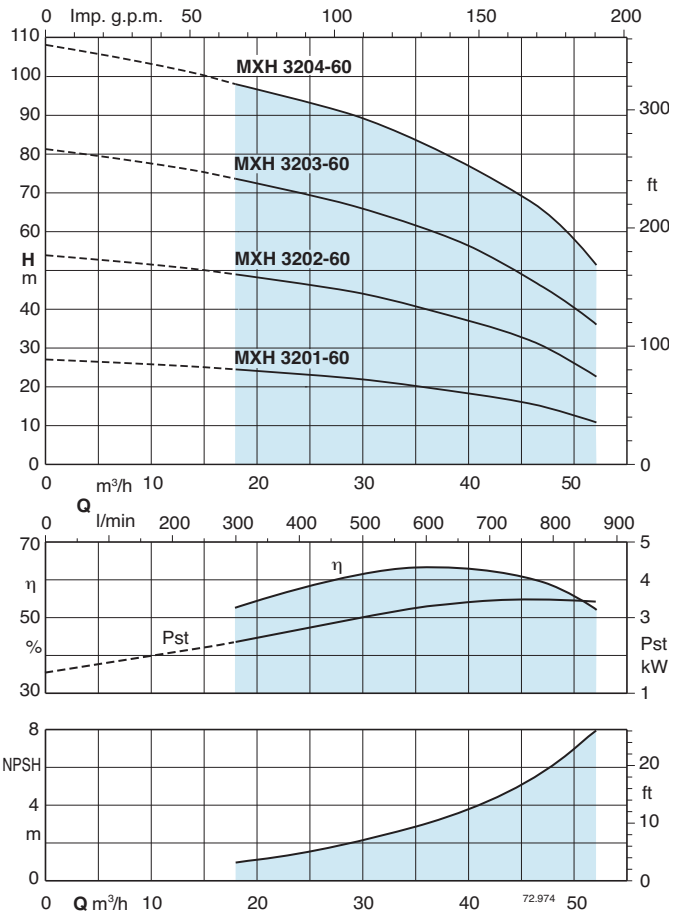
$I_A/I_N$ D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

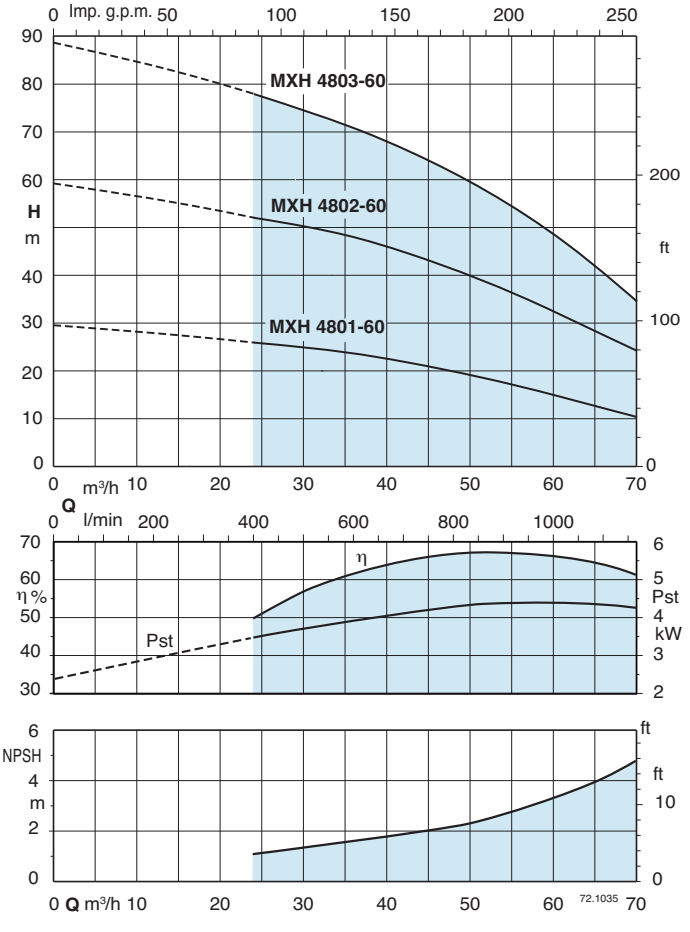
# MXH 20,32,48 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

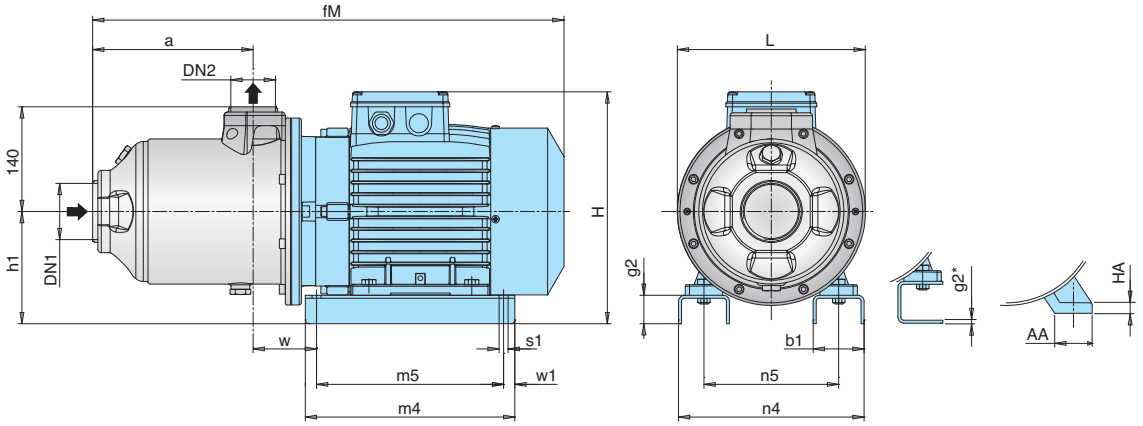


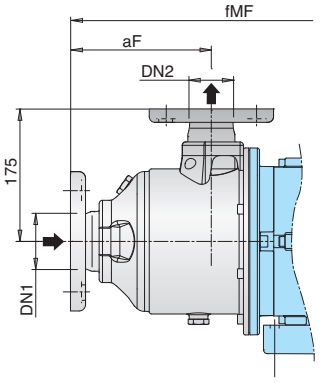
## Dimensions and weights - Dimensiones y pesos

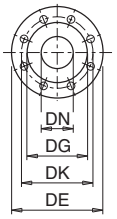
### Threaded ports
### Orificios roscados




| TYPE TIPO | DN1 | DN2 | mm | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | fM | a | L | h1 | H | m4 | m5 | n4 | n5 | w1 | AA | b1 | s1 | w | g2 | g2* | HA | |
| **MXH 2001-60** | G 2 | G 1 1/2 | 467 | 127 | 250 | 150 | 280 | 205 | 175 | 170 | 130 | 15 | - | 54 | 10 | 95 | - | 6* | - | 30 |
| **MXH 2002-60** | G 2 | G 1 1/2 | 521 | 127 | 250 | 150 | 290 | 205 | 175 | 170 | 130 | 15 | - | 54 | 10 | 112 | - | 6* | - | 38 |
| **MXH 2003-60** | G 2 | G 1 1/2 | 564 | 146 | 250 | 150 | 310 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 84 | 38 | - | - | 50 |
| **MXH 2004-60** | G 2 | G 1 1/2 | 598 | 180.5 | 250 | 150 | 310 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 84 | 38 | - | - | 55 |
| **MXH 3201-60/B** | G 2 1/2 | G 2 | 517 | 123 | 250 | 150 | 290 | 205 | 175 | 180 | 140 | 15 | - | 54 | 10 | 112 | - | 6* | - | 39 |
| **MXH 3202-60/A** | G 2 1/2 | G 2 | 541 | 123 | 250 | 150 | 310 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 84 | 38 | - | - | 55,5 |
| **MXH 3203-60/B** | G 2 1/2 | G 2 | 711 | 169 | 270 | 132 | 318 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 171,5 | - | - | 18 | |
| **MXH 3204-60/A** | G 2 1/2 | G 2 | 782 | 215 | 270 | 132 | 318 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 171,5 | - | - | 18 | |
| **MXH 4801-60/B** | G 3 | G 2 1/2 | 547 | 138.5 | 250 | 150 | 290 | 205 | 175 | 180 | 140 | 15 | - | 54 | 10 | 127 | - | 6* | - | 41 |
| **MXH 4802-60/B** | G 3 | G 2 1/2 | 645 | 138.5 | 270 | 132 | 318 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 186,5 | - | - | 18 | |
| **MXH 4803-60/A** | G 3 | G 2 1/2 | 782 | 200 | 270 | 132 | 318 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 186,5 | - | - | 18 | 110 |

### Flanged ports
### Orificios con bridas




| TYPE TIPO | DN1 | DN2 | mm | |
|---|---|---|---|---|
| | mm | mm | fMF | aF |
| **MXH-F 2001-60** | 50 | 40 | 501 | 161.5 |
| **MXH-F 2002-60** | 50 | 40 | 555 | 161.5 |
| **MXH-F 2003-60** | 50 | 40 | 598 | 180.5 |
| **MXH-F 2004-60** | 50 | 40 | 633 | 215 |
| **MXH-F 3201-60/B** | 65 | 50 | 544 | 150.5 |
| **MXH-F 3202-60/A** | 65 | 50 | 568 | 150.5 |
| **MXH-F 3203-60/B** | 65 | 50 | 738 | 196.5 |
| **MXH-F 3204-60/A** | 65 | 50 | 809 | 242.5 |
| **MXH-F 4801-60/B** | 80 | 65 | 565 | 156 |
| **MXH-F 4802-60/B** | 80 | 65 | 663 | 156 |
| **MXH-F 4803-60/A** | 80 | 65 | 814 | 232 |

Flanges* EN 1092-2

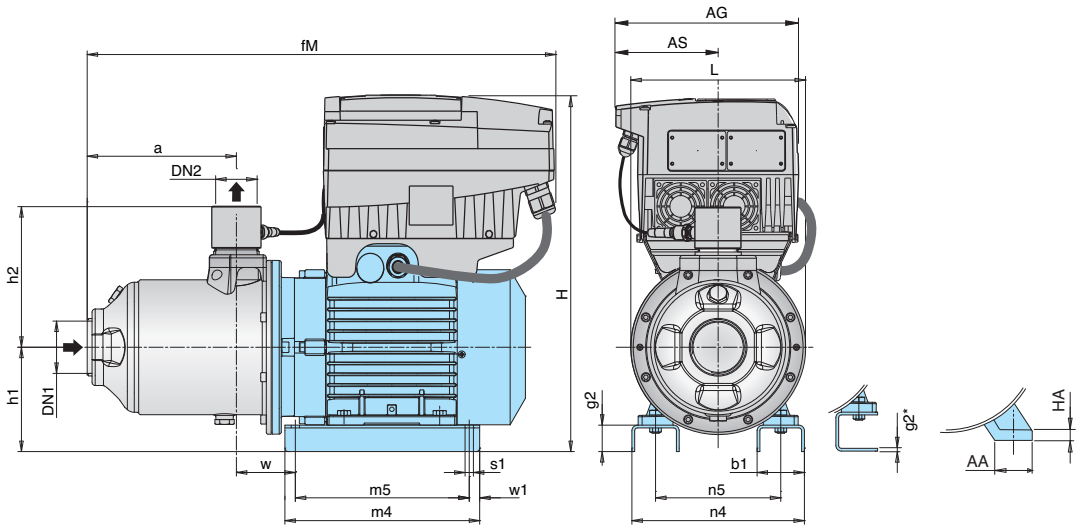
| DN | DE | DK | DG | Holes Aguijeros N. | Holes Aguijeros Ø |
|---|---|---|---|---|---|
| 40 | 150 | 110 | 81 | 4 | 19 |
| 50 | 165 | 125 | 99 | 4 | 19 |
| 65 | 185 | 145 | 118 | 4 | 19 |
| 80 | 200 | 160 | 132 | 8 | 19 |

* ASME 150 lb (ex ANSI 150 lb)

# MXH EI 20,32,48 60 Hz

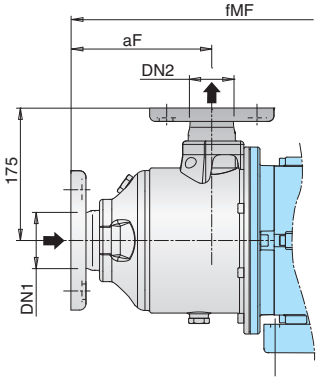
## Dimensions and weights - Dimensiones y pesos

**Threaded ports**
**Orificios roscados**

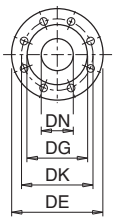



| TYPE TIPO | DN1 | DN2 | mm | | | | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | fM | AG | AS | a | L | h1 | h2 | H | m4 | m5 | n4 | n5 | w1 | AA | b1 | s1 | w | g2 | g2* | HA | |
| **MXH EI 2001-60** | G 2 | G 1 1/2 | 499 | 190 | 105 | 127 | 250 | 150 | 193 | 434 | 205 | 175 | 165 | 125 | 15 | - | 54 | 10 | 95 | - | 6* | - | - |
| **MXH EI 2002-60** | G 2 | G 1 1/2 | 534 | 210 | 118 | 127 | 250 | 150 | 193 | 444 | 205 | 175 | 180 | 140 | 15 | - | 54 | 10 | 114 | - | 6* | - | |
| **MXH EI 2003-60** | G 2 | G 1 1/2 | 593 | 280 | 153 | 146 | 250 | 150 | 193 | 516 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 113 | 38 | - | - | |
| **MXH EI 2004-60** | G 2 | G 1 1/2 | 628 | 280 | 153 | 180.5 | 250 | 150 | 193 | 516 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 113 | 38 | - | - | |
| **MXH EI 3201-60/B** | G 2 1/2 | G 2 | 530 | 210 | 118 | 123 | 250 | 150 | 198 | 444 | 205 | 175 | 180 | 140 | 15 | - | 54 | 10 | 114 | - | 6* | - | |
| **MXH EI 3202-60/A** | G 2 1/2 | G 2 | 570 | 280 | 153 | 123 | 250 | 150 | 198 | 516 | 280 | 250 | 258 | 190 | 15 | - | 68 | 12 | 113 | 38 | - | - | |
| **MXH EI 3203-60/B** | G 2 1/2 | G 2 | 711 | 280 | 153 | 169 | 250 | 132 | 198 | 525 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 172 | - | - | 18 | |
| **MXH EI 3204-60/A** | G 2 1/2 | G 2 | 782 | 350 | 190 | 215 | 250 | 132 | 198 | 604 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 172 | - | - | 18 | |
| **MXH EI 4801-60/B** | G 3 | G 2 1/2 | 561 | 210 | 118 | 138.5 | 250 | 150 | 203 | 444 | 205 | 175 | 180 | 140 | 15 | - | 54 | 10 | 129 | - | 6* | - | |
| **MXH EI 4802-60/B** | G 3 | G 2 1/2 | 645 | 280 | 153 | 138.5 | 250 | 132 | 203 | 525 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 187 | - | - | 18 | |
| **MXH EI 4803-60/A** | G 3 | G 2 1/2 | 782 | 350 | 190 | 200 | 250 | 132 | 203 | 604 | 218 | 178 | 260 | 216 | 20 | 52 | - | 12 | 187 | - | - | 18 | |

**Flanged ports**
**Orificios con bridas**




| TYPE TIPO | DN1 | DN2 | mm | |
|---|---|---|---|---|
| | mm | mm | fMF | aF |
| **MXH-F 2001-60** | 50 | 40 | 533 | 161.5 |
| **MXH-F 2002-60** | 50 | 40 | 569 | 161.5 |
| **MXH-F 2003-60** | 50 | 40 | 628 | 180.5 |
| **MXH-F 2004-60** | 50 | 40 | 662 | 215 |
| **MXH-F 3201-60/B** | 65 | 50 | 558 | 150.5 |
| **MXH-F 3202-60/A** | 65 | 50 | 598 | 150.5 |
| **MXH-F 3203-60/B** | 65 | 50 | 738 | 196.5 |
| **MXH-F 3204-60/A** | 65 | 50 | 809 | 242.5 |
| **MXH-F 4801-60/B** | 80 | 65 | 578 | 156 |
| **MXH-F 4802-60/B** | 80 | 65 | 663 | 156 |
| **MXH-F 4803-60/A** | 80 | 65 | 814 | 232 |



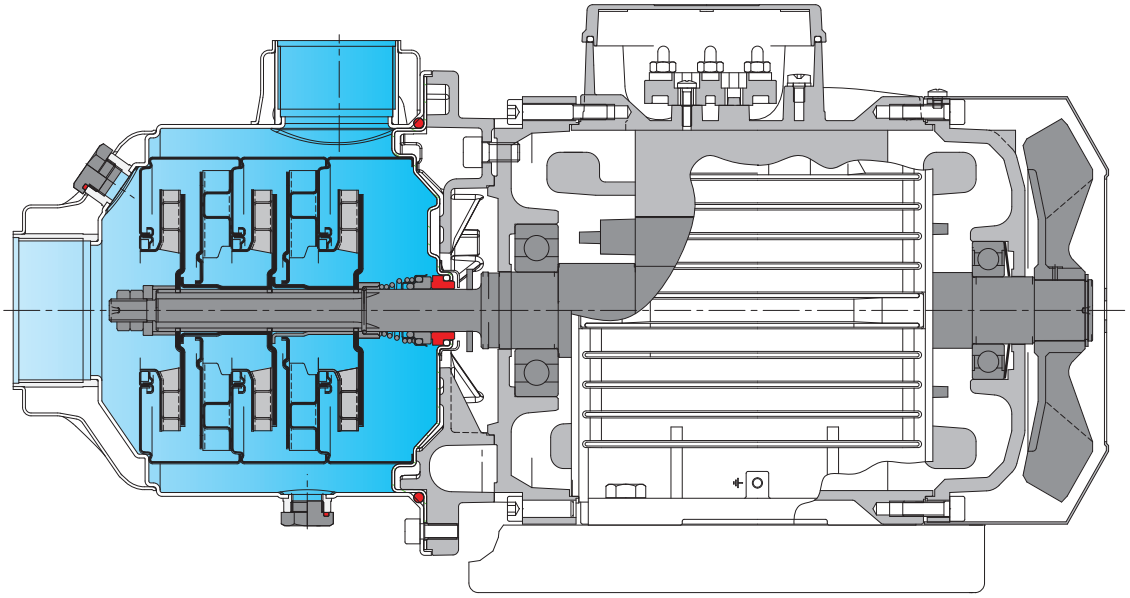

Flanges* EN 1092-2

| DN | DE | DK | DG | Holes Aguijeros | |
|---|---|---|---|---|---|
| | | | | N. | Ø |
| 40 | 150 | 110 | 81 | 4 | 19 |
| 50 | 165 | 125 | 99 | 4 | 19 |
| 65 | 185 | 145 | 118 | 4 | 19 |
| 80 | 200 | 160 | 132 | 8 | 19 |

* ASME 150 lb (ex ANSI 150 lb)

# MXH 20,32,48 60 Hz

## Features - Características constructivas



**Flexibility**
Two versions of ports: threaded and flanged.

**Extra safety**
With front axis suction port for optimum suction conditions.

**Reliable**
All hydraulic parts in contact with the pumped liquid are made in stainless steel.
For liquids from -15 °C to 110 °C.

**Robust**
Single-piece, thick barrel casing, open on one side only, with reinforced threaded ports.

**Compact**
The bracket between pump and motor is extremely compact.

**Greater protection**
Against leakage, with the pump casing cover separated from the motor shield.
Possibility of inspecting the seal through the side apertures between the two walls.

**Flexible**
Diferentes versiones de orificios: roscados y con brida.

**Más seguridad**
Con la boca de aspiración frontal para una mejor capacidad de aspiración.

**Fiable**
Todas las partes hidráulicas en contacto con el líquido son de acero inoxidable.
Para líquidos de -15 °C a +110 °C.

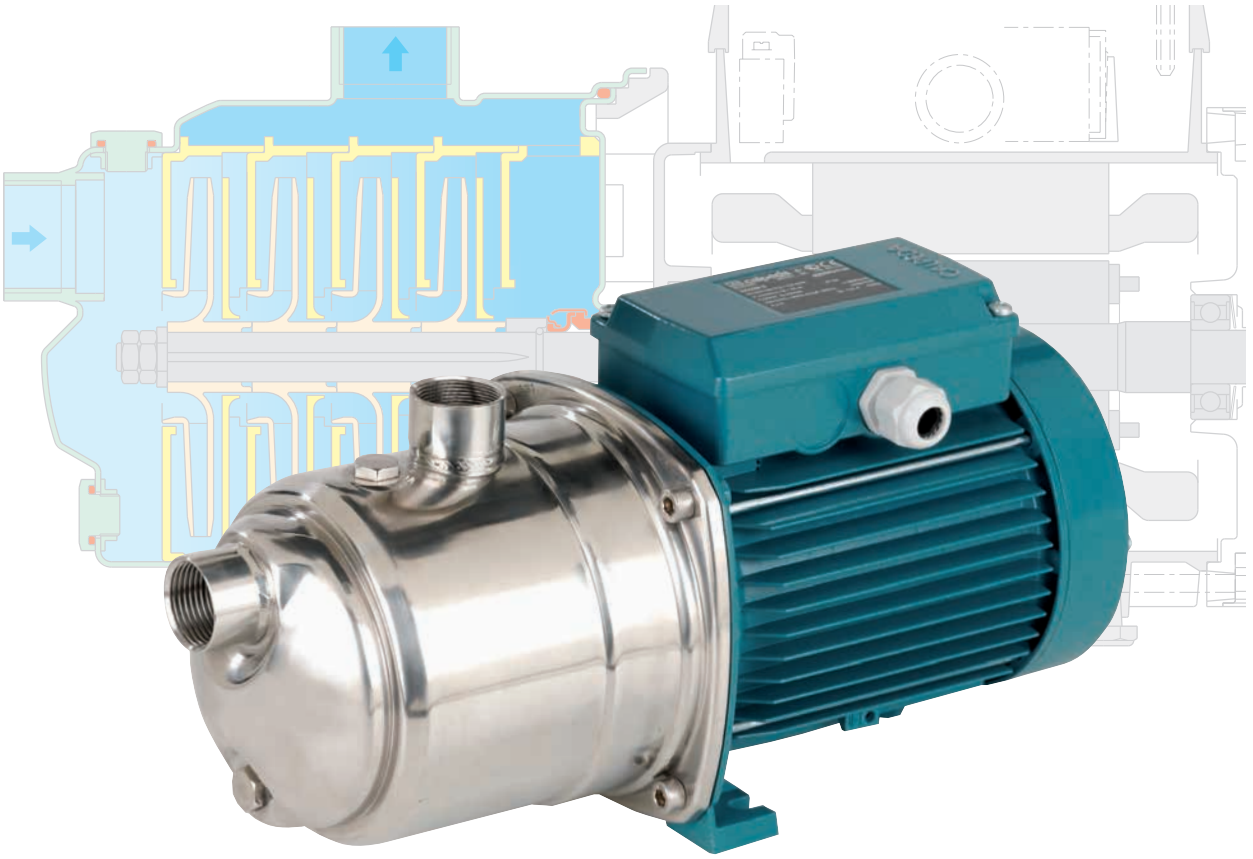
**Robusta**
Cuerpo bomba de una sola pieza de grueso espesor, abierto por un solo lado, manguitos de aspiración y impulsión renforzados.

**Compacta**
Acoplamiento bomba motor muy compacto.

**Mayor protección**
Contra las pérdidas del cierre, con la tapa de la bomba separada de la tapa del motor.
Posibilidad de inspección del sello mecánico a través de la abertura lateral entre las dos paredes.

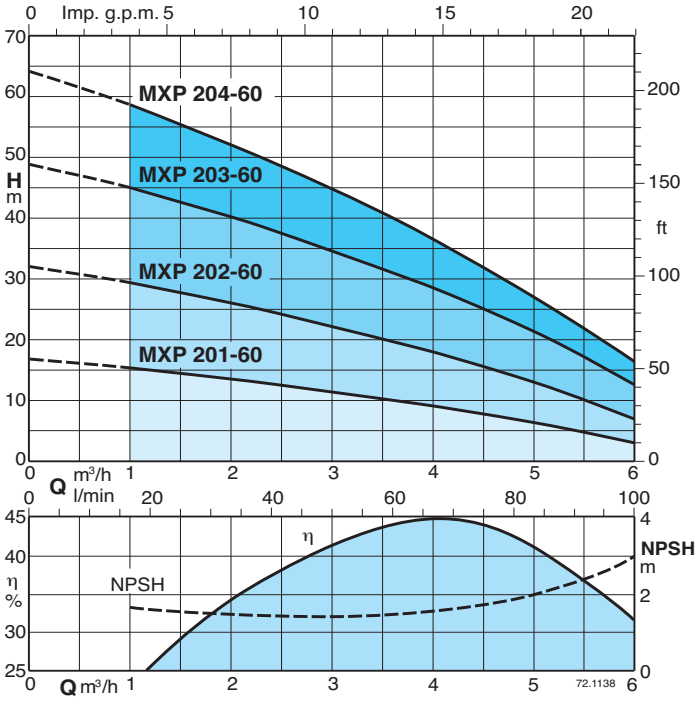
# MXP 60 Hz

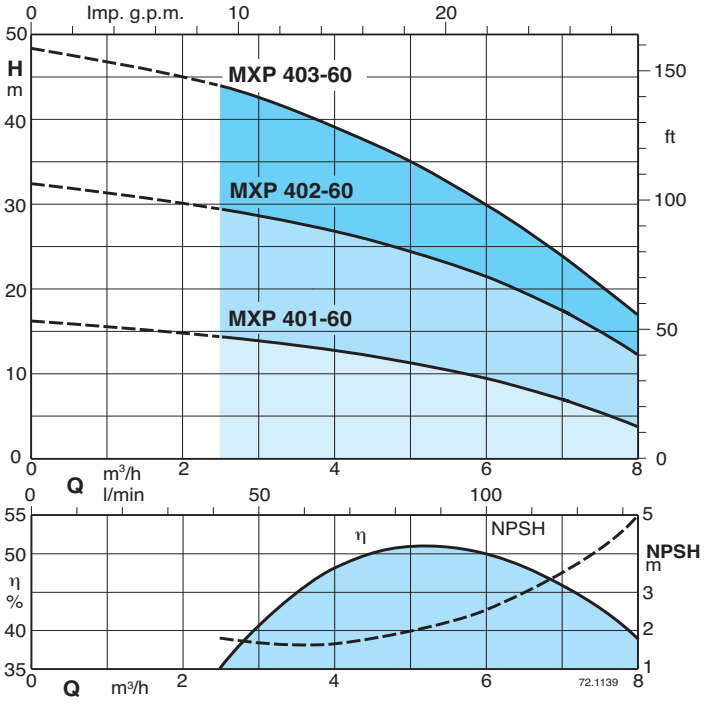
## Horizontal Multi-Stage Close Coupled Pumps
## Bombas multicelulares horizontales monobloc



## Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# MXP 60 Hz

## Construction
Horizontal multi-stage close coupled pump.
Single-piece barrel casing in chrome-nickel stainless steel, with front suction port above pumps axis and radial delivery at top.
Stages in Noryl.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request.

## Applications
For water supply.
For domestic use, for garden use and irrigation.

## Operating conditions
Liquid temperature: 0 °C to +50 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MXP**: three-phase 220/380 V, 220/440 V.
**MXPM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
**Classification scheme IE3 for three-phase motor from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
Other voltages.
- Motor suitable for operation with frequency converter up to 0,75 kW.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Pump Shaft | Chrome steel 1.4104 EN 10088 (AISI 430) |
| Plug | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Stage casing | PPO-GF20 (Noryl) |
| Impeller | PPO-GF20 (Noryl) |
| Mechanical seal | Carbon - Ceramic - NBR |

## Ejecución
Bomba multicelulare horizontale monobloc.
Cuerpo bomba de acero inoxidable al cromo-níquel en una sola pieza, abierto por un solo lado (barrel casing), con boca de aspiración frontal sobre el eje de la bomba y boca de impulsión radial en la parte superior.
Elementos en Noryl.
**Orificios**: Roscados **UNI-ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

## Aplicaciones
Para aprovisionamiento de agua.
Para uso doméstico, para jardinería e irrigación.

## Límites de empleo
Temperatura líquido: de 0 °C a + 50 °C.
Temperatura ambiente hasta +40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXP**: trifásico 220/380 V, 220/440 V.
**MXPM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 1,1 kW.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según: IEN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
Otras tensiones.
- Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,75 kW.

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al cromo 1.4104 EN 10088 (AISI 430) |
| Tapón | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Cuerpo elemento | PPO-GF20 (Noryl) |
| Rodete | PPO-GF20 (Noryl) |
| Sello mecánico | Carbón - Cerámica - NBR |

# MXP 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | $P_2$ | | Q | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | m³/h | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| | | | | l/min | 0 | 16,6 | 33,3 | 50 | 66,6 | 83,3 | 100 |
| **MXP 201-60** | **MXPM 201-60** | 0,25 | 0,34 | **H** m | 16,5 | 15,2 | 13,5 | 11,5 | 9 | 6,2 | 3 |
| **MXP 202-60** | **MXPM 202-60** | 0,45 | 0,6 | | 32 | 29,5 | 26,5 | 22,5 | 18 | 13 | 7 |
| **MXP 203-60/B** | **MXPM 203-60/A** | 0,75 | 1 | | 48,5 | 45 | 40,5 | 34,5 | 28,5 | 21,5 | 12,5 |
| **MXP 204-60/B** | **MXPM 204-60/A** | 0,75 | 1 | | 64 | 58,5 | 52 | 45 | 36,5 | 27 | 16,5 |

| 3 ~ | 1 ~ | $P_2$ | | Q | 0 | 2,5 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | m³/h | 0 | 2,5 | 4 | 5 | 6 | 7 | 8 |
| | | | | l/min | 0 | 41,6 | 66,6 | 83,3 | 100 | 116 | 133 |
| **MXP 401-60** | **MXPM 401-60** | 0,33 | 0,45 | **H** m | 16,3 | 14,5 | 13 | 11 | 9,2 | 7 | 4 |
| **MXP 402-60/B** | **MXPM 402-60/A** | 0,75 | 1 | | 32,5 | 29,5 | 27 | 24,5 | 21,5 | 17,5 | 12,5 |
| **MXP 403-60/B** | | 1,1 | 1,5 | | 48,5 | 44 | 39 | 35 | 30 | 24 | 17 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

+ 0,5 m security margin on NPSH-value is necessary.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Test results with clean cold water, without gas content.
Resultados de las pruebas con agua fría y limpia, sin gas.

For capacities over 4 m³/h use a suction pipe G 1 1/4 (DN 32).
Para caudales mayores de 4 m³/h, utilizar un tubo de aspiración G 1 1/4 (DN 32).

## Rated currents - Intensidades nominales

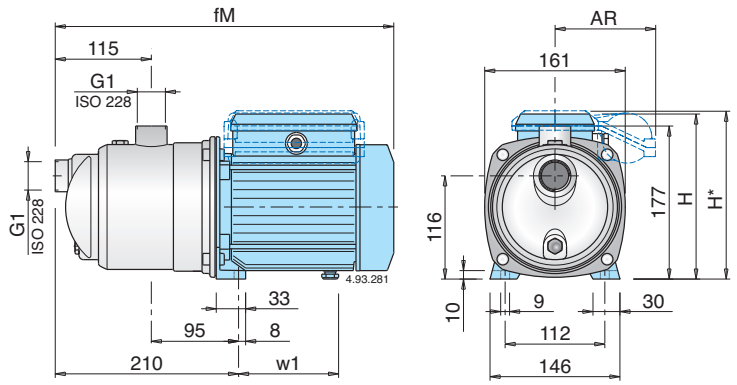
| $P_2$ | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | $I_N$ A | $I_N$ A | $I_N$ A | $I_N$ A | $I_A/I_N$ |
| 0,25 | 0,34 | 2,3 | 4 | 4,6 | - | 1,8 |
| 0,33 | 0,45 | 2,8 | 4,8 | 5,6 | - | 2,7 |
| 0,45 | 0,6 | 4,1 | 7,1 | 8,2 | - | 3 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 2,9 |

| $P_2$ | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | $I_N$ A | $I_N$ A | $I_A/I_N$ |
| 0,25 | 0,34 | 1,7/1 | 1,8/1,1 | 4,7 |
| 0,33 | 0,45 | 2/1,2 | 2,2/1,3 | 4 |
| 0,45 | 0,6 | 3,1/1,8 | 3,3/1,9 | 4,8 |
| 0,75 | 1 | 4,5/2,6 | 4,4/2,5 | 5,6 |
| 1,1 | 1,5 | 5,6/3,2 | 5,6/3,3 | 5,1 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

$I_A/I_N$ D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos

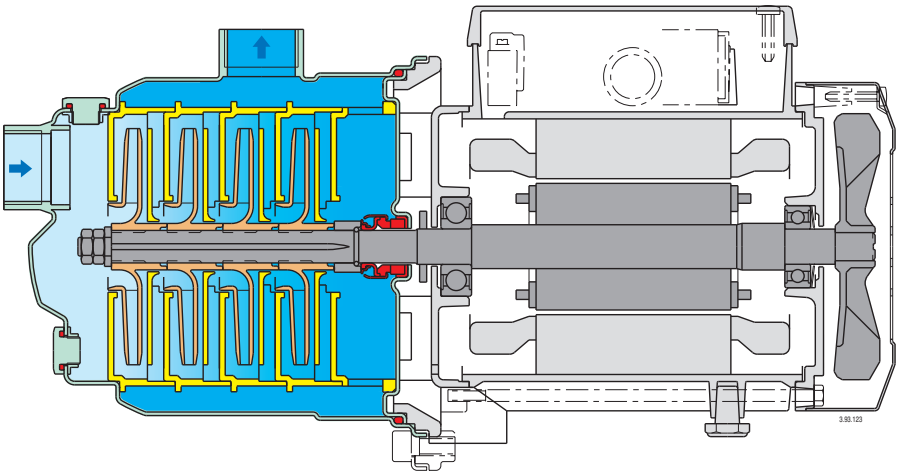



**DN NPT** Version on demand - Ejecuciones bajo demanda

| TYPE<br>TIPO | mm | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AR | | | | | |
| | fM | H | w1 | H* | 220V | 127V | 110V | 110/220V | MXP | MXPM |
| **MXP 201-60 - MXPM 201-60** | 362 | 176 | 102 | - | ● | ● | ● | ❑ | 5,9 | 5,9 |
| **MXP 202-60 - MXPM 202-60** | 362 | 176 | 102 | - | ● | ● | ● | ❑ | 7,2 | 7,2 |
| **MXP 203-60/B - MXPM 203-60/A** | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,3 | 10,5 |
| **MXP 204-60/B - MXPM 204-60/A** | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,4 | 10,6 |
| **MXP 401-60 - MXPM 401-60** | 362 | 176 | 102 | - | ● | ● | ● | ❑ | 5,9 | 5,9 |
| **MXP 402-60/B - MXPM 402-60/A** | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,2 | 10,4 |
| **MXP 403-60/B** | 391 | 192 | 112 | - | - | - | - | - | 11 | |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

## Features - Características constructivas



**Extra safety**
against running dry, with the suction port above pump axis.

**Robust**
Single-piece barrel casing.

**Compact**
Single-piece lantern bracket and base.

**Low noise**
with the water-filled shroud around the stages.

**Más seguridad**
Contra el funcionamiento en seco, con la boca de aspiración sobre el eje de la bomba.

**Robusta**
Cuerpo bomba de una sola pieza abierto por un solo lado.

**Compacta**
Acoplamiento bomba motor y base soporte de una sola pieza.

**Silenciosa**
con la capa de agua alrededor a los elementos.

# MPSU 60 Hz

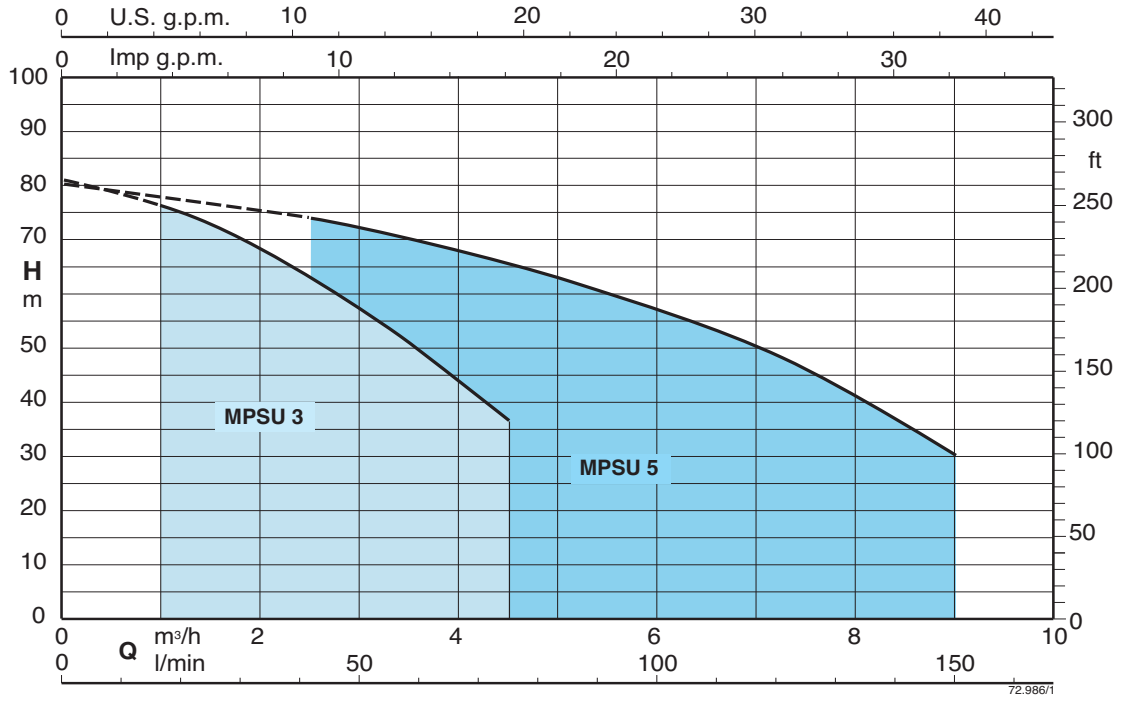
## Vertical multi-stage close coupled pumps
## Bombas multicelulares verticales monobloc




PATENTED
*PATENTADO*

### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# MPSU 60 Hz

## Construction
5" Vertical multi-stage close coupled **submersible or surface pumps.**
External jacket in stainless steel AISI 304 and stages Noryl.
**MPSUM** with built-in capacitor, accessible through the delivery casing.
Suction connection on the lower casing and delivery connection on the top casing.
Motor cooled by the pumped water passing between the motor jacket and the external jacket.
Double mechanical shaft seal with interposed oil chamber.

## Applications
For clean water without abrasives or additives aggressive for the materials of the pump.
For domestic, civil and industrial applications.
For installation in confined space with minimum ventilation.
For installation in locations subject to risk of temporary flooding, the pump can be fully immersed.
For installation in areas exposed to water jetting.
When low-noise operation is required.

## Operating conditions
Water temperature up to 35 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**MPSU**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN8-F, length 5 m, without plug.

**MPSUM**: single-phase 110 V, 127 V, 220 V,
with thermal protector only 220V.
Incorporated capacitor.
Float switch MPSM.. CG up to 15A (on demand)
Cable: H07RN8-F, length 5 m, with plug CEI-UNEL 47166.

Insulation class F.
Protection IP X8 (for continuous immersion).
Triple impregnation humidity-proof dry winding.
Constructed in accordance with EN 60335-2-41.

## Special features on request
- Other voltages.
- Cable length 15 m.
- Motor suitable operation with frequency converter.

## Ejecución
Bombas multicelulares verticales monobloc **sumergible o de superficie de 5"**.
Camisa externa en acero AISI 304 y elementos (Rodetes y difusores) en Noryl.
**MPSUM** con condensador incorporado, accesible a través del cuerpo de impulsión.
Boca de aspiración en la parte inferior y boca de impulsión en la parte superior.
Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.
Doble sello en el eje con cámara de aceite intermedia.

## Aplicaciones
Para agua limpia sin elementos abrasivos y sin aditivos agresivos para los materiales de la bomba.
Bomba para uso doméstico y para aplicaciones civiles e industriales.
Para instalar en ambientes reducidos sin ventilación.
Para ambientes sujetos a riesgos de inundación temporal, la bomba puede estar completamente submergida.
Para instalaciones sometidas a chorros de agua.
Para cuando es necesario un funcionamiento silencioso.

## Límites de empleo
Temperatura del agua hasta 35 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MPSU** :trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN8-F, longitud 5 m, sin clavija.

**MPSUM** :monofásico 110 V, 127 V, 220 V,
con protector térmico sólo para 220V.
Con condensador incorporado.
Interruptor de nivel MPS .. CG hasta 15A (bajo demanda)
Câble: H07RN8-F, longitud 5 m, con clavija CEI-UNEL 47166.

Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Longitud cable 15 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Component | Material |
|---|---|
| Delivery casing<br>External jacket<br>Base<br>Motor jacket | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Stage casing<br>Impeller | PPO-GF20 (Noryl) |
| Shaft | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Capacitor cover<br>Oil chamber cover<br>Preload ring stages<br>Support ring preload | PPS Polymer (Grivory) |
| Upper mechanical seal<br>Lower mechanical seal | Steatite, carbon, NBR<br>Carbon, silicon carbide, NBR |
| Seal lubrication oil | Oil for food machinery and pharmaceutic use |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo de impulsión<br>Camisa externa<br>Base<br>Camisa motor | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa motor<br>Rodete | PPO-GF20 (Noryl) |
| Eje | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Cuerpo condensador<br>Cuerpo depósito aceite<br>Soporte anillo precarga<br>Etapas anillo de precarga | PPS Tecnopolímero (Grivory) |
| Cierre mec. superior<br>Cierre mec. inferior | Esteatite, carbón, NBR<br>Carbón, carburo de silicio, NBR |
| Aceite lubrific. sello | Aceite blanco para uso alimentario farmaceutico |

# MPSU 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | 1 ~ | P2 | | Q | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | m³/h | | | | | | | | | | |
| | | | | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MPSU 303-60** | **MPSUM 303-60** | 0,75 | 1 | **H** m | 48,5 | 46 | 44 | 41,5 | 38,5 | 35,5 | 32 | 29 | 25 | 21 |
| **MPSU 304-60** | **MPSUM 304-60** | 0,9 | 1,2 | | 64,5 | 61 | 59 | 56 | 52,7 | 49 | 45 | 40,3 | 35,3 | 30 |
| **MPSU 305-60** | **MPSUM 305-60** | 1,1 | 1,5 | | 81 | 77 | 74 | 70 | 65,5 | 60,5 | 55 | 49,5 | 43 | 36,5 |

| 3 ~ | 1 ~ | P2 | | Q | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | m³/h | | | | | | | | | | |
| | | | | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MPSU 503-60** | **MPSUM 503-60** | 0,9 | 1,2 | **H** m | 48 | 43,5 | 42,5 | 41,5 | 40 | 37 | 33 | 29 | 24 | 17 |
| **MPSU 504-60** | **MPSUM 504-60** | 1,1 | 1,5 | | 64 | 59 | 57,5 | 56 | 54 | 50 | 45 | 40 | 33 | 24 |
| **MPSU 505-60** | **MPSUM 505-60** | 1,5 | 2 | | 80 | 73,8 | 71,9 | 70 | 67,5 | 62,5 | 56,3 | 50 | 41,3 | 30 |

P2 Rated motor power output.
Potencia nominal del motor.

Test results with clean cold water, without gas content.
Resultados de las prubas con agua fría y limpia, sin gas.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

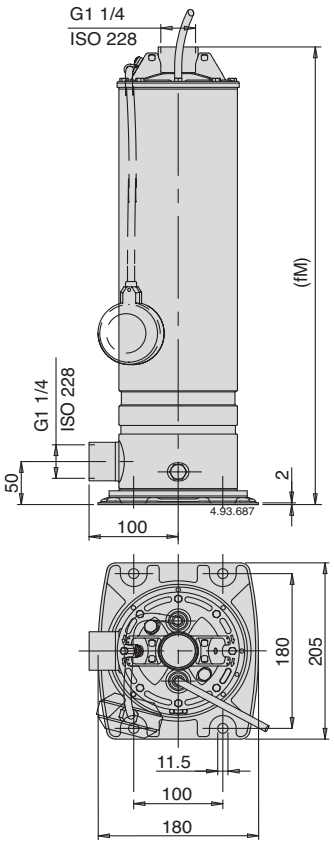
## Rated currents - Intensidades nominales

| | P2 | | single-phase - monofásico 1 ~ 220 V | | 127 V | | 110 V | | |
|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | In A | Capacitor Condens. 450 Vc | In A | Capacitor Condens. 250 Vc | In A | Capacitor Condens. 250 Vc | Ia/In |
| MPSUM 303-60 | 0,75 | 1 | 5,6 | 20 μF | 9,7 | 70 μF | 11,2 | 80 μF | 3,8 |
| MPSUM 304-60 | 0,9 | 1,2 | 7,2 | 20 μF | 12,5 | 70 μF | 14,4 | 80 μF | 3 |
| MPSUM 305-60 | 1,1 | 1,5 | 8,8 | 30 μF | - | - | - | - | 5,4 |
| MPSUM 503-60 | 0,9 | 1,2 | 7,2 | 20 μF | 12,5 | 70 μF | 14,4 | 80 μF | 3 |
| MPSUM 504-60 | 1,1 | 1,5 | 9,7 | 30 μF | - | - | - | - | 4,8 |
| MPSUM 505-60 | 1,5 | 2 | 14,4 | 35 μF | - | - | - | - | 4,3 |

| | P2 | | three-phase - trifásico 3 ~ 220 V | 380 V | 440 V | |
|---|---|---|---|---|---|---|
| | kW | HP | In A | In A | In A | Ia/In |
| MPSU 303-60 | 0,75 | 1 | 3,3 | 1,9 | 1,6 | 3,4 |
| MPSU 304-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MPSU 305-60 | 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 7,3 |
| MPSU 503-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MPSU 504-60 | 1,1 | 1,5 | 6,1 | 3,5 | 3,0 | 6,7 |
| MPSU 505-60 | 1,5 | 2 | 8,5 | 4,9 | 4,2 | 5,8 |

P2 Rated motor power output. - Potencia nominal del motor.
Ia/In D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos




**Weights** with cable length: 5 m
**Pesos** con longitud de cable: 5 m

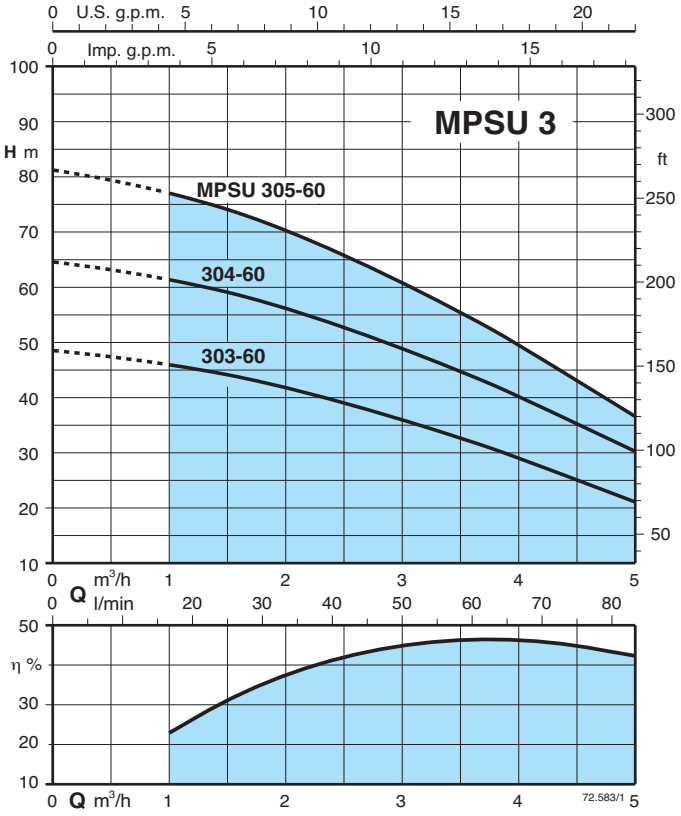
| Pump Bomba | fM | kg | | Cavo H07RN8-F | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 3 ~ | | | 1 ~ | | |
| | mm | MPSU | MPSUM | 220V | 380V | 440V | 220V | 127V | 110V |
| **MPSU 303-60 - MPSUM 303-60** | 553 | 14,5 | 16 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1.5 | 3G2.5 |
| **MPSU 304-60 - MPSUM 304-60** | 602 | 15,5 | 16,5 | 4G1 | 4G1 | 4G1 | 3G1 | 3G2.5 | 3G2.5 |
| **MPSU 305-60 - MPSUM 305-60** | 671 | 17,3 | 18,8 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MPSU 503-60 - MPSUM 503-60** | 553 | 15,3 | 16,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G2.5 | 3G2.5 |
| **MPSU 504-60 - MPSUM 504-60** | 622 | 17 | 18,5 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MPSU 505-60 - MPSUM 505-60** | 671 | 19,3 | 20,8 | 4G1 | 4G1 | 4G1 | 3G2,5 | - | - |

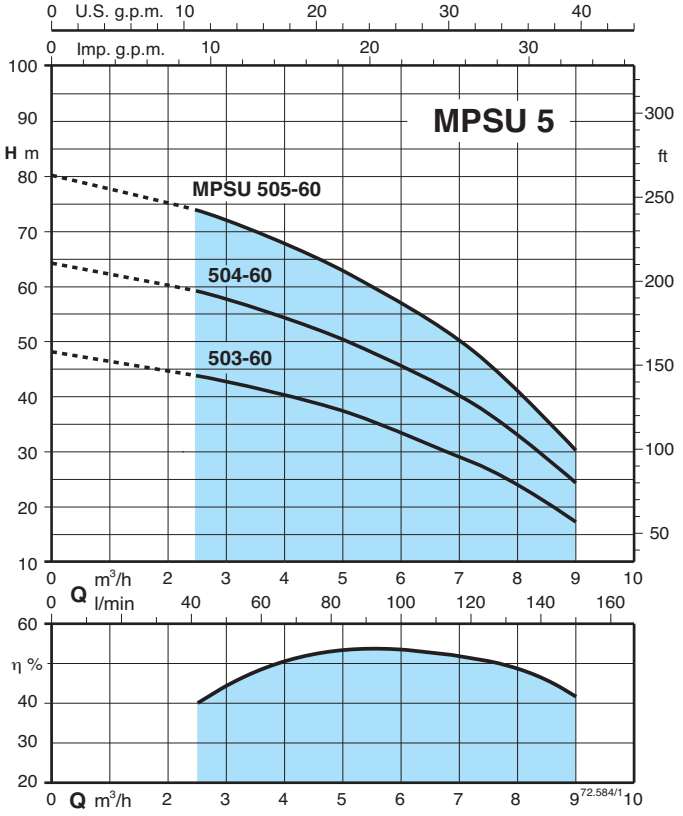
**MPSUM ... CG**
With float switch pump (on demand)
con interruptor de nivel (bajo demanda)

# MPSU 60 Hz

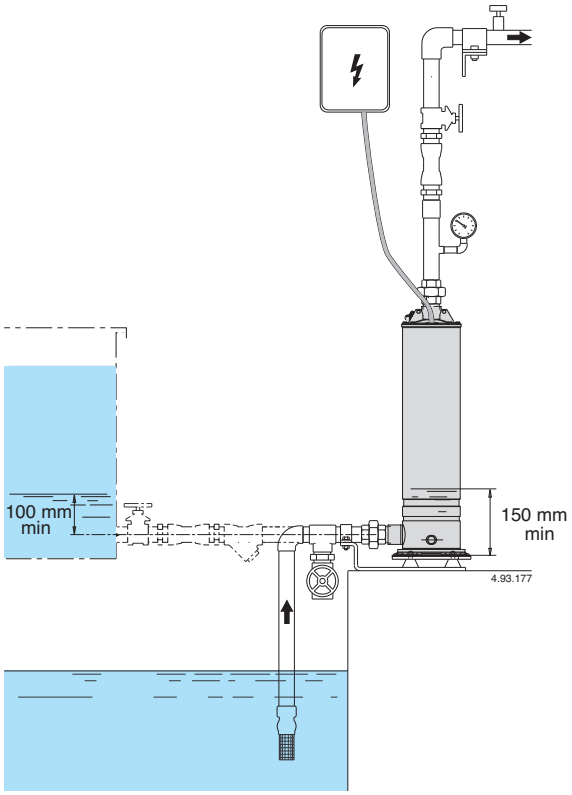
## Characteristic curves - Curvas Características

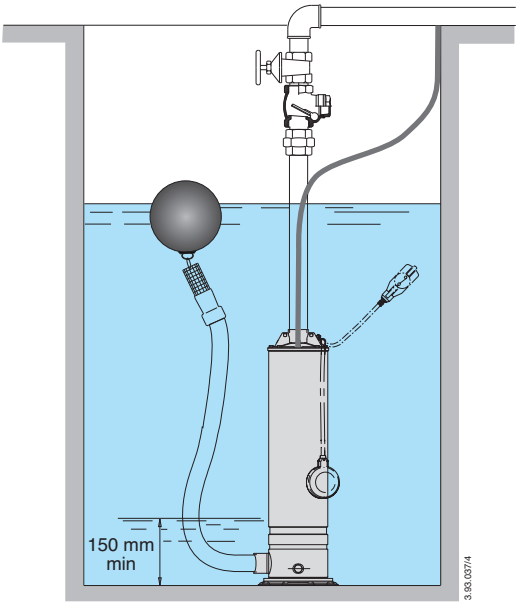
n ≈ 3450 rpm




## Installation - Instalación



# MPSU 60 Hz

## Features - Características constructivas

PATENTED
*PATENTADO*

**Innovative**
Designed to withstand water hammering and the ON-OFF operation of any valve located in the discharge line.
The impacts generated by water hammering or by the closing of the valve are fully supported by the capacitor cover,which relieves the stresses on a specific support made on the stainless steel jacket, without affecting the plastic hydraulic part.

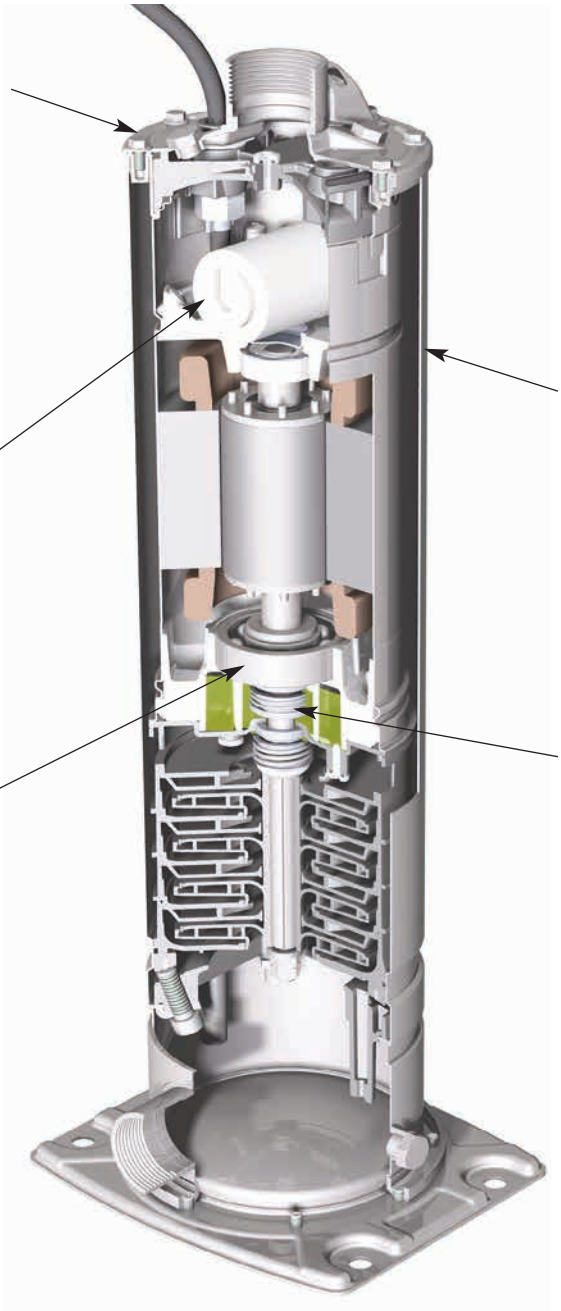
**Innovación**
Diseñado para resistir los golpes de ariete y el funcionamiento de un eventual ON-OFF válvula situada en la línea de descarga.
Los impactos generados por el golpe de ariete o el cierre de la tapa de válvulas son totalmente compatibles con la descarga del condensador que hace hincapié en un soporte adecuado, basado en la chaqueta de acero, sin sobrecargar la parte hidraúlica in plastico.

**Flexible**
Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

**Flexible**
Permite la inspección del condensador incorporado sin tener que desmontar la parte hidraúlica a través de la tapa de impusión.

**Reliable**
The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

**Fiable**
El dimensionamiento de los cojinetes y del eje están diseñados de tal manera que aseguran la reducción de las tensiones y así garantizan la fiabilidad en todas las condiciones de funcionamiento.



**Low-Noise operation**
The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

**Silencioso**
El diseño de las piezas hidráulicas, la camisa de agua alrededor del motor y la bomba sumergida aseguran un funcionamiento silencioso.

**Greater Safety**
The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

**Seguridad**
El doble sello en el eje con la cámara de aceite intermedia asegura la separación del motor con el agua y una ulterior protección contra el funcionamiento accidental en seco.

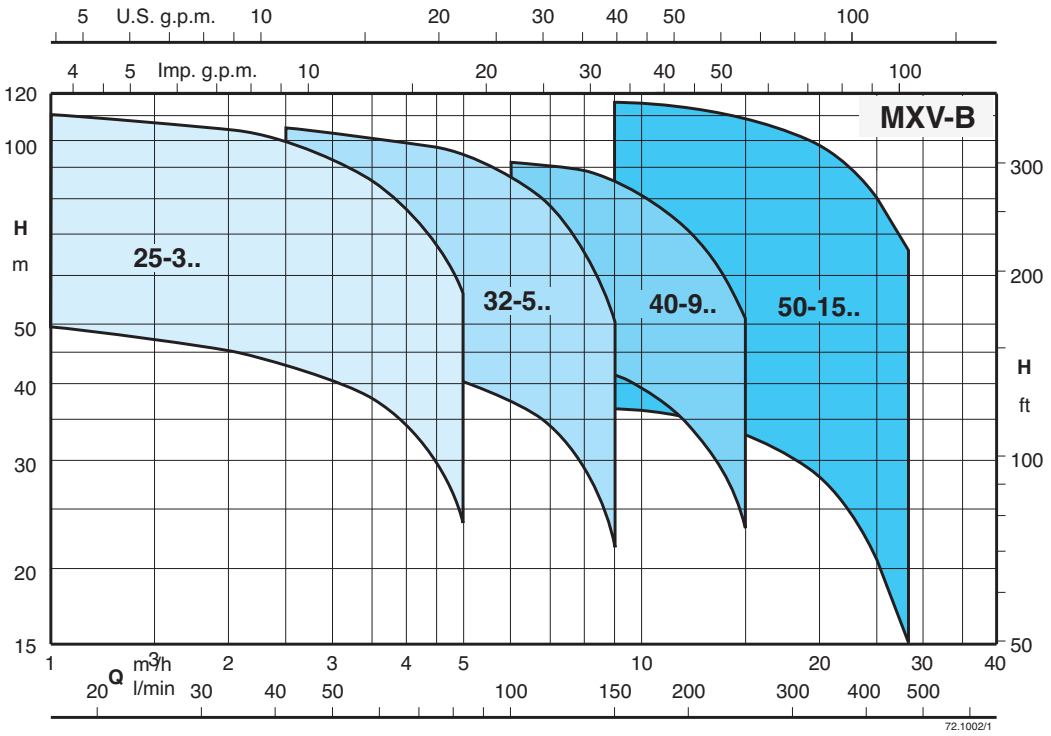
# MXV-B 60 Hz

## Vertical Multi-Stage Close Coupled Pumps
## Bombas multicelulares verticales monobloc



## Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# MXV-B 60 Hz

## Construction
Vertical multi-stage close coupled pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line).
All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel with corrosion-resistant bearing sleeves lubricated by the pumped liquid.

**Version with frequency converter** (on request)

## Applications
For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter and non-aggressive for stainless steel (with adaptation of sealing materials on request).
A universal pump for civil and industrial use, for pressure-boosting systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

## Operating conditions
Temperature of liquid: from -15 °C to +90 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 16 bar.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MXV-B**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 kW;
**MXV-BM**: single-phase 110 V, 127 V, 220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Three-phase motor suitable for operation with frequency converter.
**Classification scheme IE3 for three-phase motors.**
Constructed in accordance with: EN 60034-1, EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Pump casing seal rings in FPM.
- Higher or lower liquid or ambient temperatures.

## Ejecución
Bombas multicelulares verticales monobloc, con bocas de aspiración e impulsión del mismo diámetro, y dispuestas sobre el mismo eje, (in-line).
Todas las partes en contacto con el líquido, comprendiendo las tapas superior e inferior, son de acero inoxidable al cromo níquel. Manguito guía resistente a la corrosión y lubrificado por el líquido bombeado.

**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciones
Para abastecimiento de agua.
Para líquidos limpios, no explosivos, sin partes abrasivas sólidas o filamentosas (con adaptación, bajo demanda, de los materiales de cierre).
Bomba universal para aplicaciones civiles e industriales, para instalaciones que precisen aumento de presión, instalaciones de lavado a alta presión, para irrigación, para la agricultura, para instalaciones deportivas.

## Límites de empleo
Temperatura del líquido de -15 °C hasta +90 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 16 bar.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXV-B**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 kW;
**MXV-BM**: monofásico 110 V, 127 V, 220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Motor trifásico preparado al funcionamiento con convertidor de frecuencia.
**Clase eficiencia IE3 para motor trifásico.**
Ejecución según: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Junta tórica FPM.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.

## Materials (wetted parts)

| Component | Material |
|---|---|
| External jacket<br>Suction casing<br>Delivery casing<br>Stage casing<br>Impeller<br>Lower cover<br>Upper cover<br>Spacer sleeve | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Pump shaft | C-Ni steel 1.4301 EN 10088 (AISI 304) |
| Plug | C-Ni steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal<br>ISO 3069 - KU | Ceramic alumina/Carbon/EPDM |
| Wear ring | PPS |
| O-ring | NBR |
| Oval Counterflanges | AISI 304 (galvanized steel for MXV-B 50) |

## Materiales (elementos bañados)

| Componente | Materiales |
|---|---|
| Camisa externa<br>Cuerpo aspirante<br>Cuerpo impulsión<br>Cuerpo elemento<br>Rodete<br>Tapa inferior<br>Tapa superior<br>Casquillo distanciador | Acero al cromo-níquel<br>1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Tapón | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Cierre mecánico<br>ISO 3069 - KU | Cerámica alúmina / Carbón / EPDM |
| Anillo de cierre sobre rodete | PPS |
| Junta tórica | NBR |
| Contrabridas ovales | Acero AISI 304 (acero galvanizado para MXV-B 50 O) |

## Designation

MXV-B M 25 - 3 05 O

- MXV-B — Series
- M — Single-phase motor (up to 1,5 kW)
- 25 — DN ports in mm
- 3 — Rated capacity in $m^3/h$
- 05 — Number of stages
- O — Oval Flanges

## Designación

MXV-B M 25 - 3 05 O

- MXV-B — Serie
- M — Motor monofásico (hasta 1,5 kW)
- 25 — DN orificios en mm
- 3 — Caudal nominal en $m^3/h$
- 05 — Número de elementos
- O — Contrabridas ovales

# MXV-B EI 60 Hz

### Pumps with frequency converter

The **MXV-B EI** pumps are available with power from 0,75 kW up to 7,5 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.



### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

### Main features
Rated motor power output from 0,75 kW to 7,5 kW
Control range from 1750 to 3450 rpm (2-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

## Bomba a velocidad variable

La bomba **MXV-B EI** se encuentra disponible con potencias de 0,75 kW a 7,5 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción
- I-MAT variador de frecuencia
- Adaptador del motor para el montaje del variador de frecuencia
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores

### Límites de utilización
Potencia nominal del motor desde 0,75 kW hasta 7,5 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

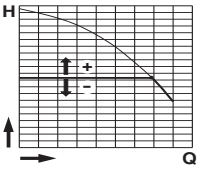
**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

## Modos de operación

**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.

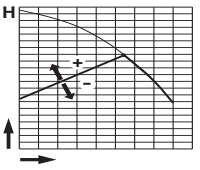



**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.

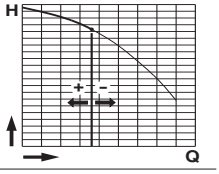



**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.

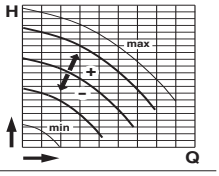



**Fixed speed mode**
with setting of the speed preferential rotation.

In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.



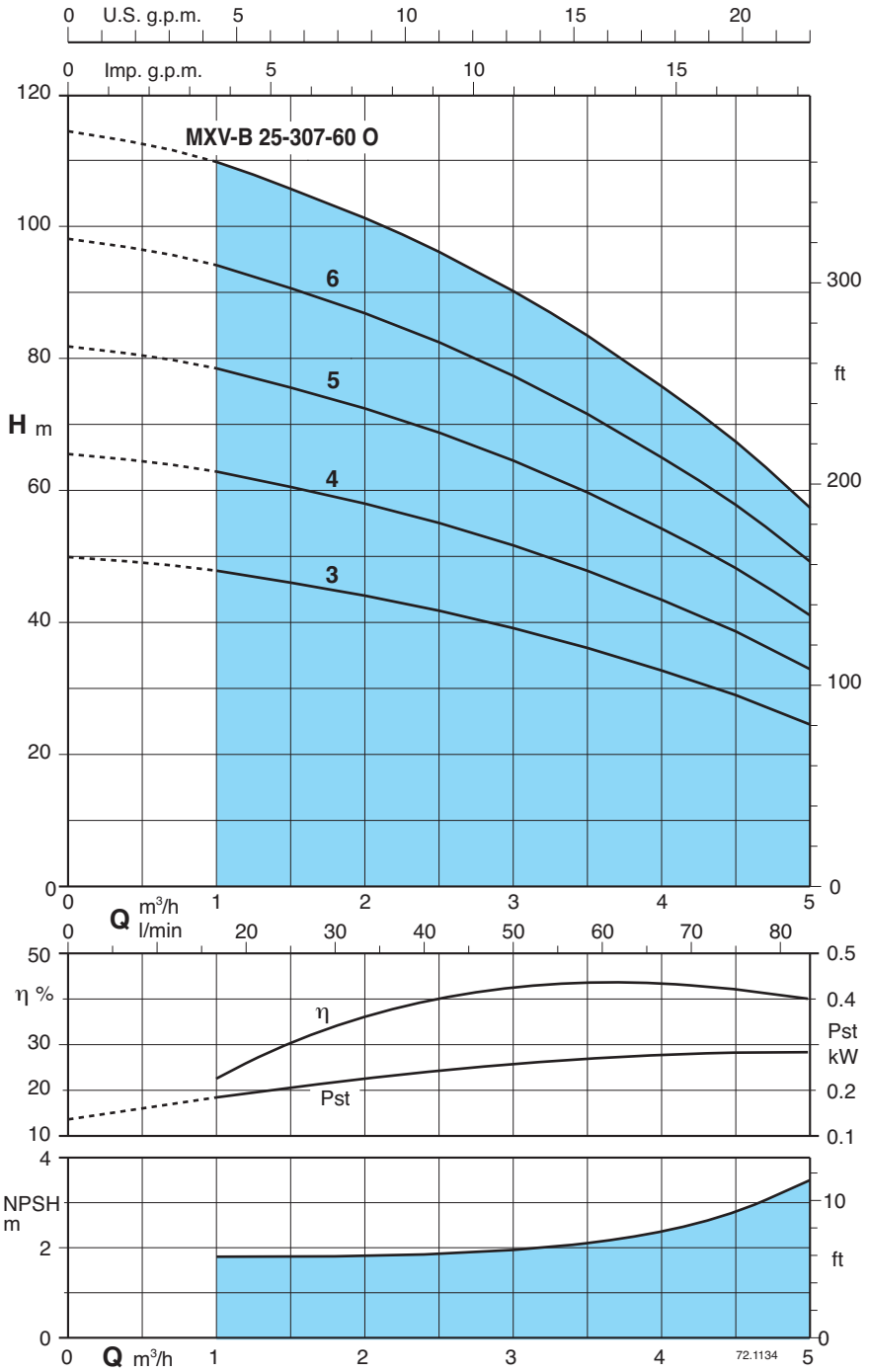

**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# MXV-B 25-3 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

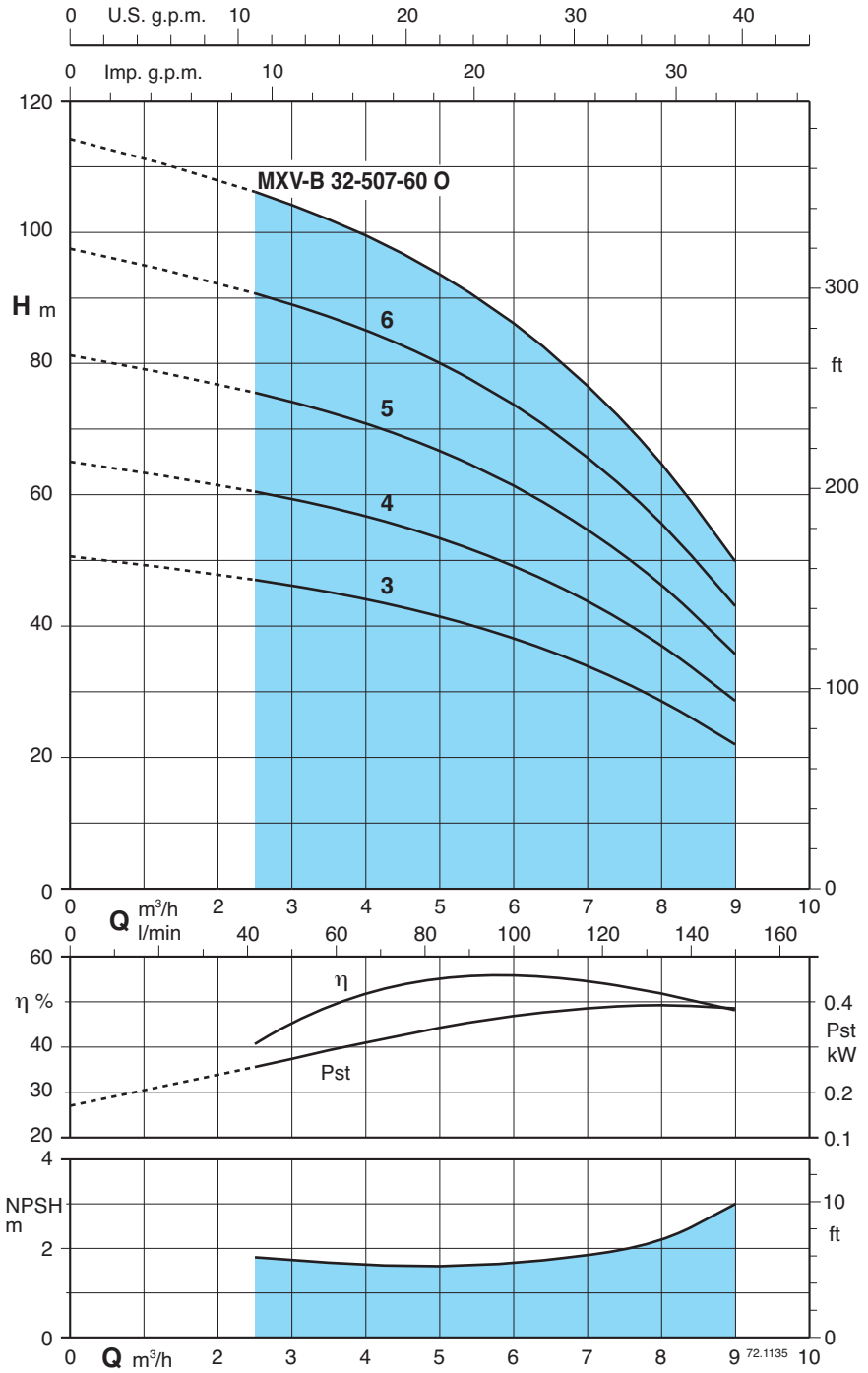
## Performance - Prestaciones

| 3 ~ | 1 ~ | $P_2$ | | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MXV-B 25-303-60 O** | **MXV-BM 25-303-60 O** | 0,75 | 1 | | 49,9 | 47,8 | 46,2 | 44 | 41,8 | 39 | 35,8 | 32,1 | 28,3 | 24,1 |
| **MXV-B 25-304-60 O** | **MXV-BM 25-304-60 O** | 1,1 | 1,5 | | 65 | 62 | 60,3 | 57,8 | 54,9 | 51,5 | 47,6 | 43,2 | 38,4 | 33 |
| **MXV-B 25-305-60 O** | **MXV-BM 25-305-60 O** | 1,5 | 2 | **H** m | 81,5 | 78 | 75,4 | 72,3 | 68,6 | 64,4 | 59,5 | 54 | 48 | 41 |
| **MXV-B 25-306-60 O** | | 2,2 | 3 | | 98 | 94 | 90,5 | 86,7 | 82,3 | 77,2 | 71,4 | 64,8 | 57,6 | 49 |
| **MXV-B 25-307-60 O** | | 2,2 | 3 | | 114 | 110 | 105,6 | 101,2 | 96 | 90,1 | 83,3 | 75,5 | 67 | 57 |

# MXV-B 32-5 60 Hz

## Characteristic curves - Curvas Características

**n ≈ 3450 rpm**




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

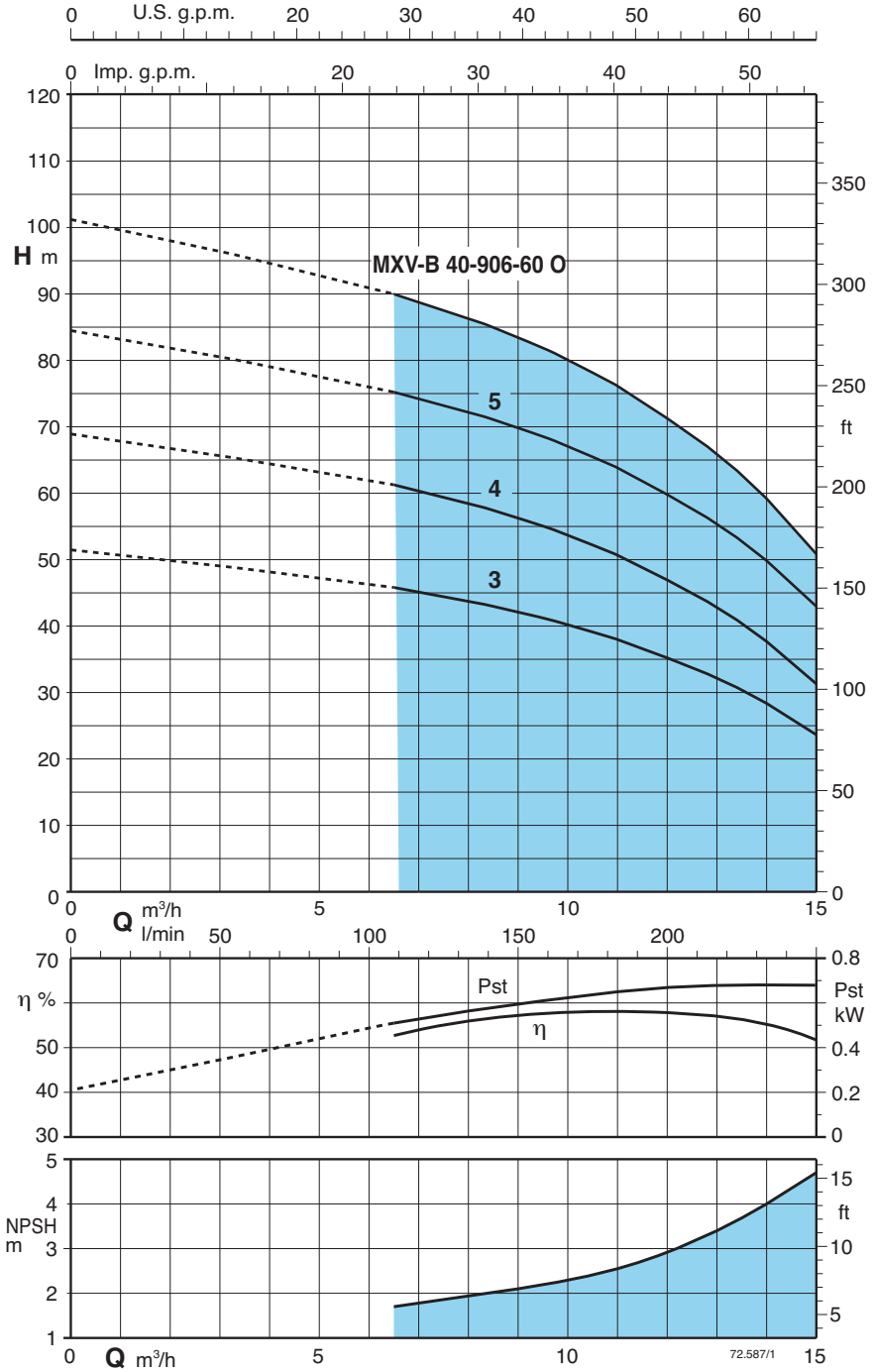
## Performance - Prestaciones

| 3 ~ | 1 ~ | $P_2$ | | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MXV-B 32-503-60 O** | **MXV-BM 32-503-60 O** | 1,1 | 1,5 | H m | 50,5 | 47 | 46,2 | 45,2 | 44 | 41,5 | 38 | 34 | 28,4 | 22 |
| **MXV-B 32-504-60 O** | | 2,2 | 3 | | 65 | 61 | 60 | 58,2 | 56,8 | 53,4 | 49,2 | 43,8 | 37 | 29 |
| **MXV-B 32-505-60 O** | | 2,2 | 3 | | 82 | 76 | 74,3 | 72,7 | 71 | 66,8 | 61,5 | 54,7 | 46,3 | 36 |
| **MXV-B 32-506-60 O** | | 2,2 | 3 | | 97 | 91 | 89,1 | 87,3 | 85,2 | 80,1 | 73,8 | 65,7 | 55,5 | 43 |
| **MXV-B 32-507-60 O** | | 3 | 4 | | 114 | 106 | 104 | 102 | 99,4 | 93,5 | 86,1 | 76,6 | 64,8 | 50 |

# MXV-B 40-9 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

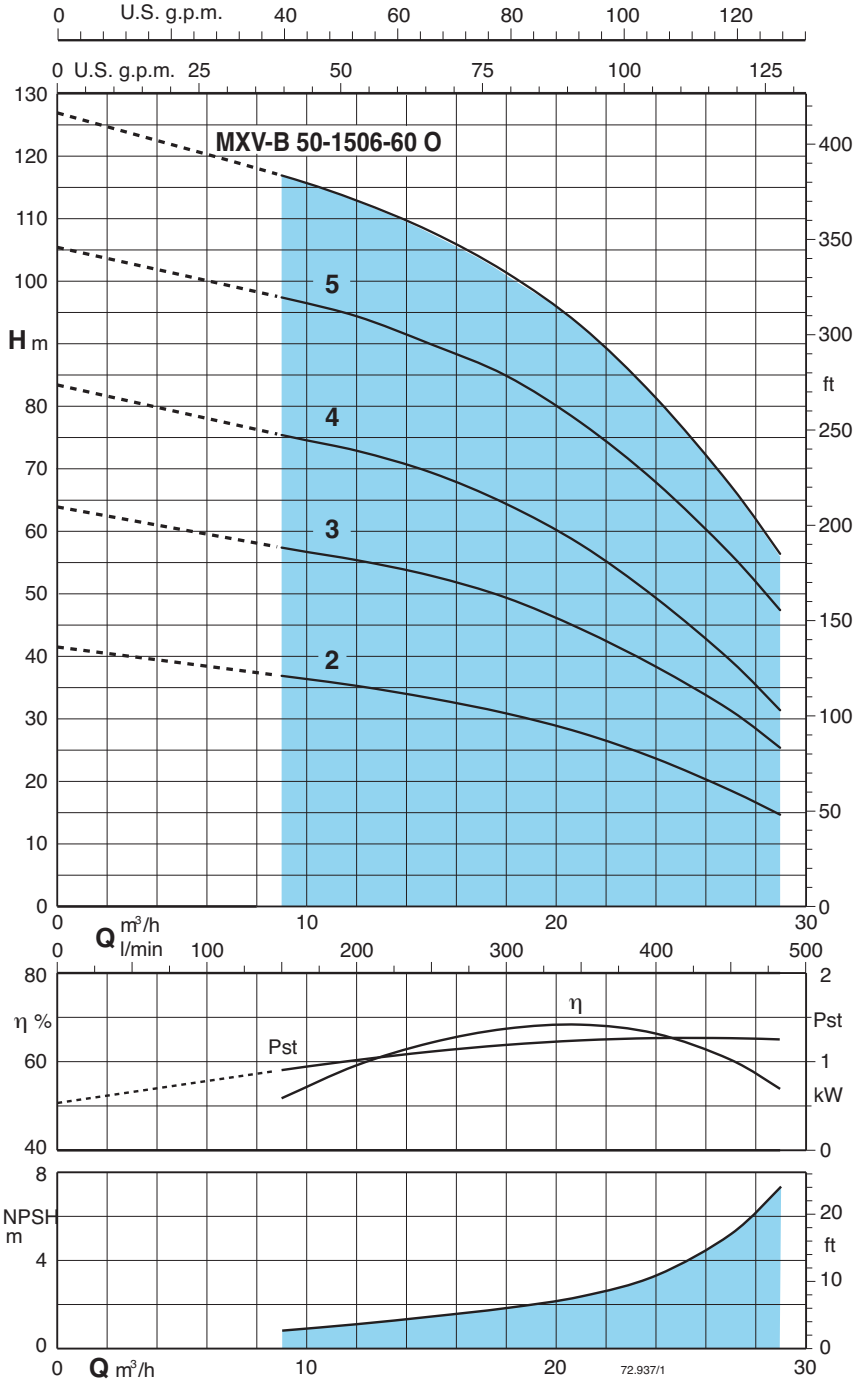
## Performance - Prestaciones

| 3 ~ | $P_2$ | | Q m³/h | 0 | 6,5 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 108 | 133 | 150 | 166 | 183 | 200 | 216 | 233 | 250 |
| **MXV-B 40-903-60 O** | 1,8 | 2,5 | H m | 51,8 | 46,5 | 44,2 | 42,4 | 40,8 | 38,3 | 35,5 | 32 | 28 | 23 |
| **MXV-B 40-904-60 O** | 2,2 | 3 | | 69 | 62 | 59 | 56,5 | 54,4 | 51 | 47,3 | 42,6 | 37,3 | 30,6 |
| **MXV-B 40-905-60 O** | 3 | 4 | | 84 | 75 | 72,5 | 70 | 67 | 63,5 | 60 | 55,5 | 50 | 43 |
| **MXV-B 40-906-60 O** | 4 | 5,5 | | 101 | 90 | 87 | 84 | 80 | 76,5 | 72 | 66,5 | 60 | 51,5 |

# MXV-B 50-15 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

## Performance - Prestaciones

| 3 ~ | $P_2$ | | Q m³/h | 0 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | l/min | 0 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 483 |
| MXV-B 50-1502-60 O | 3 | 4 | H m | 41,1 | 36,5 | 34,9 | 32,9 | 30,5 | 27,4 | 23,3 | 18,2 | 14,3 |
| MXV-B 50-1503-60 O | 4 | 5,5 | | 63,5 | 57,0 | 55,0 | 52,5 | 49,0 | 44,0 | 38,0 | 31,0 | 25,0 |
| MXV-B 50-1504-60 O | 5,5 | 7,5 | | 83,0 | 75,0 | 72,5 | 69,0 | 64,0 | 57,5 | 49,0 | 39,0 | 31,0 |
| MXV-B 50-1505-60 O | 7,5 | 10 | | 105,0 | 97,0 | 94,0 | 89,5 | 84,5 | 77,0 | 67,5 | 56,0 | 47,0 |
| MXV-B 50-1506-60 O | 7,5 | 10 | | 127 | 117 | 113 | 108 | 101 | 93 | 81 | 67 | 56 |

# MXV-B 60 Hz

## Rated currents - Intensidades nominales

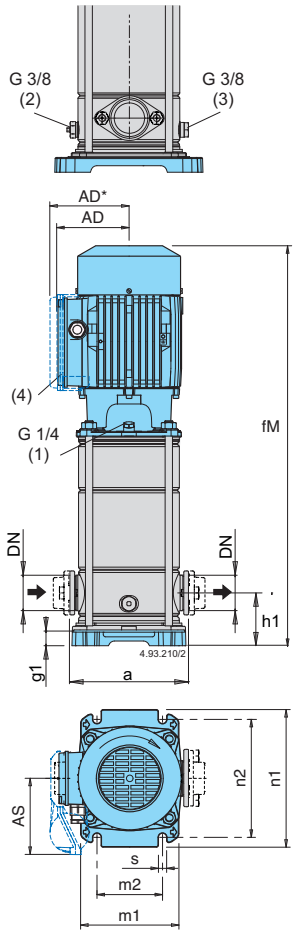
| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 0,75 | 1 | 6,5 | 11,3 | 13 | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | 3 |
| 1,5 | 2 | 10,6 | - | - | 3,8 |

P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

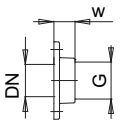
| P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|
| | | 220/380V | 380/660V | 220/440V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 6,1 |
| 1,8 | 2,5 | 10,0/5,8 | - | 10,4/6,1 | 9 |
| 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| 7,5 | 10 | | 17/9,8 | | 9,2 |

## Dimensions and weights - Dimensiones y pesos




### Oval Counterflanges
### Contrabridas ovales

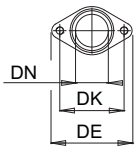
PN 16




| DN | G | w | Holes Aguijeros N. | Ø |
|---|---|---|---|---|
| 25 | 1 | 23 | 2 | 12 |
| 32 | 1 1/4 | 23 | 2 | 12 |
| 40 | 1 1/2 | 26 | 2 | 15 |
| 50 | 2 | 34 | 2 | 15 |

### Oval Flanges
### Bridas ovales

PN 16

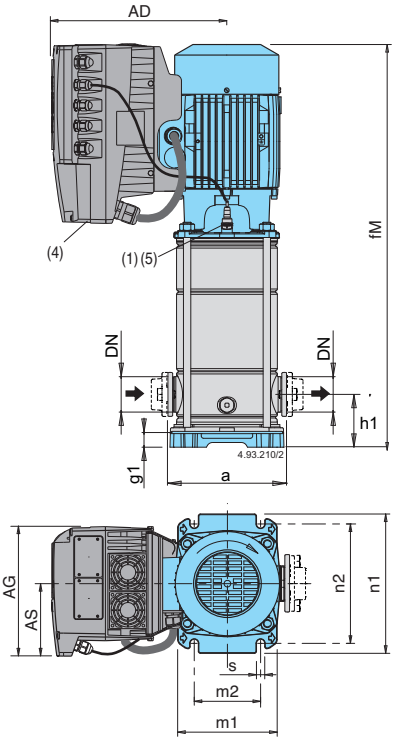



| DN | DE | DK | Holes Aguijeros N. | Ø |
|---|---|---|---|---|
| 25 | 95 | 75 | 2 | M10 |
| 32 | 95 | 75 | 2 | M10 |
| 40 | 125 | 100 | 2 | M12 |
| 50 | 125 | 100 | 2 | M12 |

| Pump Bomba | Motor P2 kW | HP | mm DN | a | h1 | fM | AD | n1 | n2 | m1 | m2 | s | g1 | 3 ~ kg | 1 ~ kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV-B(M) 25-303-60 O | 0,75 | 1 | 25 | 160 | 50 | 553 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | - | - |
| MXV-B(M) 25-304-60 O | 1,1 | 1,5 | 25 | 160 | 50 | 553 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B(M) 25-305-60 O | 1,5 | 2 | 25 | 160 | 50 | 577 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 25-306-60 O | 2,2 | 3 | 25 | 160 | 50 | 641 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 25-307-60 O | 2,2 | 3 | 25 | 160 | 50 | 665 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B(M) 32-503-60 O | 1,1 | 1,5 | 32 | 160 | 50 | 553 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | - | - |
| MXV-B 32-504-60 O | 2,2 | 3 | 32 | 160 | 50 | 593 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 32-505-60 O | 2,2 | 3 | 32 | 160 | 50 | 617 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 32-506-60 O | 2,2 | 3 | 32 | 160 | 50 | 641 | 128 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 32-507-60 O | 3 | 4 | 32 | 160 | 50 | 693 | 138 | 205 | 180 | 165 | 100 | 13 | 20 | | |
| MXV-B 40-903-60 O | 1,8 | 2,5 | 40 | 200 | 80 | 641 | 128 | 250 | 215 | 190 | 130 | 14 | 30,5 | - | - |
| MXV-B 40-904-60 O | 2,2 | 3 | 40 | 200 | 80 | 641 | 128 | 250 | 215 | 190 | 130 | 14 | 30,5 | | |
| MXV-B 40-905-60 O | 3 | 4 | 40 | 200 | 80 | 699 | 138 | 250 | 215 | 190 | 130 | 14 | 30,5 | | |
| MXV-B 40-906-60 O | 4 | 5,5 | 40 | 200 | 80 | 729 | 138 | 250 | 215 | 190 | 130 | 14 | 30,5 | | |
| MXV-B 50-1502-60 O | 3 | 4 | 50 | 200 | 90 | 666 | 138 | 250 | 215 | 196 | 130 | 13 | 25 | - | - |
| MXV-B 50-1503-60 O | 4 | 5,5 | 50 | 200 | 90 | 714 | 138 | 250 | 215 | 196 | 130 | 13 | 25 | | |
| MXV-B 50-1504-60 O | 5,5 | 7,5 | 50 | 200 | 90 | 790 | 160 | 250 | 215 | 196 | 130 | 13 | 25 | | |
| MXV-B 50-1505-60 O | 7,5 | 10 | 50 | 200 | 90 | 838 | 160 | 250 | 215 | 196 | 130 | 13 | 25 | | |
| MXV-B 50-1506-60 O | 7,5 | 10 | 50 | 200 | 90 | 886 | 160 | 250 | 215 | 196 | 130 | 13 | 25 | | |

| | AD* | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| MXV-BM 25-303-60 | 133 | ● | 116 | 131 | ❑ |
| MXV-BM 25-304-60 | 133 | ● | 131 | ❑ | ❑ |
| MXV-BM 25-305-60 | 133 | ● | ❑ | ❑ | ❑ |
| MXV-BM 32-503-60 | 133 | ● | 131 | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles



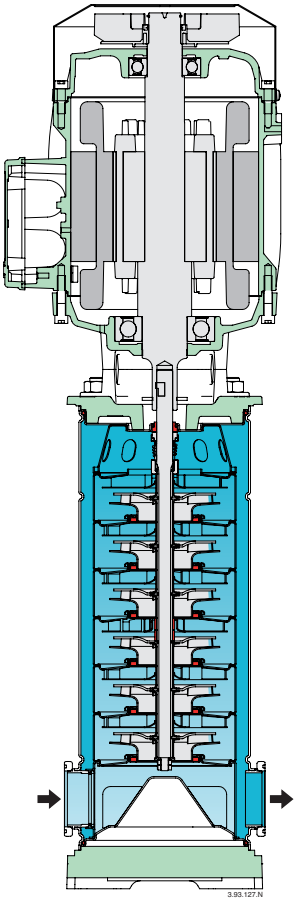

| Pump Bomba | Motor P2 kW | HP | mm DN | a | h1 | fM | AD | AG | AS | n1 | n2 | m1 | m2 | s | g1 | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV-B EI 25-303-60 O | 0,75 | 1 | 25 | 160 | 50 | 553 | 286 | 190 | 105 | 205 | 180 | 165 | 100 | 13 | 20 | - |
| MXV-B EI 25-304-60 O | 1,1 | 1,5 | 25 | 160 | 50 | 553 | 286 | 190 | 105 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 25-305-60 O | 1,5 | 2 | 25 | 160 | 50 | 577 | 286 | 190 | 105 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 25-306-60 O | 2,2 | 3 | 25 | 160 | 50 | 641 | 286 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 25-307-60 O | 2,2 | 3 | 25 | 160 | 50 | 665 | 286 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 32-503-60 O | 1,1 | 1,5 | 32 | 160 | 50 | 553 | 286 | 190 | 105 | 205 | 180 | 165 | 100 | 13 | 20 | - |
| MXV-B EI 32-504-60 O | 2,2 | 3 | 32 | 160 | 50 | 593 | 286 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 32-505-60 O | 2,2 | 3 | 32 | 160 | 50 | 617 | 286 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 32-506-60 O | 2,2 | 3 | 32 | 160 | 50 | 641 | 286 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 32-507-60 O | 3 | 4 | 32 | 160 | 50 | 693 | 294 | 210 | 118 | 205 | 180 | 165 | 100 | 13 | 20 | |
| MXV-B EI 40-903-60 O | 1,8 | 2,5 | 40 | 200 | 80 | 641 | 286 | 210 | 118 | 250 | 215 | 190 | 130 | 14 | 30,5 | - |
| MXV-B EI 40-904-60 O | 2,2 | 3 | 40 | 200 | 80 | 641 | 286 | 210 | 118 | 250 | 215 | 190 | 130 | 14 | 30,5 | |
| MXV-B EI 40-905-60 O | 3 | 4 | 40 | 200 | 80 | 699 | 294 | 210 | 118 | 250 | 215 | 190 | 130 | 14 | 30,5 | |
| MXV-B EI 40-906-60 O | 4 | 5,5 | 40 | 200 | 80 | 729 | 294 | 210 | 118 | 250 | 215 | 190 | 130 | 14 | 30,5 | |
| MXV-B EI 50-1502-60 O | 3 | 4 | 50 | 200 | 90 | 666 | 294 | 210 | 118 | 250 | 215 | 196 | 130 | 13 | 25 | - |
| MXV-B EI 50-1503-60 O | 4 | 5,5 | 50 | 200 | 90 | 714 | 294 | 210 | 118 | 250 | 215 | 196 | 130 | 13 | 25 | |
| MXV-B EI 50-1504-60 O | 5,5 | 7,5 | 50 | 200 | 90 | 790 | 321 | 210 | 118 | 250 | 215 | 196 | 130 | 13 | 25 | |
| MXV-B EI 50-1505-60 O | 7,5 | 10 | 50 | 200 | 90 | 838 | 321 | 210 | 118 | 250 | 215 | 196 | 130 | 13 | 25 | |
| MXV-B EI 50-1506-60 O | 7,5 | 10 | 50 | 200 | 90 | 886 | 368 | 281 | 153 | 250 | 215 | 196 | 130 | 13 | 25 | |

(1) Filling
(2) Air vent suction side
(3) Draining
(4) Standard position of terminal box (IMAT)
(for other positions rotate motor through 90° or 180°)
(5) Pressure transducer

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(4) Posición estándar caja de bornes (IMAT).
(otras posiciones girando el motor a 90° o 180°)
(5) Transductores

# MXV-B 60 Hz

## Features - Características constructivas



### Wider Range of Application
All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel stainless steel.
With corrosion-resistant seal rings and guide ring.

### Low Cost Installation
Vertical construction with reduced pump height for installation in small spaces.
In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines.
Disassembly, inspection or cleaning of internal parts without removal of piping.

### Robust and Reliable
The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears.
The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration.
The upper cover design prevents entrapment of air around the mechanical seal.

### Low-Noise Operation
The water filled shroud around the stages and thick external walls, work together for low-noise operation.

### Más posibilidades de empleo
Todas las partes en contacto con el líquido, comprendiendo las tapas superior e inferior, son de acero inoxidable al cromo níquel.
Con anillos de cierre y guía resistentes a la corrosión.

### Instalación económica
La altura de la bomba está reducida en las construcciones verticales lo que facilita la instalación en espacios reducidos.
Bocas in-line que facilitan la instalación, y con la posibilidad de conexión de la bomba en una tubería rectilínea.
El desmontaje, la inspección, y la limpieza de las partes internas son realizables sin necesidad de desmontar las tuberías.

### Robustas y fiables
Las bocas de aspiración y impulsión, dispuestas in-line, absorben las fuerzas de las tuberías sobre la bomba sin que esta pueda causar cargas perjudiciales, fricciones locales, y desgastes precoces.
El acoplamiento en ejecución compacta y robusta mantiene segura la alineación entre las partes giratorias y fijas, reduciendo las vibraciones. La forma de la tapa superior impide el estancamiento de bolsas de aire sobre el cierre mecánico.

### Silenciosa
La capa de agua alrededor a los elementos y las paredes externas de espesor grueso contribuyen a reducir el ruido.

# MXV 60 Hz

## Vertical Multi-Stage In-Line Pumps
## Bombas multicelulares verticales in-line



## Construction
Vertical multi-stage pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line).
Corrosion-resistant bearing sleeves lubricated by the pumped liquid.
Removal of the mechanical seal without dismantling the motor (for MXV 25-32-40-50,100 with motors exceeding 4 KW).
A pump with thrust bearing and sleeve coupling for use of any standard motor with IM V1 construction.

**Version with frequency converter** (on request)

## Applications
For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter (with adaptation of sealing materials on request).
A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

## Operating conditions
Temperature of liquid: from -15 °C to +110 °C.
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 25 bar (16 bar for pumps with oval flanges).

## Motor
Standard-type: 2 pole induction motor, 60 Hz.
Motor suitable for operation with frequency converter.
**Classification scheme IE3 for three-phase motors.**
Construction IM V1.
Insulation class F. Protection IP 55.
Three-phase with rated voltage: 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 45 kW;

## Ejecución
Bombas multicelulares verticales, con bocas de aspiración e impulsión del mismo diámetro, y dispuestas sobre el mismo eje, (in-line).
Manguitos guía resistentes a la corrosión y lubrificados por el líquido bombeado.
Extracción del cierre mecánico sin desmontar el motor (para MXV 25-32-40-50,100 con motores superiores a 4 kW).
Bomba con rodamiento axial con brida y manguito para el empleo de cualquier motor estándar en la forma constructiva IM V1.

**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciones
Para abastecimiento de agua.
Para líquidos limpios, no explosivos, sin partes abrasivas sólidas o filamentosas. (Con adaptación, bajo demanda, de los materiales de cierre).
Bomba universal para aplicaciones civiles e industriales, para instalaciones que precisen aumento de presión, instalaciones contra incendios, instalaciones de lavado a alta presión, para irrigación, para la agricultura, para instalaciones deportivas.

## Limites de empleo
Temperatura del líquido de -15 °C hasta +110 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 25 bar (16 bar para bombas con bridas ovales).

## Motor
Estándar: Motor a inducción a 2 polos, 60 Hz.
Motor preparado al funcionamiento con convertidor de frecuencia.
**Clase eficiencia IE3 para motor trifásico.**
Forma constructiva IM V1.
Aislamiento tipo F. Protección IP 55.
Trifásicos, tensiones nominales: 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 45 kW.

# MXV 25, 32, 40, 50

Internal parts in contact with the liquid in chrome-nickel stainless steel AISI 304 with flanges, lantern bracket and base in cast iron.

## Materials (wetted parts)

| Component | Material |
|---|---|
| Flange (wetted parts)<br>External jacket<br>Suction casing<br>Delivery casing<br>Stage casing - Impeller<br>Lower cover - Upper cover<br>Spacer sleeve | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Pump shaft | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Plug | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Bearing sleeve<br>Bearing in stage casing | Corrosion-resistant, cemented carbide<br>Ceramic alumina |
| Mechanical seal ISO 3069 KU | Hard metal/Carbon/EPDM. |
| Wear ring | PPS |
| O-rings | EPDM |
| Oval Counterflanges | AISI 304 (galvanized steel for MXV 50 O) |
| Counterflanges (on request) | AISI 304 (Steel Fe 430B for MXV 50) |

**Direction of rotation**: **clockwise** as seen from the motor.

## Variants (to be specified when ordering)

Pump with flanged ports (**F**). Pump with oval flange ports (**O**).
Pump without motor. Pump with standard motor.

## Other variants (on request)

O-rings FPM. - Other mechanical seal.
Pump with motor of Client's choice (if available).
Single-phase motor 220 V, up to 2.2 kW.
Pump with support feet for horizontal installation (**H1** or **H2**).
Other voltage ratings.
Higher or lower liquid or ambient temperatures.

# MXV 65, 80, 100

Internal parts in contact with the liquid in chrome-nickel stainless steel, AISI 304 with pump casing and upper cover in cast iron.

## Materials (wetted parts)

| Component | Material |
|---|---|
| Pump casing<br>Upper cover | Cast iron<br>GJL 250 EN 1561 |
| External jacket<br>Stage casing<br>Impeller<br>Spacer sleeve | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Pump shaft | Cr-Ni steel AISI 303 (AISI 431 for MXV 100) |
| Plug | Cr-Ni steel AISI 316 (AISI 431 for MXV 100) |
| Bearing sleeve<br>Bearing in stage casing | Corrosion-resistant, cemented carbide<br>Ceramic alumina<br>(Corrosion-resistant, cemented carbide for MXV 100) |
| Mechanical seal<br>ISO 3069 - KU | Hard metal/Carbon/EPDM |
| Wear ring | PTFE |
| O-rings | EPDM |
| Counterflanges (on request) | Steel 1.0044 EN 10025-2 (Fe 430B) |

**Direction of rotation**: **anticlockwise** as seen from the motor (**clockwise** as seen from the motor for MXV 100).

## Variants (to be specified when ordering)

Pump without motor. - Pump with standard motor.

## Other variants (on request)

O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Other voltage ratings.
Pump with support feet for horizontal installation (**H1** or **H2**) MXV 100 series excluded.
Higher or lower liquid or ambient temperatures.

# MXV 25, 32, 40, 50

Todas las partes en contacto con el líquido son de acero inoxidable al cromo níquel AISI 304, con bridas, acoplamiento y base de hierro.

## Materiales (elementos bañados)

| Componente | Materiales |
|---|---|
| Brida (elementos bañados)<br>Camisa externa<br>Cuerpo aspirante<br>Cuerpo impulsión<br>Cuerpo elemento - Rodete<br>Tapa inferior - Tapa superior<br>Casquillo distanciador | Acero al cromo-níquel<br>1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Tapón | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304 |
| Manguito cojinete/<br>Cojinete del cuerpo elemento | Carburo anticorrosivo-inoxidable/<br>Cerámica alumina |
| Cierre mecánico ISO 3069 KU | Metal duro / Carbón / EPDM |
| Anillo de cierre sobre rodete | PPS |
| Junta tórica | EPDM |
| Contrabridas ovales | Acero AISI 304 (acero galvanizado para MXV 50 O) |
| Contrabridas (bajo demanda) | Acero AISI 304 (acero Fe 430B para MXV 50) |

**Sentido de rotación: Horario** visto desde el motor.

## Variantes, (a precisar en el pedido)

Bomba con bridas (**F**). Bomba con orificios de brida ovales (**O**).
Bomba sin motor. Bomba con motor estándar.

## Otras variantes, (a precisar bajo demanda)

Junta tórica FPM. Otro cierre mecánico.
Bomba con motor según elección del cliente, (si es disponible).
Motor monofásico 220 V, hasta 2,2 kW.
Pump with support feet for horizontal installation (**H1** or **H2**).
Otras tensiones.
Para líquidos o ambientes con temperaturas más elevadas o más bajas.

# MXV 65, 80, 100

Los elementos internos, en contacto con el liquido, son de acero inoxidable al cromo níquel AISI 304, con el cuerpo bomba y la tapa superior de hierro.

## Materiales (elementos bañados)

| Componente | Materiales |
|---|---|
| Cuerpo bomba<br>Tapa superior | Hierro<br>GJL 250 EN 1561 |
| Camisa externa<br>Cuerpo elemento<br>Rodete<br>Manguito distanciador | Acero al cromo-níquel<br>1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero AISI 303 (AISI 431 para MXV 100) |
| Tapón | Acero AISI 316 (AISI 431 para MXV 100) |
| Manguito cojinete/<br>Cojinete del cuerpo elemento | Carburo anticorrosivo-inoxidable/<br>Cerámica alumina<br>(Carburo anticorrosivo-inoxidable para MXV 100) |
| Cierre mecánico<br>ISO 3069 - KU | Metal duro / Carbón / EPDM |
| Anillo de cierre sobre rodete | PTFE |
| Junta tórica | EPDM |
| Contrabridas (bajo demanda) | Acero 1.0044 EN 10025-2 (Fe 430B) |

**Sentido de rotación: Antihorario** visto desde el motor (**Horario** visto desde el motor para MXV 100).

## Variantes, (a precisar en el pedido)

Bomba sin motor. Bomba con motor estándar.

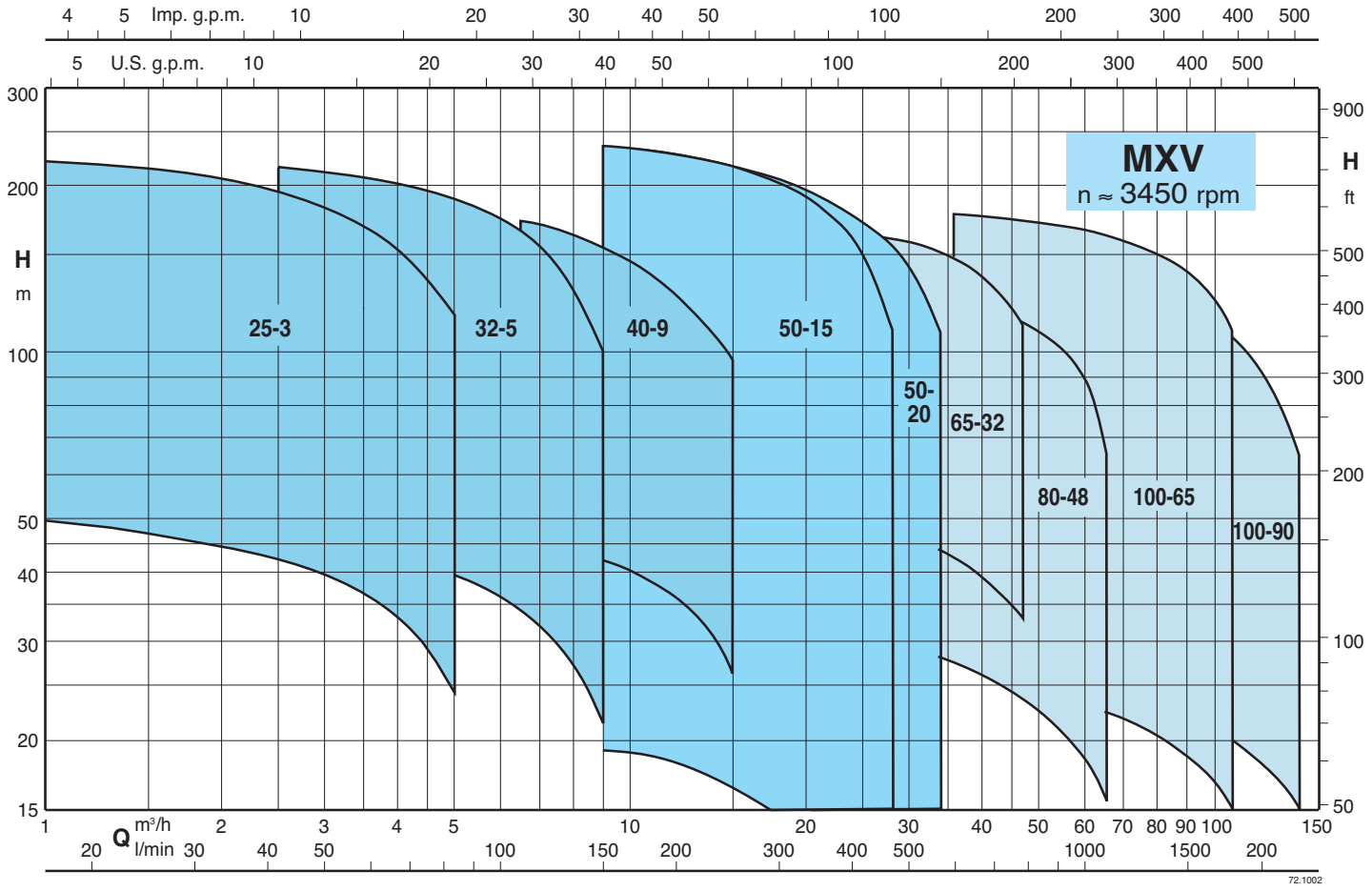
## Otras variantes, (a precisar bajo demanda)

Junta tórica FPM. Otro cierre mecánico.
Bomba con motor según elección del cliente, (si es disponible).
Otras tensiones.
Bomba con pies de soporte para instalaciones horizontales (**H1** o **H2**) excluida la serie MXV 100.
Para líquidos o ambientes con temperaturas más elevadas o más bajas.

# MXV 60 Hz

## Coverage chart - Campo de aplicaciones

**n ≈ 3450 rpm**




## Designation

MXV EI 65-32 05 H1 *

- Series
- With frequency converter I-MAT
- DN ports in mm
- Rated capacity in m³/h (n = 3450 rpm)
- Number of stages

**Construction variants**

- flanged ports — F
- Oval Flange Ports (for MXV 25,32,48,50) — O
- with support feet for horizontal installation H, variant 1
- with motor (or without motor)

* with no further designation = with standard motor

## Designación

MXV EI 65-32 05 H1 *

- Serie
- Con variador de frequencia I-MAT
- DN orificios en mm
- Caudal nominal en m³/h (n = 3450 1/min)
- Número de elementos

**Variantes constructivas**

- bridas — F
- Orificios de brida ovales (para MXV 25,32,48,50) — O
- con pies de soporte para instalaciones horizontales H, variante 1
- con motor (o sin motor)

* sin otras indicaciones = con motor estándar

# MXV EI 60 Hz

### Pumps with frequency converter

The **MXV EI** pumps are available with power from 1,1 kW up to 22 kW, the pumps are equipped with **I-MAT** installed on board which allows to realize a variable-speed system extremely compact and efficient, ideal in applications of water supply and in the distribution of hot and cold water.
The pump is equipped with transducers suitable for operation and is already programmed at the factory.



### Advantages
- Energy saving
- Compact design
- Easy to use
- Programmable to suit the system requirements
- Reliability

### Costruction
The system comprises of:
- Pump
- Induction motor
- I-MAT Frequency converter
- Motor adapter for the motor mounting of the frequency converter
- Connection cable between frequency converter and induction motor
- Transducers

### Main features
Rated motor power output from 1,1 kW to 22 kW
Control range from 1750 to 3450 rpm (2-pole)
Protection against dry running
Protection against operations with closed valve ports
Protection against system leakages
Protection against overcurrent in the motor
Protection agains overvoltage and undervoltage of the power supply
Protection against current unbalances between phases

### Bomba vertical a velocidad variable

La bomba **MXV EI** se encuentra disponible con potencias de 1,1 kW a 22 kW y llevan incorporado un variador **I-MAT** que permite realizar un sistema de velocidad variable extremadamente compacto y eficiente, ideal para aplicaciones de abastecimiento de agua y la distribución de agua fría y caliente.
Bomba eléctrica es suministrada con un transductor de presión idóneo para el modo operación que escoja el cliente y programado directamente desde fábrica

### Ventajas
- Ahorro de energía
- Diseño compacto
- Fácil de usar
- Programable para las necesidades del sistema
- Fiabilidad

### Construcción
- El sistema está compuesto por:
- Bomba
- Motor de inducción
- I-MAT variador de frecuencia
- Adaptador del motor para el montaje del variador de frecuencia
- Cable de conexión entre en variador y la bomba eléctrica
- Transductores

### Límites de utilización
Potencia nominal del motor desde 1,1 kW hasta 22 kW
Rango de control desde 1750 hasta 3450 rpm (2 polos)
Protección contra el funcionamiento en seco
Protección contra el funcionamiento con válvula cerrada
Protección contra fugas del sistema
Protección contra sobrecorriente del motor
Protección contra sobrevoltaje o bajovoltaje de la red de alimentación
Protección contra el desequilibrio de fases

## Operating modes

**Constant pressure mode**
with pressure transducer

In this mode, the system maintains the preset pressure when the flow required by the installation changes.

**Proportional pressure mode**
with pressure transducer

In this mode the system changes the working pressure according to the required flow rate.

**Constant flow mode**
with flow meter

In this mode the system maintains a constant flow rate value in a point of the installation according to the required pressure.

**Fixed speed mode**
with setting of the speed preferential rotation.

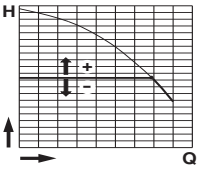
In this mode, by changing the working frequency, you may choose any operational curve included within the working range.

**Constant temperature mode**
with temperature transducer
In this mode the system keeps the temperature constant inside a system by changing the speed of the pump.

## Modos de operación

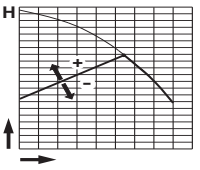
**Modo presión constante**
con sensor de presión

En el modo de presión constante, el sistema mantiene la presión prefijada cuando cambia el caudal por los cambios de la instalación.



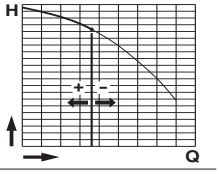

**Modo presión proporcional**
con sensor de presión

En el modo de presión proporcional, el sistema cambia la presión de trabajo de acuerdo al caudal requerido.



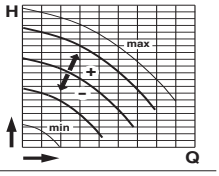

**Modo caudal constante**
con medidor de caudal

En el modo caudal constante el sistema mantiene el caudal constante en un punto de la instalación de acuerdo a la presión requerida.




**Modo velocidad fija**
con el ajuste de la velocidad de rotación preferencial

En el modo velocidad fija, cambiando la frecuencia de trabajo, se puede escoger cualquier curva operativa dentro del rango de trabajo de la bomba.

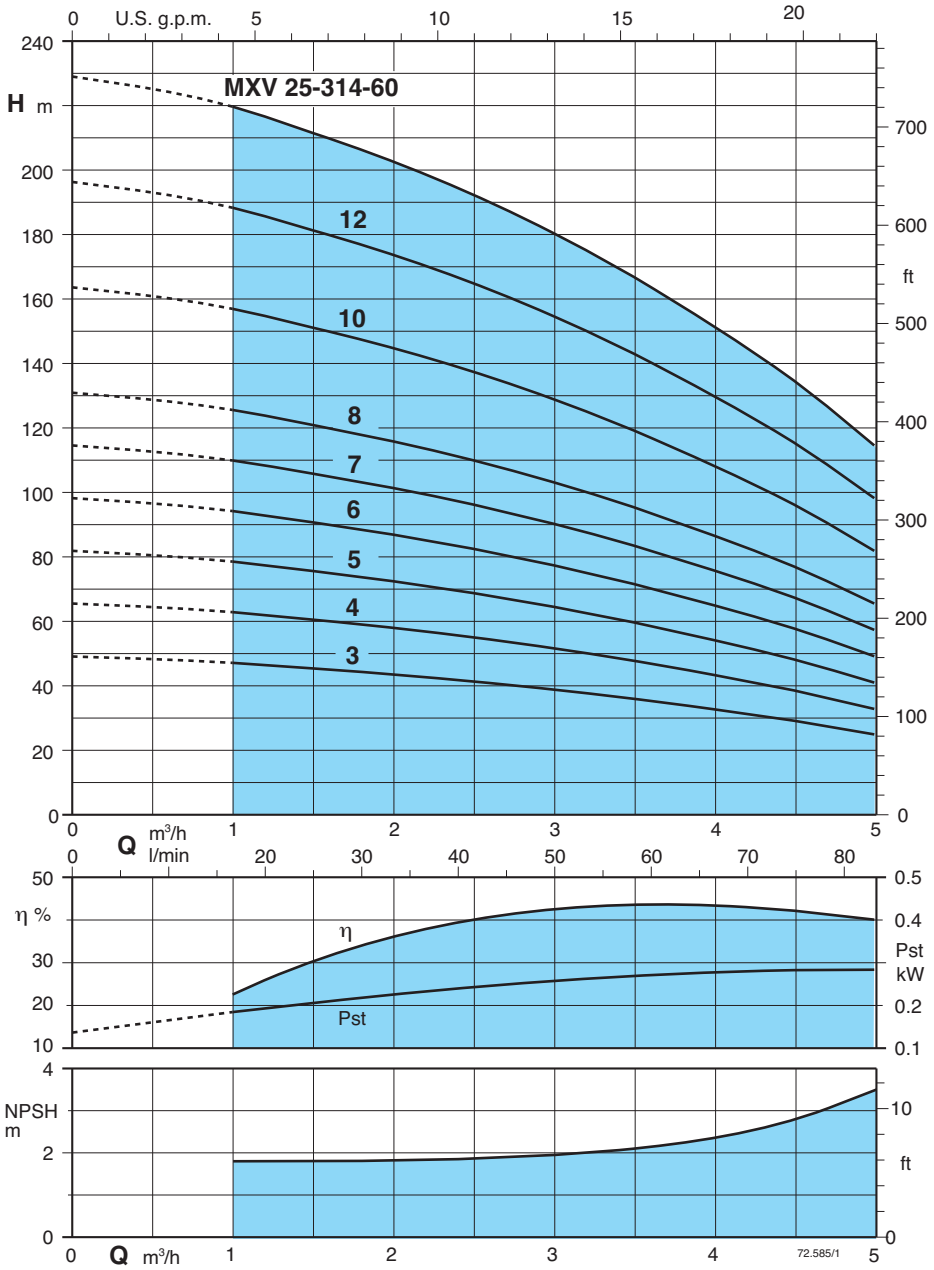



**Modo temperatura constante**
con sensor de temperatura
En este modo el sistema mantiene la temperatura constante dentro de un sistema cambiando la velocidad de la bomba.

# MXV 25-3 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

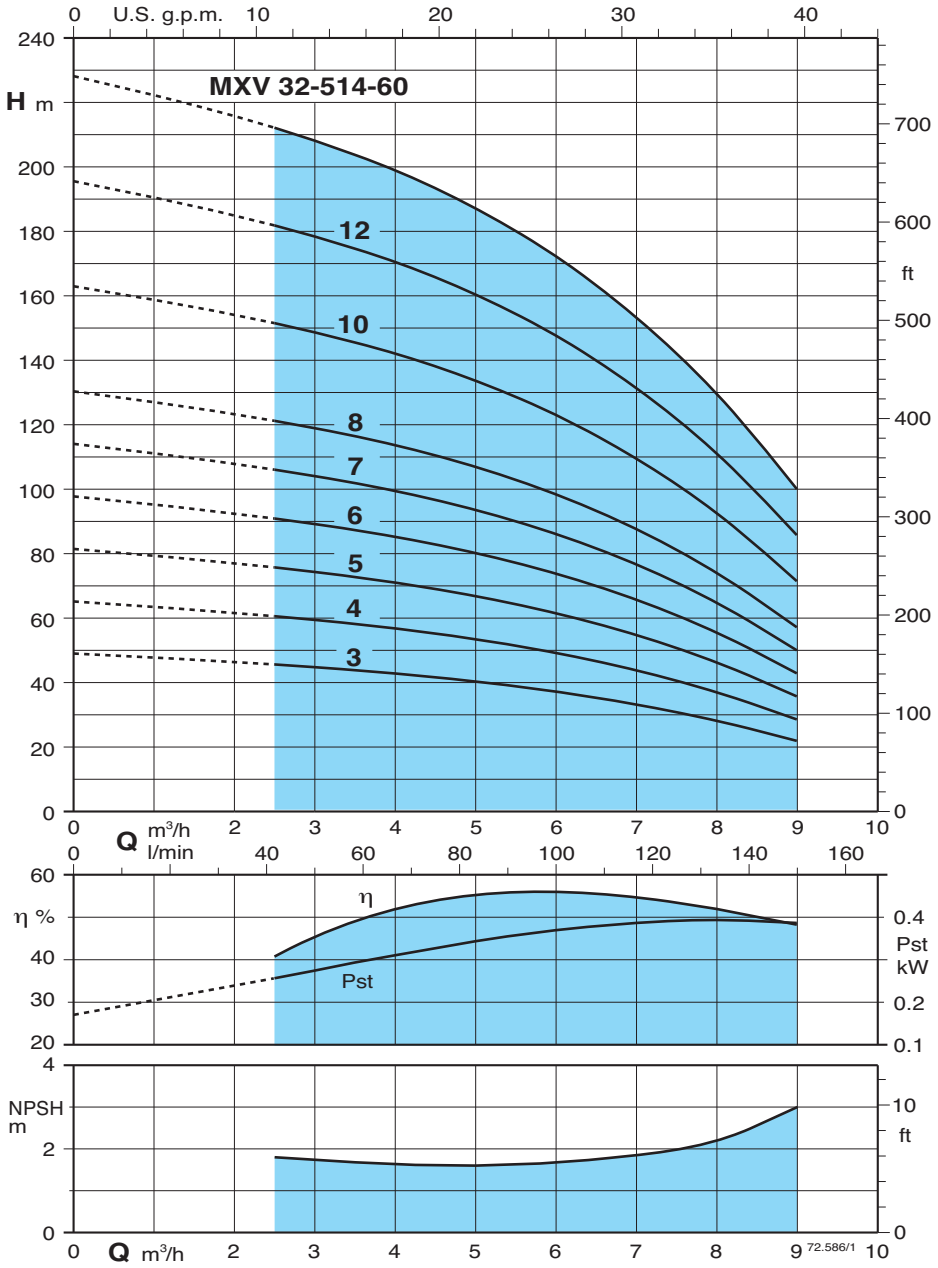
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| MXV 25-303-60 | 1,1 | 1,5 | M80 V1 | | 49 | 47 | 45,3 | 43,4 | 41 | 38,6 | 35,7 | 32,4 | 28,7 | 24,5 |
| MXV 25-304-60 | 1,1 | 1,5 | M80 V1 | | 65 | 62 | 60,3 | 57,8 | 54,9 | 51,5 | 47,6 | 43,2 | 38,4 | 33 |
| MXV 25-305-60 | 1,5 | 2 | M90 V1 | | 81,5 | 78 | 75,4 | 72,3 | 68,6 | 64,4 | 59,5 | 54 | 48 | 41 |
| MXV 25-306-60 | 2,2 | 3 | M90 V1 | | 98 | 94 | 90,5 | 86,7 | 82,3 | 77,2 | 71,4 | 64,8 | 57,6 | 49 |
| MXV 25-307-60 | 2,2 | 3 | M90 V1 | H | 114 | 110 | 105,6 | 101,2 | 96 | 90,1 | 83,3 | 75,5 | 67 | 57 |
| MXV 25-308-60 | 3 | 4 | M100 V1 | m | 131 | 125 | 120,6 | 115,6 | 109,8 | 103 | 95,2 | 86,4 | 76,8 | 65 |
| MXV 25-310-60 | 3 | 4 | M100 V1 | | 163 | 156 | 150,8 | 144,5 | 137,2 | 128,7 | 119 | 108 | 96 | 82 |
| MXV 25-312-60 | 4 | 5,5 | M112 V1 | | 196 | 188 | 181 | 173,4 | 164,6 | 154,4 | 142,8 | 129,6 | 115,2 | 98 |
| MXV 25-314-60 | 4 | 5,5 | M112 V1 | | 229 | 219 | 211 | 202 | 192 | 180 | 167 | 151 | 134 | 114 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

# MXV 32-5 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

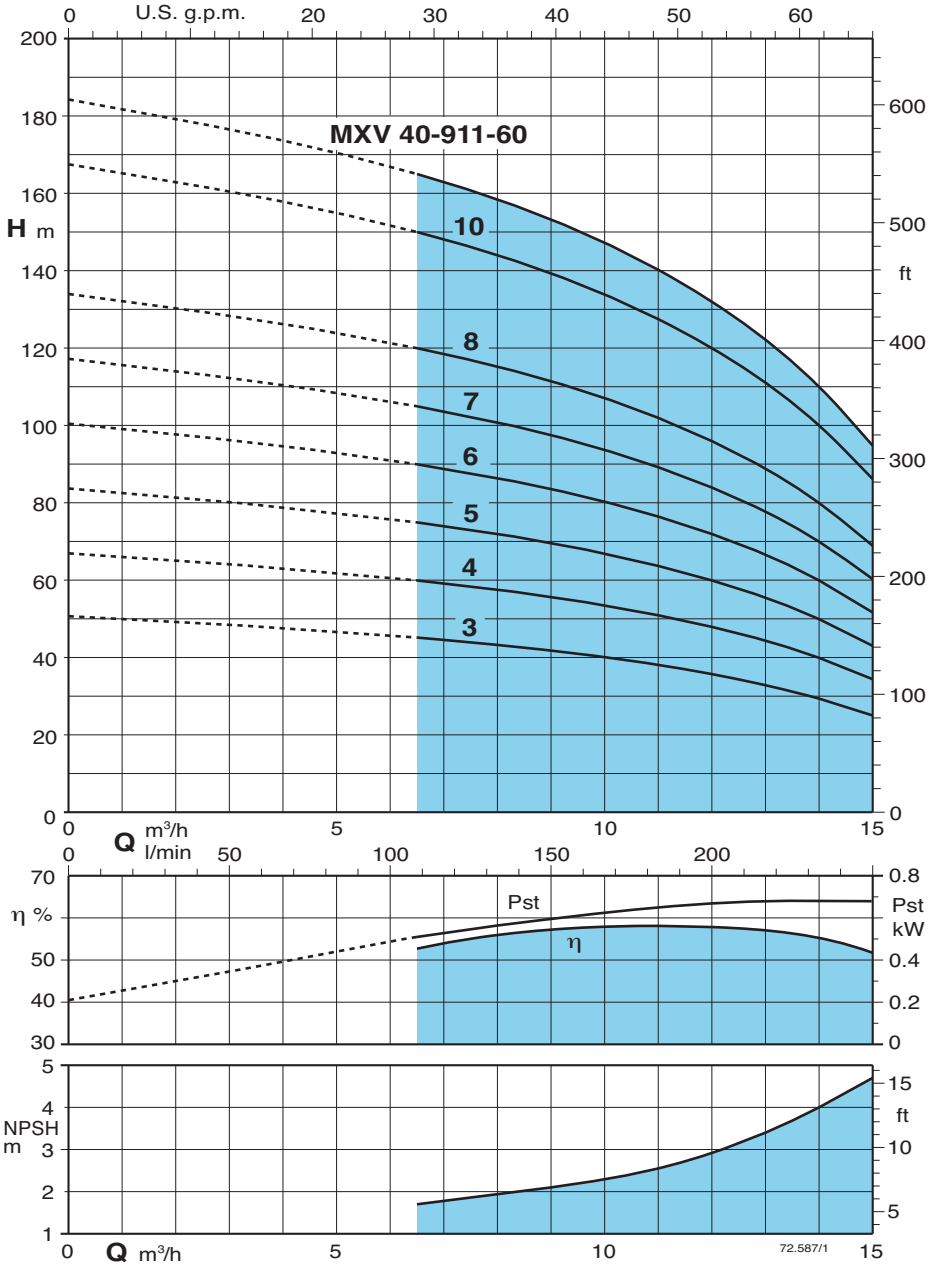
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116,6 | 133,3 | 150 |
| MXV 32-503-60 | 1,5 | 2,2 | M90 V1 | | 49,2 | 45,6 | 44,6 | 43,6 | 42,6 | 40 | 37 | 33 | 27,8 | 21,6 |
| MXV 32-504-60 | 2,2 | 3 | M90 V1 | | 65 | 61 | 60 | 58,2 | 56,8 | 53,4 | 49,2 | 43,8 | 37 | 29 |
| MXV 32-505-60 | 2,2 | 3 | M90 V1 | | 82 | 76 | 74,3 | 72,7 | 71 | 66,8 | 61,5 | 54,7 | 46,3 | 36 |
| MXV 32-506-60 | 3 | 4 | M100 V1 | | 97 | 91 | 89,1 | 87,3 | 85,2 | 80,1 | 73,8 | 65,7 | 55,5 | 43 |
| MXV 32-507-60 | 3 | 4 | M100 V1 | H | 114 | 106 | 104 | 101,8 | 99,4 | 93,5 | 86,1 | 76,6 | 64,8 | 50 |
| MXV 32-508-60 | 4 | 5,5 | M112 V1 | m | 130 | 121 | 118,9 | 116,3 | 113,6 | 106,9 | 98,4 | 87,5 | 74,1 | 57 |
| MXV 32-510-60 | 4 | 5,5 | M112 V1 | | 163 | 151 | 148,6 | 145,4 | 142 | 133,6 | 123 | 109,4 | 92,6 | 71 |
| MXV 32-512-60 | 5,5 | 7,5 | M132 V1 | | 195 | 181 | 178,3 | 174,5 | 170,4 | 160,3 | 147,6 | 131,3 | 111,1 | 85 |
| MXV 32-514-60 | 5,5 | 7,5 | M132 V1 | | 228 | 212 | 208 | 203,6 | 198,8 | 187 | 172,2 | 153,2 | 129,6 | 100 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

# MXV 40-9 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

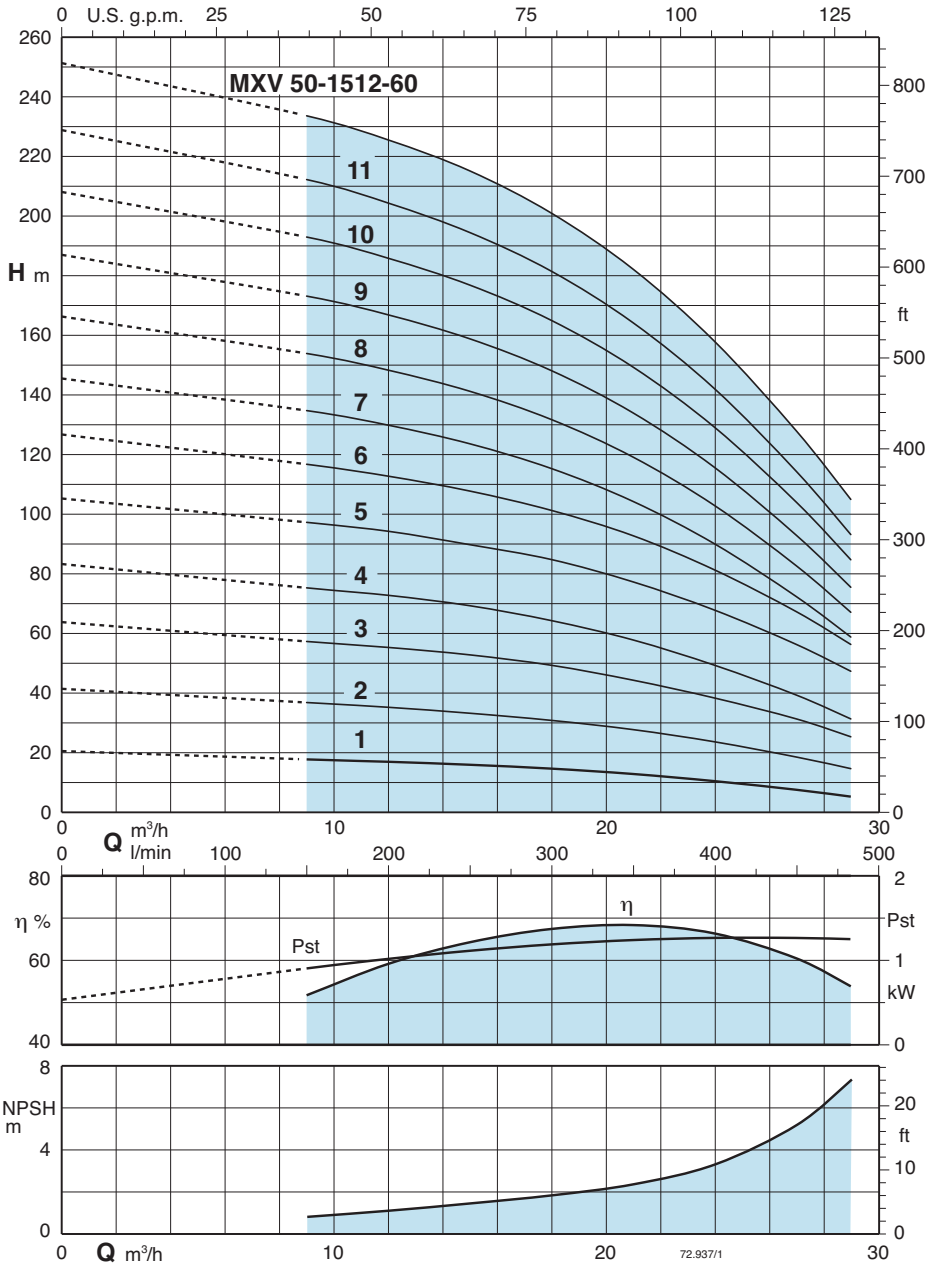
## Performance - Prestaciones

| Pump type<br>Bomba tipo | $P_2$ kW | $P_2$ HP | Motor | Q m³/h | 0 | 6,5 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 108,3 | 133,3 | 150 | 166,6 | 183,3 | 200 | 216,6 | 233,3 | 250 |
| MXV 40-903-60 | 2,2 | 3 | M90 V1 | | 50,4 | 45 | 43,5 | 42 | 40 | 38 | 36 | 33,3 | 30 | 25,8 |
| MXV 40-904-60 | 3 | 4 | M100 V1 | | 67 | 60 | 58 | 56 | 53,5 | 51 | 48 | 44,5 | 40 | 34,5 |
| MXV 40-905-60 | 4 | 5,5 | M112 V1 | | 84 | 75 | 72,5 | 70 | 67 | 63,5 | 60 | 55,5 | 50 | 43 |
| MXV 40-906-60 | 4 | 5,5 | M112 V1 | | 101 | 90 | 87 | 84 | 80 | 76,5 | 72 | 66,5 | 60 | 51,5 |
| MXV 40-907-60 | 5,5 | 7,5 | M132 V1 | H | 118 | 105 | 101 | 98 | 94 | 89 | 84 | 77,5 | 70 | 60 |
| MXV 40-908-60 | 5,5 | 7,5 | M132 V1 | m | 134 | 120 | 116 | 112 | 107 | 102 | 96 | 89 | 80 | 69 |
| MXV 40-910-60 | 7,5 | 10 | M132 V1 | | 168 | 150 | 145 | 140 | 134 | 127 | 120 | 111 | 100 | 86 |
| MXV 40-911-60 | 7,5 | 10 | M132 V1 | | 185 | 165 | 159 | 154 | 147 | 140 | 132 | 122 | 110 | 94,5 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

# MXV 50-15 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

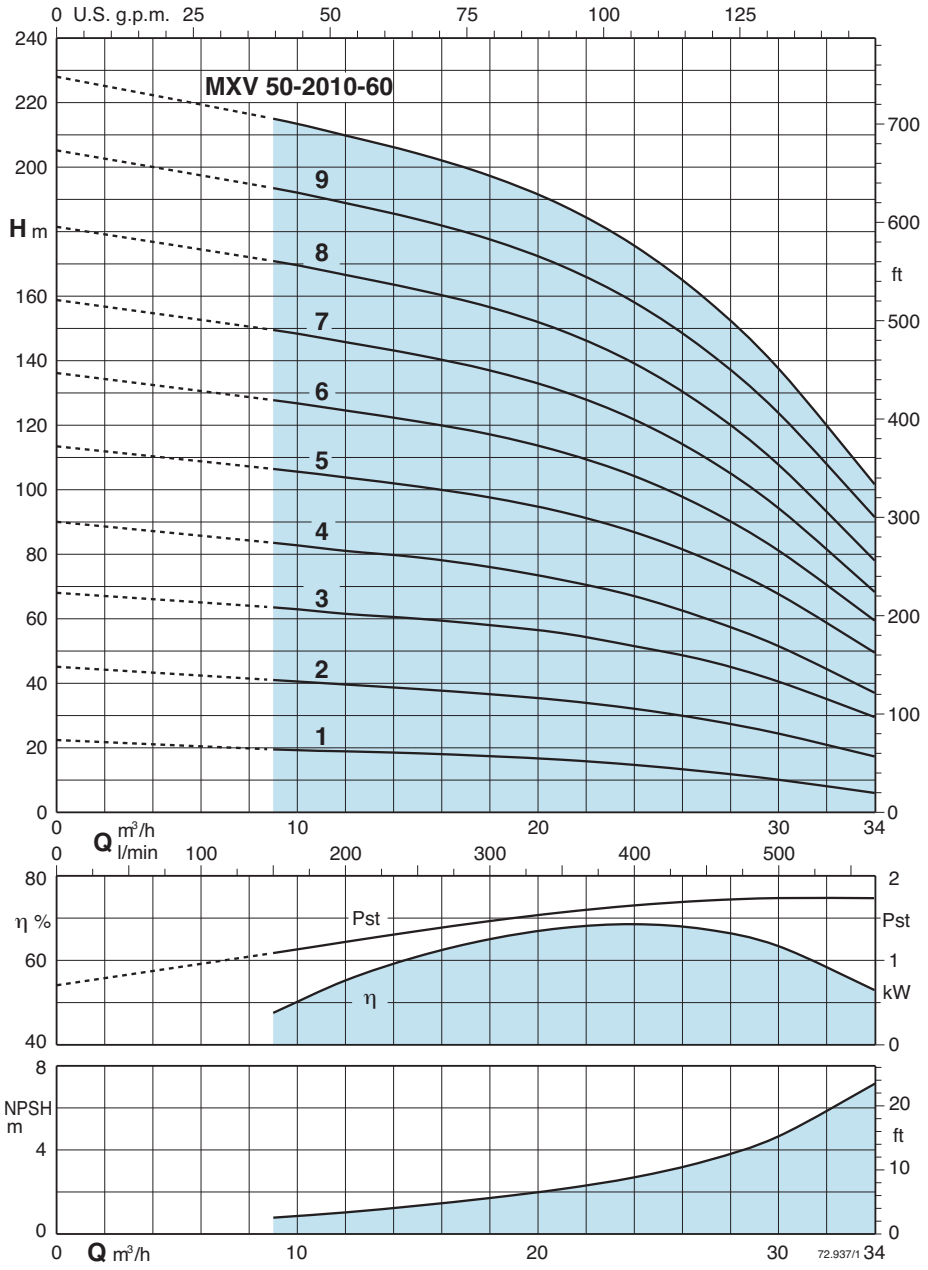
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 483 |
| MXV 50-1501-60 | 1,5 | 2 | M90V1 | | 20,2 | 17,4 | 16,6 | 15,6 | 14,3 | 12,5 | 10,1 | 7,2 | 4,9 |
| MXV 50-1502-60 | 3 | 4 | M100V1 | | 41,1 | 36,5 | 34,9 | 32,9 | 30,5 | 27,4 | 23,3 | 18,2 | 14,3 |
| MXV 50-1503-60 | 4 | 5,5 | M112V1 | | 63,5 | 57,0 | 55,0 | 52,5 | 49,0 | 44,0 | 38,0 | 31,0 | 25,0 |
| MXV 50-1504-60 | 5,5 | 7,5 | M132V1 | | 83,0 | 75,0 | 72,5 | 69,0 | 64,0 | 57,5 | 49,0 | 39,0 | 31,0 |
| MXV 50-1505-60 | 7,5 | 10 | M132V1 | H | 105,0 | 97,0 | 94,0 | 89,5 | 84,5 | 77,0 | 67,5 | 56,0 | 47,0 |
| MXV 50-1506-60 | 7,5 | 10 | M132V1 | m | 127 | 117 | 113 | 108 | 101 | 93 | 81 | 67 | 56 |
| MXV 50-1507-60 | 9,2 | 12,5 | M160V1 | | 145 | 135 | 130 | 123 | 115 | 104 | 90 | 72 | 58 |
| MXV 50-1508-60 | 11 | 15 | M160V1 | | 166 | 154 | 148 | 141 | 132 | 119 | 103 | 82 | 67 |
| MXV 50-1509-60 | 15 | 20 | M160V1 | | 187 | 173 | 167 | 159 | 148 | 134 | 115 | 93 | 75 |
| MXV 50-1510-60 | 15 | 20 | M160V1 | | 208 | 193 | 186 | 177 | 165 | 149 | 129 | 104 | 84 |
| MXV 50-1511-60 | 15 | 20 | M160V1 | | 229 | 212 | 204 | 194 | 181 | 164 | 142 | 114 | 93 |
| MXV 50-1512-60 | 15 | 20 | M160V1 | | 251 | 234 | 225 | 215 | 201 | 182 | 158 | 128 | 105 |

# MXV 50-20 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

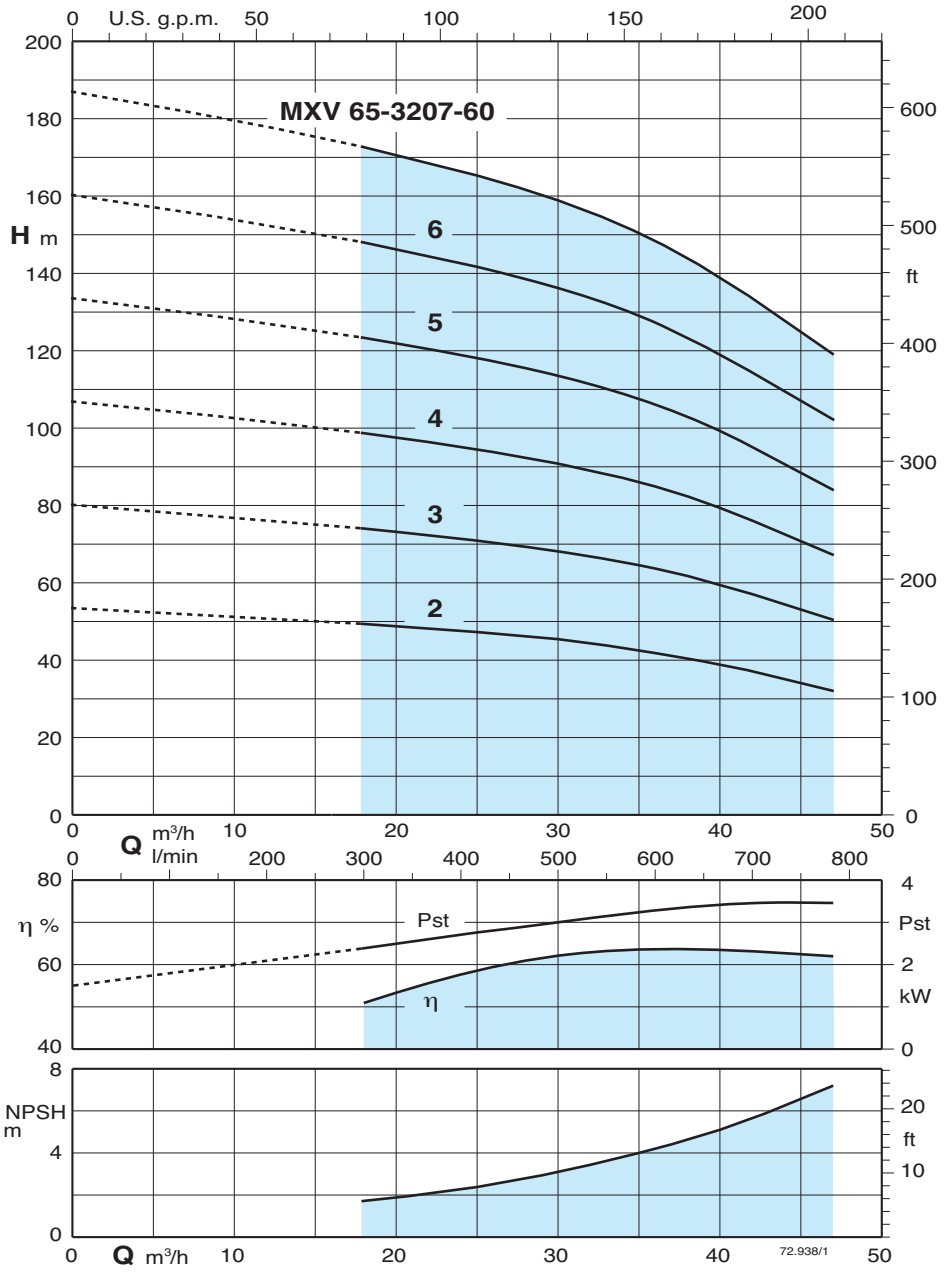
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 566 |
| MXV 50-2001-60 | 2,2 | 3 | M90V1 | | 22,4 | 19,5 | 18,9 | 18,3 | 17,4 | 16,3 | 14,7 | 12,6 | 10,1 | 6,0 |
| MXV 50-2002-60 | 4 | 5,5 | M112V1 | | 45,1 | 41,0 | 39,6 | 38,2 | 36,6 | 34,7 | 32,1 | 28,7 | 24,4 | 17,3 |
| MXV 50-2003-60 | 5,5 | 7,5 | M132V1 | | 68,0 | 63,5 | 61,5 | 60,0 | 58,0 | 55,5 | 51,5 | 47,0 | 40,5 | 29,5 |
| MXV 50-2004-60 | 7,5 | 10 | M132V1 | | 90,0 | 83,5 | 81,0 | 79,0 | 76,0 | 72,0 | 67,0 | 60,0 | 51,5 | 37,0 |
| MXV 50-2005-60 | 9,2 | 12,5 | M160V1 | H | 113 | 106 | 104 | 101 | 98 | 93 | 87 | 78 | 68 | 49 |
| MXV 50-2006-60 | 11 | 15 | M160V1 | m | 136 | 128 | 125 | 121 | 117 | 112 | 104 | 94 | 81 | 59 |
| MXV 50-2007-60 | 15 | 20 | M160V1 | | 159 | 149 | 146 | 142 | 137 | 131 | 122 | 110 | 94 | 68 |
| MXV 50-2008-60 | 15 | 20 | M160V1 | | 181 | 171 | 167 | 162 | 157 | 149 | 139 | 125 | 108 | 78 |
| MXV 50-2009-60 | 18,5 | 25 | M160V1 | | 205 | 193 | 189 | 184 | 178 | 169 | 158 | 143 | 124 | 91 |
| MXV 50-2010-60 | 18,5 | 25 | M160V1 | | 228 | 215 | 210 | 204 | 197 | 188 | 176 | 159 | 138 | 102 |
| | | | | | | | | | | | | | | |

# MXV 65-32 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

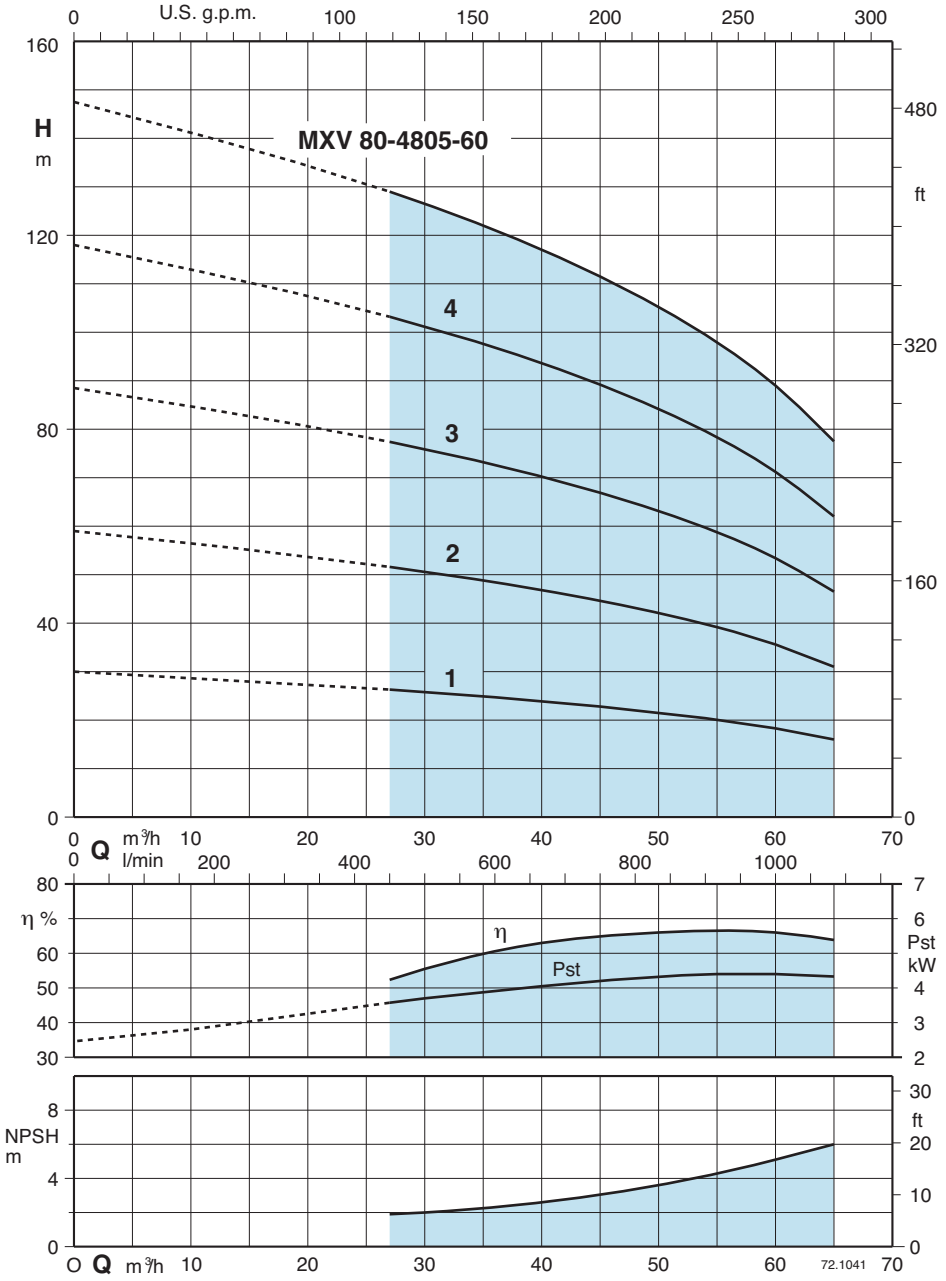
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 18 | 22 | 26 | 30 | 34 | 38 | 42 | 47 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 300 | 366,6 | 433,3 | 500 | 566,6 | 633,3 | 700 | 783,3 |
| MXV 65-3202-60/C | 7,5 | 10 | M132 V1 | | 53,5 | 49,5 | 48 | 47 | 45,5 | 43,5 | 41 | 37,5 | 32 |
| MXV 65-3203-60/D | 11 | 15 | M160 V1 | | 80 | 74 | 72 | 70 | 68 | 65 | 61 | 57 | 50 |
| MXV 65-3204-60/D | 15 | 20 | M160 V1 | | 107 | 99 | 96 | 94 | 91 | 87 | 82 | 76 | 67 |
| MXV 65-3205-60/E | 18,5 | 25 | M160 V1 | | 134 | 124 | 120 | 117 | 114 | 109 | 103 | 95 | 84 |
| MXV 65-3206-60/D | 22 | 30 | M180 V1 | H | 160 | 148 | 144 | 141 | 136 | 131 | 123 | 115 | 102 |
| MXV 65-3207-60/D | 22 | 30 | M180 V1 | m | 187 | 173 | 168 | 164 | 159 | 152 | 144 | 134 | 119 |
| | | | | | | | | | | | | | |
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# MXV 80-48 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
$P_2$ Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
$P_2$ Potencia nominal del motor.

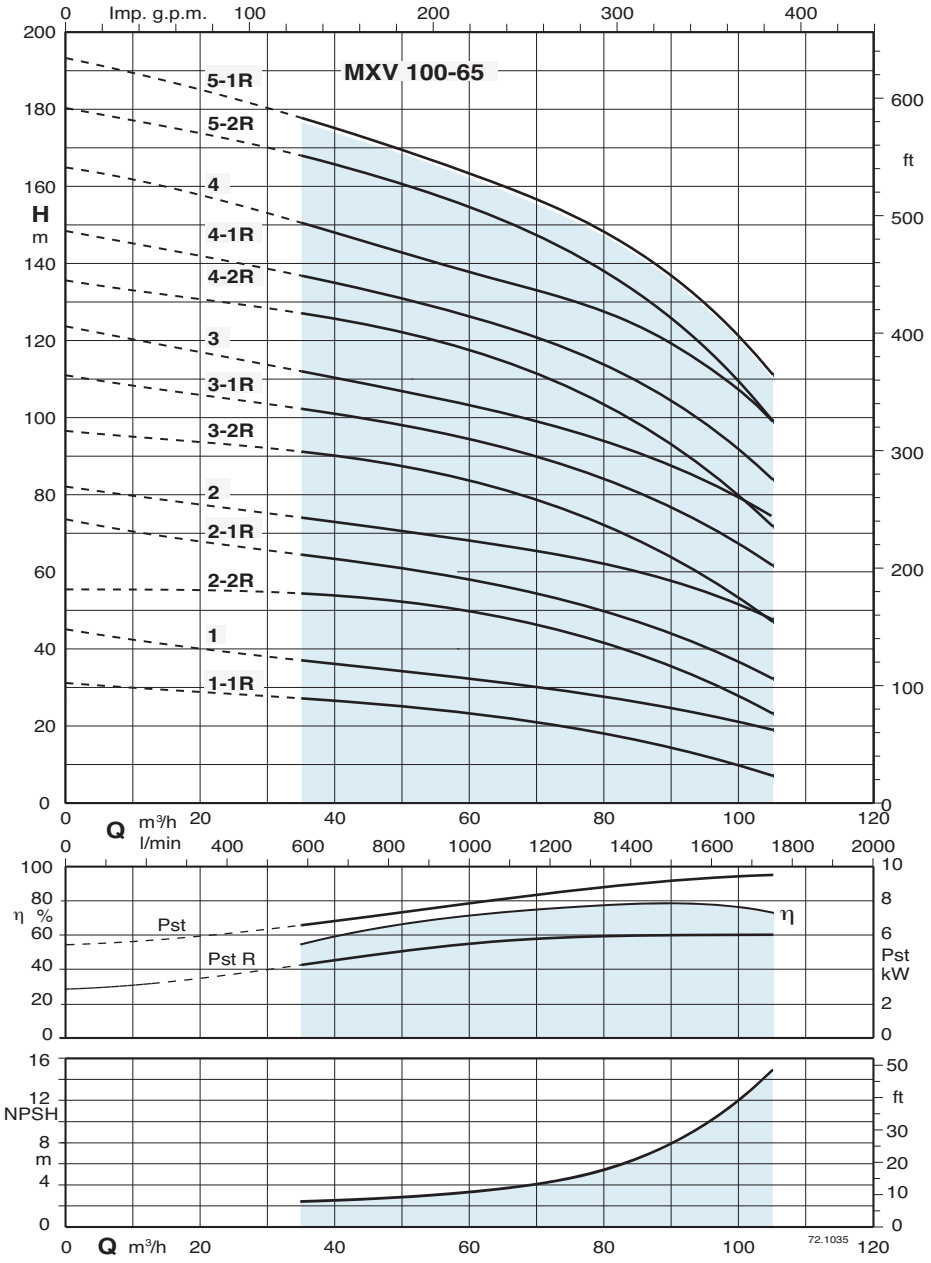
## Performance - Prestaciones

| Pump type<br>Bomba tipo | $P_2$ | | Motor | Q m³/h | 0 | 27 | 33 | 39 | 45 | 48 | 54 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | Q l/min | 0 | 450 | 550 | 650 | 750 | 800 | 900 | 1000 | 1083 |
| MXV 80-4801-60/C | 5,5 | 7,5 | M132 V1 | | 30 | 26 | 25 | 24 | 22,5 | 22 | 20 | 18 | 16 |
| MXV 80-4802-60/D | 11 | 15 | M160 V1 | | 59 | 51,5 | 49,5 | 47 | 44,5 | 43 | 40 | 35,5 | 31 |
| MXV 80-4803-60/D | 15 | 20 | M160 V1 | | 88,5 | 77,5 | 74 | 70,5 | 67 | 64,5 | 60 | 53,5 | 46,5 |
| MXV 80-4804-60/E | 18,5 | 25 | M160 V1 | | 118 | 103 | 99 | 94 | 89 | 86 | 79,5 | 71 | 62 |
| MXV 80-4805-60/D | 22 | 30 | M180 V1 | H m | 147 | 129 | 123 | 117 | 111 | 107 | 99,5 | 89 | 77,5 |
| | | | | | | | | | | | | | |
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# MXV 100-65 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

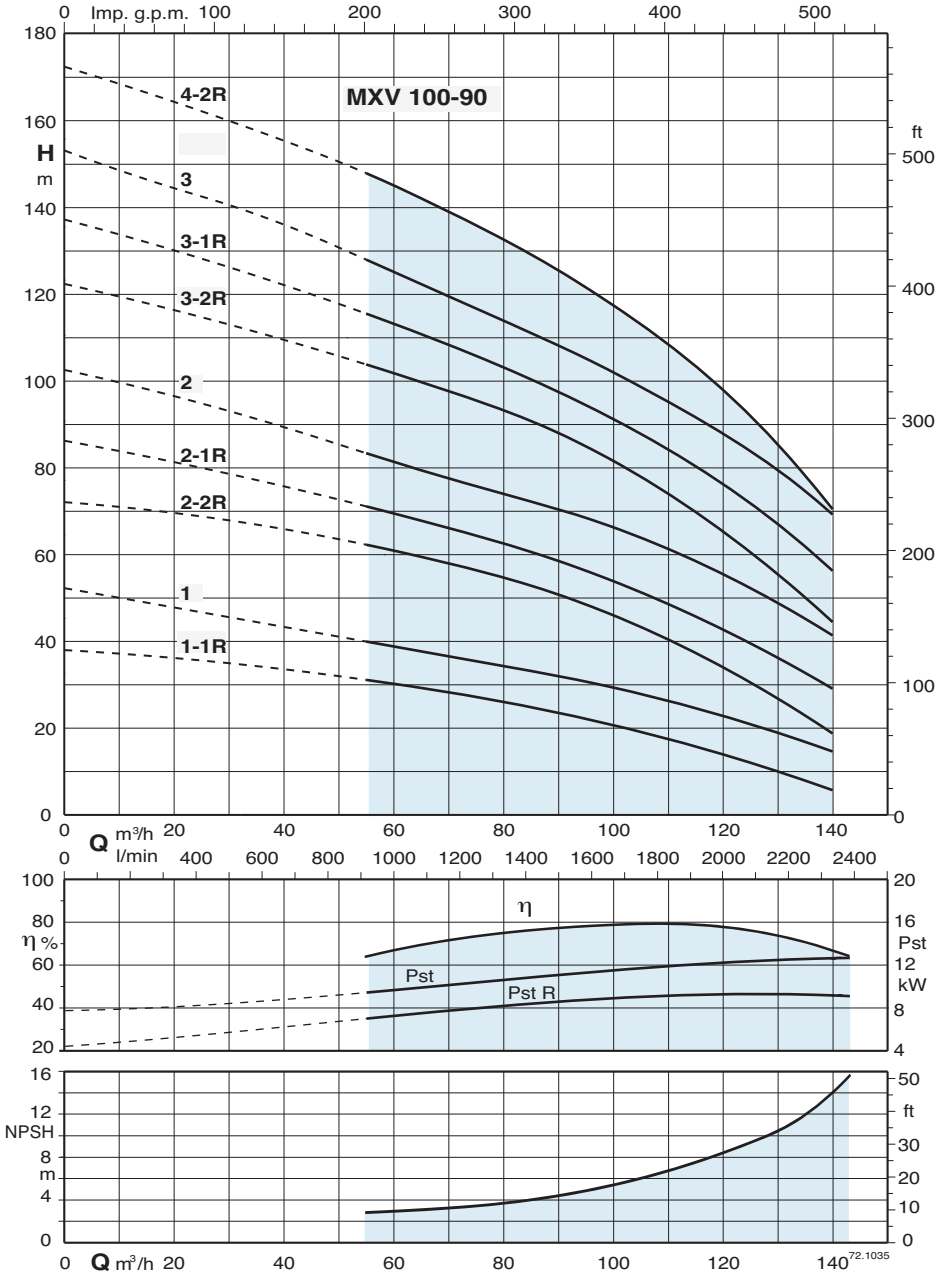
## Performance - Prestaciones

| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 35 | 45 | 55 | 65 | 75 | 85 | 95 | 105 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 583.3 | 750 | 916,7 | 1083 | 1250 | 1416 | 1583 | 1750 | |
| MXV 100-6501-1R-60/A | 7,5 | 10 | M132V1 | | 31,2 | 27,2 | 25,7 | 24,2 | 22,5 | 19,5 | 16,1 | 12,0 | 6,9 | |
| MXV 100-6501-60/A | 11 | 15 | M160V1 | | 44,2 | 36,7 | 34,2 | 32,6 | 31,1 | 29,2 | 26,7 | 23,3 | 18,6 | |
| MXV 100-6502-2R-60/A | 15 | 20 | M160V1 | | 56,6 | 54,7 | 53,2 | 51,1 | 48,4 | 43,8 | 38,1 | 31,6 | 23,6 | |
| MXV 100-6502-1R-60/B | 18,5 | 25 | M160V1 | | 73,3 | 64,7 | 61,5 | 58,9 | 56,3 | 52,5 | 47,3 | 40,4 | 32,0 | |
| MXV 100-6502-60/A | 22 | 30 | M180V1 | H | 81,3 | 74,0 | 71,3 | 68,9 | 66,5 | 64,0 | 60,2 | 55,0 | 48,0 | |
| MXV 100-6503-2R-60/A | 22 | 30 | M180V1 | m | 97,1 | 91,5 | 88,6 | 85,4 | 81,4 | 75,5 | 67,9 | 58,8 | 47,2 | |
| MXV 100-6503-1R-60/A | 30 | 40 | M200V1 | | 110,6 | 102,5 | 99,0 | 95,7 | 92,1 | 87,4 | 80,7 | 72,5 | 61,6 | |
| MXV 100-6503-60/A | 30 | 40 | M200V1 | | 122,8 | 111,8 | 107,9 | 104,4 | 100,8 | 97,2 | 91,5 | 83,9 | 73,6 | |
| MXV 100-6504-2R-60/A | 37 | 50 | M200V1 | | 135,8 | 127,4 | 123,5 | 119,5 | 114,7 | 107,7 | 98,4 | 86,9 | 71,9 | |
| MXV 100-6504-1R-60/A | 37 | 50 | M200V1 | | 148,0 | 136,9 | 132,4 | 128,2 | 123,6 | 117,8 | 109,4 | 98,6 | 84,1 | |
| MXV 100-6504-60/A | 45 | 60 | M225V1 | | 164,6 | 150,4 | 144,8 | 140,2 | 135,6 | 130,8 | 123,3 | 113,3 | 99,7 | |
| MXV 100-6505-2R-60/A | 45 | 60 | M225V1 | | 180,7 | 168,3 | 162,7 | 157,4 | 151,3 | 143,2 | 131,9 | 118,0 | 99,8 | |
| MXV 100-6505-1R-60/A | 45 | 60 | M225V1 | | 193,0 | 177,9 | 171,7 | 166,1 | 160,1 | 153,1 | 142,7 | 129,5 | 111,7 | |

# MXV 100-90 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm




Test results with clean cold water, without gas content.
A safety margin of + 0.5 m is recommended for the NPSH value.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity ν = max 20 mm²/sec.

Tolerances in accordance with UNI EN ISO 9906:2012.
Pst Power with reference to one stage.
P2 Rated motor power output.

Resultados de las pruebas con agua fría y limpia, sin gas.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

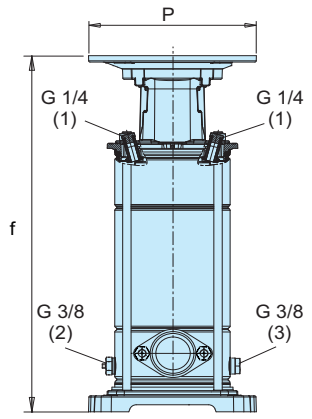
Los valores de presión y potencia son válidos para líquidos ρ = 1,0 kg/dm³ y viscosidad cinemática ν = max 20 mm²/sec.

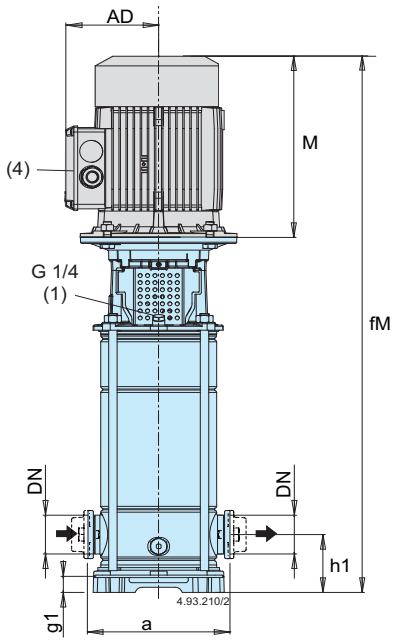
Tolerancia según UNI EN ISO 9906:2012.
Pst Potencia referida a un elemento.
P2 Potencia nominal del motor.

## Performance - Prestaciones

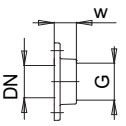
| Pump type<br>Bomba tipo | P2 | | Motor | Q m³/h | 0 | 55 | 65 | 75 | 85 | 95 | 105 | 115 | 130 | 138 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | l/min | 0 | 916,7 | 1083 | 1250 | 1416 | 1583 | 1750 | 1917 | 2167 | 2300 |
| MXV 100-9001-1R-60/A | 11 | 15 | M160V1 | | 38,6 | 29,9 | 28,5 | 27,1 | 25,6 | 23,3 | 20,1 | 16,4 | 9,9 | 5,8 |
| MXV 100-9001-60/A | 15 | 20 | M160V1 | | 52,3 | 39,5 | 36,1 | 33,8 | 32,3 | 30,7 | 28,5 | 25,5 | 19,8 | 16,2 |
| MXV 100-9002-2R-60/B | 18,5 | 25 | M160V1 | | 73,0 | 61,5 | 58,8 | 56,1 | 53,5 | 49,7 | 44,3 | 37,7 | 26,9 | 19,6 |
| MXV 100-9002-1R-60/A | 22 | 30 | M180V1 | | 86,7 | 71,0 | 66,4 | 62,8 | 60,1 | 56,9 | 52,5 | 46,7 | 36,5 | 29,7 |
| MXV 100-9002-60/A | 30 | 40 | M200V1 | H | 103,0 | 84,3 | 79,0 | 74,6 | 70,9 | 67,4 | 63,7 | 58,9 | 49,6 | 43,5 |
| MXV 100-9003-2R-60/A | 37 | 50 | M200V1 | m | 122,8 | 104,5 | 98,6 | 93,7 | 89,9 | 85,3 | 79,0 | 70,3 | 56,1 | 46,1 |
| MXV 100-9003-1R-60/A | 37 | 50 | M200V1 | | 137,8 | 116,4 | 109,9 | 104,2 | 99,3 | 94,4 | 88,6 | 80,9 | 67,3 | 58,0 |
| MXV 100-9003-60/A | 45 | 60 | M225V1 | | 153,7 | 129,1 | 122,1 | 115,5 | 109,6 | 104,4 | 99,1 | 92,4 | 79,6 | 71,0 |
| MXV 100-9004-2R-60/A | 45 | 60 | M225V1 | | 173,1 | 149,0 | 141,2 | 134,2 | 128,3 | 121,8 | 113,9 | 103,4 | 85,6 | 73,1 |
| | | | | | | | | | | | | | | |
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## Dimensions and weights - Dimensiones y pesos



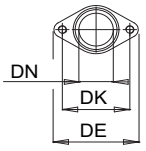

**Oval Controflanges**
**Contrabridas ovales**




PN 16

| DN | G | w | Holes Agujeros N. | Holes Agujeros Ø |
|---|---|---|---|---|
| 25 | 1 | 23 | 2 | 12 |
| 32 | 1 1/4 | 23 | 2 | 12 |
| 40 | 1 1/2 | 26 | 2 | 15 |

**Oval Flanges**
**Bridas ovales**

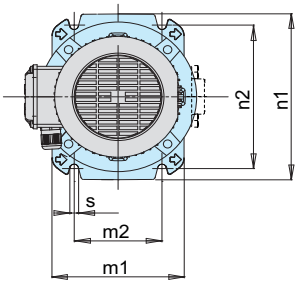


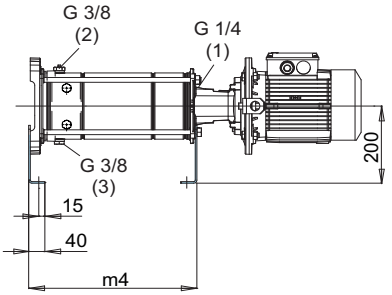

PN 16

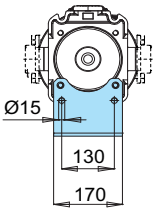
| DN | DE | DK | Holes Agujeros N. | Holes Agujeros Ø |
|---|---|---|---|---|
| 25 | 95 | 75 | 2 | M10 |
| 32 | 95 | 75 | 2 | M10 |
| 40 | 125 | 100 | 2 | M12 |

(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(5) MXV EI (H) : + 3 kg

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(5) MXV EI (H) : + 3 kg



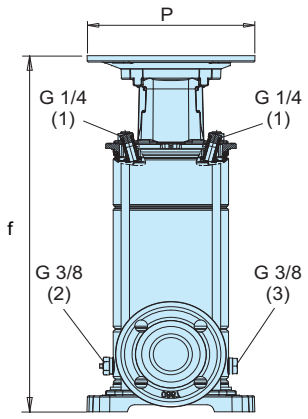



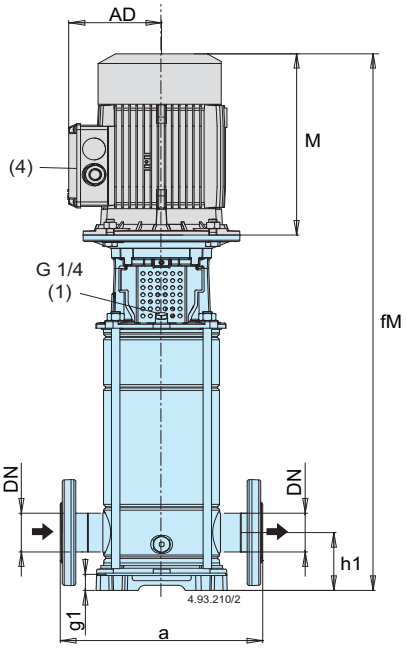

| Pump Bomba | kW | HP | | mm DN | a | h1 | f | n1 | n2 | m1 | m2 | s | g1 | (6) M | fM | P | (6) AD | m4 | **without** motor **sin** motor (5)(6) kg | **with** motor **con** motor (5)(6) kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV 25-303-60 O | 1,1 | 1,5 | M80 V1 | 25 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 127,5 | 267,5 | 16.5 | 30.2 |
| MXV 25-304-60 O | 1,1 | 1,5 | M80 V1 | 25 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 127,5 | 267,5 | 16.8 | 30.4 |
| MXV 25-305-60 O | 1,5 | 2 | M90 V1 | 25 | 160 | 50 | 391 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 646 | 200 | 127,5 | 291,5 | 17.4 | 32.6 |
| MXV 25-306-60 O | 2,2 | 3 | M90 V1 | 25 | 160 | 50 | 415 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 710 | 200 | 127,5 | 315,5 | 18.1 | 36.3 |
| MXV 25-307-60 O | 2,2 | 3 | M90 V1 | 25 | 160 | 50 | 439 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 734 | 200 | 127,5 | 339,5 | 18.7 | 36.9 |
| MXV 25-308-60 O | 3 | 4 | M100 V1 | 25 | 160 | 50 | 463 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 774 | 250 | 137,5 | 363,5 | 20.2 | 45.1 |
| MXV 25-310-60 O | 3 | 4 | M100 V1 | 25 | 160 | 50 | 511,5 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 822,5 | 250 | 137,5 | 412 | 21.5 | 46.4 |
| MXV 32-503-60 O | 1,5 | 2 | M90 V1 | 32 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 127,5 | 267,5 | 16.5 | 31.6 |
| MXV 32-504-60 O | 2,2 | 3 | M90 V1 | 32 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 662 | 200 | 127,5 | 267,5 | 16.7 | 35 |
| MXV 32-505-60 O | 2,2 | 3 | M90 V1 | 32 | 160 | 50 | 391 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 686 | 200 | 127,5 | 291,5 | 17.4 | 35.6 |
| MXV 32-506-60 O | 3 | 4 | M100 V1 | 32 | 160 | 50 | 415 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 726 | 250 | 137,5 | 315,5 | 18.8 | 43.8 |
| MXV 32-507-60 O | 3 | 4 | M100 V1 | 32 | 160 | 50 | 439 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 750 | 250 | 137,5 | 339,5 | 19.4 | 44.4 |
| MXV 32-508-60 O | 4 | 5,5 | M112 V1 | 32 | 160 | 50 | 463 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 774 | 250 | 137,5 | 363,5 | 20.1 | 49.3 |
| MXV 32-510-60 O | 4 | 5,5 | M112 V1 | 32 | 160 | 50 | 511,5 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 822,5 | 250 | 137,5 | 412 | 21.3 | 50.5 |
| MXV 40-903-60 O | 2,2 | 3 | M90 V1 | 40 | 200 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 295 | 706,5 | 200 | 127,5 | 312 | 21 | 39.3 |
| MXV 40-904-60 O | 3 | 4 | M100 V1 | 40 | 200 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 722,5 | 250 | 137,5 | 312 | 22 | 46.9 |
| MXV 40-905-60 O | 4 | 5,5 | M112 V1 | 40 | 200 | 80 | 441,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 752,5 | 250 | 137,5 | 342 | 22.8 | 52 |
| MXV 40-906-60 O | 4 | 5,5 | M112 V1 | 40 | 200 | 80 | 471,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 782,5 | 250 | 137,5 | 372 | 23.6 | 52.8 |
| MXV 40-907-60 O | 5,5 | 7,5 | M132 V1 | 40 | 200 | 80 | 588 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 927 | 300 | 159,5 | 402 | 35.5 | 78.1 |
| MXV 40-908-60 O | 5,5 | 7,5 | M132 V1 | 40 | 200 | 80 | 618,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 957,5 | 300 | 159,5 | 432,5 | 36.4 | 79 |

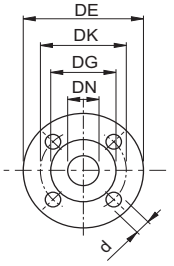
(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)
(4) Posición estándar caja de bornes. (otras posiciones girando el motor a 90° o 180°)

(6) Net weight
(6) Peso neto

## Dimensions and weights - Dimensiones y pesos



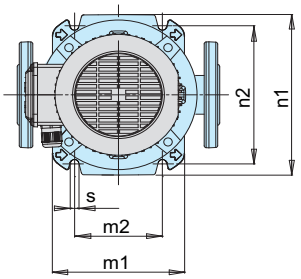



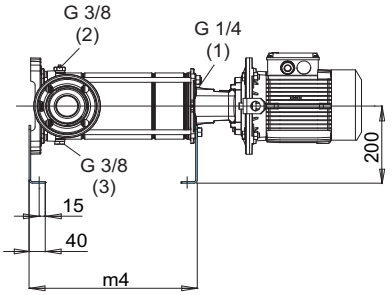

**Flanges**
**Bridas** EN 1092-1 PN 25 - 40

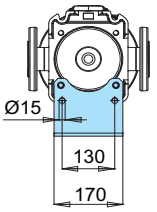
| DN | DE | DK | DG | Holes Agujeros N. | Ø |
|---|---|---|---|---|---|
| 25 | 115 | 85 | 65 | 4 | 14 |
| 32 | 140 | 100 | 76 | 4 | 19 |
| 40 | 150 | 110 | 84 | 4 | 19 |

(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(5) MXV EI (H) : + 3 kg

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(5) MXV EI (H) : + 3 kg




| Pump Bomba | kW | HP | | mm DN | a | h1 | f | n1 | n2 | m1 | m2 | s | g1 | (6) M | fM | P | (6) AD | m4 | **without** motor **sin** motor (5)(6) kg | **with** motor **con** motor (5)(6) kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV 25-303-60 | 1,1 | 1,5 | M80 V1 | 25 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 127,5 | 283 | 19.1 | 32.7 |
| MXV 25-304-60 | 1,1 | 1,5 | M80 V1 | 25 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 127,5 | 283 | 19.3 | 33 |
| MXV 25-305-60 | 1,5 | 2 | M90 V1 | 25 | 250 | 75 | 406,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 661,5 | 200 | 127,5 | 307 | 20 | 35.1 |
| MXV 25-306-60 | 2,2 | 3 | M90 V1 | 25 | 250 | 75 | 430,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 725,5 | 200 | 127,5 | 331 | 20.7 | 38.9 |
| MXV 25-307-60 | 2,2 | 3 | M90 V1 | 25 | 250 | 75 | 454,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 749,5 | 200 | 127,5 | 355 | 21.4 | 39.6 |
| MXV 25-308-60 | 3 | 4 | M100 V1 | 25 | 250 | 75 | 478,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 789,5 | 250 | 137,5 | 379 | 22.9 | 47.8 |
| MXV 25-310-60 | 3 | 4 | M100 V1 | 25 | 250 | 75 | 527 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 838 | 250 | 137,5 | 427,5 | 24.3 | 49.2 |
| MXV 25-312-60 | 4 | 5,5 | M112 V1 | 25 | 250 | 75 | 575,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 886,5 | 250 | 137,5 | 476 | 25.7 | 54.9 |
| MXV 25-314-60 | 4 | 5,5 | M112 V1 | 25 | 250 | 75 | 623,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 934,5 | 250 | 137,5 | 524 | 27 | 56.2 |
| MXV 32-503-60 | 1,5 | 2 | M90 V1 | 32 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 127,5 | 283 | 20.3 | 35.4 |
| MXV 32-504-60 | 2,2 | 3 | M90 V1 | 32 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 677,5 | 200 | 127,5 | 283 | 20.5 | 38.8 |
| MXV 32-505-60 | 2,2 | 3 | M90 V1 | 32 | 250 | 75 | 406,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 701,5 | 200 | 127,5 | 307 | 21.2 | 39.5 |
| MXV 32-506-60 | 3 | 4 | M100 V1 | 32 | 250 | 75 | 430,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 741,5 | 250 | 137,5 | 331 | 22.7 | 47.7 |
| MXV 32-507-60 | 3 | 4 | M100 V1 | 32 | 250 | 75 | 454,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 765,5 | 250 | 137,5 | 355 | 23.4 | 48.3 |
| MXV 32-508-60 | 4 | 5,5 | M112 V1 | 32 | 250 | 75 | 478,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 789,5 | 250 | 137,5 | 379 | 24.1 | 53.3 |
| MXV 32-510-60 | 4 | 5,5 | M112 V1 | 32 | 250 | 75 | 527 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 838 | 250 | 137,5 | 427,5 | 25.4 | 54.6 |
| MXV 32-512-60 | 5,5 | 7,5 | M132 V1 | 32 | 250 | 75 | 662 | 205 | 180 | 165 | 100 | 13 | 35,5 | 339 | 1001 | 300 | 137,5 | 476 | 37.9 | 80.5 |
| MXV 32-514-60 | 5,5 | 7,5 | M132 V1 | 32 | 250 | 75 | 710 | 205 | 180 | 165 | 100 | 13 | 35,5 | 339 | 1049 | 300 | 137,5 | 524 | 39.2 | 81.8 |
| MXV 40-903-60 | 2,2 | 3 | M90 V1 | 40 | 280 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 295 | 706,5 | 200 | 127,5 | 312 | 23.2 | 41.4 |
| MXV 40-904-60 | 3 | 4 | M100 V1 | 40 | 280 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 722,5 | 250 | 137,5 | 312 | 24.2 | 49.1 |
| MXV 40-905-60 | 4 | 5,5 | M112 V1 | 40 | 280 | 80 | 441,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 752,5 | 250 | 137,5 | 342 | 25 | 54.2 |
| MXV 40-906-60 | 4 | 5,5 | M112 V1 | 40 | 280 | 80 | 471,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 782,5 | 250 | 137,5 | 372 | 25.8 | 55 |
| MXV 40-907-60 | 5,5 | 7,5 | M132 V1 | 40 | 280 | 80 | 588 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 927 | 300 | 159,5 | 402 | 37.7 | 80.3 |
| MXV 40-908-60 | 5,5 | 7,5 | M132 V1 | 40 | 280 | 80 | 618,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 957,5 | 300 | 159,5 | 432,5 | 38.6 | 81.2 |
| MXV 40-910-60 | 7,5 | 10 | M132 V1 | 40 | 280 | 80 | 678,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 1017,5 | 300 | 159,5 | 492,5 | 40.2 | 88 |
| MXV 40-911-60 | 7,5 | 10 | M132 V1 | 40 | 280 | 80 | 708,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 1047,5 | 300 | 159,5 | 522,5 | 41 | 88.8 |

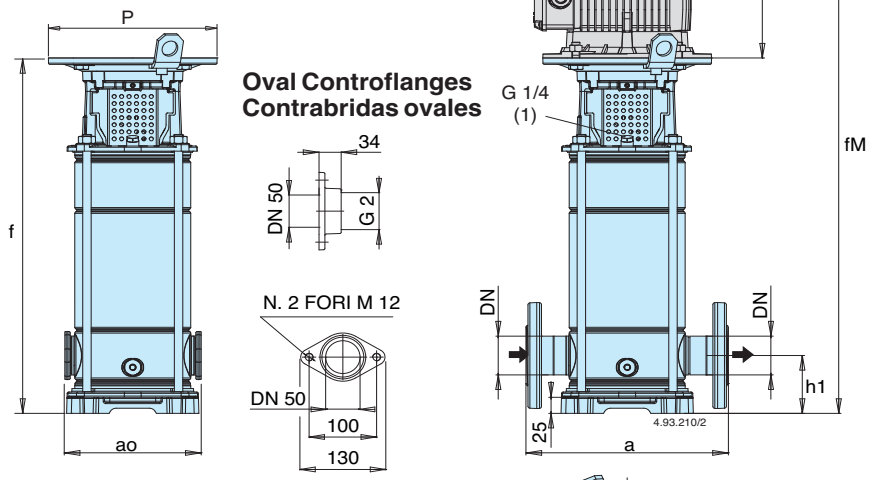
(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)
(4) Posición estándar caja de bornes. (otras posiciones girando el motor a 90° o 180°)

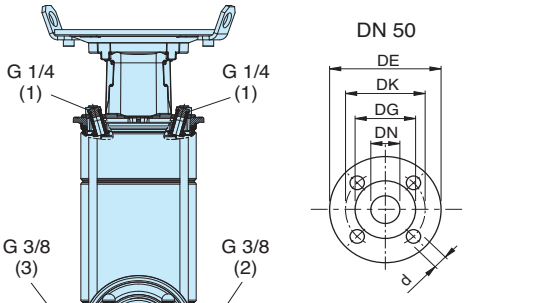
(6) Net weight
(6) Peso neto

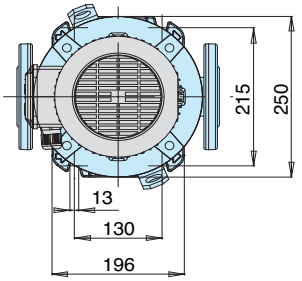
## Dimensions and weights - Dimensiones y pesos

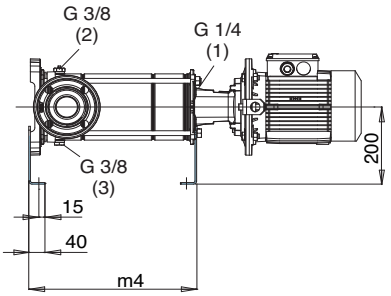
**Flanges**
**Bridas** EN 1092-2 PN 25

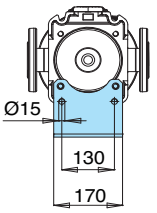
| DN | DE | DK | DG | Holes N. | Holes Ø |
|---|---|---|---|---|---|
| 50 | 165 | 125 | 99 | 4 | 19 |




(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(8) Oval flanges MXV (O)

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(8) Bridas ovales MXV (O)

| Pump Bomba | Motor | | | mm | | | | | | | | | | **without** motor **sin** motor MXV (5) kg (7) | | **with** motor **con** motor (6) kg (7) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | DN | a | (8) ao | h1 | f | (6) M | fM | P | (6) AD | m4 | | (8) | | (8) |
| MXV 50-1501-60 | 1,5 | 2 | M90 V1 | 50 | 300 | 200 | 90 | 438 | 295 | 733 | 200 | 127,5 | 313 | 27,1 | 24,3 | 42,6 | 39,5 |
| MXV 50-1502-60 | 3 | 4 | M100 V1 | 50 | 300 | 200 | 90 | 438 | 311 | 749 | 250 | 137,5 | 313 | 28,9 | 26,1 | 54,5 | 51,7 |
| MXV 50-1503-60 | 4 | 5,5 | M112 V1 | 50 | 300 | 200 | 90 | 486 | 311 | 797 | 250 | 137,5 | 361 | 30,3 | 27,6 | 58,1 | 55,4 |
| MXV 50-1504-60 | 5,5 | 7,5 | M132 V1 | 50 | 300 | 200 | 90 | 597 | 339 | 936 | 300 | 159,5 | 409 | 41,3 | 38,5 | 83,6 | 80,8 |
| MXV 50-1505-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 645 | 339 | 984 | 300 | 159,5 | 457 | 42,8 | 40,0 | 90,5 | 87,7 |
| MXV 50-1506-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 693 | 339 | 1032 | 300 | 159,5 | 505 | 44,3 | 41,5 | 92,0 | 89,2 |
| MXV 50-1507-60 | 9,2 | 12,5 | M160 V1 | 50 | 300 | 200 | 90 | 771 | 413 | 1184 | 350 | 186 | 553 | 52,0 | 49,2 | | |
| MXV 50-1508-60 | 11 | 15 | M160 V1 | 50 | 300 | | 90 | 819 | 459 | 1278 | 350 | 186 | 601 | 53,5 | | 129,5 | |
| MXV 50-1509-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 867 | 484 | 1351 | 350 | 186 | 649 | 54,9 | | 156,9 | |
| MXV 50-1510-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 915 | 484 | 1399 | 350 | 186 | 697 | 56,4 | | 158,4 | |
| MXV 50-1511-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 963 | 484 | 1447 | 350 | 186 | 745 | 57,8 | | 159,8 | |
| MXV 50-1512-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 1011 | 484 | 1495 | 350 | 186 | 793 | 59,3 | | 161,3 | |
| MXV 50-2001-60 | 2,2 | 3 | M90 V1 | 50 | 300 | 200 | 90 | 438 | 295 | 733 | 200 | 127,5 | 313 | 27,1 | 24,3 | 45,2 | 42,4 |
| MXV 50-2002-60 | 4 | 5,5 | M112 V1 | 50 | 300 | 200 | 90 | 438 | 311 | 749 | 250 | 137,5 | 313 | 28,9 | 26,1 | 56,7 | 53,9 |
| MXV 50-2003-60 | 5,5 | 7,5 | M132 V1 | 50 | 300 | 200 | 90 | 549 | 339 | 888 | 300 | 159,5 | 361 | 39,9 | 37,1 | 82,2 | 79,4 |
| MXV 50-2004-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 597 | 339 | 936 | 300 | 159,5 | 409 | 41,3 | 38,5 | 89,0 | 86,2 |
| MXV 50-2005-60 | 9,2 | 12,5 | M160 V1 | 50 | 300 | 200 | 90 | 675 | 413 | 1088 | 350 | 186 | 457 | 49,1 | 46,3 | | |
| MXV 50-2006-60 | 11 | 15 | M160 V1 | 50 | 300 | 200 | 90 | 723 | 459 | 1182 | 350 | 186 | 505 | 50,6 | 47,8 | 126,6 | 123,8 |
| MXV 50-2007-60 | 15 | 20 | M160 V1 | 50 | 300 | 200 | 90 | 771 | 484 | 1255 | 350 | 186 | 553 | 52,0 | 49,2 | 154,0 | 151,2 |
| MXV 50-2008-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 819 | 484 | 1303 | 350 | 186 | 601 | 53,5 | | 155,5 | |
| MXV 50-2009-60 | 18,5 | 25 | M160 V1 | 50 | 300 | | 90 | 867 | 538 | 1405 | 350 | 206 | 649 | 54,9 | | - | |
| MXV 50-2010-60 | 18,5 | 25 | M160 V1 | 50 | 300 | | 90 | 915 | 538 | 1453 | 350 | 206 | 697 | 56,4 | | - | |

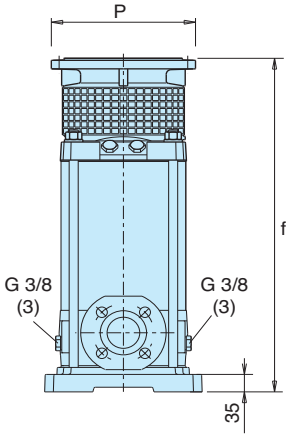
(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)
(4) Posición estándar caja de bornes (otras posiciones girando el motor a 90° o 180°)

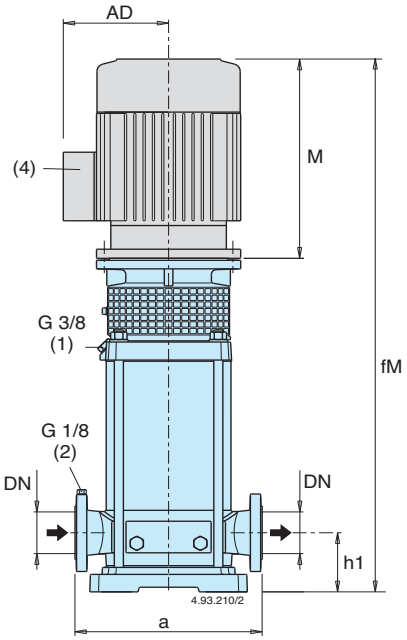
(5) MXV (L) : + 3 kg
MXV (H) : + 3 kg

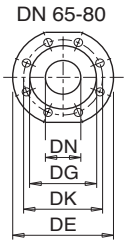
(6) With standard motor
(6) Con motor estándar

(7) Net weight
(7) Peso neto

## Dimensions and weights - Dimensiones y pesos

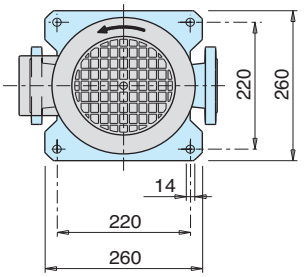


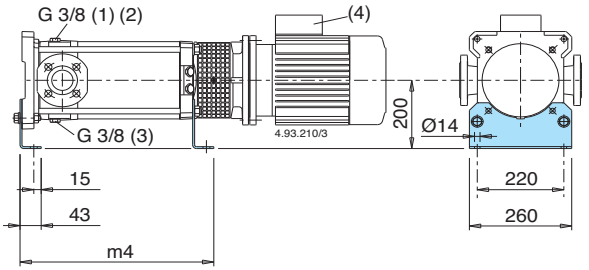




**Flanges**
**Bridas** EN 1092-2 PN 25 - 40

| DN | DE | DK | DG | Holes Agujeros N. | Holes Agujeros Ø |
|---|---|---|---|---|---|
| 65 | 185 | 145 | 118 | 8 | 19 |
| 80 | 200 | 160 | 132 | 8 | 19 |




(1) Filling and air vent
(2) Air vent suction side
(3) Draining

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado

| Pump Bomba | Motor | | | mm | | | | | | | | | **without** motor **sin** motor | **with** motor **con** motor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | DN | a | h1 | f | (6) M | fM | P | (6) AD | m4 | MXV (5) kg (7) | (6) kg (7) |
| MXV 65-3202-60/C | 7,5 | 10 | M132 V1 | 65 | 320 | 105 | 427 | 339 | 766 | 300 | 159,5 | 334 | 49 | 96,7 |
| MXV 65-3203-60/D | 11 | 15 | M160 V1 | 65 | 320 | 105 | 473 | 459 | 932 | 350 | 186 | 380 | 58 | 134 |
| MXV 65-3204-60/D | 15 | 20 | M160 V1 | 65 | 320 | 105 | 549 | 484 | 1033 | 350 | 186 | 426 | 59 | 161 |
| MXV 65-3205-60/E | 18,5 | 25 | M160 V1 | 65 | 320 | 105 | 595 | 538 | 1133 | 350 | 206 | 472 | 61 | - |
| MXV 65-3206-60/D | 22 | 30 | M180 V1 | 65 | 320 | 105 | 641 | 538 | 1179 | 350 | 206 | 518 | 62 | 191,3 |
| MXV 65-3207-60/D | 22 | 30 | M180 V1 | 65 | 320 | 105 | 687 | 538 | 1225 | 350 | 206 | 564 | 64 | 193,3 |
| | | | | | | | | | | | | | | |
| MXV 80-4801-60/C | 5,5 | 7,5 | M132 V1 | 80 | 320 | 105 | 431 | 339 | 770 | 300 | 159,5 | 338 | 49 | 91,3 |
| MXV 80-4802-60/D | 11 | 15 | M160 V1 | 80 | 320 | 105 | 496 | 459 | 955 | 350 | 186 | 373 | 59 | 135 |
| MXV 80-4803-60/D | 15 | 20 | M160 V1 | 80 | 320 | 105 | 557 | 484 | 1041 | 350 | 186 | 434 | 61 | 163 |
| MXV 80-4804-60/E | 18,5 | 25 | M160 V1 | 80 | 320 | 105 | 618 | 538 | 1156 | 350 | 206 | 495 | 64 | - |
| MXV 80-4805-60/D | 22 | 30 | M180 V1 | 80 | 320 | 105 | 680 | 538 | 1218 | 350 | 206 | 557 | 66 | 195,3 |

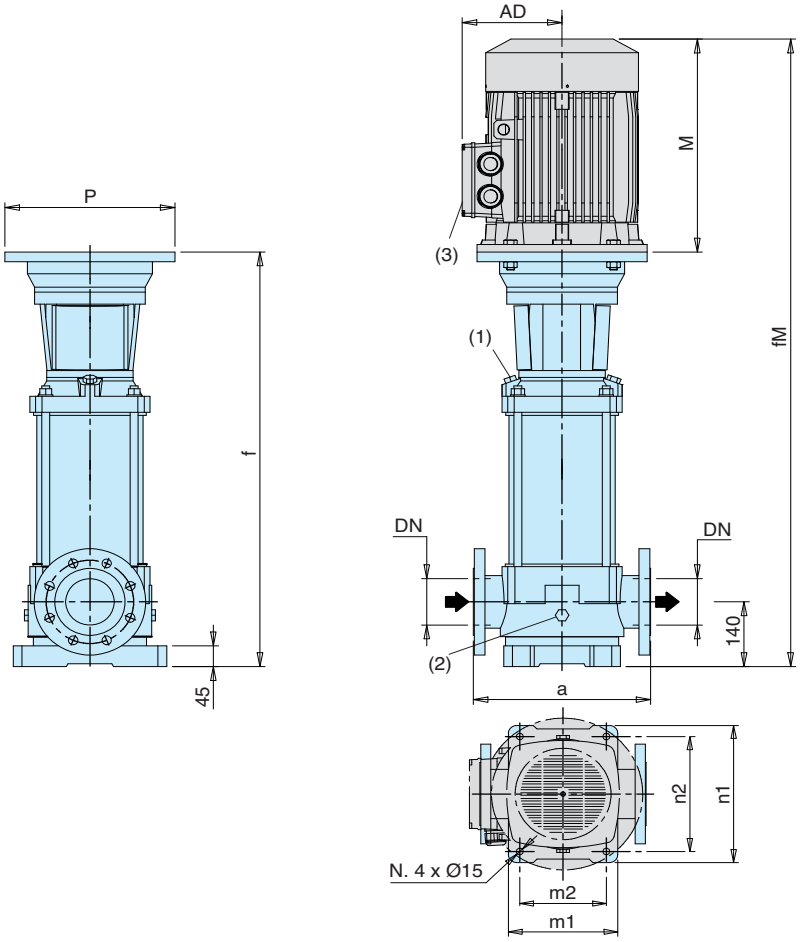
(4) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)
(4) Posición estándar caja de bornes (otras posiciones girando el motor a 90° o 180°)

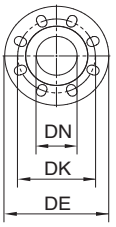
(5) MXV (L) : + 3 kg
MXV (H) : + 3 kg

(6) With standard motor
(6) Con motor estándar

(7) Net weight
(7) Peso neto

## Dimensions and weights - Dimensiones y pesos




**Flanges**
**Bridas** EN 1092-2

| DN | PN | DE | DK | Holes Agujeros N. | Holes Agujeros Ø |
|---|---|---|---|---|---|
| 100 | 16 | 230 | 180 | 8 | 19 |
| 100 | 25 | 225 | 190 | 8 | 23 |

(1) Filling and air vent
(2) Draining

(1) Llenado y purga
(2) Vaciado

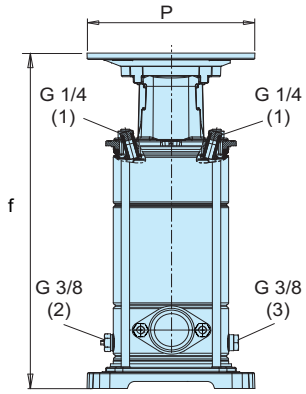
| Pump Bomba | Motor kW | Motor HP | Motor | PN | mm a | f | n1 | n2 | m1 | m2 | (4) M | fm | P | AD | **without** motor **sin** motor kg (5) | **with** motor **con** motor (4) kg (5) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV(L) 100-6501-1R-60/A | 7,5 | 10 | M132V1 | 16 | 365 | 737 | 316 | 265 | 240 | 190 | 339 | 1076 | 300 | 159,5 | 81 | 128,7 |
| MXV(L) 100-6501-60/A | 11 | 15 | M160V1 | 16 | 365 | 757 | 316 | 265 | 240 | 190 | 459 | 1216 | 350 | 186 | 84 | 160 |
| MXV(L) 100-6502-2R-60/A | 15 | 20 | M160V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 484 | 1333 | 350 | 186 | 88,5 | 190,5 |
| MXV(L) 100-6502-1R-60/B | 18,5 | 25 | M160V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 538 | 1387 | 350 | 206 | 88,5 | 210,5 |
| MXV(L) 100-6502-60/A | 22 | 30 | M180V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 538 | 1387 | 350 | 206 | 89 | 218,3 |
| MXV(L) 100-6503-2R-60/A | 22 | 30 | M180V1 | 16 | 365 | 941 | 316 | 265 | 240 | 190 | 538 | 1479 | 350 | 206 | 92,5 | 221,8 |
| MXV(L) 100-6503-1R-60/A | 30 | 40 | M200V1 | 16 | 365 | 946 | 316 | 265 | 240 | 190 | 721 | 1667 | 400 | 315 | 96 | 269 |
| MXV(L) 100-6503-60/A | 30 | 40 | M200V1 | 16 | 365 | 946 | 316 | 265 | 240 | 190 | 721 | 1667 | 400 | 315 | 96 | 269 |
| MXV(L) 100-6504-2R-60/A | 37 | 50 | M200V1 | 16 | 365 | 1038 | 316 | 265 | 240 | 190 | 721 | 1759 | 400 | 315 | 100,5 | 294,5 |
| MXV(L) 100-6504-1R-60/A | 37 | 50 | M200V1 | 16 | 365 | 1038 | 316 | 265 | 240 | 190 | 721 | 1759 | 400 | 315 | 100,5 | 294,5 |
| MXV(L) 100-6504-60/A | 45 | 60 | M225V1 | 16 | 365 | 1038 | 316 | 265 | 240 | 190 | 818 | 1856 | 450 | 338 | 102,5 | 417,5 |
| MXV(L) 100-6505-2R-60/A | 45 | 60 | M225V1 | 25 | 365 | 1130 | 316 | 265 | 240 | 190 | 818 | 1948 | 450 | 338 | 107 | 422 |
| MXV(L) 100-6505-1R-60/A | 45 | 60 | M225V1 | 25 | 365 | 1130 | 316 | 265 | 240 | 190 | 818 | 1948 | 450 | 338 | 107 | 422 |
| | | | | | | | | | | | | | | | | |
| MXV(L) 100-9001-1R-60/A | 11 | 15 | M160V1 | 16 | 380 | 757 | 341 | 280 | 260 | 199 | 459 | 1216 | 350 | 186 | 85,5 | 161,5 |
| MXV(L) 100-9001-60/A | 15 | 20 | M160V1 | 16 | 380 | 757 | 341 | 280 | 260 | 199 | 484 | 1241 | 350 | 186 | 85,5 | 187,5 |
| MXV(L) 100-9002-2R-60/B | 18,5 | 25 | M160V1 | 16 | 380 | 849 | 341 | 280 | 260 | 199 | 538 | 1387 | 350 | 206 | 89 | 211 |
| MXV(L) 100-9002-1R-60/A | 22 | 30 | M180V1 | 16 | 380 | 849 | 341 | 280 | 260 | 199 | 538 | 1387 | 350 | 206 | 89 | 218,3 |
| MXV(L) 100-9002-60/A | 30 | 40 | M200V1 | 16 | 380 | 854 | 341 | 280 | 260 | 199 | 721 | 1575 | 400 | 315 | 92 | 265 |
| MXV(L) 100-9003-2R-60/A | 37 | 50 | M200V1 | 16 | 380 | 946 | 341 | 280 | 260 | 199 | 721 | 1667 | 400 | 315 | 95,5 | 289,5 |
| MXV(L) 100-9003-1R-60/A | 37 | 50 | M200V1 | 16 | 380 | 946 | 341 | 280 | 260 | 199 | 721 | 1667 | 400 | 315 | 95,5 | 289,5 |
| MXV(L) 100-9003-60/A | 45 | 60 | M225V1 | 16 | 380 | 946 | 341 | 280 | 260 | 199 | 818 | 1764 | 450 | 338 | 98 | 413 |
| MXV(L) 100-9004-2R-60/A | 45 | 60 | M225V1 | 16 | 380 | 1038 | 341 | 280 | 260 | 199 | 818 | 1856 | 450 | 338 | 101,5 | 416,5 |

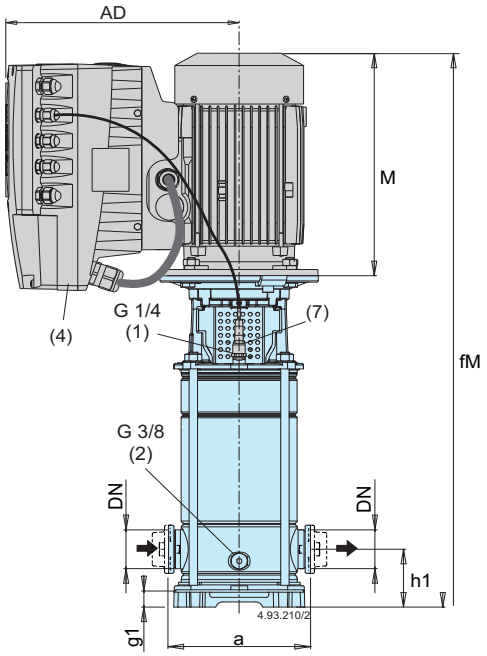
(3) Standard position of terminal box. (for other positions rotate motor through 90° or 180°)
(3) Posición estándar caja de bornes (otras posiciones girando el motor a 90° o 180°)

(4) With standard motor
(4) Con motor estándar

(5) Net weight
(5) Peso neto

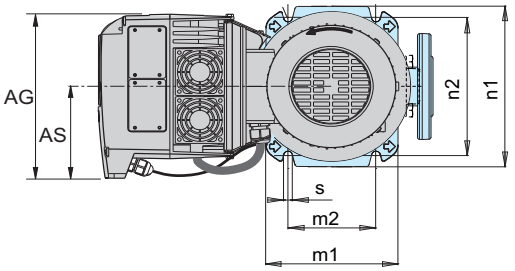
## Dimensions and weights - Dimensiones y pesos



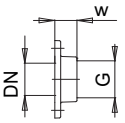




(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(5) MXV EI (H) : + 3 kg
(7) Pressure transducer

(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(5) MXV EI (H) : + 3 kg
(7) Transductores



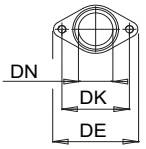

### Oval Controflanges
### Contrabridas ovales




PN 16

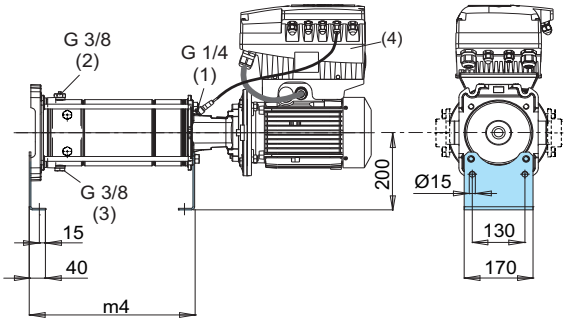
| DN | G | w | Holes Agujeros N. | Ø |
|---|---|---|---|---|
| 25 | 1 | 23 | 2 | 12 |
| 32 | 1 1/4 | 23 | 2 | 12 |
| 40 | 1 1/2 | 26 | 2 | 15 |

### Oval Flanges
### Bridas ovales




PN 16

| DN | DE | DK | Holes Agujeros N. | Ø |
|---|---|---|---|---|
| 25 | 95 | 75 | 2 | M10 |
| 32 | 95 | 75 | 2 | M10 |
| 40 | 125 | 100 | 2 | M12 |

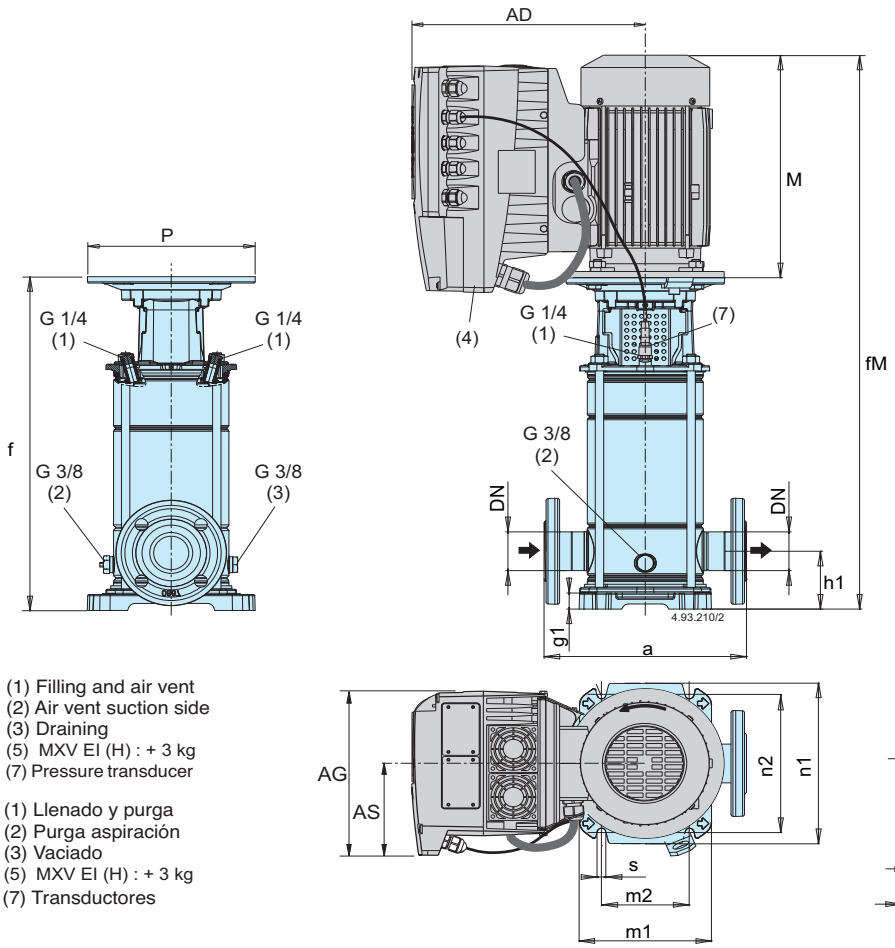


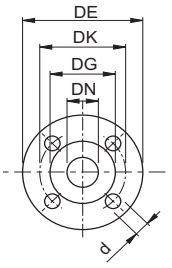

| Pump Bomba | kW | HP | | mm DN | a | h1 | f | n1 | n2 | m1 | m2 | s | g1 | M | fM | P | AD | AG | AS | m4 | (5) (6) kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MXV EI 25-303-60 O | 1,1 | 1,5 | M80 V1 | 25 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 286 | 190 | 105 | 267,5 | 36.8 |
| MXV EI 25-304-60 O | 1,1 | 1,5 | M80 V1 | 25 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 286 | 190 | 105 | 267,5 | 37.0 |
| MXV EI 25-305-60 O | 1,5 | 2 | M90 V1 | 25 | 160 | 50 | 391 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 646 | 200 | 286 | 190 | 105 | 291,5 | 39.2 |
| MXV EI 25-306-60 O | 2,2 | 3 | M90 V1 | 25 | 160 | 50 | 415 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 710 | 200 | 286 | 210 | 118 | 315,5 | 43.9 |
| MXV EI 25-307-60 O | 2,2 | 3 | M90 V1 | 25 | 160 | 50 | 439 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 734 | 200 | 286 | 210 | 118 | 339,5 | 44.5 |
| MXV EI 25-308-60 O | 3 | 4 | M100 V1 | 25 | 160 | 50 | 463 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 774 | 250 | 294 | 210 | 118 | 363,5 | 52.7 |
| MXV EI 25-310-60 O | 3 | 4 | M100 V1 | 25 | 160 | 50 | 511,5 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 822,5 | 250 | 294 | 210 | 118 | 412 | 54 |
| MXV EI 32-503-60 O | 1,5 | 2,2 | M90 V1 | 32 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 255 | 622 | 200 | 286 | 190 | 105 | 267,5 | 38.2 |
| MXV EI 32-504-60 O | 2,2 | 3 | M90 V1 | 32 | 160 | 50 | 367 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 662 | 200 | 286 | 210 | 118 | 267,5 | 42.6 |
| MXV EI 32-505-60 O | 2,2 | 3 | M90 V1 | 32 | 160 | 50 | 391 | 205 | 180 | 165 | 100 | 13 | 20 | 295 | 686 | 200 | 286 | 210 | 118 | 291,5 | 43.2 |
| MXV EI 32-506-60 O | 3 | 4 | M100 V1 | 32 | 160 | 50 | 415 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 726 | 250 | 294 | 210 | 118 | 315,5 | 51.4 |
| MXV EI 32-507-60 O | 3 | 4 | M100 V1 | 32 | 160 | 50 | 439 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 750 | 250 | 294 | 210 | 118 | 339,5 | 52 |
| MXV EI 32-508-60 O | 4 | 5,5 | M112 V1 | 32 | 160 | 50 | 463 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 774 | 250 | 294 | 210 | 118 | 363,5 | 56.9 |
| MXV EI 32-510-60 O | 4 | 5,5 | M112 V1 | 32 | 160 | 50 | 511,5 | 205 | 180 | 165 | 100 | 13 | 20 | 311 | 822,5 | 250 | 294 | 210 | 118 | 412 | 58.1 |
| MXV EI 40-903-60 O | 2,2 | 3 | M90 V1 | 40 | 200 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 295 | 706,5 | 200 | 286 | 210 | 118 | 312 | 46.9 |
| MXV EI 40-904-60 O | 3 | 4 | M100 V1 | 40 | 200 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 722,5 | 250 | 294 | 210 | 118 | 312 | 54.5 |
| MXV EI 40-905-60 O | 4 | 5,5 | M112 V1 | 40 | 200 | 80 | 441,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 752,5 | 250 | 294 | 210 | 118 | 342 | 59.6 |
| MXV EI 40-906-60 O | 4 | 5,5 | M112 V1 | 40 | 200 | 80 | 471,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 782,5 | 250 | 294 | 210 | 118 | 372 | 60.4 |
| MXV EI 40-907-60 O | 5,5 | 7,5 | M132 V1 | 40 | 200 | 80 | 588 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 927 | 300 | 368 | 281 | 153 | 402 | 85.9 |
| MXV EI 40-908-60 O | 5,5 | 7,5 | M132 V1 | 40 | 200 | 80 | 618,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 957,5 | 300 | 368 | 281 | 153 | 432,5 | 86.8 |

(4) Standard position of I-MAT (for other positions rotate motor through 90° or 180°)
(4) Posición estándar I-MAT (otras posiciones girando el motor a 90° o 180°)

(6) Net weight
(6) Peso neto

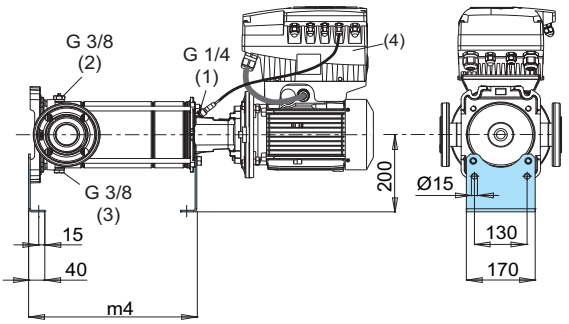
## Dimensions and weights - Dimensiones y pesos




**Flanges**
**Bridas** EN 1092-1 PN 25 - 40

| DN | DE | DK | DG | Holes Agujeros N. | Ø |
|---|---|---|---|---|---|
| 25 | 115 | 85 | 65 | 4 | 14 |
| 32 | 140 | 100 | 76 | 4 | 19 |
| 40 | 150 | 110 | 84 | 4 | 19 |




(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(5) MXV EI (H) : + 3 kg
(7) Pressure transducer

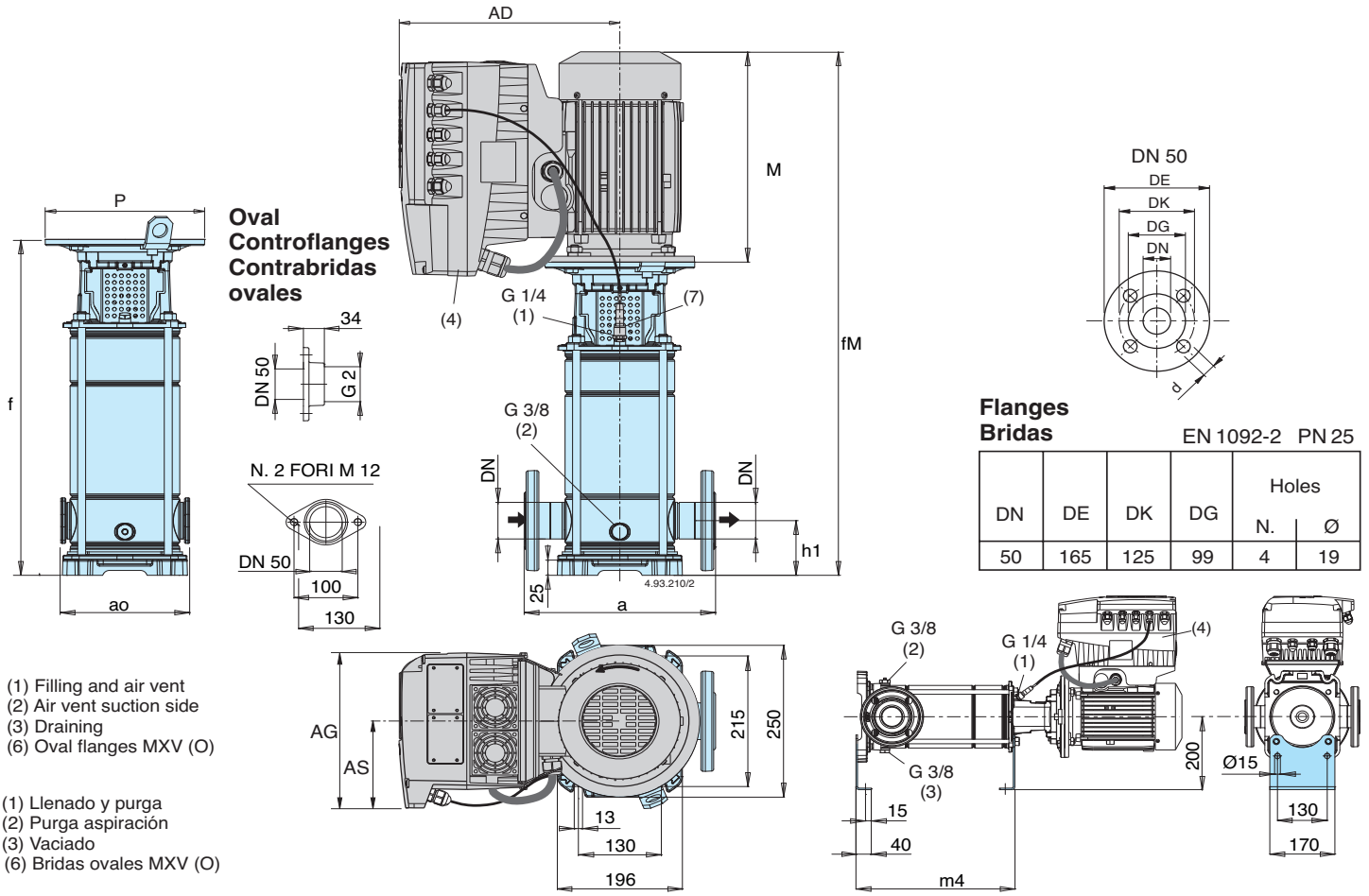
(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(5) MXV EI (H) : + 3 kg
(7) Transductores

| Pump Bomba | | | | mm | | | | | | | | | | | | | | | | | (5) (6) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | DN | a | h1 | f | n1 | n2 | m1 | m2 | s | g1 | M | fM | P | AD | AG | AS | m4 | kg |
| MXV EI 25-303-60 | 1,1 | 1,5 | M80 V1 | 25 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 286 | 190 | 105 | 283 | 39.3 |
| MXV EI 25-304-60 | 1,1 | 1,5 | M80 V1 | 25 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 286 | 190 | 105 | 307 | 39.6 |
| MXV EI 25-305-60 | 1,5 | 2 | M90 V1 | 25 | 250 | 75 | 406,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 661,5 | 200 | 286 | 190 | 105 | 331 | 41.7 |
| MXV EI 25-306-60 | 2,2 | 3 | M90 V1 | 25 | 250 | 75 | 430,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 725,5 | 200 | 286 | 210 | 118 | 355 | 46.5 |
| MXV EI 25-307-60 | 2,2 | 3 | M90 V1 | 25 | 250 | 75 | 454,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 749,5 | 200 | 286 | 210 | 118 | 379 | 47.2 |
| MXV EI 25-308-60 | 3 | 4 | M100 V1 | 25 | 250 | 75 | 478,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 789,5 | 250 | 294 | 210 | 118 | 427,5 | 55.4 |
| MXV EI 25-310-60 | 3 | 4 | M100 V1 | 25 | 250 | 75 | 527 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 838 | 250 | 294 | 210 | 118 | 476 | 56.8 |
| MXV EI 25-312-60 | 4 | 5,5 | M112 V1 | 25 | 250 | 75 | 575,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 886,5 | 250 | 294 | 210 | 118 | 524 | 62.5 |
| MXV EI 32-503-60 | 1,5 | 2,2 | M90 V1 | 32 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 255 | 637,5 | 200 | 286 | 190 | 105 | 283 | 42.0 |
| MXV EI 32-504-60 | 2,2 | 3 | M90 V1 | 32 | 250 | 75 | 382,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 677,5 | 200 | 286 | 210 | 118 | 307 | 46.4 |
| MXV EI 32-505-60 | 2,2 | 3 | M90 V1 | 32 | 250 | 75 | 406,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 295 | 701,5 | 200 | 286 | 210 | 118 | 331 | 47.1 |
| MXV EI 32-506-60 | 3 | 4 | M100 V1 | 32 | 250 | 75 | 430,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 741,5 | 250 | 294 | 210 | 118 | 355 | 55.3 |
| MXV EI 32-507-60 | 3 | 4 | M100 V1 | 32 | 250 | 75 | 454,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 765,5 | 250 | 294 | 210 | 118 | 379 | 55.9 |
| MXV EI 32-508-60 | 4 | 5,5 | M112 V1 | 32 | 250 | 75 | 478,5 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 789,5 | 250 | 294 | 210 | 118 | 427,5 | 60.9 |
| MXV EI 32-510-60 | 4 | 5,5 | M112 V1 | 32 | 250 | 75 | 527 | 205 | 180 | 165 | 100 | 13 | 35,5 | 311 | 838 | 250 | 294 | 210 | 118 | 476 | 62.2 |
| MXV EI 32-512-60 | 5,5 | 7,5 | M132 V1 | 32 | 250 | 75 | 662 | 205 | 180 | 165 | 100 | 13 | 35,5 | 339 | 1001 | 300 | 368 | 281 | 153 | 524 | 88.3 |
| MXV EI 40-903-60 | 2,2 | 3 | M90 V1 | 40 | 280 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 295 | 706,5 | 200 | 286 | 210 | 118 | 312 | 49 |
| MXV EI 40-904-60 | 3 | 4 | M100 V1 | 40 | 280 | 80 | 411,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 722,5 | 250 | 294 | 210 | 118 | 342 | 56.7 |
| MXV EI 40-905-60 | 4 | 5,5 | M112 V1 | 40 | 280 | 80 | 441,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 752,5 | 250 | 294 | 210 | 118 | 372 | 61.8 |
| MXV EI 40-906-60 | 4 | 5,5 | M112 V1 | 40 | 280 | 80 | 471,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 311 | 782,5 | 250 | 294 | 210 | 118 | 402 | 62.6 |
| MXV EI 40-907-60 | 5,5 | 7,5 | M132 V1 | 40 | 280 | 80 | 588 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 927 | 300 | 368 | 281 | 153 | 432,5 | 88.1 |
| MXV EI 40-908-60 | 5,5 | 7,5 | M132 V1 | 40 | 280 | 80 | 618,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 957,5 | 300 | 368 | 281 | 153 | 492,5 | 89 |
| MXV EI 40-910-60 | 7,5 | 10 | M132 V1 | 40 | 280 | 80 | 678,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 1017 | 300 | 368 | 281 | 153 | 522,5 | 95.8 |
| MXV EI 40-911-60 | 7,5 | 10 | M132 V1 | 40 | 280 | 80 | 708,5 | 250 | 215 | 190 | 130 | 14 | 30,5 | 339 | 1047 | 300 | 368 | 281 | 153 | 583,5 | 96.6 |

(4) Standard position of I-MAT (for other positions rotate motor through 90° or 180°)
(4) Posición estándar I-MAT (otras posiciones girando el motor a 90° o 180°)

(6) Net weight
(6) Peso neto

## Dimensions and weights - Dimensiones y pesos




| DN | DE | DK | DG | Holes N. | Holes Ø |
|---|---|---|---|---|---|
| 50 | 165 | 125 | 99 | 4 | 19 |

(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(6) Oval flanges MXV (O)

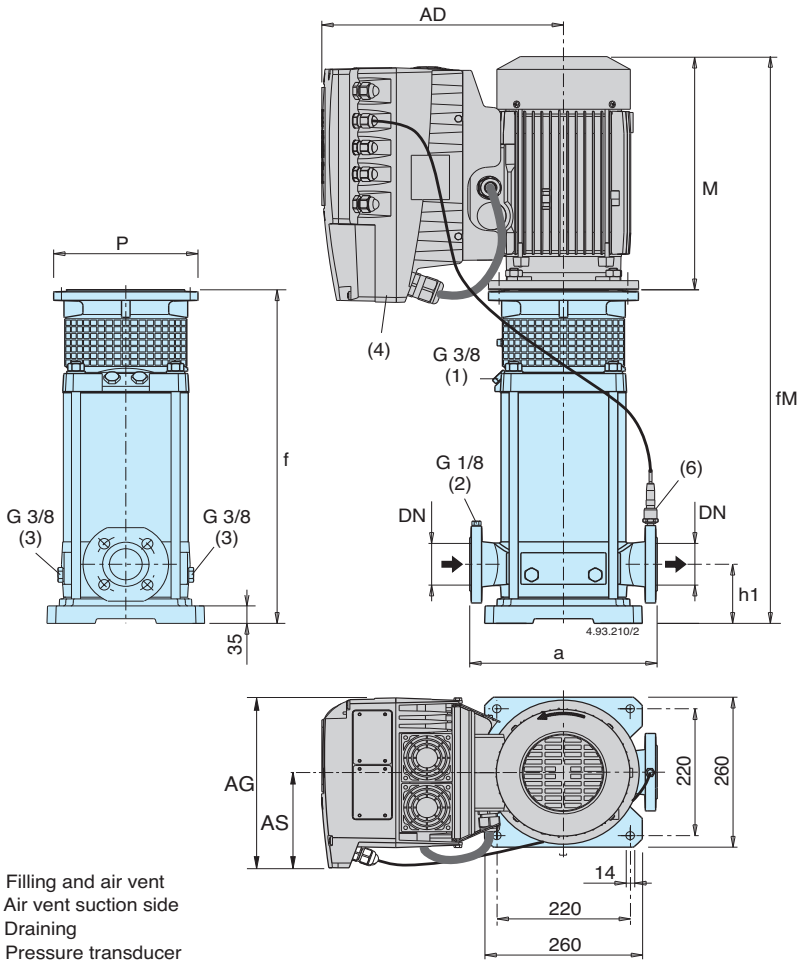
(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(6) Bridas ovales MXV (O)

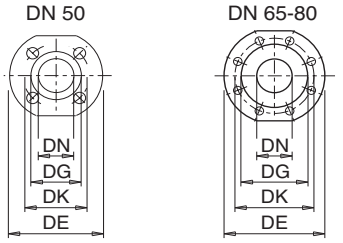
| Pump Bomba | Motor | | | mm | | | | | | | | | | | | MXV EI kg (5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | DN | a | (8) ao | h1 | f | M | fM | P | AD | AG | AS | m4 | | (6) |
| MXV EI 50-1501-60 | 1,5 | 2 | M90 V1 | 50 | 300 | 200 | 90 | 438 | 295 | 733 | 200 | 286 | 190 | 105 | 313 | 49,2 | 46,1 |
| MXV EI 50-1502-60 | 3 | 4 | M100 V1 | 50 | 300 | 200 | 90 | 438 | 311 | 749 | 250 | 294 | 210 | 118 | 313 | 62,0 | 59,2 |
| MXV EI 50-1503-60 | 4 | 5,5 | M112 V1 | 50 | 300 | 200 | 90 | 486 | 311 | 797 | 250 | 294 | 210 | 118 | 361 | 66,1 | 63,4 |
| MXV EI 50-1504-60 | 5,5 | 7,5 | M132 V1 | 50 | 300 | 200 | 90 | 597 | 339 | 936 | 300 | 368 | 281 | 153 | 409 | 99,1 | 95,6 |
| MXV EI 50-1505-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 645 | 339 | 984 | 300 | 368 | 281 | 153 | 457 | 105,3 | 102,5 |
| MXV EI 50-1506-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 693 | 339 | 1032 | 300 | 368 | 281 | 153 | 505 | 106,8 | 104,0 |
| MXV EI 50-1507-60 | 9,2 | 12,5 | M160 V1 | 50 | 300 | 200 | 90 | 771 | 413 | 1184 | 350 | 393 | 281 | 153 | 553 | | |
| MXV EI 50-1508-60 | 11 | 15 | M160 V1 | 50 | 300 | | 90 | 819 | 459 | 1278 | 350 | 393 | 281 | 153 | 601 | 144,3 | |
| MXV EI 50-1509-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 867 | 484 | 1351 | 350 | 471 | 350 | 190 | 649 | 191,9 | |
| MXV EI 50-1510-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 915 | 484 | 1399 | 350 | 471 | 350 | 190 | 697 | 193,4 | |
| MXV EI 50-1511-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 963 | 484 | 1447 | 350 | 471 | 350 | 190 | 745 | 194,8 | |
| MXV EI 50-1512-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 1011 | 484 | 1495 | 350 | 471 | 350 | 190 | 793 | 196,3 | |
| MXV EI 50-2001-60 | 2,2 | 3 | M90 V1 | 50 | 300 | 200 | 90 | 438 | 295 | 733 | 200 | 286 | 210 | 118 | 313 | 52,2 | 49,4 |
| MXV EI 50-2002-60 | 4 | 5,5 | M112 V1 | 50 | 300 | 200 | 90 | 438 | 311 | 749 | 250 | 294 | 210 | 118 | 313 | 64,7 | 61,9 |
| MXV EI 50-2003-60 | 5,5 | 7,5 | M132 V1 | 50 | 300 | 200 | 90 | 549 | 339 | 888 | 300 | 368 | 281 | 153 | 361 | 97,0 | 94,2 |
| MXV EI 50-2004-60 | 7,5 | 10 | M132 V1 | 50 | 300 | 200 | 90 | 597 | 339 | 936 | 300 | 368 | 281 | 153 | 409 | 103,8 | 101,0 |
| MXV EI 50-2005-60 | 9,2 | 12,5 | M160 V1 | 50 | 300 | 200 | 90 | 675 | 413 | 1088 | 350 | 393 | 281 | 153 | 457 | | |
| MXV EI 50-2006-60 | 11 | 15 | M160 V1 | 50 | 300 | 200 | 90 | 723 | 459 | 1182 | 350 | 393 | 281 | 153 | 505 | 141,4 | 138,6 |
| MXV EI 50-2007-60 | 15 | 20 | M160 V1 | 50 | 300 | 200 | 90 | 771 | 484 | 1255 | 350 | 471 | 350 | 190 | 553 | 189,0 | 186,2 |
| MXV EI 50-2008-60 | 15 | 20 | M160 V1 | 50 | 300 | | 90 | 819 | 484 | 1303 | 350 | 471 | 350 | 190 | 601 | 190,5 | |
| MXV EI 50-2009-60 | 18,5 | 25 | M160 V1 | 50 | 300 | | 90 | 867 | 538 | 1405 | 350 | 491 | 350 | 190 | 649 | - | |
| MXV EI 50-2010-60 | 18,5 | 25 | M160 V1 | 50 | 300 | | 90 | 915 | 538 | 1453 | 350 | 491 | 350 | 190 | 697 | - | |

(4) Standard position of I-MAT (for other positions rotate motor through 90° or 180°)
(4) Posición estándar I-MAT (otras posiciones girando el motor a 90° o 180°)

(5) Net weight
(5) Peso neto

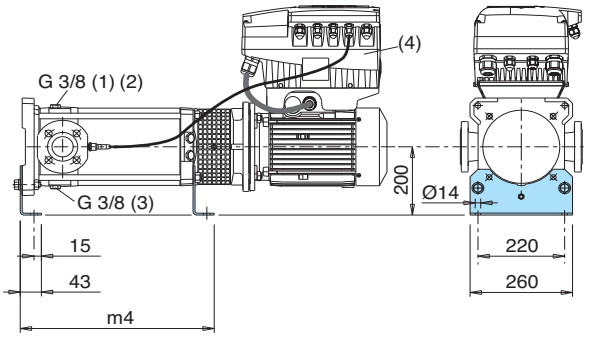
## Dimensions and weights - Dimensiones y pesos




**Flanges** EN 1092-2 PN 25 - 40

| DN | DE | DK | DG | Holes N. | Holes Ø |
|---|---|---|---|---|---|
| 65 | 185 | 145 | 118 | 8 | 19 |
| 80 | 200 | 160 | 132 | 8 | 19 |




(1) Filling and air vent
(2) Air vent suction side
(3) Draining
(6) Pressure transducer

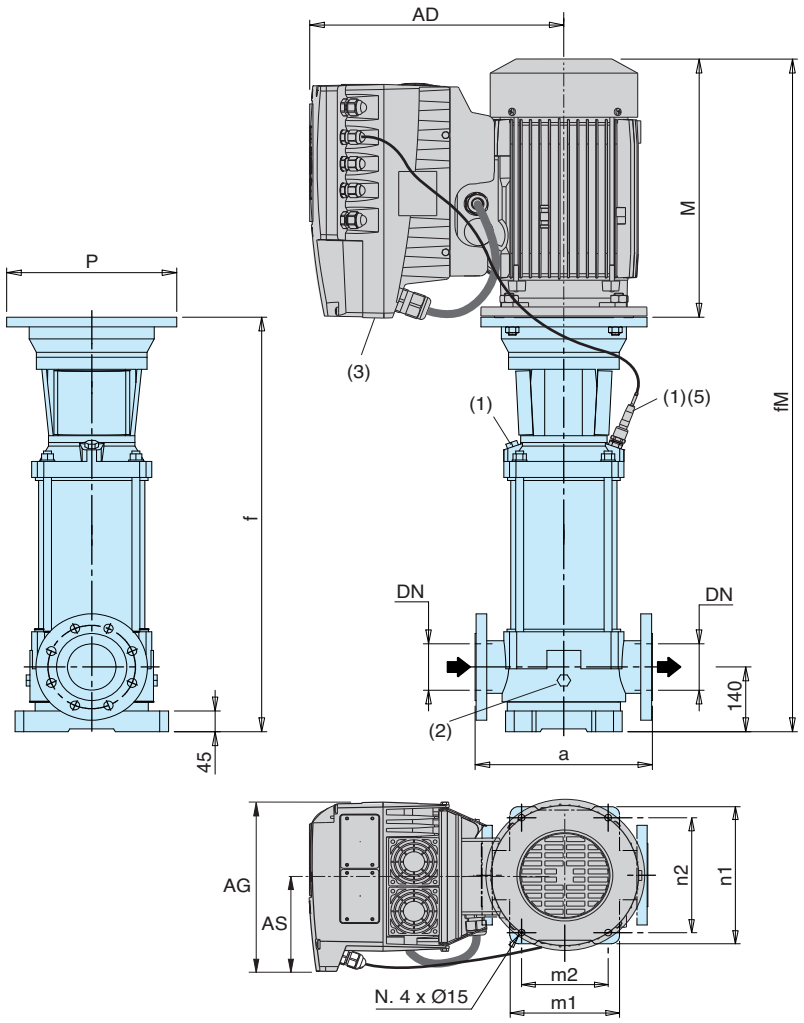
(1) Llenado y purga
(2) Purga aspiración
(3) Vaciado
(6) Transductores

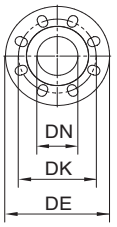
| Pump Bomba | Motor | | | mm | | | | | | | | | | | MXV EI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | DN | a | h1 | f | M | fM | P | AD | AG | AS | m4 | kg (5) |
| MXV EI 65-3202-60/C | 7,5 | 10 | M132 V1 | 65 | 320 | 105 | 427 | 339 | 766 | 300 | 368 | 281 | 153 | 334 | 110,2 |
| MXV EI 65-3203-60/D | 11 | 15 | M160 V1 | 65 | 320 | 105 | 473 | 459 | 932 | 350 | 393 | 281 | 153 | 380 | 147,5 |
| MXV EI 65-3204-60/D | 15 | 20 | M160 V1 | 65 | 320 | 105 | 549 | 484 | 1033 | 350 | 471 | 350 | 190 | 426 | 194 |
| MXV EI 65-3205-60/E | 18,5 | 25 | M160 V1 | 65 | 320 | 105 | 595 | 538 | 1133 | 350 | 491 | 350 | 190 | 472 | - |
| MXV EI 65-3206-60/D | 22 | 30 | M180 V1 | 65 | 320 | 105 | 641 | 538 | 1179 | 350 | 491 | 350 | 190 | 518 | 224,3 |
| MXV EI 65-3207-60/D | 22 | 30 | M180 V1 | 65 | 320 | 105 | 687 | 538 | 1225 | 350 | 491 | 350 | 190 | 564 | 226,3 |
| | | | | | | | | | | | | | | | |
| MXV EI 80-4801-60/C | 5,5 | 7,5 | M132 V1 | 80 | 320 | 105 | 431 | 339 | 770 | 300 | 368 | 281 | 153 | 338 | 104,8 |
| MXV EI 80-4802-60/D | 11 | 15 | M160 V1 | 80 | 320 | 105 | 496 | 459 | 955 | 350 | 393 | 281 | 153 | 373 | 148,5 |
| MXV EI 80-4803-60/D | 15 | 20 | M160 V1 | 80 | 320 | 105 | 557 | 484 | 1041 | 350 | 471 | 350 | 190 | 434 | 196 |
| MXV EI 80-4804-60/E | 18,5 | 25 | M160 V1 | 80 | 320 | 105 | 618 | 538 | 1156 | 350 | 491 | 350 | 190 | 495 | - |
| MXV EI 80-4805-60/D | 22 | 30 | M180 V1 | 80 | 320 | 105 | 680 | 538 | 1218 | 350 | 491 | 350 | 190 | 557 | 228,3 |

(4) Standard position of I-MAT (for other positions rotate motor through 90° or 180°)
(4) Posición estándar I-MAT (otras posiciones girando el motor a 90° o 180°)

(5) Net weight
(5) Peso neto

## Dimensions and weights - Dimensiones y pesos




**Flanges**
**Bridas** EN 1092-2

| DN | PN | DE | DK | Holes Agujeros N. | Holes Agujeros Ø |
|---|---|---|---|---|---|
| 100 | 16 | 230 | 180 | 8 | 19 |
| 100 | 25 | 225 | 190 | 8 | 23 |

(1) Filling and air vent
(2) Draining

(1) Llenado y purga
(2) Vaciado

| Pump Bomba | Motor | | | PN | mm | | | | | | | | | | | | MXV EI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | | | a | f | n1 | n2 | m1 | m2 | (6) M | fm | P | AD | AG | AS | kg (4) |
| MXV EI 100-6501-1R-60/A | 7,5 | 10 | M132V1 | 16 | 365 | 737 | 316 | 265 | 240 | 190 | 339 | 1076 | 300 | 368 | 281 | 153 | 143,5 |
| MXV EI 100-6501-60/A | 11 | 15 | M160V1 | 16 | 365 | 757 | 316 | 265 | 240 | 190 | 459 | 1216 | 350 | 393 | 281 | 153 | 174,8 |
| MXV EI 100-6502-2R-60/A | 15 | 20 | M160V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 484 | 1333 | 350 | 471 | 350 | 190 | 225,5 |
| MXV EI 100-6502-1R-60/B | 18,5 | 25 | M160V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 538 | 1387 | 350 | 491 | 350 | 190 | 245,5 |
| MXV EI 100-6502-60/A | 22 | 30 | M180V1 | 16 | 365 | 849 | 316 | 265 | 240 | 190 | 538 | 1387 | 350 | 491 | 350 | 190 | 253,3 |
| MXV EI 100-6503-2R-60/A | 22 | 30 | M180V1 | 16 | 365 | 941 | 316 | 265 | 240 | 190 | 538 | 1479 | 350 | 491 | 350 | 190 | 256,8 |
| | | | | | | | | | | | | | | | | | |
| MXV EI 100-9001-1R-60/A | 11 | 15 | M160V1 | 16 | 380 | 757 | 341 | 280 | 260 | 199 | 459 | 1196 | 350 | 393 | 281 | 153 | 176,3 |
| MXV EI 100-9001-60/A | 15 | 20 | M160V1 | 16 | 380 | 757 | 341 | 280 | 260 | 199 | 484 | 1241 | 350 | 471 | 350 | 190 | 222,5 |
| MXV EI 100-9002-2R-60/B | 18,5 | 25 | M160V1 | 16 | 380 | 849 | 341 | 280 | 260 | 199 | 538 | 1387 | 350 | 491 | 350 | 190 | 246 |
| MXV EI 100-9002-1R-60/A | 22 | 30 | M180V1 | 16 | 380 | 849 | 341 | 280 | 260 | 199 | 538 | 1387 | 350 | 491 | 350 | 190 | 253,3 |

(3) Standard position of I-MAT. (for other positions rotate motor through 90° or 180°)
(3) Posición estándar I-MAT (otras posiciones girando el motor a 90° o 180°)

(4) Net weight
(4) Peso neto

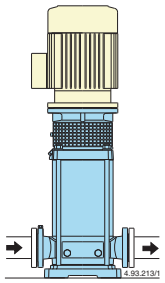
## Rated currents - Intensidades nominales

| P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|
| | | 220/380V | 380/660V | 220/440V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 6,1 |
| 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| 7,5 | 10 | | 17/9,8 | | 9,2 |
| 9,2 | 12,5 | | 22/12,7 | | 8,3 |
| 11 | 15 | | 25,8/14,9 | | 8,9 |
| 15 | 18,5 | | 33,2/19,2 | | 9,4 |
| 18,5 | 25 | | 41,2/23,8 | | 9,4 |
| 22 | 30 | | 48,9/28,3 | | 9,6 |
| 30 | 40 | | 65,4/37,8 | | 8,7 |
| 37 | 50 | | 82/47 | | 8,5 |
| 45 | 60 | | 97/56 | | 8 |

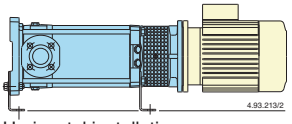
P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

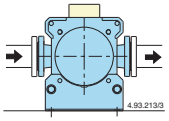
## Installations - Instalaciones



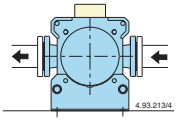

Vertical installation (Standard).
Instalación vertical (Estándar).




Horizontal installation.
Instalación horizontal.




Variant **H1**:
suction on the left, delivery on the right.
Variante H1:
Aspiración a la izquierda, impulsión a la derecha.




Variant **H2**:
suction on the right, delivery on the left.
Variante H2:
Aspiración a la derecha, impulsión a la izquierda.

## Features - Características constructivas

### Long Service Life with Standard Motor
Pump with thrust bearing without additional axial loads on the motor bearings.
Any standard motor V1 design (suitable to be lifted in vertical position) can be used, of our choice or of Client's choice.

### Easy Assembly of the Motor
With the single-piece sleeve coupling the pump unit can be supplied fully assembled also without the motor. This eliminates the risk of damage caused by shifting of the pump shaft during transportation.
The motor is simply inserted in the coupling and fastened to the flange without the necessity for adapting the axial position of the pump shaft.

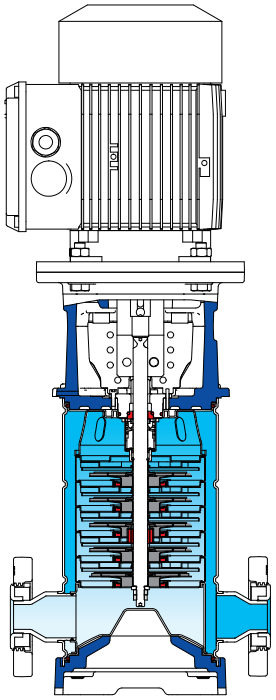
### Extra Safety
Single-piece coupling guard to be removed only by means of a tool, positioned around the lantern bracket, thus avoiding accidental pushing and rubbing against the coupling.

### Low Cost Installation
Vertical construction with reduced pump height for installation in small spaces.
In-line connections to simplify the piping layout with the possibility of inserting the pump in straight pipe-lines.
Disassembly, inspection or cleaning of internal parts without removal of piping.

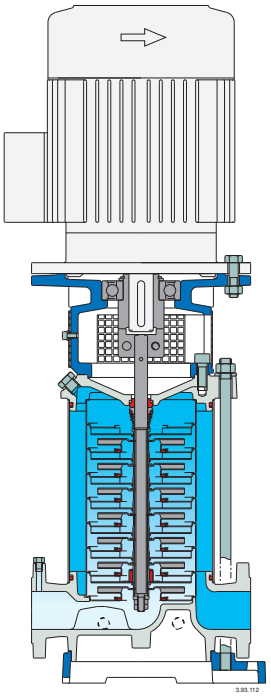
### Robust and Reliable
Single PN 25 construction for all pump sizes.
The suction and discharge nozzles arranged in-line absorb the forces of the piping on the pump without the creation of distorting loads causing local friction and early wears.
The lantern brackets compact and robust design maintains a sure alignment between rotating and fixed parts, reducing vibration.
The upper cover design prevents entrapment of air around the mechanical seal.

### Low-Noise Operation
The water filled shroud around the stages and thick external walls, work together for low-noise operation.
Low-noise standard motor.

### Removable mechanical Seal
Easy removal of the mechanical seal without dismantling the motor (for 25,32,40,50,100 with motors exceeding 4 kW).

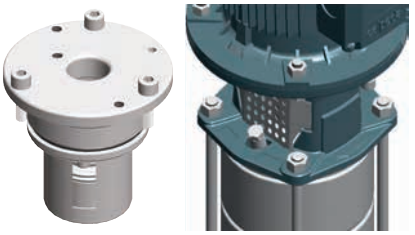


**MXV 25, 32, 40, 50**



**MXV 65, 80**

**MXV 25,32,40,50**



### Larga duración con motor estándar
Bomba con cojinete de tope sin cargas axiales añadidas a los cojinetes del motor.
Utilizable cualquier motor normalizado en forma constructiva V1, (preparado para ser elevado en posición vertical), según nuestra selección o por elección del cliente.

### Fácil montaje del motor
Con el manguito de unión de una sola pieza el grupo bomba viene montado en modo definitivo, tambien sin motor, y sin peligros de daños para el eje de la bomba durante el transporte.
El motor es simplemente insertado en el manguito y fijado a la brida, sin necesidad de adaptar la posición axial del eje bomba.

### Más seguridad
Protección del manguito de arrastre de una sola pieza, desmontable solamente con herramientas, dispuesta alrededor del acoplamiento para impedir que pueda ser accidentalmente empujada y arrastrada sobre el manguito de arrastre.

### Instalación económica
La altura de la bomba está reducida en las construcciones verticales lo que facilita la instalación en espacios reducidos.
Bocas in-line que facilitan la instalación, y con la posibilidad de conexión de la bomba en una tubería rectilínea.
El desmontaje, la inspección, y la limpieza de las partes internas son realizables sin necesidad de desmontar las tuberías.

### Robustas y fiables
Unica ejecución PN 25 para todas las dimensiones de las bombas. Las bocas de aspiración y impulsión, dispuestas in-line, absorben las fuerzas de las tuberías sobre la bomba sin que esta pueda causar cargas perjudiciales, fricciones locales, y desgastes precoces.
El acoplamiento en ejecución compacta y robusta mantiene segura la alineación entre las partes giratorias y fijas, reduciendo las vibraciones. La forma de la tapa superior impide el estancamiento de bolsas de aire sobre el cierre mecánico.

### Silenciosa
La capa de agua alrededor a los elementos y las paredes externas de espesor grueso contribuyen a reducir el ruido.
Motor estándar de bajo ruido.

### Cierre mecánico extraíble
Fácil extracción del sello mecánico sin desmontar el motor (para 25,32,40,50,100 con motores superiores a 4 kW).

# MXVL 60 Hz AISI 316

## Vertical Multi-Stage In-Line Pumps
## Bombas multicelulares verticales in-line



## Construction
Vertical multi-stage pumps with suction and delivery connections of the same diameter and arranged along the same axis (in-line).
Corrosion-resistant bearing sleeves lubricated by the pumped liquid.
Removal of the mechanical seal without dismantling the motor (for MXVL 25, 32, 40, 50, 100 with motors exceeding 4 KW).
A pump with thrust bearing and sleeve coupling for use of any standard motor with IM V1 construction.

**Version with frequency converter** (on request)

## Applications
For water supply systems.
For clean non-explosive liquids, without solid, filamentary or abrasive matter (with adaptation of sealing materials on request).
A universal pump for civil and industrial use, for pressure-boosting systems, fire-extinguishing systems, high-pressure washing plants, irrigation, agricultural uses and sport installations.

## Operating conditions
Temperature of liquid: from -15 °C to +110 °C (up to +120 °C for MXVL 50).
Operating environment temperature: up to 40 °C.
Maximum permissible pressure in pump casing: 25 bar (16 bar for pumps with oval flanges).

## Motor
Standard-type: 2 pole induction motor, 60 Hz.
Motor suitable for operation with frequency converter.
**Classification scheme IE3 for three-phase motors.**
Construction IM V1.
Insulation class F. Protection IP 55.
Three-phase with rated voltage: 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 45 kW;

## Ejecución
Bombas multicelulares verticales, con bocas de aspiración e impulsión del mismo diámetro, y dispuestas sobre el mismo eje, (in-line).
Manguitos guía resistentes a la corrosión y lubrificados por el líquido bombeado.
Extracción del cierre mecánico sin desmontar el motor (para MXVL 25, 32, 40, 50, 100 con motores superiores a 4 kW).
Bomba con rodamiento axial con brida y manguito para el empleo de cualquier motor estándar en la forma constructiva IM V1.

**Versión con variador de frecuencia** (bajo demanda)

## Aplicaciones
Para abastecimiento de agua.
Para líquidos limpios, no explosivos, sin partes abrasivas sólidas o filamentosas. (Con adaptación, bajo demanda, de los materiales de cierre).
Bomba universal para aplicaciones civiles e industriales, para instalaciones que precisen aumento de presión, instalaciones contra incendios, instalaciones de lavado a alta presión, para irrigación, para la agricultura, para instalaciones deportivas.

## Limites de empleo
Temperatura del líquido de -15 °C hasta +110 °C (hasta +120 °C para MXVL 50).
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba: 25 bar (16 bar para bombas con bridas ovales).

## Motor
Estándar: Motor a inducción a 2 polos, 60 Hz.
Motor preparado al funcionamiento con convertidor de frecuencia.
**Clase eficiencia IE3 para motor trifásico.**
Forma constructiva IM V1.
Aislamiento tipo F. Protección IP 55.
Trifásicos, tensiones nominales: 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 45 kW.

# MXVL 25, 32, 40, 50

All parts that come into contact with the liquid, including wet-end covers, are in chrome-nickel-molybdenum stainless steel AISI 316L.

## Materials (wetted parts)

| Component | Material |
|---|---|
| Flange - External jacket<br>Suction casing<br>Delivery casing<br>Stage casing - Impeller<br>Lower cover - Upper cover<br>Spacer sleeve | Chrome-nickel-molybdenum steel<br>1.4404 EN 10088 (AISI 316L) |
| Pump shaft<br>Plug | Chrome-nickel-molybdenum steel<br>1.4404 EN 10088 (AISI 316L) |
| Bearing sleeve<br>Bearing in stage casing | Corrosion-resistant, cemented carbide<br>Ceramic alumina |
| Mechanical seal ISO 3069 KU | Hard metal/Carbon/EPDM. |
| Wear ring | PPS |
| O-rings | EPDM |

**Direction of rotation**: **clockwise** as seen from the motor.

## Variants (to be specified when ordering)

Pump with flanged ports (**F**).
Pump with oval flange ports (**O**) (for MXVL 25, 32, 40, 50, 100).
Pump without motor. Pump with standard motor.

## Other variants (on request)

With counter-flanges in chrome-nickel steel.
O-rings FPM. - Other mechanical seal.
Pump with motor of Client's choice (if available).
Single-phase motor 220 V, up to 2.2 kW. Other voltage ratings.
Higher or lower liquid or ambient temperatures.

# MXVL 65, 80, 100

Internal parts in contact with the liquid with pump casing and upper cover in chrome-nickel-molybdenum stainless steel AISI 316L.

## Materials (wetted parts)

| Component | Material |
|---|---|
| Pump casing<br>Upper cover | Chrome-nickel-molybdenum steel<br>1.4404 EN 10088 (AISI 316L) |
| External jacket<br>Stage casing<br>Impeller<br>Spacer sleeve | Chrome-nickel-molybdenum steel<br>1.4404 EN 10088 (AISI 316L) |
| Pump shaft<br>Plug | Cr-Ni-Mo steel AISI 316 (AISI 329 for MXV 100)<br>Cr-Ni steel AISI 316 |
| Bearing sleeve<br>Bearing in stage casing | Corrosion-resistant, cemented carbide<br>Ceramic alumina<br>(Corrosion-resistant, cemented carbide for MXV 100) |
| Mechanical seal<br>ISO 3069 - KU | Hard metal/Carbon/EPDM |
| Wear ring | PTFE |
| O-rings | EPDM |

**Direction of rotation**: **anticlockwise** as seen from the motor (**clockwise** as seen from the motor for MXV 100).

## Variants (to be specified when ordering)

Pump without motor. - Pump with standard motor.

## Other variants (on request)

O-rings FPM. Other mechanical seal.
Pump with motor of Client's choice (if available).
Other voltage ratings.
Pump with support feet for horizontal installation (**H1** or **H2**).
Support feet for horizontal installation, set.
Welding counter-flanges, PN 25 (steel).
Higher or lower liquid or ambient temperatures.

# MXVL 25, 32, 40, 50

Todas las partes en contacto con el líquido, comprendiendo las tapas superior e inferior, son de acero inoxidable al Cr-Ni-Mo AISI 316L.

## Materiales (elementos bañados)

| Componente | Materiales |
|---|---|
| Brida - Camisa externa<br>Cuerpo aspirante<br>Cuerpo impulsión<br>Cuerpo elemento - Rodete<br>Tapa inferior - Tapa superior<br>Casquillo distanciador | Acero al Cr-Ni-Mo<br>1.4404 EN 10088 (AISI 316L) |
| Eje bomba<br>Tapón | Acero al Cr-Ni-Mo<br>1.4404 EN 10088 (AISI 316L) |
| Manguito cojinete/<br>Cojinete del cuerpo elemento | Carburo anticorrosivo-inoxidable/<br>Cerámica alumina |
| Cierre mecánico ISO 3069 - KU | Metal duro / Carbón / EPDM |
| Anillo de cierre sobre rodete | PPS |
| Junta tórica | EPDM |

**Sentido de rotación: Horario** visto desde el motor.

## Variantes, (a precisar en el pedido)

Bomba con bridas (**F**).
Bomba con orificios de brida ovales (**O**) (para MXVL 25, 32, 40, 50, 100).
Bomba sin motor. Bomba con motor estándar.

## Otras variantes, (a precisar bajo demanda)

Con contra bridas en acero al cromo-níquel.
Junta tórica FPM. Otro cierre mecánico.
Bomba con motor según elección del cliente, (si es disponible).
Motor monofásico 220 V, hasta 2,2 kW. Otras tensiones.
Para líquidos o ambientes con temperaturas más elevadas o más bajas.

# MXVL 65, 80, 100

Todas las partes en contacto con el líquido, comprendiendo el cuerpo bomba y la tapa superior, son de acero inoxidable al Cr-Ni-Mo AISI 316L.

## Materiales (elementos bañados)

| Componente | Materiales |
|---|---|
| Cuerpo bomba<br>Tapa superior | Acero al Cr-Ni-Mo<br>1.4404 EN 10088 (AISI 316L) |
| Camisa externa<br>Cuerpo elemento<br>Rodete<br>Manguito distanciador | Acero al Cr-Ni-Mo<br>1.4404 EN 10088 (AISI 316L) |
| Eje bomba<br>Tapón | Acero AISI 316 (AISI 329 para MXV 100)<br>Acero al Cr-Ni-Mo AISI 316 |
| Manguito cojinete/<br>Cojinete del cuerpo elemento | Carburo anticorrosivo-inoxidable/<br>Cerámica alumina<br>(Carburo anticorrosivo-inoxidable para MXV 100) |
| Cierre mecánico<br>ISO 3069 - KU | Metal duro / Carbón / EPDM |
| Anillo de cierre sobre rodete | PTFE |
| Junta tórica | EPDM |

**Sentido de rotación: Antihorario** visto desde el motor (**Horario** visto desde el motor para MXV 100).

## Variantes, (a precisar en el pedido)

Bomba sin motor. Bomba con motor estándar.

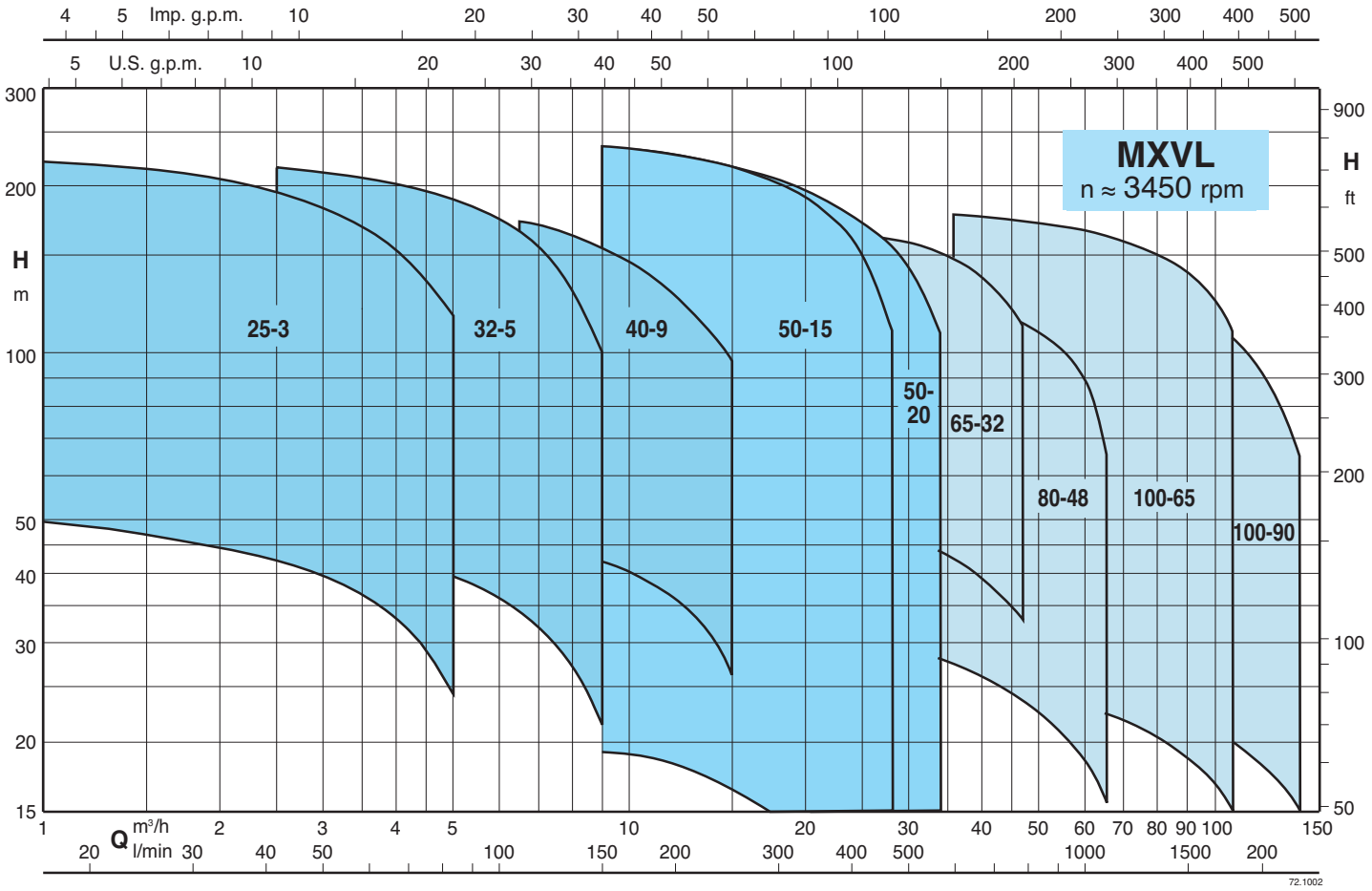
## Otras variantes, (a precisar bajo demanda)

Junta tórica FPM. Otro cierre mecánico.
Bomba con motor según elección del cliente, (si es disponible).
Otras tensiones.
Bomba con pies de soporte para instalaciones horizontales (**H1** o **H2**).
Conjunto de pies de soporte para instalaciones horizontales.
Contra bridas para soldar PN 25, (Acero).
Para líquidos o ambientes con temperaturas más elevadas o más bajas.

# MXVL 60 Hz AISI 316

## Coverage chart - Campo de aplicaciones

**n ≈ 3450 rpm**




## Designation

MXV L EI 65-32 05 H1 *

- Series
- AISI 316 version
- With frequency converter I-MAT
- DN ports in mm
- Rated capacity in m³/h (n = 3450 rpm)
- Number of stages

**Construction variants**

- flanged ports — F
- Oval Flange Ports (for MXVL 25,32,48,50) — O
- with support feet for horizontal installation H, variant 1
- with motor (or without motor)

* with no further designation = with standard motor

## Designación

MXV L EI 65-32 05 H1 *

- Serie
- Versión AISI 316L
- Con variador de frecuencia I-MAT
- DN orificios en mm
- Caudal nominal en m³/h (n = 3450 1/min)
- Número de elementos

**Variantes constructivas**

- bridas — F
- Orificios de brida ovales (para MXVL 25,32,48,50) — O
- con pies de soporte para instalaciones horizontales H, variante 1
- con motor (o sin motor)

* sin otras indicaciones = con motor estándar

**For characteristic curves, dimensions and weights see MXV**
**Para curvas característica, dimensiones y pesos ver MXV**

# I-MPC



EASY TO INSTALL
Plug And play solution

ECONOMIC SAVING
High efficiency single-phase motor

EASY TO USE
Equipped with programmable logic, the product allows programming thanks to the simple and intuitive display.

# Self-priming swimming pool pumps boosting system with integrated control

# I-MPC

## Construction

Self-priming swimming pool pumps with built-in strainer and motor insulated from pumped water.
The pump is made with high quality plastic materials, corrosion and sand erosion resistant.
With stainless steel diffuser.
Base-plate kit.

## Applications

For water circulation in swimming pool filtration systems.
For clean or slightly dirty water with solids in suspension.

## Operating conditions

Liquid temperature from 0 °C to +40 °C.
Ambient temperature up to 40° C.
Maximum permissible pressure in the pump casing 2,5 bar.
Continuous duty.

## Motor

2-pole induction motor.
Nominal speed 3970 rpm
- Motor: variable speed
Frequency: 50-60 Hz
Single-phase 220-240V~50Hz/220V~60Hz, with thermal protector.
Cable: H07RN8-F, 3G1,5 mm2, length 1,5 m, with plug
CEI-UNEL 47166.
Insulation class F.
Protection IP X4.
Constructed in accordance with EN 60034-1, EN 60335-1, EN 60335-2-41.

## Features

- integrated frequency converter
- high efficiency asynchronous motor
- motor power control
- voltage and current control
- monitoring of maximum starting current

## Protections

- dry-run protection
- detects the presence of air in the pump casing
- overload control and overheating motor control
- pump blockage
- power supply control
- starts per hour control
- detects small leakages in the system

## Designation

Example: I-MPCM 31
I = Version with integrated frequency converter
MPC = Series
M = Singlephase version (no indication: threephase)
31 = Pump type

## Materials

| Components | Materials |
|---|---|
| Pump casing | Noryl PPO-GF30 |
| Diffuser cover | Noryl PPO-GF30 |
| Impeller | Noryl PPO-GF30 |
| Strainer cover | Lexan |
| Strainer basket | Polypropylene |
| Diffuser funnel and wear-ring | Steel 1.4401 EN 10088 (AISI 316) |
| Mechanical seal | Carbon - Ceramic - FPM |

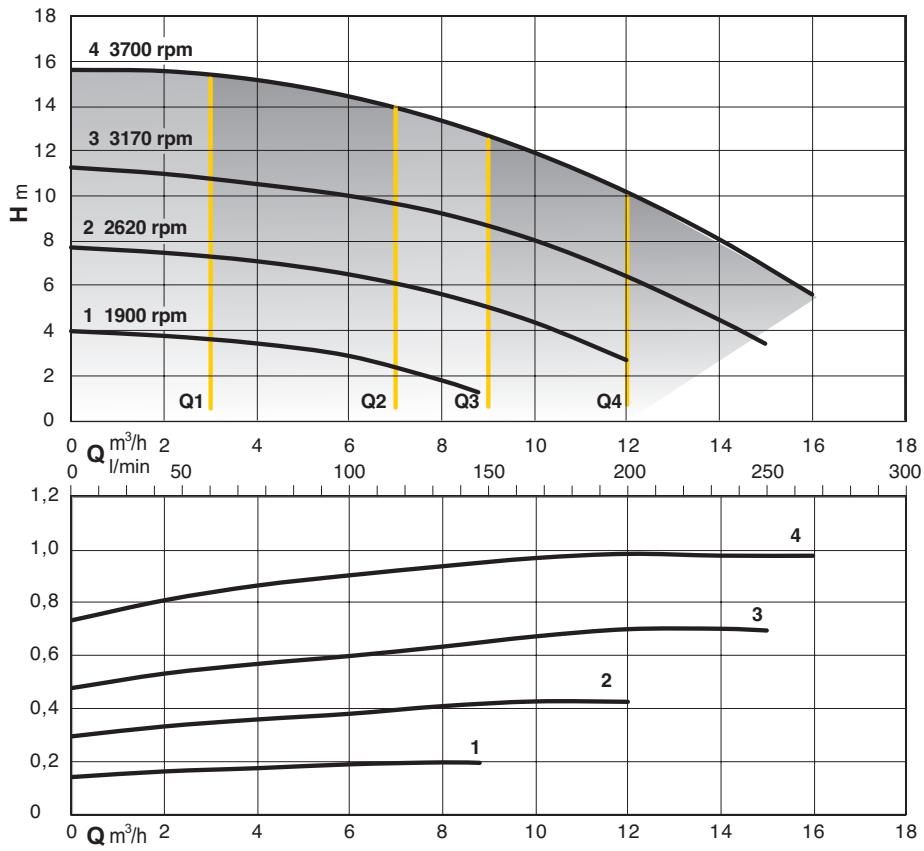
## Performance

### Single-phase

| | | | Q = Flow | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| Model | 230V | P1 | l/min | | 33,3 | 66,6 | 100 | 133 | 167 | 200 | 233 | 267 |
| | A | kW | H (m) = Total head | | | | | | | | | |
| I-MPCM 31 | 4,6 | 1,05 | | 15,6 | 15,6 | 15,2 | 14,4 | 13,4 | 11,9 | 10,2 | 8,1 | 5,6 |

**P1:** Maximum power input.
**P2:** Rated motor power output.
**H:** Total head in m.
Tolerances according to UNI EN ISO 9906:2012

## Characteristic curves



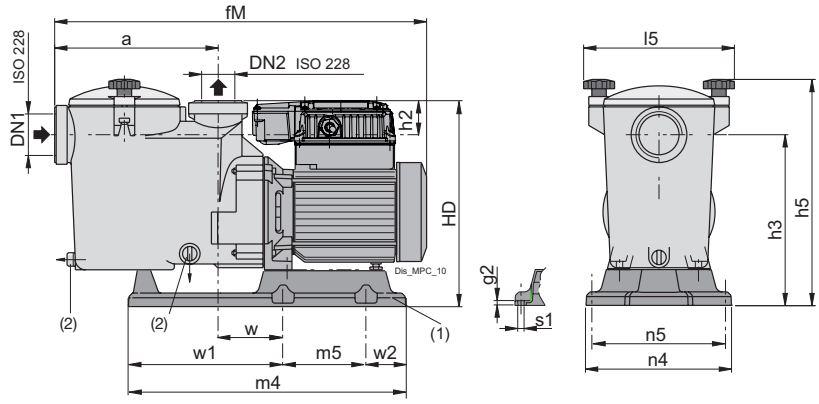

**Constant flow mode**

Q1 - Q2 - Q3 - Q4
In this mode, the system keeps the preset flow rate constant as the pressure required by the system varies.

**Programmable Speed Mode**

1 - 2 - 3 - 4
In this mode, by changing the working frequency, it is possible to choose one of the 4 utilization curves included within the working range.

## Dimensions and weights




| TYPE | | | mm | | | | | | | | | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a | fM | g2 | h2 | h3 | h5 | HD | l5 | m4 | m5 | n4 | n5 | s1 | w | w1 | w2 | Weight |
| **I-MPCM 31** | G2 | G1 1/2 | 235 | 546 | 7 | 50 | 243 | 323 | 293 | 215 | 410 | 123 | 215 | 197 | 9 | 100 | 128.5 | 158.5 | 12.7 |

# I-MPC

## Control Panel




They allow to visualize:
- Initial screen (rUn, OFF, StB, Err)
- Motor Operating Frequency
- Supply current input
- Supply electrical power input
- Supply voltage

## Features

Strong transparent Lexan strainer cover
Strong Noryl pump casing
Large capacity strainer basket
Stainless steel AISI 316 wear-ring diffuser-funnel, for extra reliability
Diffuser with peripheral-longitudinal flow, for a quicker self-priming

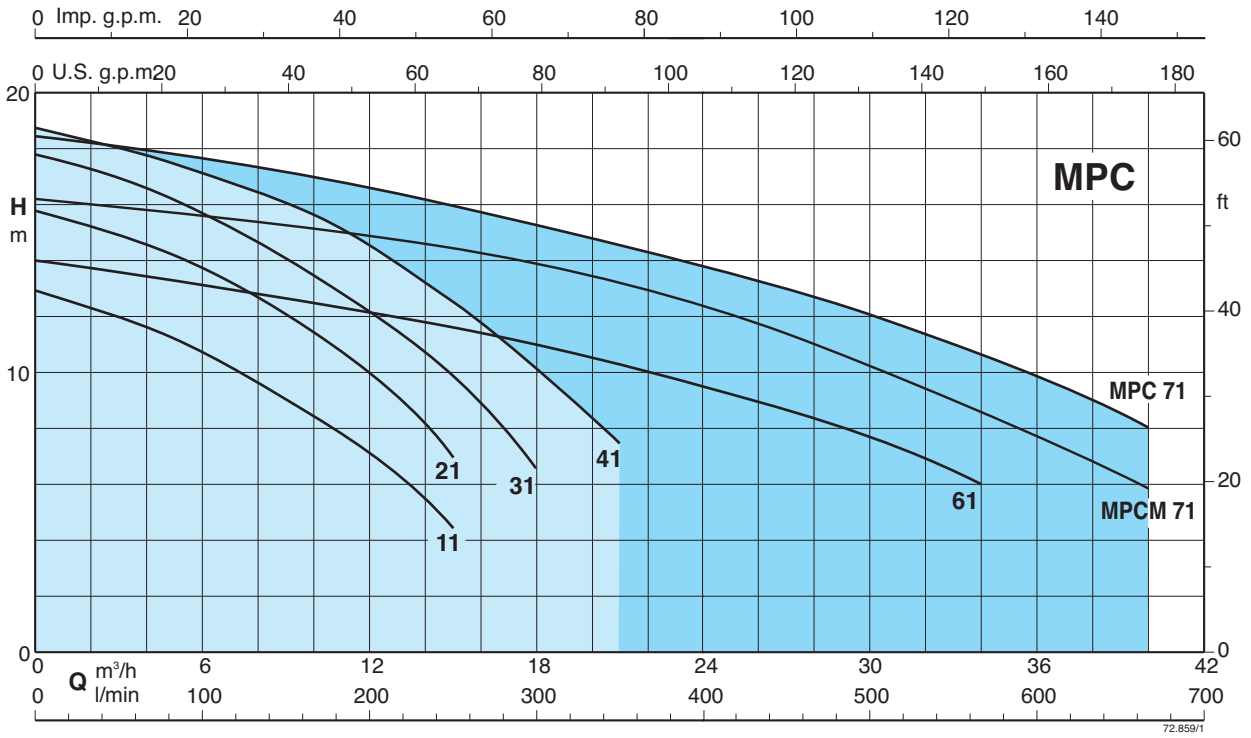


# MPC 60 Hz
Compact Pool

## Self-Priming Swimming Pool Pumps
## Bombas autoaspirantes para piscinas



### Coverage chart - Campo de aplicaciones
n ≈ 3450 rpm



# MPC 60 Hz
Compact Pool

## Construction
Self-priming swimming pool pumps with built-in strainer and motor insulated from pumped water.
The pump is made with high quality plastic materials, corrosion and sand erosion resistant.
With chrome-nickel stainless steel diffuser.
Base-plate kit

## Ejecución
Electrobomba autoaspirante para piscinas con prefiltro incorporado y motor aislado del agua.
La bomba está construida con materiales plásticos de altísima tecnología, resistentes a la erosión de la arena y a la corrosión.
Con difusor en acero inoxidable.
Kit base de apoyo

## Applications
For water circulation in swimming pool filtration systems.
For clean or slightly dirty water with solids in suspension.

## Aplicaciones
Para la recirculación del agua en las instalaciones de filtración para piscinas.
Para aguas limpias o ligeramente sucias con cuerpos sólidos en suspensión.

## Operating conditions
Water temperature up to 60 °C.
Ambient temperature up to 40 °C.
Maximum permissible pressure in the pump casing 2.5 bar.
Continuous duty.

## Límites de empleo
Temperatura del agua hasta 60 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba 2,5 bar.
Servicio continuo.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**MPC**: three-phase 220/380 V, 220/440 V.
**MPCM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MPC**: trifásico 220/380 V, 220/440 V.
**MPCM:** monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico a partir de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.

## Ejecuciones especiales bajo demanda
- Otras tensiones.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Diffuser cover<br>Impeller | Glass reinforced<br>thermoplastic<br>PPO-GF30, NORYL |
| Strainer cover | Transparent polycarbonate, LEXAN |
| Strainer basket | Polypropylene |
| Diffuser funnel<br>with wear-ring | Cr-Ni-Mo stainless steel AISI 316 |
| Mechanical seal | Ceramic alumina, Carbon, FPM |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba<br>Tapa difusor<br>Rodete | Termoplástico reforzado<br>con fibra de vidrio<br>PPO-GF30, NORYL |
| Tapa filtro | Policarbonado transparente, LEXAN |
| Cesta filtro | Polipropileno |
| Embudo difusor y anillo<br>de cierre sobre el rodete | Acero Cr-Ni-Mo AISI 316 |
| Sello mecánico | Alumina, Carbón, FPM |

# MPC 60 Hz
Compact Pool

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 3 | 6 | 9 | 12 | 15 | 18 | 21 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 50 | 100 | 150 | 200 | 250 | 300 | 350 | |
| **MPC 11-60** | **MPCM 11-60** | 0,37 | 0,5 | | 12 | 10,5 | 9 | 7 | 4,5 | | | |
| **MPC 21-60/A** | **MPCM 21-60/A** | 0,55 | 0,75 | **H** | 15 | 13,5 | 12 | 10 | 7 | | | |
| **MPC 31-60/B** | **MPCM 31-60/A** | 0,75 | 1 | m | 17 | 15,5 | 14 | 12 | 10 | 6,5 | | |
| **MPC 41-60/A** | **MPCM 41-60** | 1,1 | 1,5 | | 18 | 17 | 16 | 14,5 | 12,5 | 10 | 7,5 | |

| 3~ | 1~ | P2 | | Q m³/h | 3 | 9 | 15 | 18 | 21 | 24 | 27 | 30 | 34 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 50 | 150 | 250 | 300 | 350 | 400 | 450 | 500 | 567 | 667 |
| **MPC 61-60/A** | **MPCM 61-60** | 1,5 | 2 | **H** | 13,5 | 12,5 | 11,5 | 11 | 10,5 | 9,5 | 8,5 | 7,5 | 6 | |
| | **MPCM 71-60/A** | 1,8 | 2,5 | m | 15,8 | 15,2 | 14,4 | 13,8 | 13,2 | 12,3 | 11,3 | 10,2 | 8,5 | 5,8 |
| **MPC 71-60/B** | | 2,2 | 3 | | 18 | 17 | 16 | 15,5 | 14,5 | 14 | 13 | 12 | 10,5 | 8 |

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

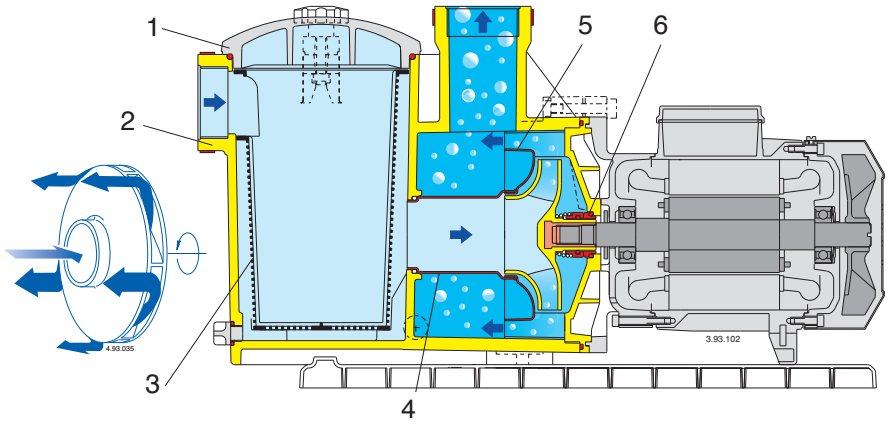
## Rated currents - Intensidades nominales

| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,37 | 0,6 | 4,1 | 7,1 | 8,2 | - | 2,7 |
| 0,55 | 0,75 | 5,2 | 9 | 10,4 | 9.2/4.7 | 3,1 |
| 0,75 | 1 | 6,9 | 12 | 13,8 | 12.5/6.4 | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |
| 1,8 | 2,5 | 13,5 | - | - | - | 4,5 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,37 | 0,5 | 3,1/1,8 | 3,3/1,9 | 4,8 |
| 0,55 | 0,75 | 3,6/2,1 | 3,8/2,2 | 3,7 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 7,4/4,3 | 7,8/4,5 | 7,3 |
| 2,2 | 3 | 11,1/6,4 | 11,6/6,7 | 8,4 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

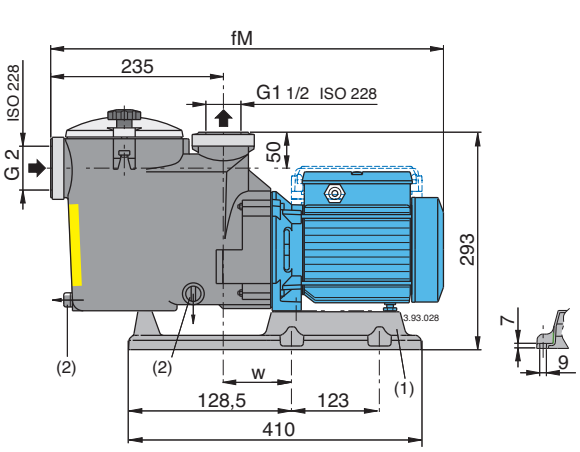
## Features - Características constructivas

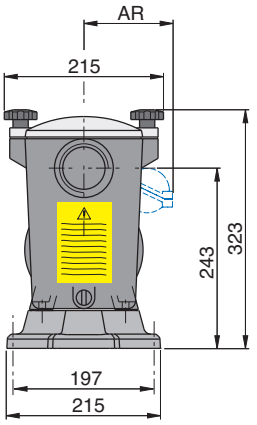



1) Strong transparent Lexan strainer cover.
2) Strong Noryl pump casing.
3) Large 2-litre capacity strainer basket.
4) Stainless steel (AISI 316) wear-ring diffuser-funnel, for **extra reliability.**
5) Diffuser with peripheral-longitudinal flow, for **a quicker self-priming**.
6) Mechanical seal without contact with the shaft, for **extra safety**.

1) Sólida tapa filtro transparente en Lexan
2) Cuerpo bomba robusto en Noryl.
3) Cesta filtro de gran capacidad: 2 litros.
4) Embudo difusor y anillo de cierre en acero inoxidable (AISI 316), para una **mayor fiabilidad.**
5) Difusor a flujo longitudinal periférico, para una **más rápida autoaspiración.**
6) Sello mecánico sin contacto con el eje metálico, del motor, para una **mayor seguridad.**

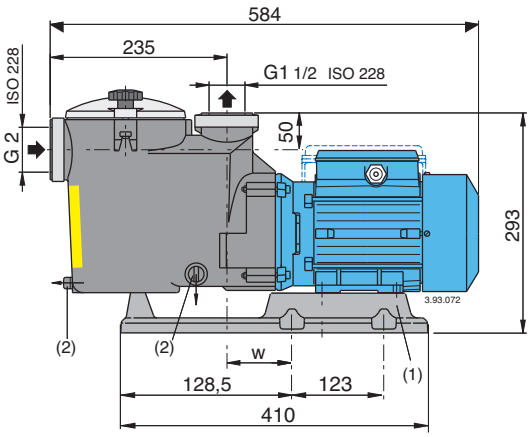
## Dimensions and weights - Dimensiones y pesos

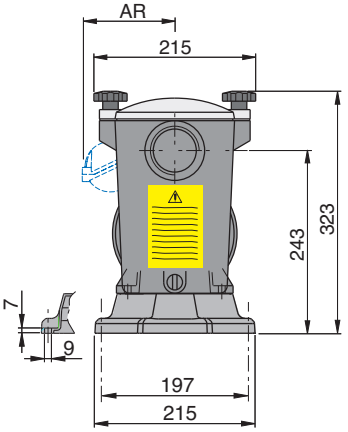



| TYPE TIPO | mm | | kg | |
|---|---|---|---|---|
| | fM | w | MPC | MPCM |
| **MPC 11-60 - MPCM 11** | 504 | 332 | 8,9 | 9 |
| **MPC 21-60/A - MPCM 21-60/A** | 536 | 337 | 10,2 | 11,3 |
| **MPC 31-60/B - MPCM 31-60/A** | 536 | 337 | 12 | 12,2 |

| TYPE TIPO | AR mm | | | |
|---|---|---|---|---|
| | 220V | 127V | 110V | 110/220V |
| **MPCM 11-60** | ● | ● | ● | ● |
| **MPCM 21-60/A** | ● | ● | ● | 116 |
| **MPCM 31-60/A** | ● | 116 | 116 | 131 |

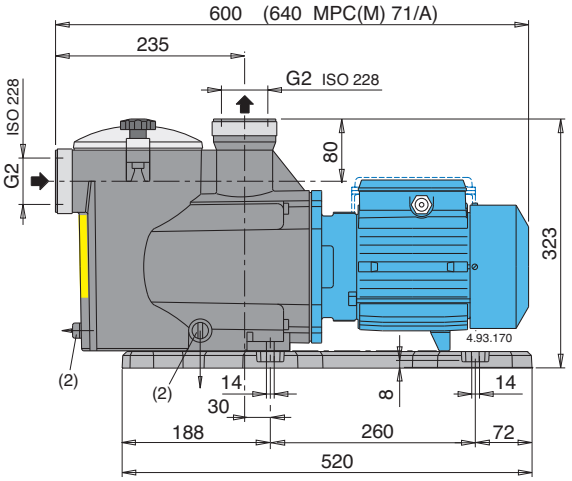


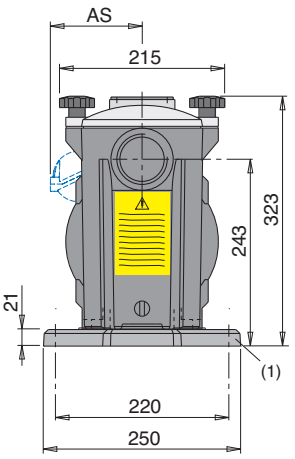




**MPCM 41-60** 17,5 kg
**MPC 41-60/A** 16,0 kg

| TYPE TIPO | AS mm | | | |
|---|---|---|---|---|
| | 220V | 127V | 110V | 110/220V |
| **MPCM 41-60/A** | ● | 131 | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles




**MPCM 61-60** 20,7 kg
**MPC 61-60/A** 19,6 kg
**MPC 71-60/B** 20,7 kg

| TYPE TIPO | AS mm | | | |
|---|---|---|---|---|
| | 220V | 127V | 110V | 110/220V |
| **MPCM 61-60** | ● | ❑ | ❑ | ❑ |
| **MPCM 71-60/A** | 131 | ❑ | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

(1) Base-plate kit (2) Draining
(1) Kit base de apoyo (2) Vaciado

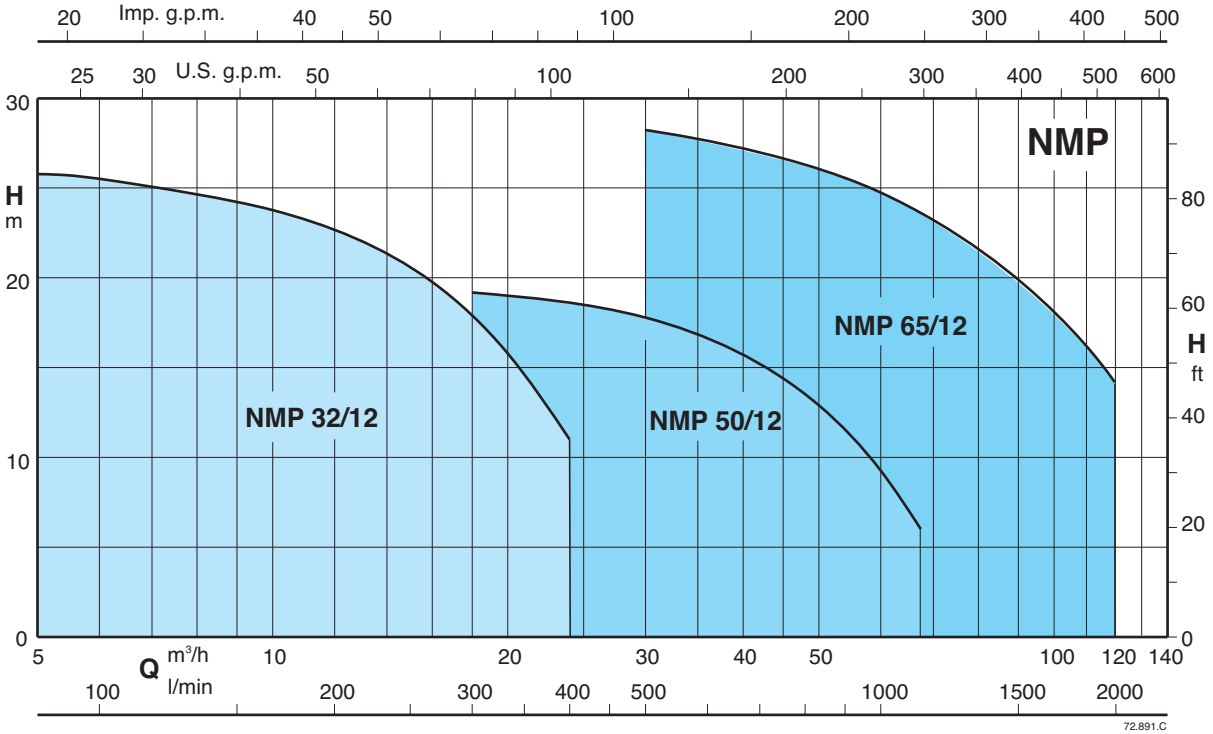
# NMP 60 Hz

## Self-Priming Centrifugal Pumps with built-in strainer
## Bombas centrifugas autoaspirantes con prefiltro



### Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# NMP 60 Hz

## Construction
Close-coupled self-priming centrifugal pumps with built-in strainer.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
NMP: version with pump casing and lanter bracket in cast iron.
B-NMP: version with pump casing and lanter bracket in bronze (the pumps are supplied fully painted).

## Applications
For water circulation in swimming pool filtration systems.
For clean or slightly dirty water with solids in suspension.

## Operating conditions
Liquid temperature up to 60° C.
Ambient temperature up to 40° C.
Total suction lift up to 7 m.
Maximum permissible working pressure up to 6 bar.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**NMP**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 7,5 kW;
**NMPM**: single-phase 110 V, 127 V, 220 V.
with thermal protector up to 1.1 kW only 220V.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Higher liquid or ambient temperatures.

## Materials

| Components | NMP | B-NMP |
|---|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 (GJS 400-15 for NMP 65..) | Bronze G-Cu Sn 10 EN 1982 |
| Lantern bracket | Cast iron GJL 200 EN 1561 | Bronze G-Cu Sn 10 EN 1982 |
| Impeller | Cast iron GJL 200 EN 1561 | Bronze G-Cu Sn 10 EN 1982 |
| | Brass P- Cu Zn 40 Pb 2 UNI 5705 for NMP 32/12 | |
| Shaft | Chrome-nickel steel AISI 303 | Cr-Ni-Mo steel AISI 316 |
| Strainer cover | Cast iron GJL 200 EN 1561 | Bronze G-Cu Sn 10 EN 1982 |
| Strainer | Cr-Nì steel 1.4301 EN 10088 AISI 304 | |
| Mechanical seal | Carbon - Ceramic - FPM | |

## Ejecución
Electrobomba centrifuga monobloc autoaspirante con prefiltro incorpotado.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
NMP: Ejecución con cuerpo bomba y acoplamiento en hierro.
B-NMP: Ejecución con cuerpo bomba y acoplamiento en bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Aplicaciones
Para la recirculación del agua en las instalaciones de filtración para piscinas.
Para aguas limpias o ligeramente sucias con cuerpos sólidos en suspensión.

## Limites de empleo
Temperatura del agua hasta 60° C.
Temperatura ambiente hasta 40° C.
Altura de aspiración manométrica hasta 7 m.
Presión máxima admitida en el cuerpo de la bomba: 6 bar.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**NMP**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 7,5 kW;
**NMPM**: monofásico 110 V, 127 V, 220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Ejecuciones especiales bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Para agua o ambiente con temperatura más elevada.

## Materiales

| Componente | NMP | B-NMP |
|---|---|---|
| Cuerpo bomba | Hierro GJL 200 EN 1561 (GJS 400-15 para NMP 65..) | Bronce G-Cu Sn 10 EN 1982 |
| Acoplamiento | Bronce GJL 200 EN 1561 | G-Cu Sn 10 EN 1982 |
| Rodete | Hierro GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| | Latón P- Cu Zn 40 Pb 2 UNI 5705 para NMP 32/12 | |
| Eje | Acero al cromo-níquel (AISI 303) | Acero al Cr-Ni-Mo (AISI 316) |
| Tapa filtro | Hierro GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| Filtro | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) | |
| Sello mecánico | Carbón - Cerámica - FPM | |

# NMP 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 6,6 | 9,6 | 10,8 | 12 | 13,2 | 15 | 18,9 | 21 | 24 | 30 | 42 | 48 | 54 | 60 | 66 | 75 | 84 | 96 | 108 | 120 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | l/min | 110 | 160 | 180 | 200 | 220 | 250 | 315 | 350 | 400 | 500 | 700 | 800 | 900 | 1000 | 1100 | 1250 | 1400 | 1600 | 1800 | 2000 |
| B-**NMP 32/12FE-60** | | 0,55 | 0,75 | | 13 | 12 | 11 | 10,1 | 9,5 | 8 | | | | | | | | | | | | | | |
| | B-**NMPM 32/12FE-60** | 0,55 | 0,75 | | 12 | 11 | 10 | 9,1 | 8,5 | 7 | | | | | | | | | | | | | | |
| B-**NMP 32/12DE-60** | | 0,75 | 1 | | 18,5 | 17 | 16,5 | 16 | 15 | 13,5 | | | | | | | | | | | | | | |
| | B-**NMPM 32/12DE-60** | 0,75 | 1 | | 17,5 | 16 | 15,5 | 15 | 14 | 12,5 | | | | | | | | | | | | | | |
| B-**NMP 32/12A-60/A** | | 1,1 | 1,5 | | 22,5 | 21,5 | 21 | 20 | 19,5 | 17,5 | | | | | | | | | | | | | | |
| | B-**NMPM 32/12AE-60** | 1,1 | 1,5 | | 21,5 | 20,5 | 20 | 19 | 18,5 | 16,5 | | | | | | | | | | | | | | |
| B-**NMP 32/12S-60/A** | B-**NMPM 32/12SE-60** | 1,5 | 2 | | 25 | 24 | 23,5 | 22,5 | 22 | 20,5 | 17* | 14,5* | 11* | | | | | | | | | | | |
| B-**NMP 50/12H-60/A** | B-**NMPM 50/12HE-60** | 1,1 | 1,5 | **H** | | | | | | | 9 | 8,8 | 8,5 | 7,5 | 5,5 | 4 | | | | | | | | |
| B-**NMP 50/12G-60/A** | B-**NMPM 50/12GE-60** | 1,5 | 2 | m | | | | | | | 13 | 12,5 | 12 | 11 | 8,5 | 7,5 | 5,5 | | | | | | | |
| B-**NMP 50/12F-60/B** | | 2,2 | 3 | | | | | | | | 17 | 16,5 | 16 | 15 | 12 | 10,5 | 8 | 6* | 4* | | | | | |
| B-**NMP 50/12D-60/A** | | 3 | 4 | | | | | | | | 19,5 | 19 | 18,5 | 17,5 | 15 | 13,5 | 11,5 | 9,5* | 7* | | | | | |
| B-**NMP 65-12E-60** | | 4 | 5,5 | | | | | | | | | | | 18,8 | 17,4 | 16,5 | 15,6 | 14,7 | 13,7 | 12,1 | 10,6 | 8,5 | 6,5 | |
| **NMP 65-12C-60** | | 5,5 | 7,5 | | | | | | | | | | | 23,3 | 22 | 21,3 | 20,4 | 19,5 | 18,5 | 17 | 15,4 | 13,1 | 10,9 | 8,8 |
| **B-NMP 65-125C-60** | | 5,5 | 7,5 | | | | | | | | | | | 23,3 | 22 | 21,3 | 20,4 | 19,5 | 18,5 | 17 | 15,4 | 13,1 | 10,9 | 8,8 |
| **NMP 65-12A-60** | | 7,5 | 10 | | | | | | | | | | | 27,9 | 26,7 | 26,1 | 25,3 | 24,6 | 23,7 | 22,4 | 20,9 | 18,7 | 16,4 | 13,9 |
| **B-NMP 65-125A-60** | | 7,5 | 10 | | | | | | | | | | | 27,9 | 26,7 | 26,1 | 25,3 | 24,6 | 23,7 | 22,4 | 20,9 | 18,7 | 16,4 | 13,9 |

**NMP** Standard construction.
Ejecución normal.

**B-NMP** Bronze construction.
Ejecución en bronce.

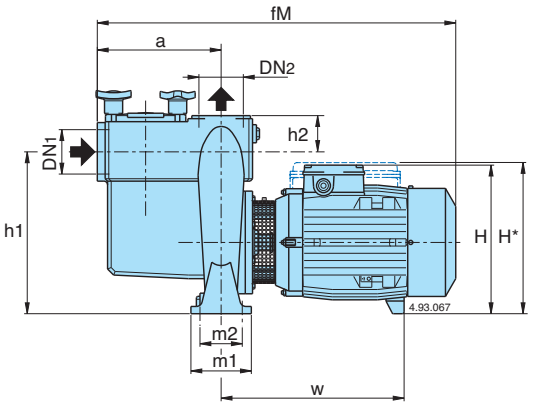
P2 Rated motor power output.
Potencia nominal del motor.

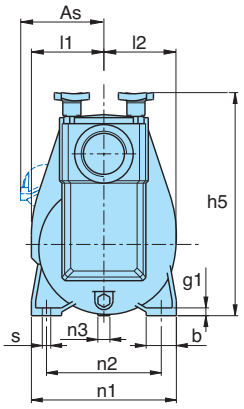
**H** Total head in m.
Altura total en m.

* Maximum suction lift 2-3 m.
Altura máxima de aspiración manométrica 2-3 m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | mm a | fM | h1 | h2 | H | h5 | m1 | m2 | n1 | n2 | n3 | b | s | l1 | l2 | w | g1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-**NMP 32/12A-60/A, DE-60, FE-60**<br>B-**NMP 32/12S-60/A** | G 2 | G 2 | 195 | 510 | 230 | 50 | 228 | 320 | 100 | 70 | 190 | 140 | 30 | 50 | 14 | 106 | 99 | 220 | 12 |
| B-**NMP 50/12G-60/A, H-60/A**<br>B-**NMP 50/12F-60/B**<br>B-**NMP 50/12D-60/A** | G 2½ | G 2½ | 205 | 540<br>580<br>602 | 262 | 60 | 240<br>240<br>250 | 360 | 100 | 70 | 240 | 190 | 37<br>37<br>20 | 50 | 14 | 120 | 117 | 234<br>274<br>298 | 12 |
| B-**NMP 65/12E-60**<br>**NMP 65/12A-60, C-60**<br>***B-NMP 65/125A-60, C-60** | G 3 | G 3 | 320 | 724<br>750<br>808 | 360 | 80 | 298<br>320<br>320 | 470 | 125 | 95 | 280 | 212 | 60<br>49<br>49 | 65 | 14 | 157 | 159 | 303<br>284<br>339 | 15 |

* Version without coupling guard

**DN NPT** Version on demand - Ejecuciones bajo demanda

| TYPE TIPO | NMP kg | B-NMP kg |
|---|---|---|
| B-**NMP 32/12FE-60** | 30 | 32 |
| B-**NMP 32/12DE-60** | 30 | 32 |
| B-**NMP 32/12A-60/A** | 31 | 33 |
| B-**NMP 32/12S-60/A** | 33 | 35 |
| B-**NMP 50/12H-60/A** | 37 | 39 |
| B-**NMP 50/12G-60/A** | 38,5 | 40 |
| B-**NMP 50/12F-60/B** | 41,5 | 44,5 |
| B-**NMP 50/12D-60/A** | 50,5 | 54,5 |
| B-**NMP 65/12E-60** | 76 | 86,5 |
| **NMP 65/12C-60** | 89 | - |
| **B-NMP 65/125C-60** | - | 99 |
| **NMP 65/12A-60** | 94,5 | - |
| **B-NMP 65/125A-60** | - | 104,5 |

| TYPE TIPO | H* | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| B-**NMPM 32/12FE-60** | 233 | ● | 116 | 131 | ❑ |
| B-**NMPM 32/12DE-60** | 233 | ● | 116 | 131 | ❑ |
| B-**NMPM 32/12AE-60** | 233 | ● | 131 | ❑ | ❑ |
| B-**NMPM 32/12SE-60** | 233 | ● | ❑ | ❑ | ❑ |
| B-**NMPM 50/12HE-60** | 245 | ● | 131 | ❑ | ❑ |
| B-**NMPM 50/12GE-60** | 245 | ● | ❑ | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

# NMP 60 Hz

## Rated currents - Intensidades nominales

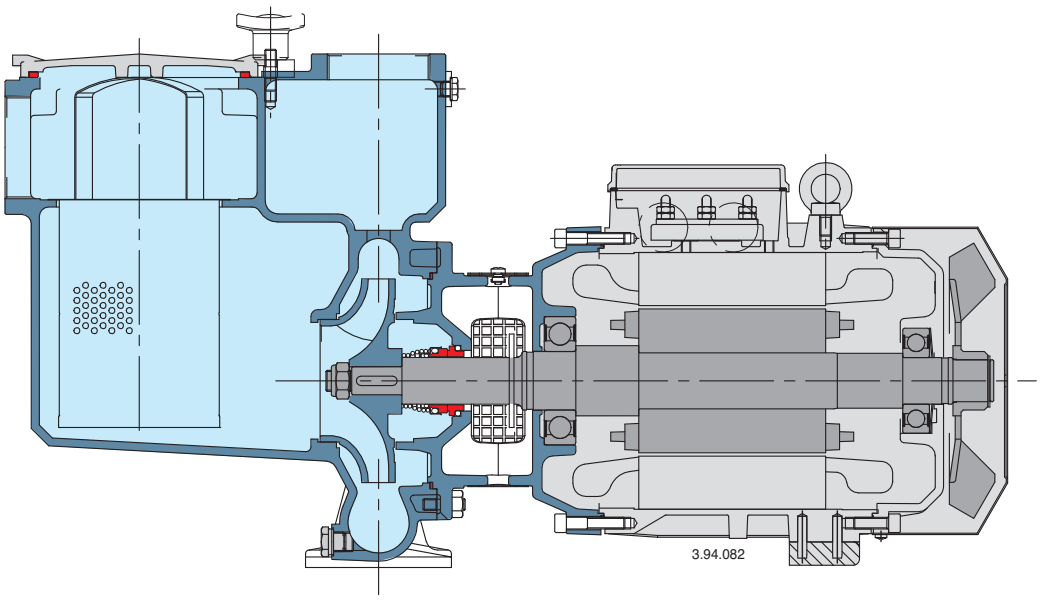
| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | In A | In A | In A | Ia/In |
| 0,55 | 0,75 | 6,5 | 11,3 | 13 | 2,9 |
| 0,75 | 1 | 6,5 | 11,3 | 13 | 2,9 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | 3 |
| 1,5 | 2 | 10,6 | - | - | 3,8 |

| P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|
| | | 220/380V | 380/660V | 220/440V | |
| kW | HP | In A | In A | In A | Ia/In |
| 0,55 | 0,75 | 4,5/2,6 | - | 4,7/2,7 | 5,2 |
| 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | - | 6,0/3,5 | 5,4 |
| 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 6,1 |
| 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| 7,5 | 10 | | 17/9,8 | | 9,2 |

P2 Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

## Features - Características constructivas




### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows NMP series pumps to be selected for use with different types of liquids.

### Stainless steel filter
A large capacity Stainless steel filter is fitted which is easy to remove for inspection and cleaning.

### Exclusive design
An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie NMP puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Filtro de acero inoxidable
Un filtro de acero inoxidable de gran capacidad de fácil manejo para su limpieza.

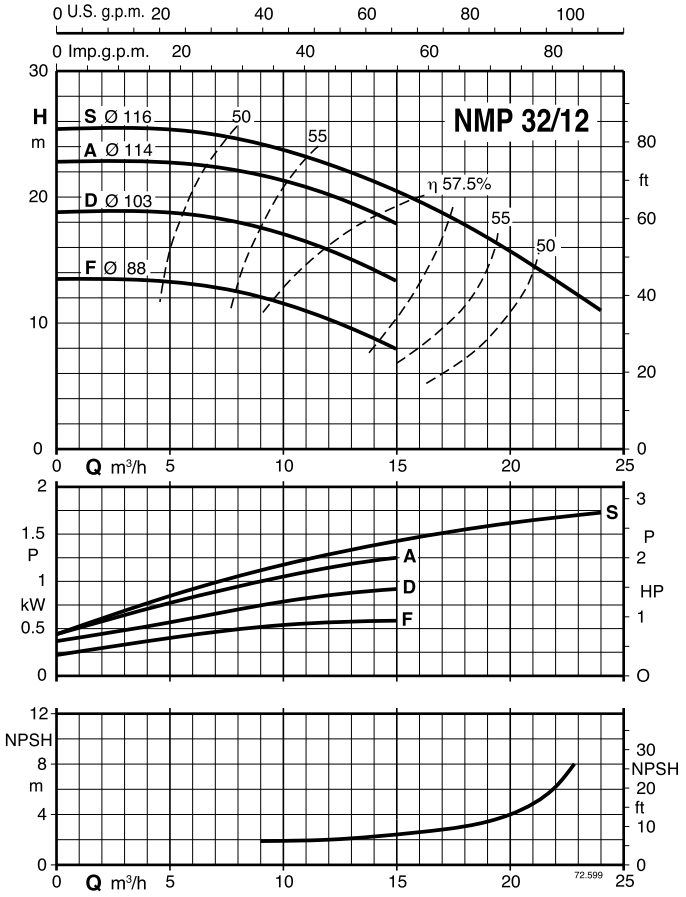
### Diseño exclusivo
Un protector (patentado) evita el contacto con las partes rotantes, proporcionando protección al usuario final mientras que permite la inspección del sello mecánico con fiabilidad.

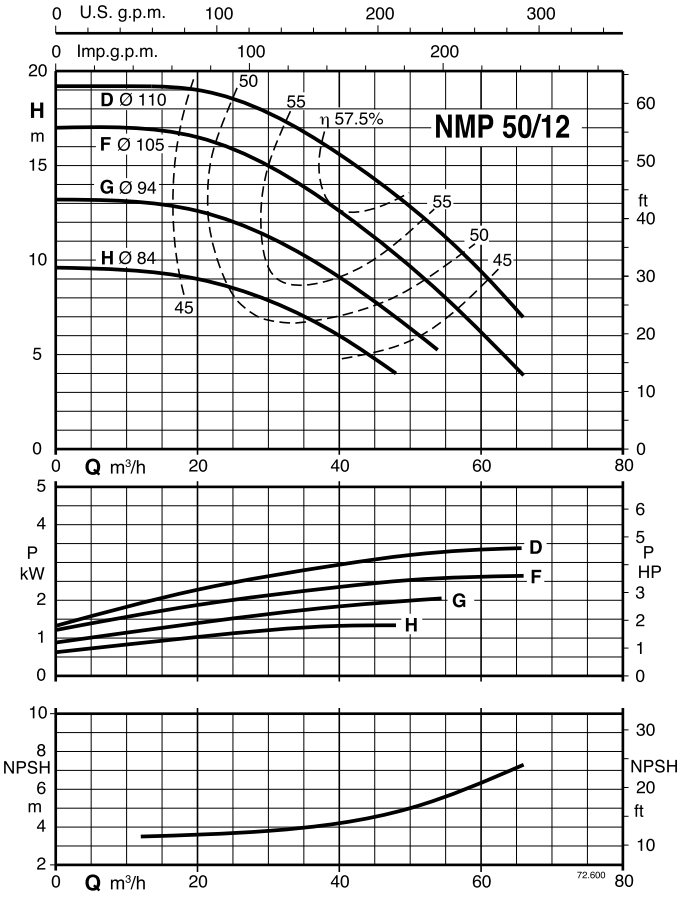
### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones de funcionamiento.

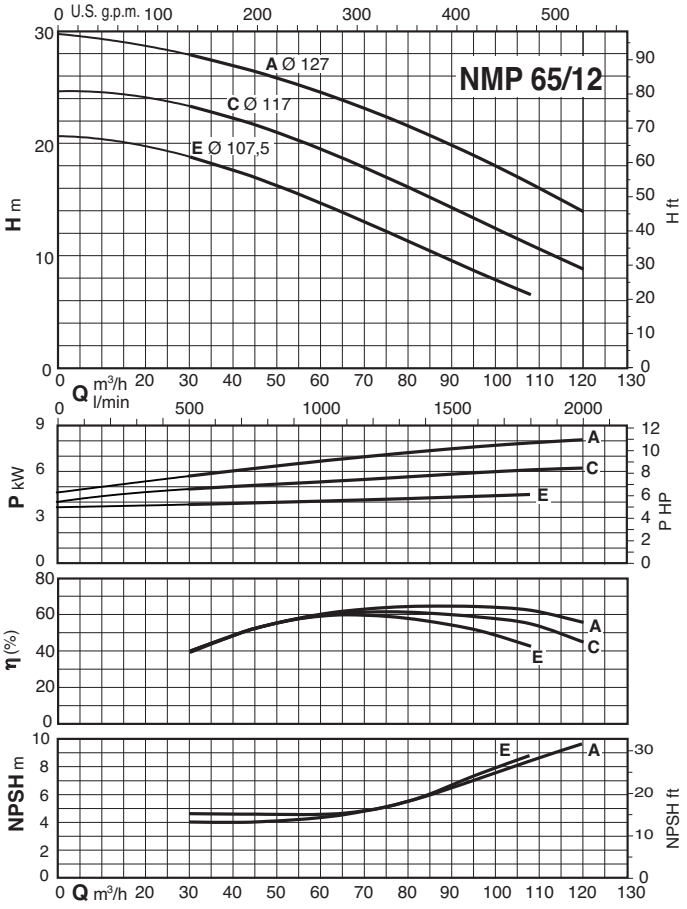
# NMP 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm



## Pre-filters
## Prefiltros

PFP




PF



### Recommended pumps - Bombas recomendadas

| Pre-filters<br>Prefiltros | DN<br>mm | flow *<br>Caudal<br>$m^3/h$ | Pumps<br>Bombas |
|---|---|---|---|
| **PFP 50** | 50 | 12 | NM4 32/16, NM4 32/20 |
| **PFP 65** | 65 | 20 | NM4 40/16, NM4 40/20, NM4 40/25 |
| **PFP 80** | 80 | 30 | NM4 50/16, NM4 50/20, NM4 50/25 |
| **PFP 100 - PF 100** | 100 | 48 | NM4 65/16, NM4 65/20, NM4 65/25, NM4 65/31 |
| **PFP 125 - PF 125** | 125 | 75 | NM4 80/16, NM4 80/20, NM4 80/25, NM4 80/31 |
| **PFP 150 - PP 150** | 150 | 108 | NM4 100/20, NM4 100/25, NM4 100/31 |
| **PFP 200** | 200 | 192 | NM4 125/25 |

* Flow rate with 1,7 m/s flow velocity
* Caudal con velocidad de flujo 1,7 m/s

## Construction

**PF type**

Pre-filters with removable basket, constructed in stainless steel.
Loose ring flange connections.
Clamp type closing with lever and double adjustment clamp.
Inner basket with Ø 6 mm holes.

**PFP type**

Pre-filters with removable basket, constructed in polypropylene.
Loose ring flange connections.
Transparent closing lid
Easy-to-remove lid with 6 knobs.
Inner basket with Ø 5 mm holes.

## Applications

For water circulation pump in filtration plants in swimming pools.
To prevent foreign bodies from entering the pump and the plant.

## Operating conditions

Max working pressure: 0,5 bar.
Liquid temperature up to: PFP 40 °C (PF 50 °C).
pH value: 6,5-8.

## Materials

| Components | | Materials |
|---|---|---|
| Pre-filter body | PF 100-304<br>PF 125-304<br>PF 150-304 | Stainless steel AISI 304 |
| Pre-filter body | PF 100-316<br>PF 125-316<br>PF 150-316 | Stainless steel AISI 316 |
| Strainer basket | | Stainless steel AISI 316 |

| Components | | Materials |
|---|---|---|
| Pre-filter body | PFP 50<br>PFP 65<br>PFP 80<br>PFP 100<br>PFP 125<br>PFP 150<br>PFP 200 | Polypropylene |
| Filter lid | | Transparent polycarbonate |
| Strainer basket | | Stainless steel AISI 316 |

## Ejecución

**Tipo PF**

Prefiltros con cesta extraible, construidos en acero inoxidable.
Bocas con bridas locas (libres).
Cierre del tipo CLAMP con leva de doble husillo de regulación.
Cesta interna con agujeros de Ø 6 mm.

**Tipo PFP**

Prefiltros con cesta extraible, construidos en polipropileno.
Bocas con bridas locas (libres).
Tapa de cierre transparente
Cierre con 6 pomos fáciles de quitar.
Cesta interna con agujeros de Ø 5 mm.

## Aplicaciones

Para bombas de circulación del agua en instalaciones de filtración de piscinas. Para impedir la entrada de cuerpos extraños en la bomba y en la instalación.

## Limites de empleo

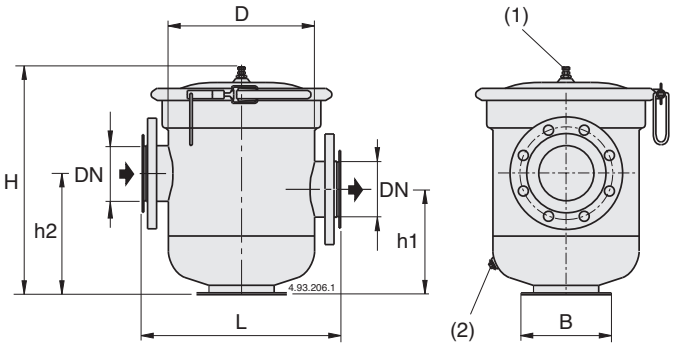
Presión de funcionamiento máx 0,5 bar.

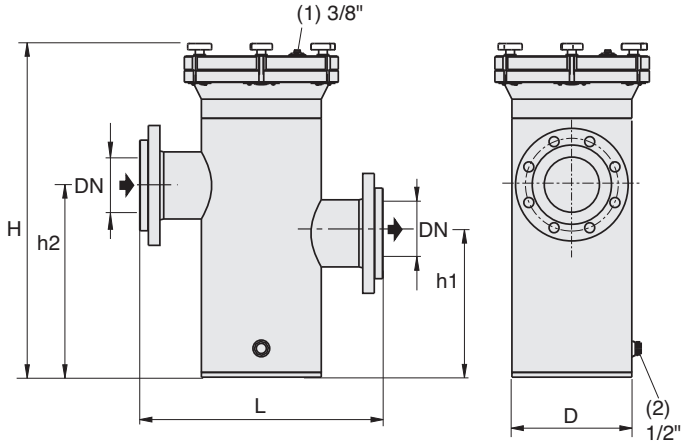
## Materiales

| Componentes | | Materiales PF |
|---|---|---|
| Cuerpo filtro | PF 100-304<br>PF 125-304<br>PF 150-304 | Acero inox AISI 304 |
| Cuerpo filtro | PF 100-316<br>PF 125-316<br>PF 150-316 | Acero inox AISI 316 |
| Cesta filtro | | Acero inox AISI 316 |

| Componentes | | Materiales PFP |
|---|---|---|
| Cuerpo filtro | PFP 50<br>PFP 65<br>PFP 80<br>PFP 100<br>PFP 125<br>PFP 150<br>PFP 200 | Polipropileno |
| Tapa de filtro | | Policarbonato transparente |
| Cesta filtro | | Acero inox AISI 316 |

## Dimensions and weights - Dimensiones y pesos




Flanges - Bridas UNI 6089 PN 10

| Type<br>Tipo | mm | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|
| | DN | H | h1 | h2 | L | D | B | |
| **PF 100** | 100 | 530 | 247 | 287 | 440 | 292 | 185 | 17,5 |
| **PF 125** | 125 | | | | 440 | 292 | 185 | 17,7 |
| **PF 150** | 150 | 550 | 260 | 300 | 500 | 350 | 210 | 23,3 |

(1) Relief valve
Válvula purga aire

(2) Draining plug
Vaciado

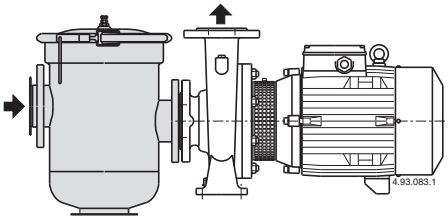
Flanges - Bridas UNI 6089 PN 10

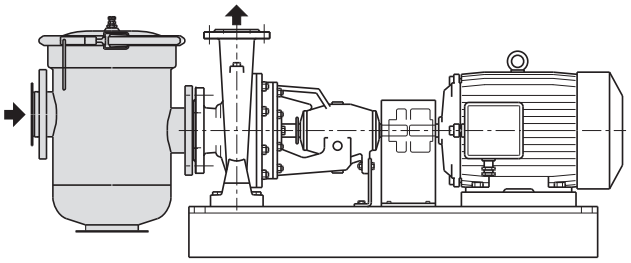
| Type<br>Tipo | mm | | | | | | kg |
|---|---|---|---|---|---|---|---|
| | DN | H | h1 | h2 | L | D | |
| **PFP 50** | 50 | 695 | 300 | 400 | 440 | 250 | 14 |
| **PFP 65** | 65 | 695 | 300 | 400 | 460 | 250 | 14,1 |
| **PFP 80** | 80 | 695 | 300 | 400 | 477 | 250 | 14,2 |
| **PFP 100** | 100 | 695 | 300 | 400 | 502 | 250 | 14,3 |
| **PFP 125** | 125 | 695 | 300 | 400 | 507 | 250 | 14,5 |
| **PFP 150** | 150 | 745 | 300 | 400 | 585 | 315 | 25 |
| **PFP 200** | 200 | 795 | 300 | 400 | 689 | 400 | 43 |

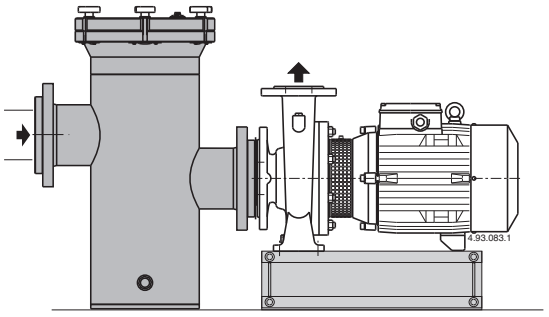
(1) Relief valve
Válvula purga aire

(2) Draining plug
Vaciado

## Examples of installations - Ejemplos de instalación

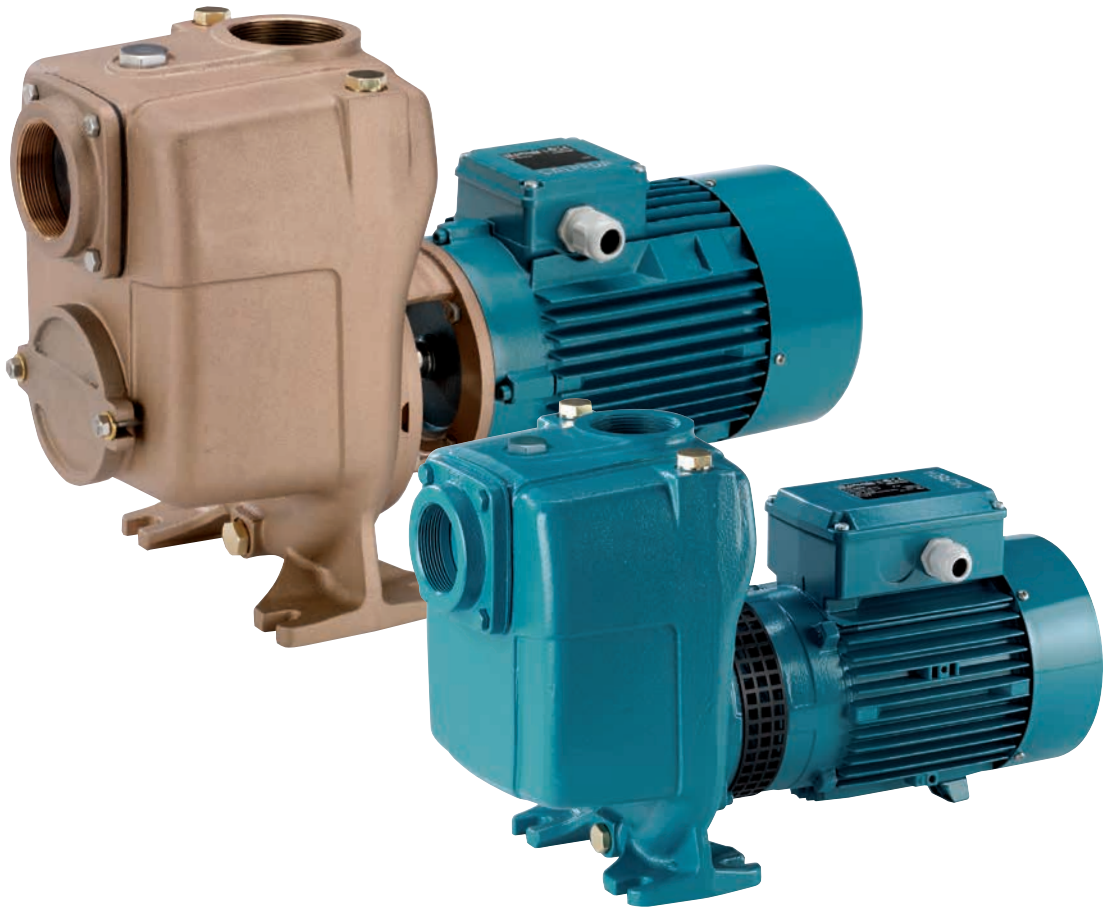




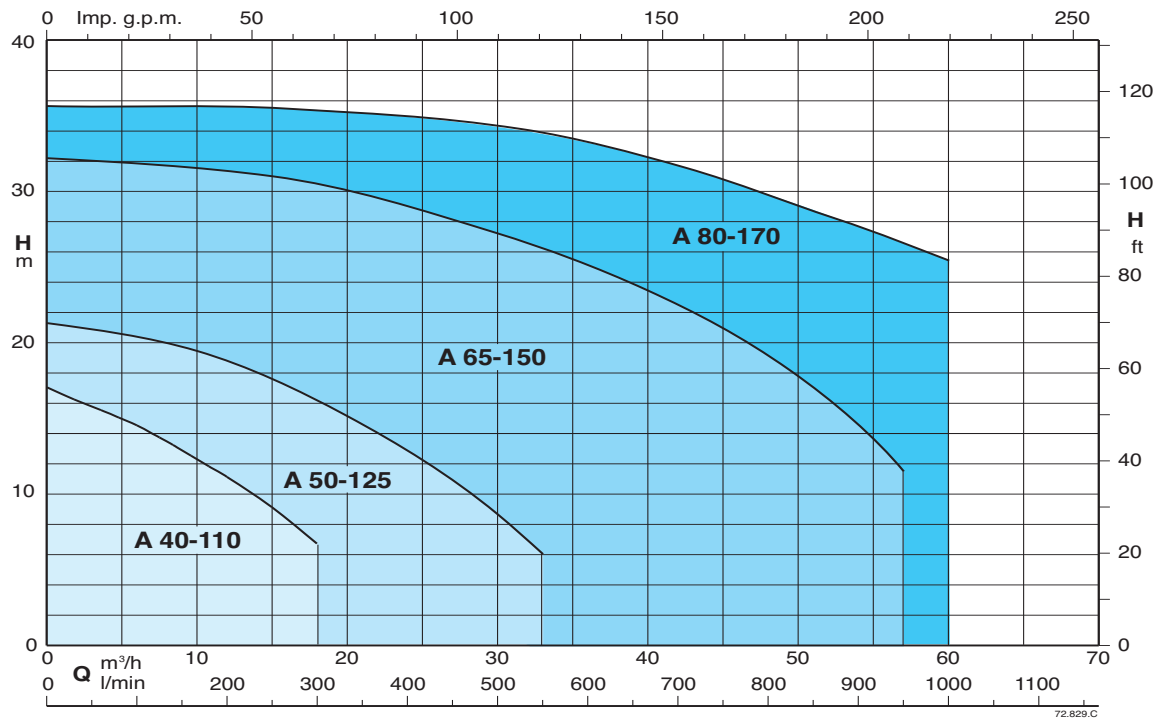
# A 60 Hz

## Self-Priming Centrifugal Pumps with open impeller
## Bombas centrifugas autoaspirantes con rodete abierto



### Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# A 60 Hz

## Construction
Close-coupled centrifugal pumps with open impeller.
The built-in backflow preventer avoids reverse siphoning when the pump is stopped and assures automatic re-priming at the next start.
The pump re-primes itself even if partially filled with liquid and with completely empty suction pipe.

**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
A: version with pump casing and lanter bracket in cast iron.
B-A: version with pump casing and lanter bracket in bronze
(the pumps are supplied fully painted).

## Applications
For clean or slightly dirty water, also with solids up to 10 mm grain size for A 40-110, A 50-125 and 15 mm for A 65-150, A 80-170.
For draining a basin or a sump.
For irrigation.
For civil and industrial applications.

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Room temperature up to 40 °C.
Maximum permissible working pressure up to 6 bar (10 bar for A 80-170).
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**A**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 11 kW;
**AM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
Other voltages.
Protection IP 55.
Special mechanical seal.
Higher or lower liquid or ambient temperatures.
Construction with bearing bracket.

## Ejecución
Bomba centrífuga monobloc autocebante con rodete abierto.
La válvula de retención incorporada en la bomba impide, en el paro, el efecto sifón y asegura la autoaspiración automática en cada nueva puesta en marcha. La bomba autoaspira aunque la válvula de retención no cierre perfectamente , estando la bomba parcialmente llena de agua y con el tubo de aspiración completamente vacío.

**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
A: Ejecución con cuerpo bomba y acoplamiento in hierro.
B-A: Ejecución con cuerpo bomba y acoplamiento in bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Aplicaciones
Para agua límpia o ligeramente sucia, aún conteniendo cuerpos sólidos hasta 10 mm para A 40-110, A 50-125 y 15 mm para A 65-150, A 80-170.
Para el vaciado de sótanos, fosas, achiques, etc.
Para riegos por gravedad.
Para aplicaciones civiles e industriales.

## Límites de empleo
Temperatura líquido de - 10 °C a + 90 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba 6 bar (10 bar para A 80-170).
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**A**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 11 kW;
**AM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
Otras tensiones.
Protección IP 55.
Sello mecánico especial.
Para líquidos o ambientes con temperaturas más elevadas o más bajas.
Ejecución con soporte y eje libre.

## Materials

| Components | A | B-A |
|---|---|---|
| Pump casing<br>Suction flange<br>Inspection cover<br>(for A 65, A 80)<br>Lantern bracket<br>Impeller | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Shaft | Cr-Ni steel<br>1.4305 EN 10088<br>(AISI 303) | Cr-Ni-Mo steel<br>1.4401 EN 10088<br>(AISI 316) |
| | Cr steel<br>1.4104 EN 10088<br>(AISI 430)<br>for A 65-150AE,BE | |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Materiales

| Componentes | A | B-A |
|---|---|---|
| Cuerpo bomba<br>Bridas de aspiración<br>Tapa registro<br>(para A 65, A 80)<br>Acoplamiento<br>Rodete | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| Eje | Acero al níquel-cromo<br>1.4305 EN 10088<br>(AISI 303) | Acero al Cr-Ni-Mo<br>1.4401 EN 10088<br>(AISI 316) |
| | Acero al Cr<br>1.4104 EN 10088<br>(AISI 430)<br>para A 65-150AE,BE | |
| Sello mecánico | Carbón - Cerámica - NBR | |

# A 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 3,6 | 4,8 | 6 | 7,5 | 8,4 | 9,6 | 10,8 | 12 | 15 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 60 | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 250 | 300 |
| **A 40-110B-60/A** B-A 40-110B-60/A | **AM 40-110B-60/A** B-AM 40-110B-60/A | 0,55 | 0,75 | **H** m | 12,5 | 12 | 11,3 | 10,5 | 10 | 9,4 | 8,6 | 7,8 | 5,4 | |
| **A 40-110A-60/B** B-A 40-110A-60/B | **AM 40-110A-60/A** B-AM 40-110A-60/A | 0,75 | 1 | | 15,5 | 15 | 14,5 | 13,7 | 13,2 | 12,5 | 11,8 | 11,1 | 9,1 | 6,7 |

| 3 ~ | 1 ~ | P2 kW | P2 HP | Q m³/h | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 |
| **A 50-125CE-60** B-A 50-125CE-60 | **AM 50-125CE-60** B-AM 50-125CE-60 | 0,75 | 1 | **H** m | 13,5 | 13 | 12 | 11 | 9,5 | 8 | 6 | 4 | | |
| **A 50-125B-60/A** B-A 50-125B-60/A | **AM 50-125BE-60** B-AM 50-125BE-60 | 1,1 | 1,5 | | 16,5 | 16 | 15 | 13,5 | 12 | 10,5 | 9 | 7 | 5 | |
| **A 50-125A-60/A** B-A 50-125A-60/A | **AM 50-125AE-60** B-AM 50-125AE-60 | 1,5 | 2 | | 20 | 19,5 | 18,5 | 17,5 | 16 | 14,5 | 13 | 11 | 9 | 6 |

| 3 ~ | | P2 kW | P2 HP | Q m³/h | 15 | 18 | 24 | 30 | 33 | 36 | 42 | 48 | 54 | 57 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 250 | 300 | 400 | 500 | 550 | 600 | 700 | 800 | 900 | 950 |
| **A 65-150C-60/B** B-A 65-150C-60/B | | 2,2 | 3 | **H** m | 19,5 | 19 | 17 | 15,5 | 14,5 | 13 | 11 | 6,5 | | |
| **A 65-150B-60/B** B-A 65-150B-60/A | | 3 | 4 | | 22,5 | 21,5 | 20 | 18,5 | 17 | 16 | 13,5 | 10 | 5 | |
| **A 65-150A-60/C** B-A 65-150A-60/B | | 4 | 5,5 | | 31 | 30,5 | 29 | 27 | 26 | 25 | 22,5 | 19 | 15 | 11,5 |

| 3 ~ | | P2 kW | P2 HP | Q m³/h | 15 | 18 | 21 | 24 | 30 | 36 | 45 | 54 | 60 | 66 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 250 | 300 | 350 | 400 | 500 | 600 | 750 | 900 | 1000 | 1100 |
| **A 80-170B-60/A** B-A 80-170B-60/A | | 5,5 | 7,5 | **H** m | 29,9 | 29,8 | 29,7 | 29,3 | 28,2 | 26,6 | 23,8 | 20,3 | 17,3 | |
| **A 80-170A-60/A** B-A 80-170A-60/A | | 7,5 | 10 | | 35,5 | 35,5 | 35,2 | 35 | 34,4 | 33,2 | 30,9 | 27,6 | 25,4 | |

**A** Standard construction.
Ejecución normal.

**B-A** Bronze construction.
Ejecución en bronce.

P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

| TYPE TIPO | P2 kW | P2 HP | single-phase - monofásico 1~ 220V In A | 127V In A | 110V In A | 110/220V In A | Ia/In |
|---|---|---|---|---|---|---|---|
| | 0,55 | 0,75 | 5,2 | 9 | 10,4 | 9.2/4.7 | 3,1 |
| AM 40-100A-60/A | 0,75 | 1 | 6,9 | 12 | 13,8 | 12.5/6.4 | 2,9 |
| AM 50-125CE-60 | 0,75 | 1 | 6,5 | 11,3 | 13 | - | 2,9 |
| | 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| | 1,5 | 2 | 10,6 | - | - | - | 3,8 |

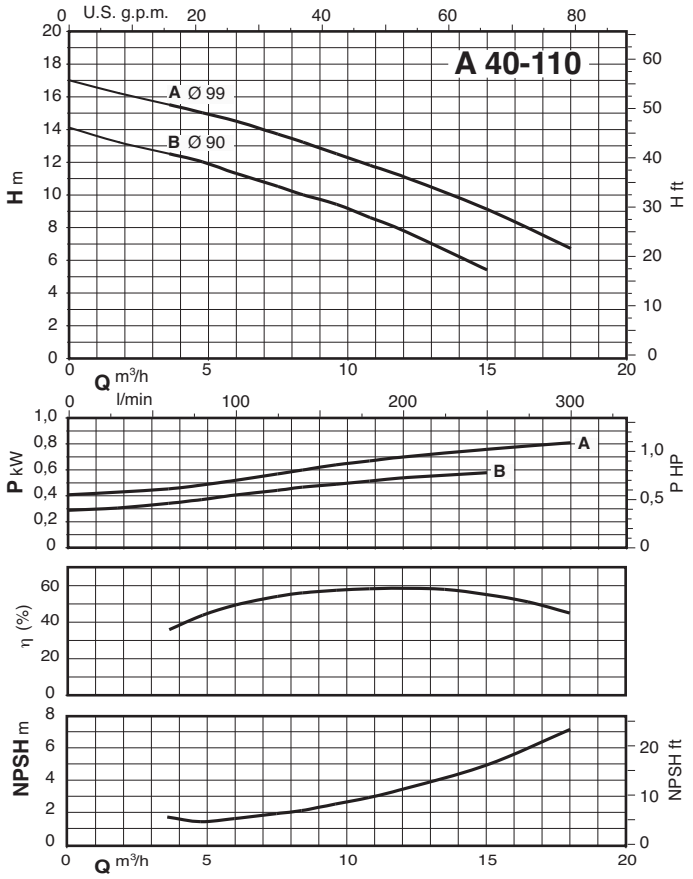
| TYPE TIPO | P2 kW | P2 HP | three-phase - trifásico 3~ 220/380V In A | 380/660V In A | 220/440V In A | Ia/In |
|---|---|---|---|---|---|---|
| | 0,55 | 0,75 | 3,6/2,1 | - | 3,8/2,2 | 3,7 |
| A 40-100A-60/A | 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| A 50-125CE-60 | 0,75 | 1 | 4/2,3 | - | 4,2/2,4 | 7,3 |
| | 1,1 | 1,5 | 5,7/3,3 | - | 6/3,5 | 5,4 |
| | 1,5 | 2 | 9/5,2 | - | 9,4/5,5 | 6,1 |
| | 2,2 | 3 | 11,1/6,4 | - | 11,6/6,7 | 8,4 |
| | 3 | 4 | 13,4/7,7 | - | 14,0/8,1 | 8,4 |
| | 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| | 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| | 7,5 | 10 | | 17/9,8 | | 9,2 |

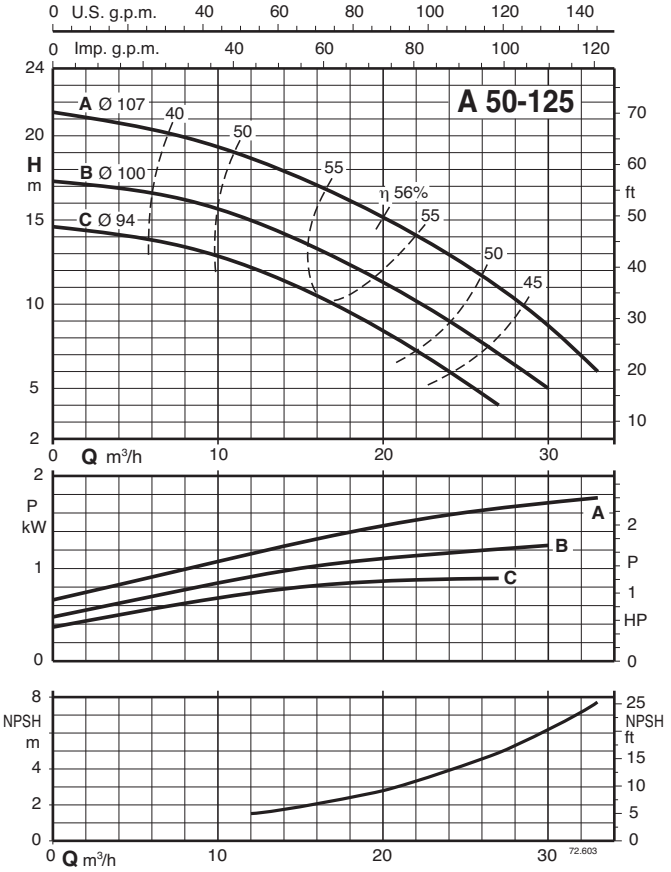
P2 Rated motor power output.
Potencia nominal del motor.

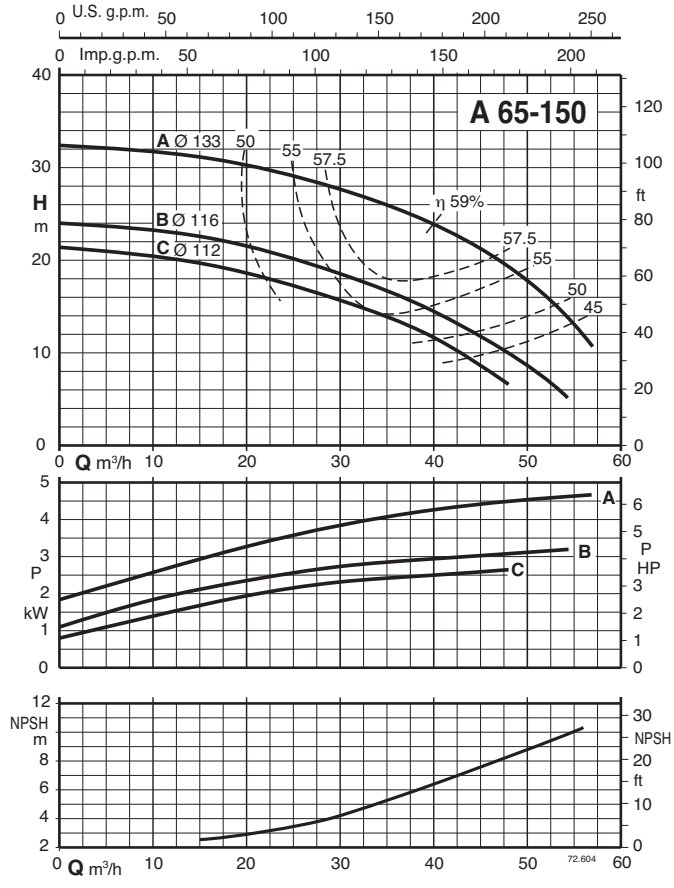
Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

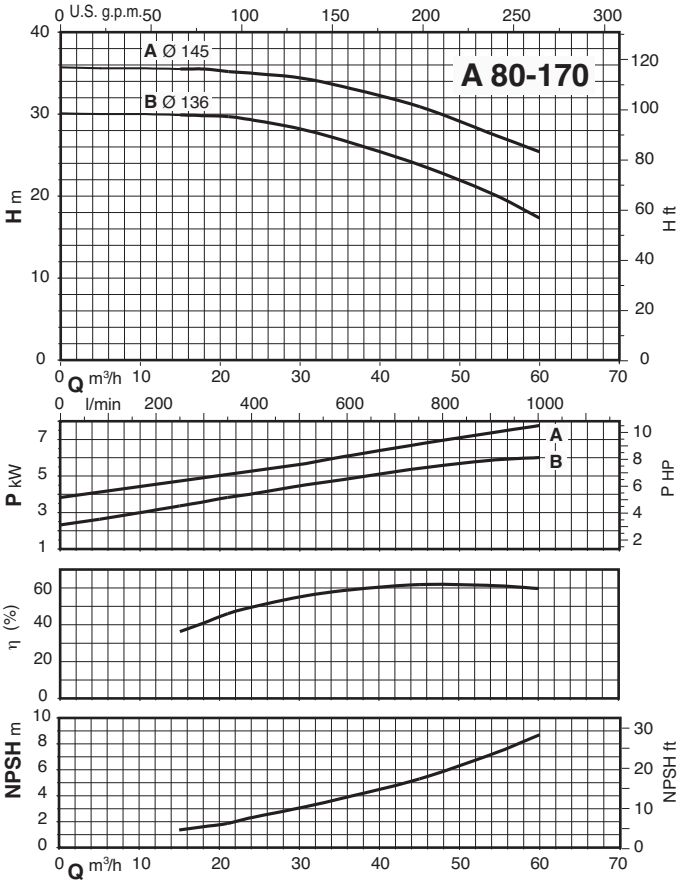
## Characteristic curves - Curvas Características

n ≈ 3450 rpm

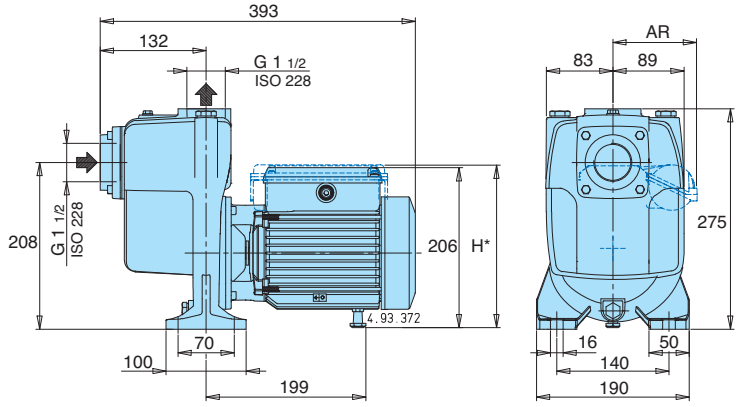


## Dimensions and weights - Dimensiones y pesos

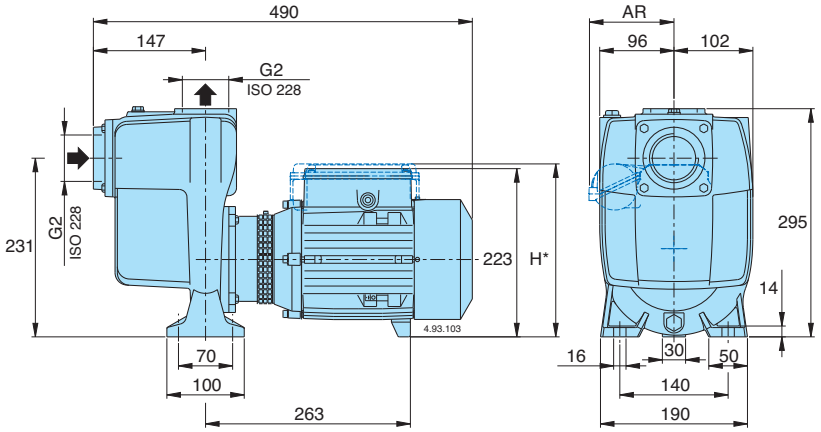



| TYPE TIPO | H* | AR mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| (B)-AM 40-110B-60/A | 187 | ● | ● | ● | 116 |
| (B)-AM 40-110A-60/A | 187 | ● | 116 | 116 | 131 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

| | kg | | kg |
|---|---|---|---|
| A 40-110A-60/B<br>AM 40-110A-60/A | 20,6<br>20,8 | B-A 40-110A-60/B<br>B-AM 40-110A-60/A | 23,3<br>23,5 |
| A 40-110B-60/B<br>AM 40-110B-60/A | 18,9<br>19,8 | B-A 40-110B-60/B<br>B-AM 40-110B-60/A | 21,6<br>22,5 |

**DN** NPT Version on demand - Ejecuciones bajo demanda

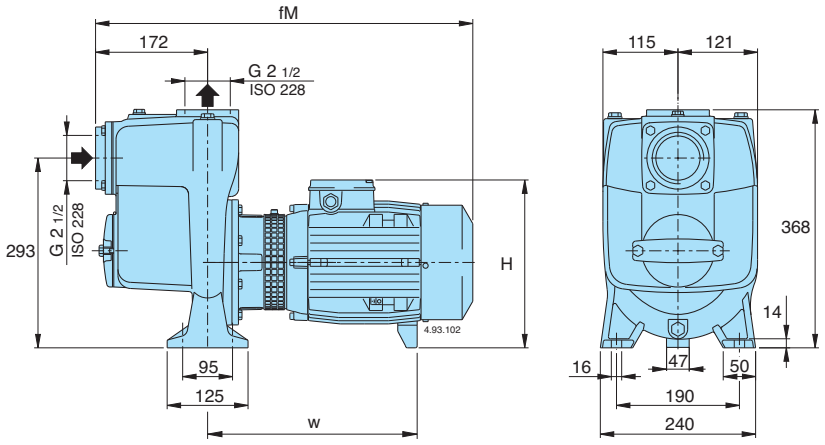



| TYPE TIPO | Hc | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| (B)-AM 50-125CE-60 | 228 | ● | 116 | 131 | ❑ |
| (B)-AM 50-125BE-60 | 228 | ● | 131 | ❑ | ❑ |
| (B)-AM 50-125AE-60 | 228 | ● | ❑ | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

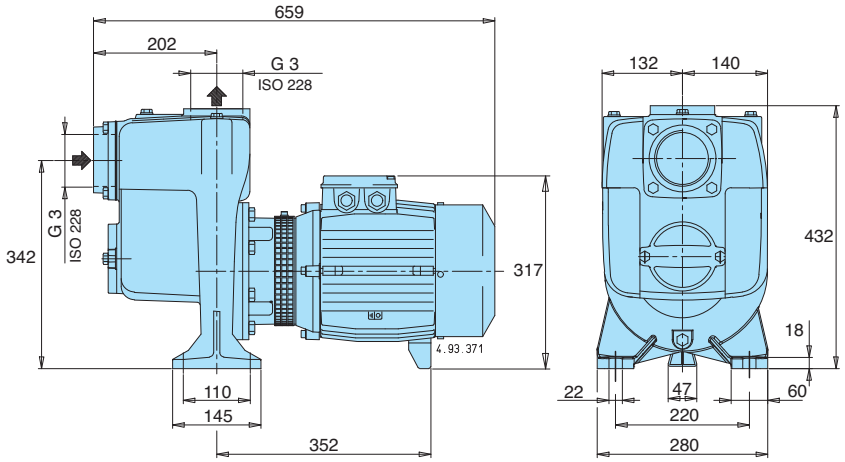
| | kg | | kg |
|---|---|---|---|
| A 50-125A-60/A<br>AM 50-125AE-60 | 29,9<br>31 | B-A 50-125A-60/A<br>B-AM 50-125AE-60 | 33,6<br>33,6 |
| A 50-125B-60/A<br>AM 50-125BE-60 | 28<br>29,1 | B-A 50-125B-60/A<br>B-AM 50-125BE-60 | 31<br>32,6 |
| A 50-125CE-60<br>AM 50-125CE-60 | 26,9<br>27,8 | B-A 50-125CE-60<br>B-AM 50-125CE-60 | 29,6<br>30,6 |

**DN** NPT Version on demand - Ejecuciones bajo demanda




| TYPE TIPO | mm fM | H | w | kg |
|---|---|---|---|---|
| **A 65-150C-60/C**<br>B-A 65-150C-60/B | 635<br>583 | 260<br>260 | 364<br>319 | 56,7<br>50,4 |
| **A 65-150B-60/B**<br>B-A 65-150B-60/A | 595 | 270 | 324 | 57<br>58,5 |
| **A 65-150A-60/C**<br>B-A 65-150A-60/B | 595 | 270 | 324 | 58,5<br>60 |

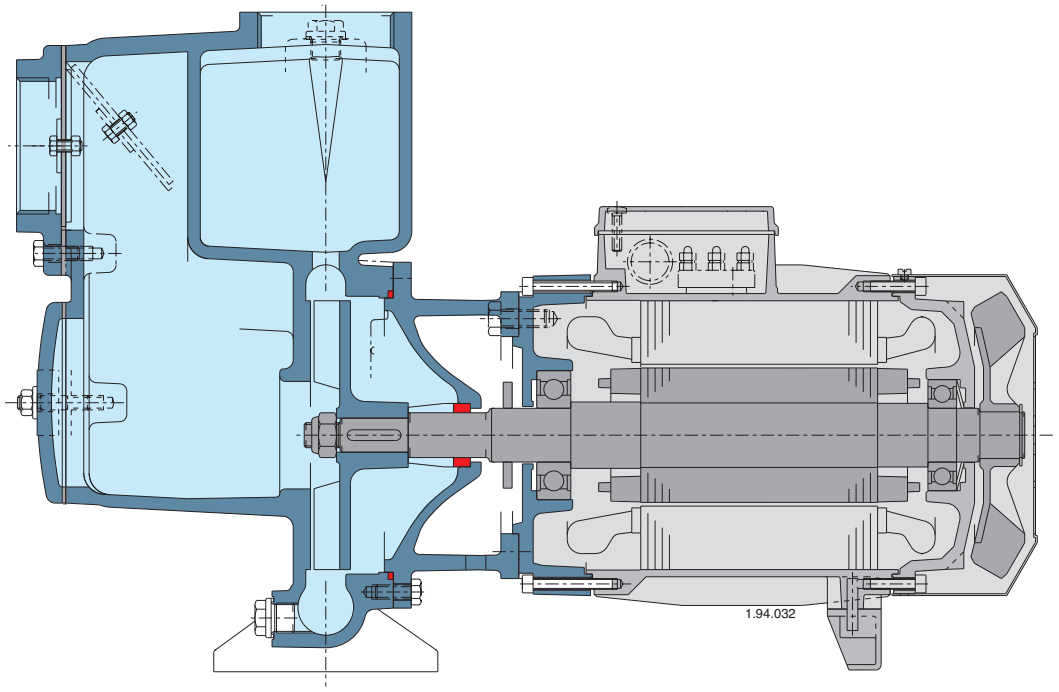
**DN** NPT Version on demand - Ejecuciones bajo demanda




| | kg | | kg |
|---|---|---|---|
| A 80-170A-60/A | 85,8 | B-A 80-170A-60/A | 95,6 |
| A 80-170B-60/A | 80,3 | B-A 80-170B-60/A | 90,1 |

**DN** NPT Version on demand - Ejecuciones bajo demanda

## Features - Características constructivas




### Fast self priming
An integrated non-return valve and the design of the pump casing ensures rapid priming, once the pump body has been filled with water.

### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows A series pumps to be selected for use with different types of liquids.

### Solid parts
The open impeller allows for the passage of suspended solids in pumped liquid.

### Exclusive design
An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Autoaspirantes rápida
Una válvula de retención integrada y el diseño de la carcasa de la bomba asegura la aspiración rápida una vez que el cuerpo de la bomba se ha llenado de agua.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Partes sólidas
El rodete abierto permite el paso de sólidos en suspensión en el líquido bombeado.

### Diseño exclusivo
Un innovador protector patentado evita el contacto con las partes rotantes, lo que demuestra la protección para el usuario final mientras le permite la inspección del sello mecánico.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones.

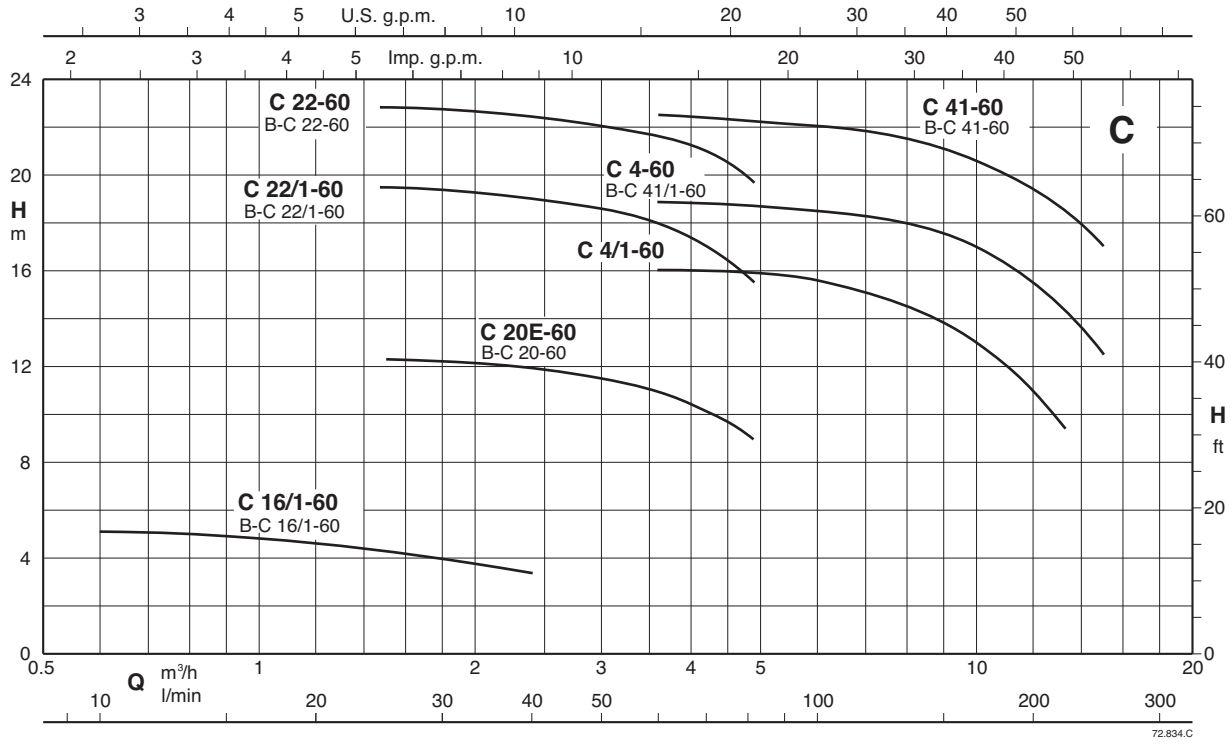
# C 60 Hz

## Centrifugal Pumps with open impeller
## Bombas centrifugas con rodete abierto



## Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# C 60 Hz

## Construction
Close-coupled centrifugal pumps with open impeller.
Free-flow impeller (vortex or recessed impeller) for type C 16/1E.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

C: version with pump casing and lanter bracket in cast iron.
B-C: version with pump casing and lanter bracket in bronze
(the pumps are supplied fully painted).

## Applications
For moderately dirty liquids or emulsions.
For industry and agriculture.

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 8 m.
Maximum permissible working pressure: 6 bar.
Maximum size of solids: 4 mm.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**C**: three-phase 220/380 V, 220/440 V,
**CM**: single-phase 110 V, 127 V, 220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Motor suitable for operation with frequency converter from 1,1 kW.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.
- Motor suitable for operation with frequency converter up to 0,75 kW.

## Materials

| Component | C | B-C |
|---|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 | Bronze G-Cu Sn 10 EN 1982 |
| Lantern bracket | Cast iron GJL 200 EN 1561 | Bronze G-Cu Sn 10 EN 1982 |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| Shaft | Chrome steel 1.4104 EN 10088 AISI 430 | Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316) |
| | Cr-Ni steel 1.4305 EN 10088 (AISI 303) for C 41E | |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Ejecución
Electrobomba centrifuga monobloc con rodete abierto.
Rodete tipo vortex para tipo C 16/1E.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

C: Ejecución con cuerpo bomba y acoplamiento in hierro.
B-C: Ejecución con cuerpo bomba y acoplamiento in bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Aplicaciones
Para líquidos moderadamente cargados de impurezas o emulsionados.
Para la industria y la agricultura.

## Límites de empleo
Temperatura líquido de - 10 °C a + 90 °C.
Temperatura ambiente hasta 40° C.
Altura de aspiración manométrica hasta 8 m.
Presíon máxima admitida en el cuerpo de la bomba 6 bar.
Máximo diámetro cuerpos solidos: 4 mm.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**C**: trifásico 220/380 V, 220/440 V.
**CM**: monofásico 110 V, 127 V, 220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Motor preparado al funcionamiento con convertidor de frecuencia de 1,1 kW.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.
- Motor preparado al funcionamiento con convertidor de frecuencia hasta 0,75 kW.

## Materiales

| Componentes | C | B-C |
|---|---|---|
| Cuerpo bomba | Hierro GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| Acoplamiento | Hierro GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| Eje | Acero al cromo 1.4104 EN 10088 (AISI 430) | Acero al Cr-Ni-Mo 1.4401 EN 10088 (AISI 316) |
| | Acero al cromo-níquel 1.4305 EN 10088 (AISI 303) para C 41E | |
| Sello mecánico | Carbón - Cerámica - NBR | |

# C 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | 1 ~ | $P_2$ | | **Q** $m^3/h$ | 0,6 | 0,9 | 1,2 | 1,5 | 1,8 | 2,4 | 3 | 3,6 | 4,8 | 6 | 6,6 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 | 110 | 140 | 160 | 180 | 200 | 220 | 250 |
| **C 16/1E-60**<br>B- C 16/1E-60 | **CM 16/1E-60**<br>B- CM 16/1E-60 | 0,15 | 0,2 | | 5 | 4,7 | 4,4 | 4,2 | 4 | 3,3 | | | | | | | | | | | |
| **C 20E-60**<br>B- C 20-60/A | **CM 20E-60**<br>B- CM 20-60/A | 0,25<br>0,37 | 0,34<br>0,5 | | | | | 12,3 | 12,2 | 12 | 11,5 | 10,8 | 9 | | | | | | | | |
| **C 22/1E-60**<br>B- C 22/1-60/A | **CM 22/1E-60**<br>B- CM 22/1-60/A | 0,45 | 0,6 | | | | | 19,5 | 19,4 | 19,1 | 18,7 | 17,9 | 15,3 | | | | | | | | |
| **C 22E-60**<br>B- C 22-60/A | **CM 22E-60**<br>B- CM 22-60/A | 0,55 | 0,75 | **H** m | | | | 22,5 | 22,5 | 22,4 | 22 | 21,5 | 19,5 | | | | | | | | |
| **C 4/1-60/A** | **CM 4/1-60/A** | 0,55 | 0,75 | | | | | | | | | 16 | 15,8 | 15,5 | 15,1 | 14,3 | 13,5 | 12,2 | 11 | 9,5 | |
| **C 4-60/B**<br>B- C 41/1E-60 | **CM 4-60/A**<br>B- CM 41/1E-60 | 0,75 | 1 | | | | | | | | | 19 | 18,8 | 18,5 | 18,3 | 17,7 | 17,2 | 16,5 | 15,5 | 14,4 | 12,5 |
| **C 41-60/A**<br>B- C 41-60/A | **CM 41E-60**<br>B- CM 41E-60 | 1,1 | 1,5 | | | | | | | | | 22,6 | 22,3 | 22,1 | 22 | 21,5 | 21 | 20,3 | 19,5 | 18,5 | 17 |

B-C, B-CM = Bronze construction. Ejecución en bronce.

$P_2$ Rated motor power output. Potencia nominal del motor.

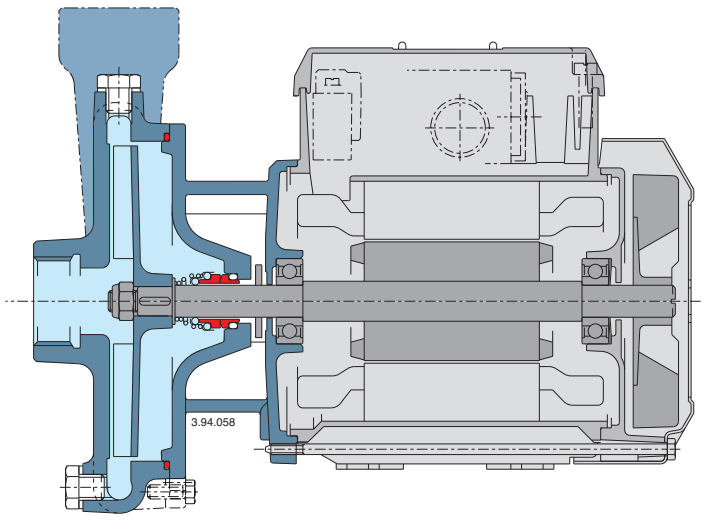
**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

$\rho$ = Density 1000 kg/m³. Densidad 1000 kg/m³.

$\upsilon$ = Kinematic viscosity max 20 mm²/sec. Viscosidad cinematica max 20 mm²/sec.

## Features - Características constructivas




### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows C series pumps to be selected for use with different types of liquids.

### Solid parts
The open impeller allows for the passage of suspended solids in pumped liquid.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie C puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Partes sólidas
El rodete abierto permite el paso de sólidos en suspensión en el líquido bombeado.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones de funcionamiento.

## Rated currents - Intensidades nominales

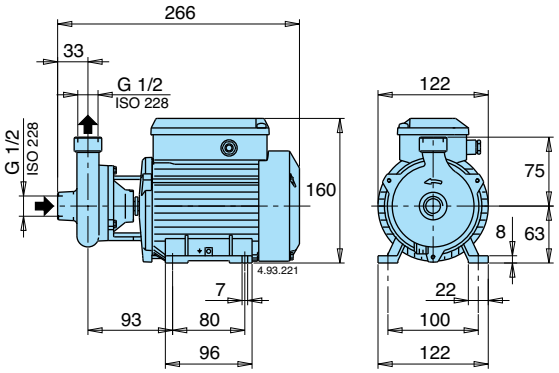
| TYPE TIPO | P2 kW | P2 HP | single-phase - monofásico 1~ 220V In A | 127V In A | 110V In A | Ia/In |
|---|---|---|---|---|---|---|
| | 0,15 | 0,2 | 1,5 | 2,6 | 3 | 2,7 |
| CM 20E-60 | 0,25 | 0,34 | 3,1 | 5,4 | 6,2 | 2,5 |
| | 0,37 | 0,5 | 3,4 | 5,9 | 6,8 | 2,3 |
| CM 22/1E-60 | 0,45 | 0,6 | 3,4 | 5,9 | 6,8 | 2,7 |
| | 0,45 | 0,6 | 4,1 | 7,1 | 8,2 | 2,5 |
| CM 22E-60 | 0,55 | 0,75 | 4,3 | 7,4 | 8,6 | 2,6 |
| | 0,55 | 0,75 | 5,2 | 9 | 10,4 | 3,1 |
| CM 4-60/A | 0,75 | 1 | 6,9 | 12 | 13,8 | 2,9 |
| | 0,75 | 1 | 6,5 | 11,3 | 13 | 2,9 |
| | 1,1 | 1,5 | 8,5 | 14,7 | - | 3 |

| TYPE TIPO | P2 kW | P2 HP | three-phase - trifásico 3~ 220/380V In A | 220/440V In A | Ia/In |
|---|---|---|---|---|---|
| | 0,15 | 0,2 | 2/1,2 | 2,2/1,3 | 4 |
| C 20E-60 | 0,25 | 0,34 | 2,3/1,3 | 2,4/1,4 | 3,5 |
| | 0,37 | 0,5 | 2,6/1,5 | 2,7/1,6 | 3,5 |
| C 22/1E-60 | 0,45 | 0,6 | 3/1,7 | 3,1/1,8 | 3,8 |
| | 0,45 | 0,6 | 2,6/1,5 | 2,7/1,6 | 3,5 |
| C 22E-60 | 0,55 | 0,75 | 3,5/2 | 3,6/2,1 | 4,5 |
| | 0,55 | 0,75 | 3,6/2,1 | 3,8/2,2 | 3,7 |
| C 4-60/A | 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| | 0,75 | 1 | 4/2,3 | 4,2/2,4 | 7,3 |
| | 1,1 | 1,5 | 5,7/3,3 | 6/3,5 | 5,4 |

P2 Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

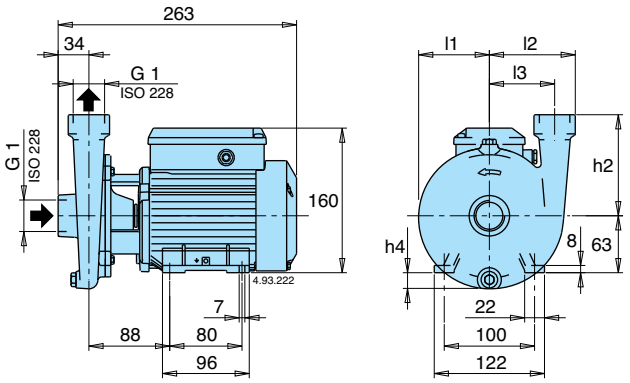
## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | kg |
|---|---|
| **C 16/1E-60** | 5,2 |
| **CM 16/1E-60** | 5,2 |

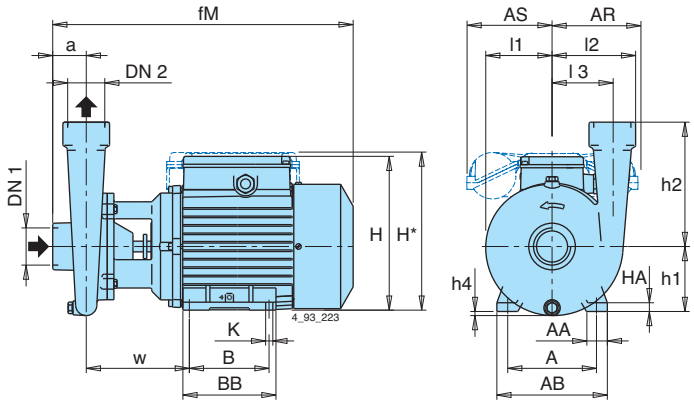
| TYPE TIPO | kg |
|---|---|
| **B-C 16/1E-60** | 5,6 |
| **B-CM 16/1E-60** | 5,6 |

**DN** NPT Version on demand - Ejecuciones bajo demanda




| TYPE TIPO | mm h2 | h4 | l1 | l2 | l3 | kg C | CM |
|---|---|---|---|---|---|---|---|
| **C 20E-60** | 90 | 5 | 67 | 82 | 60 | 6,8 | 6,8 |
| **C 22/1E-60 - C 22E-60** | 110 | 17 | 77 | 94 | 71 | 8 - 8,3 | 8 - 8,3 |

**DN** NPT Version on demand - Ejecuciones bajo demanda




| TYPE TIPO | H* | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| CM 4-60/A | 187 | ● | 116 | 116 | ❑ |

| TYPE TIPO | H* | AR mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| B-C 41/1E-60 | 213 | ● | 116 | 131 | ❑ |
| B-C 41E-60, C 41E-60 | 213 | ● | 131 | ❑ | ❑ |

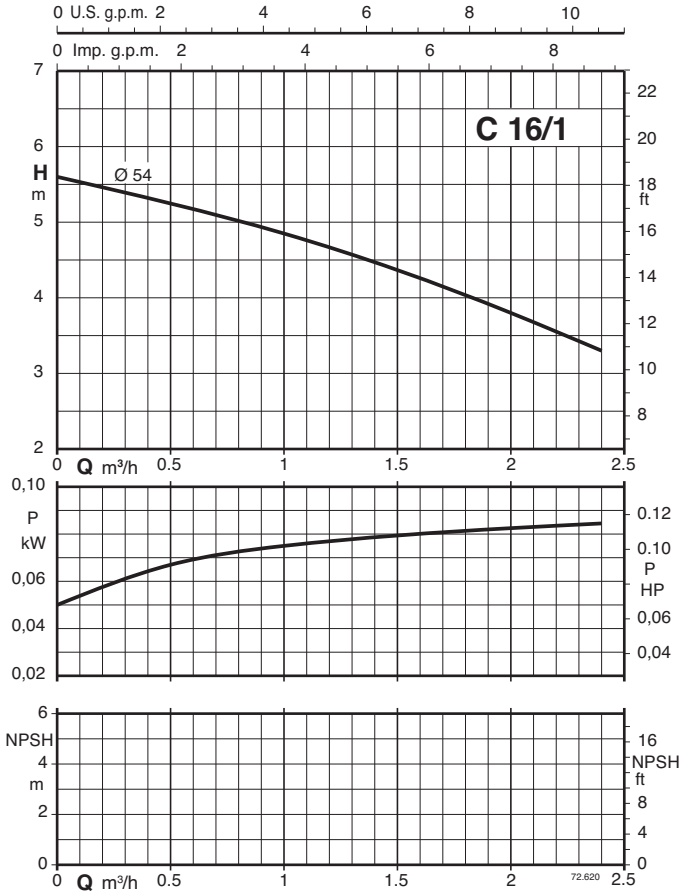
● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

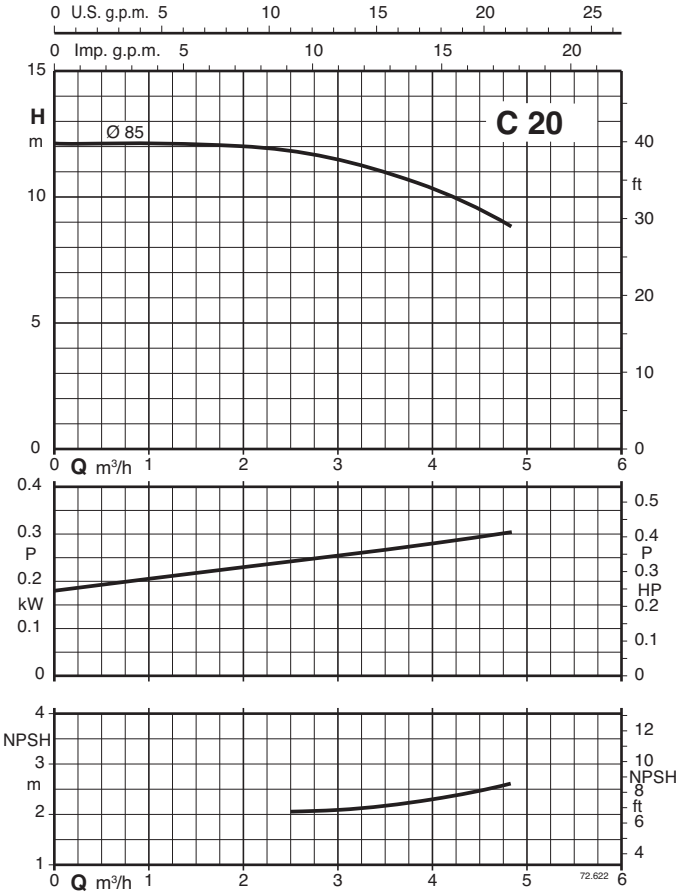
| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | DN NPT | mm a | fM | h1 | h2 | H | h4 | BB | B | AB | A | AA | K | l1 | l2 | l3 | w | HA | kg C | CM | B-C | B-CM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| – **B-C 20-60/A** | G 1 | G 1 | ✓ | 35 | 303 | 71 | 90 | 182 | - | 106 | 90 | 134 | 112 | 22 | 7 | 70 | 84 | 60 | 105 | 10 | - | - | 9,1 | 9,1 |
| – **B-C 22/1-60/A** – **B-C 22-60/A** | G 1 | G 1 | ✓ | 35 | 303 | 71 | 110 | 182 | 9 | 106 | 90 | 134 | 112 | 22 | 7 | 81 | 93 | 71 | 106 | 10 | - | - | 9,3 9,6 | 10,3 10,6 |
| **C 4/1-60/A** – **C 4-60/B** – | G 1 1/2 | G 1 1/2 | ✓ | 43 | 304 | 71 | 160 | 182 | 18 | 106 | 90 | 134 | 112 | 22 | 7 | 85 | 108 | 78 | 100 | 10 | 10,8 12,6 | 11,8 12,8 | - - | - - |
| – **B-C 41/1E-60** **C 41-60/A** - **B-C 41-60/A** | G 1 1/2 | G 1 1/2 | ✓ | 43 | 380 | 80 | 160 | 208 | 9 | 125 | 100 | 155 | 125 | 30 | 9,5 | 85 | 108 | 78 | 132 | 10 | - 18,5 | - 19,3 | 16,3 19,2 | 17,9 20,1 |

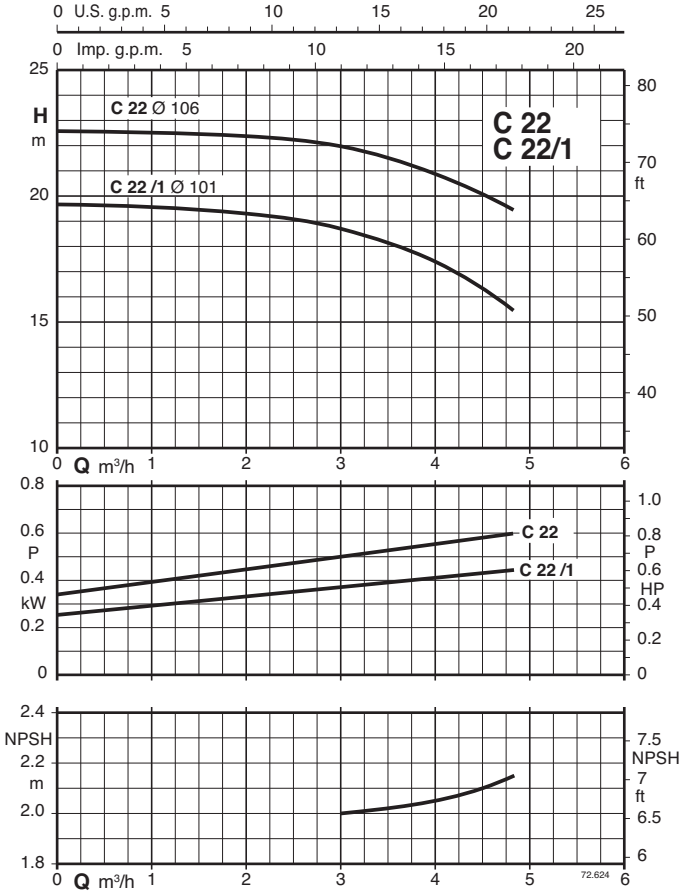
✓ NPT Version on demand - Ejecuciones bajo demanda

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

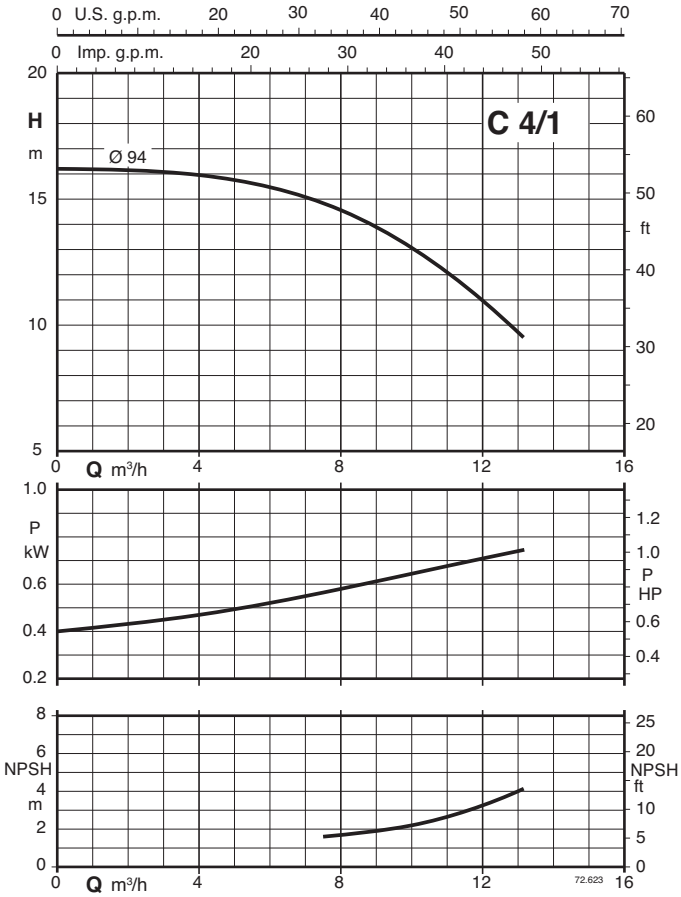


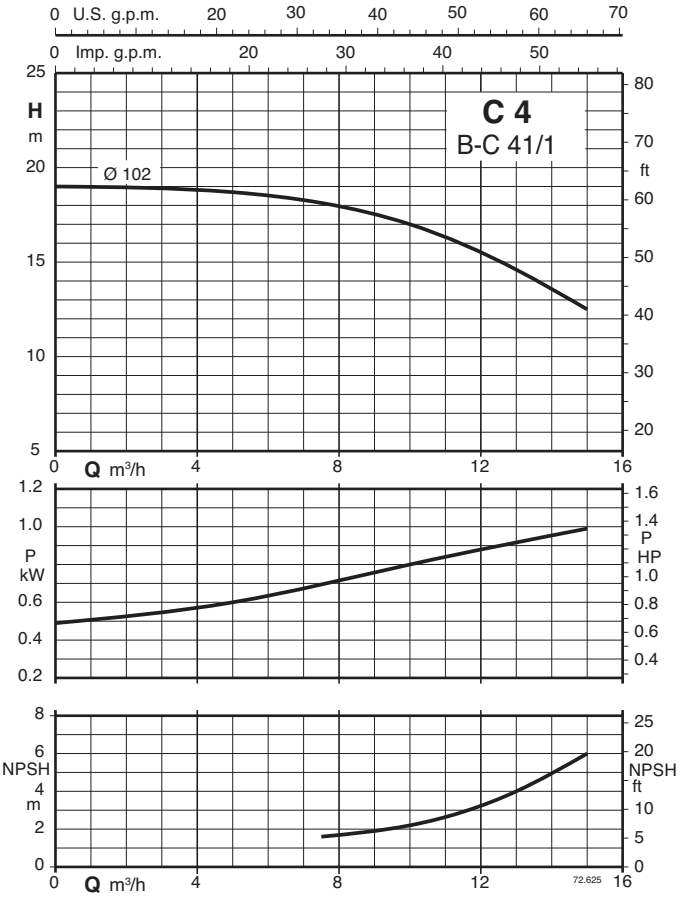



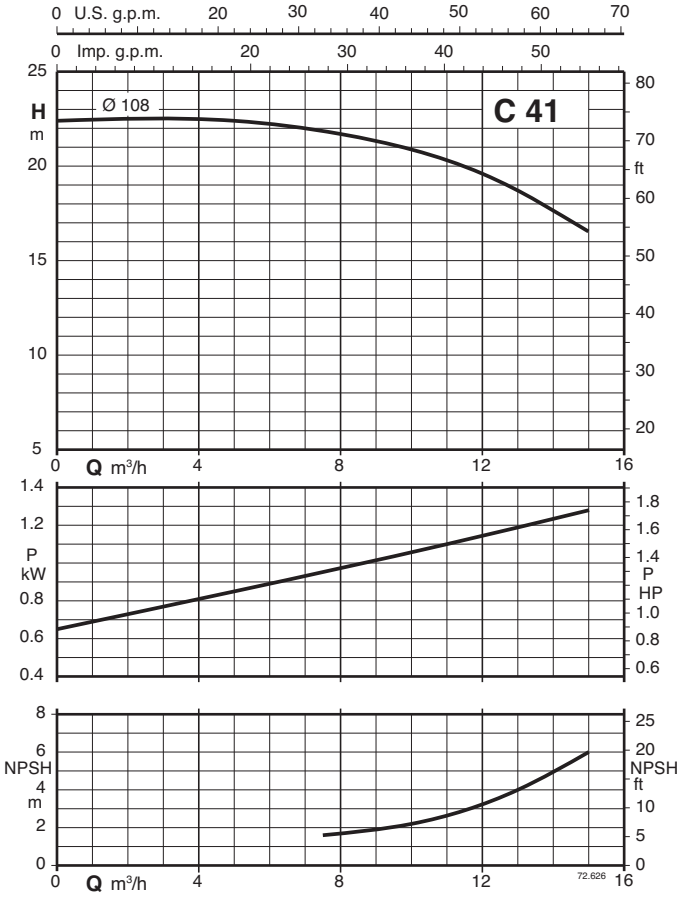



## Characteristic curves - Curvas Características

n ≈ 3450 rpm



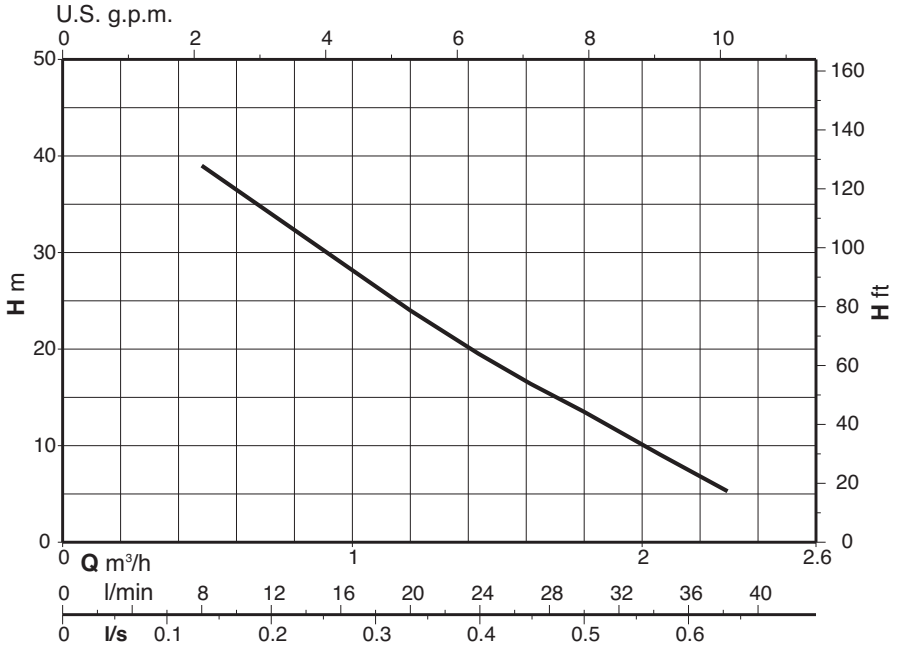



# CT 61 60 Hz

## Peripheral Pumps with turbine impeller
## Bomba con rodete periférico



**Coverage chart - Campo de aplicaciones** **n ≈ 3450 rpm**



# CT 61 60 Hz

## Construction
Close-coupled peripheral pump (regenerative pump) with turbine impeller. Compact, patented construction with single-piece motor casing and pump-side wall.
Protected against water entering the motor from outside.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

CT: version with pump casing in cast iron.
B-CT: version with pump casing in bronze
(the pumps are supplied fully painted).

## Ejecución
Electrobomba monobloc con rodete periférico.
Costrucción compacta, patentada, con carcasa motor y tapa lado bomba de una sola pieza.
Protegida contra la penetración del agua en el motor de l'exterior.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

CT: Ejecución con cuerpo bomba in hierro.
B-CT: Ejecución con cuerpo bomba in bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Applications
For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
For increasing network pressure (follow local specifications).
For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation.

## Aplicaciones
Para líquidos limpios, sin partículas sólidas en suspensión, y no agresivos para los materiales de la bomba.
Para aumentar la presión disponible en una red de distribución de agua (observar las disposiciones locales).
Por sus reducidas dimensiones son muy adecuadas para el montaje en máquinas y sistemas de refrigeración, circuitos de alimentación.

## Operating conditions
Liquid temperature up to 60° C.
Ambient temperature up to 40° C.
Total suction lift up to 7 m.
Continuous duty.

## Límites de empleo
Temperatura del líquido hasta 60° C.
Temperatura ambiente hasta 40° C.
Altura de aspiración manométrica hasta 7 m.
Servicio continuo.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**CT 61**: three-phase 220/380 V, 220/440 V,
**CTM 61**: single-phase 110 V, 127 V, 220 V.
with thermal protector only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**CT 61**: trifásico 220/380 V, 220/440 V,
**CTM 61**: monofásico 110 V, 127 V, 220 V.
con protector térmico sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Special mechanical seal.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Sello mecánico especial.

## Materiales (wetted parts)

| Components | CT 61 | B-CT 61 |
|---|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| Pump-side motor wall | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| Shaft | Chrome steel AISI 430 | |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Materiales (partes bañadas)

| Componentes | CT 61 | B-CT 61 |
|---|---|---|
| Cuerpo bomba | Hierro GJL 200 EN 1561 | Bronce G-Cu Sn 10 EN 1982 |
| Tapa cuerpo lado motor | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| Eje | Acero al cromo AISI 430 | |
| Sello mecánico | Carbón - Cerámica - NBR | |

# CT 61 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 0,5 | 0,6 | 0,75 | 0,96 | 1,2 | 1,5 | 1,89 | 2,3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 8,3 | 10 | 12,5 | 16 | 20 | 25 | 31,5 | 38 |
| **CT 61-60/A**<br>**B-CT 61-60/A** | **CTM 61-60/A**<br>**B-CTM 61-60/A** | 0,33 | 0,45 | **H** | 39 | 36 | 33 | 29 | 24 | 18 | 12 | 5 |

B-CT = Bronze construction. Ejecución en bronce.

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

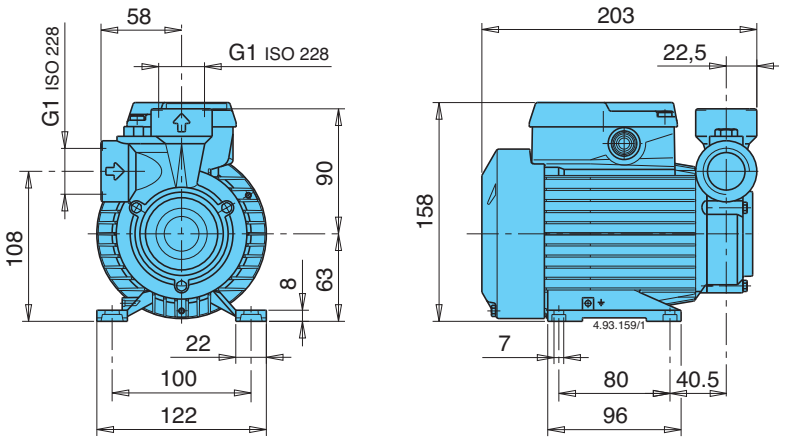
| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 0,33 | 0,45 | 3,1 | 5,4 | 6,2 | 2,5 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,33 | 0,45 | 2,3/1,3 | 2,4/1,4 | 3,2 |

P2 Rated motor power output. Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current. Intensidad de arranque / Intensidad nominal

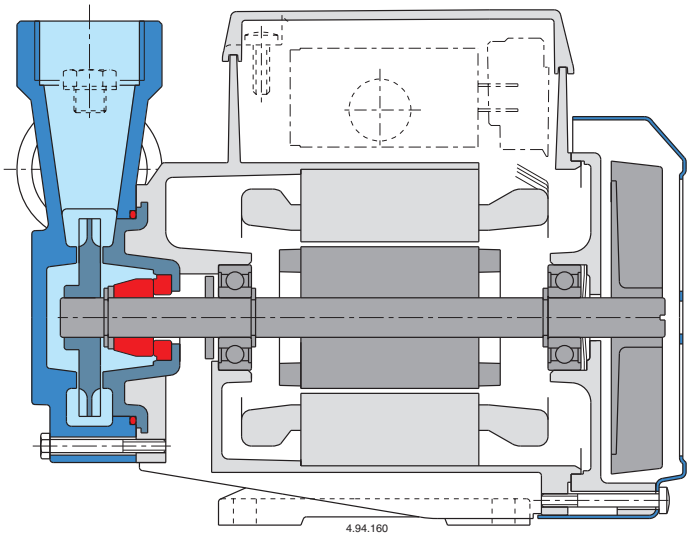
## Dimensions and weights - Dimensiones y pesos




CT 61-60/A **4,6** kg
CTM 61-60/A **4,7** kg
B-CT 61-60/A **4,9** kg
B-CTM 61-60/A **5** kg

**DN** NPT Version on demand
NPT Ejecuciones bajo demanda

## Features - Características constructivas



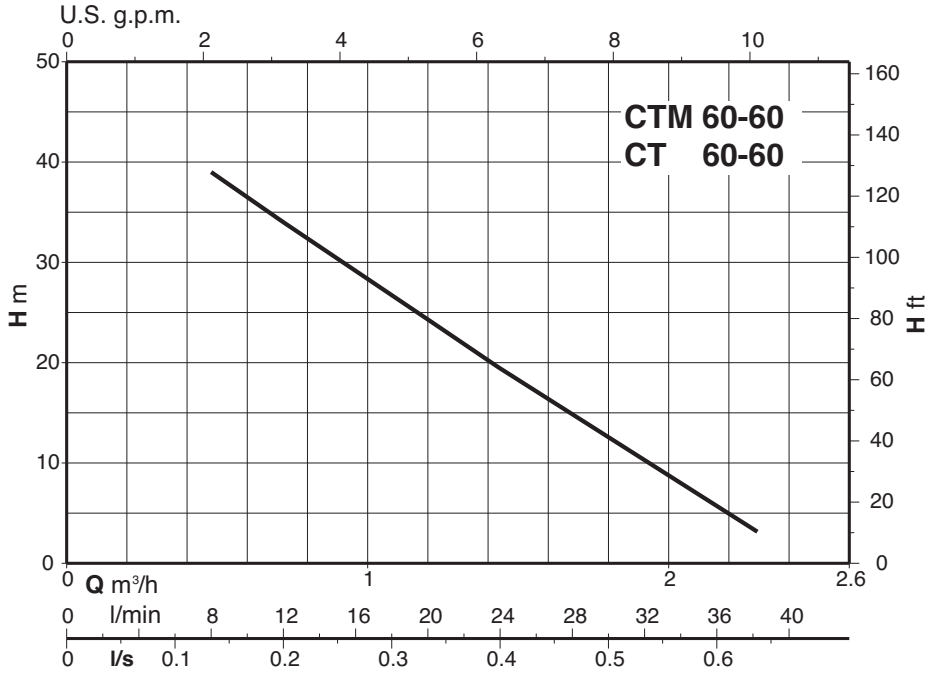

Patented
Patentado

# CT 60 60 Hz

## Peripheral Pumps with turbine impeller
## Bomba con rodete periférico



**Coverage chart - Campo de aplicaciones** **n ≈ 3450 rpm**



# CT 60 60 Hz

## Construction
Close-coupled peripheral pump (regenerative pump) with turbine impeller.
Compact, patented construction with single-piece motor casing and pump-side wall.
Protected against water entering the motor from outside.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

## Ejecución
Electrobomba monobloc con rodete periférico.
Costrucción compacta, patentada, con carcasa motor y tapa lado bomba de una sola pieza.
Protegida contra la penetración del agua en el motor de l'exterior.
**Orificios**: Roscados **UNI-ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

## Applications
For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
For increasing network pressure (follow local specifications).
For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation.

## Aplicaciones
Para líquidos limpios, sin partículas sólidas en suspensión, y no agresivos para los materiales de la bomba.
Para aumentar la presión disponible en una red de distribución de agua (observar las disposiciones locales).
Por sus reducidas dimensiones son muy adecuadas para el montaje en máquinas y sistemas de refrigeración, circuitos de alimentación.

## Operating conditions
Liquid temperature up to 60 °C.
Ambient temperature up to 40 °C.
Total suction lift up to 7 m.
Continuous duty.

## Límites de empleo
Temperatura del líquido hasta 60° C.
Temperatura ambiente hasta 40° C.
Altura de aspiración manométrica hasta 7 m.
Servicio continuo.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**CT 60**: three-phase 220/380 V, 220/440 V,
**CTM 60**: single-phase 110 V, 127 V, 220 V.
with thermal protector only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**CT 60**: trifásico 220/380 V, 220/440 V,
**CTM 60**: monofásico 110 V, 127 V, 220 V.
con protector térmico sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Special mechanical seal

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Sello mecánico especial.

## Materials (wetted parts)

| Components | Materials |
|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 |
| Casing cover motor side | Brass P- Cu Zn 40 Pb 2 UNI 5705 |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705 |
| Shaft | Chrome steel AISI 430 |
| Mechanical seal | Carbon - Ceramic - NBR |

## Materiales (partes bañadas)

| Componentes | Material |
|---|---|
| Cuerpo bomba | Hierro GJL 200 EN 1561 |
| Tapa cuerpo lado motor | Latón P- Cu Zn 40 Pb 2 UNI 5705 |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705 |
| Eje | Acero al cromo AISI 430 |
| Sello mecánico | Carbón - Cerámica - NBR |

# CT 60 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 0,5 | 0,6 | 0,75 | 0,96 | 1,2 | 1,5 | 1,89 | 2,3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 8,3 | 10 | 12,5 | 16 | 20 | 25 | 31,5 | 38 |
| **CT 60-60/A** | **CTM 60-60/A** | 0,33 | 0,45 | **H** | 39 | 36 | 33 | 29 | 24 | 18 | 12 | 3 |

P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m.
Altura total en m.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

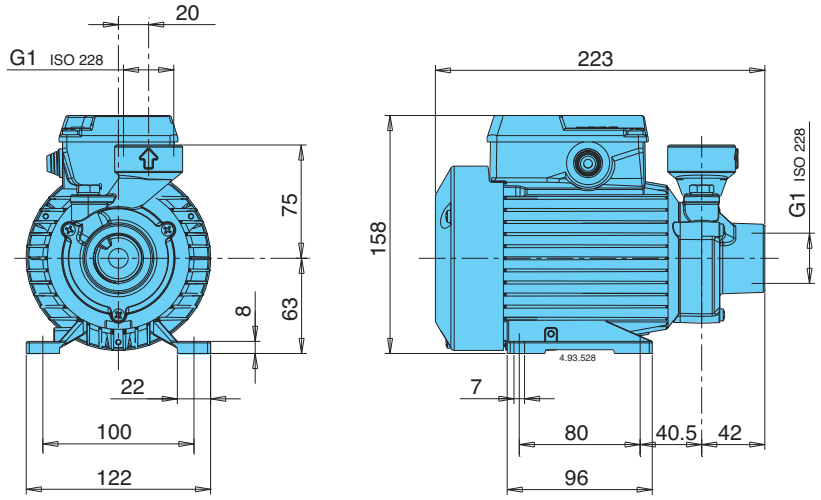
| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | In A | In A | In A | Ia/In |
| 0,33 | 0,45 | 3,1 | 5,4 | 6,2 | 2,5 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | In A | In A | Ia/In |
| 0,33 | 0,45 | 2,3/1,3 | 2,4/1,4 | 3,2 |

P2 Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

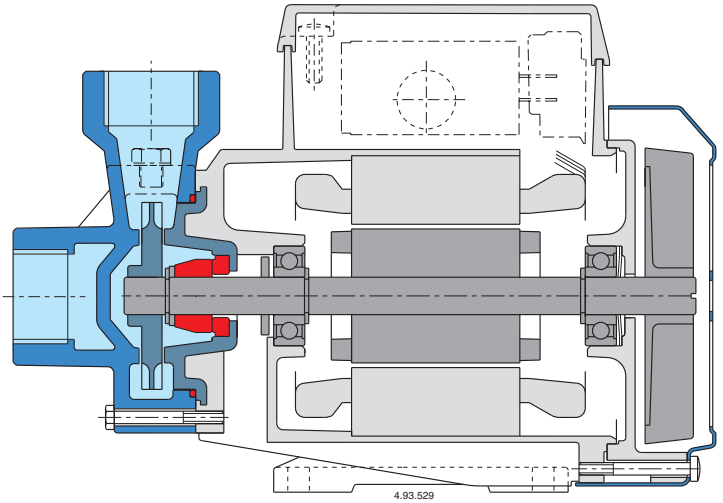
## Dimensions and weights - Dimensiones y pesos




CT 60-60/A **4,6** kg
CTM 60-60/A **4,7** kg

**DN** NPT Version on demand
NPT Ejecuciones bajo demanda

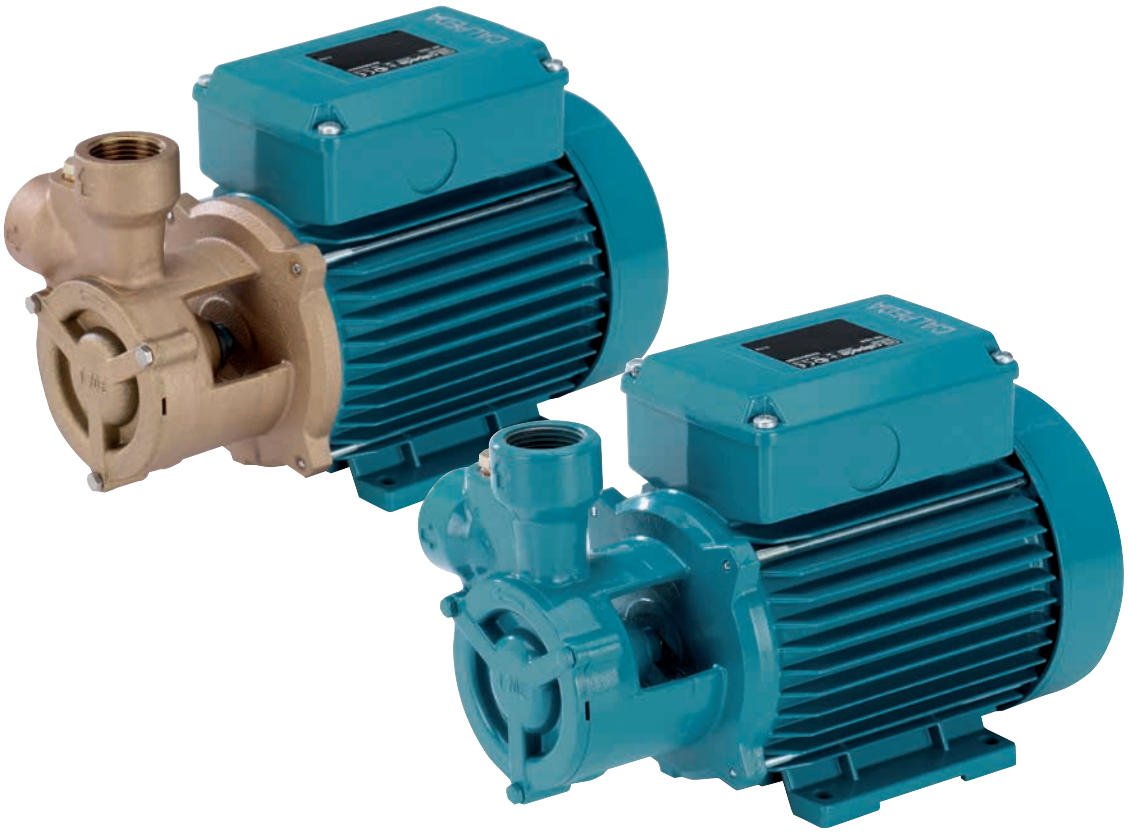
## Features - Características constructivas




Patented
Patentado

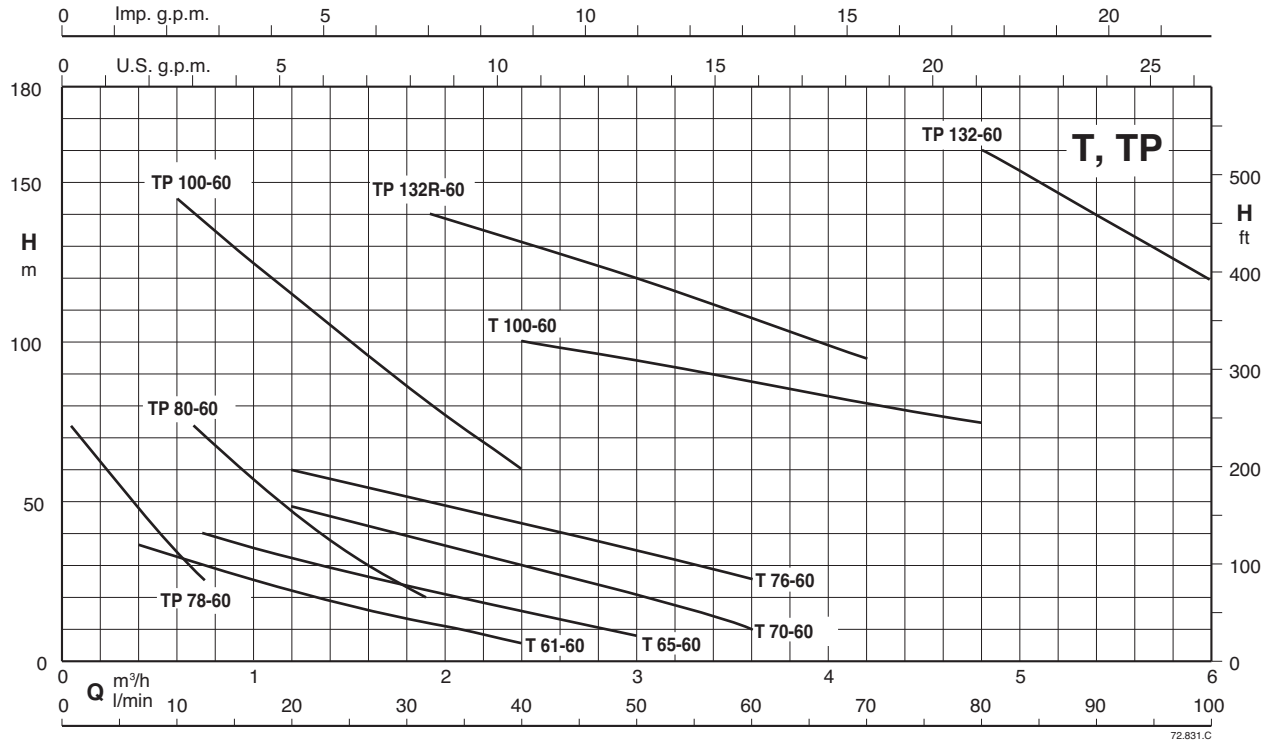
# T, TP 60 Hz

## Peripheral Pumps with turbine impeller
## Bomba con rodete periférico



### Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# T, TP 60 Hz

## Construction
Close-coupled peripheral pumps (regenerative pumps) with turbine impeller.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

T, TP: version with pump casing and lanter bracket in cast iron.
B-T, B-TP: version with pump casing and lanter bracket in bronze
(the pumps are supplied fully painted).

## Applications
For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
For increasing network pressure (follow local specifications).
For the reduced dimensions, these pumps are very well suitable to be mounted in cooling and air-conditioning machines and equipments, circulation, boiler feed.

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Ambient temperature 0 °C to +40 °C.
Total suction lift up to 7 m.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n = 3450 rpm).
**T, TP**: three-phase 220/380 V, 220/440 V, up to 3 kW;
380/660 V, from 4 to 7,5 kW;
**TM, TPM**: single-phase 110 V, 127 V, 220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.

## Materiales

| Components | T, TP | B-T, B-TP |
|---|---|---|
| Pump casing<br>Lantern bracket | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Casin cover | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| | Brass P- Cu Zn 40 Pb 2 UNI 5705 for T 61-65-70, B-T 61-70 | |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705<br>Bronze G-Cu Sn 10 EN 1982 for TP 132-132R | |
| Shaft | Cr-Ni steel AISI 303<br>T 70-76, TP 78-80-100 | Cr-Ni-Mo steel<br>AISI 316 |
| | Chrome steel AISI 430<br>T 61-65-100-125, TP 132-132R | |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Ejecución
Electrobomba monobloc con rodete periférico.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

T, TP: Ejecución con cuerpo bomba y acoplamiento in hierro.
B-T, B-TP: Ejecución con cuerpo bomba y acoplamiento in bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Aplicaciones
Para líquidos limpios, sin partículas sólidas en suspensión, y no agresivos para los materiales de la bomba.
Para aumentar la presión disponible en una red de distribución de agua (observar las disposiciones locales).
Por sus reducidas dimensiones son muy adecuadas para el montaje en máquinas y sistemas de refrigeración, circuitos de alimentación, alimentación de caderas, etc.

## Límites de empleo
Temperatura líquido de -10 °C a +90 °C.
Temperatura ambiente de 0 °C a +40° C.
Altura de aspiración manométrica hasta 7 m.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**T, TP**: trifásico 220/380 V, 220/440 V, hasta 3 kW;
380/660 V, de 4 a 7,5 kW;
**TM, TPM**: monofásico 110 V, 127 V, 220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.

## Materiales

| Componentes | T, TP | B-T, B-TP |
|---|---|---|
| Cuerpo bomba<br>Acoplamiento | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| Tapa cuerpo bomba | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| | Latón P- Cu Zn 40 Pb 2 UNI 5705 para T 61-65-70, B-T 61-70 | |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705<br>Bronce G-Cu Sn 10 EN 1982 para TP 132-132R | |
| Eje | Acero al Cr-Ni AISI 303<br>T 70-76, TP 78-80-100 | Acero al Cr Ni Mo<br>AISI 316 |
| | Acero al cromo AISI 430<br>T 61-65-100-125, TP 132-132R | |
| Sello mecánico | Carbón - Cerámica - NBR | |

# T, TP 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0,06 | 0,12 | 0,24 | 0,38 | 0,48 | 0,6 | 0,75 | 1 | 1,2 | 1,5 | 1,89 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 5,4 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 1 | 2 | 4 | 6,3 | 8 | 10 | 12,5 | 16 | 20 | 25 | 31,5 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| B- **T 61E-60** | B- **TM 61E-60** | 0,33 | 0,45 | | | | | 36 | 34 | 32 | 30 | 26 | 21 | 16,5 | 11 | 5 | | | | | | |
| B- **T 65E-60** | B- **TM 65E-60** | 0,45 | 0,6 | | | | | | | | 40 | 37 | 33 | 29 | 24 | 16 | 8 | | | | | |
| B- **T 70-60/B** | B- **TM 70-60/A** | 0,75 | 1 | | | | | | | | | | 48 | 43 | 38 | 30 | 22 | 10 | | | | |
| **T 76-60/A** | **TM 76E-60** | 1,1 | 1,5 | | | | | | | | | | 60 | 55 | 50 | 45 | 35 | 25 | | | | |
| **T 100-60/B** | | 4 | 5,5 | **H** | | | | | | | | | | | | 100 | 95 | 85 | 80 | 75 | | |
| B- **TP 78-60/A** | B- **TPM 78-60/A** | 0,37 | 0,5 | m | 74 | 69 | 60 | 50 | 42 | 34 | 25 | | | | | | | | | | | |
| B- **TP 80-60E** | B- **TPM 80E-60** | 0,75 | 1 | | | | | | | 91,5 | 83 | 70 | 59 | 44 | 25,5 | | | | | | | |
| **TP 100-60/B** | | 2,2 | 3 | | | | | | | 145 | 140 | 131 | 124 | 114 | 100 | 81,5 | | | | | | |
| **TP 132R-60/A** | | 7,5 | 10 | | | | | | | | | | | | 140 | 130 | 120 | 105 | 95 | | | |
| **TP 132-60/A** | | 7,5 | 10 | | | | | | | | | | | | | | | | | 160 | 140 | 120 |

B-T, B-TM = Bronze construction. Ejecución en bronce.

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

* Maximum suction lift 2-3 m.
Máxima aspiración manométrica 2-3 m.

## Rated currents - Intensidades nominales

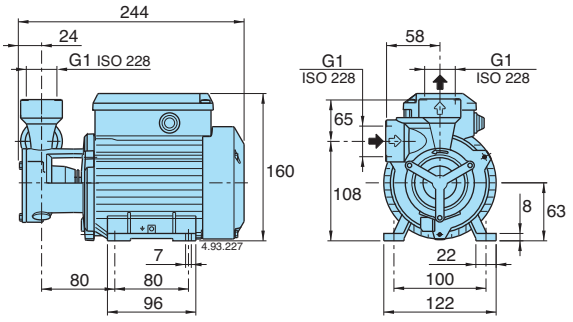
| TYPE TIPO | P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|---|
| | | | 220V | 127V | 110V | |
| | kW | HP | IN A | IN A | IN A | IA/IN |
| | 0,33 | 0,45 | 3,1 | 5,4 | 6,2 | 2,5 |
| | 0,37 | 0,55 | 3,4 | 5,9 | 6,8 | 2,3 |
| | 0,45 | 0,6 | 4,2 | 7,3 | 8,4 | 2,6 |
| TM 70-60/A | 0,75 | 1 | 6,9 | 12 | 13,8 | 2,9 |
| TPM 80E-60 | 0,75 | 1 | 6,5 | 11,3 | 13 | 2,9 |
| | 1,1 | 1,5 | 8,9 | 15,4 | - | 2,9 |

| TYPE TIPO | P2 | | three-phase - trifásico 3~ | | | |
|---|---|---|---|---|---|---|
| | | | 220/380V | 380/660V | 220/440V | |
| | kW | HP | IN A | IN A | IN A | IA/IN |
| | 0,33 | 0,45 | 2,4/1,4 | - | 2,5/1,5 | 3,2 |
| | 0,37 | 0,55 | 2,6/1,5 | - | 2,7/1,6 | 3,5 |
| | 0,45 | 0,6 | 3,1/1,8 | - | 3,3/1,9 | 4,8 |
| T 70-60/A | 0,75 | 1 | 4,5/2,6 | - | 4,7/2,7 | 5,6 |
| TP 80E-60 | 0,75 | 1 | 4/2,3 | - | 4,2/2,4 | 7,3 |
| | 1,1 | 1,5 | 6,4/3,7 | - | 6,7/3,9 | 4,8 |
| | 2,2 | 3 | 11,1/6,4 | - | 12/6,9 | 8,4 |
| | 4 | 5,5 | | 11,2/6,5 | | 9,2 |
| | 5,5 | 7,5 | | 13,7/7,9 | | 8,7 |
| | 7,5 | 10 | | 17/9,8 | | 9,2 |

P2 Rated motor power output. Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current. Intensidad de arranque / Intensidad nominal

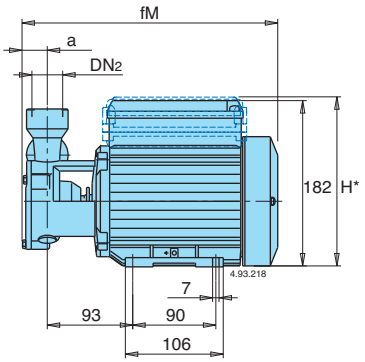
## Dimensions and weights - Dimensiones y pesos

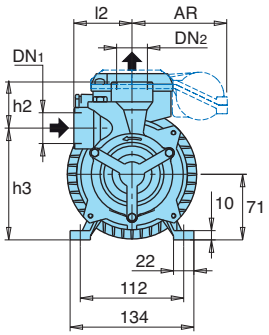



**T 61E-60**: kg 6,3
**B- T 61E-60**: kg 6,5

**T 65E-60**: kg 7,3
**B- T 65E-60**: kg 7,5

**DN** NPT Version on demand - NPT Ejecuciones bajo demanda



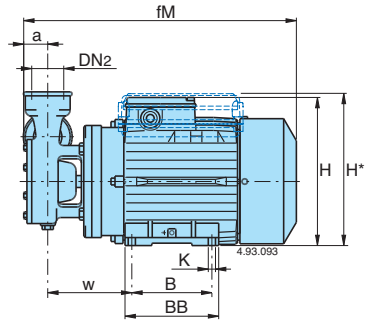



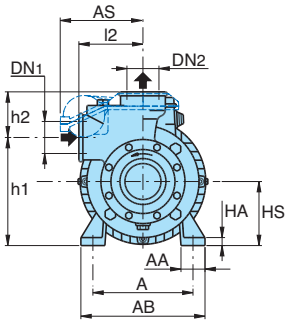

| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | DN NPT | mm a | mm fM | mm h2 | mm h1 | mm l2 | kg T | kg B-T |
|---|---|---|---|---|---|---|---|---|---|---|
| **T 70-60/B B-T 70-60/B** | G 1 | G 1 | ✓ | 24 | 278 | 50 | 121 | 63 | 12 | 12,4 |
| **TP 78-60/A B-TP 78-60/A** | G 1/2 | G 1/2 | ✓ | 22 | 276 | 24 | 127 | 56 | 8,2 | 8,8 |

✓ NPT Version on demand - Ejecuciones bajo demanda

| TYPE TIPO | H* | AR mm 220V | AR mm 127V | AR mm 110V |
|---|---|---|---|---|
| TM 70-60/A, B-TM 70-60/A | 187 | ● | 116 | 116 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles




| TYPE TIPO | Hc | AS mm 220V | AS mm 127V | AS mm 110V |
|---|---|---|---|---|
| TPM 80E-60, B-TPM 80E-60 | 133 | ● | 116 | 131 |
| TM 76E-60 | 133 | ● | 131 | 131 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

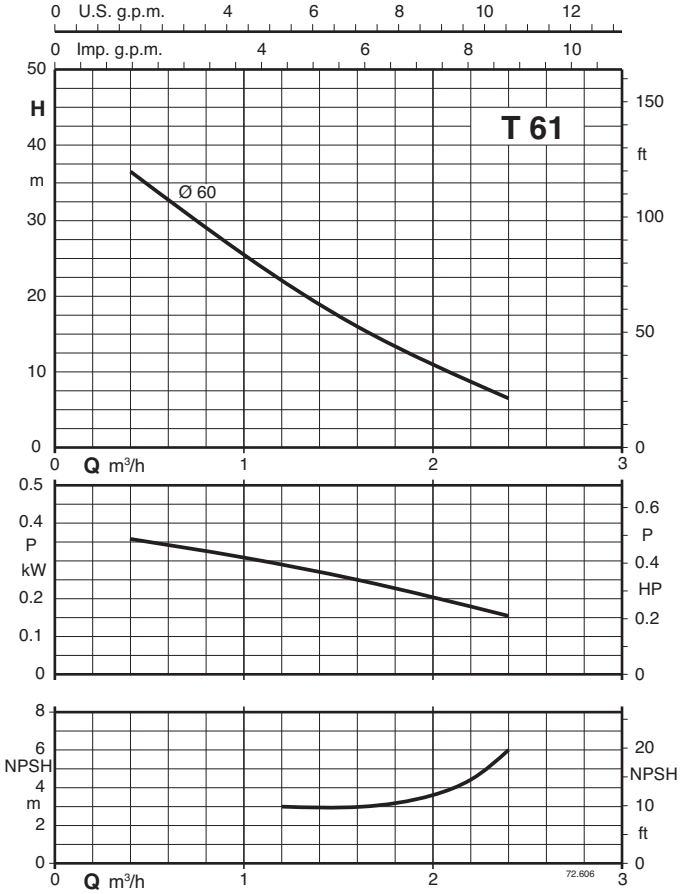
| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | DN NPT | mm a | fM | HS | h2 | h1 | H | BB | B | AB | A | AA | K | l2 | w | HA | kg T, TP | kg B-TP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T 76-60/A –** | G 1¼ | G 1¼ | ✓ | 26 | 338 | 80 | 56 | 136 | 208 | 117 | 100 | 155 | 125 | 30 | 9 | 80 | 105 | 10 | 18,4 | - |
| **T 100-60/B –** | G 1¼ | G 1¼ | ✓ | 32 | 410 | 90 | 59 | 161 | 226 | 152 | 125 | 180 | 140 | 40 | 9,5 | 95 | 121 | 12 | 32,5 | - |
| **TP 80E-60 B-TP 80E-60** | G ¾ | G ¾ | ✓ | 27 | 332 | 80 | 35 | 135 | 208 | 117 | 100 | 155 | 125 | 30 | 9 | 60 | 104 | 10 | 16,4 | 16,8 |
| **TP 100-60/B –** | G ¾ | G ¾ | ✓ | 27 | 387 | 80 | 38 | 142 | 208 | 117 | 100 | 155 | 125 | 30 | 9 | 65 | 113 | 10 | 23,2 | - |
| **TP 132R-60/A –**<br>**TP 132-60/A –** | G 1¼ | G 1¼ | ✓ | 42 | 485 | 112 | 70 | 202 | 272 | 180 | 140 | 230 | 190 | 50 | 11,5 | 100 | 183 | 14 | 58,5<br>58,5 | -<br>- |

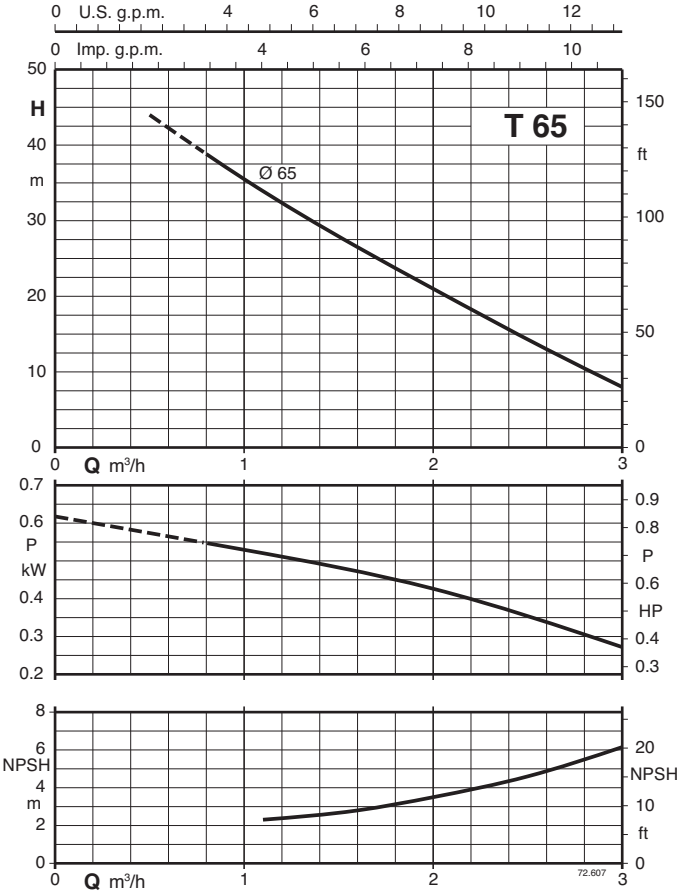
✓ NPT Version on demand - Ejecuciones bajo demanda

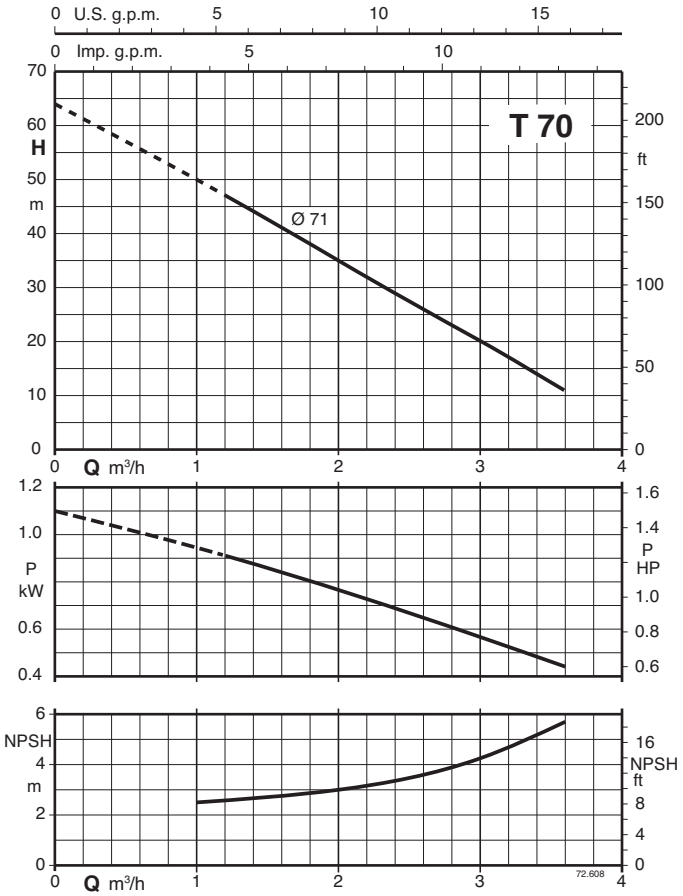
# T, TP 60 Hz

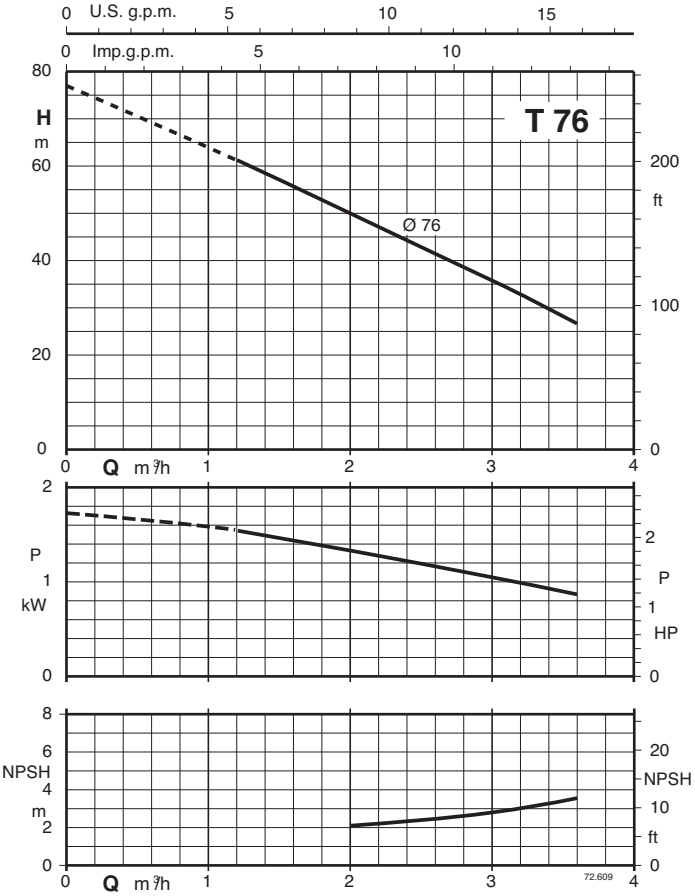
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



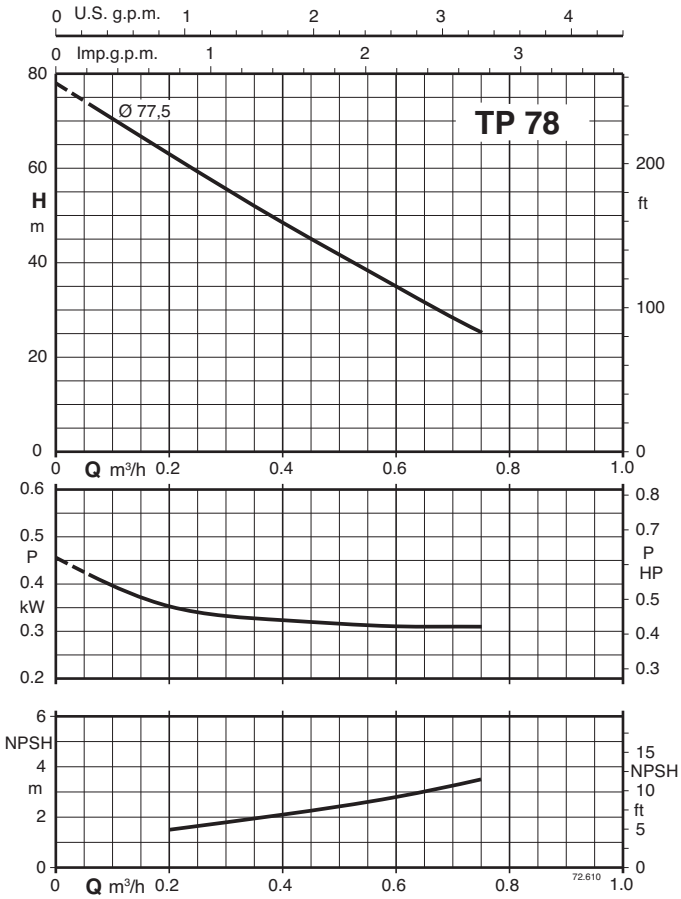



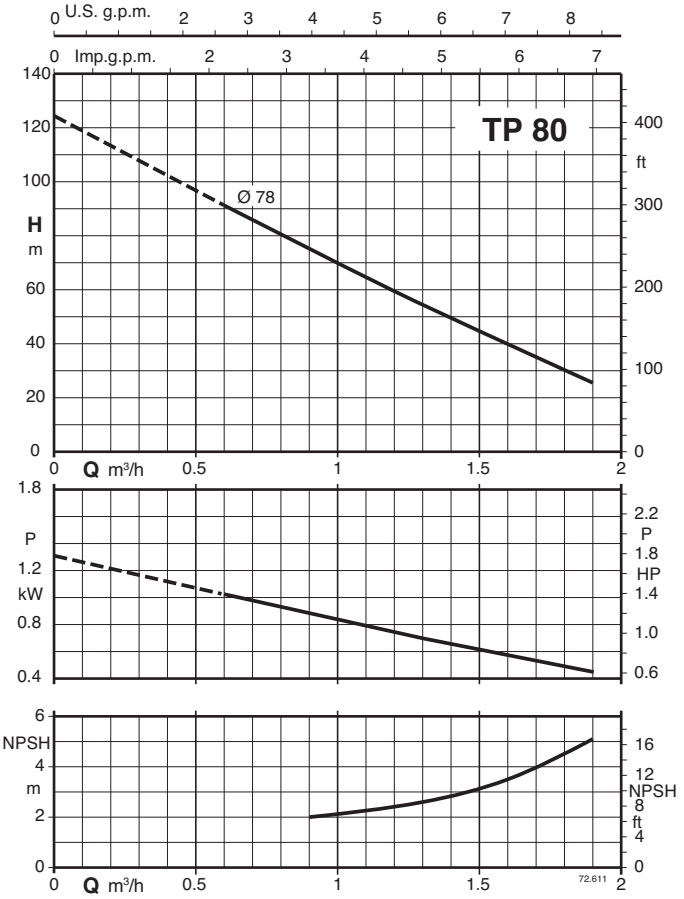



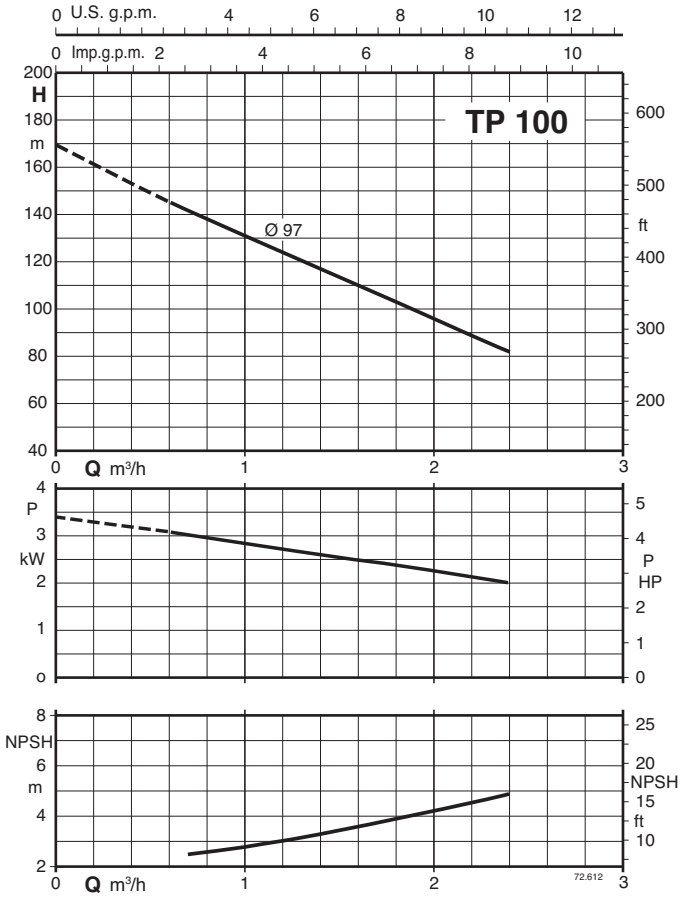
# T, TP 60 Hz

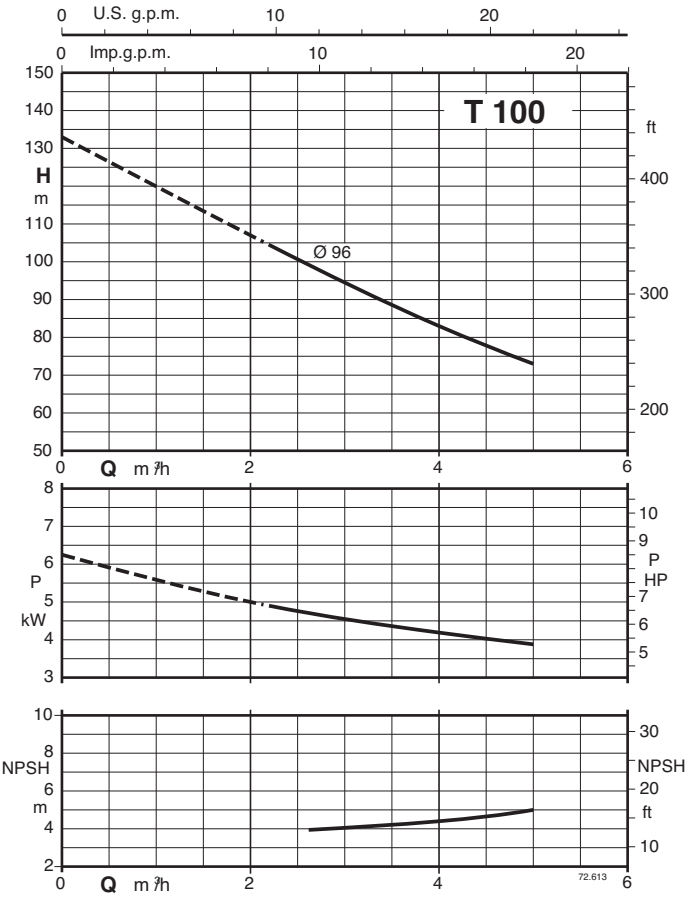
## Characteristic curves - Curvas Características

n ≈ 3450 rpm



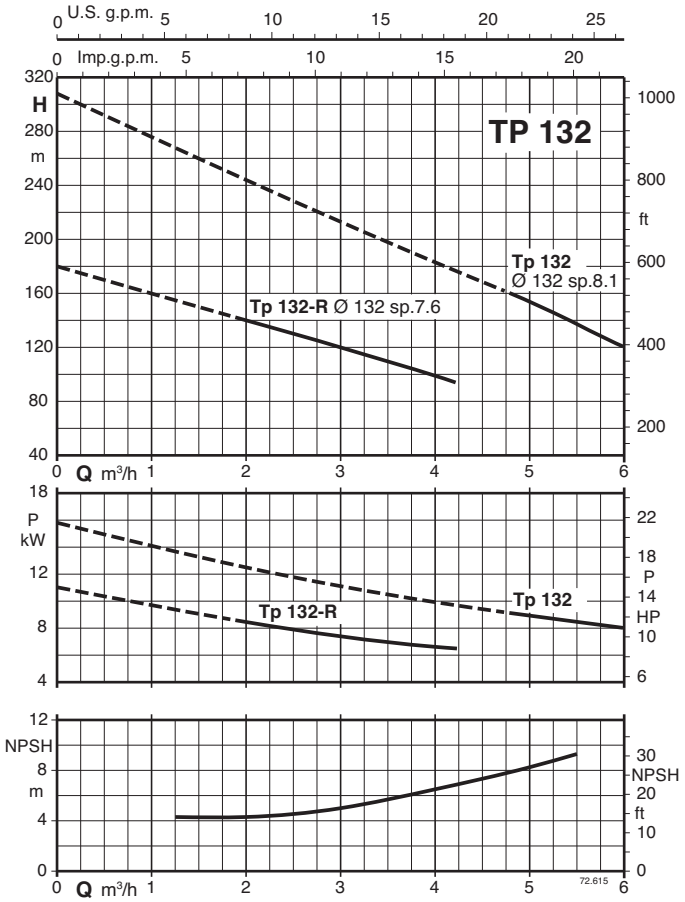



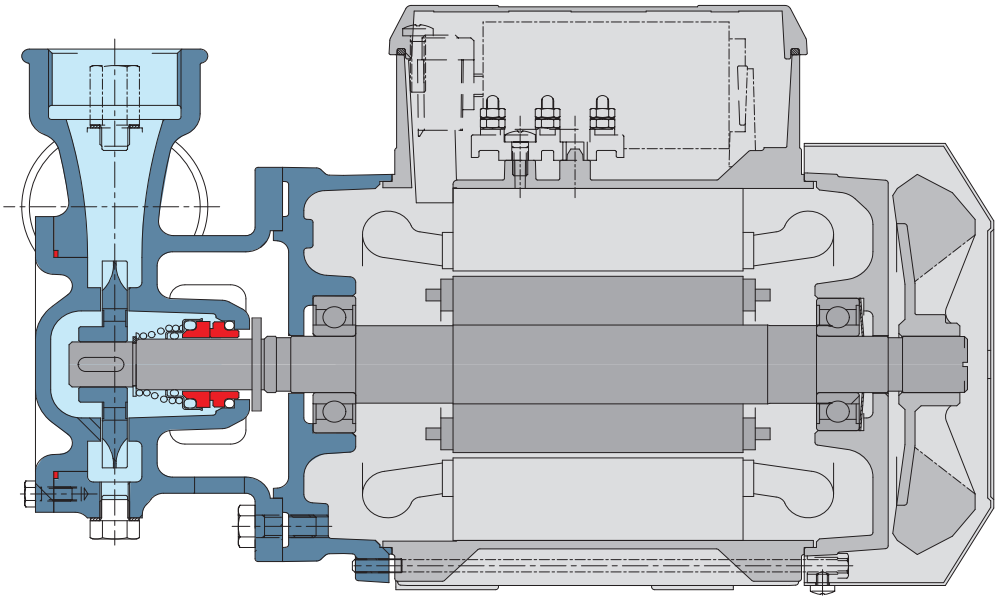



## Characteristic curves - Curvas Características

n ≈ 3450 rpm



## Features - Características constructivas



### Range
The high number of pumps in the range can meet the widest range of services required by the user.

### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows T-TP series pumps to be selected for use with different types of liquids.

### Reliability
The bearing and shaft are designed to ensure the reduction of the stress, providing high reliability under all operating conditions.

### Optimized hydraulics
The pump hydraulics are designed to ensure high performance and consistency of performance.

### Alcance
El elevado número de bombas en el rango puede satisfacer la más amplia gama de servicios requeridos por el usuario.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie T- TP puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Fiabilidad
El cojinete y el eje están diseñados para asegurar la reducción de la tensión, proporcionando alta fiabilidad en todas las condiciones.

### Hidráulica optimizada
El sistema hidráulico de la bomba están diseñados para asegurar un alto rendimiento y la consistencia del rendimiento.

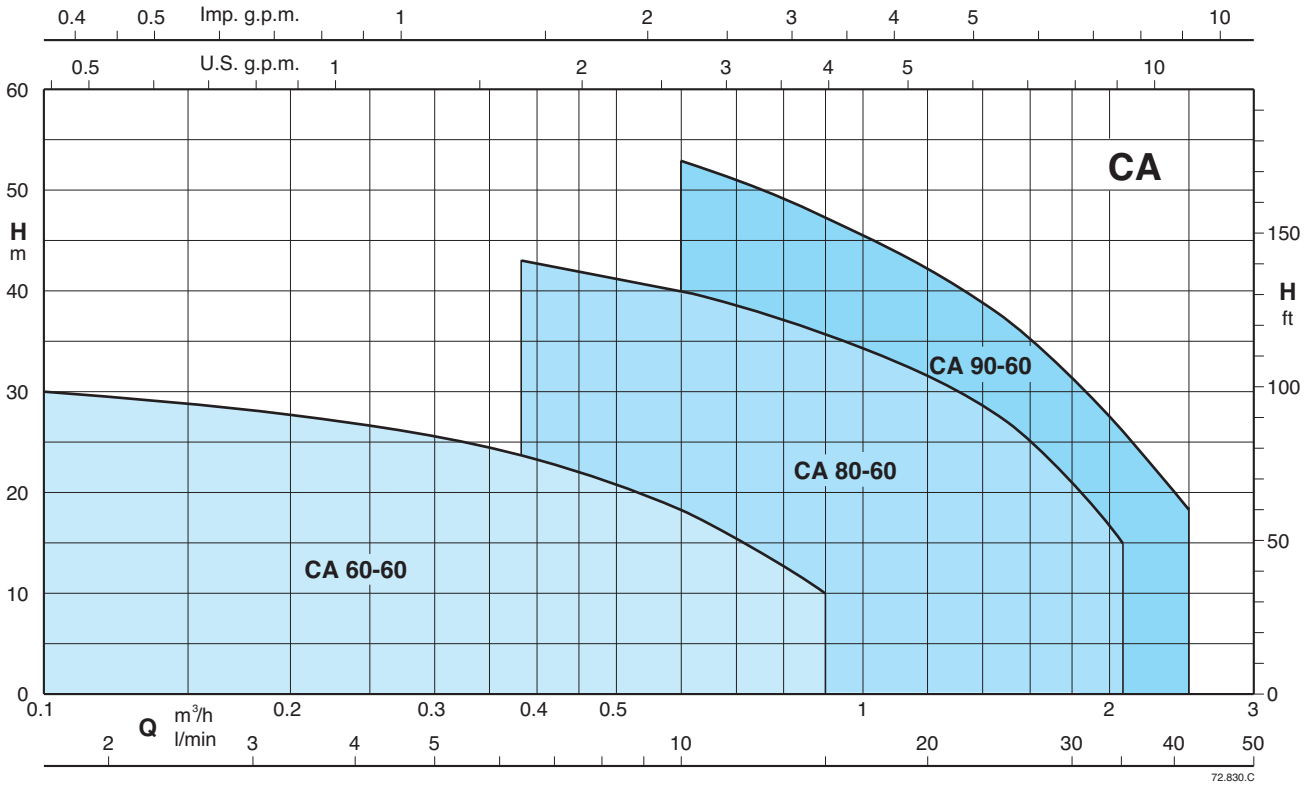
# CA 60 Hz

## Self-Priming Liquid Ring Pumps
## Bombas autoaspirantes de anillo liquido



### Coverage chart - Campo de aplicaciones

n ≈ 3450 rpm



# CA 60 Hz

## Construction
Close-coupled self-priming liquid ring pumps with star impeller.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

CA: version with pump casing and lanter bracket in cast iron.
B-CA: version with pump casing and lanter bracket in bronze (the pumps are supplied fully painted).

## Ejecución
Electrobombas monobloc autoaspirante de anillo liquido, con rodete a estrella.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

CA: Ejecución con cuerpo bomba y acoplamiento in hierro.
B-CA: Ejecución con cuerpo bomba y acoplamiento in bronce.
(Las bombas en bronce se suministran totalmente pintadas).

## Applications
- For clean liquids without abrasives, without suspended solids, non-explosive, non-aggressive for the pump materials.
- If the liquid to be pumped has entrained air or gas or the flow in the suction pipe is not stable.
- For drawing water out of a well.
- For increasing network pressure (follow local specifications).

## Aplicaciones
- Para líquidos limpios sin partes abrasivas, sin particulas sólidas en suspensión, no explosible, no agresivos para los materiales de la bomba.
- Cuando en el líquido a bombear hay presencia de aire o gas, o cuando hay breves interrupciones en el aflujo del líquido en la aspiracion.
- Para suministros de agua con aspiración de pozo.
- Para aumentar la presión disponible de una red de distribución (observar las disposiciones locales).

## Operating conditions
Liquid temperature from -10 °C to +90 °C.
Ambient temperature up to 40 °C.
Negative suction pressure up to 9 m.
Continuous duty.

## Límies de empleo
Temperatura del líquido de -10 °C a +90 °C.
Temperatura ambiente hasta 40 °C.
Altura de aspiración manométrica hasta 9 m.
Servicio continuo.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**CA**: three-phase 220/380 V, 220/440 V,
**CAM**: single-phase 110 V, 127 V, 220 V.
with thermal protector only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**CA**: trifásico 220/380 V, 220/440 V,
**CAM**: monofásico 110 V, 127 V, 220 V.
con protector térmico sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal
- Higher or lower liquid or ambient temperatures.

## Ejecuciones especiales bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.
- Para líquidos o ambientes con temperaturas más elevadas o más bajas.

## Materials

| Components | CA | B-CA |
|---|---|---|
| Pump casing<br>Lantern bracket | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| Shaft | Chrome steel<br>1.4104 EN 10088<br>(AISI 430) | Cr-Ni-Mo steel<br>1.4401 EN 10088<br>(AISI 316) |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Materiales

| Componentes | CA | B-CA |
|---|---|---|
| Cuerpo bomba<br>Acoplamiento | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 EN 1982 |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| Eje | Acero al cromo<br>1.4104 EN 10088<br>(AISI 430) | Acero al Cr-Ni-Mo<br>1.4401 EN 10088<br>(AISI 316) |
| Sello mecánico | Carbón - Cerámica - NBR | |

# CA 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3 ~ | 1 ~ | P2 | | Q | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0,12 | 0,24 | 0,38 | 0,48 | 0,6 | 0,75 | 0,9 | 1 | 1,2 | 1,5 | 1,89 | 2,1 | 2,4 | 2,5 |
| | | kW | HP | l/min | 2 | 4 | 6,3 | 8 | 10 | 12,5 | 15 | 16 | 20 | 25 | 31,5 | 35 | 40 | 41,6 |
| **CA 60E-60**<br>B-CA 60E-60 | **CAM 60E-60**<br>B-CAM 60E-60 | 0,33 | 0,45 | **H**<br>m | 29 | 27 | 24 | 22 | 18 | 14 | 10 | | | | | | | |
| **CA 80-60/A**<br>B-CA 80-60/A | **CAM 80-60/A**<br>B-CAM 80-60/A | 0,55 | 0,75 | | | | 43 | 42 | 40 | 37,5 | 36 | 34 | 31 | 27 | 19 | 15 | | |
| **CA 90-60/B**<br>B-CA 90-60/B | **CAM 90-60/A**<br>B-CAM 90-60/A | 0,75 | 1 | | | | | | 53 | 50 | 48 | 47 | 42 | 36,5 | 29 | 25 | 20 | 18 |

B-CA, B-CAM = Bronze construction. Ejecución en bronce.

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

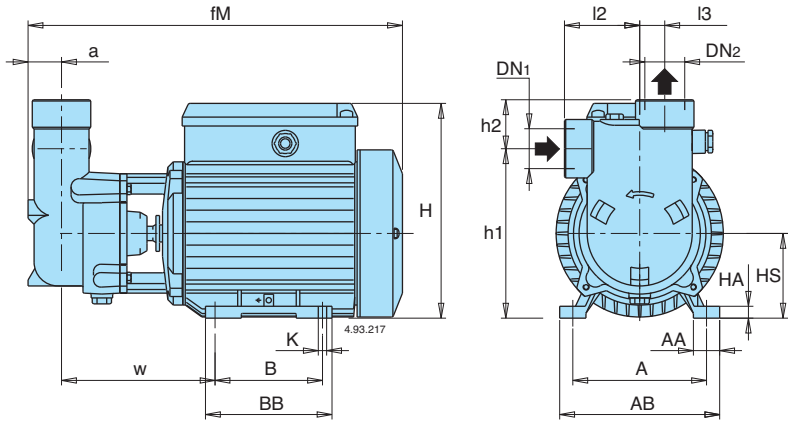
| P2 | | single-phase - monofásico 1~ | | | |
|---|---|---|---|---|---|
| | | 220V | 127V | 110V | |
| kW | HP | IN A | IN A | IN A | IA/IN |
| 0,33 | 0,45 | 2,8 | 4,8 | 5,6 | 2,7 |
| 0,55 | 0,75 | 5,2 | 9 | 10,4 | 3,1 |
| 0,75 | 1 | 6,9 | 12 | 13,8 | 2,9 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,33 | 0,45 | 2/1,2 | 2,2/1,3 | 4 |
| 0,55 | 0,75 | 3,6/2,1 | 3,8/2,2 | 3,7 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |

P2 Rated motor power output. Potencia nominal del motor.

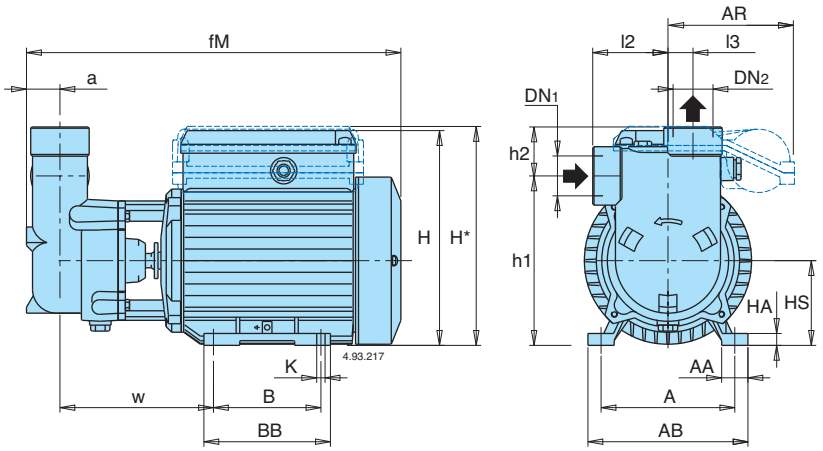
IA/IN D.O.L. starting current / Rated current. Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | DN1 | DN2 | DN | mm | | | | | | | | | | | | | | | | kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | NPT | a | fM | HS | h2 | h1 | H | BB | B | AB | A | AA | K | l2 | l3 | w | HA | CA | B-CA |
| **CA 60E-60 B-CA 60E-60** | G 1/2 | G 1/2 | ✓ | 18 | 256 | 63 | 25 | 103 | 158 | 96 | 80 | 122 | 100 | 22 | 7 | 45 | 14 | 103 | 8 | 6 | 6.8 |
| **CA 80-60/A** – | G 3/4 | G 3/4 | ✓ | 23 | 306 | 71 | 27 | 134 | 182 | 106 | 90 | 134 | 112 | 22 | 7 | 55 | 17 | 122 | 10 | 9.5 | - |
| **CA 90-60/B** – | G 1 | G 1 | ✓ | 28 | 318 | 71 | 41 | 142 | 182 | 106 | 90 | 134 | 112 | 22 | 7 | 63 | 21 | 128 | 10 | 11,6 | - |

✓ NPT Version on demand - Ejecuciones bajo demanda




| TYPE TIPO | H* | AR mm | | |
|---|---|---|---|---|
| | | 220V | 127V | 110V |
| CAM 90-60/A, B-CAM 90-60/A | 147 | ● | 116 | 116 |

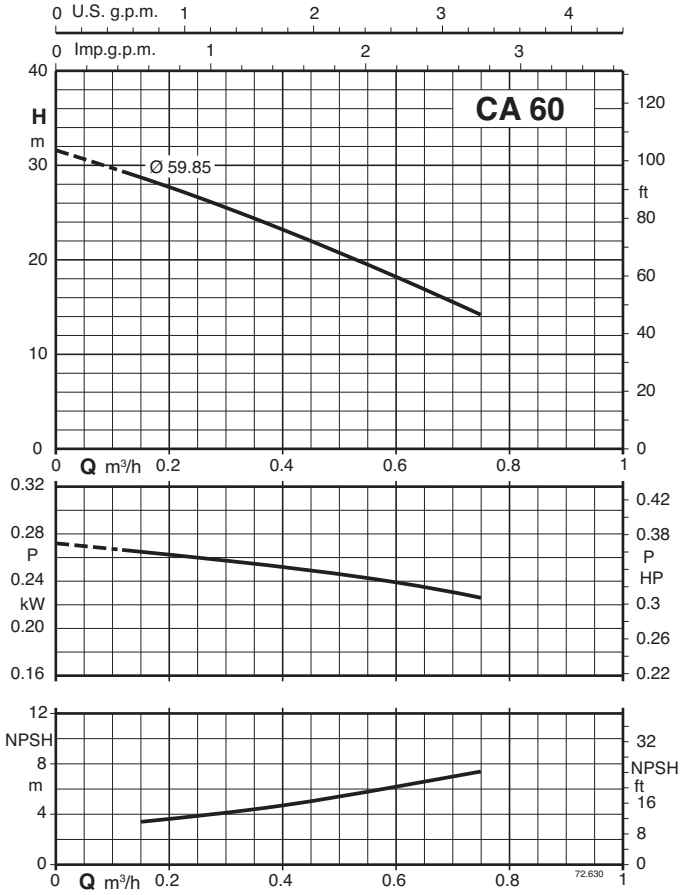
● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

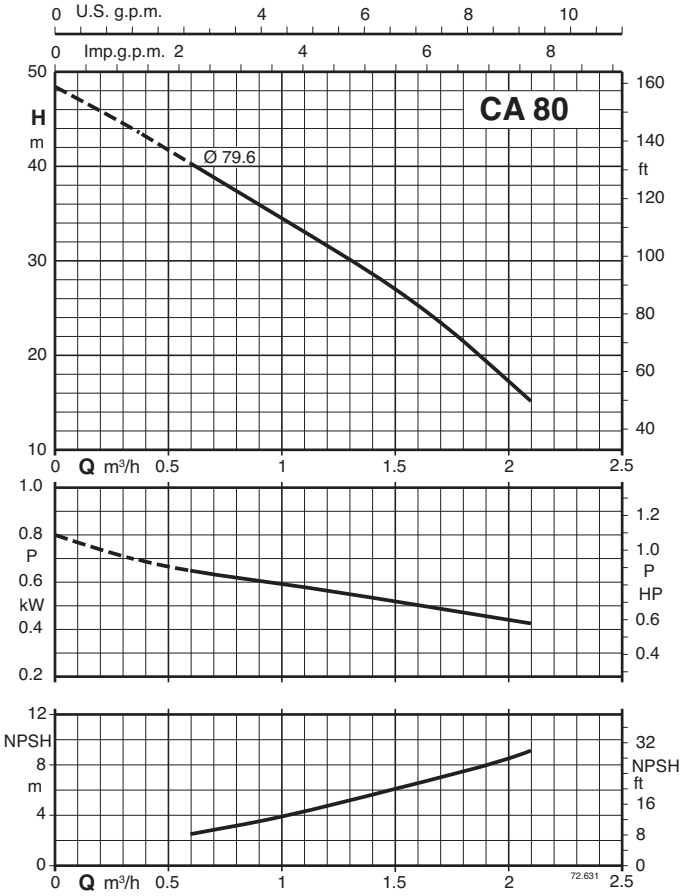
| TYPE TIPO | DN1 | DN2 | DN | mm | | | | | | | | | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISO 228 | | NPT | a | fM | HS | h2 | h1 | H | BB | B | AB | A | AA | K | l2 | l3 | w | HA | |
| **B-CA 80-60/A** | G 3/4 | G 3/4 | ✓ | 23 | 307 | 71 | 27 | 134 | 182 | 106 | 90 | 134 | 112 | 22 | 7 | 55 | 17 | 122 | 10 | 10 |
| **B-CA 90-60/B** | G 1 | G 1 | ✓ | 28 | 318 | 71 | 41 | 142 | 182 | 106 | 90 | 134 | 112 | 22 | 7 | 63 | 21 | 128 | 10 | 13.9 |

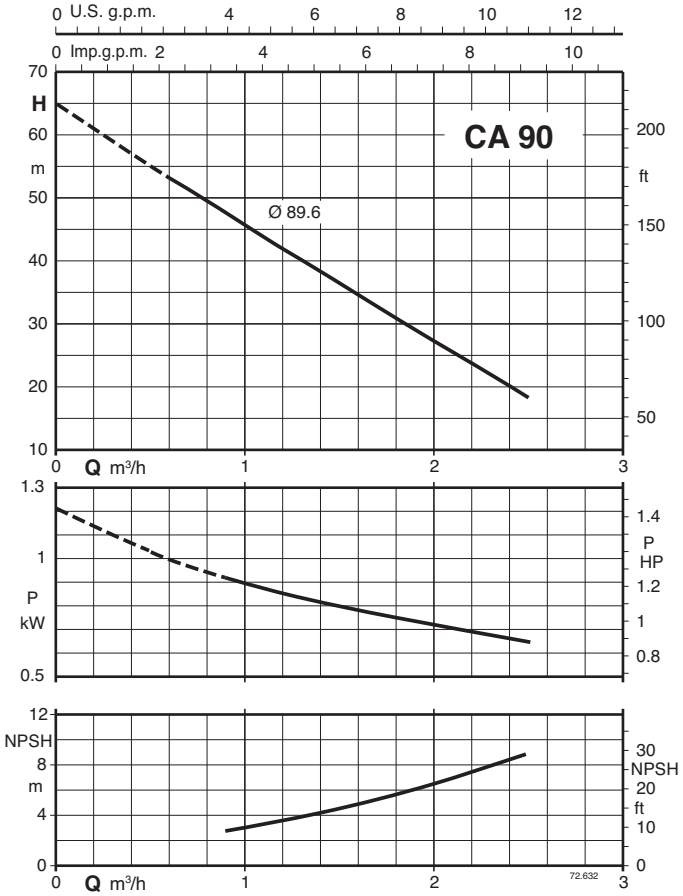
✓ NPT Version on demand - Ejecuciones bajo demanda

## Characteristic curves - Curvas Características

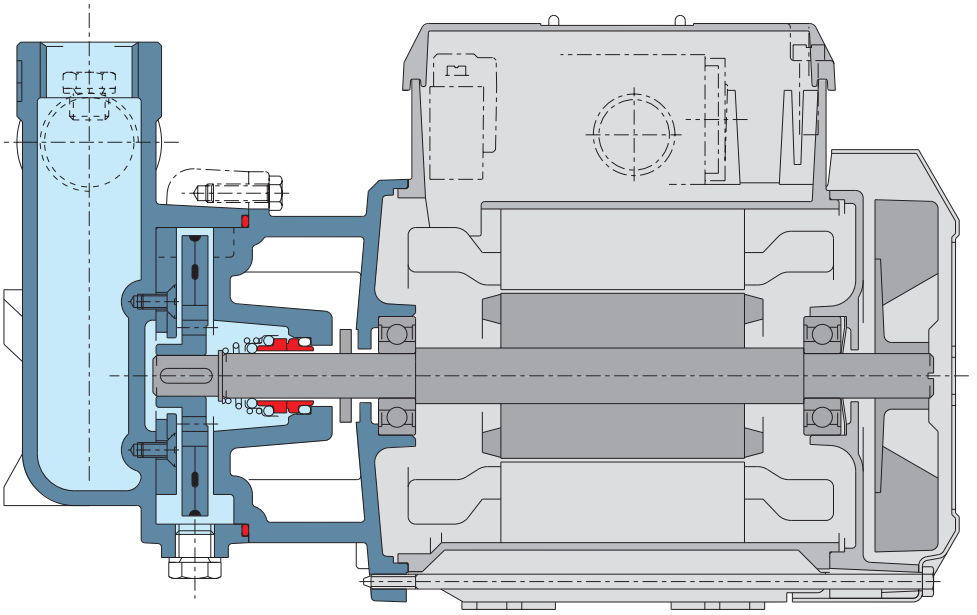
n ≈ 3450 rpm



## Features - Características constructivas



### Fast self priming
The hydraulic design ensures fast self priming once the pump body is filled with water.

### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows CA series pumps to be selected for use with different types of liquids.

### Easy maintenance
The construction features an anti-wear ring screwed to the pump body, allowing for rapid replacement in case of wear.

### Autoaspirante
La configuración de la hidráulica, garantiza un cebado rápido una vez que el cuerpo se ha llenado.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie CA puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Fácil mantenimiento
La construcción cuenta con un anillo de desgaste atornillado al cuerpo de la bomba, lo que permite una rápida sustitución en caso de desgaste.

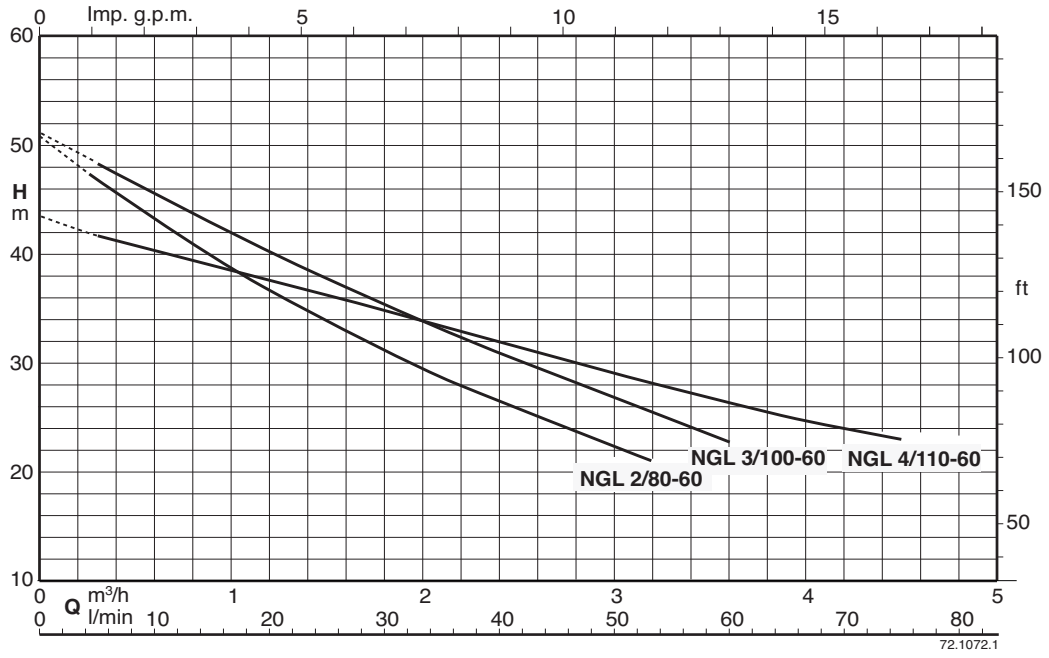
# NGL 60 Hz

## Self-Priming Jet Pumps
## Bombas autoaspirantes jet



### Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# NGL 60 Hz

## Construction
Close-coupled self-priming shallow-well jet pump with built-in ejector.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

## Applications
For drawing water out of a well.
For lifting water containing air or other gases.
For increasing water pressure from flooded suction applications.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For garden use.
For washing with a jet of water.

## Operating conditions
Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**NGL**: three-phase 220/380 V, 220/440 V.
**NGLM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Impeller | PPO-GF20 (Noryl)<br>Brass P-Cu Zn 40 Pb 2 UNI 5705 (for NGL 4/15..) |
| Wear ring impeller-diffuser | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Diffuser | PPO-GF20 (Noryl) |
| Ejector | PPO-GF20 (Noryl) |
| Shaft | Chrome steel 1.4104 EN 10088 (AISI 430) |
| Mechanical seal | Carbon - Ceramic - NBR |

## Ejecución
Bomba centrífuga autoaspirante monobloc con inyector incorporado.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

## Aplicaciones
Para suministro de agua con aspiración de pozo.
Para bombear agua que contiene aire u otras sustancias gaseosas.
Para aumentar la presión del agua que llega directamente a la bomba.
Para aumentar la presión disponible de una red de distribución (observar las disposiciones locales).
Para el jardín.
Para lavar con chorro de agua a presión.

## Límites de empleo
Temperatura líquido: de 0 °C a +35 °C.
Temperatura ambiente hasta +40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**NGL**: trifásico 220/380 V, 220/440 V.
**NGLM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Ejecuciones especiales bajo demanda
- Otras tensiones.

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba | Hierro GJL 200 EN 1561 |
| Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Rodete | PPO-GF20 (Noryl)<br>Latón P-Cu Zn 40 Pb 2 UNI 5705 (para NGL 4/15..) |
| Anillo de cierre rodete-difusor | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Difusor | PPO-GF20 (Noryl) |
| Inyector | PPO-GF20 (Noryl) |
| Eje | Acero al cromo 1.4104 EN 10088 (AISI 430) |
| Sello mecánico | Carbón - Cerámica - NBR |

# NGL 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P1 | P2 | | Q m³/h | 0 | 0,3 | 1 | 2 | 2,4 | 3 | 3,2 | 3,6 | 4 | 4,5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | kW | HP | l/min | 0 | 5 | 16,6 | 33,3 | 40 | 50 | 53,3 | 60 | 66,6 | 75 |
| **NGL 2/80-60** | **NGLM 2/80-60** | 0,8 | 0,55 | 0,75 | H m | 50,8 | 46,8 | 38,7 | 29,4 | 26,6 | 22,6 | 21 | | | |
| **NGL 3/100-60** | **NGLM 3/100-60** | 0,95 | 0,65 | 0,9 | | 51,1 | 48,4 | 41,9 | 33,8 | 31 | 27 | 25,6 | 22,8 | | |
| **NGL 4/110-60** | **NGLM 4/110-60** | 1,1 | 0,75 | 1 | | 43,5 | 41,7 | 38,5 | 34 | 32,1 | 29,1 | 28,1 | 26,4 | 24,8 | 23 |

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

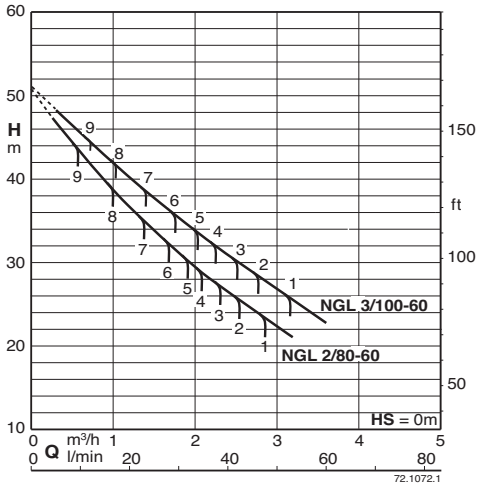
## Rated currents - Intensidades nominales

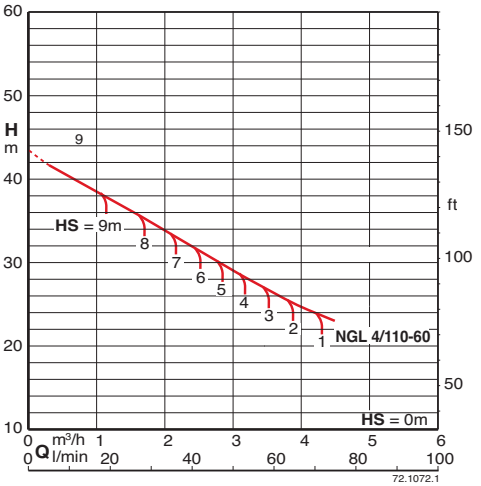
| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 4,1 | 7,1 | 8,2 | - | 2,7 |
| 0,65 | 0,9 | 5 | 8,7 | 10 | 9.2/4.7 | 3,3 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 3,2 |
| 0,9 | 1,2 | 7 | 12,1 | 14 | 12.5/6.4 | 3,3 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 3,5/2 | 3,6/2,1 | 4,8 |
| 0,65 | 0,9 | 3,3/1,9 | 3,5/2 | 4,3 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| 0,9 | 1,2 | 5,4/3,1 | 5,6/3,3 | 4,1 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

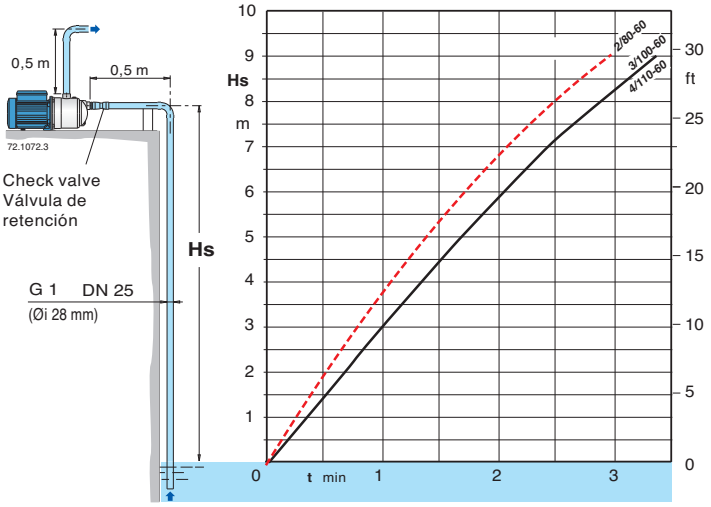
### Characteristic Curves for different suction lifts Hs - Curvas Características con distintas alturas de aspiración Hs




### Self-priming capability - Capacidad de autoaspiración

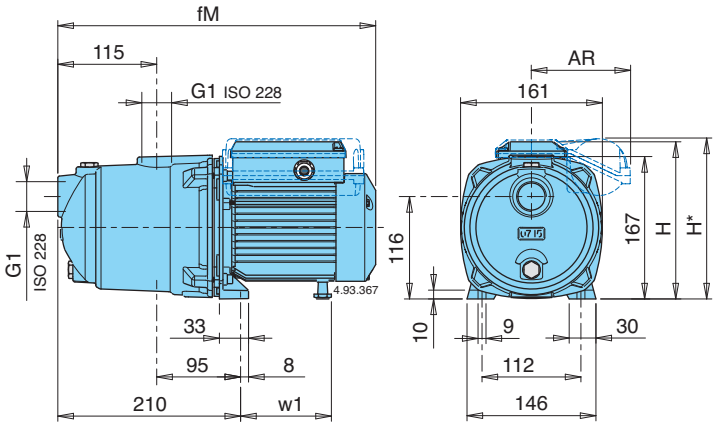
60 Hz (n ≈ 3450 1/min), H2O, T = 20°C, Pa = 1000 hPa (mbar)




**Hs** (m) Suction lift - Altura de aspiración
**t** (min) Self-priming time - Tiempo de autoaspiración

# NGL 60 Hz

## Dimensions and weights - Dimensiones y pesos

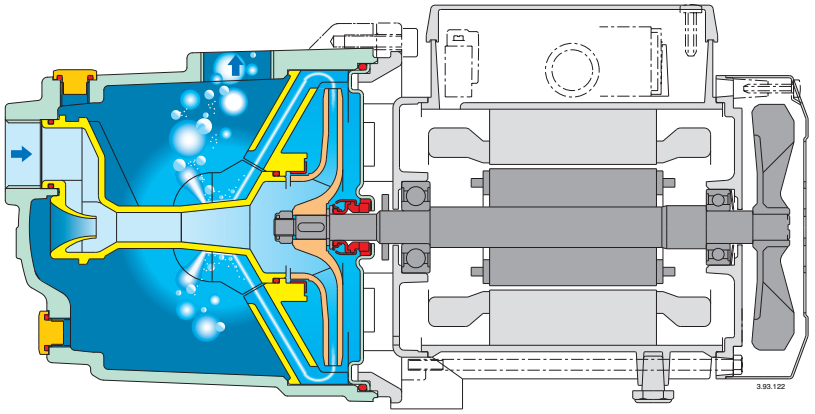



| TYPE TIPO | DN | Dimensions - Dimensiones mm | | | | | | | | Net weight kg | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | AR | | | | | |
| | NPT | fM | H | w1 | H* | 220V | 127V | 110V | 110/220V | NGL | NGLM |
| **NGL 2/80-60** | ✓ | 362 | 176 | 102 | - | ● | ● | ● | ❑ | 10,3 | 10,3 |
| **NGL 3/100-60** | ✓ | 391 | 192 | 112 | 197 | ● | ● | ● | 116 | 11,4 | 12,3 |
| **NGL 4/110-60** | ✓ | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 13,3 | 13,5 |

✓ NPT Version on demand
Ejecuciones bajo demanda

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

## Features - Características constructivas




* Patented
Patentado

### A different jet pump with new features
Not just another jet pump.
An exclusive diffuser design with flow control device* provides for compact construction, fast self-priming capability and low noise.

### Reliable
With new design features the NGL is more robust and forgiving when temporary abnormal operating conditions may exist.

### Compact
The NGL is smaller than conventional pumps of a similar type, allowing for installation in restricted spaces and providing for easier retrofit applications.

### Safe
Fast air evacuation reduces the risk of air-pockets developing at the mechanical seal preventing the danger of seal failure due to a lack of flushing and cooling.

### Better self-priming
The NGL are capable of lifting water from depths of 9 m in less than 3,5 minutes, offers new possibilities on suction lift applications and provides better trouble free service on normal shallow-well suction lift duties, also with a long suction pipe above the water level.

### Low noise
The new diffuser and flow control device* guide the fluid from the impeller into the central part of the pump casing, reducing turbulence and velocity, with effective use of the surrounding liquid in dampening the noise of flow.

### Una bomba jet diferente con nuevas características
Con un exclusivo difusor y dispositivo de control del flujo* presenta un diseño compacto, un auto-cebado rápido y un funcionamiento con un bajo nivel de ruido.

### Fiable
Gracias al nuevo diseño, la NGL es más resistente en caso de condiciones de funcionamiento temporalmente anómalas, cuando la bomba no está protegida por un interruptor automático.

### Compacta
La NGL es más pequeña respecto a una bomba convencional del mismo tipo, lo que posibilita su instalación en espacios más reducidos y facilita la sustitución de otra bomba ya existente.

### Segura
La rápida eliminación del aire reduce el riesgo de formación de una bolsa de aire alrededor de la estanqueidad mecánica. Más segura contra el peligro de pérdida de la estanqueidad mecánica por falta de lubricación y enfriamiento.

### Con mayor auto-cebado
La NGL es capaz de bombear agua desde una profundidad de 9 m en menos de 3,5 minutos, lo que permite nuevas posibilidades de utilización con las alturas de aspiración más elevadas y un funcionamiento más seguro en las instalaciones con alturas de aspiración normales para pozos poco profundos, también con un largo tramo de tubo de aspiración sobre el nivel del agua.

### Bajo nivel de ruido
El nuevo difusor y dispositivo de control del flujo* guía el fluido desde el rotor a la parte central del cuerpo de la bomba reduciendo su velocidad y turbulencia, utilizando eficazmente el líquido para amortiguar el ruido del flujo.

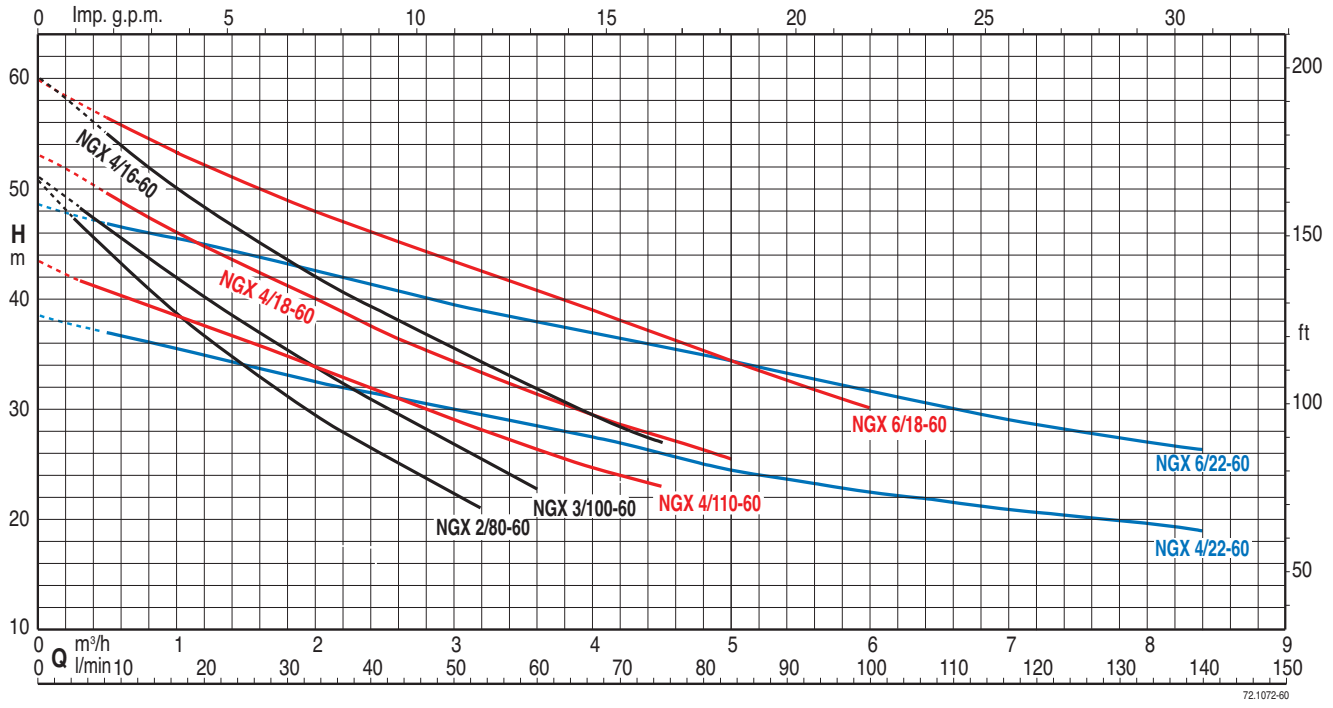
# NGX 60 Hz

## Self-Priming Jet Pumps
## Bombas autoaspirantes jet



### Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# NGX 60 Hz

## Construction
Close-coupled self-priming shallow-well jet pump with built-in ejector.
A high-quality pump for domestic water supply. Designed with environmental considerations, featuring a stainless steel casing, brass alloy impeller with minimal use of plastic materials.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** up to 0,75 kW (ANSI/ASME B1.20.1) on request

## Applications
For drawing water out of a well.
For lifting water containing air or other gases.
For increasing water pressure from flooded suction applications.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For garden use.
For washing with a jet of water.

## Operating conditions
Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**NGX**: three-phase 220/380 V, 220/440 V.
**NGXM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.

## Ejecución
Bomba centrífuga autoaspirante monobloc con inyector incorporado.
Una bomba para el abastecimiento de agua para uso doméstico de alta calidad y ecológica, con un cuerpo de acero inoxidable, con rotor de latón y con una mínima utilización de materiales plásticos.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** hasta 0,75 kW (ANSI/ASME B1.20.1) bajo demanda.

## Aplicaciones
Para suministro de agua con aspiración de pozo.
Para bombear agua que contiene aire u otras sustancias gaseosas.
Para aumentar la presión del agua que llega directamente a la bomba.
Para aumentar la presión disponible de una red de distribución (observar las disposiciones locales).
Para el jardín.
Para lavar con chorro de agua a presión.

## Límites de empleo
Temperatura líquido: de 0 °C a +35 °C.
Temperatura ambiente hasta +40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**NGX**: trifásico 220/380 V, 220/440 V.
**NGXM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Ejecuciones especiales bajo demanda
- Otras tensiones.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Impeller | Brass P-Cu Zn 40 Pb 2 UNI 5705<br>(PO-GF20 (Noryl) for NGL 2/80..,3/100..,4/110..) |
| Wear ring impeller-diffuser | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Diffuser | PPO-GF20 (Noryl) |
| Ejector | PPO-GF20 (Noryl) |
| Shaft | Chrome steel 1.4104 EN 10088 (AISI 430)<br>Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NGX 6 |
| Mechanical seal | Carbon - Ceramic - NBR |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Rodete | Latón P-Cu Zn 40 Pb 2 UNI 5705<br>(PO-GF20 (Noryl) para NGL 2/80..,3/100..,4/110..) |
| Anillo de cierre rodete-difusor | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Difusor | PPO-GF20 (Noryl) |
| Inyector | PPO-GF20 (Noryl) |
| Eje | Acero al cromo 1.4104 EN 10088 (AISI 430)<br>Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) para NGX 6 |
| Sello mecánico | Carbón - Cerámica - NBR |

# NGX 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

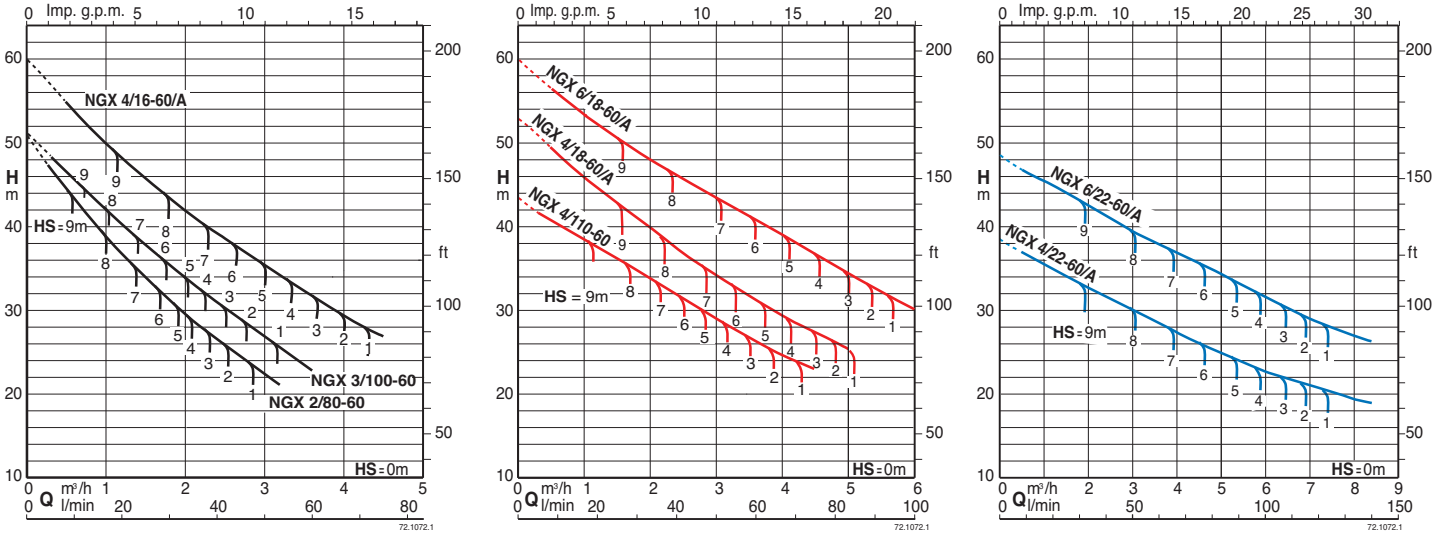
| 3~ | 1~ | P1 | P2 | | Q m³/h | 0 | 0,3 | 1 | 2 | 2,4 | 3 | 3,2 | 3,6 | 4 | 4,5 | 5 | 5,5 | 6 | 6,5 | 7 | 8 | 8,4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | kW | HP | l/min | 0 | 5 | 16,6 | 33,3 | 40 | 50 | 53,3 | 60 | 66,6 | 75 | 83,3 | 91,6 | 100 | 108 | 116 | 133 | 140 |
| **NGX 2/80-60** | **NGXM 2/80-60** | 0,8 | 0,55 | 0,75 | | 50,8 | 46,8 | 38,7 | 29,4 | 26,6 | 22,6 | 21 | | | | | | | | | | |
| **NGX 3/100-60** | **NGXM 3/100-60** | 0,95 | 0,65 | 0,9 | | 51,1 | 48,4 | 41,9 | 33,8 | 31 | 27 | 25,6 | 22,8 | | | | | | | | | |
| **NGX 4/110-60** | **NGXM 4/110-60** | 1,1 | 0,75 | 1 | | 43,5 | 41,7 | 38,5 | 34 | 32,1 | 29,1 | 28,1 | 26,4 | 24,8 | 23 | | | | | | | |
| **NGX 4/16-60/A** | **NGXM 4/16-60** | 1,6 | 1,1 | 1,5 | | 60 | 57 | 50 | 42 | 39,3 | 35,5 | 34 | 32 | 29,5 | 27 | | | | | | | |
| **NGX 4/18-60/A** | **NGXM 4/18-60** | 1,6 | 1,1 | 1,5 | H m | 53 | 51 | 46 | 40 | 37,5 | 34,3 | 33,5 | 31,3 | 29,5 | 27,5 | 25,5 | | | | | | |
| **NGX 4/22-60/A** | **NGXM 4/22-60** | 1,6 | 1,1 | 1,5 | | 38,5 | 37,5 | 35,5 | 32,5 | 31,5 | 30 | 29,7 | 28,8 | 27,5 | 26 | 24,5 | 23,5 | 22,5 | 21,8 | 21 | 19,7 | 19 |
| **NGX 6/18-60/A** | **NGXM 6/18-60** | 2,1 | 1,5 | 2 | | 59,5 | 56,5 | 53,5 | 48 | 46 | 43,5 | 42,8 | 40,8 | 39 | 36,7 | 34,5 | 32,5 | 30,3 | | | | |
| **NGX 6/22-60/A** | **NGXM 6/22-60** | 2,1 | 1,5 | 2 | | 48,5 | 47,2 | 46 | 43 | 42 | 40,3 | 39 | 38 | 37,5 | 36 | 34,5 | 33 | 32 | 30 | 29 | 27 | 26,3 |

P2 Rated motor power output. Potencia nominal del motor.

H Total head in m. Altura total en m.

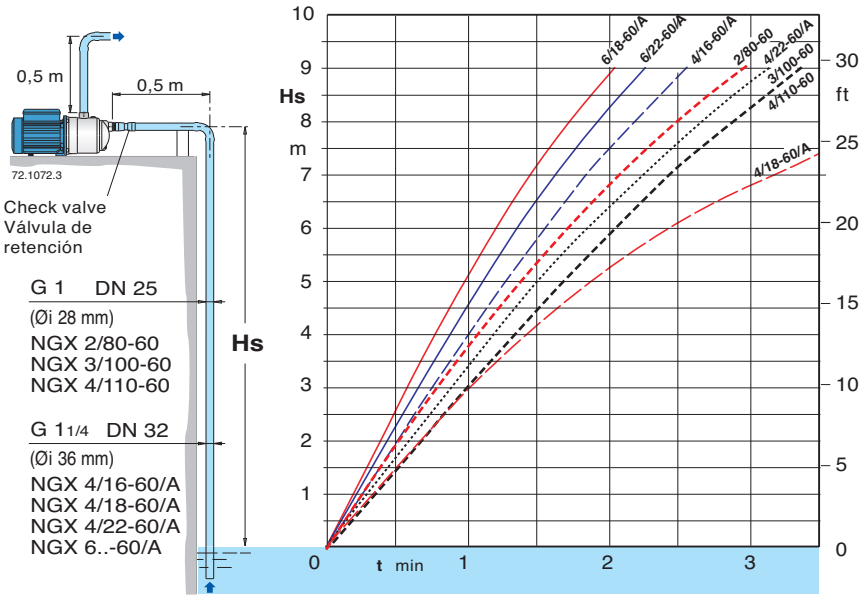
Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

## Characteristic Curves for different suction lifts Hs - Curvas Características con distintas alturas de aspiración Hs




## Self-priming capability - Capacidad de autoaspiración

60 Hz (n ≈ 3450 1/min), H2O, T = 20°C, Pa = 1000 hPa (mbar)




**Hs** (m) Suction lift - Altura de aspiración

**t** (min) Self-priming time - Tiempo de autoaspiración

## Rated currents - Intensidades nominales

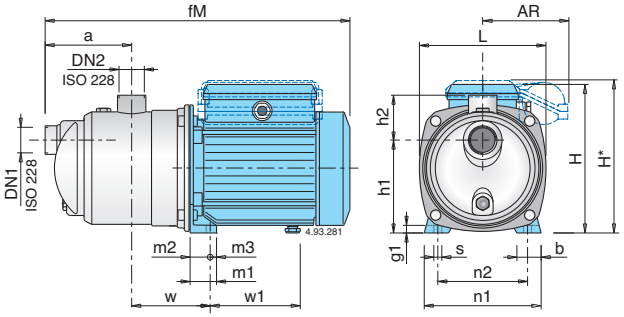
| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 4,1 | 7,1 | 8,2 | - | 2,7 |
| 0,65 | 0,9 | 5 | 8,7 | 10 | 9.2/4.7 | 3,3 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 3,2 |
| 1,1 | 1,5 | 8 | 13,9 | 16 | - | 4,2 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 3,5/2 | 3,6/2,1 | 4,8 |
| 0,65 | 0,9 | 3,3/1,9 | 3,5/2 | 4,3 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,6/3,2 | 5,8/3,4 | 8,4 |
| 1,5 | 2 | 9/5,2 | 9,4/5,5 | 6,1 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos

NGX 2-60, 3-60/A, 4-60/B, 4/16-60/A, 4/18-60/A, 4/22-60/A



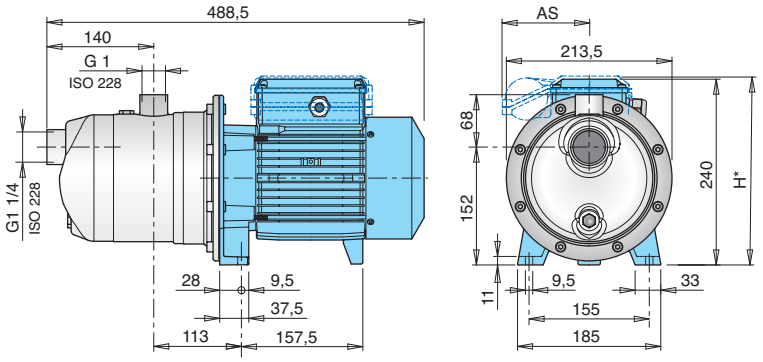

| TYPE TIPO | H* | AR mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| NGXM 2/80-60 | - | ● | ● | ● | ❑ |
| NGXM 3/100-60 | 197 | ● | ● | ● | 116 |
| NGXM 4/110-60 | 197 | ● | 116 | 116 | 131 |
| NGXM 4/16,18,22-60 | 232 | ● | 131 | 131 | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | DN NPT | Dimensions - Dimensiones mm fM | a | w | h1 | h2 | H | L | m1 | m2 | m3 | n1 | n2 | b | s | g1 | w1 | kg NGX | NGXM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NGX 2/80-60** | | | | 362 | | | | | 176 | | | | | | | | | | 102 | 7,5 | 7,5 |
| **NGX 3/100-60** | G 1 | G 1 | ✓ | 391 | 115 | 95 | 116 | 61 | 192 | 161 | 33 | 25 | 8 | 146 | 112 | 30 | 9 | 10 | 112 | 8,7 | 9,6 |
| **NGX 4/110-60** | | | | 391 | | | | | 192 | | | | | | | | | | 112 | 10,4 | 10,6 |
| **NGX 4/16-60/A** | | | | | | | | | | | | | | | | | | | | | |
| **NGX 4/18-60/A** | G 1 1/4 | G 1 | ✓ | 462 | 140 | 113 | 152 | 68 | 225 | 213,5 | 37,5 | 28 | 9,5 | 185 | 155 | 33 | 9,5 | 11 | 147 | 14,8 | 14,8 |
| **NGX 4/22-60/A** | | | | | | | | | | | | | | | | | | | | | |

✓ NPT Version on demand - Ejecuciones bajo demanda

NGX 6-60/A




| TYPE TIPO | DN NPT | kg NGX | NGXM |
|---|---|---|---|
| **NGX 6..-60/A** | ✓ | 17,8 | 18,2 |

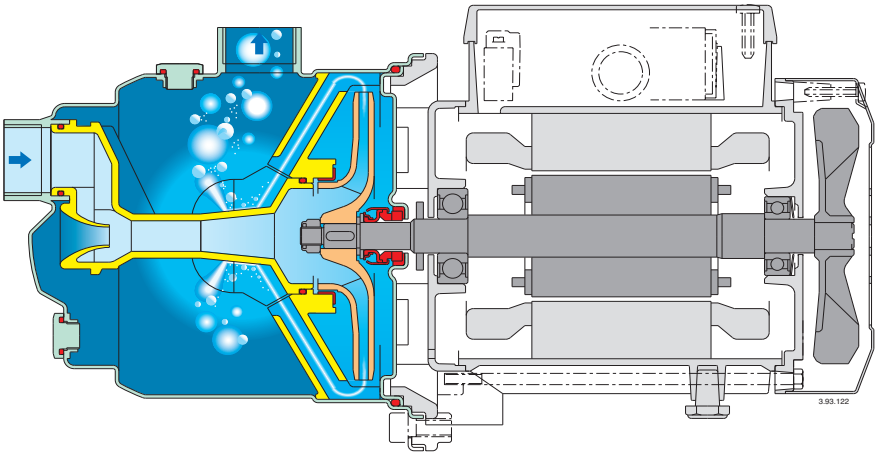
✓ NPT Version on demand
Ejecuciones bajo demanda

| TYPE TIPO | Hc | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| NGXM 6..-60 | 247 | ● | ❑ | ❑ | ❑ |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

# NGX 60 Hz

## Features



* Patented
Patentado

### A different jet pump with new features
An exclusive diffuser design with flow control device* provides for compact construction, fast self-priming capability and low noise.

### Reliable
With new design features the NGX is more robust and forgiving when temporary abnormal operating conditions may exist.

### Compact
The NGX is smaller than conventional pumps of a similar type, allowing for installation in restricted spaces and providing for easier retrofit applications.

### Safe
Fast air evacuation reduces the risk of air-pockets developing at the mechanical seal preventing the danger of seal failure due to a lack of flushing and cooling.

### Better self-priming
The NGX are capable of lifting water from depths of 9 m in less than 4 minutes, offers new possibilities on suction lift applications and provides better trouble free service on normal shallow-well suction lift duties, also with a long suction pipe above the water level.

### Low noise
The new diffuser and flow control device* guide the fluid from the impeller into the central part of the pump casing, reducing turbulence and velocity, with effective use of the surrounding liquid in dampening the noise of flow.

### Una bomba jet diferente con nuevas características
Con un exclusivo difusor y dispositivo de control del flujo* la NGX presenta un diseño compacto, un auto-cebado rápido y un funcionamiento con un bajo nivel de ruido.

### Fiable
Gracias al nuevo diseño, la NGX es más resistente en caso de condiciones de funcionamiento temporalmente anómalas.

### Compacta
La NGX es más pequeña respecto a una bomba convencional del mismo tipo, lo que posibilita su instalación en espacios más reducidos y facilita la sustitución de otra bomba ya existente.

### Segura
La rápida eliminación del aire reduce el riesgo de formación de una bolsa de aire alrededor de la estanqueidad mecánica. Más segura contra el peligro de pérdida de la estanqueidad mecánica por falta de lubricación y enfriamiento.

### Con mayor auto-aspiración
La NGX es capaz de bombear agua desde una profundidad de 9 m en menos de 4 minutos, lo que permite nuevas posibilidades de utilización con las alturas de aspiración más elevadas y un funcionamiento más seguro en las instalaciones con alturas de aspiración normales para pozos poco profundos, también con un largo tramo de tubo de aspiración sobre el nivel del agua.

### Bajo nivel de ruido
El nuevo difusor y dispositivo de control del flujo* guía el fluido desde el rotor a la parte central del cuerpo de la bomba reduciendo su velocidad y turbulencia, utilizando eficazmente el líquido para amortiguar el ruido del flujo.

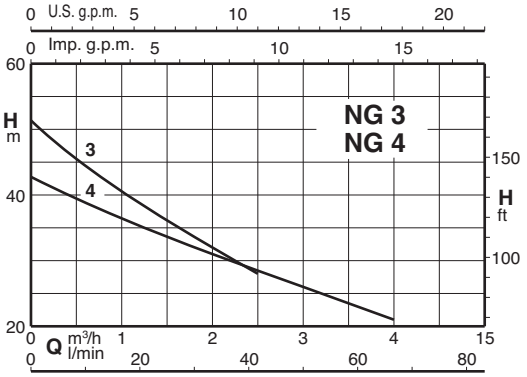
# NG 60 Hz

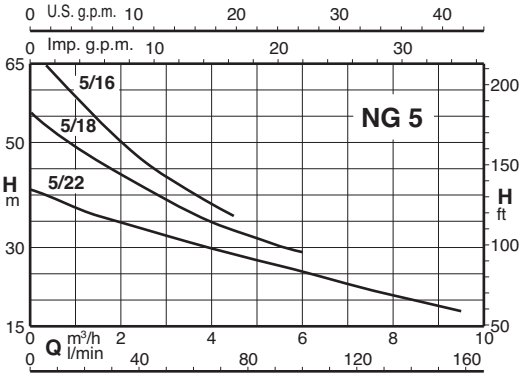
## Self-Priming Jet Pumps
## Bombas autoaspirantes jet

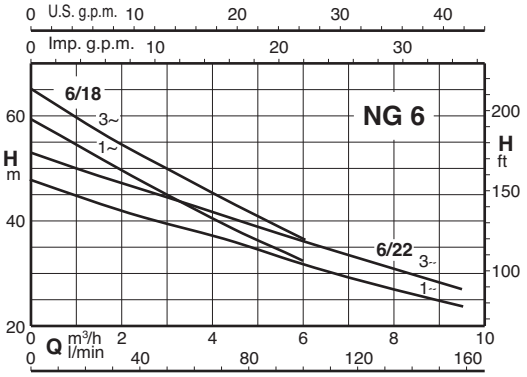


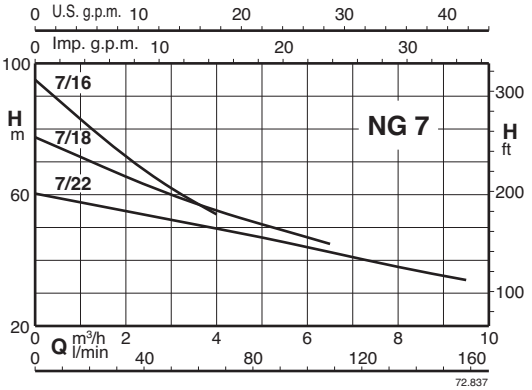
## Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# NG 60 Hz

## Construction
Close-coupled self-priming shallow well jet pumps with built-in ejector.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request

NG: version with pump casing and lanter bracket in cast iron.
B-NG: version with pump casing and lanter bracket in bronze (the pumps are supplied fully painted).

## Applications
For drawing water out of a well.
As pressure boosting pump for central water systems with low pressure (follow local specifications if increasing network pressure).
For clean liquids or slightly dirty surface water.
For garden use.
For washing with a jet of water.

## Operating conditions
Liquid temperature up to 40° C.
Ambient temperature up to 40° C.
Maximum permissible working pressure up to 10 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**NG**: three-phase 220/380 V, 220/440 V.
**NGM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.
- Protection IP 55.
- Special mechanical seal

## Materials

| Components | NG | B-NG |
|---|---|---|
| Pump casing<br>Lantern bracket<br>Diffuser plate | Cast iron<br>GJL 200 EN 1561 | Bronze<br>G-Cu Sn 10 EN 1982 |
| Impeller | Brass P- Cu Zn 40 Pb 2 UNI 5705 | |
| Shaft | Cr steel 1.4104 EN 10088 (AISI 430) for NG 3-4 | Cr-Ni-Mo steel 1.4401 EN 10088 (AISI 316) |
| | Cr-Ni steel 1.4305 EN 10088 (AISI 303) for NG 5-6-7 | |
| Diffuser<br>Ejector | PPO-GF20 (Noryl) | |
| Mechanical seal | Carbon - Ceramic - NBR | |

## Ejecución
Electrobomba centrífuga autoaspirante monobloc con inyector incorporado.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

NG: Ejecución con cuerpo bomba y acoplamiento in hierro.
B-NG: Ejecución con cuerpo bomba y acoplamiento in bronce.
Las bombas en bronce se suministran totalmente pintadas.

## Aplicaciones
Para suministro de agua con aspiración de pozo.
Para aumentar la presión disponible de una red de distribución (observar las disposiciones locales).
Para líquidos límpios o aguas superficiales ligeramente sucias.
Para el jardín.
Para lavar con chorro de agua a presión.

## Límites de empleo
Temperatura del líquido hasta 40 °C.
Temperatura ambiente hasta 40 °C.
Presión máxima admitida en el cuerpo de la bomba 10 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**NG**: trifásico 220/380 V, 220/440 V.
**NGM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Ejecuciones especiales bajo demanda
- Otras tensiones.
- Protección IP 55.
- Sello mecánico especial.

## Materiales

| Componentes | NG | B-NG |
|---|---|---|
| Cuerpo bomba<br>Acoplamiento<br>Disco del difusor | Hierro<br>GJL 200 EN 1561 | Bronce<br>G-Cu Sn 10 UNI 7013 |
| Rodete | Latón P- Cu Zn 40 Pb 2 UNI 5705 | |
| Eje | Acero al Cr 1.4104 EN 10088 (AISI 430) para NG 3-4 | Acero al Cr-Ni-Mo 1.4401 EN 10088 (AISI 316) |
| | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) para NG 5-6-7 | |
| Difusor<br>Inyector | PPO-GF20 (Noryl) | |
| Sello mecánico | Carbón - Cerámica - NBR | |

# NG 60 Hz

## Performance for suction lift Hs = 1 m - Prestaciones con altura de aspiración Hs = 1 m — n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0,25 | 0,5 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 | 5,5 | 6 | 6,5 | 7 | 8 | 9 | 9,5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 4,1 | 8,3 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 | 91,6 | 100 | 108 | 116 | 133 | 150 | 158 |
| **NG 3-60/A** B-NG 3-60/A | **NGM 3-60/A** B-NGM 3-60/A | 0,55 | 0,75 | | 49 | 45 | 40 | 35 | 32 | 27 | | | | | | | | | | | | |
| **NG 4-60/B** B-NG 4-60/B | **NGM 4-60/A** B-NGM 4-60/A | 0,75 | 1 | | 42 | 41 | 37,5 | 35 | 32 | 30 | 27 | 24 | 22 | | | | | | | | | |
| B-**NG 5/16-60/A** | B-**NGM 5/16E-60** | 1,1 | 1,5 | | | | 54,5 | 50,5 | 47 | 44 | 41 | 38,5 | 36 | 33,5 | | | | | | | | |
| B-**NG 5/18-60/A** | B-**NGM 5/18E-60** | 1,1 | 1,5 | | | | 46,5 | 44,5 | 42,5 | 40,5 | 38,5 | 37 | 35 | 33 | 31,5 | 30 | 28,5 | | | | | |
| B-**NG 5/22-60/A** | B-**NGM 5/22E-60** | 1,1 | 1,5 | | | | 36,4 | 35,5 | 34,5 | 33,5 | 32,5 | 31,6 | 30,7 | 29,7 | 28,7 | 27,8 | 27 | 26 | 25 | 23 | 21 | 20 |
| B-**NG 6/18-60/A** | | 1,5 | 2 | **H** | | | 60 | 58 | 56 | 53 | 50 | 48 | 45 | 43 | 41 | 39 | 36 | | | | | |
| | B-**NGM 6/18E-60** | 1,5 | 2 | m | | | 54 | 51 | 49 | 46 | 44 | 41 | 39 | 38 | 35 | 34 | 32 | | | | | |
| B-**NG 6/22-60/A** | | 1,5 | 2 | | | | 50 | 48 | 47 | 45 | 44 | 42,5 | 41 | 40 | 39 | 37 | 36 | 35 | 33 | 31 | 28 | 27 |
| | B-**NGM 6/22E-60** | 1,5 | 2 | | | | 44 | 42,5 | 41 | 40 | 39 | 37,5 | 36 | 35 | 34 | 32,5 | 31,5 | 30 | 29 | 27 | 25 | 24 |
| B-**NG 7/16-60/B** | | 2,2 | 3 | | | | 82 | 77 | 72 | 67 | 62 | 57,5 | 54 | | | | | | | | | |
| B-**NG 7/18-60/B** | | 2,2 | 3 | | | | 71 | 68 | 65 | 63 | 60 | 57 | 55 | 52,5 | 51 | 49 | 47 | 45 | | | | |
| B-**NG 7/22-60/B** | | 2,2 | 3 | | | | 57 | 56 | 55 | 54 | 52 | 51 | 49,5 | 48 | 47 | 45 | 44 | 42 | 41 | 38 | 35 | 33 |

B-NG, B-NGM = Bronze construction. Ejecución en bronce.

P2 Rated motor power output. Potencia nominal del motor.

**H** Total head in m. Altura total en m.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

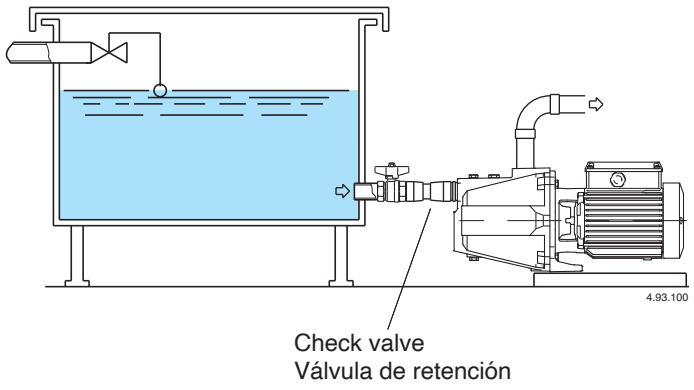
| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 5,2 | 9 | 10,4 | 9.2/4.7 | 3,1 |
| 0,75 | 1 | 6,9 | 12 | 13,8 | 12.5/6.4 | 3,1 |
| 1,1 | 1,5 | 8,5 | 14,7 | - | - | 3 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,55 | 0,75 | 3,6/2,1 | 3,8/2,2 | 3,7 |
| 0,75 | 1 | 4,5/2,6 | 4,7/2,7 | 5,6 |
| 1,1 | 1,5 | 5,7/3,3 | 6/3,5 | 5,4 |
| 1,5 | 2 | 9/5,2 | 9,4/5,5 | 6,1 |
| 2,2 | 3 | 11,1/6,4 | 11,6/6,7 | 8,4 |

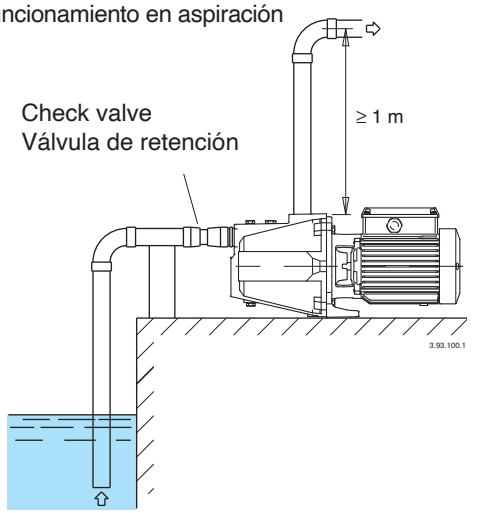
P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

## Installation examples - Ejemplos de instalación

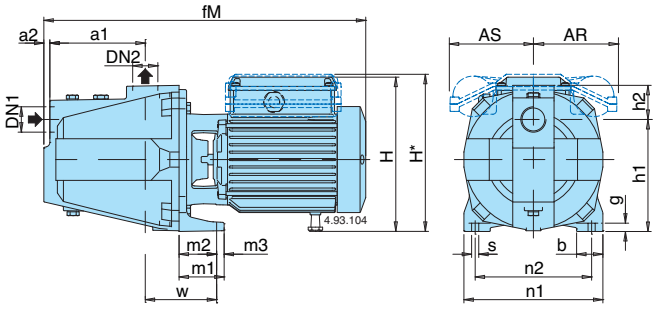
Positive suction head operation
Funcionamiento bajo carga




Suction lift operation
Funcionamiento en aspiración




## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | H* | AR mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| NGM 3-60/A, B-NGM 3-60/A | 212 | ● | ● | ● | 116 |
| NGM 4-60/A, B-NGM 4-60/A | 212 | ● | 116 | 116 | 131 |

● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

| TYPE TIPO | H* | AS mm 220V | 127V | 110V | 110/220V |
|---|---|---|---|---|---|
| NGM 5E-60, B-NGM 5E-60 | 245 | ● | 131 | 131 | ❑ |
| NGM 6E-60, B-NGM 6E-60 | 245 | ● | 131 | ❑ | ❑ |

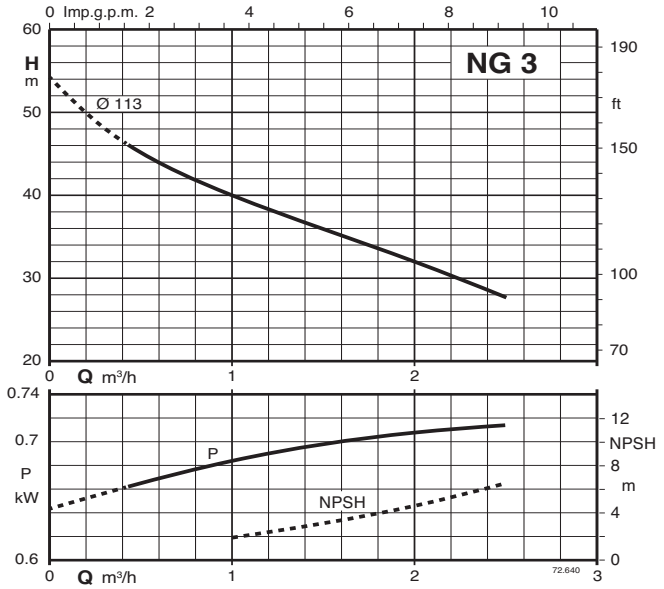
● Standard dimensions - Dimensiones estándar
❑ Cannot constructed - Non fatibles

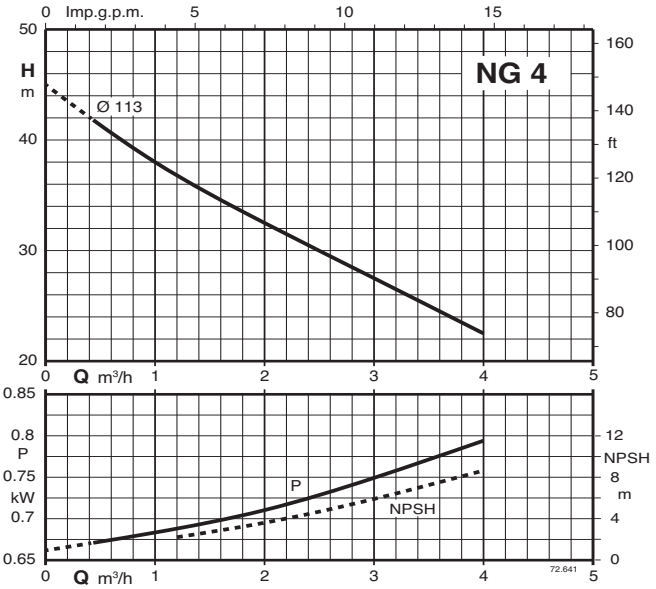
| TYPE TIPO | DN1 ISO 228 | DN2 ISO 228 | DN NPT | mm a1 | a2 | fM | h1 | h2 | H | m1 | m2 | m3 | n1 | n2 | b | s | w | g | kg NG | kg B-NG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **NG 3-60/A B-NG 3-60/A** | G 1 | G 1 | ✓ | 127 | 8 | 430 | 150 | 43 | 207 | 60 | 52 | 8 | 185 | 155 | 35 | 9,5 | 100 | 11 | 18,4 | 20,8 |
| **NG 4-60/B B-NG 4-60/B** | | | | | | | | | | | | | | | | | | | 20,0 | 22,3 |
| **NG 5-60/A B-NG 5E-60** | G 1 1/2 | G 1 | ✓ | 160 | 10 | 560 | 165 | 57 | 240 | 60 | 50 | 10 | 215 | 175 | 40 | 11,5 | 115 | 11 | 29,2 | 31,6 |
| **NG 6-60/A B-NG 6E-60** | | | | | | 560 | | | | | | | | | | | | | 30,8 | 32,9 |
| **NG 7-60/B B-NG 7-60/A** | | | | | | 600 | | | | | | | | | | | | | 31,3 | 33,4 |

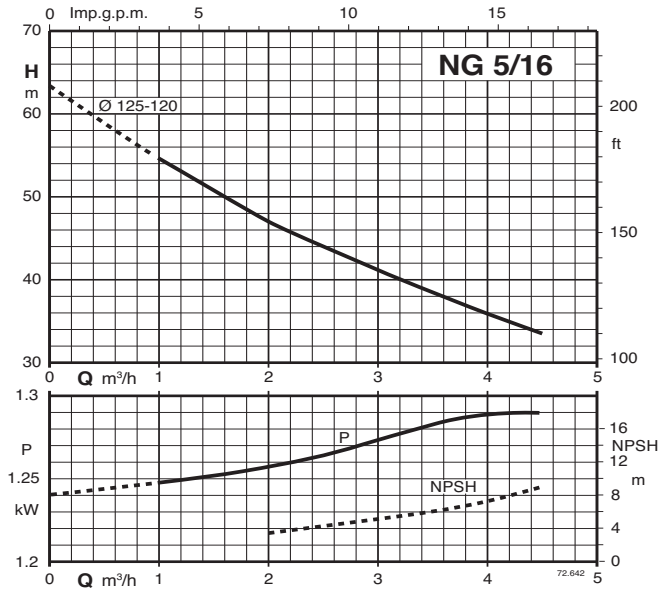
✓ NPT Version on demand - Ejecuciones bajo demanda

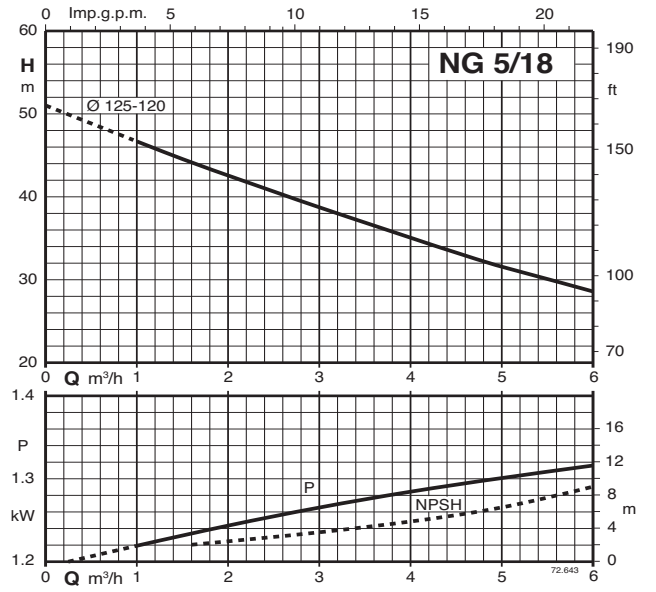
## Characteristic curves - Curvas Características

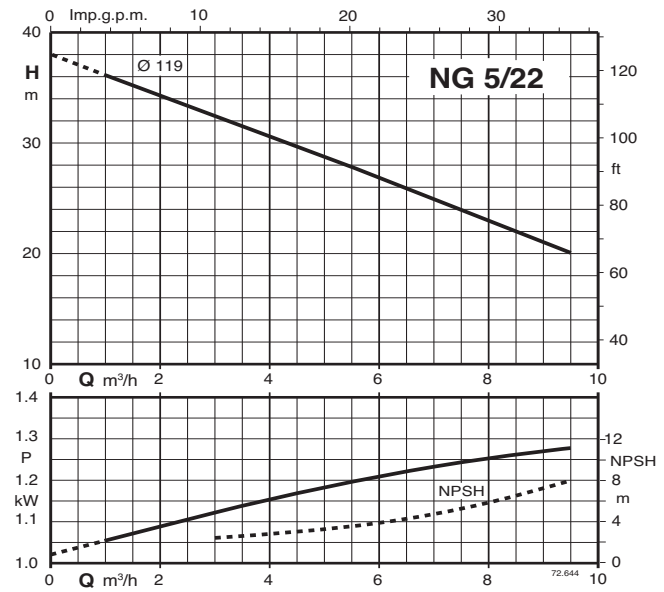
n ≈ 3450 rpm



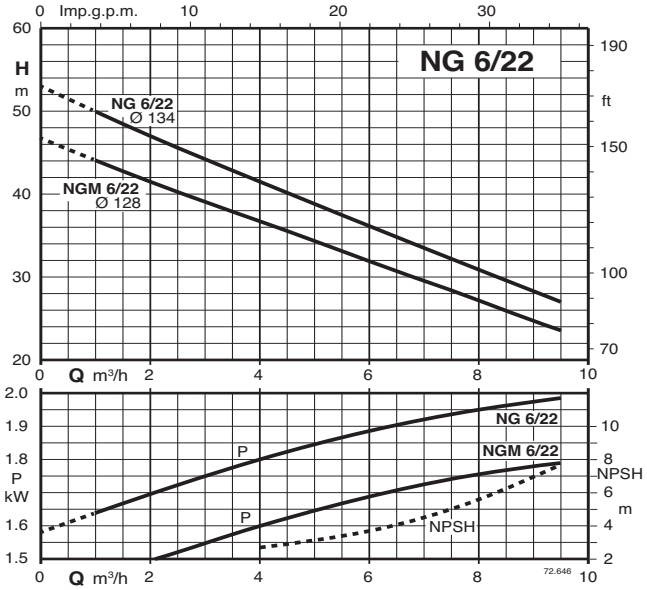



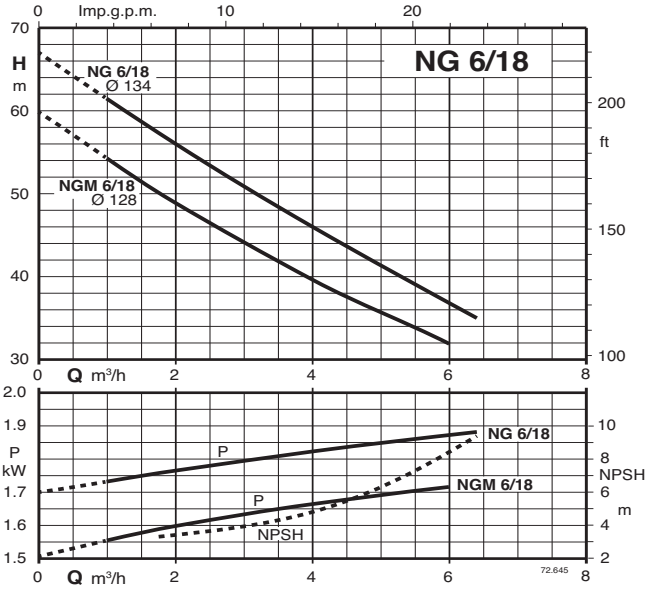



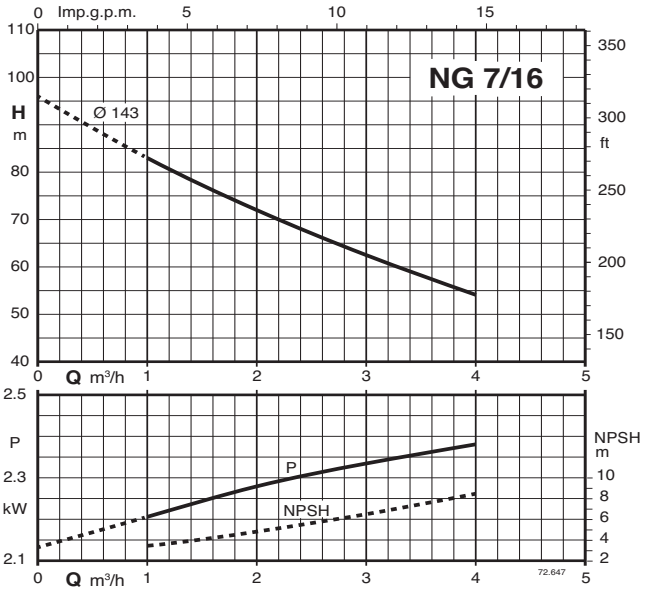



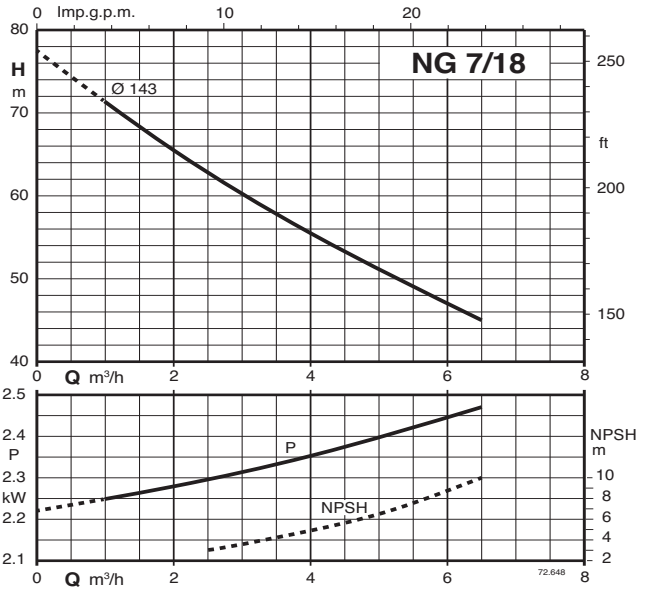
## Characteristic curves - Curvas Características

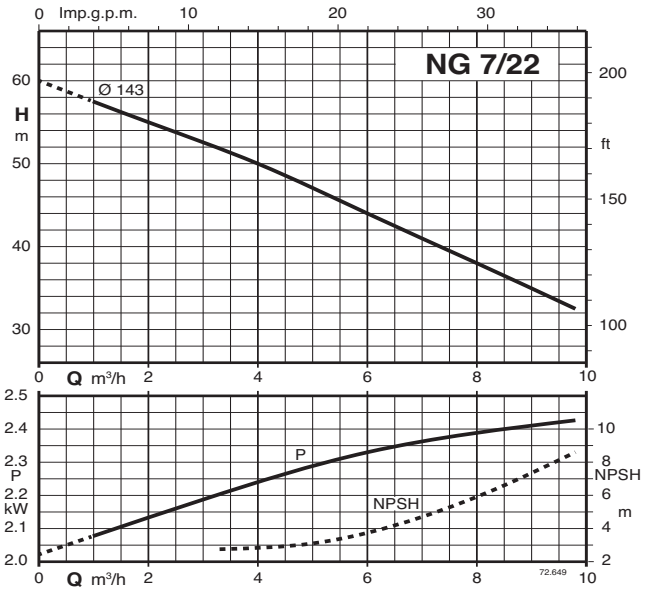
n ≈ 3450 rpm



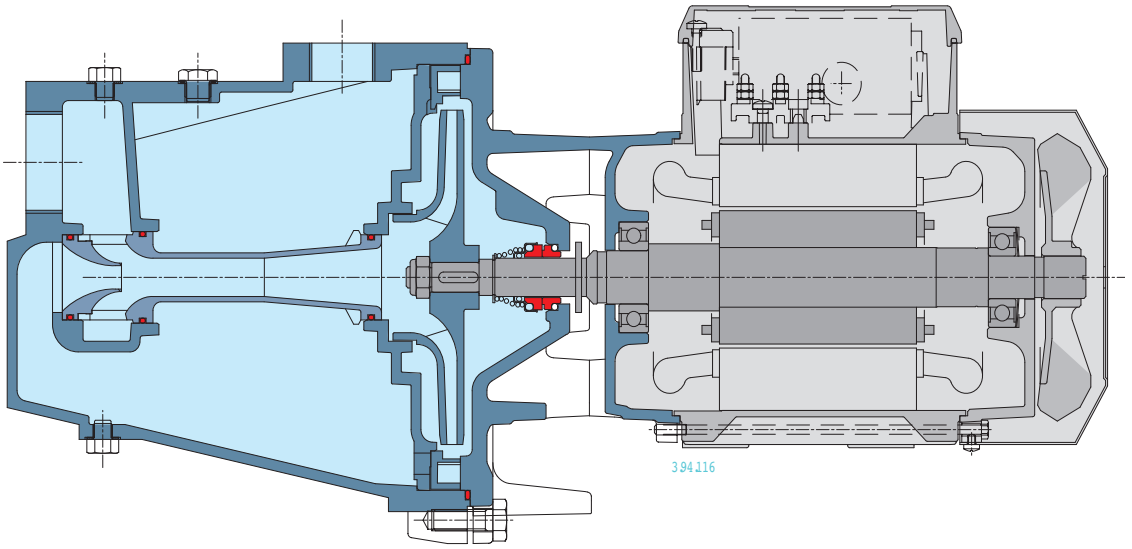



## Features - Características constructivas




### Robustness
The mechanical structure of the hydraulic parts in contact with the pumped liquid are dimensioned to guarantee the maximum resistence to mechanical stress.

### Self priming
The hydraulic design allows the pump to self prime even with the high suction lifts or with long suction pipe runs above the water level.

### Flexibility
The option to choose between cast iron and bronze materias for the hydraulic parts in contact with the pumped liquid allows NG series pumps to be selected for use with different types of liquids.

### Exclusive design
An innovative, patented guard prevents contact with rotating parts, proving protection to the end user whilst allowing for inspection of the mechanical seal.

### Robustez
La estructura mecánica de las partes hidráulicas en contacto con el líquido bombeado están dimensionadas para garantizar la máxima resistencia a la tensión mecánica.

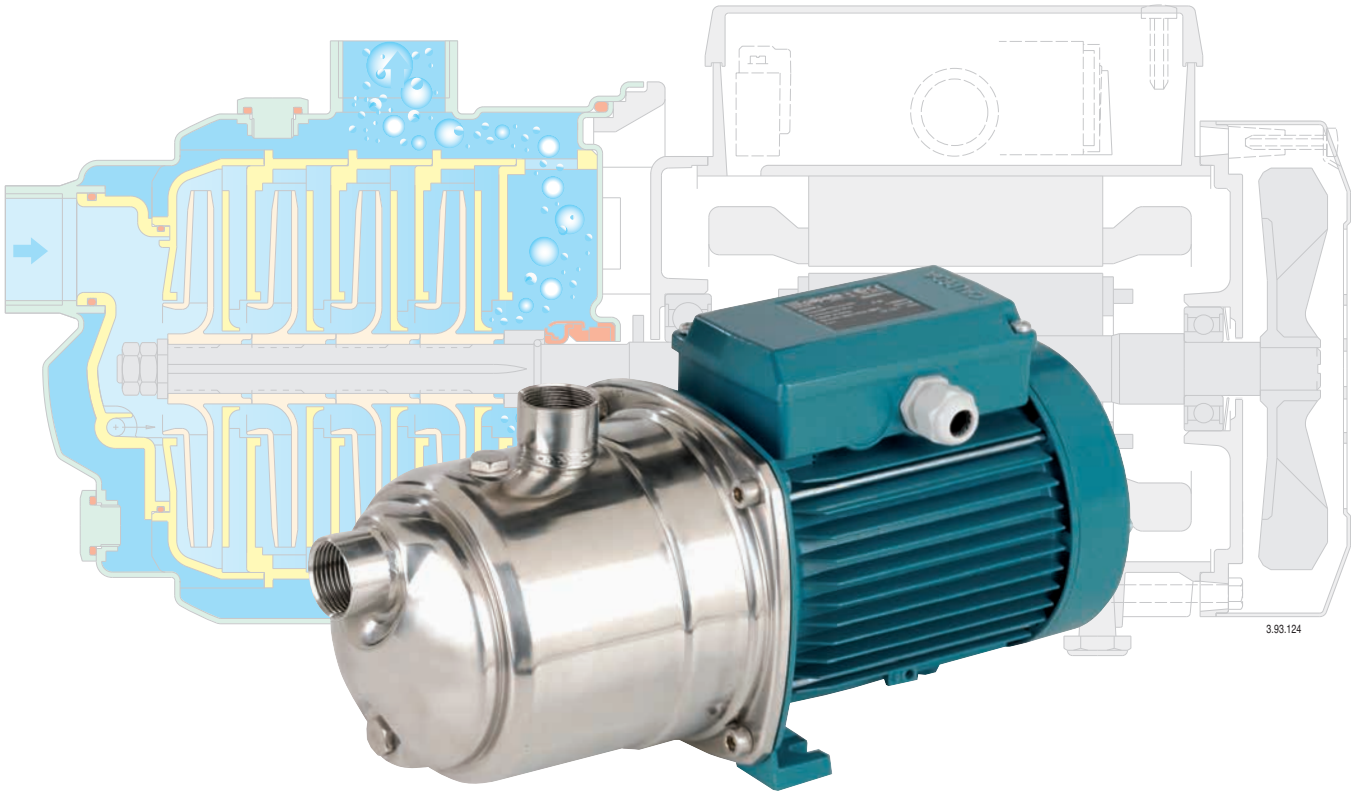
### Autoaspirado
El diseño hidráulico permite que la bomba autoaspire incluso con altas elevaciones de succión.

### Flexibilidad
La opción de poder elegir entre hierro fundido y bronce para las partes hidráulicas en contacto con el bombeo permite que las bombas de la serie NG puedan ser seleccionadas para utilizar con diferentes tipos de líquidos.

### Diseño exclusivo
Un innovador protector patentado evita el contacto con las partes rotantes, lo que demuestra la protección para el usuario final mientras le permite la inspección del sello mecánico.

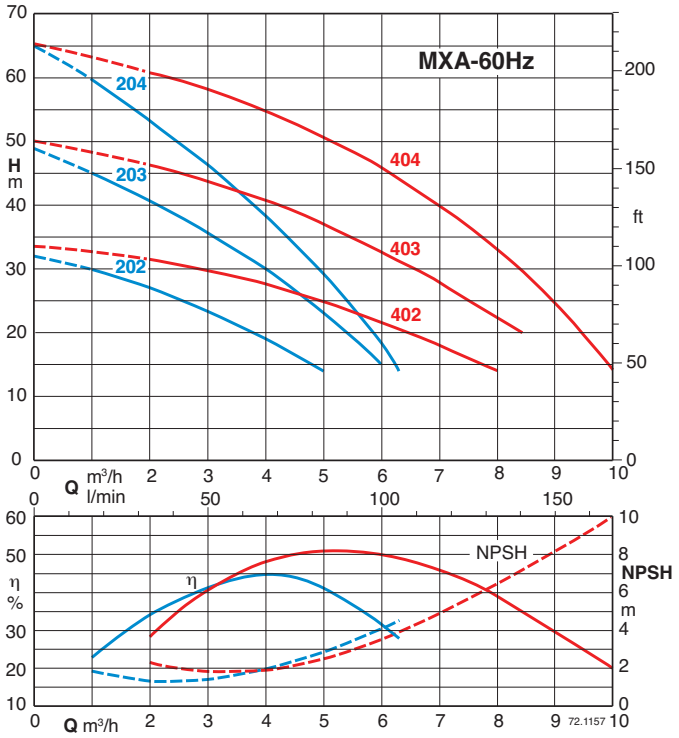
# MXA 60 Hz

## Multi-Stage Self-Priming Pumps
## Bombas multicelulares autoaspirantes




## Coverage chart - Campo de aplicaciones

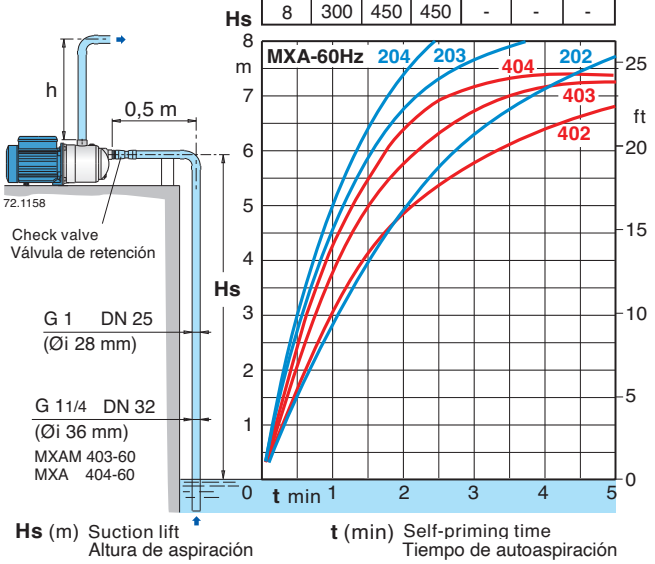
**n ≈ 3450 1/min**




**Self-priming capability**
**Capacidad de autoaspiración**

$H_2O$, T = 20°C,
Pa = 1000 hPa (mbar)
60 Hz (n ≈ 3450 1/min)

| Hs (m) ≤ | h (mm) | | | | | |
|---|---|---|---|---|---|---|
| | 202 | 203 | 204 | 402 | 403 | 404 |
| 2 | 100 | 100 | 100 | 100 | 500 | 500 |
| 4 | 100 | 200 | 200 | 100 | 500 | 500 |
| 6 | 100 | 300 | 300 | 100 | 500 | 500 |
| 7 | 200 | 300 | 450 | 200 | 500 | 500 |
| 8 | 300 | 450 | 450 | - | - | - |




**Hs** (m) Suction lift
Altura de aspiración

**t** (min) Self-priming time
Tiempo de autoaspiración

# MXA 60 Hz

## Construction
Horizontal multi-stage, self-priming, close coupled pump.
Single-piece barrel casing in chrome-nickel stainless steel, with front suction port above pumps axis and radial delivery at top.
Stages in Noryl.
**Connections**: threaded ports **ISO 228/1**.
threaded ports (ANSI/ASME B1.20.1) **NPT** on request

## Applications
For water supply.
For domestic use, for garden use and irrigation.

## Operating conditions
Liquid temperature: 0 °C to +35 °C.
Ambient temperature up to +40 °C.
Maximum permissible pressure in the pump casing: 8 bar.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 1/min).
**MXA**: three-phase 220/380 V, 220/440 V.
**MXAM**: single-phase 110 V, 127 V, 220 V, 110/220 V.
with thermal protector up to 1.1 kW only 220V.
Capacitor inside the terminal box.
Insulation class F.
Protection IP 54.
**Classification scheme IE3 for three-phase motors from 0,75 kW.**
Constructed in accordance with: EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Special features on request
- Other voltages.

## Ejecución
Bomba multicelulare autoaspirante horizontale monobloc.
Cuerpo bomba de acero inoxidable al cromo-níchel en una sola pieza, abierto por un solo lado (barrel casing), con boca de aspiración frontal sobre el eje de la bomba y boca de impulsión radial en la parte superior.
Elementos en Noryl.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.

## Aplicaciones
Para aprovisionamiento de agua.
Para uso doméstico, para jardinería e irrigación.

## Límites de empleo
Temperatura líquido: de 0 °C a +35 °C.
Temperatura ambiente hasta +40 °C.
Presión máxima admitida en el cuerpo de la bomba: 8 bar.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**MXA**: trifásico 220/380 V, 220/440 V.
**MXAM**: monofásico 110 V, 127 V, 220 V, 110/220 V.
con protector térmico hasta 1,1 kW sólo para 220V.
Condensador incorporado en la caja de bornes.
Aislamiento clase F.
Protección IP 54.
**Clase alta eficiencia IE3 para motor trifásico de 0,75 kW.**
Ejecución según EN 60034-1; EN 60034-30-1.
EN 60335-1, EN 60335-2-41.

## Ejecuciones especiales bajo demanda
- Otras tensiones.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Casing cover | Cr-Ni steel 1.4301 EN 10088 (AISI 304)<br>Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Pump Shaft | Chrome steel 1.4104 EN 10088 (AISI 430)<br>Cr-Ni steel 1.4305 EN 10088 (AISI 303) (for MXA 404) |
| Plug | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Suction casing<br>Stage casing<br>Impeller | PPO-GF20 (Noryl) |
| Mechanical seal | Carbon - Ceramic - NBR |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba<br>Tapa del cuerpo | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304)<br>Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Eje bomba | Acero al cromo 1.4104 EN 10088 (AISI 430)<br>Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) (para MXA 404) |
| Tapón | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Cuerpo aspiración<br>Cuerpo elemento<br>Rodete | PPO-GF20 (Noryl) |
| Sello mecánico | Carbón - Cerámica - NBR |

# MXA 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | $P_2$ | | Q $m^3/h$ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 6,3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 33,3 | 50 | 66,6 | 83,3 | 100 | 105 | | |
| **MXA 202-60** | **MXAM 202-60** | 0,45 | 0,6 | | 32 | 30 | 27 | 23 | 19 | 14 | | | | |
| **MXA 203-60/B** | **MXAM 203-60/A** | 0,75 | 1 | **H** m | 49 | 45 | 41 | 35,5 | 30 | 23 | 15 | | | |
| **MXA 204-60/B** | **MXAM 204-60/A** | 0,75 | 1 | | 65 | 60 | 53 | 47 | 38 | 29 | 19 | 14 | | |

| 3 ~ | 1 ~ | $P_2$ | | Q $m^3/h$ | 0 | 2 | 4 | 5 | 6 | 7 | 8 | 8,4 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 33,3 | 66,6 | 83,3 | 100 | 116 | 133 | 140 | 150 | 166 |
| **MXA 402-60/B** | **MXAM 402-60/A** | 0,75 | 1 | | 33,5 | 31,5 | 27,5 | 25 | 21,5 | 18 | 14 | | | |
| **MXA 403-60/C** | **MXAM 403-60/A** | 1,1 | 1,5 | **H** m | 50 | 46 | 41 | 37 | 32,5 | 28 | 22 | 20 | | |
| **MXA 404-60/A** | **MXAM 404-60** | 1,5 | 2 | | 65,5 | 61,5 | 55 | 50,5 | 45,5 | 40 | 33 | 30 | 24,5 | 14,5 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

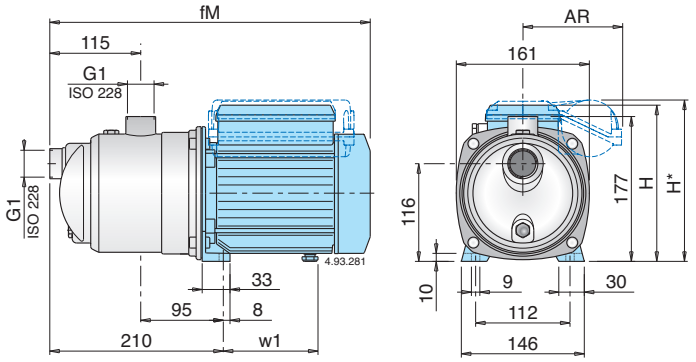
Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

+ 0,5 m security margin on NPSH-value is necessary.
Para el valor del NPSH se recomienda un margen de seguridad de + 0,5 m.

Test results with clean cold water, without gas content.
Resultados de las pruebas con agua fría y limpia, sin gas.

For capacities over 4 $m^3/h$ use a suction pipe G 1 1/4 (DN 32).
Para caudales mayores de 4 $m^3/h$, utilizar un tubo de aspiración G 1 1/4 (DN 32).

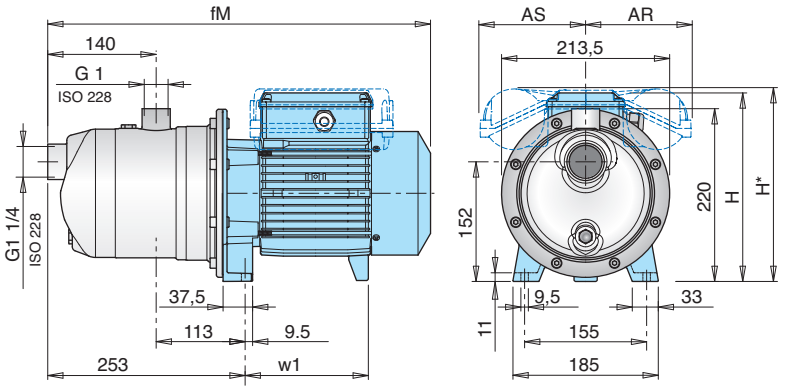
## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN<br>NPT | mm<br>fM | H | w1 | H* | AR<br>220V | 127V | 110V | 110/220V | Net weight kg<br>MXA | MXAM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MXA 202-60 - MXAM 202-60** | ✓ | 362 | 176 | 102 | - | ● | ● | ● | ● | 7,3 | 7,3 |
| **MXA 203-60/B - MXAM 203-60/A** | ✓ | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,4 | 10,6 |
| **MXA 204-60/B - MXAM 204-60/A** | ✓ | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,5 | 10,7 |
| **MXA 402-60/B - MXAM 402-60/A** | ✓ | 391 | 192 | 112 | 197 | ● | 116 | 116 | 131 | 10,3 | 10,5 |

✓ NPT Version on demand - Ejecuciones bajo demanda

● Standard dimensions - Dimensiones estándar




| TYPE<br>TIPO | DN<br>NPT | mm<br>fM | H | w1 | H* | AS<br>220V | 127V | 110V | 110/220V | AR<br>220V | 127V | 110V | 110/220V | Net weight kg<br>MXA | MXAM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MXA 403-60/C - MXAM 403-60/A** | ✓ | 462 | 225 | 147 | 230 | - | - | - | - | ● | 131 | 131 | ❑ | 16 | 16,3 |
| **MXA 404-60/A - MXAM 404-60** | ✓ | 488,5 | 240 | 157,5 | 245 | ● | ❑ | ❑ | ❑ | - | - | - | - | 17,2 | 17,6 |

✓ NPT Version on demand - Ejecuciones bajo demanda

● Standard dimensions - Dimensiones estándar

❑ Cannot constructed - Non fatibles

# MXA 60 Hz

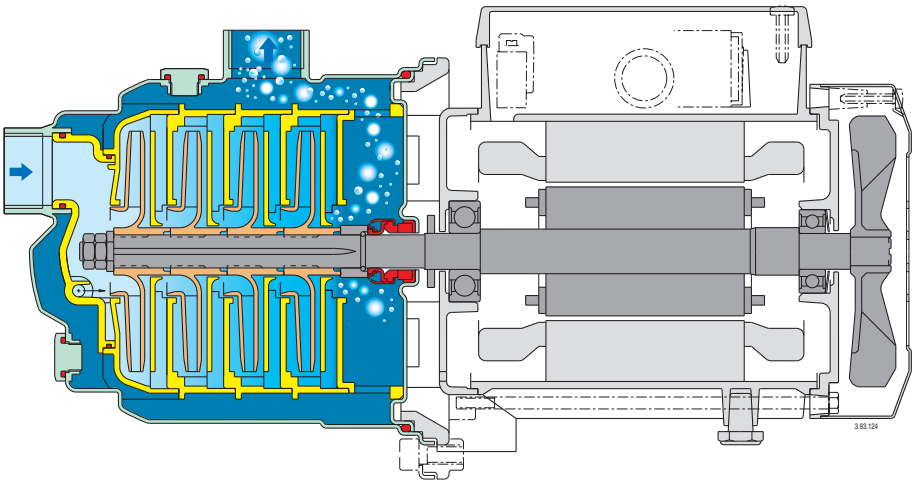
## Rated currents - Intensidades nominales

| P2 | | single-phase - monofásico 1~ | | | | |
|---|---|---|---|---|---|---|
| | | 220V | 127V | 110V | 110/220V | |
| kW | HP | IN A | IN A | IN A | IN A | IA/IN |
| 0,45 | 0,6 | 4,1 | 7,1 | 8,2 | - | 2,7 |
| 0,75 | 1 | 6,2 | 10,7 | 12,4 | 12.5/6.4 | 3,2 |
| 1,1 | 1,5 | 8 | 13,9 | 16 | - | 4,2 |
| 1,5 | 2 | 10,6 | - | - | - | 3,8 |

| P2 | | three-phase - trifásico 3~ | | |
|---|---|---|---|---|
| | | 220/380V | 220/440V | |
| kW | HP | IN A | IN A | IA/IN |
| 0,45 | 0,6 | 3,5/2 | 3,5/2 | 4,8 |
| 0,75 | 1 | 4,5/2,6 | 4,5/2,6 | 5,6 |
| 1,1 | 1,5 | 5,6/3,2 | 5,6/3,2 | 8,4 |
| 1,5 | 2 | 9/5,2 | 9/5,2 | 6,1 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

## Features - Características constructivas



### Extra safety
against running dry, with the suction port above pump axis and with the self-priming construction.

### Robust
Single-piece barrel casing.

### Compact
Single-piece lantern bracket and base.

### Low noise
with the water-filled shroud around the stages.

### Más seguridad
Contra el funcionamiento en seco, con la boca de aspiración sobre el eje de la bomba y con la ejecución autoaspirante.

### Robusta
Cuerpo bomba de una sola pieza abierto por un solo lado.

### Compacta
Acoplamiento bomba motor y base soporte de una sola pieza.

### Silenciosa
con la capa de agua alrededor a los elementos.

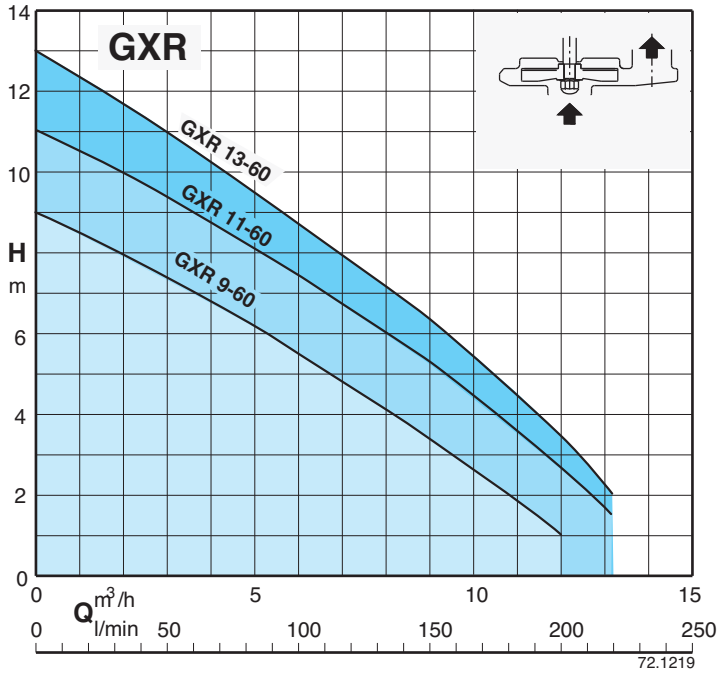
# GXR, GXV 60 Hz

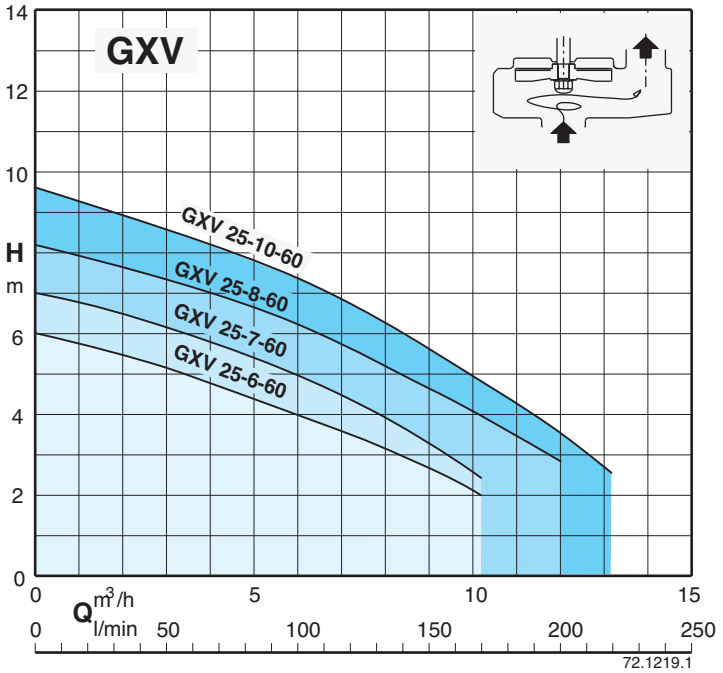
**Submersible Pumps in stainless steel**
**Bomba sumergible de acero inoxidable**



## Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# GXR, GXV 60 Hz

## Construction
Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.
**GXR**: with open impeller.
**GXV**: with free-flow (vortex) impeller.
Motor cooled by the pumped water passing between the motor jacket and the external jacket.
Double shaft seal with oil chamber.
Minimum dimension and high levels of performance, for use in many different applications, head up to 12,7 m and flow rates up to 220 liters/min.

## Applications
**GXR**: - For clean water containing solids up to 10 mm grain size.
- For draining rooms or or emptying tanks.
- Extraction of water from ponds, streams or pits and for rainwater collection.
- For irrigation purposes.

**GXV**: - For clean or slightly dirty water, containing solids up to 25 mm grain size.
- Particularly suitable for liquids with a high solid content.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60335-2-41.

## Operating conditions
Liquid temperature +5 °C to +50° C.
Maximum immersion depth: 5 m.
Minimum water level with float: GXR = 70 mm, GXV = 130 mm.
Minimum water level manual operation: GXR = 15 mm, GXV = 30 mm.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GXR, GXV**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN-F (H05RN-F for 0,25 kW), length 5 m, without plug.
**GXRM, GXVM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F (H05RN-F for 0,25 kW), length 5 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Double impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 10 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.

## Materials
| Component | Material |
|---|---|
| Pump casing<br>Strainer<br>Impeller<br>Motor jacket<br>Pump jacket | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene |
| Shaft | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Ejecución
Bomba sumergible monorodete de acero inoxidable al níquel-cromo, con boca de impulsión vertical.
**GXR:** con rodete abierto.
**GXV**: con rodete tipo vortex.
Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.
Doble sello en el eje con cámara de aceite intermedia.
Minimas dimensiones y grandes prestaciones, para el empleo en las más diversas aplicaciones, con altura manométrica hasta 12,7 m y con un caudal hasta 220 litros/minutos.

## Aplicaciones
**GXR**: - Para aguas limpias con cuerpos sólidos hasta un diámetro de 10 mm.
- Para el vaciado de locales inundados o tanques.
- Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales.
- Para irrigación.

**GXV**: - Para aguas limpias o ligeramente sucia con cuerpos sólidos hasta un diámetro de 25 mm.
- Particularmente adecuada para líquidos con un elevado contenido de cuerpos sólidos

Para uso en el exterior, el cable de alimentación tiene que ser de almenos 10 m, de acuerdo a EN 60335-2-41.

## Límites de empleo
Temperatura del líquido de +5 °C a +50° C.
Profundidad de inmersión máxima: 5 m.
Nivel mínimo de vaciado con interruptor de nivel 70 mm para GXR y 130 mm para GXV.
Nivel mínimo de vaciado manual 15 mm para GXR y 30 mm para GXV.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**GXR, GXV**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F (H05RN-F para 0,25 kW), longitud 5 m, sin clavija.
**GXRM, GXVM**: monofásico 220 V,
con interruptor de nivel,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F (H05RN-F para 0,25 kW), longitud 5 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 10 m.
- Con interruptor de nivel fixo (magnético).
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materiales
| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Filtro de asp.<br>Rodete<br>Camisa motor<br>Camisa bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno |
| Eje | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Sello mecánico | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GXR, GXV 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 0 | 1,2 | 3 | 4,5 | 6 | 7,5 | 9 | 10,2 | 12 | 13,2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 20 | 50 | 75 | 100 | 125 | 150 | 170 | 200 | 220 |
| **GXR 9-60** | **GXRM 9-60** | 0,25 | 0,33 | H m | 9 | 8,5 | 7,5 | 6,5 | 5,5 | 4,5 | 3,4 | 2,3 | 1 | |
| **GXR 11-60** | **GXRM 11-60** | 0,37 | 0,5 | | 11 | 10,4 | 9,5 | 8,5 | 7,3 | 6,3 | 5,3 | 4,4 | 2,7 | 1,7 |
| **GXR 13-60** | **GXRM 13-60** | 0,45 | 0,6 | | 13 | 12,2 | 11 | 10 | 8,7 | 7,8 | 6,3 | 5,3 | 3,5 | 2 |

| 3~ | 1~ | P2 | | Q m³/h | 0 | 1,2 | 3 | 4,5 | 6 | 7,5 | 9 | 10,2 | 12 | 13,2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 20 | 50 | 75 | 100 | 125 | 150 | 170 | 200 | 220 |
| **GXV 25-6-60** | **GXVM 25-6-60** | 0,25 | 0,33 | H m | 6 | 5,7 | 5,2 | 4,6 | 4 | 3,3 | 2,6 | 2 | | |
| **GXV 25-7-60** | **GXVM 25-7-60** | 0,25 | 0,33 | | 7 | 6,7 | 6,2 | 5,7 | 5 | 4,2 | 3,2 | 2,4 | | |
| **GXV 25-8-60** | **GXVM 25-8-60** | 0,37 | 0,5 | | 8,2 | 7,8 | 7,3 | 6,8 | 6,2 | 5,5 | 4,7 | 4 | 3 | |
| **GXV 25-10-60** | **GXVM 25-10-60** | 0,45 | 0,6 | | 9,5 | 9,2 | 8,7 | 8,2 | 7,5 | 6,6 | 5,6 | 4,8 | 3,5 | 2,6 |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | | 110 V | | | | |
| kW | HP | In A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Control Cuadro | Cable Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Control Cuadro | Cable Cable H07RN-F | Ia/In |
| 0,25 | 0,34 | 2,5 | 8 μF | 3G0.75* | 4,3 | 25 μF | Internal | 3G0.75* | 5 | 30 μF | Internal | 3G0.75* | 2,3 |
| 0,37 | 0,5 | 3,6 | 12,5 μF | 3G1 | 6,2 | 40 μF | QM | 4G1 | 7,2 | 50 μF | QM | 4G1 | 2,3 |
| 0,45 | 0,6 | 4,9 | 16 μF | 3G1 | 8,5 | 60 μF | QM | 4G1 | - | - | - | - | 2,5 |

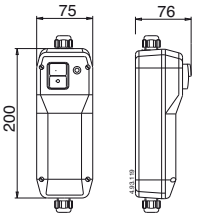
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable | |
| kW | HP | In A | In A | In A | H07RN-F | Ia/In |
| 0,25 | 0,33 | 1,4 | 0,8 | 0,7 | 4G0,75 | 3,8 |
| 0,37 | 0,5 | 3,1 | 1,8 | 1,6 | 4G1 | 3,8 |
| 0,45 | 0,6 | 3,4 | 2 | 1,7 | 4G1 | 3,5 |

*H05RN-F for-para 0,25 kW

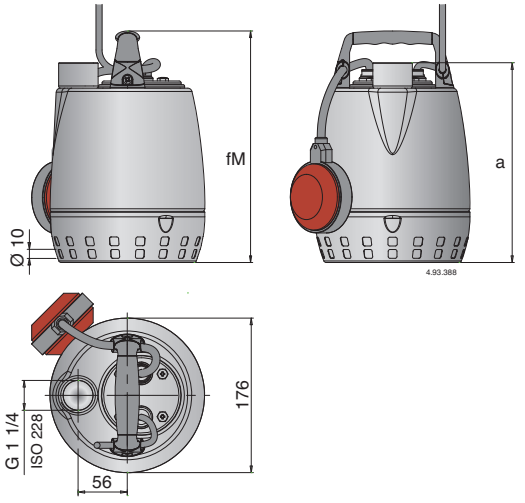
P2 Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

QM

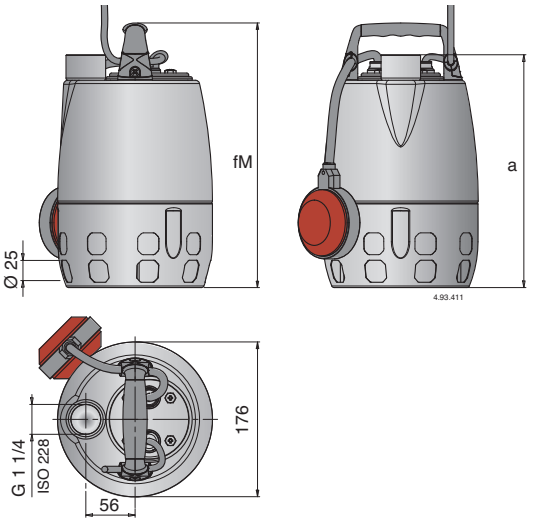



## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | Dimensions mm | | (1) kg | |
|---|---|---|---|---|
| | fM | a | GXR | GXRM |
| **GXR 9-60 - GXRM 9-60** | 265 | 230 | 5 | 5,2 |
| **GXR 11-60 - GXRM 11-60** | 300 | 265 | 6,2 | 6,5 |
| **GXR 13-60 - GXRM 13-60** | 300 | 265 | 6,7 | 7,2 |

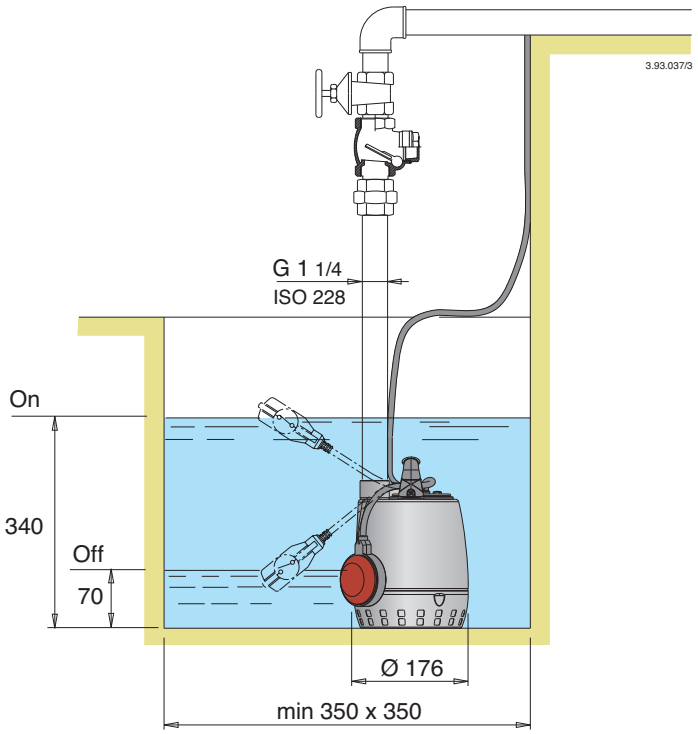
(1) With cable length: 5 m
Con longitud de cable: 5 m

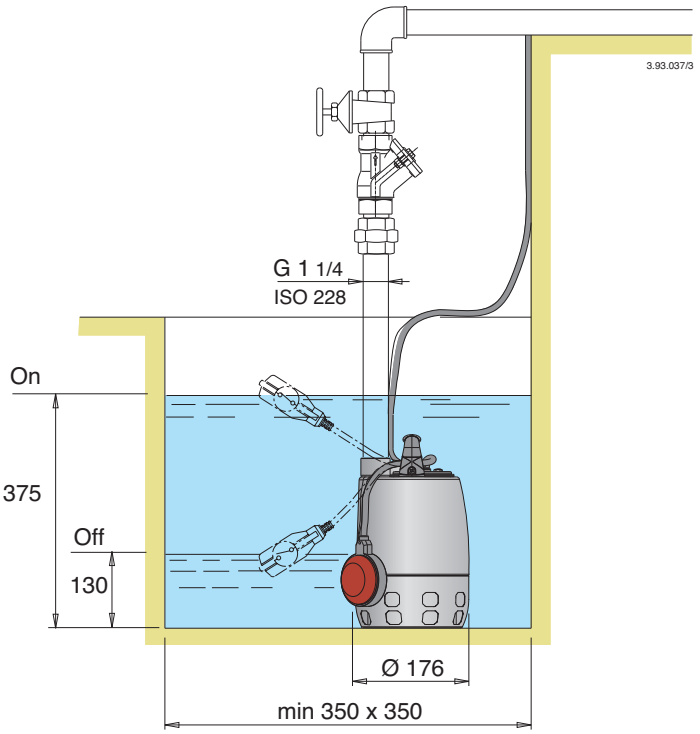



| TYPE TIPO | Dimensions mm | | (1) kg | |
|---|---|---|---|---|
| | fM | a | GXV | GXVM |
| **GXV 25-6-60 - GXVM 25-6-60** | 302 | 267 | 5,1 | 5,3 |
| **GXV 25-7-60 - GXVM 25-7-60** | 302 | 267 | 5,1 | 5,3 |
| **GXV 25-8-60 - GXVM 25-8-60** | 337 | 302 | 6,3 | 6,6 |
| **GXV 25-10-60 - GXVM 25-10-60** | 337 | 302 | 6,8 | 7,3 |

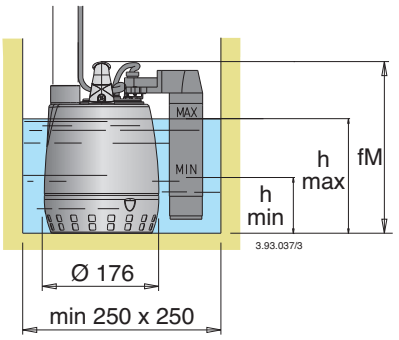
(1) With cable length: 5 m
Con longitud de cable: 5 m

## Installation examples - Ejemplo de instalacion

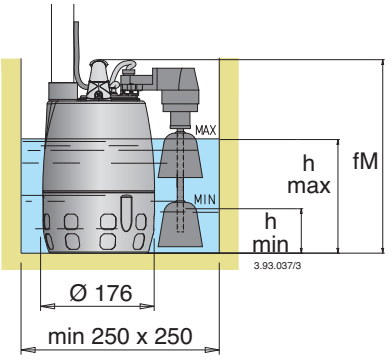



## Installation examples with vertical magnetic float switch
## Ejemplo con interruptor de nivel fixo (magnético)




| TYPE TIPO | mm fM | h min | h max |
|---|---|---|---|
| **GXRM 9-60 GF** | 265 | 100 | 190 |
| **GXRM 11-60 GF** | 300 | 135 | 225 |
| **GXRM 13-60 GF** | 300 | 135 | 225 |




| TYPE TIPO | mm fM | h min | h max |
|---|---|---|---|
| **GXVM 25-6-60 GFA** | 302 | 60 | 150 |
| **GXVM 25-7-60 GFA** | 302 | 60 | 150 |
| **GXVM 25-8-60 GFA** | 337 | 60 | 185 |
| **GXVM 25-10-60 GFA** | 337 | 60 | 185 |

# GXR, GXV 60 Hz

## Features - Características constructivas

PATENTED
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G 1 1/4 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G1 1/4 vertical, dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*

Handle in polypropylene.

*Asa transporte in polipropileno.*

Easy inspection of the capacitor area

*Fácil inspección del condensador.*

Shaft in chrome-nickel stainless steel.

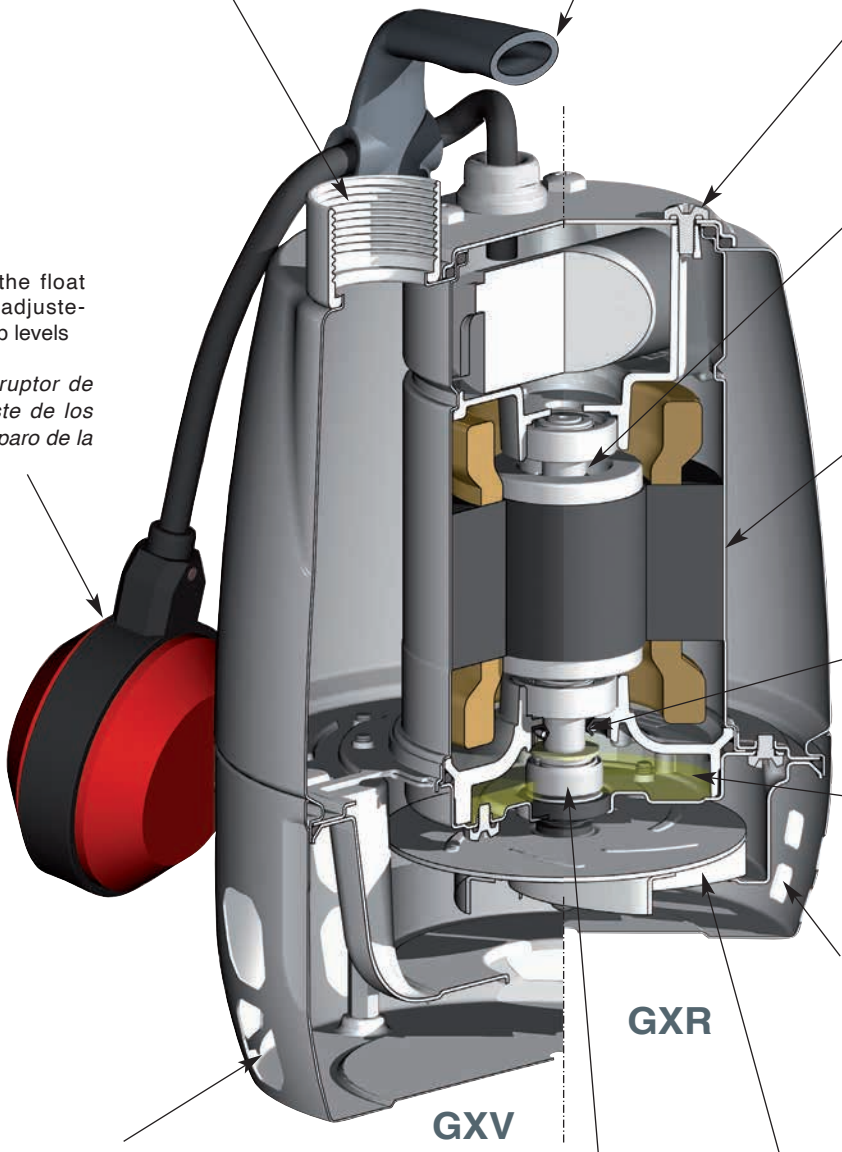
*Eje de acero inoxidable.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

*Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.*




Ceramic stainless steel shaft sleeve

*Camisa de protección eje de acero inoxidable ceramizado.*

Oil chamber

*Cámara de aceite.*

Suction strainer with a double row of holes, for extra safety against clogging.
GXR: it allows the passage of solids up to 10 mm.

*Rejilla de aspiración con una doble fila de agujeros, para mayor seguridad contra la obstrucción.*
*GXR: permite el paso de cuerpos sólidos hasta un diámetro de 10 mm.*

Suction strainer with a double row of holes, for extra safety against clogging.
GXV: it allows the passage of solids up to 25 mm.

*Rejilla de aspiración con una doble fila de agujeros, para mayor seguridad contra la obstrucción.*
*GXV: permite el paso de cuerpos sólidos hasta un diámetro de 25 mm*

Impeller in chrome-nickel stainless steel.

*Rodete de acero inoxidable*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

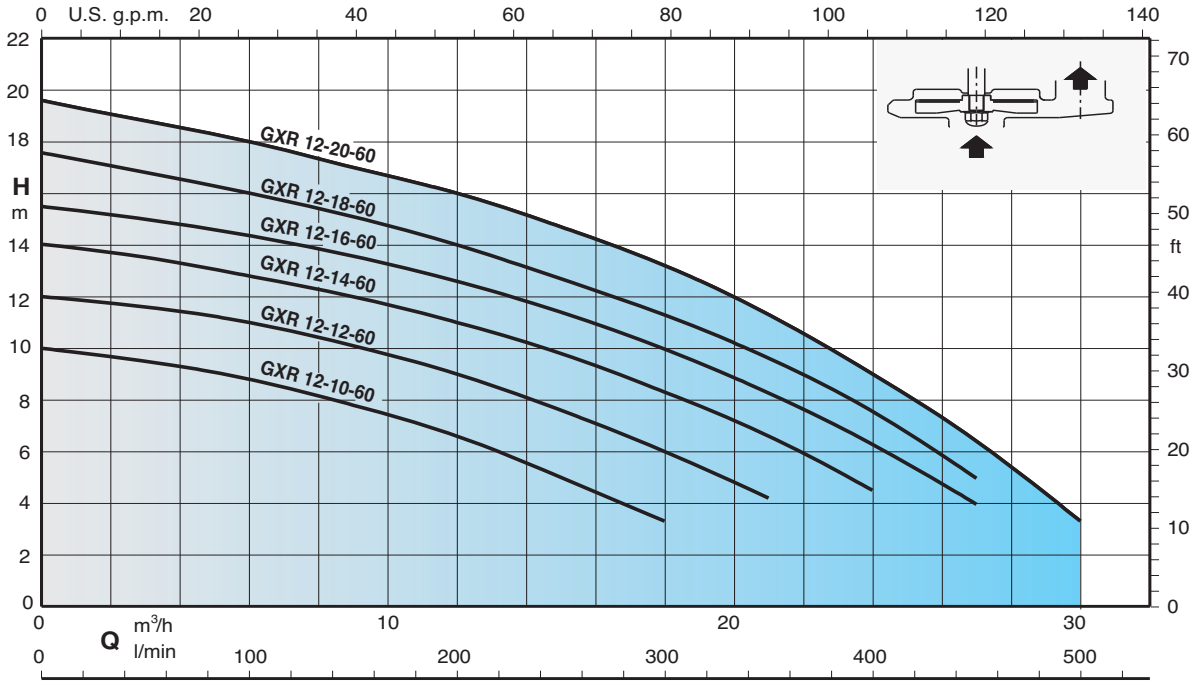
# GXR 12 60 Hz

## Submersible Pumps in stainless steel
## Bomba sumergible de acero inoxidable



PATENTED
*PATENTADO*

**Coverage chart - Campo de aplicaciones** **n ≈ 3450 1/min**



# GXR 12 60 Hz

## Construction
Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.
**GXR**: with open impeller.
Motor cooled by the pumped water passing between the motor jacket and the external jacket.
Double shaft seal with oil chamber.

## Applications
For clean water containing solids up to 12 mm grain size.
For draining rooms or emptying tanks.
Extraction of water from ponds, streams or pits and for rainwater collection.
For irrigation purposes.
For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60335-2-41.

## Operating conditions
Liquid temperature +5 °C to +40° C.
Maximum immersion depth: 5 m.
Minimum water level with float: 70 mm,.
Minimum water level manual operation: 15 mm.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GXR**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
Cable: H07RN-F, length 10 m, without plug.
**GXRM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Double impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

## Ejecución
Bomba sumergible monorodete de acero inoxidable al níquel-cromo, con boca de impulsión vertical.
**GXR:** con rodete abierto.
Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.
Doble sello en el eje con cámara de aceite intermedia.

## Aplicaciones
Para aguas limpias con cuerpos sólidos hasta un diámetro de 12 mm.
Para el vaciado de locales inundados o tanques.
Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales.
Para irrigación.
Para uso en el exterior, el cable de alimentación tiene que ser de almenos 10 m, de acuerdo a EN 60335-2-41.

## Límites de empleo
Temperatura del líquido de +5 °C a +40° C.
Profundidad de inmersión máxima: 5 m.
Nivel mínimo de vaciado con interruptor de nivel 70 mm.
Nivel mínimo de vaciado manual 15 mm.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**GXR**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.
**GXRM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Con interruptor de nivel fixo (magnético).
- Motor preparado al funcionamiento con convertidor de frecuencia.
- Bombas trifásicas con interruptor de flotador incorporado.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Strainer<br>Impeller<br>Motor jacket<br>Pump jacket | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal: upper<br>lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Filtro de asp.<br>Rodete<br>Camisa motor<br>Camisa bomba | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GXR 12 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | P2 | | Q m³/h | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| **GXR 12-10-60** | **GXRM 12-10-60** | 0,45 | 0,6 | | 10 | 9,5 | 8,8 | 7,8 | 6,6 | 5 | 3,3 | - | - | - | - |
| **GXR 12-12-60** | **GXRM 12-12-60** | 0,55 | 0,75 | | 12 | 11,6 | 11 | 10 | 9 | 7,6 | 6 | 4,2 | - | - | - |
| **GXR 12-14-60** | **GXRM 12-14-60** | 0,75 | 1 | | 14 | 13,5 | 12,8 | 12 | 11 | 9,8 | 8,3 | 6,6 | 4,5 | - | - |
| **GXR 12-16-60** | **GXRM 12-16-60** | 0,9 | 1,2 | **H** m | 15,5 | 15 | 14,4 | 13,6 | 12,6 | 11,4 | 10 | 8,3 | 6,3 | 4 | - |
| **GXR 12-18-60** | **GXRM 12-18-60** | 1,1 | 1,5 | | 17,6 | 16,8 | 16 | 15,1 | 14 | 12,7 | 11,3 | 9,6 | 7,6 | 5 | - |
| **GXR 12-20-60** | **GXRM 12-20-60** | 1,5 | 2 | | 19,6 | 18,8 | 18 | 17 | 16 | 14,7 | 13,2 | 11,3 | 9 | 6,4 | 3,3 |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

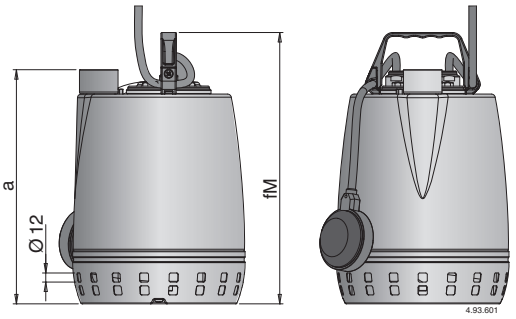
| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | 110 V | | | |
| kW | HP | IN A | Capacitor Condens. 450 Vc | Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable H07RN-F | IA/IN |
| 0,45 | 0,6 | 4,5 | 12,5 μF | 3G1 | 7,8 | 40 μF | 3G1 | 9 | 50 μF | 3G1.5 | 2,9 |
| 0,55 | 0,75 | 5,8 | 16 μF | 3G1 | 10 | 50 μF | 3G1.5 | 11,6 | 60 μF | 3G2.5 | 3,2 |
| 0,75 | 1 | 7,2 | 20 μF | 3G1 | 12,4 | 70 μF | 3G2.5 | - | - | - | 3 |
| 0,9 | 1,2 | 7,8 | 25 μF | 3G1 | - | - | - | - | - | - | 2,8 |
| 1,1 | 1,5 | 9,7 | 30 μF | 3G1.5 | - | - | - | - | - | - | 4,9 |
| 1,5 | 2 | 12,5 | 35 μF | 3G2.5 | - | - | - | - | - | - | 4,8 |

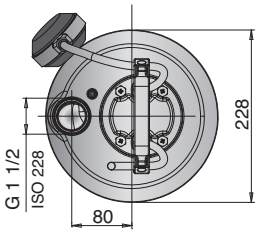
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable H07RN-F | |
| kW | HP | IN A | IN A | IN A | | IA/IN |
| 0,45 | 0,6 | 2,8 | 1,6 | 1,4 | 4G1 | 3,3 |
| 0,55 | 0,75 | 3,8 | 2,2 | 1,9 | 4G1 | 3,5 |
| 0,75 | 1 | 4,3 | 2,5 | 2,2 | 4G1 | 3,5 |
| 0,9 | 1,2 | 4,6 | 2,7 | 2,3 | 4G1 | 3,9 |
| 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 4G1 | 4,1 |
| 1,5 | 2 | 8,7 | 5 | 4,3 | 4G1 | 3,2 |

P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos

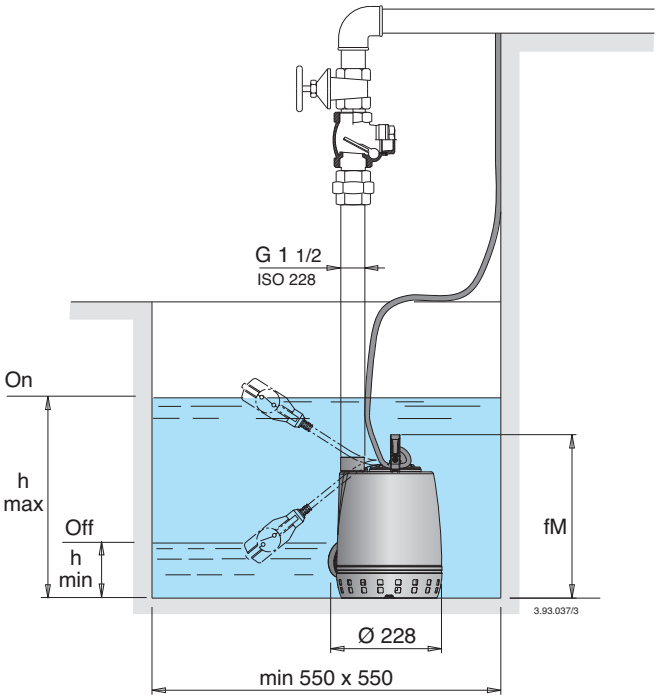


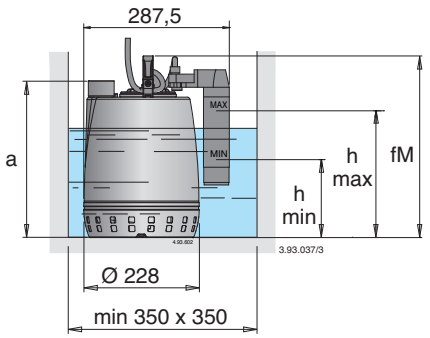

| TYPE TIPO | mm | | kg (1) | |
|---|---|---|---|---|
| | fM | a | GXR | GXRM |
| **GXR 12-10-60 - GXRM 12-10-60** | 360 | 310 | 10,3 | 11,3 |
| **GXR 12-12-60 - GXRM 12-12-60** | 375 | 325 | 11,5 | 12,5 |
| **GXR 12-14-60 - GXRM 12-14-60** | 400 | 350 | 13 | 14 |
| **GXR 12-16-60 - GXRM 12-16-60** | 400 | 350 | 13,6 | 14,6 |
| **GXR 12-18-60 - GXRM 12-18-60** | 420 | 370 | 14,4 | 15,9 |
| **GXR 12-20-60 - GXRM 12-20-60** | 450 | 400 | 16 | 17,5 |

(1) With cable length: 10 m
Con longitud de cable: 10 m

## Installation examples - Ejemplo de instalacion




| TYPE<br>TIPO | mm | | |
|---|---|---|---|
| | fM | h<br>min | h<br>max |
| **GXR 12-10-60 - GXRM 12-10-60** | 360 | 175 | 435 |
| **GXR 12-12-60 - GXRM 12-12-60** | 375 | 190 | 450 |
| **GXR 12-14-60 - GXRM 12-14-60** | 400 | 215 | 475 |
| **GXR 12-16-60 - GXRM 12-16-60** | 400 | 215 | 475 |
| **GXR 12-18-60 - GXRM 12-18-60** | 420 | 235 | 495 |
| **GXR 12-20-60 - GXRM 12-20-60** | 450 | 265 | 525 |




| TYPE<br>TIPO | mm | | | |
|---|---|---|---|---|
| | fM | a | h<br>min | h<br>max |
| **GXRM 12-10-60 GF** | 360 | 310 | 180 | 270 |
| **GXRM 12-12-60 GF** | 375 | 325 | 195 | 285 |
| **GXRM 12-14-60 GF** | 400 | 350 | 220 | 310 |
| **GXRM 12-16-60 GF** | 400 | 350 | 220 | 310 |

# GXR 12 60 Hz

## Features - Características constructivas

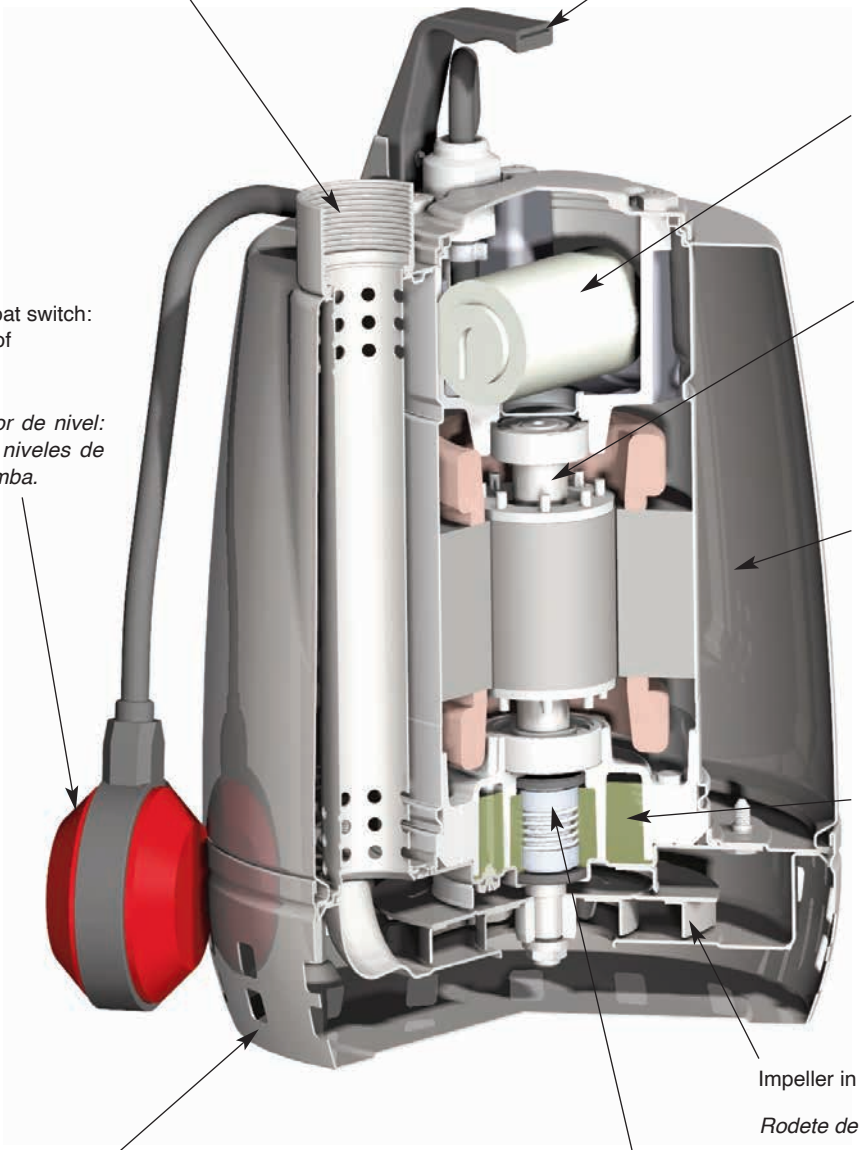
PATENTED
*PATENTADO*

G 1 1/2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G1 1/2 vertical, dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*

Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno, con un núcleo de AISI 304.*



Easy inspection of the capacitor area.

*Fácil inspección del condensador.*

Shaft in chrome-nickel stainless steel.

*Eje de acero inoxidable.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

*Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.*

Chamber with food/pharmaceutical machinery oil

*Cámara de aceite.*

Impeller in chrome-nickel stainless steel.

*Rodete de acero inoxidable*

Suction strainer with a double row of holes, for extra safety against clogging with the passage of solids up to 12 mm grain size.

*Rejilla de aspiración con una doble fila de agujeros, para mayor seguridad contra la obstrucción permite el paso de cuerpos sólidos hasta un diámetro de 12 mm.*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

# GQR 60 Hz

## Submersible Drainage Pumps
## Bomba sumergible para achiques



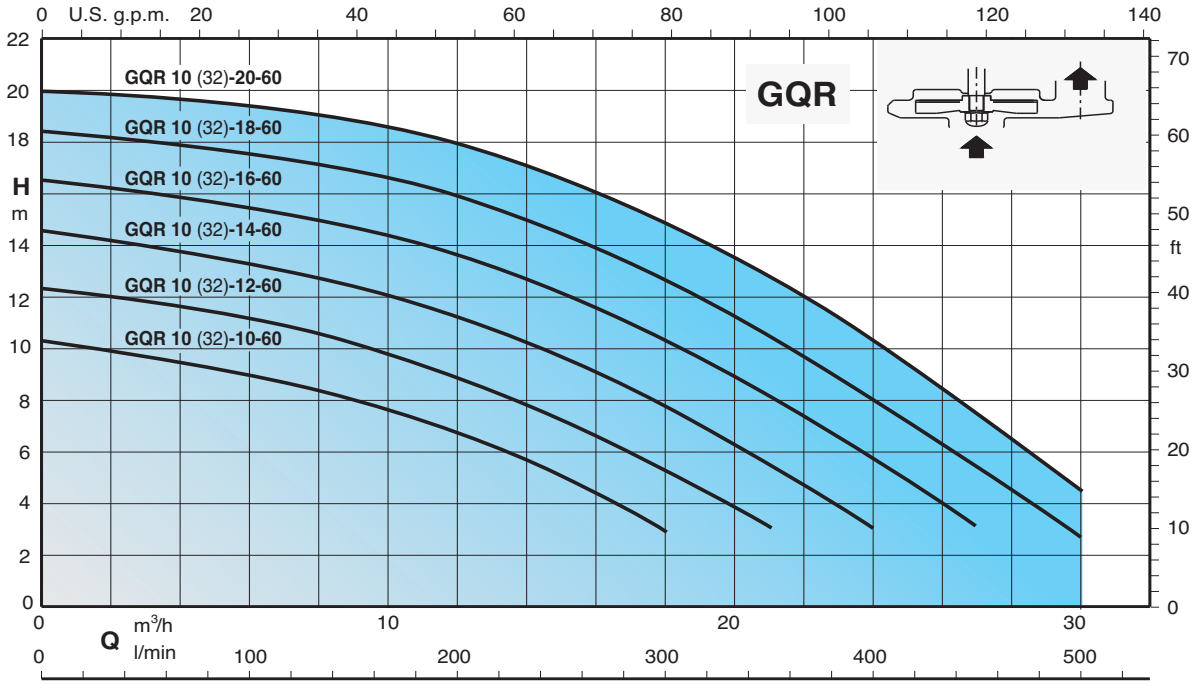




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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# GQR 60 Hz

## Construction
Single-impeller submersible drainage pump with open impeller.
**GQR:** with vertical threaded delivery port (G 1 1/2).
**GQR 10 32:** with horizontal flanged and threaded delivery port (DN 32, PN 6 - G 1 1/2).
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

## Applications
For clean water containing solids up to 10 mm grain size.
For draining rooms or or emptying tanks.
Extraction of water from ponds, streams or pits and for rainwater collection.
For irrigation purposes.

## Operating conditions
Liquid temperature +5 °C to +35° C.
Maximum immersion depth: 5 m.
Minimum immersion depth: 205 mm.
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GQR**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
Cable: H07RN-F, length 10 m, without plug.
**GQRM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Triple impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Impeller | Cast iron GJL 200 EN 1561 |
| Strainer<br>Motor jacket<br>Jacket cover<br>Casing cover | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Cr-Ni steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal: upper<br>lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Ejecución
Bomba sumergible para achique con rodete abierto.
**GQR:** con boca de impulsión vertical roscada (G 1 1/2).
**GQR 10 32:** con boca de impulsión horizontal roscada y bridas (DN 32, PN 6 - G 1 1/2).
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para aguas limpias con cuerpos sólidos hasta un diámetro de 10 mm.
Para el vaciado de locales inundados o tanques.
Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales.
Para irrigación.

## Límites de empleo
Temperatura del líquido de +5 °C a +35° C.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima: 205 mm.
Servicio continuo (con el motor sumergido).

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**GQR**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.
**GQRM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Con interruptor de nivel fixo (magnético).
- Motor preparado al funcionamiento con convertidor de frecuencia.
- Bombas trifásicas con interruptor de flotador incorporado.

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete | Hierro GJL 200 EN 1561 |
| Filtro de asp.<br>Camisa motor<br>Tapa camisa<br>Tapa del cuerpo | Acero al cromo-níchel<br>1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GQR 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | P2 | | Q m³/h | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| **GQR 10-10-60<br>GQR 10 32-10-60** | **GQRM 10-10-60<br>GQRM 10 32-10-60** | 0,45 | 0,6 | | 10,3 | 9,8 | 9 | 8 | 6,7 | 5 | 3 | - | - | - | - |
| **GQR 10-12-60<br>GQR 10 32-12-60** | **GQRM 10-12-60<br>GQRM 10 32-12-60** | 0,55 | 0,75 | | 12,3 | 11,8 | 11 | 10,2 | 9 | 7,5 | 5,5 | 3,2 | - | - | - |
| **GQR 10-14-60<br>GQR 10 32-14-60** | **GQRM 10-14-60<br>GQRM 10 32-14-60** | 0,75 | 1 | | 14,5 | 14,2 | 13,5 | 12,5 | 11,2 | 9,7 | 7,8 | 5,7 | 3 | - | - |
| **GQR 10-16-60<br>GQR 10 32-16-60** | **GQRM 10-16-60<br>GQRM 10 32-16-60** | 0,9 | 1,2 | **H** m | 16,5 | 16,2 | 15,7 | 14,9 | 13,7 | 12,3 | 10,5 | 8,3 | 5,7 | 2,7 | - |
| **GQR 10-18-60<br>GQR 10 32-18-60** | **GQRM 10-18-60<br>GQRM 10 32-18-60** | 1,1 | 1,5 | | 18,5 | 18,2 | 17,7 | 17 | 16 | 14,5 | 12,7 | 10,5 | 8 | 5,3 | 2,5 |
| **GQR 10-20-60<br>GQR 10 32-20-60** | **GQRM 10-20-60<br>GQRM 10 32-20-60** | 1,5 | 2 | | 20 | 19,8 | 19,5 | 19 | 18 | 16,5 | 14,7 | 12,7 | 10,5 | 7,7 | 4,5 |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

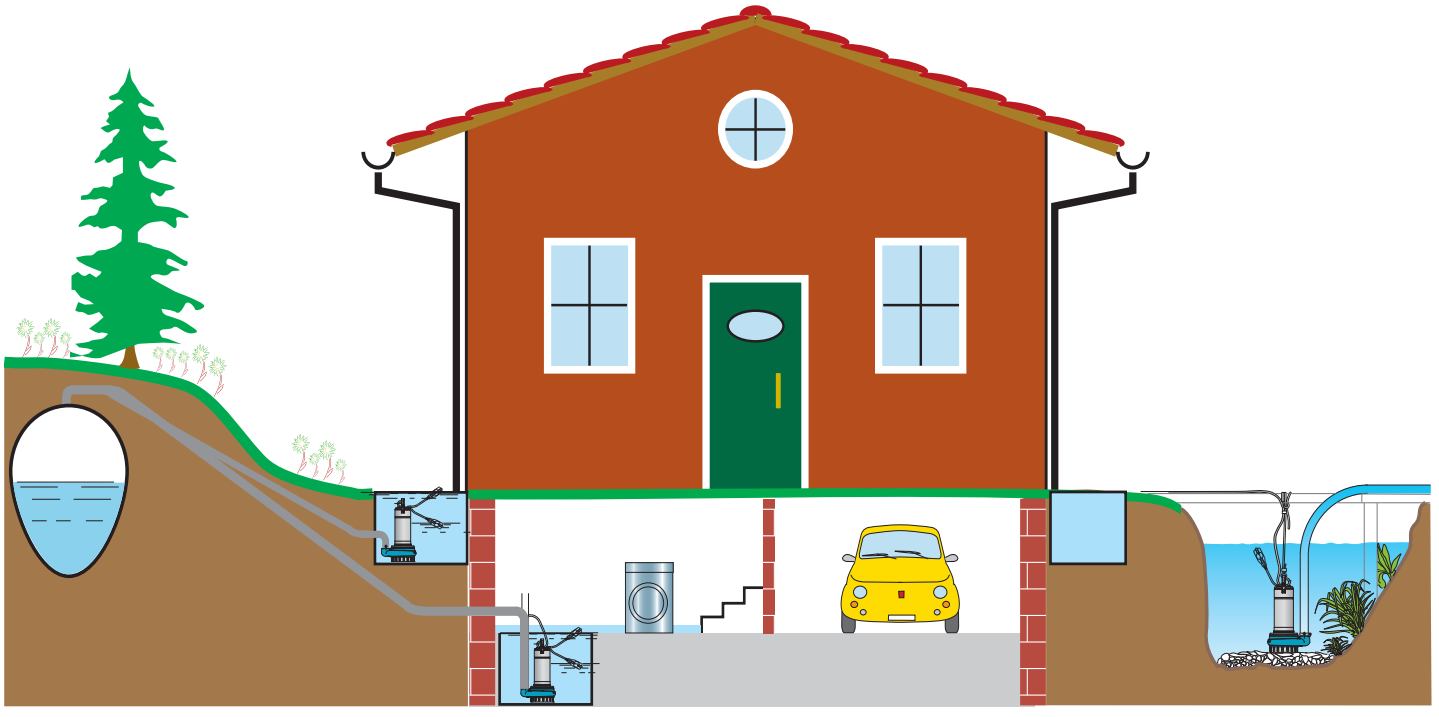
| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | 110 V | | | |
| kW | HP | In A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | Ia/In |
| 0,45 | 0,6 | 3,5 | 12,5 μF | 3G1 | 6,1 | 40 μF | 3G1 | 7 | 50 μF | 3G1 | 2,9 |
| 0,55 | 0,75 | 4,3 | 16 μF | 3G1 | 7,4 | 50 μF | 3G1.5 | 8,6 | 60 μF | 3G1.5 | 4,2 |
| 0,75 | 1 | 6 | 16 μF | 3G1 | 9,5 | 50 μF | 3G1.5 | 11 | 60 μF | 3G2.5 | 3 |
| 0,9 | 1,2 | 7 | 25 μF | 3G1 | 12,1 | 80 μF | 3G2.5 | - | - | - | 3,3 |
| 1,1 | 1,5 | 9,4 | 30 μF | 3G1.5 | - | - | - | - | - | - | 5 |
| 1,5 | 2 | 13 | 35 μF | 3G2.5 | - | - | - | - | - | - | 4,8 |

| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable | |
| kW | HP | In A | In A | In A | H07RN-F | Ia/In |
| 0,45 | 0,6 | 2,6 | 1,5 | 1,3 | 4G1 | 3,5 |
| 0,55 | 0,75 | 3,3 | 1,9 | 1,6 | 4G1 | 4 |
| 0,75 | 1 | 4,1 | 2,4 | 2,1 | 4G1 | 3,2 |
| 0,9 | 1,2 | 4,6 | 2,7 | 2,3 | 4G1 | 3,9 |
| 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 4G1 | 4,1 |
| 1,5 | 2 | 8,7 | 5 | 4,3 | 4G1 | 3,2 |

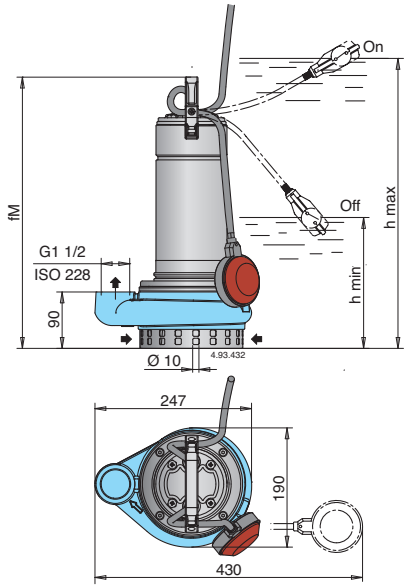
P2 Rated motor power output.
Potencia nominal del motor.

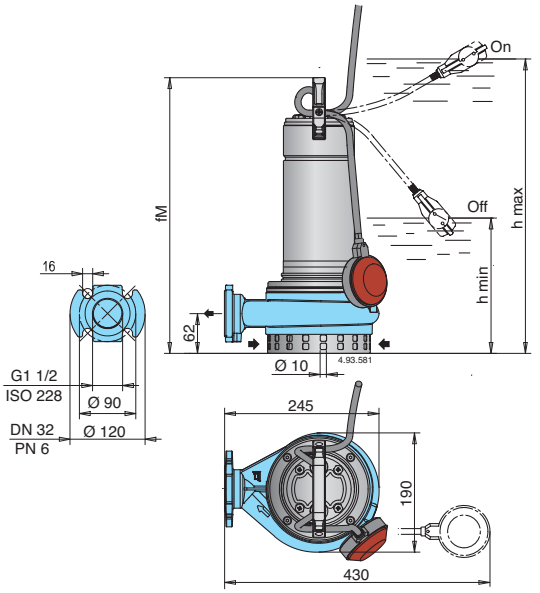
Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

## Installation examples - Ejemplo de instalacion



## Dimensions and weights - Dimensiones y pesos



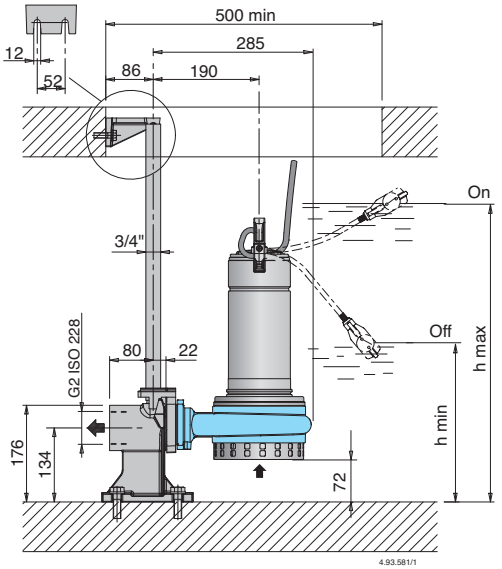




| TYPE TIPO | mm | | | kg (1) | |
|---|---|---|---|---|---|
| | fM | h max | h min | GQR | GQRM |
| **GQR**(M) **10-10-60** | 390 | 410 | 205 | 14 | 15 |
| **GQR**(M) **10-12-60** | 405 | 425 | 220 | 14,5 | 15,5 |
| **GQR**(M) **10-14-60** | 405 | 425 | 220 | 14,5 | 15,5 |
| **GQR**(M) **10-16-60** | 430 | 450 | 245 | 16 | 18 |
| **GQR**(M) **10-18-60** | 450 | 470 | 265 | 17,5 | 19 |
| **GQR 10-20-60** | 450 | 470 | 265 | 19 | - |
| **GQRM 10-20-60** | 480 | 500 | 295 | - | 20,5 |

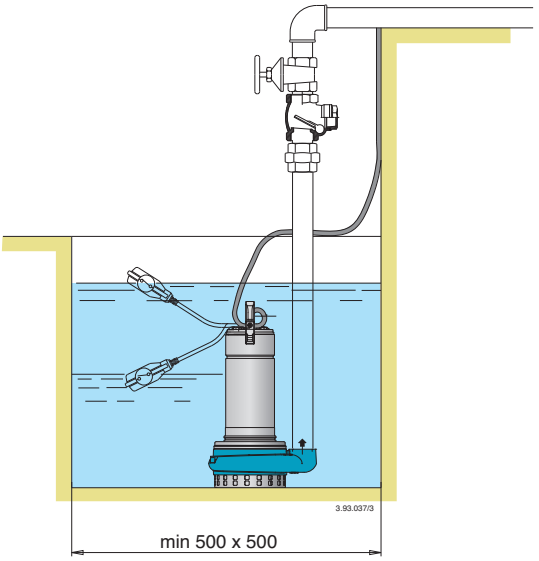
**DN NPT**
Version on demand
Ejecuciones bajo demanda

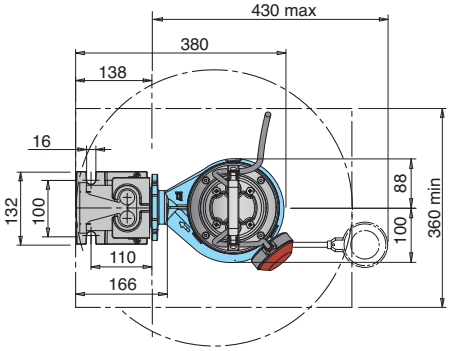
(1) With cable length: 10 m
Con longitud de cable: 10 m

| TYPE TIPO | mm | | | kg (1) | |
|---|---|---|---|---|---|
| | fM | h max | h min | GQR | GQRM |
| **GQR**(M) **10 32-10-60** | 395 | 415 | 210 | 14,7 | 15,7 |
| **GQR**(M) **10 32-12-60** | 410 | 430 | 225 | 15,2 | 16,2 |
| **GQR**(M) **10 32-14-60** | 410 | 430 | 225 | 15,2 | 16,2 |
| **GQR**(M) **10 32-16-60** | 435 | 455 | 250 | 16,7 | 18,7 |
| **GQR**(M) **10 32-18-60** | 455 | 475 | 270 | 18,2 | 19,7 |
| **GQR 10 32-20-60** | 455 | 475 | 270 | 19,7 | - |
| **GQRM 10 32-20-60** | 485 | 505 | 300 | - | 21,2 |

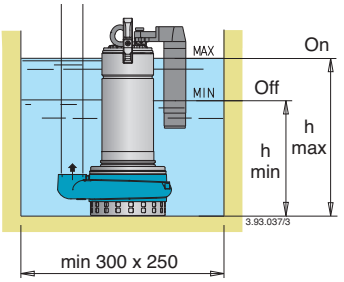



| TYPE TIPO | mm | |
|---|---|---|
| | h max | h min |
| **GQR**(M) **10 32-10-60** | 487 | 282 |
| **GQR**(M) **10 32-12-60** | 502 | 297 |
| **GQR**(M) **10 32-14-60** | 502 | 297 |
| **GQR**(M) **10 32-16-60** | 527 | 322 |
| **GQR**(M) **10 32-18-60** | 547 | 342 |
| **GQR 10 32-20-60** | 547 | 342 |
| **GQRM 10 32-20-60** | 577 | 372 |




Installation examples with vertical magnetic float switch
Ejemplo con interruptor de nivel fixo (magnético)




| TYPE TIPO | mm | |
|---|---|---|
| | h min | h max |
| **GQRM 10-10-60 GF** | 225 | 315 |
| **GQRM 10-12-60 GF** | 240 | 330 |
| **GQRM 10-14-60 GF** | 240 | 330 |
| **GQRM 10-16-60 GF** | 265 | 355 |
| **GQRM 10-18-60 GF** | 285 | 375 |

## Features - Características constructivas

Cable length 10 m, pump single-phase with plug

*Cable de conexión 10 m de longitud, bombas monofásicas con clavija.*

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Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno (con un núcleo de AISI 304)*

Easy inspection of the capacitor area.

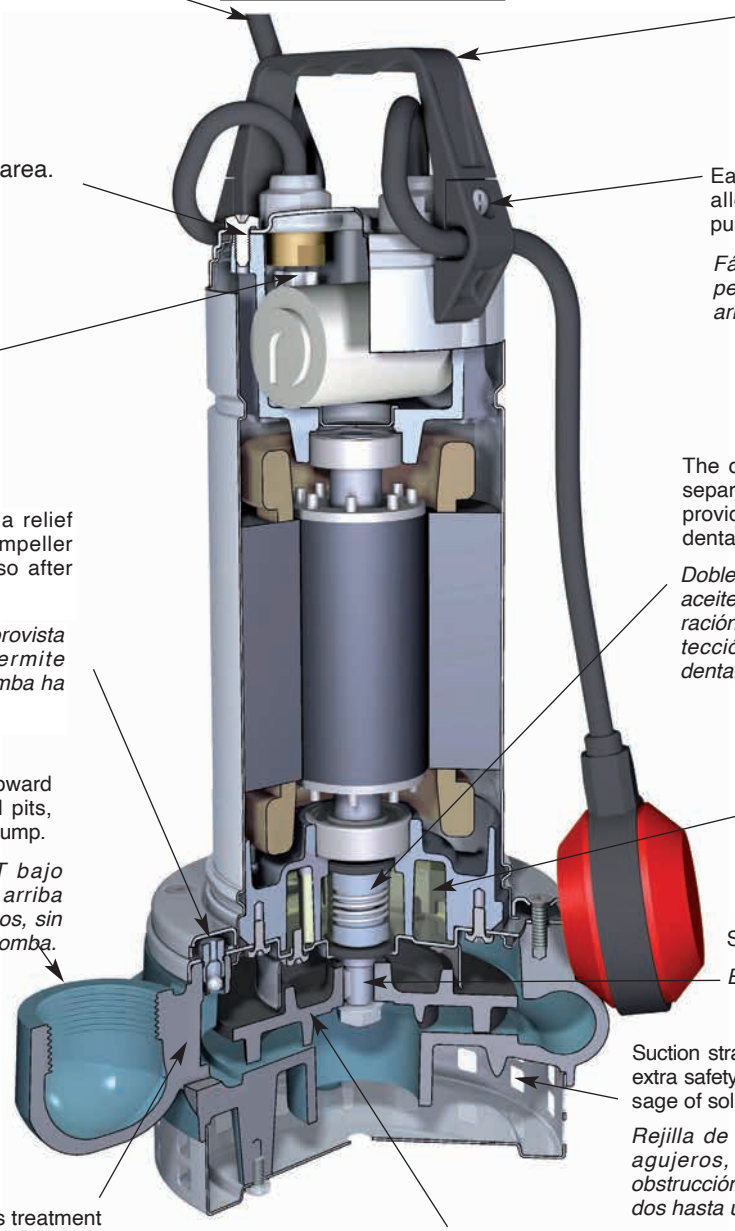
*Fácil inspección del condensador.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Ring against accidental extraction of the cable.

*Anillo contra la desconexión accidental del cable.*



The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

*Válvula de purga: la bomba viene provista de una purga de aire que le permite eliminar bolsas de aire cuando la bomba ha estado tiempo sin funcionar.*

Chamber with food/pharmaceutical machinery oil

*Cámara de aceite con aceite para uso alimentario farmacéutico*

G 1 1/2 (NPT on request) vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G1 1/2 (NPT bajo demanda) vertical, dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*

Shaft in chrome-nickel stainless steel.

*Eje de acero inoxidable.*

Suction strainer with a double row of holes, for extra safety against clogging: it allows the passage of solids up to 10 mm.

*Rejilla de aspiración con una doble fila de agujeros, paramayor seguridad contra la obstrucción: permite el paso de cuerpos sólidos hasta un diámetro de 10 mm.*

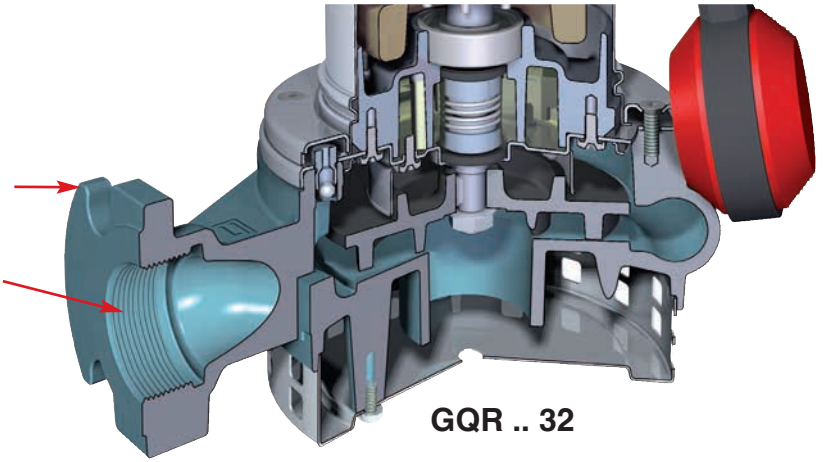
Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

*Cuerpo bomba con tratamiento de cataforesis epoxy y pintura exterior para una mayor protección contra el óxido.*

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

*Rodete con tratamiento de cataforesis epoxy para una mayor protección contra el óxido.*

Maximum flexibility of connection:
Máxima flexibilidad en la conexión:
- Flange DN 32 PN 6 EN 1092-2 for duck foot coupling SA-G2" (NPT on request)
- Bridas DN 32 PN 6 EN 1092-2 acoplamiento de fondo con guías SA-G2" *(NPT bajo demanda)*
- G1 1/2 ISO 228 (NPT on request - *bajo demanda*)



**GQR .. 32**

# GXV 60 Hz

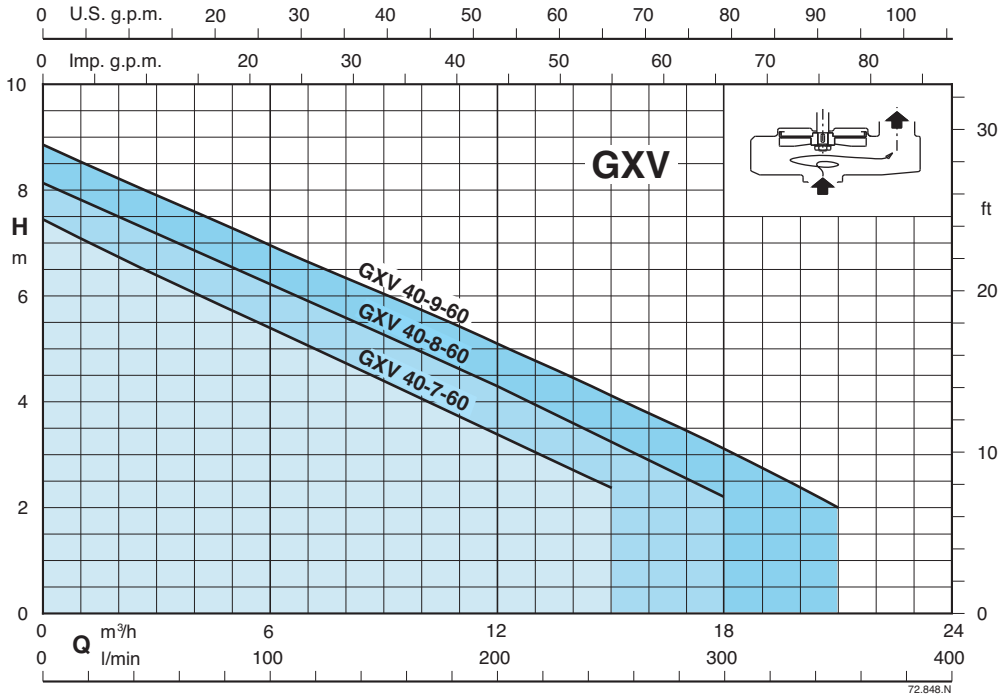
## Submersible Sewage and Drainage Pumps
## Bombas sumergibles de acero inoxidable para aguas sucias




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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# GXV 60 Hz

## Construction
Single-impeller submersible pumps in chrome-nickel stainless steel, with vertical delivery port.
**GXV**: with free-flow (vortex) impeller.
Double shaft seal with interposed oil chamber.

## Applications
For clean and dirty water, also containing solids up to 35 mm grain size. The GXV free-flow impeller construction is particularly suitable for liquids with a high solid content or with filamentous particles.
This construction (with smooth surfaces in rolled-stainless steel and easy access for cleaning) is also suitable for certain uses in the food industry.

## Operating conditions
Liquid temperature +5 °C to +35° C.
Maximum immersion depth: 5 m.
Minimum immersion depth: 248 mm.
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).

**GXV**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
Cable: H07RN-F, length 10 m, without plug.

**GXVM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.

Insulation class F.
Protection IP X8 (for continuous immersion)
Triple impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Motor suitable for operation with frequency converter
- Three-phase pumps with incorporated float switch.

## Ejecución
Bombas monorodete sumergible de acero inoxidable al níquel-cromo, con boca de impulsión vertical.
**GXV**: con rodete tipo vortex.
Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para aguas limpias y para aguas sucias con cuerpos sólidos hasta un diámetro de 35 mm. La ejecución GXV con rodete tipo vortex, es particularmente adecuada para líquidos con un elevado contenido de cuerpos sólidos o con fibras largas.
Esta ejecución (con superficie lisa de acero inoxidable laminado es fácilmente accesible para su limpieza) es válida también para algunas aplicaciones en la industria alimentaria.

## Límites de empleo
Temperatura del líquidode +5 °C a +35° C.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima: 248 mm.
Servicio continuo (con el motor sumergido).

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).

**GXV**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.

**GXVM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.

Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.
- Bombas trifásicas con interruptor de flotador incorporado.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Casing cover<br>Impeller<br>Motor jacket<br>Jacket cover | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal: upper<br>lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete<br>Camisa motor<br>Tapa camisa<br>Tapa del cuerpo | Acero al cromo-níchel<br>1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GXV 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | P2 | | Q m³/h | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 |
| **GXV 40-7-60** | **GXVM 40-7-60** | 0,55 | 0,75 | | 7,4 | 6,4 | 5,4 | 4,4 | 3,4 | 2,4 | - | - |
| **GXV 40-8-60** | **GXVM 40-8-60** | 0,75 | 1 | **H** m | 8,1 | 7,2 | 6,2 | 5,3 | 4,3 | 3,3 | 2,2 | - |
| **GXV 40-9-60** | **GXVM 40-9-60** | 0,9 | 1,2 | | 8,8 | 7,8 | 6,9 | 6 | 5,1 | 4,2 | 3,2 | 2 |

P2 Rated motor power output. Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec. Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³ Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

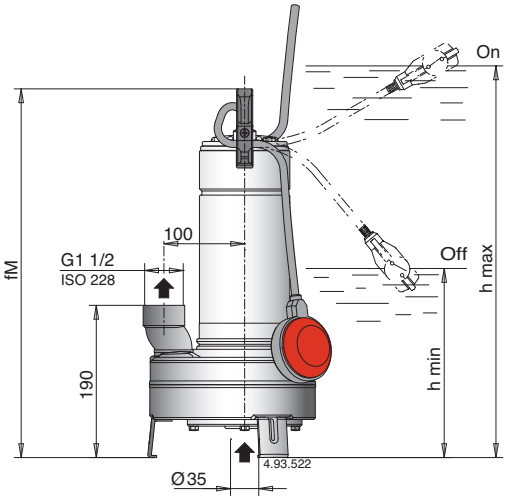
| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | 110 V | | | |
| kW | HP | IN A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | IA/IN |
| 0,55 | 0,75 | 5,5 | 16 μF | 3G1 | 9,5 | 70 μF | 3G1.5 | 11 | 80 μF | 3G2.5 | 3,3 |
| 0,75 | 1 | 6 | 25 μF | 3G1 | 10,4 | 80 μF | 3G2.5 | - | - | - | 3,6 |
| 0,9 | 1,2 | 6,5 | 25 μF | 3G1 | 11,3 | 80 μF | 3G2.5 | - | - | - | 3,3 |

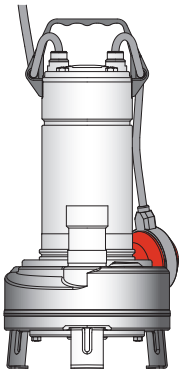
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable H07RN-F | |
| kW | HP | IN A | IN A | IN A | | IA/IN |
| 0,55 | 0,75 | 3,3 | 1,9 | 1,6 | 4G1 | 4 |
| 0,75 | 1 | 4,3 | 2,5 | 2,2 | 4G1 | 4,2 |
| 0,9 | 1,2 | 4,6 | 2,7 | 2,3 | 4G1 | 3,9 |

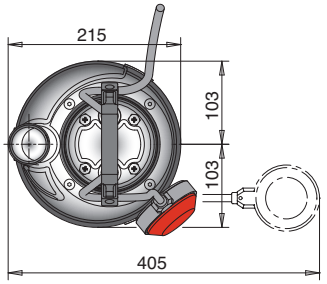
P2 Rated motor power output. Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current. Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos



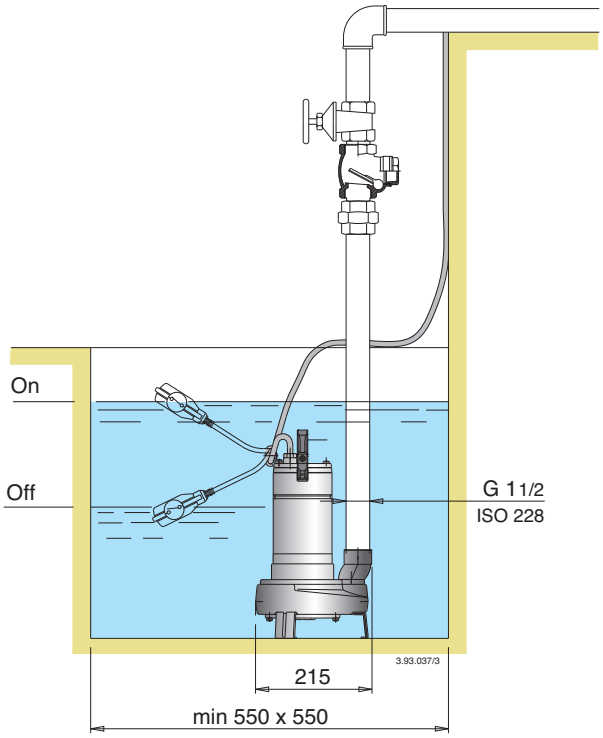



| TYPE TIPO | mm | | | kg(1) | |
|---|---|---|---|---|---|
| | fM | h max | h min | GXV | GXVM |
| **GXV**(M) **40-7-60** | 433 | 508 | 248 | 10,1 | 11,7 |
| **GXV**(M) **40-8-60** | 458 | 533 | 273 | 11,7 | 13,2 |
| **GXV**(M) **40-9-60** | 458 | 533 | 273 | 11,7 | 13,2 |

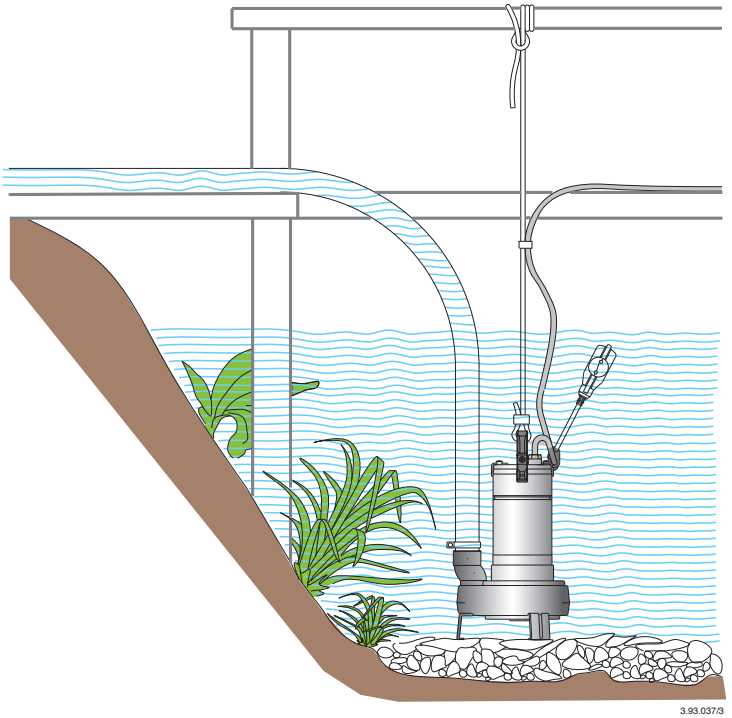
(1) With cable length: 10 m
Con longitud de cable: 10 m

## Installation examples - Ejemplo de instalacion

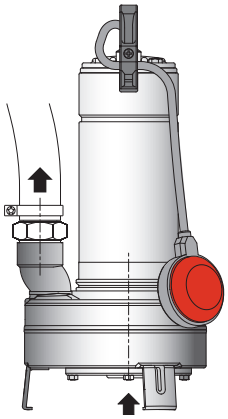
**Stationary installation**
**Instalación fija**




**Transportable installation**
**Instalación transportable**

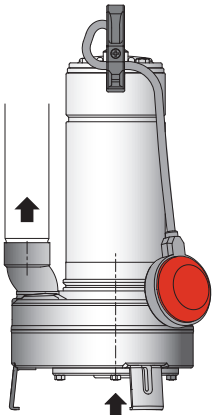



## Connection examples - Ejemplos de conexión



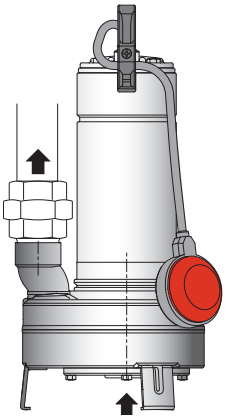
Pump with hosetail seat and clamp
(locally available)

*Bomba con manguera y banda*
*(Disponible en el mercado)*



Pump with pipe screwed into
the delivery port

*Bomba con tubería roscada*
*en la boca*



Pump with pipe and union
(locally available)

*Bomba con manguera y la boquilla*
*(Disponible en el mercado)*

## Features - Características constructivas

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Cable length 10 m, pump single-phase with plug

*Cable de conexión 10 m de longitud, bombas monofásicas con clavija.*

Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno (con un núcleo de AISI 304)*

Easy inspection of the capacitor area.

*Anillo contra la desconexión accidental del cable.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Ring against accidental extraction of the cable.

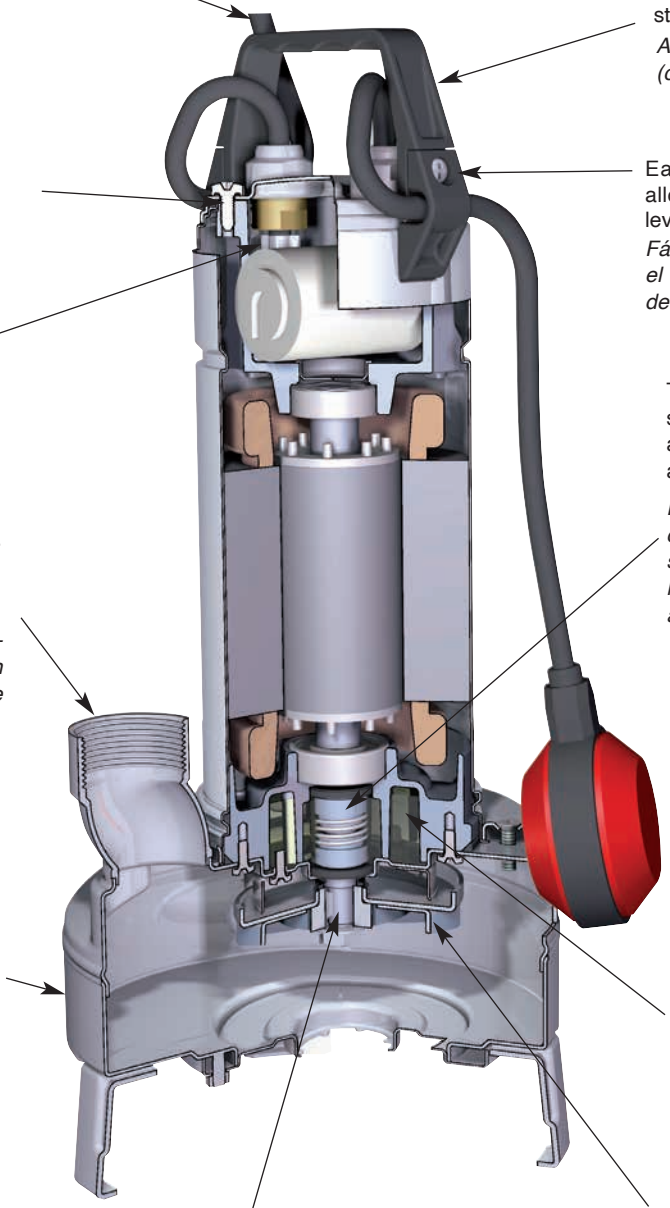
*Fascetta contro lo sfilamento accidentale del cavo.*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

G 1 1/2 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G1 1/2 vertical, dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*



Totally in stainless steel
All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304

*Totalmente de acero inoxidable*
*Todas las partes en contacto con el líquido, interior y exterior de la bomba, son de acero inoxidable AISI 304.*

Chamber with food/pharmaceutical machinery oil.

*Cámara de aceite con aceite para uso alimentario farmacéutico*

Shaft in chrome-nickel stainless steel.

*Eje de acero inoxidable.*

**GXV** The free-fow impeller (vortex) construction is particularly suitable for liquids with a high solid content up to 35 mm grain size or with filamentous particles.

***GXV** impulsor (vortex). Especialmente adecuado para el paso de líquidos con un alto contenido de sólidos hasta Ø 35 mm o con fibras largas.*

# GQS 40 60 Hz

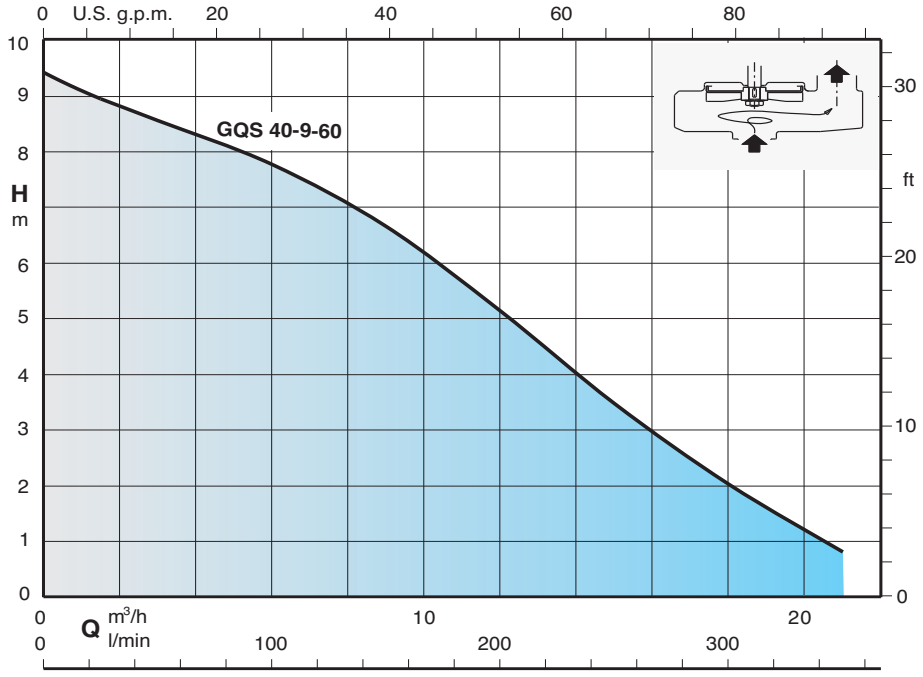
## Submersible Sewage and Drainage Pumps
## Bombas sumergibles para aguas sucias




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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# GQS 40 60 Hz

## Construction
Single-impeller submersible pumps, with free-flow (vortex) impeller with vertical threaded delivery port G 1 1/2”.

**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request.
Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

## Applications
For domestic or industrial waste water, dirty water with solids up to 40 mm grain size, for liquids which are compatible with the pump materials.
For draining rooms or or emptying tanks.
Extraction of water from ponds, streams or pits and for rainwater collection.

## Operating conditions
Liquid temperature +5 °C to +35° C.
pH value: 6-11.
Maximum immersion depth: 5 m.
Minimum immersion depth: 200 mm.
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GQS**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
Cable: H07RN-F, length 10 m, without plug.
**GQSM**: single-phase 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion).
Double impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Motor suitable for operation with frequency converter.

## Ejecución
Bombas monorodete sumergible, con rodete tipo vortex con boca de impulsión vertical roscada G1 1/2”.

**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para las descargas civiles e industriales no agresivas para los materiales de la bomba, para aguas sucias con cuerpos solidos hasta ø 40 mm.
Para el vaciado de locales inundados o tanques.
Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales. Para irrigación.

## Límites de empleo
Temperatura del líquido de +5 °C a +35° C.
Valor pH: 6-11.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima: 200 mm.
Servicio continuo (con el motor sumergido).

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**GQS**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.
**GQSM**: monofásico 127 V, 220 V,
con interruptor de nivel ,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Component | Material |
|---|---|
| Pump casing | Cast iron GJL 200 EN 1561 |
| Impeller<br>Motor jacket<br>Jacket cover | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Chrome-nickel steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba | Cast iron GJL 200 EN 1561 |
| Rodete<br>Camisa motor<br>Tapa camisa | Acero al cromo-níchel<br>1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al cromo-níchel 1.4305 EN 10088 (AISI 303) |
| Sello mecánico | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GQS 40 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | P2 | | Q m³/h | 0 | 1,5 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 25 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 |
| **GQS 40-9-60** | **GQSM 40-9-60** | 0,45 | 0,6 | **H** m | 9,4 | 9 | 8,6 | 7,8 | 6,7 | 5,1 | 3,5 | 2,0 | 0,8 | - | - | - | - |

P2 Rated motor power output.
Potencia nominal del motor.

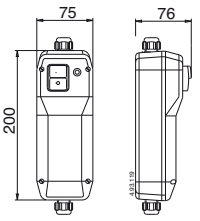
Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

**QM**




| P2 | | single-phase - monofásico 1 ~ | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | | |
| kW | HP | In A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Control Cuadro | Cable Cable H07RN-F | Ia/In |
| 0,45 | 0,6 | 4,9 | 20 μF | 3G1 | 8,5 | 60 μF | QM | 4G1 | 2,5 |

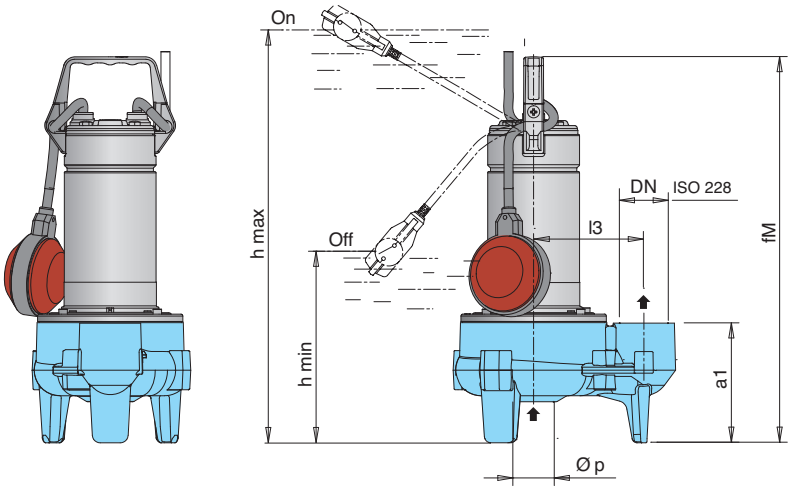
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable | |
| kW | HP | In A | In A | In A | H07RN-F | Ia/In |
| 0,45 | 0,6 | 3,4 | 2 | 1,7 | 4G1 | 3,5 |

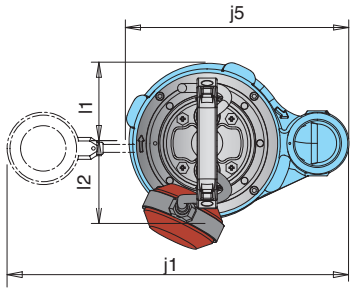
P2 Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

# GQS 40 60 Hz

## Dimensions and weights - Dimensiones y pesos



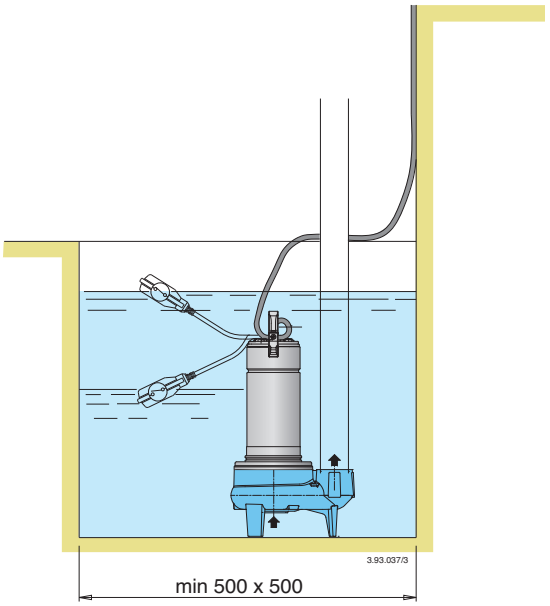




**DN NPT**
Version on demand
Ejecuciones bajo demanda

| TYPE<br>TIPO | DN | mm | | | | | | | | | | kg (1) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a1 | fM | l1 | l2 | l3 | j5 | Ø p | j1 | h max | h min | GQS | GQSM |
| **GQS(M) 49-9-60** | G 1 1/2 | 120 | 385 | 78 | 81 | 110 | 222 | 40 | 410 | 460 | 200 | 10,5 | 10,5 |

(1) With cable length: 10 m
Con longitud de cable: 10 m

## Installation examples - Ejemplo de instalacion



# GQS, GQV 60 Hz

## Submersible Sewage and Drainage Pumps
## Bombas sumergibles para aguas sucias



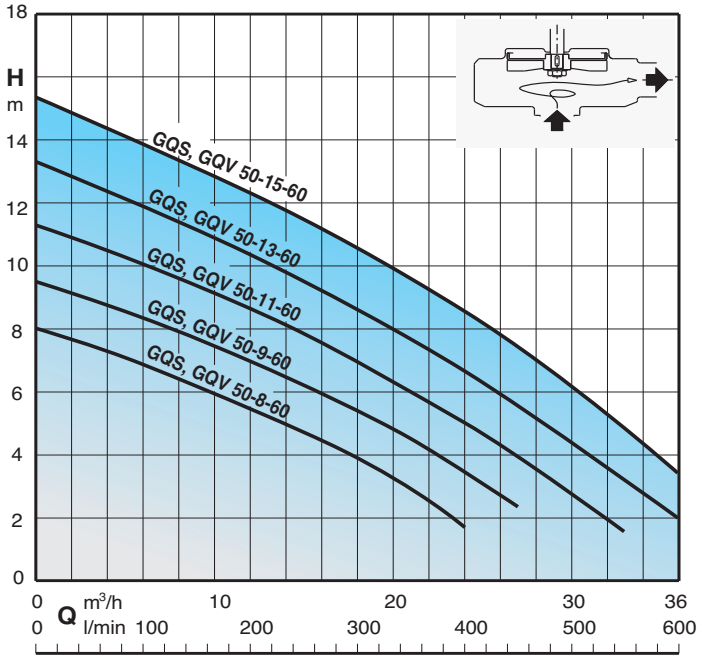


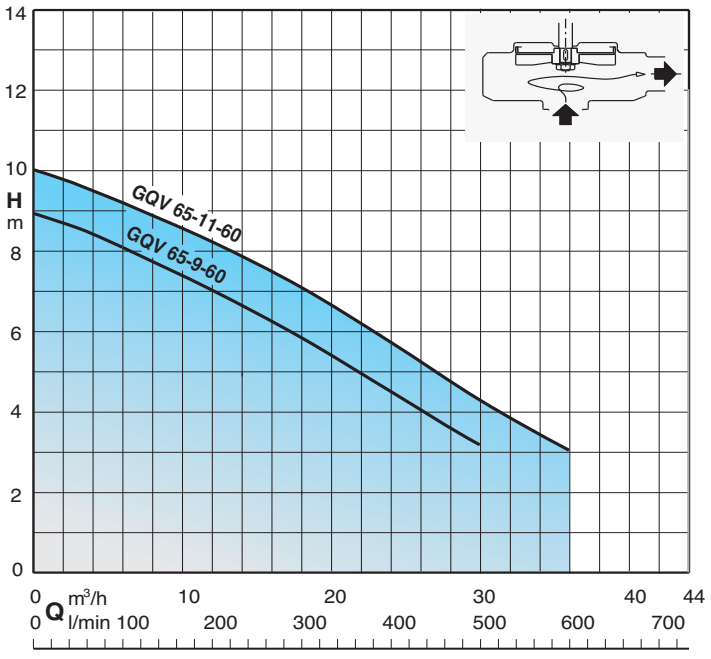


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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# GQS, GQV 60 Hz

## Construction
Single-impeller submersible pumps, with free-flow (vortex) impeller.
**GQS:** with vertical threaded delivery port G 2".
**GQV:** with horizontal G 2" or G 2"1/2 threaded delivery port and with DN 50 or DN 65 flanged delivery port.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

## Applications
For domestic or industrial waste water, dirty water with solids up to 50 mm (65 mm for GQV 65) grain size, for liquids which are compatible with the pump materials.
For draining rooms or or emptying tanks.
Extraction of water from ponds, streams or pits and for rainwater collection.

## Operating conditions
Liquid temperature +5 °C to +35° C.
pH value: 6-11.
Maximum immersion depth: 5 m.
Minimum immersion depth: 275 mm (355 mm for GQV 65).
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GQS, GQV**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN-F, length 10 m, without plug.
**GQSM, GQVM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Triple impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

## Ejecución
Bombas monorodete sumergible, con rodete tipo vortex.
**GQS**: con boca de impulsión vertical roscada G 2".
**GQV**: con boca de impulsión horizontal roscada G 2" o G 2"1/2 y bridas DN 50 o DN 65.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para las descargas civiles e industriales no agresivas para los materiales de la bomba, para aguas sucias con cuerpos solidos hasta ø 50 mm (65 mm para GQV 65).
Para el vaciado de locales inundados o tanques.
Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales. Para irrigación.

## Límites de empleo
Temperatura del líquido de +5 °C a +35° C.
Valor pH: 6-11.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima: 275 mm (355 mm para GQV 65).
Servicio continuo (con el motor sumergido).

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**GQS, GQV**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.
**GQSM. GQVM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel ,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.
- Bombas trifásicas con interruptor de flotador incorporado.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Impeller | Cast iron GJL 200 EN 1561 |
| Motor jacket<br>Jacket cover<br>Casing cover | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal: upper<br>lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete | Hierro GJL 200 EN 1561 |
| Camisa motor<br>Tapa camisa<br>Tapa del cuerpo | Acero al cromo-níchel<br>1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GQS, GQV 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 0 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 50 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 550 | 600 |
| **GQS 50-8-60**<br>**GQV 50-8-60** | **GQSM 50-8-60**<br>**GQVM 50-8-60** | 0,55 | 0,75 | | 8 | 7,5 | 7 | 6,3 | 5,6 | 4,8 | 4 | 3 | 1,8 | - | - | - | - |
| **GQS 50-9-60**<br>**GQV 50-9-60** | **GQSM 50-9-60**<br>**GQVM 50-9-60** | 0,75 | 1 | | 9,5 | 9 | 8,3 | 7,7 | 7 | 6,2 | 5,3 | 4,3 | 3,2 | 2,2 | - | - | - |
| **GQS 50-11-60**<br>**GQV 50-11-60** | **GQSM 50-11-60**<br>**GQVM 50-11-60** | 0,9 | 1,2 | **H** m | 11,3 | 10,7 | 10 | 9,3 | 8,5 | 7,5 | 6,7 | 5,8 | 4,5 | 3,8 | 2,7 | 1,5 | - |
| **GQS 50-13-60**<br>**GQV 50-13-60** | **GQSM 50-13-60**<br>**GQVM 50-13-60** | 1,1 | 1,5 | | 13,3 | 12,5 | 11,8 | 11 | 10,3 | 9,5 | 8,5 | 7,5 | 6,5 | 5,5 | 4,2 | 3 | 1,8 |
| **GQS 50-15-60**<br>**GQV 50-15-60** | **GQSM 50-15-60**<br>**GQVM 50-15-60** | 1,5 | 2 | | 15,5 | 14,8 | 14 | 13,3 | 12,5 | 11,5 | 10,5 | 9,5 | 8,5 | 7,4 | 6,2 | 4,8 | 3,5 |

| 3~ | 1~ | P2 | | Q m³/h | 0 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | | | | | |
| **GQV 65-9-60** | **GQVM 65-9-60** | 1,1 | 1,5 | **H** m | 8,9 | 8,1 | 7 | 5,8 | 4,5 | 3,2 | - | - | | | | | |
| **GQV 65-11-60** | **GQVM 65-11-60** | 1,5 | 2 | | 10 | 9,2 | 8,2 | 7,1 | 5,7 | 4,3 | 3 | - | | | | | |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

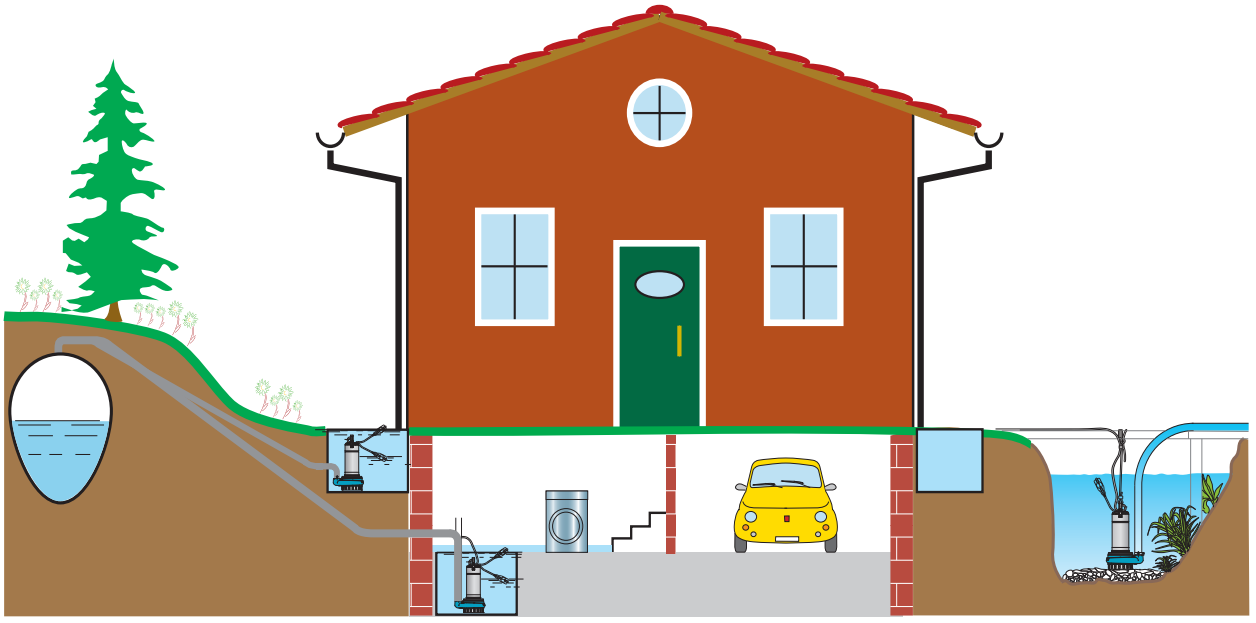
| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | IA/IN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | 110 V | | | |
| kW | HP | IN A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | |
| 0,55 | 0,75 | 5,5 | 16 μF | 3G1 | 9,5 | 70 μF | 3G1.5 | 11 | 80 μF | 3G2.5 | 3 |
| 0,75 | 1 | 6 | 16 μF | 3G1 | 10,4 | 70 μF | 3G2.5 | 12 | 80 μF | 3G2.5 | 3 |
| 0,9 | 1,2 | 7 | 25 μF | 3G1 | 12,1 | 80 μF | 3G2.5 | - | - | - | 3,3 |
| 1,1 | 1,5 | 9,6 | 30 μF | 3G1.5 | - | - | - | - | - | - | 5 |
| 1,5 | 2 | 13 | 35 μF | 3G2.5 | - | - | - | - | - | - | 4,8 |

| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable H07RN-F | |
| kW | HP | IN A | IN A | IN A | | IA/IN |
| 0,55 | 0,75 | 3,3 | 1,9 | 1,6 | 4G1 | 4 |
| 0,75 | 1 | 4,1 | 2,4 | 2,1 | 4G1 | 3,2 |
| 0,9 | 1,2 | 4,6 | 2,7 | 2,3 | 4G1 | 3,9 |
| 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 4G1 | 4,1 |
| 1,5 | 2 | 8,7 | 5 | 4,3 | 4G1 | 3,2 |

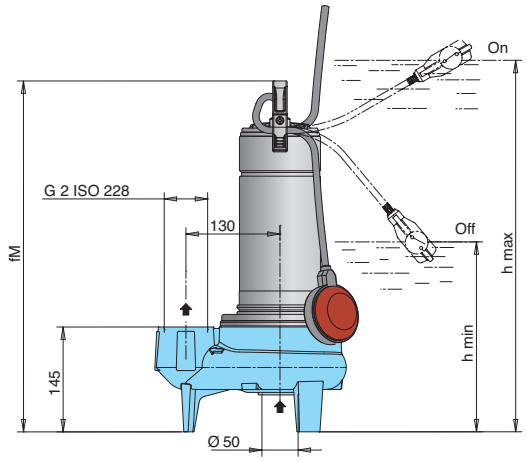
P2 Rated motor power output.
Potencia nominal del motor.

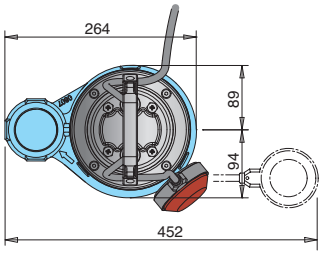
IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

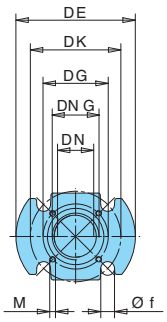
## Installation examples - Ejemplo de instalacion

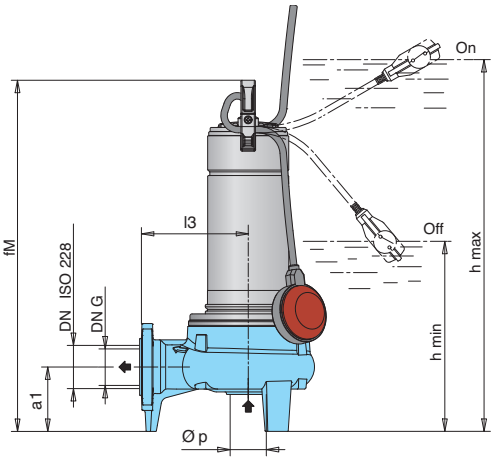


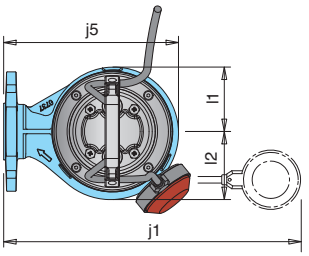
## Dimensions and weights - Dimensiones y pesos




| DN | DN G | DE | DK | N. | Ø f | DG | N. | M |
|---|---|---|---|---|---|---|---|---|
| 50 | G 2 | 165 | 125 | 4 | 19 | 90 | 4 | M8 |
| 65 | G 2 1/2 | 185 | 145 | 4 | 19 | 118 | 4 | M8 |

| TYPE TIPO | mm | | | kg (1) | |
|---|---|---|---|---|---|
| | fM | h max | h min | GQS | GQSM |
| **GQS**(M) **50-8-60** | 460 | 535 | 275 | 14,8 | 15,8 |
| **GQS**(M) **50-9-60** | 460 | 535 | 275 | 15 | 16 |
| **GQS**(M) **50-11-60** | 485 | 560 | 300 | 15,8 | 17,8 |
| **GQS**(M) **50-13-60** | 505 | 580 | 320 | 18,8 | 20,3 |
| **GQS 50-15-60** | 505 | 580 | 320 | 20,3 | - |
| **GQSM 50-15-60** | 535 | 610 | 350 | - | 21,8 |

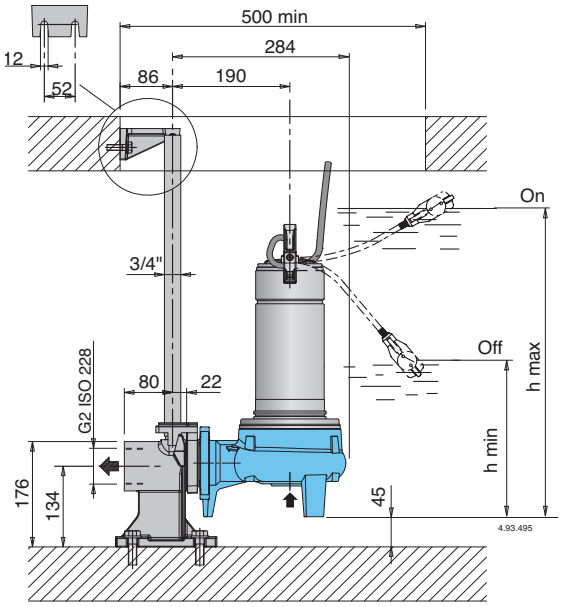
(1) With cable length: 10 m
Con longitud de cable: 10 m

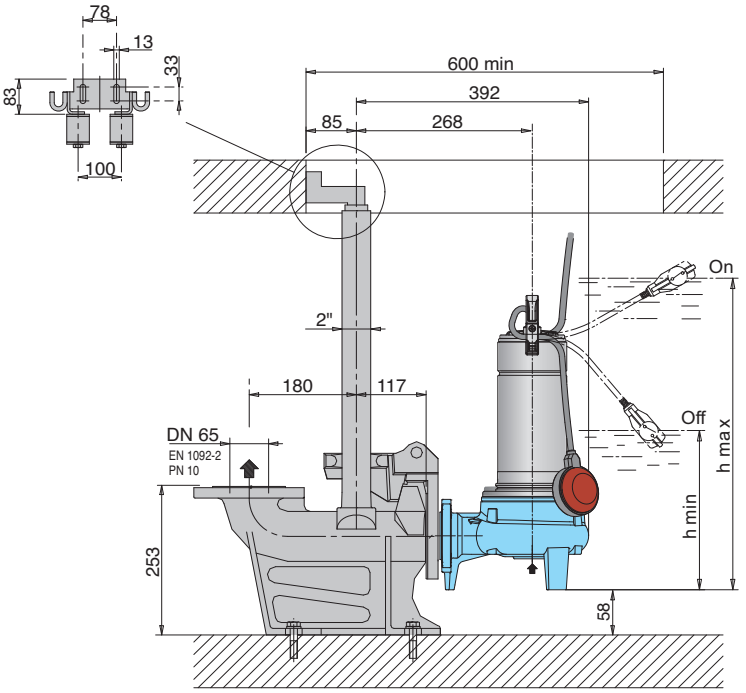
**DN NPT**
Version on demand
Ejecuciones bajo demanda

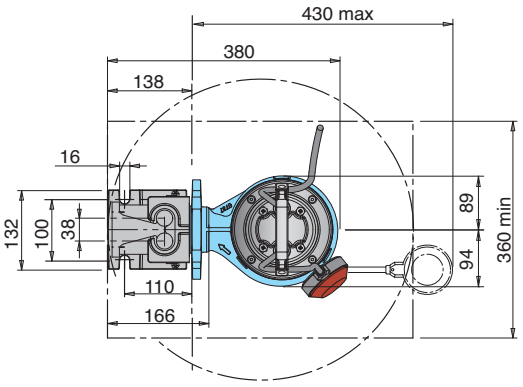
| TYPE TIPO | | | mm | | | | | | | | | | kg (1) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN G | DN | a1 | fM | l1 | l2 | l3 | j5 | Ø p | j1 | h max | h min | GQV | GQVM |
| **GQV**(M) **50-8-60** | G 2 | 50 | 90 | 460 | 89 | 94 | 150 | 242 | 50 | 430 | 535 | 275 | 15 | 16 |
| **GQV**(M) **50-9-60** | G 2 | 50 | 90 | 460 | 89 | 94 | 150 | 242 | 50 | 430 | 535 | 275 | 15,2 | 16,2 |
| **GQV**(M) **50-11-60** | G 2 | 50 | 90 | 485 | 89 | 94 | 150 | 242 | 50 | 430 | 560 | 300 | 16 | 18 |
| **GQV**(M) **50-13-60** | G 2 | 50 | 90 | 505 | 89 | 94 | 150 | 242 | 50 | 430 | 580 | 320 | 19 | 20,5 |
| **GQV 50-15-60** | G 2 | 50 | 90 | 505 | 89 | 94 | 150 | 242 | 50 | 430 | 580 | 320 | 20,5 | - |
| **GQVM 50-15-60** | G 2 | 50 | 90 | 535 | 89 | 94 | 150 | 242 | 50 | 430 | 610 | 350 | - | 22 |
| **GQV**(M) **65-9-60** | G 2 1/2 | 65 | 110 | 540 | 100 | 105 | 150 | 253 | 65 | 430 | 615 | 355 | 22 | 23,5 |
| **GQV 65-15-60** | G 2 1/2 | 65 | 110 | 540 | 100 | 105 | 150 | 253 | 65 | 430 | 615 | 355 | 23,5 | - |
| **GQVM 65-15-60** | G 2 1/2 | 65 | 110 | 570 | 100 | 105 | 150 | 253 | 65 | 430 | 645 | 385 | - | 25 |

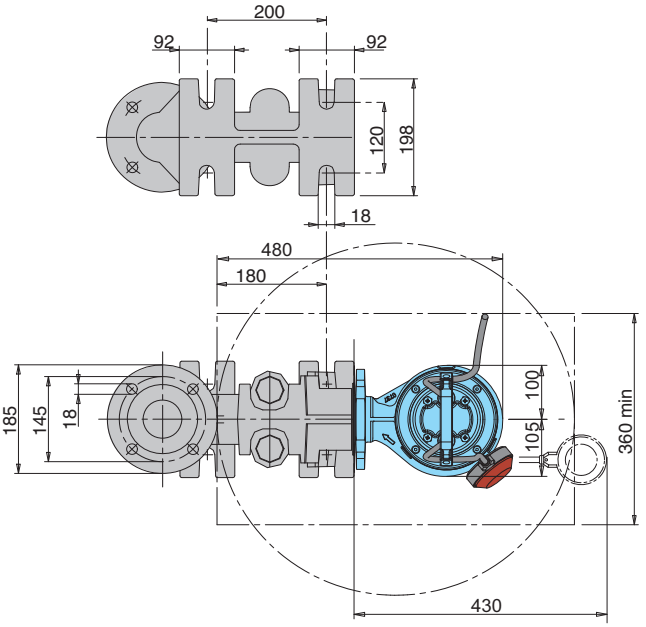
(1) With cable length: 10 m
Con longitud de cable: 10 m

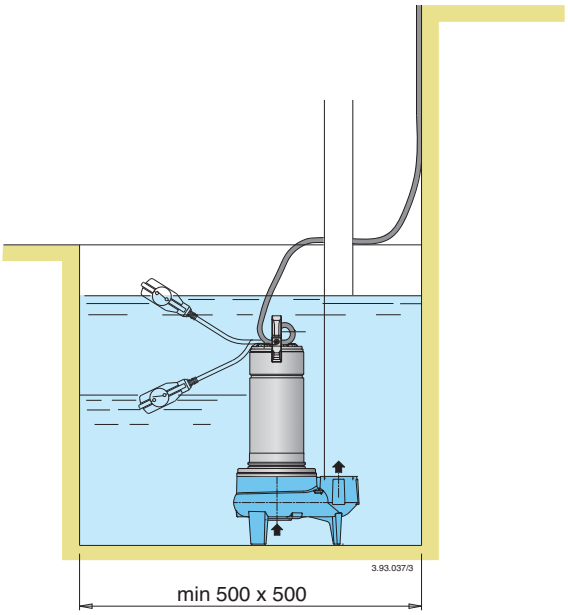
## Installation examples - Ejemplo de instalacion

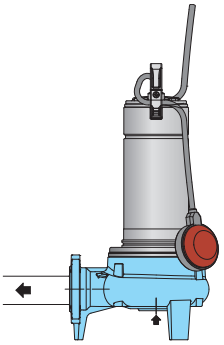


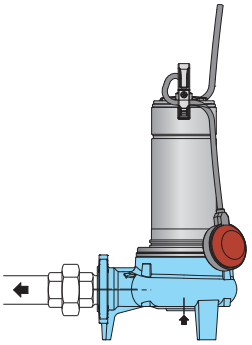



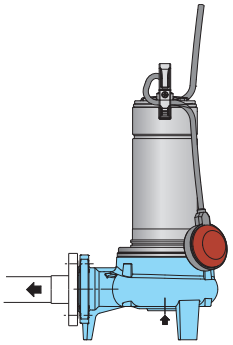
Pump with threaded ports: pipes screwed into the ports

Bombas con orificios roscados: tubos roscados en los orificios.



Pump with threaded ports: pipes with union couplings (locally available)

Bomba con orificios roscados: tubos con racores roscados (disponibles en sitio).



Pump with flanged ports: pipes with counter-flanges

Bomba con bridas: tubos con contra bridas

## Features - Características constructivas

PATENTED
*PATENTADO*

Cable length 10 m, pump single-phase with plug

*Cable de conexión 10 m de longitud, bombas monofásicas con clavija.*

Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno (con un núcleo de AISI 304)*

Easy inspection of the capacitor area.

*Fácil inspección del condensador.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Ring against accidental extraction of the cable.

*Anillo contra la desconexión accidental del cable.*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

*Válvula de purga: la bomba viene provista de una purga de aire que le permite eliminar bolsas de aire cuando la bomba ha estado tiempo sin funcionar.*

Cámara de aceite con aceite para uso alimentario farmacéutico

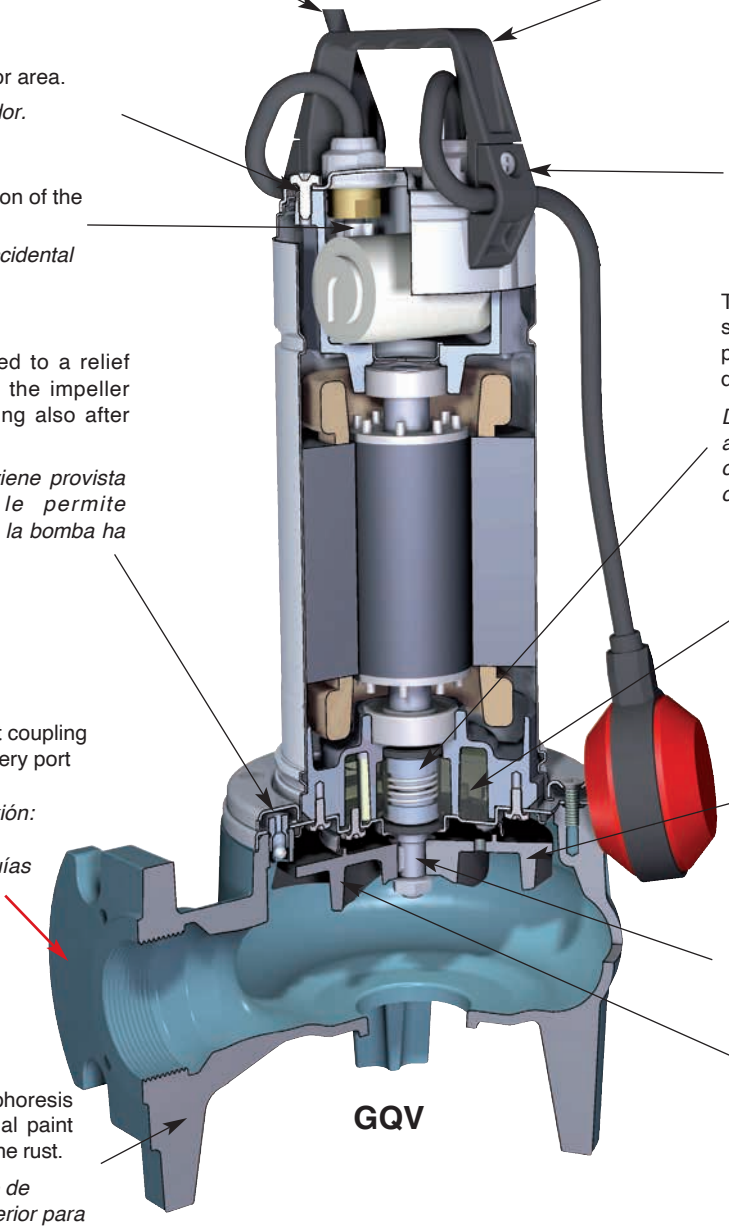
*Chamber with food/pharmaceutical machinery oil*

Complete connection flexibility:
- With flanged port for duck foot coupling
- With horizontal threaded delivery port

*Máxima flexibilidad en la conexión:*
- *Bridas para dispositivo de acoplamiento de fondo con guías*
- *Orificios roscados*

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

*Rodete con tratamiento de cataforesis epoxy para una mayor protección contra el óxido.*



**GQV**

Shaft in chrome-nickel stainless steel.

*Eje de acero inoxidable.*

The free-fow impeller (vortex) costruction is particulary suitable for liquids containing solids up to 50 mm (65 mm for GQV 65) grain size.

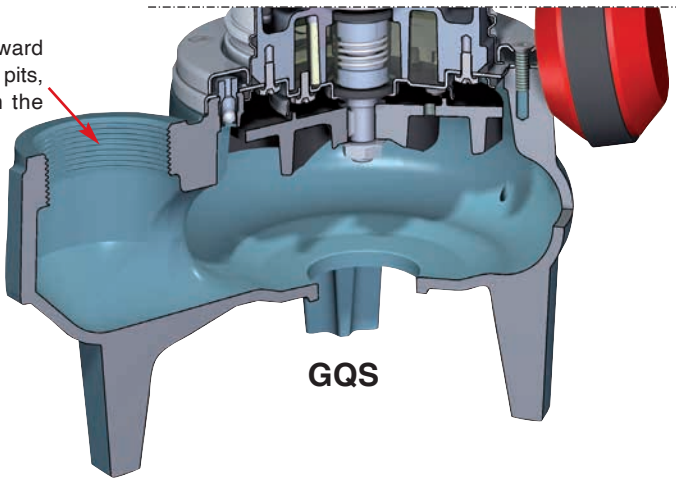
*Rodete tipo vortex.*
*Especialmente adecuado para el paso de sólidos hasta un diámetro de 50 mm* (65 mm para GQV 65).

Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

*Cuerpo bomba con tratamiento de cataforesis epoxy y pintura exterior para una mayor protección contra el óxido.*

G 2 vertical (NPT on request), upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G2 vertical (NPT bajo demanda), dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*



**GQS**

# GQN 60 Hz

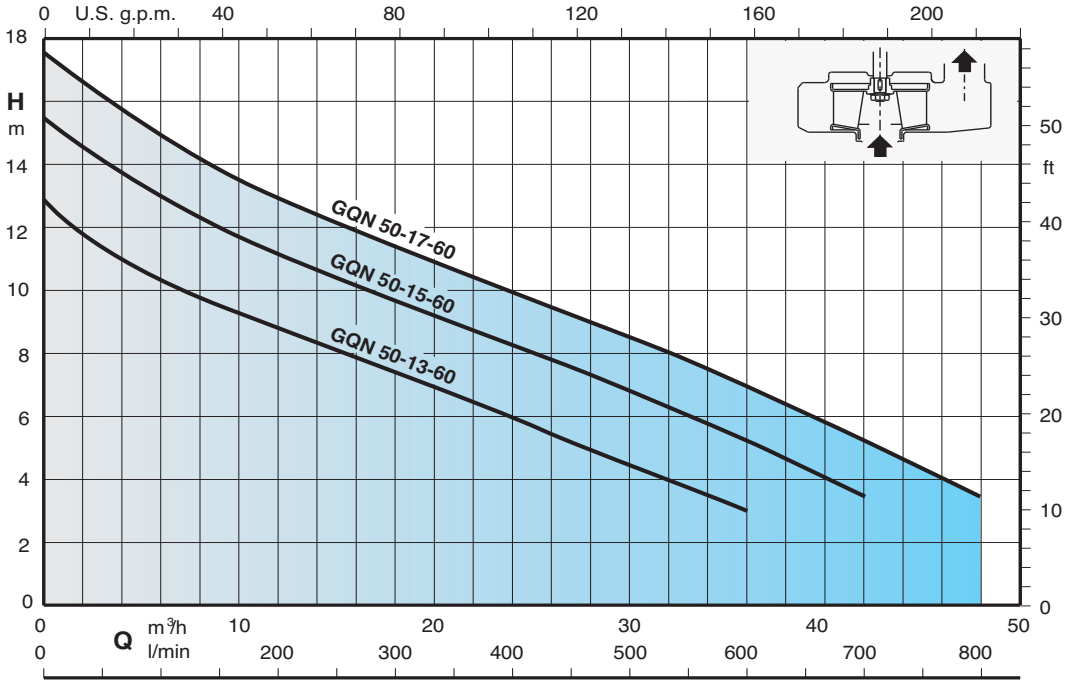
## Submersible Sewage and Drainage Pumps
## Bombas sumergibles para aguas sucias




PATENTED
*PATENTADO*

### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# GQN 60 Hz

## Construction
Single-impeller submersible pumps, (with two-passage) with channels impeller with vertical threaded delivery port (G 2").
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

## Applications
For domestic or industrial waste water, dirty water with solids up to 50 mm grain size, for liquids which are compatible with the pump materials.
For draining rooms or or emptying tanks.
Extraction of water from ponds, streams or pits and for rainwater collection.

## Operating conditions
Liquid temperature +5 °C to +35° C.
pH value: 6-11.
Maximum immersion depth: 5 m.
Minimum immersion depth: 275 mm.
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GQN**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
Cable: H07RN-F, length 10 m, without plug.
**GQNM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor only 220V.
Cable: H07RN-F, length 10 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Triple impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Motor suitable for operation with frequency converter.
- Three-phase pumps with incorporated float switch.

## Ejecución
Bombas monorodete sumergible, con rodete tipo bicanal con boca de impulsión vertical roscada G 2".
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para las descargas civiles e industriales no agresivas para los materiales de la bomba, para aguas sucias con cuerpos solidos hasta ø 50 mm.
Para el vaciado de locales inundados o tanques.
Para sacar el agua de pantanos, fosas, pozos para la recogida de aguas pluviales. Para irrigación.

## Límites de empleo
Temperatura del líquido de +5 °C a +35° C.
Valor pH: 6-11.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima: 275 mm.
Servicio continuo (con el motor sumergido).

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
**GQN**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F, longitud 10 m, sin clavija.
**GQNM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel ,
con protector térmico sólo para 220V.
Con condensador incorporado sólo para 220V.
Cable: H07RN-F, longitud 10 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.
- Bombas trifásicas con interruptor de flotador incorporado.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Impeller | Cast iron GJL 200 EN 1561 |
| Motor jacket<br>Jacket cover<br>Casing cover | Chrome-nickel steel<br>1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Cr-Ni steel 1.4301 EN 10088 (AISI 304) |
| Mechanical seal: upper<br>lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete | Hierro GJL 200 EN 1561 |
| Camisa motor<br>Tapa camisa<br>Tapa del cuerpo | Acero al cromo-níchel<br>1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GQN 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | P2 | | Q m³/h | 0 | 3 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 50 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| **GQN 50-13-60** | **GQNM 50-13-60** | 0,9 | 1,2 | | 12,8 | 11,2 | 10,2 | 8,7 | 7,4 | 6 | 4,5 | 3 | | - |
| **GQN 50-15-60** | **GQNM 50-15-60** | 1,1 | 1,5 | **H** m | 15,4 | 13,8 | 12,6 | 10,9 | 9,6 | 8,2 | 6,7 | 5 | 3,3 | - |
| **GQN 50-17-60** | **GQNM 50-17-60** | 1,5 | 2 | | 17,6 | 16,2 | 14,9 | 13,1 | 11,7 | 10,3 | 8,8 | 7,1 | 5,3 | 3,4 |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

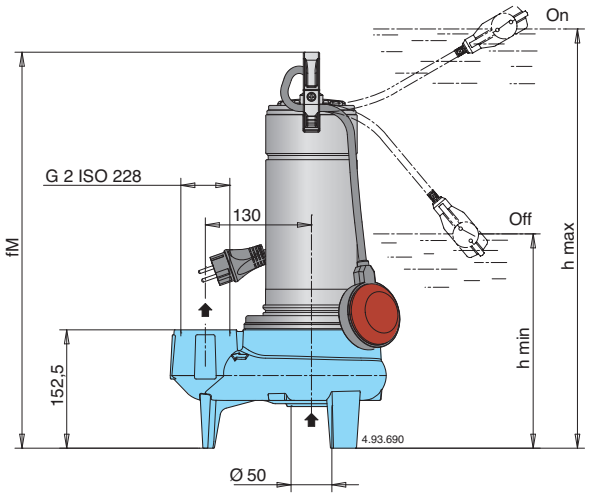
| P2 | | single-phase - monofásico 1 ~ | | | | | | | | | IA/IN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | 110 V | | | |
| kW | HP | IN A | Capacitor Condens. 450 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | IN A | Capacitor Condens. 250 Vc | Cable Cable H07RN-F | |
| 0,9 | 1,2 | 7,8 | 25 μF | 3G1 | 13 | 80 μF | 3G2.5 | - | - | - | 3,3 |
| 1,1 | 1,5 | 9,7 | 30 μF | 3G1.5 | - | - | - | - | - | - | 5 |
| 1,5 | 2 | 13 | 35 μF | 3G2.5 | - | - | - | - | - | - | 4,8 |

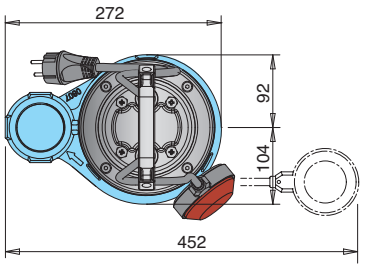
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable | |
| kW | HP | IN A | IN A | IN A | H07RN-F | IA/IN |
| 0,9 | 1,2 | 4,6 | 2,7 | 2,3 | 4G1 | 3,9 |
| 1,1 | 1,5 | 6 | 3,5 | 3 | 4G1 | 3,8 |
| 1,5 | 2 | 8,7 | 5 | 4,3 | 4G1 | 3,2 |

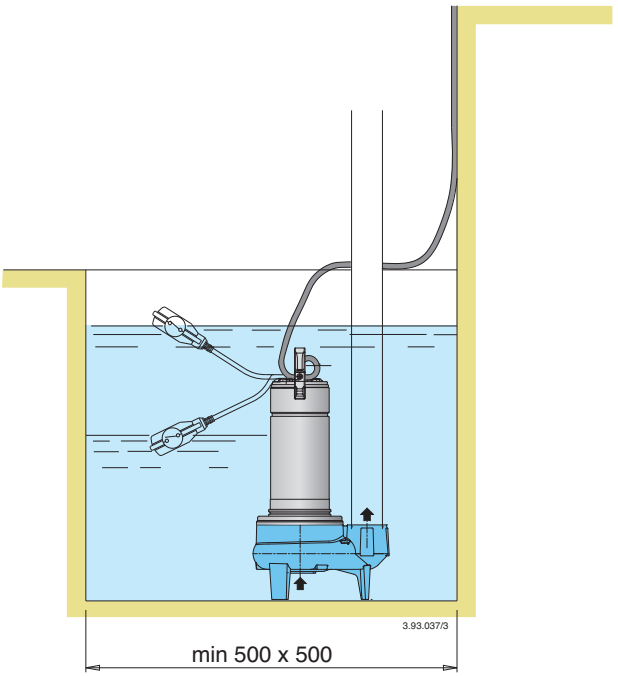
P2 Rated motor power output.
Potencia nominal del motor.

IA/IN D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos




| TYPE | mm | | | kg (1) | |
|---|---|---|---|---|---|
| | fM | h max | h min | GQN | GQNM |
| **GQN**(M) **50-13-60** | 493 | 568 | 308 | 16 | 18 |
| **GQN**(M) **50-15-60** | 513 | 588 | 328 | 19 | 20,5 |
| **GQN 50-17-60** | 513 | 588 | 328 | 20,5 | - |
| **GQNM 50-17-60** | 543 | 618 | 358 | - | 22 |

(1) With cable length: 10 m
Con longitud de cable: 10 m

**DN NPT**
Version on demand
Ejecuciones bajo demanda

## Features - Características constructivas

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Cable length 10 m, pump single-phase with plug

*Cable de conexión 10 m de longitud, bombas monofásicas con clavija.*

Easy inspection of the capacitor area.

*Fácil inspección del condensador.*

Ring against accidental extraction of the cable.

*Anillo contra la desconexión accidental del cable.*

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

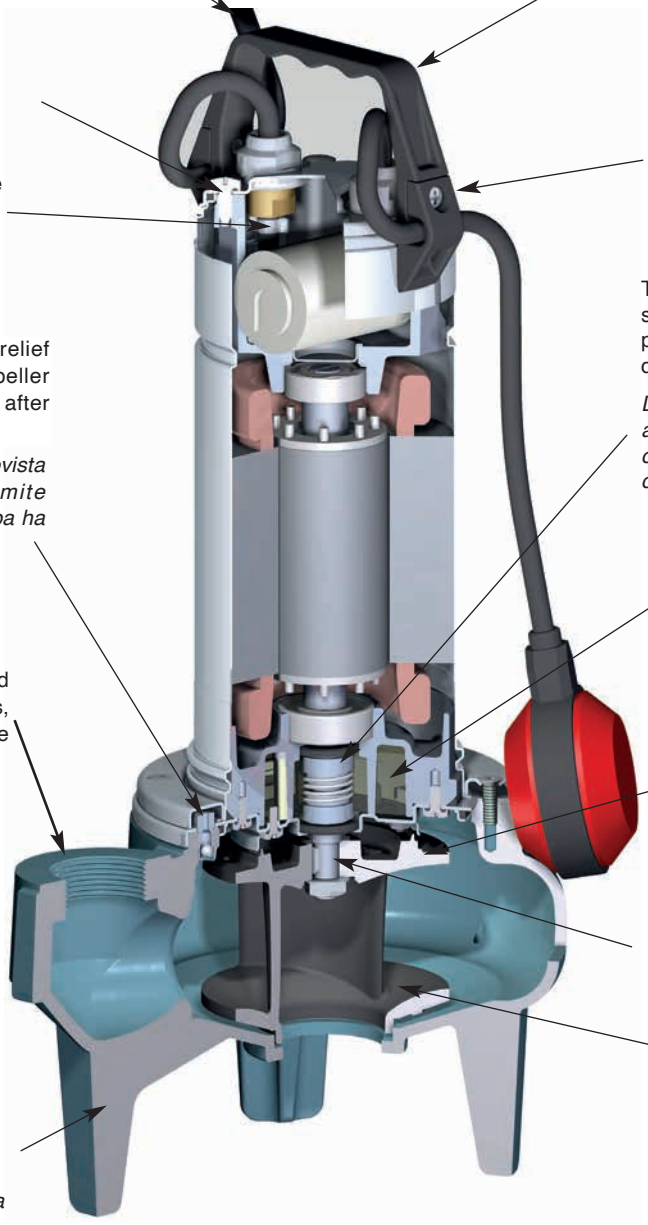
*Válvula de purga: la bomba viene provista de una purga de aire que le permite eliminar bolsas de aire cuando la bomba ha estado tiempo sin funcionar.*

G 2 vertical (NPT on request), upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G2 vertical (NPT bajo demanda), dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*

Pump casing with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

*Cuerpo bomba con tratamiento de cataforesis epoxy y pintura exterior para una mayor protección contra el óxido.*



Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno (con un núcleo de AISI 304)*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

Cámara de aceite con aceite para uso alimentario farmacéutico

*Chamber with food/pharmaceutical machinery oil*

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

*Rodete con tratamiento de cataforesis epoxy para una mayor protección contra el óxido.*

Shaft in chrome-nickel stainless steel.

*Eje de acero inoxidable.*

Channels impeller (two-passage). Costruction is particulary suitable for liquids containing solids up to 50 mm grain size.

*Rodete tipo bicanal. Especialmente adecuado para el paso de sólidos hasta un diámetro de 50 mm.*

# GMC, GMV 60 Hz

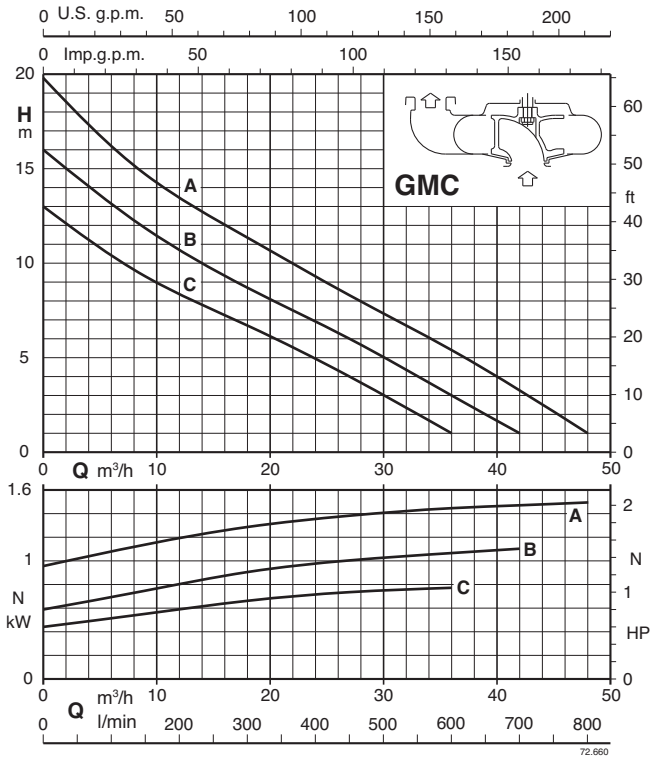
## Submersible Drainage Pumps
## Bomba sumergible para achiques

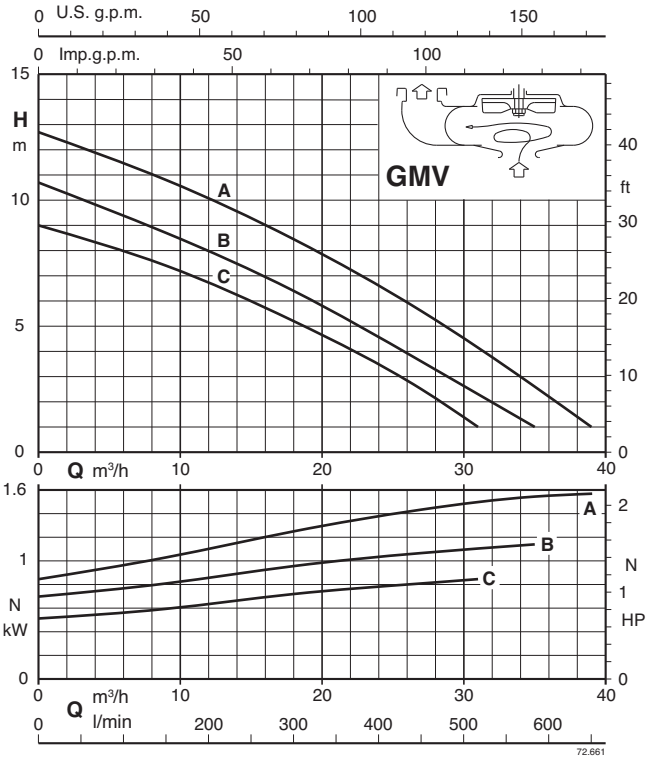




## Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# GMC, GMV 60 Hz

## Construction
Close-coupled electric submersible pumps.
**GMC**: with single-channel impeller.
**GMV**: with free-flow (vortex) impeller.
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
Double mechanical seal with interposed oil chamber, to protect against dry-running.

## Applications
For domestic or industrial waste water, dirty water with solids up to 45 mm grain size for GMC and 50 mm for GMV, for liquids which are compatible with the pump materials.

## Operating conditions
Liquid temperature +5 °C to +35° C.
pH value: 6-11.
Maximum immersion depth: 10 m (with suitable cable length).
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GMC, GMV**: three-phase 220 V.
three-phase 380 V.
three-phase 440 V.
2 built-in thermal protector to be connected to a control box.
Cable: length 10 m.
**GMCM, GMVM**: single-phase 220 V, with float switch, built-in thermal protector and built-in capacitor.
Cable: length 10 m, with plug (CEI-UNEL 47166).
Insulation class F.
Protection IP X8.
Triple impregnation, humidity-proof winding.
Constructed in accordance with: EN 60335-2-41.

## Other features on request
- Other voltages.
- Motor suitable for operation with frequency converter.

## Ejecución
Electrobombas sumergibles monobloc.
**GMC**: con rodete monocanal.
**GMV**: con rodete tipo vortex.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Cierre sobre el eje: Cierre mecánico doble en cámara de aceite protegidos contra el funcionamiento en seco.

## Aplicaciones
Para las descargas civiles e industriales no agresivas para los materiales de la bomba, para aguas sucias con cuerpos solidos hasta ø 45 mm para GMC y ø 50 mm para GMV.

## Límites de empleo
Temperatura del liquido de +5 °C a +35° C.
Valor pH: 6-11.
Profundidad de inmersión máxima: 10 m (con cable de adecuada longitud).
Servicio continuo (con el motor sumergido).

## Motor
Motor de inducción a 2 polos, 60 Hz (n = 3450 1/min).
**GMC, GMV**: Trifásico 220 V;
Trifásico 380 V;
Trifásico 440 V;
Con 2 protectores térmicos incorporados para conectar al cuadro de maniobras.
Cable: longitud 10 m.
**GMCM, GMVM**: Monofásico 220 V con interruptor de nivel.
Con protector térmico y condensador incorporado.
Cable: longitud 10 m, con clavija (CEI - UNEL 47166).
Islamiento clase F.
Protección IP X8.
Bobinado en triple impregnación resistente a la humedad.
Ejecución según: EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Components | Material |
|---|---|
| Pump casing<br>Casing cover<br>Impeller<br>Motor housing<br>Motor cover | Cast iron GJL 200 EN 1561 |
| Shaft | Chrome steel 1.4104 EN 10088 (AISI 430) |
| Mechanical seal: Upper<br>Lower | Carbon, ceramic, NBR<br>Silicon carbide, silicon carbide, NBR |
| Seal lubrication oil | Oil for food machinery and pharmaceutic use |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo bomba<br>Tapa del cuerpo<br>Rodete<br>Carcasa motor<br>Tapa motor | Hierro GJL 200 EN 1561 |
| Eje | Acero al cromo 1.4104 EN 10088 (AISI 430) |
| Cierre mec. superior<br>Cierre mec. inferior | Cerámica, carbón, NBR<br>Carburo de silicio, carburo de silicio, NBR |
| Aceite lubrific. sello | Aceite blanco para uso alimentario farmacéutico |

# GMC, GMV 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | P2 | | Q m³/h | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| **GMC 50CE-60**<br>**GMC 50-65C-60** | **GMCM 50CE-60**<br>**GMCM 50-65C-60** | 0,75 | 1 | | 10 | 8 | 6,5 | 5 | 3 | 1 | | |
| **GMC 50BE-60**<br>**GMC 50-65B-60** | **GMCM 50BE-60**<br>**GMCM 50-65B-60** | 1,1 | 1,5 | **H** m | 13 | 10,5 | 8,5 | 6,5 | 5 | 3 | 1 | |
| **GMC 50AE-60**<br>**GMC 50-65A-60** | | 1,5 | 2 | | 16 | 13,5 | 11 | 9 | 7,5 | 5,5 | 3 | 1 |

| 3~ | 1~ | P2 | | Q m³/h | 6 | 12 | 18 | 24 | 30 | 31 | 35 | 39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 100 | 200 | 300 | 400 | 500 | 516 | 583 | 650 |
| **GMV 50CE-60**<br>**GMV 50-65C-60** | **GMVM 50CE-60**<br>**GMVM 50-65C-60** | 0,75 | 1 | | 8 | 7 | 5 | 3,5 | 1,5 | 1 | | |
| **GMV 50BE-60**<br>**GMV 50-65B-60** | **GMVM 50BE-60**<br>**GMVM 50-65B-60** | 1,1 | 1,5 | **H** m | 9,5 | 8 | 6,5 | 4,5 | 2,5 | 2,3 | 1 | |
| **GMV 50AE-60**<br>**GMV 50-65A-60** | | 1,5 | 2 | | 11,5 | 10 | 8,5 | 6,5 | 4,3 | 4 | 2,5 | 1 |

P2 Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

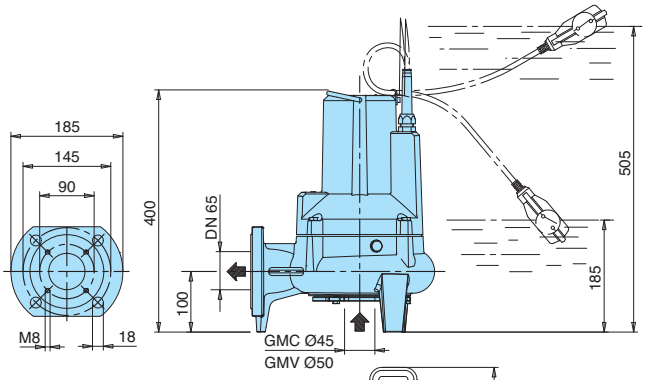
| P2 | | single-phase - monofásico 1 ~ 220 V | | | |
|---|---|---|---|---|---|
| | | | Capacitor Condens. | Cable Cable | |
| kW | HP | IN A | 450 Vc | H07RN-F | IA/IN |
| 0,75 | 1 | 5,4 | 16 μF | 3G1 | 3,1 |
| 1,1 | 1,5 | 7,5 | 12.5 μF x2 | 3G1.5 | 3,2 |

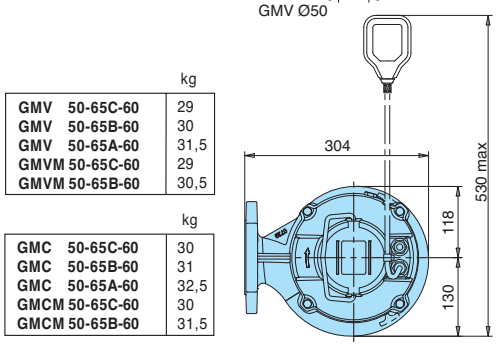
| P2 | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable Cable | |
| kW | HP | IN A | IN A | IN A | H07RN-F | IA/IN |
| 0,75 | 1 | 4,1 | 2,4 | 2,1 | 4G1.5 + 2x0.5 | 3,2 |
| 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 4G1.5 + 2x0.5 | 3,2 |
| 1,5 | 2 | 8 | 4,6 | 4,0 | 4G1.5 + 2x0.5 | 3,3 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

# GMC, GMV 60 Hz

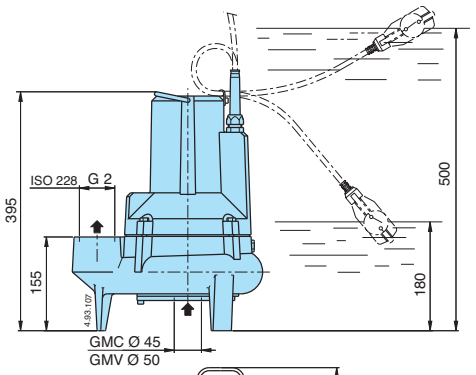
## Dimensions and weights - Dimensiones y pesos



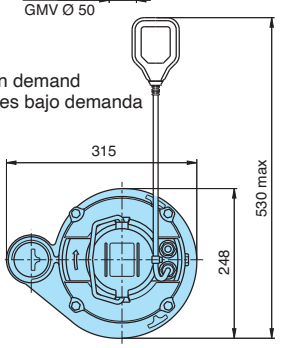




| | kg |
|---|---|
| GMV 50-65C-60 | 29 |
| GMV 50-65B-60 | 30 |
| GMV 50-65A-60 | 31,5 |
| GMVM 50-65C-60 | 29 |
| GMVM 50-65B-60 | 30,5 |

| | kg |
|---|---|
| GMC 50-65C-60 | 30 |
| GMC 50-65B-60 | 31 |
| GMC 50-65A-60 | 32,5 |
| GMCM 50-65C-60 | 30 |
| GMCM 50-65B-60 | 31,5 |



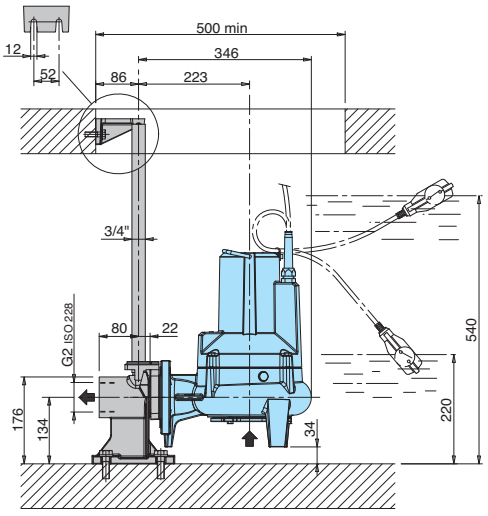

**DN NPT**
Version on demand
Ejecuciones bajo demanda

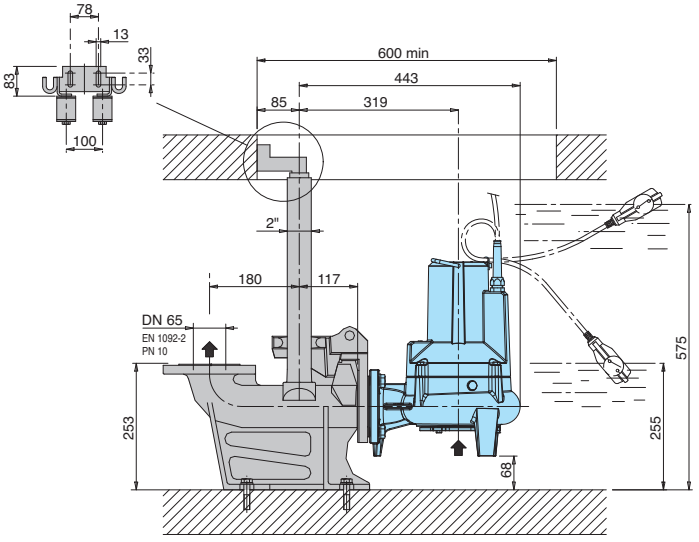


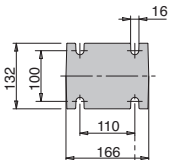

| | kg |
|---|---|
| GMV 50CE-60 | 27 |
| GMV 50BE-60 | 28 |
| GMV 50AE-60 | 29,5 |
| GMVM 50CE-60 | 27 |
| GMVM 50BE-60 | 28,5 |

| | kg |
|---|---|
| GMC 50CE-60 | 28 |
| GMC 50BE-60 | 29 |
| GMC 50AE-60 | 30,5 |
| GMCM 50CE-60 | 28 |
| GMCM 50BE-60 | 29,5 |

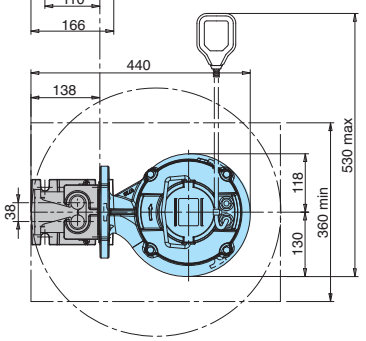
## Dimensions with duck foot coupling - Dimensiones con dispositivo de acoplamiento de fondo

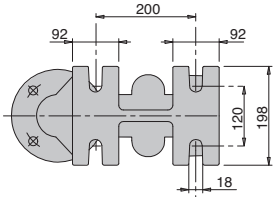


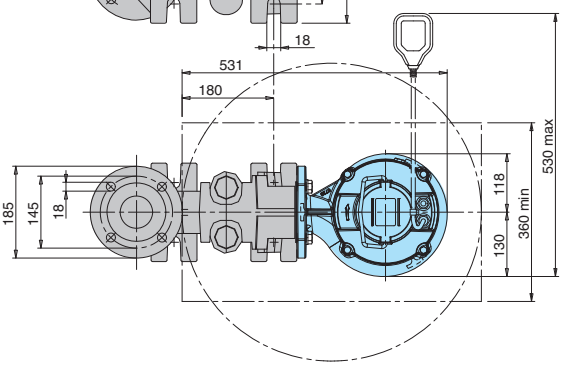




**DN NPT**
Version on demand
Ejecuciones bajo demanda

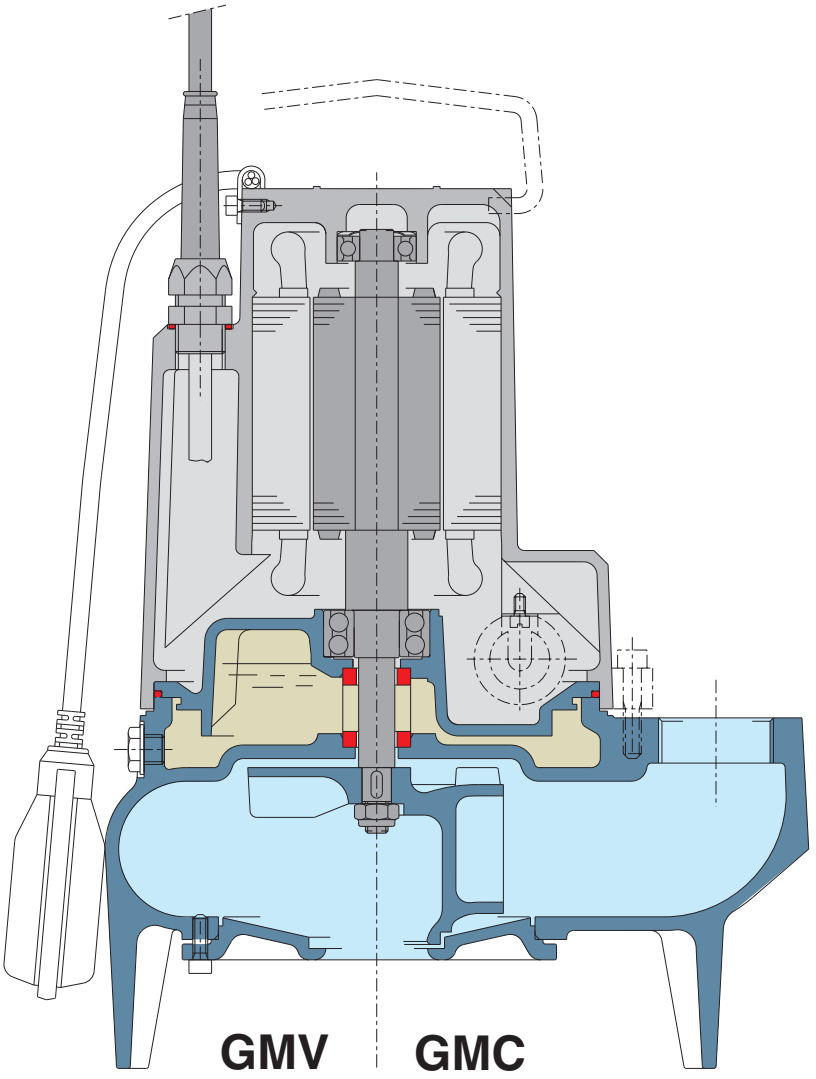


# GMC, GMV 60 Hz

## Features - Características constructivas




### Safety
The double mechanical seal with oil chamber ensures safe separation separating the motor from water and providing further protection against accidental operation when dry.

### Reliability
The lower double ball bearing ensures high reliability under all operating conditions.

### High security
The three-phase motors are equipped with integrated thermistors, which provide the motor with thermal protection. The motor cable is pre-wired to enable the user to connect directly to a control panel, providing easier installation.

### Flexible installation
The availability of the pump casing with horizontal or vertical flanged ports allows the installation of pumps in all pits and wells, both small and large sizes. Installation is also possible with a duck foot coupling.

### Seguridad
El sello mecánico doble con cámara de aceite garantiza una separación segura que separa el motor de agua y proporcionar una mayor protección contra el funcionamiento en seco.

### Fiabilidad
El rodamiento de bolas doble inferior garantiza una alta fiabilidad en todas las condiciones.

### Alta seguridad
Los motores trifásicos están equipados con termistores integrados, que proporcionan al motor protección térmica. El cable del motor viene precableado para permitir al usuario conectarse directamente a un panel de control que proporciona una instalación más fácil.

### Instalación flexible
La disponibilidad de la carcasa de la bomba con salidas de brida horizontales o verticales permite la instalación de bombas en todos tipos de pozos. La instalación es también posible con un acoplamiento de fondo.

# GQG 60 Hz

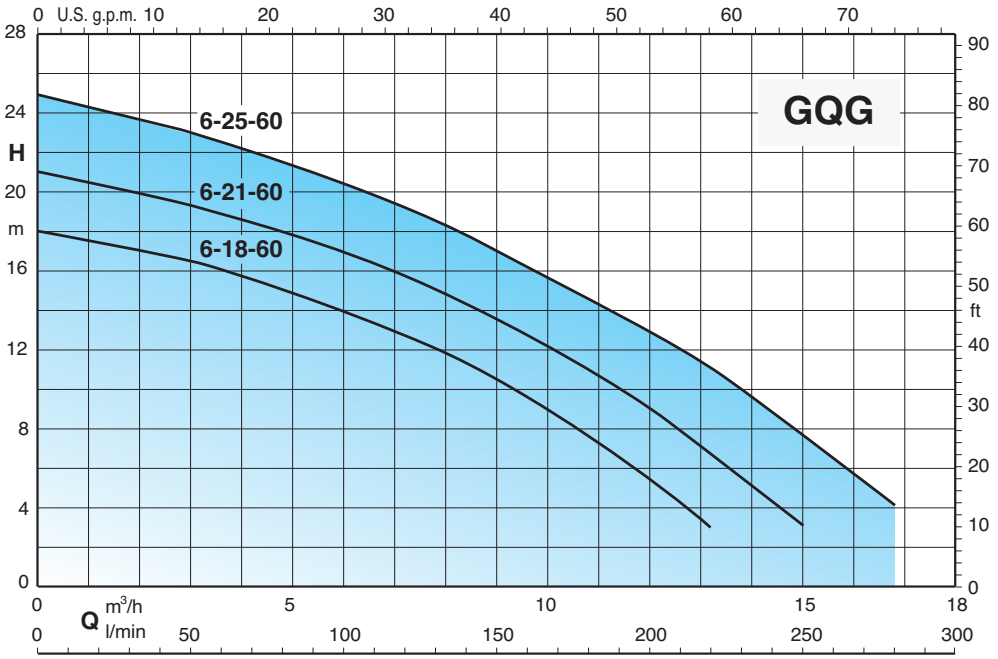
**Submersible pumps with high power grinder**
**Bombas sumergibles con sistema triturador**




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*PATENTADO*

## Characteristic curves - Curvas Características

**n ≈ 3450 rpm**



# GQG 60 Hz

## Construction
Submersible pumps with high power grinder, with horizontal flanged and threaded delivery port (DN 32 PN 6 - G 1 1/2).
**Connections**: threaded ports **ISO 228/1**.
threaded ports **NPT** (ANSI/ASME B1.20.1) on request
Double mechanical shaft seal with interposed oil chamber, to protect against dry-running.

## Applications
Suitable for pumping waste water containing long filamentous, paper and textile materials and organics.
They are particularly suitable for use in domestic, residential and industrial installations.
Solid passage Ø 6 mm

## Operating conditions
Liquid temperature +5 °C to +35° C.
Maximum immersion depth: 5 m.
Minimum immersion depth: 300 mm.
Continuous duty (with submerged motor).

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**GQG**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V;.
**GQGM**: single-phase 220 V,
with float switch, overcurrent protection and control box with starting capacitors.
Cable: length 10 m.
Insulation class F.
Protection IP X8 (for continuous immersion)
Triple impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 20 m.
- Vertical magnetic float switch.
- Three-phase pumps with incorporated float switch.

## Ejecución
Bombas sumergibles con sistema triturador de alto poder cortante, con una salida de descarga horizontal rosca G 1 1/2" con bridas DN 32.
**Orificios**: Roscados **ISO 228/1**.
Roscados **NPT** (ANSI/ASME B1.20.1) bajo demanda.
Sello del eje doble con cámara de aceite interpuesta, protegida contra el funcionamiento en seco.

## Aplicaciones
Para manejar el agua que contiene materiales fibrosos largos, materiales de papel o textil.
Son especialmente adecuados para la disposición de aguas residuales de uso doméstico, residencial e industrial.
Paso de sólidos 6 mm.

## Límites de empleo
Temperatura del líquido +5 °C a +35 ° C.
Profundidad de inmersión máxima: 5 m.
Profundidad de inmersión mínima de 300 mm.
Servicio continuo (con motor sumergible).

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**GQG**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
**GQGM**: monofásico 220 V,
con interruptor de flotador, protección de sobrecurriente y el panel de control con condensadores de partida.
Cavo: longitud 10 m.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con triple impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud del cable 20 m.
- Con interruptor de flotador fijo (magnético).
- Bombas trifásicas con interruptor de flotador incorporado.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Impeller<br>Casing cover | Cast iron GJL 200 EN 1561 |
| Rotating cutting blade<br>Fixed cutting blade | Nì-Mo steel 1.4125 EN 10088 (AISI 440C) |
| Motor jacket<br>Jacket cover | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Handle | Polypropylene (with frame in AISI 304) |
| Shaft | Cr-Nì steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal: upper<br>Mechanical seal: lower | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete<br>Tapa del cuerpo | Hierro GJL 200 EN 1561 |
| Cuchilla rotante<br>Cuchilla fija | Acero al Cr-Mo 1.4125 EN 10088 (AISI 440C) |
| Camisa motor<br>Tapa camisa | Acero al Cr-Ní 1.4301 EN 10088 (AISI 304) |
| Asa transporte | Polipropileno (con un núcleo de AISI 304) |
| Eje | Acero al Cr-Ní 1.4305 EN 10088 (AISI 303) |
| Sello mecánico: superior<br>Sello mecánico: inferior | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# GQG 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | $P_2$ kW | $P_2$ HP | Q $m^3/h$ | 0 | 3 | 6 | 9 | 12 | 13,2 | 15 | 16,8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q l/min | 0 | 50 | 100 | 150 | 200 | 220 | 250 | 280 |
| **GQG 6-18-60** | **GQGM 6-18-60** | 0,9 | 1,2 | | 18 | 16,5 | 14,5 | 11,2 | 6,5 | 4,5 | | |
| **GQG 6-21-60** | **GQGM 6-21-60** | 1,1 | 1,5 | **H** m | 21 | 19,2 | 17 | 13,5 | 9 | 7 | 4 | |
| **GQG 6-25-60** | **GQGM 6-25-60** | 1,5 | 2 | | 25 | 23 | 20,5 | 17 | 13 | 11 | 7,8 | 4 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

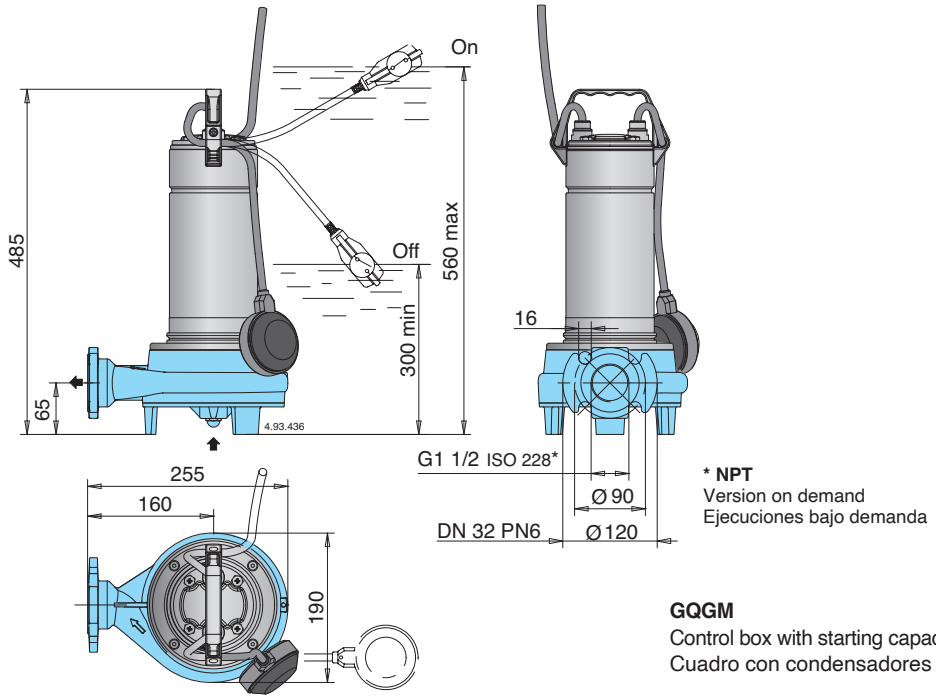
| $P_2$ kW | $P_2$ HP | single-phase - monofásico 1 ~ 220 V In A | Capacitor Condens. 450 Vc | Cable Cable H07RN-8F | Ia/In |
|---|---|---|---|---|---|
| 0,9 | 1,2 | 8,5 | 30+80 μF | 4G1 | 4,8 |
| 1,1 | 1,5 | 9,4 | 30+80 μF | 4G1.5 | 7,4 |
| 1,5 | 2 | 11 | 30+80 μF | 4G1.5 | 6,3 |

| $P_2$ kW | $P_2$ HP | three-phase - trifásico 3 ~ 220 V In A | 380 V In A | 440 V In A | Cable Cable H07RN-8F | Ia/In |
|---|---|---|---|---|---|---|
| 0,9 | 1,2 | 4,8 | 2,8 | 2,9 | 4G1 | 5,5 |
| 1,1 | 1,5 | 5,8 | 3,4 | 3,6 | 4G1 | 5 |
| 1,5 | 2 | 6,9 | 4 | 4,2 | 4G1 | 4,3 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

Ia/In D.O.L. starting current / Rated current
Intensidad de arranque / Intensidad nominal

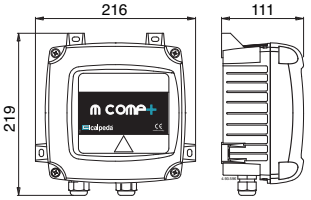
## Dimensions and weights - Dimensiones y pesos



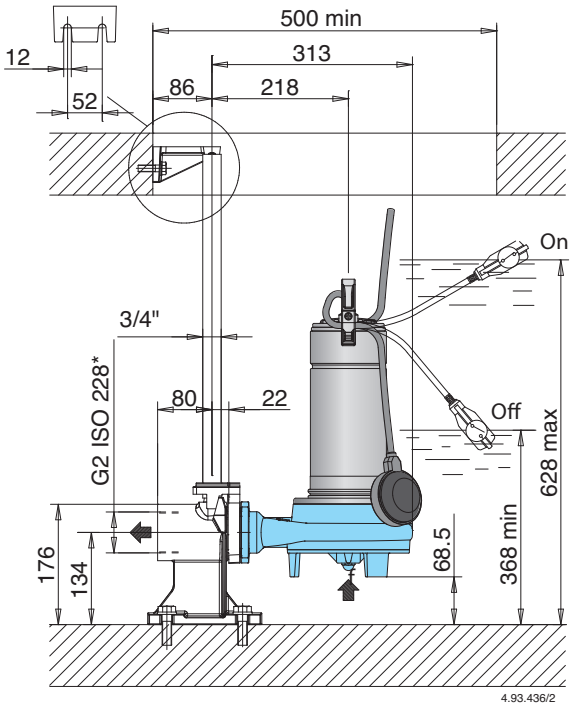

*** NPT**
Version on demand
Ejecuciones bajo demanda

| TYPE TIPO | kg GQG | GQGM |
|---|---|---|
| **GQG**(M) **6-18-60** | 18,5 | 19,5 |
| **GQG**(M) **6-21-60** | 18,7 | 19,7 |
| **GQG**(M) **6-25-60** | 19 | 20 |

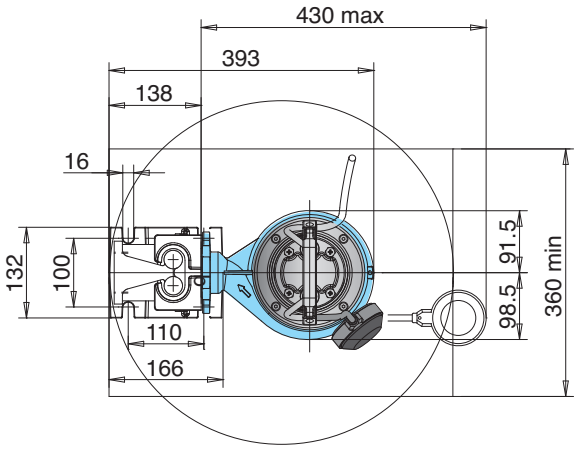
**GQGM**
Control box with starting capacitors
Cuadro con condensadores de arranque



## Installation example - Ejemplo de instalacion

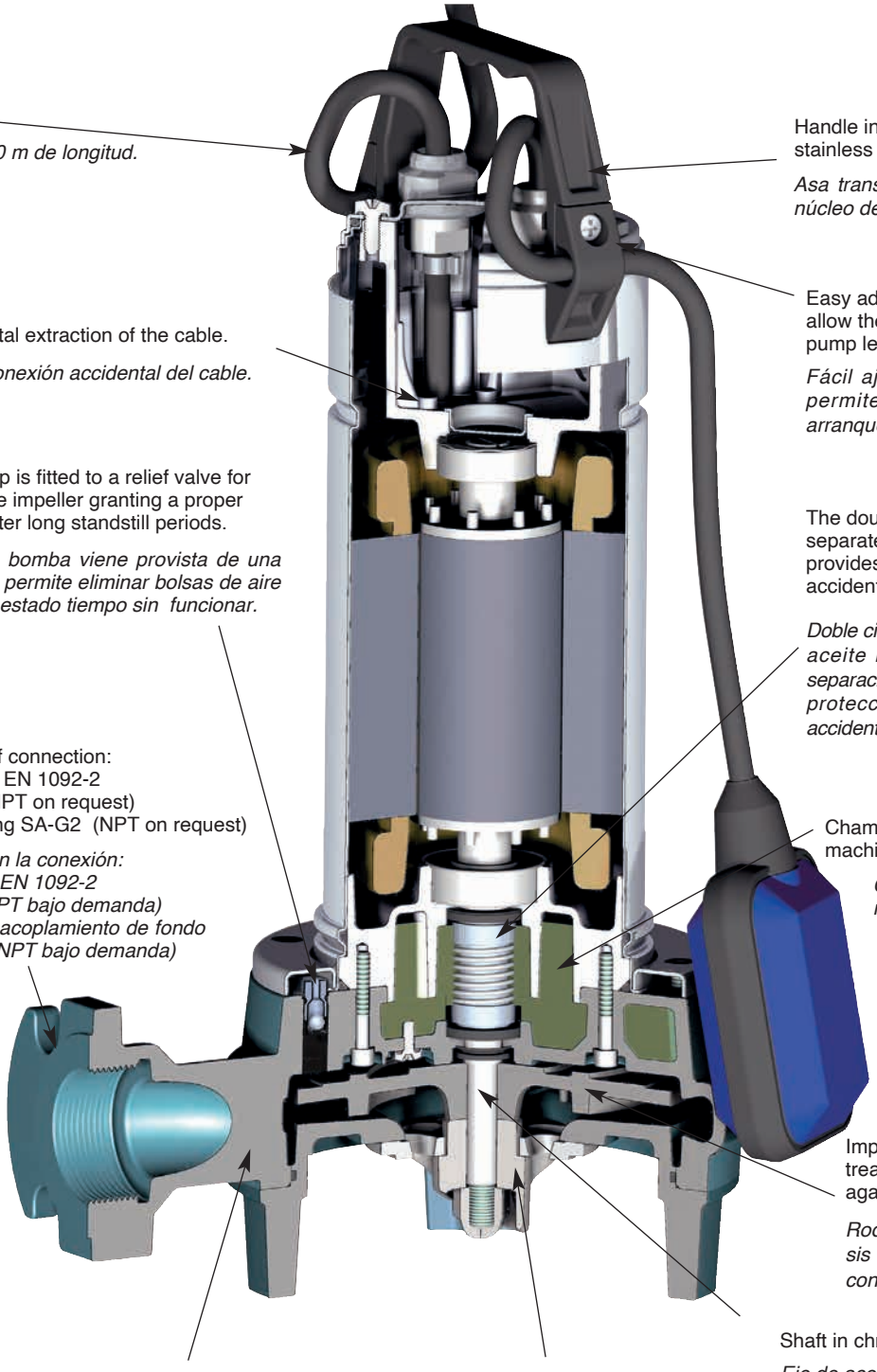



***NPT**
Version on demand
Ejecuciones bajo demanda



## Features - Características constructivas

PATENTED
*PATENTADO*



Cable length 10 m.

*Cable de conexión 10 m de longitud.*

Ring against accidental extraction of the cable.

*Anillo contra la desconexión accidental del cable.*

Relief valve: the pump is fitted to a relief valve for air release around the impeller granting a proper pump priming also after long standstill periods.

*Válvula de purga: la bomba viene provista de una purga de aire que le permite eliminar bolsas de aire cuando la bomba ha estado tiempo sin funcionar.*

Maximum flexibility of connection:
- Flange DN 32 PN 6 EN 1092-2
- G 1 1/2 ISO 228 (NPT on request)
- for duck foot coupling SA-G2 (NPT on request)

*Máxima flexibilidad en la conexión:*
- *Bridas DN 32 PN 6 EN 1092-2*
- *G 1 1/2 ISO 228 (NPT bajo demanda)*
- *para dispositivo de acoplamiento de fondo con guías SA-G2" (NPT bajo demanda)*

Pump casing and casing cover with epoxy cataphoresis treatment joined to the external paint for a greater protection against the rust.

*Cuerpo bomba con tratamiento de cataforesis epoxy y pintura exterior para una mayor protección contra el óxido.*

Cutting system made of HRC 60 hardness AISI 440C stainless steel.

*Sistema triturador de acero inoxidable AISI 440C tratamiento térmico endurecido HRC 60.*

Handle in polypropylene, with frame in stainless steel.

*Asa transporte in polipropileno (con un núcleo de AISI 304)*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels.

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

Chamber with food/pharmaceutical machinery oil.

*Cámara con aceite de uso alimentario farmacéutico.*

Impeller with epoxy cataphoresis treatment for a greater protection against the rust.

*Rodete con tratamiento de cataforesis epoxy para una mayor protección contra el óxido.*

Shaft in chrome-nickel stainless steel.

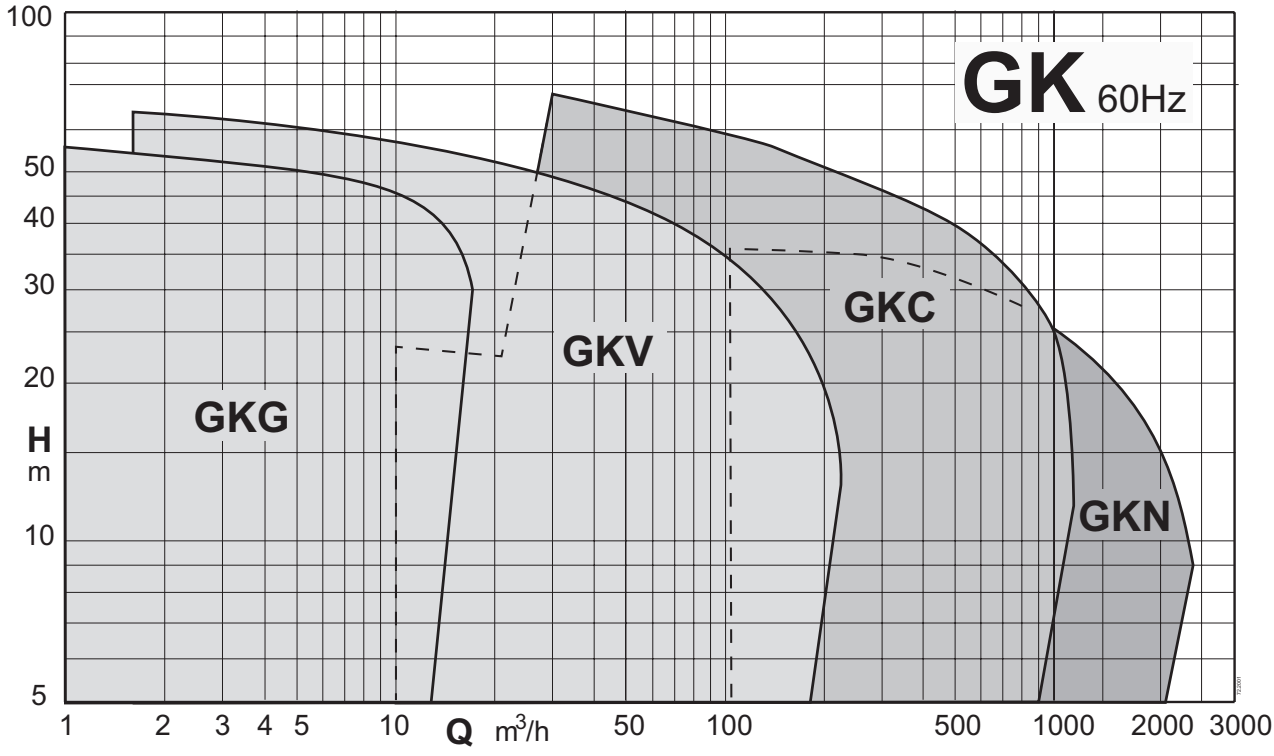
*Eje de acero inoxidable.*

# GK 60 Hz










## Submersible pumps

# GK 60 Hz

The electric submersible sewage pumps have been specially designed to operate submerged in the pumped fluid.
The hydraulic section is close coupled to the electric motor making the pumping unit compact, easy to install and reliable in operation.
The pumps are essential in depuration systems and are widely used in the sewage handling facilities of industry and local communities.
The GK series electric pumps are designed to pump sewage containing gas, compacted solids and long fibrous material.
The pumps can be supplied for fixed or submersible installation with base frame.
The design has paid particular attention to achieving a good overall efficiency to ensure that the pumps are as cheap as possible to run.

**MOTOR**
Asynchronous, three-phase with squirrel-cage rotor.
The motor is cooled by the fluid in which it is submerged or by a forced cooling system.
The motor is separated from the pump by a large chamber partially filled with oil
that acts as a lubricant for the mechanical seals and as a heat exchanger.
Ensure compliance with the minimum head value given with the dimensions of each individual electric pump in order to ensure that the motor is correctly cooled, the exception being made for motors with forced cooling.

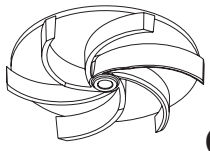
**SUPPORTS**
The shaft of the motor, on the extension of which the impeller is mounted, is guided by two bearings prelubricated with grease; the lower one supports the axial thrust.
The rotating assembly is very compact, with a short overhung pump shaft which reduces bearing loads and ensures reliability and long life.

**MECHANICAL SEALS**
The double mechanical seal (mounted in series) is a dual protection safeguarding the electric motor.
If the seal on the pump side becomes faulty, the motor will not be damaged thanks to the second seal on the motor side.
These seals are made of particularly suitable materials able to withstand heavy-duty conditions; the pump side seal is made with abrasionproof materials.

**SAFE OPERATION**
- The conductivity sensor in the oil chamber warns if there is water and transmits the relative signal to the appropriately preset electric panel.
This checks that the mechanical seals on the pump side operate correctly.
- The motor is equipped with thermal probes connected in series in the stator winding.
Should over-temperature conditions occur, the probes automatically cut off the power.

Electric pumps of the GK series feature three different hydraulics with the following characteristics.

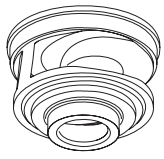
*Page 296*



**GKV**

**RETRACTED VORTEX IMPELLER**
The impeller offers reliability against clogging due to the feature of wide through passages, and a good resistance to wear thanks to the absence of shimming. The versatility of use compensates for this impellers somewhat lower efficiency. The impeller can be reduced in dimension to offer different characteristics.
For water containing a large amount of solids and long fibre, sewage with a high gas and sludge content.

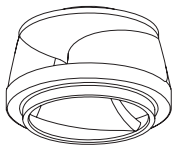
*Page 306*



**GKC**

**SINGLE-CHANNEL IMPELLER**
It offers reliability against clogging and features wide through sections and a good resistance to wear, low mechanical action on the fluid, high hydraulic efficiency.
Particularly suitable for clean water, water containing solid and fibrous solids, cloacal water, sewage and sludge.
Low vibrations thanks to the dynamically balanced impeller.

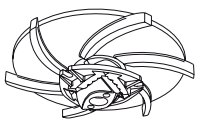
*Page 325*



**GKN**

**DOUBLE CHANNEL IMPELLER**
It offers reliability against clogging and features wide through sections and a good resistance to wear, low mechanical action on the fluid, high hydraulic efficiency.
Particularly suitable for clean water, water containing solid and fibrous solids, cloacal water, sewage and sludge.
Low vibrations thanks to the dynamically balanced impeller.

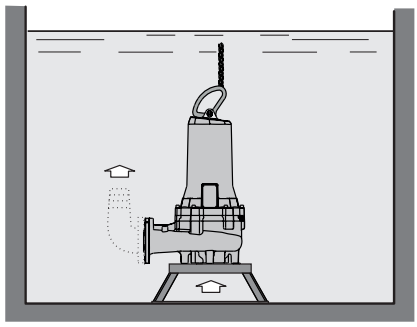
*Page 332*



**GKG**

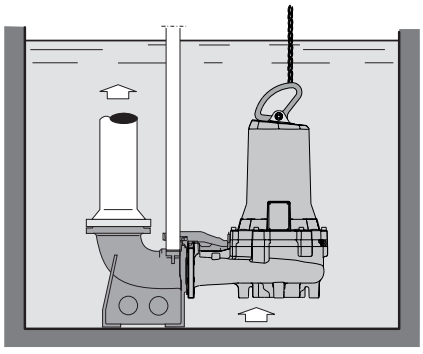
**SHREDDER**
Made of very hard stainless steel, the shape of the shredder ensures long-life and fade-free shredding capacity.
Waste water disposal from gas stations, community housing and neighbourhoods.
No particular tools are required to replace this part.

## STANDARD INSTALLATIONS



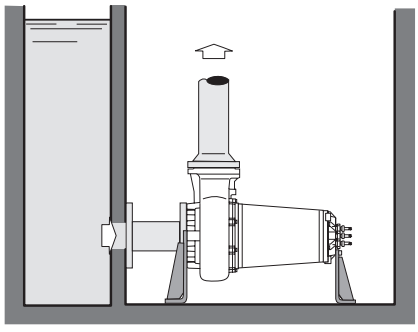
**Mobile and emergency immersed installation with support foot**
Version only recommended with electric pump installed on a solid and flat support surface and with flexible delivery pipe, particularly suitable for:
- all occasional or exceptional uses
- use on site or where mobility is required
- renovation of existing stations with architectural constraints.

The support frame, flexible delivery pipe bend, chain, etc. are available.

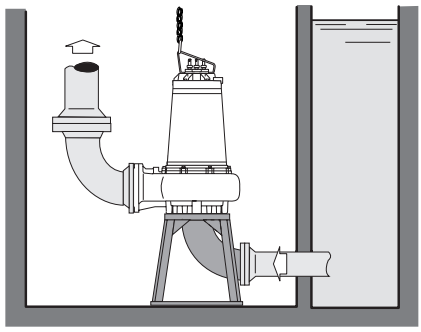


**Fixed installation with guide chute and automatic coupling base.**
It is the most suitable installation for fixed lifting stations. No special building infrastructures are required and the system is easy to build. The quick coupling allows quick and easy extraction and subsequent repositioning
of the electric pump in the tank, allowing ordinary maintenance or exceptional interventions to be performed in complete safety without having to enter the collection tank. The coupling foot, guide pipes, chain, etc. are available for this installation.

**IN A DRY CHAMBER**
It is the horizontal or vertical installation that requires a dry chamber, adjacent to the liquid collection tank, to house the electric pump unit.
Compared to traditional non-submersible machines, it has maximum operating safety and absence of risks even in the event that the dry chamber is submerged in liquid. Support stands are available.



**HORIZONTAL**
With outlet vent pointing upwards. The electric pump is attached with support brackets.
This arrangement requires a limited number of special pieces. The suction is horizontal and the delivery is vertical with a limited overall height.



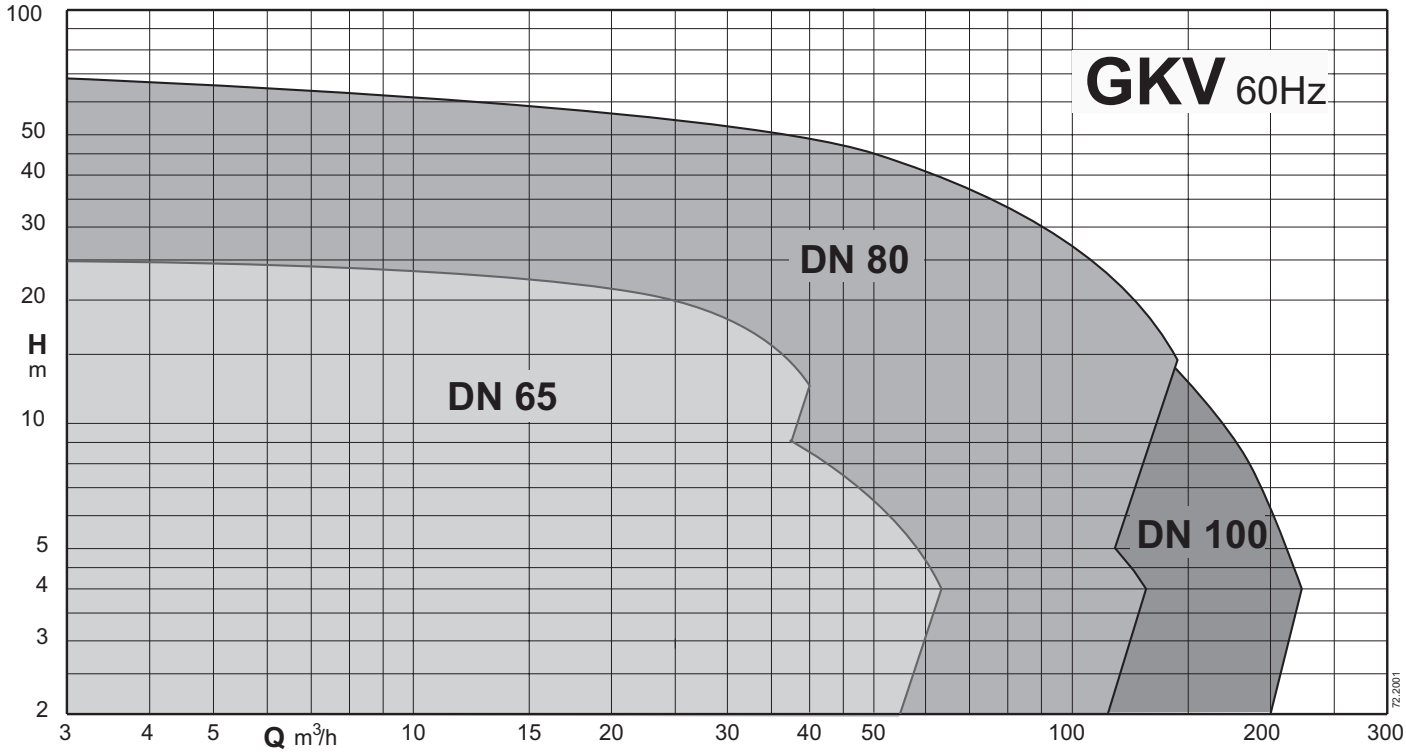
**VERTICAL**
This arrangement allows for maximum ease of inspection and maintenance, the suction and delivery are horizontal and it ensures minimum overall dimensions in plan configuration.

# GKV 60 Hz










# Submersible pumps with vortex impeller

# GKV 60 Hz

## Construction

Submersible pumps with vortex impeller.
The impeller offers reliability against clogging due to the feature of wide through passages, and a good resistance to wear thanks to the absence of shimming.
The versatility of use compensates for this impellers somewhat lower efficiency.
The impeller can be reduced in dimension to offer different characteristics.
Delivery port DN 65-80-100.

## Applications

For waste water and sewage with suspended bodies and with the presence of filamentous bodies, they are particularly suitable for the emptying of wells or primary collection tanks and septic tanks in domestic, residential and industrial installations.
Solid passage from 40 to 100mm

## Operating conditions

Liquid temperature: from 0°C to +40°C.
Maximum immersion depth: 20m (with cable of suitable length).
Maximum working pressure: 80 m.w.c.
pH of the liquid to be lifted: 4 ÷ 10
Continuous service (with water at minimum immersion level).

## Materials

Pump casing: cast iron EN-GJL250 UNI-EN 1561-11
Impeller: cast iron EN-GJL250 UNI-EN 1561-11
Motor casing: cast iron EN-GJL250 UNI-EN 1561-11
Shaft: stainless steel X20Cr13 (AISI420)
Motor side mechanical seal: graphite/ceramic
Pump side mechanical seal: silicon carbide/ceramic

## Motor

Induction motor 2,4,6 poles, 60Hz
**Three-phase version:** 460V ± 10%up to 4.8 kW
460/795V ± 10%from 5.8 kW
Isolation class: H
Degree of protection: IP 68
Max number of starts per hour:
- 20 up to 5 kW
- 15 up to 10 kW
- 10 for higher powers

Cable: length 10m
Direction of rotation: clockwise top view
Motor suitable for operation with frequency converter.

## Designation

GKV4 65-55D-0021F-60
GK = Series
V = Vortex impeller
4 = Number of poles
65 = Delivery port diameter in mm
55 = Free passage in mm
D = Impeller trim
0021 = Motor size kW x 10
F · = · Electric motor flange size
60 · = · Frequency 60 Hz

## Technical data

| TYPE | Dry chamber version | | Probes | | Cable | | Class | Duck foot coupling | Submersible pump rest | Dry chamber pump rest | Dry chamber pump support |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vertical | Horizontal | thermal | conductivity | NSSHOU-J | H07RN-F | Isolation /Efficiency | | | | |
| GKV4 65-55I-0016F-60 | – | – | o | o | – | • | H / IE3 | SAK 65-65-2 | – | – | – |
| GKV4 65-55F-0021F-60 | – | – | o | o | – | • | H / IE3 | SAK 65-65-2 | – | – | – |
| GKV4 65-55G-0026F-60 | – | – | o | o | – | • | H / IE3 | SAK 65-65-2 | – | – | – |
| GKV2 65-40L-0031F-60 | – | – | o | o | – | • | H / IE3 | SAK 65-65-2 | – | – | – |
| GKV2 65-40G-0031F-60 | – | – | o | o | – | • | H / IE3 | SAK 65-65-2 | – | – | – |
| GKV6 80-80H-0015H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV6 80-80E-0018H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV4 80-80M-0029H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV4 80-80L-0037H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV4 80-80H-0046H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV4 80-80E-0058H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV2 80-80S-0165L-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV2 80-80P-0165L-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV2 80-80L-0165L-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKV6 100-100G-0040L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV6 100-100E-0040L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV6 100-100D-0040L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100T-0037H-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100P-0046H-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100L-0058H-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100G-0058H-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100I-0075L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100G-0105L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKV4 100-100E-0125L-60 | # | # | • | • | • | – | H | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |

• = Standard
- = Not present
o = Optional
# = Version with oil chamber
# = In case of operation in a dry chamber or with a low level of the pumped liquid, it is necessary to introduce the cooling oil according to the quantities indicated in the use and maintenance manual

# GKV 60 Hz

## Performance

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 3,2 | 3,6 | 7,2 | 10,8 | 14,4 | 18 | 21,5 | 25,2 | 28,8 | 32,4 | 36 | 54 |
| Model | P2 | l/min | 0 | 53,33 | 60 | 120 | 180 | 240 | 300 | 358 | 420 | 480 | 540 | 600 | 900 |
| | kW | H (m) = Total head | | | | | | | | | | | | | |
| GKV4 65-55I-0016F-60 | 1,6 | | 8,3 | 8,1 | 8,1 | 7,8 | 7,6 | 7,3 | 6,9 | 6,6 | 6,2 | 5,7 | 5,3 | 4,8 | 1,7 |
| GKV4 65-55F-0021F-60 | 2,1 | | 9,5 | 9,2 | 9,2 | 9 | 8,9 | 8,7 | 8,4 | 8,1 | 7,7 | 7,3 | 6,8 | 6,3 | 3,5 |
| GKV4 65-55G-0026F-60 | 2,6 | | 11,4 | 11,2 | 11,2 | 11 | 10,8 | 10,6 | 10,3 | 10 | 9,7 | 9,4 | 9,1 | 8,7 | 6,2 |

### n ≈ 3450 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 1,8 | 2,2 | 2,5 | 2,9 | 3,2 | 3,6 | 7,2 | 10,8 | 14,4 | 18 | 21,5 | 25,2 | 28,8 | 32,4 | 36 | 39,6 |
| Model | P2 | l/min | | 30 | 36,66 | 41,66 | 48,33 | 53,33 | 60 | 120 | 180 | 240 | 300 | 358 | 420 | 480 | 540 | 600 | 660 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | | |
| GKV2 65-40L-0031F-60 | 3,1 | | 23,2 | 22,3 | 22,2 | 22 | 21,9 | 21,7 | 21,6 | 20,2 | 19 | 17,9 | 16,9 | 16 | 15,1 | 14,3 | 13,4 | 12,5 | 11,6 |
| GKV2 65-40G-0031F-60 | 3,1 | | 25,5 | 25 | 24,9 | 24,7 | 24,6 | 24,5 | 24,4 | 23,3 | 22,3 | 21,3 | 20,4 | 19,5 | 18,6 | - | - | - | - |

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 7,2 | 10,8 | 14,4 | 18 | 21,5 | 25,2 | 28,8 | 32,4 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| Model | P2 | l/min | | 120 | 180 | 240 | 300 | 358 | 420 | 480 | 540 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | |
| GKV6 80-80H-0015H-60 | 1,5 | | 8 | 7,6 | 7,4 | 7,2 | 7 | 6,8 | 6,5 | 6,3 | 6 | 5,7 | 4,9 | 4,1 | 3,2 | 2,3 | 1,3 | - |
| GKV6 80-80E-0018H-60 | 1,8 | | 8,9 | 8,5 | 8,3 | 8,1 | 7,9 | 7,7 | 7,5 | 7,2 | 6,9 | 6,7 | 5,9 | 5,2 | 4,4 | 3,5 | 2,6 | 1,7 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 7,2 | 14,4 | 21,5 | 28,8 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 | 117 | 126 |
| Model | P2 | l/min | 0 | 120 | 240 | 358 | 480 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 1950 | 2100 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | |
| GKV4 80-80M-0029H-60 | 2,9 | | 13,6 | 13 | 12,3 | 11,7 | 10,9 | 10,1 | 9 | 7,8 | 6,6 | 5,4 | 4,4 | - | - | - | - | - |
| GKV4 80-80L-0037H-60 | 3,7 | | 15,4 | 14,8 | 14,3 | 13,7 | 13 | 12,2 | 11,1 | 9,9 | 8,6 | 7,3 | 6 | 4,7 | - | - | - | - |
| GKV4 80-80H-0046H-60 | 4,6 | | 18 | 17,4 | 16,8 | 16,2 | 15,6 | 14,9 | 14 | 13,1 | 12 | 10,8 | 9,5 | 8,1 | 6,7 | 5,3 | - | - |
| GKV4 80-80E-0058H-60 | 5,8 | | 20,4 | 19,7 | 19 | 18,3 | 17,6 | 16,8 | 15,9 | 14,9 | 13,9 | 12,9 | 11,8 | 10,6 | 9,3 | 8 | 6,6 | 5 |

### n ≈ 3450 1/min

| | | Q = Flow | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 1,4 | 2,2 | 2,9 | 3,6 | 7,2 | 14,4 | 21,5 | 28,8 | 36 | 54 | 72 | 90 | 108 | 126 |
| Model | P2 | l/min | 0 | 23,33 | 36,66 | 48,33 | 60 | 120 | 240 | 358 | 480 | 600 | 900 | 1200 | 1500 | 1800 | 2100 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | |
| GKV2 80-80S-0165L-60 | 16,5 | | 46,3 | 46,1 | 46 | 45,9 | 45,9 | 45,5 | 44,6 | 43,5 | 42,3 | 41 | 37,3 | 33 | 28,6 | 24,2 | 20 |
| GKV2 80-80P-0165L-60 | 16,5 | | 59,5 | 59,5 | 59,5 | 59,4 | 59,4 | 59,3 | 58,8 | 58,1 | 57,1 | 55,8 | - | - | - | - | - |
| GKV2 80-80L-0165L-60 | 16,5 | | 68,9 | 68,7 | 68,6 | 68,5 | 68,4 | 67,9 | 66,9 | 66 | - | - | - | - | - | - | - |

# GKV 60 Hz

## Performance

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 10,8 | 14,4 | 21,5 | 28,8 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 | 117 | 126 | 135 |
| Model | P2 | l/min | | 180 | 240 | 358 | 480 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 1950 | 2100 | 2250 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | | |
| GKV6 100-100G-0040L-60 | 4 | | 9,2 | 9 | 8,9 | 8,6 | 8,3 | 7,9 | 7,4 | 6,9 | 6,3 | 5,8 | 5,2 | 4,6 | 4 | 3,3 | 2,7 | 2 | 1,2 |
| GKV6 100-100E-0040L-60 | 4 | | 10,6 | 10,3 | 10,2 | 10 | 9,7 | 9,4 | 8,9 | 8,4 | 7,9 | 7,3 | 6,8 | 6,2 | 5,5 | 4,9 | 4,3 | 3,7 | 3 |
| GKV6 100-100D-0040L-60 | 4 | | 11,3 | 10,9 | 10,7 | 10,4 | 10,1 | 9,8 | 9,4 | 9 | 8,5 | 8 | 7,5 | 7 | 6,4 | 5,7 | 5,1 | 4,4 | 3,6 |

### n ≈ 1750 1/min

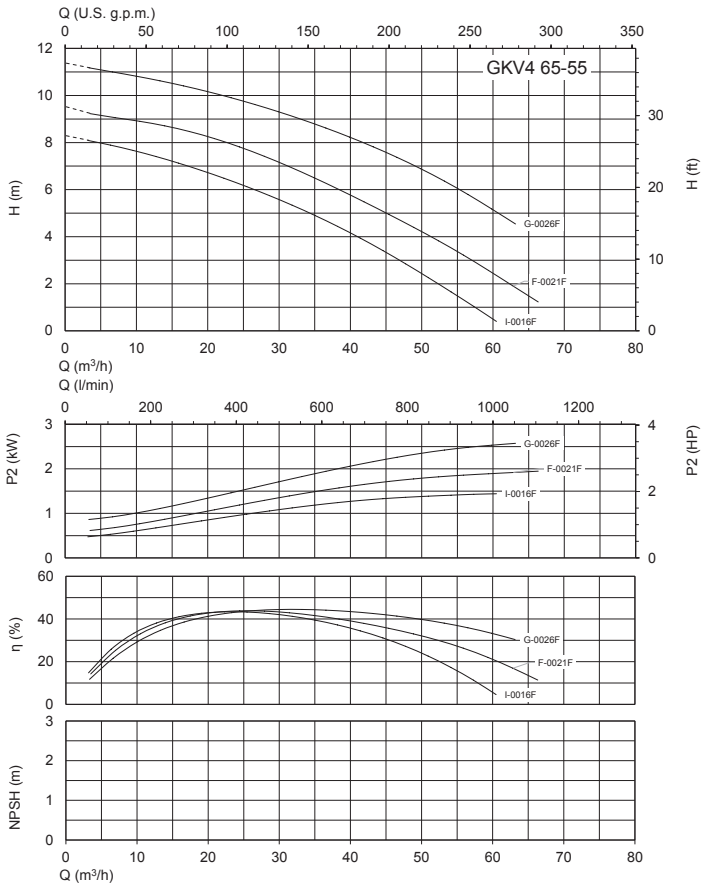
| | | Q = Flow | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 7,2 | 14,4 | 21,5 | 28,8 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 |
| Model | P2 | l/min | 0 | 120 | 240 | 358 | 480 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 |
| | kW | H (m) = Total head | | | | | | | | | | | | | |
| GKV4 100-100T-0037H-60 | 3,7 | | 10,4 | 10,2 | 9,9 | 9,7 | 9,4 | 9 | 7,9 | 6,6 | 5,1 | 3,7 | - | - | - |
| GKV4 100-100P-0046H-60 | 4,6 | | 11,8 | 11,7 | 11,5 | 11,3 | 11 | 10,6 | 9,5 | 8,2 | 6,7 | 4,9 | 3,1 | - | - |
| GKV4 100-100L-0058H-60 | 5,8 | | 14,3 | 14 | 13,6 | 13,3 | 12,9 | 12,6 | 11,5 | 10,3 | 8,9 | 7,3 | 5,9 | 4,5 | - |
| GKV4 100-100G-0058H-60 | 5,8 | | 15,9 | 15,8 | 15,5 | 15,2 | 14,9 | 14,5 | 13,4 | 12,1 | 10,8 | 9,3 | 7,8 | 6,1 | 4,4 |

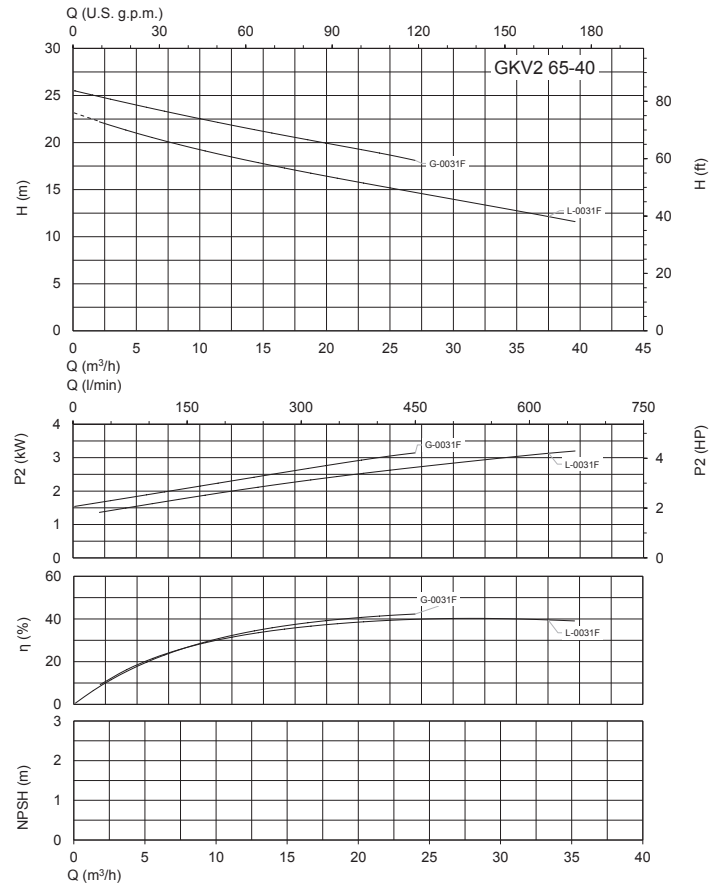
### n ≈ 1750 1/min

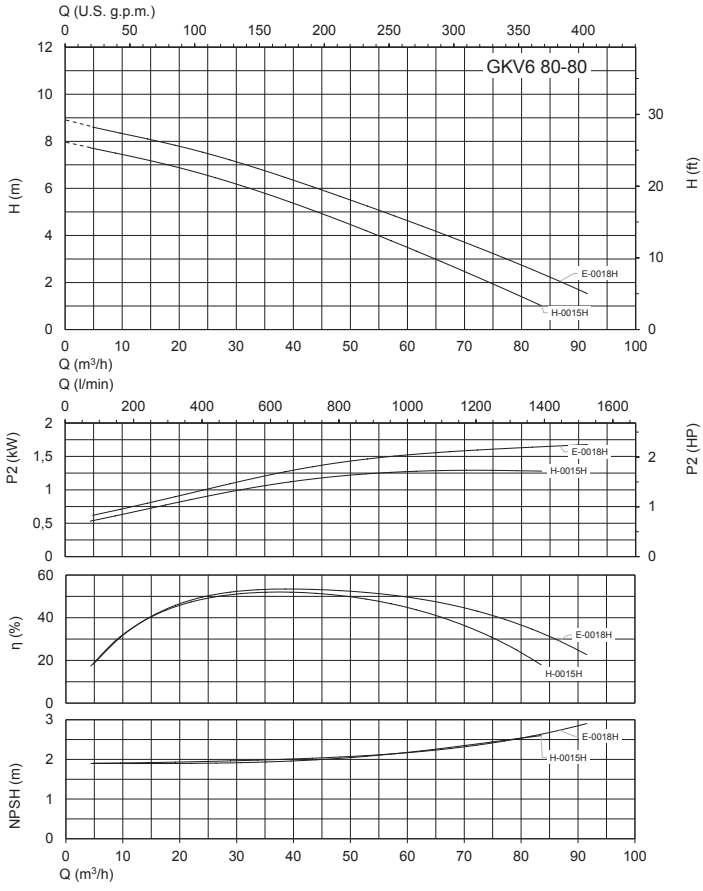
| | | Q = Flow | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 10,8 | 14,4 | 21,5 | 28,8 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | 216 | |
| Model | P2 | l/min | | 180 | 240 | 358 | 480 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3300 | 3600 | |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | | |
| GKV4 100-100I-0075L-60 | 7,5 | | 17,5 | 17,4 | 17,2 | 16,8 | 16,4 | 15,9 | 14,4 | 12,8 | 11,1 | 9,4 | 7,6 | 5,8 | 3,8 | - | - | - | |
| GKV4 100-100G-0105L-60 | 10,5 | | 20,8 | 20,6 | 20,5 | 20,1 | 19,8 | 19,3 | 18 | 16,6 | 15 | 13,3 | 11,5 | 9,7 | 7,8 | 5,7 | - | - | |
| GKV4 100-100E-0125L-60 | 12,5 | | 24,1 | 23,8 | 23,7 | 23,5 | 23,1 | 22,8 | 21,6 | 20,1 | 18,5 | 16,8 | 15 | 13,1 | 11,2 | 9,3 | 7,3 | 5,2 | |

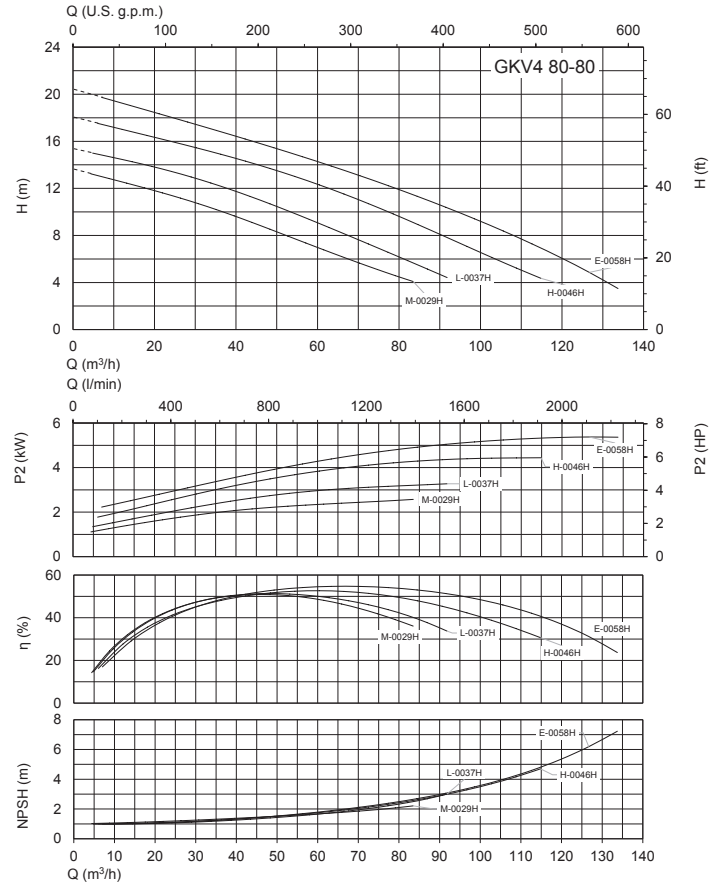
# GKV 60 Hz

## Characteristic curves



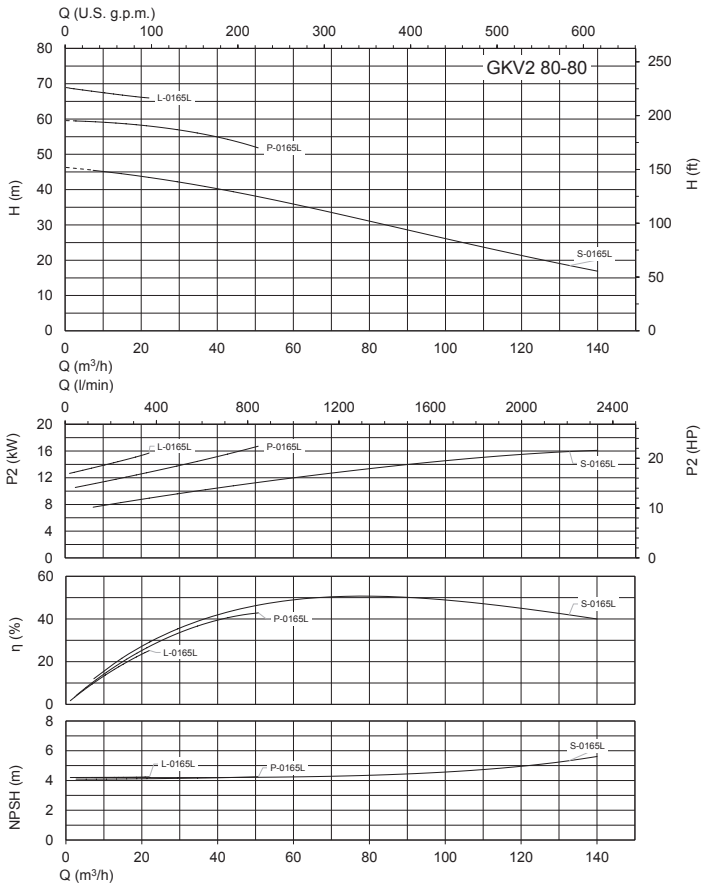



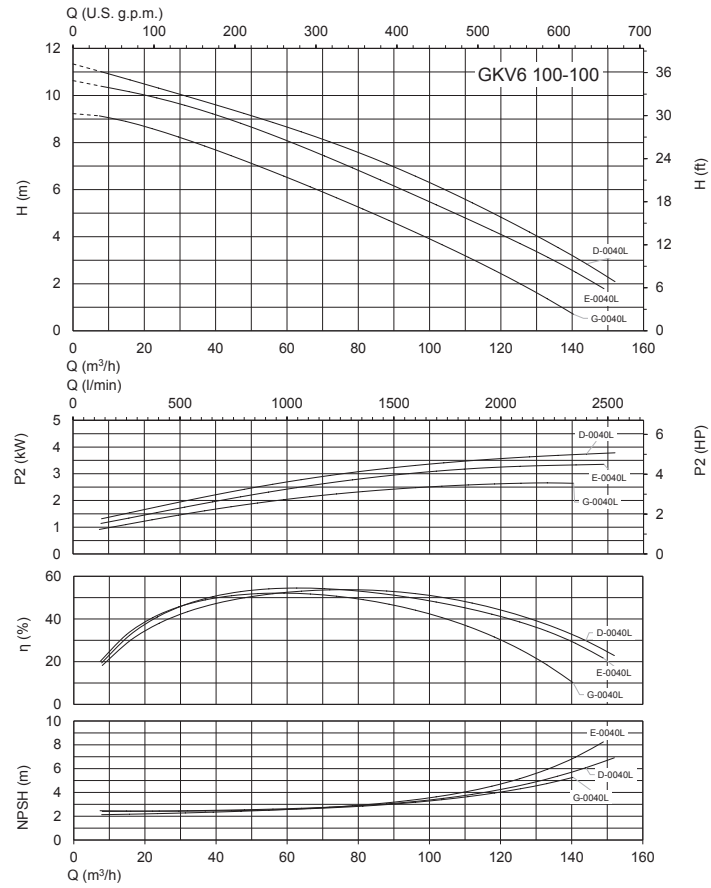



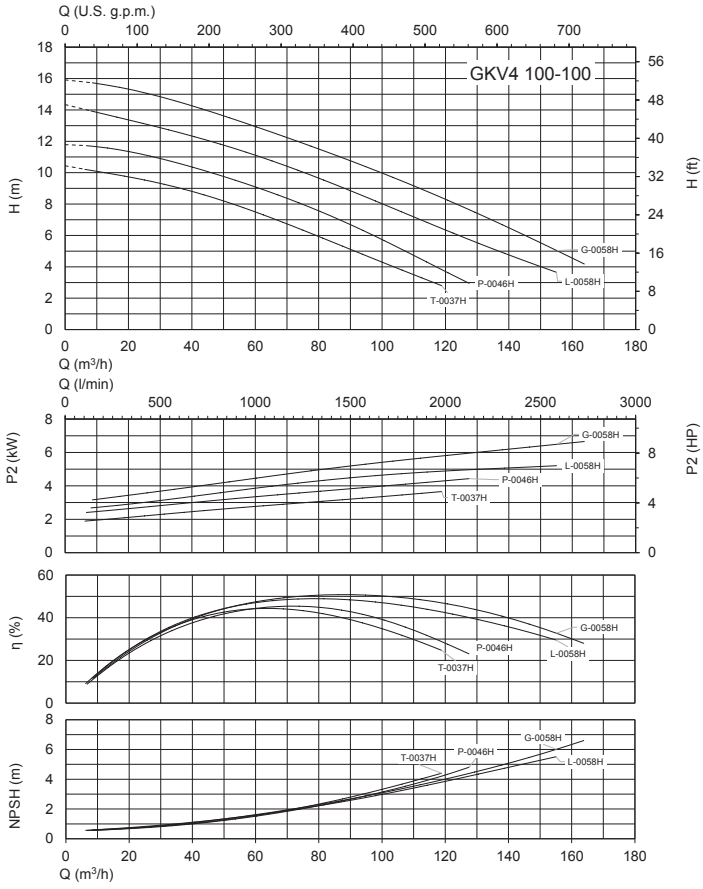



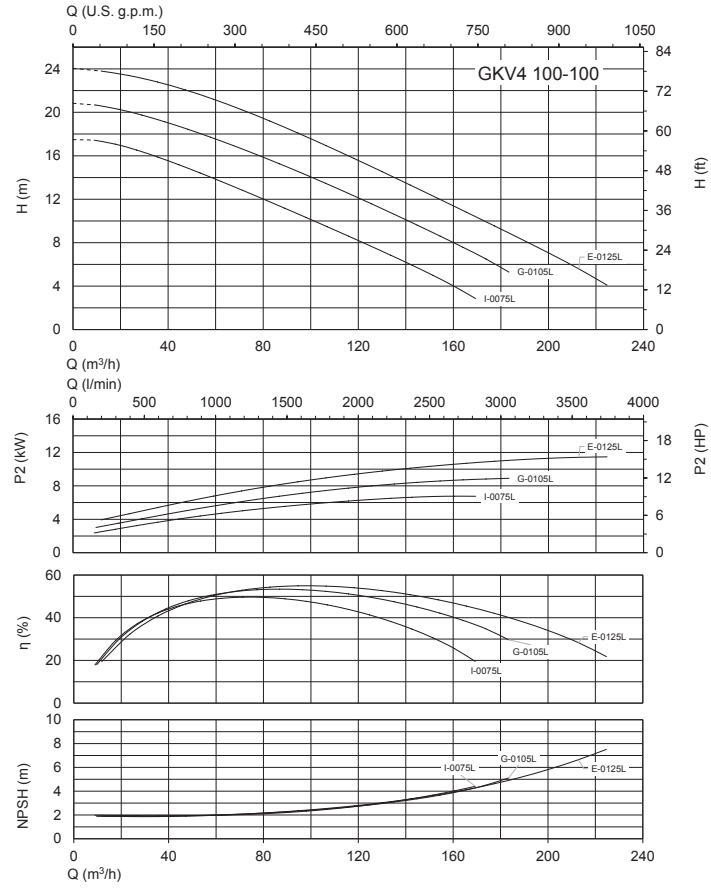
# GKV 60 Hz

## Characteristic curves



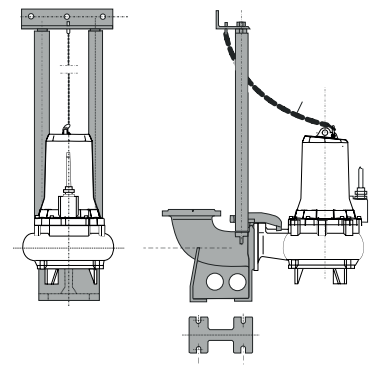



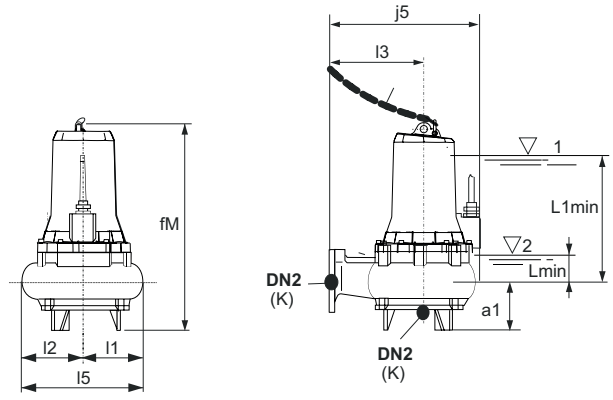



## Dimensions and weights

**Duck foot coupling**

**SAK**





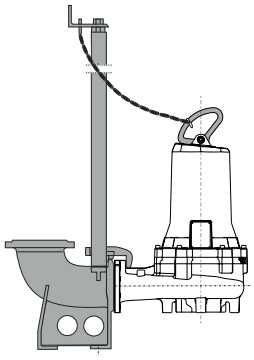

| TYPE | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|
| | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKV4 65-55I-0016F-60** | 65 | 140 | 373 | 148 | 148 | 225 | 296 | 255 | 90 | 65 |
| **GKV4 65-55F-0021F-60** | 65 | 140 | 373 | 148 | 148 | 225 | 296 | 255 | 90 | 67 |
| **GKV4 65-55G-0026F-60** | 65 | 140 | 373 | 148 | 148 | 225 | 296 | 255 | 90 | 65 |
| **GKV2 65-40L-0031F-60** | 65 | 107.5 | 370 | 113 | 113 | 225 | 226 | 282.5 | 92.5 | 65 |
| **GKV2 65-40G-0031F-60** | 65 | 107.5 | 370 | 113 | 113 | 225 | 226 | 282.5 | 92.5 | 62 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights

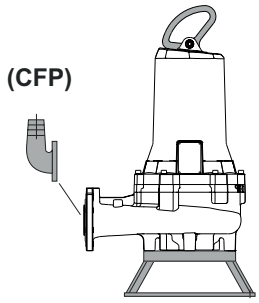
**Duck foot coupling**

**SAK**



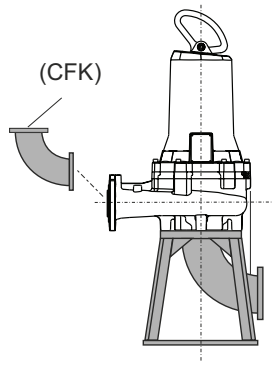
**Submersible pump rest**

**APK**



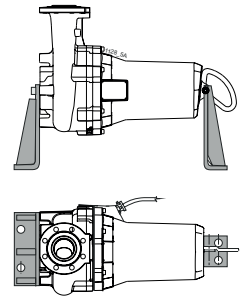

**Dry chamber pump rest**

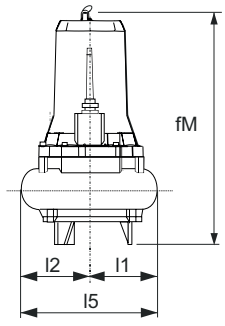
**APCK**

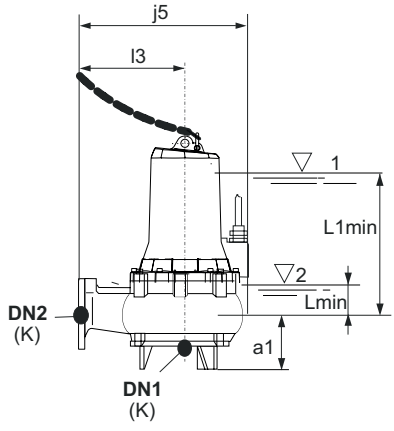



**Dry chamber pump support**

**SOK**






| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKV6 80-80H-0015H-60** | 80 | 80 | 92 | 392 | 204.5 | 146 | 245 | 350.5 | 315 | 97 | 85.9 |
| **GKV6 80-80E-0018H-60** | 80 | 80 | 92 | 392 | 221 | 146 | 245 | 367 | 349 | 97 | 108 |

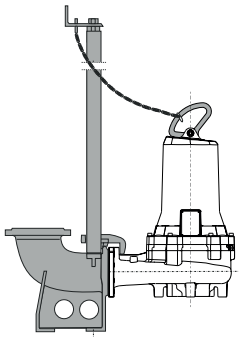
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKV 60 Hz

## Dimensions and weights

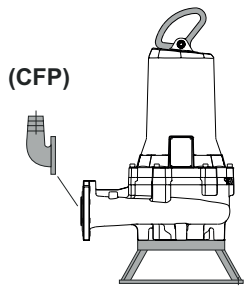
**Duck foot coupling**

**SAK**



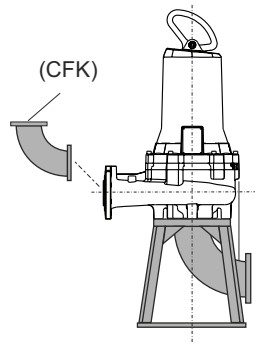
**Submersible pump rest**

**APK**



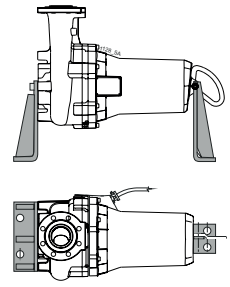

**Dry chamber pump rest**

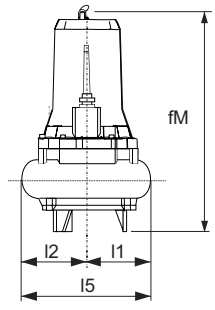
**APCK**

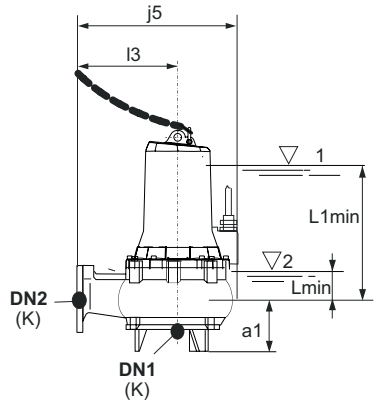



**Dry chamber pump support**

**SOK**






| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKV2 80-80S-0165L-60** | 80 | 80 | 99 | 543 | 236.5 | 165 | 370 | 401.5 | 446 | 98 | 168.3 |
| **GKV2 80-80P-0165L-60** | 80 | 80 | 99 | 543 | 236.5 | 165 | 370 | 401.5 | 446 | 98 | 168.5 |
| **GKV2 80-80L-0165L-60** | 80 | 80 | 99 | 543 | 236.5 | 165 | 370 | 401.5 | 446 | 98 | 169.1 |
| **GKV4 80-80M-0029H-60** | 80 | 80 | 92 | 392 | 204.5 | 146 | 245 | 350.5 | 315 | 97 | 93.1 |
| **GKV4 80-80L-0037H-60** | 80 | 80 | 92 | 392 | 221 | 146 | 245 | 367 | 349 | 97 | 107.6 |
| **GKV4 80-80H-0046H-60** | 80 | 80 | 92 | 392 | 221 | 146 | 245 | 367 | 349 | 97 | 109 |
| **GKV4 80-80E-0058H-60** | 80 | 80 | 92 | 392 | 221 | 146 | 245 | 367 | 349 | 97 | 118.6 |

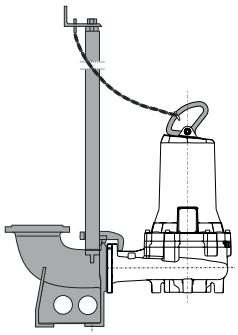
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKV 60 Hz

## Dimensions and weights

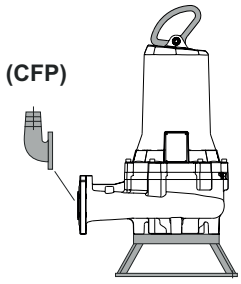
**Duck foot coupling**

**SAK**



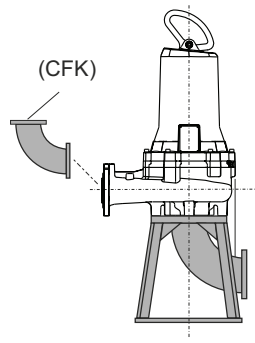
**Submersible pump rest**

**APK**



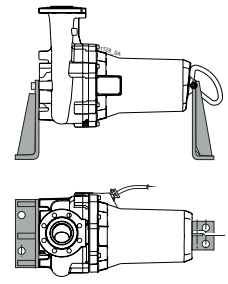

**Dry chamber pump rest**

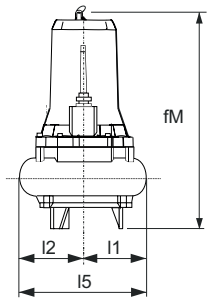
**APCK**

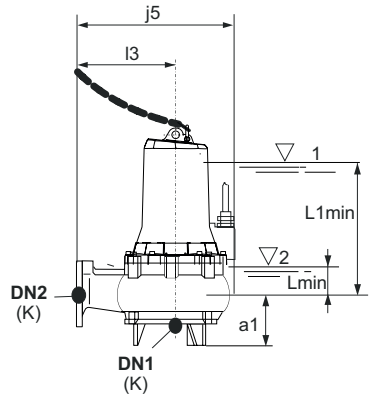



**Dry chamber pump support**

**SOK**





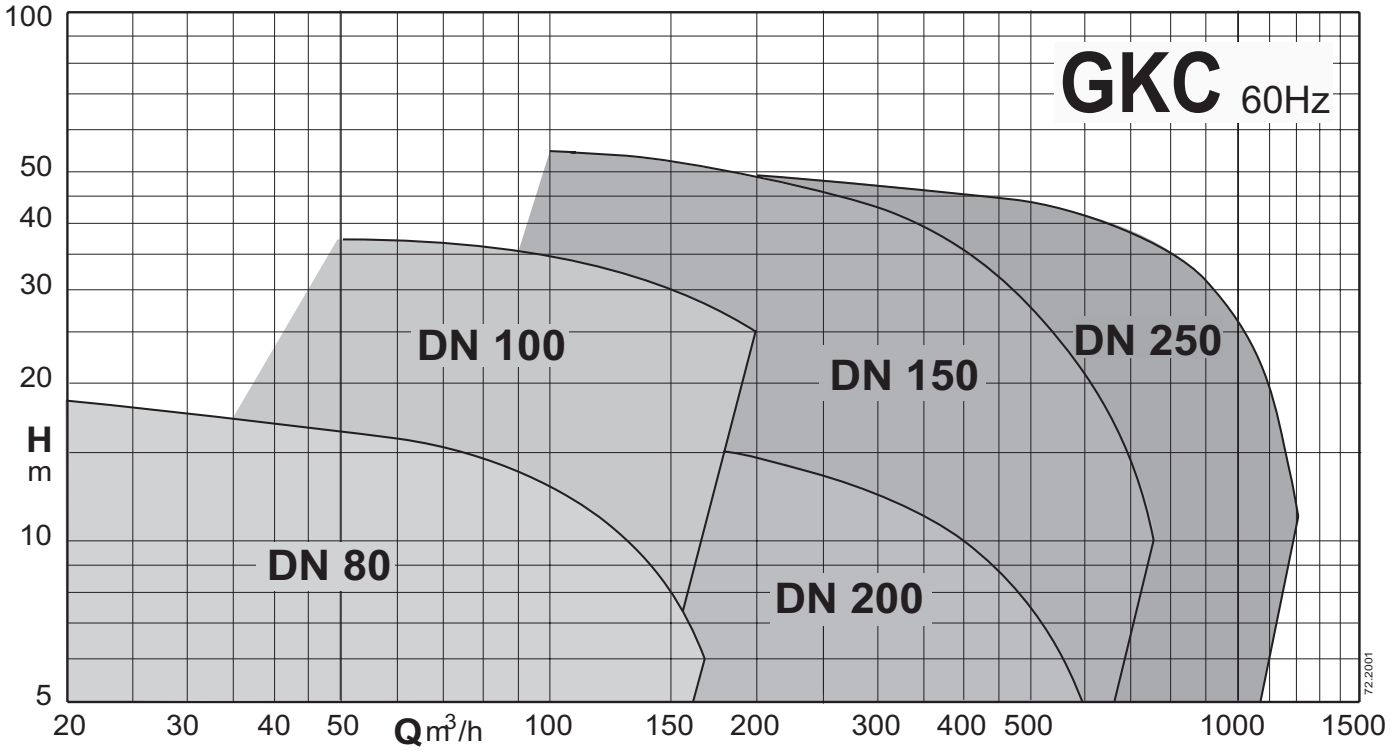




| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKV6 100-100G-0040L-60** | 100 | 100 | 112 | 473 | 225.5 | 178.5 | 295 | 404 | 468 | 106 | 139.5 |
| **GKV6 100-100E-0040L-60** | 100 | 100 | 112 | 473 | 225.5 | 178.5 | 295 | 404 | 468 | 106 | 139.9 |
| **GKV6 100-100D-0040L-60** | 100 | 100 | 112 | 473 | 225.5 | 178.5 | 295 | 404 | 468 | 106 | 140.3 |
| **GKV4 100-100T-0037H-60** | 100 | 100 | 112 | 434 | 221 | 171 | 263 | 392 | 361 | 106 | 111.3 |
| **GKV4 100-100P-0046H-60** | 100 | 100 | 112 | 434 | 221 | 171 | 263 | 392 | 361 | 106 | 111.1 |
| **GKV4 100-100L-0058H-60** | 100 | 100 | 112 | 434 | 221 | 171 | 263 | 392 | 361 | 106 | 120.4 |
| **GKV4 100-100G-0058H-60** | 100 | 100 | 112 | 434 | 221 | 171 | 263 | 392 | 361 | 106 | 120.6 |
| **GKV4 100-100I-0075L-60** | 100 | 100 | 112 | 473 | 225.5 | 178.5 | 295 | 404 | 468 | 106 | 147.8 |
| **GKV4 100-100G-0105L-60** | 100 | 100 | 112 | 473 | 236 | 178.5 | 295 | 414.5 | 468 | 106 | 171.2 |
| **GKV4 100-100E-0125L-60** | 100 | 100 | 112 | 473 | 236.5 | 178.5 | 295 | 415 | 468 | 106 | 171.6 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKC 60 Hz






# Submersible pumps with single channel impeller

# GKC 60 Hz

## Construction

Submersible pumps with single-channel impeller.
It offers reliability against clogging and features wide through sections and a good resistance to wear, low mechanical action on the fluid, high hydraulic efficiency.
Low vibrations thanks to the dynamically balanced impeller.
Delivery port DN 65-80-100-150-200-250

## Applications

Particularly suitable for clean water, water containing solid and fibrous solids, cloacal water, sewage and sludge.
Particularly suitable for the emptying of sewage from cesspits or primary collection tanks or industrial waste water.
Solid passage from 40 to 163 mm.

## Operating conditions

Liquid temperature: from 0°C to +40°C.
Maximum immersion depth: 20m (with cable of suitable length).
Maximum working pressure: 80 m.w.c.
pH of the liquid to be lifted: 4 ÷ 10
Continuous service (with water at minimum immersion level).

## Materials

Pump casing: cast iron EN-GJL250 UNI-EN 1561-11
Impeller: cast iron EN-GJL250 UNI-EN 1561-11
Motor casing: cast iron EN-GJL250 UNI-EN 1561-11 / EN-GJL450 UNI-EN 1561-11
Shaft: stainless steel X20Cr13 (AISI420)
Mechanical seal pumps with insulation class H
- motor side: graphite/ceramic
- pump side: silicon/ceramic carbide

Mechanical seal pumps with insulation class F
- motor side: stainless steel/graphite
- pump side: Silicon carbide/silicon carbide

## Motor

Induction motor 2,4,6,8 poles, 60Hz
**Three-phase version:** 460V ± 10%, up to 4,8 kW
460/795V ± 10% from 5,8 kW
Isolation class: H
Degree of protection: IP 68
Max number of starts per hour:
- 20 up to 5 kW
- 15 up to 10 kW
- 10 for higher powers

Cable: length 10m
Direction of rotation: clockwise top view
Motor suitable for operation with frequency converter.

## Designation

GKC4 100-80A-0058R-60
GK = Series
C = Single-channel impeller
4 = Number of poles
100 = Delivery port diameter in mm
80 = Free passage in mm
A = Impeller trim
0058 = Motor size kW x 10
R = With cooling jacket
60 = Frequency 60 Hz

## Technical data

| TYPE | Dry chamber version | | Probes | | Cable | | Class | Duck foot coupling | Submersible pump rest | Dry chamber pump rest | Dry chamber pump support |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vertical | Horizontal | thermal | conductivity | NSSHOU-J | H07RN-F | Isolation /Efficiency | | | | |
| GKC6 80-75G-0015H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKC6 80-75D-0015H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKC6 80-75A-0018H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKC4 80-75G-0029H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKC4 80-75D-0037H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 100 | APCK 100 | SOK100/N3 |
| GKC4 80-75C-0046H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 100 | APCK 100 | SOK100/N3 |
| GKC4 80-75A-0058H-60 | # | # | • | • | • | – | H / IE3 | SAK 80-80-2 | APK 80 | APCK 80 | SOK80/N3 |
| GKC6 100-80L-0018H-60 | # | # | • | • | • | – | H / IE3 | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKC6 100-80G-0018H-60 | # | # | • | • | • | – | H / IE3 | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKC4 100-80L-0058H-60 | # | # | • | • | • | – | H / IE3 | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKC4 100-80G-0058H-60 | # | # | • | • | • | – | H / IE3 | SAK 100-100-2A | APK 100 | APCK 100 | SOK100/N3 |
| GKC4 100-100G-0230N-60 | # | – | • | • | • | – | H / IE3 | SAK 100-100-2 | APK 150 | APCK 150A | – |
| GKC4 100-100L-0230N-60 | # | – | • | • | • | – | H / IE3 | SAK 100-100-2 | APK 150 | APCK 150A | – |

• = Standard
- = Not present
o = Optional
# = Version with oil chamber
# = In case of operation in a dry chamber or with a low level of the pumped liquid, it is necessary to introduce the cooling oil according to the quantities indicated in the use and maintenance manual

# GKC 60 Hz

## Technical data

| TYPE | Dry chamber version | | Probes | | Cable | | Class | Duck foot coupling | Submersible pump rest | Dry chamber pump rest | Dry chamber pump support |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vertical | Horizontal | thermal | conductivity | NSSHOU-J | H07RN-F | Isolation | | | | |
| GKC6 150-100G-0040L-60 | # | # | • | • | • | – | H | SAK 150-150-2 | APK 150 | APCK 150A | SOK150/N3 |
| GKC6 150-100D-0040L-60 | # | # | • | • | • | – | H | SAK 150-150-2 | APK 150 | APCK 150A | SOK150/N3 |
| GKC4 150-100D-0075L-60 | # | # | • | • | • | – | H | SAK 150-150-3 | APK 150 | APCK 150A | SOK150/N3 |
| GKC4 150-100A-0105L-60 | # | # | • | • | • | – | H | SAK 150-150-4 | APK 150 | APCK 150A | SOK150/N3 |
| GKC4 150-100G-0125L-60 | # | # | • | • | • | – | H | SAK 150-150-5 | APK 150 | APCK 150A | SOK150/N3 |
| GKC4 150-115L-0260N-60 | # | – | • | • | • | – | H | SAK 150-200-3 | APK 150 | APCK 150A | – |
| GKC6 150-115L-0110N-60 | # | – | • | • | • | – | H | SAK 150-200-3 | APK 150 | APCK 150A | – |
| GKC6 150-115G-0110N-60 | # | – | • | • | • | – | H | SAK 150-200-3 | APK 150 | APCK 150A | – |
| GKC6 150-115D-0150N-60 | # | – | • | • | • | – | H | SAK 150-200-3 | APK 150 | APCK 150A | – |
| GKC6 150-115A-0150N-60 | # | – | • | • | • | – | H | SAK 150-200-3 | APK 150 | APCK 150A | – |
| GKC4 150-102N-0420R-60 | – | – | • | • | – | • | F | SAK 150-200-3 | APK 150A | – | – |
| GKC4 150-102M-0510R-60 | – | – | • | • | – | • | F | SAK 150-200-3 | APK 150A | – | – |
| GKC4 150-102H-0620R-60 | – | – | • | • | – | • | F | SAK 150-200-3 | APK 150A | – | – |
| GKC4 150-102N-0420R-R-60 | – | – | • | • | – | • | F | SAK 150-200-4 | APK 150A | – | – |
| GKC4 150-102M-0510R-R-60 | – | – | • | • | – | • | F | SAK 150-200-5 | APK 150A | – | – |
| GKC4 150-102H-0620R-R-60 | – | – | • | • | – | • | F | SAK 150-200-6 | APK 150A | – | – |
| GKC6 150-102A-0340R-60 | – | – | • | • | – | • | F | SAK 150-200-3 | APK 150A | – | – |
| GKC6 150-102A-0340R-R-60 | • | • | • | • | – | • | F | SAK 150-200-3 | APCK 150 | APCK 150A | SOK150-200 |
| GKC6 200-135G-0195P-60 | # | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | – |
| GKC8 250-163L-0170Z-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC8 250-163G-0250Z-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC8 250-163A-0340Z-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC8 250-163L-0170Z-R-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC8 250-163G-0250Z-R-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC8 250-163A-0340Z-R-60 | – | – | • | • | – | • | F | SAK 250-300-4 | APK 351 | – | – |
| GKC6 250-163L-0420R-60 | – | – | • | • | – | • | F | SAK 250-300-3 | APK 350 | – | – |
| GKC6 250-163G-0600T-60 | – | – | • | • | – | • | F | SAK 250-300-4 | APK 351 | – | – |
| GKC6 250-163B-0820T-60 | – | – | • | • | – | • | F | SAK 250-300-5 | APK 352 | – | – |
| GKC6 250-163A-1000T-60 | – | – | • | • | – | • | F | SAK 250-300-6 | APK 353 | – | – |
| GKC6 250-163G-0600T-R-60 | – | – | • | • | – | • | F | SAK 250-300-7 | APK 354 | – | – |
| GKC6 250-163B-0820-R-60 | – | – | • | • | – | • | F | SAK 250-300-8 | APK 355 | – | – |
| GKC6 250-163A-1000T-R-60 | – | – | • | • | – | • | F | SAK 250-300-9 | APK 356 | – | – |

• = Standard
- = Not present
o = Optional
# = Version with oil chamber
$ = Version with cooling jacket

# = In case of operation in a dry chamber or with a low level of the pumped liquid, it is necessary to introduce the cooling oil according to the quantities indicated in the use and maintenance manual

# GKC 60 Hz

## Performance

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 18 | 21,5 | 25,2 | 28,8 | 32,4 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| Model | P2 | l/min | | 300 | 358 | 420 | 480 | 540 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 |
| | kW | H (m) = Total head | | | | | | | | | | | | | |
| GKC6 80-75G-0015H-60 | 1,5 | | 6,2 | - | 5,1 | 4,9 | 4,7 | 4,5 | 4,3 | 3,7 | 3,1 | 2,4 | 1,6 | - | - |
| GKC6 80-75D-0015H-60 | 1,5 | | 8,2 | 6,3 | 6,2 | 6 | 5,9 | 5,7 | 5,5 | 4,9 | 4,3 | 3,6 | 2,9 | - | - |
| GKC6 80-75A-0018H-60 | 1,8 | | 10,5 | - | - | 7,9 | 7,6 | 7,4 | 7,2 | 6,7 | 6,1 | 5,5 | 4,9 | 4,1 | 3,3 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 21,5 | 28,8 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 |
| Model | P2 | l/min | 0 | 358 | 480 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 |
| | kW | H (m) = Total head | | | | | | | | | | | |
| GKC4 80-75G-0029H-60 | 2,9 | | 15,8 | - | 12,6 | 11,8 | 10 | 8,2 | 6,5 | 4,7 | - | - | - |
| GKC4 80-75D-0037H-60 | 3,7 | | 19,5 | - | 14,9 | 14,5 | 13,3 | 11,7 | 9,9 | 8 | 5,8 | - | - |
| GKC4 80-75C-0046H-60 | 4,6 | | 21,6 | 18 | 17,3 | 16,6 | 15 | 13,3 | 11,5 | 9,6 | 7,4 | - | - |
| GKC4 80-75A-0058H-60 | 5,8 | | 23,6 | - | 19 | 18,5 | 16,9 | 15,2 | 13,3 | 11,4 | 9,3 | 6,8 | - |
| GKC4 80-80G-0058H-60 | 5,8 | | 24,2 | - | - | 17,5 | 16,3 | 15 | 13,4 | 11,6 | 9,7 | 7,8 | 5,9 |
| GKC4 80-80L-0058H-60 | 5,8 | | 22,2 | - | - | - | 14,3 | 12,8 | 11,2 | 9,5 | 7,7 | 5,8 | 3,7 |

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 25,2 | 28,8 | 32,4 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 | 117 | 126 |
| Model | P2 | l/min | | 420 | 480 | 540 | 600 | 750 | 900 | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 1950 | 2100 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | |
| GKC6 100-80L-0018H-60 | 1,8 | | 7,9 | - | 6,6 | 6,5 | 6,4 | 6 | 5,6 | 5,2 | 4,8 | 4,3 | 3,9 | 3,5 | 3 | - | - |
| GKC6 100-80G-0018H-60 | 1,8 | | 10,5 | 8,5 | 8,2 | 8 | 7,8 | 7,3 | 6,7 | 6,3 | 5,8 | 5,3 | 4,8 | 4,3 | 3,7 | 3,1 | 2,5 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 10,8 | 14,4 | 21,5 | 28,8 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 |
| Model | P2 | l/min | 0 | 180 | 240 | 358 | 480 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | |
| GKC4 100-80L-0058H-60 | 5,8 | | 21,2 | - | - | - | - | - | 14,4 | 13,1 | 11,8 | 10,4 | 9 | 7,5 | 5,8 | - |
| GKC4 100-80G-0058H-60 | 5,8 | | 24,3 | 22,1 | 21,5 | 20,4 | 19,4 | 18,6 | 17 | 15,7 | 14,5 | 13,2 | 11,8 | 10,3 | 8,9 | 7,3 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 54 | 63 | 72 | 81 | 90 | 99 | 108 | 117 | 126 | 135 | 144 | 162 | 180 |
| Model | P2 | l/min | | 900 | 1050 | 1200 | 1350 | 1500 | 1650 | 1800 | 1950 | 2100 | 2250 | 2400 | 2700 | 3000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | |
| GKC4 100-100G-0230N-60 | 23 | | 44,6 | 37,9 | 37,1 | 36,4 | 35,8 | 35,3 | 34,9 | 34,5 | 34,1 | 33,7 | - | - | - | - |
| GKC4 100-100L-0230N-60 | 23 | | 40 | 33,1 | 32,4 | 31,9 | 31,4 | 31 | 30,6 | 30,2 | 29,8 | 29,4 | 29 | 28,6 | 27,8 | 26,8 |

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 198 | 216 |
| Model | P2 | l/min | | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3300 | 3600 |
| | kW | H (m) = Total head | | | | | | | | | | | |
| GKC6 150-100G-0040L-60 | 4 | | 11,5 | 9,9 | 9,3 | 8,7 | 7,9 | 7,2 | 6,4 | 5,5 | 4,7 | - | - |
| GKC6 150-100D-0040L-60 | 4 | | 14,8 | 11,2 | 10,3 | 9,6 | 9 | 8,4 | 7,8 | 7,1 | 6,3 | 5,6 | 4,7 |

# GKC 60 Hz

## Performance

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 18 | 36 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 216 | 252 | 288 |
| Model | P2 | l/min | 0 | 300 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3600 | 4200 | 4800 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | |
| GKC4 150-100D-0075L-60 | 7,5 | | 22,6 | - | - | - | 16,8 | 16 | 15,1 | 14,1 | 13 | 11,9 | 10,8 | 8,2 | 4,9 | - |
| GKC4 150-100A-0105L-60 | 10,5 | | 29,7 | - | - | 22,8 | 21,1 | 19,9 | 18,8 | 17,8 | 16,6 | 15,5 | 14,2 | 11,4 | 8,3 | - |
| GKC4 150-100G-0125L-60 | 12,5 | | 26,1 | 24,6 | 23,2 | 22 | 20,8 | 19,7 | 18,7 | 17,8 | 16,9 | 16,1 | 15,3 | 13,7 | 11,8 | 9,2 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 90 | 108 | 126 | 144 | 162 | 180 | 216 | 252 | 288 | 324 | 360 | 450 |
| Model | P2 | l/min | 0 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3600 | 4200 | 4800 | 5400 | 6000 | 7500 |
| | kW | H (m) = Total head | | | | | | | | | | | | | |
| GKC4 150-115L-0260N-60 | 26 | | 40,3 | 31,4 | 30,6 | 29,7 | 28,8 | 28 | 27,2 | 25,4 | 23,6 | 21,7 | 19,6 | 17,4 | 11,3 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 126 | 144 | 162 | 180 | 216 | 252 | 288 | 324 | 360 | 450 | 540 | 630 | 720 |
| Model | P2 | l/min | 0 | 2100 | 2400 | 2700 | 3000 | 3600 | 4200 | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | |
| GKC4 150-102N-0420R-60 | 42 | | 53,3 | 41 | 39,6 | 38,4 | 37,3 | 35,2 | 33,2 | 31,2 | 29,2 | 27,2 | 22,1 | 16,7 | 11 | 5 |
| GKC4 150-102M-0510R-60 | 51 | | 61,6 | 46,5 | 45,4 | 44,3 | 43,2 | 41 | 39 | 36,9 | 34,9 | 32,9 | 27,7 | 22 | 15,5 | - |
| GKC4 150-102H-0620R-60 | 62 | | 69 | 54,9 | 53,3 | 51,9 | 50,5 | 48 | 45,6 | 43,4 | 41,3 | 39,3 | 34 | 28,3 | 21,8 | 14,5 |
| GKC4 150-102N-0420R-R-60 | 42 | | 53,3 | 41 | 39,6 | 38,4 | 37,3 | 35,2 | 33,2 | 31,2 | 29,2 | 27,2 | 22,1 | 16,7 | 11 | 5 |
| GKC4 150-102M-0510R-R-60 | 51 | | 61,6 | 46,5 | 45,4 | 44,3 | 43,2 | 41 | 39 | 36,9 | 34,9 | 32,9 | 27,7 | 22 | 15,5 | - |
| GKC4 150-102H-0620R-R-60 | 62 | | 69 | 54,9 | 53,3 | 51,9 | 50,5 | 48 | 45,6 | 43,4 | 41,3 | 39,3 | 34 | 28,3 | 21,8 | 14,5 |

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 54 | 72 | 90 | 108 | 126 | 144 | 162 | 180 | 216 | 252 | 288 | 324 | 360 | 450 | 540 |
| Model | P2 | l/min | | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3600 | 4200 | 4800 | 5400 | 6000 | 7500 | 9000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | |
| GKC6 200-135G-0195P-60 | 19,5 | | 18,8 | - | - | - | - | 16,2 | 15,8 | 15,4 | 15,1 | 14,3 | 13,6 | 12,8 | 12 | 11,1 | 8,7 | 6 |
| GKC6 150-115L-0110N-60 | 11 | | 18 | 14,3 | 13,7 | 13,1 | 12,5 | 11,9 | 11,4 | 10,8 | 10,2 | 9 | 7,6 | 5,9 | 4 | - | - | - |
| GKC6 150-115G-0110N-60 | 11 | | 20,6 | 17,2 | 16,1 | 15,3 | 14,6 | 13,9 | 13,3 | 12,6 | 12 | 10,6 | 9,1 | 7,5 | 5,5 | - | - | - |
| GKC6 150-115D-0150N-60 | 15 | | 22,7 | 18,5 | 17,6 | 16,9 | 16,3 | 15,6 | 15 | 14,3 | 13,6 | 12,2 | 10,6 | 9 | 7,3 | 5,3 | - | - |
| GKC6 150-115A-0150N-60 | 15 | | 25,8 | 21,8 | 20,6 | 19,8 | 19,1 | 18,4 | 17,8 | 17,1 | 16,5 | 15,1 | 13,6 | 12 | 10,2 | 8,2 | - | - |
| GKC6 150-102A-0340R-60 | 34 | | 41,9 | - | - | - | 33,2 | 32,2 | 31,3 | 30,5 | 29,7 | 28,1 | 26,6 | 25 | 23,5 | 21,9 | 17,3 | 10,6 |
| GKC6 150-102A-0340R-R-60 | 34 | | 41,9 | - | - | - | 33,2 | 32,2 | 31,3 | 30,5 | 29,7 | 28,1 | 26,6 | 25 | 23,5 | 21,9 | 17,3 | 10,6 |

### n ≈ 875 1/min

| | | Q = Flow | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 126 | 144 | 162 | 180 | 216 | 252 | 288 | 324 | 360 | 450 | 540 | 630 | 720 | 900 | 1080 |
| Model | P2 | l/min | | 2100 | 2400 | 2700 | 3000 | 3600 | 4200 | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 | 15000 | 18000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | |
| GKC8 250-163L-0170Z-60 | 17 | | 19,7 | 14,7 | 14,5 | 14,2 | 14 | 13,4 | 12,9 | 12,3 | 11,7 | 11,1 | 9,7 | 8,2 | 6,6 | 5 | 1,7 | - |
| GKC8 250-163G-0250Z-60 | 25 | | 23,3 | 19,5 | 19,3 | 19,1 | 18,9 | 18,3 | 17,6 | 17 | 16,3 | 15,7 | 14,1 | 12,5 | 10,8 | 9,1 | 5,4 | - |
| GKC8 250-163A-0340Z-60 | 34 | | 27,5 | 23,4 | 23,1 | 22,9 | 22,6 | 22 | 21,4 | 20,8 | 20,2 | 19,6 | 18 | 16,3 | 14,7 | 12,9 | 8,7 | 2,2 |
| GKC8 250-163L-0170Z-R-60 | 17 | | 19,7 | 14,7 | 14,5 | 14,2 | 14 | 13,4 | 12,9 | 12,3 | 11,7 | 11,1 | 9,7 | 8,2 | 6,6 | 5 | 1,7 | - |
| GKC8 250-163G-0250Z-R-60 | 25 | | 23,3 | 19,5 | 19,3 | 19,1 | 18,9 | 18,3 | 17,6 | 17 | 16,3 | 15,7 | 14,1 | 12,5 | 10,8 | 9,1 | 5,4 | - |
| GKC8 250-163A-0340Z-R-60 | 34 | | 27,5 | 23,4 | 23,1 | 22,9 | 22,6 | 22 | 21,4 | 20,8 | 20,2 | 19,6 | 18 | 16,3 | 14,7 | 12,9 | 8,7 | 2,2 |

# GKC 60 Hz

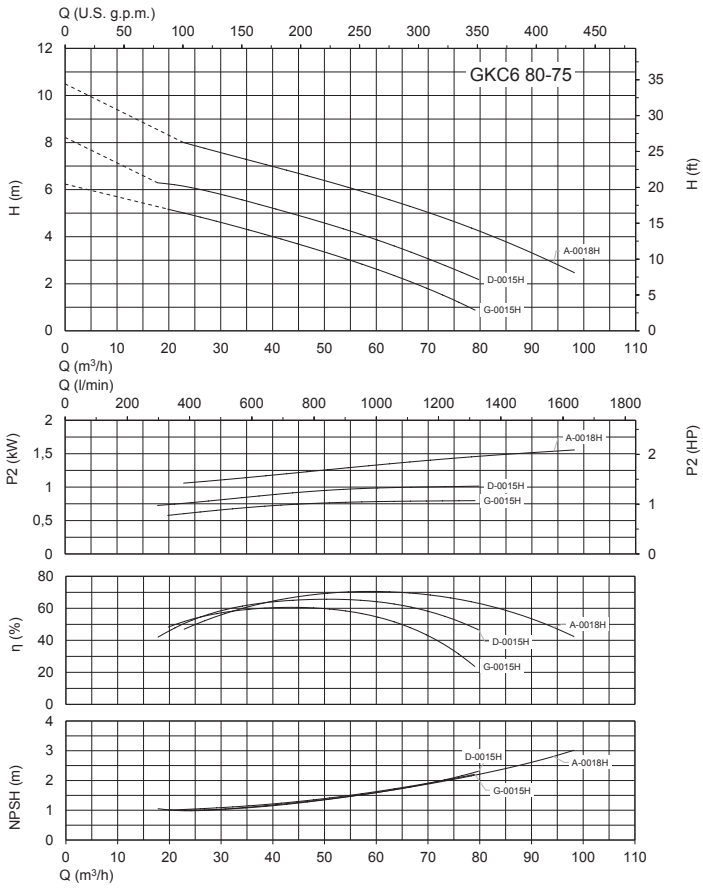
## Performance

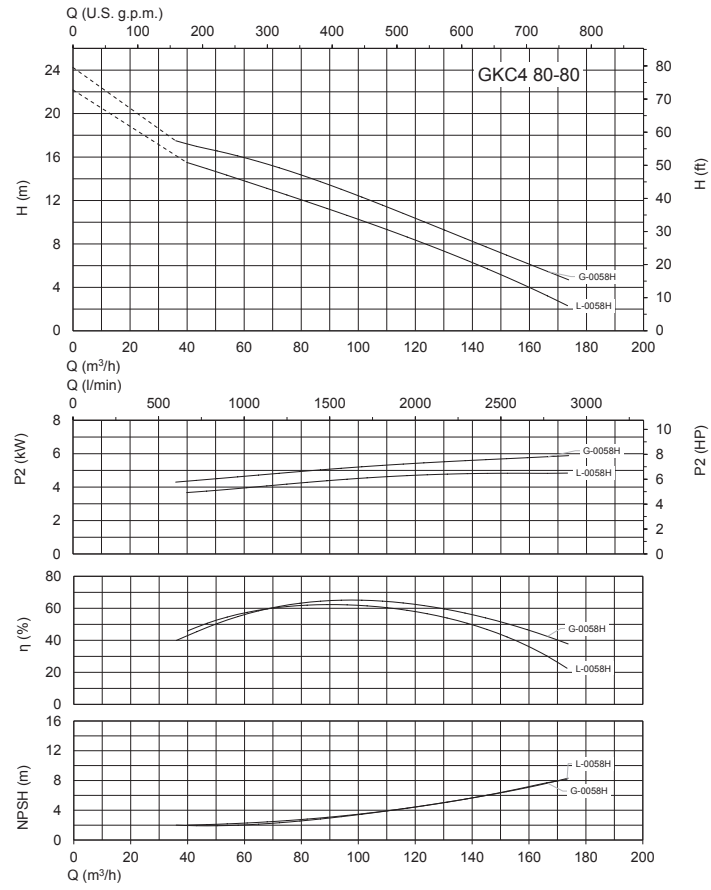
### n ≈ 1150 1/min

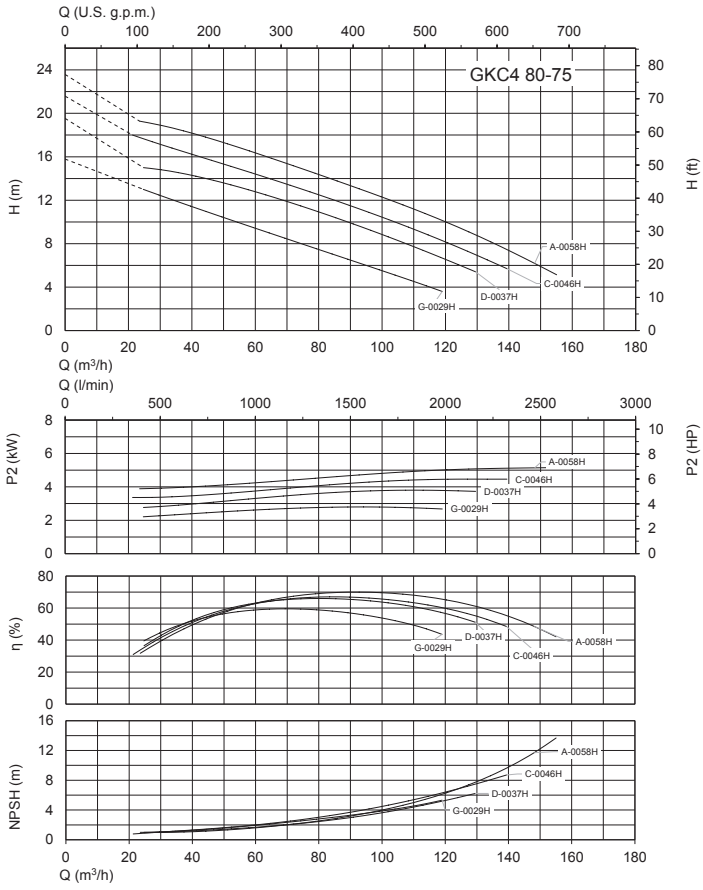
| | | Q = Flow | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 252 | 270 | 288 | 324 | 360 | 450 | 540 | 630 | 720 | 810 | 900 | 990 | 1080 | 1170 |
| Model | P2 | l/min | | 4200 | 4500 | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 | 13500 | 15000 | 16500 | 18000 | 19500 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | |
| GKC6 250-163L-0420R-60 | 42 | | 36,2 | 25,3 | - | 24,6 | 23,8 | 23,1 | 21,2 | 19,3 | 17,3 | 15,3 | - | 11,2 | - | 6,8 | - |
| GKC6 250-163G-0600T-60 | 60 | | 40,6 | 32,1 | 31,7 | 31,3 | 30,4 | 29,6 | 27,2 | 24,9 | 22,6 | 20,3 | 18,1 | 15,6 | 12,9 | 9,7 | 6 |
| GKC6 250-163B-0820T-60 | 82 | | 48,8 | 39,7 | 39,1 | 38,5 | 37,5 | 36,7 | 34,7 | 32,8 | 30,6 | 28,3 | 25,9 | 23,6 | 21,3 | 18,9 | 16,3 |
| GKC6 250-163A-1000T-60 | 100 | | 51 | 41,2 | 40,9 | 40,5 | 39,9 | 39,3 | 37,6 | 35,7 | 33,6 | 31,4 | 29,2 | 26,8 | 24,4 | 21,9 | 19,1 |
| GKC6 250-163L-0420R-R-60 | 42 | | 36,2 | 25,3 | - | 24,6 | 23,8 | 23,1 | 21,2 | 19,3 | 17,3 | 15,3 | - | 11,2 | - | 6,8 | - |
| GKC6 250-163G-0600T-R-60 | 60 | | 40,6 | 32,1 | 31,7 | 31,3 | 30,4 | 29,6 | 27,2 | 24,9 | 22,6 | 20,3 | 18,1 | 15,6 | 12,9 | 9,7 | 6 |
| GKC6 250-163B-0820-R-60 | 82 | | 48,8 | 39,7 | 39,1 | 38,5 | 37,5 | 36,7 | 34,7 | 32,8 | 30,6 | 28,3 | 25,9 | 23,6 | 21,3 | 18,9 | 16,3 |
| GKC6 250-163A-1000T-R-60 | 100 | | 51 | 41,2 | 40,9 | 40,5 | 39,9 | 39,3 | 37,6 | 35,7 | 33,6 | 31,4 | 29,2 | 26,8 | 24,4 | 21,9 | 19,1 |

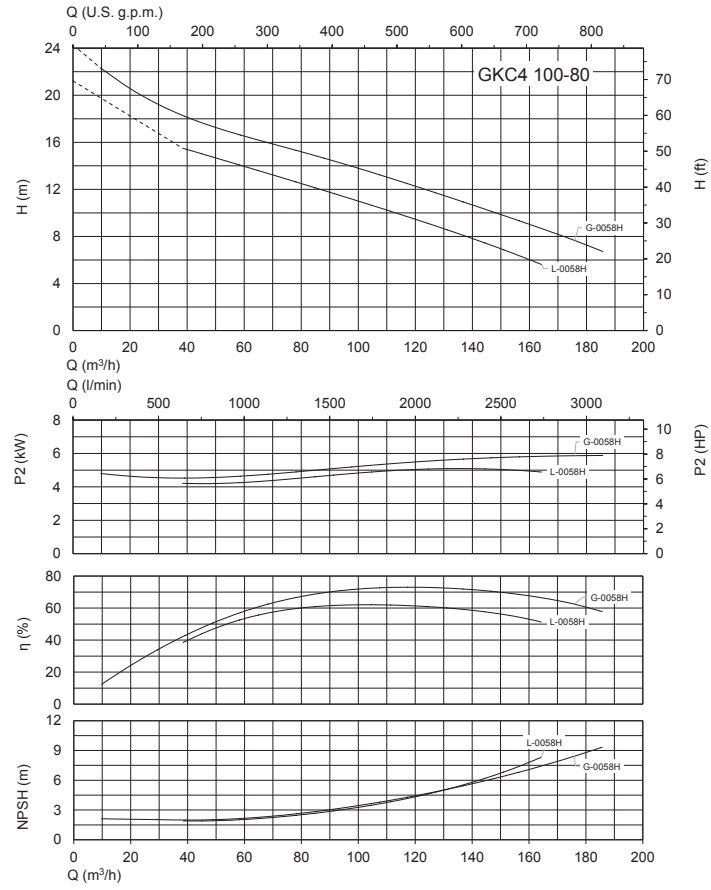
# GKC 60 Hz

## Characteristic curves



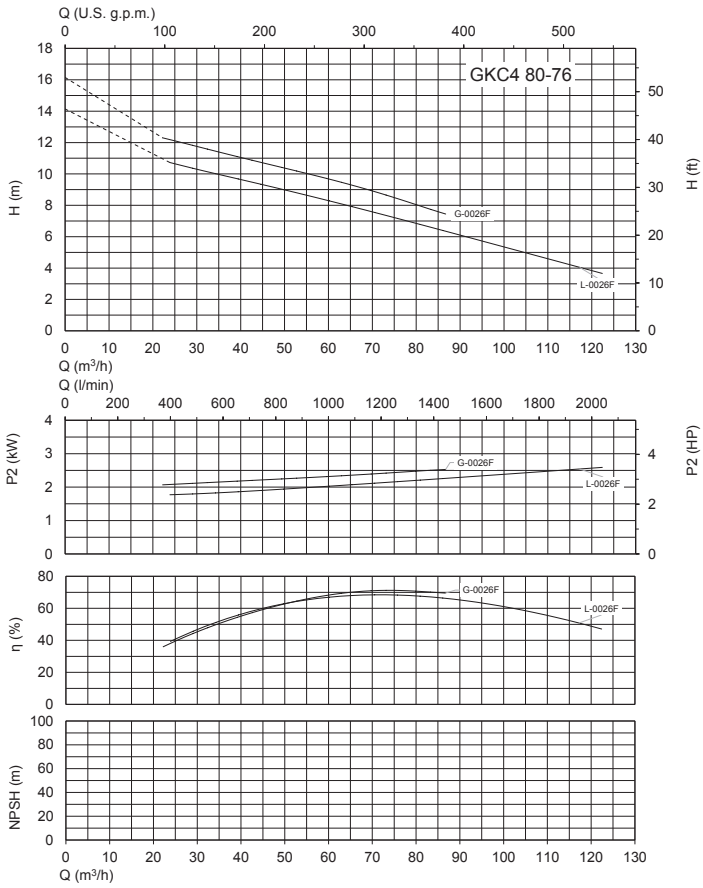



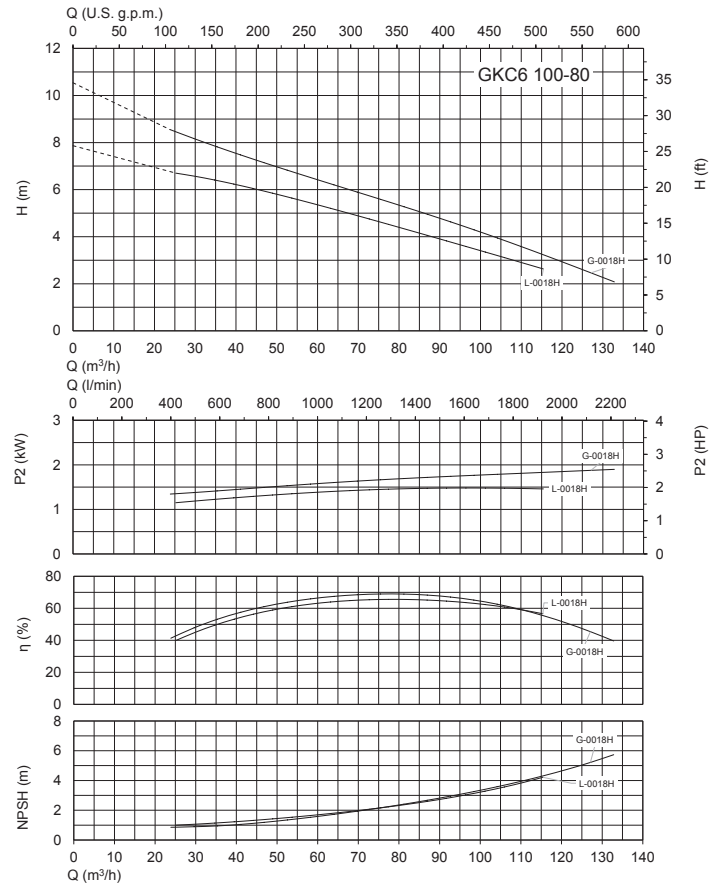



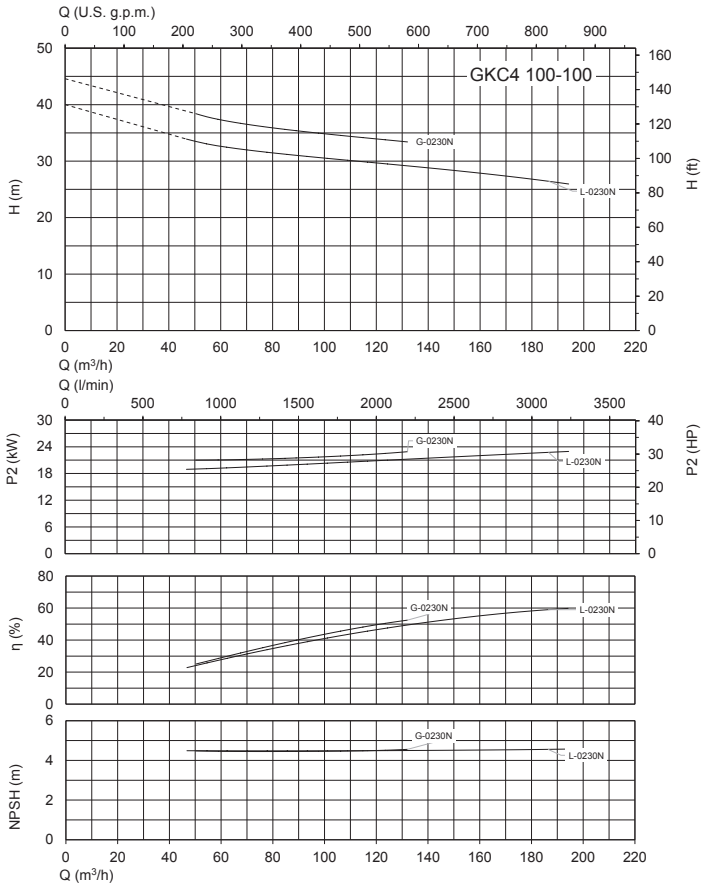



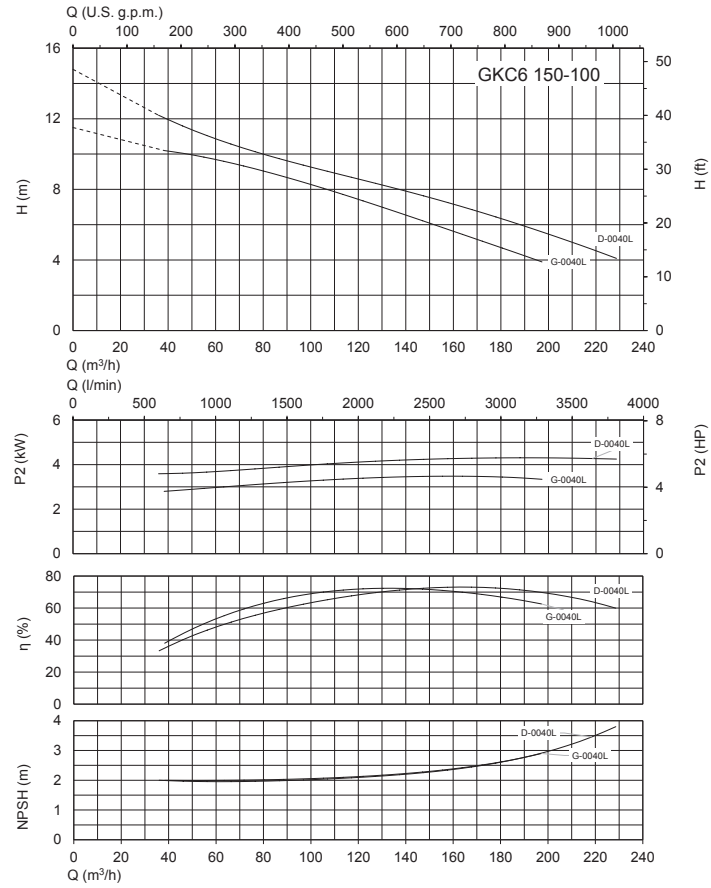
# GKC 60 Hz

## Characteristic curves



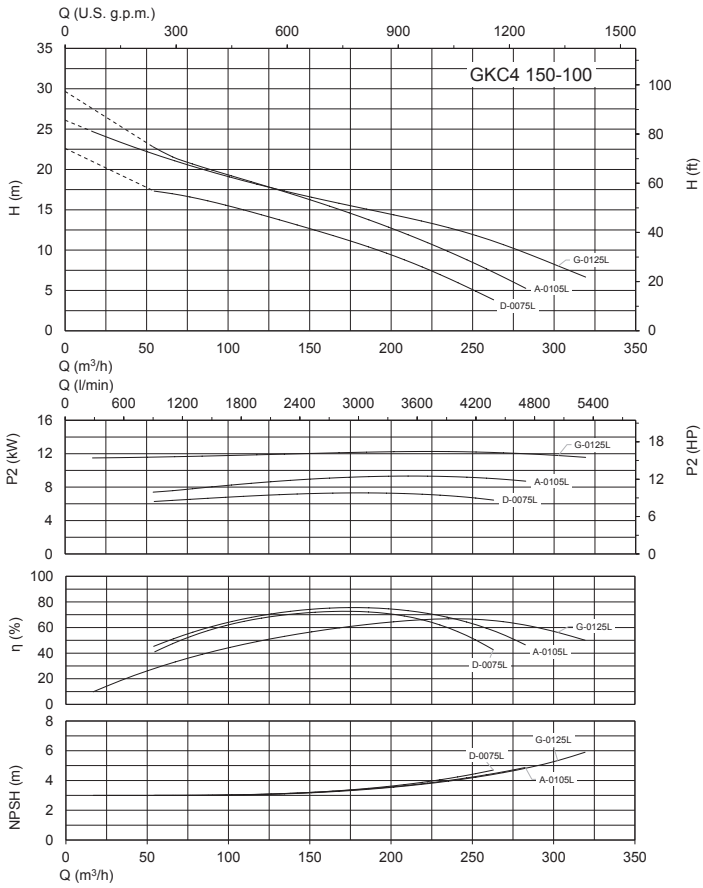



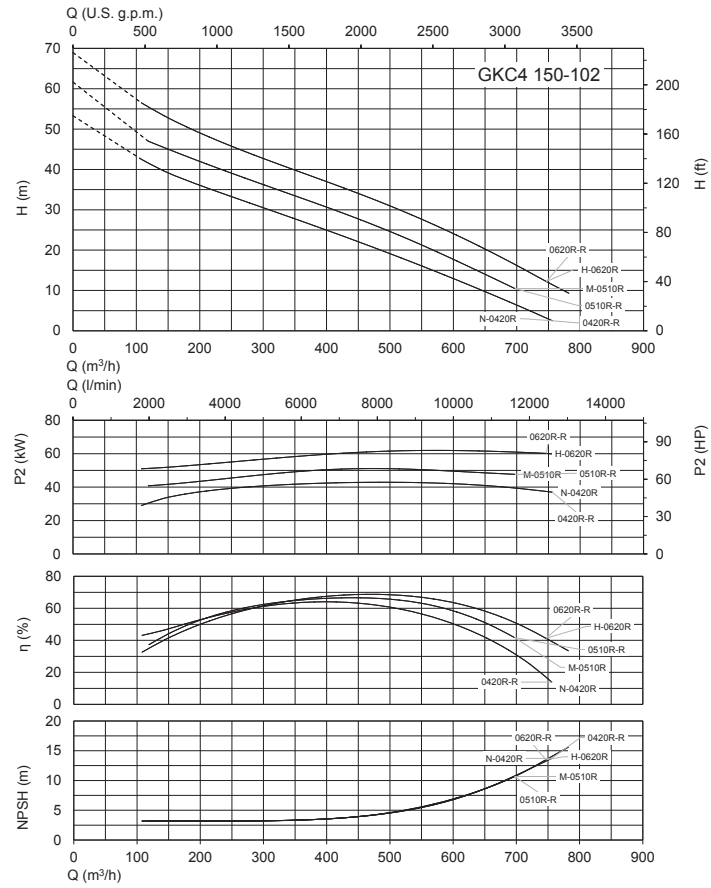



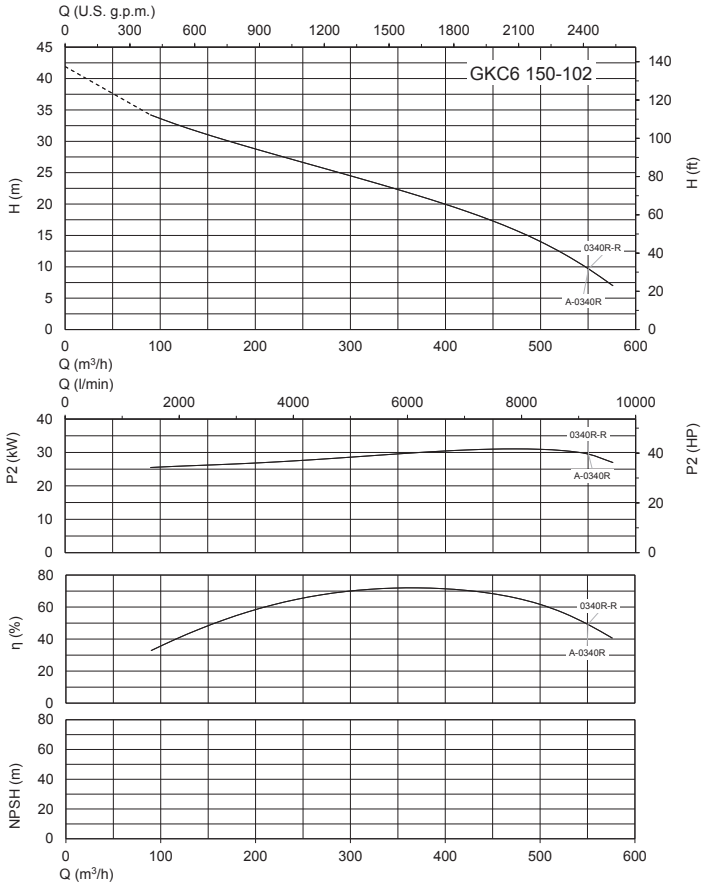



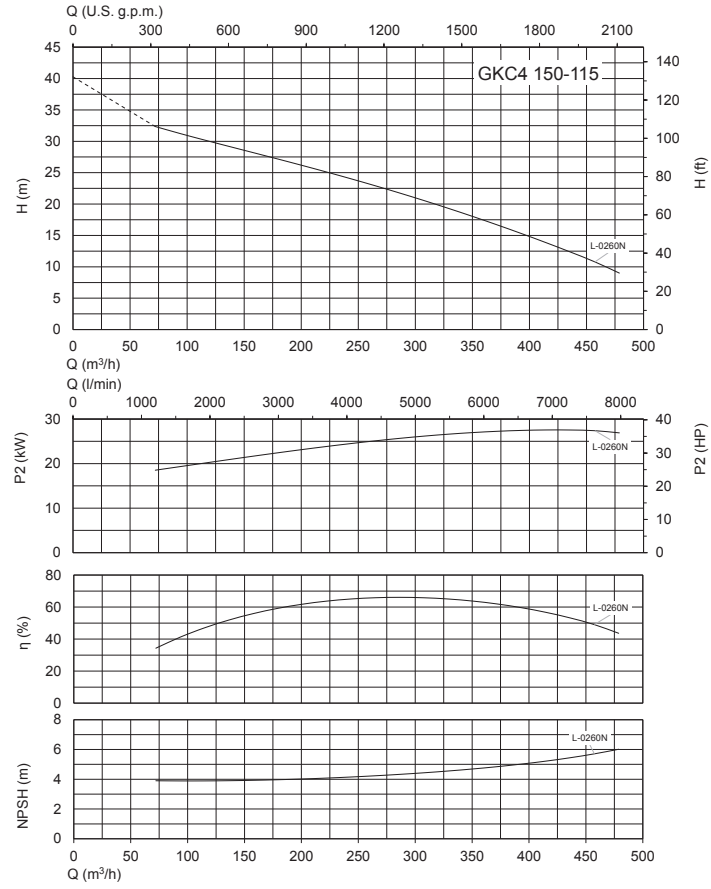
# GKC 60 Hz

## Characteristic curves



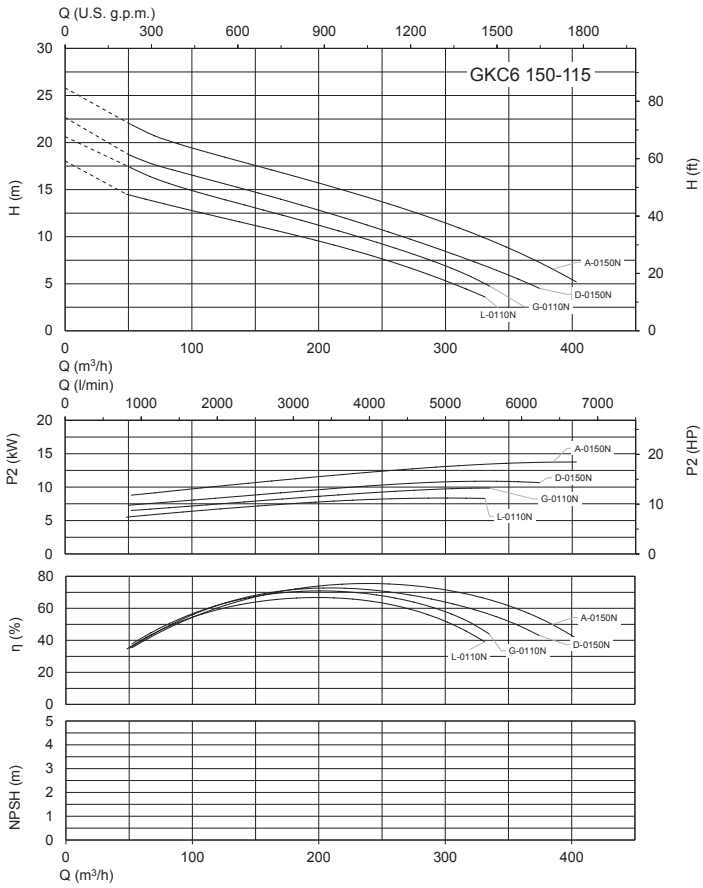



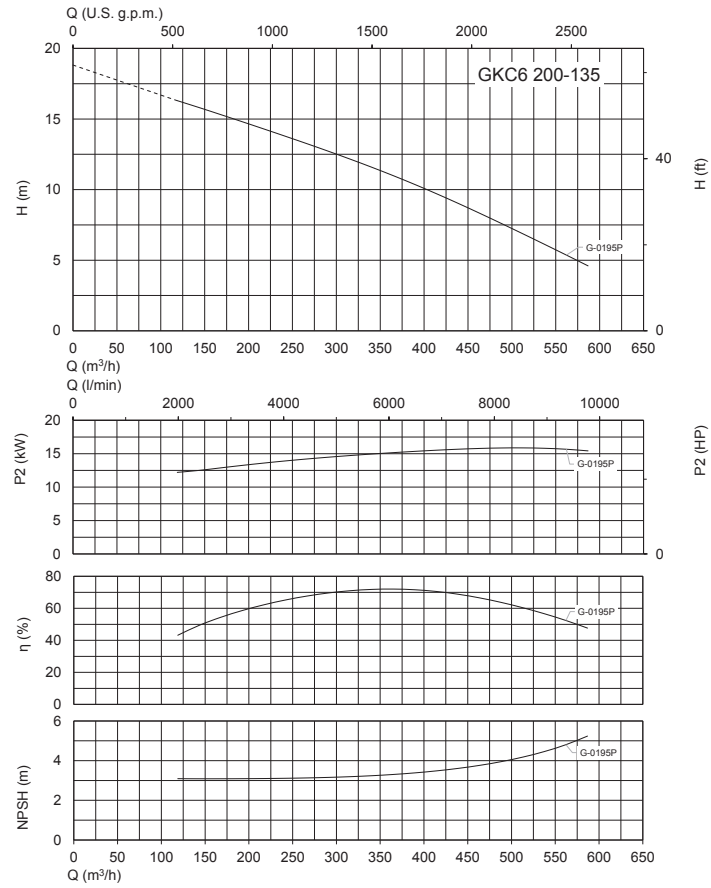



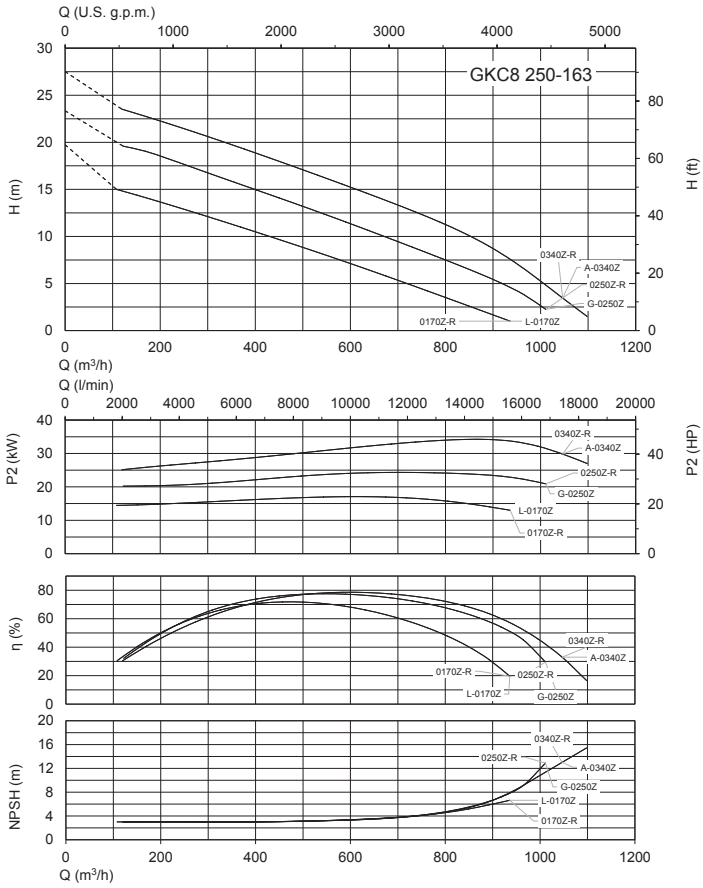



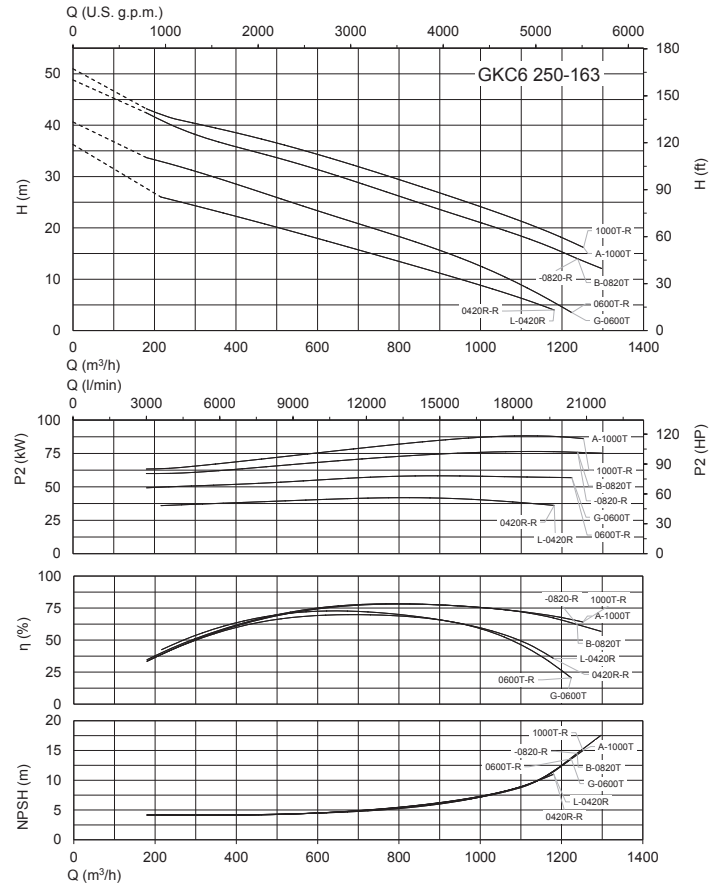
# GKC 60 Hz

## Characteristic curves



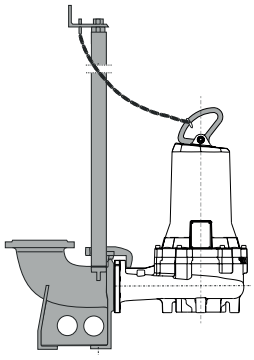



## Dimensions and weights

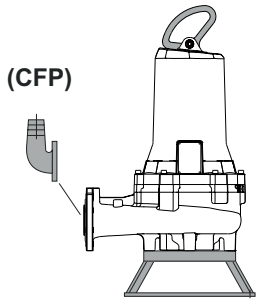
**Duck foot coupling**

**SAK**



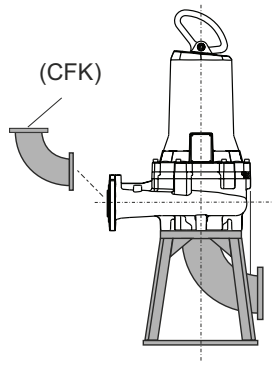
**Submersible pump rest**

**APK**



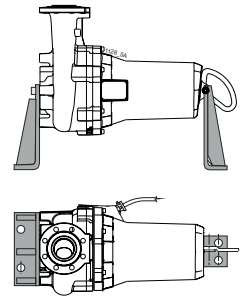

**Dry chamber pump rest**

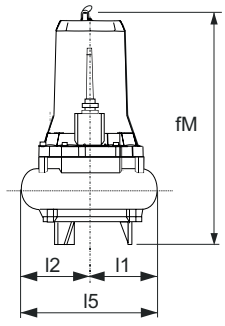
**APCK**

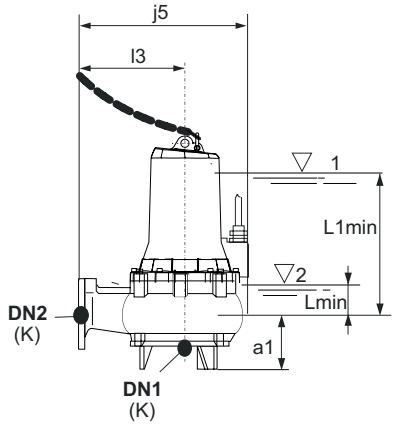



**Dry chamber pump support**

**SOK**





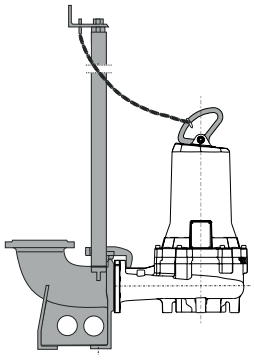

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC6 80-75G-0015H-60** | 80 | 80 | 121 | 407 | 204.5 | 176 | 245 | 380.5 | 297 | 75 | 87.2 |
| **GKC6 80-75D-0015H-60** | 80 | 80 | 121 | 407 | 204.5 | 176 | 245 | 380.5 | 297 | 75 | 87.1 |
| **GKC6 80-75A-0018H-60** | 80 | 80 | 121 | 407 | 221 | 176 | 245 | 397 | 297 | 75 | 106.3 |
| **GKC4 80-75G-0029H-60** | 80 | 80 | 121 | 407 | 204.5 | 176 | 245 | 380.5 | 297 | 75 | 95.7 |
| **GKC4 80-75D-0037H-60** | 80 | 80 | 121 | 407 | 221 | 176 | 245 | 397 | 297 | 75 | 110 |
| **GKC4 80-75C-0046H-60** | 80 | 80 | 121 | 407 | 221 | 176 | 245 | 397 | 297 | 75 | 116.3 |
| **GKC4 80-75A-0058H-60** | 80 | 80 | 121 | 407 | 221 | 176 | 245 | 397 | 297 | 75 | 116.9 |
| **GKC4 80-80G-0058H-60** | 100 | 80 | 120.5 | 407 | 221 | 176 | 245 | 397 | 370 | 80 | 126.7 |
| **GKC4 80-80L-0058H-60** | 100 | 80 | 120.5 | 407 | 221 | 176 | 245 | 397 | 370 | 80 | 126.7 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights

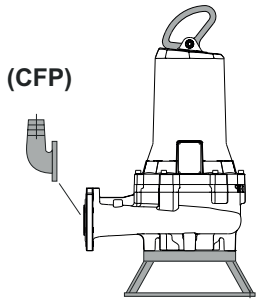
**Duck foot coupling**

**SAK**



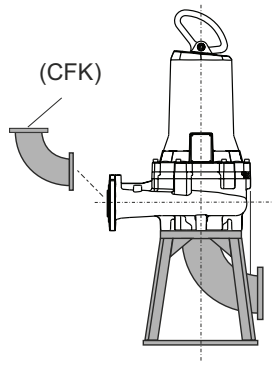
**Submersible pump rest**

**APK**



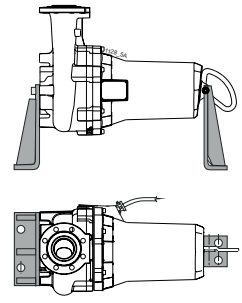

**Dry chamber pump rest**

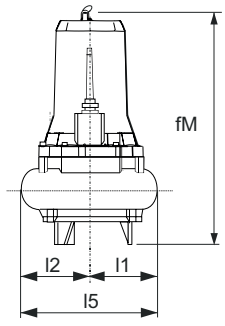
**APCK**

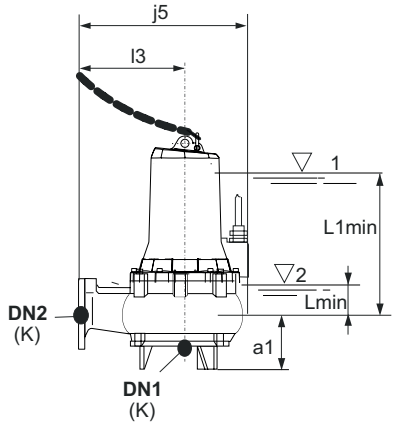



**Dry chamber pump support**

**SOK**





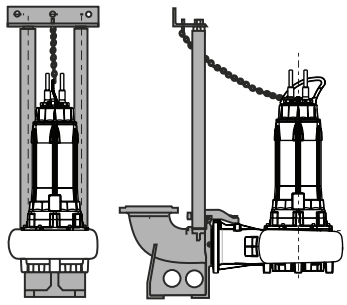

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC6 100-80L-0018H-60** | 100 | 100 | 118 | 435 | 221 | 198 | 255 | 419 | 337 | 82 | 116.1 |
| **GKC6 100-80G-0018H-60** | 100 | 100 | 118 | 435 | 221 | 198 | 255 | 419 | 337 | 82 | 116.1 |
| **GKC4 100-80L-0058H-60** | 100 | 100 | 118 | 435 | 221 | 198 | 255 | 419 | 337 | 82 | 126.7 |
| **GKC4 100-80G-0058H-60** | 100 | 100 | 118 | 435 | 221 | 198 | 255 | 419 | 337 | 82 | 126.7 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights

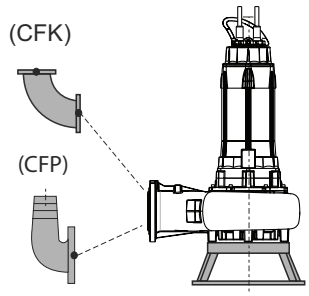
**Duck foot coupling**

**SAK**



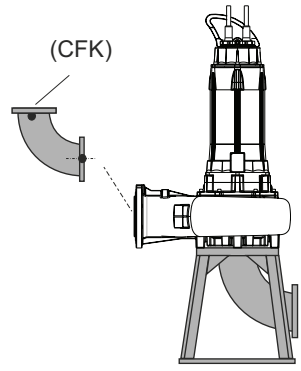
**Submersible pump rest**

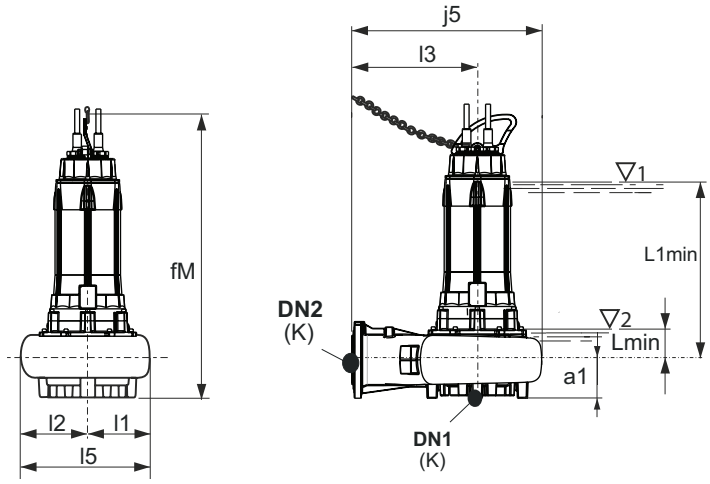
**APK**




**Dry chamber pump rest**

**APCK**




| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC4 100-100G-0230N-60** | 150 | 100 | 160 | 551 | 224 | 262 | 308 | 486 | 795 | 174 | 378.5 |
| **GKC4 100-100L-0230N-60** | 150 | 100 | 160 | 551 | 224 | 262 | 308 | 486 | 795 | 174 | 378.5 |

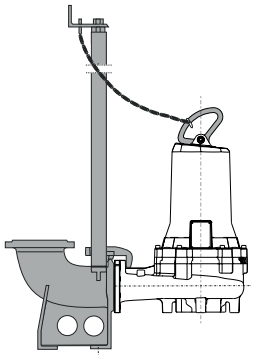
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKC 60 Hz

## Dimensions and weights

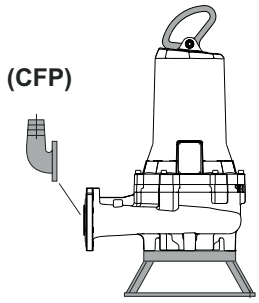
**Duck foot coupling**

**SAK**



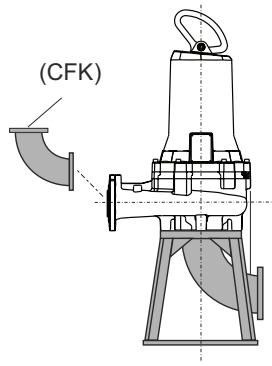
**Submersible pump rest**

**APK**



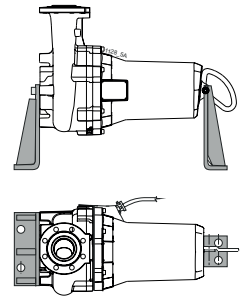

**Dry chamber pump rest**

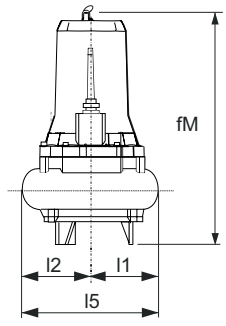
**APCK**

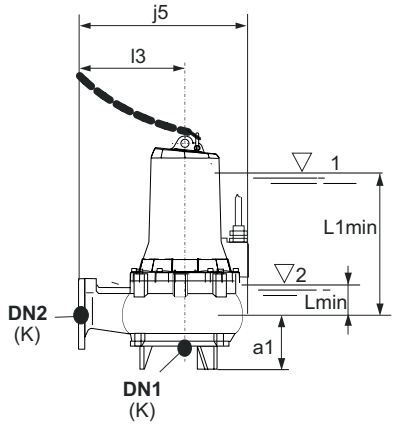



**Dry chamber pump support**

**SOK**





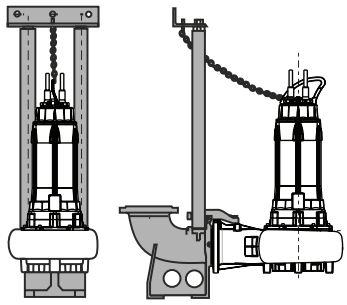

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC6 150-100G-0040L-60** | 150 | 150 | 138 | 532 | 227 | 241 | 305 | 468 | 440 | 89 | 168.5 |
| **GKC6 150-100D-0040L-60** | 150 | 150 | 138 | 532 | 227 | 241 | 305 | 468 | 440 | 89 | 168 |
| **GKC4 150-100D-0075L-60** | 150 | 150 | 138 | 532 | 227 | 241 | 305 | 468 | 440 | 89 | 176.5 |
| **GKC4 150-100A-0105L-60** | 150 | 150 | 138 | 532 | 236 | 241 | 305 | 477 | 440 | 89 | 199.5 |
| **GKC4 150-100G-0125L-60** | 150 | 150 | 138 | 532 | 236.5 | 241 | 305 | 477.5 | 440 | 89 | 200.2 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights

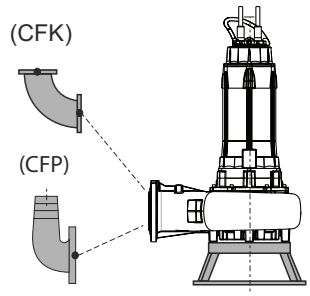
**Duck foot coupling**

**SAK**



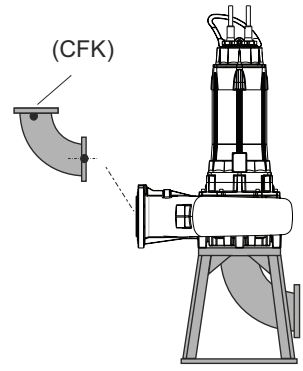
**Submersible pump rest**

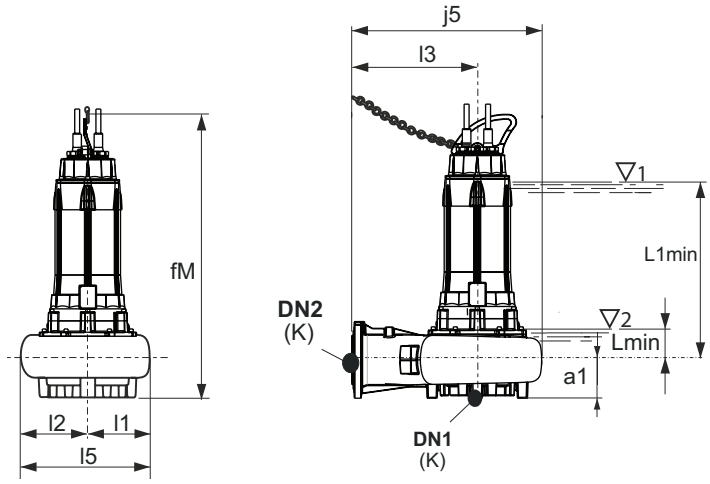
**APK**




**Dry chamber pump rest**

**APCK**




| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC4 150-115L-0260N-60** | 150 | 150 | 160 | 658 | 229 | 278 | 405 | 507 | 795 | 174 | 386.5 |
| **GKC6 150-115L-0110N-60** | 150 | 150 | 160 | 658 | 229 | 278 | 405 | 507 | 795 | 174 | 371.3 |
| **GKC6 150-115G-0110N-60** | 150 | 150 | 160 | 658 | 229 | 278 | 405 | 507 | 795 | 174 | 371.3 |
| **GKC6 150-115D-0150N-60** | 150 | 150 | 160 | 658 | 229 | 278 | 405 | 507 | 795 | 174 | 396.6 |
| **GKC6 150-115A-0150N-60** | 150 | 150 | 160 | 658 | 229 | 278 | 405 | 507 | 795 | 174 | 397.9 |
| **GKC6 150-102A-0340R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 723 |
| **GKC6 150-102A-0340R-R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 736 |

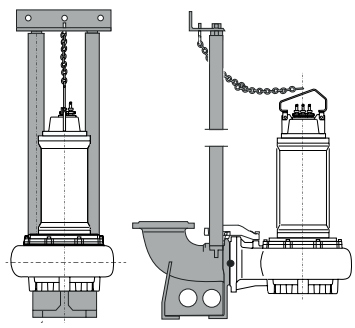
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKC 60 Hz

## Dimensions and weights

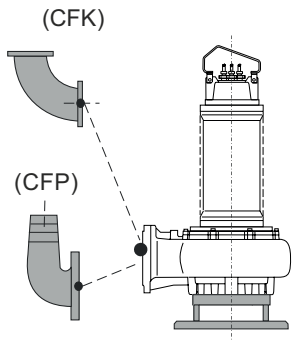
**Duck foot coupling**

**SAK**



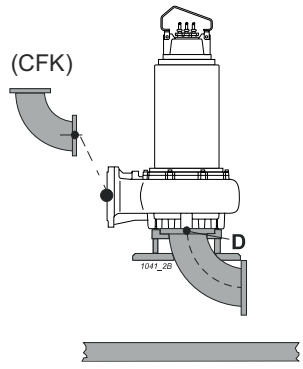
**Submersible pump rest**

**APK**



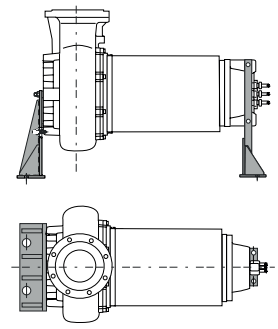

**Dry chamber pump rest**

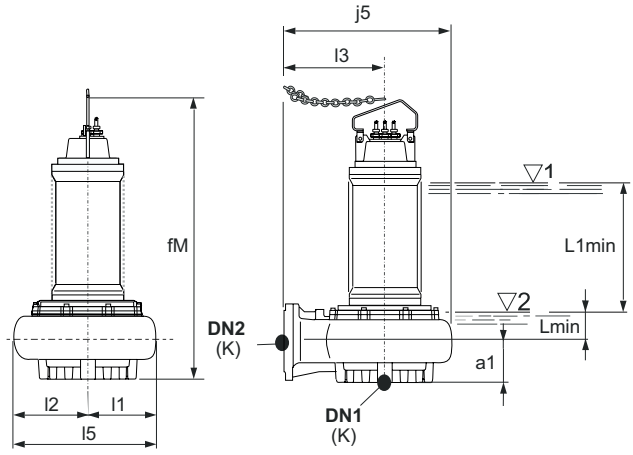
**APCK**




**Dry chamber pump support**

**SOK**





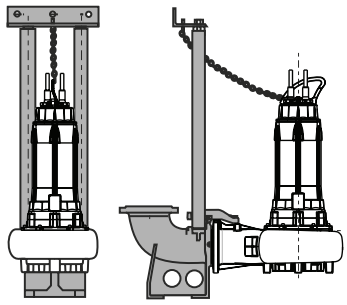

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC4 150-102N-0420R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 671 |
| **GKC4 150-102M-0510R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 600 |
| **GKC4 150-102H-0620R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 807 |
| **GKC4 150-102N-0420R-R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 671 |
| **GKC4 150-102M-0510R-R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 615 |
| **GKC4 150-102H-0620R-R-60** | 150 | 150 | 195 | 825 | 305 | 365 | 500 | 670 | 900 | 155 | 827 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights

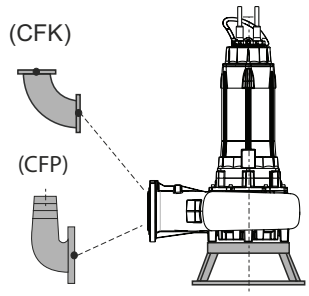
**Duck foot coupling**

**SAK**



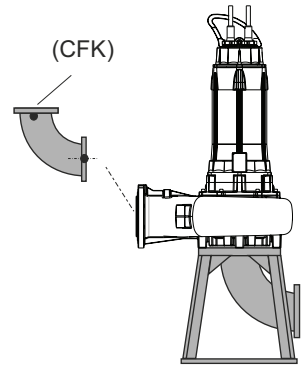
**Submersible pump rest**

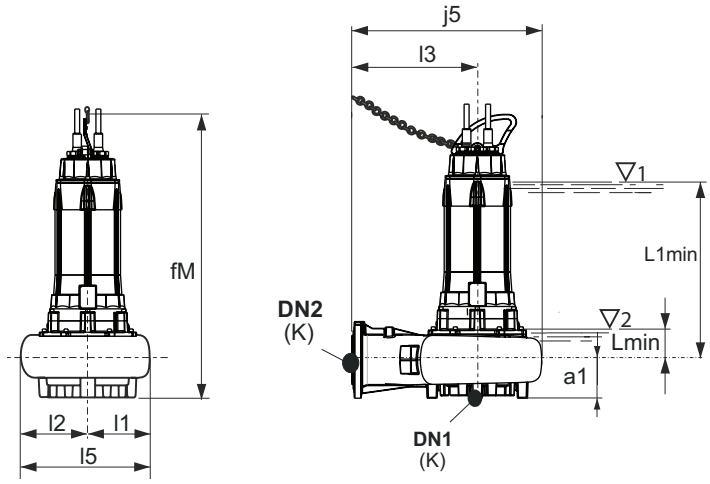
**APK**




**Dry chamber pump rest**

**APCK**




| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC6 200-135G-0195P-60** | 200 | 200 | 185 | 765 | 277 | 345 | 455 | 622 | 810 | 189 | 493.1 |

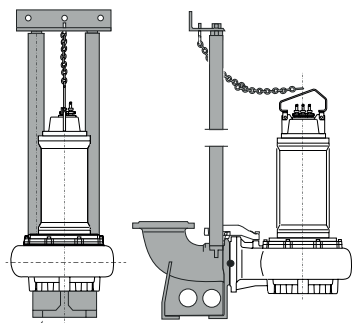
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKC 60 Hz

## Dimensions and weights

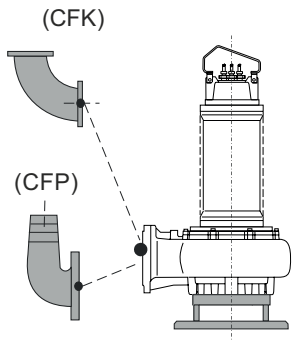
**Duck foot coupling**

**SAK**



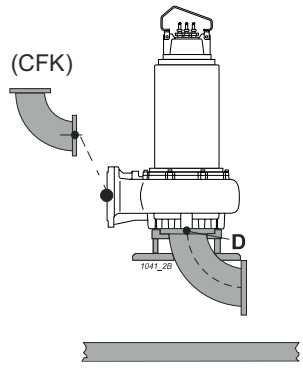
**Submersible pump rest**

**APK**



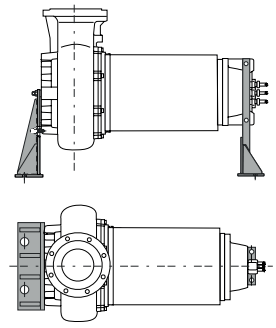

**Dry chamber pump rest**

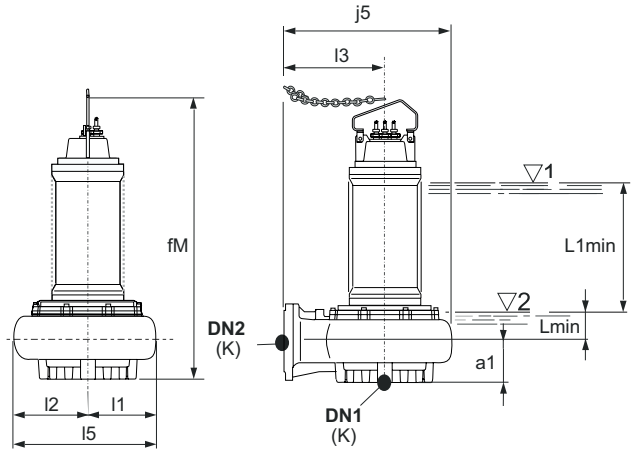
**APCK**




**Dry chamber pump support**

**SOK**






HL minimum level of submersibility

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC8 250-163L-0170Z-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | 631 |
| **GKC8 250-163G-0250Z-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | 839 |
| **GKC8 250-163A-0340Z-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | 873 |
| **GKC8 250-163L-0170Z-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | - |
| **GKC8 250-163G-0250Z-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | - |
| **GKC8 250-163A-0340Z-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | - |

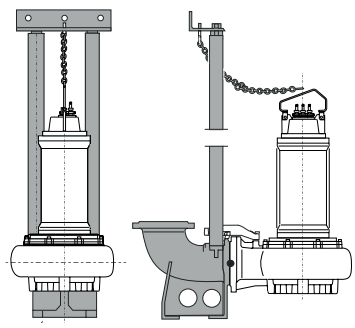
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKC 60 Hz

## Dimensions and weights

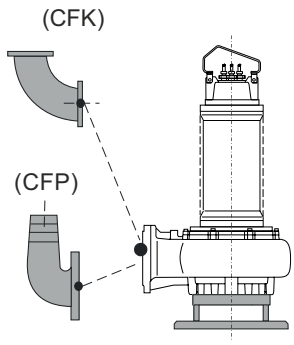
**Duck foot coupling**

**SAK**



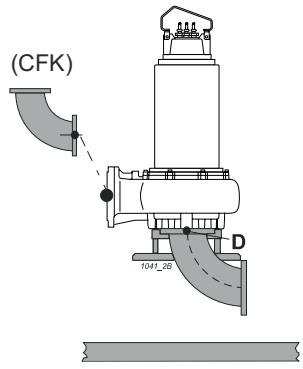
**Submersible pump rest**

**APK**



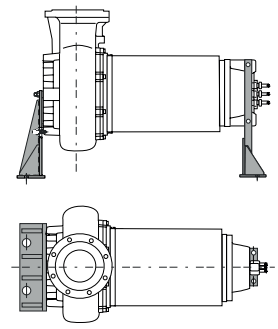

**Dry chamber pump rest**

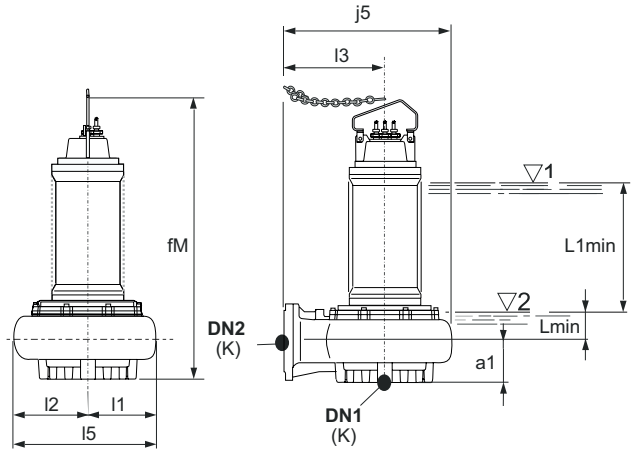
**APCK**




**Dry chamber pump support**

**SOK**



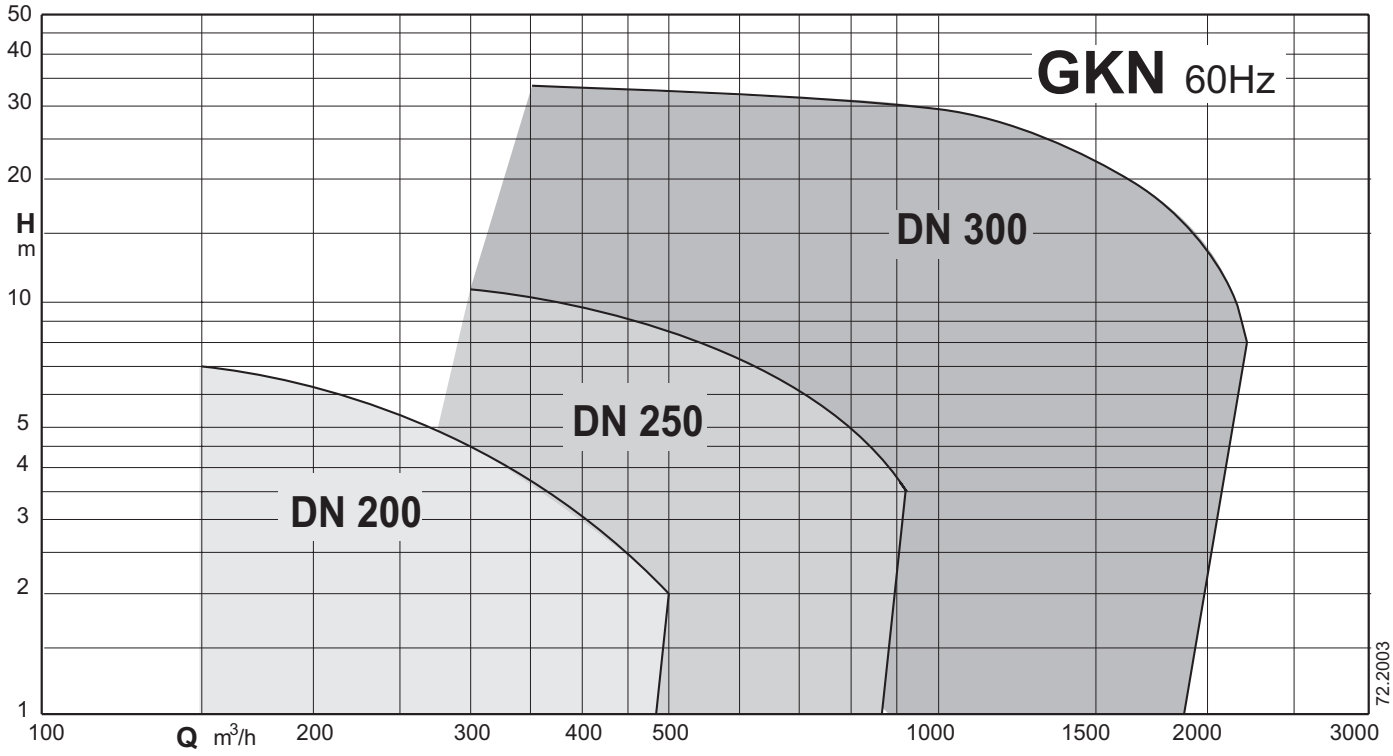



| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKC6 250-163L-0420R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | 670 |
| **GKC6 250-163G-0600T-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1286 |
| **GKC6 250-163B-0820T-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1361 |
| **GKC6 250-163A-1000T-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1422 |
| **GKC6 250-163L-0420R-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 930 | 185 | 685 |
| **GKC6 250-163G-0600T-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1520 |
| **GKC6 250-163B-0820-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1595 |
| **GKC6 250-163A-1000T-R-60** | 250 | 250 | 220 | 935 | 330 | 405 | 570 | 735 | 1140 | 185 | 1656 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKN 60 Hz






## submersible pumps with channels impeller

# GKN 60 Hz

## Construction

Submersible pumps with multi-channel impeller.
Characterised by good protection against clogging, large spherical passages, good wear resistance, low mechanical action on the fluid and high hydraulic efficiency at high flow rates.
Low vibrations thanks to the dynamically balanced impeller.
Delivery port DN 200-250-300-350.

## Applications

For the movement of sewage and sewage grates.
Particularly suitable for the emptying of sewage from cesspits or primary collection tanks or industrial waste water.
They replace single-channel pumps when a high solids passage diameter is not required.
Solid passage from 100 to 164 mm.

## Operating conditions

Liquid temperature: from 0°C to +40°C.
Maximum immersion depth: 20m (with cable of suitable length).
Maximum working pressure: 80 m.w.c.
pH of the liquid to be lifted: 4 ÷ 10
Continuous service (with water at minimum immersion level).

## Materials

Pump casing: cast iron EN-GJL250 UNI-EN 1561-11
Impeller: cast iron EN-GJL250 UNI-EN 1561-11
Motor casing: cast iron EN-GJL250 UNI-EN 1561-11 / EN-GJL450 UNI-EN 1561-11
Shaft: stainless steel X20Cr13 (AISI420)
Mechanical seal pumps with insulation class H
- motor side: graphite/ceramic
- pump side: silicon/ceramic carbide

Mechanical seal pumps with insulation class F
- motor side: stainless steel/graphite
- pump side: Silicon carbide/silicon carbide

## Motor

Induction motor 4-6 and 8 poles, 60Hz
460/795V ± 10%
Isolation class: H
Degree of protection: IP 68
Max number of starts per hour:
- 20 up to 5 kW
- 15 up to 10 kW
- 10 for higher powers

Cable: length 10m
Direction of rotation: clockwise top view
Motor suitable for operation with frequency converter.

## Designation

GKN4 200-100A-0260R-60
GK = Series
N = Multi-channel impeller
4 = Number of poles
200 = Delivery port diameter in mm
100 = Free passage in mm
A = Impeller trim
0260 = Motor size kW x 10
R = With cooling jacket
60 = Frequency 60 Hz

## Technical data

| TYPE | Dry chamber version | | Probes | | Cable | | Class | Duck foot coupling | Submersible pump rest | Dry chamber pump rest | Dry chamber pump support |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vertical | Horizontal | thermal | conductivity | NSSHOU-J | H07RN-F | Isolation | | | | |
| GKN6 200-100L-0075N-60 | # | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | SOK150/N3 |
| GKN4 200-110L-0260N-60 | • | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | – |
| GKN6 200-110L-0110N-60 | • | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | – |
| GKN6 200-110G-0110N-60 | • | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | – |
| GKN6 200-110A-0150N-60 | • | – | • | • | • | – | H | SAK 200-250-3 | APK 150 | APCK 200 | – |
| GKN6 250-115G-0195P-60 | # | – | • | • | • | – | H | SAK 250-300-3 | APK 250 | APCK 250 | – |
| GKN8 300-143G-0250Z-60 | – | – | • | • | – | • | F | SAK 300-350-3 | APK 350 | – | – |
| GKN8 300-143A-0340Z-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-200 |
| GKN8 300-143H-0250Z-R-60 | – | – | • | • | – | • | F | SAK 300-350-3 | APK 350 | – | – |
| GKN8 300-143B-0340Z-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143N-0420R-60 | – | – | • | • | – | • | F | SAK 300-350-3 | APK 350 | – | – |
| GKN6 300-143I-0510R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143P-0420R-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143L-0510R-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143G-0600T-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143D-0820T-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143A-1000T-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143H-0600T-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143E-0820T-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN6 300-143B-1000T-R-60 | $ | $ | • | • | – | • | F | SAK 300-350-3 | – | APCK 300 | SOK350-250 |
| GKN8 350-163V-0340R-60 | – | – | • | • | – | • | F | SAK 350-400-3 | APK 350 | – | – |
| GKN8 350-163O-0420R-60 | – | – | • | • | – | • | F | SAK 350-400-3 | APK 350 | – | – |
| GKN8 350-163W-0340R-R-60 | • | • | • | • | – | • | F | SAK 350-400-3 | – | APCK 350 | SOK350-225 |
| GKN8 350-163P-0420R-R-60 | • | • | • | • | – | • | F | SAK 350-400-3 | – | APCK 350 | SOK350-250 |

• = Standard
- = Not present
o = Optional
# = Version with oil chamber
$ = Version with cooling jacket
# = In case of operation in a dry chamber or with a low level of the pumped liquid, it is necessary to introduce the cooling oil according to the quantities indicated in the use and maintenance manual

# GKN 60 Hz

## Performance

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 162 | 180 | 216 | 252 | 288 | 324 | 360 | 450 | 540 | 630 | 720 |
| Model | P2 | l/min | | 2700 | 3000 | 3600 | 4200 | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 |
| | kW | H (m) = Total head | | | | | | | | | | | | |
| GKN6 200-100L-0075N-60 | 7,5 | | 8,5 | 6,7 | 6,6 | 6,1 | 5,7 | 5,2 | 4,7 | 4,2 | 3 | 1,4 | - | - |
| GKN6 200-110L-0110N-60 | 11 | | 8,5 | - | 6,5 | 6,2 | 5,8 | 5,5 | 5,1 | 4,6 | 3,4 | - | - | - |
| GKN6 200-110G-0110N-60 | 11 | | 11,7 | - | 9,2 | 8,7 | 8,2 | 7,8 | 7,3 | 6,9 | 5,5 | 3,9 | 2,1 | - |
| GKN6 200-110A-0150N-60 | 15 | | 16,8 | - | 12 | 11,7 | 11,3 | 10,8 | 10,4 | 9,8 | 8,4 | 6,8 | 5 | 2,7 |

### n ≈ 1750 1/min

| | | Q = Flow | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 288 | 324 | 360 | 450 | 540 | 630 | 720 |
| Model | P2 | l/min | | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 |
| | kW | H (m) = Total head | | | | | | | | |
| GKN4 200-110L-0260N-60 | 26 | | 18,9 | 14,1 | 13,6 | 13 | 11,6 | 10,1 | 8,4 | 6,4 |

### n ≈ 1150 1/min

| | | Q = Flow | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 288 | 324 | 360 | 450 | 540 | 630 | 720 | 810 | 900 |
| Model | P2 | l/min | | 4800 | 5400 | 6000 | 7500 | 9000 | 10500 | 12000 | 13500 | 15000 |
| | kW | H (m) = Total head | | | | | | | | | | |
| GKN6 250-115G-0195P-60 | 19,5 | | 13,8 | 11 | 10,6 | 10,2 | 9,2 | 8,2 | 7,1 | 6,1 | 4,9 | 3,7 |

### n ≈ 875 1/min

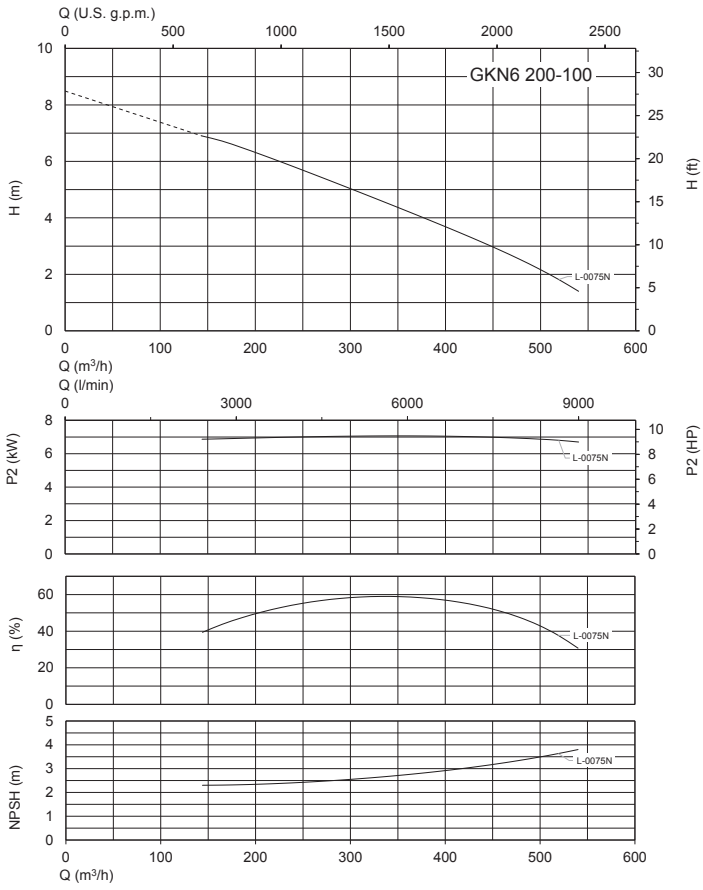
| | | Q = Flow | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 360 | 450 | 540 | 630 | 720 | 900 | 1080 | 1260 | 1440 | 1620 | 1800 | 1980 |
| Model | P2 | l/min | | 6000 | 7500 | 9000 | 10500 | 12000 | 15000 | 18000 | 21000 | 24000 | 27000 | 30000 | 33000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | |
| GKN8 300-143G-0250Z-60 | 25 | | 13,6 | 10,4 | 10,1 | 9,7 | 9,2 | 8,6 | 7,3 | 5,7 | 4 | 2,3 | - | - | - |
| GKN8 300-143A-0340Z-60 | 34 | | 18,9 | 14 | 13,5 | 12,9 | 12,4 | 11,8 | 10,4 | 8,8 | 7 | 5 | 2,9 | - | - |
| GKN8 300-143H-0250Z-R-60 | 25 | | 13,6 | 10,4 | 10,1 | 9,7 | 9,2 | 8,6 | 7,3 | 5,7 | 4 | 2,3 | - | - | - |
| GKN8 300-143B-0340Z-R-60 | 34 | | 18,9 | 14 | 13,5 | 12,9 | 12,4 | 11,8 | 10,4 | 8,8 | 7 | 5 | 2,9 | - | - |
| GKN8 350-163V-0340R-60 | 34 | | 10,8 | 9,4 | 9,2 | 9 | 8,7 | 8,5 | 7,8 | 7 | 6,1 | 5,1 | 4 | 2,8 | - |
| GKN8 350-163O-0420R-60 | 42 | | 14,7 | - | 12,6 | 12,3 | 12,1 | 11,8 | 11 | 10 | 8,8 | 7,4 | 6 | 4,7 | 3,3 |
| GKN8 350-163W-0340R-R-60 | 34 | | 10,8 | 9,4 | 9,2 | 9 | 8,7 | 8,5 | 7,8 | 7 | 6,1 | 5,1 | 4 | 2,8 | - |
| GKN8 350-163P-0420R-R-60 | 42 | | 14,7 | - | 12,6 | 12,3 | 12,1 | 11,8 | 11 | 10 | 8,8 | 7,4 | 6 | 4,7 | 3,3 |

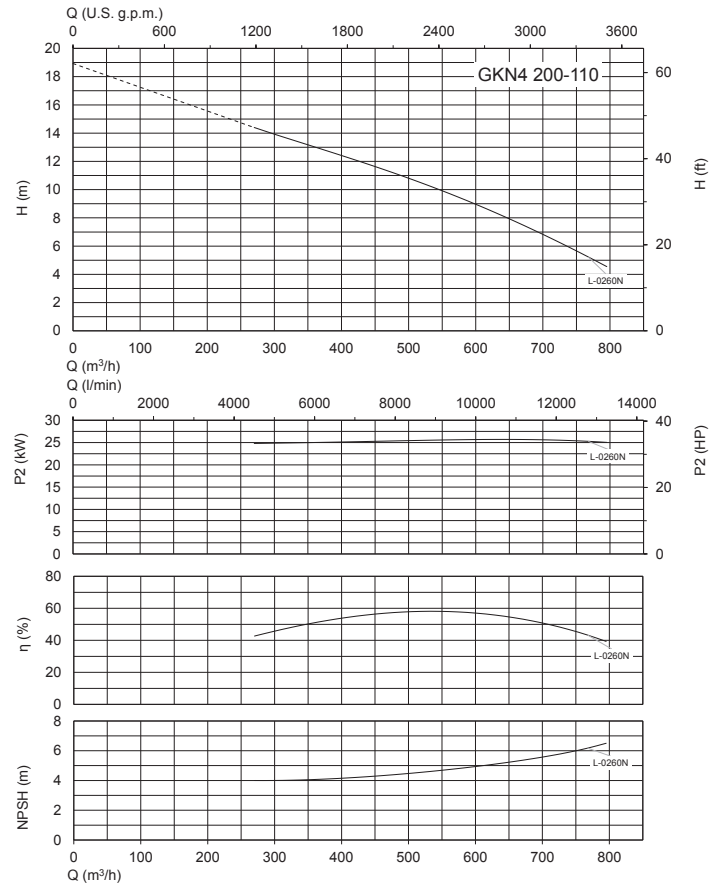
### n ≈ 1150 1/min

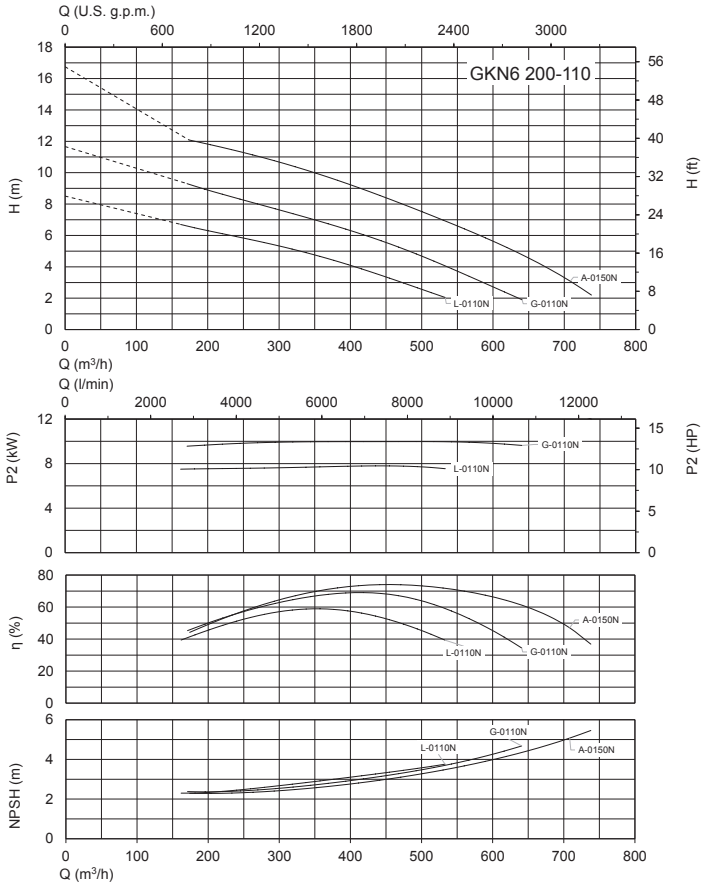
| | | Q = Flow | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 360 | 432 | 450 | 540 | 630 | 720 | 810 | 900 | 990 | 1080 | 1170 | 1260 | 1440 | 1620 | 1800 | 1980 | 2160 |
| Model | P2 | l/min | | 6000 | 7200 | 7500 | 9000 | 10500 | 12000 | 13500 | 15000 | 16500 | 18000 | 19500 | 21000 | 24000 | 27000 | 30000 | 33000 | 36000 |
| | kW | H (m) = Total head | | | | | | | | | | | | | | | | | | |
| GKN6 300-143N-0420R-60 | 42 | | 16,3 | 13,6 | - | 13,1 | 12,6 | 12,1 | 11,6 | - | 10,4 | - | 9 | - | 7,4 | 5,6 | - | - | - | - |
| GKN6 300-143I-0510R-60 | 51 | | 20,8 | 16,2 | - | 16 | 15,5 | 14,9 | 14,3 | - | 13,1 | - | 11,5 | - | 9,8 | 7,8 | 5,8 | 3,5 | - | - |
| GKN6 300-143P-0420R-R-60 | 42 | | 16,3 | 13,6 | - | 13,1 | 12,6 | 12,1 | 11,6 | - | 10,4 | - | 9 | - | 7,4 | 5,6 | - | - | - | - |
| GKN6 300-143L-0510R-R-60 | 51 | | 20,8 | 16,2 | - | 16 | 15,5 | 14,9 | 14,3 | - | 13,1 | - | 11,5 | - | 9,8 | 7,8 | 5,8 | 3,5 | - | - |
| GKN6 300-143G-0600T-60 | 60 | | 25,4 | - | 20,4 | - | 19,3 | 18,3 | 17,4 | 16,5 | 15,5 | 14,6 | 13,7 | 12,7 | 11,8 | 9,9 | 7,9 | 5,9 | 3,9 | - |
| GKN6 300-143D-0820T-60 | 82 | | 31,9 | - | 25 | - | 23,5 | 22,4 | 21,3 | 20,3 | 19,3 | 18,3 | 17,2 | 16,2 | 15,2 | 13 | 10,8 | 8,6 | 6,5 | 4,3 |
| GKN6 300-143A-1000T-60 | 100 | | 36,5 | - | 30,1 | - | 29 | 28,1 | 27,3 | 26,3 | 25,4 | 24,3 | 23,3 | 22,1 | 21 | 18,6 | 16,1 | 13,5 | 11 | 8,5 |
| GKN6 300-143H-0600T-R-60 | 60 | | 25,4 | - | 20,4 | - | 19,3 | 18,3 | 17,4 | 16,5 | 15,5 | 14,6 | 13,7 | 12,7 | 11,8 | 9,9 | 7,9 | 5,9 | 3,9 | - |
| GKN6 300-143E-0820T-R-60 | 82 | | 31,9 | - | 25 | - | 23,5 | 22,4 | 21,3 | 20,3 | 19,3 | 18,3 | 17,2 | 16,2 | 15,2 | 13 | 10,8 | 8,6 | 6,5 | 4,3 |
| GKN6 300-143B-1000T-R-60 | 100 | | 36,5 | - | 30,1 | - | 29 | 28,1 | 27,3 | 26,3 | 25,4 | 24,3 | 23,3 | 22,1 | 21 | 18,6 | 16,1 | 13,5 | 11 | 8,5 |

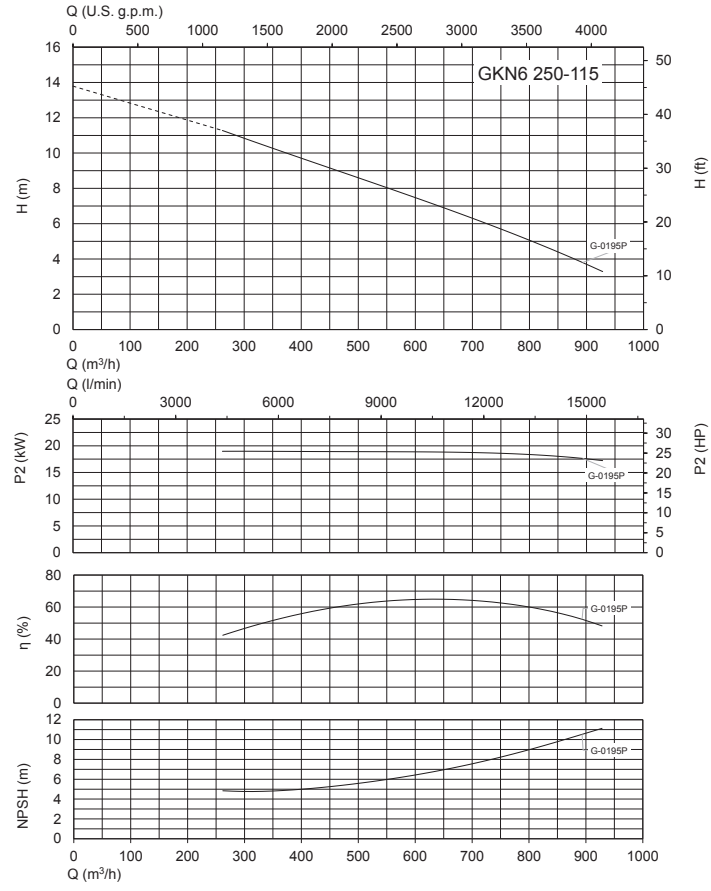
# GKN 60 Hz

## Characteristic curves

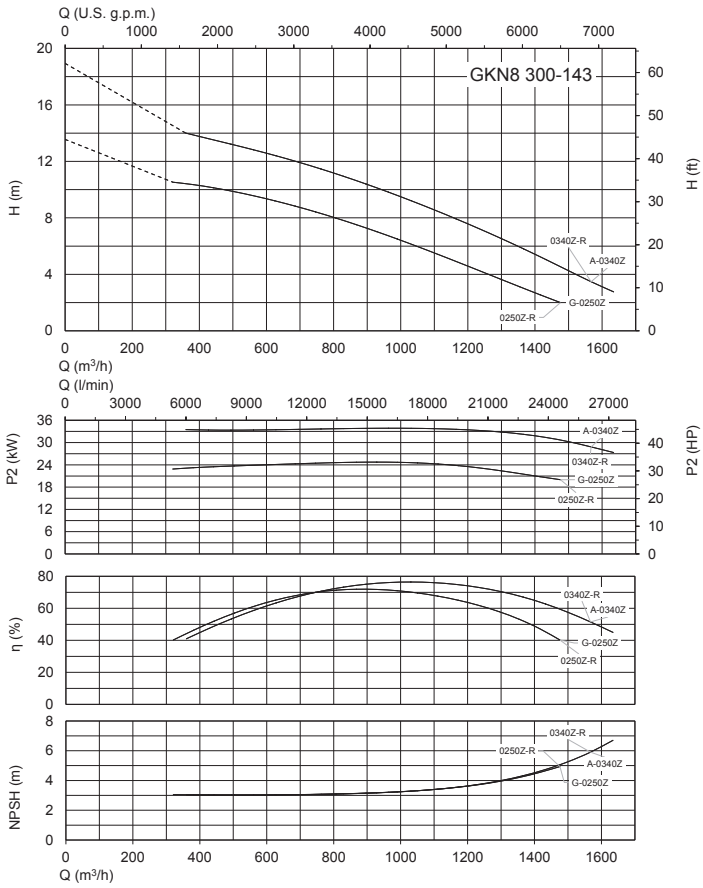


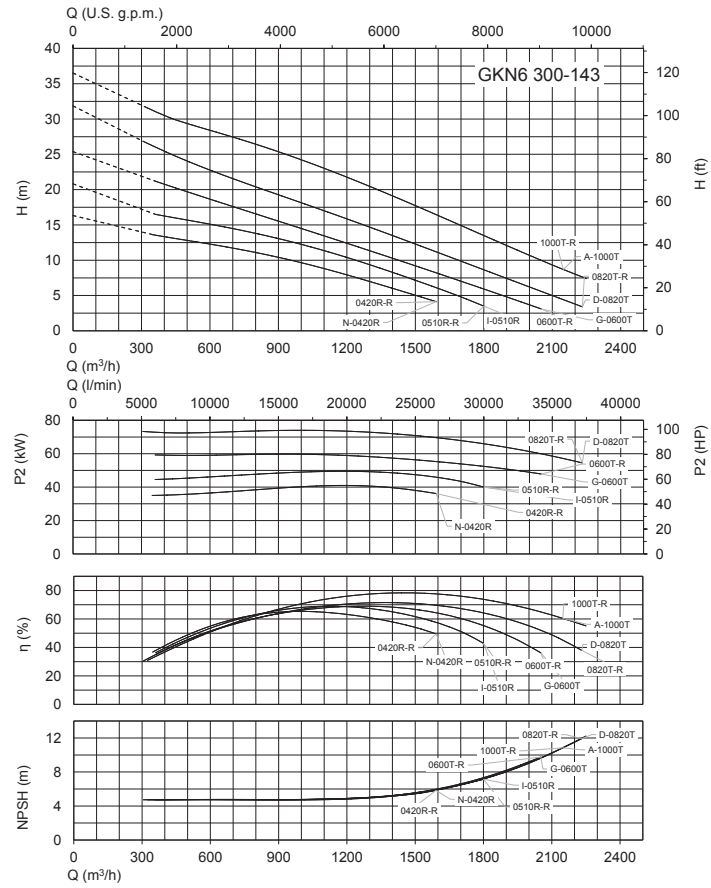



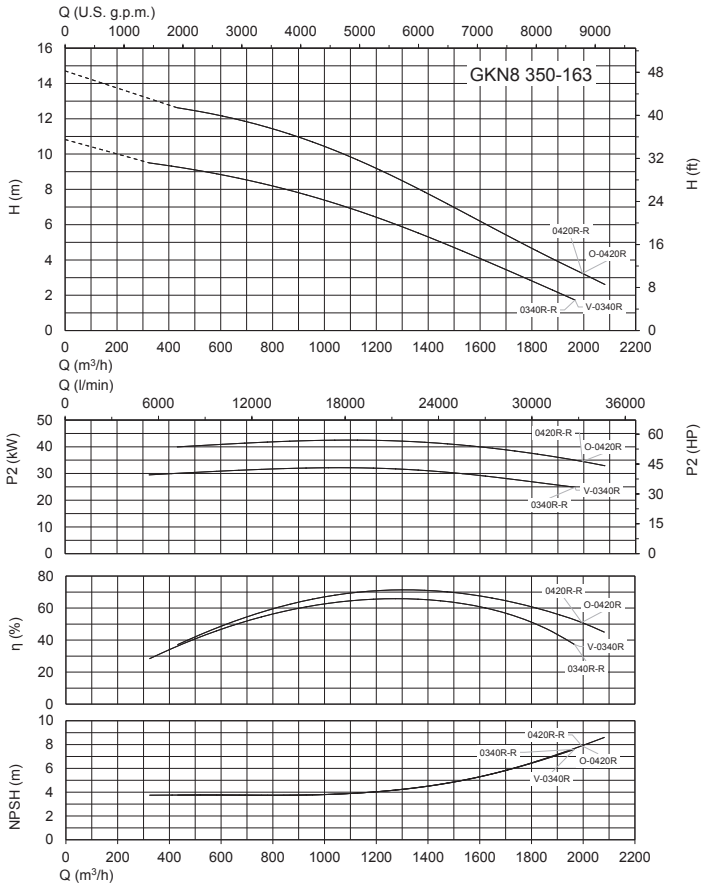



## Characteristic curves



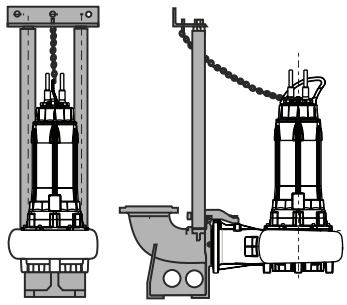



## Dimensions and weights

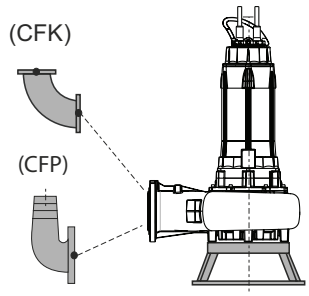
**Duck foot coupling**

**SAK**



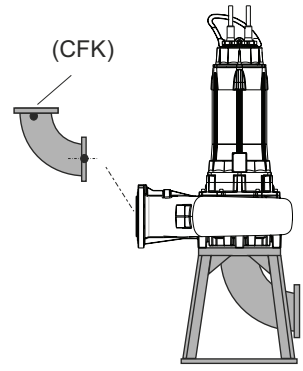
**Submersible pump rest**

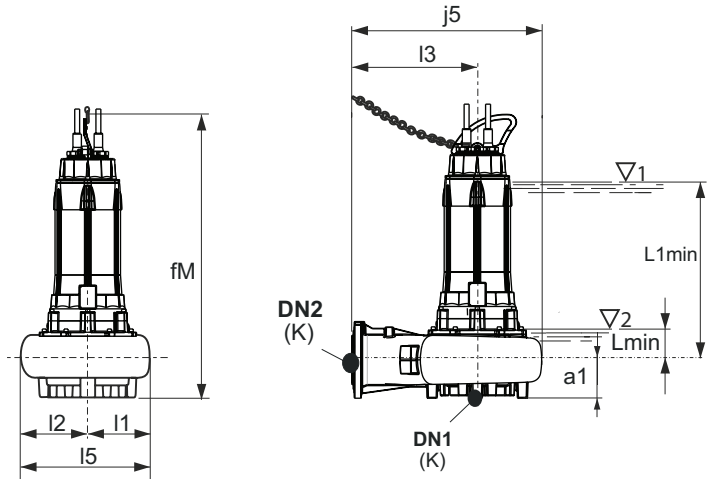
**APK**




**Dry chamber pump rest**

**APCK**




| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKN6 200-100L-0075N-60** | 200 | 200 | 170 | 840 | 240 | 340 | 550 | 580 | 446 | 120 | 235 |

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKN6 250-115G-0195P-60** | 250 | 250 | 200 | 843 | 282 | 404 | 500 | 686 | 820 | 199 | 521.4 |

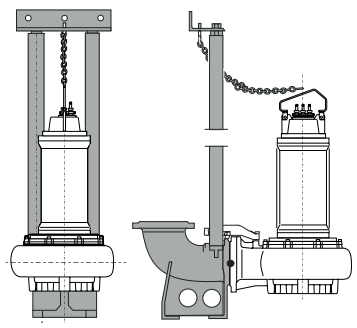
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKN 60 Hz

## Dimensions and weights

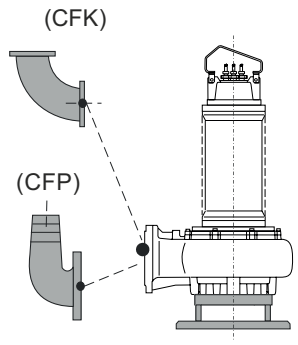
**Duck foot coupling**

**SAK**



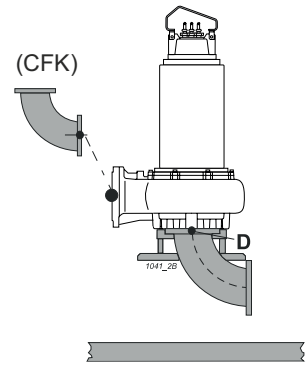
**Submersible pump rest**

**APK**



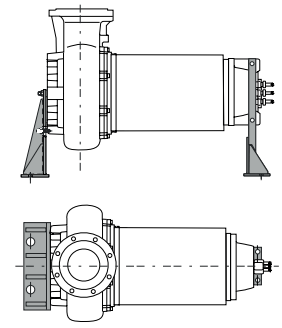

**Dry chamber pump rest**

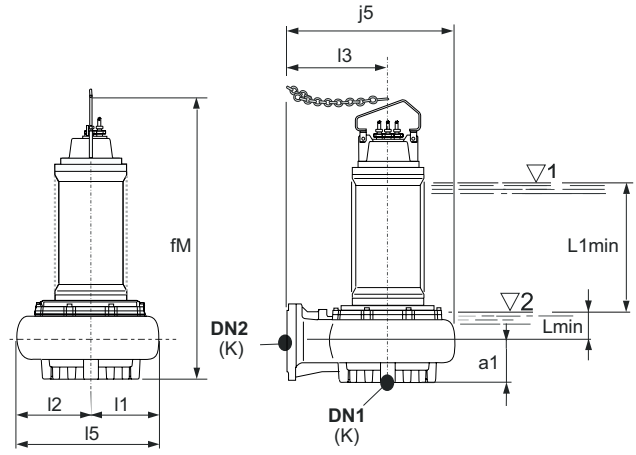
**APCK**




**Dry chamber pump support**

**SOK**





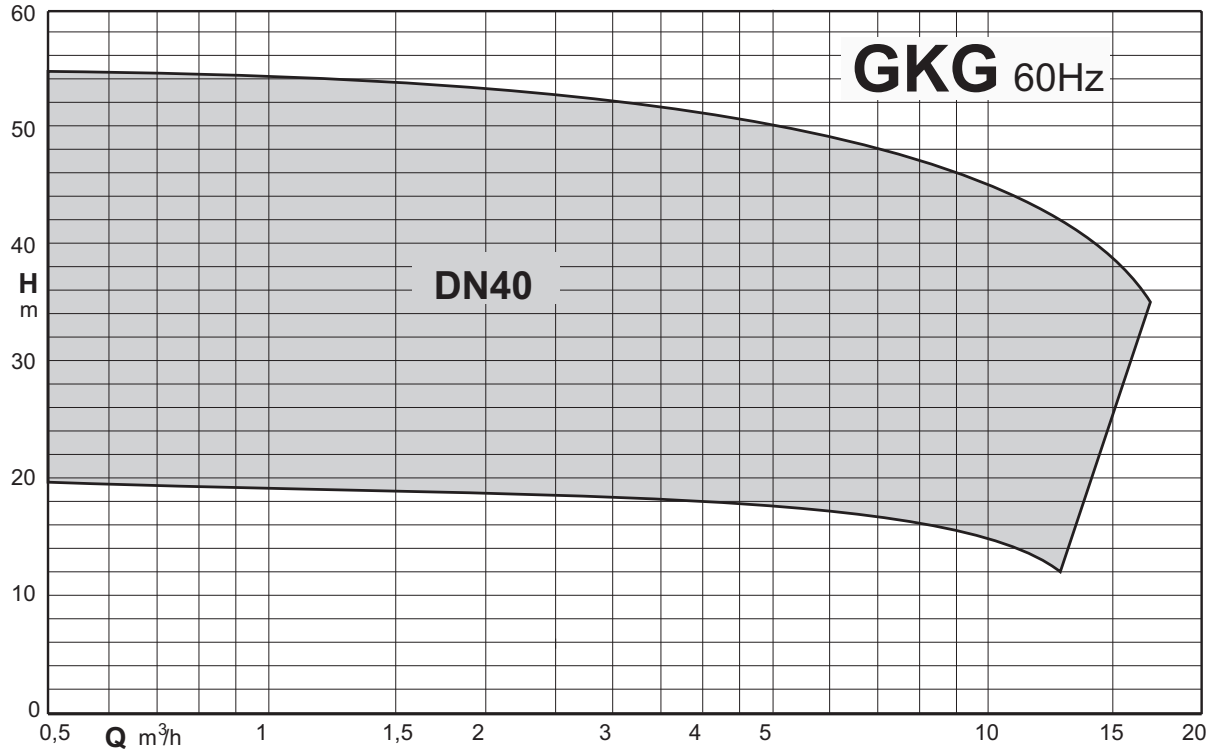

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKN8 300-143H-0250Z-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | 898 |
| **GKN8 300-143B-0340Z-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | 912 |
| **GKN8 300-143G-0250Z-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | - |
| **GKN8 300-143A-0340Z-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | - |

| TYPE | | | mm | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN1 | DN2 | a1 | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKN6 300-143N-0420R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | 783 |
| **GKN6 300-143I-0510R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | - |
| **GKN6 300-143P-0420R-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | - |
| **GKN6 300-143L-0510R-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 910 | 165 | 1039 |
| **GKN6 300-143G-0600T-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1308 |
| **GKN6 300-143D-0820T-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1380 |
| **GKN6 300-143A-1000T-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1442 |
| **GKN6 300-143H-0600T-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1542 |
| **GKN6 300-143E-0820T-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1613 |
| **GKN6 300-143B-1000T-R-60** | 300 | 300 | 230 | 1030 | 340 | 480 | 620 | 820 | 1140 | 155 | 1675 |

L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

# GKG 60 Hz






## Submersible pumps with high power grinder

# GKG 60 Hz

## Construction

Submersible pumps with high cutting power shredder system.
Made of very hard stainless steel, the shape of the shredder ensures long-life and fade-free shredding capacity.
No particular tools are required to replace this part.
Delivery port DN 40.

## Applications

To move water containing long filamentary materials, paper or textile material. They are particularly suitable for the disposal of waste water in domestic, residential and industrial use.
Solid passage 4 mm.

## Operating conditions

Liquid temperature up to 40°C.
Maximum immersion depth: 20m (with cable of suitable length).
Maximum working pressure: 80 m.w.c.
pH of the liquid to be lifted: 6 ÷ 10
Continuous service (with water at minimum immersion level).

## Materials

Pump casing: cast iron EN-GJL250 UNI-EN 1561-11
Impeller: cast iron EN-GJL250 UNI-EN 1561-11
Motor casing: cast iron EN-GJL250 UNI-EN 1561-11
Shaft: stainless steel X20Cr13 (AISI420)
Motor side mechanical seal: graphite/ceramic
Pump side mechanical seal: silicon carbide/ceramic

## Motor

Induction motor 2.4 poles, 60Hz
**Three-phase version:** 460V ± 10%up to 4.8 kW
460/795V ± 10%from 5.8 kW
Isolation class: H
Degree of protection: IP 68
Max number of starts per hour: 20 at regular intervals
Cable: length 10m
Direction of rotation: clockwise top view
Motor suitable for operation with frequency converter.

## Designation

GKG2 40-4T-0020-60
GK = Series
G = Impeller with shredder system
2 = Number of poles
40 = Delivery port diameter in mm
4 = Free passage in mm
T = Impeller trim
0020 = Motor size kW x 10
60 = Frequency 60 Hz

## Technical data

| TYPE | Dry chamber version | | Probes | | Cable | | Class | Duck foot coupling | Duck foot coupling | Threaded bend |
|---|---|---|---|---|---|---|---|---|---|---|
| | Vertical | Horizontal | thermal | conductivity | NSSHOU-J | H07RN-F | Isolation | | | |
| GKG2 40-4M-0020F-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4I-0020F-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4G-0025F-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4N-0038H-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4M-0048H-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4I-0048H-60 | – | – | o | o | – | • | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4I-0065H-60 | • | • | • | • | • | – | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |
| GKG2 40-4G-0065H-60 | • | • | • | • | • | – | H | SAK 40-G11/2A | SAK 40-G11/2-3/4 | CFF 1 1/2" |

• = Standard - = Not present o = Optional

# GKG 60 Hz

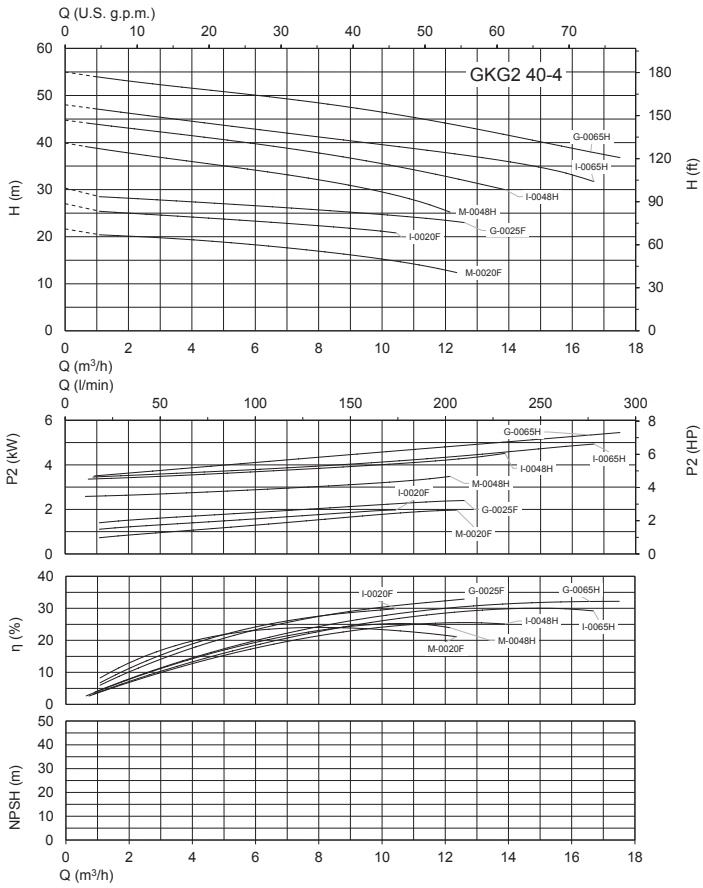
## Performance

### n ≈ 3450 1/min

| | | Q = Flow | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m³/h | 0 | 1,4 | 1,8 | 2,2 | 2,5 | 2,9 | 3,2 | 3,6 | 7,2 | 10,8 | 14,4 |
| Model | P2 | l/min | 0 | 23,33 | 30 | 36,66 | 41,66 | 48,33 | 53,33 | 60 | 120 | 180 | 240 |
| | kW | H (m) = Total head | | | | | | | | | | | |
| GKG2 40-4M-0020F-60 | 2 | | 21,6 | 20,3 | 20,2 | 20,1 | 19,9 | 19,8 | 19,7 | 19,5 | 17,5 | 14,4 | - |
| GKG2 40-4I-0020F-60 | 2 | | 27 | 25,2 | 25,1 | 24,9 | 24,8 | 24,6 | 24,5 | 24,3 | 22,7 | - | - |
| GKG2 40-4G-0025F-60 | 2,5 | | 30,3 | 28,4 | 28,2 | 28,1 | 28 | 27,8 | 27,7 | 27,6 | 26,1 | 24,3 | - |
| GKG2 40-4M-0048H-60 | 4,8 | | 39,9 | 38,3 | 38 | 37,6 | 37,3 | 37 | 36,6 | 36,3 | 32,9 | 28,2 | - |
| GKG2 40-4I-0048H-60 | 4,8 | | 44,7 | 43,5 | 43,2 | 42,9 | 42,7 | 42,4 | 42,1 | 41,8 | 38,6 | 34,5 | - |
| GKG2 40-4I-0065H-60 | 6,5 | | 48 | 46,7 | 46,4 | 46,1 | 45,8 | 45,5 | 45,2 | 44,9 | 41,9 | 38,9 | 35,5 |
| GKG2 40-4G-0065H-60 | 6,5 | | 55 | 53,6 | 53,3 | 53 | 52,7 | 52,4 | 52,1 | 51,8 | 49,1 | 45,6 | 41 |

# GKG 60 Hz

## Characteristic curves

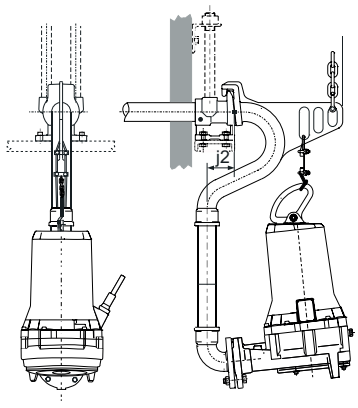


# GKG 60 Hz

## Dimensions and weights

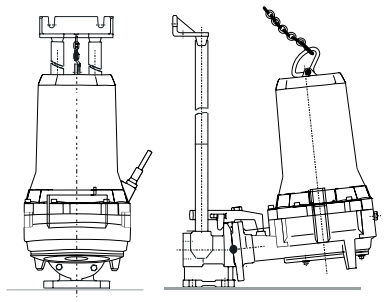
**Duck foot coupling**

**SAK 40-G11/2A**



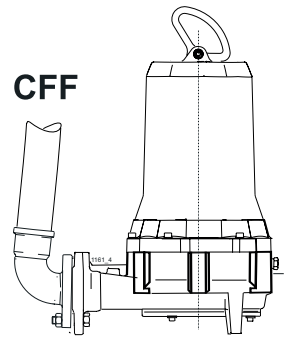

**Submersible pump rest**

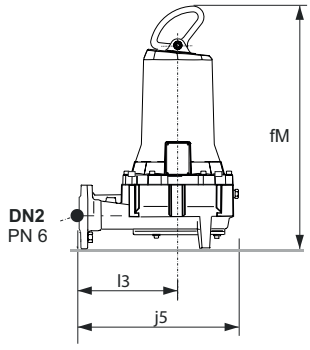
**SAK 40-G11/2-3/4**

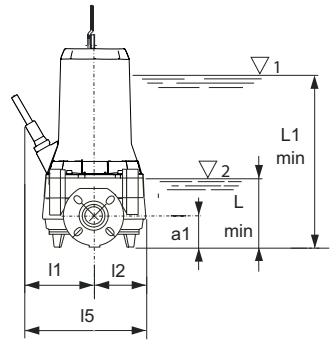


**Submersible pump with bend**

**CFF**



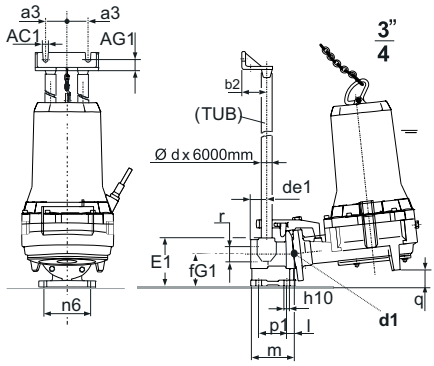




| TYPE | | mm | | | | | | | | | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN2 | a1 | fM | j5 | l1 | l2 | l5 | l5 | L1min | Lmin | Weight |
| **GKG2 40-4I-0020F-60** | 40 | 73 | 476 | 338 | 112 | 112 | 200 | 224 | 261 | 61 | 52 |
| **GKG2 40-4G-0025F-60** | 40 | 73 | 476 | 338 | 112 | 112 | 200 | 224 | 261 | 61 | 54 |
| **GKG2 40-4M-0048H-60** | 40 | 73 | 571 | 373 | 204.5 | 136.5 | 240 | 341 | 317 | 49 | 81.5 |
| **GKG2 40-4I-0048H-60** | 40 | 73 | 571 | 373 | 204.5 | 136.5 | 240 | 341 | 317 | 49 | 81.6 |
| **GKG2 40-4I-0065H-60** | 40 | 73 | 640 | 373 | 221 | 136.5 | 240 | 357.5 | 317 | 49 | 101.6 |
| **GKG2 40-4G-0065H-60** | 40 | 73 | 640 | 373 | 221 | 136.5 | 240 | 357.5 | 317 | 49 | 101.7 |

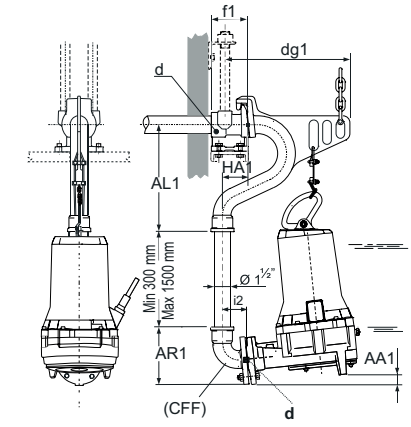
L1min = Minimum submergence depth for motor without casing with continuous duty S1 (NPSHR permitting)
Lmin = Minimum submergence depth for motor without casing with intermittent duty S3 (NPSHR permitting)

## Dimensions and weights



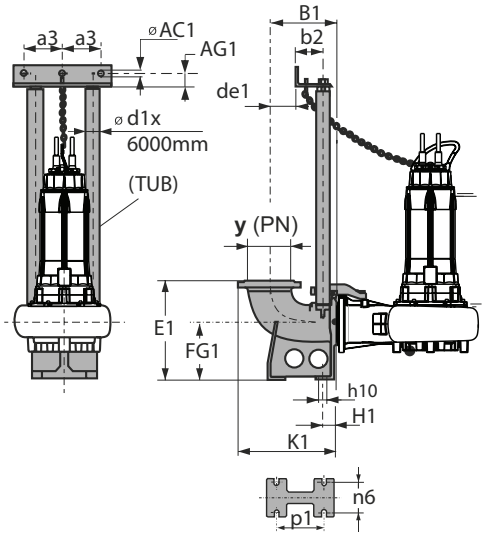

### Duck foot coupling

| TYPE | mm | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a3 | AC1 | AG1 | b2 | d1 | de1 | E1 | fG1 | H1 | h10 | K1 | n6 | p1 | q | y |
| SAK 40-G11/2-3/4 | 52.5 | 12 | 27 | 60 | 3/4" | 40 | 120 | 80 | 21.5 | 14 | 113 | 115 | 70 | 37 | G1 1/2" |




### Duck foot coupling

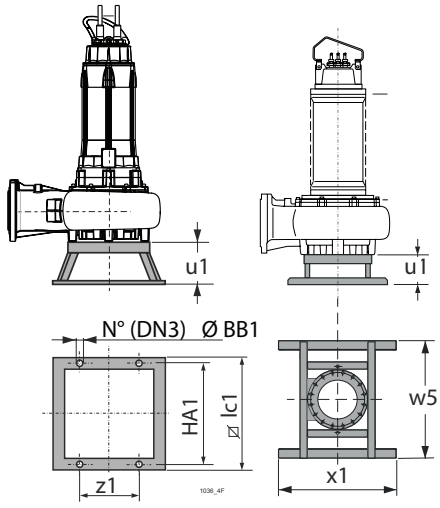
| TYPE | mm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AA1 | AL1 | AR1 | d | dg1 | f1 | g3 | HA1 |
| SAK 40-G11/2A | 29 | 315 | 165 | G1 1/2" | 403 | 107 | 76 | 76 |




### Duck foot coupling

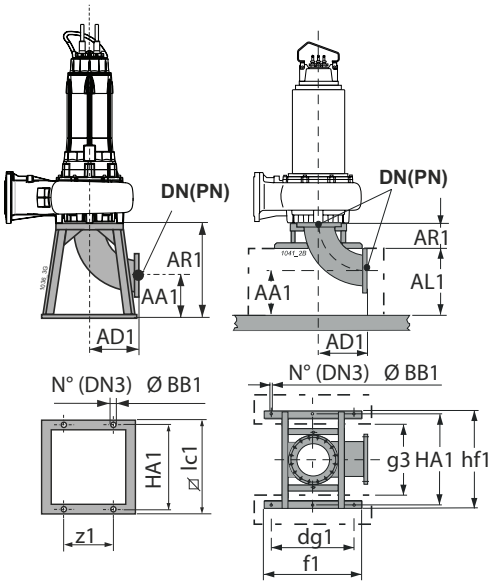
| TYPE | mm | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a3 | AC1 | AG1 | B1 | b2 | d1 | de1 | E1 | fG1 | H1 | h10 | K1 | n6 | p1 | y | PN |
| SAK 65-65-2 | 130 | 12.5 | 35 | 220 | 102 | 2" | 40 | 280 | 160 | 47 | 18 | 312,5 | 110 | 156 | 65 | 16 |
| SAK 65-80-2 | 130 | 12.5 | 35 | 220 | 102 | 2" | 40 | 280 | 160 | 47 | 18 | 320 | 110 | 156 | 80 | 16 |
| SAK 80-100-2 | 130 | 12.5 | 35 | 228 | 102 | 2" | 48 | 320 | 180 | 47 | 18 | 338 | 110 | 156 | 100 | 16 |
| SAK 80-80-2 | 130 | 12.5 | 35 | 220 | 102 | 2" | 40 | 320 | 180 | 47 | 18 | 320 | 110 | 156 | 80 | 16 |
| SAK 100-100-2 | 130 | 12.5 | 35 | 228 | 102 | 2" | 48 | 430 | 280 | 49 | 18 | 338 | 194 | 186 | 100 | 16 |
| SAK 100-100-2A | 130 | 12.5 | 35 | 228 | 102 | 2" | 48 | 350 | 200 | 49 | 18 | 338 | 135 | 186 | 100 | 16 |
| SAK 150-150-2 | 158 | 12.5 | 35 | 260 | 102 | 2" | 75 | 435 | 235 | 59 | 19 | 403 | 194 | 214 | 150 | 16 |
| SAK 150-200-3 | 157.5 | 12.5 | 35 | 385 | 117 | 3" | 180 | 540 | 290 | 80 | 24 | 555 | 210 | 280 | 200 | 10 |
| SAK 200-250-3 | 157.5 | 12.5 | 35 | 425 | 117 | 3" | 220 | 595 | 345 | 80 | 24 | 623 | 250 | 380 | 250 | 10 |
| SAK 200-250-3 | 157.5 | 12.5 | 35 | 425 | 117 | 3" | 220 | 595 | 345 | 80 | 24 | 623 | 250 | 380 | 250 | 10 |
| SAK 250-300-3 | 157,5 | 12,5 | 35 | 450 | 117 | 3" | 245 | 700 | 400 | 85 | 24 | 673 | 310 | 425 | 300 | 10 |
| SAK 300-350-3 | 157,5 | 12,5 | 35 | 500 | 117 | 3" | 295 | 820 | 500 | 90 | 24 | 755 | 360 | 475 | 350 | 10 |
| SAK 350-400-3 | 157,5 | 12,5 | 35 | 525 | 117 | 3" | 320 | 920 | 575 | 95 | 24 | 810 | 400 | 510 | 400 | 10 |
| SAK 250-300-3A | 157,5 | 12,5 | 35 | 450 | 117 | 3" | 245 | 700 | 400 | 85 | 24 | 673 | 310 | 425 | 300 | 10 |
| SAK 300-350-3A | 157,5 | 12,5 | 35 | 500 | 117 | 3" | 295 | 820 | 500 | 90 | 24 | 755 | 360 | 475 | 350 | 10 |
| SAK 350-400-3A | 157,5 | 12,5 | 35 | 525 | 117 | 3" | 320 | 920 | 575 | 95 | 24 | 810 | 400 | 510 | 400 | 10 |

## Dimensions and weights



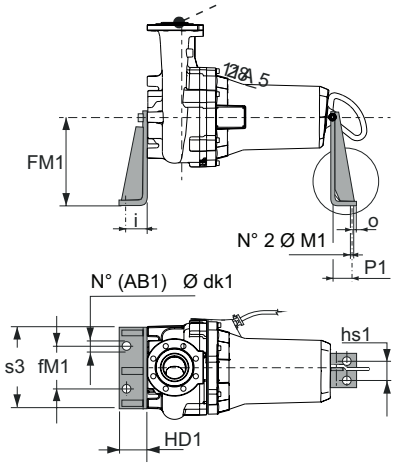

**Submersible pump rest**

| TYPE | mm | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | BB1 | DN3 | HA1 | lc1 | u1 | w5 | x1 | z1 |
| APK 80 | 12 | 4 | 400 | 440 | 166 | - | - | 230 |
| APK 100 | 14 | 4 | 600 | 650 | 180 | - | - | 350 |
| APK 100A | 14 | 4 | 600 | 650 | 180 | - | - | 350 |
| APK 150 | 14 | 4 | 600 | 650 | 220 | - | - | 350 |
| APK 150A | - | - | - | - | 280 | 1000 | 1000 | - |
| APK 250 | 14 | 4 | 600 | 650 | 220 | - | - | 350 |
| APK 350 | - | - | - | - | 280 | 1000 | 1000 | - |




**Dry chamber pump rest**

| TYPE | mm | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | PN | AA1 | AD1 | AL1 | AR1 | BB1 | dg1 | DN3 | f1 | g3 | HA1 | hf1 | lc1 | z1 |
| APCK 65 | 65 | 16 | 150 | 140 | - | 290 | 12 | - | 4 | - | - | 390 | - | 440 | 230 |
| APCK 80 | 80 | 16 | 126 | 164 | - | 290 | 12 | - | 4 | - | - | 390 | - | 440 | 230 |
| APCK 100 | 100 | 16 | 135 | 204 | - | 340 | 22 | - | 4 | - | - | 600 | - | 650 | - |
| APCK 150 | 150 | 16 | 285 | 395 | 400 | 280 | 22 | 850 | 6 | 1000 | 740 | 935 | 1000 | - | - |
| APCK 150A | 150 | 16 | 205 | 395 | - | 600 | 22 | - | 4 | - | - | 600 | - | 650 | - |
| APCK 200 | 200 | 10 | 290 | 310 | - | 600 | 22 | - | 4 | - | - | 600 | - | 650 | - |
| APCK 250 | 250 | 10 | 215 | 385 | - | 600 | 22 | - | 4 | - | - | 600 | - | 650 | - |
| APCK 250A | 250 | 10 | 295 | 385 | 400 | 280 | 22 | 850 | 6 | 1000 | 740 | 935 | 1000 | - | - |
| APCK 300 | 300 | 10 | 320 | 465 | 500 | 280 | 22 | 850 | 6 | 1000 | 740 | 935 | 1000 | - | - |
| APCK 350 | 350 | 10 | 345 | 540 | 600 | 280 | 22 | 850 | 6 | 1000 | 740 | 935 | 1000 | - | - |




**Dry chamber pump support**

| TYPE | mm | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | AB1 | c1 | dk1 | fM1 | HD1 | hs1 | i | M1 | o | P1 | s3 |
| SOK80/N3 | 2 | 400 | 22 | 270 | 100 | 100 | 66 | 22 | 34 | 43 | 400 |
| SOK100/N3 | 2 | 400 | 22 | 320 | 100 | 100 | 66 | 22 | 34 | 43 | 470 |
| SOK150/N3 | 2 | 400 | 22 | 320 | 100 | 100 | 66 | 22 | 34 | 43 | 470 |
| SOK150-200 | 3 | 530 | 22 | 335 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK150-225 | 3 | 530 | 22 | 335 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK150-250 | 3 | 530 | 22 | 335 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK350-200 | 3 | 530 | 22 | 500 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK350-225 | 3 | 530 | 22 | 500 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK350-250 | 3 | 530 | 22 | 500 | 160 | 270 | 100 | 22 | 40 | 85 | - |
| SOK 350-280 | 3 | 530 | 22 | 500 | 160 | 270 | 100 | 22 | 100 | 20 | - |
| SOK 350-315 | 3 | 530 | 22 | 500 | 160 | 270 | 100 | 22 | 100 | 20 | - |

# GEO 60 Hz

**Automatic waste water collecting and lifting station**
**Estación automática de recogida y elevación de aguas sucias**

### GEO 40



### GEO 230



### GEO 500

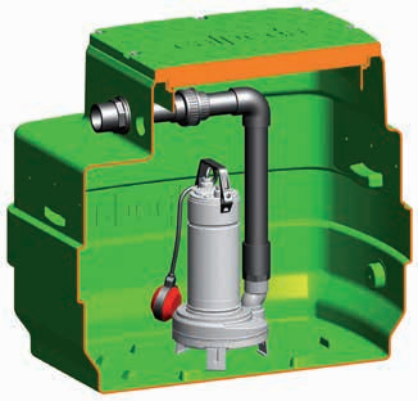


## Installation examples

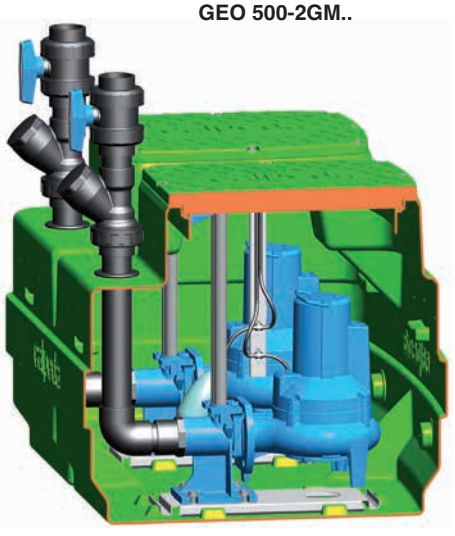
**GEO 40-GXR**



**GEO 230-GX..**



**GEO 500-2GM..**



# GEO 60 Hz

## Construction

High-density polyethylene tank, resistant to corrosion, with minimum overall dimensions.

- **GEO 40** single tank with 40 liters nominal capacity for the installation of a GXRM type.

- **GEO 230** single tank with 230 liters nominal capacity for the installation of an electropump type GM 10, GQ, GX or GM series.

- **GEO 500** double tank with 500 liters nominal capacity for the installation of two electropumps type GM 10, GQ, GX or GM series.

Pipe kit for electropump connection.
Two possible installation, at ground level or underground.
For underground installation, extentions can be used (maximum two extentions).
Easy pump access through a cover fixed with screws.

## Applications

Automatic waste water collecting and lifting stations, to handle domestic, civil and industrial waste water.
For collecting and lifting clean waste water and rain water.
For flood drainage.

## Ejecución

Depósito en polietileno de media densidad, resistente a la corrosión, de dimensiones reducidas.

**GEO 40** capacidad depósito 40 litros, para la instalación de unaelectrobomba tipo GXRM.

**GEO 230** capacidad depósito 230 litros, para la instalación de unaelectrobomba tipo GM 10, GX o GM.

**GEO 500** capacidad depósito 500 litros, para la instalación de doselectrobombas tipo GM 10, GX o GM.

Kit tubería para la conexión de la electrobomba.Dos posibilidades de instalación, en suelo o enterrado.
Para la instalación enterrada, hay disponibles prolongaciones parallevar la tapa a nivel del suelo.
Fácil acceso a la bomba por medio de una gran tapa.

## Aplicaciones

Estaciones de recogida y elevación automática de aguas sucias domésticas, civiles e industriales.
Para la recogida y bombeo de aguas claras de desecho, pluviales, y achiques en ambientes sujetos a inundaciones.

## Designation

**GEO 40-GXRM 9-60**

Series
Nominal tank capacity
Pump type
Pump frequency 60 Hz

**GEO 230-GXVM 40B-60**

Series
Nominal tank capacity
Pump type
Pump frequency 60 Hz

**GEO 500-2 GXVM 40B-60**

Series
Nominal tank capacity
Nr of pumps
Pump type
Pump frequency 60 Hz

## Désignation

**GEO 40-GXRM 9-60**

Serie
Capacidad nominal
Tipo de bomba
Frecuencia bomba 60 Hz

**GEO 230-GXVM 40B-60**

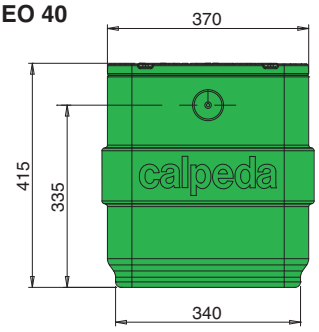
Serie
Capacidad nominal
Tipo de bomba
Frecuencia bomba 60 Hz

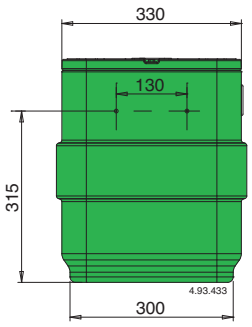
**GEO 500-2GXVM 40B-60**

Serie
Capacidad nominal
n° de bombas
Tipo de bomba
Frecuencia bomba 60 Hz

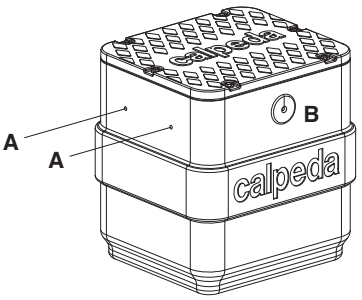
## Dimensions and weights- Dimensiones y pesos

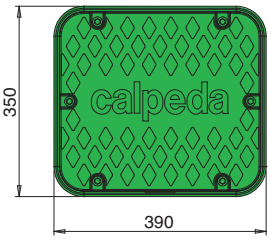
### GEO 40



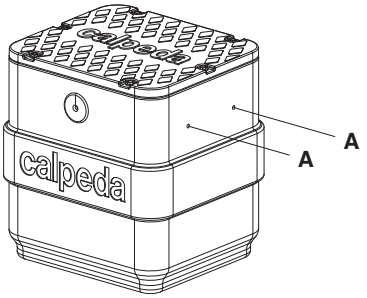

Tank
Deposito
kg.6



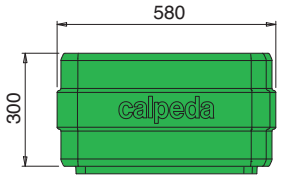

A) Arrangement for :
Ø 40 mm inlet
Ø 40 mm outlet
Ø 25 mm relief
B) Cable passage with Shuko plug

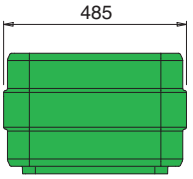
A) Predisposición para:
Entrada Ø 40 mm
Impulsión Ø 40 mm
Salida de aire Ø 25 mm
B) Salida cable con con clavija Shuko.



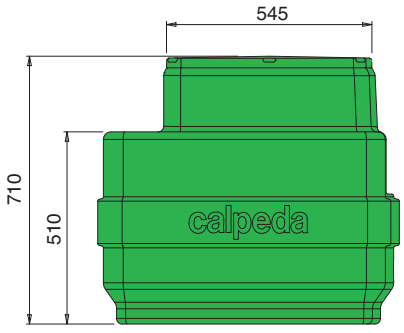

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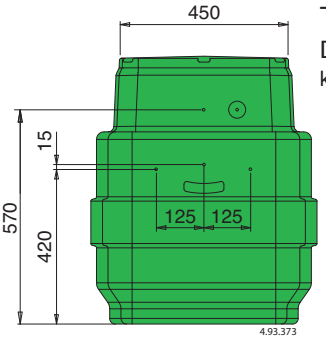
### GEO 230



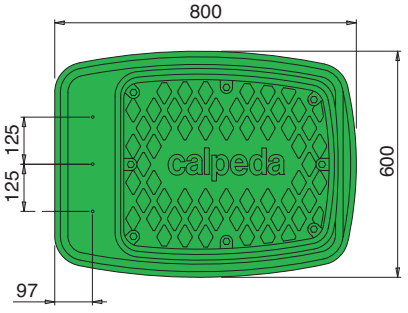




Extention
Prolongación
kg.4,5



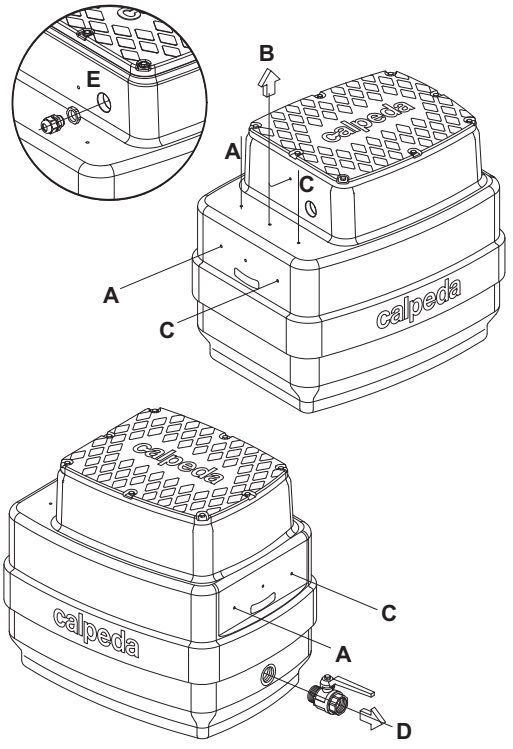




Tank
Deposito
kg.16



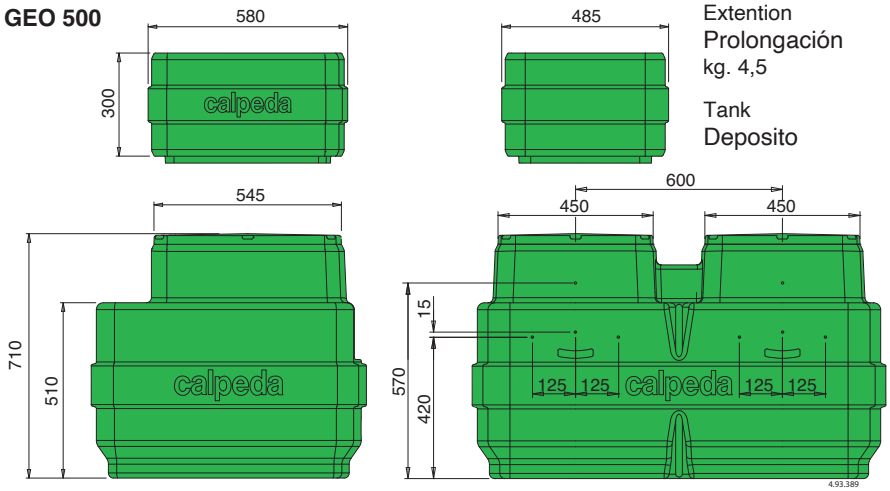

A-C) inlet and relief
B) delivery outlet
D) G 1 1/2 draining outlet
E) Cable outlet

A-C) Entrada o salida de aire
B) Salida impulsión
D) Salida descarga G 1 1/2
E) Salida cable



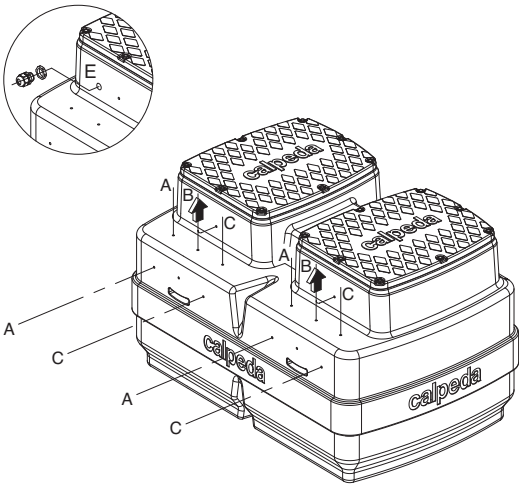
## Dimensions and weights - Dimensiones y pesos

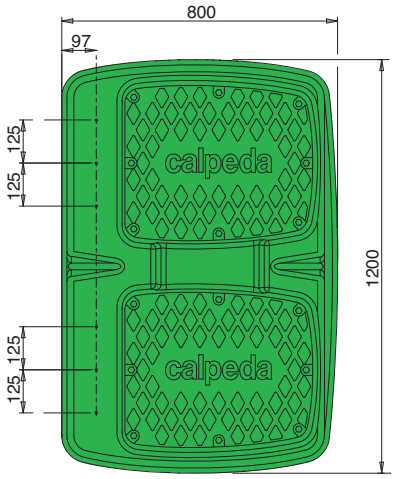
**GEO 500**




Extention
Prolongación
kg. 4,5

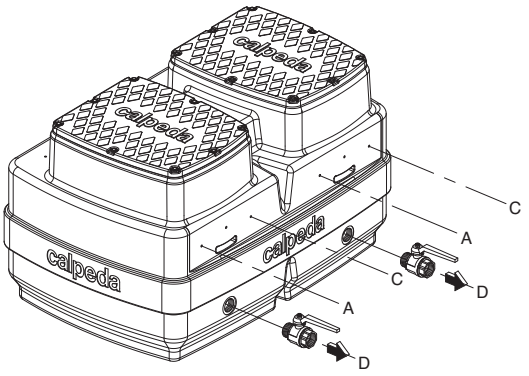
Tank
Deposito



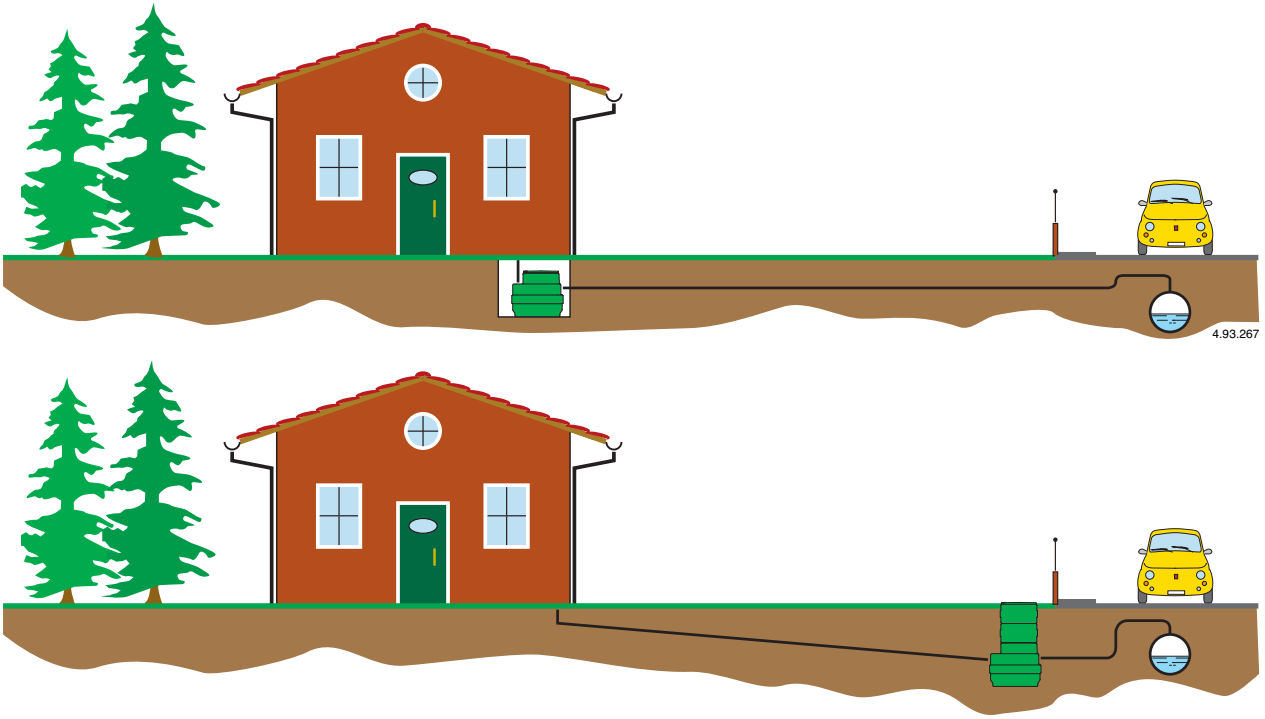




A-C) inlet and relief
B) delivery outlet
D) G 1 1/2 draining outlet
E) Cable outlet

A-C) Entrada o salida de aire
B) Salida impulsión
D) Salida descarga G 1 1/2
E) Salida cable




## Installation examples - Ejemplo de instalación



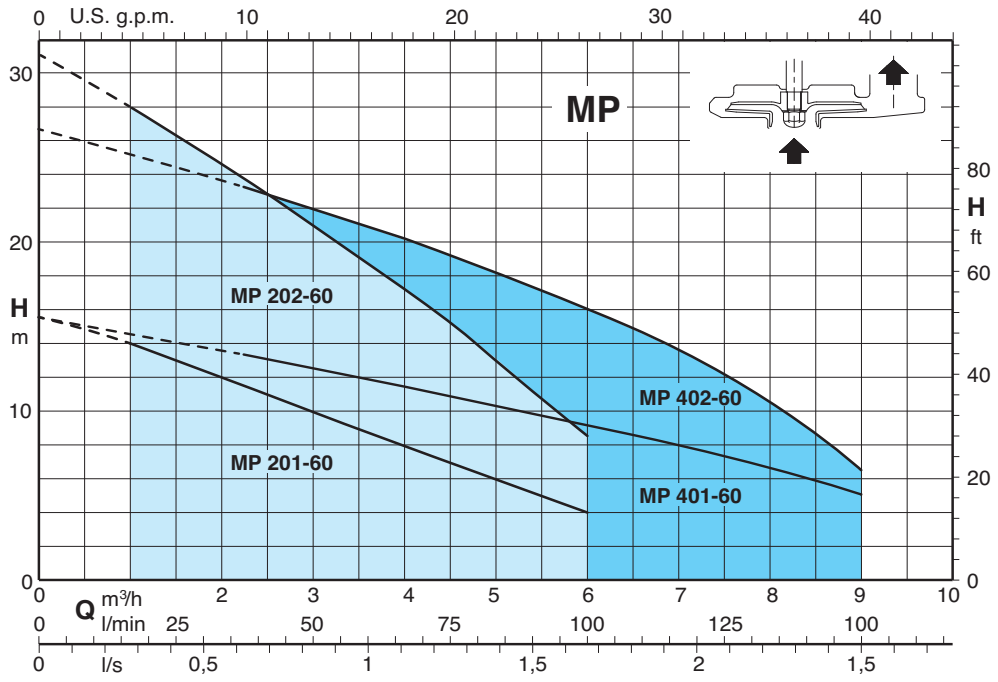
# MP 60 Hz

## Multi-stage submersible pumps
## Bombas multicelulares sumergible



### Coverage chart - Campo de aplicaciones

n ≈ 3450 1/min



# MP 60 Hz

## Construction
Multi-stage centrifugal submersible pumps with external jacket in chrome-nickel stainless steel, with vertical delivery port.
Motor cooled by the pumped water passing between the motor jacket and the external jacket.
Double shaft seal with oil chamber.

## Applications
- For clean water containing solids up to 2 mm grain size.
- For draining rooms or or emptying tanks.
- Extraction of water from ponds, streams or pits and for rainwater collection.
- For irrigation purposes.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60335-2-41.

## Operating conditions
Liquid temperature +5 °C to +35° C.
Maximum immersion depth: 5 m.
Minimum water level with float 100 mm.
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).
**MP**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN-F (H05RN-F for 0,25 kW), length 5 m, without plug.
**MPM**: single-phase 110 V, 127 V, 220 V,
with float switch,
with thermal protector only 220V.
Incorporated capacitor.
Cable: H07RN-F (H05RN-F for 0,25 kW), length 5 m, with plug CEI-UNEL 47166.
Insulation class F.
Protection IP X8 (for continuous immersion)
Double impregnation humidity-proof dry winding.
Constructed in accordance with: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Other features on request
- Other voltages.
- Other mechanical seal.
- Cable length 10 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.

## Ejecución
Bomba centrífugas multicelulares sumergible monorodete con camisa externa de acero inoxidable al níquel-cromo, con boca de impulsión vertical.
Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.
Doble sello en el eje con cámara de aceite intermedia.

## Aplicaciones
Para aguas limpias con cuerpos sólidos hasta un diámetro de 2 mm.
Para el vaciado de locales inundados o tanques.
Para sacar el agua de fosas, pozos para la recogida de aguas pluviales.
Para irrigación.
Para uso en el exterior, el cable de alimentación tiene que ser de almenos 10 m, de acuerdo a EN 60335-2-41.

## Límites de empleo
Temperatura del líquido +5 °C a +35° C.
Profundidad de inmersión máxima: 5 m.
Nivel mínimo de vaciado con interruptor de nivel 100 mm.
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n ≈ 3450 1/min).
**MP**: trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN-F (H05RN-F para 0,25 kW), longitud 5 m, sin clavija.
**MPM**: monofásico 110 V, 127 V, 220 V,
con interruptor de nivel,
con protector térmico sólo para 220V.
Con condensador incorporado.
Cable: H07RN-F (H05RN-F para 0,25 kW), longitud 5 m, con clavija CEI-UNEL 47166.
Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según: EN 60034-1;
EN 60335-1, EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Otro sello mecánico.
- Longitud cable 10 m.
- Con interruptor de nivel fixo (magnético).
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Component | Material |
|---|---|
| Pump casing<br>Impeller<br>Stage casing | PPO-GF20 (Noryl) |
| Motor jacket<br>External jacket | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Strainer<br>Handle | Polypropylene |
| Shaft | Cr-Nì steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal | Ceramic alumina/Carbon/NBR |
| Seal lubrication oil | Oil for food/pharmaceutical machinery |

## Materiales

| Componentes | Material |
|---|---|
| Cuerpo bomba<br>Rodete<br>Cuerpo elemento | PPO-GF20 (Noryl) |
| Camisa motor<br>Camisa externa | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Filtro de asp.<br>Asa transporte | Polipropileno |
| Eje | Acero al Cr-Ni 1.4305 EN 10088 (AISI 303) |
| Sello mecánico | Cerámica alúmina/Carbón/NBR |
| Aceite lubrif. sello | Aceite blanco para uso alimentario farmacéutico |

# MP 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3~ | 1~ | $P_1$ | $P_2$ | | Q $m^3/h$ | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | kW | HP | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 | 100 |
| **MP 201-60** | **MPM 201-60** | 0,5 | 0,25 | 0,34 | H m | 15,5 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 4 |
| **MP 202-60** | **MPM 202-60** | 0,95 | 0,45 | 0,6 | | 31 | 28 | 26,5 | 24,7 | 23 | 21 | 19,2 | 17,2 | 15,2 | 13 | 8,5 |

| 3~ | 1~ | $P_1$ | $P_2$ | | Q $m^3/h$ | 0 | 2,25 | 3 | 3,5 | 4 | 4,5 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | kW | HP | l/min | 0 | 37,5 | 50 | 58,3 | 66,6 | 75 | 83,3 | 100 | 116 | 133 | 150 |
| **MP 401-60** | **MPM 401-60** | 0,7 | 0,37 | 0,5 | H m | 15,5 | 13,3 | 12,5 | 12 | 11,5 | 11 | 10,5 | 9,3 | 8 | 6,5 | 5 |
| **MP 402-60** | **MPM 402-60** | 0,95 | 0,45 | 0,6 | | 26,5 | 23,5 | 22 | 21,2 | 20,2 | 19,3 | 18 | 16 | 13,5 | 10,5 | 6,5 |

$P_2$ Rated motor power output.
Potencia nominal del motor.

Kinematic viscosity ν = max 20 mm²/sec.
Viscosidad cinemática ν = max 20 mm²/sec.

Density ρ = 1000 kg/m³
Densidad ρ = 1000 kg/m³.

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

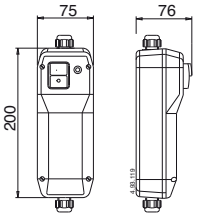
| $P_2$ | | single-phase - monofásico 1 ~ | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220 V | | | 127 V | | | | 110 V | | | | |
| kW | HP | In A | Capacitor Condens. 450 Vc | Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Control Cuadro | Cable H07RN-F | In A | Capacitor Condens. 250 Vc | Control Cuadro | Cable H07RN-F | Ia/In |
| 0,25 | 0,34 | 2,5 | 8 μF | 3G0.75* | 4,3 | 25 μF | Internal | 3G0.75* | 5 | 30 μF | Internal | 3G0.75* | 2,3 |
| 0,37 | 0,5 | 3,6 | 12,5 μF | 3G1 | 6,2 | 40 μF | QM | 4G1 | 7,2 | 50 μF | QM | 4G1 | 2,3 |
| 0,45 | 0,6 | 4,9 | 16 μF | 3G1 | 8,5 | 60 μF | QM | 4G1 | - | - | - | - | 2,5 |

| $P_2$ | | three-phase - trifásico 3 ~ | | | | |
|---|---|---|---|---|---|---|
| | | 220 V | 380 V | 440 V | Cable | |
| kW | HP | In A | In A | In A | H07RN-F | Ia/In |
| 0,25 | 0,33 | 1,4 | 0,8 | 0,7 | 4G0,75 | 3,8 |
| 0,37 | 0,5 | 3,1 | 1,8 | 1,6 | 4G1 | 3,8 |
| 0,45 | 0,6 | 3,4 | 2 | 1,7 | 4G1 | 3,5 |

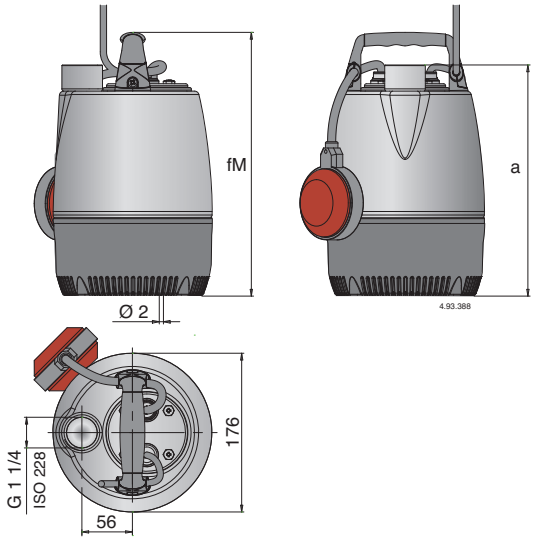
*H05RN-F for-para 0,25 kW

$P_2$ Rated motor power output. - Potencia nominal del motor.
$I_A/I_N$ D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

**QM**



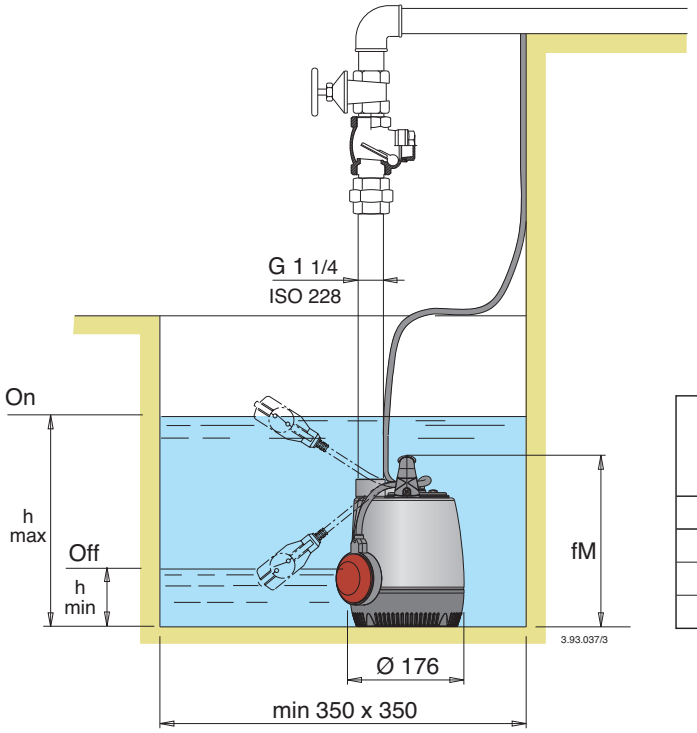

## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | mm | | (1) kg | |
|---|---|---|---|---|
| | fM | a | MP | MPM |
| **MP 201-60 - MPM 201-60** | 265 | 230 | 4,7 | 4,9 |
| **MP 202-60 - MPM 202-60** | 325 | 290 | 6,4 | 6,7 |
| **MP 401-60 - MPM 401-60** | 300 | 265 | 6 | 6,4 |
| **MP 402-60 - MPM 402-60** | 325 | 290 | 6,4 | 6,7 |

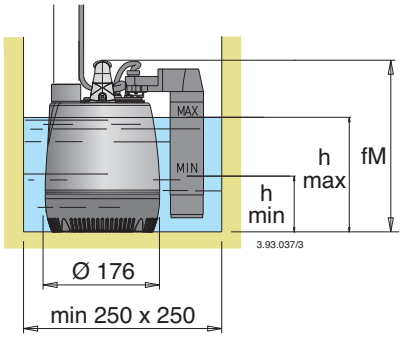
(1) With cable length: 5 m
Con longitud de cable: 5 m

## Installation example - Ejemplo de instalacion




| TYPE TIPO | mm | |
|---|---|---|
| | h min | h max |
| **MPM 201-60** | 100 | 310 |
| **MPM 202-60** | 160 | 370 |
| **MPM 401-60** | 135 | 345 |
| **MPM 402-60** | 160 | 370 |

## Installation example with vertical magnetic float switch
## Ejemplo con interruptor de nivel fixo (magnético)




| TYPE TIPO | mm | |
|---|---|---|
| | h min | h max |
| **MPM 201-60 GF** | 100 | 190 |
| **MPM 202-60 GF** | 160 | 250 |
| **MPM 401-60 GF** | 135 | 225 |
| **MPM 402-60 GF** | 160 | 250 |

## Features - Características constructivas

G 1 1/4 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

*Boca de impulsión G1 1/4 vertical, dirigida hacia arriba para la instalación en pozos pequeños, sin la necesidad de una curva sobre la bomba.*

Handle in polypropylene.

*Asa transporte in polipropileno.*

Easy inspection of the capacitor area

*Fácil inspección del condensador.*

Shaft in chrome-nickel stainless steel.

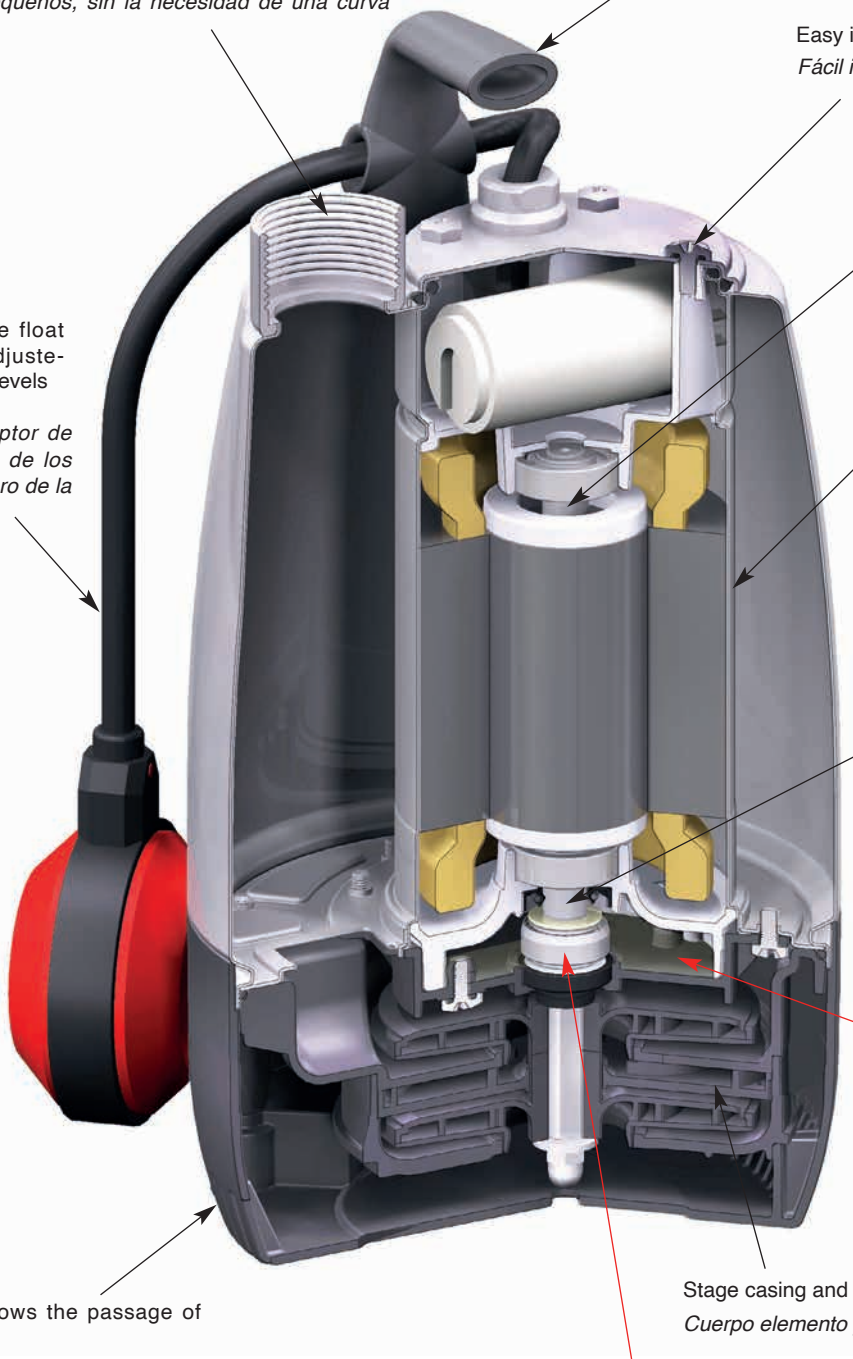
*Eje de acero inoxidable.*

Easy adjustment of the float switch: to allow the adjustement of start/stop pump levels

*Fácil ajuste del interruptor de nivel: permite el ajuste de los niveles de arranque y paro de la bomba.*

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

*Motor refrigerado por el agua bombeada con deslizamiento entre la camisa del motor y la camisa externa.*



Ceramic stainless steel shaft sleeve

*Camisa de protección eje de acero inoxidable ceramizado.*

Oil chamber

*Cámara de aceite.*

Suction strainer that allows the passage of solids up to 2 mm.

*Rejilla de aspiración permite el paso de cuerpos sólidos hasta un diámetro de 2 mm*

Stage casing and Impeller in PPO-GF20 (Noryl)

*Cuerpo elemento y rodete de PPO-GF20 (Noryl)*

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

*Doble cierre sobre el eje, con cámara de aceite intercalada para una segura separación del motor del agua, y para la protección contra el funcionamiento accidental en seco.*

# MPS 60 Hz

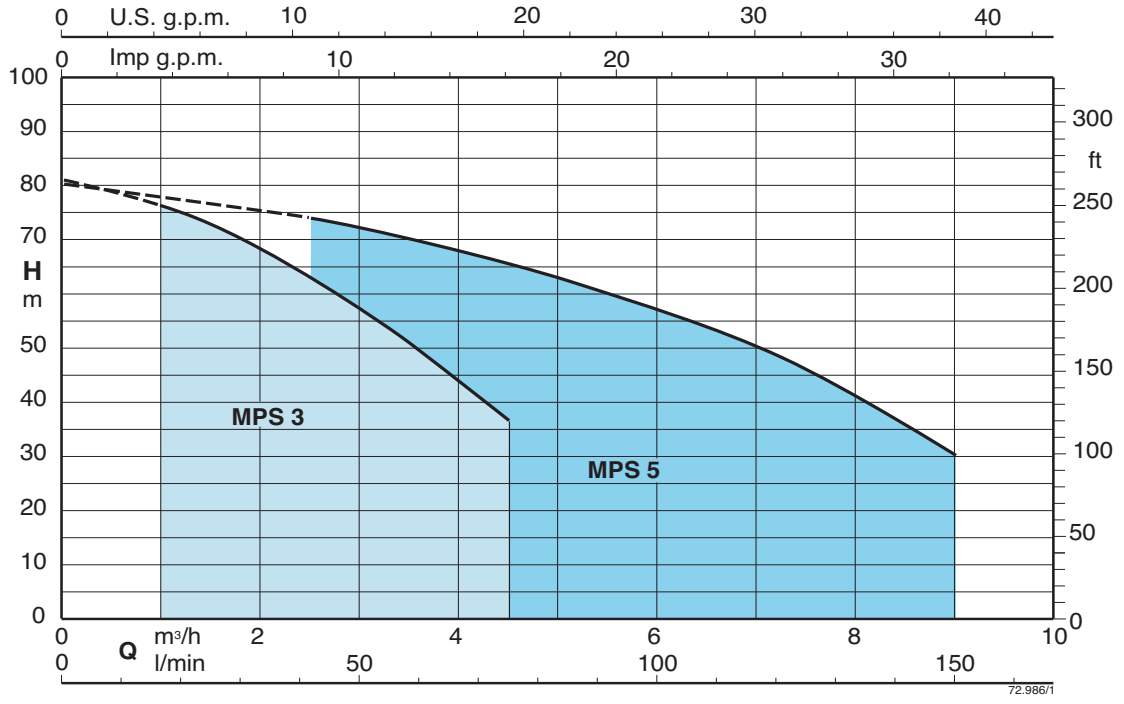
## Multi-Stage Submersible Clean Water Pumps
## Bombas sumergibles multicelulares para agua limpia




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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# MPS 60 Hz

## Construction
Close coupled multi-stage submersible pumps.
**External jacket in stainless steel AISI 304 and stages Noryl.**
MPSM with built-in capacitor, accessible through the delivery casing.
Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.
Double shaft seal with oil chamber.
The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

## Applications
For water supply from wells, tanks or reservoirs.
For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

## Operating conditions
Water temperature +5 °C to +35 °C.
Minimum internal diameter of well: 140 mm.
Minimum immersion depth: 100 mm.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).

**MPS**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN8-F, length 15 m, without plug.

**MPSM**: single-phase 110 V, 127 V, 220 V,
with thermal protector only 220V.
Incorporated capacitor.
Float switch MPSM.. CG up to 15A (on demand)
Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.
Protection IP X8 (for continuous immersion).
Double impregnation humidity-proof dry winding.
Constructed in accordance with EN 60335-2-41.

## Special features on request
- Other voltages.
- Cable length 20 m.
- Motor suitable operation with frequency converter.

## Ejecución
Bomba multicelular monobloc sumergible
**Camisa externa en acero AISI 304 y elementos (Rodetes y difusores) en Noryl.**
MPSM con condensador incorporado, accesible a través del cuerpo de impulsión.
Parte hidráulica en la zona inferior y motor en la parte superior refrigerado por el agua bombeada, aunque esté sumergida parcialmente tiene un seguro funcionamento.
Doble sello en el eje con cámara de aceite intermedia.
El filtro en la aspiración impíde el paso de cuerpos sólidos con diámetro superior a 2 mm.

## Aplicaciones
Para el aprovisionamiento de agua de pozos, estanques o depósitos.
Para aplicaciones domésticas, cviles e industiales, jardines y riegos.
Utilización del agua pluvial.

## Límites de empleo
Temperatura del agua +5 °C a +35 °C.
Mínimo diametro interno del pozo: 140 mm.
Mínima profundidad de inmersión: 100 mm.
Máxima profundidad de inmersión: 20 m (con cable de adecuada longitud).
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).

**MPS** : trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN8-F, longitud 15 m, sin clavija.

**MPSM** : monofásico 110 V, 127 V, 220 V,
con protector térmico sólo para 220V.
Con condensador incorporado.
Interruptor de nivel MPS .. CG hasta 15A (bajo demanda)
Câble: H07RN8-F, longitud 15 m, con clavija CEI-UNEL 47166.

Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Component | Material |
|---|---|
| Delivery casing<br>External jacket<br>Suction strainer<br>Motor jacket | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Stage casing<br>Impeller | PPO-GF20 (Noryl) |
| Shaft | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Capacitor cover<br>Oil chamber cover<br>Preload ring stages<br>Support ring preload | PPS Polymer (Grivory) |
| Upper mechanical seal<br>Lower mechanical seal | Steatite, carbon, NBR<br>Carbon, silicon carbide, NBR |
| Seal lubrication oil | Oil for food machinery and pharmaceutic use |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo de impulsión<br>Camisa externa<br>Filtro de aspaspiración<br>Camisa motor | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Tapa motor<br>Rodete | PPO-GF20 (Noryl) |
| Eje | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Cuerpo condensador<br>Cuerpo depósito aceite<br>Soporte anillo precarga<br>Etapas anillo de precarga | PPS Tecnopolímero (Grivory) |
| Cierre mec. superior<br>Cierre mec. inferior | Esteatite, carbón, NBR<br>Carbono, carburo de silicio, NBR |
| Aceite lubrific. sello | Aceite blanco para uso alimentario farmaceutico |

# MPS 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MPS 302-60** | **MPSM 302-60** | 0,45 | 0,6 | **H** m | 32 | 30,7 | 29,3 | 27,7 | 25,7 | 23,7 | 21,3 | 19,3 | 16,7 | 14 |
| **MPS 303-60** | **MPSM 303-60** | 0,75 | 1 | | 48,5 | 46 | 44 | 41,5 | 38,5 | 35,5 | 32 | 29 | 25 | 21 |
| **MPS 304-60** | **MPSM 304-60** | 0,9 | 1,2 | | 64,5 | 61 | 59 | 56 | 52,7 | 49 | 45 | 40,3 | 35,3 | 30 |
| **MPS 305-60** | **MPSM 305-60** | 1,1 | 1,5 | | 81 | 77 | 74 | 70 | 65,5 | 60,5 | 55 | 49,5 | 43 | 36,5 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MPS 502-60** | **MPSM 502-60** | 0,75 | 1 | **H** m | 32 | 29 | 28,3 | 27,7 | 26,7 | 24,7 | 22 | 19,3 | 16 | 11,3 |
| **MPS 503-60** | **MPSM 503-60** | 0,9 | 1,2 | | 48 | 43,5 | 42,5 | 41,5 | 40 | 37 | 33 | 29 | 24 | 17 |
| **MPS 504-60** | **MPSM 504-60** | 1,1 | 1,5 | | 64 | 59 | 57,5 | 56 | 54 | 50 | 45 | 40 | 33 | 24 |
| **MPS 505-60** | **MPSM 505-60** | 1,5 | 2 | | 80 | 73,8 | 71,9 | 70 | 67,5 | 62,5 | 56,3 | 50 | 41,3 | 30 |

P2 Rated motor power output. Potencia nominal del motor.

Test results with clean cold water, without gas content. Resultados de las prubas con agua fría y limpia, sin gas.

Tolerances according to UNI EN ISO 9906:2012. Tolerancias según UNI EN ISO 9906:2012.

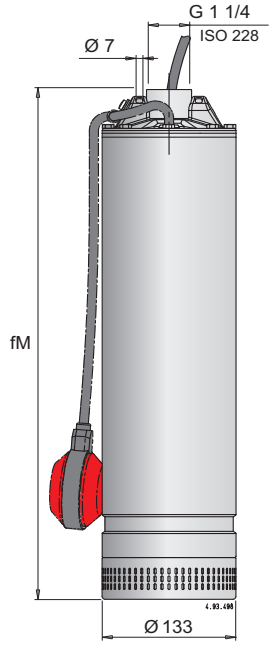
## Rated currents - Intensidades nominales

| | P2 | | single-phase - monofásico 1 ~ 220 V | | 127 V | | 110 V | | |
|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | In A | Capacitor Condens. 450 Vc | In A | Capacitor Condens. 250 Vc | In A | Capacitor Condens. 250 Vc | IA/IN |
| MPSM 302-60 | 0,45 | 0,6 | 3,5 | 14 µF | 6,4 | 45 µF | 7 | 60 µF | 3,2 |
| MPSM 303-60 | 0,75 | 1 | 5,6 | 20 µF | 9,7 | 70 µF | 11,2 | 80 µF | 3,8 |
| MPSM 304-60 | 0,9 | 1,2 | 7,2 | 20 µF | 12,5 | 70 µF | 14,4 | 80 µF | 3 |
| MPSM 305-60 | 1,1 | 1,5 | 8,6 | 30 µF | - | - | - | - | 5,4 |
| MPSM 502-60 | 0,75 | 1 | 5,6 | 20 µF | 9,7 | 70 µF | 11,2 | 80 µF | 3,8 |
| MPSM 503-60 | 0,9 | 1,2 | 7,2 | 20 µF | 12,5 | 70 µF | 14,4 | 80 µF | 3 |
| MPSM 504-60 | 1,1 | 1,5 | 9,7 | 30 µF | - | - | - | - | 4,8 |
| MPSM 505-60 | 1,5 | 2 | 14,4 | 35 µF | - | - | - | - | 4,3 |

| | P2 | | three-phase - trifásico 3 ~ 220 V | 380 V | 440 V | |
|---|---|---|---|---|---|---|
| | kW | HP | In A | In A | In A | IA/IN |
| MPS 302-60 | 0,45 | 0,6 | 2,6 | 1,5 | 1,3 | 3,7 |
| MPS 303-60 | 0,75 | 1 | 3,3 | 1,9 | 1,6 | 3,4 |
| MPS 304-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MPS 305-60 | 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 7,3 |
| MPS 502-60 | 0,75 | 1 | 3,3 | 1,9 | 1,6 | 4 |
| MPS 503-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MPS 504-60 | 1,1 | 1,5 | 6,1 | 3,5 | 3,0 | 6,7 |
| MPS 505-60 | 1,5 | 2 | 8,5 | 4,9 | 4,2 | 5,8 |

P2 Rated motor power output. - Potencia nominal del motor.
IA/IN D.O.L. starting current / Rated current - Intensidad de arranque / Intensidad nominal

## Dimensions and weights - Dimensiones y pesos



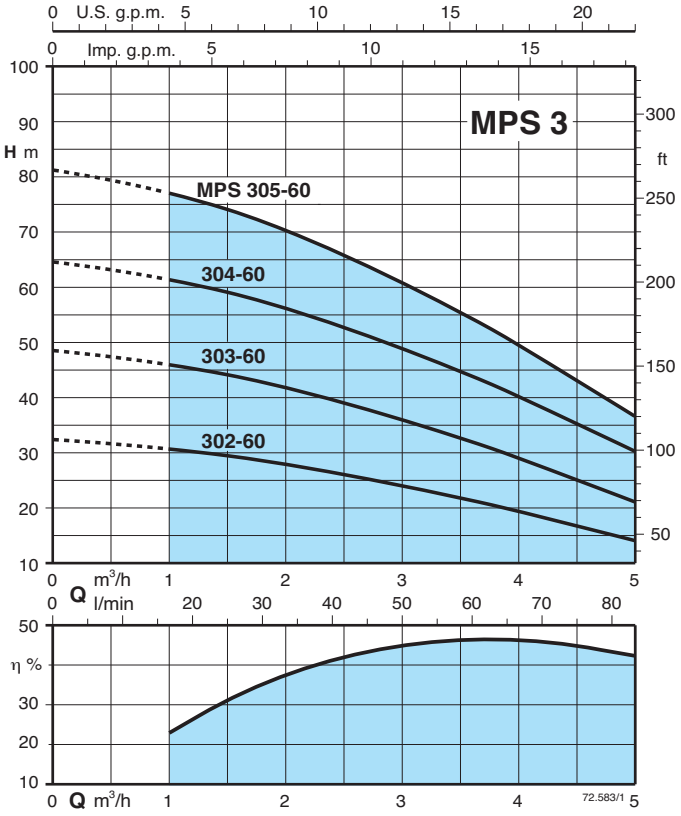

**MPSM ... CG**
With float switch pump (on demand)
con interruptor de nivel (bajo demanda)

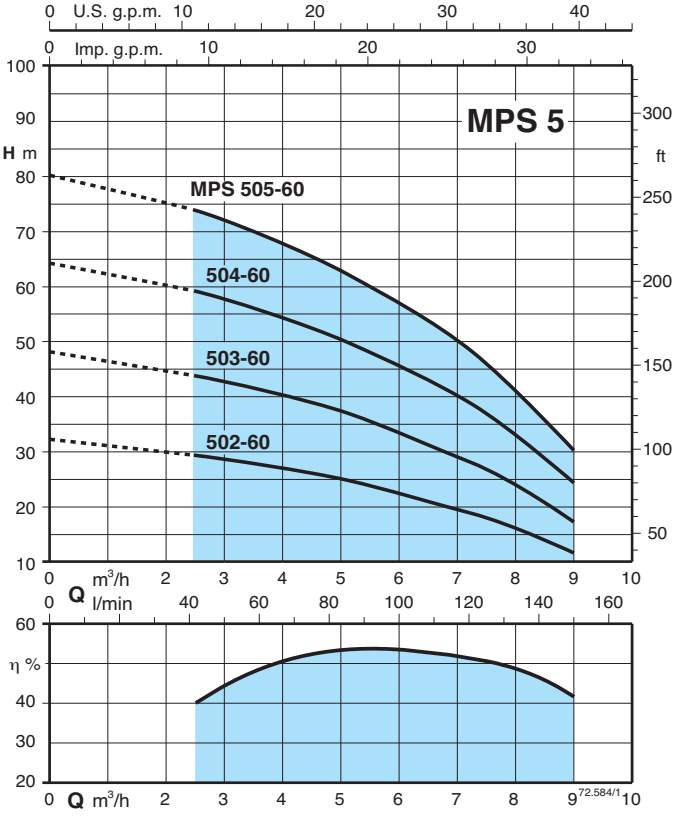
**Weights** with cable length: 15 m
**Pesos** con longitud de cable: 15 m

| Pump Bomba | fM | kg | | Cavo H07RN8-F 3 ~ | | | 1 ~ | | |
|---|---|---|---|---|---|---|---|---|---|
| | mm | MPS | MPSM | 220V | 380V | 440V | 220V | 127V | 110V |
| **MPS 302-60 - MPSM 302-60** | 465 | 12,3 | 13,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1 | 3G1 |
| **MPS 303-60 - MPSM 303-60** | 504 | 14,5 | 16 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1.5 | 3G2.5 |
| **MPS 304-60 - MPSM 304-60** | 553 | 15,5 | 16,5 | 4G1 | 4G1 | 4G1 | 3G1 | 3G2.5 | 3G2.5 |
| **MPS 305-60 - MPSM 305-60** | 622 | 17,3 | 18,8 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MPS 502-60 - MPSM 502-60** | 504 | 14,3 | 15,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1.5 | 3G2.5 |
| **MPS 503-60 - MPSM 503-60** | 504 | 15,3 | 16,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G2.5 | 3G2.5 |
| **MPS 504-60 - MPSM 504-60** | 573 | 17 | 18,5 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MPS 505-60 - MPSM 505-60** | 622 | 19,3 | 20,8 | 4G1 | 4G1 | 4G1 | 3G2,5 | - | - |

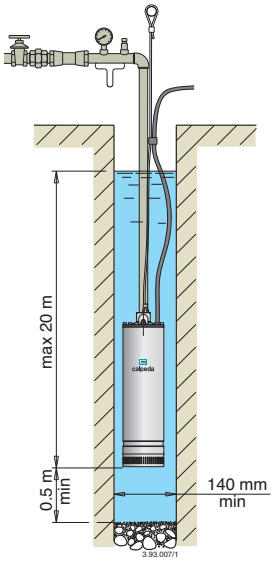
## Characteristic curves - Curvas Características

n ≈ 3450 rpm

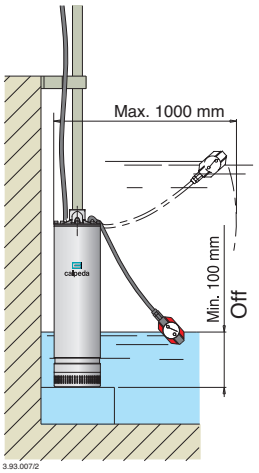


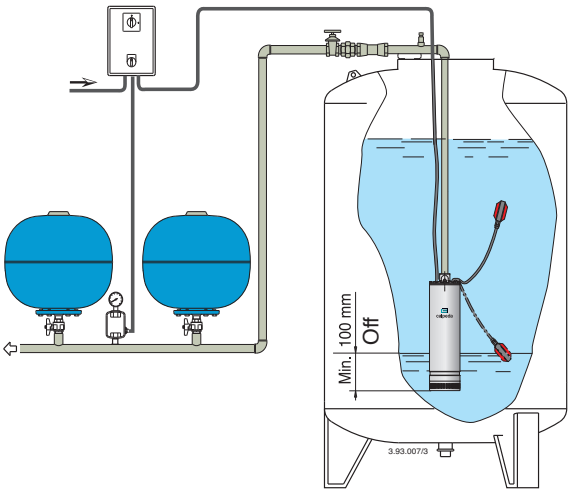

## Installation - Instalación




Pump in suspended position
Bomba suspendida




Pump with float switch (on demand)
Con interruptor de nivel (bajo demanda)




Installation example
Ejemplo de instalacion

## Features - Características constructivas

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**Innovative**
Designed to withstand water hammering and the ON-OFF operation of any valve located in the discharge line.
The impacts generated by water hammering or by the closing of the valve are fully supported by the capacitor cover,which relieves the stresses on a specific support made on the stainless steel jacket, without affecting the plastic hydraulic part.

**Innovación**
Diseñado para resistir los golpes de ariete y el funcionamiento de un eventual ON-OFF válvula situada en la línea de descarga.
Los impactos generados por el golpe de ariete o el cierre de la tapa de válvulas son totalmente compatibles con la descarga del condensador que hace hincapié en un soporte adecuado, basado en la chaqueta de acero, sin sobrecargar hidraúlica.

**Flexible**
Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

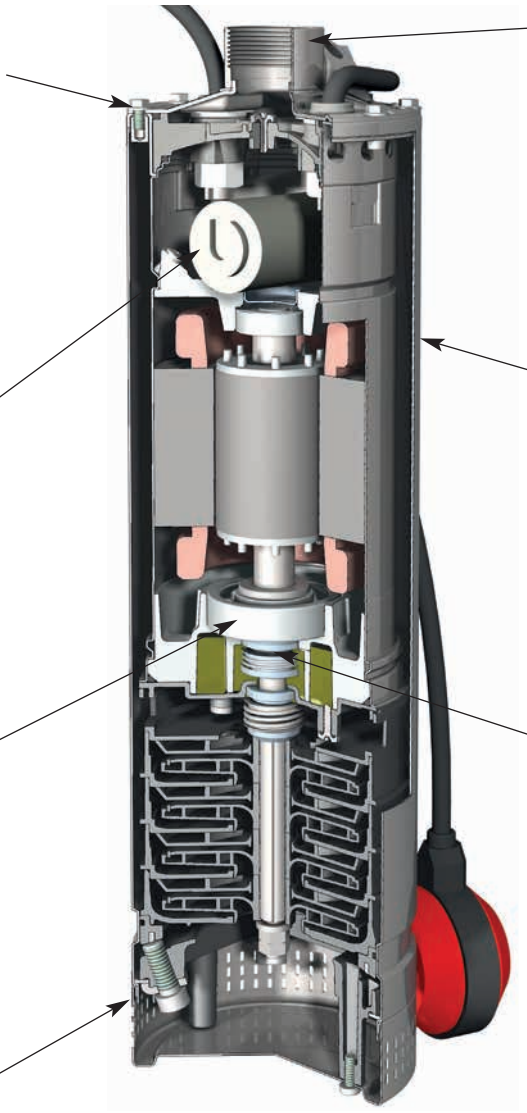
**Flexible**
Permite la inspección del condensador incorporado sin tener que desmontar la parte hidraúlica a través de la tapa de impusión.

**Reliable**
The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

**Fiable**
El dimensionamiento de los cojinetes y del eje están diseñados de tal manera que aseguran la reducción de las tensiones y así garantizan la fiabilidad en todas las condiciones de funcionamiento.

**Low cost installation**
Immersed, without suction pipe and valves.
The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

**Económica**
Inmersa, sin tubo ni válvula en aspiración.
El filtro de aspiraqción cilíndrico permite apoyar la bomba en la parte inferior plana de un pozo con el mínimo nivel de agua de 100 mm.



**Robust**
Its robust stainless steel external construction allows for the pump to be suspended from the delivery pipe.

**Robusto**
Con su robusta construcción en acero inoxidable que apoyar la bomba suspendida en la tubería.

**Low-Noise operation**
The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

**Silencioso**
El diseño de las piezas hidráulicas, la camisa de agua alrededor del motor y la bomba sumergida aseguran un funcionamiento silencioso.

**Greater Safety**
The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

**Seguridad**
El doble sello en el eje con la cámara de aceite intermedia asegura la separación del motor con el agua y una ulterior protección contra el funcionamiento accidental en seco.

# MXS 60 Hz

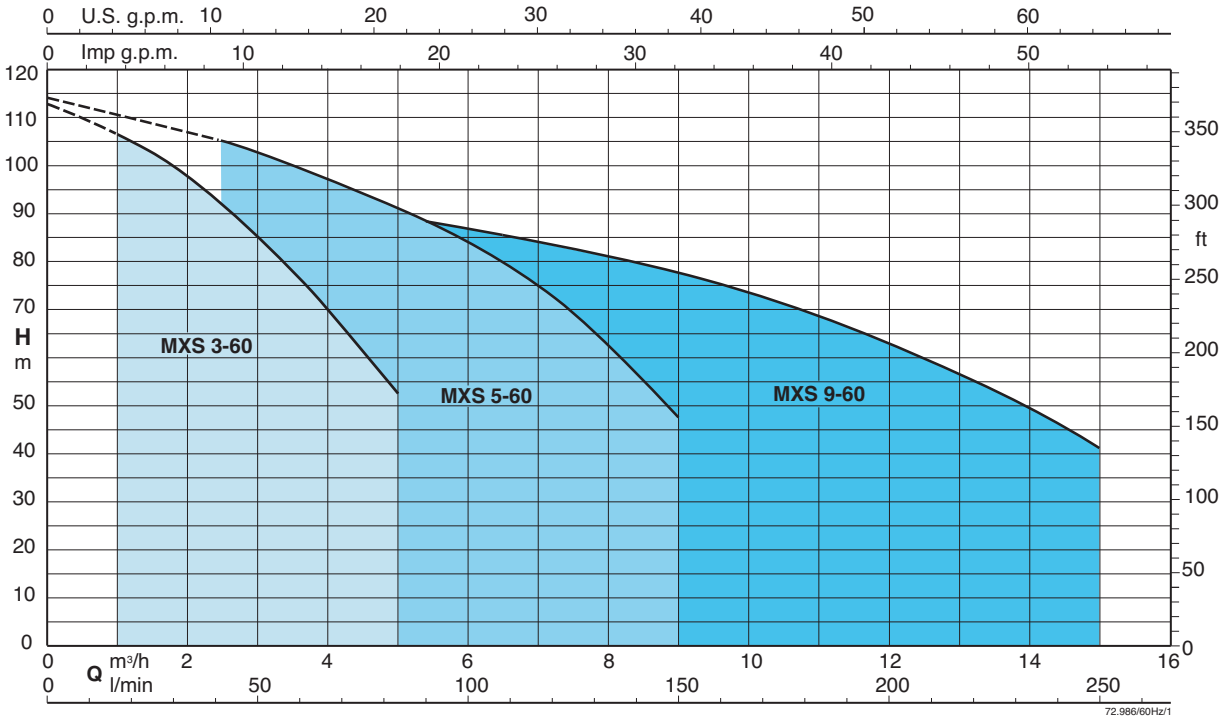
## Multi-Stage Submersible Clean Water Pumps
## Bombas sumergibles multicelulares para agua limpia




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### Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# MXS 60 Hz

## Construction
Close coupled multi-stage submersible pumps.
**All parts in contact with the fluid both internal and external are in chrome-nickel stainless steel.**
MXSM with built-in capacitor, accessible through the delivery casing.
Hydraulics located below the motor with the motor cooled by the pumped fluid. Safe operation is possible with the motor only partially submerged.
Double shaft seal with oil chamber.
The suction strainer prevents the entrance of solids with diameter bigger than 2 mm.

## Applications
For water supply from wells, tanks or reservoirs.
For domestic, civil and industrial applications, for garden use, irrigation and rain water harvesting systems.

## Operating conditions
Water temperature +5 °C to +35 °C.
Minimum internal diameter of well: 140 mm.
Minimum immersion depth: 100 mm.
Maximum immersion depth: 20 m (with suitable cable length).
Continuous duty.

## Motor
2-pole induction motor, 60 Hz (n ≈ 3450 rpm).

**MXS**: three-phase 220 V;
three-phase 380 V;
three-phase 440 V.
Cable: H07RN8-F, length 15 m, without plug.

**MXSM**: single-phase 110 V, 127 V, 220 V,
with thermal protector only 220V.
Incorporated capacitor.
Float switch MXSM.. CG up to 15A (on demand)
Cable: H07RN8-F, length 15 m, with plug CEI-UNEL 47166.

Insulation class F.
Protection IP X8 (for continuous immersion).
Double impregnation humidity-proof dry winding.
Constructed in accordance with EN 60335-2-41.

## Special features on request
- Other voltages.
- Cable length 20 m.
- Motor suitable operation with frequency converter.

## Ejecución
Bomba multicelular monobloc sumergible
**Todas las partes en contacto con el líquido, tanto el interior como el exterior de la bomba, son de acero inoxidable al niquel-cromo.**
MXSM con condensador incorporado, accesible a través del cuerpo de impulsión.
Parte hidráulica en la zona inferior y motor en la parte superior refrigerado por el agua bombeada, aunque esté sumergida parcialmente tiene un seguro funcionamento.
Doble sello en el eje con cámara de aceite intermedia.
El filtro en la aspiración impíde el paso de cuerpos sólidos con diámetro superior a 2 mm.

## Aplicaciones
Para el aprovisionamiento de agua de pozos, estanques o depósitos.
Para aplicaciones domésticas, cviles e industiales, jardines y riegos.
Utilización del agua pluvial.

## Límites de empleo
Temperatura del agua +5 °C a +35 °C.
Mínimo diametro interno del pozo: 140 mm.
Mínima profundidad de inmersión: 100 mm.
Máxima profundidad de inmersión: 20 m (con cable de adecuada longitud).
Servicio continuo.

## Motor
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).

**MXS** : trifásico 220 V;
trifásico 380 V;
trifásico 440 V.
Cable: H07RN8-F, longitud 15 m, sin clavija.

**MXSM** : monofásico 110 V, 127 V, 220 V,
con protector térmico sólo para 220V.
Con condensador incorporado.
Interruptor de nivel MXS .. CG hasta 15A (bajo demanda)
Câble: H07RN8-F, longitud 15 m, con clavija CEI-UNEL 47166.

Aislamiento clase F.
Protección IP X8 (para inmersión continua).
Bobinado en seco con doble impregnación resistente a la humedad.
Ejecución según EN 60335-2-41.

## Otras ejecuciones bajo demanda
- Otras tensiones.
- Longitud cable 20 m.
- Motor preparado al funcionamiento con convertidor de frecuencia.

## Materials

| Component | Material |
|---|---|
| Delivery casing<br>External jacket<br>Suction strainer<br>Stage casing<br>Spacer sleeve<br>Impeller<br>Motor jacket<br>Jacket cover<br>Oil chamber cover | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Shaft | Cr-Nì steel 1.4301 EN 10088 (AISI 304) |
| Upper mechanical seal<br>Lower mechanical seal | Steatite, carbon, NBR<br>Ceramic alumina, silicon carbide, NBR |
| Seal lubrication oil | Oil for food machinery and pharmaceutic use |

## Materiales

| Componente | Material |
|---|---|
| Cuerpo de impulsión<br>Camisa externa<br>Filtro de asp.<br>Cuerpo elemento<br>Camisa motor<br>Tapa cámara aceite<br>Tapa condensador<br>Rodete<br>Manguito distanciador | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Eje | Acero al Cr-Ni 1.4301 EN 10088 (AISI 304) |
| Cierre mec. superior<br>Cierre mec. inferior | Esteatite, carbón, NBR<br>Cerámica alumina, carburo de silicio, NBR |
| Aceite lubrific. sello | Aceite blanco para uso alimentario farmaceutico |

# MXS 60 Hz

## Performance - Prestaciones

n ≈ 3450 rpm

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 16,6 | 25 | 33,3 | 41,6 | 50 | 58,3 | 66,6 | 75 | 83,3 |
| **MXS 302-60** | **MXSM 302-60** | 0,45 | 0,6 | | 32 | 30,7 | 29,3 | 27,7 | 25,7 | 23,7 | 21,3 | 19,3 | 16,7 | 14 |
| **MXS 303-60** | **MXSM 303-60** | 0,75 | 1 | | 48,5 | 46 | 44 | 41,5 | 38,5 | 35,5 | 32 | 29 | 25 | 21 |
| **MXS 304-60** | **MXSM 304-60** | 0,9 | 1,2 | **H** m | 64,5 | 61 | 59 | 56 | 52,7 | 49 | 45 | 40,3 | 35,3 | 30 |
| **MXS 305-60** | **MXSM 305-60** | 1,1 | 1,5 | | 81 | 77 | 74 | 70 | 65,5 | 60,5 | 55 | 49,5 | 43 | 36,5 |
| **MXS 306-60** | **MXSM 306-60** | 1,1 | 1,5 | | 95 | 91 | 87 | 82 | 76,5 | 70,5 | 64 | 57 | 50 | 42 |
| **MXS 307-60** | **MXSM 307-60** | 1,5 | 2 | | 113 | 107 | 103 | 98 | 92 | 85 | 78 | 70 | 61,5 | 52,5 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 2,5 | 3 | 3,5 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 41,6 | 50 | 58,3 | 66,6 | 83,3 | 100 | 116 | 133 | 150 |
| **MXS 502-60** | **MXSM 502-60** | 0,75 | 1 | | 32 | 29 | 28,3 | 27,7 | 26,7 | 24,7 | 22 | 19,3 | 16 | 11,3 |
| **MXS 503-60** | **MXSM 503-60** | 0,9 | 1,2 | | 48 | 43,5 | 42,5 | 41,5 | 40 | 36,5 | 32 | 27,5 | 22,5 | 17 |
| **MXS 504-60** | **MXSM 504-60** | 1,1 | 1,5 | | 64 | 59 | 57,5 | 56 | 54 | 50 | 45 | 40 | 33 | 24 |
| **MXS 505-60** | **MXSM 505-60** | 1,5 | 2 | **H** m | 80 | 73,8 | 71,9 | 70 | 67,5 | 62,5 | 56,3 | 50 | 41,3 | 30 |
| **MXS 506-60** | | 2,2 | 3 | | 98 | 88,5 | 86 | 83,5 | 80,5 | 74,5 | 67,5 | 58,5 | 47 | 33,5 |
| **MXS 507-60** | | 2,2 | 3 | | 114 | 105 | 103 | 100 | 97 | 91 | 84 | 75 | 63 | 47 |

| 3 ~ | 1 ~ | P2 | | Q m³/h | 0 | 5 | 6,5 | 8 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kW | HP | l/min | 0 | 83,3 | 108 | 133 | 166 | 183 | 200 | 216 | 233 | 250 |
| **MXS 902-60** | **MXSM 902-60** | 1,5 | 2 | | 34 | 29 | 27,5 | 26 | 23 | 21 | 19 | 17 | 14,5 | 12 |
| **MXS 903-60** | **MXSM 903-60** | 1,8 | 2,5 | | 50 | 45 | 43,2 | 40,8 | 37,2 | 34,8 | 31,8 | 28,8 | 25,2 | 21 |
| **MXS 904-60** | | 2,2 | 3 | **H** m | 67 | 60 | 57,6 | 54,4 | 49,6 | 46,4 | 42,4 | 38,4 | 33,6 | 28 |
| **MXS 905-60** | | 3 | 4 | | 84 | 75 | 72 | 68 | 62 | 58 | 53 | 48 | 42 | 35 |
| **MXS 906-60** | | 3 | 4 | | 101 | 90 | 86,5 | 81,5 | 74,5 | 69,5 | 63,5 | 57,5 | 50,5 | 42 |

P2 Rated motor power output.
Potencia nominal del motor.

Test results with clean cold water, without gas content.
Resultados de las prubas con agua fría y limpia, sin gas.

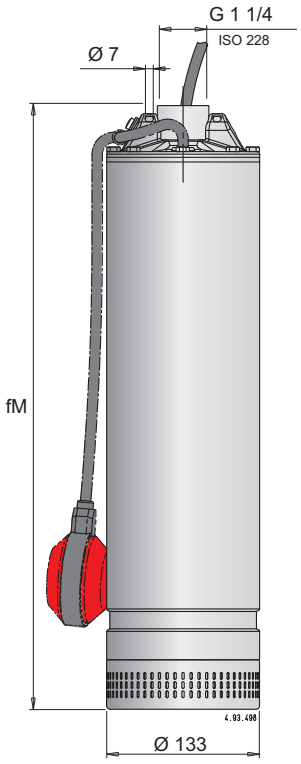
Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

## Rated currents - Intensidades nominales

| | P2 | | single-phase - monofásico 1 ~ 220 V | | 127 V | | 110 V | | |
|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | In A | Capacitor Condens. 450 Vc | In A | Capacitor Condens. 250 Vc | In A | Capacitor Condens. 250 Vc | Ia/In |
| MXSM 302-60 | 0,45 | 0,6 | 3,5 | 14 µF | 6,4 | 45 µF | 7 | 60 µF | 3,2 |
| MXSM 303-60 | 0,75 | 1 | 5,6 | 20 µF | 9,7 | 70 µF | 11,2 | 80 µF | 3,8 |
| MXSM 304-60 | 0,9 | 1,2 | 7,2 | 20 µF | 12,5 | 70 µF | 14,4 | 80 µF | 3 |
| MXSM 305-60 | 1,1 | 1,5 | 8,6 | 30 µF | - | - | - | - | 5,4 |
| MXSM 306-60 | 1,1 | 1,5 | 9,7 | 30 µF | - | - | - | - | 4,8 |
| MXSM 307-60 | 1,5 | 2 | 14,4 | 35 µF | - | - | - | - | 4,3 |
| MXSM 502-60 | 0,75 | 1 | 5,6 | 20 µF | 9,7 | 70 µF | 11,2 | 80 µF | 3,8 |
| MXSM 503-60 | 0,9 | 1,2 | 7,2 | 20 µF | 12,5 | 70 µF | 14,4 | 80 µF | 3 |
| MXSM 504-60 | 1,1 | 1,5 | 9,7 | 30 µF | - | - | - | - | 4,8 |
| MXSM 505-60 | 1,5 | 2 | 14,4 | 35 µF | - | - | - | - | 4,3 |
| MXSM 902-60 | 1,5 | 2 | 14,4 | 35 µF | - | - | - | - | 4,8 |
| MXSM 903-60 | 1,8 | 2,5 | 14,4 | 35 µF | - | - | - | - | 4,3 |

| | P2 | | three-phase - trifásico 3 ~ 220 V | 380 V | 440 V | |
|---|---|---|---|---|---|---|
| | kW | HP | In A | In A | In A | Ia/In |
| MXS 302-60 | 0,45 | 0,6 | 2,6 | 1,5 | 1,3 | 3,7 |
| MXS 303-60 | 0,75 | 1 | 3,3 | 1,9 | 1,6 | 3,4 |
| MXS 304-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MXS 305-60 | 1,1 | 1,5 | 5,6 | 3,2 | 2,8 | 7,3 |
| MXS 306-60 | 1,1 | 1,5 | 6,1 | 3,5 | 3,0 | 6,7 |
| MXS 307-60 | 1,5 | 2 | 8,5 | 4,9 | 4,2 | 7,3 |
| MXS 502-60 | 0,75 | 1 | 3,3 | 1,9 | 1,6 | 3,4 |
| MXS 503-60 | 0,9 | 1,2 | 4,5 | 2,6 | 2,2 | 4 |
| MXS 504-60 | 1,1 | 1,5 | 6,1 | 3,5 | 3,0 | 6,7 |
| MXS 505-60 | 1,5 | 2 | 8,5 | 4,9 | 4,2 | 7,3 |
| MXS 506-60 | 2,2 | 3 | 9,5 | 5,5 | 4,8 | 5,1 |
| MXS 507-60 | 2,2 | 3 | 11,2 | 6,5 | 5,6 | 5,5 |
| MXS 902-60 | 1,5 | 2 | 6,1 | 3,5 | 3,0 | 6,7 |
| MXS 903-60 | 1,8 | 2,5 | 8,5 | 4,9 | 4,2 | 5,5 |
| MXS 904-60 | 2,2 | 3 | 11,2 | 6,5 | 5,6 | 5,5 |
| MXS 905-60 | 3 | 4 | 14 | 8,1 | 7,0 | 5,9 |
| MXS 906-60 | 3 | 4 | - | 10,2 | 8,8 | 5,5 |

## Dimensions and weights - Dimensiones y pesos




**MXSM ... CG**
With float switch pump (on demand)
con interruptor de nivel (bajo demanda)

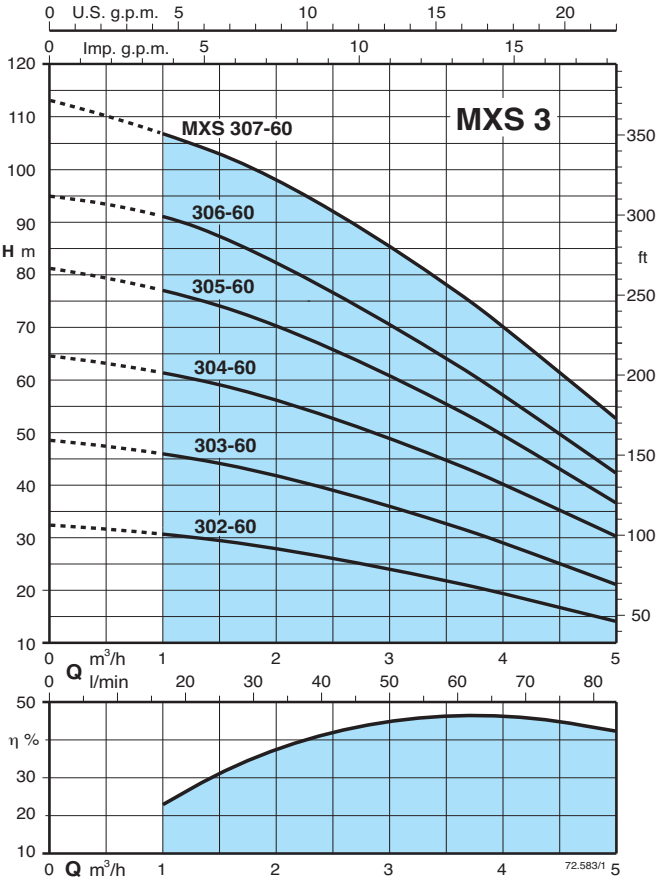
**Weights** with cable length: 15 m
**Pesos** con longitud de cable: 15 m

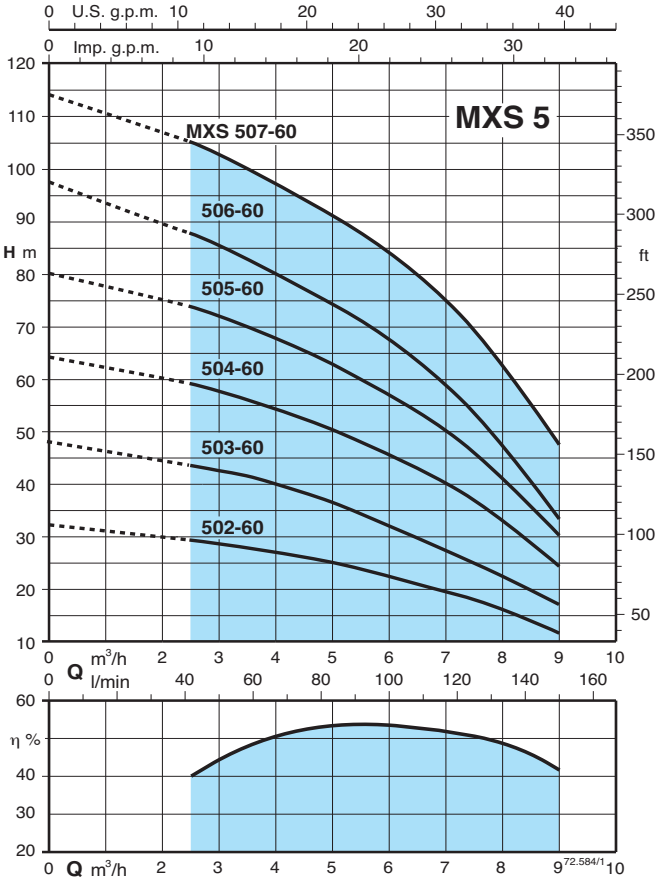
| Pump<br>Bomba | fM | kg | | Cavo H07RN8-F | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 3 ~ | | | 1 ~ | | |
| | mm | MXS | MXSM | 220V | 380V | 440V | 220V | 127V | 110V |
| **MXS 302-60 - MXSM 302-60** | 465 | 12,3 | 13,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1 | 3G1 |
| **MXS 303-60 - MXSM 303-60** | 504 | 14,5 | 16 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1.5 | 3G2.5 |
| **MXS 304-60 - MXSM 304-60** | 553 | 15,5 | 16,5 | 4G1 | 4G1 | 4G1 | 3G1,5 | 3G2.5 | 3G2.5 |
| **MXS 305-60 - MXSM 305-60** | 622 | 17,3 | 18,8 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MXS 306-60 - MXSM 306-60** | 622 | 17,5 | 19 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MXS 307-60 - MXSM 307-60** | 671 | 20 | 21,5 | 4G1,5 | 4G1 | 4G1 | 3G2,5 | - | - |
| **MXS 502-60 - MXSM 502-60** | 504 | 14,3 | 15,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G1.5 | 3G2.5 |
| **MXS 503-60 - MXSM 503-60** | 504 | 15,3 | 16,3 | 4G1 | 4G1 | 4G1 | 3G1 | 3G2.5 | 3G2.5 |
| **MXS 504-60 - MXSM 504-60** | 573 | 17 | 18,5 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MXS 505-60 - MXSM 505-60** | 622 | 19,3 | 20,8 | 4G1,5 | 4G1 | 4G1 | 3G2,5 | - | - |
| **MXS 506-60** | 671 | 19,5 | - | 4G1,5 | 4G1 | 4G1 | - | - | - |
| **MXS 507-60** | 768 | 21,5 | - | 4G2,5 | 4G1 | 4G1 | - | - | - |
| **MXS 902-60 - MXSM 902-60** | 653 | 17,8 | 19,3 | 4G1 | 4G1 | 4G1 | 3G1,5 | - | - |
| **MXS 903-60 - MXSM 903-60** | 653 | 20 | 21,5 | 4G1,5 | 4G1 | 4G1 | 3G2,5 | - | - |
| **MXS 904-60** | 671 | 22 | - | 4G2,5 | 4G1 | 4G1 | - | - | - |
| **MXS 905-60** | 738 | 23,5 | - | 4G2,5 | 4G1,5 | 4G1,5 | - | - | - |
| **MXS 906-60** | 853 | 26,5 | - | - | 4G1,5 | 4G1,5 | - | - | - |

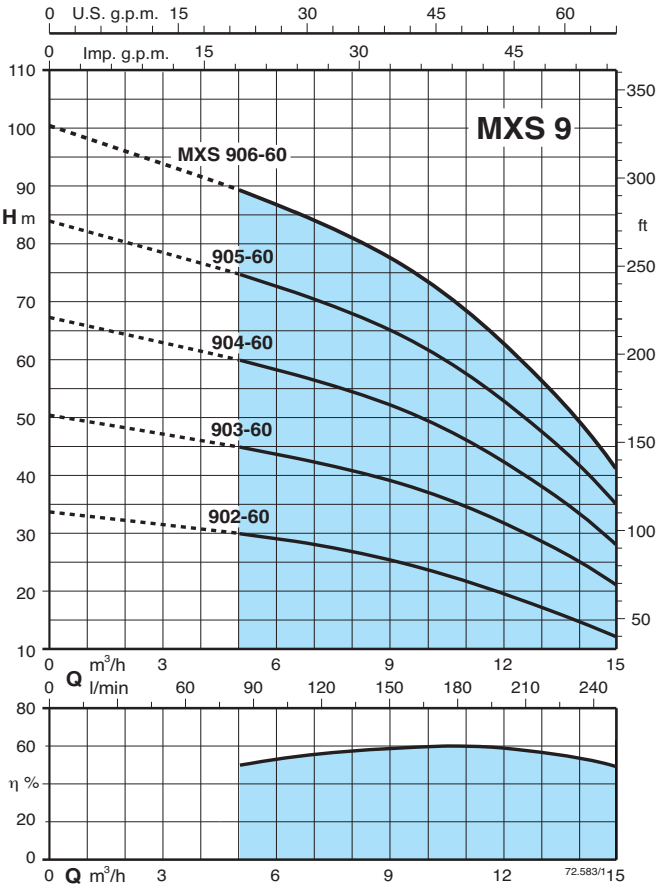
# MXS 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm



# MXS 60 Hz

## Features - Características constructivas

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**Flexible**
Allows the inspection of the capacitor without disassembling the pump, through the delivery casing.

**Flexible**
Permite la inspección del condensador incorporado sin tener que desmontar la parte hidraúlica a través de la tapa de impusión.

**Reliable**
The ball bearings and shaft are sized in order to reduce stresses, guaranteeing high reliability in any operating condition.

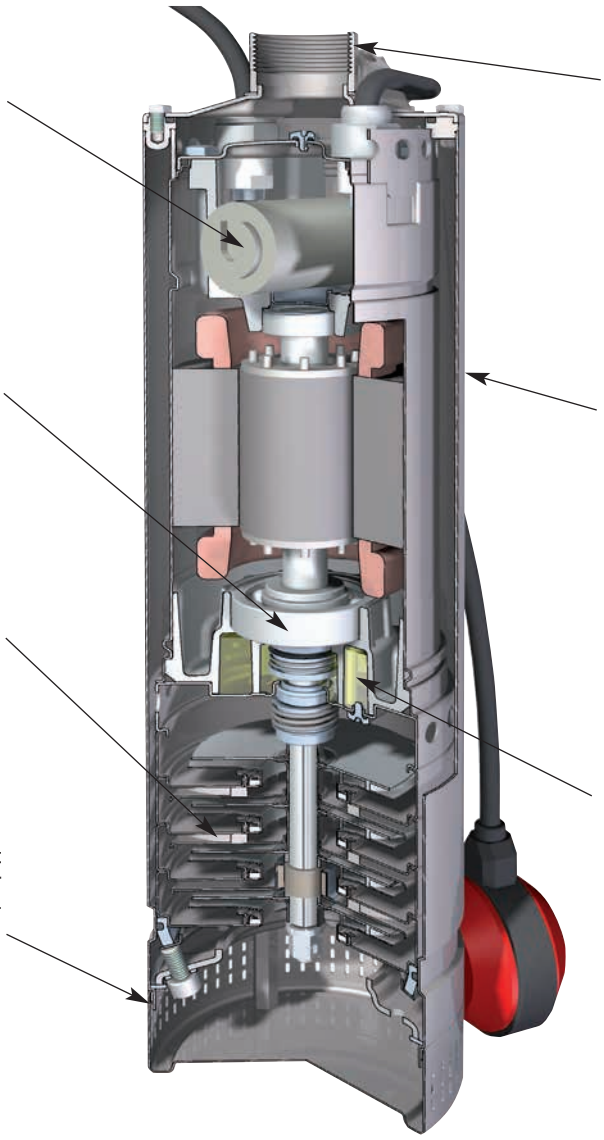
**Fiable**
El dimensionamiento de los cojinetes y del eje están diseñados de tal manera que aseguran la reducción de las tensiones y así garantizan la fiabilidad en todas las condiciones de funcionamiento.

**Totally in stainless stell**
All parts in contact with the pumped liquid both internal and external are in stainless steel AISI 304, without plastic materials and components.

**Totalmente de Acero Inoxidable**
Todas las partes en contacto con el líquido dentro y fuera de la bomba son de acero inoxidable AISI 304, sin componentes de plástico.

**Low cost installation**
Immersed, without suction pipe and valves.
The cylindrical suction strainer provides support for the pump when installed on a flat surface or tank bottom. For operation with 100 mm minimum water level.

**Económica**
Inmersa, sin tubo ni válvula en aspiración.
El filtro de aspiraqción cilíndrico permite apoyar la bomba en la parte inferior plana de un pozo con el mínimo nivel de agua de 100 mm.



**Robust**
Its robust stainless steel external construction allows for the pump to be suspended from the delivery pipe.

**Robusto**
Con su robusta construcción en acero inoxidable que apoyar la bomba suspendida en la tubería.

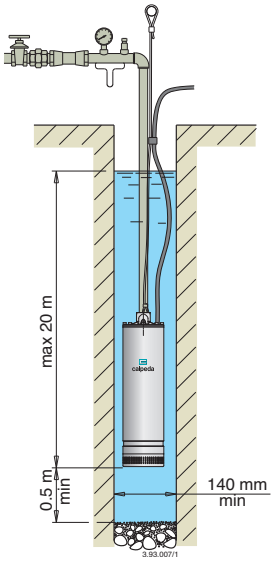
**Low-Noise operation**
The design of hydraulic parts, the water-filled shroud around the motor and the submerged operation ensures low noise operation.

**Silencioso**
El diseño de las piezas hidráulicas, la camisa de agua alrededor del motor y la bomba sumergida aseguran un funcionamiento silencioso.

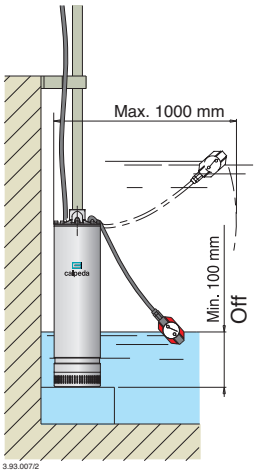
**Greater Safety**
The double shaft sealing with an oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

**Seguridad**
El doble sello en el eje con la cámara de aceite intermedia asegura la separación del motor con el agua y una ulterior protección contra el funcionamiento accidental en seco.

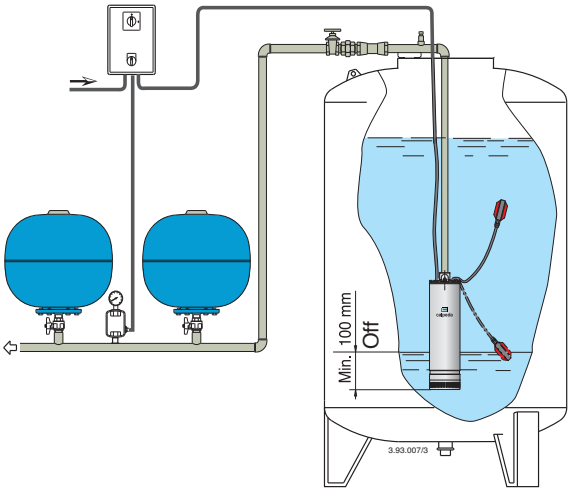
## Installation - Instalación




Pump in suspended position
Bomba suspendida




Pump with float switch (on demand)
Con interruptor de nivel (bajo demanda)




Installation example
Ejemplo de instalacion

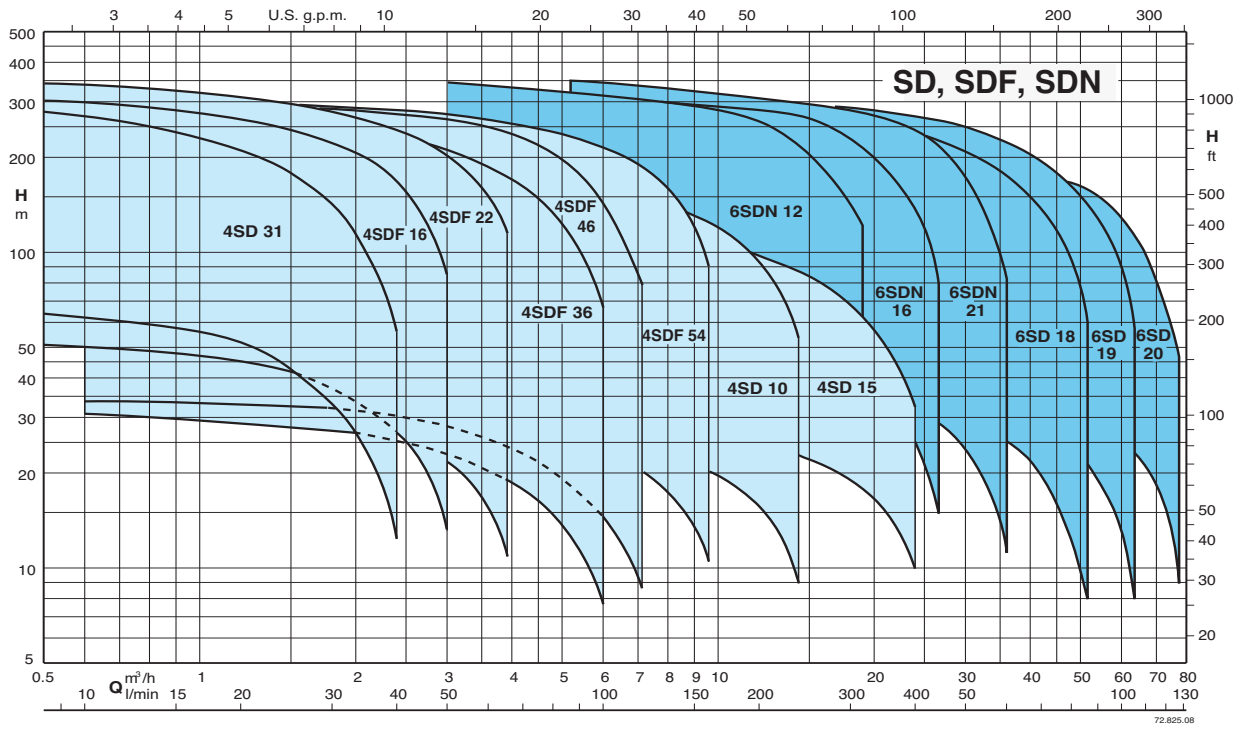
# SD 60 Hz

**Submersible borehole pumps for 4” and 6” wells**
**Bombas sumergibles para pozos de 4” y 6”**



## Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# SD 60 Hz

## Construction
Submersible borehole pumps for 4" wells (DN 100), and 6" (DN 150), with external jacket in stainless steel AISI 304 and stages in polycarbonate for 4SD pumps and in Noryl for 4SDF, 6SD, 6SDN pumps.

**Impellers**

| | |
|---|---|
| radial floating impellers | 4SDF 16, 22, 36, 46, 54 |
| radial impellers | 4SD 31, - 6SDN 12, 16, 21 |
| mixed flow impellers | 4SD 10,15 - 6SD 18, 19, 20 |

**Connection**: threaded ports **ISO 228/1**.
threaded ports **NPT (ANSI/ASME B1.20.1)** on request only for 4"
Delivery casing with built-in non-return valve.

## Applications
For water supply.
For civil and industrial applications.
For irrigation.

## Operating conditions
Max. sand quantity into the water: 150 g/m³ (300 g/m³ high percentage of solids and sand).
Continuous duty.

## Rewindable motor CS series
2-pole induction motor, 60 Hz (n = 3450 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- single-phase 110 V up to 0,75 kW;
  127 V up to 1,1 kW;
  220 V up to 2,2 kW
- three-phase 220 V; 380 V; 440 V, 460 V;
  220/380 V; 380/660 V.

Voltage tolerance : ±10%.
Recommended type of starting for powers from 7.5 kW: star/delta, soft start, impedance starting, autotransformer.

| Motor | Max. Liquid temperature | Cooling: minimum flow velocity | Max. starts per hour | Motor P2 |
|---|---|---|---|---|
| 4CS | 35 °C | 0,08 m/s | 20 | all types |
| 6CS-R | 30 °C | 0,1 m/s | 15 | 4÷11 kW |
| | | 0,2 m/s | 15 | 13÷15 kW |
| | 25 °C | 0,2 m/s | 15 | 18,5 kW |
| | | 0,2 m/s | 13 | 22÷30 kW |
| | 40 °C | 0,1 m/s | 13 | 37 kW |
| | | 0,3 m/s | 6 | 45 kW |

Insulation class F for 4" motors, PVC coated wire for 6" motors.
Protection IP 68.

## Special features on request
- Other voltages. - Other temperatures.

## Materials

| Components | 4SD, 4SDF | 6SD, 6SDN |
|---|---|---|
| External jacket | Cr-Ni steel AISI 304 | |
| Stage casing (4SDF) | Cr-Ni steel AISI 304 | - |
| Stage casing (4,6SD)<br>Diffuser<br>Impeller | Polycarbonate (Lexan 141 R)<br>GFN2V* (NORYL®)* for 4SDF | GFN2V* (NORYL®) |
| Wear ring | Cr-Ni steel AISI 304 | |
| Shaft | Cr steel AISI 430 F | |
| Delivery casing<br>Suction lantern | Cr-Ni steel AISI 304 | Bronze G-Cu Sn 10 EN 1982 |
| Bearing bush | Thermoplastic | Rubber |
| Strainer | Cr-Ni steel AISI 430 | |
| Screws | Cr-Ni steel AISI 304 | |

* Trademark of General Electric

## Ejecución
Electrobombas sumergibles para pozos profundos 4" (DN 100 mm), 6" (DN 150 mm), con camisa externa en acero inoxidable AISI 304 y cuerpos elementos in policarbonato para 4SD en NORYL® para 4SDF, 6SDN.

**Rodetes:**

| | |
|---|---|
| flotantes a flujo radial | 4SDF 16, 22, 36, 46, 54 |
| radiales | 4SD 31, - 6SDN 12, 16, 21 |
| semi-axiales | 4SD 10,15 - 6SD 18, 19, 20 |

**Conexión:** Roscados **ISO 228/1**.
Roscados **NPT (ANSI/ASME B1.20.1)** bajo demanda solamente para 4".
Válvula de retención incorporada en el cuerpo de impulsión.

## Aplicaciones
Para suministros de agua.
Para aplicaciones civiles e industriales.
Para riegos en general.

## Limites de empleo
Máxima cantidad de arena en el agua: 150 g/m³ (300 g/m³ alta porcentaje de sólidos y arena)
Servicio continuo.

## Motor rebobinable serie CS
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
Dimensiones para el acoplamiento a la bomba según NEMA Standard.
Tensiones de alimentación:
- monofásicos 110 V - hasta 0,75 kW;
  127 V - hasta 1,1 kW;
  220 V - hasta 2,2 kW.
- trifásicos 220 V; 380 V; 440 V;
  220/380 V; 380/660 V.

Variación de tensión : ±10%
Tipo de arranque aconsejado para potencias desde 7.5kW: estrella/triángulo, soft start, o con impedancia.

| Motores | Temperatura del agua hasta | Refrigeración: velocidad mínima del caudal | Arranques por hora maximos | Motores P2 |
|---|---|---|---|---|
| 4CS | 35 °C | 0,08 m/s | 20 | todos |
| 6CS-R | 30 °C | 0,1 m/s | 15 | 4÷11 kW |
| | | 0,2 m/s | 15 | 13÷15 kW |
| | 25 °C | 0,2 m/s | 15 | 18,5 kW |
| | | 0,2 m/s | 13 | 22÷30 kW |
| | 40 °C | 0,1 m/s | 13 | 37 kW |
| | | 0,3 m/s | 6 | 45 kW |

Aislamiento clase F para motores 4", hilo con revestimiento en PVC para motores 6".
Protección IP 68.

## Ejecuciones especiales bajo demanda
- Otras tensiones. - Otras temperaturas.

## Materiales

| Componentes | 4SD, 4SDF | 6 SDN |
|---|---|---|
| Camisa externa | Acero Cr-Ni AISI 304 | |
| Cuerpo elemento (4SDF) | Acero Cr-Ni AISI 304 | - |
| Cuerpo elemento (4,6SD)<br>Difusor<br>Rodete | Policarbonato (Lexan 141 R)<br>GFN2V* (NORYL®)* para 4SDF | GFN2V* (NORYL®) |
| Anillo de cierre | Acero Cr-Ni AISI 304 | |
| Eje | Acero Cr AISI 430 F | |
| Cuerpo de impulsión<br>Lanterna de aspiración | Acero Cr-Ni AISI 304 | Bronce G-Cu Sn 10 EN 1982 |
| Cojinete guía | Termoplástico | Goma |
| Filtro | Acero Cr-Ni AISI 430 | |
| Tornillo | Acero Cr-Ni AISI 304 | |

* Marca registrada de General Electric

# 4SD 60 Hz

## Performance - Prestaciones

**n ≈ 3450 rpm**

| 3~ | 1~ | 220 V | 127 V | 110 V | P2 kW | P2 HP | Q m³/h | Q l/min | n ≈ 3450 1/min | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0,3 | 0,6 | 0,9 | 1,2 | 1,5 | 1,8 | 2,1 | 2,4 | 3 | 3,6 | 3,9 | 4,2 | 4,8 | 6 | 7,2 | 8,4 | 9,6 |
| | | | | | | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | 60 | 65 | 70 | 80 | 100 | 120 | 140 | 160 |
| 4SD 31/11EC-60 | 4SDM 31/11EC-60 | ● | ● | ● | 0,37 | 0,5 | | 67,5 | 63,5 | 58 | 51,5 | 42,5 | 33,5 | 24 | 13,5 | | | | | | | | | |
| 4SD 31/15EC-60 | 4SDM 31/15EC-60 | ● | ● | ● | 0,37 | 0,5 | | 92,5 | 84,5 | 79 | 70,5 | 57,5 | 45,5 | 32,5 | 18,5 | | | | | | | | | |
| 4SD 31/21EC-60 | 4SDM 31/21EC-60 | ● | ● | ● | 0,55 | 0,75 | | 130 | 121 | 110 | 98,5 | 80,5 | 64 | 45,5 | 26 | | | | | | | | | |
| 4SD 31/26EC-60 | 4SDM 31/26EC-60 | ● | ● | ● | 0,75 | 1 | | 160 | 150 | 137 | 122 | 100 | 79 | 56,5 | 32 | | | | | | | | | |
| 4SD 31/36EC-60 | 4SDM 31/36EC-60 | ● | ● | | 1,1 | 1,5 | | 222 | 207 | 189 | 169 | 138 | 109 | 78 | 44,5 | | | | | | | | | |
| 4SD 31/46EC-60 | 4SDM 31/46EC-60 | ● | | | 1,5 | 2 | | 283 | 265 | 242 | 216 | 177 | 140 | 99,5 | 57 | | | | | | | | | |
| 4SDF 16/6EC-60 | 4SDFM 16/6EC-60 | ● | ● | ● | 0,37 | 0,5 | | 49,9 | 48,6 | 46,6 | 43,9 | 40,4 | 36,3 | 31,5 | 26,2 | 13,8 | | | | | | | | |
| 4SDF 16/8EC-60 | 4SDFM 16/8EC-60 | ● | ● | ● | 0,37 | 0,5 | | 66,6 | 64,8 | 62,2 | 58,5 | 53,9 | 48,3 | 42 | 34,9 | 18,4 | | | | | | | | |
| 4SDF 16/12EC-60 | 4SDFM 16/12EC-60 | ● | ● | ● | 0,55 | 0,75 | | 99,9 | 97,2 | 93,2 | 87,8 | 80,8 | 72,5 | 63 | 52,4 | 27,6 | | | | | | | | |
| 4SDF 16/15EC-60 | 4SDFM 16/15EC-60 | ● | ● | ● | 0,75 | 1 | | 125 | 121 | 117 | 110 | 101 | 90,6 | 78,8 | 65,5 | 34,5 | | | | | | | | |
| 4SDF 16/21EC-60 | 4SDFM 16/21EC-60 | ● | ● | | 1,1 | 1,5 | | 175 | 170 | 163 | 154 | 141 | 127 | 110 | 91,7 | 48,3 | | | | | | | | |
| 4SDF 16/27EC-60 | 4SDFM 16/27EC-60 | ● | | | 1,5 | 2 | | 225 | 219 | 210 | 198 | 182 | 163 | 142 | 118 | 62,1 | | | | | | | | |
| 4SDF 16/37EC-60 | 4SDFM 16/37EC-60 | ● | | | 2,2 | 3 | | 308 | 300 | 287 | 271 | 249 | 224 | 194 | 161 | 85,1 | | | | | | | | |
| 4SDF 22/4EC-60 | 4SDFM 22/4EC-60 | ● | ● | ● | 0,37 | 0,5 | | 36,5 | 36 | 35,3 | 34,3 | 32,9 | 31,2 | 29,1 | 26,8 | 21,1 | 14,5 | 11 | | | | | | |
| 4SDF 22/6EC-60 | 4SDFM 22/6EC-60 | ● | ● | ● | 0,37 | 0,5 | | 54,7 | 54 | 53 | 51,4 | 49,4 | 46,8 | 43,7 | 40,1 | 31,7 | 21,8 | 16,5 | | | | | | |
| 4SDF 22/9EC-60 | 4SDFM 22/9EC-60 | ● | ● | ● | 0,55 | 0,75 | | 82,1 | 81,1 | 79,4 | 77,1 | 74,1 | 70,2 | 65,6 | 60,2 | 47,5 | 32,7 | 24,7 | | | | | | |
| 4SDF 22/11EC-60 | 4SDFM 22/11EC-60 | ● | ● | ● | 0,75 | 1 | | 100 | 99,1 | 97,1 | 94,3 | 90,5 | 85,8 | 80,1 | 73,6 | 58 | 40 | 30,2 | | | | | | |
| 4SDF 22/16EC-60 | 4SDFM 22/16CE-60 | ● | ● | | 1,1 | 1,5 | | 146 | 144 | 141 | 137 | 132 | 125 | 117 | 107 | 84,4 | 58,1 | 43,9 | | | | | | |
| 4SDF 22/21EC-60 | 4SDFM 22/21EC-60 | ● | | | 1,5 | 2 | | 192 | 189 | 185 | 180 | 173 | 164 | 153 | 140 | 111 | 76,3 | 57,6 | | | | | | |
| 4SDF 22/28EC-60 | 4SDFM 22/28EC-60 | ● | | | 2,2 | 3 | | 255 | 252 | 247 | 240 | 230 | 218 | 204 | 187 | 148 | 102 | 76,8 | | | | | | |
| 4SDF 22/38EC-60 | | | | | 3 | 4 | | 347 | 342 | 335 | 326 | 313 | 296 | 277 | 254 | 201 | 138 | 104 | | | | | | |
| 4SDF 36/4EC-60 | 4SDFM 36/4EC-60 | ● | ● | ● | 0,37 | 0,5 | | | 31,7 | 31,2 | 30,6 | 30 | 29,2 | 28,4 | 27,4 | 25,2 | 22,5 | 21 | 19,3 | 15,6 | 6,7 | | | |
| 4SDF 36/5EC-60 | 4SDFM 36/5EC-60 | ● | ● | ● | 0,37 | 0,5 | | | 39,6 | 39 | 38,3 | 37,4 | 36,5 | 35,5 | 34,3 | 31,5 | 28,1 | 26,3 | 24,1 | 19,5 | 8,4 | | | |
| 4SDF 36/7EC-60 | 4SDFM 36/7EC-60 | ● | ● | ● | 0,55 | 0,75 | | | 55,4 | 54,6 | 53,6 | 52,4 | 51,1 | 49,6 | 48,0 | 44,1 | 39,4 | 36,9 | 33,8 | 27,3 | 11,7 | | | |
| 4SDF 36/9EC-60 | 4SDFM 36/9EC-60 | ● | ● | ● | 0,75 | 1 | H | | 71,3 | 70,2 | 68,9 | 69,4 | 65,7 | 63,8 | 61,7 | 56,7 | 50,6 | 47,4 | 43,4 | 35,1 | 15,1 | | | |
| 4SDF 36/13EC-60 | 4SDFM 36/13EC-60 | ● | ● | | 1,1 | 1,5 | m | | 103 | 101 | 99,5 | 97,3 | 95,0 | 92,3 | 89,2 | 81,9 | 73,1 | 68,5 | 62,7 | 50,7 | 21,8 | | | |
| 4SDF 36/17EC-60 | 4SDFM 36/17EC-60 | ● | | | 1,5 | 2 | | | 135 | 132 | 130 | 127 | 124 | 120 | 117 | 107 | 95,6 | 89,5 | 82,0 | 66,3 | 28,4 | | | |
| 4SDF 36/23EC-60 | 4SDFM 36/23EC-60 | ● | | | 2,2 | 3 | | | 182 | 179 | 176 | 172 | 168 | 163 | 158 | 145 | 129 | 121 | 111 | 89,7 | 38,5 | | | |
| 4SDF 36/31EC-60 | | | | | 3 | 4 | | | 245 | 241 | 237 | 232 | 226 | 220 | 213 | 195 | 174 | 163 | 150 | 121 | 51,9 | | | |
| 4SDF 36/38EC-60 | | | | | 4 | 5,5 | | | 301 | 296 | 291 | 284 | 278 | 270 | 261 | 239 | 214 | 200 | 183 | 148 | 63,6 | | | |
| 4SDF 36/41EC-60 | | | | | 4 | 5,5 | | | 325 | 320 | 314 | 307 | 300 | 291 | 281 | 258 | 231 | 216 | 198 | 160 | 68,6 | | | |
| 4SDF 46/4EC-60 | 4SDFM 46/4EC-60 | ● | ● | ● | 0,37 | 0,5 | | | | 32,2 | 31,7 | 31,2 | 30,6 | 29,9 | 29,1 | 27,4 | 25,3 | 24,1 | 22,9 | 20,4 | 14,9 | 8,6 | | |
| 4SDF 46/6EC-60 | 4SDFM 46/6EC-60 | ● | ● | ● | 0,55 | 0,75 | | | | 48,4 | 47,6 | 46,8 | 45,9 | 44,9 | 43,7 | 41,1 | 37,9 | 36,2 | 34,4 | 30,6 | 22,4 | 12,9 | | |
| 4SDF 46/8EC-60 | 4SDFM 46/8EC-60 | ● | ● | ● | 0,75 | 1 | | | | 64,5 | 63,5 | 62,4 | 61,2 | 59,8 | 58,3 | 54,7 | 50,6 | 48,3 | 45,9 | 40,8 | 29,8 | 17,2 | | |
| 4SDF 46/11EC-60 | 4SDFM 46/11EC-60 | ● | ● | | 1,1 | 1,5 | | | | 88,6 | 87,3 | 85,8 | 84,1 | 82,3 | 80,2 | 75,3 | 69,5 | 66,4 | 63,1 | 56,1 | 41 | 23,6 | | |
| 4SDF 46/15EC-60 | 4SDFM 46/15EC-60 | ● | | | 1,5 | 2 | | | | 121 | 119 | 117 | 115 | 112 | 109 | 103 | 94,8 | 90,5 | 86 | 76,5 | 55,9 | 32,2 | | |
| 4SDF 46/20EC-60 | 4SDFM 46/20EC-60 | ● | | | 2,2 | 3 | | | | 161 | 159 | 156 | 153 | 150 | 146 | 137 | 126 | 121 | 115 | 102 | 74,6 | 42,9 | | |
| 4SDF 46/28EC-60 | | | | | 3 | 4 | | | | 226 | 222 | 218 | 214 | 209 | 204 | 192 | 177 | 169 | 161 | 143 | 104 | 60,1 | | |
| 4SDF 46/35EC-60 | | | | | 4 | 5,5 | | | | 282 | 278 | 273 | 268 | 262 | 255 | 239 | 221 | 211 | 201 | 178 | 131 | 75,1 | | |
| 4SDF 46/37EC-60 | | | | | 4 | 5,5 | | | | 298 | 294 | 289 | 283 | 277 | 270 | 253 | 234 | 223 | 212 | 189 | 138 | 79,4 | | |
| 4SDF 54/4EC-60 | 4SDFM 54/4EC-60 | ● | ● | ● | 0,55 | 0,75 | | | | | 35,9 | 5,5 | 35 | 34,5 | 34 | 32,8 | 31,5 | 30,8 | 30,1 | 28,6 | 25,0 | 20,9 | 16,3 | 11 |
| 4SDF 54/5EC-60 | 4SDFM 54/5EC-60 | ● | ● | ● | 0,75 | 1 | | | | | 44,9 | 44,3 | 43,8 | 43,1 | 42,5 | 41,0 | 39,4 | 38,5 | 37,6 | 35,7 | 31,3 | 26,1 | 20,3 | 13,8 |
| 4SDF 54/7EC-60 | 4SDFM 54/7EC-60 | ● | ● | | 1,1 | 1,5 | | | | | 62,8 | 62,1 | 61,3 | 60,4 | 59,4 | 57,4 | 55,2 | 54 | 52,7 | 50 | 43,8 | 36,5 | 28,5 | 19,3 |
| 4SDF 54/9EC-60 | 4SDFM 54/9EC-60 | ● | | | 1,5 | 2 | | | | | 80,8 | 79,8 | 78,8 | 77,6 | 76,4 | 73,8 | 70,9 | 69,4 | 67,8 | 64,3 | 56,3 | 47 | 36,6 | 24,9 |
| 4SDF 54/13EC-60 | 4SDFM 54/13EC-60 | ● | | | 2,2 | 3 | | | | | 117 | 115 | 114 | 112 | 110,4 | 107 | 102 | 100 | 97,9 | 92,8 | 81,3 | 67,8 | 52,9 | 35,9 |
| 4SDF 54/18EC-60 | | | | | 3 | 4 | | | | | 162 | 160 | 158 | 155 | 153 | 148 | 142 | 139 | 136 | 129 | 113 | 93,9 | 73,2 | 49,7 |
| 4SDF 54/22EC-60 | | | | | 4 | 5,5 | | | | | 198 | 195 | 193 | 190 | 187 | 180 | 173 | 170 | 166 | 157 | 138 | 115 | 89,5 | 60,8 |
| 4SDF 54/24EC-60 | | | | | 4 | 5,5 | | | | | 215 | 213 | 210 | 207 | 204 | 197 | 189 | 185 | 181 | 171 | 150 | 125 | 97,6 | 66,3 |
| 4SDF 54/28EC-60 | | | | | 5,5 | 7,5 | | | | | 251 | 248 | 245 | 242 | 238 | 230 | 221 | 216 | 211 | 200 | 175 | 146 | 114 | 77,3 |
| 4SDF 54/33EC-60 | | | | | 5,5 | 7,5 | | | | | 296 | 293 | 289 | 285 | 280 | 271 | 260 | 254 | 249 | 236 | 206 | 172 | 134 | 91,1 |

| 3~ | 1~ | 220 V | 127 V | 110 V | P2 kW | P2 HP | Q m³/h | Q l/min | n ≈ 3450 1/min | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 1,2 | 2,4 | 3,6 | 4,8 | 6 | 7,2 | 8,4 | 9,6 | 10,8 | 12 | 13,2 | 14,4 | 15 | 18 | 21 | 24 | | | |
| | | | | | | | 20 | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 240 | 250 | 300 | 350 | 400 | | | |
| 4SD 10/3EC-60 | 4SDM 10/3EC-60 | ● | ● | ● | 0,75 | 1 | | 30 | 29 | 28 | 27 | 26 | 25 | 23 | 21 | 18 | 14 | 12 | 9 | | | | | |
| 4SD 10/4EC-60 | 4SDM 10/4EC-60 | ● | ● | | 1,1 | 1,5 | | 40 | 39 | 38 | 37 | 34 | 33 | 30 | 27 | 24 | 20 | 16 | 12 | | | | | |
| 4SD 10/5EC-60 | 4SDM 10/5EC-60 | ● | | | 1,5 | 2 | | 50 | 49 | 47 | 45 | 43 | 41 | 38 | 34 | 30 | 25 | 20 | 15 | | | | | |
| 4SD 10/7EC-60 | 4SDM 10/7EC-60 | ● | | | 2,2 | 3 | | 70 | 69 | 66 | 63 | 61 | 57 | 53 | 48 | 43 | 36 | 29 | 21 | | | | | |
| 4SD 10/9EC-60 | | | | | 3 | 4 | | 90 | 89 | 85 | 81 | 78 | 74 | 68 | 62 | 55 | 46 | 36 | 27 | | | | | |
| 4SD 10/12EC-60 | | | | | 4 | 5,5 | | 120 | 118 | 113 | 108 | 104 | 98 | 91 | 83 | 73 | 61 | 48 | 36 | | | | | |
| 4SD 10/13EC-60 | | | | | 4 | 5,5 | H | 130 | 128 | 122 | 117 | 113 | 106 | 99 | 90 | 79 | 66 | 52 | 39 | | | | | |
| 4SD 10/18EC-60 | | | | | 5,5 | 7,5 | m | 180 | 177 | 171 | 164 | 156 | 147 | 136 | 124 | 110 | 94 | 75 | 54 | | | | | |
| 4SD 15/5EC-60 | 4SDM 15/5EC-60 | ● | | | 1,5 | 2 | | | 40,4 | 39,5 | 38,5 | 37,3 | 36,1 | 34,7 | 33,3 | 31,7 | 30,1 | 28,4 | 26,6 | 25,7 | 20,8 | 15,5 | 10 | |
| 4SD 15/6EC-60 | 4SDM 15/6EC-60 | ● | | | 2,2 | 3 | | | 48,5 | 47,4 | 46,2 | 44,8 | 43,3 | 41,7 | 39,9 | 38,1 | 36,1 | 34,1 | 31,9 | 30,8 | 24,9 | 18,6 | 12 | |
| 4SD 15/9EC-60 | | | | | 3 | 4 | | | 72,7 | 71,1 | 69,2 | 67,2 | 65 | 62,5 | 59,9 | 57,1 | 54,2 | 51,1 | 47,9 | 46,2 | 37,4 | 28,0 | 18 | |
| 4SD 15/11EC-60 | | | | | 4 | 5,5 | | | 88,9 | 86,9 | 84,6 | 82,1 | 79,4 | 76,4 | 73,2 | 69,8 | 66,2 | 62,4 | 58,5 | 56,4 | 45,7 | 34,2 | 22 | |
| 4SD 15/12EC-60 | | | | | 4 | 5,5 | | | 96,9 | 94,8 | 92,3 | 89,6 | 86,6 | 83,4 | 79,9 | 76,2 | 72,2 | 68,1 | 63,8 | 61,6 | 49,9 | 37,3 | 24 | |
| 4SD 15/14EC-60 | | | | | 5,5 | 7,5 | | | 113 | 111 | 108 | 105 | 101 | 97,2 | 93,2 | 88,8 | 84,3 | 79,5 | 74,4 | 71,8 | 58,2 | 43,5 | 28 | |
| 4SD 15/16EC-60 | | | | | 5,5 | 7,5 | | | 129 | 126 | 123 | 120 | 116 | 111 | 107 | 102 | 96,3 | 90,8 | 85,1 | 82,1 | 66,5 | 49,7 | 32 | |

P2 Rated motor power output.
Potencia nominal del motor.

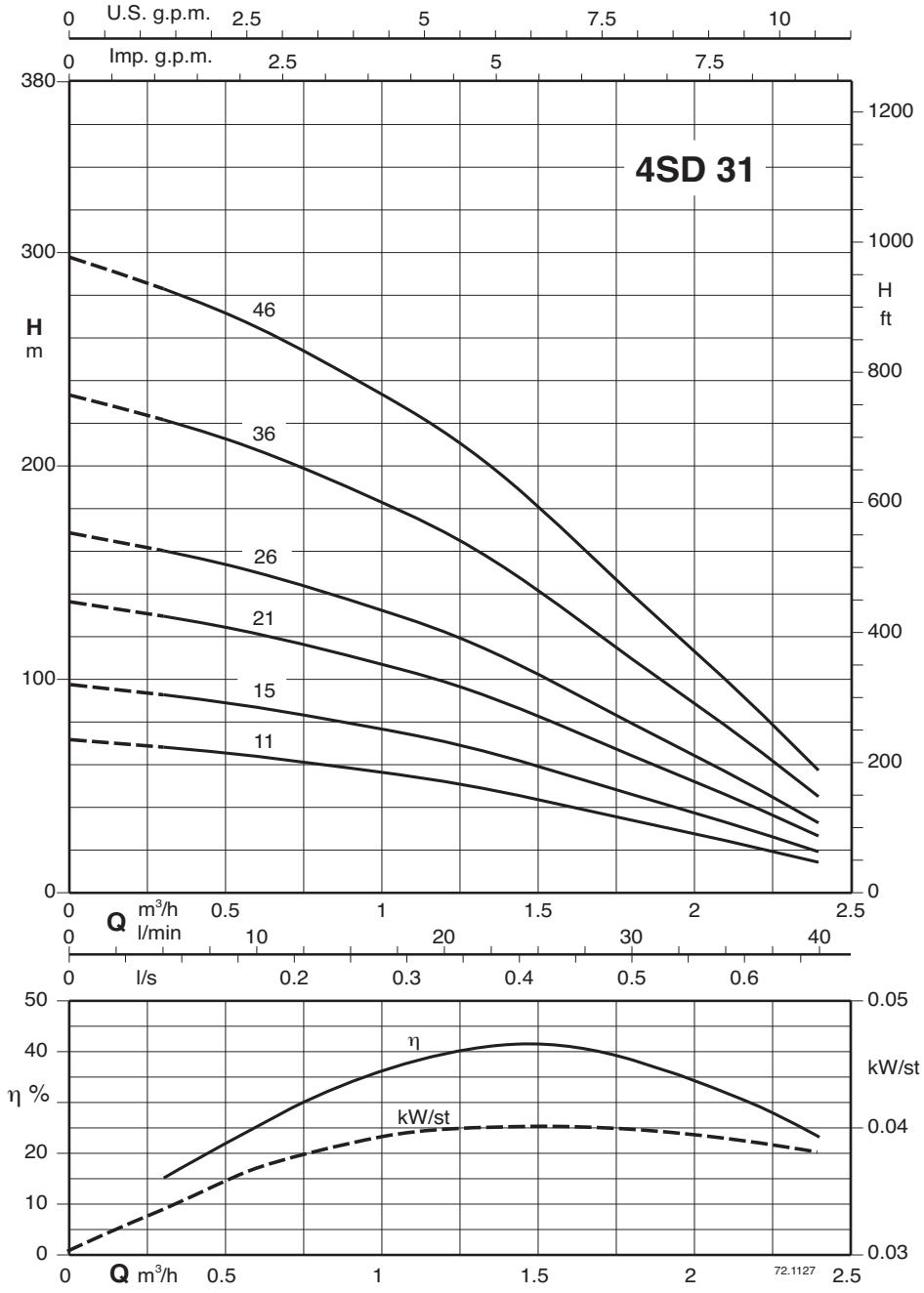
● Feasible
Factible

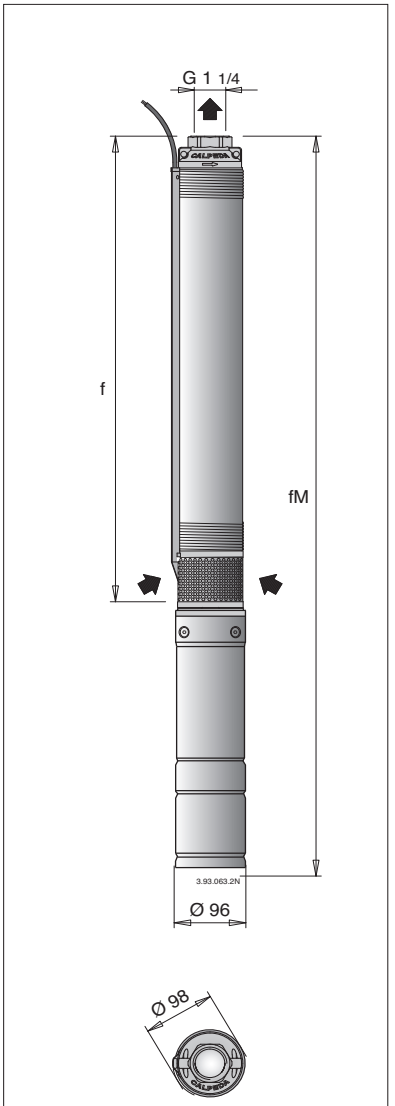
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SD 31 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 0,3 | 0,6 | 0,9 | 1,2 | 1,5 | 1,8 | 2,1 | 2,4 | |
| | | kW | HP | l/min | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | |
| 4SD 31/11EC-60 | 4SDM 31/11EC-60 | 0,37 | 0,5 | H m | 71 | 67,5 | 63,5 | 58 | 51,5 | 42,5 | 33,5 | 24 | 13,5 | |
| 4SD 31/15EC-60 | 4SDM 31/15EC-60 | 0,37 | 0,5 | | 97 | 92,5 | 84,5 | 79 | 70,5 | 57,5 | 45,5 | 32,5 | 18,5 | |
| 4SD 31/21EC-60 | 4SDM 31/21EC-60 | 0,55 | 0,75 | | 136 | 130 | 121 | 110 | 98,5 | 80,5 | 64 | 45,5 | 26 | |
| 4SD 31/26EC-60 | 4SDM 31/26EC-60 | 0,75 | 1 | | 168 | 160 | 150 | 137 | 122 | 100 | 79 | 56,5 | 32 | |
| 4SD 31/36EC-60 | 4SDM 31/36EC-60 | 1,1 | 1,5 | | 233 | 222 | 207 | 189 | 169 | 138 | 109 | 78 | 44,5 | |
| 4SD 31/46EC-60 | 4SDM 31/46EC-60 | 1,5 | 2 | | 298 | 283 | 265 | 242 | 216 | 177 | 140 | 99,5 | 57 | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| | 4SD | | | 4SDM | |
|---|---|---|---|---|---|
| f | fM | | | fM | |
| mm | mm | kg | | mm | kg |
| 473 | 800 | 10,3 | | 800 | 10,2 |
| 550 | 877 | 10,9 | | 877 | 10,8 |
| 670 | 1017 | 13 | | 1032 | 13,5 |
| 768 | 1130 | 14,8 | | 1170 | 15,8 |
| 965 | 1367 | 17,7 | | 1412 | 18,4 |
| 1160 | 1607 | 20,2 | | 1627 | 20,4 |
| | | | | | |
| | | | | | |
| | | | | | |

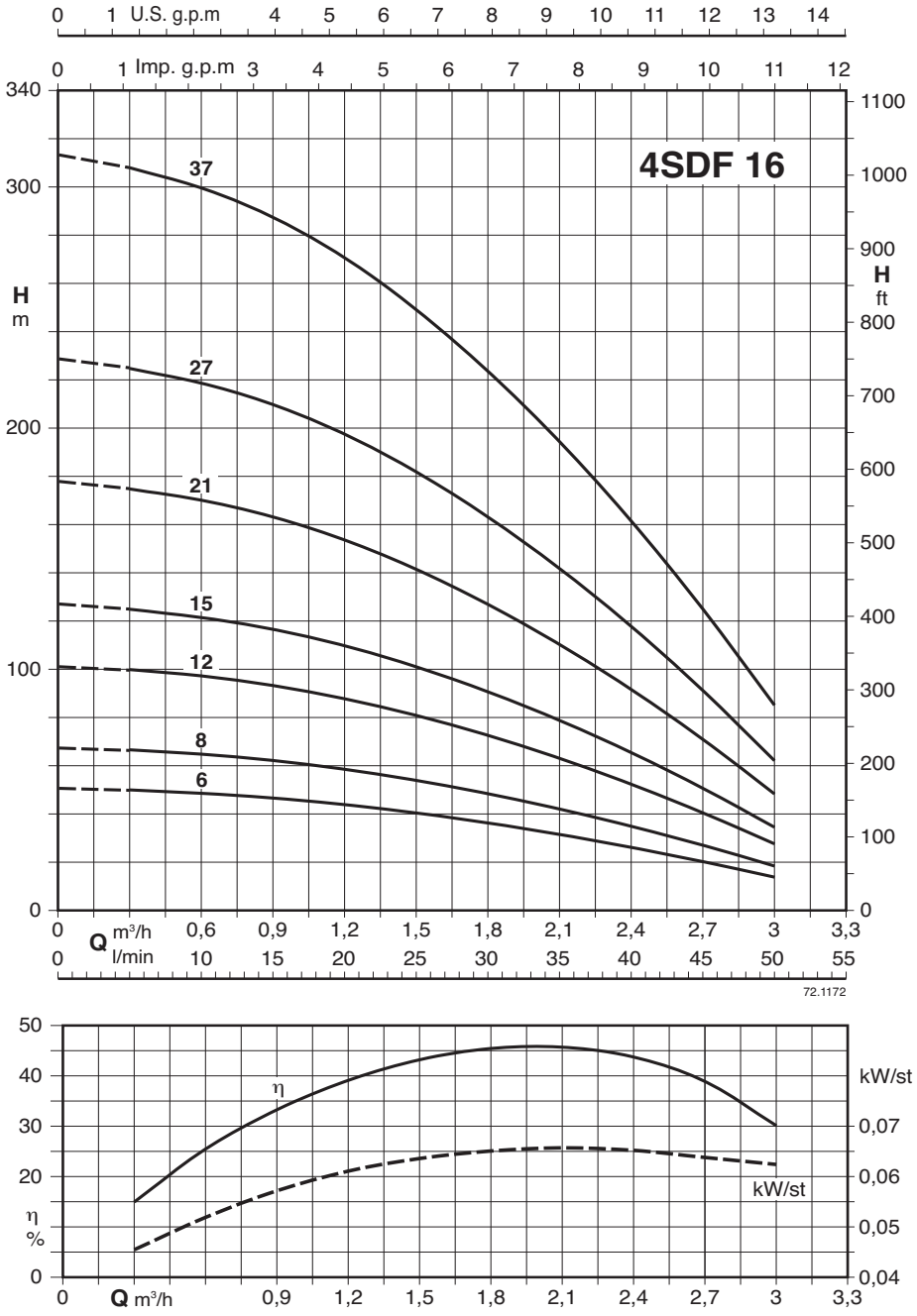
P2 Rated motor power output.
Potencia nominal del motor.

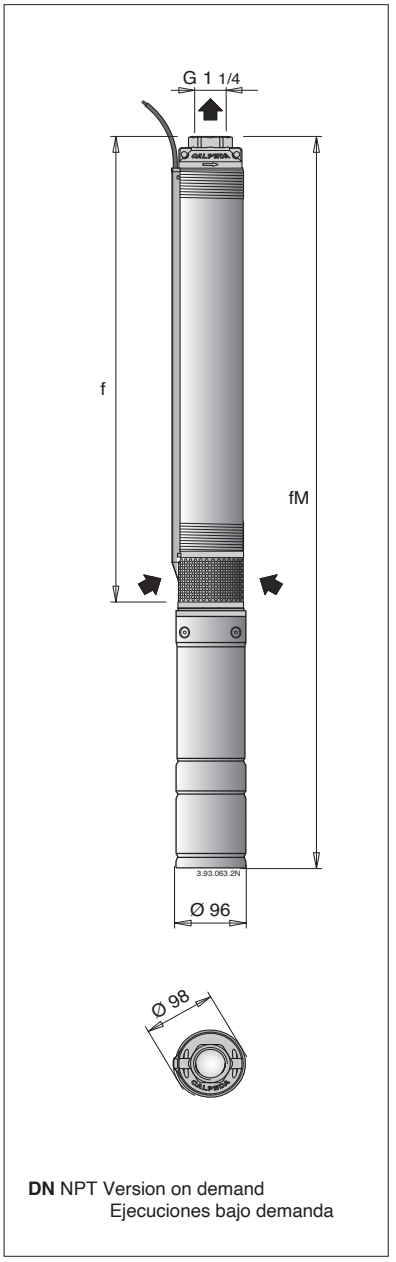
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SDF 16 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | 4SDF | | | 4SDFM | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 0,3 | 0,6 | 0,9 | 1,2 | 1,5 | 1,8 | 2,1 | 2,4 | 3 | f | fM | | fM | |
| | | kW | HP | l/min | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 | mm | mm | kg | mm | kg |
| 4SDF 16/6EC-60 | 4SDFM 16/6EC-60 | 0,37 | 0,5 | | 50,9 | 49,9 | 48,6 | 46,6 | 43,9 | 40,4 | 36,3 | 31,5 | 26,2 | 13,8 | 305 | 632 | 11 | 632 | 10,9 |
| 4SDF 16/8EC-60 | 4SDFM 16/8EC-60 | 0,37 | 0,5 | | 67,8 | 66,6 | 64,8 | 62,2 | 58,5 | 53,9 | 48,3 | 42 | 34,9 | 18,4 | 345 | 672 | 11,3 | 672 | 11,2 |
| 4SDF 16/12EC-60 | 4SDFM 16/12EC-60 | 0,55 | 0,75 | | 102 | 99,9 | 97,2 | 93,2 | 87,8 | 80,8 | 72,5 | 63 | 52,4 | 27,6 | 425 | 772 | 13,1 | 787 | 13,8 |
| 4SDF 16/15EC-60 | 4SDFM 16/15EC-60 | 0,75 | 1 | | 127 | 125 | 121 | 117 | 110 | 101 | 90,6 | 78,8 | 65,5 | 34,5 | 485 | 847 | 14,8 | 887 | 15,6 |
| 4SDF 16/21EC-60 | 4SDFM 16/21EC-60 | 1,1 | 1,5 | H | 178 | 175 | 170 | 163 | 154 | 141 | 127 | 110 | 91,7 | 48,3 | 605 | 1007 | 17,1 | 1052 | 18,4 |
| 4SDF 16/27EC-60 | 4SDFM 16/27EC-60 | 1,5 | 2 | m | 229 | 225 | 219 | 210 | 198 | 182 | 163 | 142 | 118 | 62,1 | 725 | 1172 | 19,8 | 1192 | 20,7 |
| 4SDF 16/37EC-60 | 4SDFM 16/37EC-60 | 2,2 | 3 | | 314 | 308 | 300 | 287 | 271 | 249 | 224 | 194 | 161 | 85,1 | 915 | 1317 | 20,8 | 1432 | 24,8 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

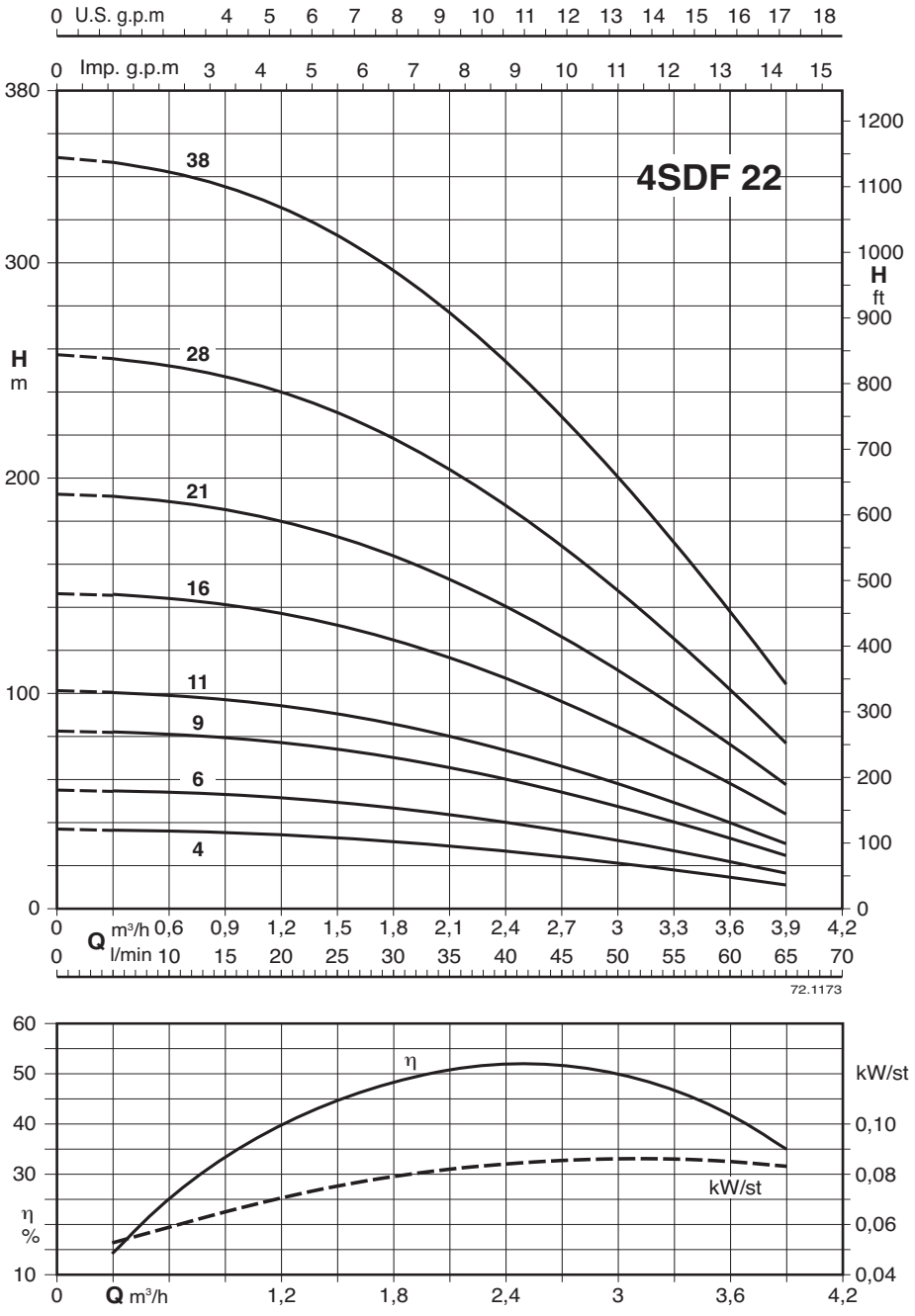
P2 Rated motor power output.
Potencia nominal del motor.

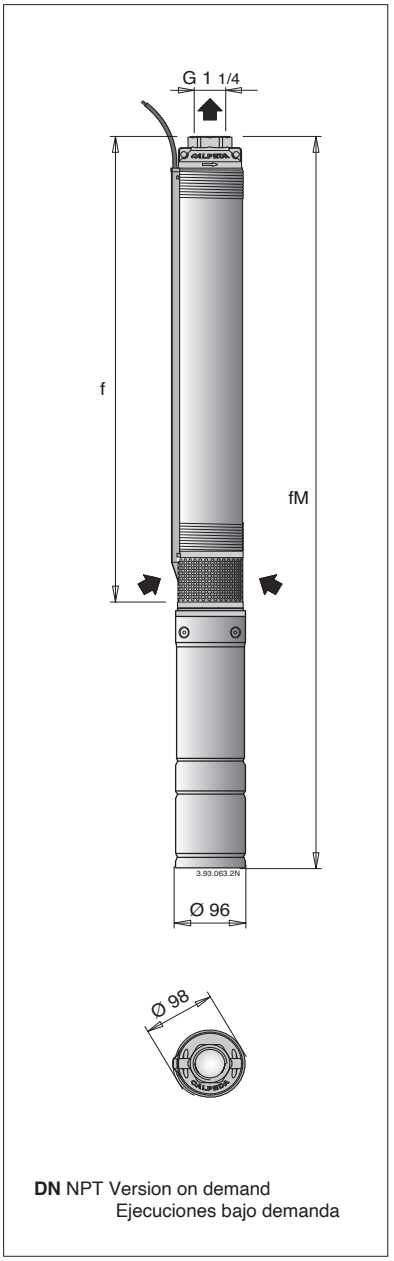
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SDF 22 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 0,3 | 0,6 | 0,9 | 1,2 | 1,8 | 2,4 | 3 | 3,6 | 3,9 |
| | | kW | HP | l/min | 0 | 5 | 10 | 15 | 20 | 30 | 40 | 50 | 60 | 65 |
| 4SDF 22/4EC-60 | 4SDFM 22/4EC-60 | 0,37 | 0,5 | H m | 36,8 | 36,5 | 36 | 35,3 | 34,3 | 31,2 | 26,8 | 21,1 | 14,5 | 11 |
| 4SDF 22/6EC-60 | 4SDFM 22/6EC-60 | 0,37 | 0,5 | | 55,2 | 54,7 | 54 | 53 | 51,4 | 46,8 | 40,1 | 31,7 | 21,8 | 16,5 |
| 4SDF 22/9EC-60 | 4SDFM 22/9EC-60 | 0,55 | 0,75 | | 82,8 | 82,1 | 81,1 | 79,4 | 77,1 | 70,2 | 60,2 | 47,5 | 32,7 | 24,7 |
| 4SDF 22/11EC-60 | 4SDFM 22/11EC-60 | 0,75 | 1 | | 101 | 100 | 99,1 | 97,1 | 94,3 | 85,8 | 73,6 | 58 | 40 | 30,2 |
| 4SDF 22/16EC-60 | 4SDFM 22/16EC-60 | 1,1 | 1,5 | | 147 | 146 | 144 | 141 | 137 | 125 | 107 | 84,4 | 58,1 | 43,9 |
| 4SDF 22/21EC-60 | 4SDFM 22/21EC-60 | 1,5 | 2 | | 193 | 192 | 189 | 185 | 180 | 164 | 140 | 111 | 76,3 | 57,6 |
| 4SDF 22/28EC-60 | 4SDFM 22/28EC-60 | 2,2 | 3 | | 257 | 255 | 252 | 247 | 240 | 218 | 187 | 148 | 102 | 76,8 |
| 4SDF 22/38EC-60 | | 3 | 4 | | 349 | 347 | 342 | 335 | 326 | 296 | 254 | 201 | 138 | 104 |
| | | | | | | | | | | | | | | |

| | 4SDF | | | 4SDFM | |
|---|---|---|---|---|---|
| f | fM | | | fM | |
| mm | mm | kg | | mm | kg |
| 265 | 592 | 10,6 | | 592 | 10,5 |
| 305 | 632 | 11 | | 632 | 10,9 |
| 365 | 712 | 12,5 | | 727 | 13,2 |
| 405 | 767 | 14,1 | | 807 | 14,9 |
| 505 | 907 | 16,1 | | 952 | 17,5 |
| 605 | 1052 | 18,6 | | 1072 | 19,5 |
| 745 | 1147 | 19,1 | | 1262 | 23,1 |
| 935 | 1408 | 24,3 | | | |
| | | | | | |

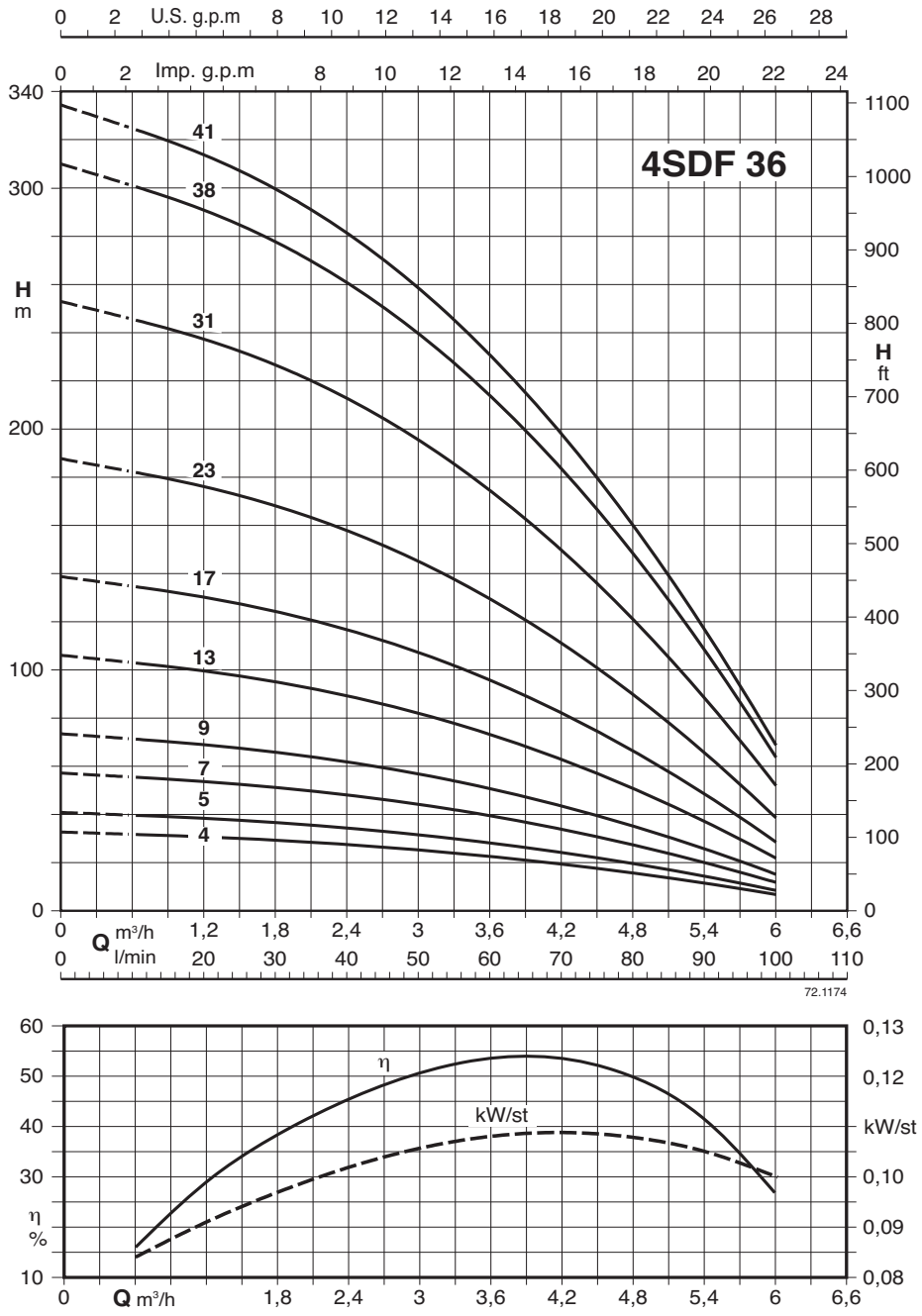
P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

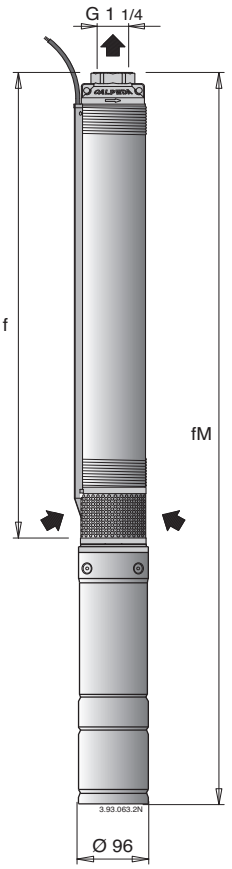
# 4SDF 36 60 Hz

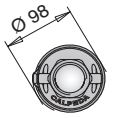
## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos










**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 0,6 | 1,2 | 1,8 | 2,4 | 3 | 3,6 | 4,2 | 4,8 | 6 |
| | | kW | HP | l/min | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 100 |
| 4SDF 36/4EC-60 | 4SDFM 36/4EC-60 | 0,37 | 0,5 | | 32,6 | 31,7 | 30,6 | 29,2 | 27,4 | 25,2 | 22,5 | 19,3 | 15,6 | 6,7 |
| 4SDF 36/5EC-60 | 4SDFM 36/5EC-60 | 0,37 | 0,5 | | 40,8 | 39,6 | 38,3 | 36,5 | 34,3 | 31,5 | 28,1 | 24,1 | 19,5 | 8,4 |
| 4SDF 36/7EC-60 | 4SDFM 36/7EC-60 | 0,55 | 0,75 | | 57,1 | 55,4 | 53,6 | 51,1 | 48,0 | 44,1 | 39,4 | 33,8 | 27,3 | 11,7 |
| 4SDF 36/9EC-60 | 4SDFM 36/9EC-60 | 0,75 | 1 | H | 73,4 | 71,3 | 68,9 | 65,7 | 61,7 | 56,7 | 50,6 | 43,4 | 35,1 | 15,1 |
| 4SDF 36/13EC-60 | 4SDFM 36/13EC-60 | 1,1 | 1,5 | m | 106 | 103 | 99,5 | 95,0 | 89,2 | 81,9 | 73,1 | 62,7 | 50,7 | 21,8 |
| 4SDF 36/17EC-60 | 4SDFM 36/17EC-60 | 1,5 | 2 | | 139 | 135 | 130 | 124 | 117 | 107 | 95,6 | 82,0 | 66,3 | 28,4 |
| 4SDF 36/23EC-60 | 4SDFM 36/23EC-60 | 2,2 | 3 | | 188 | 182 | 176 | 168 | 158 | 145 | 129 | 111 | 89,7 | 38,5 |
| 4SDF 36/31EC-60 | | 3 | 4 | | 253 | 245 | 237 | 226 | 213 | 195 | 174 | 150 | 121 | 51,9 |
| 4SDF 36/38EC-60 | | 4 | 5,5 | | 310 | 301 | 291 | 278 | 261 | 239 | 214 | 183 | 148 | 63,6 |
| 4SDF 36/41EC-60 | | 4 | 5,5 | | 334 | 325 | 314 | 300 | 281 | 258 | 231 | 198 | 160 | 68,6 |

| | 4SDF | | | 4SDFM | |
|---|---|---|---|---|---|
| f | fM | | | fM | |
| mm | mm | kg | | mm | kg |
| 290 | 617 | 10,7 | | 617 | 10,6 |
| 317 | 644 | 11 | | 644 | 10,9 |
| 370 | 717 | 12,5 | | 717 | 13,2 |
| 422 | 784 | 14,1 | | 799 | 14,9 |
| 528 | 930 | 16,1 | | 935 | 17,5 |
| 635 | 1082 | 18,7 | | 1102 | 19,7 |
| 794 | 1196 | 19,1 | | 1311 | 23,1 |
| 979 | 1452 | 24,5 | | | |
| 1165 | 1703 | 26,8 | | | |
| 1244 | 1782 | 27,1 | | | |

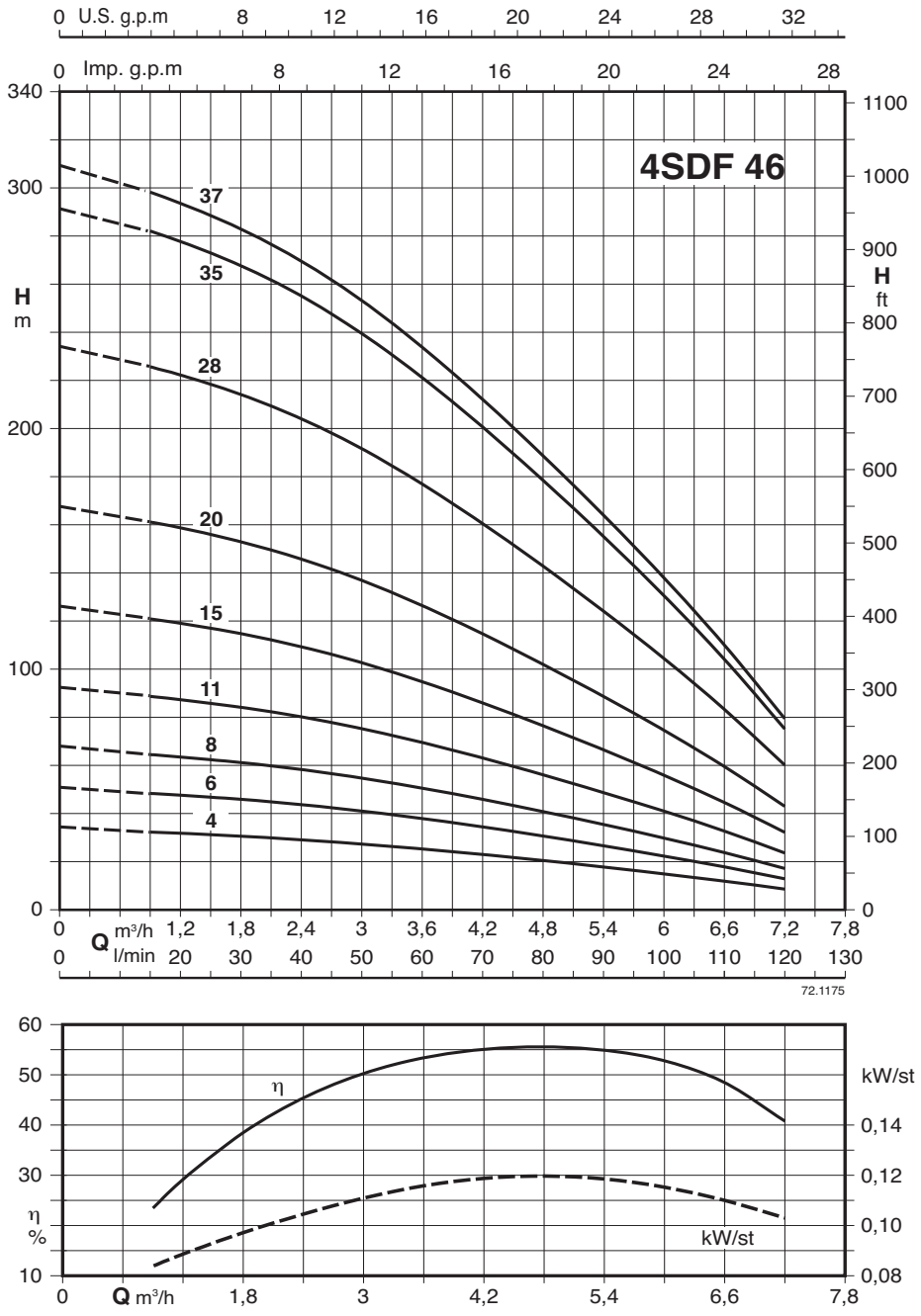
P2 Rated motor power output.
Potencia nominal del motor.

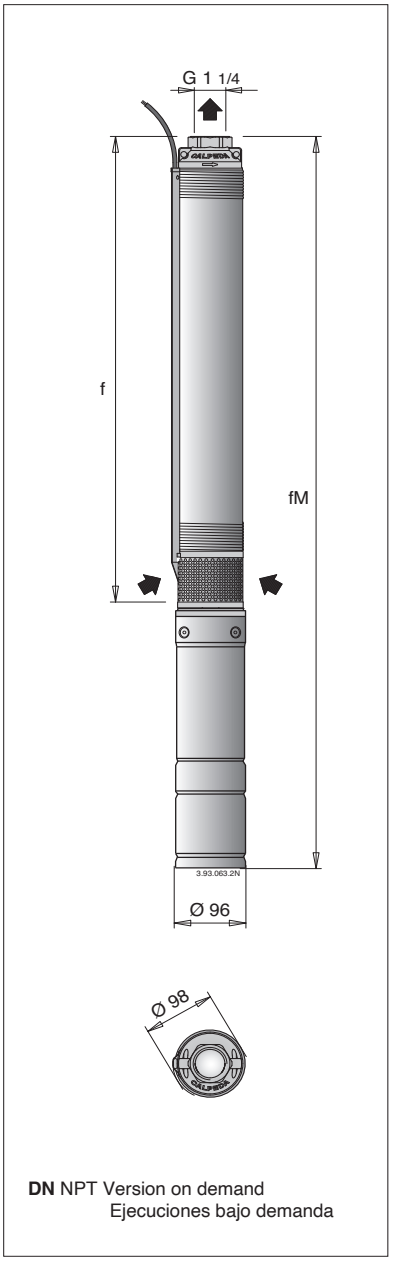
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SDF 46 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 0,9 | 1,2 | 1,8 | 2,4 | 3 | 3,6 | 4,8 | 6 | 7,2 |
| | | kW | HP | l/min | 0 | 15 | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 120 |
| 4SDF 46/4EC-60 | 4SDFM 46/4EC-60 | 0,37 | 0,5 | | 33,6 | 32,2 | 31,7 | 30,6 | 29,1 | 27,4 | 25,3 | 20,4 | 14,9 | 8,6 |
| 4SDF 46/6EC-60 | 4SDFM 46/6EC-60 | 0,55 | 0,75 | | 50,3 | 48,4 | 47,6 | 45,9 | 43,7 | 41,1 | 37,9 | 30,6 | 22,4 | 12,9 |
| 4SDF 46/8EC-60 | 4SDFM 46/8EC-60 | 0,75 | 1 | | 67,1 | 64,5 | 63,5 | 61,2 | 58,3 | 54,7 | 50,6 | 40,8 | 29,8 | 17,2 |
| 4SDF 46/11EC-60 | 4SDFM 46/11EC-60 | 1,1 | 1,5 | | 92,3 | 88,6 | 87,3 | 84,1 | 80,2 | 75,3 | 69,5 | 56,1 | 41 | 23,6 |
| 4SDF 46/15EC-60 | 4SDFM 46/15EC-60 | 1,5 | 2 | H | 126 | 121 | 119 | 115 | 109 | 103 | 94,8 | 76,5 | 55,9 | 32,2 |
| 4SDF 46/20EC-60 | 4SDFM 46/20EC-60 | 2,2 | 3 | m | 168 | 161 | 159 | 153 | 146 | 137 | 126 | 102 | 74,6 | 42,9 |
| 4SDF 46/28EC-60 | | 3 | 4 | | 235 | 226 | 222 | 214 | 204 | 192 | 177 | 143 | 104 | 60,1 |
| 4SDF 46/35EC-60 | | 4 | 5,5 | | 294 | 282 | 278 | 268 | 255 | 239 | 221 | 178 | 131 | 75,1 |
| 4SDF 46/37EC-60 | | 4 | 5,5 | | 310 | 298 | 294 | 283 | 270 | 253 | 234 | 189 | 138 | 79,4 |

| | 4SDF | | | 4SDFM | |
|---|---|---|---|---|---|
| f | fM | | | fM | |
| mm | mm | kg | | mm | kg |
| 290 | 617 | 9,7 | | 617 | 9,6 |
| 340 | 687 | 12,1 | | 702 | 12,8 |
| 395 | 757 | 13,8 | | 797 | 14,5 |
| 475 | 877 | 15,5 | | 922 | 16,9 |
| 585 | 1032 | 18 | | 1052 | 18,9 |
| 715 | 1117 | 18,2 | | 1232 | 22,2 |
| 925 | 1398 | 23,2 | | | |
| 1110 | 1648 | 27,9 | | | |
| 1165 | 1703 | 28,4 | | | |

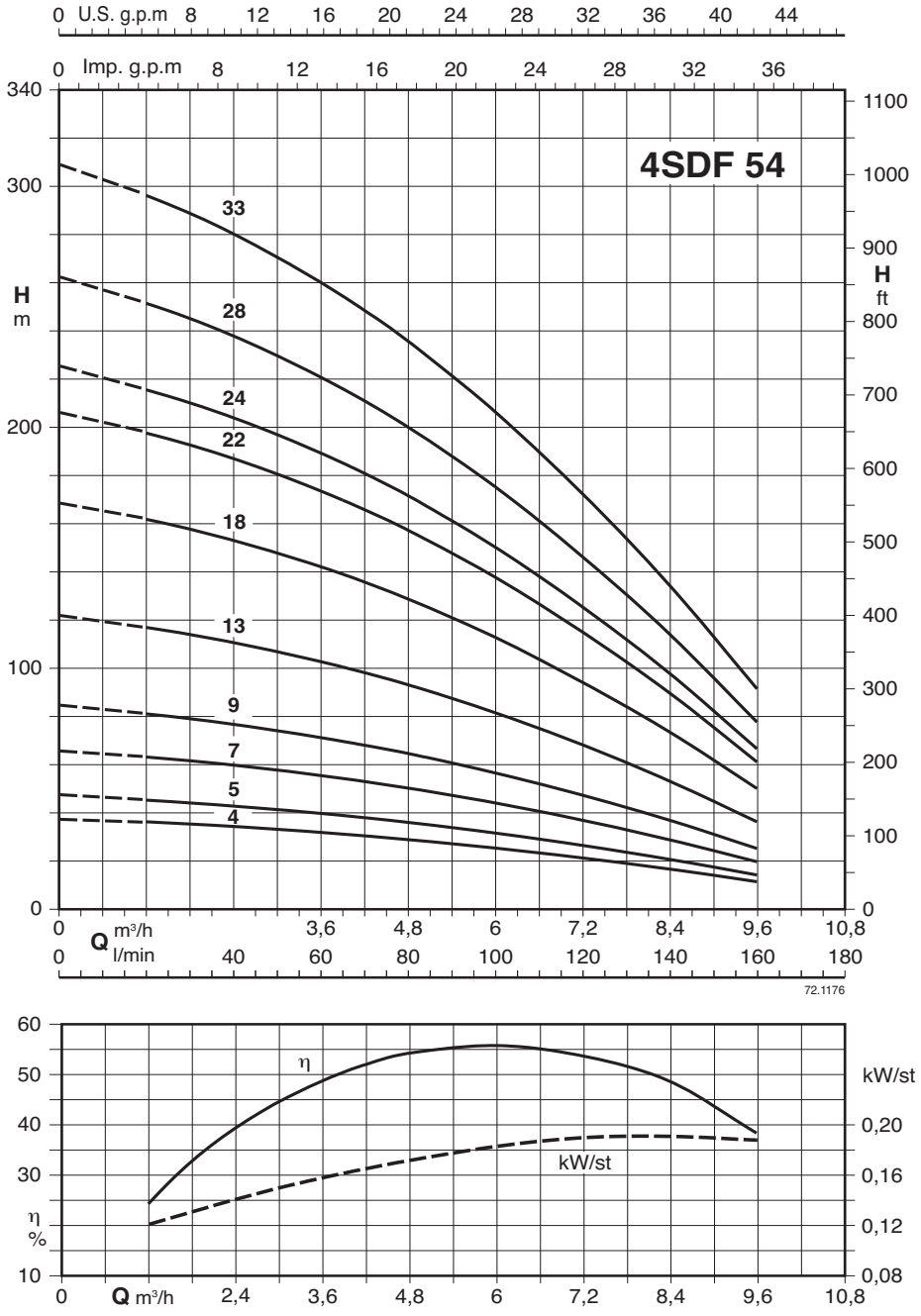
P2 Rated motor power output.
Potencia nominal del motor.

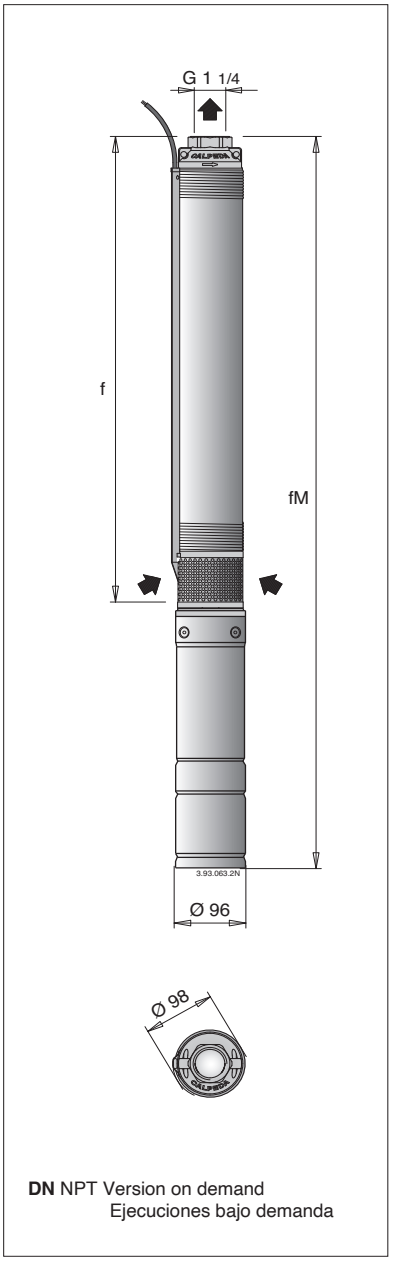
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SDF 54 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 1,2 | 2,4 | 3,6 | 4,2 | 4,8 | 6 | 7,2 | 8,4 | 9,6 |
| | | kW | HP | l/min | 0 | 20 | 40 | 60 | 70 | 80 | 100 | 120 | 140 | 160 |
| 4SDF 54/4EC-60 | 4SDFM 54/4EC-60 | 0,55 | 0,75 | | 37,4 | 35,9 | 34,0 | 31,5 | 30,1 | 28,6 | 25,0 | 20,9 | 16,3 | 11,0 |
| 4SDF 54/5EC-60 | 4SDFM 54/5EC-60 | 0,75 | 1 | | 46,7 | 44,9 | 42,5 | 39,4 | 37,6 | 35,7 | 31,3 | 26,1 | 20,3 | 13,8 |
| 4SDF 54/7EC-60 | 4SDFM 54/7EC-60 | 1,1 | 1,5 | | 65,4 | 62,8 | 59,4 | 55,2 | 52,7 | 50,0 | 43,8 | 36,5 | 28,5 | 19,3 |
| 4SDF 54/9EC-60 | 4SDFM 54/9EC-60 | 1,5 | 2 | | 84,1 | 80,8 | 76,4 | 70,9 | 67,8 | 64,3 | 56,3 | 47,0 | 36,6 | 24,9 |
| 4SDF 54/13EC-60 | 4SDFM 54/13EC-60 | 2,2 | 3 | H | 122 | 117 | 110 | 102 | 97,9 | 92,8 | 81,3 | 67,8 | 52,9 | 35,9 |
| 4SDF 54/18EC-60 | | 3 | 4 | m | 168 | 162 | 153 | 142 | 136 | 129 | 113 | 93,9 | 73,2 | 49,7 |
| 4SDF 54/22EC-60 | | 4 | 5,5 | | 206 | 198 | 187 | 173 | 166 | 157 | 138 | 115 | 89,5 | 60,8 |
| 4SDF 54/24EC-60 | | 4 | 5,5 | | 224 | 215 | 204 | 189 | 181 | 171 | 150 | 125 | 97,6 | 66,3 |
| 4SDF 54/28EC-60 | | 5,5 | 7,5 | | 262 | 251 | 238 | 221 | 211 | 200 | 175 | 146 | 114 | 77,3 |
| 4SDF 54/33EC-60 | | 5,5 | 7,5 | | 309 | 296 | 280 | 260 | 249 | 236 | 206 | 172 | 134 | 91,1 |

| f | 4SDF | | 4SDFM | |
|---|---|---|---|---|
| | fM | | fM | |
| mm | mm | kg | mm | kg |
| 310 | 657 | 11,6 | 672 | 12,4 |
| 340 | 702 | 13 | 742 | 13,8 |
| 400 | 802 | 14,6 | 847 | 16 |
| 460 | 907 | 16,7 | 927 | 17,6 |
| 580 | 982 | 16,7 | 1097 | 20,8 |
| 730 | 1203 | 21,1 | | |
| 850 | 1388 | 25,4 | | |
| 910 | 1448 | 25,8 | | |
| 1030 | 1668 | 31,2 | | |
| 1180 | 1818 | 32,5 | | |

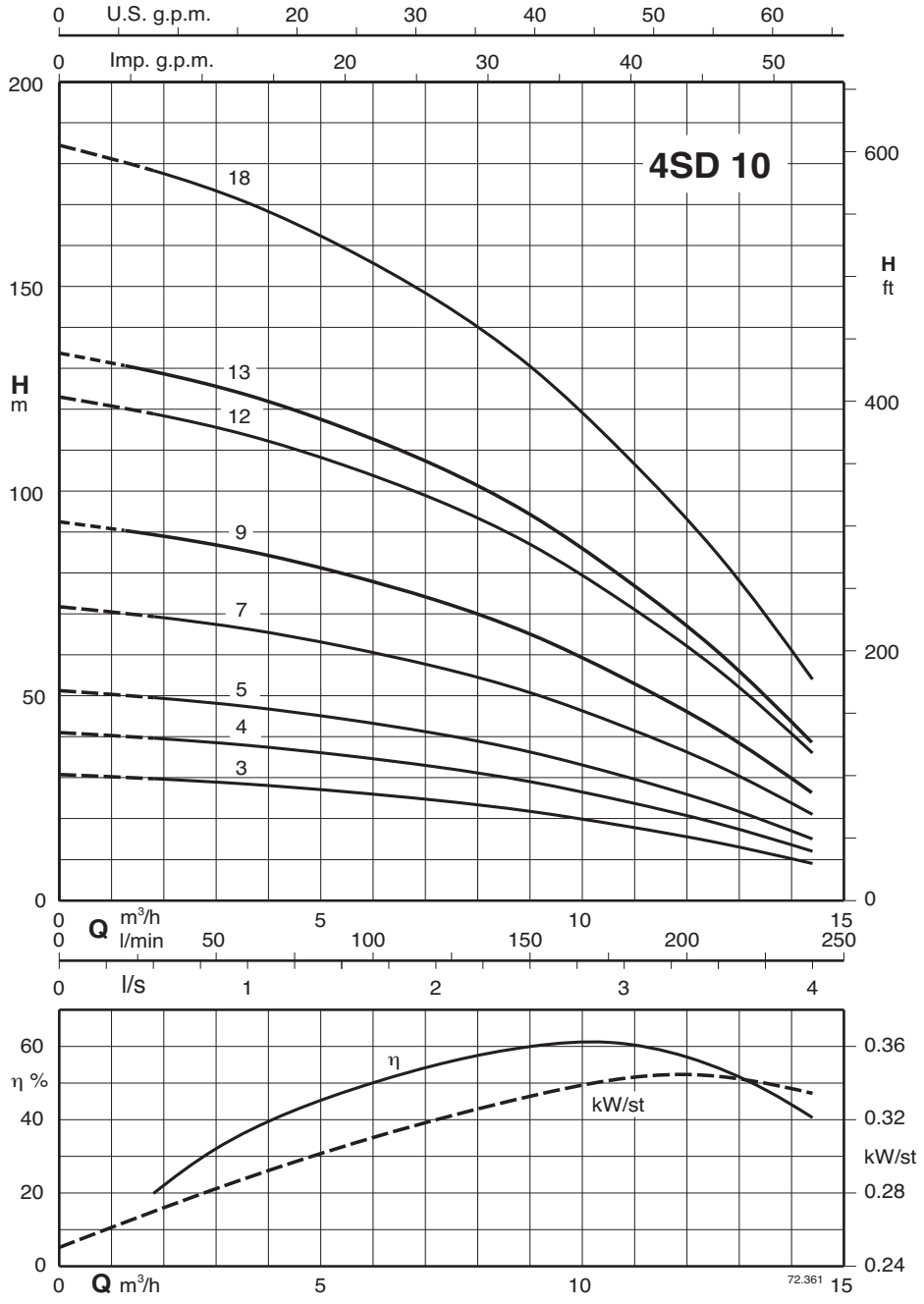
P2 Rated motor power output.
Potencia nominal del motor.

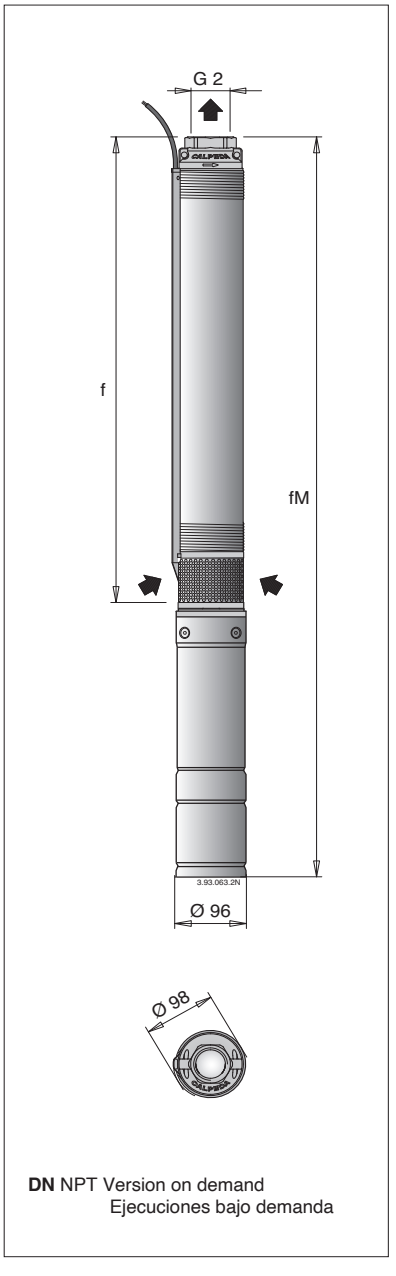
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SD 10 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 1,2 | 2,4 | 3,6 | 6 | 8,4 | 10,8 | 12 | 13,2 | 14,4 |
| | | kW | HP | l/min | 0 | 20 | 40 | 60 | 100 | 140 | 180 | 200 | 220 | 240 |
| 4SD 10/3EC-60 | 4SDM 10/3EC-60 | 0,75 | 1 | H m | 31 | 30 | 29 | 28 | 26 | 23 | 18 | 18 | 12 | 9 |
| 4SD 10/4EC-60 | 4SDM 10/4EC-60 | 1,1 | 1,5 | | 41 | 40 | 39 | 38 | 34 | 30 | 24 | 24 | 16 | 12 |
| 4SD 10/5EC-60 | 4SDM 10/5EC-60 | 1,5 | 2 | | 51 | 50 | 49 | 47 | 43 | 38 | 30 | 30 | 20 | 15 |
| 4SD 10/7EC-60 | 4SDM 10/7EC-60 | 2,2 | 3 | | 72 | 70 | 69 | 66 | 61 | 53 | 43 | 43 | 29 | 21 |
| 4SD 10/9EC-60 | | 3 | 4 | | 92 | 90 | 89 | 85 | 78 | 68 | 55 | 55 | 36 | 27 |
| 4SD 10/12EC-60 | | 4 | 5,5 | | 123 | 120 | 118 | 113 | 104 | 91 | 73 | 73 | 48 | 36 |
| 4SD 10/13EC-60 | | 4 | 5,5 | | 133 | 130 | 128 | 122 | 113 | 99 | 79 | 79 | 52 | 39 |
| 4SD 10/18EC-60 | | 5,5 | 7,5 | | 184 | 180 | 177 | 171 | 156 | 136 | 110 | 110 | 75 | 54 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| f | 4SD | | 4SDM | |
|---|---|---|---|---|
| | fM | | fM | |
| mm | mm | kg | mm | kg |
| 427 | 789 | 12,2 | 829 | 13,2 |
| 480 | 882 | 13,9 | 927 | 14,5 |
| 533 | 980 | 15,2 | 1000 | 15,3 |
| 638 | 1040 | 13,6 | 1155 | 19,4 |
| 715 | 1188 | 23,6 | | |
| 902 | 1440 | 25,2 | | |
| 925 | 1463 | 31,1 | | |
| 1220 | 1858 | 32,5 | | |
| | | | | |
| | | | | |

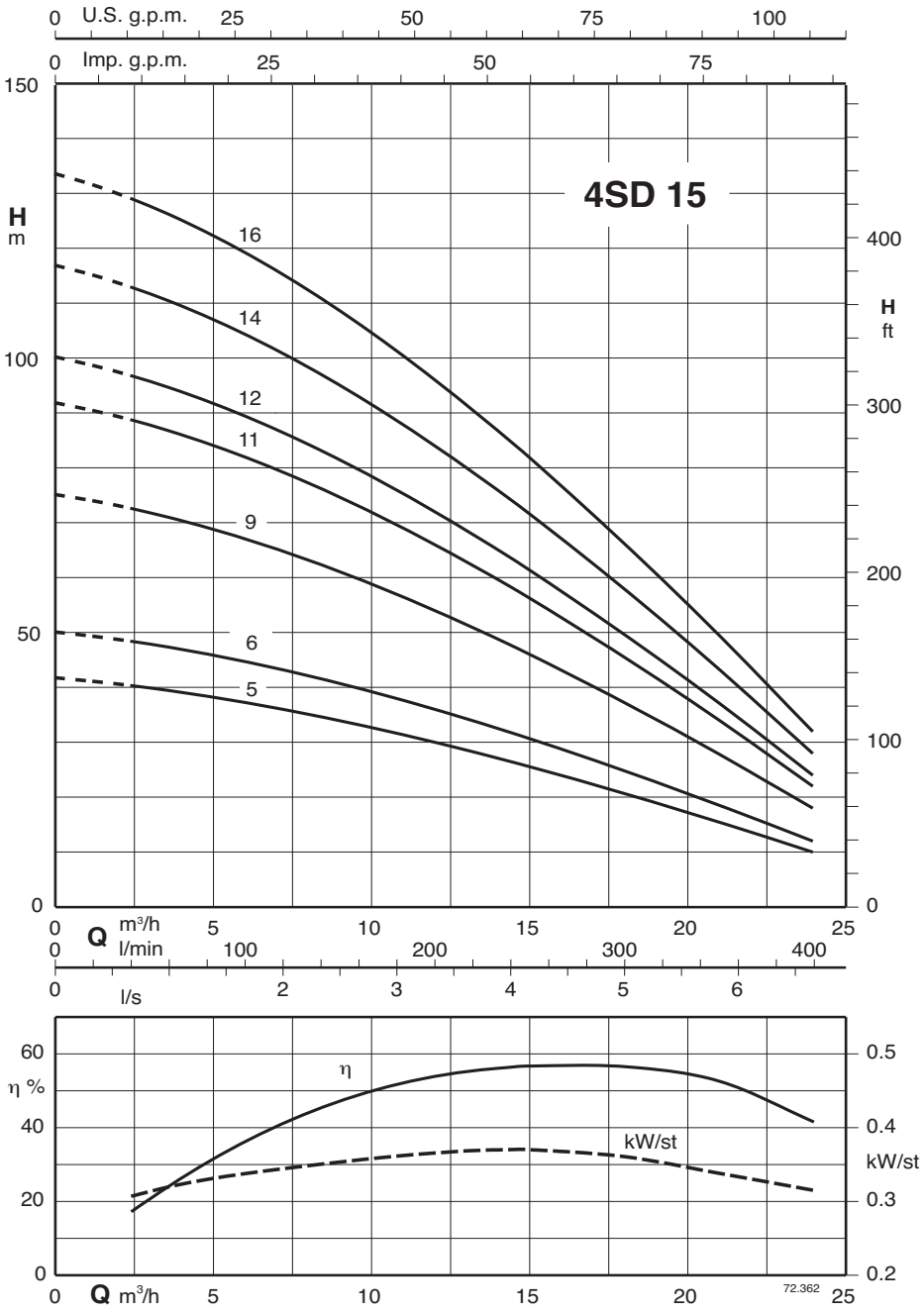
P2 Rated motor power output.
Potencia nominal del motor.

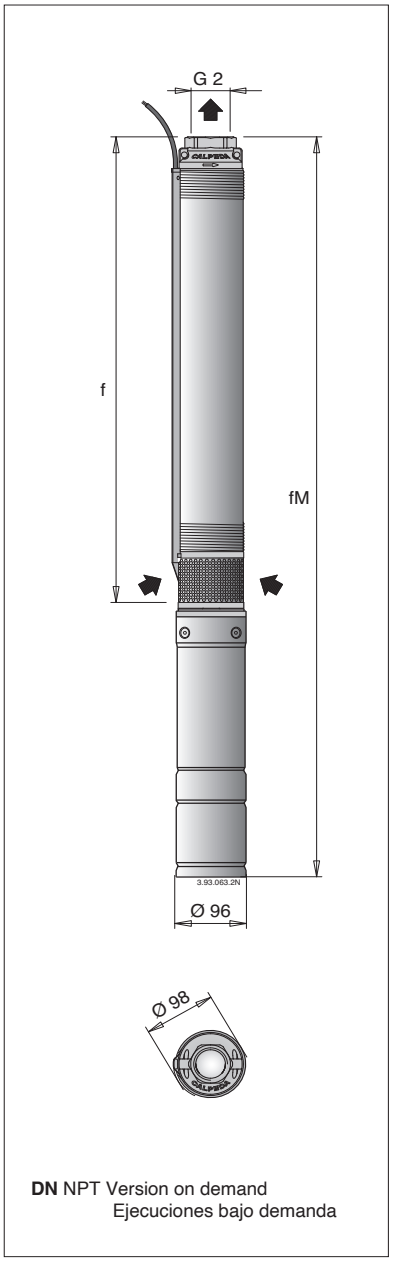
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 4SD 15 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




**DN** NPT Version on demand
Ejecuciones bajo demanda

| 3~ | 1~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | 4SD | | | 4SDM | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | m³/h | 0 | 2,4 | 4,8 | 7,2 | 9,6 | 12 | 15 | 18 | 21 | 24 | f | fM | | fM | |
| | | kW | HP | l/min | 0 | 40 | 80 | 120 | 160 | 200 | 250 | 300 | 350 | 400 | mm | mm | kg | mm | kg |
| 4SD 15/5EC-60 | 4SDM 15/5EC-60 | 1,5 | 2 | | 41,8 | 40,4 | 38,5 | 36,1 | 33,3 | 30,1 | 25,7 | 20,8 | 15,5 | 10 | 600 | 1047 | 17,1 | 1067 | 18 |
| 4SD 15/6EC-60 | 4SDM 15/6EC-60 | 2,2 | 3 | | 50,2 | 48,5 | 46,2 | 43,3 | 39,9 | 36,1 | 30,8 | 24,9 | 18,6 | 12 | 680 | 1082 | 16,9 | 1197 | 20,9 |
| 4SD 15/9EC-60 | | 3 | 4 | | 75,3 | 72,7 | 69,2 | 65 | 59,9 | 54,2 | 46,2 | 37,4 | 28 | 18 | 915 | 1388 | 22,4 | | |
| 4SD 15/11EC-60 | | 4 | 5,5 | H | 92 | 88,9 | 84,6 | 79,4 | 73,2 | 66,2 | 56,4 | 45,7 | 34,2 | 22 | 1070 | 1608 | 26,8 | | |
| 4SD 15/12EC-60 | | 4 | 5,5 | m | 100 | 96,9 | 92,3 | 86,6 | 79,9 | 72,2 | 61,6 | 49,9 | 37,3 | 24 | 1145 | 1683 | 27,4 | | |
| 4SD 15/14EC-60 | | 5,5 | 7,5 | | 117 | 113 | 108 | 101 | 93,2 | 84,3 | 71,8 | 58,2 | 43,5 | 28 | 1375 | 2013 | 32,9 | | |
| 4SD 15/16EC-60 | | 5,5 | 7,5 | | 134 | 129 | 123 | 116 | 107 | 96,3 | 82,1 | 66,5 | 49,7 | 32 | 1520 | 2158 | 34,3 | | |

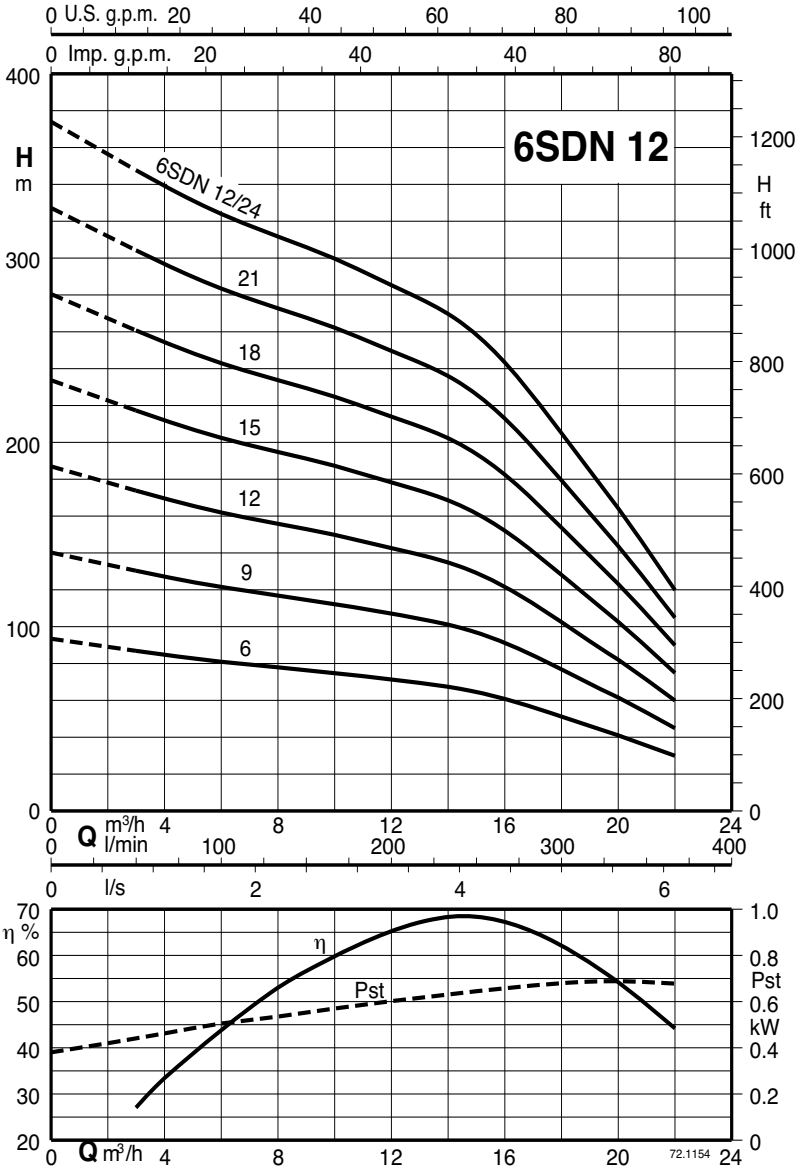
P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SDN 12 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos







| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 3 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | | |
| | kW | HP | l/min | 50 | 100 | 133,3 | 166,6 | 200 | 233 | 266 | 300 | 333 | 366 | | |
| 6SDN 12/6-60 | 4 | 5,5 | H m | 87 | 81 | 78 | 75 | 71,5 | 67,5 | 60 | 51,5 | 41 | 30 | | |
| 6SDN 12/9-60 | 5,5 | 7,5 | | 131 | 122 | 117 | 113 | 107 | 101 | 91 | 77 | 61,5 | 45 | | |
| 6SDN 12/12-60 | 7,5 | 10 | | 174 | 162 | 156 | 150 | 143 | 135 | 122 | 103 | 82 | 60 | | |
| 6SDN 12/15-60 | 9,2 | 12,5 | | 218 | 203 | 195 | 188 | 179 | 169 | 152 | 128 | 103 | 75 | | |
| 6SDN 12/18-60 | 11 | 15 | | 261 | 243 | 234 | 225 | 214 | 203 | 183 | 154 | 123 | 90 | | |
| 6SDN 12/21-60 | 13 | 17,5 | | 305 | 284 | 273 | 263 | 250 | 236 | 213 | 180 | 144 | 105 | | |
| 6SDN 12/24-60 | 15 | 20 | | 348 | 324 | 312 | 300 | 286 | 270 | 244 | 205 | 165 | 120 | | |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 560 | 12,8 |
| | 677 | 14,5 |
| | 793 | 16,2 |
| | 908 | 17,9 |
| | 1025 | 19,6 |
| | 1141 | 21,3 |
| | 1320 | 23 |

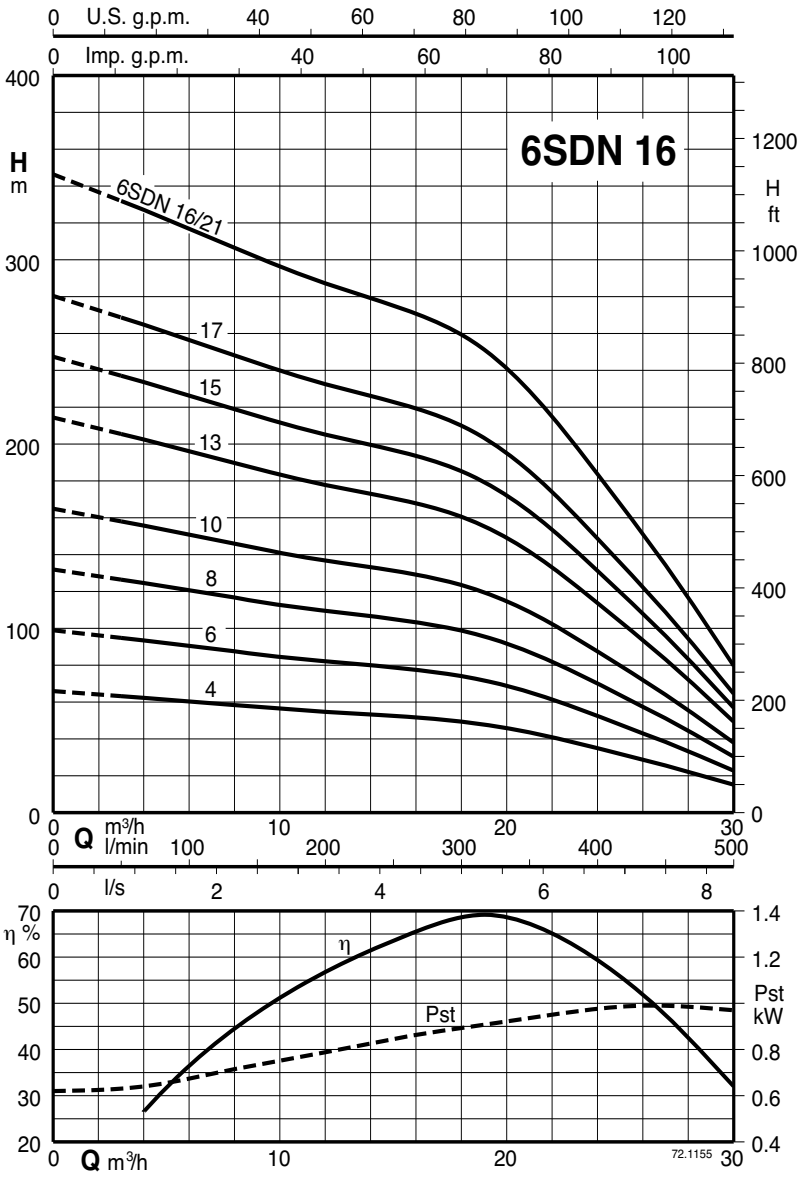
P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SDN 16 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos







| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 4 | 8 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | | | | |
| | kW | HP | l/min | 66,6 | 133,3 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | | | | |
| 6SDN 16/4-60 | 4 | 5,5 | H m | 62,5 | 58,5 | 54,7 | 52 | 50 | 43,5 | 35 | 25,5 | 15 | | | | |
| 6SDN 16/6-60 | 5,5 | 7,5 | | 93,5 | 87,5 | 82 | 78 | 75 | 65,5 | 52,5 | 38,5 | 23 | | | | |
| 6SDN 16/8-60 | 7,5 | 10 | | 125 | 117 | 109 | 104 | 100 | 87 | 70 | 51 | 30,5 | | | | |
| 6SDN 16/10-60 | 9,2 | 12,5 | | 156 | 146 | 137 | 130 | 125 | 109 | 87,5 | 64 | 38 | | | | |
| 6SDN 16/13-60 | 11 | 15 | | 203 | 190 | 178 | 169 | 163 | 142 | 114 | 83 | 49,5 | | | | |
| 6SDN 16/15-60 | 13 | 17,5 | | 234 | 219 | 205 | 195 | 188 | 164 | 131 | 96 | 57 | | | | |
| 6SDN 16/17-60 | 15 | 20 | | 265 | 248 | 233 | 221 | 213 | 185 | 149 | 109 | 64,5 | | | | |
| 6SDN 16/21-60 | 18,5 | 25 | | 327 | 307 | 287 | 273 | 263 | 229 | 184 | 134 | 80 | | | | |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 484 | 12,5 |
| | 561 | 13,5 |
| | 638 | 14,5 |
| | 715 | 15,5 |
| | 830 | 17 |
| | 907 | 18 |
| | 985 | 19 |
| | 1139 | 21,5 |

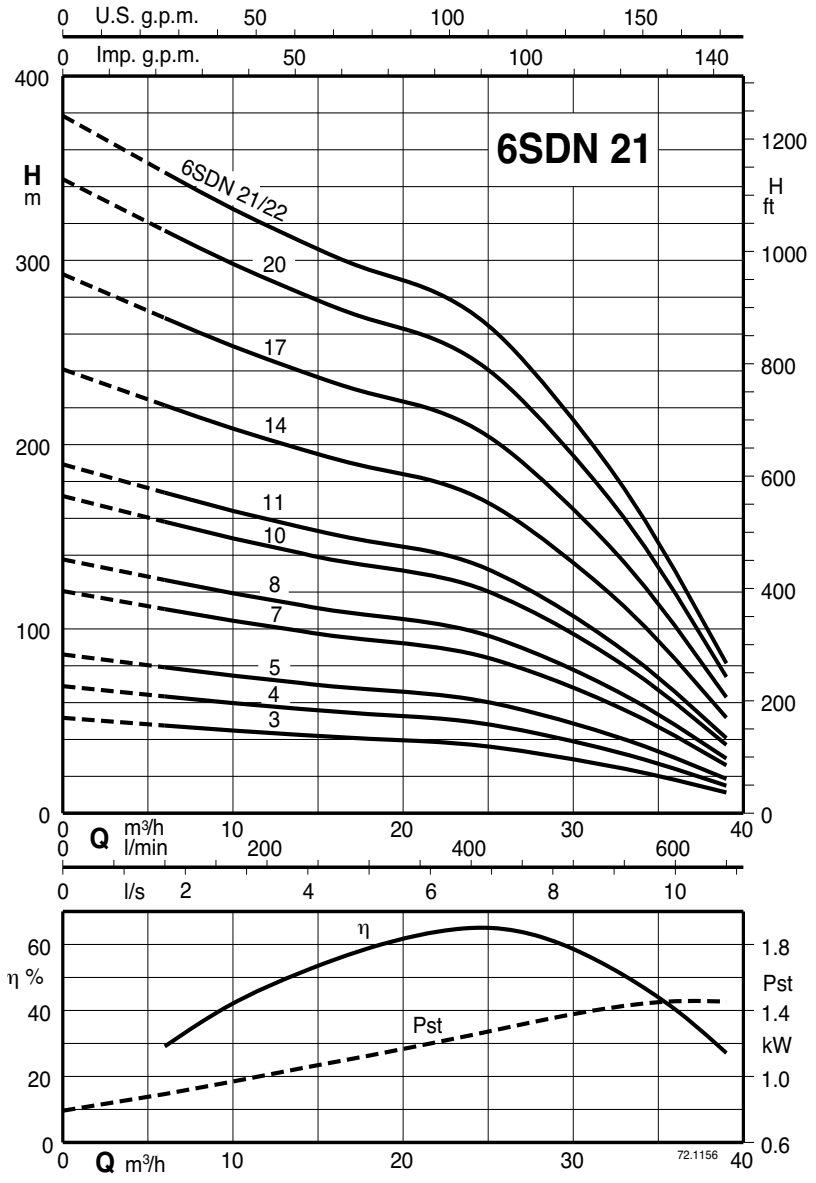
P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SDN 21 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos







| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 6 | 10 | 14 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | |
| | kW | HP | l/min | 100 | 166,6 | 233 | 300 | 350 | 400 | 450 | 500 | 550 | 600 | 650 | |
| 6SDN 21/3-60 | 4 | 5,5 | | 47,5 | 44,5 | 42,5 | 40 | 39 | 37 | 33,5 | 29 | 24 | 18 | 11 | |
| 6SDN 21/4-60 | 5,5 | 7,5 | | 63 | 59,5 | 56,5 | 53,5 | 52 | 49,5 | 45 | 39 | 32 | 24 | 15 | |
| 6SDN 21/5-60 | 7,5 | 10 | | 79 | 74,5 | 70,5 | 67 | 65 | 62 | 56 | 48,5 | 40 | 30 | 18,5 | |
| 6SDN 21/7-60 | 9,2 | 12,5 | | 111 | 104 | 98,5 | 94 | 91 | 86,5 | 78,5 | 68 | 56 | 42 | 26 | |
| 6SDN 21/8-60 | 11 | 15 | | 126 | 119 | 113 | 107 | 104 | 99 | 89,5 | 77,5 | 64 | 47,5 | 29,5 | |
| 6SDN 21/10-60 | 13 | 17,5 | H | 158 | 149 | 141 | 134 | 130 | 124 | 112 | 97 | 80 | 59,5 | 37 | |
| 6SDN 21/11-60 | 15 | 20 | m | 174 | 164 | 155 | 147 | 143 | 136 | 123 | 107 | 88 | 65,5 | 40,5 | |
| 6SDN 21/14-60 | 18,5 | 25 | | 221 | 209 | 197 | 188 | 182 | 173 | 157 | 136 | 112 | 83,5 | 51,5 | |
| 6SDN 21/17-60 | 22 | 30 | | 269 | 253 | 240 | 228 | 221 | 210 | 190 | 165 | 136 | 101 | 62,5 | |
| 6SDN 21/20-60 | 26 | 35 | | 316 | 298 | 282 | 268 | 260 | 247 | 224 | 194 | 160 | 119 | 74 | |
| 6SDN 21/22-60 | 30 | 40 | | 348 | 328 | 310 | 295 | 286 | 272 | 246 | 213 | 176 | 131 | 81 | |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 470 | 12,1 |
| | 517 | 12,7 |
| | 565 | 13,3 |
| | 660 | 14,5 |
| | 707 | 15,1 |
| | 802 | 16,3 |
| | 850 | 16,9 |
| | 992 | 18,7 |
| | 1135 | 20,5 |
| | 12771 | 22,3 |
| | 1420 | 23,5 |

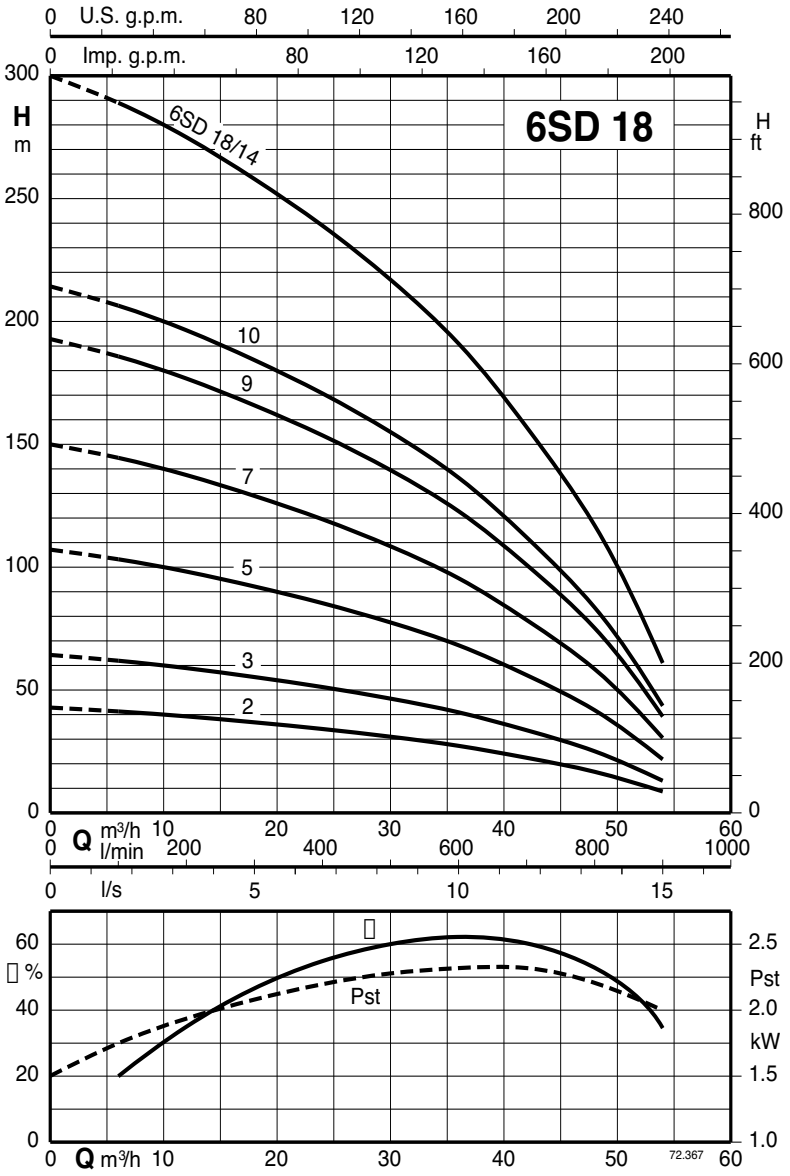
P2 Rated motor power output.
Potencia nominal del motor.

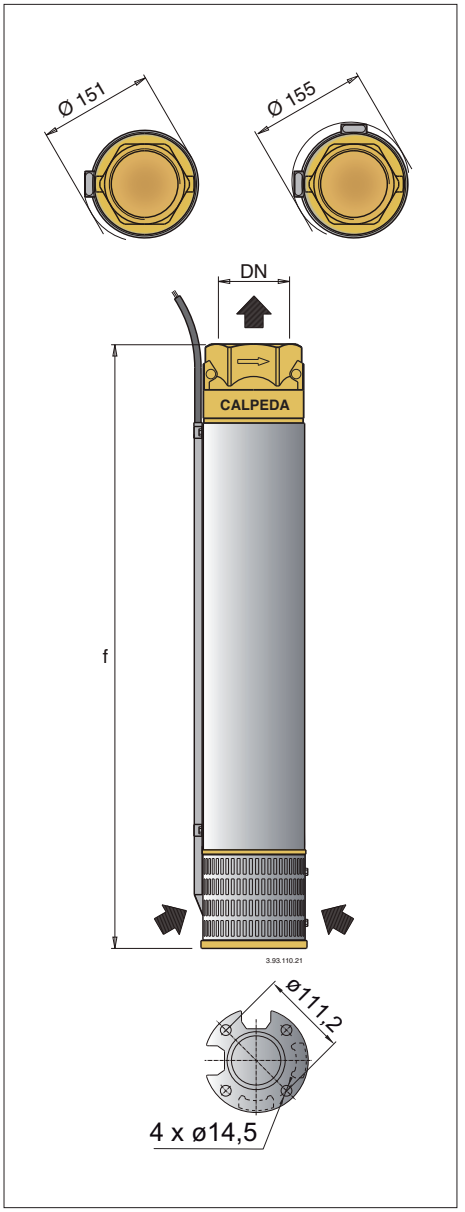
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SD 18 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | | | | |
| | kW | HP | l/min | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | | | | |
| 6SD 18/2-60 | 5,5 | 7,5 | | 42 | 40 | 39 | 35 | 33 | 27 | 23 | 16 | 8 | | | | |
| 6SD 18/3-60 | 7,5 | 10 | | 63 | 60 | 57 | 52 | 47 | 41 | 33 | 23 | 13 | | | | |
| 6SD 18/5-60 | 11 | 15 | | 105 | 100 | 94 | 87 | 79 | 68 | 56 | 40 | 21 | | | | |
| 6SD 18/7-60 | 15 | 20 | H m | 147 | 140 | 131 | 121 | 109 | 95 | 78 | 57 | 30 | | | | |
| 6SD 18/9-60 | 18,5 | 25 | | 188 | 179 | 167 | 153 | 137 | 118 | 95 | 69 | 39 | | | | |
| 6SD 18/10-60 | 22 | 30 | | 210 | 200 | 186 | 173 | 156 | 136 | 112 | 83 | 43 | | | | |
| 6SD 18/14-60 | 30 | 40 | | 291 | 277 | 260 | 240 | 218 | 191 | 158 | 117 | 61 | | | | |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 542 | 58,5 |
| | 651 | 64,5 |
| | 870 | 74 |
| | 1088 | 86 |
| | 1307 | 103 |
| | 1416 | 121 |
| | 1853 | 146 |

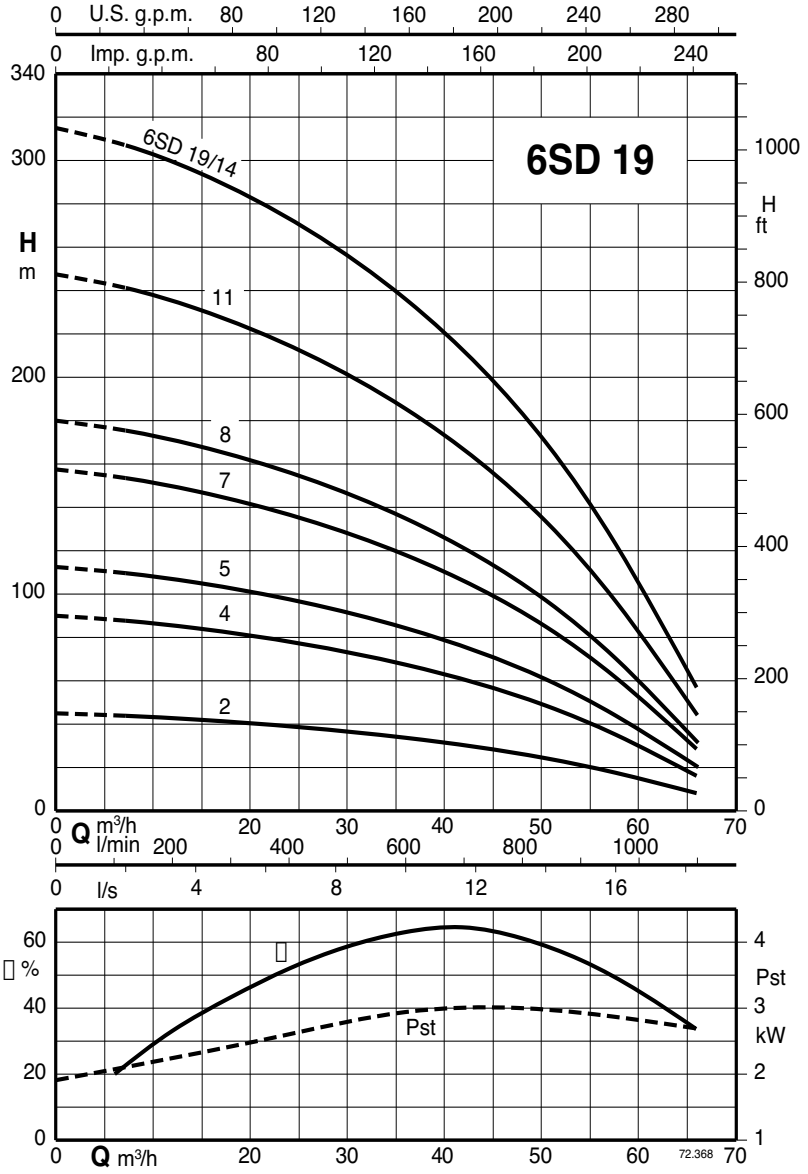
P2 Rated motor power output.
Potencia nominal del motor.

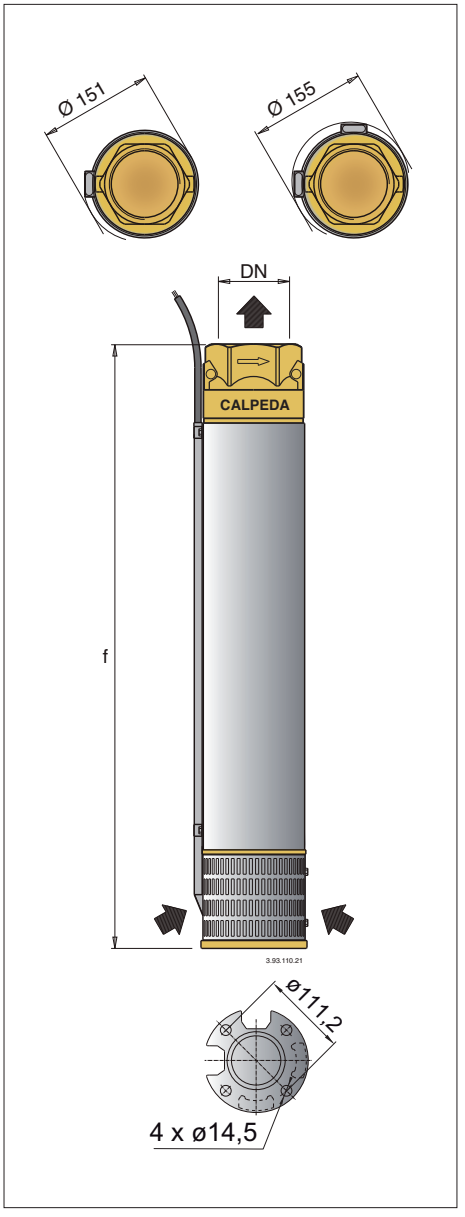
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SD 19 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | |
| | kW | HP | l/min | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | |
| 6SD 19/2-60 | 5,5 | 7,5 | H m | 44 | 43 | 41 | 39 | 37 | 34 | 31 | 27 | 21 | 15 | 8 | |
| 6SD 19/4-60 | 11 | 15 | | 88 | 86 | 82 | 79 | 74 | 68 | 61 | 51 | 41 | 29 | 16 | |
| 6SD 19/5-60 | 15 | 20 | | 110 | 107 | 103 | 98 | 92 | 85 | 75 | 65 | 52 | 37 | 20 | |
| 6SD 19/7-60 | 18,5 | 25 | | 153 | 149 | 144 | 137 | 129 | 119 | 106 | 91 | 73 | 51 | 28 | |
| 6SD 19/8-60 | 22 | 30 | | 177 | 172 | 165 | 157 | 148 | 135 | 121 | 104 | 83 | 60 | 32 | |
| 6SD 19/11-60 | 30 | 40 | | 244 | 237 | 228 | 216 | 203 | 187 | 166 | 142 | 115 | 82 | 45 | |
| 6SD 19/14-60 | 37 | 50 | | 310 | 300 | 288 | 275 | 257 | 237 | 212 | 183 | 147 | 104 | 57 | |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 542 | 58,5 |
| | 760 | 72 |
| | 870 | 81 |
| | 1088 | 98 |
| | 1197 | 117 |
| | 1525 | 140 |
| | 1853 | 196 |

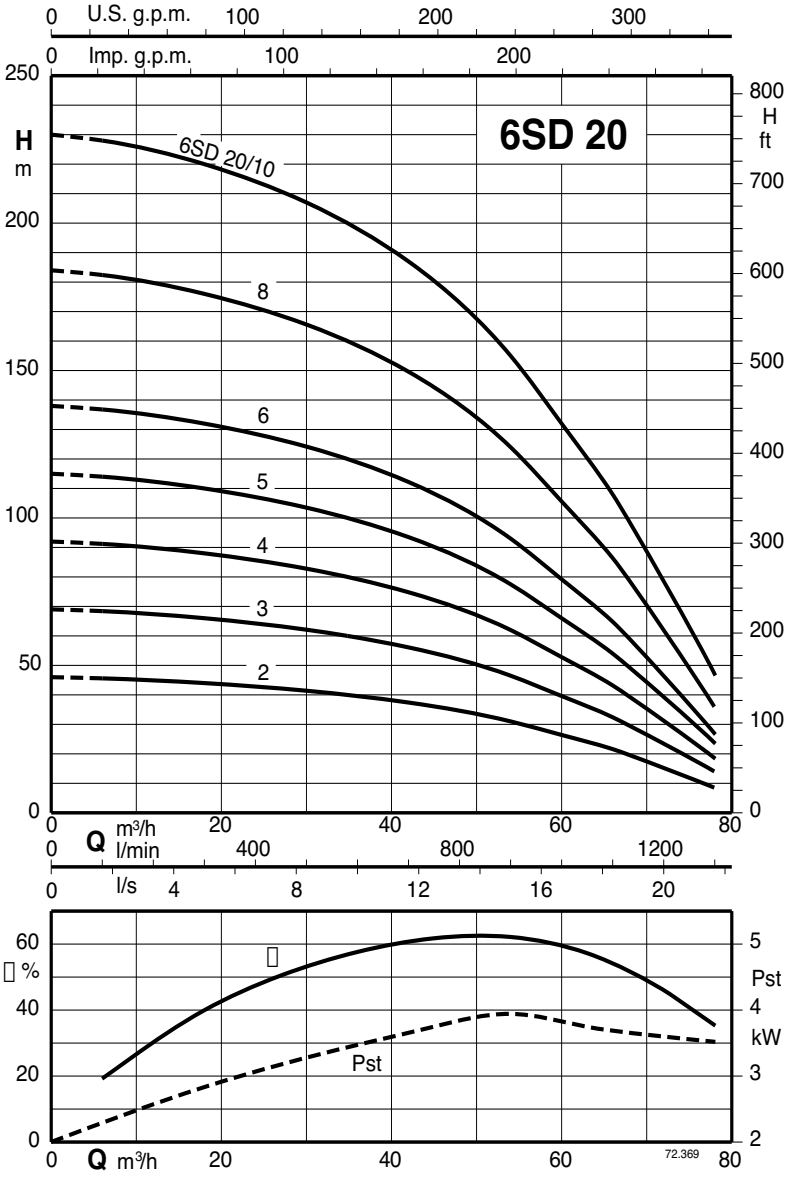
P2 Rated motor power output.
Potencia nominal del motor.

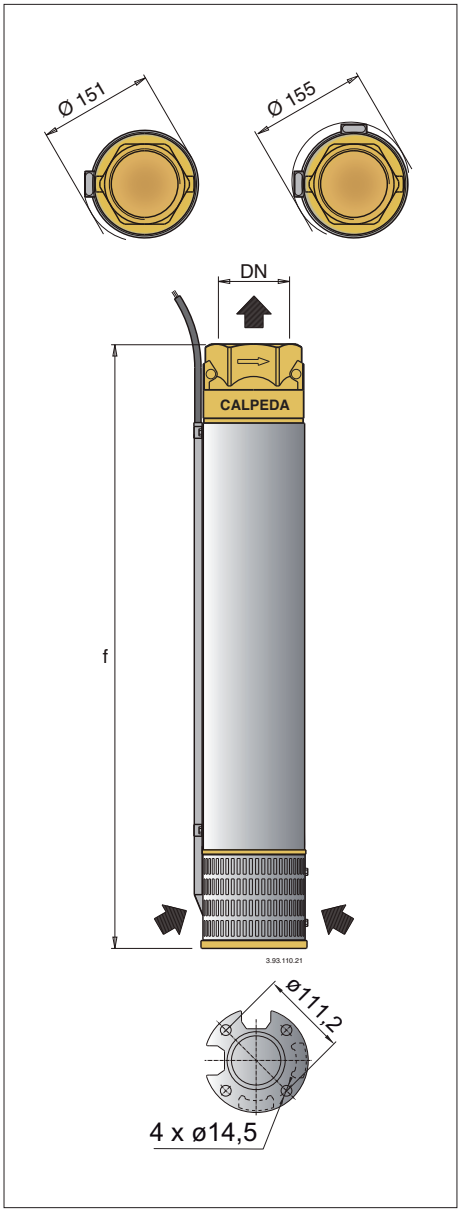
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SD 20 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




| 3 ~ | P2 | | Q | n ≈ 3450 rpm | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 78 |
| | kW | HP | l/min | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 |
| 6SD 20/2-60 | 7,5 | 10 | H m | 45 | 44 | 42 | 41 | 40 | 37 | 34 | 30 | 26 | 20 | 15 | 9 |
| 6SD 20/3-60 | 11 | 15 | | 67 | 66 | 64 | 62 | 59 | 56 | 51 | 46 | 39 | 31 | 22 | 13 |
| 6SD 20/4-60 | 15 | 20 | | 88 | 87 | 84 | 82 | 78 | 73 | 68 | 61 | 51 | 40 | 30 | 18 |
| 6SD 20/5-60 | 18,5 | 25 | | 112 | 109 | 106 | 103 | 98 | 93 | 86 | 77 | 65 | 51 | 38 | 23 |
| 6SD 20/6-60 | 22 | 30 | | 135 | 132 | 129 | 122 | 112 | 113 | 104 | 93 | 79 | 63 | 45 | 27 |
| 6SD 20/8-60 | 30 | 40 | | 181 | 177 | 171 | 166 | 158 | 149 | 137 | 123 | 105 | 84 | 60 | 36 |
| 6SD 20/10-60 | 37 | 50 | | 226 | 222 | 216 | 208 | 198 | 189 | 173 | 155 | 132 | 106 | 76 | 46 |

| DN | f | |
|---|---|---|
| | mm | kg |
| G 3 ISO 228 | 542 | 62 |
| | 651 | 69,5 |
| | 760 | 80 |
| | 870 | 94 |
| | 979 | 112 |
| | 1197 | 132 |
| | 1416 | 152 |

P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

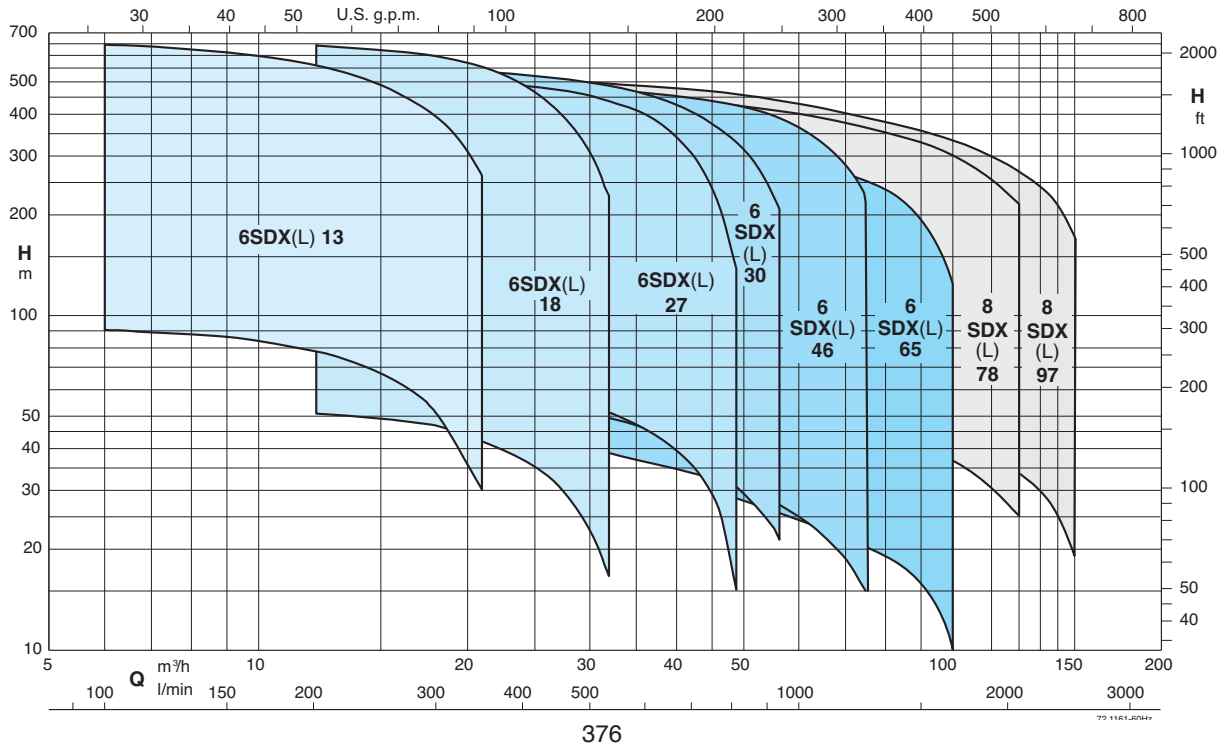
# SDX 60 Hz

**Submersible borehole pumps for 6” and 8” wells**
**Bombas sumergibles para pozos de 6” y 8”**



## Coverage chart - Campo de aplicaciones

**n ≈ 3450 1/min**



# SDX 60 Hz

## Construction
Submersible borehole pumps for 6” wells (DN 150 mm) and 8” (DN 200 mm).
**6,8SDX:** with external jacket and stages in stainless steel AISI 304.
**6,8SDXL:** with external jacket and stages in stainless steel AISI 316.
**Impellers**

| | |
|---|---|
| Radial impellers | 6SDX, 6SDXL 13-18-27 |
| Mixed flow impellers | 6SDX, 6SDXL 30,46-65, 8SDX, 8SDXL 78-97 |

**Connection**: Screwed connection ISO 228
Delivery casing with built-in non-return valve.

## Applications
For water supply.
For civil and industrial applications.
For fire fighting applications.
For irrigation.

## Operating conditions
Liquid temperature: up to 60 °C.
Max. sand quantity into the water: 100 g/m$^3$.
Continuous duty.

## 6”, 8”, 10” Rewindable motor CS series
2-pole induction motor, 60 Hz (n = 3450 rpm).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- three-phase 380 V, 440 V, 460 V; 380/660 V for 6-8-10” motors.
Voltage tolerance : ±10%.
Recommended type of starting for powers from 7.5 kW: star/delta, soft start, impedance starting, autotransformer.

| Motor | Max. Liquid temperature | Cooling: minimum flow velocity | Max. starts per hour | Motor P2 |
|---|---|---|---|---|
| 6CS-R | 30 °C | 0,1 m/s | 15 | 4÷11 kW |
| | | 0,2 m/s | 15 | 13÷15 kW |
| | 25 °C | 0,2 m/s | 15 | 18,5 kW |
| | | 0,2 m/s | 13 | 22÷30 kW |
| | 40 °C | 0,1 m/s | 13 | 37 kW |
| | | 0,3 m/s | 6 | 45 kW |
| 8CS-R | 25 °C | 0,3 m/s | 10 | 30÷45 kW |
| | | | 8 | 51÷75 kW |
| | | | 6 | 92 kW |
| 10CS | 25 °C | 0,50 m/s | 10 | all types |

Insulation PVC coated wire for 6-8-10” motors.
Protection IP 68.

## Special features on request
- Other voltages. - Other temperatures.

## Materiales

| Components | 6SDX | 6SDXL | 8SDX | 8SDXL |
|---|---|---|---|---|
| External jacket<br>Suction lantern | Cr-Ni steel<br>AISI 304 | Cr-Ni-Mo steel<br>AISI 316L | Cr-Ni steel<br>AISI 304 | Cr-Ni-Mo steel<br>AISI 316 |
| Upper cover | Cr-Ni-Mo steel AISI 316 | | - | - |
| Delivery casing | Cr-Ni-Mo steel<br>AISI 316L | | Cr-Ni steel<br>AISI 304 | Cr-Ni-Mo steel<br>AISI 316 |
| Strainer<br>Valve set | Cr-Ni-Mo steel<br>AISI 316 | | Cr-Ni-Mo steel<br>AISI 316 | |
| O-ring valve | NBR | | | |
| Shaft | Cr-Ni-Mo steel AISI 316 | | Cr-Ni-Mo steel AISI 329 | |
| Coupling set | Cr-Ni-Mo steel AISI 316/329 | | | |
| Diffuser<br>Stage casing | Cr-Ni steel<br>AISI 304 | Cr-Ni-Mo steel<br>AISI 316L | Cr-Ni steel<br>AISI 304 | Cr-Ni-Mo steel<br>AISI 316 |
| Impeller<br>AISI 304 | Cr-Ni steel<br>AISI 316L | Cr-Ni-Mo steel | Cr-Ni-Mo steel<br>AISI 316 | |
| Wear ring | Teflon (PTFE) | | | |
| Bearing bush | NBR | HNBR | NBR | HNBR |
| Cable guard<br>Screws | Cr-Ni-Mo steel<br>AISI 316 | | | |

## Ejecución
Electrobombas sumergibles para pozos profundos 6” (DN 150 mm) y 8” (DN 200 mm).
**6,8SDX:** con camisa externa y etapas en acero inoxidable AISI 304.
**6,8SDXL:** con camisa externa y etapas en acero inoxidable AISI 316.
**Rodetes**

| | |
|---|---|
| Radiales | 6SDX, 6SDXL 13-18-27 |
| Semi-axiales | 6SDX, 6SDXL 30,46-65, 8SDX, 8SDXL 78-97 |

**Conexión**: Boca roscada ISO 228
Válvula de retención incorporada en el cuerpo de impulsión.

## Aplicaciones
Para suministros de agua.
Para aplicaciones civiles e industriales.
Para servicios contra incendios.
Para riegos en general.

## Limites de empleo
Temperatura del agua hasta 60 °C.
Máxima cantidad de arena en el agua: 100 g/m$^3$.
Servicio continuo.

## Motor rebobinable serie CS 6”, 8”, 10”
Motor a inducción 2 polos, 60 Hz (n =3450 1/min).
Dimensiones para el acoplamiento a la bomba según NEMA Standard.
Tensiones de alimentación:
- trifásicos 380 V, 440 V, 460 V; 380/660, para motores de 6-8-10”.
Variación de tensión : ±10%.
Tipo de arranque aconsejado para potencias desde 7.5kW: estrella/triángulo, soft start, con impedancia, autotransformador.

| Motores | Temperatura del agua hasta | Refrigeración: velocidad mínima del caudal | Arranques por hora maximos | Motores P2 |
|---|---|---|---|---|
| 6CS-R | 30 °C | 0,1 m/s | 15 | 4÷11 kW |
| | | 0,2 m/s | 15 | 13÷15 kW |
| | 25 °C | 0,2 m/s | 15 | 18,5 kW |
| | | 0,2 m/s | 13 | 22÷30 kW |
| | 40 °C | 0,1 m/s | 13 | 37 kW |
| | | 0,3 m/s | 6 | 45 kW |
| 8CS-R | 25 °C | 0,3 m/s | 10 | 30÷45 kW |
| | | | 8 | 51÷75 kW |
| | | | 6 | 92 kW |
| 10CS | 25 °C | 0,50 m/s | 10 | todos |

Aislamiento hilo con revestimiento en PVC para motores 6-8-10”.
Protección IP 68.

## Ejecuciones especiales bajo demanda
- Otras tensiones. - Otras temperaturas.

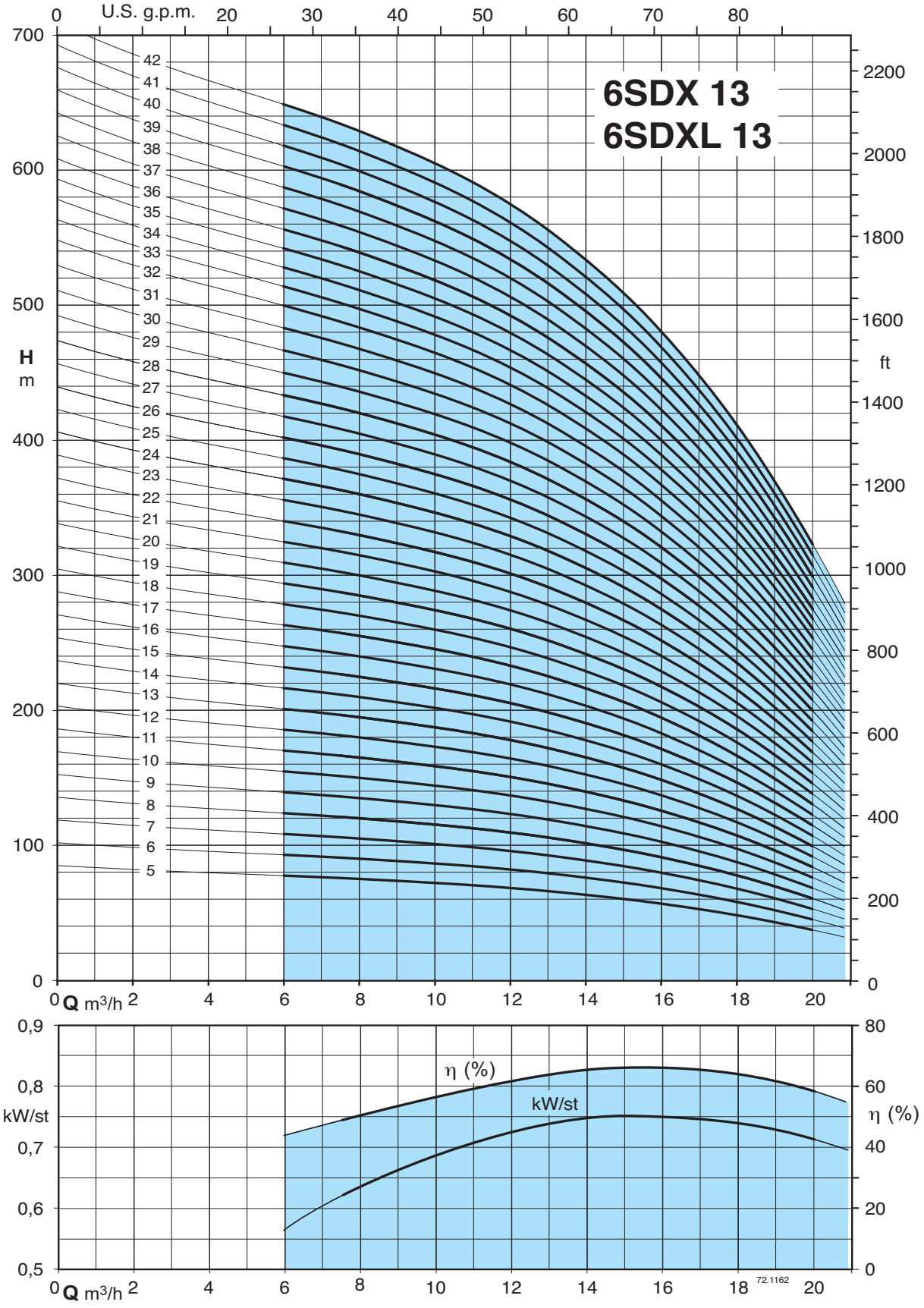
## Materiales

| Componentes | 6SDX | 6SDXL | 8SDX | 8SDXL |
|---|---|---|---|---|
| Camisa externa<br>Lanterna de aspiración | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316L | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316 |
| Tapa superior | Acero Cr-Ni-Mo AISI 316 | | - | - |
| Cuerpo de impulsión | Acero Cr-Ni-Mo<br>AISI 316L | | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316 |
| Filtro<br>Válvula completa | Acero Cr-Ni-Mo<br>AISI 316 | | | |
| Junta válvula | NBR | | | |
| Eje | Acero Cr-Ni-Mo AISI 316 | | Acero Cr-Ni-Mo AISI 329 | |
| Manguito acoplamiento | Acero Cr-Ni-Mo AISI 316/329 | | | |
| Difusor<br>Cuerpo elemento | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316L | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316 |
| Rodete | Acero Cr-Ni<br>AISI 304 | Acero Cr-Ni-Mo<br>AISI 316L | Acero Cr-Ni-Mo<br>AISI 316 | |
| Anillo de cierre | Teflon (PTFE) | | | |
| Cojinete guía | NBR | HNBR | NBR | HNBR |
| Cubre cable<br>Tornillos | Acero Cr-Ni-Mo<br>AISI 316 | | | |

# 6SDX 13 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm



# 6SDX 13 60 Hz

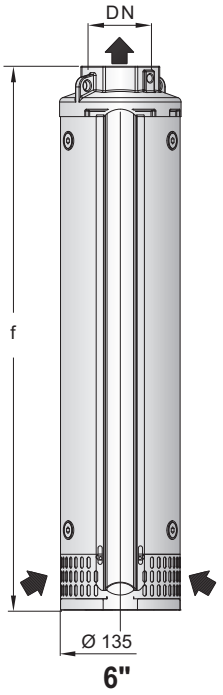
## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos

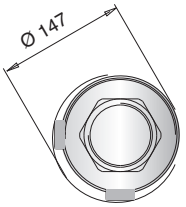
| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | DN | Motor | f | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 21 | | | | |
| | kW | HP | l/min | 0 | 100 | 133 | 167 | 200 | 233,5 | 266,5 | 300 | 350 | | mm | mm | kg |
| 6SDX (L) 13/5-60 | 4 | 5,5 | | 85 | 78 | 75 | 72 | 69 | 63,3 | 56,5 | 47,5 | 30 | | | 411 | 11,5 |
| 6SDX (L) 13/6-60 | 5,5 | 7,5 | | 102 | 92,5 | 90 | 86,5 | 82,5 | 76,5 | 67,5 | 58,5 | 37,5 | | | 441 | 12,3 |
| 6SDX (L) 13/7-60 | 5,5 | 7,5 | | 118 | 108 | 105 | 101 | 96,5 | 89,5 | 79 | 68,5 | 44 | | | 471 | 13 |
| 6SDX (L) 13/8-60 | 5,5 | 7,5 | | 135 | 123 | 120 | 115 | 110 | 102 | 90 | 78 | 50 | | | 501 | 14 |
| 6SDX (L) 13/9-60 | 7,5 | 10 | | 153 | 139 | 135 | 130 | 123 | 114 | 103 | 88 | 58 | | | 531 | 14,5 |
| 6SDX (L) 13/10-60 | 7,5 | 10 | | 170 | 154 | 150 | 144 | 137 | 127 | 115 | 97,5 | 64,5 | | | 561 | 15 |
| 6SDX (L) 13/11-60 | 7,5 | 10 | | 185 | 170 | 165 | 159 | 150 | 140 | 125 | 108 | 70 | | | 591 | 16 |
| 6SDX (L) 13/12-60 | 9,3 | 12,5 | | 204 | 185 | 180 | 173 | 164 | 152 | 138 | 117 | 77,5 | | | 621 | 16,8 |
| 6SDX (L) 13/13-60 | 9,3 | 12,5 | | 220 | 200 | 195 | 188 | 178 | 165 | 149 | 127 | 85 | | | 651 | 17,5 |
| 6SDX (L) 13/14-60 | 11 | 15 | | 237 | 216 | 210 | 202 | 191 | 177 | 161 | 137 | 90,5 | | | 681 | 18,5 |
| 6SDX (L) 13/15-60 | 11 | 15 | | 254 | 232 | 224 | 216 | 205 | 190 | 170 | 147 | 96 | | | 711 | 19 |
| 6SDX (L) 13/16-60 | 11 | 15 | | 271 | 247 | 240 | 231 | 219 | 203 | 184 | 156 | 104 | | | 741 | 19,8 |
| 6SDX (L) 13/17-60 | 11 | 15 | | 288 | 262 | 255 | 245 | 232 | 215 | 195 | 166 | 110 | | | 771 | 20,5 |
| 6SDX (L) 13/18-60 | 15 | 20 | | 304 | 278 | 270 | 260 | 246 | 228 | 206 | 177 | 117 | | | 801 | 21,3 |
| 6SDX (L) 13/19-60 | 15 | 20 | | 321 | 294 | 285 | 275 | 260 | 240 | 217 | 169 | 124 | | | 831 | 22 |
| 6SDX (L) 13/20-60 | 15 | 20 | | 337 | 309 | 300 | 288 | 274 | 254 | 229 | 197 | 130 | | | 861 | 23 |
| 6SDX (L) 13/21-60 | 15 | 20 | | 354 | 324 | 315 | 303 | 288 | 267 | 240 | 207 | 137 | | | 891 | 23,5 |
| 6SDX (L) 13/22-60 | 15 | 20 | H | 371 | 340 | 330 | 317 | 300 | 280 | 250 | 215 | 142 | Rp | 145 | 921 | 24 |
| 6SDX (L) 13/23-60 | 18,5 | 25 | m | 388 | 355 | 345 | 332 | 315 | 292 | 263 | 226 | 150 | 2"1/2 | CS6" | 951 | 25 |
| 6SDX (L) 13/24-60 | 18,5 | 25 | | 405 | 370 | 360 | 345 | 329 | 305 | 274 | 235 | 156 | | | 981 | 25,5 |
| 6SDX (L) 13/25-60 | 18,5 | 25 | | 422 | 386 | 375 | 361 | 342 | 317 | 286 | 246 | 163 | | | 1011 | 26,5 |
| 6SDX (L) 13/26-60 | 18,5 | 25 | | 440 | 400 | 390 | 375 | 355 | 330 | 297 | 254 | 169 | | | 1041 | 27 |
| 6SDX (L) 13/27-60 | 18,5 | 25 | | 455 | 417 | 405 | 389 | 370 | 343 | 309 | 265 | 176 | | | 1071 | 29 |
| 6SDX (L) 13/28-60 | 18,5 | 25 | | 472 | 432 | 420 | 404 | 383 | 355 | 320 | 275 | 182 | | | 1101 | 29 |
| 6SDX (L) 13/29-60 | 22 | 30 | | 489 | 448 | 435 | 418 | 397 | 368 | 332 | 285 | 189 | | | 1131 | 30,5 |
| 6SDX (L) 13/30-60 | 22 | 30 | | 506 | 463 | 450 | 433 | 411 | 381 | 343 | 295 | 195 | | | 1161 | 30,8 |
| 6SDX (L) 13/31-60 | 22 | 30 | | 523 | 479 | 465 | 447 | 424 | 393 | 355 | 305 | 202 | | | 1191 | 31 |
| 6SDX (L) 13/32-60 | 22 | 30 | | 540 | 494 | 480 | 461 | 438 | 406 | 366 | 315 | 208 | | | 1221 | 31,5 |
| 6SDX (L) 13/33-60 | 30 | 40 | | 557 | 509 | 495 | 476 | 452 | 419 | 377 | 324 | 215 | | | 1251 | 32,5 |
| 6SDX (L) 13/34-60 | 30 | 40 | | 573 | 525 | 510 | 490 | 465 | 431 | 389 | 334 | 221 | | | 1281 | 33,5 |
| 6SDX (L) 13/35-60 | 30 | 40 | | 590 | 540 | 525 | 505 | 479 | 444 | 400 | 344 | 228 | | | 1311 | 34 |
| 6SDX (L) 13/36-60 | 30 | 40 | | 607 | 556 | 540 | 519 | 493 | 457 | 412 | 354 | 234 | | | 1341 | 34,5 |
| 6SDX (L) 13/37-60 | 30 | 40 | | 624 | 571 | 555 | 533 | 506 | 469 | 423 | 364 | 241 | | | 1371 | 35,3 |
| 6SDX (L) 13/38-60 | 30 | 40 | | 641 | 587 | 570 | 548 | 520 | 482 | 435 | 373 | 247 | | | 1401 | 36 |
| 6SDX (L) 13/39-60 | 30 | 40 | | 658 | 602 | 585 | 562 | 534 | 495 | 446 | 383 | 254 | | | 1431 | 37,3 |
| 6SDX (L) 13/40-60 | 30 | 40 | | 675 | 617 | 600 | 577 | 547 | 507 | 457 | 393 | 260 | | | 1461 | 38,5 |
| 6SDX (L) 13/41-60 | 30 | 40 | | 691 | 633 | 615 | 591 | 561 | 520 | 469 | 403 | 267 | | | 1491 | 38,8 |
| 6SDX (L) 13/42-60 | 30 | 40 | | 708 | 648 | 630 | 606 | 575 | 533 | 480 | 413 | 273 | | | 1521 | 39 |

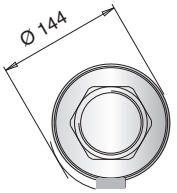
P2 Rated motor power output.
Potencia nominal del motor.

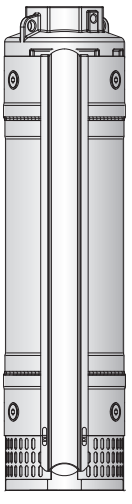
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.



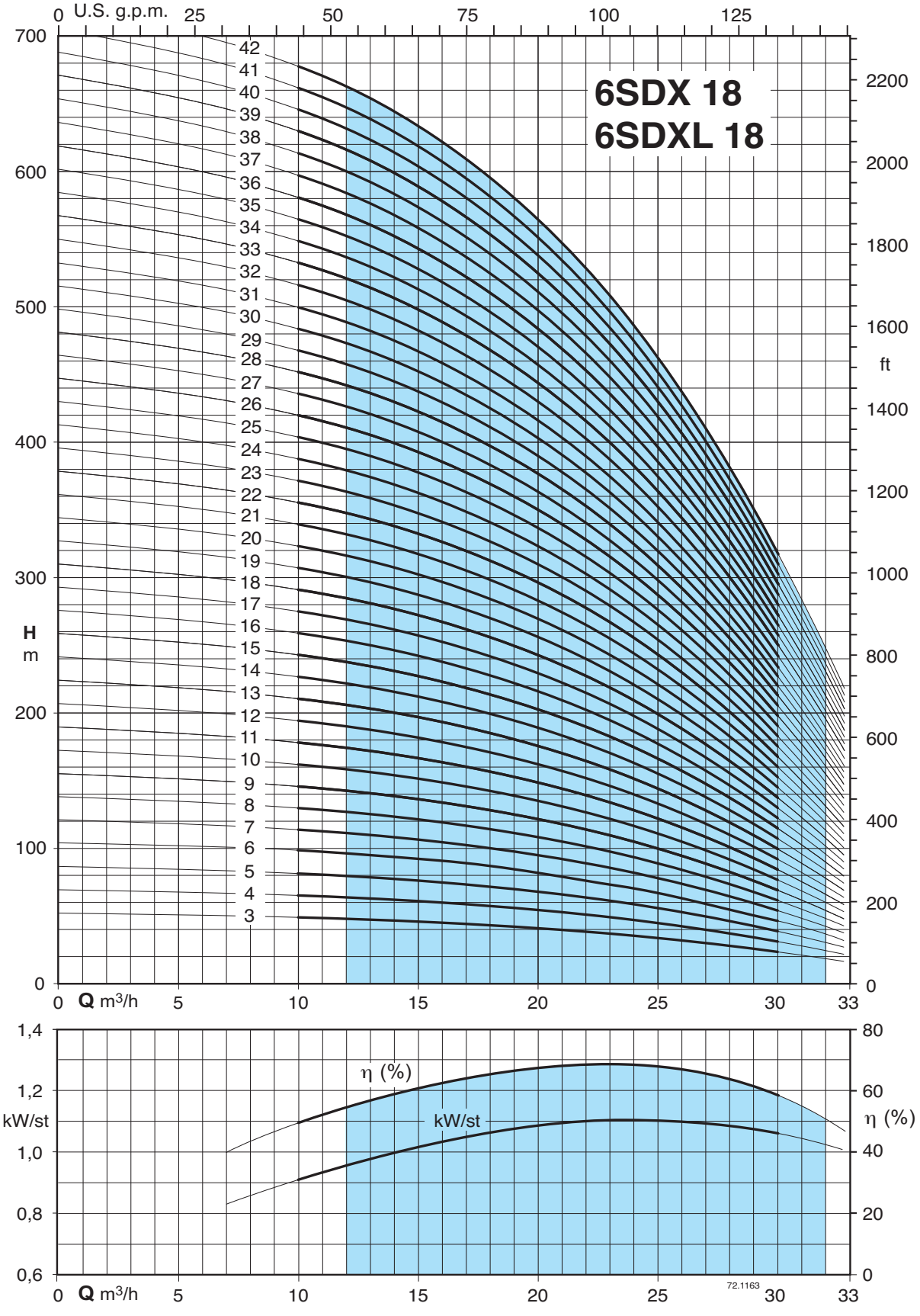



Reinforced with special collar from
Collar especial de refuerzo de
6SDX(L) 13/33

# 6SDX 18 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

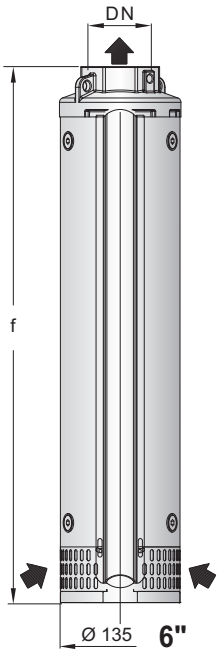


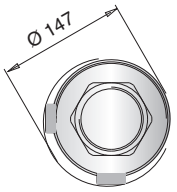
# 6SDX 18 60 Hz

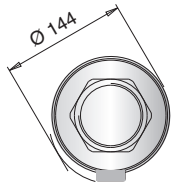
## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos

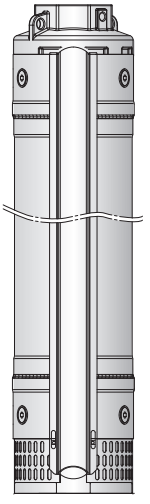
| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 32 |
| | kW | HP | l/min | 0 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 533 |
| 6SDX (L) 18/3-60 | 4 | 5,5 | | 51 | 46,5 | 45 | 42 | 38 | 34 | 29 | 22 | 16,5 |
| 6SDX (L) 18/4-60 | 5,5 | 7,5 | | 68 | 63,5 | 60 | 56 | 52 | 46,5 | 39 | 30,5 | 23 |
| 6SDX (L) 18/5-60 | 5,5 | 7,5 | | 85 | 79,5 | 75 | 70 | 65 | 58 | 49 | 38 | 29 |
| 6SDX (L) 18/6-60 | 7,5 | 10 | | 102 | 95 | 91,5 | 85,5 | 78 | 69,5 | 59 | 45,5 | 35,5 |
| 6SDX (L) 18/7-60 | 7,5 | 10 | | 120 | 110 | 106 | 100 | 90 | 80 | 69 | 52 | 40 |
| 6SDX (L) 18/8-60 | 9,3 | 12,5 | | 136 | 127 | 122 | 114 | 104 | 93 | 79 | 60,5 | 47,5 |
| 6SDX (L) 18/9-60 | 9,3 | 12,5 | | 154 | 141 | 135 | 128 | 117 | 104 | 87 | 68 | 52,5 |
| 6SDX (L) 18/10-60 | 11 | 15 | | 170 | 159 | 153 | 143 | 130 | 116 | 98,5 | 75,5 | 59,5 |
| 6SDX (L) 18/11-60 | 11 | 15 | | 190 | 174 | 165 | 156 | 144 | 128 | 108 | 83,5 | 65 |
| 6SDX (L) 18/12-60 | 15 | 20 | | 203 | 191 | 183 | 171 | 156 | 139 | 119 | 91 | 71 |
| 6SDX (L) 18/13-60 | 15 | 20 | | 224 | 205 | 197 | 185 | 170 | 150 | 127 | 99 | 76,5 |
| 6SDX (L) 18/14-60 | 15 | 20 | | 237 | 222 | 214 | 200 | 182 | 163 | 138 | 106 | 83 |
| 6SDX (L) 18/15-60 | 15 | 20 | | 254 | 238 | 229 | 214 | 195 | 174 | 148 | 114 | 89 |
| 6SDX (L) 18/16-60 | 18,5 | 25 | | 275 | 253 | 242 | 228 | 209 | 186 | 157 | 121 | 95 |
| 6SDX (L) 18/17-60 | 18,5 | 25 | | 292 | 269 | 257 | 242 | 222 | 198 | 166 | 128 | 101 |
| 6SDX (L) 18/18-60 | 18,5 | 25 | | 310 | 284 | 270 | 256 | 235 | 210 | 175 | 137 | 106 |
| 6SDX (L) 18/19-60 | 22 | 30 | | 327 | 300 | 288 | 270 | 248 | 221 | 186 | 143 | 113 |
| 6SDX (L) 18/20-60 | 22 | 30 | | 344 | 316 | 303 | 285 | 261 | 232 | 196 | 151 | 119 |
| 6SDX (L) 18/21-60 | 22 | 30 | | 361 | 332 | 318 | 299 | 274 | 244 | 205 | 159 | 125 |
| 6SDX (L) 18/22-60 | 22 | 30 | H | 379 | 348 | 331 | 312 | 287 | 255 | 215 | 165 | 130 |
| 6SDX (L) 18/23-60 | 30 | 40 | m | 395 | 363 | 348 | 327 | 300 | 267 | 225 | 174 | 137 |
| 6SDX (L) 18/24-60 | 30 | 40 | | 413 | 379 | 363 | 341 | 313 | 279 | 235 | 181 | 143 |
| 6SDX (L) 18/25-60 | 30 | 40 | | 430 | 395 | 378 | 356 | 326 | 290 | 244 | 189 | 148 |
| 6SDX (L) 18/26-60 | 30 | 40 | | 448 | 410 | 394 | 370 | 339 | 300 | 255 | 197 | 153 |
| 6SDX (L) 18/27-60 | 30 | 40 | | 464 | 426 | 409 | 384 | 352 | 314 | 264 | 204 | 160 |
| 6SDX (L) 18/28-60 | 30 | 40 | | 481 | 442 | 424 | 398 | 365 | 325 | 274 | 211 | 166 |
| 6SDX (L) 18/29-60 | 30 | 40 | | 498 | 458 | 439 | 412 | 378 | 337 | 284 | 219 | 172 |
| 6SDX (L) 18/30-60 | 30 | 40 | | 516 | 474 | 454 | 427 | 391 | 348 | 293 | 226 | 178 |
| 6SDX (L) 18/31-60 | 37 | 50 | | 533 | 490 | 469 | 441 | 404 | 360 | 303 | 234 | 184 |
| 6SDX (L) 18/32-60 | 37 | 50 | | 550 | 505 | 484 | 455 | 417 | 372 | 313 | 241 | 190 |
| 6SDX (L) 18/33-60 | 37 | 50 | | 567 | 521 | 499 | 469 | 430 | 383 | 323 | 249 | 196 |
| 6SDX (L) 18/34-60 | 37 | 50 | | 584 | 537 | 515 | 484 | 443 | 395 | 332 | 256 | 202 |
| 6SDX (L) 18/35-60 | 37 | 50 | | 602 | 553 | 530 | 498 | 457 | 407 | 342 | 264 | 208 |
| 6SDX (L) 18/36-60 | 37 | 50 | | 619 | 569 | 545 | 512 | 470 | 418 | 352 | 272 | 214 |
| 6SDX (L) 18/37-60 | 45 | 60 | | 636 | 584 | 560 | 526 | 483 | 430 | 362 | 279 | 220 |
| 6SDX (L) 18/38-60 | 45 | 60 | | 653 | 600 | 575 | 540 | 496 | 441 | 371 | 287 | 226 |
| 6SDX (L) 18/39-60 | 45 | 60 | | 670 | 616 | 590 | 555 | 509 | 453 | 381 | 294 | 231 |
| 6SDX (L) 18/40-60 | 45 | 60 | | 687 | 632 | 605 | 569 | 522 | 465 | 391 | 302 | 237 |
| 6SDX (L) 18/41-60 | 45 | 60 | | 705 | 647 | 620 | 583 | 535 | 476 | 401 | 309 | 243 |
| 6SDX (L) 18/42-60 | 45 | 60 | | 722 | 663 | 636 | 597 | 548 | 488 | 411 | 317 | 249 |

| DN | Motor | f | |
|---|---|---|---|
| | mm | mm | kg |
| | | 383 | 10,5 |
| | | 420 | 11 |
| | | 458 | 11,5 |
| | | 494 | 12,5 |
| | | 532 | 13,5 |
| | | 569 | 14,3 |
| | | 607 | 15 |
| | | 644 | 16 |
| | | 682 | 17 |
| | | 719 | 17,5 |
| | | 757 | 18,5 |
| | | 794 | 19,3 |
| | | 832 | 20 |
| | | 869 | 21 |
| | | 907 | 22 |
| | | 944 | 22,5 |
| | | 982 | 23,5 |
| | | 1019 | 24 |
| | | 1057 | 25 |
| Rp | 145 | 1094 | 26 |
| 2"1/2 | CS6" | 1132 | 26,5 |
| | | 1169 | 27,5 |
| | | 1207 | 28,3 |
| | | 1244 | 29 |
| | | 1282 | 31 |
| | | 1319 | 31 |
| | | 1356 | 31,5 |
| | | 1394 | 32,5 |
| | | 1431 | 33,3 |
| | | 1469 | 34 |
| | | 1506 | 35 |
| | | 1544 | 35,7 |
| | | 1581 | 36,3 |
| | | 1619 | 37 |
| | | 1656 | 38,4 |
| | | 1694 | 39,8 |
| | | 1731 | 40 |
| | | 1769 | 40,5 |
| | | 1806 | 41,8 |
| | | 1844 | 43 |



Reinforced with special collar from
Collar especial de refuerzo de
6SDX(L) 18/31

P2 Rated motor power output.
Potencia nominal del motor.

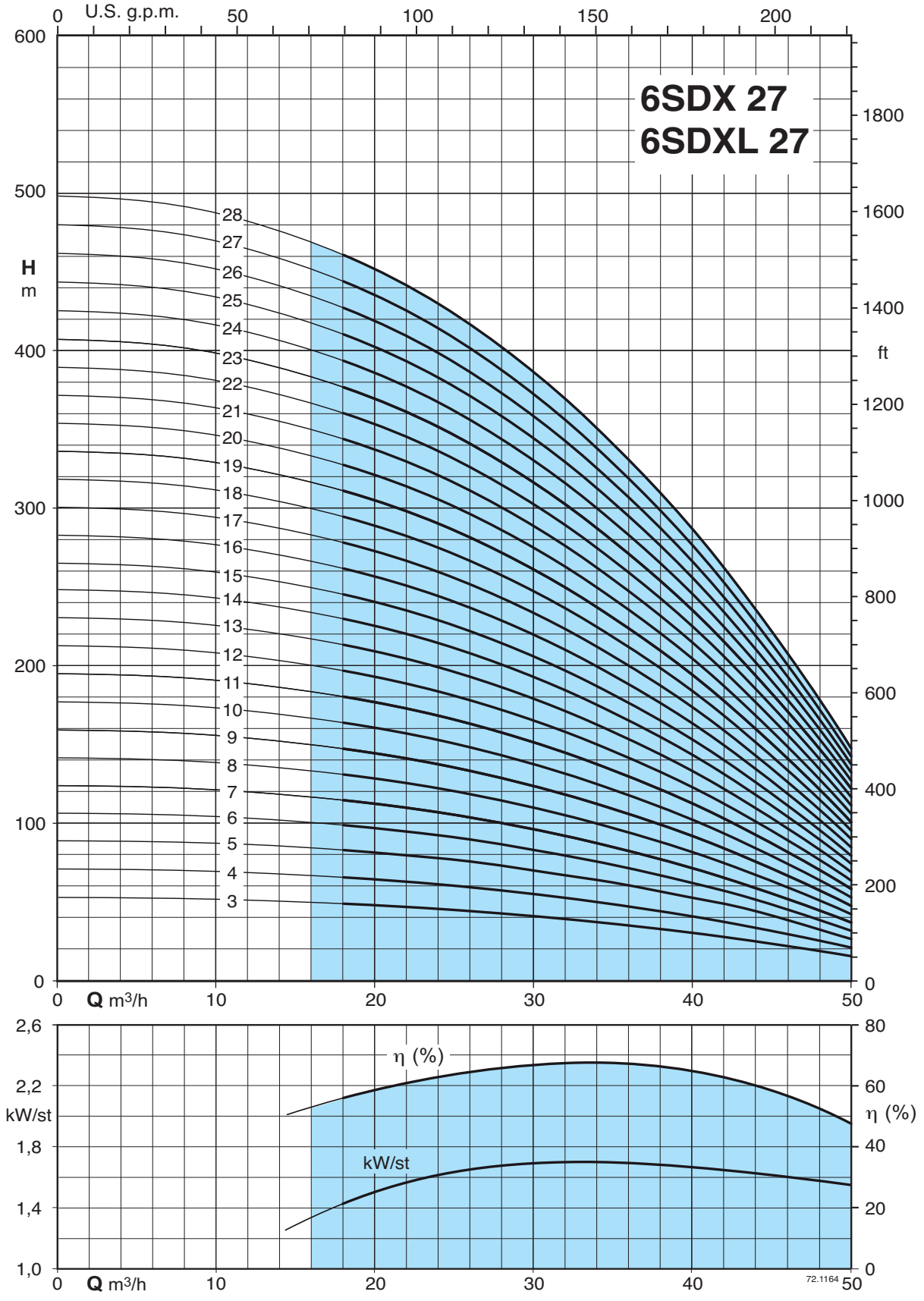
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 6SDX 27 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

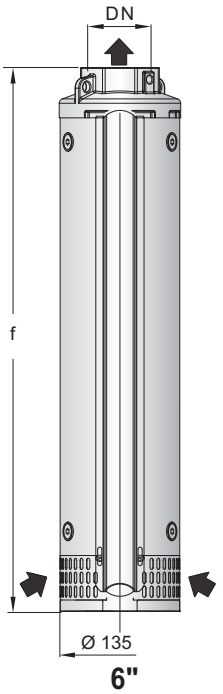


# 6SDX 27 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos

| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 16 | 20 | 24 | 28 | 32 | 40 | 45 | 50 |
| | kW | HP | l/min | 0 | 266 | 333 | 400 | 466 | 533 | 666 | 750 | 833 |
| 6SDX (L) 27/3-60 | 5,5 | 7,5 | | 52 | 50 | 49 | 46,5 | 42 | 39,5 | 30 | 25 | 15 |
| 6SDX (L) 27/4-60 | 7,5 | 10 | | 71 | 68 | 65 | 61,5 | 54 | 52 | 40 | 31 | 21,5 |
| 6SDX (L) 27/5-60 | 11 | 15 | | 89,5 | 83,5 | 80 | 77 | 71,5 | 66 | 50 | 39,5 | 25,5 |
| 6SDX (L) 27/6-60 | 11 | 15 | | 107 | 101 | 96 | 92,5 | 85,5 | 79,5 | 60 | 47 | 31 |
| 6SDX (L) 27/7-60 | 11 | 15 | | 125 | 117 | 112 | 108 | 100 | 92,5 | 70 | 55 | 36 |
| 6SDX (L) 27/8-60 | 15 | 20 | | 143 | 135 | 130 | 123 | 115 | 106 | 81 | 63 | 43 |
| 6SDX (L) 27/9-60 | 15 | 20 | | 160 | 150 | 145 | 139 | 130 | 120 | 91 | 71 | 49 |
| 6SDX (L) 27/10-60 | 18,5 | 25 | | 178 | 168 | 162 | 154 | 143 | 132 | 102 | 79 | 53,5 |
| 6SDX (L) 27/11-60 | 18,5 | 25 | | 195 | 185 | 179 | 169 | 159 | 145 | 112 | 87 | 60 |
| 6SDX (L) 27/12-60 | 22 | 30 | | 214 | 202 | 195 | 185 | 172 | 159 | 122 | 95 | 64,5 |
| 6SDX (L) 27/13-60 | 22 | 30 | | 232 | 218 | 211 | 200 | 186 | 172 | 132 | 102 | 69,5 |
| 6SDX (L) 27/14-60 | 22 | 30 | **H** | 250 | 235 | 227 | 215 | 200 | 185 | 142 | 110 | 75 |
| 6SDX (L) 27/15-60 | 30 | 40 | m | 266 | 250 | 240 | 230 | 215 | 198 | 154 | 120 | 80 |
| 6SDX (L) 27/16-60 | 30 | 40 | | 285 | 268 | 258 | 244 | 230 | 211 | 164 | 125 | 83,5 |
| 6SDX (L) 27/17-60 | 30 | 40 | | 303 | 285 | 274 | 259 | 244 | 224 | 174 | 133 | 88,5 |
| 6SDX (L) 27/18-60 | 30 | 40 | | 320 | 302 | 290 | 274 | 259 | 237 | 184 | 141 | 94 |
| 6SDX (L) 27/19-60 | 30 | 40 | | 338 | 316 | 305 | 290 | 270 | 250 | 192 | 150 | 100 |
| 6SDX (L) 27/20-60 | 37 | 50 | | 356 | 335 | 322 | 305 | 287 | 264 | 205 | 157 | 104,5 |
| 6SDX (L) 27/21-60 | 37 | 50 | | 374 | 352 | 338 | 320 | 302 | 277 | 215 | 165 | 109,5 |
| 6SDX (L) 27/22-60 | 37 | 50 | | 391 | 369 | 354 | 335 | 316 | 290 | 225 | 172 | 115 |
| 6SDX (L) 27/23-60 | 37 | 50 | | 409 | 385 | 370 | 350 | 330 | 303 | 235 | 180 | 120 |
| 6SDX (L) 27/24-60 | 45 | 60 | | 427 | 402 | 386 | 365 | 345 | 316 | 245 | 188 | 125 |
| 6SDX (L) 27/25-60 | 45 | 60 | | 445 | 419 | 402 | 381 | 359 | 330 | 256 | 196 | 130,5 |
| 6SDX (L) 27/26-60 | 45 | 60 | | 463 | 435 | 419 | 396 | 373 | 343 | 266 | 204 | 135,5 |
| 6SDX (L) 27/27-60 | 45 | 60 | | 480 | 452 | 435 | 411 | 388 | 356 | 276 | 212 | 141 |
| 6SDX (L) 27/28-60 | 45 | 60 | | 498 | 469 | 451 | 426 | 402 | 369 | 286 | 219 | 146 |

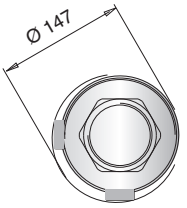
| DN | Motor | f | |
|---|---|---|---|
| | mm | mm | kg |
| | | 479 | 11,5 |
| | | 524 | 12,5 |
| | | 571 | 13,5 |
| | | 617 | 14,5 |
| | | 664 | 15,5 |
| | | 710 | 16,5 |
| | | 757 | 17,5 |
| | | 803 | 19 |
| | | 850 | 19,5 |
| | | 896 | 21 |
| | | 943 | 22,5 |
| Rp | 145 | 989 | 22,5 |
| 3” | CS6" | 1036 | 23 |
| | | 1082 | 24,5 |
| | | 1129 | 25 |
| | | 1175 | 26 |
| | | 1222 | 27 |
| | | 1268 | 28 |
| | | 1315 | 29 |
| | | 1361 | 30 |
| | | 1408 | 31 |
| | | 1454 | 32 |
| | | 1500 | 33 |
| | | 1547 | 35 |
| | | 1593 | 35 |
| | | 1640 | 36 |

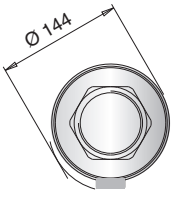



P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.



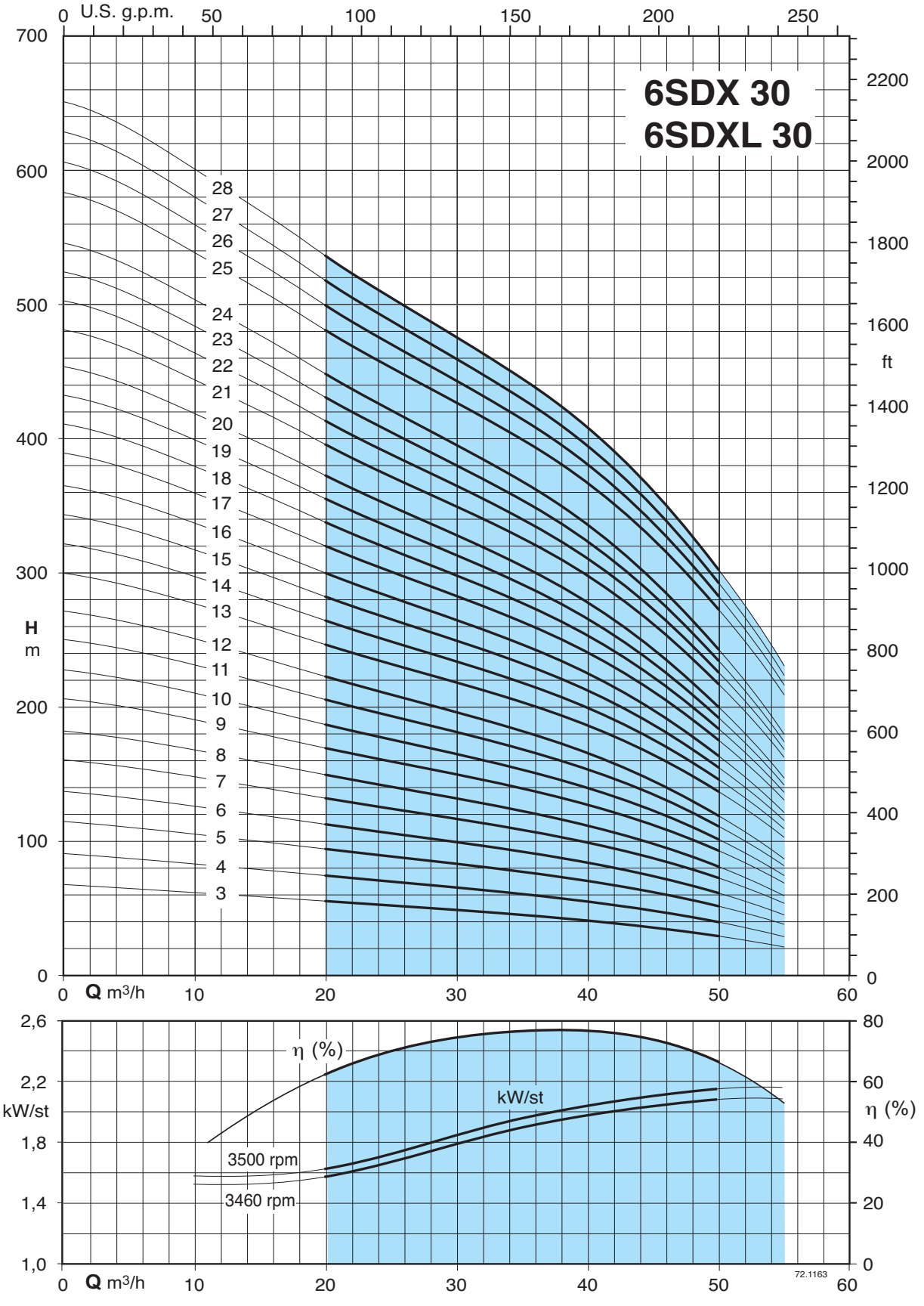



# 6SDX 30 60 Hz

calpeda®

## Characteristic curves - Curvas Características

n ≈ 3450 rpm



# 6SDX 30 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos

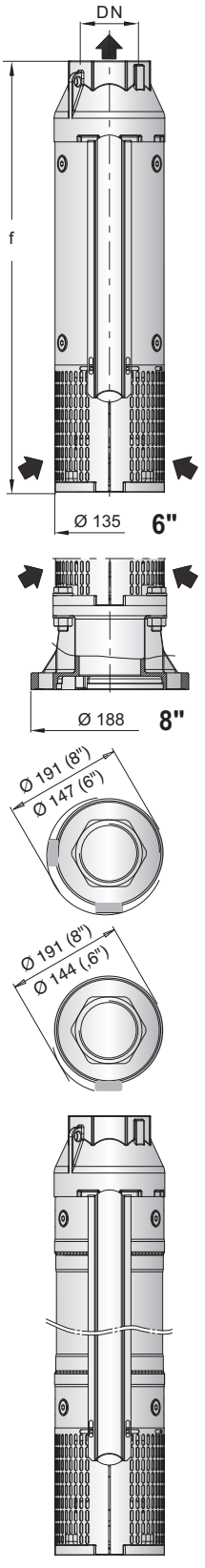
| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
| | kW | HP | l/min | 0 | 333 | 416 | 500 | 583 | 666 | 750 | 833 | 916 |
| 6SDX (L) 30/3-60 | 5,5 | 7,5 | | 67,4 | 55,2 | 51,9 | 48,6 | 45,2 | 41,1 | 35,9 | 29,3 | 21,4 |
| 6SDX (L) 30/4-60 | 7,5 | 10 | | 90,5 | 74,2 | 69,7 | 65,3 | 60,8 | 55,3 | 48,4 | 39,7 | 29,1 |
| 6SDX (L) 30/5-60 | 9,3 | 12,5 | | 115 | 94 | 88,4 | 83 | 77,5 | 70,7 | 62,2 | 51,4 | 38,4 |
| 6SDX (L) 30/6-60 | 11 | 15 | | 137 | 112 | 106 | 99,2 | 92,5 | 84,4 | 74,1 | 61,1 | 45,5 |
| 6SDX (L) 30/7-60 | 15 | 20 | | 161 | 132 | 124 | 117 | 109 | 99,4 | 87,4 | 72,4 | 54,3 |
| 6SDX (L) 30/8-60 | 15 | 20 | | 182 | 150 | 141 | 132 | 123 | 112 | 98,1 | 80,9 | 59,9 |
| 6SDX (L) 30/9-60 | 18,5 | 25 | | 206 | 170 | 159 | 150 | 140 | 128 | 112 | 92,7 | 69,4 |
| 6SDX (L) 30/10-60 | 18,5 | 25 | | 228 | 187 | 176 | 165 | 154 | 140 | 123 | 101 | 75 |
| 6SDX (L) 30/11-60 | 22 | 30 | | 251 | 206 | 193 | 181 | 169 | 154 | 135 | 111 | 82,2 |
| 6SDX (L) 30/12-60 | 22 | 30 | | 272 | 223 | 209 | 196 | 182 | 166 | 145 | 119 | 87,2 |
| 6SDX (L) 30/13-60 | 30 | 40 | | 300 | 247 | 232 | 218 | 204 | 187 | 165 | 137 | 104 |
| 6SDX (L) 30/14-60 | 30 | 40 | | 322 | 265 | 249 | 234 | 218 | 200 | 176 | 146 | 110 |
| 6SDX (L) 30/15-60 | 30 | 40 | H | 344 | 282 | 266 | 249 | 233 | 213 | 187 | 155 | 116 |
| 6SDX (L) 30/16-60 | 30 | 40 | m | 365 | 300 | 282 | 265 | 247 | 225 | 198 | 164 | 122 |
| 6SDX (L) 30/17-60 | 37 | 50 | | 390 | 320 | 301 | 283 | 264 | 241 | 212 | 175 | 131 |
| 6SDX (L) 30/18-60 | 37 | 50 | | 411 | 338 | 318 | 298 | 278 | 254 | 223 | 184 | 137 |
| 6SDX (L) 30/19-60 | 37 | 50 | | 433 | 355 | 334 | 313 | 292 | 266 | 233 | 192 | 142 |
| 6SDX (L) 30/20-60 | 37 | 50 | | 454 | 372 | 350 | 328 | 306 | 278 | 243 | 200 | 147 |
| 6SDX (L) 30/21-60 | 45 | 60 | | 481 | 396 | 372 | 349 | 326 | 298 | 262 | 217 | 163 |
| 6SDX (L) 30/22-60 | 45 | 60 | | 503 | 413 | 389 | 365 | 341 | 311 | 273 | 226 | 169 |
| 6SDX (L) 30/23-60 | 45 | 60 | | 525 | 431 | 405 | 380 | 355 | 324 | 284 | 235 | 175 |
| 6SDX (L) 30/24-60 | 45 | 60 | | 546 | 448 | 421 | 395 | 369 | 336 | 295 | 243 | 180 |
| 6SDX (L) 30/25-60 | 55 | 75 | | 584 | 481 | 453 | 427 | 400 | 367 | 325 | 272 | 209 |
| 6SDX (L) 30/26-60 | 55 | 75 | | 606 | 499 | 470 | 443 | 415 | 381 | 337 | 282 | 217 |
| 6SDX (L) 30/27-60 | 55 | 75 | | 629 | 518 | 488 | 459 | 430 | 395 | 349 | 292 | 224 |
| 6SDX (L) 30/28-60 | 55 | 75 | | 651 | 536 | 505 | 476 | 445 | 408 | 361 | 302 | 231 |

| DN | Motor | f | |
|---|---|---|---|
| | mm | mm | kg |
| Rp 3” | 145 CS6" | 620 | 14,7 |
| | | 705 | 16,8 |
| | | 790 | 18,9 |
| | | 876 | 21 |
| | | 961,5 | 23,1 |
| | | 1047 | 25,4 |
| | | 1132 | 27,3 |
| | | 1218 | 29,4 |
| | | 1303 | 31,5 |
| | | 1389 | 33,6 |
| | | 1474 | 35,7 |
| | | 1560 | 37,8 |
| | | 1645 | 39,9 |
| | | 1730 | 42 |
| | | 1816 | 44,1 |
| | | 1901 | 46,1 |
| | | 1987 | 48,2 |
| | | 2072 | 50,3 |
| | | 2157 | 52,4 |
| | | 2243 | 54,5 |
| | | 2328 | 56,6 |
| | | 2414 | 58,7 |
| | 191 CS8" | 2599 | 68 |
| | | 2684 | 70 |
| | | 2770 | 72,5 |
| | | 2855 | 74,5 |

P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

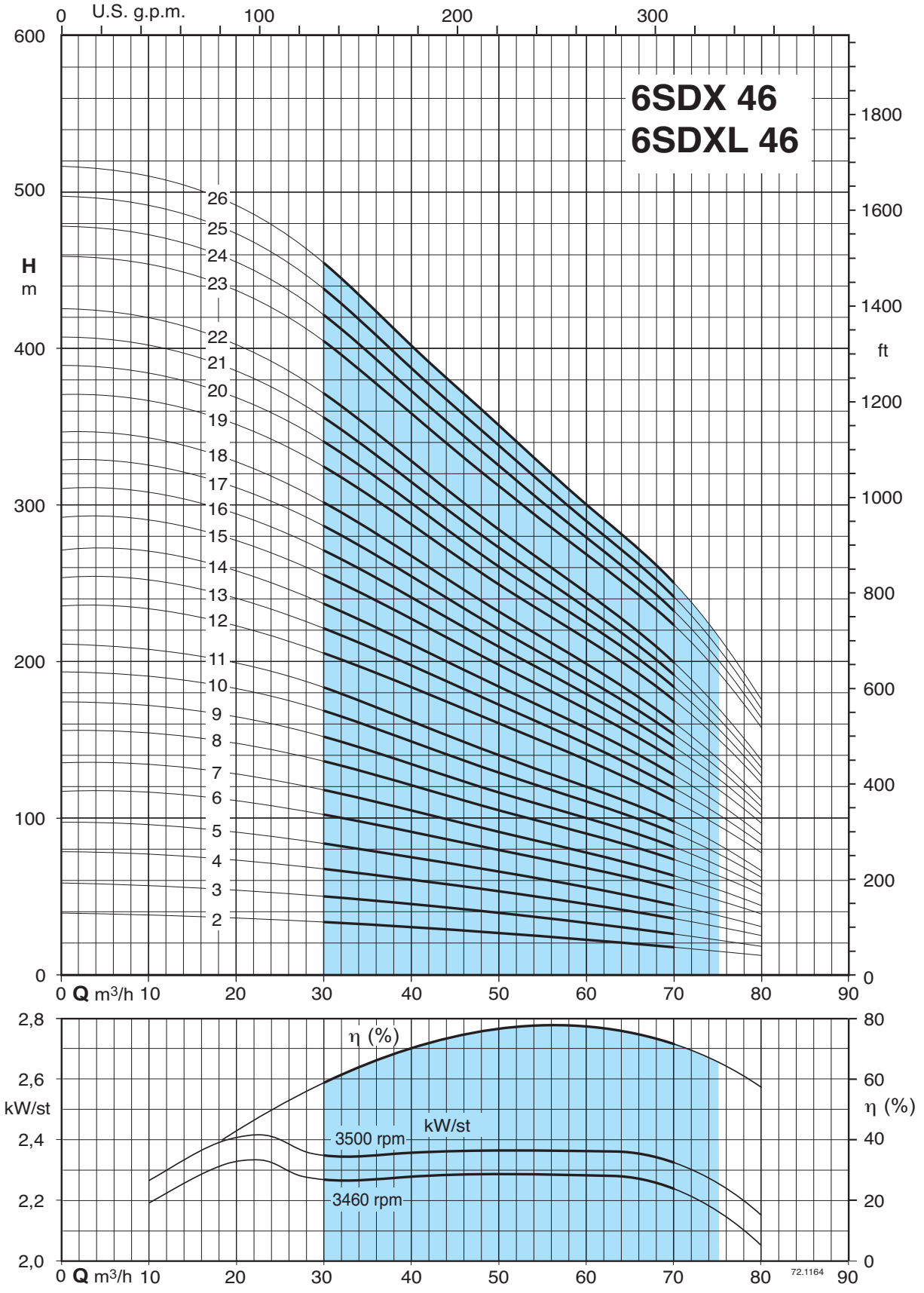



Reinforced with special collar from
Collar especial de refuerzo de
6SDX(L) 30/25

# 6SDX 46 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm



# 6SDX 46 60 Hz

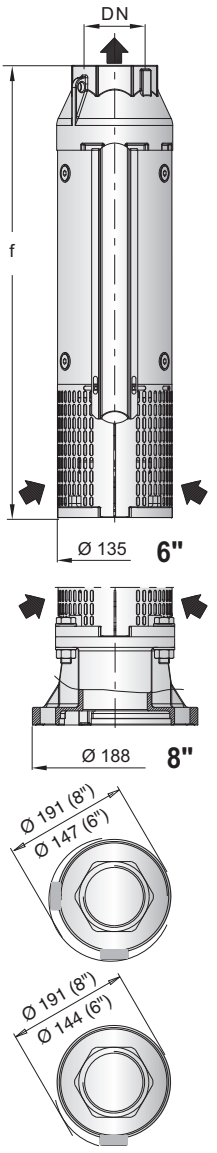
## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos

| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | | DN | Motor | f | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | | | | |
| | kW | HP | l/min | 0 | 500 | 583 | 666 | 750 | 833 | 916 | 1000 | 1083 | 1166 | 1250 | | mm | mm | kg |
| 6SDX (L) 46/2-60 | 5,5 | 7,5 | | 38,9 | 33,7 | 31,6 | 29,6 | 28,1 | 26,3 | 24,6 | 22,6 | 20,7 | 18,1 | 15,5 | | | 592 | 13,5 |
| 6SDX (L) 46/3-60 | 7,5 | 10 | | 57,9 | 50 | 46,9 | 44 | 41,7 | 39 | 36,5 | 33,5 | 30,7 | 26,7 | 22,8 | | | 705 | 16,2 |
| 6SDX (L) 46/4-60 | 9,3 | 12,5 | | 78,1 | 67,6 | 63,5 | 59,5 | 56,4 | 52,9 | 49,4 | 45,5 | 41,7 | 36,4 | 31,2 | | | 819 | 18,8 |
| 6SDX (L) 46/5-60 | 11 | 15 | | 97,1 | 83,8 | 78,7 | 73,8 | 69,9 | 65,5 | 61,2 | 56,3 | 51,5 | 44,9 | 38,4 | | | 933 | 21,4 |
| 6SDX (L) 46/6-60 | 15 | 20 | | 118 | 103 | 96,9 | 90,9 | 85,6 | 79,5 | 73,2 | 67,5 | 62,6 | 56,4 | 48,3 | | | 1047 | 24,0 |
| 6SDX (L) 46/7-60 | 15 | 20 | | 136 | 118 | 112 | 105 | 98,4 | 91,2 | 83,9 | 77,5 | 71,7 | 64,5 | 54,8 | | | 1161 | 26,6 |
| 6SDX (L) 46/8-60 | 18,5 | 25 | | 157 | 136 | 129 | 121 | 114 | 105 | 97 | 89,5 | 82,9 | 74,7 | 63,8 | | | 1275 | 29,2 |
| 6SDX (L) 46/9-60 | 18,5 | 25 | | 175 | 151 | 143 | 134 | 126 | 117 | 108 | 99,4 | 91,9 | 82,6 | 70,1 | | | 1389 | 31,8 |
| 6SDX (L) 46/10-60 | 22 | 30 | | 194 | 168 | 159 | 149 | 140 | 130 | 119 | 110 | 102 | 91,5 | 77,6 | | | 1503 | 34,4 |
| 6SDX (L) 46/11-60 | 22 | 30 | | 212 | 183 | 173 | 162 | 152 | 141 | 129 | 120 | 110 | 99 | 83,4 | | | 1617 | 37,0 |
| 6SDX (L) 46/12-60 | 30 | 40 | | 236 | 206 | 195 | 183 | 172 | 160 | 147 | 136 | 126 | 114 | 97,5 | | | 1730 | 39,6 |
| 6SDX (L) 46/13-60 | 30 | 40 | H | 255 | 222 | 210 | 197 | 185 | 172 | 158 | 146 | 135 | 122 | 104 | | 145 | 1844 | 42,2 |
| 6SDX (L) 46/14-60 | 30 | 40 | m | 273 | 237 | 224 | 210 | 198 | 184 | 169 | 156 | 145 | 130 | 111 | Rp | CS6" | 1958 | 44,8 |
| 6SDX (L) 46/15-60 | 37 | 50 | | 294 | 255 | 241 | 226 | 213 | 198 | 182 | 168 | 156 | 140 | 120 | 3" | | 2072 | 47,4 |
| 6SDX (L) 46/16-60 | 37 | 50 | | 312 | 271 | 256 | 240 | 226 | 210 | 193 | 178 | 165 | 148 | 126 | | | 2186 | 50,1 |
| 6SDX (L) 46/17-60 | 37 | 50 | | 330 | 286 | 270 | 253 | 239 | 221 | 203 | 188 | 174 | 156 | 133 | | | 2300 | 52,7 |
| 6SDX (L) 46/18-60 | 37 | 50 | | 348 | 301 | 284 | 266 | 251 | 232 | 214 | 197 | 182 | 164 | 139 | | | 2414 | 55,3 |
| 6SDX (L) 46/19-60 | 45 | 60 | | 372 | 323 | 305 | 286 | 270 | 251 | 230 | 213 | 197 | 178 | 152 | | | 2527 | 57,9 |
| 6SDX (L) 46/20-60 | 45 | 60 | | 390 | 339 | 320 | 300 | 283 | 262 | 241 | 223 | 206 | 186 | 158 | | | 2641 | 60,5 |
| 6SDX (L) 46/21-60 | 45 | 60 | | 408 | 354 | 335 | 314 | 295 | 274 | 252 | 233 | 215 | 194 | 165 | | | 2755 | 63,1 |
| 6SDX (L) 46/22-60 | 45 | 60 | | 426 | 369 | 349 | 327 | 308 | 285 | 263 | 242 | 224 | 202 | 171 | | | 2869 | 65,7 |
| 6SDX (L) 46/23-60 | 55 | 75 | | 460 | 402 | 381 | 357 | 337 | 314 | 289 | 266 | 248 | 224 | 195 | | | 3083 | 74,5 |
| 6SDX (L) 46/24-60 | 55 | 75 | | 479 | 419 | 396 | 372 | 351 | 327 | 301 | 277 | 258 | 233 | 202 | | 191 | 3196 | 77 |
| 6SDX (L) 46/25-60 | 55 | 75 | | 498 | 436 | 412 | 387 | 365 | 340 | 312 | 288 | 268 | 242 | 210 | | CS8" | 3310 | 79,5 |
| 6SDX (L) 46/26-60 | 55 | 75 | | 517 | 452 | 428 | 401 | 378 | 352 | 324 | 299 | 278 | 251 | 217 | | | 3424 | 82,5 |

P2 Rated motor power output.
Potencia nominal del motor.

**H** Total head in m
Altura total en m

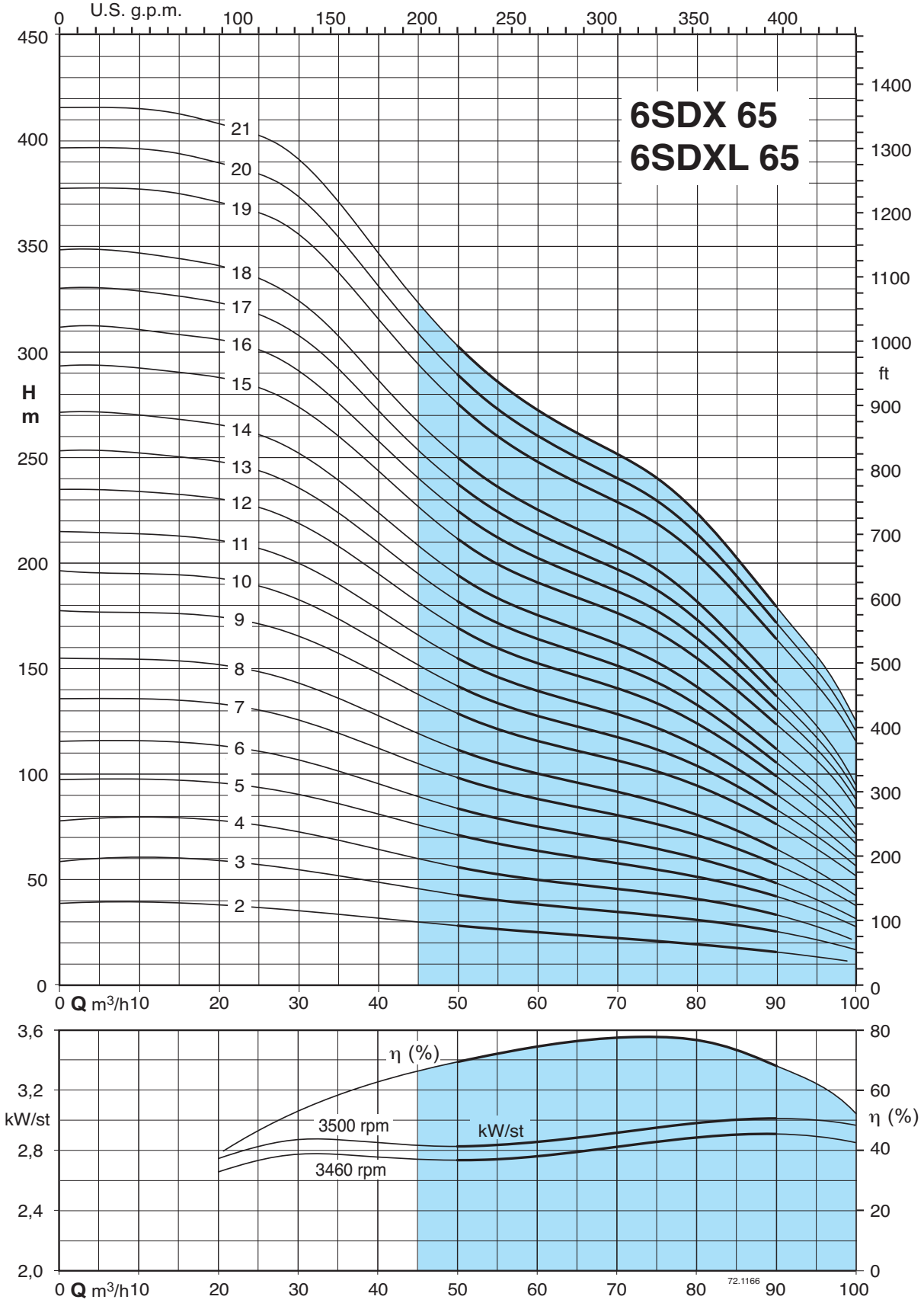
Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.



# 6SDX 65 60 Hz

## Characteristic curves - Curvas Características

n ≈ 3450 rpm

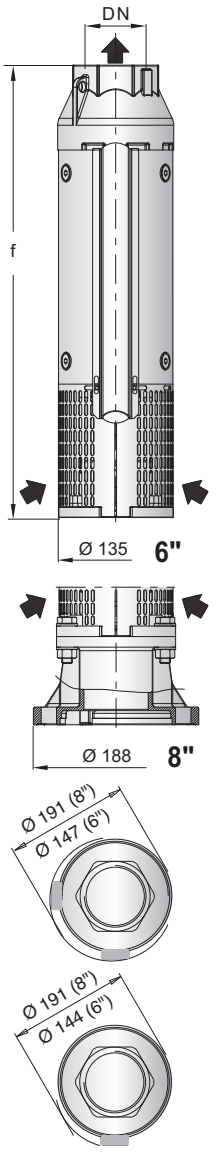


# 6SDX 65 60 Hz

## Performance n ≈ 3450 rpm, dimensions and weights

| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 90 | 100 |
| | kW | HP | l/min | 0 | 750 | 833 | 916 | 1000 | 1083 | 1166 | 1250 | 1333 | 1500 | 1666 |
| 6SDX (L) 65/2-60 | 5,5 | 7,5 | | 39 | 29,4 | 27,3 | 25,3 | 24,5 | 23,8 | 22,7 | 22 | 20,3 | 15,9 | 10 |
| 6SDX (L) 65/3-60 | 9,3 | 12,5 | | 59,6 | 45,5 | 42,1 | 39,2 | 37,6 | 36,7 | 35 | 34 | 31,7 | 25,2 | 16,9 |
| 6SDX (L) 65/4-60 | 11 | 15 | | 78,8 | 59,8 | 55,4 | 51,5 | 49,6 | 48,2 | 46 | 44,7 | 41,3 | 32,6 | 21,3 |
| 6SDX (L) 65/5-60 | 15 | 20 | | 97,8 | 75,5 | 70,7 | 66,5 | 63,7 | 61,1 | 58,5 | 55,9 | 52 | 41,1 | 27,8 |
| 6SDX (L) 65/6-60 | 15 | 20 | | 116 | 89 | 83,3 | 78,3 | 75,1 | 72 | 68,8 | 65,6 | 60,7 | 47,7 | 31,4 |
| 6SDX (L) 65/7-60 | 18,5 | 25 | | 136 | 105 | 97,9 | 92,1 | 88,3 | 84,7 | 81 | 77,3 | 71,7 | 56,4 | 37,6 |
| 6SDX (L) 65/8-60 | 22 | 30 | | 155 | 119 | 111 | 105 | 100 | 96,3 | 92 | 87,8 | 81,2 | 63,9 | 42,2 |
| 6SDX (L) 65/9-60 | 30 | 40 | | 177 | 138 | 129 | 121 | 116 | 112 | 107 | 102 | 95,2 | 75,6 | 52,2 |
| 6SDX (L) 65/10-60 | 30 | 40 | | 196 | 152 | 142 | 134 | 128 | 123 | 118 | 112 | 105 | 82,8 | 56,5 |
| 6SDX (L) 65/11-60 | 30 | 40 | H | 215 | 166 | 155 | 146 | 140 | 134 | 128 | 122 | 114 | 89,8 | 60,5 |
| 6SDX (L) 65/12-60 | 37 | 50 | | 235 | 181 | 170 | 159 | 153 | 147 | 140 | 134 | 125 | 98,5 | 66,6 |
| 6SDX (L) 65/13-60 | 37 | 50 | m | 253 | 195 | 182 | 171 | 164 | 158 | 151 | 144 | 134 | 105 | 70,3 |
| 6SDX (L) 65/14-60 | 37 | 50 | | 271 | 208 | 195 | 183 | 176 | 168 | 161 | 154 | 142 | 112 | 73,7 |
| 6SDX (L) 65/15-60 | 45 | 60 | | 293 | 227 | 212 | 199 | 191 | 183 | 175 | 168 | 156 | 123 | 83,4 |
| 6SDX (L) 65/16-60 | 45 | 60 | | 312 | 240 | 225 | 211 | 203 | 195 | 186 | 178 | 165 | 130 | 87,3 |
| 6SDX (L) 65/17-60 | 45 | 60 | | 330 | 254 | 238 | 223 | 214 | 205 | 196 | 187 | 174 | 137 | 90,9 |
| 6SDX (L) 65/18-60 | 45 | 60 | | 348 | 267 | 250 | 235 | 226 | 216 | 207 | 197 | 182 | 143 | 94,4 |
| 6SDX (L) 65/19-60 | 55 | 75 | | 378 | 295 | 276 | 260 | 248 | 239 | 229 | 219 | 205 | 164 | 116 |
| 6SDX (L) 65/20-60 | 55 | 75 | | 397 | 310 | 290 | 273 | 261 | 251 | 240 | 230 | 215 | 172 | 121 |
| 6SDX (L) 65/21-60 | 55 | 75 | | 416 | 324 | 303 | 285 | 273 | 263 | 251 | 240 | 225 | 180 | 126 |

| DN | Motor CS mm | f mm | kg |
|---|---|---|---|
| Rp 3” | 145 CS6" | 592 | 13,6 |
| | | 705 | 16,2 |
| | | 819 | 18,8 |
| | | 933 | 21,4 |
| | | 1047 | 24,0 |
| | | 1161 | 26,7 |
| | | 1275 | 29,3 |
| | | 1389 | 31,9 |
| | | 1503 | 34,5 |
| | | 1617 | 37,1 |
| | | 1730 | 39,7 |
| | | 1844 | 42,4 |
| | | 1958 | 44,9 |
| | | 2072 | 47,5 |
| | | 2186 | 50,2 |
| | | 2300 | 52,8 |
| | | 2414 | 55,4 |
| | 191 CS8" | 2627 | 64 |
| | | 2741 | 66,5 |
| | | 2855 | 69,5 |



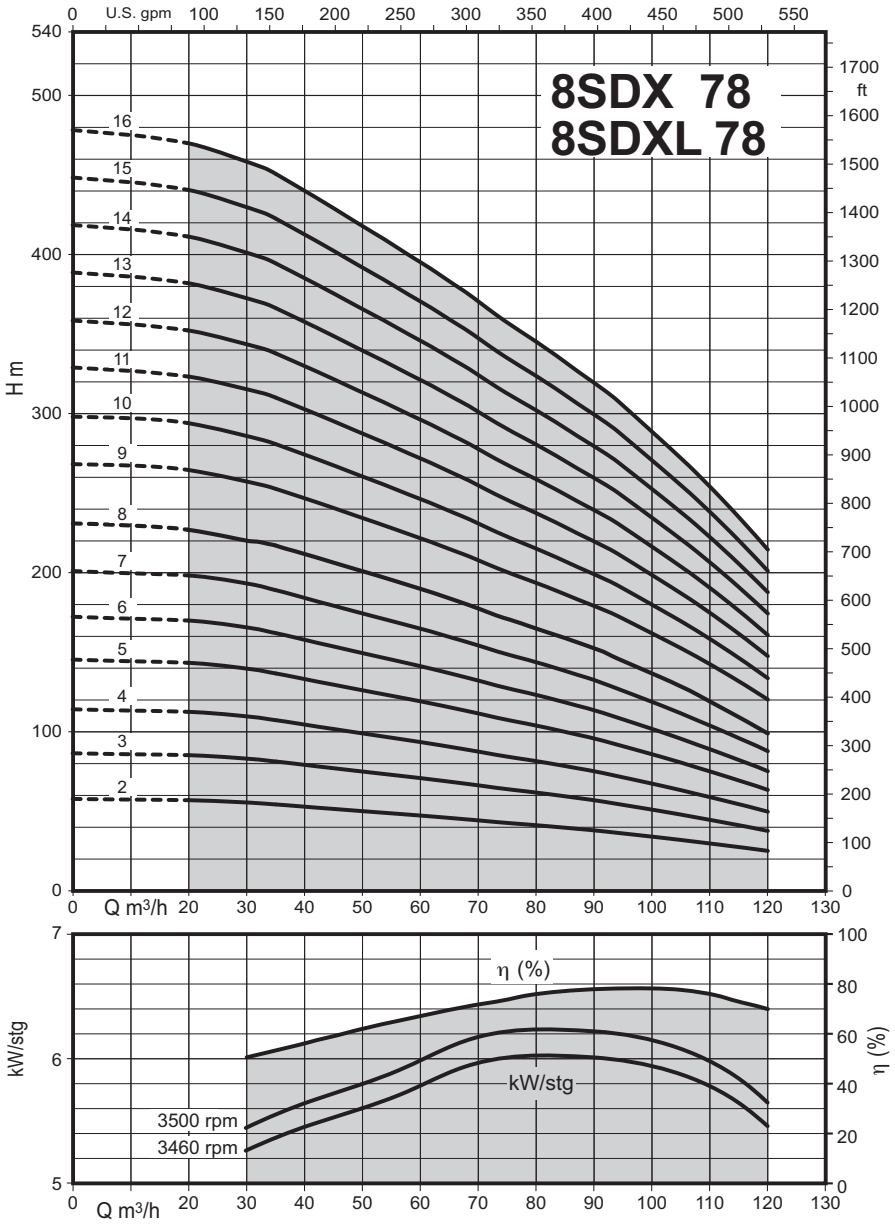

P2 Rated motor power output.
Potencia nominal del motor.

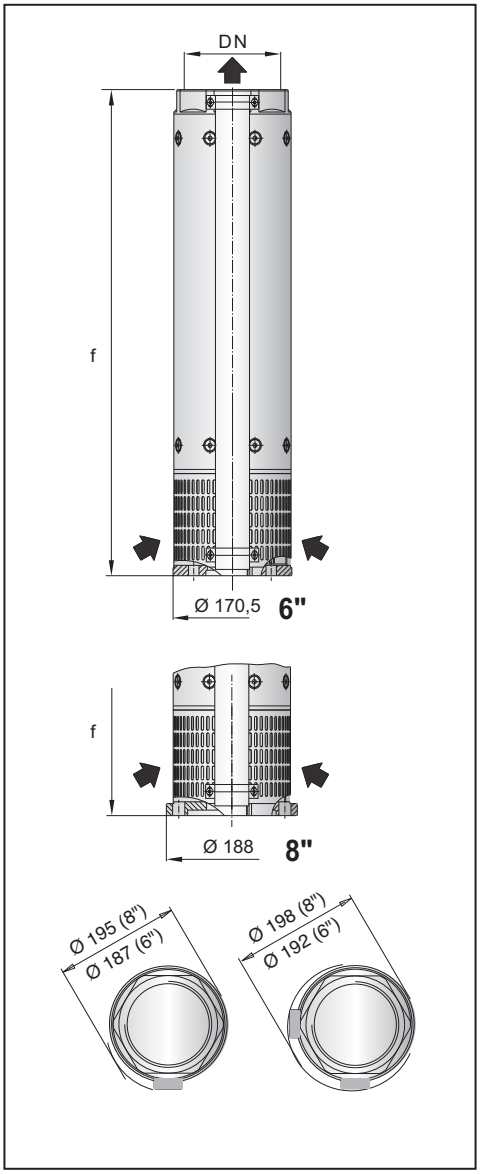
H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 8SDXL 78 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| | kW | HP | l/min | 0 | 333 | 500 | 666 | 833 | 1000 | 1166 | 1333 | 1500 | 1666 | 1833 | 2000 |
| 8SDX (L) 78/2-60 | 11 | 15 | | 58 | 58 | 56 | 53,5 | 50 | 48 | 45 | 41 | 39 | 35 | 30 | 25 |
| 8SDX (L) 78/3-60 | 18.5 | 25 | | 86 | 85 | 83,5 | 80 | 75 | 70 | 66,5 | 62 | 57,5 | 50 | 45 | 39 |
| 8SDX (L) 78/4-60 | 22 | 30 | | 114 | 113 | 110 | 105 | 99 | 93,5 | 88 | 81,5 | 75 | 68 | 59 | 50 |
| 8SDX (L) 78/5-60 | 30 | 40 | | 145 | 143 | 140 | 133 | 126 | 120 | 111 | 104 | 96,5 | 86,5 | 76,5 | 65 |
| 8SDX (L) 78/6-60 | 37 | 50 | | 172 | 170 | 166 | 159 | 150 | 141 | 132 | 123 | 113 | 101 | 89 | 76,5 |
| 8SDX (L) 78/7-60 | 37 | 50 | | 201 | 198 | 193 | 185 | 175 | 165 | 155 | 144 | 133 | 120 | 105 | 89 |
| 8SDX (L) 78/8-60 | 45 | 60 | **H** | 230 | 228 | 220 | 211 | 200 | 190 | 178 | 165 | 152 | 137 | 120 | 99,5 |
| 8SDX (L) 78/9-60 | 55 | 75 | m | 269 | 265 | 257 | 247 | 235 | 221 | 208 | 192 | 180 | 162 | 141 | 120 |
| 8SDX (L) 78/10-60 | 55 | 75 | | 298 | 295 | 286 | 275 | 260 | 246 | 230 | 215 | 199 | 180 | 159 | 133 |
| 8SDX (L) 78/11-60 | 75 | 100 | | 330 | 322 | 316 | 302 | 287 | 271 | 255 | 237 | 220 | 199,5 | 175 | 149 |
| 8SDX (L) 78/12-60 | 75 | 100 | | 359 | 352 | 343 | 330 | 313 | 296 | 278 | 259 | 239 | 217 | 190 | 160 |
| 8SDX (L) 78/13-60 | 75 | 100 | | 389 | 381 | 372 | 358 | 340 | 320 | 300 | 280 | 260 | 235 | 207 | 175 |
| 8SDX (L) 78/14-60 | 92 | 125 | | 419 | 411 | 400 | 385 | 367 | 346 | 325 | 300 | 280 | 251 | 220 | 189 |
| 8SDX (L) 78/15-60 | 92 | 125 | | 449 | 440 | 430 | 412 | 391 | 370 | 347 | 322 | 300 | 270 | 239 | 200 |
| 8SDX (L) 78/16-60 | 92 | 125 | | 479 | 470 | 459 | 440 | 418 | 395 | 370 | 345 | 320 | 288 | 252 | 215 |

| DN | CS | f | 8SDX |
|---|---|---|---|
| | mm | mm | kg |
| Rp 5" | 145 6" | 644 | 31.5 |
| | | 770 | 36.5 |
| | | 896 | 41.5 |
| | | 1022 | 46 |
| | | 1148 | 51 |
| | | 1274 | 56 |
| | | 1400 | 61 |
| | 191 8" | 1531 | 67 |
| | | 1657 | 72 |
| | | 1783 | 77 |
| | | 1909 | 82 |
| | | 2035 | 87 |
| | | 2161 | 92 |
| | | 2287 | 97 |
| | | 2413 | 101.5 |

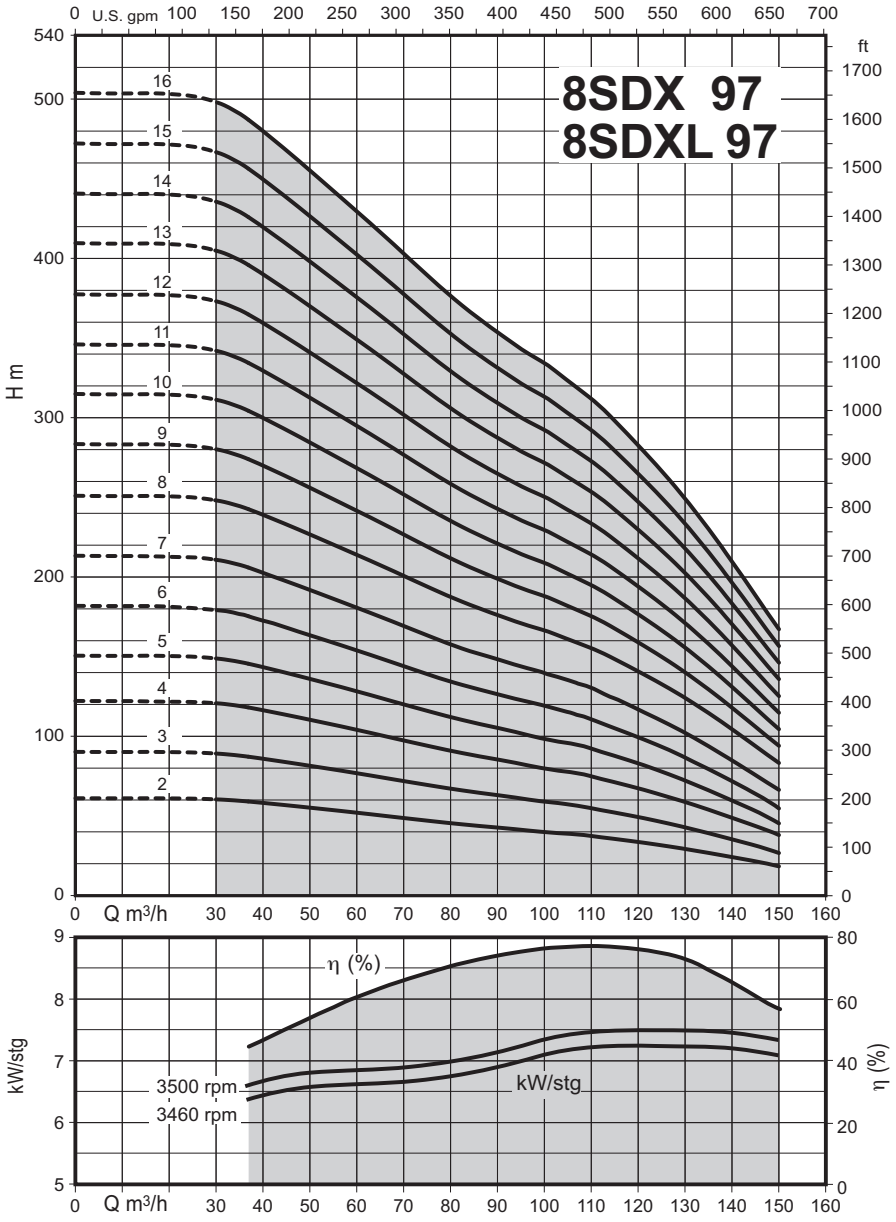
P2 Rated motor power output.
Potencia nominal del motor.

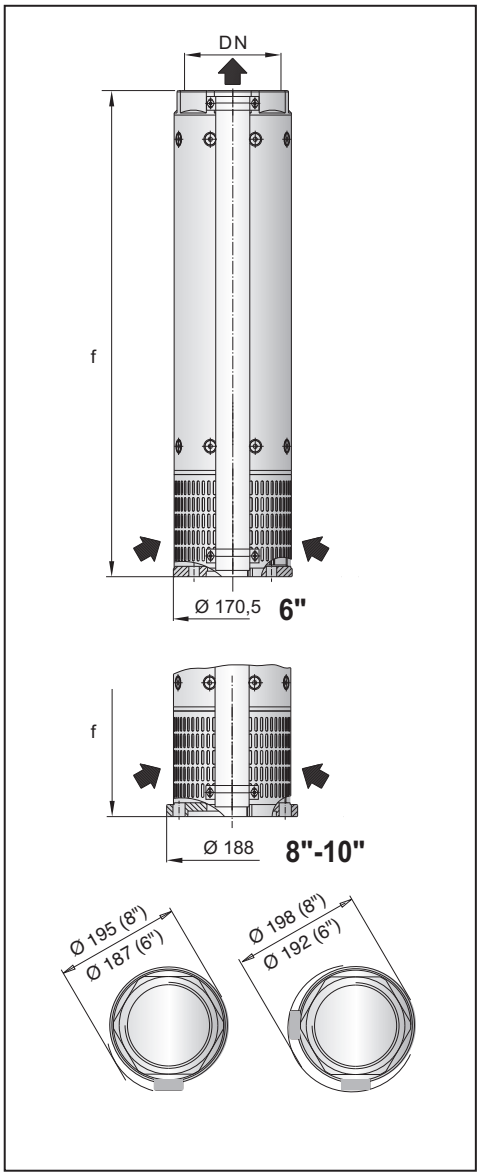
**H** Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# 8SDXL 97 60 Hz

## Performance - Prestaciones n ≈ 3450 rpm, dimensions and weights - dimensiones y pesos




| 3 ~ | P2 | | Q | n ≈ 3450 1/min | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m³/h | 0 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | | |
| | kW | HP | l/min | 0 | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 | | |
| 8SDX (L) 97/2-60 | 15 | 20 | | 60 | 60 | 57 | 52 | 48 | 42 | 39,5 | 35 | 28 | 19 | | |
| 8SDX (L) 97/3-60 | 22 | 30 | | 90 | 90 | 83,5 | 77,5 | 70 | 62,5 | 58 | 49,5 | 40 | 27 | | |
| 8SDX (L) 97/4-60 | 30 | 40 | | 122 | 120 | 114 | 104 | 95 | 85 | 79 | 69 | 55 | 39 | | |
| 8SDX (L) 97/5-60 | 37 | 50 | | 150 | 149,5 | 140 | 129 | 116 | 106 | 96,5 | 83 | 67 | 46 | | |
| 8SDX (L) 97/6-60 | 37 | 50 | | 181 | 180 | 169 | 154 | 139,5 | 127 | 115 | 100 | 80 | 55 | | |
| 8SDX (L) 97/7-60 | 45 | 60 | | 213 | 210 | 198 | 180 | 163,5 | 149 | 135 | 117 | 93,5 | 68 | | |
| 8SDX (L) 97/8-60 | 55 | 75 | H | 250 | 249 | 232 | 215 | 195 | 176 | 160 | 140 | 115 | 83 | | |
| 8SDX (L) 97/9-60 | 75 | 100 | | 283 | 280 | 262 | 240 | 219 | 200 | 181 | 159 | 130 | 95 | | |
| 8SDX (L) 97/10-60 | 75 | 100 | m | 315 | 310 | 292 | 269 | 243,5 | 220 | 200 | 178 | 143 | 105 | | |
| 8SDX (L) 97/11-60 | 75 | 100 | | 346 | 341 | 320 | 295 | 269 | 242 | 220 | 194 | 159 | 115 | | |
| 8SDX (L) 97/12-60 | 92 | 125 | | 378 | 372 | 350 | 320 | 290 | 265 | 241 | 211 | 171 | 125 | | |
| 8SDX (L) 97/13-60 | 92 | 125 | | 410 | 405 | 380 | 350 | 317 | 289 | 262 | 230 | 188 | 137 | | |
| 8SDX (L) 97/14-60 | 92 | 125 | | 440 | 435 | 410 | 375 | 340 | 310 | 282 | 248 | 200 | 148 | | |
| 8SDX (L) 97/15-60 | 110 | 150 | | 472 | 467 | 439 | 401 | 365 | 330 | 302 | 265 | 215 | 158 | | |
| 8SDX (L) 97/16-60 | 110 | 150 | | 504 | 498 | 468 | 430 | 390 | 352 | 322 | 280 | 230 | 169 | | |

| DN | CS mm | f mm | 8SDX kg |
|---|---|---|---|
| Rp 5" | 145 6" | 644 | 31.5 |
| | | 770 | 36.5 |
| | | 896 | 41.5 |
| | | 1022 | 46 |
| | | 1148 | 51 |
| | | 1274 | 56 |
| | 191 8" | 1405 | 62.5 |
| | | 1531 | 67 |
| | | 1657 | 72 |
| | | 1783 | 77 |
| | | 1909 | 82 |
| | | 2035 | 87 |
| | | 2161 | 92 |
| | 240 10" | 2287 | 97 |
| | | 2413 | 101.5 |

P2 Rated motor power output.
Potencia nominal del motor.

H Total head in m
Altura total en m

Tolerances according to UNI EN ISO 9906:2012.
Tolerancias según UNI EN ISO 9906:2012.

# CS-R 60 Hz

## Submersible motors
## Motores sumergidos



| kW | 4"CS-R 1 ~ | 4"CS-R 3 ~ | 6"CS-R 3 ~ | 8"CS-R 3 ~ | 10"CS-R 3 ~ | kW |
|---|---|---|---|---|---|---|
| 0,37 | ● | ● | | | | 0,37 |
| 0,55 | ● | ● | | | | 0,55 |
| 0,75 | ● | ● | | | | 0,75 |
| 1,1 | ● | ● | | | | 1,1 |
| 1,5 | ● | ● | | | | 1,5 |
| 2,2 | ● | ● | | | | 2,2 |
| 3 | | ● | | | | 3 |
| 4 | | ● | ● | | | 4 |
| 5,5 | | ● | ● | | | 5,5 |
| 7,5 | | ● | ● | | | 7,5 |
| 9,2 | | | ● | | | 9,2 |
| 11 | | | ● | | | 11 |
| 13 | | | ● | | | 13 |
| 15 | | | ● | | | 15 |
| 18,5 | | | ● | | | 18,5 |
| 22 | | | ● | | | 22 |
| 26 | | | ● | | | 26 |
| 30 | | | ● | ● | | 30 |
| 37 | | | ● | ● | | 37 |
| 45 | | | ● | ● | | 45 |
| 51 | | | | ● | | 51 |
| 59 | | | | ● | | 59 |
| 66 | | | | ● | | 66 |
| 75 | | | | ● | ● | 75 |
| 92 | | | | ● | ● | 92 |
| 110 | | | | ● | ● | 110 |
| 132 | | | | | ● | 132 |
| 150 | | | | | ● | 150 |

4.93.325-60Hz

# CS-R 60 Hz

## Construction
The 4" motors have a special food grade dielectric fluid that gives a better lubricant effect, increasing the life of all moving parts and the copper wires.
The 6", 8", 10" motors are in a water bath with the wire being coated with polyvinyl chloride.

## Operating conditions

| Motor | P2 | Max. Liquid temperature | Cooling minimum flow velocity | Max. starts per hou |
|---|---|---|---|---|
| 4CS-R | all types | 35 °C | 0,1 m/s | 30 |
| 6CS-R | 4÷15 kW | 40 °C | 0,5 m/s | 20 |
| | 18,5÷30 kW | 35 °C | 0,5 m/s | 20 |
| | 37 kW | 30 °C | 0,5 m/s | 20 |
| | 45 kW | 35 °C | 0,5 m/s | 15 |
| 8CS-R | 30÷45 kW | 30 °C | 0,2 m/s | 10 |
| | 51 kW | 30 °C | 0,2 m/s | 8 |
| | 59÷75 kW | 30 °C | 0,5 m/s | 8 |
| | 92÷110 kW | 30 °C | 0,5 m/s | 6 |
| 10CS-R | all types | 25 °C | 0,15 m/s | 6 |

## Operation data
2-pole induction motor, 60 Hz (n = 3450 1/min).
Sized for connection to the pumps according to NEMA Standards.
Standard voltages:
- single-phase 110 V up to 0,75 kW for 4" motors;
  220 V up to 2,2 kW for 4" motors.
- three-phase 220 V, 380 V, 440 V, 460 V, for 4" motors.
- three-phase 380 V, 440 V, 460 V; 380/660 V for 6-8-10" motors.

Voltage tolerance: ±10%.
Recommended type of starting for powers from 7.5 kW:
star/delta, soft start, impedance starting, autotransformer.
IInsulation class:
- class F for 4" motors,
- class E for 6" motors, PVC for I-6" (I-6" 45 kW A (PE2+PA)).
- PVC for 8", 10"

Protection IP 68.
Installation below water level: 200 m for 4", 150 m for 6", 500 m for 8,10"
Motor suitable operation with frequency converter (with suitable filter dv/dt).
Horizontal installation (6" 37-45kW, 8" 92kW excluded)
Continuous duty.

## Materiales

| Components | 4" | |
|---|---|---|
| External frame | Cr-Ni steel AISI 304L | |
| Motor flange | Cast iron with cataphoresis treatment and protected with a Cr-Ni steel AISI 304 cover. | |
| Shaft end | Cr-Ni steel AISI 304 | |
| Thrust bearing | Oil wetted | |
| **Components** | **6", 8", 10" standard** | **6", 8", 10" AISI 316** |
| External frame | Cr-Ni steel AISI 304 (Steel AISI 316 for 6") | Cr-Ni-Mo steel AISI 316 |
| Motor flange | Cast iron GJL 250 EN 1561 (Cast iron G 25 EN 1561 for 8,10") | Cr-Ni-Mo steel AISI 316 |
| Shaft end | Cr steel AISI 431 (Steel AISI 630 for 10") | Duplex 1.4462 (Steel AISI 630 for 8,10") |
| Thrust bearing | Brass pads | Brass pads |

## Special features on request
- Other voltage.
- Higher liquid temperature.
- PT100 temperature sensor
- PE2 / PA class Y (90°C) winding insulation
- Cooling jackets
- Special coupling flange

## Ejecución
Los motores 4" tienen un fluido dieléctrico especial de tipo alimentación que garantiza un mayor efecto lubricante aumentando la duración de todas las partes en movimiento y de los cables de cobre.
Los motores 6", 8" Y 10" se hallan en baño de agua, y los cables están revestidos con cloruro de polivinilo.

## Limites de empleo

| Motores | P2 | Temperatura. del agua hasta | Refrigeración: velocidad mínima del caudal | Arranques por hora maximos |
|---|---|---|---|---|
| 4CS-R | todos | 35 °C | 0,1 m/s | 30 |
| 6CS-R | 4÷15 kW | 40 °C | 0,5 m/s | 20 |
| | 18,5÷30 kW | 35 °C | 0,5 m/s | 20 |
| | 37 kW | 30 °C | 0,5 m/s | 20 |
| | 45 kW | 35 °C | 0,5 m/s | 15 |
| 8CS-R | 30÷45 kW | 30 °C | 0,2 m/s | 10 |
| | 51 kW | 30 °C | 0,2 m/s | 8 |
| | 59÷75 kW | 30 °C | 0,5 m/s | 8 |
| | 92÷110 kW | 30 °C | 0,5 m/s | 6 |
| 10CS-R | todos | 25 °C | 0,15 m/s | 6 |

## Datos de ejercicio
Motor a inducción 2 polos, 60 Hz (n = 3450 1/min).
Dimensiones para el acoplamiento a la bomba según NEMA Standard.
Tensiones de alimentación:
- monofásicos 110 V - hasta 0,75 kW para motores de 4";
  220 V - hasta 2,2 kW para motores de 4".
- trifásicos 220 V, 380 V, 440 V, 460 V, para motores de 4".
- trifásicos 380 V, 440 V, 460 V; 380/660, para motores de 6-8-10".

Varación de tensión: ±10%.
Tipo de arranque aconsejado para potencias desde 7.5 kW:
estrella/triángulo, soft start, o con impedancia.
Aislamiento clase:
- clase F para motore 4"
- clase E para motore 6" , PVC para I-6" (I-6" 45 kW A (PE2+PA)).
- PVC para 8", 10"

Protección IP 68.
Installation below water level: 200 m for 4", 150 m for 6", 500 m for 8,10"
Motor preparado al funcionamiento con convertidor de frecuencia (con filtro adecuado dv/dt).
Instalación horizontal (excluidos 6" 37-45kW, 8" 92kW)
Servicio continuo.

## Materiales

| Componentes | 4" | |
|---|---|---|
| Carcasa exterior | Acero Cr-Ni AISI 304L | |
| Motor flange | Hierro fundido con tratamiento de cataforesis y protegido con tapa de acero Cr-Ni AISI 304. | |
| Eje | Acero Cr-Ni AISI 304 | |
| Cojinete axial | en baño de aceite | |
| **Componentes** | **6", 8", 10" standard** | **6", 8", 10" AISI 316** |
| Carcasa exterior | Acero Cr-Ni AISI 304 (Acero AISI 316 parar 6") | Acero Cr-Ni-Mo AISI 316 |
| Motor flange | Hierro GJL 250 EN 1561 (Hierro G 25 EN 1561 para 8,10") | Acero Cr-Ni-Mo AISI 316 |
| Eje | Acero Cr AISI 431 (AISI 630 para 10") | Duplex 1.4462 (AISI 630 para 8, 10") |
| Cojinete de tope | Latón Patines oscilantes | Latón Patines oscilantes |

## Ejecuciones especiales bajo demanda
- Otras tensiones.
- Para agua con temperatura más elevada.
- Sonda térmica PT100
- Aislamiento del devanado PE2 / PA clase Y (90°C)
- Camisa de refrigeración
- Brida de acoplamiento especial

# CS-R 60 Hz

## Performance, dimensions and weights

### 4"CS - 1 ~

| Type *Tipo* | P2 | | In | | Power factor *Factor potencia* | | Efficiency *Rendimiento* | | R.P.M. | | Capacitor 450 Vc Condens. 450 Vc | | Axial thrust *Carga axial* | Service factor *Factor de servicio* | I max | | I Avv | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | 220 V A | 110 V A | 220 V cos φ | 110 V cos φ | 220 V η % | 110 V η % | 220 V | 110 V | 220 V µf | 110 V µf | N | | 220 V A | 110 V A | 220 V A | 110 V A |
| **4CS-R 0,37MC-60** | 0,37 | 0,5 | 3,4 | 6,8 | 0,92 | 0,89 | 54 | 48 | 3450 | 3470 | 20 | 80 | 2000 | 1,60 | 4,2 | 9,9 | 16 | 29 |
| **4CS-R 0,55MC-60** | 0,55 | 0,75 | 4,7 | 9,9 | 0,95 | 0,84 | 57 | 53 | 3420 | 3435 | 25 | 100 | 2000 | 1,50 | 6,8 | 13,1 | 20,2 | 39 |
| **4CS-R 0,75MC-60** | 0,75 | 1 | 6,1 | 11,8 | 0,95 | 0,89 | 58 | 61 | 3435 | 3445 | 35 | 120 | 2000 | 1,40 | 8,1 | 15,6 | 22,6 | 48 |
| **4CS-R 1,1MC-60** | 1,1 | 1,5 | 8,3 | 15,4 | 0,98 | 0,91 | 64 | 63 | 3455 | 3430 | 40 | 140 | 2000 | 1,30 | 10,8 | 19,2 | 32 | 72 |
| **4CS-R 1,5MC-60** | 1,5 | 2 | 10,8 | - | 0,95 | - | 67 | - | 3445 | - | 60 | - | 2000 | 1,25 | 13,3 | - | 41 | - |
| **4CS-R 2,2MC-60** | 2,2 | 3 | 15,5 | - | 0,96 | - | 68 | - | 3425 | - | 80 | - | 2000 | 1,15 | 16,6 | - | 47 | - |

### 4"CS - 3 ~

| Type *Tipo* | P2 | | In | | Power factor *Factor potencia* | | Efficiency *Rendimiento* | | R.P.M. | | Capacitor 450 Vc Condens. 450 Vc | | Axial thrust *Carga axial* | Service factor *Factor de servicio* | I max | | I Avv | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | 220 V A | 380 V A | 220 V cos φ | 380 V cos φ | 220 V η % | 380 V η % | 220 V | 380 V | | | N | | 220 V A | 380 V A | 220 V A | 380 V A |
| **4CS-R 0,37TC-60** | 0,37 | 00,5 | 2 | 1,2 | 0,56 | 0,77 | 59 | 59 | 3455 | 3455 | - | - | 2000 | 1,60 | 2,9 | 1,6 | 11,5 | 10,5 |
| **4CS-R 0,55TC-60** | 0,55 | 0,75 | 3,2 | 1,9 | 0,55 | 0,72 | 64 | 64 | 3450 | 3450 | - | - | 2000 | 1,50 | 4,1 | 2,3 | 19 | 11,5 |
| **4CS-R 0,75TC-60** | 0,75 | 1 | 4,5 | 2,7 | 0,62 | 0,72 | 67 | 67 | 3460 | 3460 | - | - | 2000 | 1,40 | 5,3 | 3 | 26,5 | 16,5 |
| **4CS-R 1,1TC-60** | 1,1 | 1,5 | 5,7 | 3,9 | 0,63 | 0,68 | 68 | 68 | 3440 | 3440 | - | - | 2000 | 1,30 | 5,9 | 4,3 | 35 | 21,5 |
| **4CS-R 1,5TC-60** | 1,5 | 2 | 6,8 | 4,5 | 0,67 | 0,75 | 71 | 71 | 3445 | 3445 | - | - | 2000 | 1,25 | 8,2 | 5,1 | 43 | 24,5 |
| **4CS-R 2,2TC-60** | 2,2 | 3 | 9,6 | 6,7 | 0,73 | 0,72 | 72 | 72 | 3430 | 3430 | - | - | 2000 | 1,15 | 10,6 | 7,4 | 51 | 30 |
| **4CS-R 3TC-60** | 3 | 4 | 13,4 | 8,3 | 0,73 | 0,73 | 74 | 74 | 3450 | 3450 | | | 3000 | 1,15 | 15,2 | 8,8 | 73 | 41 |
| **4CS-R 4TC-60** | 4 | 5,5 | 16,5 | 9,9 | 0,72 | 0,74 | 77 | 77 | 3440 | 3440 | | | 3000 | 1,15 | 18,4 | 11,2 | 118 | 67 |
| **4CS-R 5,5TC-60** | 5,5 | 7,5 | 21,9 | 12,9 | 0,78 | 0,78 | 79 | 79 | 3460 | 3150 | | | 5000 | 1,15 | 25,1 | 14,2 | 137 | 79 |
| **4CS-R 7,5TC-60** | 7,5 | 10 | 28,1 | 16,9 | 0,79 | 0,80 | 81 | 81 | 3440 | 3440 | | | 5000 | 1,15 | 31,4 | 18,9 | 163 | 94 |

### 6"CS-R - 3 ~

| Type *Tipo* | P2 | | In (max) | | | Power factor *Factor de potencia* cos φ | | Efficiency *Rendimiento* η % | | R.P.M. | Direct start *Arranque directo* | | Axial thrust *Carga axial* | Service factor *Factor de servicio* | I with S.F. I con S.F. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | 460 V A | 440 V A | 380 V A | 4/4 | 3/4 | 4/4 | 3/4 | | Is/In | Cs/Cn | N | | 460 V A | 440 V A | 380 V A |
| **6CS-R 4-60** | 4 | 5,5 | 8,1 | 8,5 | 9,8 | 0,78 | 0,702 | 79 | 76,8 | 3525 | 4,45 | 1 | 30000 | 1,15 | 8,9 | 9,3 | 10,8 |
| **6CS-R 5,5-60** | 5,5 | 7,5 | 10,5 | 11 | 12,7 | 0,83 | 0,762 | 79,3 | 79,4 | 3510 | 4,15 | 0,9 | 30000 | 1,15 | 11,8 | 12,3 | 14,3 |
| **6CS-R 7,5-60** | 7,5 | 10 | 14,2 | 14,8 | 17,2 | 0,84 | 0,768 | 79,4 | 78,6 | 3515 | 4,25 | 0,9 | 30000 | 1,15 | 15,8 | 16,5 | 19,1 |
| **6CS-R 9,2-60** | 9,2 | 12,5 | 18,1 | 18,9 | 21,9 | 0,8 | 0,736 | 79,9 | 77,4 | 3515 | 4 | 0,9 | 30000 | 1,15 | 19,8 | 20,7 | 24 |
| **6CS-R 11-60** | 11 | 15 | 21,8 | 22,7 | 26,3 | 0,78 | 0,690 | 81,7 | 80,8 | 3515 | 4,6 | 1,1 | 30000 | 1,15 | 24,4 | 25 | 28,9 |
| **6CS-R 13-60** | 13 | 17,5 | 25,4 | 25,8 | 29,9 | 0,8 | 0,719 | 82,6 | 81,8 | 3505 | 4,65 | 1,1 | 30000 | 1,15 | 28 | 28,8 | 33,3 |
| **6CS-R 15-60** | 15 | 20 | 28,5 | 28,4 | 32,9 | 0,83 | 0,744 | 83,4 | 83,2 | 3505 | 5,4 | 1,4 | 30000 | 1,15 | 31,7 | 32,2 | 37,3 |
| **6CS-R 18,5-60** | 18,5 | 25 | 33,3 | 34,8 | 40,3 | 0,84 | 0,736 | 83,2 | 84,2 | 3490 | 5 | 1,4 | 30000 | 1,15 | 38,3 | 40 | 46,4 |
| **6CS-R 22-60** | 22 | 30 | 40,2 | 42 | 48,7 | 0,825 | 0,743 | 83,4 | 84,5 | 3485 | 5 | 1,4 | 30000 | 1,15 | 45,1 | 47,2 | 54,6 |
| **6CS-R 26-60** | 26 | 35 | 48,1 | 50,3 | 58,2 | 0,8 | 0,711 | 85,1 | 85,8 | 3495 | 5,05 | 1,5 | 30000 | 1,15 | 53,4 | 55,8 | 64,6 |
| **6CS-R 30-60** | 30 | 40 | 54,3 | 56,8 | 65,7 | 0,825 | 0,749 | 84 | 85,2 | 3485 | 4,65 | 1,3 | 30000 | 1,15 | 60,8 | 63,6 | 73,6 |
| **6CS-R 37-60** | 37 | 50 | 66,5 | 69,5 | 80,5 | 0,83 | 0,756 | 83,9 | 86 | 3470 | 4,5 | 1,3 | 30000 | 1,15 | 75,2 | 78,6 | 91 |
| **6CS-R 45-60** | 45 | 60 | 83,4 | 87,2 | 101 | 0,82 | 0,734 | 82,8 | 84,8 | 3470 | 5,1 | 1,7 | 45000 | 1,15 | 92,9 | 97,1 | 112,5 |

### 8"CS-R - 3 ~

| Type *Tipo* | P2 | | In (max) | | | Power factor *Factor de potencia* cos φ | | Efficiency *Rendimiento* η % | | R.P.M. | Direct start *Arranque directo* | | Axial thrust *Carga axial* | Service factor *Factor de servicio* | I with S.F. I con S.F. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | 460 V A | 440 V A | 380 V A | 4/4 | 3/4 | 4/4 | 3/4 | | Is/In | Cs/Cn | N | | 460 V A | 440 V A | 380 V A |
| **8CS-R 30-60** | 30 | 40 | 52,9 | 53,3 | 63,9 | 0,85 | 0,81 | 83 | 82,6 | 3515 | 6,05 | 2,0 | 50000 | 1.15 | 60,4 | 63,1 | 72,9 |
| **8CS-R 37-60** | 37 | 50 | 65,8 | 68,8 | 79,4 | 0,83 | 0,77 | 85 | 84,3 | 3530 | 6,5 | 2,15 | 50000 | 1.15 | 73,9 | 77,3 | 89,2 |
| **8CS-R 45-60** | 45 | 60 | 79,2 | 82,8 | 95,6 | 0,83 | 0,77 | 85,2 | 84,9 | 3525 | 6,45 | 2,15 | 50000 | 1.15 | 89 | 93 | 107,4 |
| **8CS-R 51-60** | 51 | 70 | 87,8 | 91,8 | 106 | 0,84 | 0,79 | 86,1 | 86,1 | 3525 | 6,55 | 2,2 | 50000 | 1.15 | 98,7 | 103,2 | 119,2 |
| **8CS-R 59-60** | 59 | 80 | 100,9 | 105,5 | 121,8 | 0,84 | 0,78 | 87,2 | 87 | 3535 | 6,8 | 2,25 | 50000 | 1.15 | 113,4 | 118,6 | 136,9 |
| **8CS-R 66-60** | 66 | 90 | 113,9 | 118,7 | 137 | 0,84 | 0,77 | 86,9 | 86,9 | 3525 | 6,7 | 2,2 | 50000 | 1.15 | 127,3 | 133,1 | 153,7 |
| **8CS-R 75-60** | 75 | 100 | 125,9 | 131,6 | 152 | 0,86 | 0,80 | 86,9 | 87,4 | 3510 | 6,45 | 2,15 | 50000 | 1.15 | 142,7 | 149,2 | 172,3 |
| **8CS-R 92-60** | 92 | 125 | 155,6 | 162,7 | 188,4 | 0,85 | 0,78 | 87,2 | 87,6 | 3515 | 6,9 | 2,3 | 50000 | 1.15 | 175,2 | 183,2 | 212,1 |
| **8CS-R 110-60** | 110 | 150 | 185,5 | 193,7 | 224,3 | 0,85 | 0,79 | 87,3 | 87,8 | 3505 | 6,6 | 2,2 | 50000 | 1.15 | 208,7 | 218,2 | 252,6 |

### 10"CS-R - 3 ~

| Type *Tipo* | P2 | | In (max) | | | Power factor *Factor de potencia* cos φ | | Efficiency *Rendimiento* η % | | R.P.M. | Direct start *Arranque directo* | | Axial thrust *Carga axial* | Service factor *Factor de servicio* | I with S.F. I con S.F. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW | HP | 460 V A | 440 V A | 380 V A | 4/4 | 3/4 | 4/4 | 3/4 | | Is/In | Cs/Cn | N | | 460 V A | 440 V A | 380 V A |
| **10CS-R 75-60** | 75 | 100 | 127,1 | 132,9 | 153,9 | 0,86 | 0,82 | 85,6 | 85 | 3545 | 6,7 | 1,5 | 65000 | 1.15* | 144 | 150,5 | 174,3 |
| **10CS-R 92-60** | 92 | 125 | 153,9 | 160,9 | 186,3 | 0,87 | 0,82 | 86,3 | 86,3 | 3550 | 7,3 | 1,7 | 65000 | 1.15 | 174 | 181,9 | 210,6 |
| **10CS-R 110-60** | 110 | 150 | 183,4 | 191,7 | 222 | 0,87 | 8,1 | 86,5 | 85,6 | 3565 | 6,85 | 1,6 | 65000 | 1.15 | 206,8 | 16,2 | 250,3 |
| **10CS-R 132-60** | 132 | 180 | 216,5 | 226,3 | 262,1 | 0,87 | 0,83 | 87,3 | 86,8 | 3555 | 7,15 | 1,7 | 65000 | 1.15 | 244,4 | 255,5 | 295,9 |
| **10CS-R 150-60** | 150 | 200 | 247,1 | 258,3 | 299,1 | 0,87 | 0,81 | 87,8 | 88,3 | 3555 | 7,3 | 1,9 | 65000 | 1.15 | 277,8 | 290,4 | 336,3 |

P2 Rated power output  In Rated current  $\frac{I_A}{I_N}$ Starting current / Rated current  $\frac{C_A}{C_N}$ Starting torque/Nominal torque

# CS-R 60 Hz

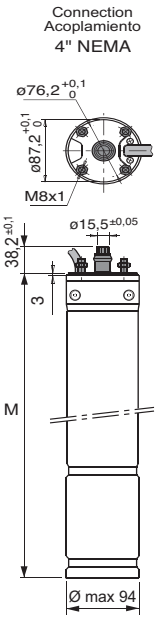
## Dimensions and weights, Dimensiones y pesos

### 4"CS - 1 ~

| Type | P2 kW | P2 HP | M mm | Weight Peso kg |
|---|---|---|---|---|
| **4CS-R 0,37MC-60** | 0,37 | 0,5 | 327 | 7,2 |
| **4CS-R 0,55MC-60** | 0,55 | 0,75 | 362 | 7,2 |
| **4CS-R 0,75MC-60** | 0,75 | 1 | 402 | 8,45 |
| **4CS-R 1,1MC-60** | 1,1 | 1,5 | 447 | 10,2 |
| **4CS-R 1,5MC-60** | 1,5 | 2 | 467 | 11,65 |
| **4CS-R 2,2MC-60** | 2,2 | 3 | 517 | 14,9 |

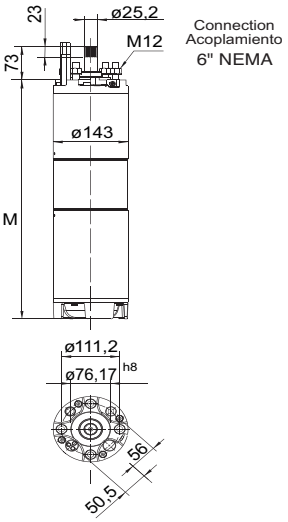
### 4"CS - 3 ~

| Type | P2 kW | P2 HP | M mm | Weight Peso kg |
|---|---|---|---|---|
| **4CS-R 0,37TC-60** | 0,37 | 0,5 | 331,4 | 7,2 |
| **4CS-R 0,55TC-60** | 0,55 | 0,75 | 331,4 | 7,2 |
| **4CS-R 0,75TC-60** | 0,75 | 1 | 356,4 | 8,45 |
| **4CS-R 1,1TC-60** | 1,1 | 1,5 | 371,4 | 9,35 |
| **4CS-R 1,5TC-60** | 1,5 | 2 | 396,4 | 10,2 |
| **4CS-R 2,2TC-60** | 2,2 | 3 | 436,5 | 11,65 |
| **4CS-R 3TC-60** | 3 | 4 | 450 | 12,1 |
| **4CS-R 4TC-60** | 4 | 5,5 | 505 | 15,1 |
| **4CS-R 5,5TC-60** | 5,5 | 7,5 | 589 | 19,8 |
| **4CS-R 7,5TC-60** | 7,5 | 10 | 800,2 | 28,95 |



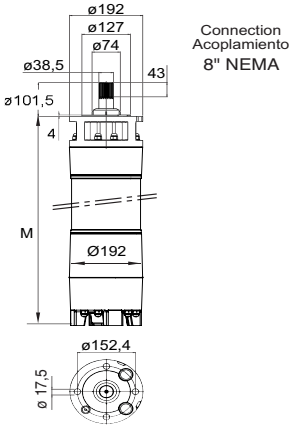

### 6"CS-R - 3 ~

| Type | P2 kW | P2 HP | M mm | Weight Peso kg |
|---|---|---|---|---|
| **6CS-R 4-60** | 4 | 5,5 | 570 | 34,6 |
| **6CS-R 5,5-60** | 5,5 | 7,5 | 615 | 39,6 |
| **6CS-R 7,5-60** | 7,5 | 10 | 670 | 44,4 |
| **6CS-R 9,2-60** | 9,2 | 12,5 | 700 | 47,7 |
| **6CS-R 11-60** | 11 | 15 | 715 | 52 |
| **6CS-R 13-60** | 13 | 17,5 | 750 | 56 |
| **6CS-R 15-60** | 15 | 20 | 790 | 59,8 |
| **6CS-R 18,5-60** | 18,5 | 25 | 830 | 64,2 |
| **6CS-R 22-60** | 22 | 30 | 920 | 74,5 |
| **6CS-R 26-60** | 26 | 35 | 1055 | 89,3 |
| **6CS-R 30-60** | 30 | 40 | 1165 | 101,9 |
| **6CS-R 37-60** | 37 | 50 | 1245 | 111 |
| **6CS-R 45-60** | 45 | 60 | 1322 | 123,3 |



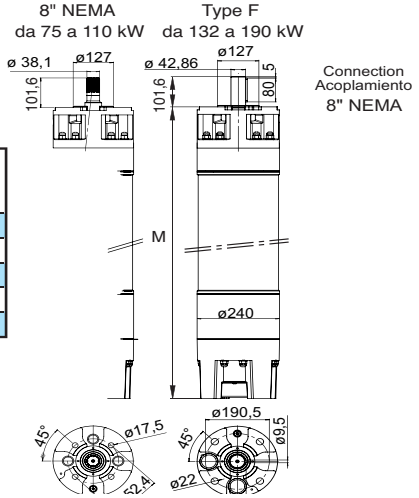

### 8"CS-R - 3 ~

| Type | P2 kW | P2 HP | M mm | Weight Peso kg |
|---|---|---|---|---|
| **8CS-R 30-60** | 30 | 40 | 1060 | 143 |
| **8CS-R 37-60** | 37 | 50 | 1115 | 155 |
| **8CS-R 45-60** | 45 | 60 | 1195 | 172 |
| **8CS-R 51-60** | 51 | 70 | 1290 | 192 |
| **8CS-R 59-60** | 59 | 80 | 1395 | 210 |
| **8CS-R 66-60** | 66 | 90 | 1430 | 219 |
| **8CS-R 75-60** | 75 | 100 | 1500 | 235 |
| **8CS-R 92-60** | 92 | 125 | 1685 | 265 |
| **8CS-R 110-60** | 110 | 150 | 1760 | 283 |




### 10"CS-R - 3 ~

| Type | P2 kW | P2 HP | M mm | Weight Peso kg |
|---|---|---|---|---|
| **10CS-R 75-60** | 75 | 100 | 1292 | 280 |
| **10CS-R 92-60** | 92 | 125 | 1422 | 318 |
| **10CS-R 110-60** | 110 | 150 | 1642 | 380 |
| **10CS-R 132-60** | 132 | 180 | 1712 | 403 |
| **10CS-R 150-60** | 150 | 200 | 1762 | 420 |



# CS-R 60 Hz

**Cable**

| **Motor 220V - 60Hz - 1~** | Sezione | Lunghezza |
|---|---|---|
| 4CS-R 0,37 ÷ 2,2 kW | 4 x 1,5 mm² | 1,7 m |

| **Motor 380V - 60Hz - 3 ~** | Sezione | Lunghezza |
|---|---|---|
| 4CS-R 0,37 ÷ 3 kW | 4 x 1,5 mm² | 1,7 m |
| 4CS-R 4 ÷ 7,5 kW | 4 x 2 mm² | 2,7 m |
| 6CS-R 4 ÷ 11 kW | 3 x (1x2,5) mm² | 3,5 m |
| 6CS-R 13 ÷ 22 kW | 3 x (1x4) mm² | 3,5 m |
| 6CS-R 26 - 30 kW | 3 x (1x6) mm² | 3,5 m |
| 6CS-R 37 - 45 kW | 3 x (1x10) mm² | 4,5 m |
| 8CS-R 30 ÷ 45 kW | 3 x (1x16) mm² | 4 m |
| 8CS-R 51 ÷ 92 kW | 3 x (1x25) mm² | 4 m |
| 8CS-R 110 kW | 3 x (1x35) mm² | 4 m |
| 10CS 75 kW | 3x(1x35) mm² | 4 m |
| 10CS 92 kW | 3x(1x50) mm² | 4 m |
| 10CS 110 ÷ 150 kW | 3x(1x70) mm² | 4 m |

**Cable**

| **Motor 220V - 60Hz - 1~** | Sección | Longitud |
|---|---|---|
| 4CS-R 0,37 ÷ 2,2 kW | 4 x 1,5 mm² | 1,7 m |

| **Motor 380V - 60Hz - 3 ~** | Sección | Longitud |
|---|---|---|
| 4CS-R 0,37 ÷ 3 kW | 4 x 1,5 mm² | 1,7 m |
| 4CS-R 4 ÷ 7,5 kW | 4 x 2 mm² | 2,7 m |
| 6CS-R 4 ÷ 11 kW | 3 x (1x2,5) mm² | 3,5 m |
| 6CS-R 13 ÷ 22 kW | 3 x (1x4) mm² | 3,5 m |
| 6CS-R 26 - 30 kW | 3 x (1x6) mm² | 3,5 m |
| 6CS-R 37 - 45 kW | 3 x (1x10) mm² | 4,5 m |
| 8CS-R 30 ÷ 45 kW | 3 x (1x16) mm² | 4 m |
| 8CS-R 51 ÷ 92 kW | 3 x (1x25) mm² | 4 m |
| 8CS-R 110 kW | 3 x (1x35) mm² | 4 m |
| 10CS 75 kW | 3x(1x35) mm² | 4 m |
| 10CS 92 kW | 3x(1x50) mm² | 4 m |
| 10CS 110 ÷ 150 kW | 3x(1x70) mm² | 4 m |

## Cooling jacket - Camisa de refrigeración

When the submersible motor is installed :

- below the well inlet points (**picture A**);
- in tanks, lakes, basins, etc… (**pictures B and C**)

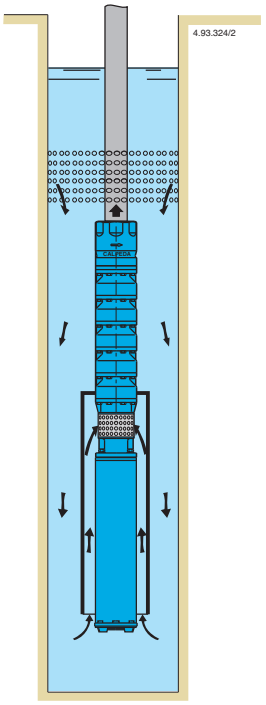
an external jacket must be installed to create a cooling flow around the motor. Only in this way a safe operation can be assured avoiding any overheating which can damage the motor.

Cuando el motor sumergible está instalado :

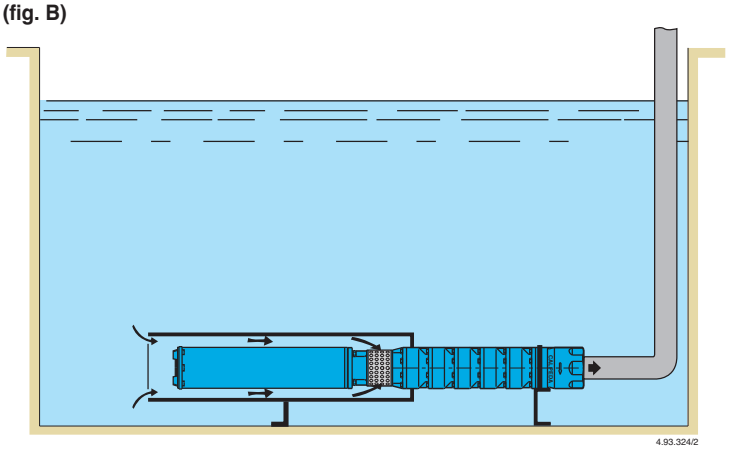
- bajo los puntos de pozos de entrada (**fig. A**);
- en tanques, lagos, embalses, etc… (**fig. B y C**)

debe instalarse una camisa externa para crear un flujo refrigerante alrededor del motor. Tan solo de esta forma puede asegurarse una operación sin riesgos, evitando cualquier sobrecalentamiento que pudiera dañar el motor.

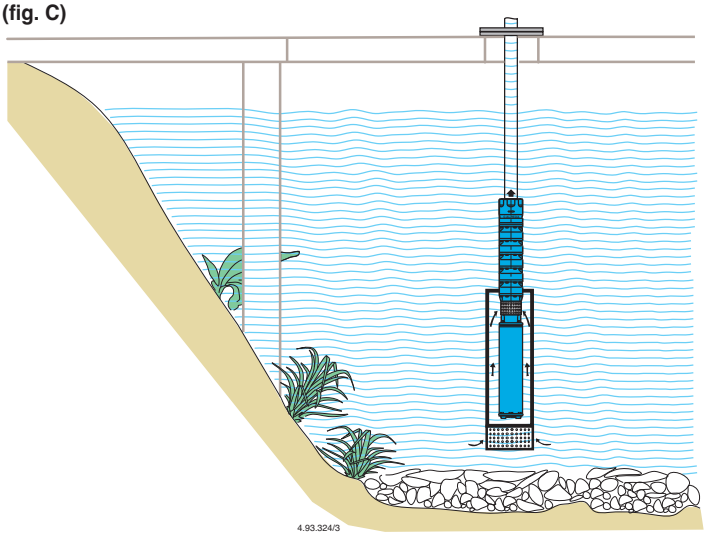
**(fig. A)**




**(fig. B)**




**(fig. C)**



# CS-R 60 Hz

## Maximum length of electric cables - Máxima longitud de los cables eléctricos

| AMP. | 220 V - 60 Hz 1~ | | | | |
|---|---|---|---|---|---|
| | 1 four-wires cable - cable cuatripolar **4 x ....**mm² | | | | |
| | **1,5** | **2,5** | **4** | **6** | **10** |
| | cables max m | | | | |
| 2 | 142 | 235 | | | |
| 4 | 71 | 117 | 188 | | |
| 6 | 47 | 78 | 126 | 188 | |
| 8 | 35 | 59 | 94 | 141 | 230 |
| 10 | 28 | 47 | 75 | 113 | 184 |
| 12 | 24 | 39 | 63 | 94 | 153 |
| 14 | 20 | 34 | 54 | 81 | 131 |
| 16 | 18 | 29 | 47 | 71 | 115 |
| 18 | | 26 | 42 | 63 | 102 |
| 20 | | 23 | 38 | 57 | 92 |
| 25 | | | 30 | 45 | 73 |
| 30 | | | 25 | 38 | 61 |

| AMP. | 110 V - 60 Hz 1~ | | | | |
|---|---|---|---|---|---|
| | 1 four-wires cable - cable cuatripolar **4 x ....**mm² | | | | |
| | **1,5** | **2,5** | **4** | **6** | **10** |
| | cables max m | | | | |
| 2 | 68 | 112 | | | |
| 4 | 34 | 56 | 90 | | |
| 6 | 23 | 37 | 60 | 90 | |
| 8 | 17 | 28 | 45 | 68 | 110 |
| 10 | 14 | 22 | 36 | 54 | 88 |
| 12 | 11 | 19 | 30 | 45 | 73 |
| 14 | 10 | 16 | 26 | 39 | 63 |
| 16 | 8 | 14 | 23 | 34 | 55 |
| 18 | | 12 | 20 | 30 | 49 |
| 20 | | 11 | 18 | 27 | 44 |
| 25 | | | 14 | 22 | 35 |
| 30 | | | 12 | 18 | 29 |

### Direct-starting - Arranque directo

| AMP. | 380 V - 60 Hz 3~ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 four-wires cable - cable cuatripolar **4** x ....mm² | | | | | | | | 4 cables **1** x ....mm² | | | | | | |
| | **1,5** | **2,5** | **4** | **6** | **10** | **16** | **25** | **35** | **50** | **70** | **95** | **120** | **150** | **185** | **240** |
| | cables max m | | | | | | | | | | | | | | |
| 2 | 271 | 448 | | | | | | | | | | | | | |
| 4 | 135 | 224 | 360 | | | | | | | | | | | | |
| 6 | 90 | 149 | 240 | 359 | | | | | | | | | | | |
| 8 | 68 | 112 | 180 | 270 | | | | | | | | | | | |
| 10 | 54 | 90 | 144 | 216 | | | | | | | | | | | |
| 12 | 45 | 75 | 120 | 180 | 292 | | | | | | | | | | |
| 14 | 39 | 64 | 103 | 154 | 250 | | | | | | | | | | |
| 16 | 34 | 56 | 90 | 135 | 219 | | | | | | | | | | |
| 18 | | 50 | 80 | 120 | 195 | 304 | | | | | | | | | |
| 20 | | 45 | 72 | 108 | 175 | 274 | | | | | | | | | |
| 25 | | | 58 | 86 | 140 | 219 | 336 | | | | | | | | |
| 30 | | | 48 | 72 | 117 | 182 | 280 | | | | | | | | |
| 35 | | | | 62 | 100 | 156 | 240 | 324 | | | | | | | |
| 40 | | | | 54 | 88 | 137 | 210 | 284 | | | | | | | |
| 45 | | | | | 78 | 122 | 187 | 252 | | | | | | | |
| 50 | | | | | 70 | 109 | 168 | 227 | 292 | | | | | | |
| 60 | | | | | | 91 | 140 | 189 | 243 | | | | | | |
| 70 | | | | | | 78 | 120 | 162 | 208 | 283 | | | | | |
| 80 | | | | | | | 105 | 142 | 182 | 248 | | | | | |
| 90 | | | | | | | 93 | 126 | 162 | 220 | 282 | | | | |
| 100 | | | | | | | 84 | 114 | 146 | 198 | 254 | | | | |
| 110 | | | | | | | | 103 | 133 | 180 | 231 | 274 | | | |
| 120 | | | | | | | | 95 | 122 | 165 | 212 | 252 | 290 | | |
| 130 | | | | | | | | | 112 | 153 | 195 | 232 | 268 | | |
| 140 | | | | | | | | | 104 | 142 | 182 | 216 | 248 | 287 | |
| 150 | | | | | | | | | 97 | 132 | 169 | 201 | 232 | 268 | |
| 160 | | | | | | | | | 91 | 124 | 159 | 189 | 217 | 251 | 293 |
| 170 | | | | | | | | | 86 | 117 | 149 | 178 | 205 | 236 | 276 |
| 180 | | | | | | | | | 81 | 110 | 141 | 168 | 193 | 223 | 260 |
| 190 | | | | | | | | | 77 | 104 | 134 | 159 | 183 | 212 | 247 |
| 200 | | | | | | | | | 73 | 99 | 127 | 151 | 174 | 201 | 234 |
| 220 | | | | | | | | | | 90 | 116 | 137 | 158 | 183 | 213 |
| 240 | | | | | | | | | | 83 | 106 | 126 | 145 | 167 | 195 |
| 260 | | | | | | | | | | | 98 | 116 | 134 | 155 | 180 |
| 280 | | | | | | | | | | | 91 | 108 | 124 | 144 | 167 |
| 300 | | | | | | | | | | | 85 | 101 | 116 | 134 | 156 |

| AMP. | 220 V - 60 Hz 3~ | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 four-wires cable - cable cuatripolar **4** x ....mm² | | | | | | | | 4 cables **1** x ....mm² | | | | |
| | **1,5** | **2,5** | **4** | **6** | **10** | **16** | **25** | **35** | **50** | **70** | **95** | **120** | **150** |
| | cables max m | | | | | | | | | | | | |
| 2 | 157 | 259 | | | | | | | | | | | |
| 4 | 78 | 130 | 208 | | | | | | | | | | |
| 6 | 52 | 86 | 139 | 208 | | | | | | | | | |
| 8 | 39 | 65 | 104 | 156 | 254 | | | | | | | | |
| 10 | 31 | 52 | 83 | 125 | 203 | | | | | | | | |
| 12 | 26 | 43 | 69 | 104 | 169 | | | | | | | | |
| 14 | 22 | 37 | 59 | 89 | 145 | 226 | | | | | | | |
| 16 | 20 | 32 | 52 | 78 | 127 | 198 | | | | | | | |
| 18 | | 29 | 46 | 69 | 113 | 176 | | | | | | | |
| 20 | | 26 | 42 | 62 | 101 | 158 | 243 | | | | | | |
| 25 | | | 33 | 50 | 81 | 127 | 194 | | | | | | |
| 30 | | | 28 | 42 | 68 | 106 | 162 | 219 | | | | | |
| 35 | | | | 36 | 58 | 91 | 139 | 188 | | | | | |
| 40 | | | | 31 | 51 | 79 | 121 | 164 | 211 | | | | |
| 45 | | | | | 45 | 70 | 108 | 146 | 188 | | | | |
| 50 | | | | | 41 | 63 | 97 | 131 | 169 | 230 | | | |
| 60 | | | | | | 53 | 81 | 110 | 141 | 191 | | | |
| 70 | | | | | | 45 | 69 | 94 | 121 | 164 | 210 | | |
| 80 | | | | | | | 61 | 82 | 106 | 144 | 184 | 218 | |
| 90 | | | | | | | 54 | 73 | 94 | 128 | 163 | 194 | |
| 100 | | | | | | | 49 | 66 | 84 | 115 | 147 | 175 | 201 |
| 110 | | | | | | | | 60 | 77 | 104 | 134 | 159 | 183 |
| 120 | | | | | | | | 55 | 70 | 96 | 123 | 146 | 168 |
| 130 | | | | | | | | | 65 | 88 | 113 | 134 | 155 |
| 140 | | | | | | | | | 60 | 82 | 105 | 125 | 144 |
| 150 | | | | | | | | | 56 | 77 | 98 | 117 | 134 |
| 160 | | | | | | | | | 53 | 72 | 92 | 109 | 126 |
| 170 | | | | | | | | | 50 | 68 | 87 | 103 | 118 |
| 180 | | | | | | | | | 47 | 64 | 82 | 97 | 112 |
| 190 | | | | | | | | | 44 | 60 | 77 | 92 | 106 |
| 200 | | | | | | | | | 42 | 57 | 74 | 87 | 101 |
| 220 | | | | | | | | | | 52 | 67 | 79 | 92 |
| 240 | | | | | | | | | | 48 | 61 | 73 | 84 |
| 260 | | | | | | | | | | | 57 | 67 | 77 |
| 280 | | | | | | | | | | | 53 | 62 | 72 |
| 300 | | | | | | | | | | | 49 | 58 | 67 |

Voltage drop 3%.
Maximum ambient temperature + 30 °C.

Caída de tensión 3%.
Máxima temperatura ambiente + 30 °C.

# CS-R 60 Hz

## Maximum length of electric cables - Máxima longitud de los cables eléctricos

### Star-delta starting - Máxima longitud de los cables eléctricos

| AMP. | 220/380 V - 60 Hz 3~ | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 four-wires cable - cable cuatripolar 4 x ....mm² | | | | | | | | 7 cables 1 x ....mm² | | | | |
| | 1,5 | 2,5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 150 |
| | cavi - cables - câbles - cables max m | | | | | | | | | | | | |
| 30 | 18 | 30 | 48 | 72 | 117 | 183 | | | | | | | |
| 35 | | 26 | 41 | 62 | 100 | 157 | | | | | | | |
| 40 | | 22 | 36 | 54 | 88 | 137 | | | | | | | |
| 45 | | 20 | 32 | 48 | 78 | 122 | 187 | | | | | | |
| 50 | | | 29 | 43 | 70 | 110 | 168 | | | | | | |
| 60 | | | | 36 | 59 | 91 | 140 | 190 | | | | | |
| 70 | | | | 31 | 50 | 78 | 120 | 162 | 209 | | | | |
| 80 | | | | | 44 | 69 | 105 | 142 | 183 | | | | |
| 90 | | | | | 39 | 61 | 93 | 126 | 162 | | | | |
| 100 | | | | | | 55 | 84 | 114 | 146 | 199 | | | |
| 110 | | | | | | 50 | 76 | 103 | 133 | 181 | | | |
| 120 | | | | | | 46 | 70 | 95 | 122 | 166 | | | |
| 130 | | | | | | 42 | 65 | 87 | 112 | 153 | 196 | | |
| 140 | | | | | | | 60 | 81 | 104 | 142 | 182 | | |
| 150 | | | | | | | 56 | 76 | 97 | 132 | 170 | | |
| 160 | | | | | | | 53 | 71 | 91 | 124 | 159 | 189 | |
| 170 | | | | | | | 49 | 67 | 86 | 117 | 150 | 178 | |
| 180 | | | | | | | | 63 | 81 | 110 | 141 | 168 | |
| 190 | | | | | | | | 60 | 77 | 105 | 134 | 159 | 183 |
| 200 | | | | | | | | | 73 | 99 | 127 | 151 | 174 |
| 220 | | | | | | | | | | 90 | 116 | 137 | 158 |
| 240 | | | | | | | | | | 83 | 106 | 126 | 145 |
| 260 | | | | | | | | | | 76 | 98 | 116 | 134 |
| 280 | | | | | | | | | | 71 | 91 | 108 | 124 |
| 300 | | | | | | | | | | 66 | 85 | 101 | 116 |

| AMP. | 380/660 V - 60 Hz 3~ | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2 four-wires cable - cable cuatripolar 4 x ....mm² | | | | | | | | 7 cables 1 x ....mm² | | | | |
| | 1,5 | 2,5 | 4 | 6 | 10 | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 150 |
| | cavi - cables - câbles - cables max m | | | | | | | | | | | | |
| 30 | 31 | 52 | 83 | 124 | 202 | 316 | | | | | | | |
| 35 | | 44 | 71 | 107 | 173 | 270 | | | | | | | |
| 40 | | 39 | 62 | 93 | 152 | 237 | | | | | | | |
| 45 | | | 55 | 83 | 135 | 210 | 323 | | | | | | |
| 50 | | | 50 | 75 | 121 | 189 | 290 | | | | | | |
| 60 | | | | 62 | 101 | 158 | 242 | 327 | | | | | |
| 70 | | | | 53 | 87 | 135 | 207 | 281 | | | | | |
| 80 | | | | | 76 | 118 | 182 | 246 | 316 | | | | |
| 90 | | | | | 67 | 105 | 161 | 218 | 280 | | | | |
| 100 | | | | | 61 | 95 | 145 | 196 | 252 | 343 | | | |
| 110 | | | | | 55 | 86 | 132 | 179 | 229 | 312 | | | |
| 120 | | | | | | 79 | 121 | 164 | 210 | 286 | | | |
| 130 | | | | | | 73 | 112 | 151 | 194 | 264 | 338 | | |
| 140 | | | | | | | 104 | 140 | 180 | 245 | 314 | | |
| 150 | | | | | | | 97 | 131 | 168 | 229 | 293 | | |
| 160 | | | | | | | 91 | 123 | 158 | 214 | 275 | 326 | |
| 170 | | | | | | | | 116 | 148 | 202 | 259 | 307 | |
| 180 | | | | | | | | 109 | 140 | 191 | 244 | 290 | |
| 190 | | | | | | | | 103 | 133 | 181 | 231 | 275 | 317 |
| 200 | | | | | | | | | 126 | 172 | 220 | 261 | 301 |
| 220 | | | | | | | | | | 156 | 200 | 237 | 274 |
| 240 | | | | | | | | | | 143 | 183 | 218 | 251 |
| 260 | | | | | | | | | | | 169 | 201 | 231 |
| 280 | | | | | | | | | | | 157 | 187 | 215 |
| 300 | | | | | | | | | | | 147 | 174 | 201 |

- Against short-circuits and overloads to the electric pumps system we advise to follow the usually applied normative.
- To avoid a possible dry working of the electric pump in is better to install a level control.
- In order to avoid overheatings, voltage grops above 3%, we advise to use suitable starting motors systems.
- All the cable wave to respect the usually applied normative and to present excellent insullation characteristics.

The tables show the maximum length of the cable depending on the current absorbed by the motor and the cross section area of the cable, at different voltages.
The maximum voltage drop equal to 3%, cable temperature of 80°C, water installation similar to air installation at a temperature of 30°C.

- Contra los cortocircuitos y sobrecargas en el sistema de bombas eléctricas se aconseja seguir la normativa general aplicada.
- Para evitar un posible funcionamiento en seco de la bomba eléctrica en es mejor instalar un control de nivel.
- Con el fin de evitar sobrecalentamientos, la tensión grops encima del 3%, le recomendamos el uso de sistemas de motores de partida adecuados.
- Todo cable debe respetar la normativa existente y características optimas de aislamiento.

Las tablas muestran la longitud máxima del cable en función de la corriente absorbida por el motor y el área de la sección transversal del cable, en diferentes voltajes.
La caída de tensión máxima a 3%, temperatura del cable de 80 ° C, la instalación de agua similar a la instalación de aire a una temperatura de 30 ° C.

## Choice of electric cable by calculation

For dimensioning the phase cross section area for the submersible motor need the following information:

- V: Rated voltage (V)
- I: Motor current (A)
- L: Length of cable (km)
- cos φ: power factor
- Ambient temperature (°C)

The choice of the minimum cross section area of the phase conductor is determined by the rated motor current and the values reported in Table 1.

Table 1

| Type of cable* | Cable cross section mm² | Maximum cable current | | | Resistance | Reactance |
|---|---|---|---|---|---|---|
| | | 1 Ader A [1] | A [2] | 2 Ader A [3] | R at 80°C ohm/km [4] | X at 60Hz ohm/km [4] |
| four-wires cable | 1.5 | 18 | | 15 | 15.1 | 0,170 |
| four-wires cable | 2.5 | 24 | | 20 | 9.08 | 0,157 |
| four-wires cable | 4 | 32 | | 27 | 5.63 | 0,145 |
| four-wires cable | 6 | 41 | | 35 | 3.73 | 0,138 |
| four-wires cable | 10 | 57 | | 48 | 2.27 | 0,124 |
| four-wires cable | 16 | 76 | | 65 | 1.43 | 0,118 |
| four-wires cable | 25 | 96 | | 82 | 0.91 | 0,116 |
| four-wires cable | 35 | | 119 | 101 | 0.65 | 0,113 |
| single-wire cable | 50 | | 167 | 142 | 0.473 | 0,145 |
| single-wire cable | 70 | | 216 | 184 | 0.328 | 0,139 |
| single-wire cable | 95 | | 264 | 224 | 0.236 | 0,142 |
| single-wire cable | 120 | | 308 | 262 | 0.188 | 0,136 |
| single-wire cable | 150 | | 356 | 303 | 0.153 | 0,134 |
| single-wire cable | 185 | | 409 | 348 | 0.123 | 0,131 |
| single-wire cable | 240 | | 485 | 412 | 0.094 | 0,132 |

[1] IEC 60364-5-52:2009 Tab.B52.4 / C
[2] IEC 60364-5-52:2009 Tab.B52.6
[3] 1)x0,85 IEC 60364-5-52:2009 Tab.B52.17 ITEM2
[4] UNEL 35023-70

* Up to 35 mm² sections four-wire cable are used, from 50 mm² single core cables are recommended as well.Tab.1

The maximum current of the cables listed in Table 1 are for ambient temperature of 30 ° C.
When the temperature is different, the maximum current of the cables should be corrected by a factor given in Table 2.

Table 2 (IEC 60364-5-52:2009 Tab.B.52.14)

| Ambient Temperature °C | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Correction factor | 1,22 | 1,17 | 1,12 | 1,06 | 1 | 0,94 | 0,87 | 0,79 | 0,71 | 0,61 | 0,5 |

The cross section area of the phase conductor is choosen by checking the voltage drop along the line , through the following equation:

$$DU\% = 1{,}73 * I * L * (R * \cos\varphi + X * \text{sen}\,\varphi) / (V * 1000)$$

DU% the voltage drop should not be greater than 3%
R, X = cable resistance and reactance in ohms/km (indicated in Table 1)
$\text{sen}\varphi = \sqrt{1-(\cos\varphi)^2}$

In case of star / delta starting the rated current of the motor should be divided by 1.73.

Determination of minimal sections of the protective conductor PE.

Table 3 (CEI 64-8:2007 Tab.54F)

| Phase cross section area S mm² | PE cross section area $S_{PE}$ mm² |
|---|---|
| S ≤ 16 | S |
| 16 < S ≤ 25 | 16 |
| S > 25 | S/2 |

## Cálculo de la sección del cable eléctrico

Para dimensionar el área de sección del cable para el motor sumergible necesitará la siguiente información:

- V: Tensión nominal (V)
- I: Corriente del motor (A)
- L: Longitud del cable (km)
- cos : factor de potencia
- Temperatura ambiente (° C)

La elección del área de la sección mínima del cable se determina por la corriente nominal del motor y los valores reportados en la Tabla 1.

Table 1

| Tipo de cable* | Sección del cable mm² | Corriente máxima de cable | | | Resistencia | Reactancia |
|---|---|---|---|---|---|---|
| | | 1 Ader A [1] | A [2] | 2 Ader A [3] | R at 80°C ohm/km [4] | X at 60Hz ohm/km [4] |
| four-wires cable | 1.5 | 18 | | 15 | 15.1 | 0,170 |
| four-wires cable | 2.5 | 24 | | 20 | 9.08 | 0,157 |
| four-wires cable | 4 | 32 | | 27 | 5.63 | 0,145 |
| four-wires cable | 6 | 41 | | 35 | 3.73 | 0,138 |
| four-wires cable | 10 | 57 | | 48 | 2.27 | 0,124 |
| four-wires cable | 16 | 76 | | 65 | 1.43 | 0,118 |
| four-wires cable | 25 | 96 | | 82 | 0.91 | 0,116 |
| four-wires cable | 35 | | 119 | 101 | 0.65 | 0,113 |
| single-wire cable | 50 | | 167 | 142 | 0.473 | 0,145 |
| single-wire cable | 70 | | 216 | 184 | 0.328 | 0,139 |
| single-wire cable | 95 | | 264 | 224 | 0.236 | 0,142 |
| single-wire cable | 120 | | 308 | 262 | 0.188 | 0,136 |
| single-wire cable | 150 | | 356 | 303 | 0.153 | 0,134 |
| single-wire cable | 185 | | 409 | 348 | 0.123 | 0,131 |
| single-wire cable | 240 | | 485 | 412 | 0.094 | 0,132 |

[1] IEC 60364-5-52:2009 Tab.B52.4 / C
[2] IEC 60364-5-52:2009 Tab.B52.6
[3] 1)x0,85 IEC 60364-5-52:2009 Tab.B52.17 ITEM2
[4] UNEL 35023-70

* Cable de hasta 35 mm² secciones de cuatro hilos se utilizan, de 50 mm² se recomiendan cables unipolares como muestra la Tabla.1

La corriente máxima de los cables que aparecen en la Tabla 1 son para temperatura ambiente de 30 ° C.
Cuando la temperatura es diferente, la corriente máxima de los cables tiene que ser corregido por un factor de corrección en la Tabla 2

Tabla 2 (IEC 60364-5-52:2009 Tab.B.52.14)

| Temperatura ambiente °C | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Factor de corrección | 1,22 | 1,17 | 1,12 | 1,06 | 1 | 0,94 | 0,87 | 0,79 | 0,71 | 0,61 | 0,5 |

El área de la sección del cable se elige mediante la comprobación de la caída de tensión a lo largo de la línea, a través de la ecuación siguiente:

**DU% = 1,73*I*L*(R*cos φ+X*sen φ)/(V*1000)**

DU% la caída de tensión no debe ser superior al 3%
R, X = resistencia del cable y la reactancia en ohmios / km (indicado en la Tabla 1)
$\text{sen}\varphi = \sqrt{1-(\cos\varphi)^2}$

En caso de arranque estrella/triangulo (y/) la corriente nominal del motor se divide por 1,73

Determinación de las secciones mínimas del conductor de protección PE

Tabla 3 (CEI 64-8:2007 Tab.54F)

| Sección transversal de la Fase S mm² | Área de sección transversal PE mm² |
|---|---|
| S ≤ 16 | S |
| 16 < S ≤ 25 | 16 |
| S > 25 | S/2 |

# NCE 60 Hz

## Heating and conditioning
## Calefacción y climatización





## NCE EI pag. 404

Energy saving circulating pumps

*Circuladoras electrónicas de bajo consumo energético*



## NCE H pag. 409

Energy saving circulating pumps

*Circuladoras electrónicas de bajo consumo energético*



## NCED H pag. 409

Energy saving circulating twin pumps

*Circuladoras gemelas de bajo consumo energético*



## NCE H F pag. 417

Energy saving circulating pumps with flanges

*Circuladoras de bajo consumo energético embridadas*



## NCED H F pag. 417

Energy saving circulating twin pumps with flanges

*Circuladoras gemelas de bajo consumo energético embridadas*



## NCE HQ F pag. 425

Energy saving circulating pumps with flanges

*Circuladoras de bajo consumo energético embridadas*



## NCED HQ F pag. 436

Energy saving circulating twin pumps with flanges

*Circuladoras gemelas de bajo consumo energético embridadas*



## NCE EL pag. 439

Energy saving circulating pumps for solar systems

*Circuladoras para placas solares de bajo consumo energético*



## NCE ES pag. 444

Energy saving circulating pumps for sanitary hot water

*Circuladoras de agua caliente sanitaria de bajo consumo energético*



## NCE PS pag. 449

Energy saving circulating pumps for sanitary hot water

*Circuladoras de agua caliente sanitaria de bajo consumo energético*



## NCS3 pag. 454

Circulating pumps for sanitary hot water

*Circuladoras de agua caliente sanitaria*



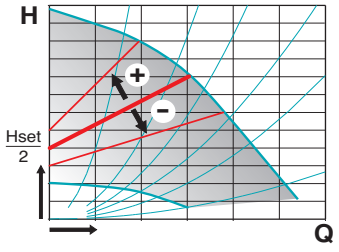
## NC3 pag. 458

Three speeds circulating pumps with threaded ports

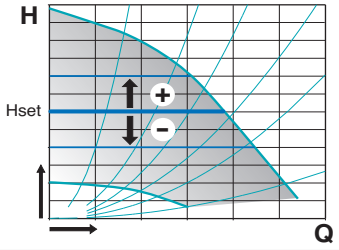
*Bombas de circulación de 3 velocidades roscadas*

## STANDARD OPERATING MODE IN CIRCULATING PUMPS

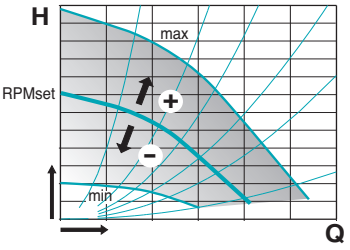
**Proportional pressure curve**
In the proportional pressure operating mode the pump changes the working pressure in-line with the flow demand of the system.
This operating mode is mainly used in:
- two pipe heating systems with thermostatic valves,
- systems with long pipelines;
- systems with high head losses.




**Constant pressure curve**
In the constant pressure operating mode, the pump, keeps the pressure constant when the demand for water changes.
This operating mode is mainly used in:
- two pipe heating systems with thermostatic valves and low head losses
- underfloor heating systems with thermostatic valves;
- one pipe heating systems with thermostatic valves.

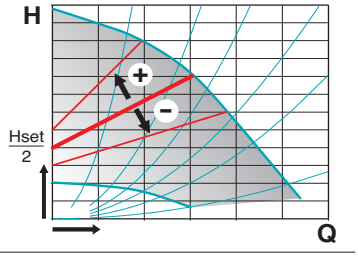



**Constant speed curve**
In this operating mode the pump works as a traditional pump with a constant curve, the operating curve can be chosen by the user within a range of curves.

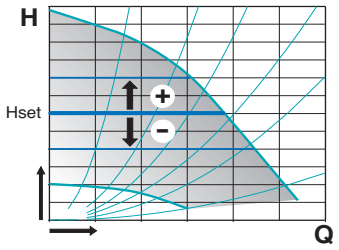



## MODALIDAD DE FUNCIONAMIENTO ESTANDAR EN LOS CIRCULADORES ELECTRÓNICOS

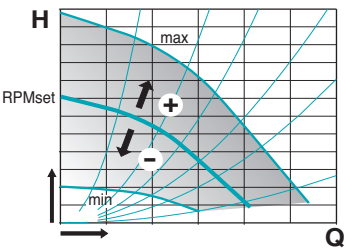
**Curva de presión proporcinal**
El modo de funcionamiento con las curvas de presión proporcional varía la presión de funcionamiento en función de la solicitud de flujo.
Este modo se utiliza principalmente en:
- Los sistemas de calefacción de 2 tubos con válvulas termostáticas,
- Los sistemas con tuberías muy largas;
- Los sistemas con grandes pérdidas.




**Curva de presión costante**
El modo de funcionamiento con las curvas a presión constante mantiene la presión de trabajo constante, incluso en presencia de cambios en la demanda de flujo.
Este modo se utiliza principalmente en:
- Los sistemas de calefacción de dos tubos con válvulas termostáticas con pequeñas pérdidas.
- Sistemas de calefacción por suelo radiante con válvulas termostáticas.
- Los sistemas de una tubería con válvulas termostáticas.




**Curva de velocidad fija**
En este modo, las funciones del circulador con una curva constante, la curva de funcionamiento se pueden configurar por el usuario dentro de un rango de curvas.

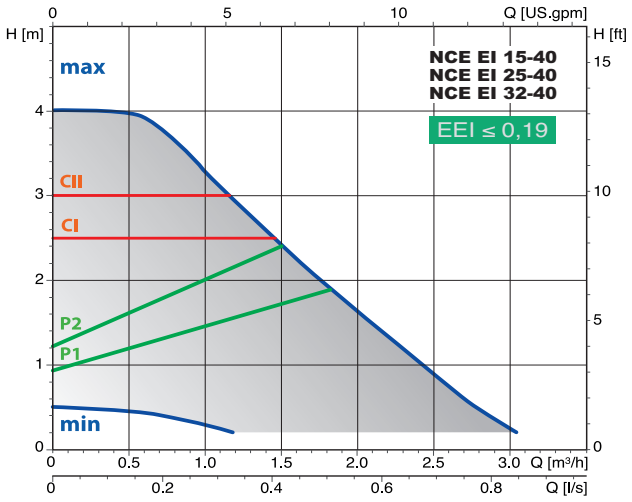


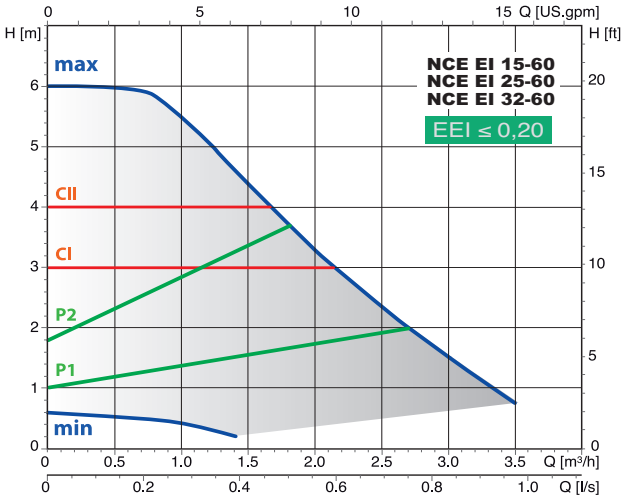
# NCE EI 60 Hz

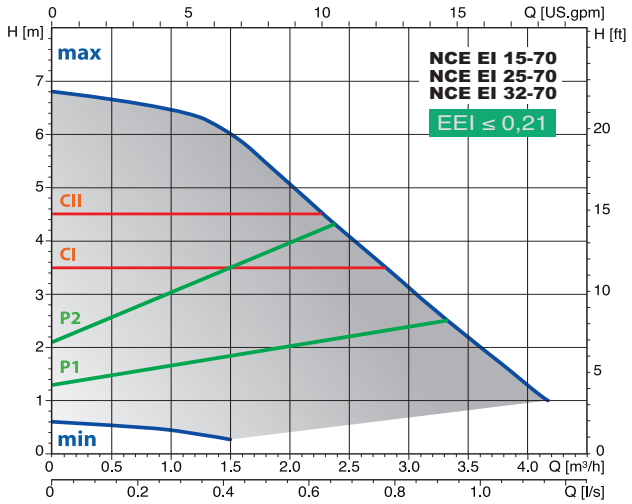
## Energy saving circulating pumps
## Circuladoras de bajo consumo energético




## Characteristic curves - Curvas características




**CI-CII** constant curve
**P1-P2** proportional curve
**min-max n** fixed curves

**CI-CII** Curva constante
**P1-P2** Curva constante
**min-max n** Curva fija

# NCE EI 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

## Ejecución
Circuladora de alta eficiencia energética de velocidad variable dirigida por un motor sincrónico de imán permanente controlado por convertidor de frecuencia.

## Applications
Small domestic heating systems.
Floor heating systems.

## Aplicaciónes
Sistemas de calefacción domésticos.
Módulos para la calefacción por suelo radiante.

## Operating conditions
- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 6 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C
  1,0 bar at 95 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2, G 2
- The benchmark for most efficient circulators is EEI ≤ 0,20.
- Minimun power: 3 W.

## Limites de empleo
- Temperatura del líquido de +2 °C a +95 °C
- Temperatura ambiente de 0 °C a +40 °C
- Presión máxima: 6 bar
- Almacenaje: -20 °C/+70 °C Humedad Relativa 95% a 40%
- Marcado: conforme a los requisitos de marca CE
- Nivel sonoro ≤ 43 dB (A)
- Presió mínima en lase de aspiración: 0,3 bar a 50 °C
  1,0 bar a 95 °C
- Cantidad máxima de glicol: 40%
- EMC según: EN 55014-1, EN 61000-3-2, EN 55014-2
- Bocas roscadas según ISO 228: G 1, G 1 ½, G 2
- Índice de referéncia de los circuladores más eficientes es IEE ≤ 0,20.
- Potencia mínima: 3 W.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
  1) automatic protection with electronic rotor release
  2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Motor
- Motor sincrónico con imán permanente.
- Número de vueltas del motor: variable
- Tensión de alimentación: monofásica 230 V (-10%; +6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: H
- Aparato clase II
- Protección contra las sobrecargas (rotor bloqueado):
  1.Protección automática con función de desbloqueo electrónico del rotor
  2.Protección con protector tèrmico
- Cableado: cable con fase y neutro
- Realización conforme a: EN 60335-1, EN 60335-2-51.

## Special features on request
Brass or cast iron unions.
EPP thermal insulation shell.

## Ejecuciónes especiales bajo demanda
Uniones de latón o hierro.
Aislamiento térmico con protector térmo-aislante EPP.

## Designation

NCE EI 32 - 60 / 180

- Series
- Version
- DN ports in mm
- Max. head in dm
- connection size mm

## Désignation

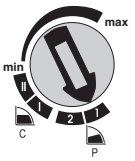
NCE EI 32 - 60 / 180

- Série
- Versión
- DN des orifices en mm
- Altura máxima dm
- Espacio para la instalación de mm

## Operating modes

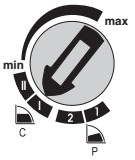


**PROPORTIONAL CURVE PROGRAMMING Δp-v**
(GREEN LED)
Moving the switch to 1 or 2 setting, the pump operates with the proportional curve.
This mode ensures maximum energy efficiency.



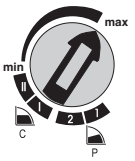



**CONSTANT CURVE PROGRAMMING Δp-c**
(ORANGE LED)
Moving the switch to I or II setting, the pump operates with a constant curve according to the selected flow rates.






**MANUAL PROGRAMMING**
(BLUE LED)
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



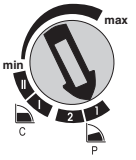



**WARNING!**
- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

## Modo de funcionamiento

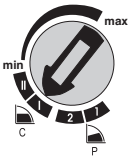


PROGRAMA CURVA **PROPORCIONAL Δp-v**
(LED VERDE)
Al mover el interruptor a la posición 1 o 2, la bomba produce una curva de rendimiento proporcional.
Esta operación garantiza la máxima eficiencia energética.



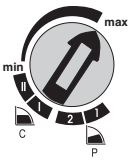



PPROGRAMA CURVA **COSTANTE Δp-c**
(LED NARANJA)
Al mover el interruptor a la posición I o II, la bomba produce una curva de rendimiento constante a la variación del caudal.






PROGRAMA **MANUAL**
(LED AZUL)
Mover el interruptor en cualquier lugar entre MIN y MAX, es posible seleccionar manualmente la curva de trabajo más adecuada a la maquinaria.





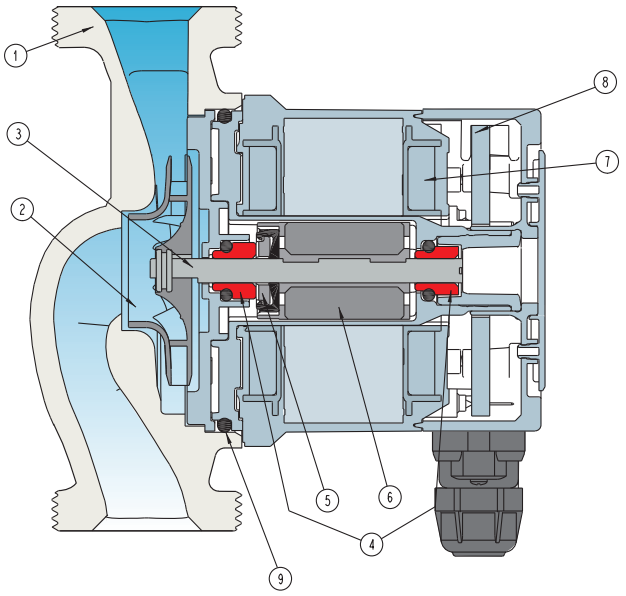

**ATENCIÓN!**
- Led rojo:la bomba está en un estado bloqueado, pero es todavía bajo tensión.
- Led blanco con intermitencia: se necesita desgasificar la planta, aire en el sistema.

# NCE EI 60 Hz

## Materials - Materiales

| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Cast iron GJL 200 EN 1561 |
| Impeller | 2 | Composite |
| Shaft | 3 | Ceramic |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Composite / Ferrite |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

| Componente | Pos. | Material |
|---|---|---|
| Cuerpo bomba | 1 | Acero GJL 200 EN 1561 |
| Rodete | 2 | Compuesto |
| Eje | 3 | Cerámica |
| Rodamientos | 4 | Carbono |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Compuesto/Ferrita |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |




## Features

### Compact design
The space saving **NCE EI** is a very compact circulating pump, allows for easy installation in small domestic heating systems.

### Easy to install and to adjust
Installing the **NCE EI** is considerably simplified by the quick setting and power installation plug.

### Reliable
Like all our electronic circulating pumps, the **NCE EI** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.
Ceramic shaft
Hydraulics components are completely painted with cataphoresis.

### Easy use
Operating range with fixed curves from 0,5 m to 7 m; possibility to choose 2 (1-2) proportional pressure curves and 2 (I-II) constant pressure curves.

## Características constructivas

### Diseño compacto
Un producto de dimensiones mínimas para facilitar la instalación también en lugares estrechos, como en módulos para calefacción por suelo.

### Fácil instalación y regulación
La instalación de la circuladora NCE EI es sencilla para una conexión rápida con enchufe.

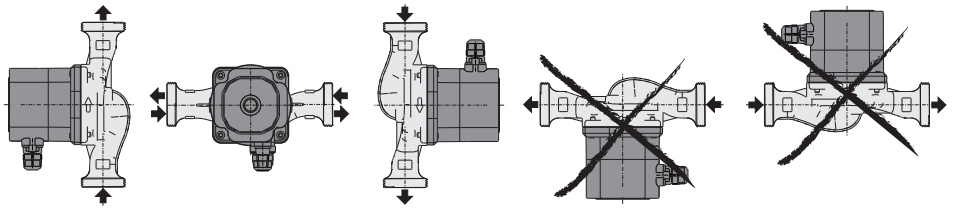
### Fiabilidad
NCE EI ha patentado la cámara cuadrada que elimina cualquier posibilidad de parar el motor.
Eje del motor en cerámica.
Hidráulico completamente pintada con electroforesis.
Programa para rutina de ventilaciòn y desbloqueo.

### Utilización fácil e intuitivo
Uso con curvas fijas de 0,6 m a 7 m; es posible elegir 2 curvas de presión proporcional o 2 curvas de presión constante.

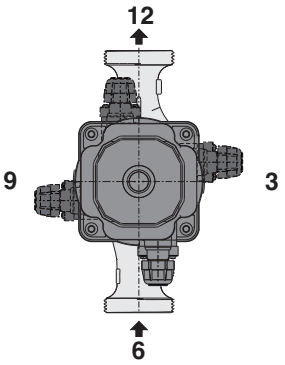
# NCE EI 60 Hz

## Examples of installations - Ejemplo de instalación

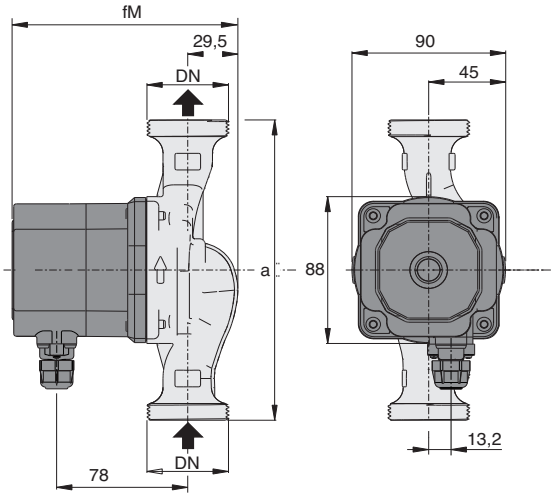
**Installation**
**Instalación**



**Terminal box arrangement** (on request)
**Posición de la caja de terminales** (bajo demanda)

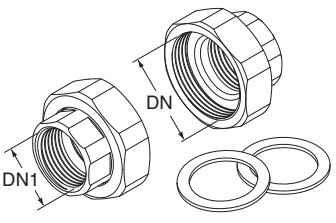



## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | DN | 230V A max | 230V A min | P1 W max | P1 W min | mm fm | mm a | kg |
|---|---|---|---|---|---|---|---|---|
| **NCE EI 15-40/130** | G 1 | 0,17 | 0,03 | 22 | 3 | 134 | 130 | 1,67 |
| **NCE EI 25-40/130** | G 1 1/2 | | | | | | | 1,81 |
| **NCE EI 25-40/180** | G 1 1/2 | 0,17 | 0,03 | 22 | 3 | 134 | 180 | 1,96 |
| **NCE EI 32-40/180** | G 2 | | | | | | | 2,10 |
| **NCE EI 15-60/130/A** | G 1 | 0,33 | 0,03 | 42 | 3 | 134 | 130 | 1,67 |
| **NCE EI 25-60/130/A** | G 1 1/2 | | | | | | | 1,81 |
| **NCE EI 25-60/180/A** | G 1 1/2 | 0,33 | 0,03 | 42 | 3 | 134 | 180 | 1,96 |
| **NCE EI 32-60/180/A** | G 2 | | | | | | | 2,10 |
| **NCE EI 15-70/130** | G 1 | 0,44 | 0,03 | 56 | 3 | 144 | 130 | 1,91 |
| **NCE EI 25-70/130** | G 1 1/2 | | | | | | | 2,05 |
| **NCE EI 25-70/180** | G 1 1/2 | 0,44 | 0,03 | 56 | 3 | 144 | 180 | 2,20 |
| **NCE EI 32-70/180** | G 2 | | | | | | | 2,34 |

**Unions** (on request)
**Uniones** (bajo demanda)



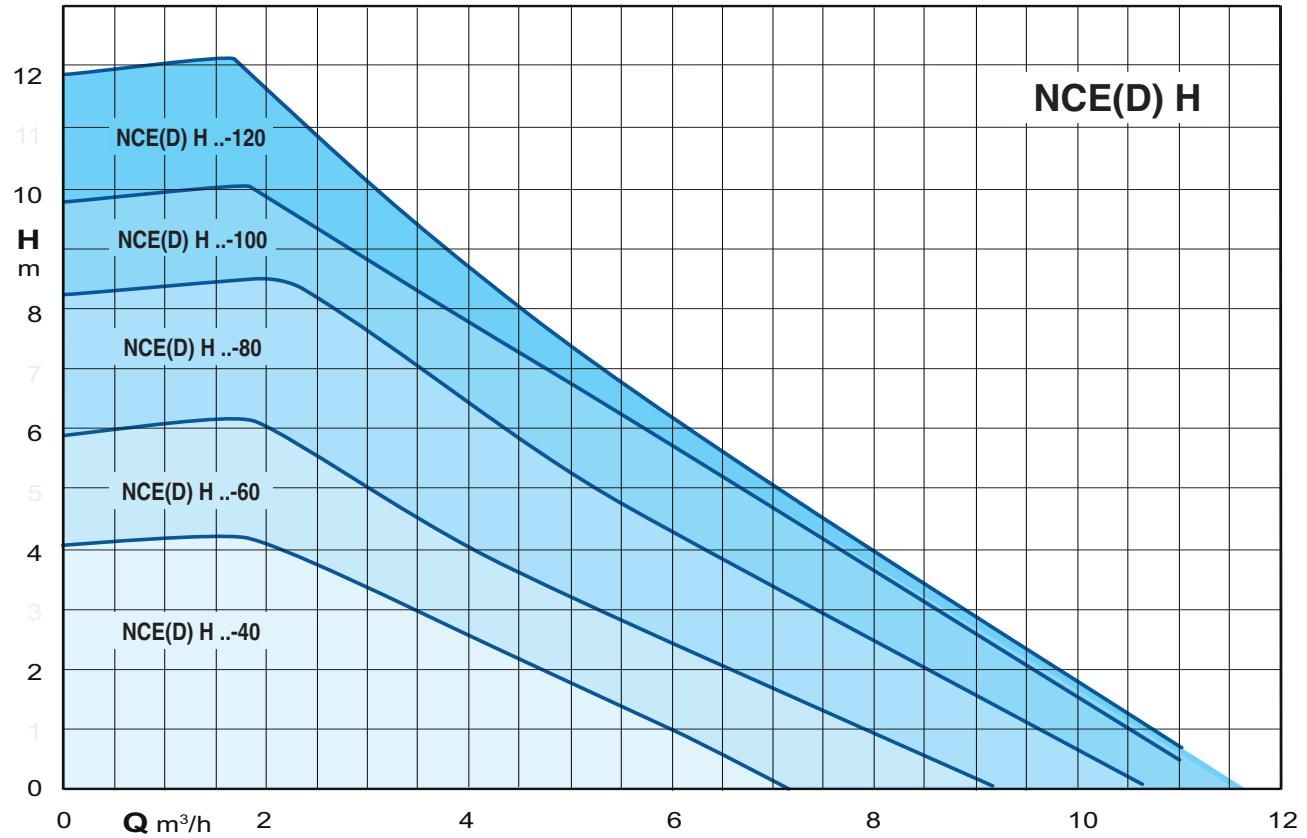

| | DN | DN1 |
|---|---|---|
| **KIT G 1 - G 1/2** (NCE . 15..) | G 1 | G 1/2 |
| **KIT G 1 1/2 - G 1** (NCE . 25..) | G 1 1/2 | G 1 |
| **KIT G 2 - G 1 1/4** (NCE . 32..) | G 2 | G 1 1/4 |

# NCE(D) H 60 Hz

## Energy saving circulating pumps
## Circuladoras de bajo consumo energético




### Coverage chart - Campo de aplicaciones



# NCE(D) H 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

## Smart pump
**NCE H** adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

## Easy use
There are different operating modes selectable from the control panel.

## Applications
Heating and conditioning systems.

## Operating conditions
- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
  - 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
  EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/2, G 2.
- The benchmark for most efficient circulators is EEI ≤ 0,20.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50/60 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Special features on request
Additional module (included with NCEDH):
- Modbus
- Eternet
- analog input 0-10V
- remote on/off input
- output relay

## Designation

NCE(D) H 25 - 100 / 180

- Series
- Twin pumps version
- Version
- DN ports in mm
- Max. head in dm
- connection size mm

## Ejecución
Circuladora de alta eficiencia energética de velocidad variable dirigida por un motor síncrono de imán permanente controlado por convertidor de frecuencia.

## Bomba inteligente
La **NCE H** adapta sus funciones al sistema, el circulador mide la presión y el caudal y ajusta la velocidad de la presión seleccionada.

## Fácil utilización
La selección de los diferentes modos se pueden seleccionar desde el panel de control.

## Aplicaciones
Sistemas de calefacción y de aire acondicionado

## Datos Técnicos
- Temperatura del líquido de +2 °C a +110 °C
- Temperatura ambiente de 0 °C a +40 °C
- Presión máxima: 10 bar
- Almacenaje: -20°C/+70°C UR 95% a 40 °C
- Marcado: conforme a los requisitos CE
- Nivel sonoro ≤ 40 dB (A).
- Presión mínima de aspiración: - 0,05 bar a 75 °C,
  - 0,28 bar a 90°C
- Máx. cantidad de glicol: 20%
- EMC según: EN 55014-1, EN 55014-2
  EN 61000-3-2.
- Bocas roscadas según ISO 228: G 1 1/2, G 2
- Índice de referéncia de los circuladores más eficientes es IEE ≤ 0,20.

## Motor
Motor síncrono con imanes permanentes.
- Número de revoluciones del motor: Variable
- Tensión de alimentación: monofásico 230 V (-10%;+6%)
- Frecuencia: 50/60 Hz
- Protección: IP 44
- Clase de aislamiento: F
- Protección de la sobrecarga (integrado)
- Cable: fases y neutro
- Ejecución según: EN 60335-1, EN 60335-2-51.

## Ejecuciones especiales bajo demanda
Modulo opcional (incluido con NCEDH):
- Modbus
- Eternet
- entrada analogìca 0-10 V
- entrada remota on/off
- salida a relé

## Designación

NCE(D) H 25 - 100 / 180

- Série
- Versión gemela
- Versión
- DN agujeros en mm
- Altura máxima dm
- Espacio para la instalación de mm

# NCE(D) H 60 Hz

## Operating modes

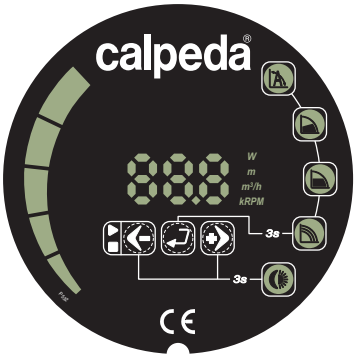
**Automatic mode**
(factory setting):
In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.

**Proportional pressure mode**:
The circulator changes the pressure propotionally to the current flow.
The pressure value can be adjusted with the + and – buttons.

**Constant pressure mode**:
The circulator mantains the pressure constant when the reference flow changes.
The pressure value can be adjusted with the + and – buttons.

**Fixed speed mode**:
The circulator works with constant curve and the curve could be changed using + e – buttons.

**Night mode**:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.




**Operating mode-control panel**

**NCE H** could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

## Modo de funcionamiento

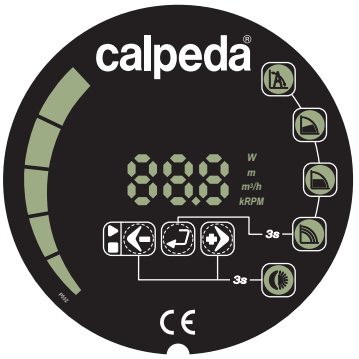
**Modo automático**
(Ajuste de fábrica):
Es el modo recomendado de utilización, en esta posición la circuladora busca el punto óptimo de uso en base a lo requerido.

**Modo a presión proporcional:**
la presión de la bomba varía en proporción al caudal.
La presión se puede ajustar con los botones + y - .

**Modo a presión constante:**
El circulador mantiene la presión constante al variar el caudal.
La presión se puede ajustar con los botones + y - .

**Modo a velocidad fija:**
la bomba funciona a la curva constante y la curva de uso , puede cambiar con las teclas + y - .

**Modo nocturno**
Cuando la temperatura del líquido se reduce a 15-20 ° C y luego entrar en la función de noche, en la práctica el circulador funciona de curva mínimo.
Cuando la temperatura se eleva la función de la noche se eliminó y la operación vuelve a la normalidad .
El modo nocturno se puede configurar con todos los aspectos de su uso.



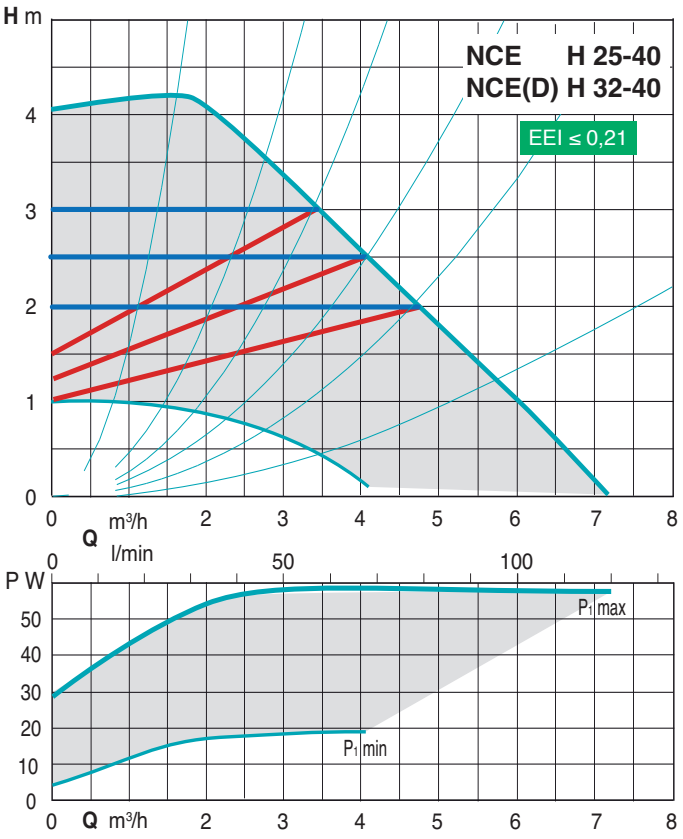

**Panel de control Funciones utilización**

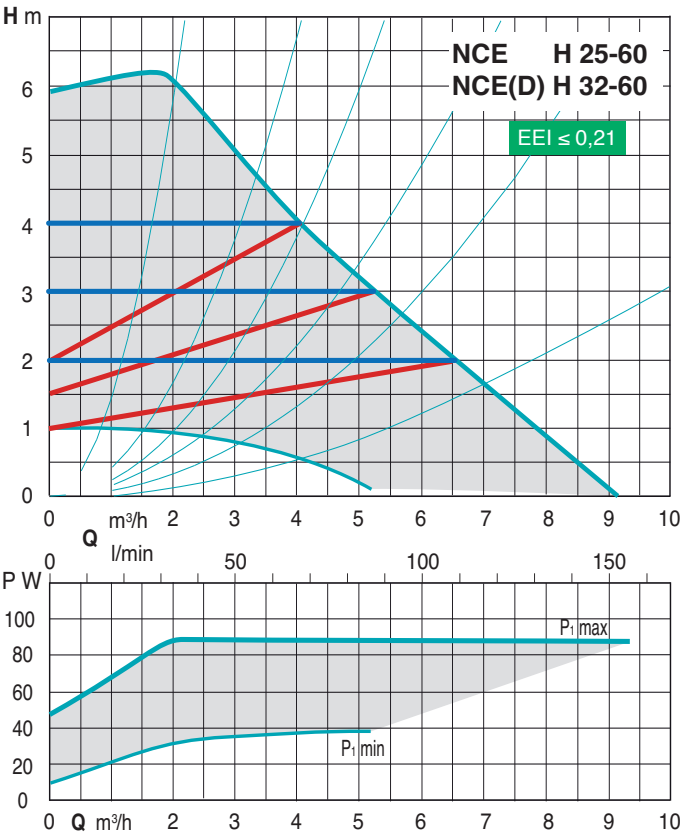
La bomba **NCE H** puede funcionar en:
- Modo automático
- Modo de presión proporcional
- Modo a presión constante
- El modo de velocidad fija
- Modo nocturno

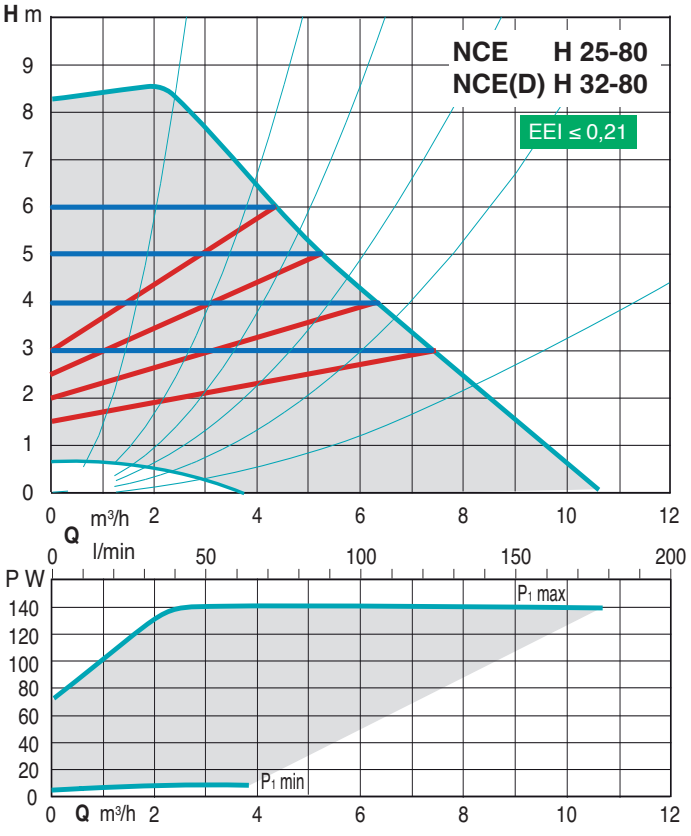
El modo nocturno se puede configurar con todos los aspectos de uso.

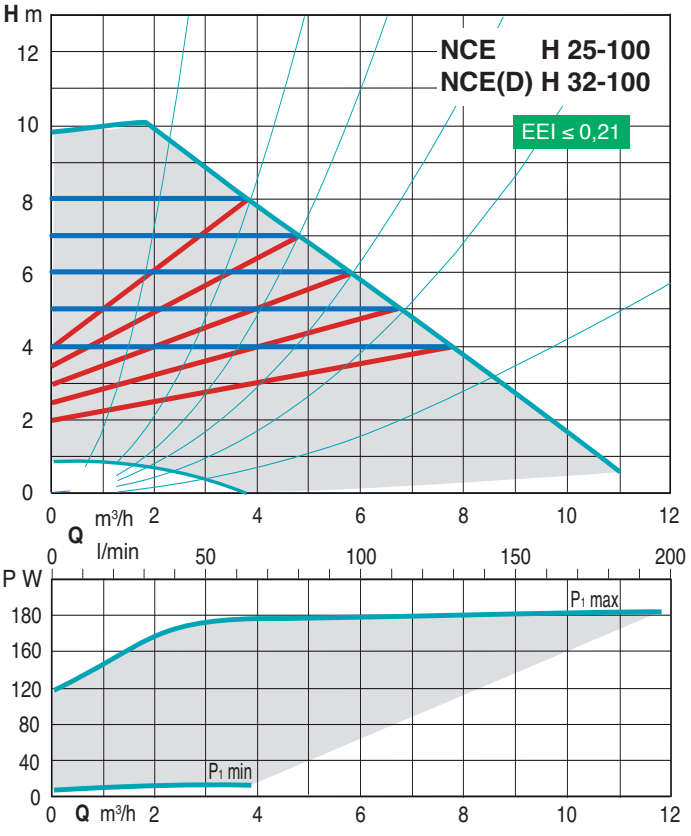
# NCE(D) H 60 Hz

## Characteristic curves - Curvas características



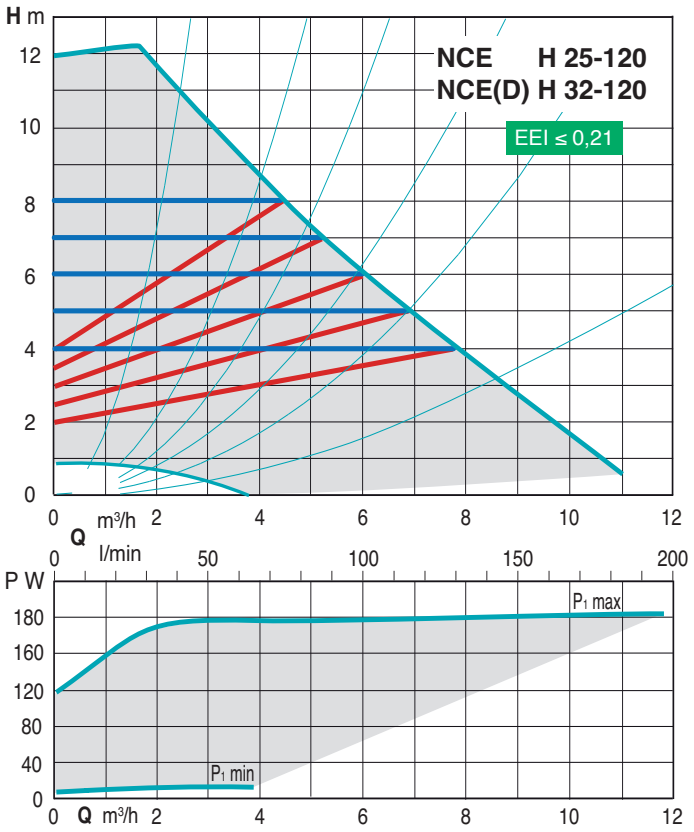



# NCE(D) H 60 Hz

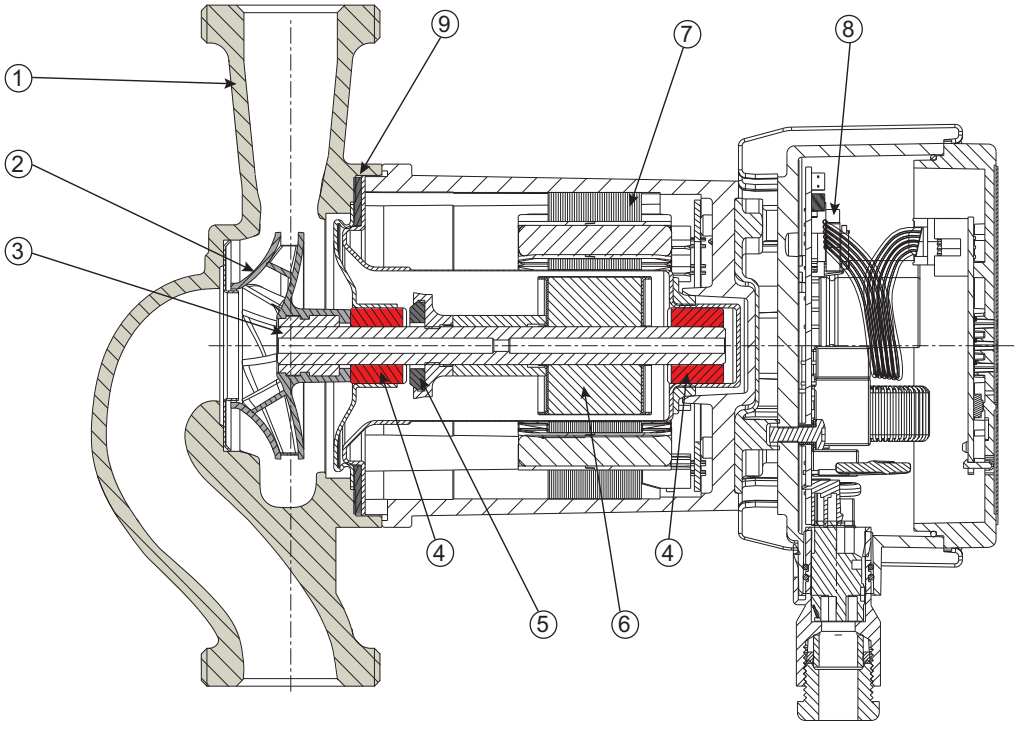
## Characteristic curves - Curvas características



## Materials - Materiales

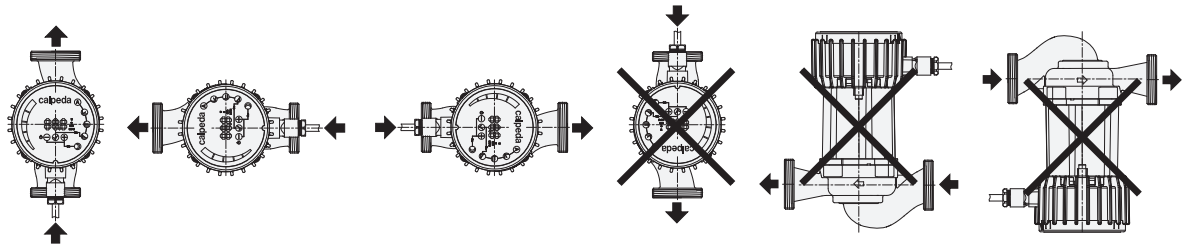
| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Cast iron GJL 200 EN 1561 |
| Impeller | 2 | Composite |
| Shaft | 3 | Stainless steel |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Stainless steel jacket |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

| Componente | Pos. | Material |
|---|---|---|
| Cuerpo Bomba | 1 | Hierro GJL 200 EN 1561 |
| Rodete | 2 | Material Composite |
| Eje | 3 | Acero inoxidable |
| Rodamientos | 4 | Carbón |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Camisa en acero inoxidable |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |

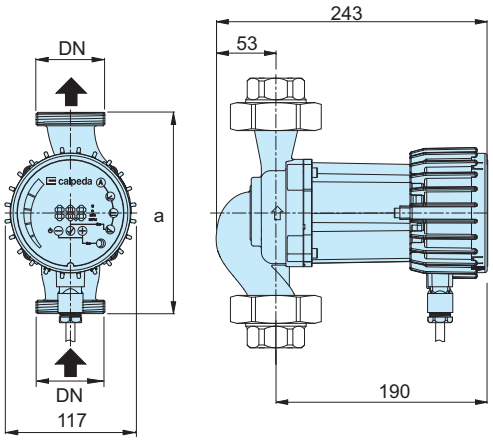


# NCE H 60 Hz

## Examples of installations - Ejemplo de instalación

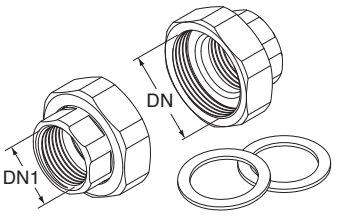


## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN | H<br>m | Q<br>m³/h | 1~ 230 V<br>A min | <br>A max | P1<br>W min | <br>W max | a<br>mm | kg |
|---|---|---|---|---|---|---|---|---|---|
| **NCE H 25-40/180**<br>**NCE H 32-40/180** | G 1 1/2<br>G 2 | 4 | 5 | 0,1 | 0,5 | 10 | 60 | 180 | 4<br>4,1 |
| **NCE H 25-60/180**<br>**NCE H 32-60/180** | G 1 1/2<br>G 2 | 6 | 7,5 | 0,1 | 0,75 | 10 | 90 | 180 | 4<br>4,1 |
| **NCE H 25-80/180**<br>**NCE H 32-80/180** | G 1 1/2<br>G 2 | 8 | 9 | 0,1 | 1,15 | 10 | 140 | 180 | 4<br>4,1 |
| **NCE H 25-100/180**<br>**NCE H 32-100/180** | G 1 1/2<br>G 2 | 10 | 11 | 0,1 | 1,5 | 10 | 180 | 180 | 4<br>4,1 |
| **NCE H 25-120/180**<br>**NCE H 32-120/180** | G 1 1/2<br>G 2 | 12 | 15 | 0,1 | 1,5 | 10 | 180 | 180 | 4<br>4,1 |

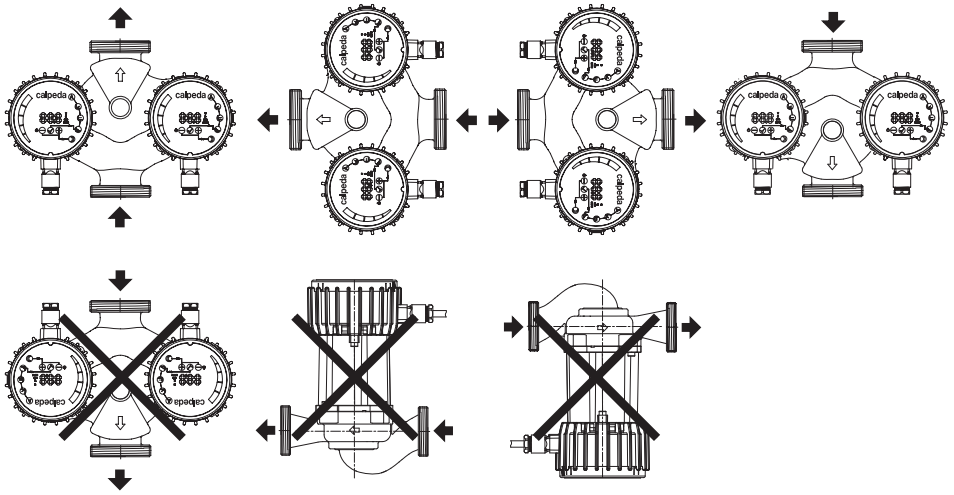
**Unions** (on request)
**Uniones** (bajo demanda)



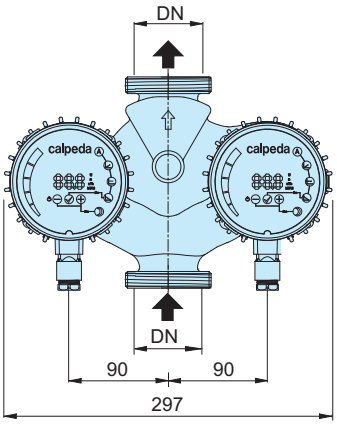

| | DN | DN1 |
|---|---|---|
| **KIT G 1 - G 1/2** (NCE . 15..) | G 1 | G 1/2 |
| **KIT G 1 1/2 - G 1** (NCE . 25..) | G 1 1/2 | G 1 |
| **KIT G 2 - G 1 1/4** (NCE . 32..) | G 2 | G 1 1/4 |

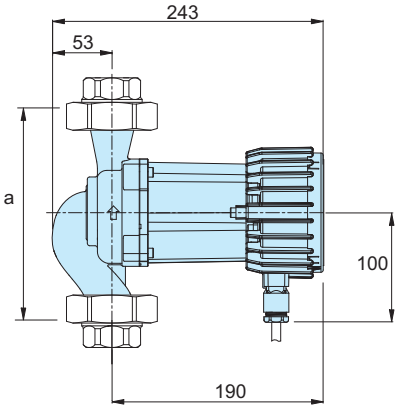
# NCED H 60 Hz

## Examples of installations - Ejemplo de instalación



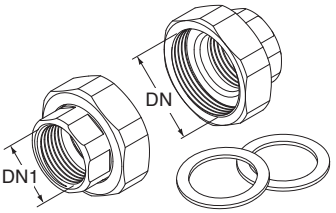
## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN | H<br>m | Q<br>m³/h | 1~ 230 V<br>A min | <br>A max | P1<br>W min | <br>W max | a<br>mm | kg |
|---|---|---|---|---|---|---|---|---|---|
| **NCED H 32-40/180** | G 2 | 4 | 5 | 0,1 | 0,5 | 10 | 60 | 180 | 8 |
| **NCED H 32-60/180** | G 2 | 6 | 7,5 | 0,1 | 0,75 | 10 | 90 | 180 | 8 |
| **NCED H 32-80/180** | G 2 | 8 | 9 | 0,1 | 1,15 | 10 | 140 | 180 | 8 |
| **NCED H 32-100/180** | G 2 | 10 | 11 | 0,1 | 1,5 | 10 | 180 | 180 | 8 |
| **NCED H 32-120/180** | G 2 | 12 | 15 | 0,1 | 1,5 | 10 | 180 | 180 | 8 |

**Unions** (on request)
**Uniones** (bajo demanda)




| TYPE | DN | DN1 |
|---|---|---|
| **KIT G 1 - G 1/2** (NCE . 15..) | G 1 | G 1/2 |
| **KIT G 1 1/2 - G 1** (NCE . 25..) | G 1 1/2 | G 1 |
| **KIT G 2 - G 1 1/4** (NCE . 32..) | G 2 | G 1 1/4 |

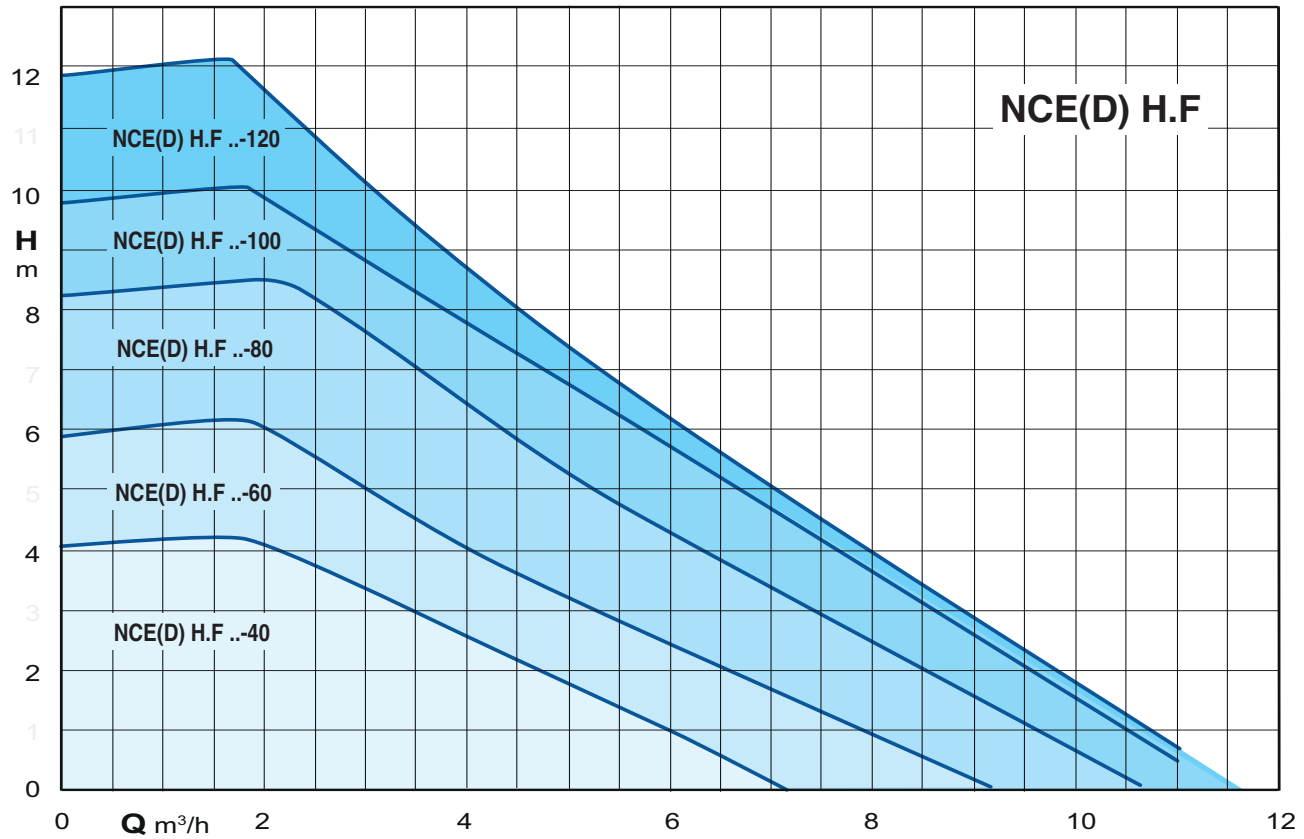
# NCE(D) H.F 60 Hz

## Energy saving circulating pumps with flanges
## Circuladoras electrónicas de bajo consumo energético embridadas

ErP READY 2015 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS




## Coverage chart - Campo de aplicaciones



# NCE(D) H.F 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

## Smart pump
**NCE H.F** adapt its functions to the system: the circulator measures the pressure and the flow and adjusts the speed to the selected pressure.

## Easy use
There are different operating modes selectable from the control panel.

## Applications
Heating and conditioning systems.

## Operating conditions
- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
  - 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
  EN 61000-3-2.
- Connections: Flanges according to EN 1092-2, PN 6/10.
  DN 32, 40, 50 .
- The benchmark for most efficient circulators is EEI ≤ 0,20.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Special features on request
Additional module (included with NCED HF):
- Modbus
- Eternet
- analog input 0-10V
- remote on/off input
- output relay

## Designation

NCE(D) H 40 F - 60 / 220

- Series
- Twin pumps version
- Version
- DN ports in mm
- With flanges
- Max. head in dm
- connection size mm

## Ejecución
Circuladora de alta eficiencia energética de velocidad variable dirigida por un motor síncrono de imán permanente controlado por convertidor de frecuencia.

## Bomba inteligente
La **NCE H.F** adapta sus funciones al sistema, el circulador mide la presión y el caudal y ajusta la velocidad de la presión seleccionada.

## Fácil utilización
La selección de los diferentes modos se pueden seleccionar desde el panel de control.

## Aplicaciones
Sistemas de calefacción y de aire acondicionado.

## Datos Técnicos
- Temperatura del líquido de +2 °C a +110 °C
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- Presión máxima: 10 bar
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- Máx. cantidad de glicol: 20%
- EMC según: EN 55014-1, EN 55014-2
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- Conexiones: Bridas según EN 1092-2, PN 6/10.
  DN 32, 40, 50 .
- Índice de referéncia de los circuladores más eficientes es IEE ≤ 0,20.

## Motor
Motor síncrono con imanes permanentes.
- Número de revoluciones del motor: Variable
- Tensión de alimentación: monofásico 230 V (-10%;+6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: F
- Protección de la sobrecarga (integrado)
- Cable: fases y neutro
- Ejecución según: EN 60335-1, EN 60335-2-51.

## Ejecuciones especiales bajo demanda
Modulo opcional (incluido con NCED HF):
- Modbus
- Eternet
- entrada analogìca 0-10 V
- entrada remota on/off
- salida a relé

## Designación

NCE(D) H 40 F - 60 / 220

- Série
- Versión gemela
- Versión
- DN agujeros en mm
- Conexiones embridadas
- Altura máxima dm
- Espacio para la instalación de mm

# NCE(D) H.F 60 Hz

## Operating modes

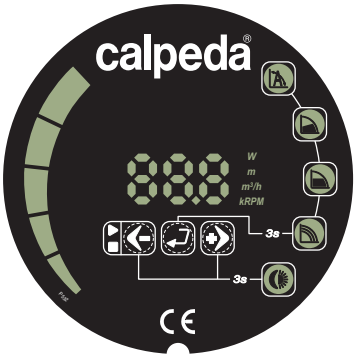
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The circulator mantains the pressure constant when the reference flow changes.
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**Fixed speed mode**:
The circulator works with constant curve and the curve could be changed using + e – buttons.

**Night mode**:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.




**Operating mode-control panel**

NCE H.F could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

## Modo de funcionamiento

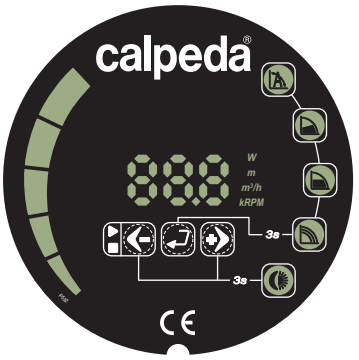
**Modo automático**
(Ajuste de fábrica):
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**Modo a presión proporcional:**
la presión de la bomba varía en proporción al caudal.
La presión se puede ajustar con los botones + y - .

**Modo a presión constante:**
El circulador mantiene la presión constante al variar el caudal.
La presión se puede ajustar con los botones + y - .

**Modo a velocidad fija:**
la bomba funciona a la curva constante y la curva de uso , puede cambiar con las teclas + y - .

**Modo nocturno**
Cuando la temperatura del líquido se reduce a 15-20 ° C y luego entrar en la función de noche, en la práctica el circulador funciona de curva mínimo.
Cuando la temperatura se eleva la función de la noche se eliminó y la operación vuelve a la normalidad .
El modo nocturno se puede configurar con todos los aspectos de su uso.



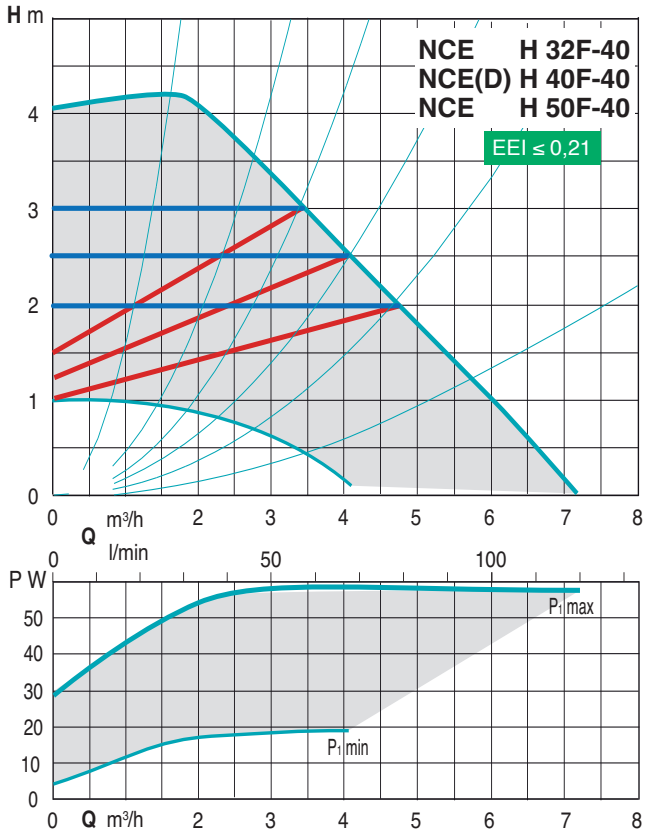

**Panel de control Funciones utilización**

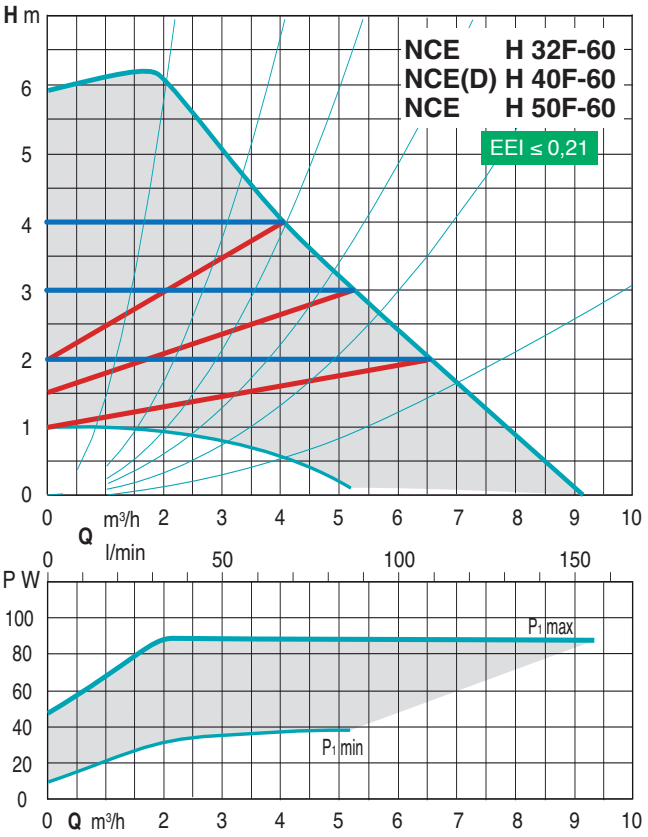
La bomba NCE H.F puede funcionar en:
- Modo automático
- Modo de presión proporcional
- Modo a presión constante
- El modo de velocidad fija
- Modo nocturno

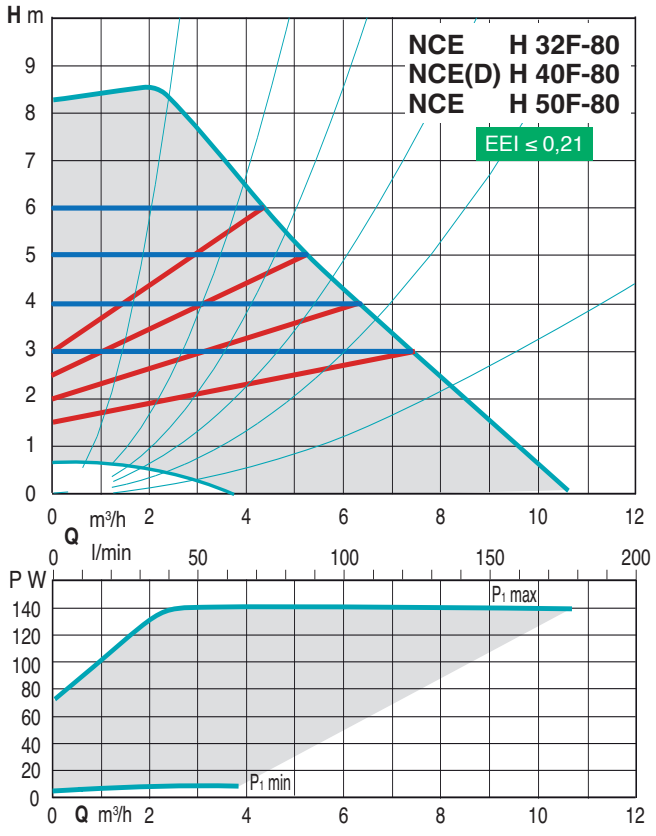
El modo nocturno se puede configurar con todos los aspectos de uso.

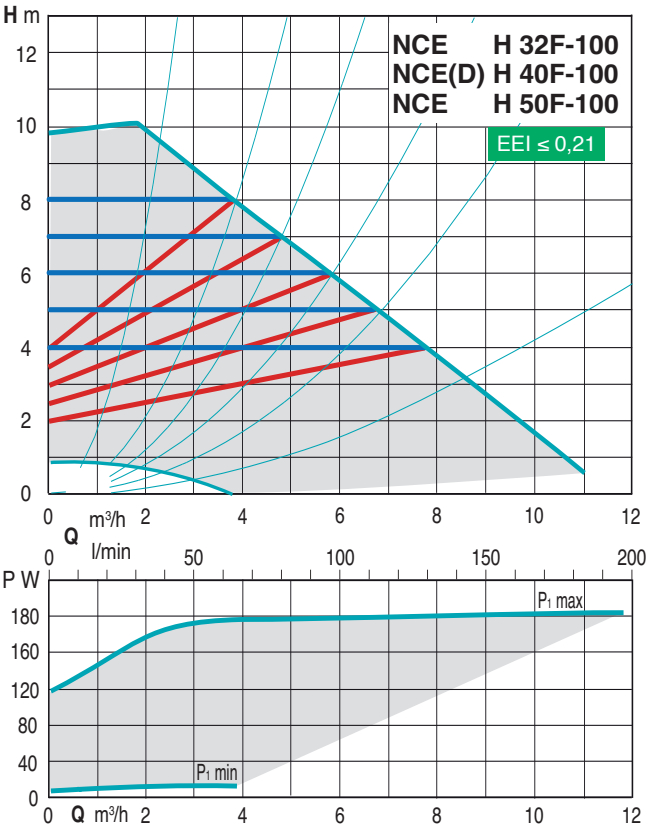
# NCE(D) H.F 60 Hz

## Characteristic curves - Curvas características



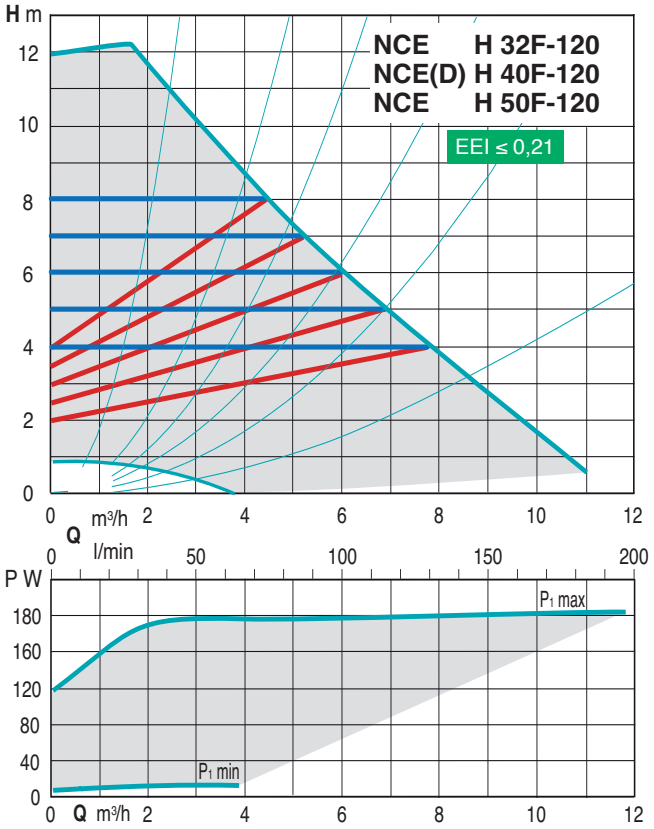



# NCE(D) H.F 60 Hz

## Characteristic curves - Curvas características

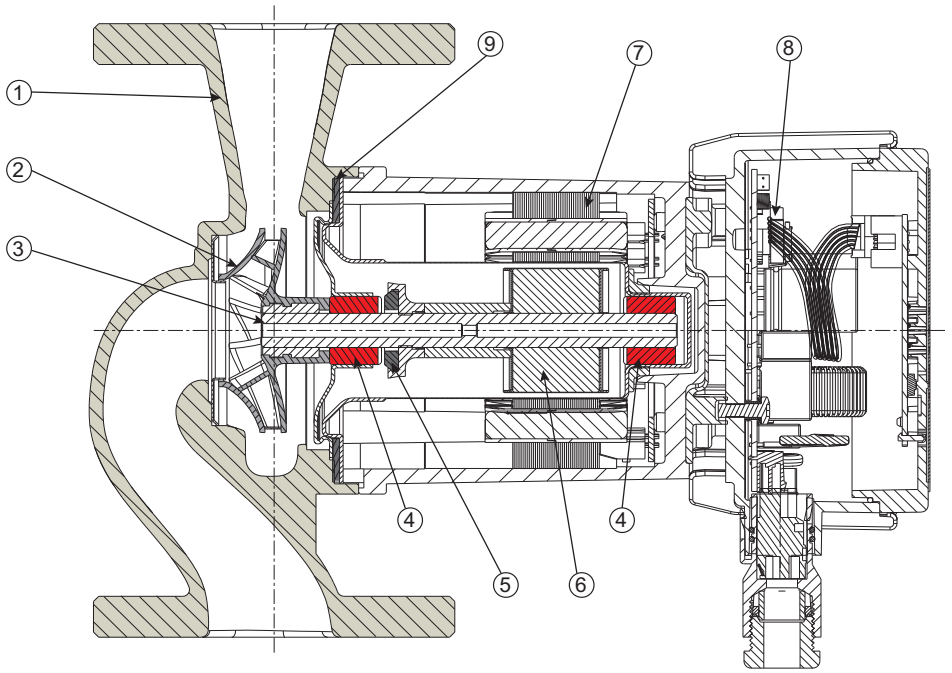


# NCE H.F 60 Hz

## Materials - Materiales

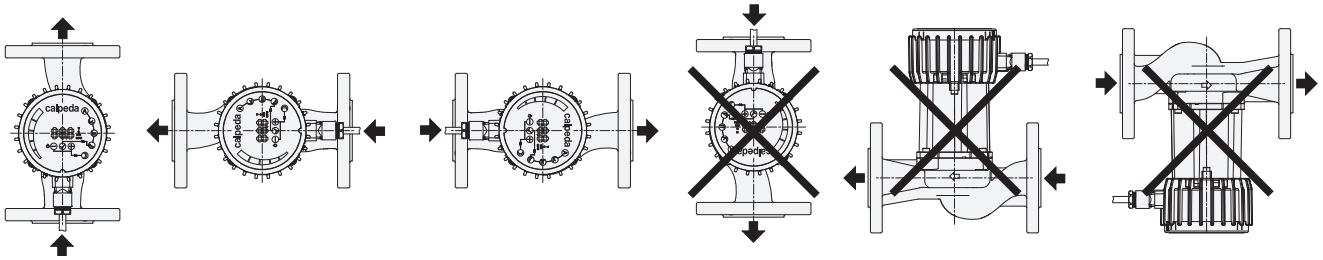
| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Cast iron GJL 200 EN 1561 |
| Impeller | 2 | Composite |
| Shaft | 3 | Stainless steel |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Stainless steel jacket |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

| Componente | Pos. | Material |
|---|---|---|
| Cuerpo Bomba | 1 | Hierro GJL 200 EN 1561 |
| Rodete | 2 | Material Composite |
| Eje | 3 | Acero inoxidable |
| Rodamientos | 4 | Carbón |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Camisa en acero inoxidable |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |

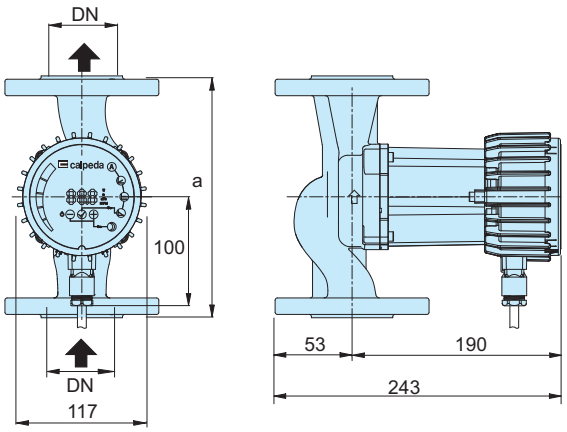


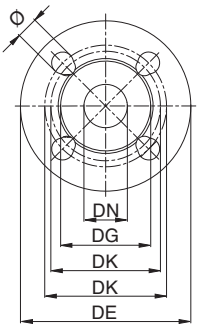
# NCE H.F 60 Hz

## Examples of installations - Ejemplo de instalación



## Dimensions and weights - Dimensiones y pesos



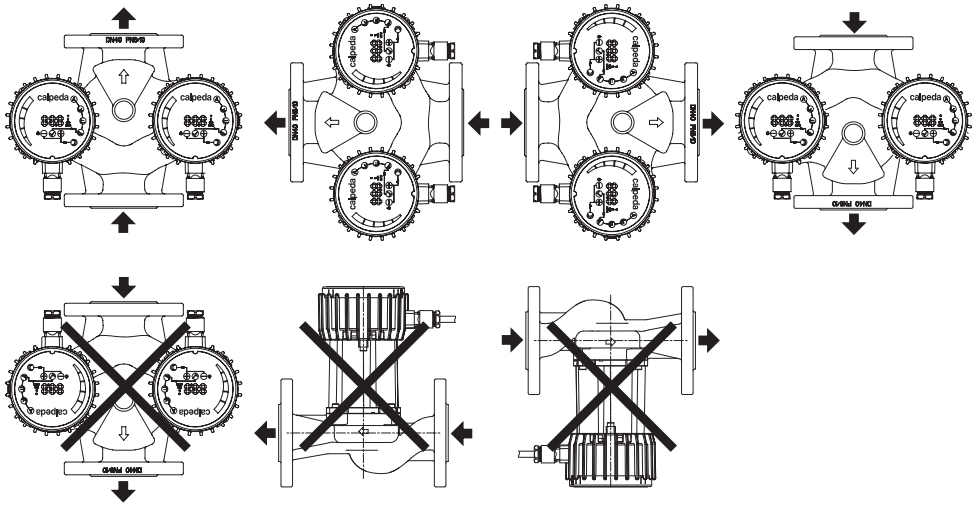




| TYPE TIPO | DN | H | Q | 1~ 230 V | | P1 | | a | kg |
|---|---|---|---|---|---|---|---|---|---|
| | | m | m³/h | A min | A max | W min | W max | mm | |
| **NCE H 32F-40/220** | 32 | 4 | 5 | 0,1 | 0,5 | 10 | 60 | 220 | 7,4 |
| **NCE H 40F-40/220** | 40 | | | | | | | 220 | 8,5 |
| **NCE H 50F-40/240** | 50 | | | | | | | 240 | 9,8 |
| **NCE H 32F-60/220** | 32 | 5 | 7,5 | 0,1 | 0,75 | 10 | 90 | 220 | 7,4 |
| **NCE H 40F-60/220** | 40 | | | | | | | 220 | 8,5 |
| **NCE H 50F-60/240** | 50 | | | | | | | 240 | 9,8 |
| **NCE H 32F-80/220** | 32 | 8 | 9 | 0,1 | 1,15 | 10 | 140 | 220 | 7,4 |
| **NCE H 40F-80/220** | 40 | | | | | | | 220 | 8,5 |
| **NCE H 50F-80/240** | 50 | | | | | | | 240 | 9,8 |
| **NCE H 32F-100/220** | 32 | 10 | 11 | 0,1 | 1,5 | 10 | 180 | 220 | 7,4 |
| **NCE H 40F-100/220** | 40 | | | | | | | 220 | 8,5 |
| **NCE H 50F-100/240** | 50 | | | | | | | 240 | 9,8 |
| **NCE H 32F-120/220** | 32 | 12 | 15 | 0,1 | 1,5 | 10 | 180 | 220 | 7,9 |
| **NCE H 40F-120/220** | 40 | | | | | | | 220 | 8,7 |
| **NCE H 50F-120/240** | 50 | | | | | | | 240 | 10 |

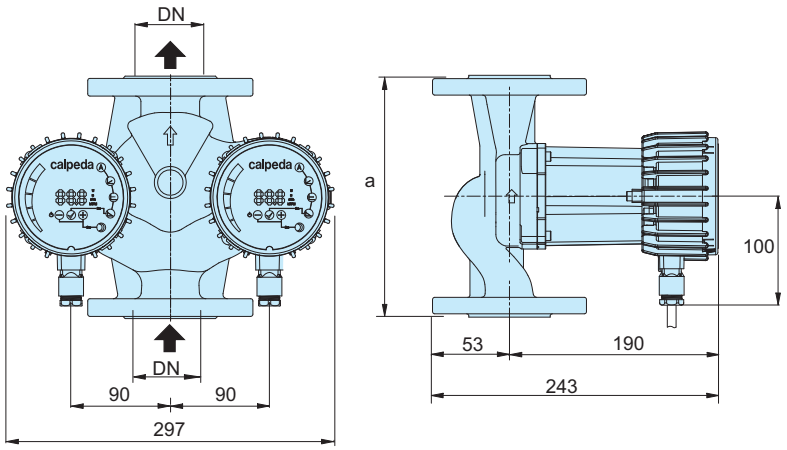
| DN | DE | DK | DG | holes | |
|---|---|---|---|---|---|
| | | | | N. | Ø |
| 32 | 140 | 90/100 | 74 | 4 | 14/19 |
| 40 | 150 | 100/110 | 80 | 4 | 14/19 |
| 50 | 165 | 110/125 | 90 | 4 | 14/19 |

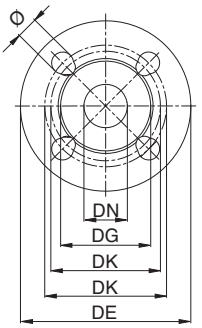
# NCE(D) H.F 60 Hz

## Examples of installations - Ejemplo de instalación



## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN | H | Q | 1~ 230 V | | P1 | | a | kg |
|---|---|---|---|---|---|---|---|---|---|
| | | m | m³/h | A min | A max | W min | W max | mm | |
| **NCED H 40F-40/220** | 40 | 4 | 5 | 0,1 | 0,5 | 10 | 60 | 220 | 11,3 |
| **NCED H 40F-60/220** | 40 | 5 | 7,5 | 0,1 | 0,75 | 10 | 90 | 220 | 11,3 |
| **NCED H 40F-80/220** | 40 | 8 | 9 | 0,1 | 1,15 | 10 | 140 | 220 | 11,3 |
| **NCED H 40F-100/220** | 40 | 10 | 11 | 0,1 | 1,5 | 10 | 180 | 220 | 11,3 |
| **NCED H 40F-120/220** | 40 | 12 | 15 | 0,1 | 1,5 | 10 | 180 | 220 | 11,3 |

| DN | DE | DK | DG | holes | |
|---|---|---|---|---|---|
| | | | | N. | Ø |
| 32 | 140 | 90/100 | 74 | 4 | 14/19 |
| 40 | 150 | 100/110 | 80 | 4 | 14/19 |
| 50 | 165 | 110/125 | 90 | 4 | 14/19 |

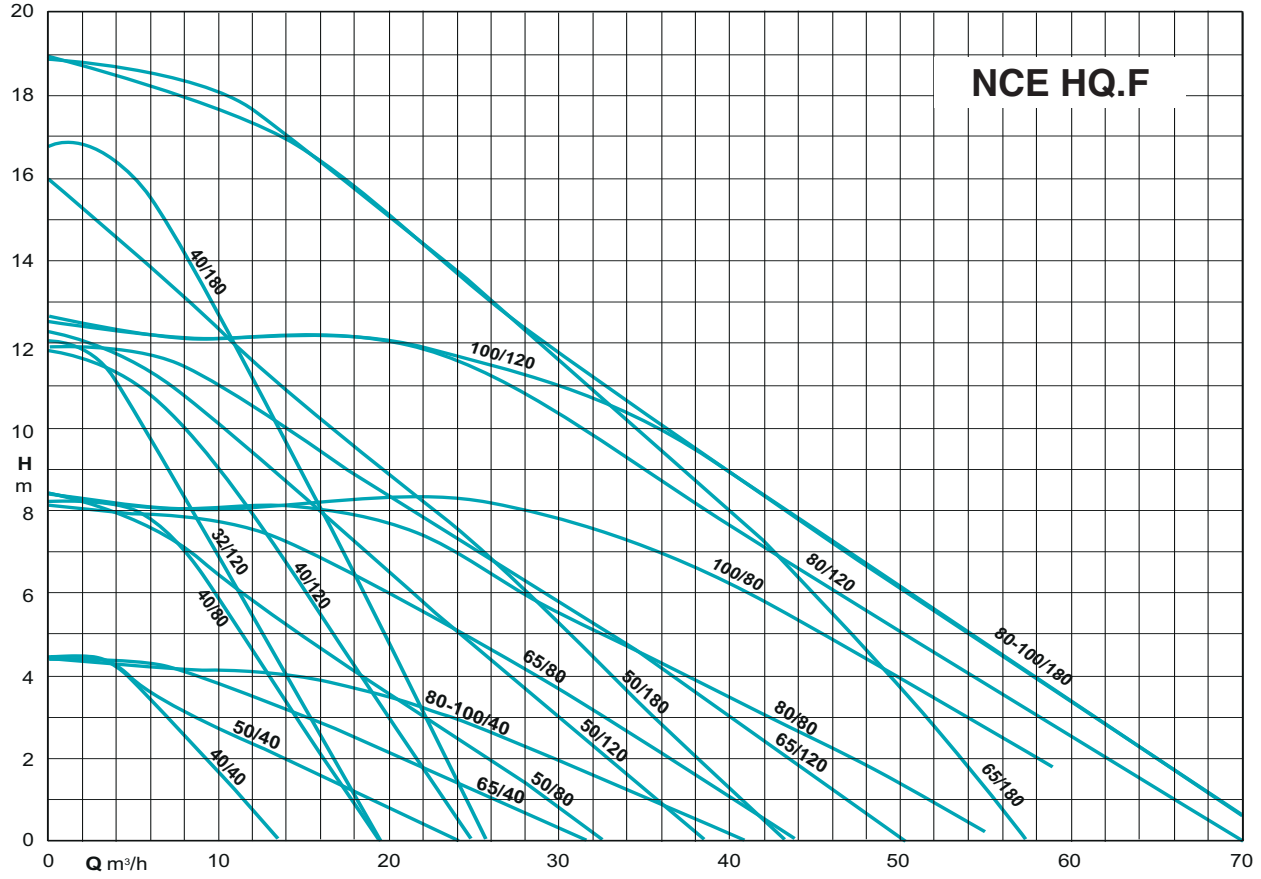
# NCE(D) HQ.F 60 Hz

**Energy saving circulating pumps with flanges**
**Circuladoras electrónicas de bajo consumo energético embridadas**

ErP READY 2015 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS




## Coverage chart - Campo de aplicaciones



# NCE(D) HQ.F 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.
• Dry running detection
• Automatic venting function

**NCE single head digital input and output**
• Start / stop input
• Relay output

### On demand
• Max / Min input
• 0-10V input
• 4-20 mA input
• PWM input
• Modbus (RS485 and TCP / IP)
• Web server
• Bacnet

**NCED Twin head digital input and output**
• Start / stop input
• 2 nos. relay outputs
• Max / Min input
• 0-10V input
• 4-20 mA input
• PWM input
• Modbus (RS485 and TCP / IP)
• Web server
• Bacnet

## Applications
Heating and conditioning systems.

## Operating conditions
- Liquid temperature from -10 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 40 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
  - 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
  EN 61000-3-2, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 32,40,50,65,80,100.
- The benchmark for most efficient circulators is EEI ≤ 0,20.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50/60 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

### Designation
NCE (D) HQ 40 F - 120 / 220

Series
Twin pumps version
Version
DN ports in mm
With flanges
Max. head in dm
connection size mm

## Ejecución
Circuladora de alta eficiencia energética de velocidad variable dirigida por un motor síncrono de imán permanente controlado por un inversor.
• Detección de funcionamiento en seco
• Función de ventilación automática

**Entradas y salidas digitales NCE cabezal único**
• Entrada de arranque/parada
• Salida de relé

### Bajo demanda
• Entrada máx./mín.
• Entrada 0-10V
• Entrada de 4-20 mA
• Entrada PWM
• Modbus (RS485 y TCP/IP)
• Servidor web
• Bacnet

**Entradas y salidas digitales NCED de cabezal doble**
• Entrada de arranque/parada
• Nr. 2 Salidas de relé
• Entrada máx./mín.
• Entrada 0-10V
• Entrada de 4-20 mA
• Entrada PWM
• Modbus (RS485 y TCP/IP)
• Servidor web
• Bacnet

## Aplicaciones
Sistemas de calefacción y de aire acondicionado

## Datos Técnicos
- Temperatura del líquido de -10 °C a +110 °C
- Temperatura ambiente de 0 °C a +40 °C
- Presión máxima: 10 bar
- Almacenaje: -20°C/+70°C UR 95% a 40 °C
- Marcado: conforme a los requisitos CE
- Nivel sonoro ≤ 40 dB (A).
- Presión mínima de aspiración: - 0,05 bar a 75 °C,
  - 0,28 bar a 90°C
- Máx. cantidad de glicol: 20%
- EMC según: EN 55014-1, EN 55014-2
  EN 61000-3-2, EN 61000-3-2.
- Conexiones enbridadas: PN 6/10, EN 1092-2, DN 32,40,50,65,80,100.
- Índice de referéncia de los circuladores más eficientes es IEE ≤ 0,20.

## Motor
Motor síncrono con imanes permanentes.
- Número de revoluciones del motor: Variable
- Tensión de alimentación: monofásico 230 V (-10%, 6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: F
- Protección de la sobrecarga (integrado)
- Cable: fases y neutro
- Ejecución según: EN 60335-1, EN 60335-2-51.

### Designación
NCE (D) HQ 40 F - 120 / 220

Série
Versión gemela
Versión
DN agujeros en mm
Conexiones embridadas
Altura máxima dm
Espacio para la instalación de mm

# NCE(D) HQ.F 60 Hz

## Operating modes

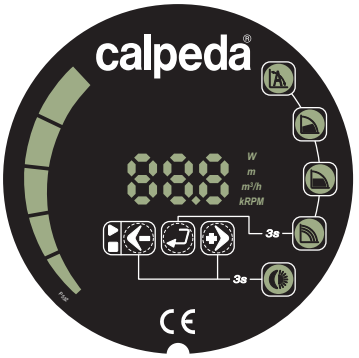
**Automatic mode**
(factory setting):
In this mode the pump automatically sets the operating pressure, depending on the hydraulic system. This mode is recommended in most systems.

**Proportional pressure mode**:
The circulator changes the pressure propotionally to the current flow.
The pressure value can be adjusted with the + and – buttons.

**Constant pressure mode**:
The circulator mantains the pressure constant when the reference flow changes.
The pressure value can be adjusted with the + and – buttons.

**Fixed speed mode**:
The circulator works with constant curve and the curve could be changed using + e – buttons.

**Night mode**:.
When the liquid temperature fall by 15-20°C the pump automatically swiches to night mode, in practice the circulator works at minimum curve.
When the temperature rises again the pump comes back to the selected mode
The night mode could be selected with any operating mode.




**Operating mode-control panel**

NCE HQ.F could works in:
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

## Modo de funcionamiento

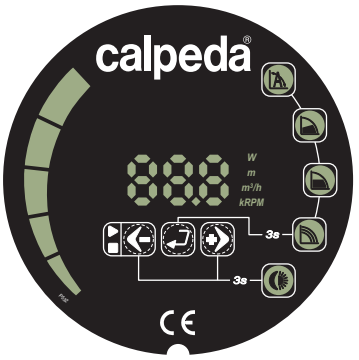
**Modo automático**
(Ajuste de fábrica):
Es el modo recomendado de utilización, en esta posición la circuladora busca el punto óptimo de uso en base a lo requerido.

**Modo a presión proporcional:**
la presión de la bomba varía en proporción al caudal.
La presión se puede ajustar con los botones + y - .

**Modo a presión constante:**
El circulador mantiene la presión constante al variar el caudal.
La presión se puede ajustar con los botones + y - .

**Modo a velocidad fija:**
la bomba funciona a la curva constante y la curva de uso , puede cambiar con las teclas + y - .

**Modo nocturno**
Cuando la temperatura del líquido se reduce a 15-20 ° C y luego entrar en la función de noche, en la práctica el circulador funciona de curva mínimo.
Cuando la temperatura se eleva la función de la noche se eliminó y la operación vuelve a la normalidad .
El modo nocturno se puede configurar con todos los aspectos de su uso.

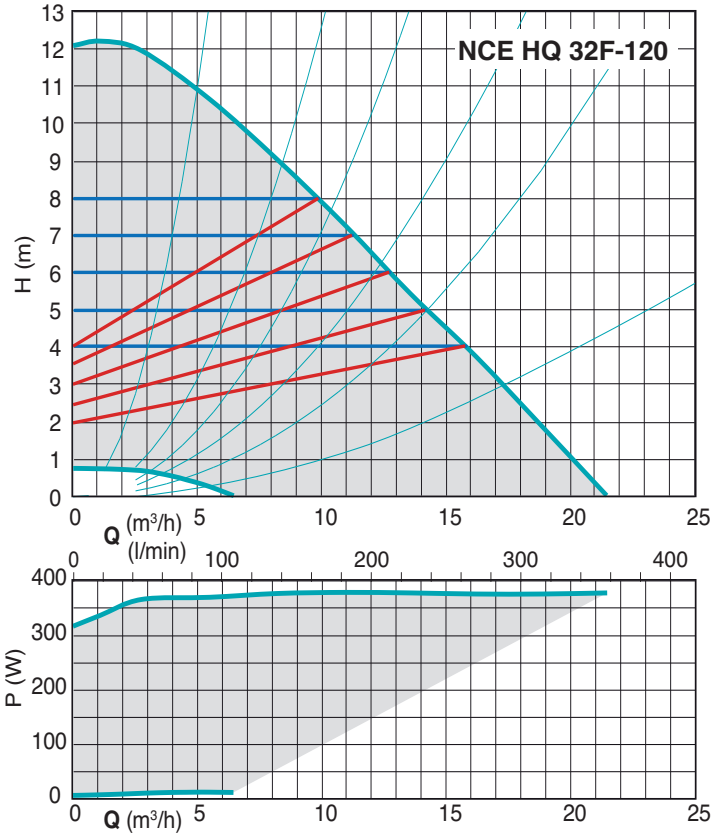



**Panel de control Funciones utilización**

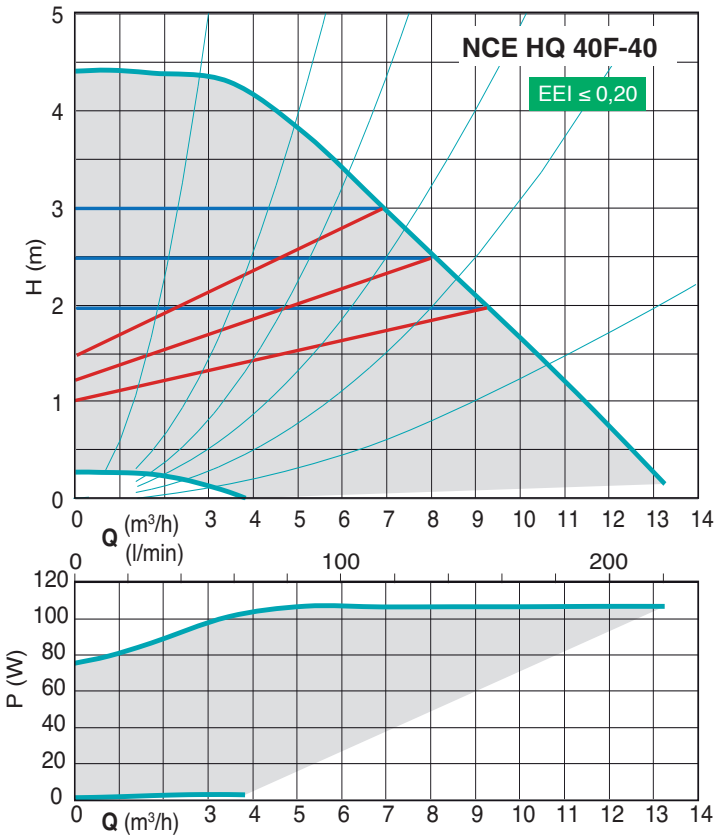
La bomba NCE HQ.F puede funcionar en:
- Modo automático
- Modo de presión proporcional
- Modo a presión constante
- El modo de velocidad fija
- Modo nocturno

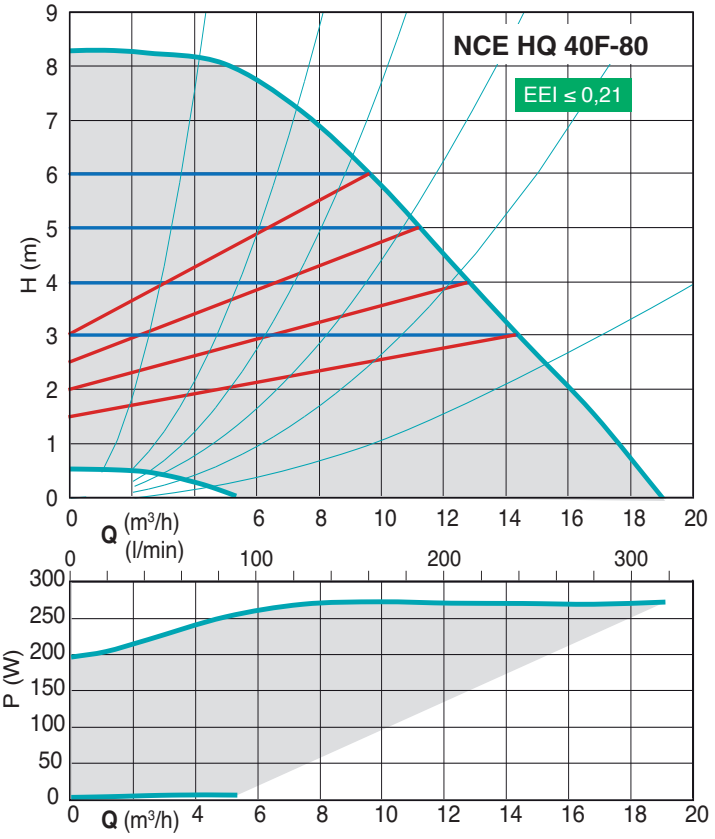
El modo nocturno se puede configurar con todos los aspectos de uso.

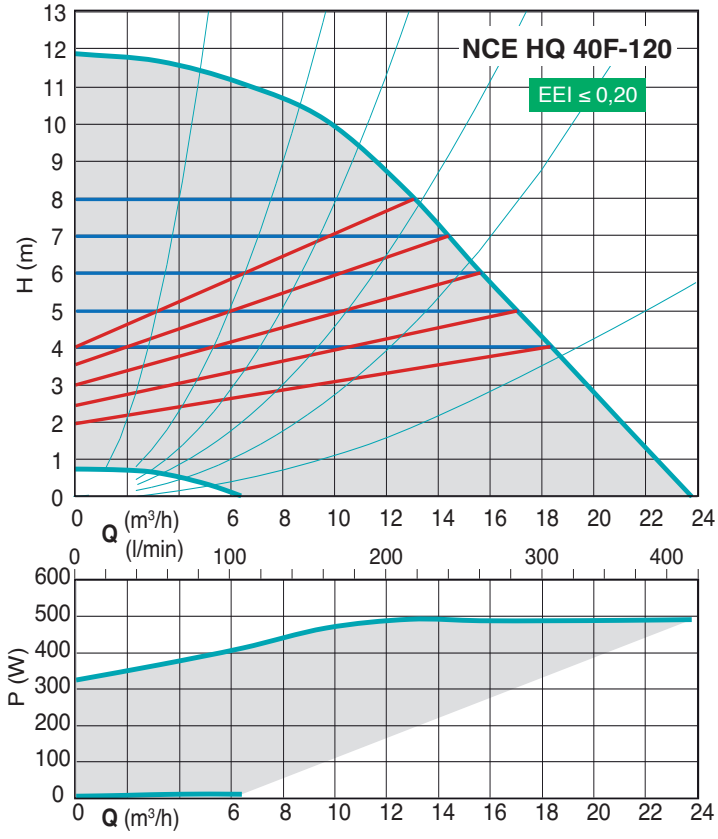
## Characteristic curves - Curvas características

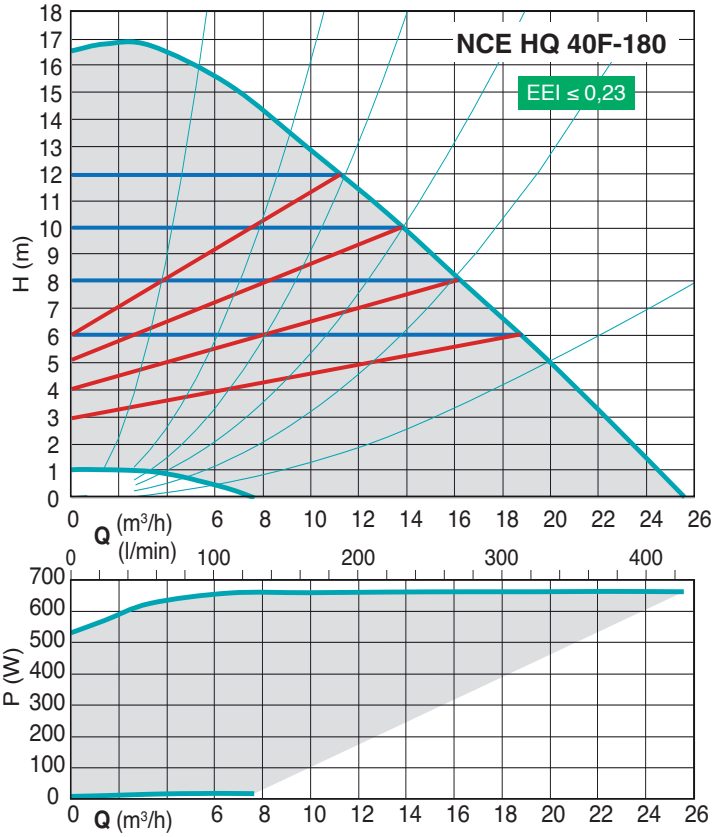


## Characteristic curves - Curvas características



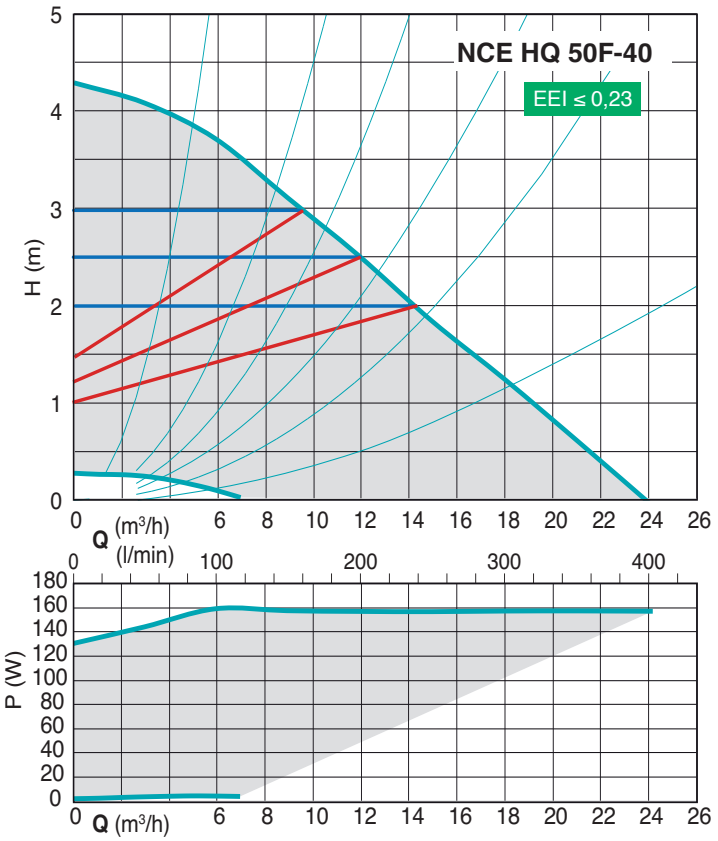



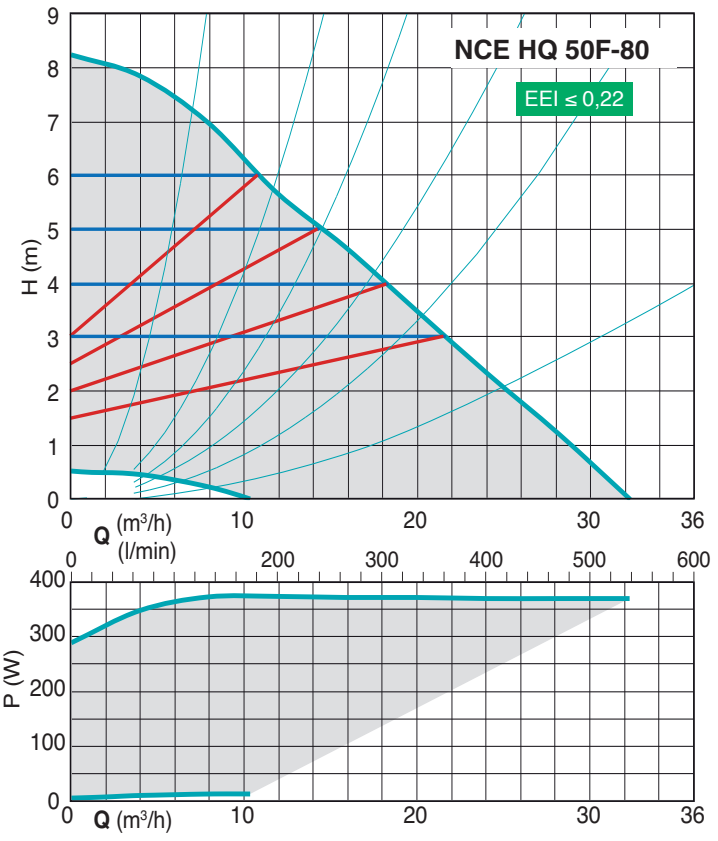



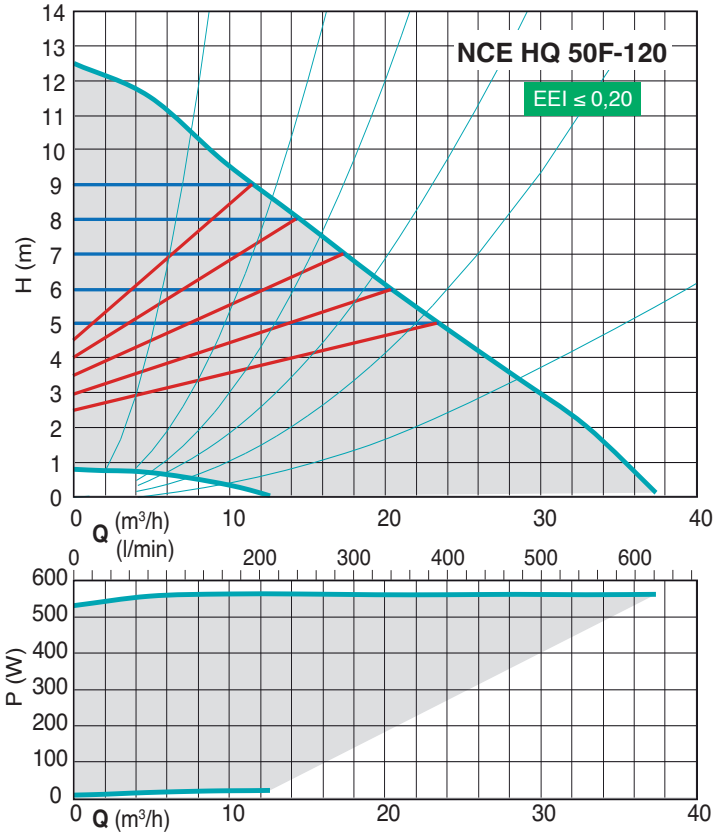



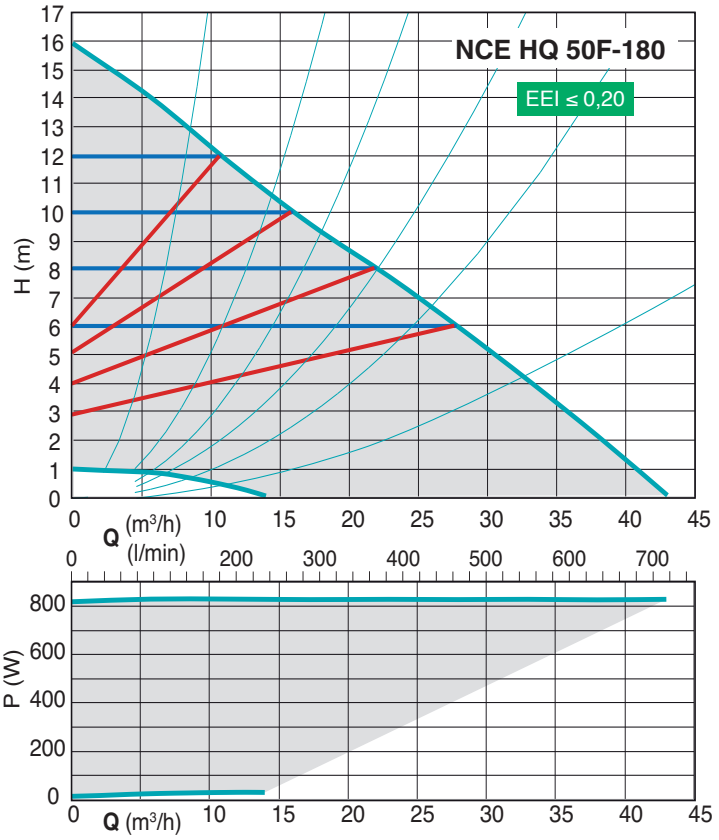
# NCE(D) HQ.F 60 Hz

## Characteristic curves - Curvas características



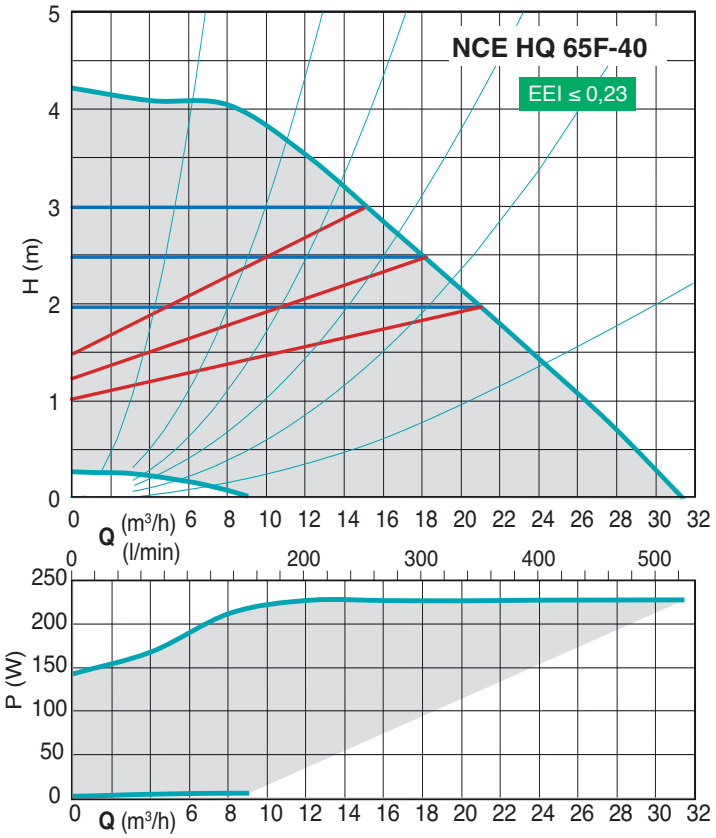



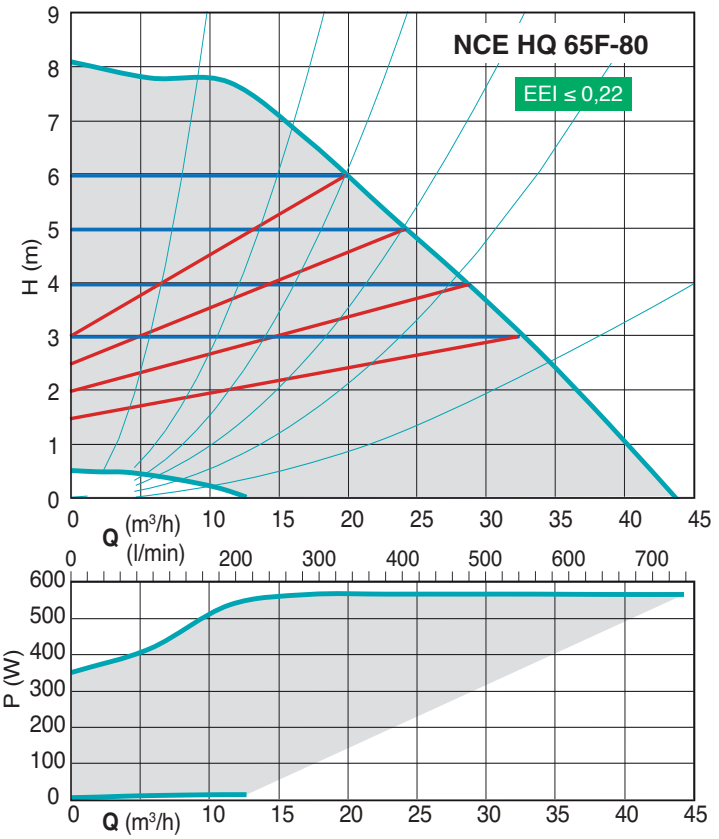



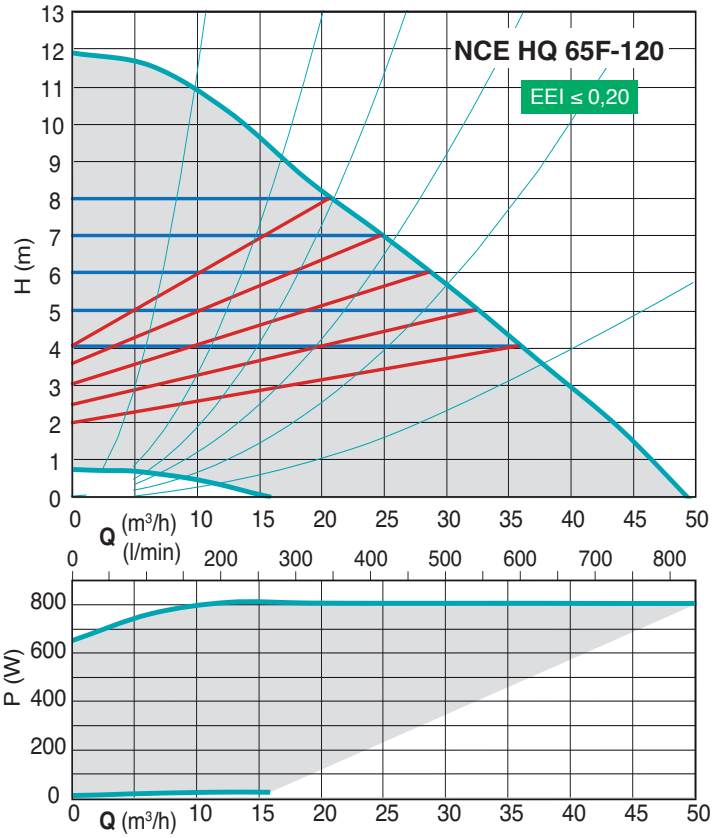



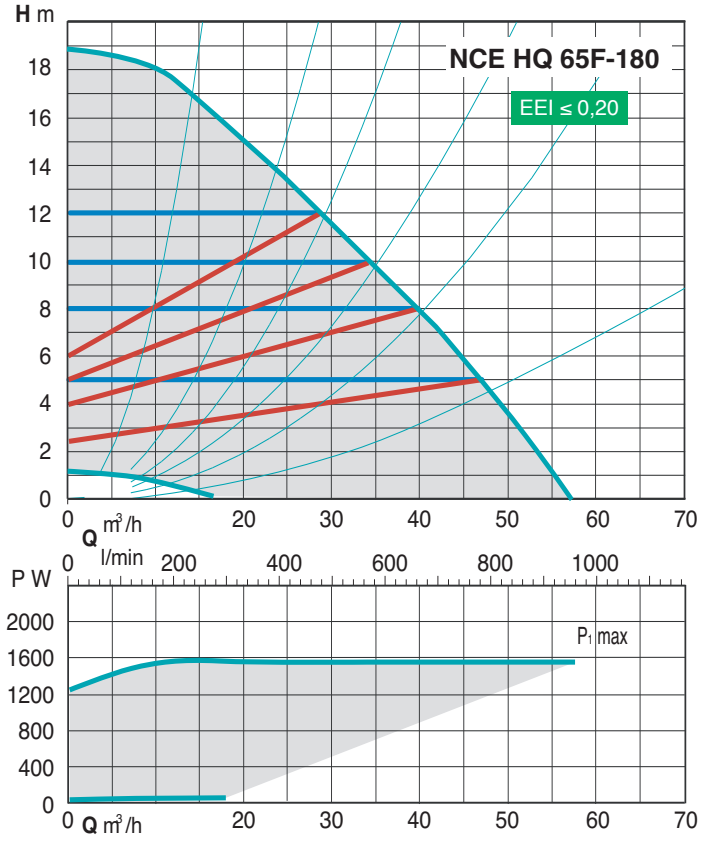
# NCE(D) HQ.F 60 Hz

## Characteristic curves - Curvas características

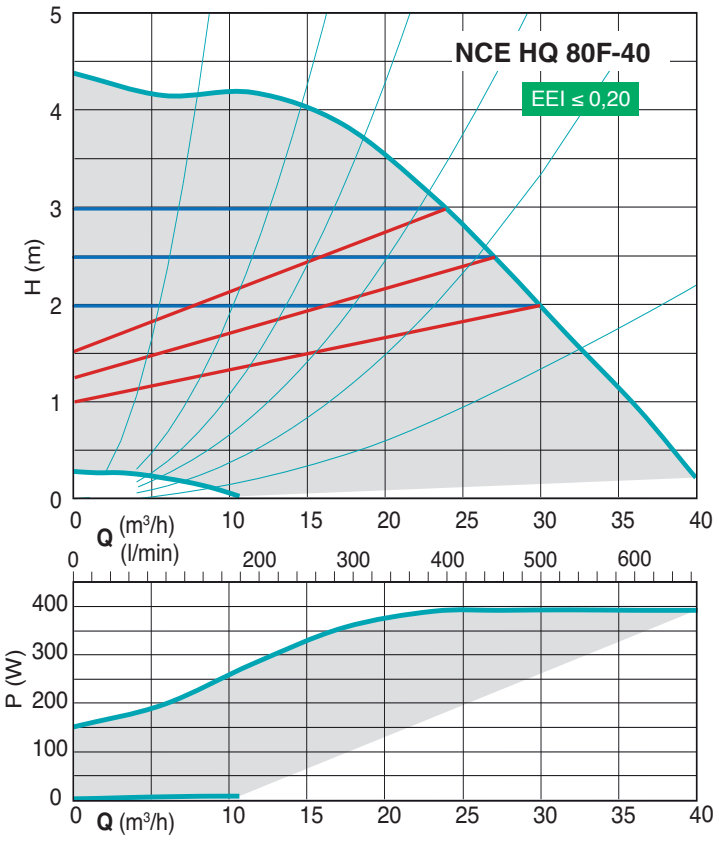


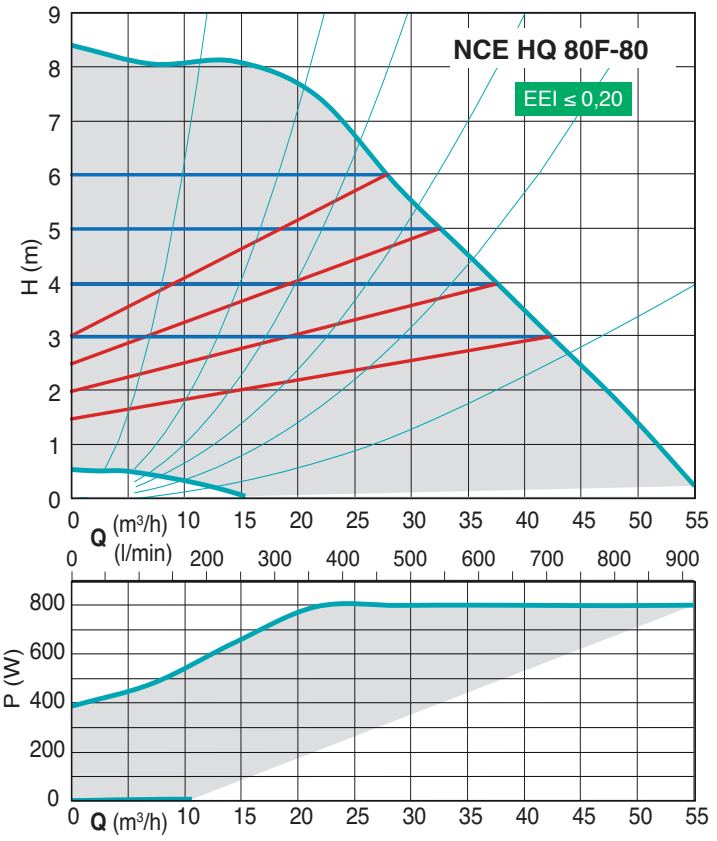



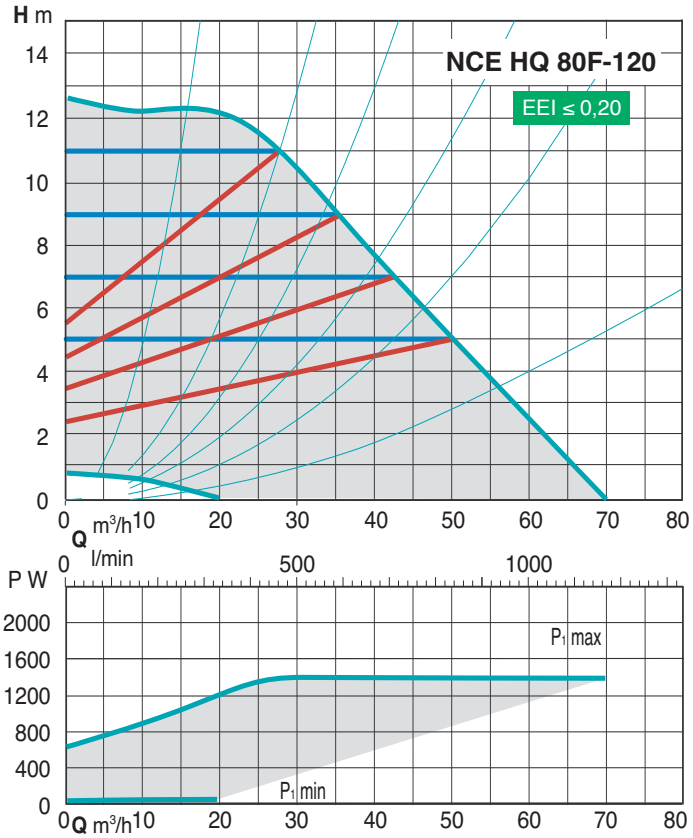



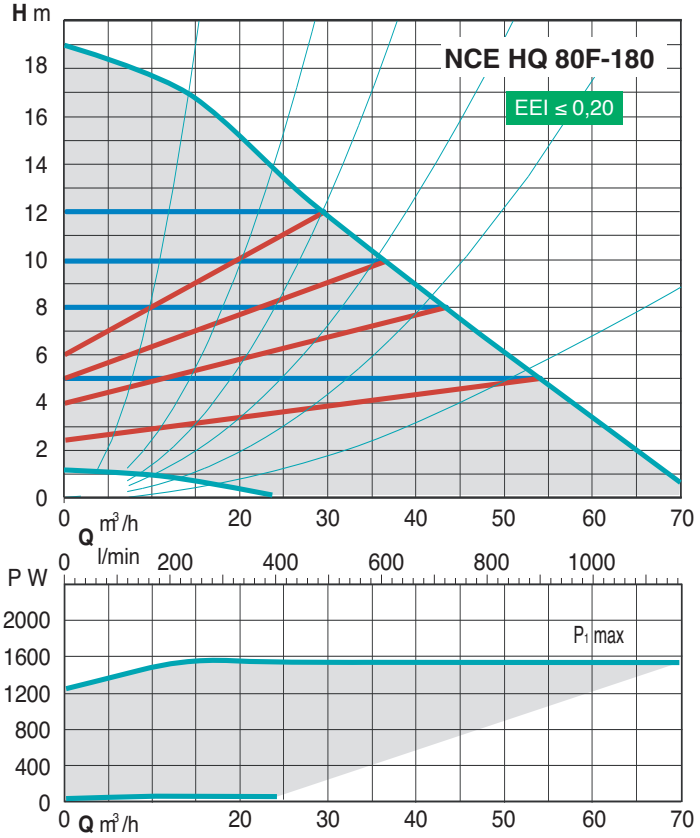



## Characteristic curves



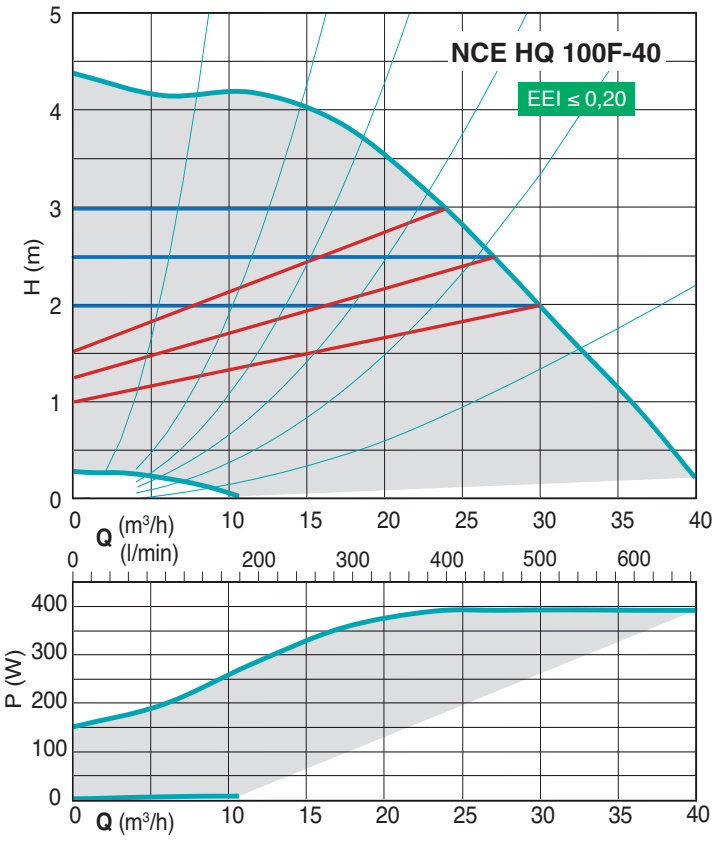



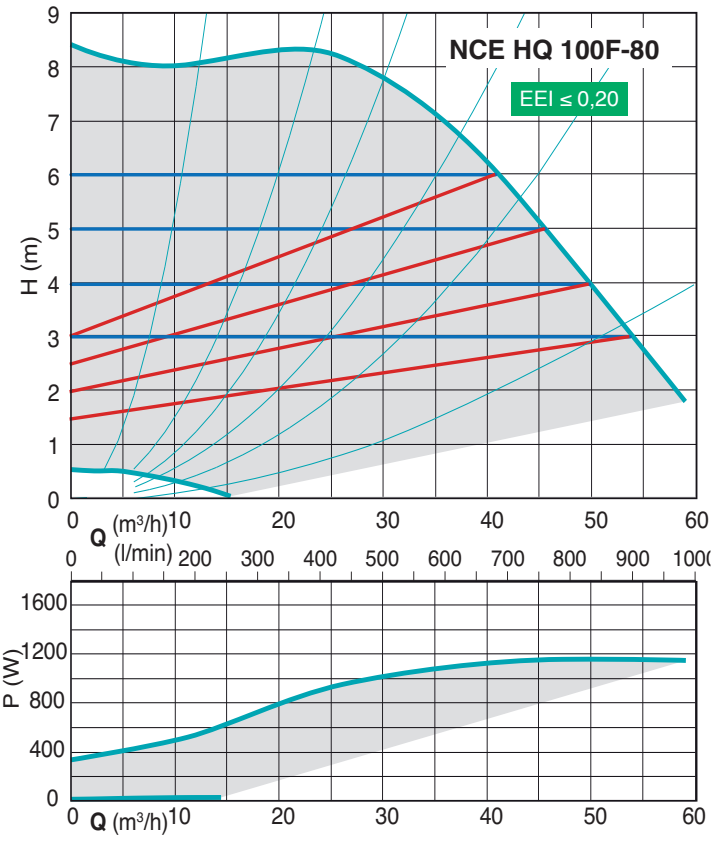



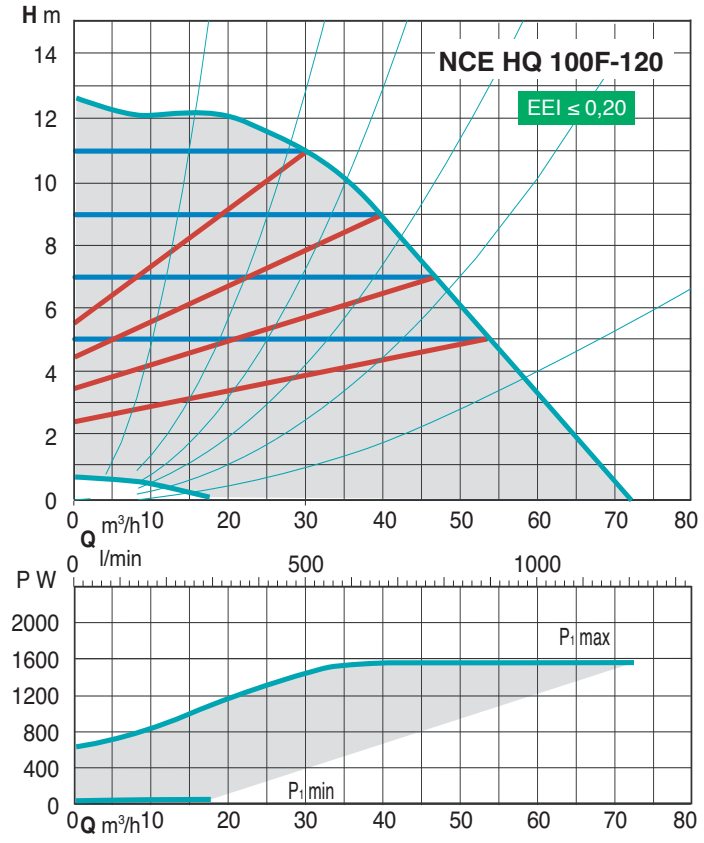



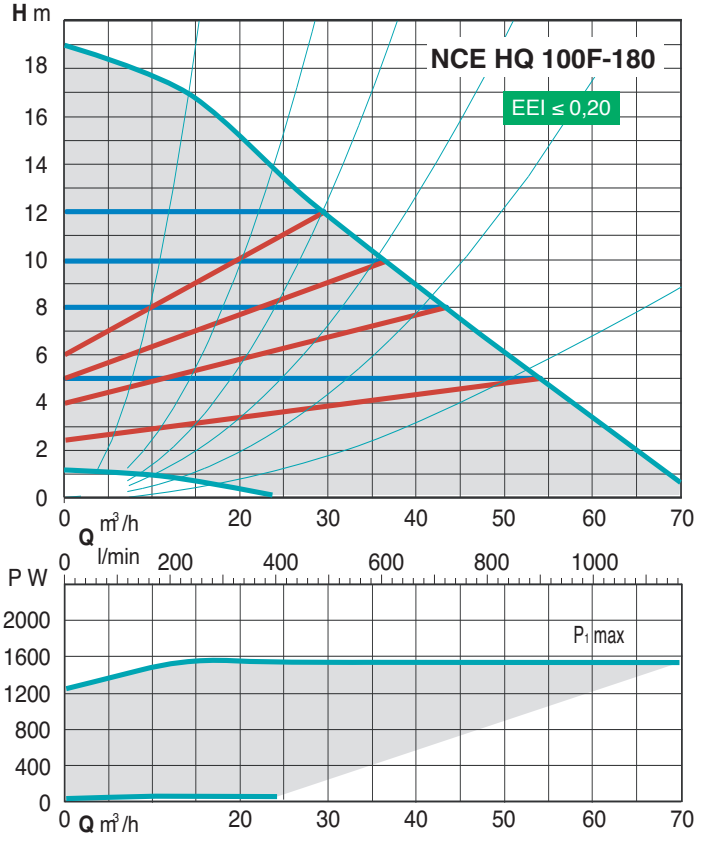
# NCE(D) HQ.F 60 Hz

## Characteristic curves



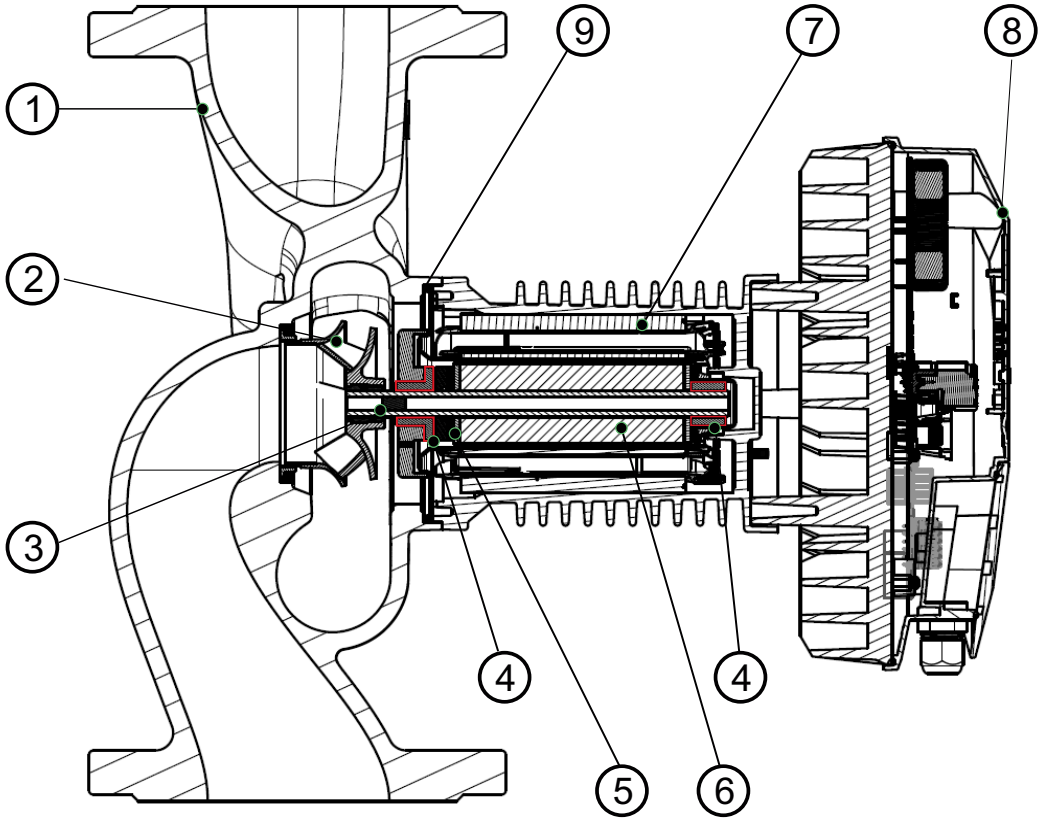



## Materials - Materiales

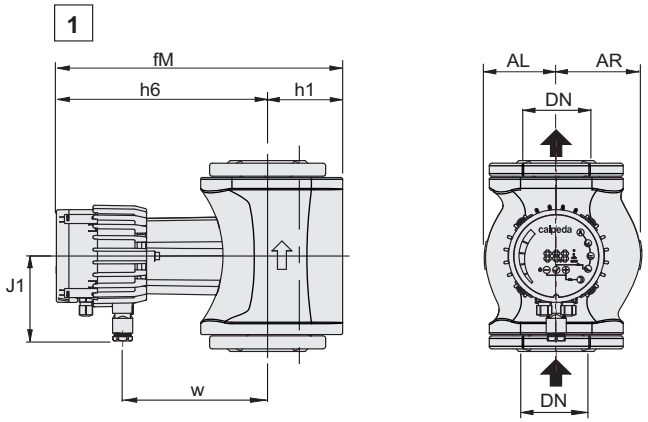
| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Cast iron GJL 200 EN 1561 |
| Impeller | 2 | Composite |
| Shaft | 3 | Stainless steel |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Stainless steel jacket |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

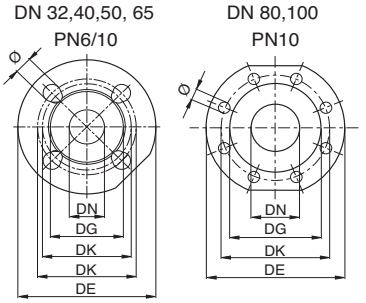
| Componente | Pos. | Material |
|---|---|---|
| Cuerpo Bomba | 1 | Hierro GJL 200 EN 1561 |
| Rodete | 2 | Material Composite |
| Eje | 3 | Acero inoxidable |
| Rodamientos | 4 | Carbón |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Camisa en acero inoxidable |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |



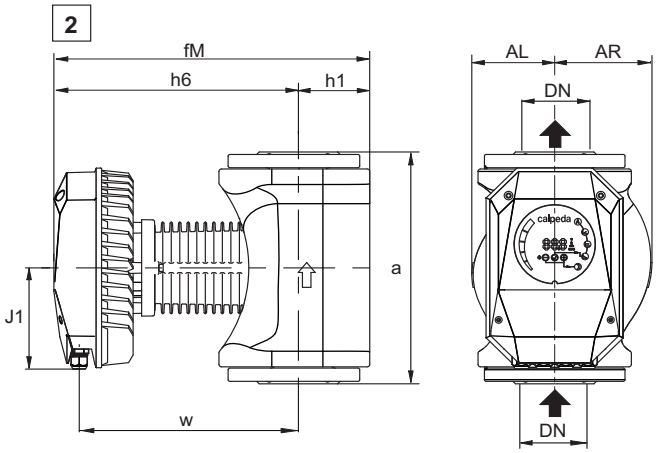
# NCE(D) HQ.F 60 Hz

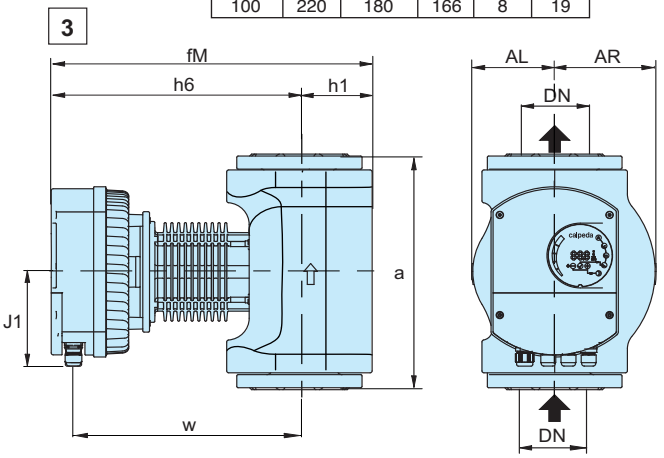
## Dimensions and weights - Dimensiones y pesos




| DN | DE | DK | DG | holes N. | holes Ø |
|---|---|---|---|---|---|
| 32 | 140 | 90/100 | 74 | 4 | 14/19 |
| 40 | 150 | 100/110 | 80 | 4 | 14/19 |
| 50 | 165 | 110/125 | 90 | 4 | 14/19 |
| 65 | 185 | 130/145 | 110 | 4 | 14/19 |
| 80 | 200 | 160 | 148 | 8 | 19 |
| 100 | 220 | 180 | 166 | 8 | 19 |

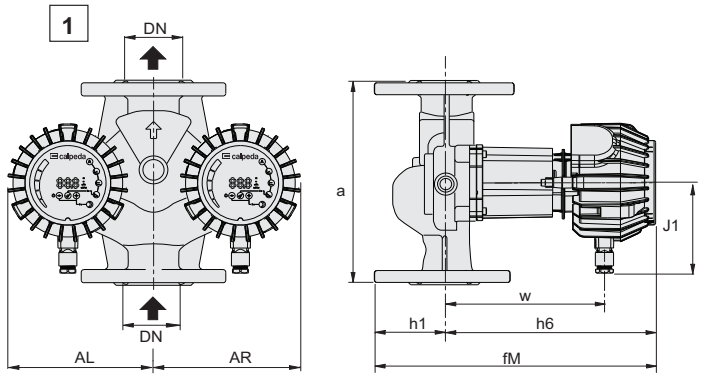


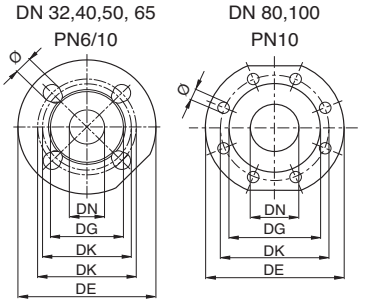




| | TYPE | DN | H | Q | 1~ 230 V | | P1 | | mm | | | | | | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | m | m³/h | A min | A max | W min | W max | a | J1 | fM | h1 | h6 | w | AL | AR | |
| 2 | **NCE HQ 32F-120/220/A** | 32 | 12 | 19 | 0,2 | 1.8 | 25 | 370 | 220 | 122 | 379 | 83 | 296 | 266 | 82 | 97 | 11,7 |
| 1 | **NCE HQ 40F-40/250/A** | 40 | 4 | 13 | 0,1 | 1 | 10 | 110 | 250 | 98 | 321 | 84 | 237 | 162 | 81 | 96 | 9,5 |
| 2 | **NCE HQ 40F-80/250/A** | 40 | 8 | 19 | 0,2 | 1.3 | 25 | 270 | 250 | 122 | 380 | 84 | 296 | 266 | 82 | 97 | 11,8 |
| 2 | **NCE HQ 40F-120/250/A** | 40 | 12 | 24 | 0,2 | 2.3 | 25 | 480 | 250 | 122 | 380 | 83 | 297 | 266 | 82 | 97 | 13,4 |
| 2 | **NCE HQ 40F-180/250/A** | 40 | 18 | 25 | 0,2 | 3.4 | 25 | 680 | 250 | 115 | 390 | 83 | 307 | 276 | 82 | 97 | 13,4 |
| 1 | **NCE HQ 50F-40/280/A** | 50 | 4 | 23 | 0,2 | 1.3 | 25 | 160 | 280 | 98 | 345 | 87 | 258 | 199 | 98 | 114 | 11 |
| 2 | **NCE HQ 50F-80/280/A** | 50 | 8 | 32 | 0,2 | 1.7 | 25 | 370 | 280 | 122 | 371 | 84 | 287 | 157 | 96 | 114 | 14,5 |
| 2 | **NCE HQ 50F-120/280/A** | 50 | 12 | 36 | 0,2 | 2.5 | 25 | 560 | 280 | 122 | 371 | 84 | 287 | 157 | 96 | 114 | 14,5 |
| 2 | **NCE HQ 50F-180/280/A** | 50 | 18 | 42 | 0,2 | 3.6 | 25 | 830 | 280 | 122 | 381 | 84 | 297 | 167 | 96 | 114 | 14,5 |
| 2 | **NCE HQ 65F-40/340/A** | 65 | 4 | 31 | 0,2 | 1.1 | 25 | 230 | 340 | 122 | 402 | 95 | 307 | 226 | 96 | 118 | 17,9 |
| 2 | **NCE HQ 65F-80/340/A** | 65 | 8 | 43 | 0,2 | 2.6 | 25 | 560 | 340 | 122 | 402 | 95 | 307 | 226 | 96 | 118 | 17,9 |
| 2 | **NCE HQ 65F-120/340/A** | 65 | 12 | 50 | 0,2 | 3.5 | 25 | 810 | 340 | 122 | 412 | 95 | 317 | 236 | 96 | 118 | 18,4 |
| 3 | **NCE HQ 65F-180/340/A** | 65 | 18 | 57 | 0,2 | 7,4 | 25 | 1550 | 340 | 137 | 454 | 96 | 358 | 325 | 95 | 120 | 23,8 |
| 2 | **NCE HQ 80F-40/360/A** | 80 | 4 | 40 | 0,2 | 1.8 | 25 | 390 | 360 | 122 | 415 | 108 | 307 | 278 | 123 | 150 | 24,8 |
| 2 | **NCE HQ 80F-80/360/A** | 80 | 8 | 53 | 0,2 | 3.5 | 25 | 800 | 360 | 122 | 425 | 108 | 317 | 288 | 123 | 150 | 24,8 |
| 3 | **NCE HQ 80F-120/360/A** | 80 | 12 | 69 | 0,2 | 6,2 | 25 | 1400 | 360 | 144 | 476 | 108 | 368 | 335 | 124 | 150 | 30 |
| 3 | **NCE HQ 80F-180/360/A** | 80 | 18 | 72 | 0,2 | 7,4 | 25 | 1550 | 360 | 144 | 476 | 108 | 368 | 335 | 124 | 150 | 30 |
| 2 | **NCE HQ 100F-40/450/A** | 100 | 4 | 40 | 0,2 | 2.4 | 25 | 550 | 450 | 144 | 415 | 108 | 307 | 278 | 123 | 150 | 28,9 |
| 3 | **NCE HQ 100F-80/450/A** | 100 | 8 | 59 | 0,2 | 5 | 25 | 1150 | 450 | 144 | 476 | 108 | 368 | 335 | 124 | 150 | 35,1 |
| 3 | **NCE HQ 100F-120/450/A** | 100 | 12 | 72 | 0,2 | 7,4 | 25 | 1550 | 450 | 144 | 476 | 108 | 368 | 335 | 124 | 150 | 35,1 |
| 3 | **NCE HQ 100F-180/450/A** | 100 | 18 | 72 | 0,2 | 7,4 | 25 | 1550 | 450 | 144 | 476 | 108 | 368 | 335 | 124 | 150 | 35,1 |

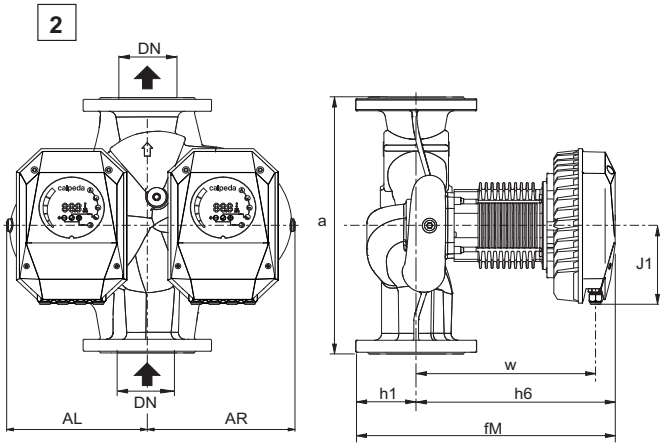
# NCE(D) HQ.F 60 Hz

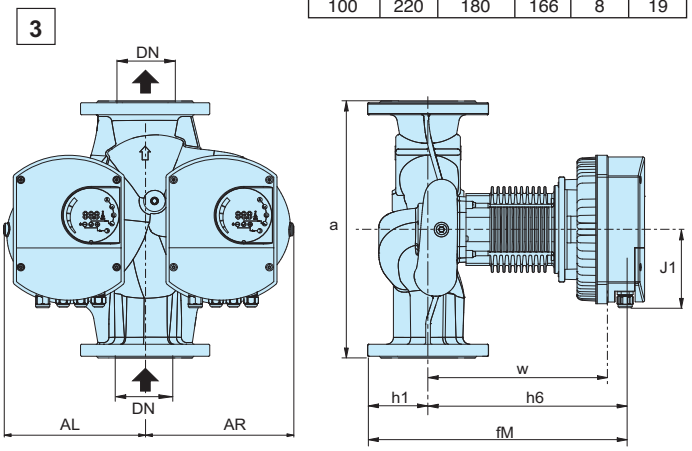
## Dimensions and weights - Dimensiones y pesos



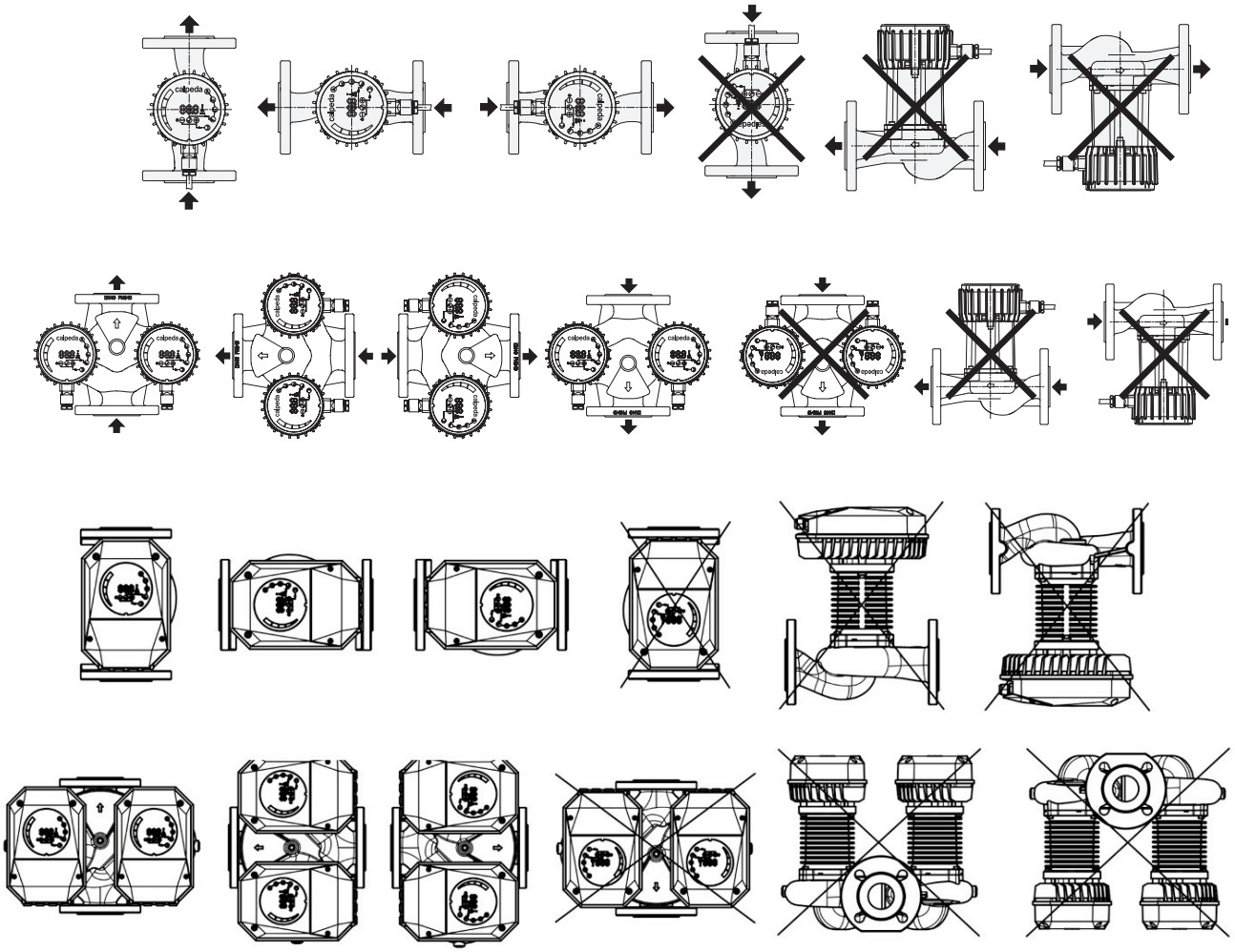

| DN | DE | DK | DG | holes N. | holes Ø |
|---|---|---|---|---|---|
| 32 | 140 | 90/100 | 74 | 4 | 14/19 |
| 40 | 150 | 100/110 | 80 | 4 | 14/19 |
| 50 | 165 | 110/125 | 90 | 4 | 14/19 |
| 65 | 185 | 130/145 | 110 | 4 | 14/19 |
| 80 | 200 | 160 | 148 | 8 | 19 |
| 100 | 220 | 180 | 166 | 8 | 19 |




| | TYPE | DN | H m | Q m³/h | 1~ 230 V A min | 1~ 230 V A max | P1 W min | P1 W max | mm a | mm J1 | mm fM | mm h1 | mm h6 | mm w | mm AL | mm AR | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | **NCED HQC 32F-120/220** | 32 | 12 | 19 | 0,2 | 1.8 | 25 | 370 | 220 | 122 | 361 | 65 | 296 | 266 | 191 | 191 | 21,5 |
| 1 | **NCED HQC 40F-40/250** | 40 | 4 | 13 | 0,1 | 1 | 10 | 110 | 250 | 98 | 302 | 65 | 237 | 162 | 181 | 186 | 17,2 |
| 2 | **NCED HQC 40F-80/250** | 40 | 8 | 19 | 0,2 | 1.3 | 25 | 270 | 250 | 122 | 361 | 65 | 296 | 266 | 191 | 191 | 22,2 |
| 2 | **NCED HQC 40F-120/250** | 40 | 12 | 24 | 0,2 | 2.3 | 25 | 480 | 250 | 122 | 361 | 65 | 296 | 266 | 191 | 191 | 23,5 |
| 2 | **NCED HQC 40F-180/250** | 40 | 18 | 25 | 0,2 | 3.4 | 25 | 680 | 250 | 115 | 371 | 65 | 306 | 276 | 191 | 191 | 23,6 |
| 1 | **NCED HQC 50F-40/280** | 50 | 4 | 23 | 0,2 | 1.3 | 25 | 160 | 280 | 98 | 345 | 72 | 273 | 199 | 198 | 201 | 26 |
| 2 | **NCED HQC 50F-80/280** | 50 | 8 | 32 | 0,2 | 1.7 | 25 | 370 | 280 | 122 | 359 | 72 | 287 | 157 | 195 | 202 | 27,5 |
| 2 | **NCED HQC 50F-120/280** | 50 | 12 | 36 | 0,2 | 2.5 | 25 | 560 | 280 | 122 | 359 | 72 | 287 | 157 | 195 | 202 | 27,5 |
| 2 | **NCED HQC 50F-180/280** | 50 | 18 | 42 | 0,2 | 3.6 | 25 | 830 | 280 | 122 | 369 | 72 | 297 | 167 | 195 | 202 | 27,5 |
| 2 | **NCED HQC 65F-40/340** | 65 | 4 | 31 | 0,2 | 1.1 | 25 | 230 | 340 | 122 | 370 | 75 | 295 | 226 | 215 | 225 | 35,9 |
| 2 | **NCED HQC 65F-80/340** | 65 | 8 | 43 | 0,2 | 2.6 | 25 | 560 | 340 | 122 | 370 | 75 | 295 | 226 | 215 | 225 | 35,9 |
| 2 | **NCED HQC 65F-120/340** | 65 | 12 | 50 | 0,2 | 3.5 | 25 | 810 | 340 | 122 | 380 | 55 | 305 | 236 | 215 | 225 | 35,45 |
| 3 | **NCED HQC 65F-180/340** | 65 | 18 | 57 | 0,2 | 7,4 | 25 | 1550 | 340 | 137 | 454 | 96 | 358 | 325 | 216 | 226 | 47,5 |
| 2 | **NCED HQC 80F-40/360** | 80 | 4 | 40 | 0,2 | 1.8 | 25 | 390 | 360 | 122 | 400 | 93 | 307 | 278 | 240 | 252 | 45,6 |
| 2 | **NCED HQC 80F-80/360** | 80 | 8 | 53 | 0,2 | 3.5 | 25 | 800 | 360 | 122 | 410 | 93 | 317 | 288 | 240 | 252 | 45,9 |
| 3 | **NCED HQC 80F-120/360** | 80 | 12 | 69 | 0,2 | 6,2 | 25 | 1400 | 360 | 144 | 476 | 108 | 368 | 335 | 241 | 253 | 56,5 |
| 3 | **NCED HQC 80F-180/360** | 80 | 18 | 72 | 0,2 | 7,4 | 25 | 1550 | 360 | 144 | 476 | 108 | 368 | 335 | 241 | 253 | 56,5 |
| 2 | **NCED HQC 100F-40/450** | 100 | 4 | 40 | 0,2 | 2.4 | 25 | 550 | 450 | 144 | 410 | 104 | 306 | 278 | 240 | 252 | 50,6 |
| 3 | **NCED HQC 100F-80/450** | 100 | 8 | 59 | 0,2 | 5 | 25 | 1150 | 450 | 144 | 476 | 108 | 368 | 335 | 241 | 253 | 59 |
| 3 | **NCED HQC 100F-120/450** | 100 | 12 | 72 | 0,2 | 7,4 | 25 | 1550 | 450 | 144 | 476 | 108 | 368 | 335 | 241 | 253 | 59 |
| 3 | **NCED HQC 100F-180/450** | 100 | 18 | 72 | 0,2 | 7,4 | 25 | 1550 | 450 | 144 | 476 | 108 | 368 | 335 | 241 | 253 | 59 |

## Examples of installations - Ejemplo de instalación



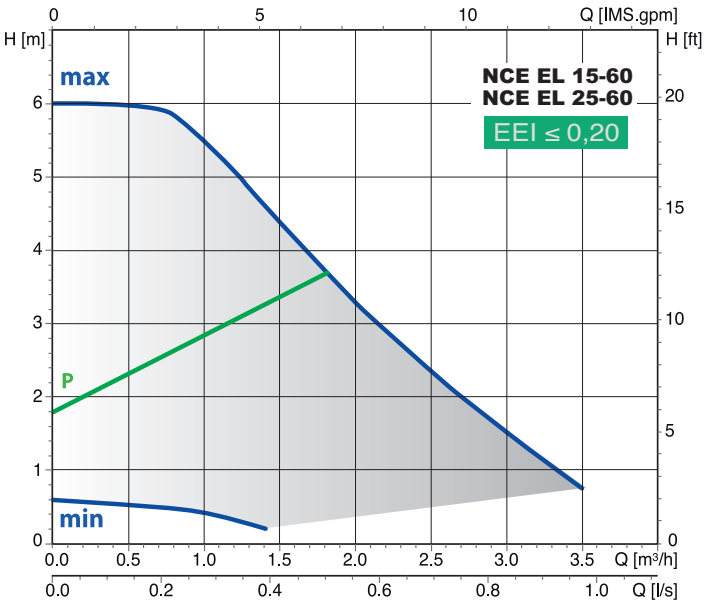
# NCE EL 60 Hz

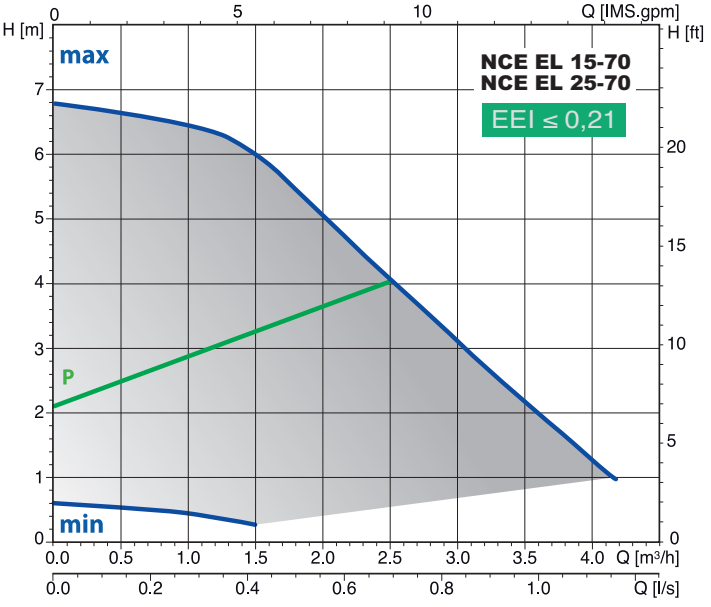
## Energy saving circulating pumps for solar systems
## Circuladoras para placas solares de bajo consumo energético

ErP READY 2015 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS




## Coverage chart - Campo de aplicaciones




**P** proportional curve
**min-max n** fixed curves

# NCE EL 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

## Applications
Solar thermal systems.

## Operating conditions
- Liquid temperature from +2 °C to +110 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C
  1,0 bar at 95 °C
  1,5 bar at 110 °C
- Maximum glycol quantity: 40%
- EMC according to: EN 55014-1, EN 61000-3-2, EN 55014-2
- Connections: threaded ports ISO 228: G 1, G 1 1/2.
- The benchmark for most efficient circulators is EEI ≤ 0,20.
- Minimun power: 3 W.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
  1) automatic protection with electronic rotor release
  2) Overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Special features on request
Brass or cast iron unions.
EPP thermal insulation shell.

## Ejecución
Circuladora de alta eficiencia energética de velocidad variable dirigida por un motor síncrono de imán permanente controlado por convertidor de frecuencia.

## Aplicaciónes
Sistemas solares térmicos.

## Limites de empleo
- Temperatura del líquido de +2 °C a +110 °C
- Temperatura ambiente de 0 °C a +40 °C
- Presión máxima: 10 bar
- Almacenaje: -20 °C/+70 °C Humedad Relativa 95% a 40%
- Marcado: conforme a los requisitos de marca CE
- Nivel sonoro ≤ 43 dB (A)
- Presió mínima en lase de aspiración: 0,3 bar a 50 °C
  1,0 bar a 95 °C
  1,5 bar a 110 °C
- Cantidad máxima de glicol: 40%
- EMC según: EN 55014-1, EN 61000-3-2, EN 55014-2
- Bocas roscadas según ISO 228: G 1, G 1 ½
- Índice de referéncia de los circuladores más eficientes es IEE ≤ 0,20.
- Potencia mínima: 3 W.

## Motor
- Motor sincrónico con imán permanente.
- Número de vueltas del motor: variable
- Tensión de alimentación: monofásica 230 V (-10%; +6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: H
- Aparato clase II
- Protección contra las sobrecargas (rotor bloqueado):
  1.Protección automática con función de desbloqueo electrónico del rotor
  2.Protección con protector tèrmico
- Cableado: cable con fase y neutro
- Realización conforme a: EN 60335-1, EN 60335-2-51.

## Ejecuciónes especiales bajo demanda
Uniones de latón o hierro.
Aislamiento térmico con protector término-aislante EPP.

## Designation

NCE EL 25 - 60 / 180

- Series
- Version
- DN ports in mm
- Max. head in dm
- connection size mm

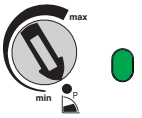
## Designación

NCE EL 25 - 60 / 180

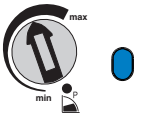
- Série
- Versión
- DN des orifices en mm
- Hauteur maxí dm
- Entraxe pour installation mm

## Operating modes

**PROPORTIONAL CURVE PROGRAMMING Δp-v**
(GREEN LED)
Moving the switch to the 'P' setting will allow the pump to operate against a proportional performance curve. This feature ensures maximum energy efficiency.



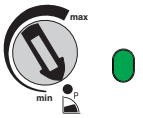

**MANUAL PROGRAMMING**
(BLUE LED)
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.



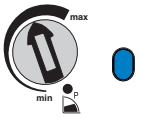

**WARNING!**
- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

## Modo de funcionamiento

PROGRAMA CURVA **PROPORCIONAL Δp-v**
(LED VERDE)
Al mover el interruptor a la posición P, la bomba produce una curva de rendimiento proporcional. Esta operación garantiza la máxima eficiencia energética.




PROGRAMA **MANUAL**
(LED AZUL)
Mover el interruptor en cualquier lugar entre MIN y MAX, es posible seleccionar manualmente la curva de trabajo más adecuada a la maquinaria.



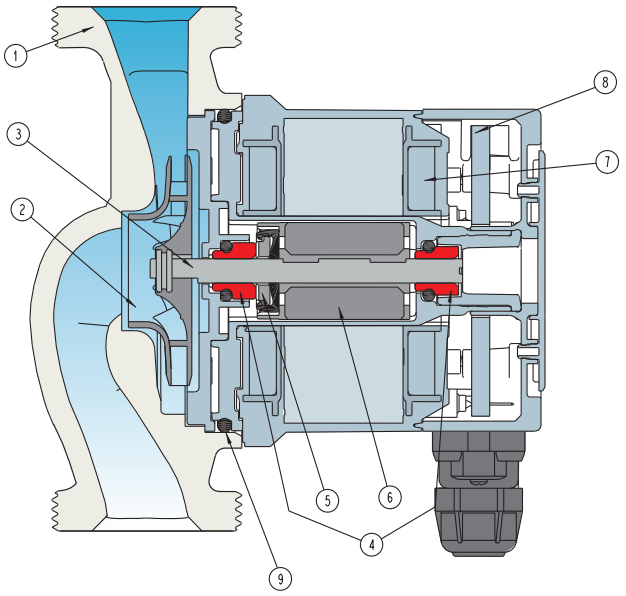

**ATENCIÓN!**
- Led rojo:la bomba está en un estado bloqueado, pero es todavía bajo tensión.
- Led blanco con intermitencia: se necesita desgasificar la planta, aire en el sistema.

# NCE EL 60 Hz

## Materials - Materiales

| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Cast iron GJL 200 EN 1561 |
| Impeller | 2 | Composite |
| Shaft | 3 | Ceramic |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Composite / Ferrite |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

| Componente | Pos. | Material |
|---|---|---|
| Cuerpo bomba | 1 | Acero GJL 200 EN 1561 |
| Rodete | 2 | Compuesto |
| Eje | 3 | Cerámica |
| Rodamientos | 4 | Carbono |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Compuesto/Ferrita |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |




## Features

### Compact design
The space saving **NCE EL** is a very compact circulating pump, allows inr easy installation in small domestic heating systems.

### Easy to install and to adjust
Installing the **NCE EL** is considerably simplified by the quick setting and power installation plug.

### Reliable
Like all our electronic circulating pumps, the **NCE EL** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.
Ceramic shaft.
Hydraulics components are completely painted with cataphoresis.
Program for automatic routine vent and release.

### Easy use
Operating range with fixed curves from 0,6 m to 7 m; possibility to choose proportional pressure curve or selection of the optimum working point.

## Características constructivas

### Diseño compacto
Un producto de dimensiones mínimas para facilitar la instalación también en lugares estrechos.

### Fácil instalación y regulación
La instalación de la circuladora **NCE EL** es sencilla para una conexión rápida con enchufe.

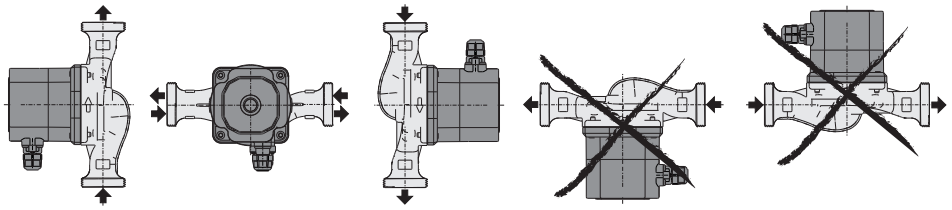
### Fiabilidad
**NCE E**L ha patentado la cámara cuadrada que elimina cualquier posibilidad de parar el motor.
Eje del motor en cerámica.
Hidráulico completamente pintada con electroforesis.
Programa para rutina de ventilaciòn y desbloqueo.

### Fácil utilización
Uso con curvas fijas de 0,6 m a 7 m; es posible elegir una curva de presión proporcional o ajuste del punto exacto de trabajo.

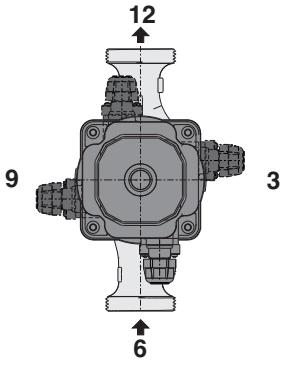
# NCE EL 60 Hz

## Examples of installations - Ejemplo de instalación

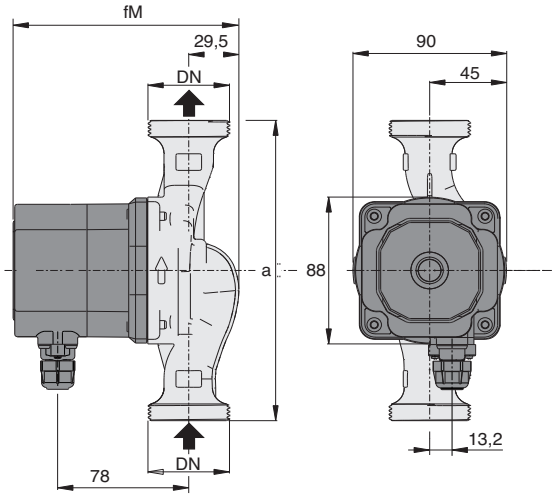
**Installation**
**Instalación**



**Terminal box arrangement** (on request)
**Posición de la caja de terminales** (bajo demanda)

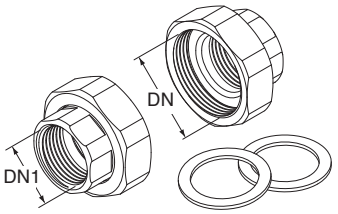



## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | DN | 230V | | P1 | | mm | | kg |
|---|---|---|---|---|---|---|---|---|
| | | A max | A min | W max | W min | fm | a | |
| **NCE EL 15-60/130/A** | G 1 | 0,33 | 0,03 | 42 | 3 | 134 | 130 | 1,67 |
| **NCE EL 25-60/130/A** | G 1 1/2 | | | | | | | 1,81 |
| **NCE EL 25-60/180/A** | G 1 1/2 | 0,33 | 0,03 | 42 | 3 | 134 | 180 | 1,96 |
| **NCE EL 15-70/130** | G 1 | 0,44 | 0,03 | 56 | 3 | 144 | 130 | 1,91 |
| **NCE EL 25-70/130** | G 1 1/2 | | | | | | | 2,05 |
| **NCE EL 25-70/180** | G 1 1/2 | 0,44 | 0,03 | 56 | 3 | 144 | 180 | 2,20 |

**Unions** (on request)
**Uniones** (bajo demanda)




| | DN | DN1 |
|---|---|---|
| **KIT G 1 - G 1/2** (NCE . 15..) | G 1 | G 1/2 |
| **KIT G 1 1/2 - G 1** (NCE . 25..) | G 1 1/2 | G 1 |
| **KIT G 2 - G 1 1/4** (NCE . 32..) | G 2 | G 1 1/4 |

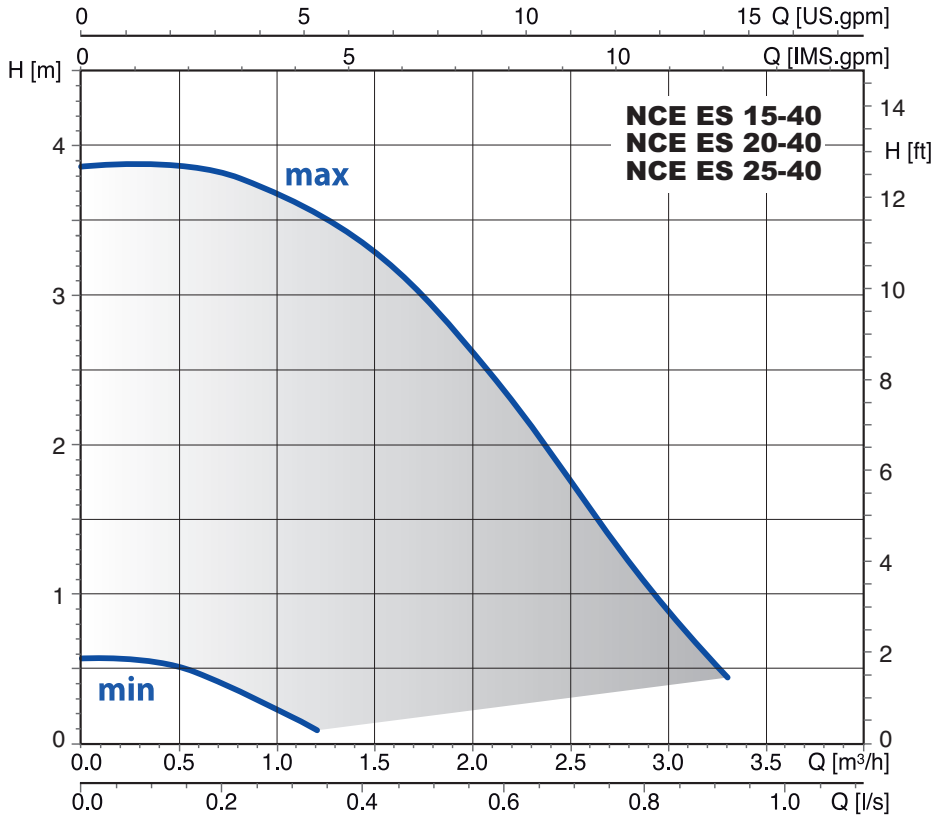
# NCE ES 60 Hz

**Energy saving circulating pumps for sanitary hot water**
**Circuladoras para agua caliente sanitaria de bajo consumo energético**

ErP READY 2015 APPLIES TO EUROPEAN DIRECTIVE FOR ENERGY RELATED PRODUCTS




## Coverage chart - Campo de aplicaciones



# NCE ES 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

## Ejecución
Bombas de circulación de agua caliente sanitaria de alta eficiencia energética con motor síncrono con imán permanente de rotor húmedo controlado por variador de frecuencia.
Cuerpo bomba bronce.

## Applications
Hot sanitary water systems.

## Aplicaciónes
Sistemas de circulación de agua caliente sanitaria.

## Operating conditions
- Liquid temperature from +2 °C to +95 °C
- Ambient temperature from +2 °C to +40 °C
- Maximum working pressure: 10 bar
- Storage: -20°C/+70°C UR 95% a 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 43 dB (A).
- Minimum suction pressure: 0,3 bar at 50 °C
  1,0 bar at 95 °C
- EMC according to: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Threated ports ISO 228: G 1, G 1 1/4, G 1 1/2.

## Limites de empleo
- Temperatura del líquido de +2 °C a +95 °C
- Temperatura ambiente de +2 °C a +40 °C
- Presión máxima: 10 bar
- Almacenaje: -20 °C/+70 °C Humedad Relativa 95% a 40%
- Marcado: conforme a los requisitos de marca CE
- Nivel sonoro ≤ 43 dB (A)
- Presió mínima en lase de aspiración: 0,3 bar a 50 °C
  1,0 bar a 95 °C
- EMC según: EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.
- Bocas roscadas según ISO 228: G1, G 1 1/4, G 1 1/2.

## Motor
Synchronous motor with permanent magnets.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: H
- Class II appliance
- Overload protection (jammed rotor):
  1) automatic protection with electronic rotor release
  2) overload thermal protector
- Cable: phases and neutral
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Motor
- Motor sincrónico con imán permanente.
- Número de vueltas del motor: variable
- Tensión de alimentación: monofásica 230 V (-10%; +6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: H
- Aparato clase II
- Protección contra las sobrecargas (rotor bloqueado):
  1.Protección automática con función de desbloqueo electrónico del rotor
  2.Protección con protector tèrmico
- Cableado: cable con fase y neutro
- Realización conforme a: EN 60335-1, EN 60335-2-51.

## Special features on request
Brass unions.

## Ejecuciónes especiales bajo demanda
Uniones de latón.

## Designation

NCE ES 25 - 40 / 130

- Series
- Version
- DN ports in mm
- Max. head in dm
- connection size mm

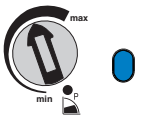
## Designación

NCE ES 25 - 60 / 130

- Série
- Versión para agua sanitaria
- DN agujeros en mm
- Altura máxima dm
- Espacio para la instalación de mm

## Operating modes

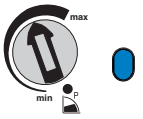
**MANUAL PROGRAMMING**
(BLUE LED)
Setting the switch in any position between the MIN and MAX points, the most suitable operating curve for the installation is manually selected.




**WARNING!**
- The red LED indicates that the pump is not rotating but is still under tension.
- White flashing LED : plant degassing requirement, air in the system.

## Leds de funcionamiento

PROGRAMA **MANUAL**
(LED AZUL)
Mover el interruptor en cualquier lugar entre MIN y MAX, es posible seleccionar manualmente la curva de trabajo más adecuada a la maquinaria.



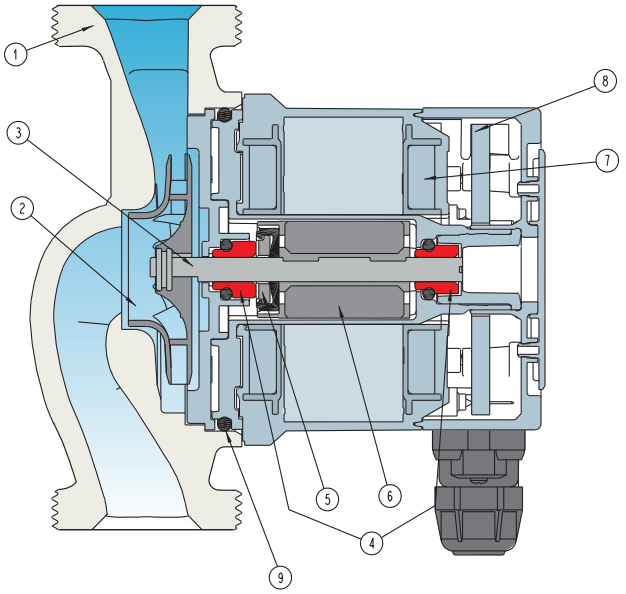

**ATENCIÓN!**
- Led rojo:la bomba está en un estado bloqueado, pero es todavía bajo tensión.
- Led blanco con intermitencia: se necesita desgasificar la planta, aire en el sistema.

# NCE ES 60 Hz

## Materials - Materiales

| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Bronze |
| Impeller | 2 | Composite |
| Shaft | 3 | Ceramic |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Composite / Ferrite |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

| Componente | Pos. | Material |
|---|---|---|
| Cuerpo bomba | 1 | Acero GJL 200 EN 1561 |
| Rodete | 2 | Compuesto |
| Eje | 3 | Cerámica |
| Rodamientos | 4 | Carbono |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Compuesto/Ferrita |
| Bobinados | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |




## Features

### Energy saving
**NCE ES** is an high energy efficiency product.

### Compact design
The space saving **NCE ES** facilitate the installation in the smaller systems.

### Easy to install and to adjust
Installing the **NCES** is considerably simplified by the quick setting and power installation plug. The adjustment is simple and intuitive thanks to the ability to be able to select the optimum working point or mode via a simple LED indicator and switch.

### Reliability
**NCES** features the patented self-cleaning square chamber design, which eliminates any possibility of rotor blockage.

### Easy use
Operating range with fixed curves from 0,6 m to 4 m with selection of the optimum working point.

## Características constructivas

### Ahorro energético
La **NCE ES** es un producto con alta eficiencia energética.

### Diseño compacto
Un producto de dimensiones mínimas para facilitar la instalación también en lugares estrechos.

### Fácil instalación y regulación
La instalación de la circuladora **NCES** es sencilla para una conexión rápida con enchufe.

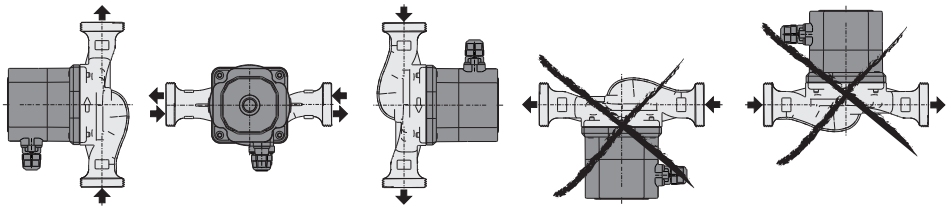
### Fiabilidad
**NCES** ha patentado la cámara cuadrada que elimina cualquier posibilidad de parar el motor.

### Fácil utilización
Uso con curvas fijas de 0,6 m a 4 m con ajuste del punto exacto de trabajo.

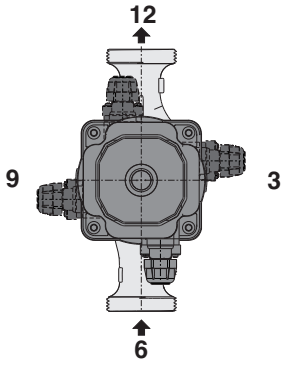
# NCE ES 60 Hz

## Examples of installations - Ejemplo de instalación

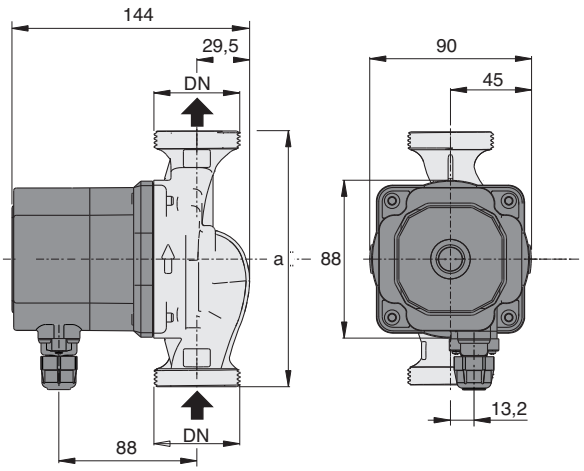
**Installation**
**Instalación**



**Terminal box arrangement** (on request)
**Posición de la caja de terminales** (bajo demanda)

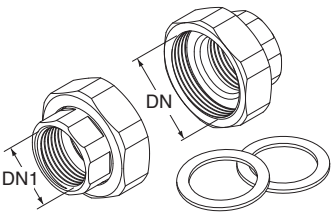



## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN | 230V | | P1 | | mm | Net weight |
|---|---|---|---|---|---|---|---|
| | | A max | A min | W max | W min | a | kg |
| **NCE ES 15-40/130** | G 1 | 0,35 | 0,03 | 44 | 4,5 | 130 | 2,15 |
| **NCE ES 20-40/130** | G 1 1/4 | 0,35 | 0,03 | 44 | 4,5 | 130 | 2,25 |
| **NCE ES 25-40/130** | G 1 1/2 | 0,35 | 0,03 | 44 | 4,5 | 130 | 2,35 |

**Unions** (on request)
**Uniones** (bajo demanda)



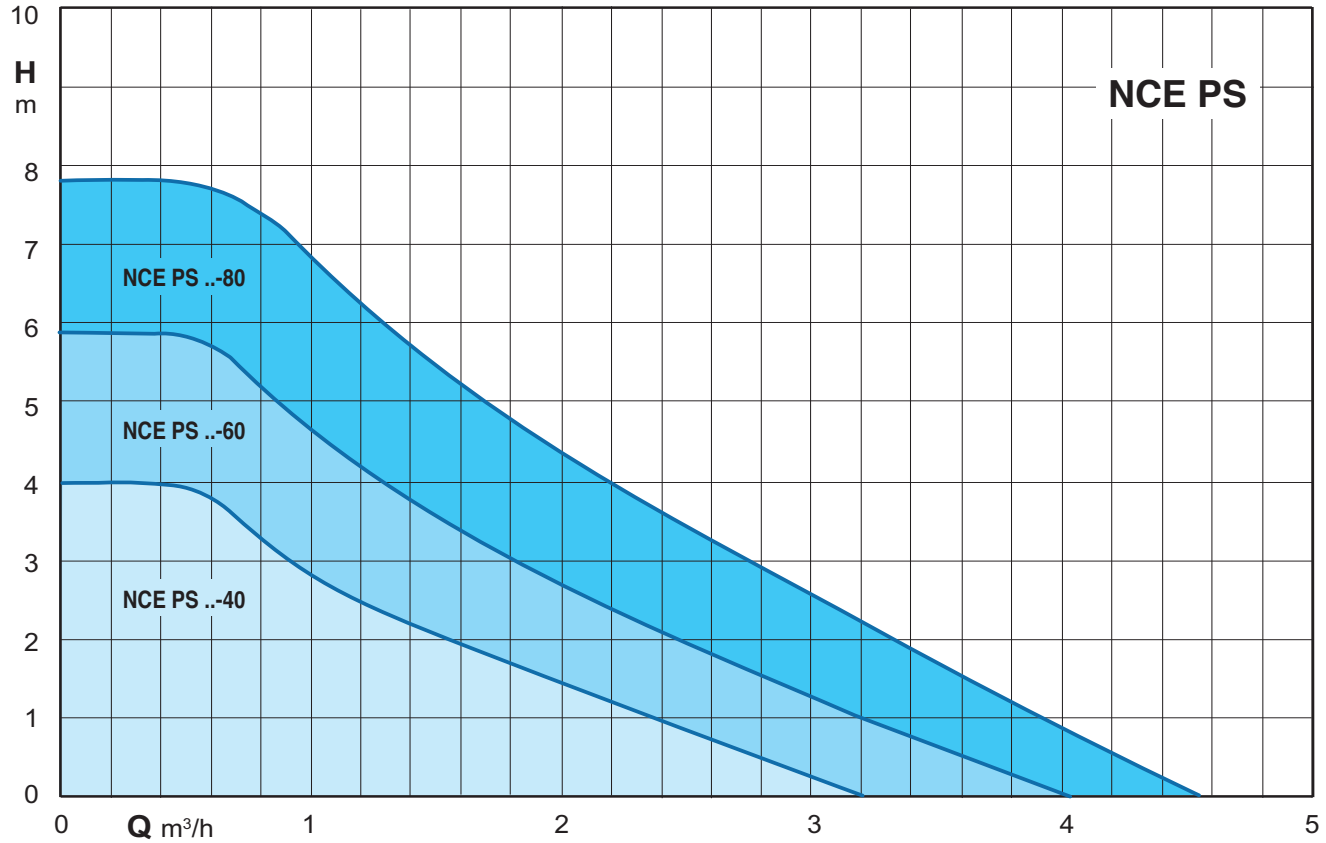

| TYPE | | DN | DN1 |
|---|---|---|---|
| **KIT G 1 - G 1/2** | (NCE ES 15..) | G 1 | G 1/2 |
| **KIT G 1 1/4 - G 3/4** | (NCE ES 20..) | G 1 1/4 | G 3/4 |
| **KIT G 1 1/2 - G 1** | (NCE ES 25..) | G 1 1/2 | G 1 |

# NCE PS 60 Hz

**Energy saving circulating pumps for sanitary hot water**
**Circuladoras para agua caliente sanitaria de bajo consumo energético**




## Coverage chart - Campo de aplicaciones



# NCE PS 60 Hz

## Construction
Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

## Easy adjustment
The adjustment is simple and intuitive thanks to the LED indicator.

## Easy use
3 proportional curves and 3 fixed speed curves are available and selectable by the button.

## Applications
Sanitary hot water systems.

## Operating conditions
- Liquid temperature from +5 °C to +65 °C
- Ambient temperature from 0 °C to +40 °C
- Maximum permissible working pressure: 10 bar
- Storage: -20°C/+70°C max. relative humidity 95% at 40 °C
- Certifications: in conformity with CE requirements
- Sound pressure ≤ 38 dB (A).
- Minimum suction pressure: - 0,05 bar at 75 °C
  - 0,28 bar a 90 °C.
- Maximum glycol quantity: 20%.
- EMC according to: EN 55014-1, EN 55014-2
  EN 61000-3-2, EN 61000-3-2.
- Connections: threaded ports ISO 228: G 1 1/4, G 1 1/2.

## Motor
Synchronous motor with permanent magnet.
- Motor: variable speed
- Standard voltage: single-phase 230 V (-10%;+6%)
- Frequency: 50-60 Hz
- Protection: IP 44
- Insulation class: F
- Overload protection (integrated).
- Cable: phases and neutral.
- Constructed in accordance with: EN 60335-1, EN 60335-2-51.

## Special features on request
The **NCE PR** version is equipped with an additional module that allows to control the pump with an analog signal 0-10V.
Brass unions.

## Designation

NCE PS 25 - 60 / 180

- Series
- Version for sanitary hot water
- DN ports in mm
- Max. head in dm
- connection size mm

## Ejecución
Bombas de circulación de agua caliente sanitaria de alta eficiencia energética con motor síncrono con imán permanente de rotor húmedo controlado por variador de frecuencia.
Cuerpo bomba bronce.

## Fácil ajuste
El ajuste es de operación sencilla e intuitiva gracias al indicador (LED).

## Fácil utilización
Hay 3 curvas proporcionales y 3 curvas fijas seleccionables por el botón.

## Aplicaciones
Sistemas de circulación de agua caliente sanitaria.

## Datos Técnicos
- Temperatura del líquido de +5 °C a +65 °C
- Temperatura mbiente de 0 °C a +40 °C
- Presión máxima: 10 bar
- Almacenaje: -20°C/+70°C UR 95% a 40 °C
- Marcado: conforme a los requisitos CE
- Nivel sonoro ≤ 38 dB (A).
- Presión mínima de aspiración: - 0,05 bar at 75 °C
  - 0,28 bar a 90 °C.
- Máx. cantidad de glicol: 20%
- EMC según: EN 55014-1, EN 55014-2,
  EN 61000-3-2, EN 61000-3-3
- Bocas roscadas según ISO 228: G 1 1/4, G 1 1/2.

## Motor
Motor síncrono con imanes permanentes.
- Número de revoluciones del motor: Variable
- Tensión de alimentación: monofásico 230 V (-10%, 6%)
- Frecuencia: 50-60 Hz
- Protección: IP 44
- Clase de aislamiento: F
- Protección de la sobrecarga (integrado)
- Cable: fases y neutro
- Ejecución según: EN 60335-1, EN 60335-2-51.

## Ejecuciones especiales bajo demanda
Versión **NCE PR** equipada con un módulo adicional que permite el control de la bomba con una señal analógica 0-10V.
Uniones de latón.

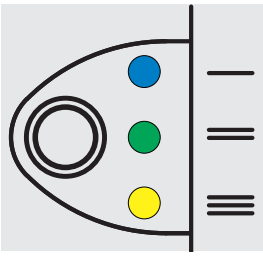
## Designación

NCE PS 25 - 60 / 130

- Série
- Versión para agua sanitaria
- DN agujeros en mm
- Altura máxima dm
- Espacio para la instalación de mm

# NCE PS 60 Hz

## Operating modes



**Operating functions - control buttons.**
NCE PS circulator could work:
- with proportional pressure curves
- with fixed speed curves



**PROPORTIONAL CURVE PROGRAMMING Δp-v**
- (P1 BLUE LED blinking light)
- (P2 GREEN LED blinking light)
- (P3 YELLOW LED blinking light)

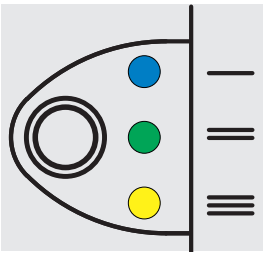
Push repeatedly the button to select the proportional curve.
The color changes depending on the selected curve.
This operating mode guarantees the maximum energy efficiency.



**FIXED SPEED CURVE PROGRAMMING**
- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

If you push the button for 5 seconds the pump adopt the fixed speed curve. The color changes depending on the selected curve. (to replace standard 3-speed circulators).

## Leds de funcionamiento



**Botones de control de funciones.**
La bomba NCE PS puede funcionar :
- Curvas de presión proporcional
- Con curvas fijas



PROGRAMA CURVA **PROPORCIONAL Δp-v**
- ((P1 Luz LED intermitente AZUL)
- (P2 Luz LED intermitente VERDE)
- (P3 Luz LED intermitente AMARILLA)

Seleccion de la curva proporcional pulsando repetidamente el botón.
Los cambios de color en función de la curva seleccionada.
Esta operación garantiza la máxima eficiencia energética.

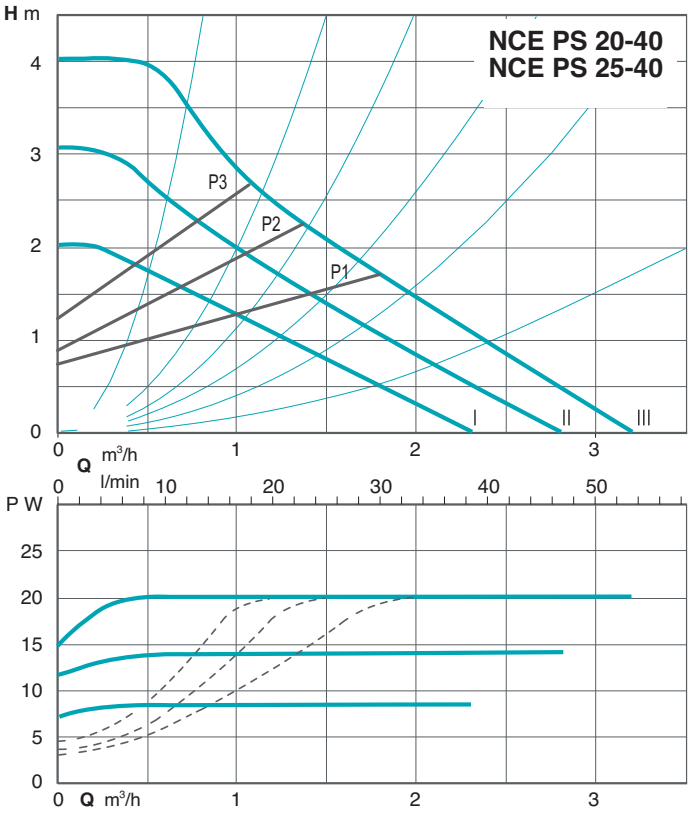


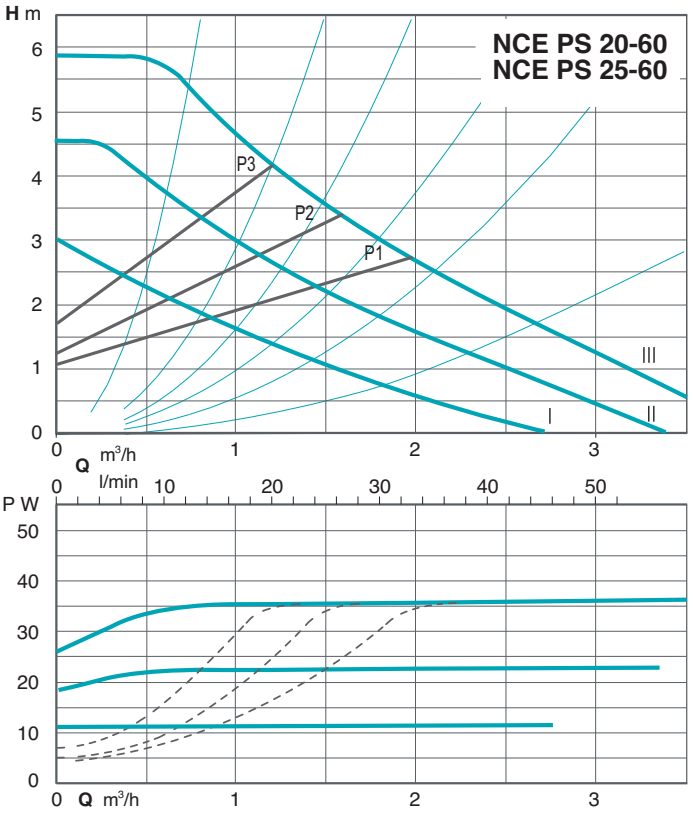
PROGRAMA CURVA **FIJA**
- (I Luz LED fija AZUL)
- (II Luz LED fija VERDE)
- (III Luz LED fija AMARILLA)

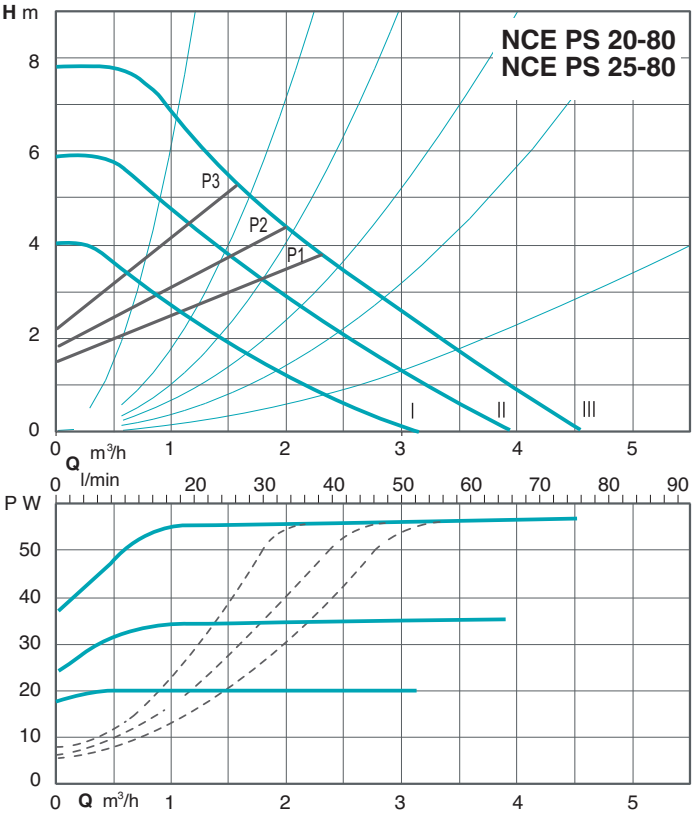
Si mantiene pulsado el botón durante 5 segundos, la bomba cambia a una velocidad fija. Los cambios de color en función de la curva seleccionada. (Destinado a sustituir las bombas de circulación de 3 velocidades estándar).

# NCE PS 60 Hz

## Characteristic curves - Curvas características



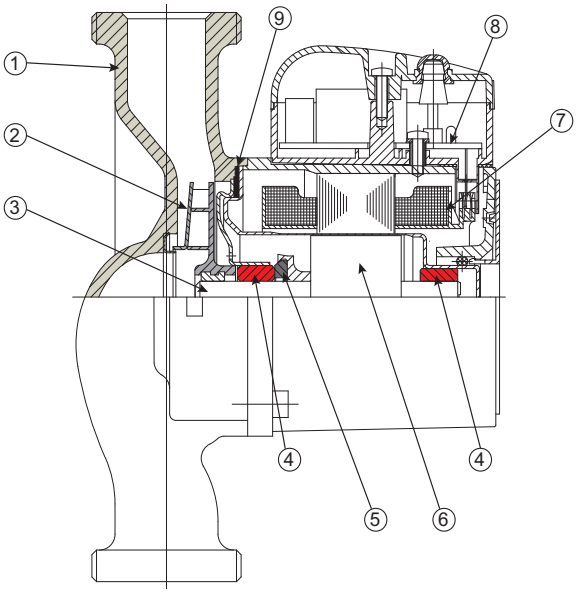



# NCE PS 60 Hz

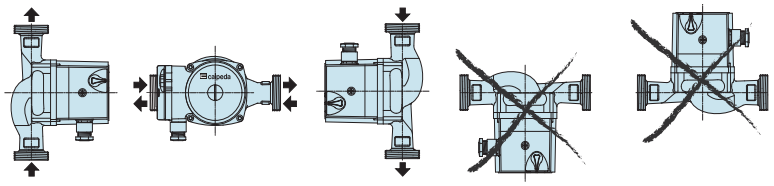
## Materials - Materiales

| Component | Pos. | Material |
|---|---|---|
| Pump casing | 1 | Bronze |
| Impeller | 2 | Composite |
| Shaft | 3 | Stainless steel AISI 420 |
| Bearings | 4 | Carbon |
| Thrust bearing | 5 | Ceramic |
| Rotor | 6 | Stainless steel jacket |
| Winding | 7 | Copper wire |
| Electronic card | 8 | - |
| Gasket | 9 | EPDM |

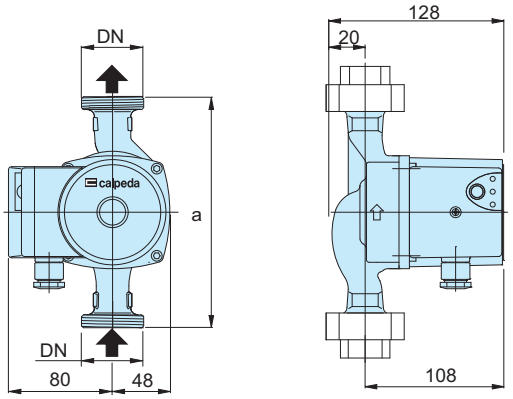
| Componente | Pos. | Material |
|---|---|---|
| Cuerpo bomba | 1 | Bronze |
| Rodete | 2 | Material Composite |
| Eje | 3 | Acero inoxidable AISI 420 |
| Rodamientos | 4 | Carbón |
| Cojinete de empuje | 5 | Cerámica |
| Rotor | 6 | Camisa en acero inoxidable |
| Bobinado | 7 | Hilo de cobre |
| Tarjeta electrónica | 8 | - |
| Juntas | 9 | EPDM |




## Examples of installations - Ejemplo de instalación

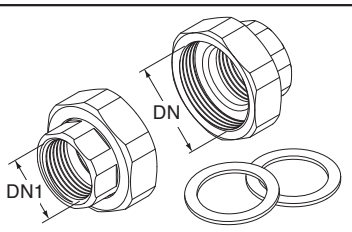


## Dimensions and weights - Dimensiones y pesos




| TYPE TIPO | DN | H m | Q m³/h | 1~ 230 V A min | 1~ 230 V A max | P1 W max | a mm | kg |
|---|---|---|---|---|---|---|---|---|
| **NCE PS 20-40/130** | G 1 1/4 | 4 | 3 | 0,05 | 0,2 | 20 | 130 | 2,2 |
| **NCE PS 25-40/130** | G 1 1/2 | | | | | | | 2,2 |
| **NCE PS 20-60/130** | G 1 1/4 | 6 | 3,5 | 0,05 | 0,32 | 35 | 130 | 2,2 |
| **NCE PS 25-60/130** | G 1 1/2 | | | | | | | 2,2 |
| **NCE PS 20-80/130** | G 1 1/4 | 8 | 4 | 0,05 | 0,5 | 55 | 130 | 2,2 |
| **NCE PS 25-80/130** | G 1 1/2 | | | | | | | 2,2 |

**Unions** (on request)
**Uniones** (bajo demanda)



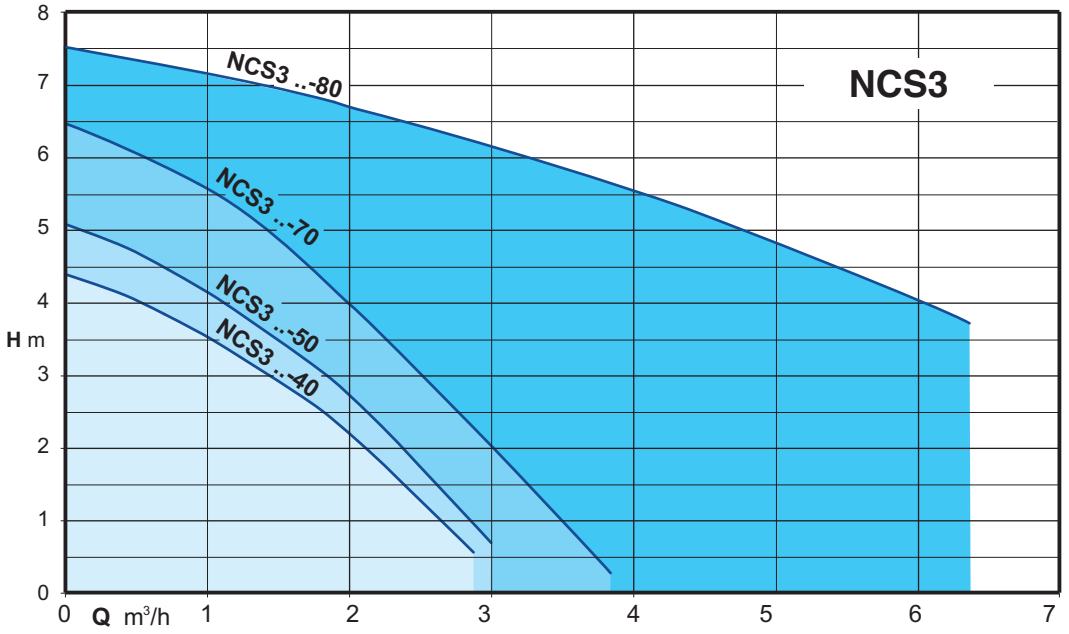

| TYPE | | DN | DN1 |
|---|---|---|---|
| **KIT G 1 - G 1/2** | (NCE . 15..) | G 1 | G 1/2 |
| **KIT G 1 1/4 - G 3/4** | (NCE . 20..) | G 1 1/4 | G 3/4 |
| **KIT G 1 1/2 - G 1** | (NCE . 25..) | G 1 1/2 | G 1 |
| **KIT G 2 - G 1 1/4** | (NCE . 32..) | G 2 | G 1 1/4 |

# NCS3 60 Hz

## Circulating pumps for sanitary hot water
## Bombas circuladoras de agua caliente sanitaria




## Coverage chart - Campo de aplicaciones



# NCS3 60 Hz

## Construction
Bronze pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Stainless steel AISI 316 canned rotor.

| Component | Materials |
|---|---|
| Pump casing | Bronze |
| Impeller | Composite |
| Shaft | Stainless steel AISI 420 |
| Bearings | Graphite |

## Ejecución
Cuerpo bomba en bronce con orificios de aspiración e impulsión del mismo diámetro y dispuestos sobre el mismo eje (ejecución “in-line”).
Camisa del rotor en acero inoxidable AISI 316.

| Componente | Material |
|---|---|
| Cuerpo bomba | Bronce |
| Rodete | Material composite |
| Eje | Acero inoxidable AISI 420 |
| Cojinete | Carbono AISI 420 |

## Applications
Circulation of sanitary hot water.

## Aplicaciónes
Recirculación de agua caliente sanitaria

## Operating conditions
Liquid temperature from +5 °C to +65 °C.
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Minimum suction pressure: 0,05 bar at 50 °C
Maximum permissible working pressure 10 bar.

## Limites de empleo
Temperatura líquido: de +5 °C a +65 °C.
Temperatura ambiente hasta 40 °C.
Nivel sonoro ≤ 43 dB (A)
Presión mínima en fase de aspiración: 0,05 bar a 50 °C
Presión máxima: 10 bar.

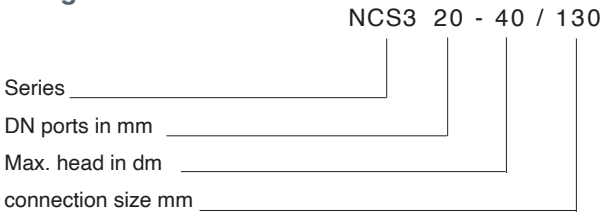
## Motor
2-pole induction motor, 60 Hz.
Three adjustable speeds.
**NCS3**: single-phase 220 V.
Insulation class H.
Protection IP 44.

## Motor
Motor a inducción a 2 polos, 60 Hz.
Tres velocidades.
**NCS3:** monofásico 220 V.
Aislamiento clase H.
Protección IP 44.

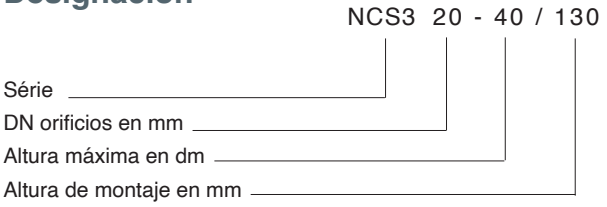
## Special features on request
Brass unions.

## Ejecuciónes especiales bajo demanda
Uniones de latón.

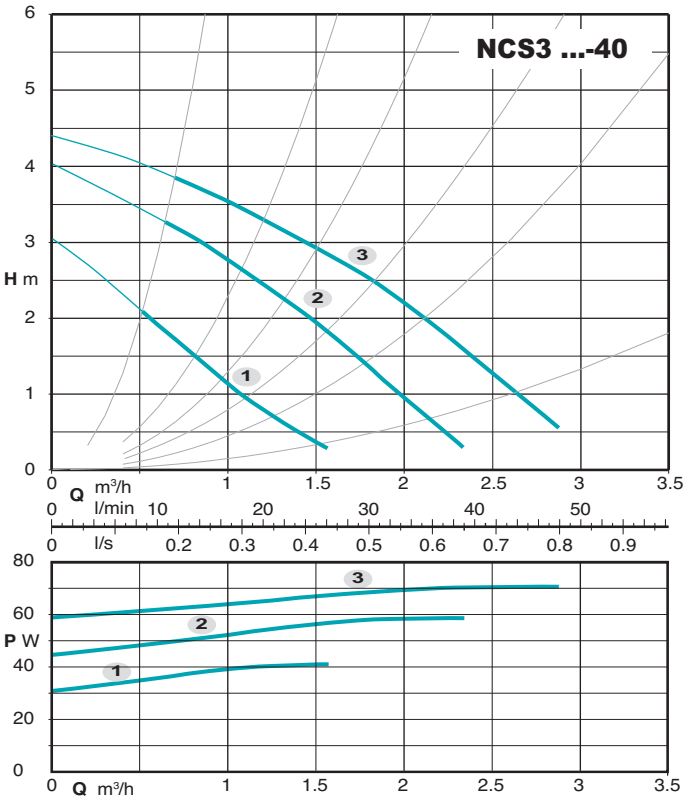
## Designation

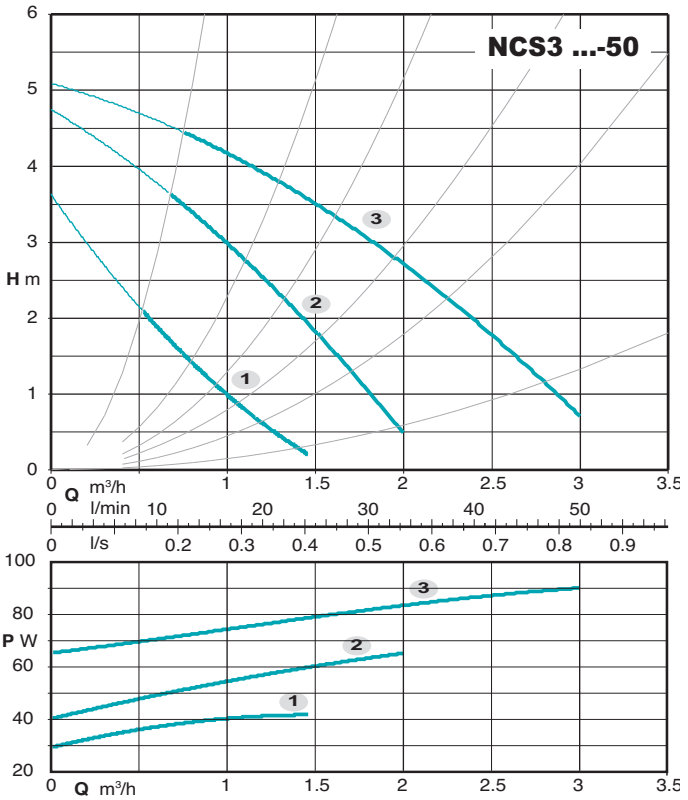


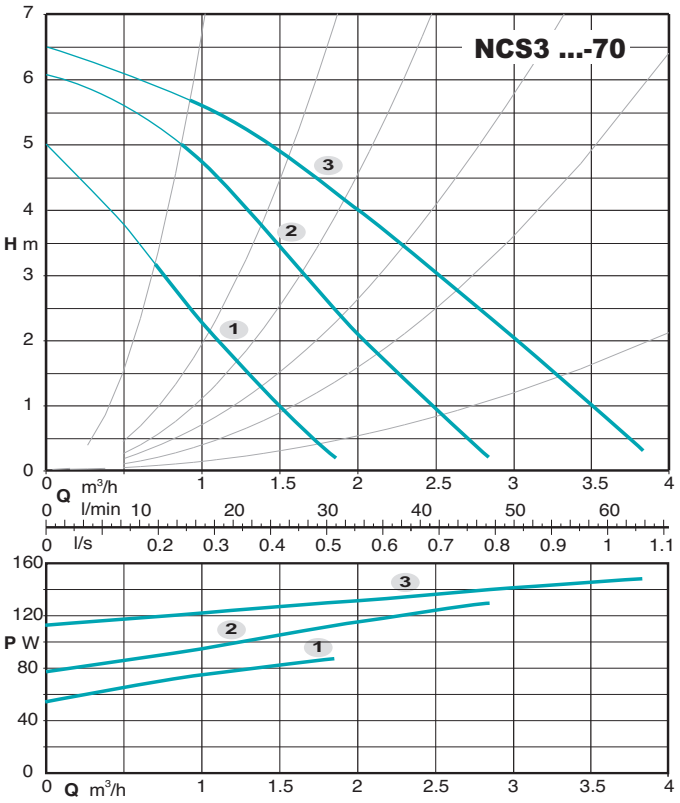

## Designación

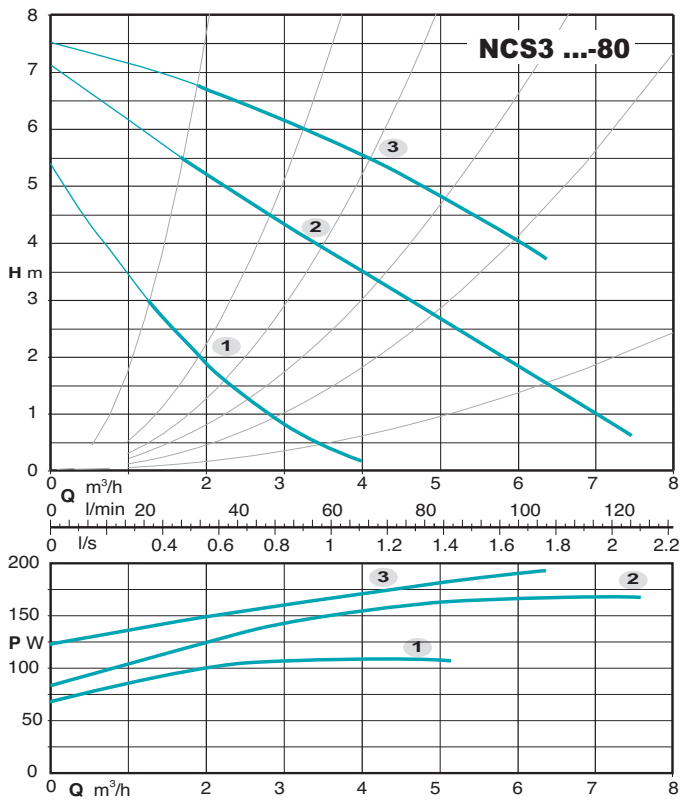


## Characteristic curves - Curvas características



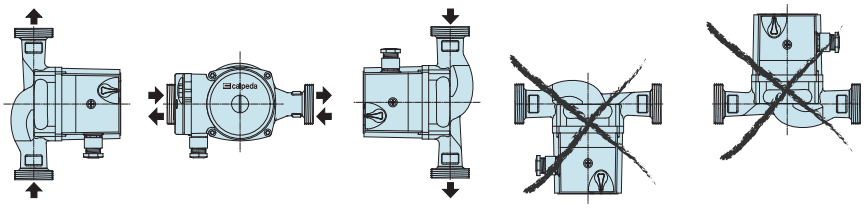



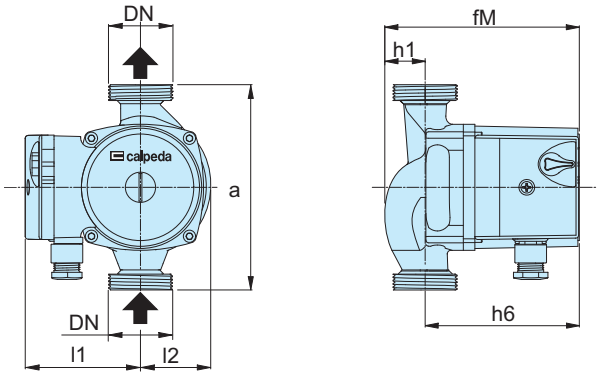



# NCS3 60 Hz

## Examples of installations - Ejemplo de instalación

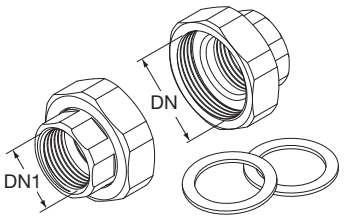


## Dimensions and weights - Dimensiones y pesos




| TYPE<br>TIPO | DN | Pos. | P1<br>(W) | 1x<br>230 V<br>[A] | mm<br>a | fM | h1 | h6 | l1 | l2 | [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NCS3 20-40/130<br>NCS3 25-40/130 | G 1 1/4<br>G 1 1/2 | 3<br>2<br>1 | 70<br>59<br>41 | 0,30<br>0,26<br>0,18 | 130 | 128 | 21 | 107 | 80 | 49 | 2,3 |
| NCS3 20-50/130<br>NCS3 25-50/130 | G 1 1/4<br>G 1 1/2 | 3<br>2<br>1 | 91<br>65<br>42 | 0,38<br>0,28<br>0,18 | 130 | 128 | 21 | 107 | 80 | 49 | 2,5 |
| NCS3 20-70/130<br>NCS3 25-70/130 | G 1 1/4<br>G 1 1/2 | 3<br>2<br>1 | 148<br>128<br>87 | 0,66<br>0,59<br>0,41 | 130 | 128 | 21 | 107 | 80 | 49 | 3,8 |
| NCS3 32-80/180 | G 2 | 3<br>2<br>1 | 210<br>176<br>107 | 0,95<br>0,80<br>0,49 | 180 | 185 | 38 | 147 | 80 | 60 | 5,1 |

**Unions** (on request)
**Uniones** (bajo demanda)




| TIPO - TYPE - TYP | DN | DN1 |
|---|---|---|
| KIT G 1 1/4 - G 3/4 (NCS3 20..) | G 1 1/4 | G 3/4 |
| KIT G 1 1/2 - G 1 (NCS3 25..) | G 1 1/2 | G 1 |
| KIT G 2 - G 1 1/4 (NCS3 32..) | G 2 | G 1 1/4 |

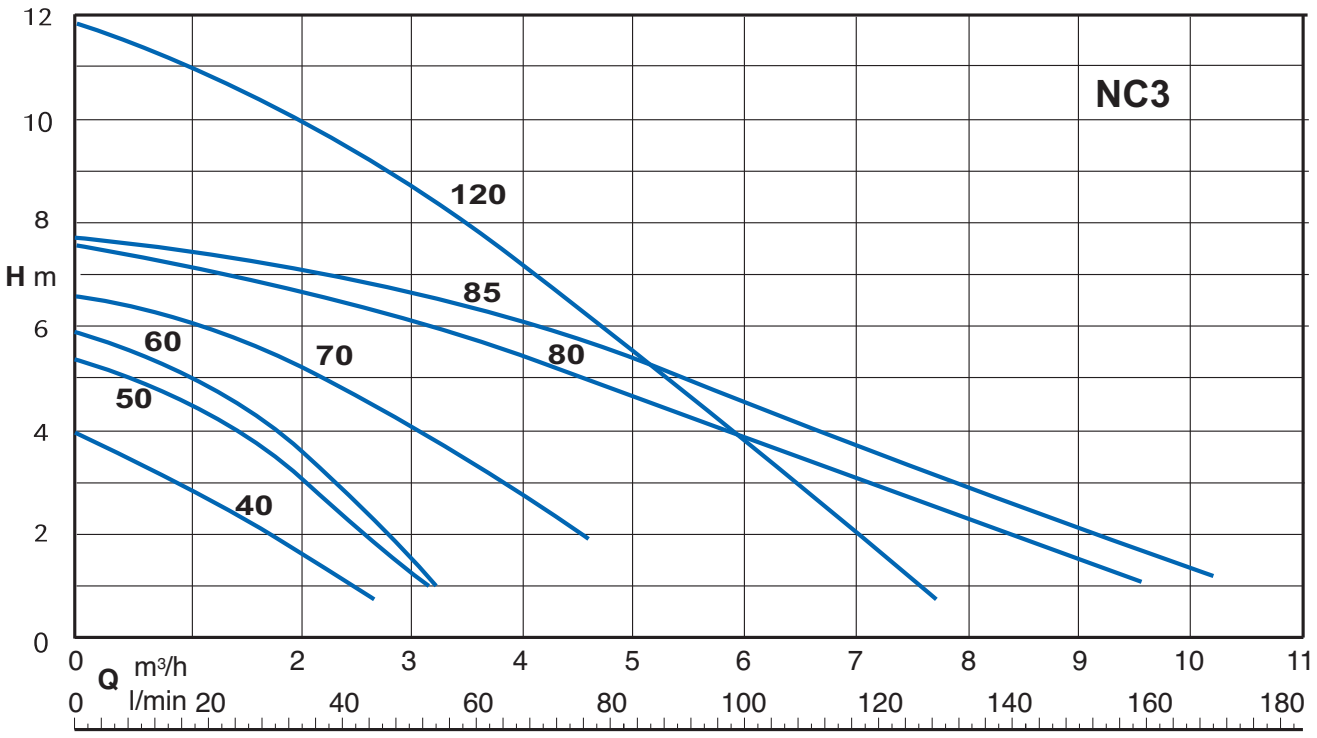
# NC3 60 Hz

**Three speeds circulating pumps with threaded ports**
**Bombas de circulación de 3 velocidades roscadas**



**CANNOT BE SOLD IN THE EU**

## Coverage chart - Campo de aplicaciones



# NC3 60 Hz

## Construction
Pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Brass or cast iron unions on request.

| Component | Materials |
|---|---|
| Pump casing | Cast iron |
| Impeller | Composite |
| Shaft | Stainless steel AISI 420 |

## Applications
For clean liquids, without abrasives, which are non-aggressive for the pump materials.
Heating and conditioning systems.

## Operating conditions
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NC3 ..-70 and NC3 ..-80-85-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require recheking of the pumping data).
Maximum permissible working pressure 10 bar.

| TYPE | Minimum suction pressure: bar | | |
|---|---|---|---|
| | Temperature | | |
| | 50 °C | 80 °C | 110 °C |
| NC3 ..-40,50,60 | 0,05 | 0,4 | 1,1 |
| NC3 ..-70 | 0,05 | 0,4 | 1,1 |
| NC3 ..-80,85,120 | 0,05 | 0,4 | 1,2 |

## Motor
2-pole induction motor, 60 Hz.
Three adjustable speeds.
**NC3**: single-phase 230 V.
Insulation class H.
Protection IP 44.

## Designation
NC3 32 - 70 / 180

Series
DN ports in mm
Max. head in dm
connection size mm

## Ejecución
Cuerpo bomba con orificios de aspiración e impulsión del mismo diámetro y dispuestos sobre el mismo eje (ejecución “in-line”).
Uniones de latón o hierro bajo demanda.

| Componente | Material |
|---|---|
| Cuerpo bomba | Hierro |
| Rodete | Material composite |
| Eje | Acero inoxidable AISI 420 |

## Aplicaciónes
Para líquidos límpios sin partes abrasivas, y no agresivas para los materiales de la bomba.
Sistemas de calefacción y de aire acondicionado.

## Limites de empleo
Temperatura líquido: de +5 °C a +110 °C (de -10 °C a +110 °C para NC3 ..-70,-80,-85,-120).
Temperatura ambiente hasta 40 °C.
Nivel sonoro ≤ 43 dB (A)
Máx. cantidad de glicol: 50% (con una cantidad de glicol superior al 20% controlar los datos de funcionamiento).
Presión máxima: 10 bar.

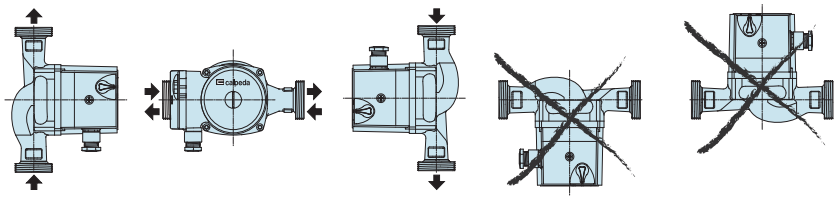
| TIPO | Presión mínima en fase de aspiración bar: | | |
|---|---|---|---|
| | Temperatura | | |
| | 50°C | 80°C | 110°C |
| NC3 ..-40,50,60 | 0,05 | 0,4 | 1,1 |
| NC3 ..-70 | 0,05 | 0,4 | 1,1 |
| NC3 ..-80,85,120 | 0,05 | 0,4 | 1,2 |

## Motor
Motor a inducción a 2 polos, 60 Hz.
**NC3:** monofásico 230 V.
Aislamiento clase H.
Protección IP 44.

## Désignation
NC3 32 - 70 / 180

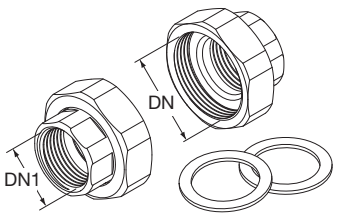
Série
DN des orifices en mm
Hauteur maxí dm
Entraxe pour installation mm

### Installation - Instalación



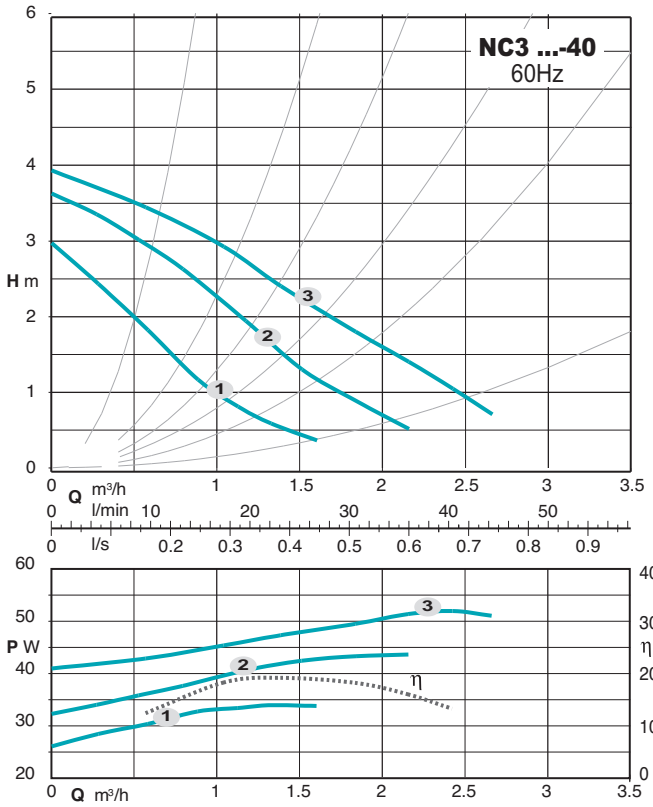
**Unions** (on request) - **Uniones** (bajo demanda)

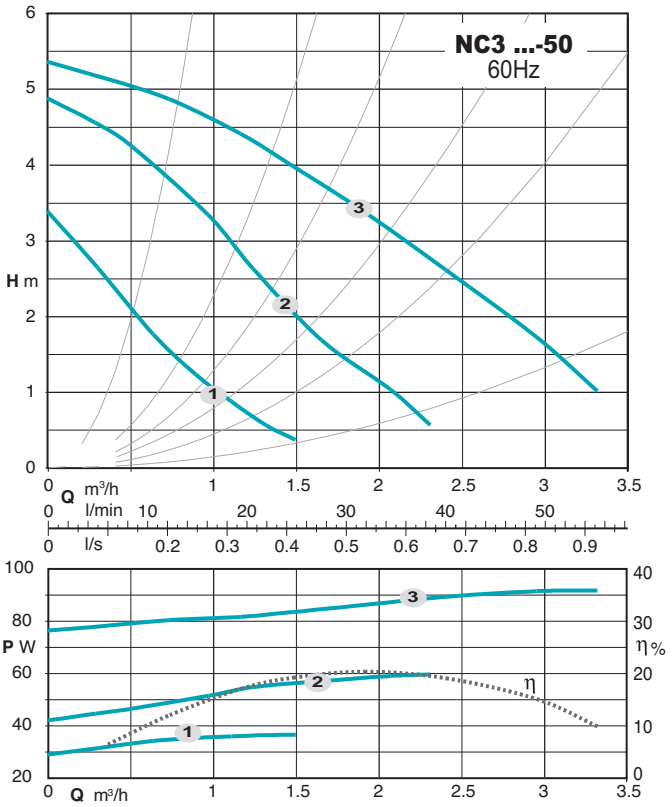
| TYPE | | DN | DN1 |
|---|---|---|---|
| KIT G 1 - G 1/2 | (NC3 15..) | G 1 | G 1/2 |
| KIT G 1 1/2 - G 1 | (NC3 25..) | G 1 1/2 | G 1 |
| KIT G 2 - G 1 1/4 | (NC3 32..) | G 2 | G 1 1/4 |

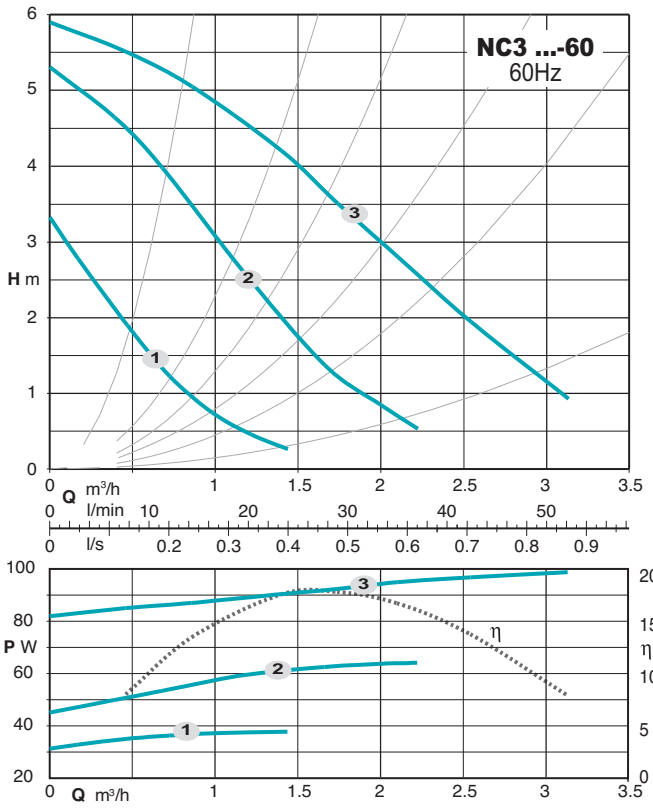


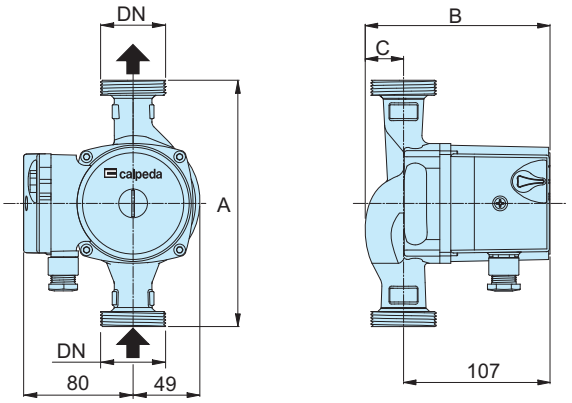
# NC3 60 Hz

## Characteristic curves - Curvas características



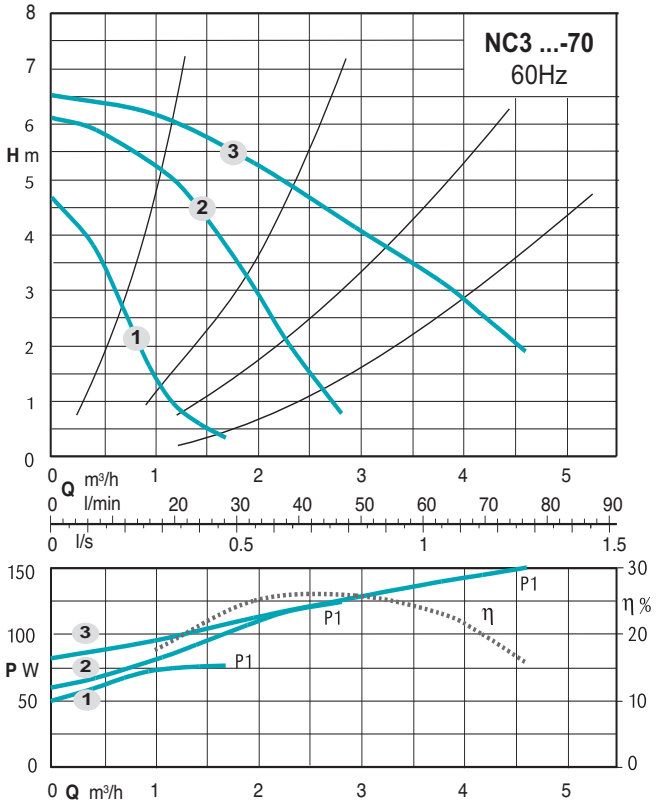



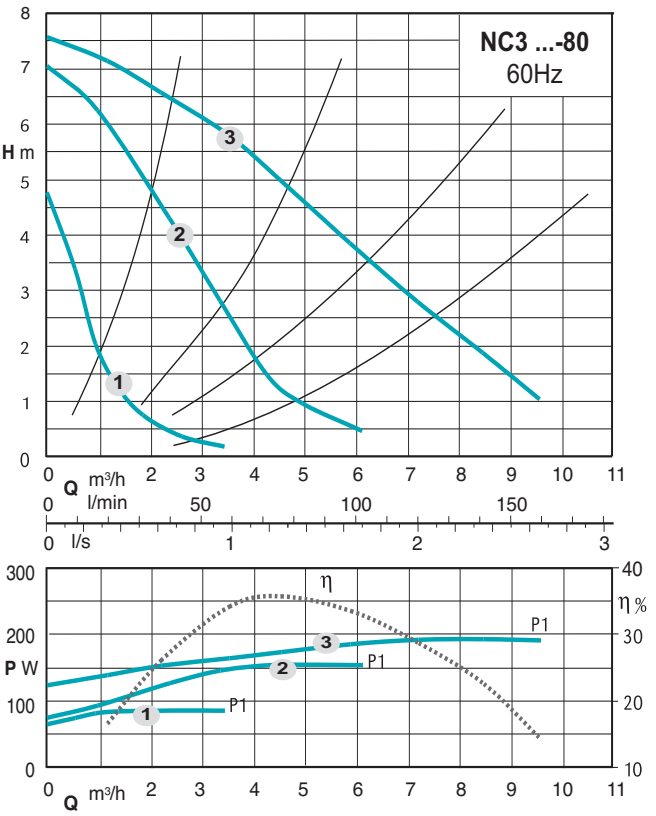



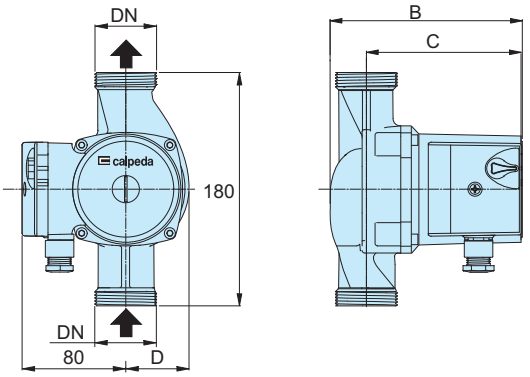

| TYPE<br>TIPO | DN | Pos. | P1 (W) | 1x 230 V [A] | mm A | mm B | mm C | [kg] |
|---|---|---|---|---|---|---|---|---|
| NC3 15-40/130-60 | G 1 | 3 | 53 | 0,23 | 130 | 128 | 21 | 2,2 |
| NC3 25-40/130-60 | G 1 1/2 | 2 | 47 | 0,21 | 130 | 135 | 28 | 2,4 |
| NC3 25-40/180-60 | G 1 1/2 | 1 | 38 | 0,17 | 180 | 135 | 28 | 2,6 |
| NC3 15-50/130-60 | G 1 | 3 | 91 | 0,38 | 130 | 128 | 21 | 2,2 |
| NC3 25-50/130-60 | G 1 1/2 | 2 | 65 | 0,28 | 130 | 135 | 28 | 2,4 |
| NC3 25-50/180-60 | G 1 1/2 | 1 | 42 | 0,18 | 180 | 135 | 28 | 2,6 |
| NC3 32-50/180-60 | G 2 | | | | 180 | 138 | 31 | 3 |
| NC3 15-60/130-60 | G 1 | 3 | 95 | 0,41 | 130 | 128 | 21 | 2,2 |
| NC3 25-60/130-60 | G 1 1/2 | 2 | 70 | 0,30 | 130 | 135 | 28 | 2,4 |
| NC3 25-60/180-60 | G 1 1/2 | 1 | 44 | 0,20 | 180 | 135 | 28 | 2,6 |
| NC3 32-60/180-60 | G 2 | | | | 180 | 138 | 31 | 3 |

# NC3 60 Hz

## Characteristic curves - Curvas características



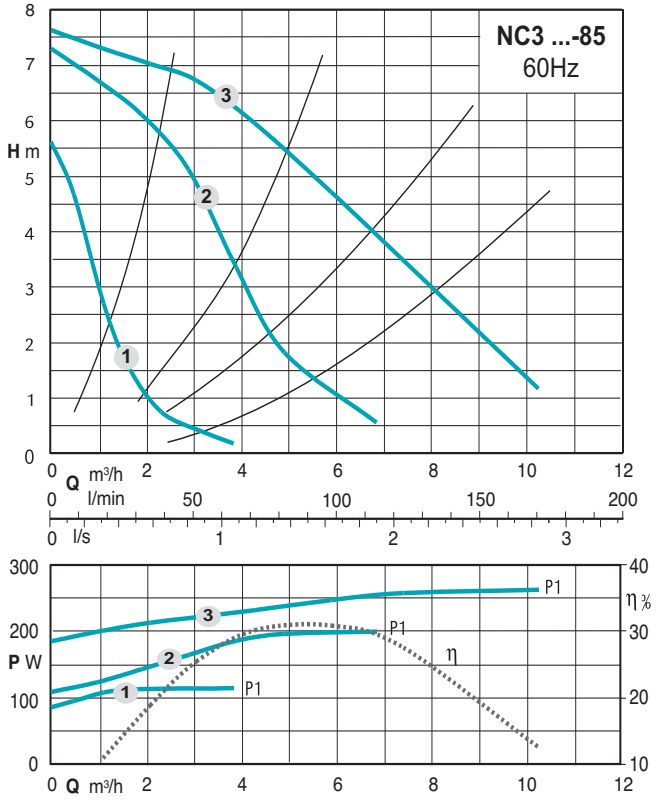



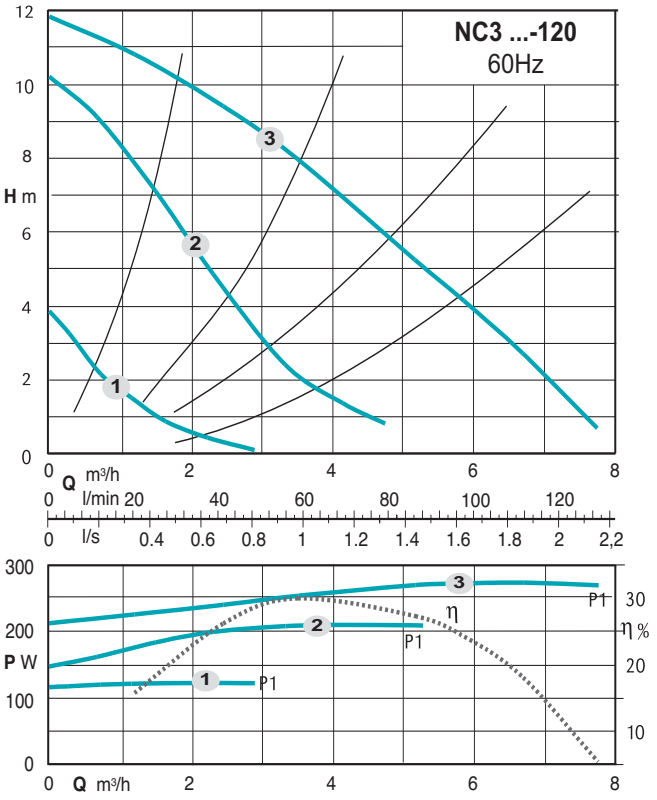



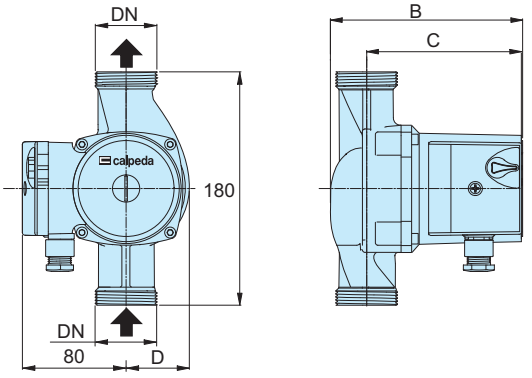

| TYPE<br>TIPO | DN | Pos. | P1 (W) | 1x 230 V [A] | [mm] B | C | D | [kg] |
|---|---|---|---|---|---|---|---|---|
| NC3 25-70/180-60 | G<br>1 1/2 | 3<br>2<br>1 | 148<br>128<br>87 | 0,66<br>0,59<br>0,41 | 135 | 107 | 49 | 2,9 |
| NC3 32-70/180-60 | G 2 | 3<br>2<br>1 | 148<br>128<br>87 | 0,66<br>0,59<br>0,41 | 138 | 107 | 49 | 3,1 |
| NC3 32-80/180-60 | G 2 | 3<br>2<br>1 | 206<br>185<br>120 | 0,91<br>0,88<br>0,60 | 185 | 143 | 58 | 4,7 |

# NC3 60 Hz

## Characteristic curves - Curvas características



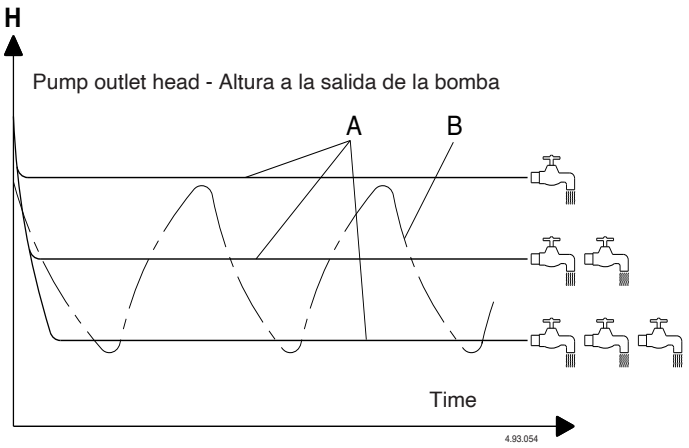

| TYPE<br>TIPO | DN | Pos. | P1 (W) | 1x 230 V [A] | [mm] B | C | D | [kg] |
|---|---|---|---|---|---|---|---|---|
| NC3 32-85/180-60 | G 2 | 3<br>2<br>1 | 277<br>250<br>172 | 1,2<br>1,16<br>0,85 | 185 | 143 | 58 | 4,9 |
| NC3 32-120/180-60 | G 2 | 3<br>2<br>1 | 265<br>251<br>176 | 1,15<br>1,14<br>0,85 | 208 | 174 | 68 | 5,2 |

# IDROMAT 60 Hz

## Electronic regulator for pumps
## Regulador electronico para bombas



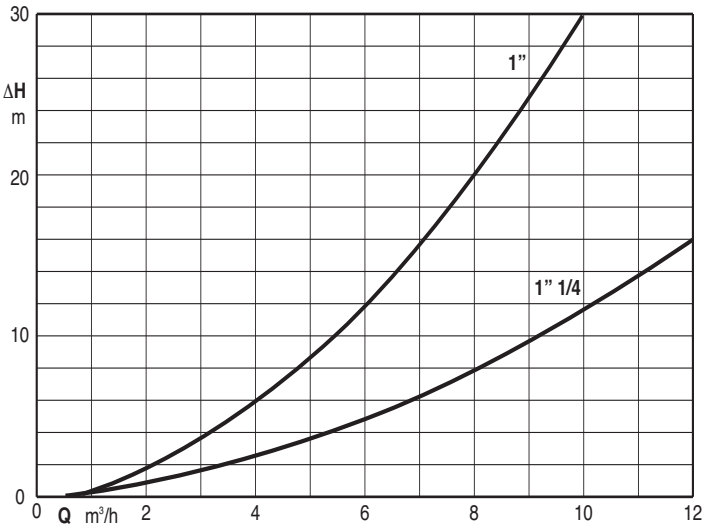

### Comparison of pressure values
### Conparaciòn funcionamiento des las presiones




A = operation with **IDROMAT** = constant pressure;
funcionamiento con IDROMAT = presión constante;

B = operation with traditional vessel and pressure switch system.
funcionamiento con sistema tradicional exspansor y presostato.

### Diagram of head loss
### Diagrama de pérdidas de carga




**ΔH** = Head loss in meters
Pérdida de carga en metros

# IDROMAT 60 Hz

## Construction
Regulation device for pump control equipped with flow and pressure sensor connected to an electronic system.
Inlet and delivery connection ports of the same diameter.
Built-in check valve.
Pressure gauge 0-12 bar supplied as standard for IDROMAT 5.. (IDROMAT 6.. not present).
Automatic reset function for the reset of the system without manual operation.

## Applications
Automatic control of pumps for water supply and increase of network pressure.
**Control of starting/stopping of the pump** when cocks are opened/closed.

**For protection of the pump:**
– against dry running;
– against the risk of operation without water at the inlet (caused by a lack of water inflow in the inlet pipe under positive suction head, by a non-immersed suction pipe, by excessive suctionlift or by air entering the suction pipe);
– against operation with closed connection ports.

## Operating conditions

| TYPE | Switching-on pressure | Pump head |
|---|---|---|
| **IDROMAT 5-12** | 1,2 bar | > 25 m |
| **IDROMAT 5-15** | 1,5 bar | > 30 m |
| **IDROMAT 5-22** | 2,2 bar | > 35 m |
| **IDROMAT 5-30** | 3 bar | > 45 m |
| **IDROMAT 6-15** | 1,5 bar | > 30 m |
| **IDROMAT 6-30** | 3 bar | > 45 m |
| **IDROMAT 5e** | adjustable from 1,5 to 2,5 bar | (1) |

(1) 1,5 bar more than the expected restart pressure

Mains voltage: single-phase 230 V ±10% IDROMAT 5e;
single-phase 115 - 240 V ±5% for IDROMAT 5, 6.
Frequency: 50 - 60 Hz.
Current values:
- 8A max during operation (16A max at start-up) for IDROMAT 5;
- 16A max during operation (30A max at start-up) for IDROMAT 6
Maximum pump motor power 1,5 kW (2,2 kW for IDROMAT 6).
Protection: IP 65.
Maximum working pressure: 12 bar (1,2 MPa)
Maximum Operating temperature up to 65 °C.
Minimum flow ~ 1 l/min.
Male connections 1" (1 1/4 for IDROMAT 6).

## Ejecución
Dispositivo para el control de electrobombas, dotato de un sensor de caudal y de un sensor de presión conexionados a un sistema electrónico.
Orificios de entrada y salida del mismo diámetro.
Con válvula de retención incorporada.
Manómetro 0-12 bar de serie para IDROMAT 5.. (IDROMAT 6.. no está presente).
Función de RESET automatico para restablecer el funcionamiento sin la intervención manual.

## Aplicaciones
Para el control automático de bombas para el suministro y aumento de la presión de agua.
**Controla el arranque de la bomba** a la apertura del suministro y la desconecta y cierre.

**Protege la bomba:**
– contra el funcionamiento en seco;
– contra el funcionamiento con falta de agua en la aspiración (por falta de agua en el conducto de llegada estando la bomba en carga, por el tubo aspirante no sumergido o una altura de aspi-ración excesiva, por entrada de aire en la aspiración).
– contra el funcionamiento con la impulsión cerrada.

## Limites de empleo

| TIPO | Presión de arranque | Altura bomba |
|---|---|---|
| **IDROMAT 5-12** | 1,2 bar | > 25 m |
| **IDROMAT 5-15** | 1,5 bar | > 30 m |
| **IDROMAT 5-22** | 2,2 bar | > 35 m |
| **IDROMAT 5-30** | 3 bar | > 45 m |
| **IDROMAT 6-15** | 1,5 bar | > 30 m |
| **IDROMAT 6-30** | 3 bar | > 45 m |
| **IDROMAT 5e** | regulable de 1,5 a 2,5 bar | (1) |

(1) 1,5 bar por encima de la presión de arranque prevista

Tensión de alimentaciòn: monofàsica 230 V ±10% para IDROMAT5e;
monofàsica 115 - 240 V ±5% para IDROMAT 5, 6.
Frequencia: 50 - 60 Hz.
Amperios:
- 8A max en funcionamiento (16A max durante el arranque) para IDROMAT 5;
- 16A max en funcionamiento (30A max durante el arranque) para IDROMAT 6.
Potencia máxima bomba 1,5 kW (2,2 kW para IDROMAT 6).
Protección: IP 65.
Presión máxmima de servicio: 12 bar (1,2 MPa)
Temperatura de lìquido hasta 65 °C.
Flujo mínimo ~ 1 l/min.
Connections 1" macho (1 1/4 para IDROMAT 6).

## Materials

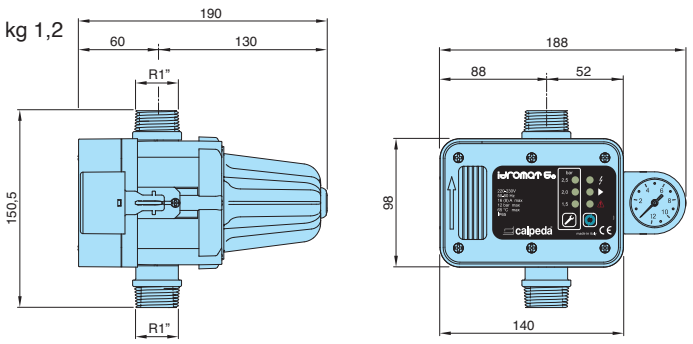
| Component | **IDROMAT 5,6,5e** |
|---|---|
| Housing | Polyamide PA 6 G.F. reinforced |
| Membrane | Natural rubber |

## Materiales

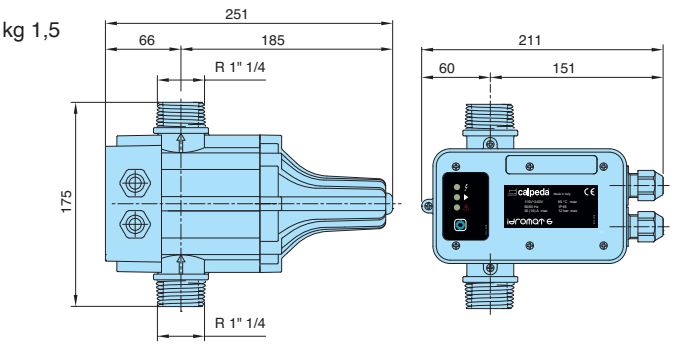
| Componente | **IDROMAT 5,6,5e** |
|---|---|
| Cuerpo | Polyamide PA 6 con F.V. |
| Membrana | Goma natural |

## Dimensions and weights - Dimensiones y pesos

### IDROMAT 5




### IDROMAT 6



## Control Panel - Panel de control

**Status indications and system reset**
The three leds give the information about the system operativity, the first led indicates the presence of supply, the second led indicates if the pump is operating and the third led indicates if an alarm has occurred in the system.
The Reset button allows to manually restart the system when an alarm occur.



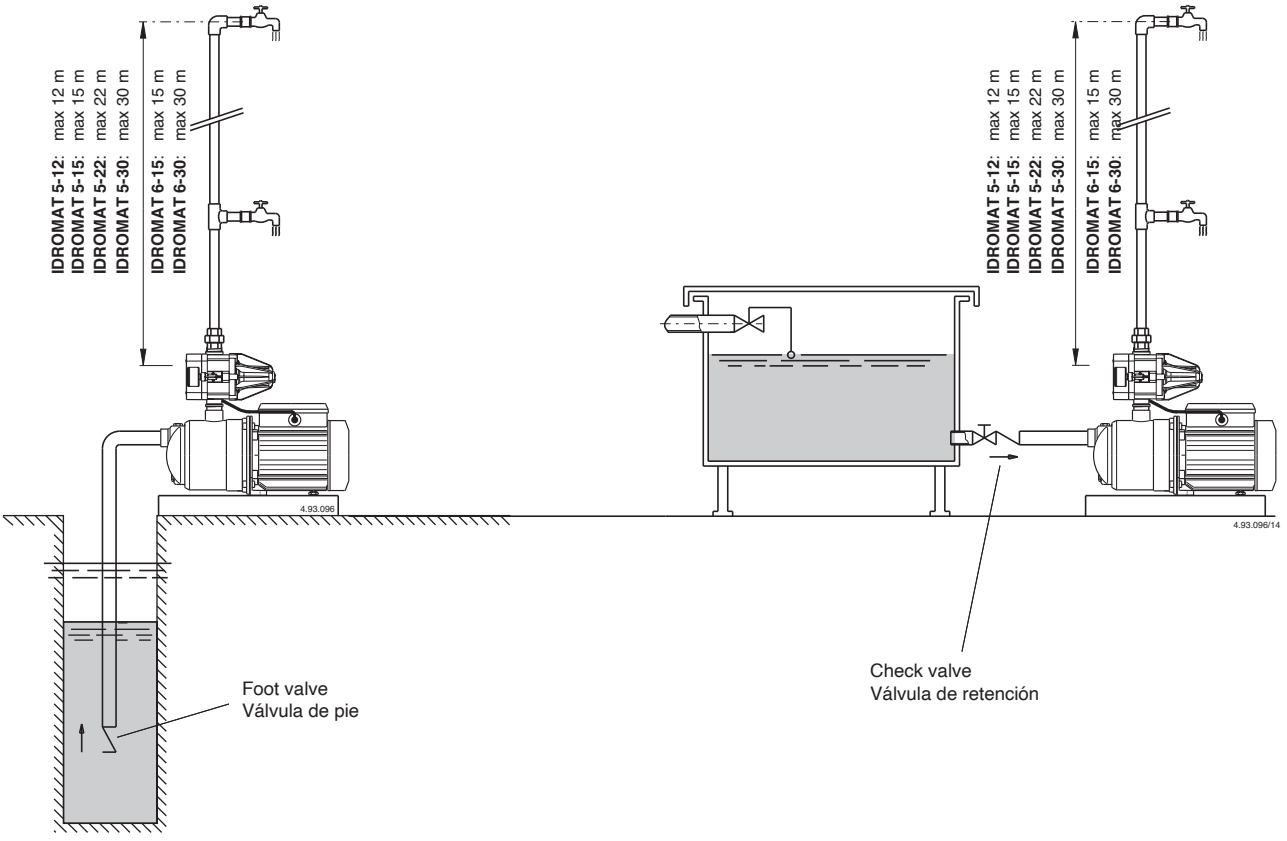
**Indicación del estado y reset del sistema**
Los tres led proporcionan la información relativa al funcionamiento del sistema, el primer led indica la presencia de tensión, el segundo led indica si la bomba está en funcionamiento y el tercer led indica presencia de alarma.
El botón de reset permite reiniciar el sistema manualmente en presencia de la alarma.

**Programming of the re-start pressure**
The display allows to visualize the re-start pressure of the system, the buttons allow to change the re-start pressure value.




**Configuración y el ajuste de la presión de reinicio**
La pantalla permite visualizar la presión de reinicio del sistema.
El botón le permite ajustar el reinicio del sistema.

## Installation example - Ejemplos de instalación



# IDROMAT 60 Hz

## Features - Características constructivas




### FLEXIBILITY
The standard double supply voltage (only for Idromat 5 and 6) allows to connect power supply of 115 - 240V without modifications on the device.

### EASY TO USE
With the Idromat 5e it is possible to change the re-start pressure, the operation is possible also with the pump that operate.

### SAFETY
The device includes a automatic re-start system with anti-lock mode in order to reduce the user operations.

### RELIABILITY
The pressure gauge locking system (patented) allows an easy replacement in case of failure and an easy drainage of the device.

### USER FRIENDLY
The high luminosity leds allows a higher visibility of the operating conditions.

### FLEXIBILIDAD
Doble alimentación (sólo para IDROMAT 5 y 6)
Permite conectar el dispositivo a cualquiera tensión 115 - 230 V sin necesidad de cambios.

### FACILIDAD DE USO
Con el idromat 5 se puede cambiar la presión de servicio incluso durante el funcionamiento.

### SEGURIDAD
El sistema está equipado con una función de rearme automático con anti-bloqueo para limitar las intervenciones del operador.

### FIABLE
el sistema de acople del manómetro (patentado) permite una rápida sustitución en caso de avería y rápida descarga de agua.

### INTUITIVO
Los leds de alta luminosidad proporcionan una mayor visibilidad de la condición operativa.

# EASYMAT 60 Hz

## Variable speed system driven by frequency converter
## Sistema de velocidad variable dirigido por convertidor de frecuencia

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## Features

**Constant pressure**
The easymat via a frequency inverter keeps the pressure constant as the flow demand changes.

**Energy saving**
The variable speed operation ensures that only the energy required by the plant at any instant is used.

**System reliability**
Because the easymat is independent of the pumped liquid it's operation is not affected by fluid impurity.
A float switch can also be integrated to further protect against dry running.

**Flexibility**
Thanks to it's patented design the easymat does not come into contact with the pumped fluid. This provides for more flexibility during installation eliminating the need for pipe-work modifications or the installation of isolating valves.

**Easy to use**
The easymat has a clear display making it very simple to set-up.

**Cascade control mode**
The system flexibility allows via a microprocessor for cascade operation of three easymat's via one pressure transducer.

## Ventajas

**Presión constante**
Easymat, a través del Inversor integrado, mantiene la presión constante cuando cambia la cantidad de agua requerida por el usuario.

**Ahorro energético**
Easymat, trabajando en velocidad variable, gasta sólo la energia requerida istantáneamente por la maquinaria.

**Fiabilidad del sistema**
Easymat, gracias a su construcción patentada, no siende atraversado por líquido de la maquinaria, no está afectado en su funcionamiento por eventuales suciedades contenidas en eso. Además, el sistema está preparado para la instalación de un flotador y está integrado con la función contra el funcionamiento en seco.

**Flexibilidad**
EasyMat por su diseño único (patentado), no está en contacto con el líquido bombeado. Esto permite una mayor flexibilidad de instalación, como no es necesario intervenir en las tuberías o instalar válvulas de interceptación en la maquinaria.

**Facilidad de utilización**
Equipado con una pantalla de comunicación, la elección del punto de trabajo se vuelve muy sencilla e intuitiva.

**Posibilidad de comunicación entre las unidades**
La flexibilidad del sistema permite ensamblar varias unidades que pueden comunicar entre ellas a través de un microprocesador que puede controlar hasta 3 Easymat con un único transductor de presión.

# EASYMAT 60 Hz

## Construction
Variable speed system driven by frequency converter, for the pressure control in domestic and residential plants.
The system is connected to the delivery pipe providing for simple installation and better cooling (patented) making the unit more compact and easy to assemble.
Easymat is supplied with one pressure transducer, G 1/4 connection and 1.5 m cable length.

## Applications
Automatic frequency inverter control for use on pumps to increase network pressure.
The system maintains constant pressure whilst the controlling the pump operation against changing system demand.

**For protection of the pumps:**
– Against dry running
– Against operations with closed connection ports
– Against overcurrent of the motor
– Against overvoltage and undervoltage of the power supply

## Operating conditions
**EASYMAT MM** - Input voltage: 1~ 230V ±10%
- Output voltage: 1~ 230V

**EASYMAT MT** - Input voltage: 1~ 230V ±10%
- Output voltage: 3~ 230V

Input frequency: 50-60 Hz
Output frequency: up to 70 Hz
Protection: IP 55
Max Ambient temperature: 40°C
Max liquid temperature: 40 °C
Minimum Flow: 3 l/min
Altitude: no higher than 1000 m, inside a closed environment.

## Construction
(Standard execution)
The system comprises of:
- Frequency converter.
- Pressure transducer.
- Fixing screws.
- Terminal board.
- Cable glands.
- Multi-hole gaskets.

**On request:**
- Pipe housing.
- Line filter and output filter

## Type

| Type (single-phase) | Freqeuency converter max current output A | Standard power motor 230V kW |
|---|---|---|
| Easymat 9,2MM | 9,2 | 0,37 - 1,5 |

| Type (three-phase) | Freqeuency converter max current output A | Standard power motor 230V kW |
|---|---|---|
| Easymat 9,2MT | 9,2 | 0,37 - 2,2 |

## Fabricación
Sistema de velocidad variable dirigido por Inversor para el controle de la presión de utilización en las instalaciones domésticas y residenciales. Easymat se aplica a la tubería de ida y su sistema de enganche y enfriamento (patentado) lo renden facil por asemblar y de dimensiones compactas.
Easymat está equipado con un sensor de presión, unión G ¼ y cable 1,5 m.

## Aplicación
Inversor para el control automático de bombas de abastecimiento y aumento de presión del agua.
El sistema mantiene constante la presión al interior de la maquinaria y manda el arranque y la parada de la bomba según la demanda del usuario.

**Protege la bomba:**
- contra funcionamiento en seco
- contra funcionamiento con boca cerrada
- contra sobrecorriente en el motor
- contra sobretensión o bajo tensión en la red de alimentación

## Límites de utilización
**EASYMAT MM** - tensión en entrada: 1~230V ±10%
- tensión en salida: 1~230V

**EASYMAT MT** - tensión en entrada: 1~230V ±10%
- tensión en salida: 3~230V

Frecuencia en entrada: 50-60 Hz
Frecuencia en salida: hasta 70 Hz
Nivel de protección: IP55
Máxima temperatura ambiente: 40 °C
Temperatura líquido hasta 40 °C
Máximo caudal: 3 l/min
Altitud: no superior a 1000 m, al interior de un cuarto.

## Construcción
(ejecución estándar)
El sistema está compuesto por:
- Variador de frecuencia
- Sensor de presión
- Tornillos de fisaje
- Bornera general
- Prensacables
- Guarnición de huecos múltiples

**Ejecuciones especiales bajo demanda:**
- Cunas de conexión al tubo
- Filtro de entrada y filtro de salida

## Tipo

| Tipo (monofásico) | Máxima corriente suministrada por el variador de frecuencia A | Potencia motor 230V kW |
|---|---|---|
| Easymat 9,2MM | 9,2 | 0,37 - 1,5 |

| Tipo (trifásico) | Máxima corriente suministrada por el variador de frecuencia A | Potencia motor 230V kW |
|---|---|---|
| Easymat 9,2MT | 9,2 | 0,37 - 2,2 |

## Control Panel - Panel de control

Easymat is equipped with a control panel for simple system programming and parameter monitoring.

The **2 scroll buttons** are used to scroll the different operating parameters that EASYMAT can show.

At the same time you can use the 2 scroll buttons to move in the set up menu and to change the different options.

The **LCD custom display** gives an easy overview of the system situation and of the operating parameters.
The icons on the top and below the display area explain in which way EASYMAT is working and if there are problems on the system.

The **four set-up buttons** allow the operator to move between and set-up the menu's and to start and stop the pump. The symbols help to make the function of each button clear.
With these 4 buttons and the 2 scroll buttons you can manage all the set-up and operating parameters without **the use of an other control panel or computer**.



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Easymat está equipado con un sistema de control que permite configurar y supervisar un gran número de parámetros del sistema.

Los **dos botones de navegación** se utilizan para navegar por los diferentes parámetros de funcionamiento.

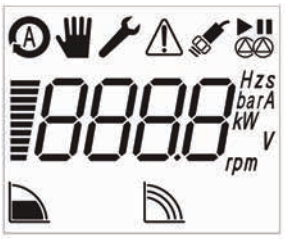
Al mismo tiempo se pueden utilizar los botones para navegar por el menú de puesta en marcha y modificar las diferentes opciones.

La **pantalla LCD personalizada** ofrece una visión general sencilla del estado del sistema y de los parámetros operativos.
Los iconos por encima y por debajo de la área de visualización explican de quemanera Easymat está trabajando y si hay algunos problemas en el sistema.

Los **4 botones de configuración** están creados para entrar y moverse entre los menús de configuración para poner en marcha y bloquear la bomba. Los símbolos ayudan a comprender la función de cada botón.
Con estos 4 botones y los 2 botones para la navegación pueden ser gestionados todas las configuraciones y los parámetros operativos **sin el uso de otro panel de control o de un ordenador**.

## Display LCD - Pantalla LCD

The integrated LCD custom display gives you an easy overview of the system situation and operating parameters.




La pantalla LCD personalizada ofrece una visión general sencilla del estado del sistema y de los parámetros de funcionamiento.

**DISPLAY AREA**
The display area gives the status of the parameters of the pump.




**ÁREA PANTALLA**
El área de la pantalla muestra el estado de los parámetros de la bomba.

The **OPERATING ICONS** show in which mode the system is operating:

**Constant pressure mode**
The system keeps the pressure constant when the quantity of water requested by the user changes.
The user can choose the operating pressure according his needs.

**Fixed speed mode**
The system works at a fixed speed that user can choose according his needs.



Los **ICONOS OPERATIVOS** indican en que modalidad de funcionamiento el sistema está trabajando:

**Modalidad de presión constante**
El sistema mantiene la presión de la maquinaria constante en caso de variaciones de la cantidad de agua requerida por el usuario. La presión de funcionamiento es establecida por el usuario según lo necesario.

**Modalidad de velocidad fija**
El sistema trabaja a una velocidad de rotación fija; el usuario puede modificar la velocidad de rotación según lo necesario.

The **SYSTEM ICONS** show in which way the system is operating:

**Auto Mode**
The icon shows that the system is operating in auto mode (constant pressure mode), the constant pressure mode it is indicated by the icon on the lower part of the display.

**Manual Mode**
The icon show that the system is operating in manual mode (fixed speed mode), with the navigation buttons the user can change the speed, the fixed speed mode is indicated by the icon on the lower part of the display.

**Set-up Mode**
The icon shows that the set-up menu is activated, in this mode it is possible to change all the operating parameters of the EASYMAT.
With the navigations buttons it is possible to scroll the parameters and, if necessary, change them.

**Sensor State**
indicates the state of the pressure transducer connected to the EASYMAT, if lit it indicates that the pressure transducer is working, if it is blinking there is a fault or a incorrect connection of the pressure transducer.

**Alarm**
It indicates that there is a fault on the system, the error number appears on the display area.

**Cascade Mode**
It indicates that the multi-pump mode (up to 3 pumps) is working, the upper icon shows if the pump connected with the frequency converter is running or is in stand-by, the lower icon indicates if the pump is the master pump (the icon is lit) or the slave pump (the icon is blinking).



Los **iconos de sistema** indican como el sistema está trabajando:

**Modalidad de funcionamiento Automática (Auto Mode)**
El icono indica que el sistema está trabajando en modalidad automática (modalidad de presión constante) la modalidad de presión constante está indicada por el icono presente en la parte baja de la pantalla.

**Modalidad de funcionamiento Manual (Manual Mode)**
El icono indica que el sistema está trabajando en modalidad manual (modalidad de velocidad fija), a través de botones de navegación el usuario puede modificar la velocidad, la modalidad de velocidad fija está indicada por el icono presente en la parte baja de la pantalla.

**Modalidad Configuración (Set-up Mode)**
Si el icono es activo, indica que está en el menú de configuración, en esa modalidad es posible configurar los parámetros de funcionamiento de EASYMAT. A través de los botones de navegación es posible desplazarse a través de los parámetros y modificarlos.

**Estado del sensor di presión (Sensor State)**
Indica el estado del sensor de presión conectado a EASYMAT; si encendido indica que el sensor está funcionando, si parpadea indica un fallo o una conexión incorrecta del sensor con el variador de frecuencia.

**Señal de alarma (Alarm)**
Si este icono está encendido indica que ha habido un fallo en el sistema, el número de error asociado al fallo aparece en la pantalla.

**Modalidad Multibomba (Cascade Mode)**
Indica que la modilidad de funcionamiento multibomba está activa (hasta 3 bombas) los iconos de arriba indican si la bomba conectada al variador de frecuencia es en funcionamiento o en pausa, el icono de bajo indica si la bomba es “master” (bomba principal), pero si el icono parpadea indica que la bomba es “slave” (bomba secundaria)

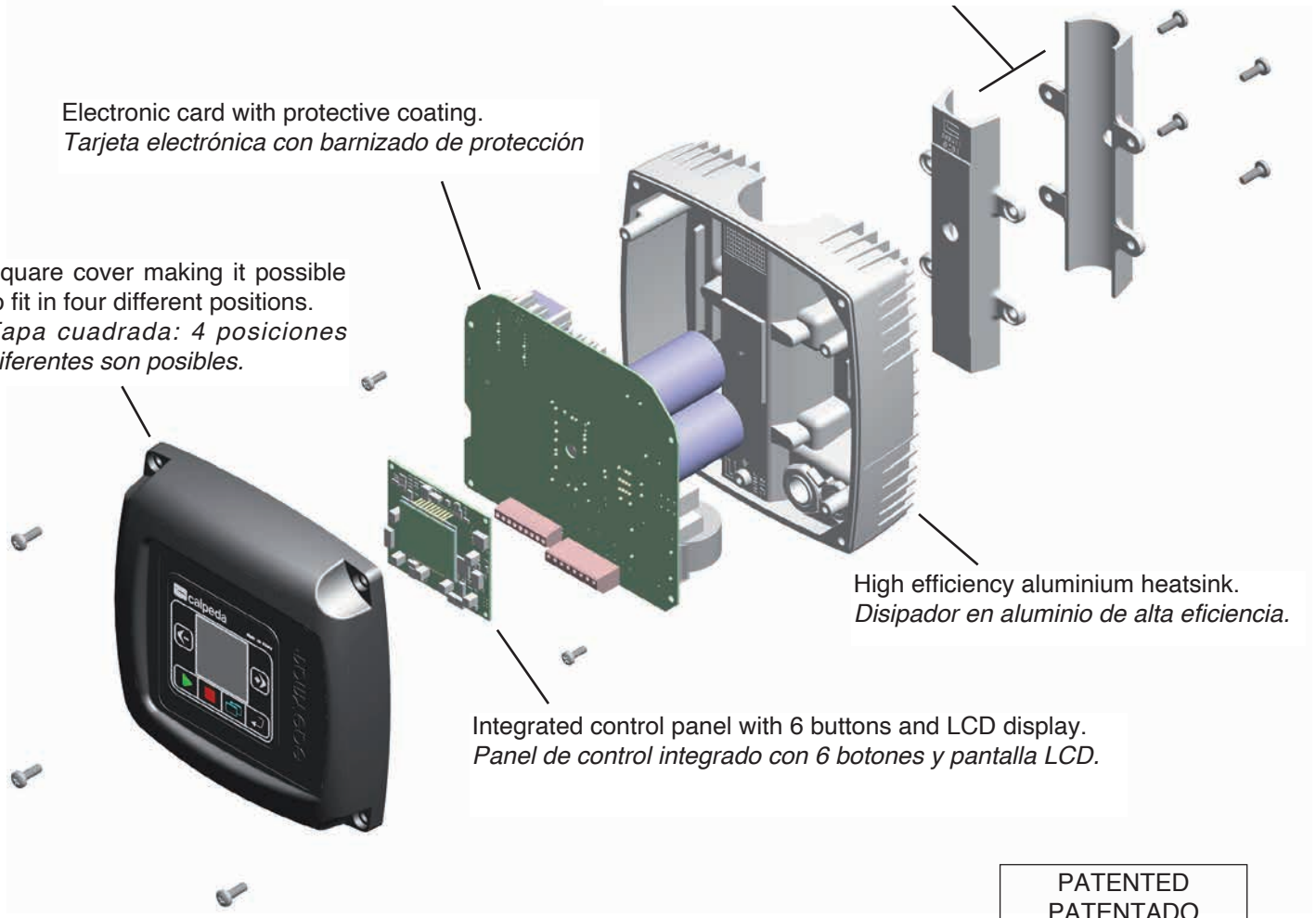
# EASYMAT 60 Hz

## Overview - Características constructivas

G 1 and G 1 ¼ aluminium pipe housing (on request G 1 ½).
*Cunas de fisaje en aluminio de G 1 y G 1 ¼ (bajo pedido G 1 ½)*

Electronic card with protective coating.
*Tarjeta electrónica con barnizado de protección*

Square cover making it possible to fit in four different positions.
*Tapa cuadrada: 4 posiciones diferentes son posibles.*



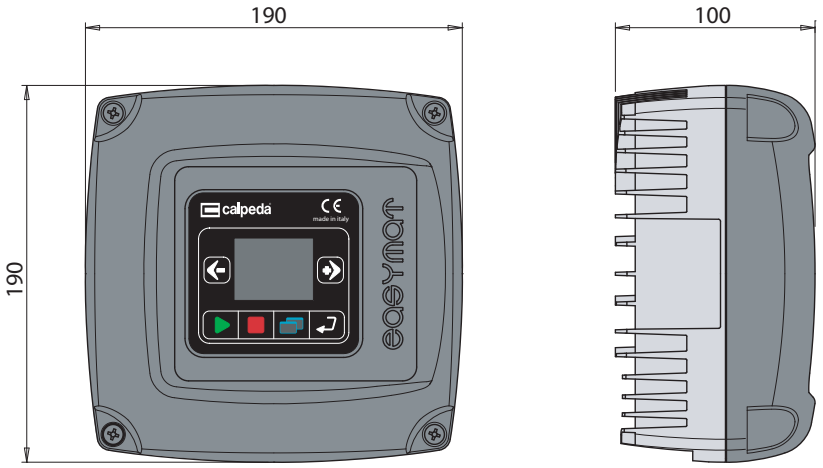
High efficiency aluminium heatsink.
*Disipador en aluminio de alta eficiencia.*

Integrated control panel with 6 buttons and LCD display.
*Panel de control integrado con 6 botones y pantalla LCD.*

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## Dimensions and weights - Dimensiones y peso

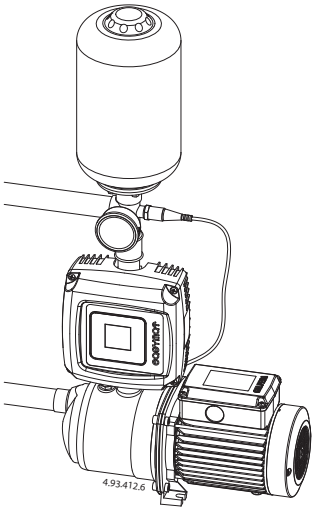
**Weight - Peso**
kg 1,9



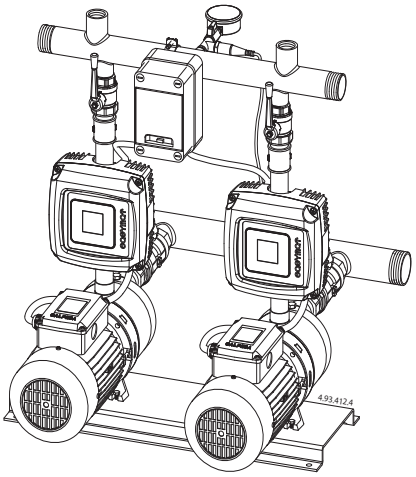
# EASYMAT 60 Hz

## Installation example - Ejemplo de instalación

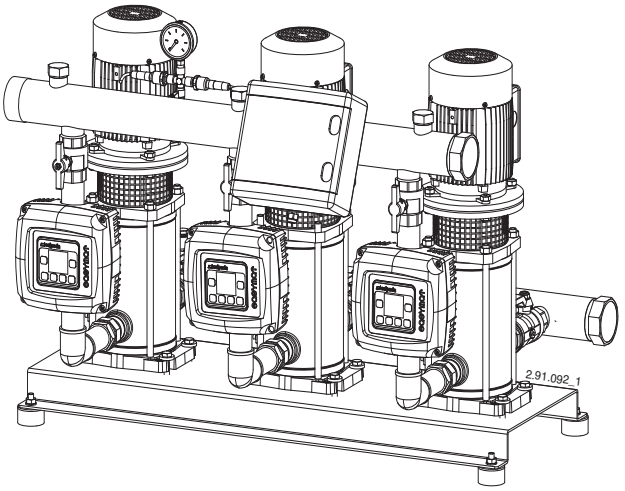
**One pump installation scheme**
**Esquema instalación con 1 bomba**




**Two pumps installation scheme**
**Esquema instalación con 2 bombas**

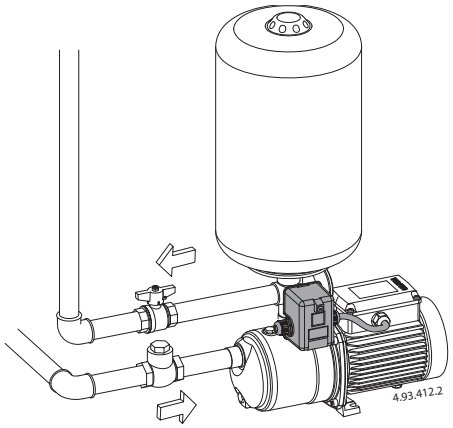



**Three pumps installation scheme**
**Esquema instalación con 3 bombas**




## Plant conversion scheme - Ejemplo de conversión de maquinaria

**Existing fixed speed version**
**Esquema instalación con 1 bomba**




With EASYMAT it is easy to create a variable speed system starting from a existing fixed speed system without disturbing the existing pipe-work.

To create the variable speed system it is only necessary to:

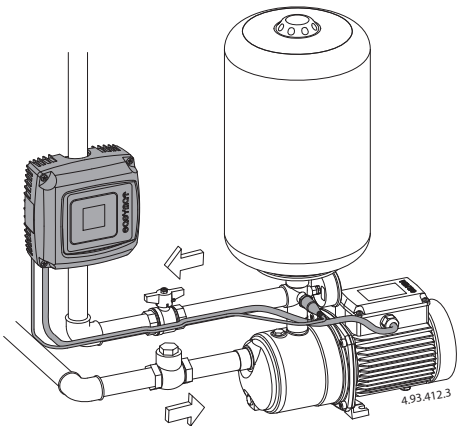
- Disconnect the pressure switch from the system and, in the same housing connect the pressure transducer.
- Connect EASYMAT to the pipe.
- Connect EASYMAT to electric motor.
- Connect the supply cable to the electric grid.

Con EASYMAT se puede crear rápidamente un sistema de velocidad variable de un sistema ya existente de velocidad fija, sin intervenir sobre las tuberías de la maquinaria.

Para crear el sistema de velocidad variable es sólo necesario:

- desconectar el presostato y conectar en el mismo lugar el transductor de presión
- instalar EASYMAT en las tuberías
- conectar EASYMAT al motor eléctrico
- conectar el cable de alimentación a la red eléctrica.

**Variable speed system conversion**
**Versión modificada de velocidad variable**



# I-MAT 60 Hz

## Variable speed system driven by frequency converter
## Sistema de velocidad variable a través de variador de frecuencia




## Benefits

**Flexibility**
I-MAT frequency converters are equipped with a software which provide different operating modes in order to cover a wide range of applications.

**Reliability**
The high efficiency heatsink with integrated fans allows to cool the frequency converter independently from the motor, to provide a higher reliability of the system.

**Safety**
The shape of the I-MAT frequency converters allows to separate the signal terminals area, from the power terminals area, in this way the user can operate on the signals connections in safety conditions.

**Easy to use**
The integrated control panel allows to program all the parameters directly on the frequency converters. Moreover it's possible to remove the control panel and remote it with a connection cable.

**Communications between units**
The system flexibility allows, with an optional electronic card, to assemble more units making them communicate together. The system is capable to manage variable speed pumps (up to 6) and fixed speed pump (up to 5).

## Ventajas

**Flexibilidad**
El variador de frecuencia I-MAT está dotado de un software que permite diversas modalidades de funcionamiento de modo que pueda cubrir el mayor número de aplicaciones.

**Fiabilidad**
El disipador de calor de alta eficiencia con el ventilador integrado, permite refrigerar el variador de frecuencia independientemente del motor, garantizando una mayor fiabilidad del sistema.

**Seguridad**
La particular forma del variador de frecuencia I-MAT, ha permitido separarla zona de terminales de señal de la zona de terminales de potencia, permitiendo al usuario conectar las señales en condiciones seguras.

**Facilidad de utilización**
El panel de control integrado permite la programación de todos los parámetros directamente en el variador de frecuencia. Además, es posible retirar el panel de control y controlarlo a distancia a través de una conexión por cable.

**Comunicación con otras unidades**
La flexibilidad del sistema permite, con una tarjeta electrónica opcional, ensamblar más unidades permitiendo la comunicación entre ellos. El sistema es capaz de controlar bombas de velocidad variable (hasta 6 bombas) y bombas de velocidad fija (hasta 5 bombas)

# I-MAT 60 Hz

## Construction
Variable speed system driven by frequency converter for the motor control in the water supply applications and in the production/distribution of hot/cold water.
I-MAT is an integrated control system which, applied to the motor, allows to manage a wide range of applications and operating modes.

## Applications
Frequency converter for automatic pump control suitable for:
- water supply
- water transport and distribution
- production and distribution of hot/cold water
- water treatment

**For protection of the pumps:**
- Against dry running
- Against operations with closed connection ports
- Against overcurrent of the motor
- Against overvoltage and undervoltage of the power supply
- Against unbalance or missing supply phases.

## Operating conditions
Input voltage: 3~380V-10% ÷ 3~480V+5%
Output voltage: 0 ÷ 100% of the input voltage
Input frequency: 50-60 Hz
Output frequency: up to 70 Hz
Protection: IP55
Max Ambient Temperature: 50°C
Altitude: no higher than 1000 m, inside closed environment.

## Construction
(standard execution)
The system comprises of:
- Frequency converter
- Removable control panel
- Power terminal board
- Signals terminal board
- Cable glands

**On request:**
- Adapter for motor mounting
- Adapter for wall mounting
- Pressure and temperature transducer
- Main switch
- Line filter and output filter

## Ejecución
Sistema de velocidad variable controlado por variador de frecuencia para el control del motor en aplicaciones de abastecimiento de agua y la producción/distribución de agua caliente/fría.
I-MAT es un sistema integrado de control que, aplicado al motor, permite la gestión de un amplio campo de aplicaciones y modalidades de funcionamiento.

## Aplicación
Variador de frecuencia para el control automático de bombas para:
- Abastecimiento de agua
- Distribución y transporte de agua
- Producción y distribución de agua caliente/fría
- Tratamiento de aguas

**Protege la bomba contra:**
- Contra el funcionamiento en seco
- Contra el funcionamiento con válvula cerrada
- Contra sobrecorriente del motor
- Contra sobretensión o bajatension de la red de alimentación
- Contra el desequilibrio de fases

## Límites de utilización
Tensión de entrada: 3~380V-5% ÷ 3~ 480V+5%
Tensión de salida: 0 ÷ 100% de la tensión de entrada
Frecuencia en entrada: 50-60Hz
Frecuencia en salida: hasta 70Hz
Protección: IP55
Máxima temperatura ambiente: 50°C
Altitud: en el habitáculo donde se instale no han de estar por encima de 1000m

## Construcción
(Ejecución estándar)
El sistema está compuesto por:
- Variador de frecuencia
- Panel de control intercambiable
- Placa de terminales
- Placa de señales
- Prensacables

**Ejecuciones especiales bajo demanda:**
- Adaptador para montar en motor
- Adaptador para montar en pared
- Transductor de presión y temperatura
- Interruptor principal
- Filtro de entrada y filtro de salida

## Type

| Type (three-phase) | Freqeuency converter max current output A | Standard power motor 380V kW |
|---|---|---|
| I-MAT 5,2 TT-A | 5,2 | 0,55 ÷ 1,8 |
| I-MAT 11,2 TT-B | 11,2 | 2,2 ÷ 4 |
| I-MAT 25,8 TT-C | 25,8 | 5,5 ÷ 11 |
| I-MAT 65,4 TT-D | 65,4 | 15 ÷ 30 |
| I-MAT 119 TT-E | 119 | 37 ÷ 55 |

## Tipo

| Tipo (trifásico) | Máxima corriente suministrada por el variador de frecuencia A | Potencia motor 380V kW |
|---|---|---|
| I-MAT 5,2 TT-A | 5,2 | 0,55 ÷ 1,8 |
| I-MAT 11,2 TT-B | 11,2 | 2,2 ÷ 4 |
| I-MAT 25,8 TT-C | 25,8 | 5,5 ÷ 11 |
| I-MAT 65,4 TT-D | 65,4 | 15 ÷ 30 |
| I-MAT 119 TT-E | 119 | 37 ÷ 55 |

## Operating modes - Modos de funcionamiento

**Constant pressure mode**
Constant pressure keeps the pressure constant at a fixed value set by the user. This value of pressure is automatically kept by the system to provide to the final user a constant pressure even with different water demand, within the maximum performance of the motor-pump system.

**Proportional pressure modes**
Proportional pressure reduces the pressure of the pump (and as a consequence, the operating frequency) proportionally with the water demand of the system.

**Constant temperature mode**
In this operating mode the system is used to keep the temperature at a constant value in a specified system point.

**Constant flow mode**
Constant flow mode grants that system change the speed of the pump in order to keep constant the flow which pass inside a flow meter.

**Fixed speed mode**
In this operating mode the system work as a fixed speed pump. The speed of the pump could be set by the user between a range of speeds, or controlled by an external signal.

**Night mode**
The night mode is an optional mode which allows to reduce the speed of the pump if the temperature in the system decreases below a set value, this operating mode can be used with all operating modes over described.

**Modo presión constante**
El modo presión constante mantiene la presión en un valor constante marcado por el usuario. Este valor de presión se mantiene de forma automática por el sistema y ofrece al usuario final una presión constante, incluso con diferente demanda de agua, en el óptimo funcionamiento del sistema motor-bomba.

**Modo presión proporcional**
El modo presión proporcional reduce la presión de la bomba (y como consecuencia, la frecuencia de operación) proporcionalmente con la demanda de agua del sistema.

**Modo temperatura constante**
El modo temperatura constante se utiliza para mantener la temperatura en un valor constante en el sistema, en un punto específico marcado por el usuario final.

**Modo caudal constante**
El modo caudal constante garantiza que el sistema cambie la velocidad de la bomba con el fin de mantener constante el caudal que pasa por dentro de un medidor de flujo.

**Modo velocidad fija**
El modo velocidad fija el sistema trabaja como una bomba de velocidad fija. La velocidad de la bomba puede ser escogida por el usuario entre una gama de velocidades, o controlado por una señal externa.

**Modo noche**
El modo noche es un modo opcional que permite reducir la velocidad de la bomba si la temperatura en el sistema disminuye por debajo de un valor determinado. Este modo de funcionamiento se puede utilizar con todos los modos de funcionamiento anteriores.

## Control Panel - Panel de control

I-MAT is equipped with a control panel that allows to carry out the set-up of the system and to monitor all system parameters.

The control panel is inside a IP55 enclosure which is possible to rotate and install in remote positions.

It is possible use the control panel in remote positions by means a cable with M12 connectors (standard cable).

The LCD custom display gives an easy overview of the system situation and of the operating parameters.

The icons on the top and below the display area explain in which way i-MAT is working and if there are some problems on the system.

The 2 scroll buttons are used to scroll the different operating parameters that i-MAT can show. At the same time you can use the 2 scroll buttons to move in the set up menu and to change the different options.

**The 4 set-up buttons** are created to enter and to move on the set-up menus and to start and to stop the pump. The symbols help to understand the function of each button. With these 4 buttons and the 2 scroll buttons you can manage all the set-up and operating parameters without the use of another control panel or computers.




I-MAT está equipado con un panel de control que permite llevar a cabo la puesta en marcha del sistema y para controlar todos los parámetros del mismo.

El panel de control se encuentra dentro de una caja con protección IP55, que se puede girar e instalar en varias posiciones

Es posible el uso del panel de control en otros lugares por medio de un cable con conectores M12 (cable estándar)

La pantalla LCD personalizada ofrece una visión general de la situación del sistema y de los parámetros de operación.

Los iconos de la parte superior e inferior del área de visualización muestran como está trabajando I-MAT y si hay algún problema en el sistema.

Los 2 botones de desplazamiento se utilizan para moverse por los diferentes parámetros de funcionamiento del I-MAT. Al mismo tiempo se pueden usar esos 2 botones de desplazamiento para moverse por el menú y cambiar diferentes posiciones.

Los **4 botones de configuración** se han creado para entrar y moverse por los diferentes menús y arrancar o parar la bomba. Los símbolos ayudan a entender la función de cada botón. Con estos 4 botones y los 2 botones de desplazamiento, se puede administrar la configuración y los parámetros de funcionamiento sin el uso de otro panel de control u ordenadores.

## Overview - Información general

**Control panel**
The integrated control panel gives the customer the possibility to set all the parameters of the frequency converter.

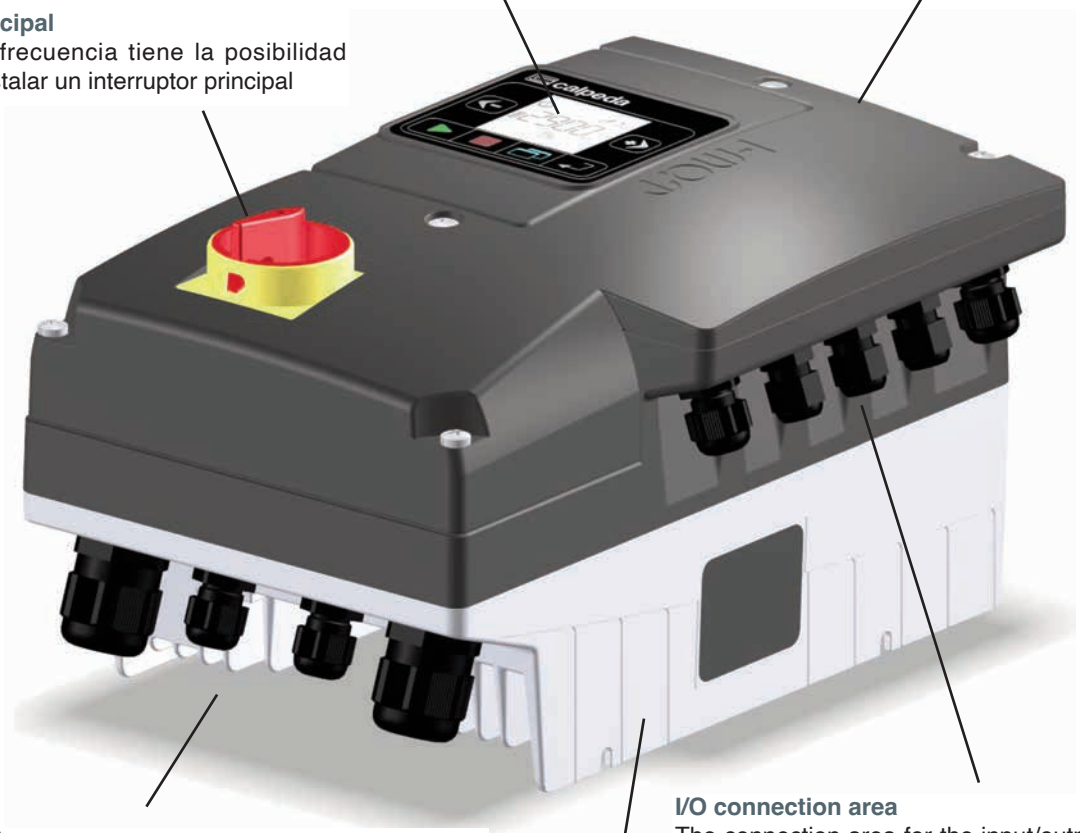
**Panel de control**
El panel de control integrado da al cliente la posibilidad de configurar todos los parámetros del variador de frecuencia.

**Optional modules**
On the front side of the frequency converter are predisposed compartments for connecting the optional modules. This solution allows to install the modules without dismantling the frequency converter.

**Módulos opcionales**
En el lado delantero del variador de frecuencia se encuentra compartimentos para conectar módulos opcionales. Esta solución permite instalar módulos sin necesidad de desinstalar el variador de frecuencia.

**Main switch**
The frequency converters have the possibility (optional) to install a main switch.

**Interruptor principal**
El variador de frecuencia tiene la posibilidad (opcional) de instalar un interruptor principal



**Power connection area**
The connection area is protected by a safety cover, there are dedicated clamps to connect one PTC probe.

**Zona de conexiones eléctricas**
La zona de conexión está protegida por una cubierta de seguridad, con conexiones dedicadas para una sonda PTC.

**I/O connection area**
The connection area for the input/outputs is separated from the power connection area, this solution allows to connect external.

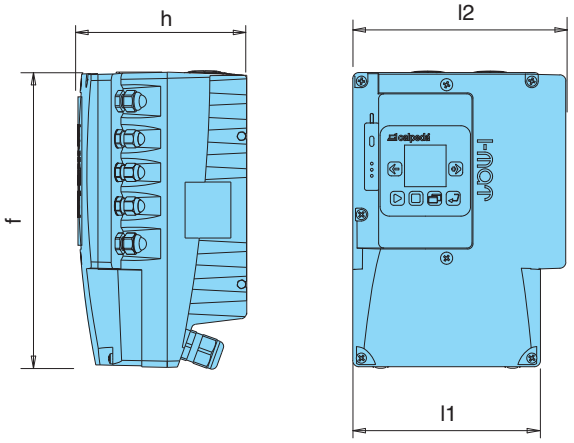
**Área de conexiones Entradas/Salidas**
La zona de conexiones para las entradas y salidas está separado de la zona de conexión eléctrica y permite el cableado de señales con absoluta seguridad.

**Heatsink**
The high efficiency heat sink cooled by fans guarantees a high reliability. The side connection system allows an easy connection with the motors.

**Disipador**
El disipador de calor de alta eficiencia por ventiladores, garantiza una alta fiabilidad. El sistema de conexión lateral permite una conexión sencilla con los motores.

# I-MAT 60 Hz

## Dimensions and weights - Dimensiones y peso




| TYPE<br>TIPO | mm | | | | kg |
|---|---|---|---|---|---|
| | h | f | l1 | l2 | |
| I-MAT 5,2 TT-A | 165 | 263 | 170 | 190 | 5,8 |
| I-MAT 11,2 TT-B | 165 | 292 | 185 | 210 | 6,7 |
| I-MAT 25,8 TT-C | 207 | 336 | 255 | 281 | 13,5 |
| I-MAT 65,4 TT-D | 288 | 460 | 320 | 350 | 33 |
| I-MAT 119 TT-E | 336 | 700 | 424 | 455 | 59 |

## Installation example - Ejemplo de instalación

### One pump installation scheme - Esquema instalación con 1

MXH EI



NM EI



NR EI

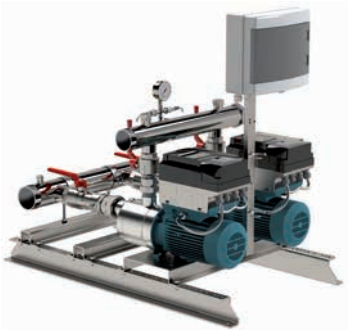


MXV EI

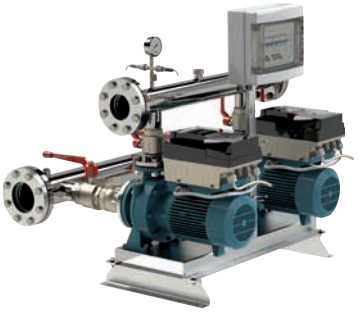


### Two pumps installation scheme - Esquema instalación con 2 bombas

2MXH



2NM

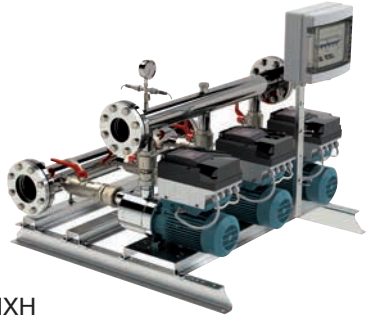


2MXV

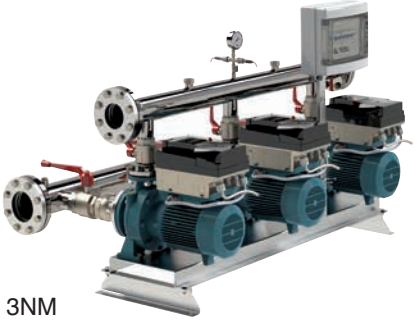


### Three pumps installation scheme - Esquema instalación con 3 bombas

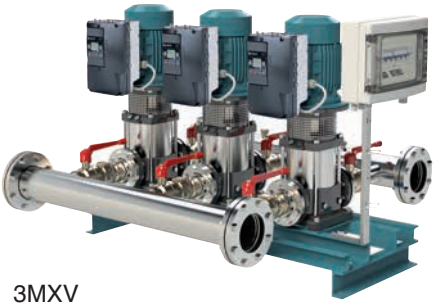
3MXH



3NM



3MXV



# BS 60 Hz

**Fixed speed pump units**
***Grupos de presión con bombas de velocidad fija***

**Variable speed pump units with frequency converter**
***Grupos de presión con bombas de velocidad variable***

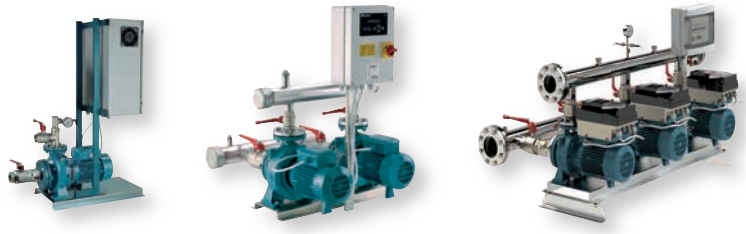


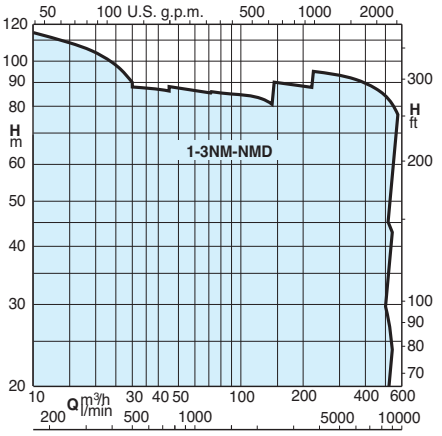
## BS... NM

Pressure boosting sets with 1 to 3 Centrifugal Pumps
Equipos de presión de 1 a 3 bombas centrífugas monobloc

Fixed speed pump
Variable speed pump (frequency converter / I-MAT)

Velocidad fija
Velocidad variable (variador de frequencia / I-MAT)





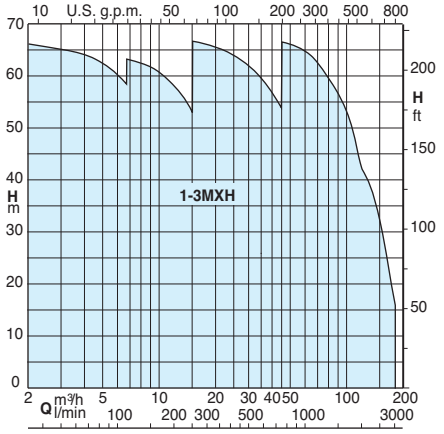

## BS... MXH

Pressure boosting sets with 1 to 3 Horizontal Multi-Stage Pumps
Equipos de presión de 1 a 3 bombas multicelulares horizontales

Fixed speed pump
Variable speed pump (frequency converter / EASYMAT / VARIOMAT / I-MAT)

Velocidad fija
Velocidad variable (variador de frequencia / EASYMAT / VARIOMAT / I-MAT)





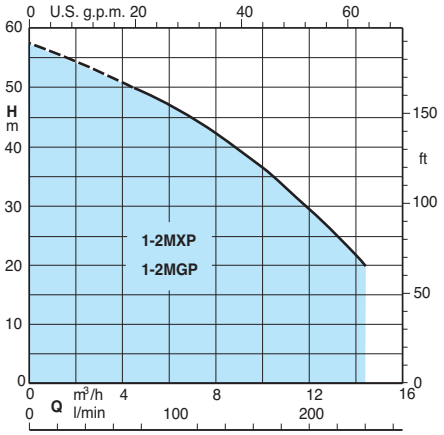

## BS... MGP, MXP

Pressure boosting sets with 1 to 2 Horizontal Multi-Stage Pumps
Equipos de presión de 1 a 2 bombas multicelulares horizontales

Fixed speed pump
Variable speed pump (frequency converter / EASYMAT)

Velocidad fija
Velocidad variable (variador de frequencia / EASYMAT)





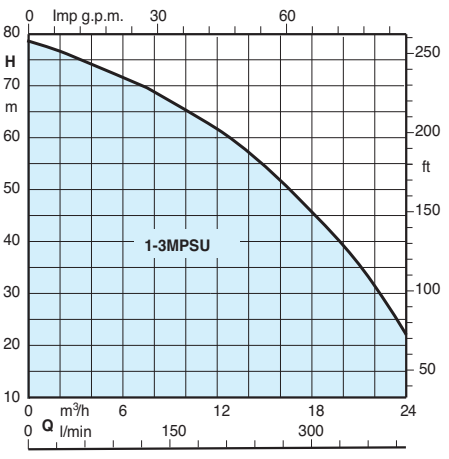

## BS... MPSU

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Equipos de presión de 1 a 3 bombas multicelulares verticales

Fixed speed pump
Variable speed pump (frequency converter / EASYMAT)

Velocidad fija
Velocidad variable (variador de frequencia / EASYMAT)





## BS... MXV-B

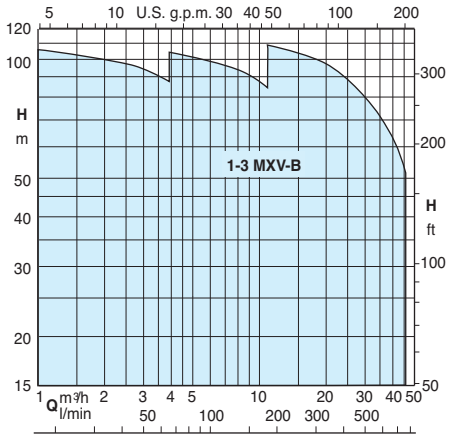
Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Equipos de presión de 1 a 3 bombas multicelulares verticales

Fixed speed pump
Variable speed pump (frequency converter / EASYMAT / VARIOMAT / I-MAT)

Velocidad fija
Velocidad variable (variador de frequencia / EASYMAT / VARIOMAT / I-MAT)








## BS... MXV

Pressure boosting sets with 1 to 3 Vertical Multi-Stage Pumps
Equipos de presión de 1 a 3 bombas multicelulares verticales

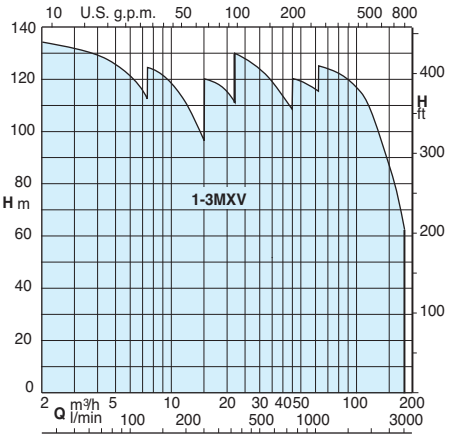
Fixed speed pump
Variable speed pump (frequency converter / I-MAT)

Velocidad fija
Velocidad variable (variador de frequencia / I-MAT)









# EJ, DJ, EDJ 60 Hz

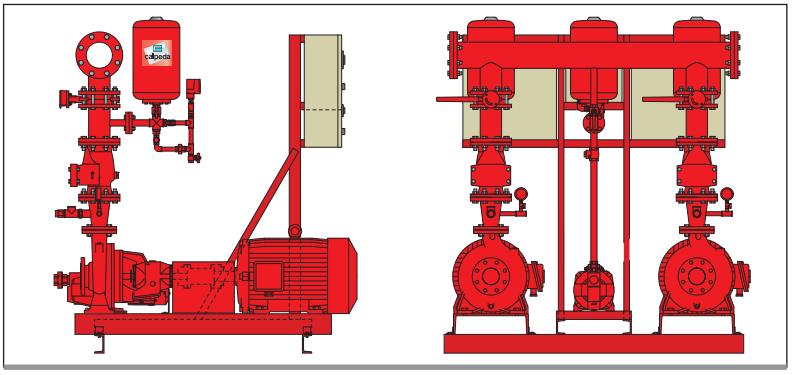
**UNI-EN 12845 fire-fighting systems**
**Equipos contra incendios UNI-EN 12845**



# EJ, DJ, EDJ 60 Hz

## EJ 11
**UNI-EN 12845** units with 1 **N** series electric main pump
**Gruppo UNI-EN 12845** con una bomba principal eléctrica **N**

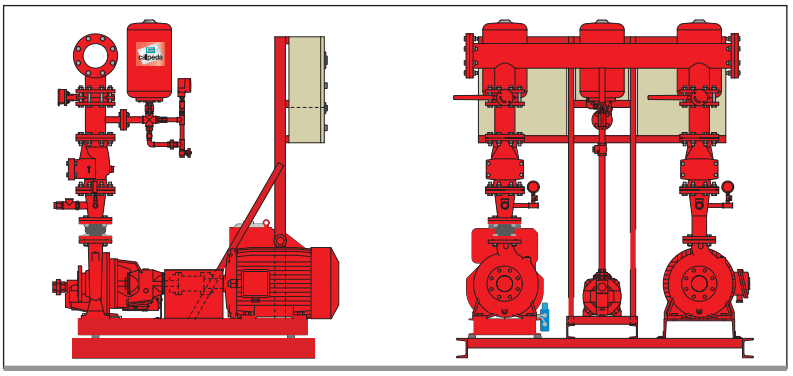
## EJ 21
**UNI-EN 12845** units with 2 **N series** electric main pumps
**Gruppo UNI-EN 12845** con 2 bombas principal eléctricas **N**



## DJ 11
**UNI-EN 12845** units with 1 **N** series main pump (diesel motor)

**Gruppo UNI-EN 12845** con una bomba principal diesel **N**

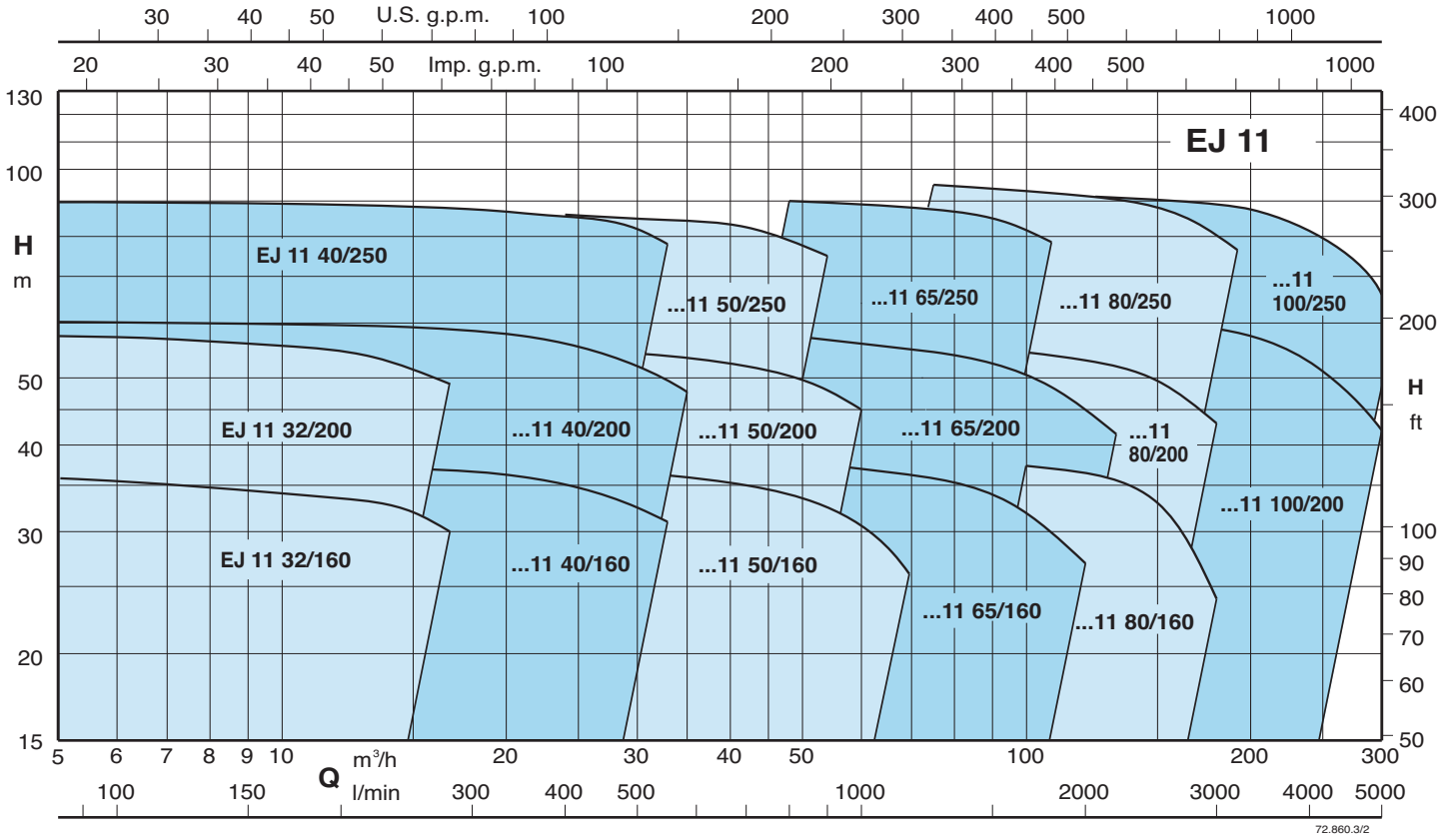
## EDJ 21
**UNI-EN 12845** units with 2 **N** series main pumps (electric and diesel motors)
**Gruppo UNI-EN 12845** con 2 bombas principal **N** (eléctrica + diesel)



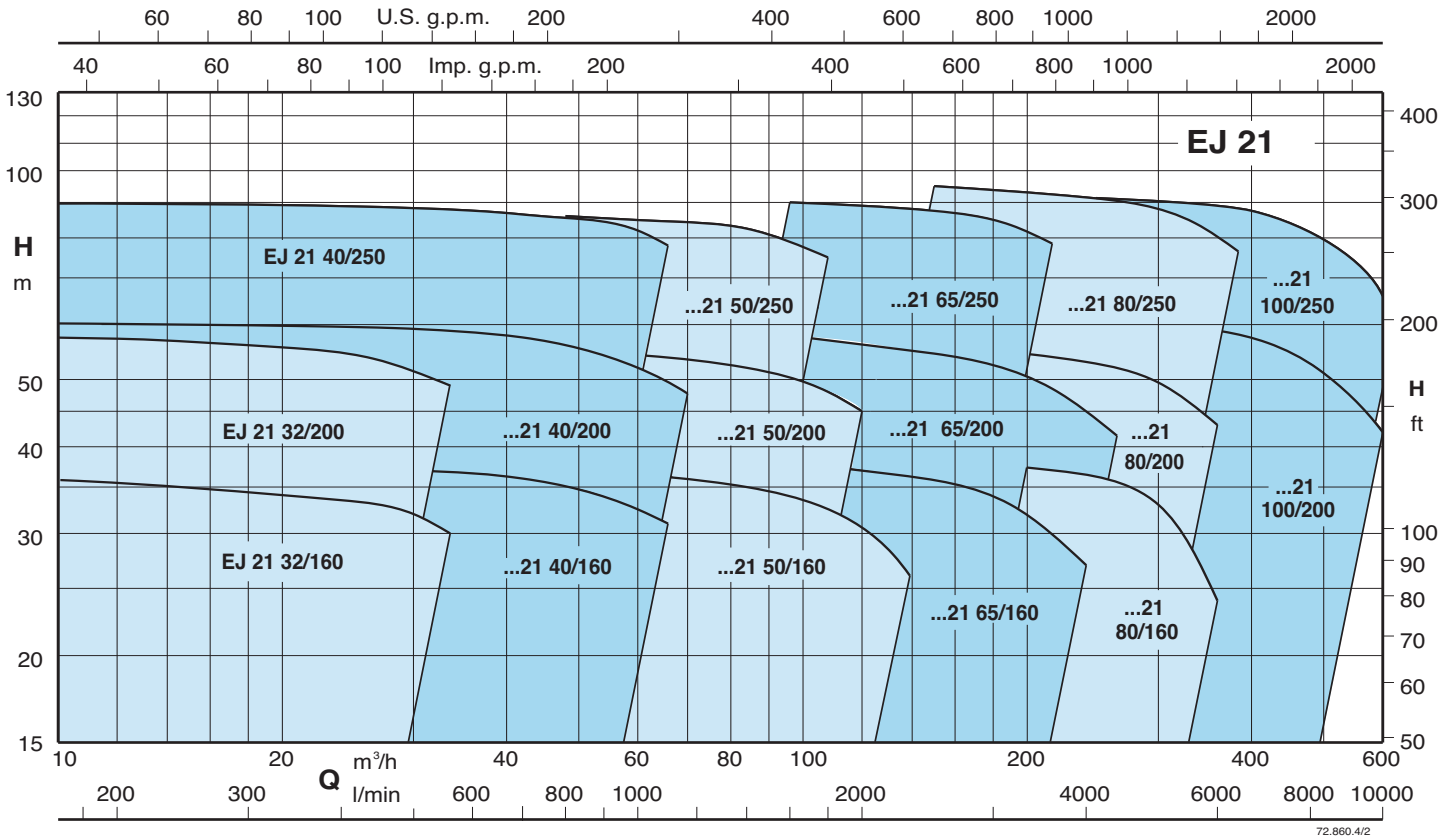
# EJ 60 Hz

## EN 12845 units for feeding fire-extinguishing systems
## Grupo de presión contra incendios según norma EN 12845

### With 1 electric pump - Con una bomba principal eléctrica



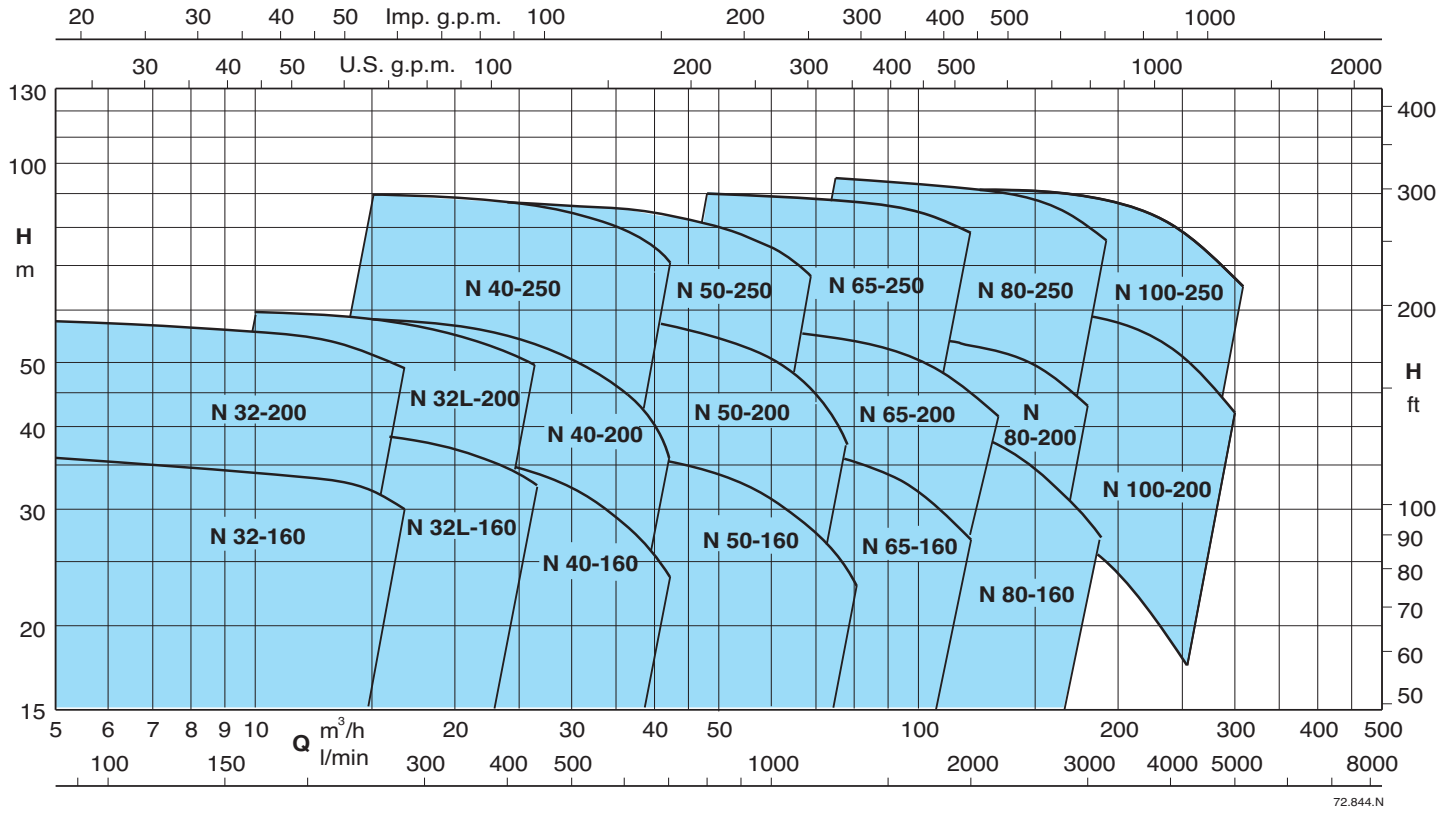

### With 2 electric pumps - Con 2 bombas principal eléctricas



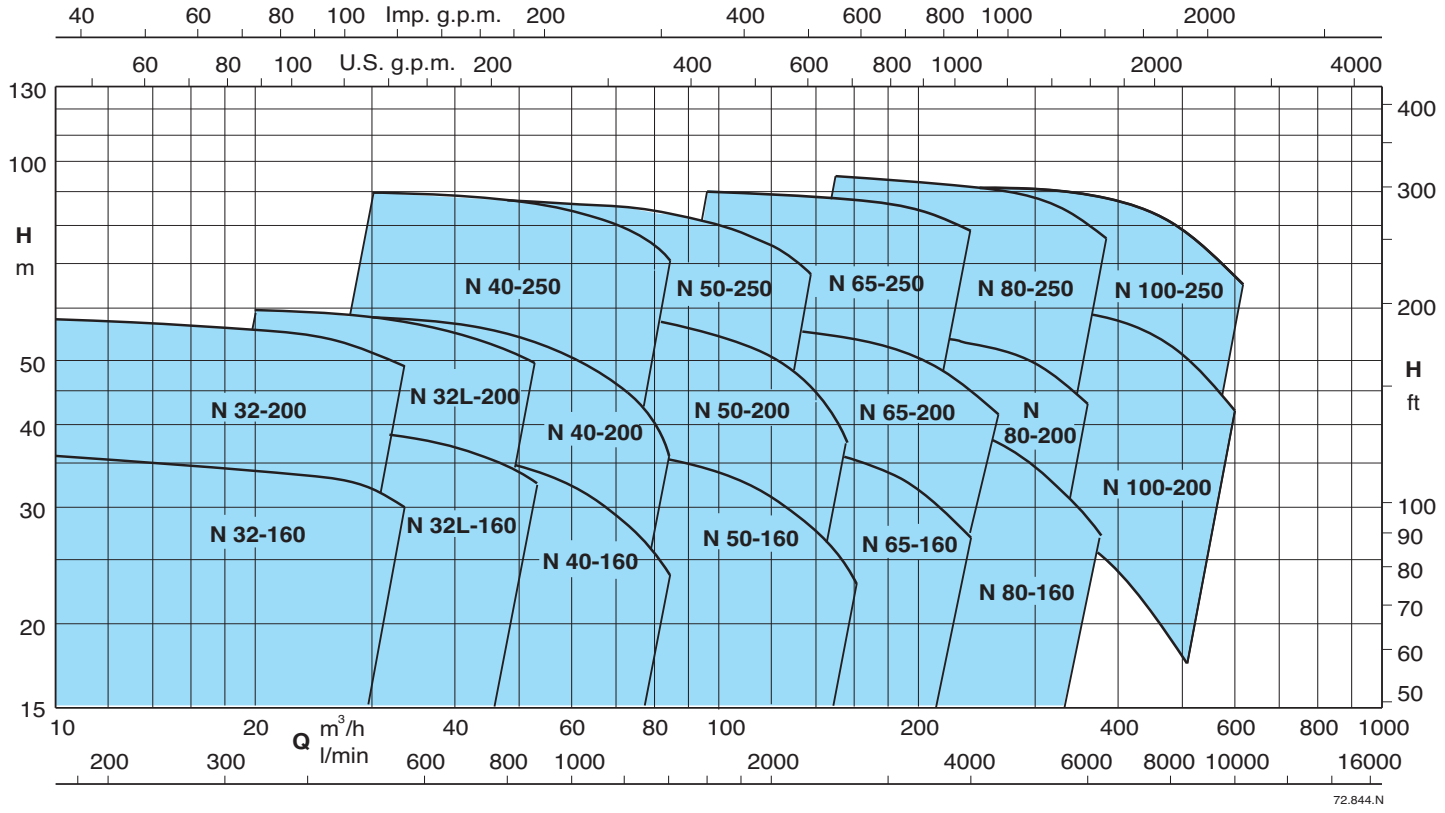
# DJ, EDJ 60 Hz

**EN 12845 units for feeding fire-extinguishing systems**
**Grupo de presión contra incendios según norma EN 12845**

### With 1 diesel pump - Con una bomba principal diesel




### With 2 pumps (electric and diesel) - Con 2 bombas principal (eléctrica + diesel)

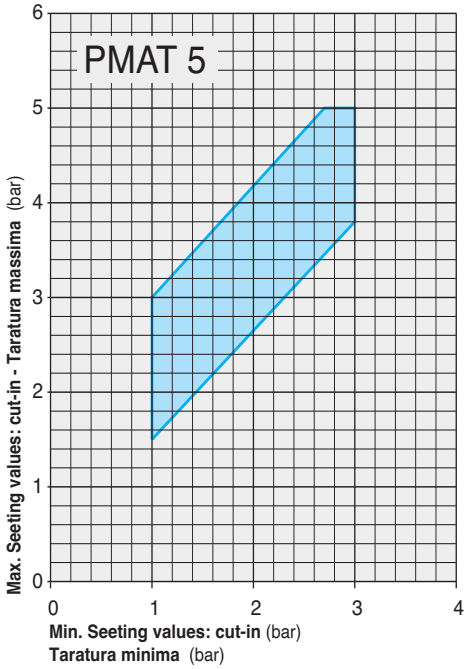


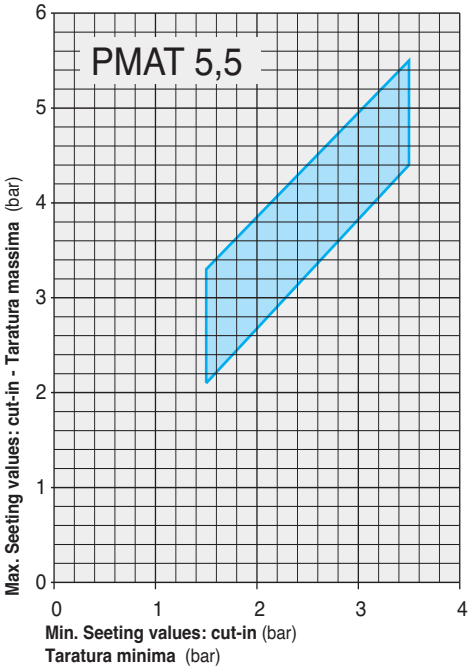
# PMAT 60 Hz

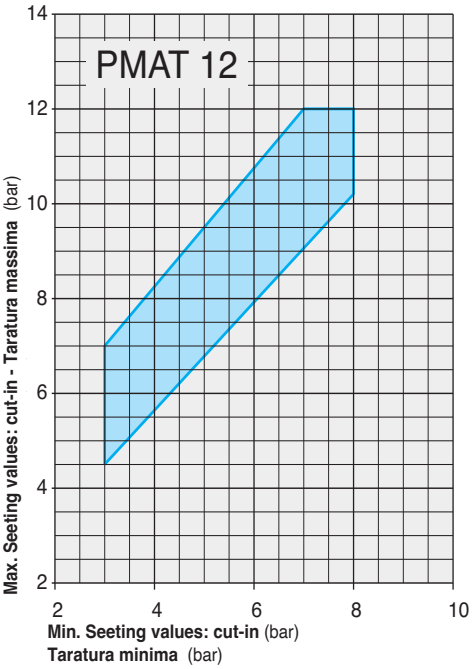
**Pressure switches for water system applications**
**Presostatos para instalaciones hídricas**



## Diagram seeting - Curvas Características



# Accessories - Accesorios

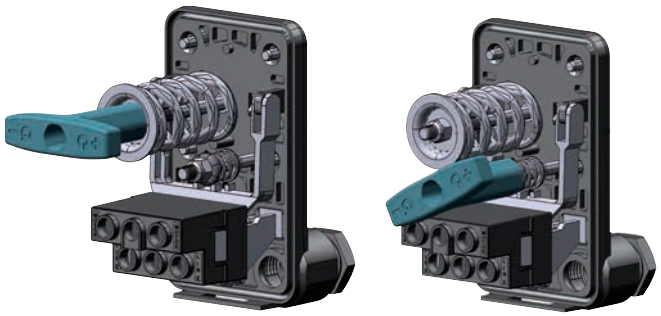
## Construction

- Pressure switches for use with water in autoclave systems
- The switch ensures automatically the starting and stopping of the electric pump according to the set pressure values
- Electric contacts: normally closed and made of brass alloy with Ag-Ni surfacing
- Terminals with M4 screws and 8x8 mm pressure dice
- NBR rubber membrane with textile insert (food grade for PMAT 5M-10, PMAT 5M/T-16, PMAT 5.5M/T-16)
- ¼"F hydraulic connection made of galvanized steel
- Standard protection degree IP 44
- Liquid temperature up to 55 °C
- Max ambient temperature: 55°C
- Tear resistant cable clamps

## Actuación

- Presostatos para uso con agua en sistemas de autoclave
- El interruptor ajusta automáticamente el inicio y la parada de la electrobomba de acuerdo con los valores de presión ajustados
- Contactos eléctricos normalmente cerrados, de aleación de latón con punta de Ag-Ni
- Terminales con tornillos M4 y placas de presión 8x8 mm
- Membrana de caucho NBR con inserción téxtil (alimentaria para PMAT 5M-10 - PMAT 5M/T-16 - PMAT 5.5M/T-16)
- Conexión hidráulica 1/4"F de acero cincado
- Nivel de protección estándar IP 44
- Temperatura del líquido hasta 55° C
- Temperatura ambiente máx 55 °C
- Prensacables de fijación

## Adjustment key included
## Llave de ajuste incluida



## Technical data
## Datos técnicos

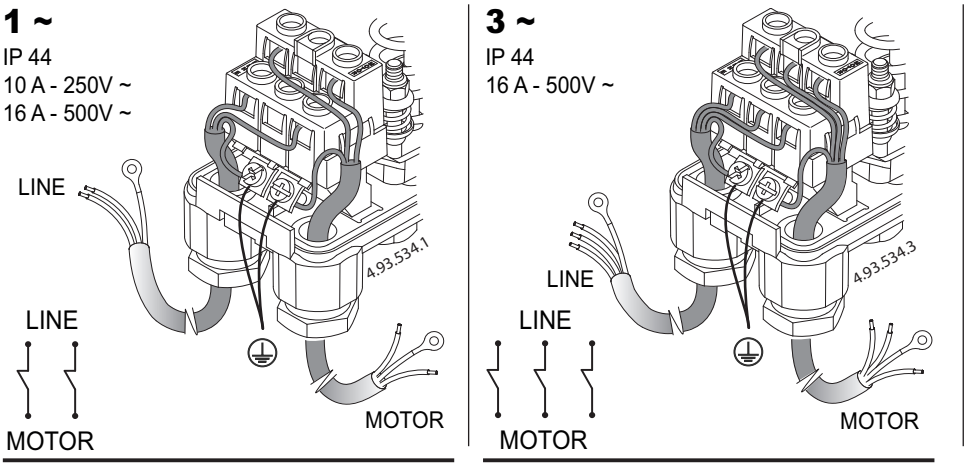
| 2-pins<br>Tipo bipolar | max<br>A | Pressure range<br>*campo de calibración*<br>bar | Differential<br>*Siferencial*<br>min bar | <br>max bar | Factory setting<br>*Calibración de fábrica*<br>bar |
|---|---|---|---|---|---|
| **PMAT 5M-10** | 10 | 1 - 5 | 0,6 | 2,3 | 1,4 - 2,8 |

Maximum rated voltage 250V - Tensión máx 500V

| 2-pins<br>Tipo tripolar | max<br>A | Pressure range<br>*campo de calibración*<br>bar | Differential<br>*Siferencial*<br>min bar | <br>max bar | Factory setting<br>*Calibración de fábrica*<br>bar |
|---|---|---|---|---|---|
| **PMAT 5M/T-16** | 16 | 1 - 5 | 0,6 | 2,3 | 1,4 - 2,8 |
| **PMAT 5,5M/T-16** | 16 | 1,5 - 5,5 | 0,8 | 2,2 | 1,8 - 3 |
| **PMAT 12M/T-16** | 16 | 3 - 12 | 1,5 | 5 | 5 - 7 |

Maximum rated voltage 500V - Tensión máx 500V

## Connection diagram
## Esquema de conexión



# ARIAMAT 60 Hz

## Automatic air feeder
## Alimentatore de aire



## Construction
The automatic air feeder ARIAMAT controls the air cushion in the pressure vessel by replacing the air dissolved in the water at every pump start.
This device limits the number of pump starts and stops, allows a better use of the water reserve and improves the overall performance of the automatic pressure system.

## Operation
ARIAMAT operation is explained in pictures 1-2-3-4.
At the end of every cycle, ARIAMAT AR 300E, AR 1000E and AR 2000E let in the vessel 300, 1000 and 2000 $cm^3$ of air respectively.
For a good operation of ARIAMAT it is necessary to have enough suction pressure in the pipe whilst the pumps are running.
If the pumps work under positive suction head and water falls to the suction inlet, there will not be enough suction pressure in the suction pipe to allow a correct operation of ARIAMAT; in this case, it is necessary to create an artificial loss in the suction pipe, by closing gradually the gate valve when the pump is running until the water level in the ARIAMAT starts dropping.
When a sufficient suction pressure to grant a safe ARIAMAT operation cannot be achieved, it is recommended to feed the vessel with a compressed air system and level probes.

## Description of the supply
The ARIAMAT is normally fitted on our automatic water systems.
The supply of ARIAMAT, as a spare part to be installed by the customer, includes:
n° 1 ARIAMAT assembled with upper elbow and air valve;
m 1 Polyethylene tube with ring nut and fitting for connection to the pump suction side.

## Materials

| Component | Material |
|---|---|
| Upper elbow | Brass |
| Air valve | Brass |
| Feeder body | Polycarbonate |
| Ball valve | Rubber |
| Conical fittings | Polyethylene |
| Pipe | Polyethylene |

## Ejecución
El alimentador de aire ARIAMAT regula automáticamente el cojín de aire en los depósitos de presión, introduciendo en cada puesta en marcha de la bomba la proporción de aire que se disuelve en el agua.
De esta forma se evitan frecuentes arranques y paradas de la electrobomba, mejorando el rendimiento del conjunto con un uso más racional de las reserva de agua disponible.

## Funcionamiento
El funcionamiento del alimentador ARIAMAT esta explicado en las ilustraciones de las figuras 1-2-3-4.
La cantidad de aire que viene introducida en el deposito al finalizar cada puesta en marcha es de 300 - 1000 - y 2000 $cm^3$ respectivamente con los modelos AR 300E - AR 1000E - AR 2000E.
El perfecto funcionamiento de el ARIAMAT se consigue solamente si se produce una adecuada depresión en la aspiración durante la fase de bombeo.
En el caso en que la bomba trabaje bajo carga y el agua llegue por caída a la bomba, puede darse el caso de que la aspiración no se realice con una depresión suficiente para asegurar el perfecto funcionamiento del ARIAMAT; en este caso se puede crear artificialmente una perdida sobre el tubo de aspiración montando una compuerta y cerrándola hasta notar que, con la bomba funcionando, el nivel del agua en el interior del ARIAMAT comienza a descender.
En los casos que no es posible alcanzar una depresión que garantice el funcionamiento seguro del ARIAMAT, se aconseja de adaptar un sistema de alimentación de aire en presión con sonda reguladora de nivel.

## Equipamiento
El ARIAMAT viene normalmente provisto e instalado sobre los depositos de presión de nuestra producción
Un eventual abastecimiento por parte del cliente comprende:
n° 1 ARIAMAT completo de rácord superior y válvula.
m 1 Tubo en polietileno con abrazadera y rácord para unión con a la aspiración de la bomba.

## Materiales

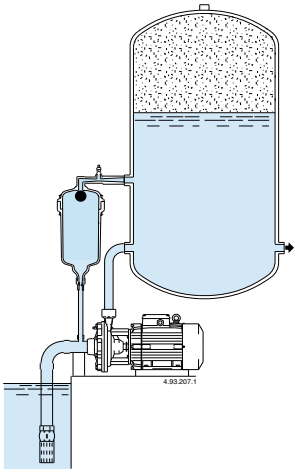
| Componente | Materiales |
|---|---|
| Rácord superior | Latón |
| Válvula | Latón |
| Cuerpo | Policarbonato |
| Obturador esférico | Goma |
| Rácords cónicos | Latón |
| Tubito | Polietileno |

## TYPE - TIPO

| Type - Tipo |
|---|
| AR 300E |
| AR 1000E |
| AR 2000E |

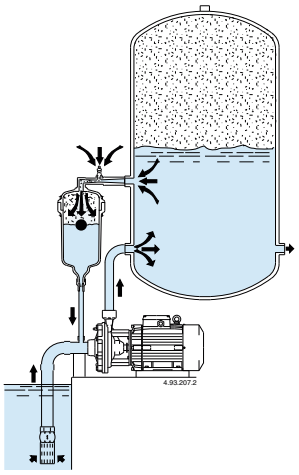
Complete with connections and 1 m polyethylene pipe
Completo de rácord superior y 1 m de Tubo en polietileno

| Pressure Presión m | Pressure vessel capacity in litres - Capacidad deposito de presión en litros | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 100 | 200 | 300 | 400 | 500 | 750 | 1000 | 1500 | 2000 | 3000 | 4000 | 5000 |
| 14/28 | AR 300E | | | | | | AR 1000E | | | | | AR 2000E |
| 20/30 | AR 300E | | | | | | AR 1000E | | | | | AR 2000E |
| 30/40 | AR 300E | | | | AR 1000E | | | | | | AR 2000E | |
| 35/55 | AR 300E | | | | AR 1000E | | | | | AR 2000E | | |
| 55/70 | AR 300E | | | AR 1000E | | | | | | AR 2000E | | |
| 75/95 | AR 300E | | AR 1000E | | | The use of an air compressor is recommended. - Se aconseja utilizar un compresor de aire. | | | | | | |



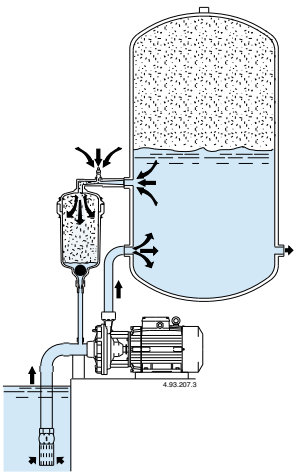

1) When the pump is stopped, ARIAMAT is full of water.

1) Con la bomba parada el ARIAMAT es lleno de agua.



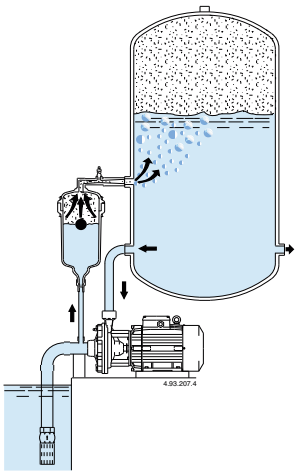

2) When starting, the pumps creates a suction pressure which also takes the water from ARIAMAT, allowing some more water to come from the vessel. The water through the ARIAMAT venturi sucks air from the upper valve.

2) Cuando la bomba se pone en marcha crea una depresión que absorbe el agua contenida en el ARIAMAT reaspirando también agua del depósito de presión, que pasando a través del tubo vénturi atrae aire de la válvula superior.




3) The water level in the ARIAMAT drops until the ball valve moves to the bottom of the ARIAMAT closing the hole of the pipe connected to the pump. ARIAMAT is now full of water.

3) El nivel de el agua desciende hasta que el obturador de goma se deposita sobre el fondo del ARIAMAT cerrando la conexión con la electrobomba. Ahora la alimentación esta llena de aire.




4) When stopping, there is a back-flow of water from the vessel through the pump, to the ARIAMAT. Air is pushed inside the vessel.

4) Cuando paramos la bomba se crea el retorno del agua a través de la bomba, producida por la presión creada en el deposito, y esta sube por el tubito del ARIAMAT empujando el obturador de goma y desplazando el aire hacia el interior del deposito.

# Accessories - Accesorios

## VALVES - *VALVULAS*



| Code<br>*Código* | check valve<br>*válvulas de retención* |
|---|---|
| 17010540000 | **VNR 1** |
| 17010550000 | **VNR 1 1/4** |
| 17010560000 | **VNR 1 1/2** |
| 17010570000 | **VNR 2** |

| Code<br>*Código* | foot valve<br>*válvulas de pie* |
|---|---|
| 17009980000 | **VDF 1** |
| 17009990000 | **VDF 1 1/4** |
| 17010000000 | **VDF 1 1/2** |
| 17010010000 | **VDF 2** |

## AUTOMATIC AIR FEEDER - *ALIMENTATORE DE AIRE*



| Code<br>*Código* | ARIAMAT |
|---|---|
| 47010700000 | **AR 300E** |
| 47010780000 | **AR 1000E** |
| 47010790000 | **AR 2000E** |

## CONNECTOR - *CONEXIÓN*



| Code<br>*Código* | type<br>*tipo* | connection<br>*conexión* |
|---|---|---|
| 17010600000 | **RA5 H 92** | G 1 |
| 17010520000 | **RA5 H 105** | G 1 |

## PRESSURE GAUGES - *MANOMETROS*



| Code<br>*Código* | axial connection type<br>*tipo con conexión axial* |
|---|---|
| 17000050000 | **MA 0-6** |
| 17006440000 | **MA 0-6 ABS** |

| Code<br>*Código* | radial connection type<br>*tipo con conexión radial* |
|---|---|
| 17000070000 | **MR 0-10** |
| 17000090000 | **MR 0-16** |

## FLEXIBLE HOSE - *TUBO FLEXIBLE*



| Code<br>*Código* | type<br>*tipo* | d x length<br>*d x longitud* |
|---|---|---|
| 17010580000 | **FP 1-630** | G 1 x 630 |
| 17010780000 | **FP 1-680** | G 1 x 680 |

## PRESSURE SWITCHES - *PRESOSTATOS*



| Code<br>*Código* | type<br>*tipo* | setting<br>*ajuste estandar*<br>bar |
|---|---|---|
| 17028260000 | **PMAT 5M-10** | 1,4 - 2,8 |
| 17028270000 | **PMAT 5M/T-16** | 1,4 - 2,8 |
| 17028280000 | **PMAT 5,5M/T-16** | 1,8 - 3 |
| 17028290000 | **PMAT 12M/T-16** | 5 - 7 |

## SPHERICAL VESSEL - *TANQUE ESFERICO*



| type<br>*tipo* | d x capacity<br>*d x capacidad* | Pressione<br>*Pressure*<br>*bar* |
|---|---|---|
| **SS 24** | G 1 x 24 l | 8 |

**codice** - *code* 17027490000

BUTYL rubber diaphragm
*Membrana de BUTIL*

## CYLINDRICAL VESSEL - *TANQUE CILINDRICO*



**vessel with base and feet**
*tanque base y patas*

| type<br>*tipo* | d x capacity<br>*d x capacidad* | Pressione<br>*Pressure*<br>*bar* |
|---|---|---|
| **SC 20 BP** | G 1 x 20 l | 8 |

**codice** - *code* 17010630000

BUTYL rubber diaphragm
*Membrana de BUTIL*

## INOX CYLINDRICAL VESSEL - *TANQUE CILINDRICO INOX*



**vertical cylindrical vessel**
*tanque cilindrico vertical*

| type<br>*tipo* | d x capacity<br>*d x capacidad* | Pressione<br>*Pressure*<br>*bar* |
|---|---|---|
| **SCX 20** | G 1 x 20 l | 13 |

**codice** - *code* 17010480000

BUTYL rubber diaphragm
*Membrana de BUTIL*

## INOX CYLINDRICAL VESSEL - *TANQUE CILINDRICO INOX*



**vessel with base and feet**
*tanque base y patas*

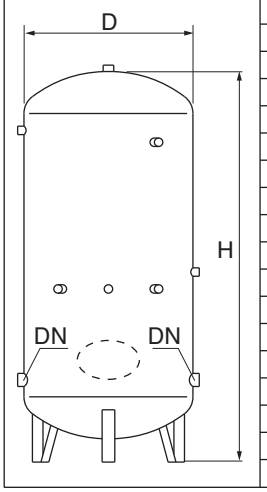
| type<br>*tipo* | d x capacity<br>*d x capacidad* | Pressione<br>*Pressure*<br>*bar* |
|---|---|---|
| **SCX 20 BP** | G 1 x 20 l | 13 |

**codice** - *code* 17010370000

BUTYL rubber diaphragm
*Membrana de BUTIL*

## ACUMULADORES HIDRONEUMÁTICOS CE 97/23 PED - *CE 97/23 PED APPROVED PRESSURE VESSELS (Air tanks)*

ACUMULADORES GALVANIZADOS
*HOT GALVANIZED VESSELS*




| **Código** *Code* | TIPO *TYPE* | Dimensiones *Dimensions* D x H mm | DN |
|---|---|---|---|
| 47000170000 | 100- 5 | 400 x 1020 | G 1 |
| 47000180000 | 200- 5 | 450 x 1440 | G 1 |
| 47000190000 | 300- 8 | 550 x 1500 | G 1 1/2 |
| 47000200000 | 500- 8 | 650 x 1820 | G 2 |
| 47000210000 | 500- 12 | 600 x 2000 | G 2 |
| 47000230000 | 800- 8 | 800 x 1900 | G 2 |
| 47000260000 | 1000- 8 | 800 x 2150 | G 2 1/2 |
| 47000270000 | 1000- 12 ▲ | 800 x 2300 | G 2 1/2 |
| 47000280000 | 1500- 5 | 950 x 2500 | G 2 |
| 47000290000 | 1500- 8 ▲ | 950 x 2500 | G 2 |
| 47000330000 | 2000- 8 ▲ | 1100 x 2570 | G 2 1/2 |
| 47000340000 | 2000- 12 ▲ | 1000 x 2780 | G 2 1/2 |
| 47000390000 | 3000- 8 ▲ | 1250 x 2930 | G 3 |
| 47000400000 | 3000- 12 ▲ | 1200 x 2930 | G 3 |
| 47000420000 | 4000- 8 ▲ | 1450 x 3090 | G 3 |
| 47000430000 | 4000- 12 ▲ | 1450 x 3090 | G 3 |
| 47000450000 | 5000- 8 ▲ | 1450 x 3590 | G 4 |
| 47000460000 | 5000- 12 ▲ | 1450 x 3590 | G 4 |

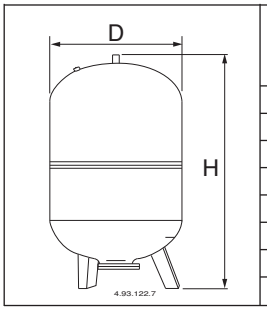
Temperatura máxima del agua: 50°C
Todos los acumuladores están aprobados por el fabricante y se suministran completos con válvula de seguridad, manometro y racors varios.

▲(Pressione x Volume P x V > 8000; oppure con pressione nominale >11,76 bar).

***The vessels are suitable for water up to 50 °C***

***They are all approved at manufacturer's premises and are supplied complete with safety valve, tested pressure gauge and fittings.***

## ACUMULADORES HIDRONEUMÁTICOS CON MEMBRANA CE 97/23 PED - *CE 97/23 PED APPROVED MEMBRANE VESSELS*




| **Código** *Code* | TIPO *TYPE* | Presión *Pressure* bar | Dimensiones *Dimensions* D x H mm | DN |
|---|---|---|---|---|
| 37011010000 | SM 60 V | 10 | 382 x 845 | G 1 |
| 37011020000 | SM 80 V | 10 | 450 x 850 | G 1 |
| 37011030000 | SM 100 V | 10 | 450 x 950 | G 1 |
| 37011040000 | SM 200 V | 10 | 550 x 1255 | G 1 1/2 |
| 37011050000 | SM 300 V | 10 | 630 x 1405 | G 1 1/2 |
| 37011060000 | SM 500 V | 10 | 780 x 1550 | G 1 1/2 |
| 37011070000 | SM 750 V | 10 | 780 x 1940 | G 1 1/2 |
| 37011080000 | SM 1000 V | 10 | 980 x 1970 | G 2 |

Membrana en EPDM
Temperatura -10 ÷ +100 °C
Completos con válvula de seguridad y manómetro 0÷16 bar

***EPDM diaphragm***
***Temperature -10 ÷ +100 °C***
***With safety valve and pressure gauge 0÷16 bar***

# Technical appendix

## How to select a centrifugal pump

The selection of a centrifugal pump should be made according to the actual characteristics and conditions of the plant.
The required data for a correct selection are the following:

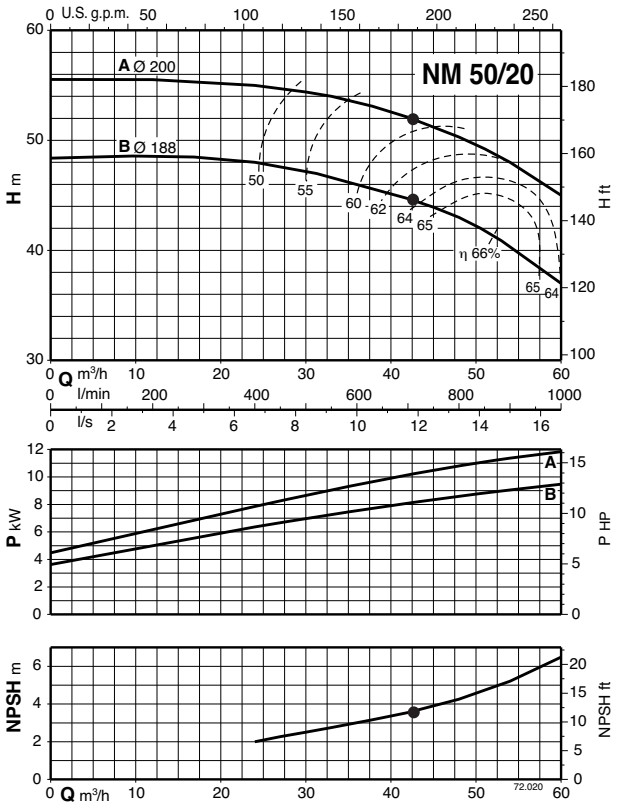
**Flow Q**
Quantity of fluid delivered by the pump in the unit of time, generally expressed in $m^3/h$.

**Total manometric head Hmt**
It is considered as the sum between the geometric head exsisting between the fluid levels and the head loss due to frictions from the fluid passage in the pipework, into the pump and relevant hydraulic accessories.
The expression is the following:

***Hmt = Hg + Δpc mt fluid column***

**Hg** = geometric head inlet (Hga) + geometric head outlet (Hgp)
**Δpc** = sum of head loss of the plant calculated from the following data:

- Diameter, length and material of the suction and delivery piping (see table no. 2).
- Number and type of elbows in the piping and hydraulic accessories such as foot valves, gate valves, non-return valves and strainers etc. (see table no. 1).
- Type, temperature, viscosity and density of the fluid (if different from that of water)




Pay attention to the manometric suction lift **Hga + Δpc asp**, which should be compared with the suction capability of the pump.
This suction capability or **NPSHr** is defined as net positve suction head and its value is obtained from a curve in accordance with the flow.
For this purpose, once the pump has been selected according to the required flow and head, where possible at the middle of the curve, check the following simplified formula:

10 mt ± **Hga - Δpc asp. > NPSH** required + 0.5 mt

**Hga** is the difference in height between the free surface of the water, and its value is negative if the pump is installed above the free water surface.
**Δpc asp** is the sum of the remaining distributed (piping) and concentrate (valves, bends, etc.) suction head loss

If the final result is negative, it is often possible to adjust flow via a gate valve on the delivery side, in order to restore correct pump operating conditions, without cavitation.

For fluid temperatures higher than the average of about 20°C, the pumps loose their suction capability.
Such changes, referred to pumps with suction capability of 7 meter at normal temperature, are shown on table no. 3.

**CHARACTERISTIC DATA OF THE PUMPS**

Once the flow (Q) and total manometric head of the installation (Hmt) are established, the pump absorbed power **N** should be calculated through the following formula:

$$\mathbf{N} = \frac{Q \times H \times \gamma}{367 \times \eta_p} \text{ in kW}$$

where:

Q = Flow in m3/h
H = Head in mt
$\gamma$ = Fluid density (water = 1 kg/dm³)
$\eta p$ = Pump efficiency (Ex. Pump efficiency 68% = ⇨ $\eta p = 0.68$)

The pumps are normally connected to electric motors, which operate at 2900 rpm with 2-pole motors at 50Hz, or at 1450 rpm with 4-pole motors at 50Hz. However, they can run at any other speed within the limits of design.
Therefore, when changing the number of revolutions, the pump performance will change according to the following rules:

The flow in proportion to the number of revolutions: $Q2 = Q1 \times \frac{n_2}{n_1}$

The head, in proportion to the square of the number of revolutions: $H2 = H1 \times \left(\frac{n_2}{n_1}\right)^2$

The absorbed power, in proportion to the cube of the number of revolutions: $N2 = N1 \times \left(\frac{n_2}{n_1}\right)^3$

## Calculation example for the selection of a centrifugal pump

### Case A Istallation data

- Q (Flow) = 42 m³/h
- Hga (geometric head inlet) = 3,5 m
- Hgp (geometric head outlet) = 39 m
- 5 m DN 100 mm diameter suction pipe complete with 1 elbow and 1 foot valve
- 70 m DN 80 mm diameter delivery pipe with 1 non-return valve, 1 gate valve and 3 sweep elbows

**Hg** = Hgp + Hga = 39 + 3,5 = 42,5 m Geometric head of the installation

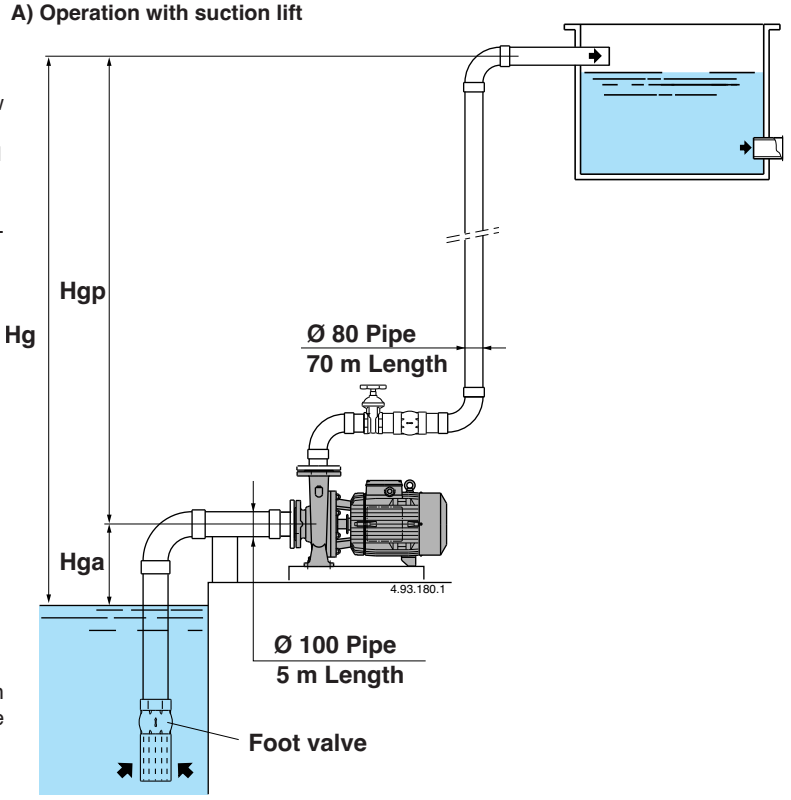
**Δpc** = total head loss

| | |
|---|---|
| Suction side: | |
| 5 m Ø100 piping | pc = 0,12 m |
| 1 Elbows | pc = 0,045 m |
| 1 Foot valve | pc = 0,46 m |
| Delivery side: | |
| 70 m Ø 80 pipe | pc = 5,25 m |
| 1 Non-return valve | pc = 0,5 m |
| 1 Gate valve | pc = 0,05 m |
| 3 Elbows | pc = 0,09 m |
| **Total** | **Δpc = 6,5 m.** |

Considering that the calculation has been made for new pipes, an increase of 15/20% is to be applied for ageing etc. Therefore the total head loss Δp amounts to about 8 m.
Therefore, the total manometric head which the pump must achieve is:

Hmt = Hg + Δp = Hgp + Hga + Δpc = 39 + 3,5 + 8 = 50,5 m total.
The pump type NM 50/20AE can be chosen (see pump diagram)

**A) Operation with suction lift**




### Case B Istallation data

- Q (Flow) = 42 m³/h
- Hga (geometric head inlet) = 3,5 m
- Hgp (geometric head outlet) = 39 m
- 5 m DN 100 mm diameter suction pipe complete with 1 gate valve and 1 foot valve
- 70 m DN 80 mm diameter delivery pipe with 1 non-return valve, 1 gate valve and 3 sweep elbows

**Hg** = Hgp - Hga = 39 - 3,5 = 35,5 m Geometric head of the installation

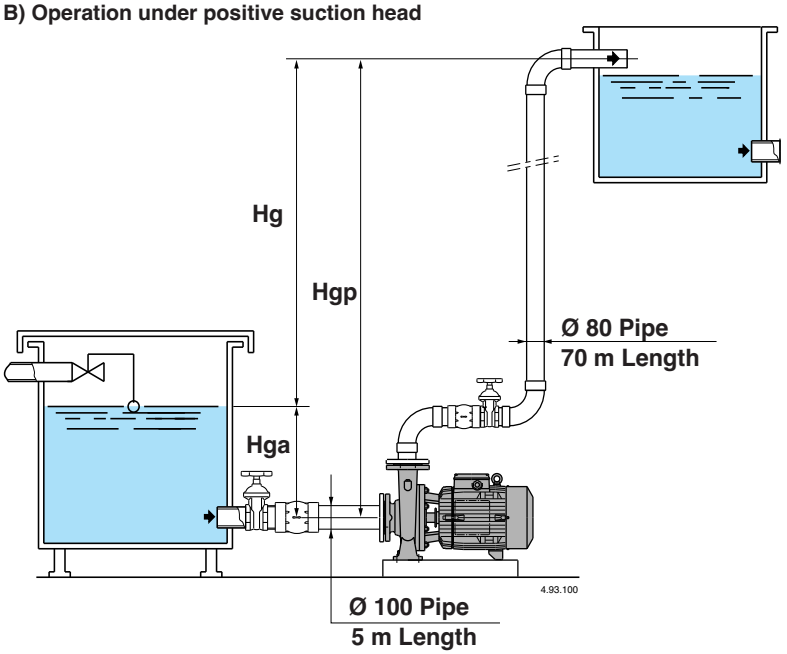
**Δpc** = total head loss

| | |
|---|---|
| Suction side: | |
| 5 m Ø 100 piping | pc = 0,12 m |
| 1 Non-return valve | pc = 0,5 m |
| 1 Gate valve | pc = 0,05 m |
| Delivery side: | |
| 70 m Ø 80 pipe | pc = 5,25 m |
| 1 Non-return valve | pc = 0,5 m |
| 1 Gate valve | pc = 0,05 m |
| 3 Elbows | pc = 0,09 m |
| **Total** | **Δpc = 6,5 m** |

Considering that the calculation has been made for new pipes, an increase of 15/20% is to be applied for ageing etc. Therefore the total head loss Δpc amount to about 8 m.
Therefore, the total manometric head which the pump must achieve is:

Hmt = Hg + Δp = Hgp - Hga + Δpc = 39 - 3,5 + 8 = 43,5 m total.

**B) Operation under positive suction head**



The pump type NM 50/20BE can be chosen (see pump diagram)

## ACCESSORIES FOR WATER SUPPLY

**Foot valve with strainer** - Sealing member installed on the lower end of the suction pipe. It prevents the water coming out from the piping and pump at every plant stop. It must be always immersed in the fluid at an installation depth which allows a perfect operation without cavitation.
It is a good rule to also install a float switch to automatically stop the pump when the water goes below a fixed level.
**Non-return valve** - It must be installed on the pump delivery port to avoid reflux in case of a sudden stop of the plant. It is recommended using a type fitted with an inner return spring and with ogive shutter, as this will help to diminish water hammering.
**Gate valve** - The installation of a gate valve is very important. In addition to allowing the pump to be dissasembled without emptying the plant, it is used

### Table no. 1 **Head loss in cm** for bends, gate valves, foot valves and check valves

| Water flow velocity m/sec. | Elbows α = 30 | α = 40 | α = 60 | α = 80 | α = 90 | α = 90 sweep elbow d/R = 0,4 | d/R = 0,6 | d/R = 0,8 | d/R = 1 | d/R = 1,5 | Gate valves | Foot valves | Check valves |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,4 | 0,43 | 0,52 | 0,71 | 1,0 | 1,2 | 0,11 | 0,13 | 0,16 | 0,23 | 0,43 | 0,23 | 32 | 31 |
| 0,5 | 0,67 | 0,81 | 1,1 | 1,6 | 1,9 | 0,18 | 0,21 | 0,26 | 0,37 | 0,67 | 0,37 | 33 | 32 |
| 0,6 | 0,97 | 1,2 | 1,6 | 2,3 | 2,8 | 0,25 | 0,29 | 0,36 | 0,52 | 0,97 | 0,52 | 34 | 32 |
| 0,7 | 1,35 | 1,65 | 2,2 | 3,2 | 3,9 | 0,34 | 0,40 | 0,48 | 0,70 | 1,35 | 0,70 | 35 | 32 |
| 0,8 | 1,7 | 2,1 | 2,8 | 4,0 | 4,8 | 0,45 | 0,53 | 0,64 | 0,93 | 1,7 | 0,95 | 36 | 33 |
| 0,9 | 2,2 | 2,7 | 3,6 | 5,2 | 6,2 | 0,57 | 0,67 | 0,82 | 1,18 | 2,2 | 1,20 | 37 | 34 |
| 1,0 | 2,7 | 3,3 | 4,5 | 6,4 | 7,6 | 0,7 | 0,82 | 1,0 | 1,45 | 2,7 | 1,45 | 38 | 35 |
| 1,5 | 6,0 | 7,3 | 10 | 14 | 17 | 1,6 | 1,9 | 2,3 | 3,3 | 6 | 3,3 | 47 | 40 |
| 2,0 | 11 | 14 | 18 | 26 | 31 | 2,8 | 3,3 | 4,0 | 5,8 | 11 | 5,8 | 61 | 48 |
| 2,5 | 17 | 21 | 28 | 40 | 48 | 4,4 | 5,2 | 6,3 | 9,1 | 17 | 9,1 | 78 | 58 |
| 3,0 | 25 | 30 | 41 | 60 | 70 | 6,3 | 7,4 | 9 | 13 | 25 | 13 | 100 | 71 |
| 3,5 | 33 | 40 | 55 | 78 | 93 | 8,5 | 10 | 12 | 18 | 33 | 18 | 123 | 85 |
| 4,0 | 43 | 52 | 70 | 100 | 120 | 11 | 13 | 16 | 23 | 42 | 23 | 150 | 100 |
| 4,5 | 55 | 67 | 90 | 130 | 160 | 14 | 21 | 26 | 37 | 55 | 37 | 190 | 120 |
| 5,0 | 67 | 82 | 110 | 160 | 190 | 18 | 29 | 36 | 52 | 67 | 52 | 220 | 140 |

to start the plant and to adjust the flow.

## PIPING

The piping must be selected in-line with the water velocity which is recommended to be 1.5 meter per second on the suction side and 3 meter per second on the delivery side. The calculation of the suction piping must be carefully checked so as to avoid the maximum head loss and allow the pumps maximum suction capability. The piping must be perfectly tight and have no counterslopes towards the pump port, so to avoid the development or entrapment of air bubbles or pockets.
All the piping must be secured to rests, so that they will not weigh on the pump ports.

### Table no. 2 **Head loss in m** for steel pipes

| Tubo G | Ø mm | **Q** m³/h | 1 | 3 | 6 | 9 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 60 | 90 | 120 | 180 | 240 | 300 | 360 | 420 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Q** l/min | 16 | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 1000 | 1500 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8333 | 10000 |
| G 1/2 | DN 15 | | 29,9 1,6 | | | | | | | | | | | | | | | | | | | | |
| G 3/4 | DN 20 | | 7,4 0,9 | 56,3 2,7 | | | | | | | | | | | | | | | | | | | |
| G 1 | DN 25 | | 2,5 0,6 | 19,0 1,7 | 68,6 3,4 | | | | | | | | | | | | | | | | | | |
| G 1 1/4 | DN 32 | | 0,7 0,3 | 5,7 1,0 | 20,6 2,1 | 43,6 3,1 | 74,4 4,1 | | | | | | | | | | | | | | | | |
| G 1 1/2 | DN 40 | | 0,3 0,2 | 1,9 0,7 | 6,9 1,3 | 14,7 2,0 | 25,1 2,7 | 53,1 4,0 | 90,5 5,3 | | | | | | | | | | | | | | |
| G 2 | DN 50 | HL / v | | 0,6 0,4 | 2,3 0,8 | 5,0 1,3 | 8,5 1,7 | 17,9 2,5 | 30,5 3,4 | 46,2 4,2 | 64,7 5,1 | 86,1 5,9 | | | | | | | | | | | |
| G 2 1/2 | DN 65 | m/100m / m/s | | 0,2 0,3 | 0,7 0,5 | 1,4 0,8 | 2,4 1,0 | 5,0 1,5 | 8,5 2,0 | 12,9 2,5 | 18,0 3,0 | 24,0 3,5 | 30,7 4,0 | 46,4 5,0 | | | | | | | | | |
| | DN 80 | | | | | 0,5 0,5 | 0,9 0,7 | 1,8 1,0 | 3,1 1,3 | 4,7 1,7 | 6,6 2,0 | 8,7 2,3 | 11,2 2,7 | 16,9 3,3 | 35,8 5,0 | 60,9 6,6 | | | | | | | |
| | DN 100 | | | | | | | 0,6 0,6 | 1,0 0,8 | 1,6 1,1 | 2,2 1,3 | 2,9 1,5 | 3,8 1,7 | 5,7 2,1 | 12,1 3,2 | 20,6 4,2 | 43,6 6,4 | 74,2 8,5 | | | | | |
| | DN 125 | | | | | | | | | | 0,7 0,8 | 1,0 1,0 | 1,3 1,1 | 1,9 1,4 | 4,1 2,0 | 6,9 2,7 | 14,7 4,1 | 25,0 5,4 | 37,8 6,8 | 53,0 8,1 | 70,5 9,5 | | |
| | DN 150 | | | | | | | | | | | | 0,5 0,8 | 0,8 0,9 | 1,7 1,4 | 2,9 1,9 | 6,0 2,8 | 10,3 3,8 | 15,6 4,7 | 21,8 5,7 | 29,0 6,6 | 40,1 7,9 | 56,2 9,4 |
| | DN 200 | | | | | | | | | | | | | 0,2 0,5 | 0,4 0,8 | 0,7 1,1 | 1,5 1,6 | 2,5 2,1 | 3,8 2,7 | 5,4 3,2 | 7,1 3,7 | 9,9 4,4 | 13,8 5,3 |
| | DN 250 | | | | | | | | | | | | | | | 0,2 0,7 | 0,5 1,0 | 0,9 1,4 | 1,3 1,7 | 1,8 2,0 | 2,4 2,4 | 3,3 2,8 | 4,7 3,4 |
| | DN 300 | | | | | | | | | | | | | | | | 0,2 0,7 | 0,4 0,9 | 0,5 1,2 | 0,7 1,4 | 1,0 1,7 | 1,4 2,0 | 1,9 2,4 |

**Q** Flow. **HL** Head loss, m per 100 m. **v** = Flow velocity: max 1,5 m/s for suction and 3 m/s for delivery.

### Table no. 3 Diagram of manometric suction head with water up to 100 °C

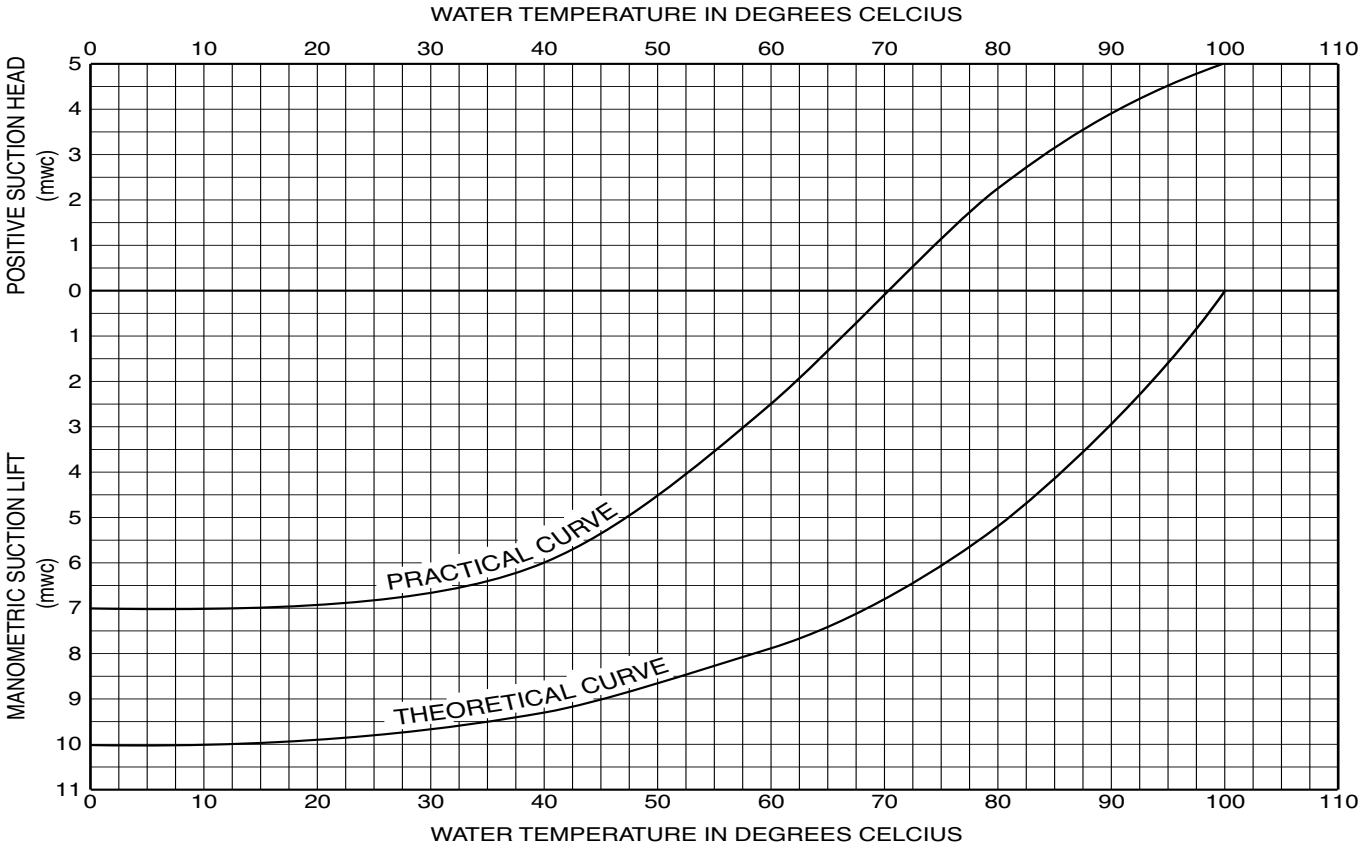



Diagram referred to pumps with manometric suction head of 7 mwc. at 20 °C

## Problems at the pump

| Faults | Possible causes |
|---|---|
| **Jammed pump** | This may happen after periods of inactivity due to inner oxidation.<br>To release smaller sized monobloc electropumps use a screwdriver at the notch on the back part of the shaft.<br>For the larger sizes, turn on the shaft or the flexible coupling |
| **Pumps which do not prime** | Pump and/or suction pipe with air entraped.<br>Uncomplete priming or totally unprimed.<br>Possible air entering from taps, drain or fill plugs, joints or stuffing box<br>Foot valve not fully immersed in the fluid or obstructed by deposits.<br>Suction lift too high compared with the capability of the pump.<br>Wrong direction of rotation<br>Wrong number of revolutions |
| **Insufficient flow** | Piping and accessories of too small a diameter which cause too high head loss.<br>Jammed impeller with presence of debris in the vanes.<br>Corroded or broken impeller<br>Impeller wear rings and/or pump casing worn by abrasion.<br>Gas presence in the water, or too high fluid viscosity in case of fluids different from water. |
| **Noise and vibrations in the pump** | Unbalanced rotary part or worn ball bearings.<br>Pump and piping not properly secured.<br>Too low flow rate for the selected pump<br>Operation with cavitation |
| **Overloaded motor** | Pump characteristics higher than those of the plant<br>Fixed and rotary parts in contact tending to seize owing to a lack of lubrication<br>Too high rotation speed<br>Wrong mains supply<br>Poor unit allignement<br>Fluid with too higher density than the design |

# Información técnica

## Cómo seleccionar una bomba centrífuga

La selección de una bomba centrífuga se debe efectuar según características y condiciones de la instalación real.
Los datos requeridos para una correcta selección son los siguientes:

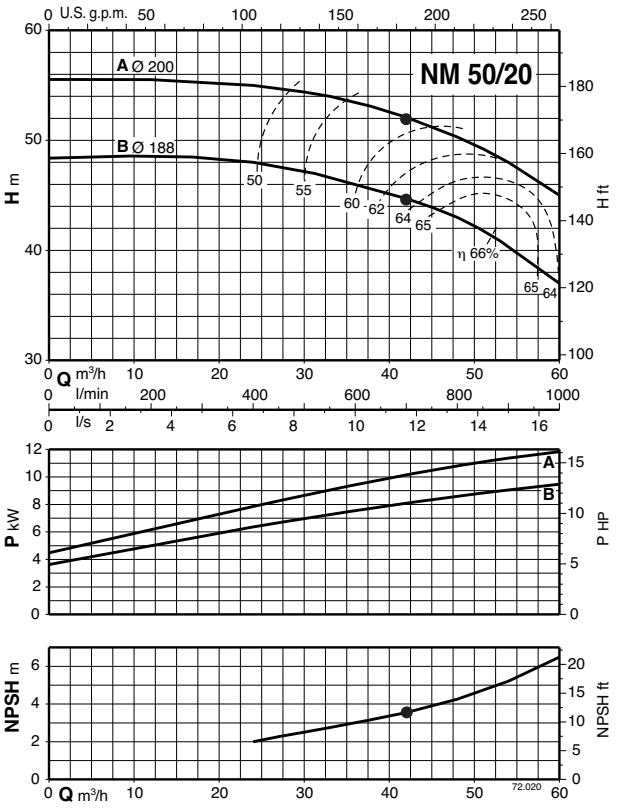
### Caudal Q

Cantidad de fluido suministrado por la bomba en la unidad de tiempo, generalmente expresada en m³/h.

### Altura manométrica total Hmt

Se considera como la suma de la altura geométrica entre los niveles de líquido y las pérdidas de carga por fricción del líquido en la tubería y accesorios de la instalación.

La expresión es la siguiente:
**Hmt = Hg + Δpc mt columna de fluido**




**Hg** = Altura geométrica de aspiración + altura geométrica de impulsión.
**Δpc** = Suma de la pérdida de carga calculado a partir de los siguientes datos:
- Diámetro, longitud y el material de la tubería de aspiración y impulsión (ver tabla n ° 1).
- Número y tipo de los codos en las tuberías hidráulicas y accesorios: por ejemplo válvulas de pie, válvulas de compuerta, válvulas de retención y filtros etc. (Ver tabla n ° 2).
- Tipo, temperatura, viscosidad y la densidad del fluido (si es diferente a la del agua)

Preste atención a la altura de aspiración manométrica **HGA + Δpc ASP**, que debe compararse con la capacidad de aspiración de la bomba.
Esta capacidad de succión o **NPSH** se define como carga de succión neta positivo, y su valor se obtiene a partir de una curva de acuerdo con el flujo.
Para ello, una vez que se ha seleccionado el caudal y la altura requerida, siempre que sea posible en el medio de la curva, compruebe la fórmula simplificada a seguir:

10 mt ± **Hga - Δpc asp. > NPSH** necesario + 0.5 mt

**Hga** es la diferencia de altura entre la bomba, y la superficie del agua, y su valor es negativo si la bomba se instala por encima de la superficie del agua.
**Δpc asp** es la suma de las pérdidas de carga en tuberías y accesorios de aspiración (válvulas, codos, etc...).

Si el resultado final es negativo, es posible ajustar el caudal a través de una válvula de compuerta en el lado de la impulsión, con el fin de restablecer las condiciones correctas de funcionamiento de la bomba, sin cavitación.

Para temperaturas de fluido superiores a 20 °C, las bombas reducen la capacidad de succión.
Estos cambios se refieren principalmente a las bombas con capacidad de succión de 7 metros a temperaturas normales, se muestran en la tabla no. 3.

**Datos característicos de las bombas**
Una vez establecidos el caudal (Q) y la altura manométrica total de la instalación (Hmt), la potencia absorbida de la bomba N debe calcularse la fórmula a través de la raíz:

$$\mathbf{N} = \frac{Q \times H \times \gamma}{367 \times \eta_p} \text{ in kW}$$

donde:
Q = Caudal en m3/h
H = Altura en mt
$\gamma$ = densidad del fluido (agua = 1 kg/dm3)
$\eta_p$ = eficiencia de la bomba (Ex. eficiencia de la bomba 68% = $\eta_p$ = 0.68)

Las bombas están normalmente conectados a motores eléctricos, que operaba a 2900 rpm con motores de 2 polos a 50 Hz, o a 1450 rpm con motores de 4 polos a 50Hz.
Sin embargo, pueden funcionar en cualquier otra velocidad dentro de los límites del diseño.
Por lo tanto, cuando se cambia el número de revoluciones, el rendimiento de la bomba cambiará de acuerdo con las reglas funcional después de:

- El caudal en proporción al número de revoluciones: $Q2 = Q1 \times \frac{n_2}{n_1}$
- La altura, en proporción al cuadrado del número de revoluciones: $H2 = H1 \times \left(\frac{n_2}{n_1}\right)^2$
- La altura, en proporción al cubo del número de revoluciones : $N2 = N1 \times \left(\frac{n_2}{n_1}\right)^3$

# Cómo seleccionar una bomba centrífuga

## Ejemplo de cálculo para la selección de una bomba centrífuga

**Case A** Datos de instalación

- Q (Caudal)= 42 m³/h
- Hga (altura geométrica de aspiración) = 3,5 m
- Hgp (altura geométrica de impulsión) = 39 m
- 5 m DN 100 mm tubo de aspiración de diámetro completo con 1 codo y 1 válvula de pie
- 70 m DN 80 mm tubería de impulsión de diámetro con 1 válvula de retención, 1 válvula de compuerta y 3 codos.

**Hg** = Hgp + Hga = 39 + 3,5 = 42,5 m Cabeza geométrica de la instalación

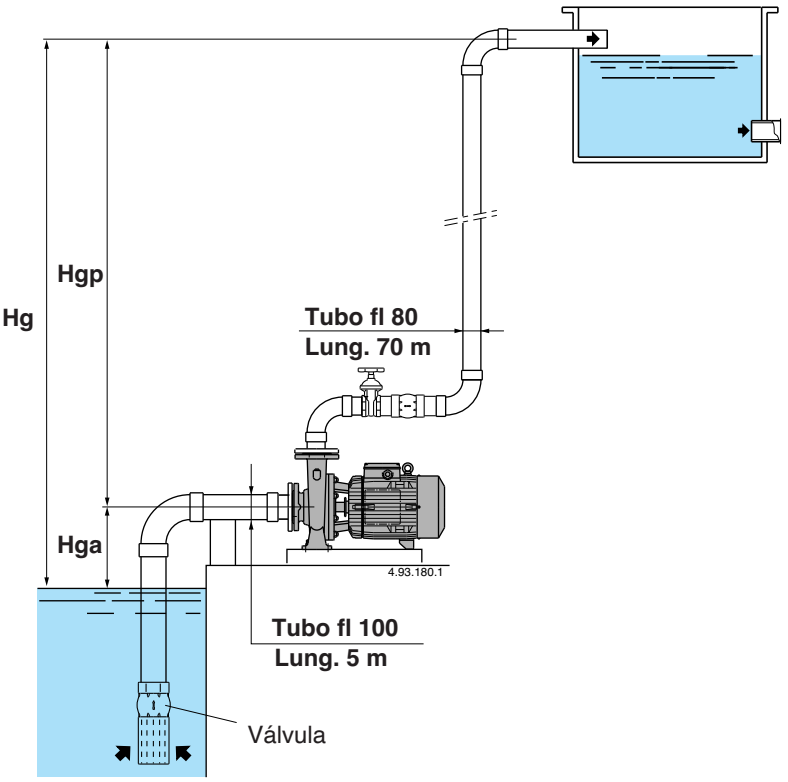
**Δpc** = pérdida de carga total

| | |
|---|---|
| Lado de aspiración: | |
| 5 m Ø100 tubería | pc = 0,12 m |
| 1 Codos | pc = 0,045 m |
| 1 La válvula de pie | pc = 0,46 m |
| Lado de impulsión: | |
| 70 m Ø 80 tubo | pc = 5,25 m |
| 1 Válvula de retención | pc = 0,5 m |
| 1 válvula de compuerta | pc = 0,05 m |
| 3 Codos | pc = 0,09 m |
| **Total** | **Δpc = 6,5 m.** |

Teniendo en cuenta el cálculo que se ha hecho para las nuevas tuberías, un aumento del 15/20% se va a aplicar para el envejecimiento, etc. Por lo tanto la pérdida de carga total Ap asciende a unos 8 m.
Por lo tanto, la altura manométrica total a tener en cuenta es:

Hmt = Hg + Δp = Hgp + Hga + Δpc = 39 + 3,5 + 8 = 50,5 m total.
Podemos seleccionar la bomba NM 50/20AE (ver diagrama de la bomba)

### A) Funcionamiento con altura de aspiración




**Case B** Datos de instalación

- Q (Caudal)= 42 m³/h
- Hga (altura geométrica de aspiración) = 3,5 m
- Hgp (altura geométrica de impulsión) = 39 m
- 5 m DN 100 mm de diámetro con 1 válvula de 1 pie y válvula de compuerta de aspiración
- 70 m DN 80 mm de diámetro, con tubo de descarga 1 válvula de retención,

1 válvula de compuerta y 3 codos

**Hg** = Hgp - Hga = 39 - 3,5 = 35,5 m Altura geométrica de la instalación

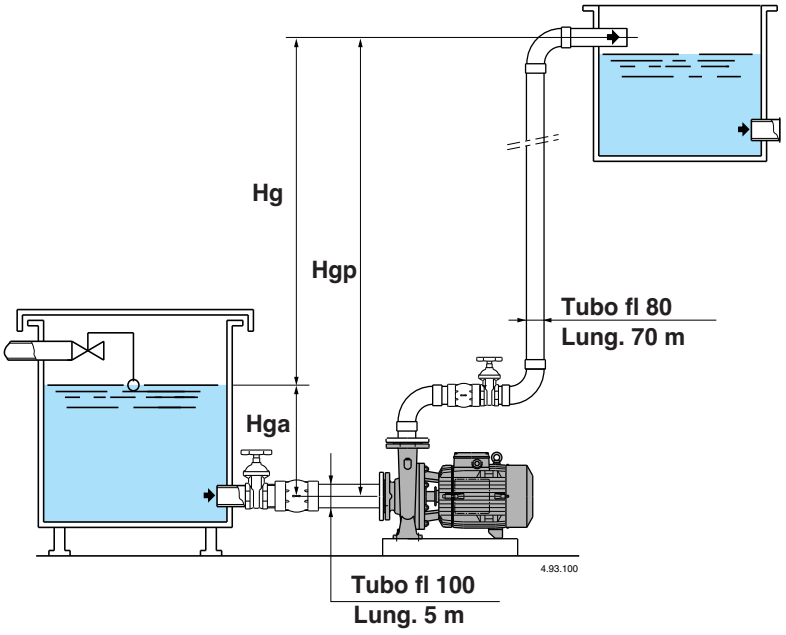
**Δpc** = pérdida de carga total

| | |
|---|---|
| Lado de aspiración: | |
| 5 m Ø 100 tubería | pc = 0,12 m |
| 1 Válvula de retención | pc = 0,5 m |
| 1 válvula de compuerta | pc = 0,05 m |
| Lado de entrega: | |
| 70 m Ø 80 tubo | pc = 5,25 m |
| 1 Válvula de retención | pc = 0,5 m |
| 1 válvula de compuerta | pc = 0,05 m |
| 3 Codos | pc = 0,09 m |
| **Total** | **Δpc = 6,5 m.** |

Teniendo en cuenta el cálculo que se ha hecho para las nuevas tuberías, un aumento del 15/20% se va a aplicar para el envejecimiento, etc.
Por lo tanto la pérdida de carga total importe ;pc a unos 8 m.
Por lo tanto, la altura manométrica total a tener en cuenta es:

Hmt = Hg + Δp = Hgp - Hga + Δpc = 39 - 3,5 + 8 = 43,5 metri totali.
Podemos seleccionar la bomba NM 50/20BE (véase el diagrama de la bomba)

### B) Funcionamiento bajo carga



## ACCESORIOS PARA EL ABASTECIMIENTO DE AGUA

**La válvula de pie con filtro** - accesorio de sellado instalado en el extremo inferior de la tubería de aspiración. Evita que el vaciado de las tuberías y de la bomba en cada parada. Siempre debe estar sumergida en el líquido a una profundidad de instalación que permite un perfecto funcionamiento sin cavitación.
También Es una buena práctica para instalar un interruptor de flotador para detener automáticamente la bomba cuando el agua pasa por debajo de un nivel determinado.

**Válvula de retención** - Debe estar instalada en la impulsión de la bomba para evitar el reflujo en caso de una parada repentina de la bomba. Se recomienda el uso del tipo dotado de un muelle de retorno interno y o con obturador, ya que esto ayudará a disminuir los golpes de ariete.

**Válvula de compuerta** - La instalación de una válvula de compuerta es muy importante. Permite que la bomba sea desmontada sin vaciar la instalación para ajustar el flujo.

### TUBERÍAS

La tubería se debe seleccionar en función de la velocidad del agua que se recomienda 1,5 metros por segundo en el lado de aspiración y 3 metros por segundo en el lado de impulsión. El cálculo de la tubería de succión debe ser revisado con cuidado a fin de evitar la pérdida de carga máxima y permitir que las bombas pierdan capacidad de succión. La tubería debe estar perfectamente sellado y sin contrapendientes hacia la bomba, para evitar el desarrollo o atrapamiento de burbujas o bolsas de aire.
Toda la tubería debe fijarse y descansar sobre soportes, y nunca sobre la bomba.

## Problemas en la bomba

| Fallos | Posibles causas |
|---|---|
| **Bomba atascada** | Esto puede ocurrir después de períodos de inactividad por oxidación interna.<br>Para desbloquear las pequeñas electrobombas monobloc use un destornillador en la muesca de la parte trasera del eje.<br>Para los tamaños más grandes, gire en el eje o el acoplamiento flexible |
| **Las bombas que no se ceban** | Bomba y / o tubos de aspiración con entrada de aire.<br>Cebado incompleto o descebado.<br>Posible aire que entra por las juntas, tapones o drenajes.<br>La válvula de pie no sumergida completamente en el líquido u obstruido por escombros.<br>Altura de aspiración muy alta en comparación con la capacidad de la bomba.<br>Sentido de giro erróneo. |
| **Caudal insuficiente** | Tuberías y accesorios de un diámetro demasiado pequeño.<br>Impulsor obstruido por objetos extraños.<br>Impulsor corroídos o rotos<br>Anillos de desgaste del impulsor y / o carcasa de la bomba desgastadas por abrasión.<br>Presencia de gas en el agua, o demasiada viscosidad del fluido en caso de diferentes fluidos de agua. |
| **Ruido y Vibraciones en la bomba** | Parte giratoria desequilibrada o rodamientos de bolas desgastados.<br>La bomba y la tubería no está correctamente fijados.<br>Demasiado bajo caudal para la bomba seleccionada<br>Funcionamiento con cavitación |
| **Motor sobrecargado** | Características de la bomba más altos que los de la planta<br>Partes fijas y rotativas en contacto debido a una falta de lubricación<br>Demasiada velocidad de rotación<br>Alimentación de red incorrectas<br>Fluido con mayor densidad que el proyecto |

## Número de arranques / hora permitidos para motores CALPEDA

| Potencia nominal del motor kW | 0,25 | 0,37 | 0,55 | 0,75 | 1,1 | 1,5 | 2,2 | 3 | 4 | 5,5 | 7,5 | 9,2 | 11 | 15 | 18,5 | 22 | 30 | 37 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Máx. número de arranques / hora Z | 59 | 51 | 44 | 38 | 35 | 30 | 25 | 23 | 20 | 18 | 16 | 15 | 14 | 12 | 11 | 10 | 9 | 9 | 8 |

El número de arranques / hora mencionada en la tabla es aproximado.
El valor máximo admisible de arranques / hora depende del modelo de bomba y se mencionan en el manual operativo original.

## Tabla n° 1
### Pérdidas de carga por rozamiento del agua en las tuberías expresadas en metros porcada 100 metros de tubería

| Tubo G | Ø mm | Q m³/h | 1 | 3 | 6 | 9 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 60 | 90 | 120 | 180 | 240 | 300 | 360 | 420 | 500 | 600 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Q l/min | 16 | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 1000 | 1500 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8333 | 10000 |
| G 1/2 | DN 15 | | 29,9 | | | | | | | | | | | | | | | | | | | | |
| | | | 1,6 | | | | | | | | | | | | | | | | | | | | |
| G 3/4 | DN 20 | | 7,4 | 56,3 | | | | | | | | | | | | | | | | | | | |
| | | | 0,9 | 2,7 | | | | | | | | | | | | | | | | | | | |
| G 1 | DN 25 | | 2,5 | 19,0 | 68,6 | | | | | | | | | | | | | | | | | | |
| | | | 0,6 | 1,7 | 3,4 | | | | | | | | | | | | | | | | | | |
| G 1 1/4 | DN 32 | | 0,7 | 5,7 | 20,6 | 43,6 | 74,4 | | | | | | | | | | | | | | | | |
| | | | 0,3 | 1,0 | 2,1 | 3,1 | 4,1 | | | | | | | | | | | | | | | | |
| G 1 1/2 | DN 40 | | 0,3 | 1,9 | 6,9 | 14,7 | 25,1 | 53,1 | 90,5 | | | | | | | | | | | | | | |
| | | | 0,2 | 0,7 | 1,3 | 2,0 | 2,7 | 4,0 | 5,3 | | | | | | | | | | | | | | |
| G 2 | DN 50 | HL | | 0,6 | 2,3 | 5,0 | 8,5 | 17,9 | 30,5 | 46,2 | 64,7 | 86,1 | | | | | | | | | | | |
| | | | | 0,4 | 0,8 | 1,3 | 1,7 | 2,5 | 3,4 | 4,2 | 5,1 | 5,9 | | | | | | | | | | | |
| G 2 1/2 | DN 65 | v | | 0,2 | 0,7 | 1,4 | 2,4 | 5,0 | 8,5 | 12,9 | 18,0 | 24,0 | 30,7 | 46,4 | | | | | | | | | |
| | | m/100m | | 0,3 | 0,5 | 0,8 | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 5,0 | | | | | | | | | |
| | DN 80 | m/s | | | | 0,5 | 0,9 | 1,8 | 3,1 | 4,7 | 6,6 | 8,7 | 11,2 | 16,9 | 35,8 | 60,9 | | | | | | | |
| | | | | | | 0,5 | 0,7 | 1,0 | 1,3 | 1,7 | 2,0 | 2,3 | 2,7 | 3,3 | 5,0 | 6,6 | | | | | | | |
| | DN 100 | | | | | | | 0,6 | 1,0 | 1,6 | 2,2 | 2,9 | 3,8 | 5,7 | 12,1 | 20,6 | 43,6 | 74,2 | | | | | |
| | | | | | | | | 0,6 | 0,8 | 1,1 | 1,3 | 1,5 | 1,7 | 2,1 | 3,2 | 4,2 | 6,4 | 8,5 | | | | | |
| | DN 125 | | | | | | | | | | 0,7 | 1,0 | 1,3 | 1,9 | 4,1 | 6,9 | 14,7 | 25,0 | 37,8 | 53,0 | 70,5 | | |
| | | | | | | | | | | | 0,8 | 1,0 | 1,1 | 1,4 | 2,0 | 2,7 | 4,1 | 5,4 | 6,8 | 8,1 | 9,5 | | |
| | DN 150 | | | | | | | | | | | | 0,5 | 0,8 | 1,7 | 2,9 | 6,0 | 10,3 | 15,6 | 21,8 | 29,0 | 40,1 | 56,2 |
| | | | | | | | | | | | | | 0,8 | 0,9 | 1,4 | 1,9 | 2,8 | 3,8 | 4,7 | 5,7 | 6,6 | 7,9 | 9,4 |
| | DN 200 | | | | | | | | | | | | | 0,2 | 0,4 | 0,7 | 1,5 | 2,5 | 3,8 | 5,4 | 7,1 | 9,9 | 13,8 |
| | | | | | | | | | | | | | | 0,5 | 0,8 | 1,1 | 1,6 | 2,1 | 2,7 | 3,2 | 3,7 | 4,4 | 5,3 |
| | DN 250 | | | | | | | | | | | | | | | 0,2 | 0,5 | 0,9 | 1,3 | 1,8 | 2,4 | 3,3 | 4,7 |
| | | | | | | | | | | | | | | | | 0,7 | 1,0 | 1,4 | 1,7 | 2,0 | 2,4 | 2,8 | 3,4 |
| | DN 300 | | | | | | | | | | | | | | | | 0,2 | 0,4 | 0,5 | 0,7 | 1,0 | 1,4 | 1,9 |

**Q** Caudal **HL** Perdida de carga en m. por cada 100 metros de tubería de acero **v** = Velocità: max 1,5 m/s in aspirazione e 3 m/s in mandata.

## Tabelle n° 2
### Pérdidas de carga en curvas, válvulas de compuerta, válvulas de fondo y válvulas de retención en cm

| Velocidad del agua | Curvas de angulo en vivo Curve ad angolo vivo | | | | | Curvas de esquinas redondeadas α = 90 | | | | | Válvulas de compuerta normales | Válvulas de fondo | Válvulas de retención |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | α = 30 | α = 40 | α = 60 | α = 80 | α = 90 | d/R = 0,4 | d/R = 0,6 | d/R = 0,8 | d/R = 1 | d/R = 1,5 | | | |
| m/sec. | | | | | | | | | | | | | |
| 0,4 | 0,43 | 0,52 | 0,71 | 1,0 | 1,2 | 0,11 | 0,13 | 0,16 | 0,23 | 0,43 | 0,23 | 32 | 31 |
| 0,5 | 0,67 | 0,81 | 1,1 | 1,6 | 1,9 | 0,18 | 0,21 | 0,26 | 0,37 | 0,67 | 0,37 | 33 | 32 |
| 0,6 | 0,97 | 1,2 | 1,6 | 2,3 | 2,8 | 0,25 | 0,29 | 0,36 | 0,52 | 0,97 | 0,52 | 34 | 32 |
| 0,7 | 1,35 | 1,65 | 2,2 | 3,2 | 3,9 | 0,34 | 0,40 | 0,48 | 0,70 | 1,35 | 0,70 | 35 | 32 |
| 0,8 | 1,7 | 2,1 | 2,8 | 4,0 | 4,8 | 0,45 | 0,53 | 0,64 | 0,93 | 1,7 | 0,95 | 36 | 33 |
| 0,9 | 2,2 | 2,7 | 3,6 | 5,2 | 6,2 | 0,57 | 0,67 | 0,82 | 1,18 | 2,2 | 1,20 | 37 | 34 |
| 1,0 | 2,7 | 3,3 | 4,5 | 6,4 | 7,6 | 0,7 | 0,82 | 1,0 | 1,45 | 2,7 | 1,45 | 38 | 35 |
| 1,5 | 6,0 | 7,3 | 10 | 14 | 17 | 1,6 | 1,9 | 2,3 | 3,3 | 6 | 3,3 | 47 | 40 |
| 2,0 | 11 | 14 | 18 | 26 | 31 | 2,8 | 3,3 | 4,0 | 5,8 | 11 | 5,8 | 61 | 48 |
| 2,5 | 17 | 21 | 28 | 40 | 48 | 4,4 | 5,2 | 6,3 | 9,1 | 17 | 9,1 | 78 | 58 |
| 3,0 | 25 | 30 | 41 | 60 | 70 | 6,3 | 7,4 | 9 | 13 | 25 | 13 | 100 | 71 |
| 3,5 | 33 | 40 | 55 | 78 | 93 | 8,5 | 10 | 12 | 18 | 33 | 18 | 123 | 85 |
| 4,0 | 43 | 52 | 70 | 100 | 120 | 11 | 13 | 16 | 23 | 42 | 23 | 150 | 100 |
| 4,5 | 55 | 67 | 90 | 130 | 160 | 14 | 21 | 26 | 37 | 55 | 37 | 190 | 120 |
| 5,0 | 67 | 82 | 110 | 160 | 190 | 18 | 29 | 36 | 52 | 67 | 52 | 220 | 140 |

## Tabla n° 3
## Variación de las características manométricas de aspiración, en función de la temperatura (de 0º a 100ºC) con agua a nivel de mar.

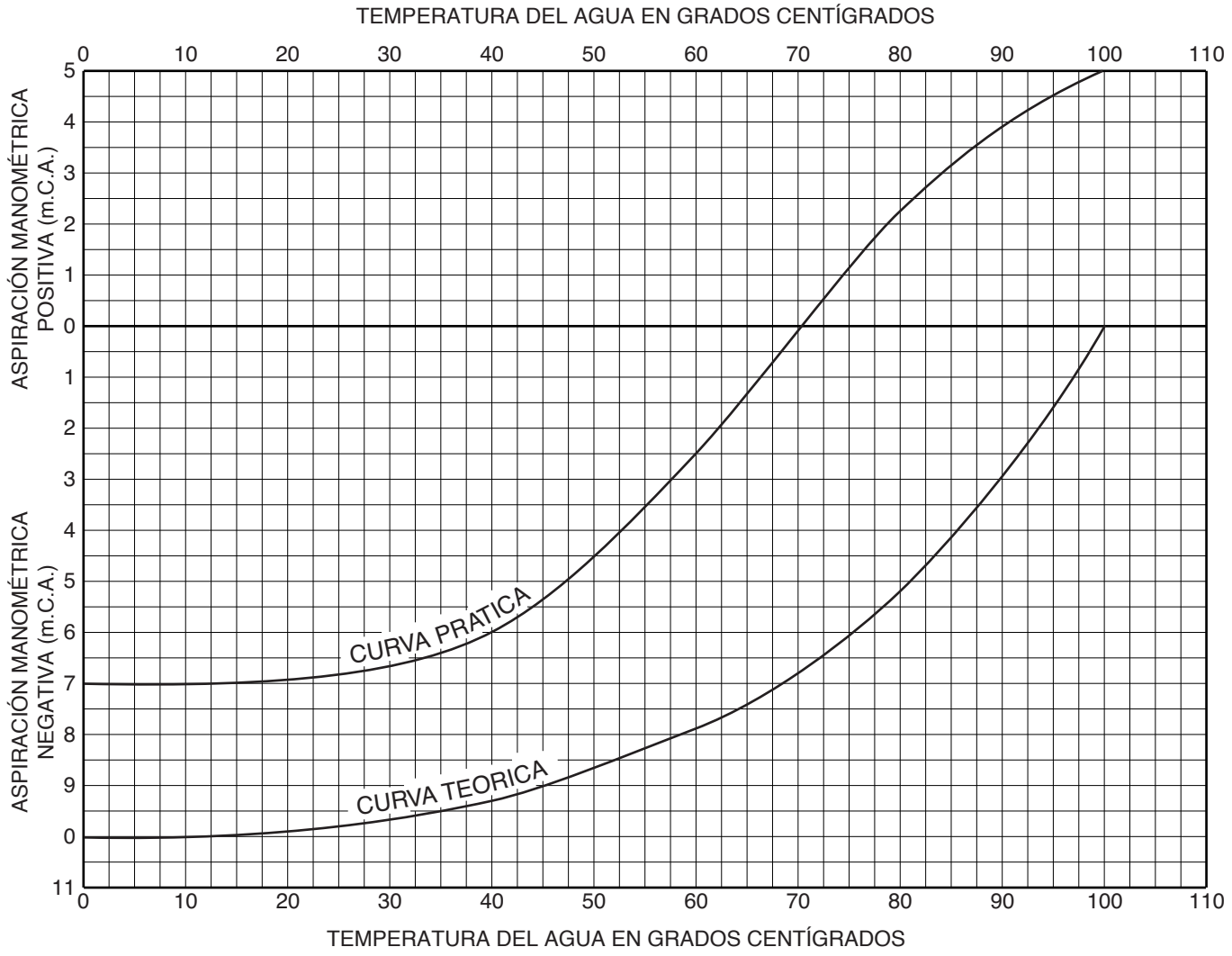



Diagramma referido a una bomba con altura manométrica en aspiración de 7 m C.A. a 20°C

# EFFICIENCY OF ELECTRIC MOTORS - EFICACIA DE LOS MOTORES ELÉCTRICOS

Summary table of the levels of efficiency as expected in IEC 60034-30
Cuadro resumen de los niveles de eficiencia como se esperaba en la IEC 60034-30

## 2 pole -polos

| Rated power output Potencia nominal kW | Efficiency - Eficiencia % | | |
|---|---|---|---|
| | IE1 | IE2 | IE3 |
| 0,75 | 77,0 | 75,5 | 77,0 |
| 1,1 | 78,5 | 82,5 | 84,0 |
| 1,5 | 81,0 | 84,0 | 85,5 |
| 2,2 | 81,5 | 85,5 | 86,5 |
| 3 | 84,5 | 87,5 | 88,5 |
| 4 | 84,5 | 87,5 | 88,5 |
| 5,5 | 86,0 | 88,5 | 89,0 |
| 7,5 | 87,5 | 89,5 | 90,2 |
| 9,2 | 87,5 | 89,5 | 90,2 |
| 11 | 87,5 | 90,2 | 91,0 |
| 15 | 88,5 | 90,2 | 91,0 |
| 18,5 | 89,5 | 91,0 | 91,7 |
| 22 | 89,5 | 91,0 | 91,7 |
| 30 | 90,2 | 91,7 | 92,4 |
| 37 | 91,5 | 92,4 | 93,0 |
| 45 | 91,7 | 93,0 | 93,6 |
| 55 | 92,4 | 93,0 | 93,6 |
| 75 | 93,0 | 93,6 | 94,1 |
| 90 | 93,0 | 94,5 | 95,0 |

## 4 pole - polos

| Rated power output Potencia nominal kW | Efficiency - Eficiencia % | | |
|---|---|---|---|
| | IE1 | IE2 | IE3 |
| 0,75 | 78,0 | 82,5 | 83,5 |
| 1,1 | 79,0 | 84,0 | 86,5 |
| 1,5 | 81,5 | 84,0 | 86,5 |
| 2,2 | 83,0 | 87,5 | 89,5 |
| 3 | 85,0 | 87,5 | 89,5 |
| 4 | 85,0 | 87,5 | 89,5 |
| 5,5 | 87,0 | 89,5 | 91,7 |
| 7,5 | 87,5 | 89,5 | 91,7 |
| 9,2 | 87,5 | 89,5 | 91,7 |
| 11 | 88,5 | 91,0 | 92,4 |
| 15 | 89,5 | 91,0 | 93,0 |
| 18,5 | 90,5 | 92,4 | 93,6 |
| 22 | 91,0 | 92,4 | 93,6 |
| 30 | 91,7 | 93,0 | 94,1 |
| 37 | 92,4 | 93,0 | 94,5 |
| 45 | 93,0 | 93,6 | 95,0 |
| 55 | 93,0 | 94,1 | 95,4 |
| 75 | 93,2 | 94,5 | 95,4 |
| 90 | 93,2 | 94,5 | 95,4 |

## Voltage in the world - Tensión de alimentación en el mundo

| | Country<br>País | Domestic single-phase (V)<br>Monofásica doméstica (V) | Industrial three-phase (V)<br>Trifásica Industrial (V) |
|---|---|---|---|
| | Antigua and Barbuda | 240, 120 | 230/400, 120/208 |
| | Aruba | 115 | 115/230 |
| | Bahamas | 120/240 | 240, 120/240, 120/208 |
| | Belize | 110/220 | 240, 440 |
| | Brazil | 220, 127 | 220/380, 127/220 |
| | Canada | 120/240 | 347/600, 600, 480, 240, 120/240, 120/208 |
| | Colombia | 120/240, 120 | 120/240, 120 |
| | Costa Rica | 120/240 | 120/240 |
| | Cuba | 110/220 | 110/220 |
| | Dominican Republic | 110/220 | 110/220, 277/480 |
| | Ecuador | 120 | 120/240, 120/208, 127/220 |
| | El Salvador | 115 | 115/230 |
| | Guam | 110 | 110/220, 120/208 |
| | Guatemala | 120 | 120/240, 110/220 |
| | Haiti | 110 | 120/208 |
| | Honduras | 110 | 110/220 |
| | Korea (South) | 110/220, 120/240, 220 | 120/208, 220/380 |
| | Mexico | 127/220, 220, 120 | 277/480, 127/220, 220, 120 |
| | Philippines (Rep of the) | 110/220 | 440, 110/220 |
| | Panama | 110-120 | 115/230, 120/240, 126/208 |
| | Peru | 110/220 | 220/380 |
| | Puerto Rico | 120 | 120/240 |
| | Saudi Arabia | 127/220 | 127/220, 220/380 |
| | United States of America | 115/230, 120/230, 120/208 | 575, 460, 240, 265/460, 120/240, 120/208 |
| | Suriname | 115/230, 127/220 | 115/230 |
| | Taiwan | 110 | 110/220 |
| | Tahiti | 220 | 127/220 |
| | Trinidad & Tobago | 115 | 115/230, 230/400 |
| | Venezuela | 120 | 120/240 |
| | Virgin Islands | 120 | 120/240 |

# Catalogue - Catalogo

# *60Hz*

November - Noviembre 2023 C139-12/1

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