



Designation

NCE(D) H 25 - 100 / 180

Series _____
 Twin pumps version _____
 Version _____
 DN ports in mm _____
 Max. head in dm _____
 connection size mm _____

Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

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, 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
- Ethernet
- analog input 0-10V
- remote on/off input
- output relay

Features

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.

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 proportionally to the current flow.

The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains 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.

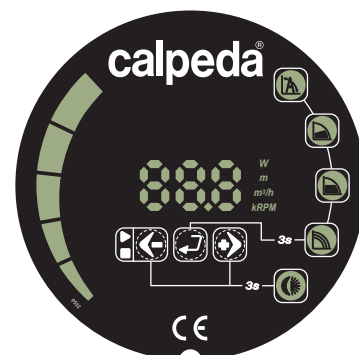


Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches 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.



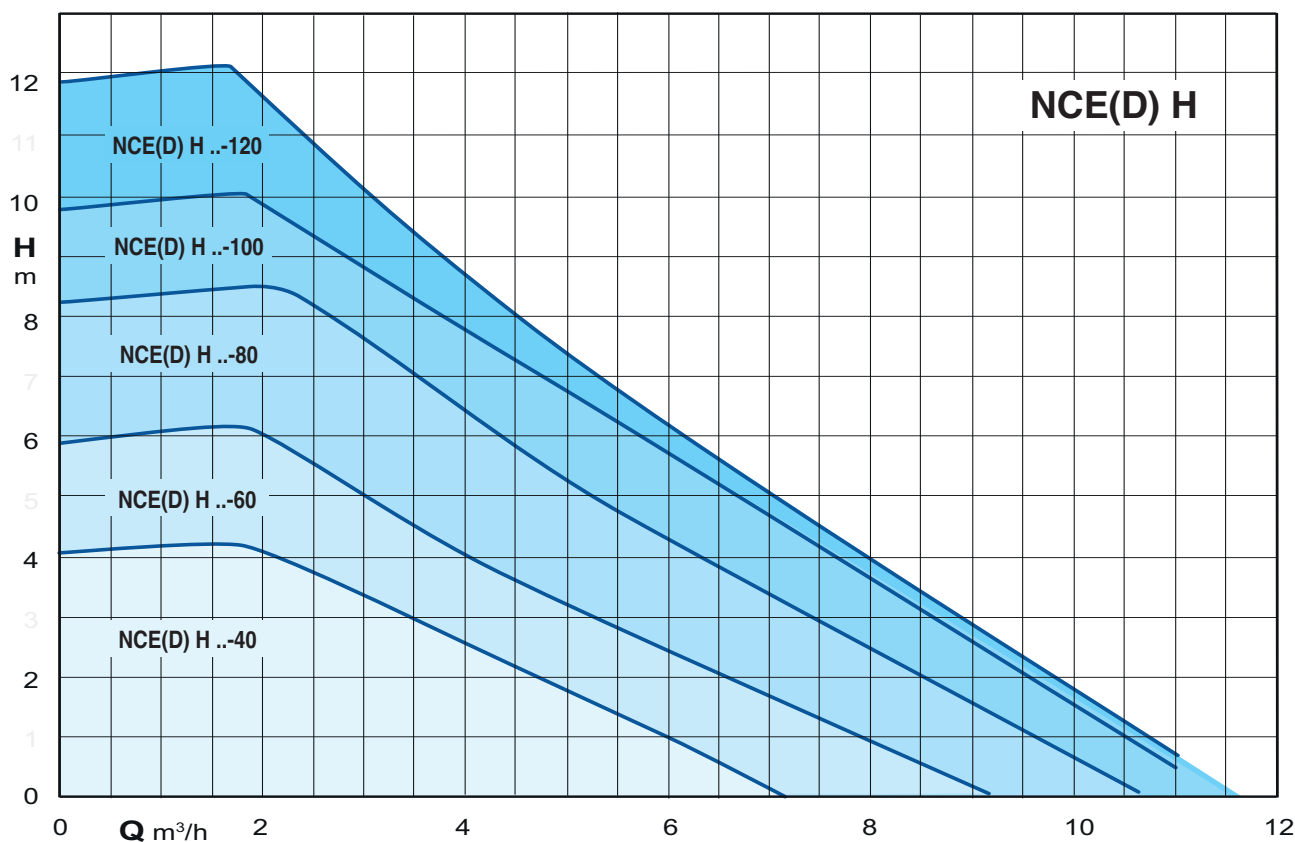
Operating mode-control panel

NCE(D) H could works in:

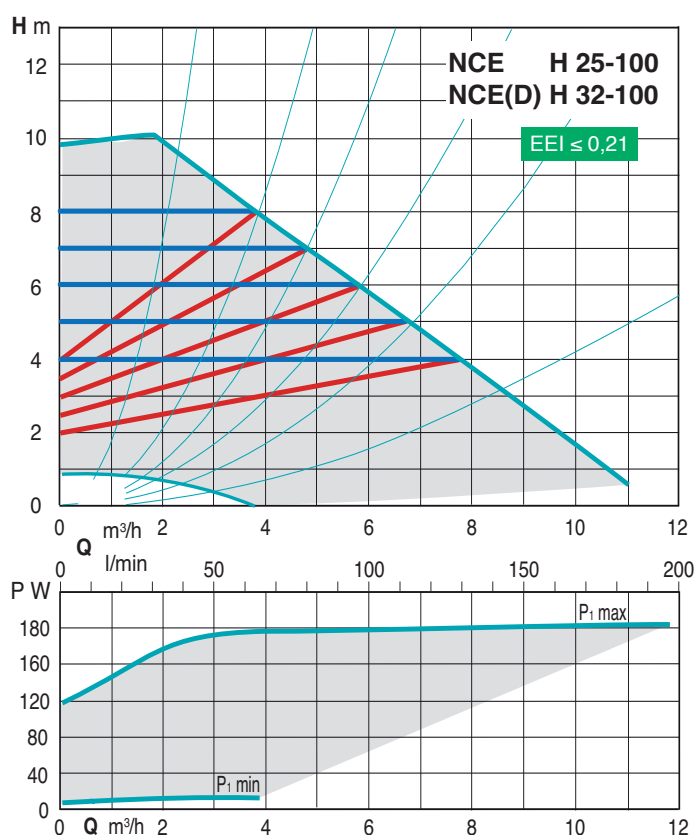
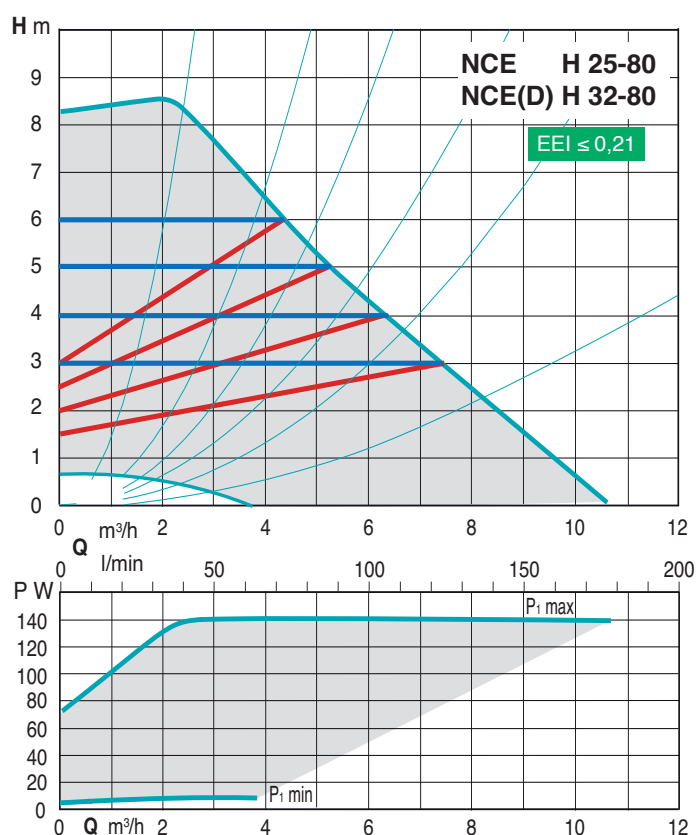
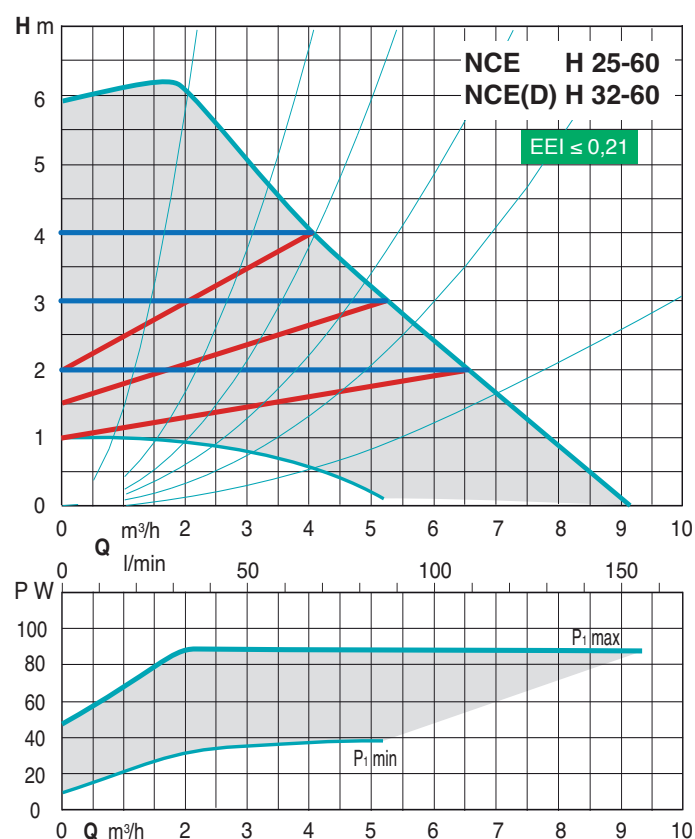
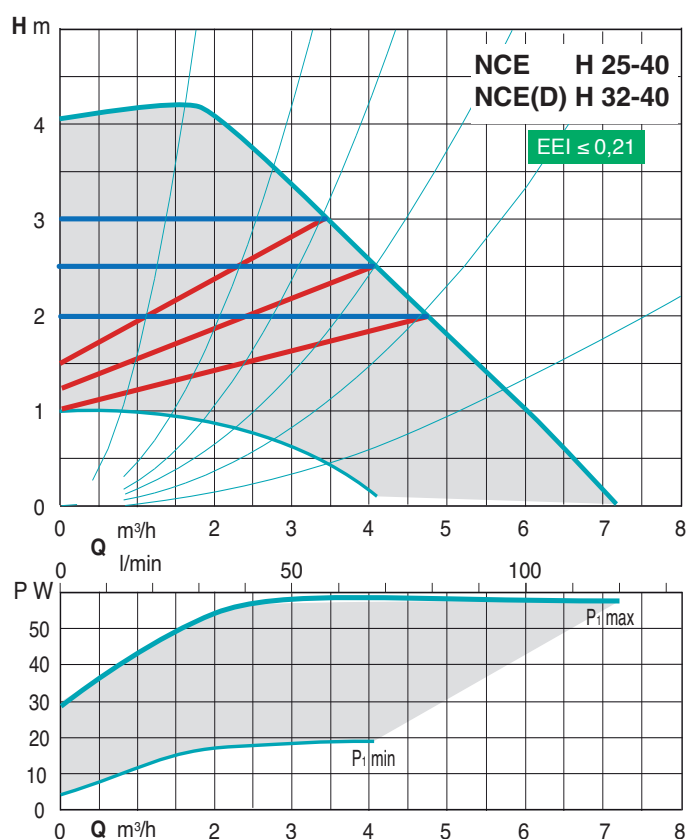
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

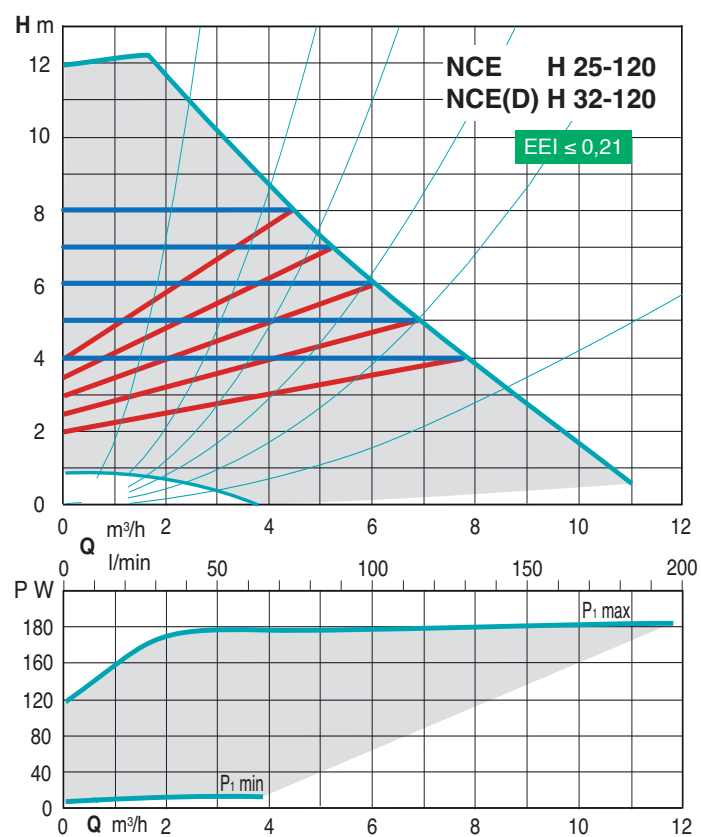
Coverage chart



Characteristic curves

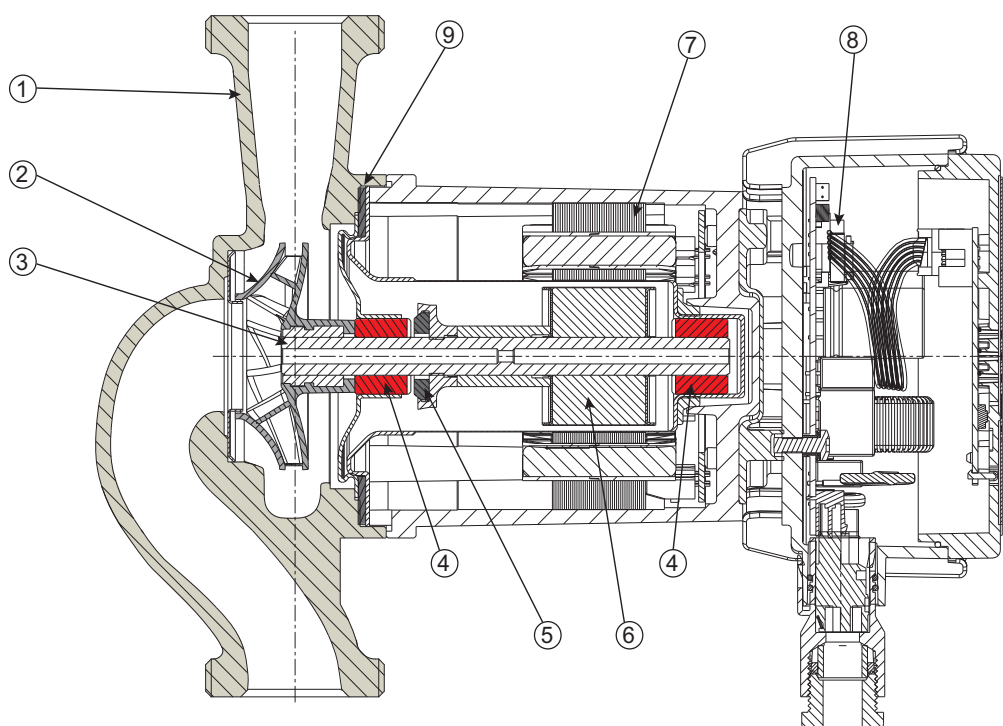


Characteristic curves

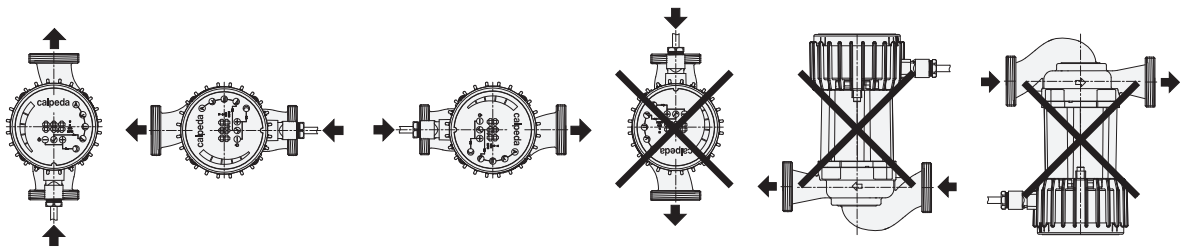


Materials

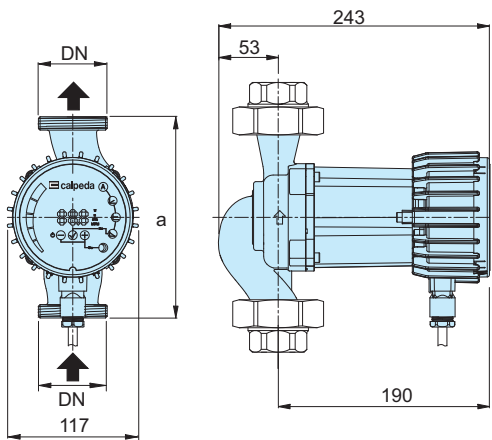
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations



Dimensions and weights

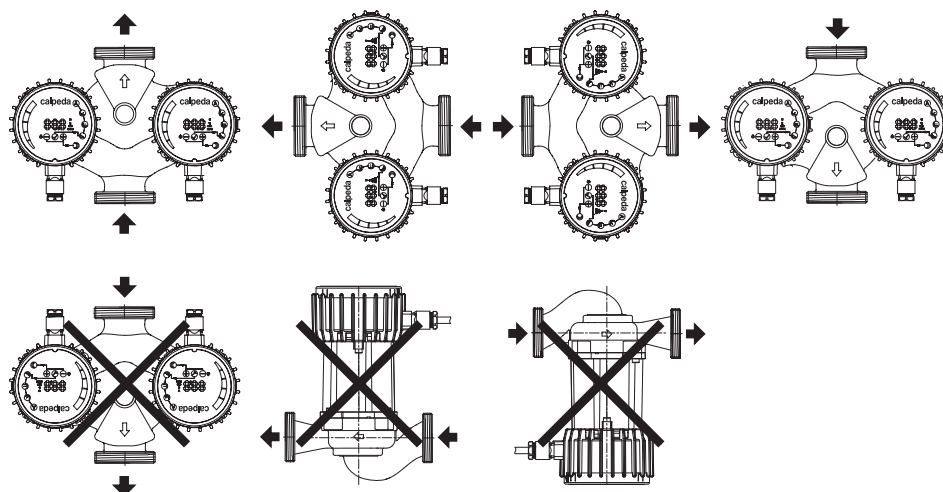


TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 25-40/180 NCE H 32-40/180	G 1 1/2 G 2	4	5	0,1	0,5	10	60	180	4 4,1
NCE H 25-60/180 NCE H 32-60/180	G 1 1/2 G 2	6	7,5	0,1	0,75	10	90	180	4 4,1
NCE H 25-80/180 NCE H 32-80/180	G 1 1/2 G 2	8	9	0,1	1,15	10	140	180	4 4,1
NCE H 25-100/180 NCE H 32-100/180	G 1 1/2 G 2	10	11	0,1	1,5	10	180	180	4 4,1
NCE H 25-120/180 NCE H 32-120/180	G 1 1/2 G 2	12	15	0,1	1,5	10	180	180	4 4,1

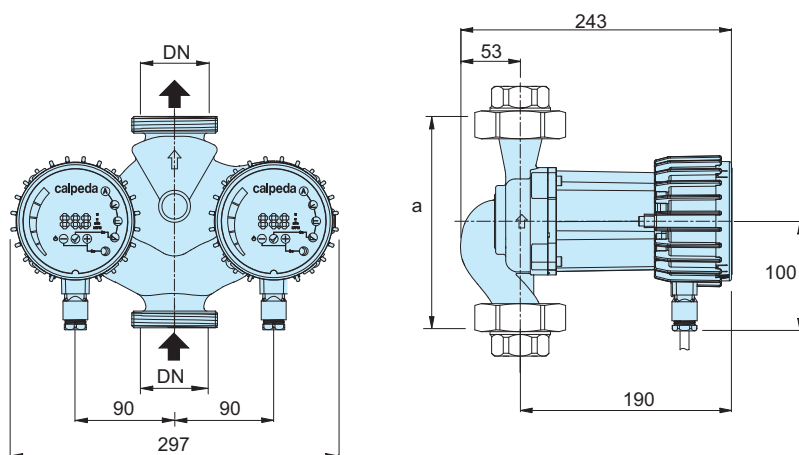
Unions (on request)

	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

Examples of installations

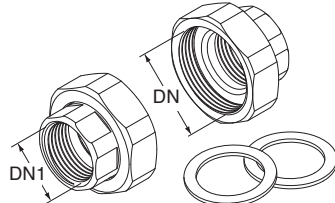


Dimensions and weights



TYPE	DN	H	Q	1~ 230 V		P ₁		a	kg
	DN	m	m ³ /h	A min	A max	W min	W max	mm	
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)



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 Energy saving circulating pumps with flanges



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 _____

Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter.

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, EN 61000-3-2.
- Connections: Flanges according to PN 6/10, EN 1092-2, DN 32, 40, 50.
- The benchmark for most efficient circulators is $EEL \leq 0,20$.

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. F):

- Modbus
- Ethernet
- analog input 0-10V
- remote on/off input
- output relay

Features

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.

NCE(D) H.F Energy saving circulating pumps with flanges



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 proportionally to the current flow. The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains 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.

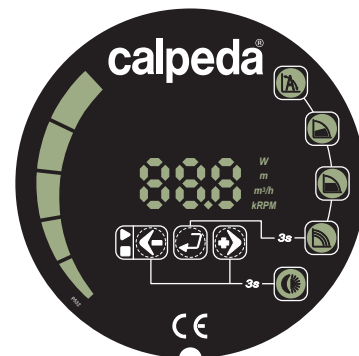


Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches 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.



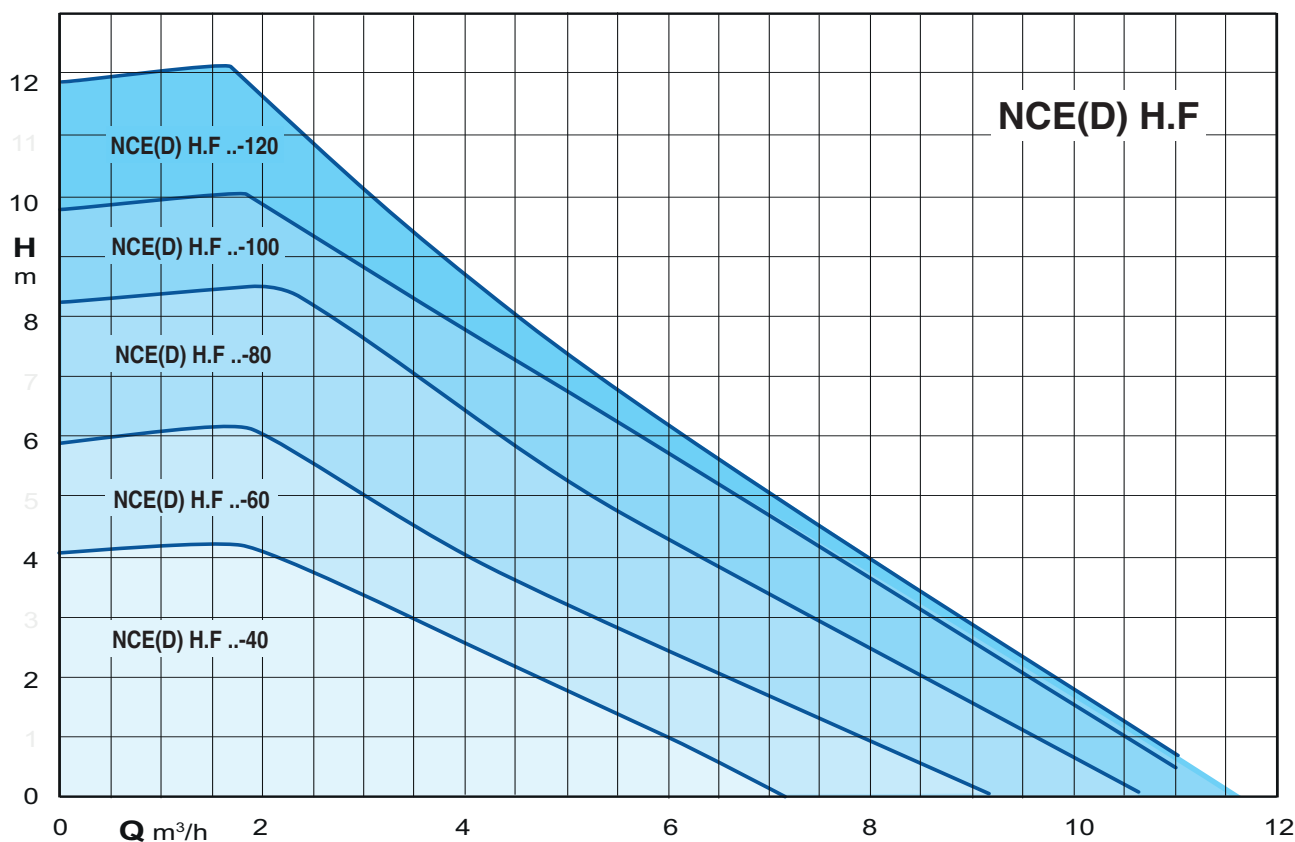
Operating mode-control panel

NCE(D) 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.

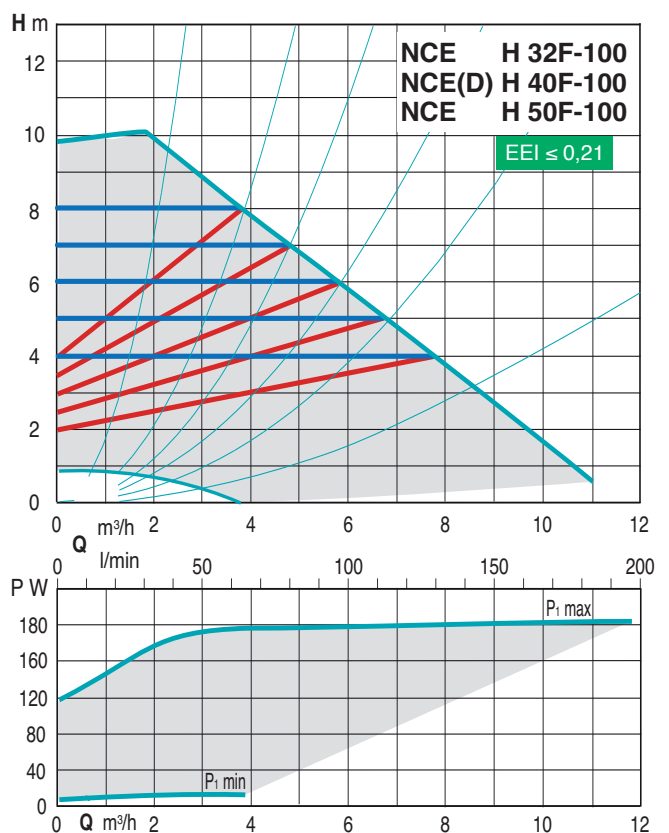
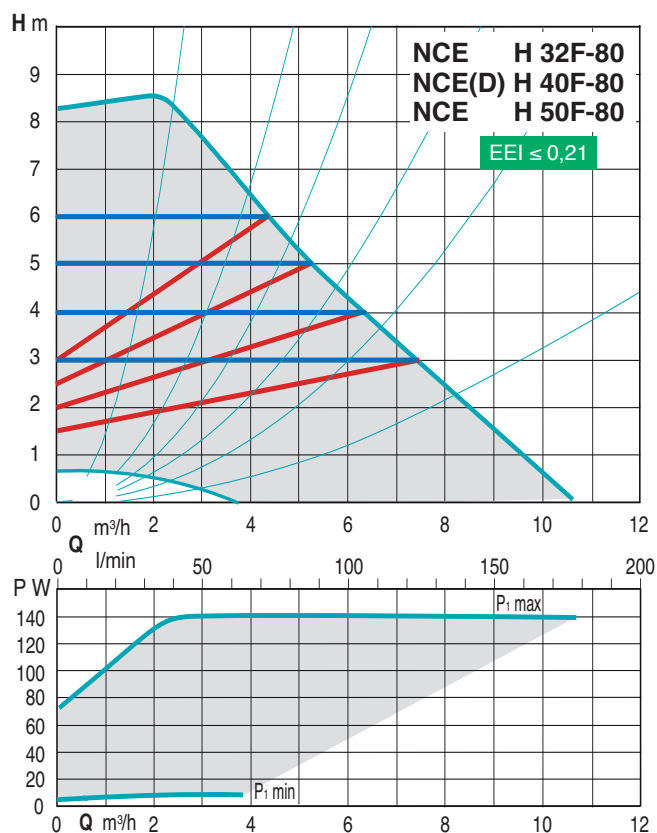
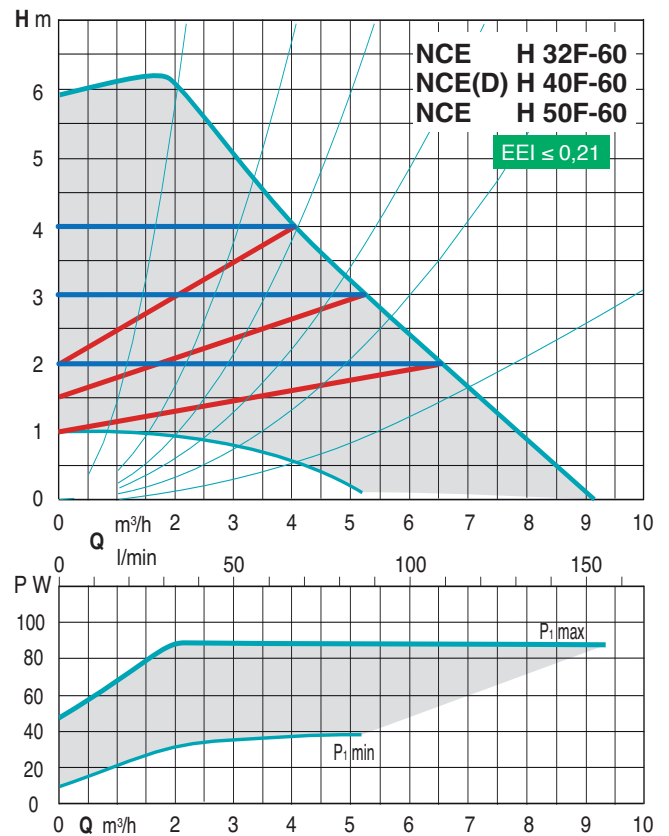
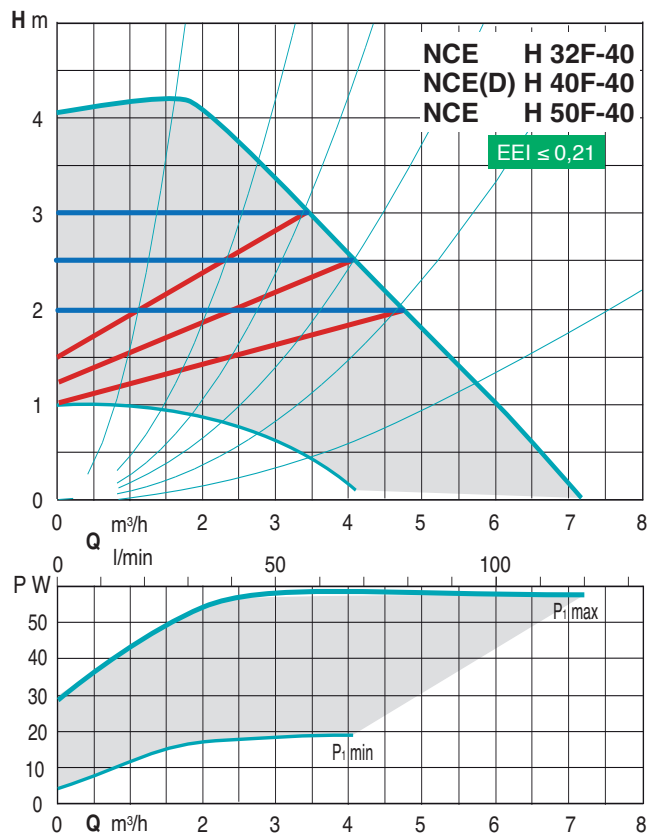
Coverage chart



NCE(D) H.F Energy saving circulating pumps with flanges



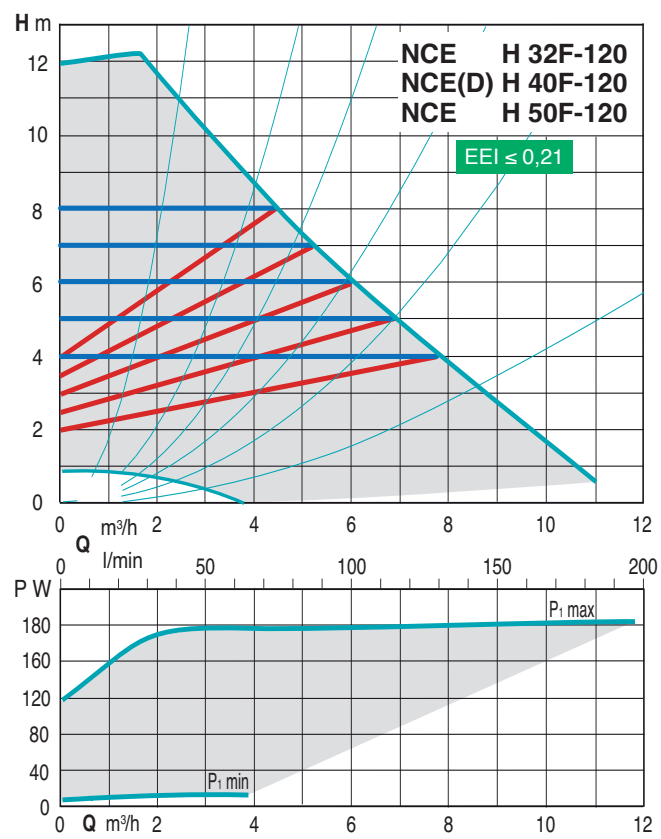
Characteristic curves



NCE(D) H.F Energy saving circulating pumps with flanges



Characteristic curves

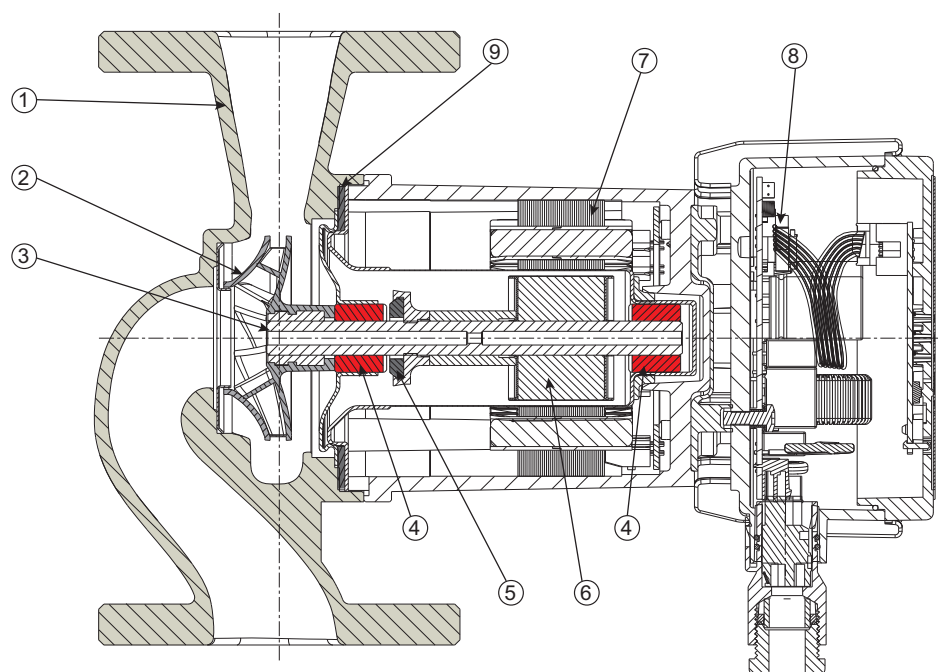


NCE(D) H.F Energy saving circulating pumps with flanges



Materials

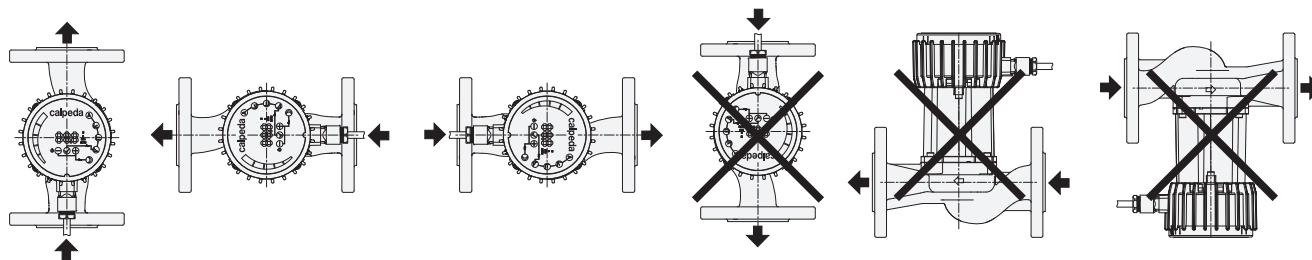
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



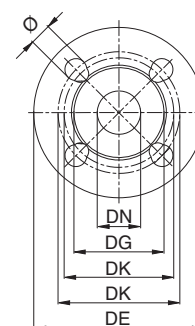
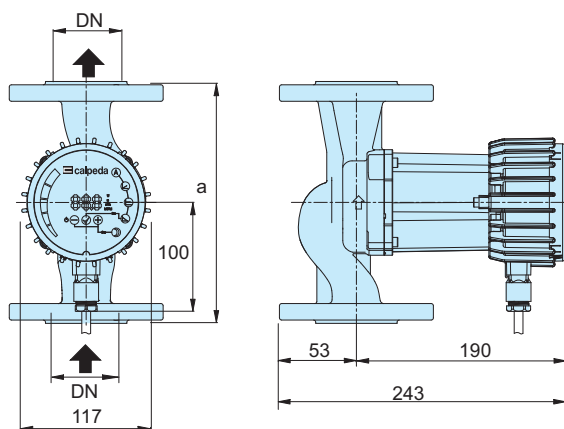
NCE(D) H.F Energy saving circulating pumps with flanges



Examples of installations



Dimensions and weights



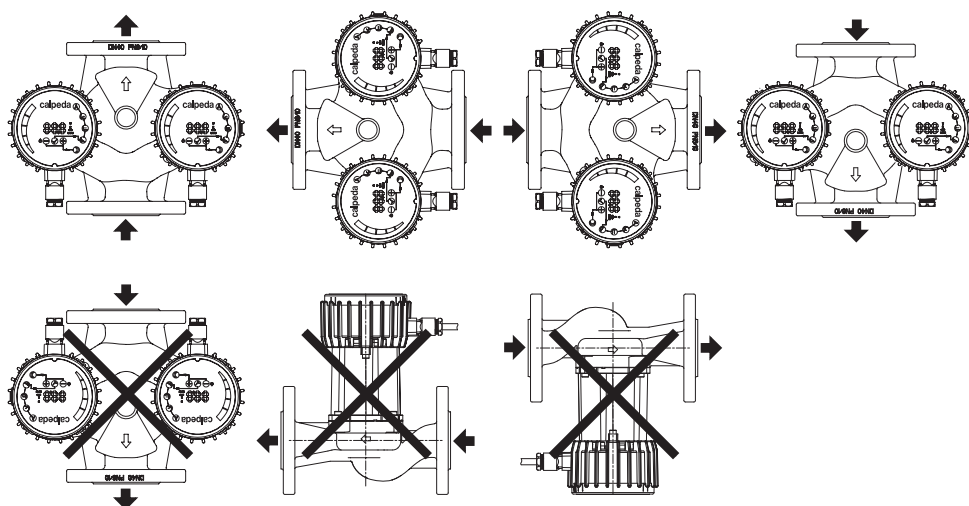
TYPE	DN	H m	Q m ³ /h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
NCE H 32F-40/220	32	4	5	0,1	0,5	10	60	220	7,4
NCE H 40F-40/220	40							220	8,5
NCE H 50F-40/240	50							240	9,8
NCE H 32F-60/220	32	5	7,5	0,1	0,75	10	90	220	7,4
NCE H 40F-60/220	40							220	8,5
NCE H 50F-60/240	50							240	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

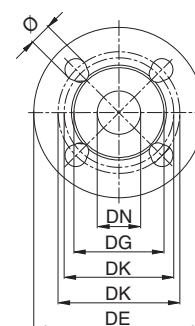
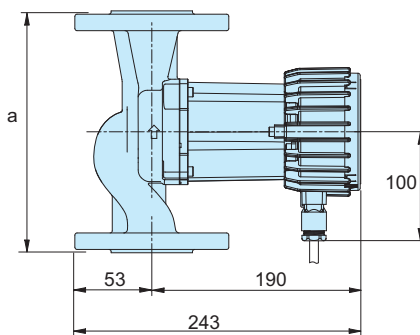
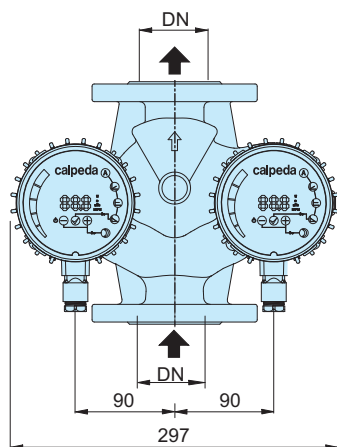
NCE(D) H.F Energy saving circulating pumps with flanges



Examples of installations



Dimensions and weights



TYPE	DN	H m	Q m³/h	1~ 230 V		P ₁		a mm	kg
				A min	A max	W min	W max		
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

Energy saving twin circulating pumps with flanges



APPLIES TO
EUROPEAN
DIRECTIVE
FOR ENERGY
RELATED
PRODUCTS



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 _____

Features

Smart pump

NCE(D) HQ.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.

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 $EEL \leq 0,20$.

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.

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 proportionally to the current flow.

The pressure value can be adjusted with the + and - buttons.



Constant pressure mode:

The circulator maintains 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.

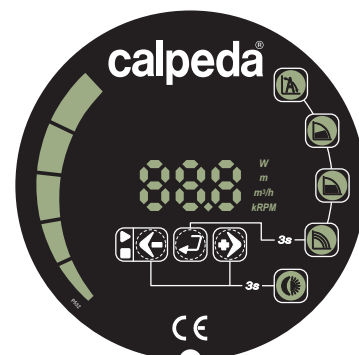


Night mode:

When the liquid temperature fall by 15-20°C the pump automatically switches 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.



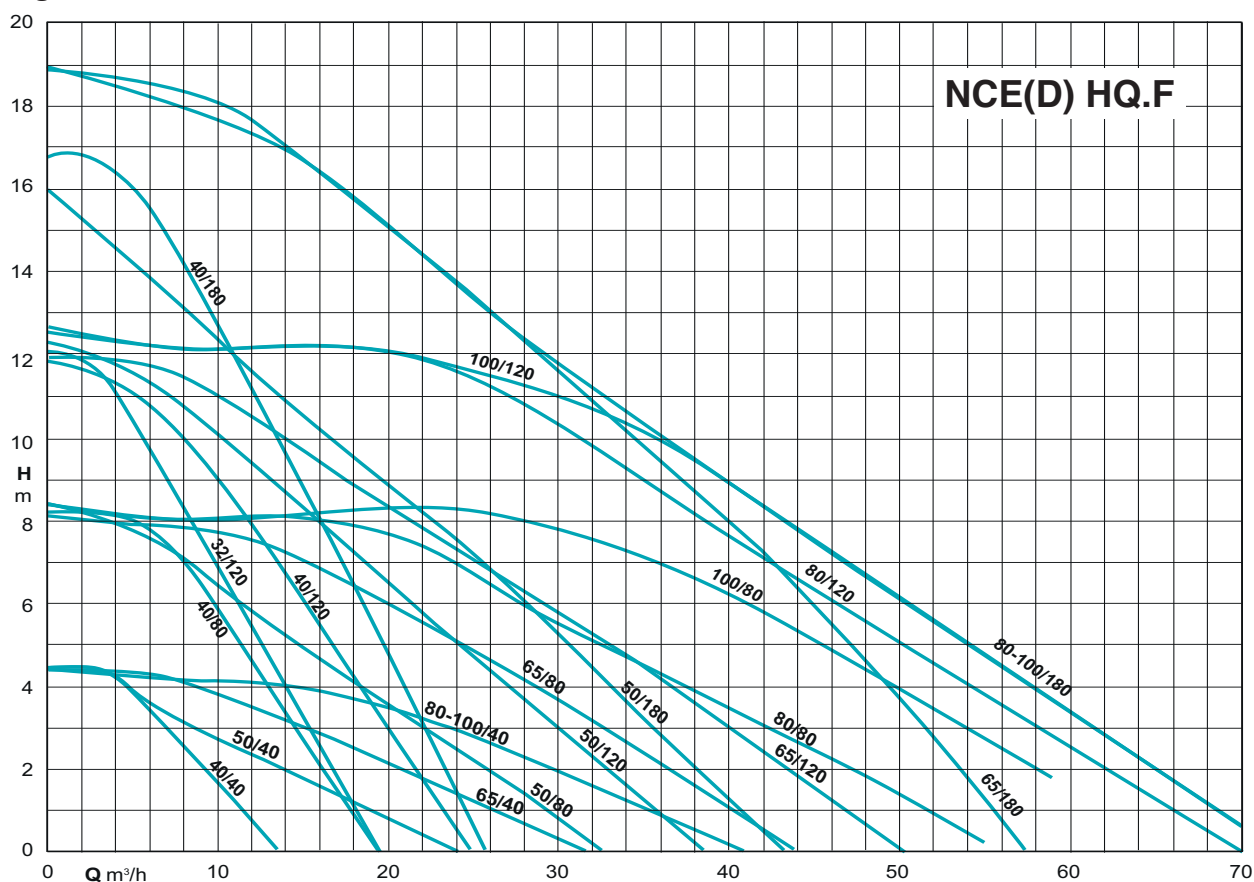
Operating mode-control panel

NCE HQ.F could works in:

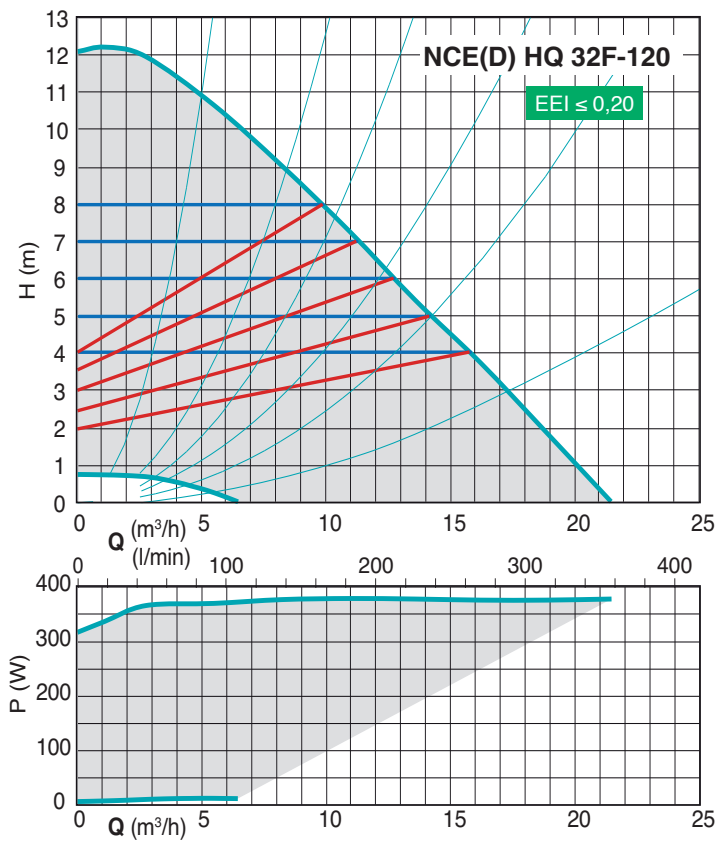
- automatic mode
- proportional pressure mode
- constant pressure mode
- fixed speed mode
- night mode

The night mode could be selected with any operating mode.

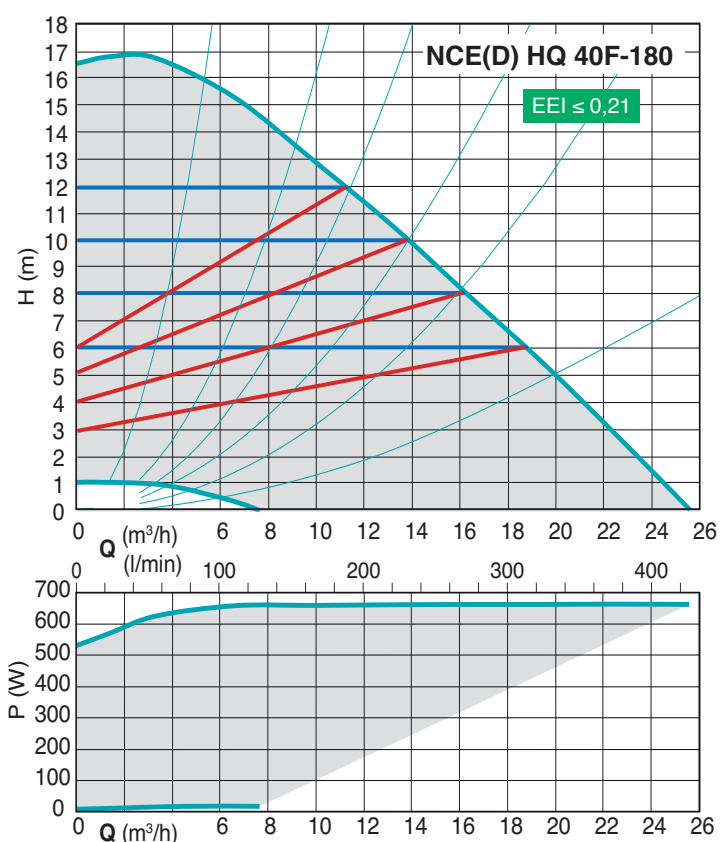
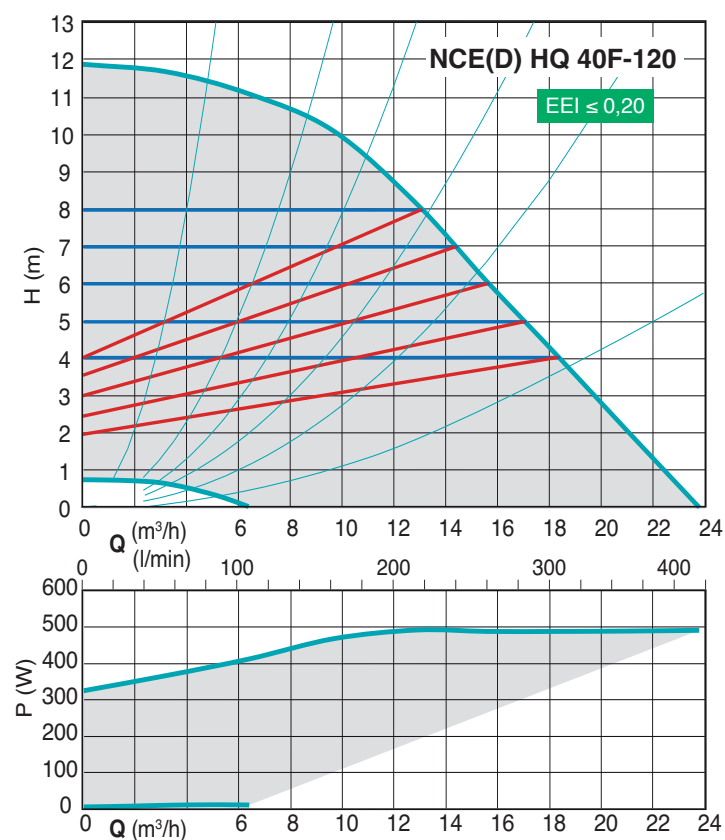
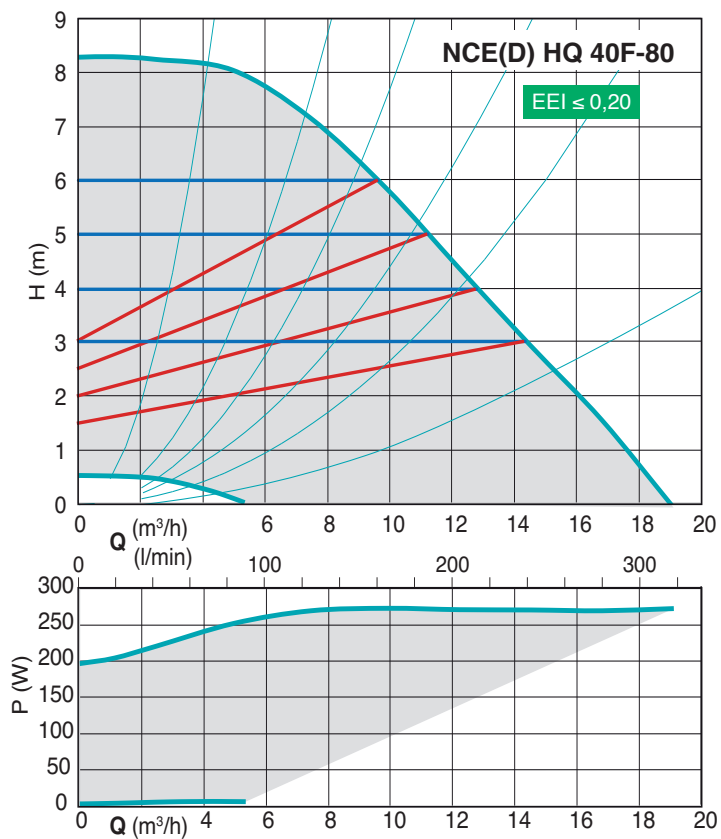
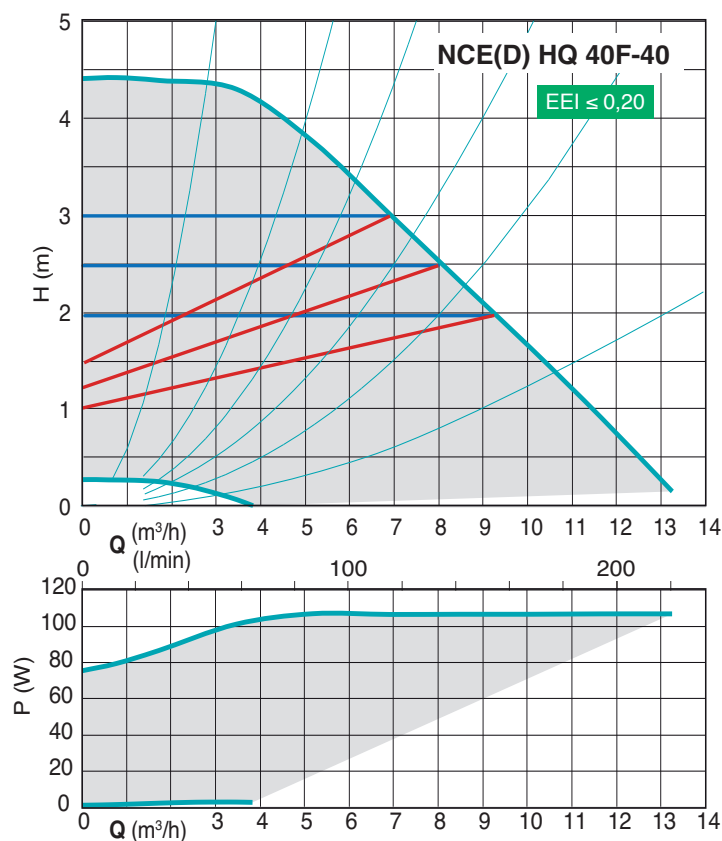
Coverage chart



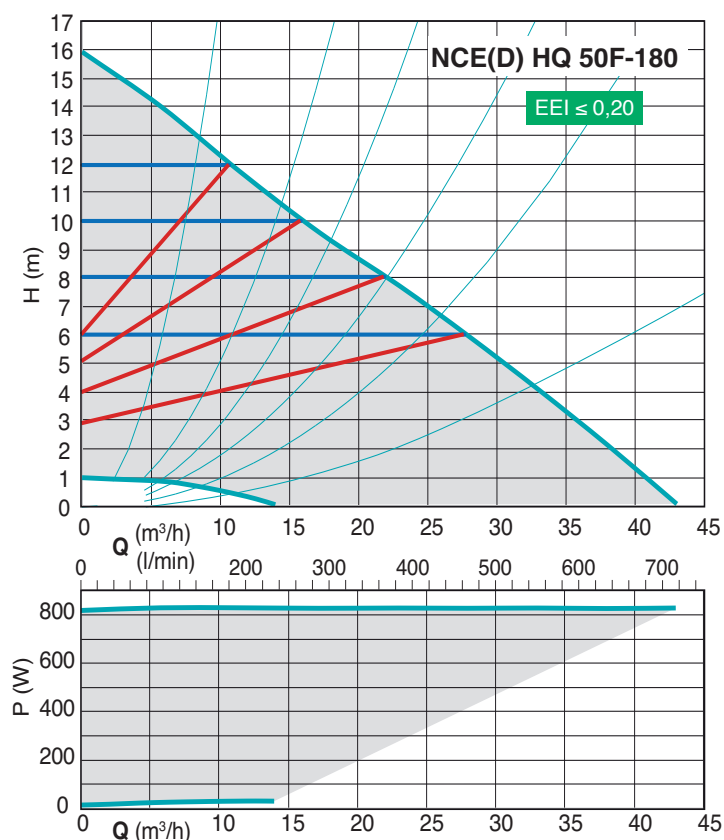
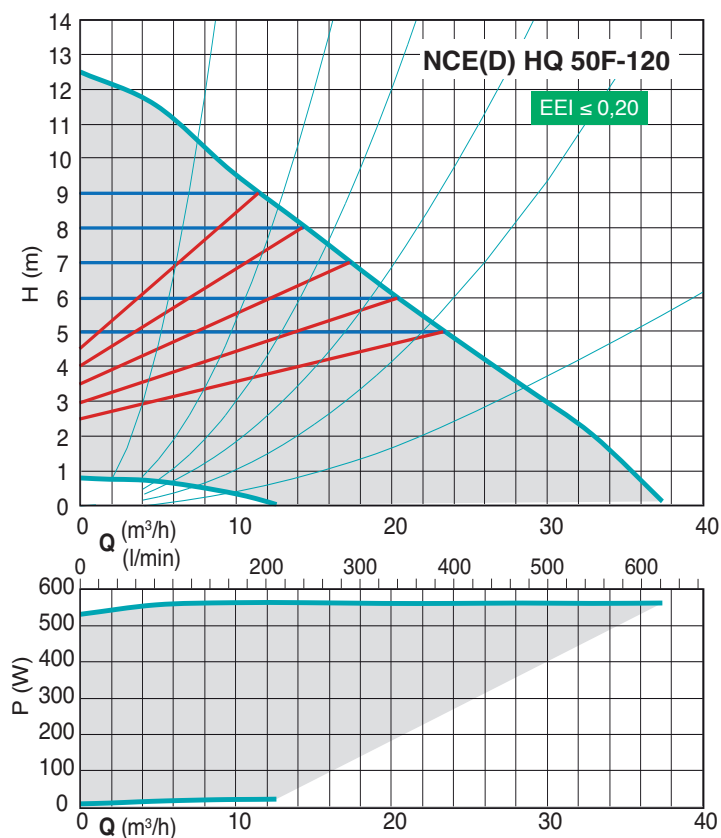
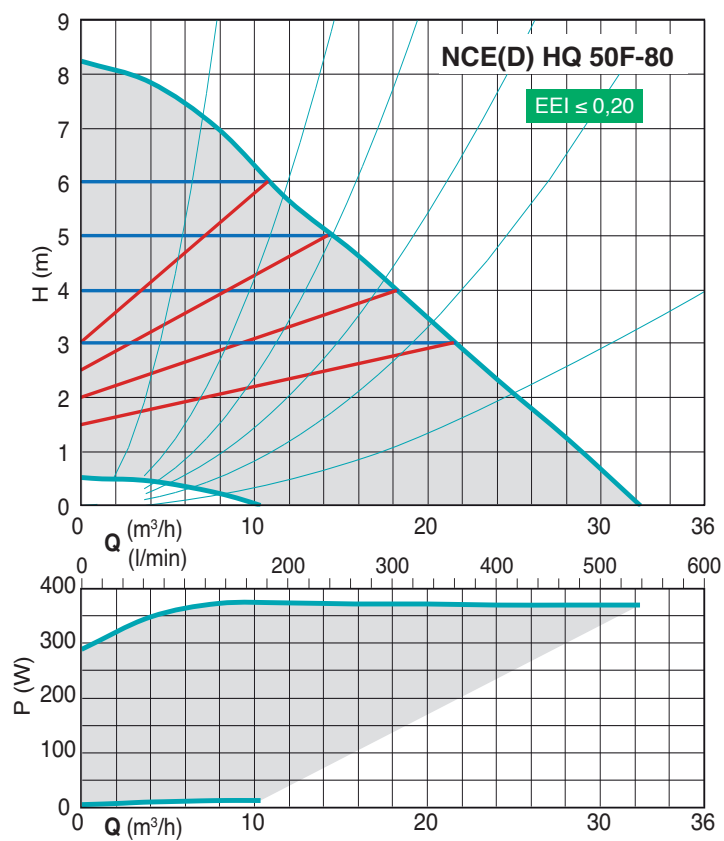
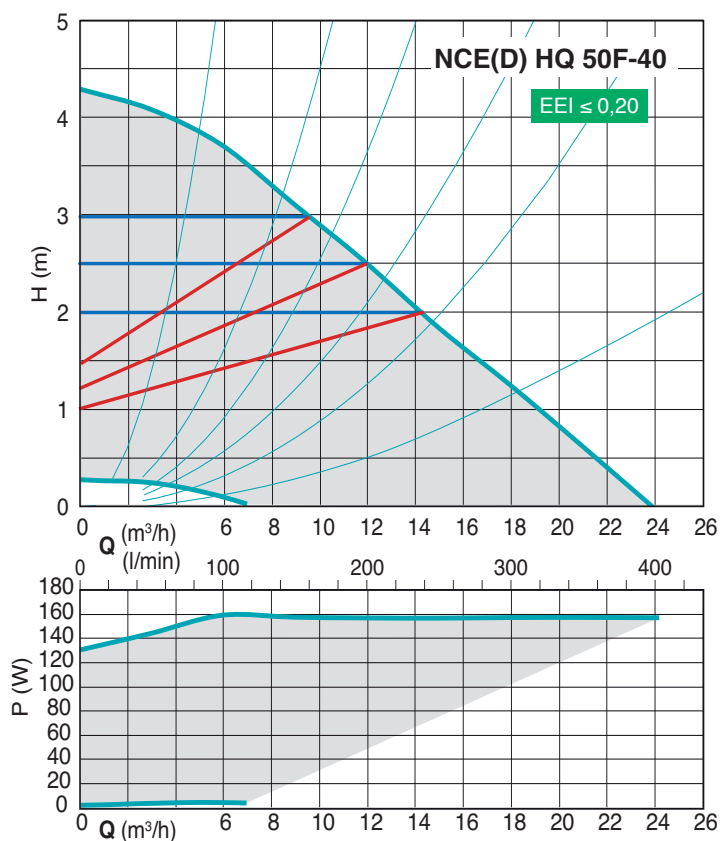
Characteristic curves



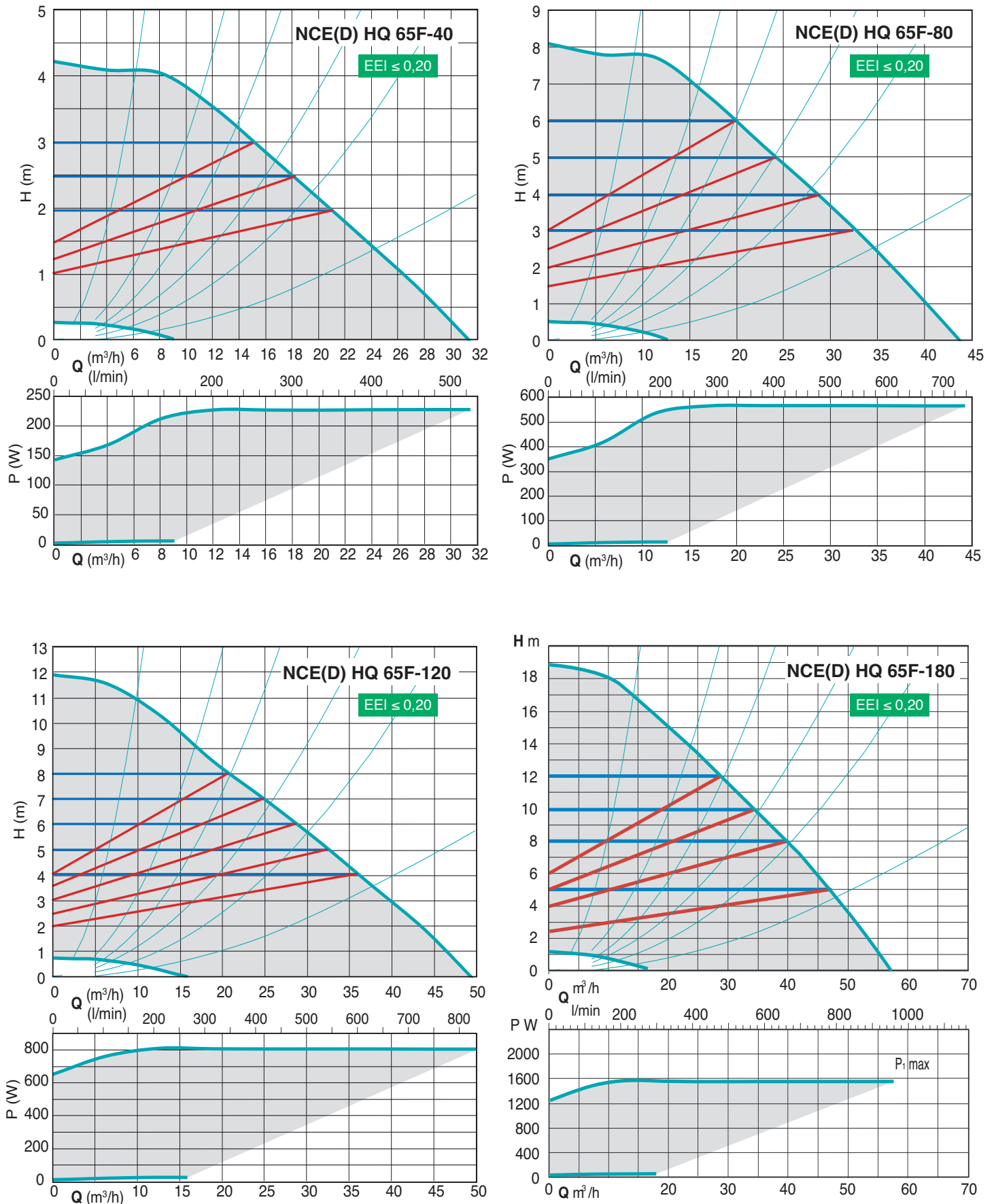
Characteristic curves



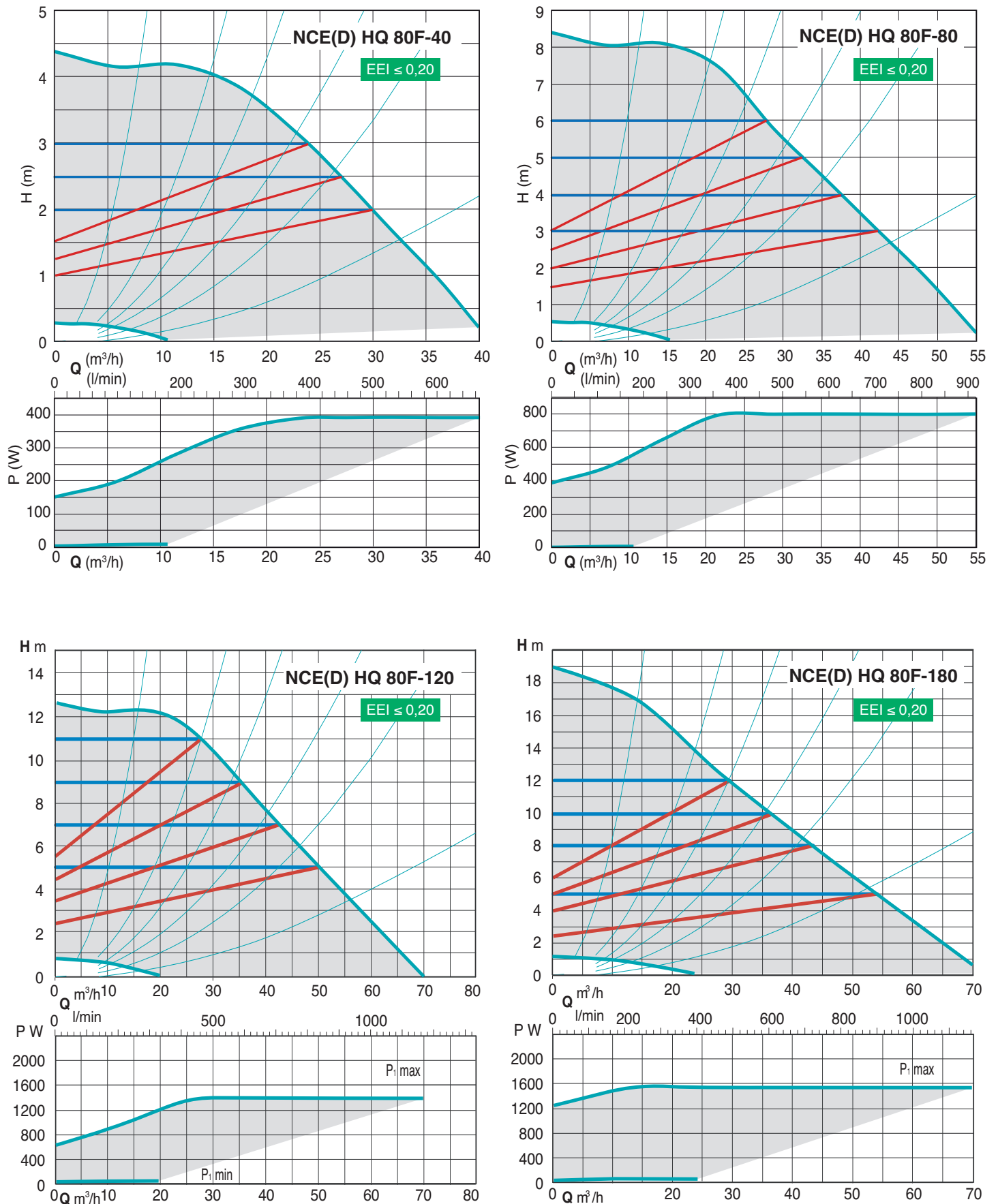
Characteristic curves



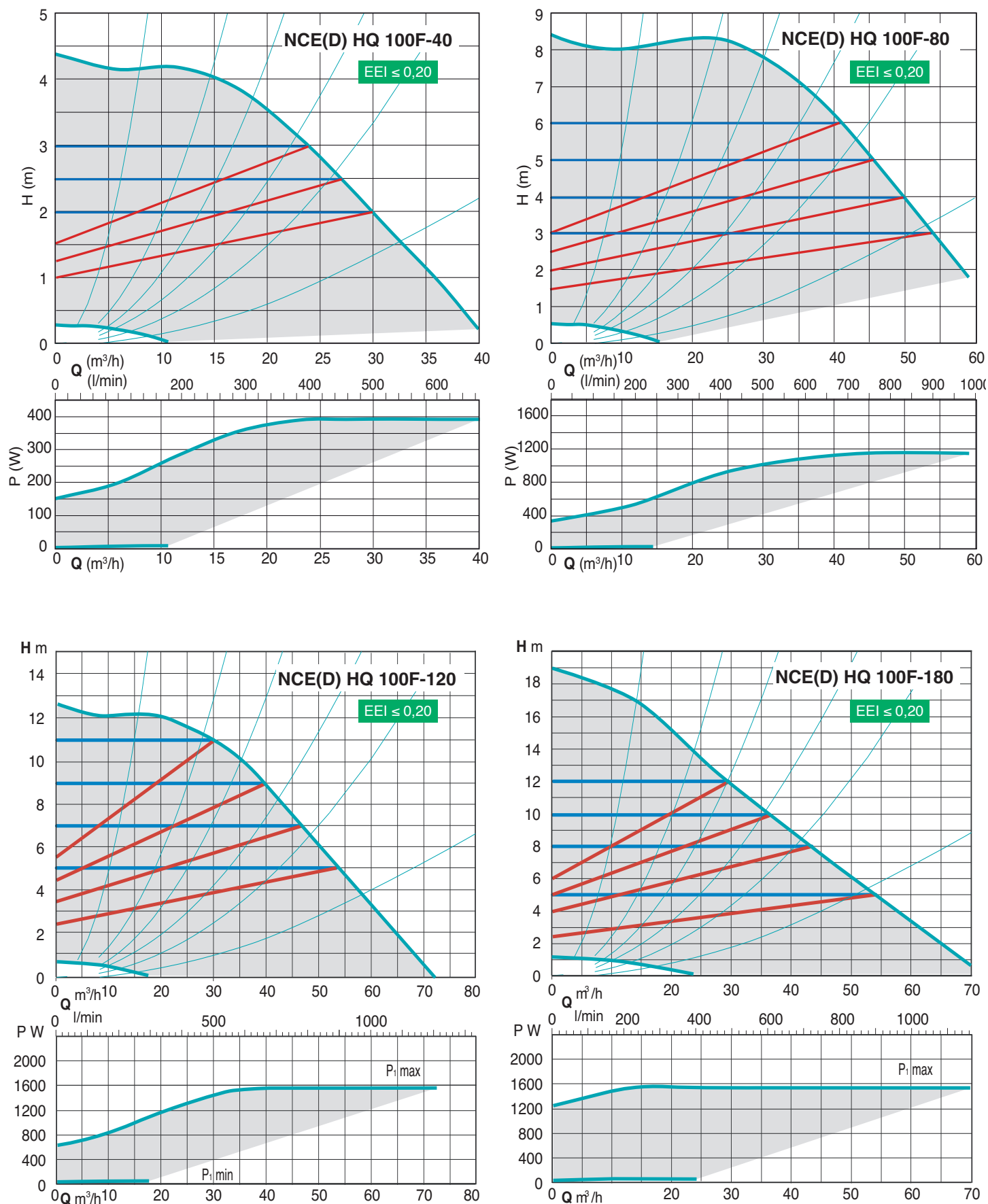
Characteristic curves



Characteristic curves

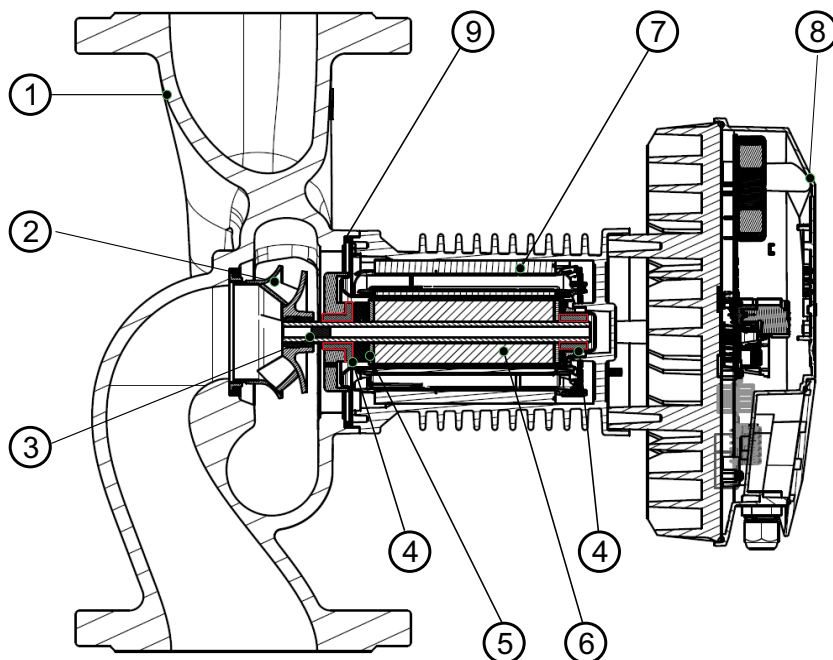


Characteristic curves

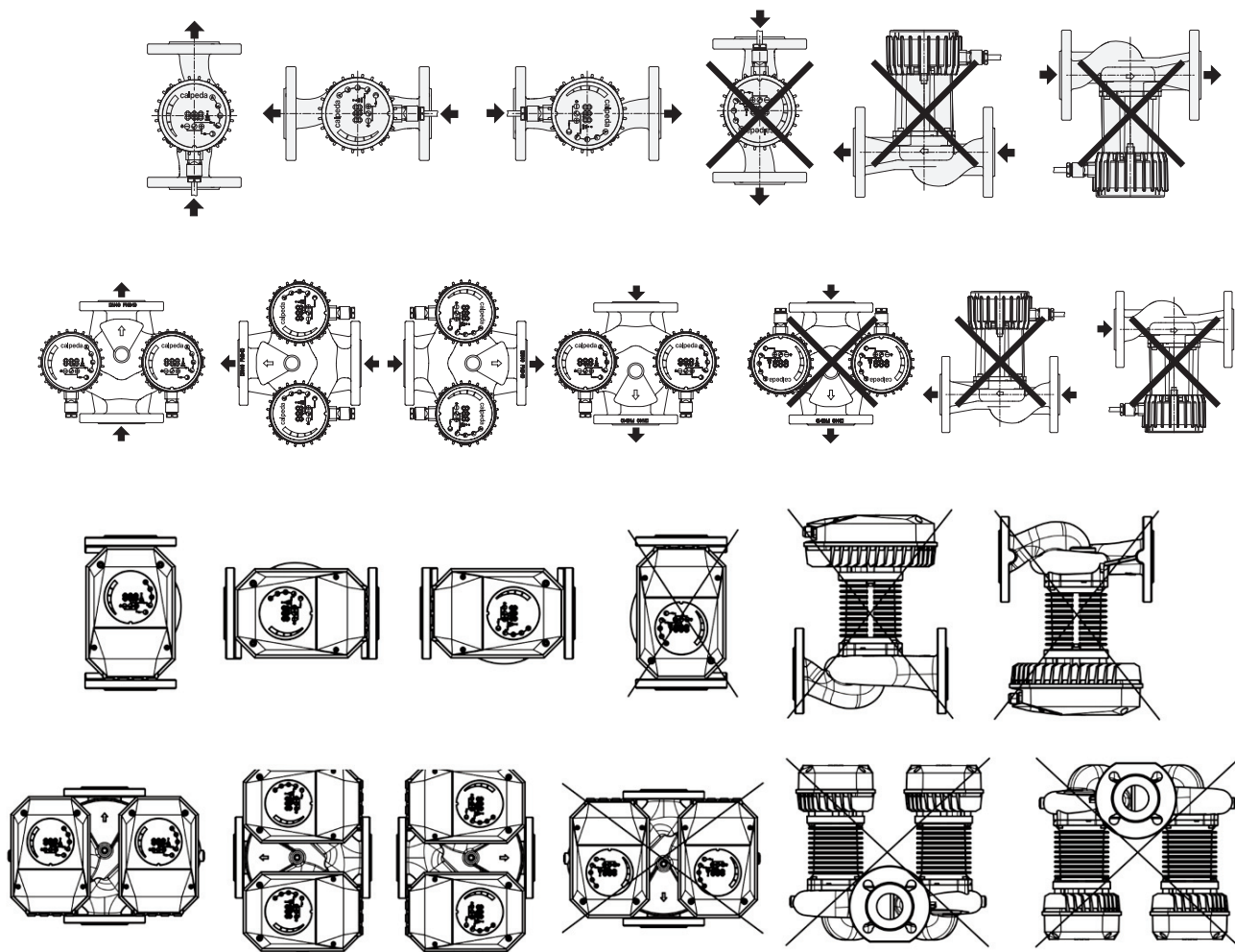


Materials

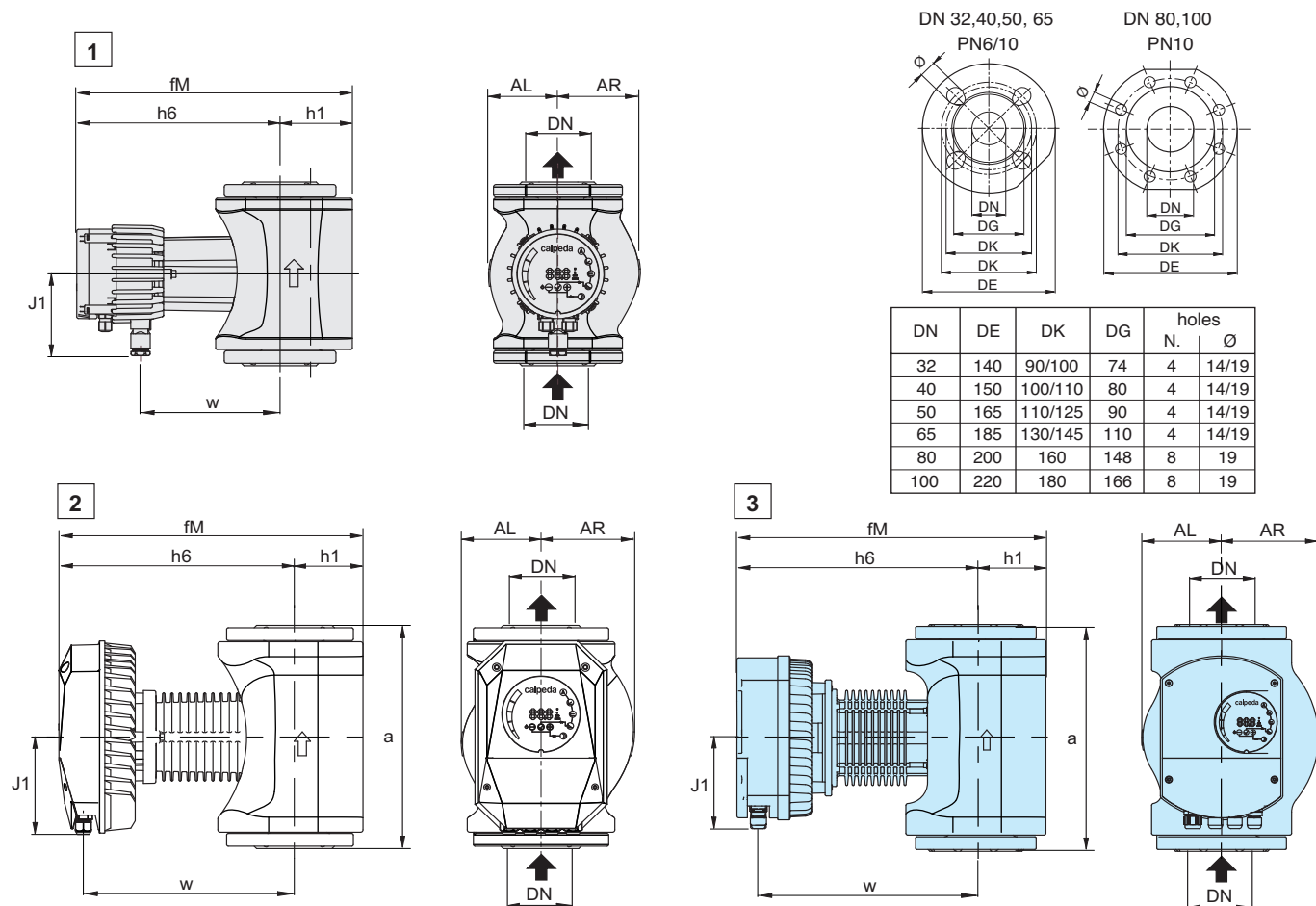
Component	Pos.	Material
Pump casing	1	Cast iron GJL 200 EN 1561
Impeller	2	Composite
Shaft	3	Stainless steel
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	PA6 GF15 (Polyamide)
Gasket	9	EPDM



Examples of installations

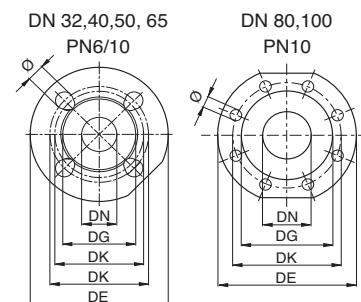
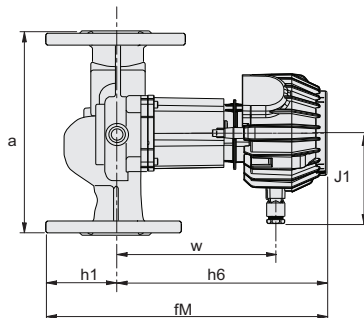
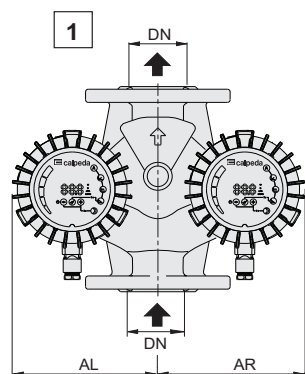


Dimensions and weights

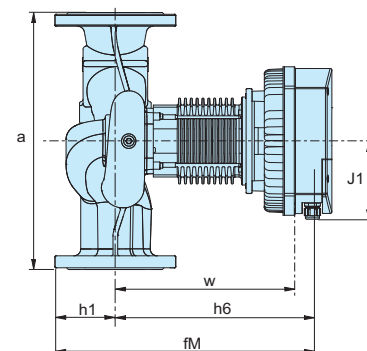
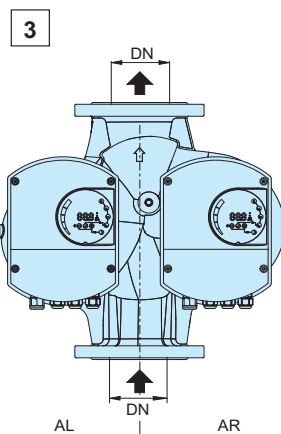
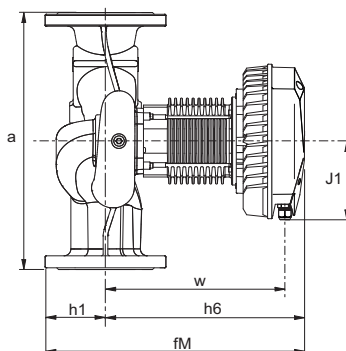
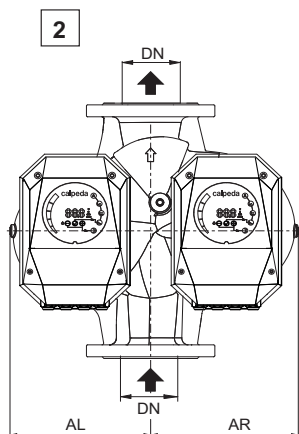


	TYPE	DN	H	Q	1~ 230 V		P ₁		mm								kg
			m	m³/h	A min	A max	W min	W max	a	J1	fM	h1	h6	w	AL	AR	
2	NCE HQ 32F-120/220/A	32	12	19	0,2	1.8	25	370	220	122	379	83	296	266	82	97	11,7
1	NCE HQ 40F-40/250/A	40	4	13	0,1	1	10	110	250	98	321	84	237	162	81	96	9,5
2	NCE HQ 40F-80/250/A	40	8	19	0,2	1.3	25	270	250	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

Dimensions and weights



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
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		P ₁		mm								kg
			m	m ³ /h	A min	A max	W min	W max	a	J1	fM	h1	h6	w	AL	AR	
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

NCE PS

Energy saving circulating pumps for sanitary hot water



Designation

NCE PS 25 - 60 / 180

Series _____
Version for sanitary hot water _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Construction

Energy saving variable speed circulating pump driven by a permanent magnet synchronous motor (pm) controlled by on board inverter. Bronze pump casing.

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 at 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 PSR version is equipped with an additional module that allows to control the pump with an analog signal 0-10V. Brass unions.

Features

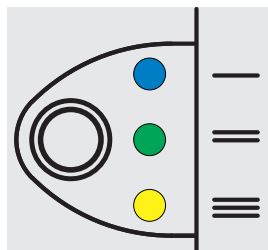
Easy adjustment

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.

Operating modes



Operating functions - control buttons.

NCE PS circulator could work:

- with proportional pressure curves
- with fixed speed curves



PROPORTIONAL CURVE PROGRAMMING $\Delta p-v$

- (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.

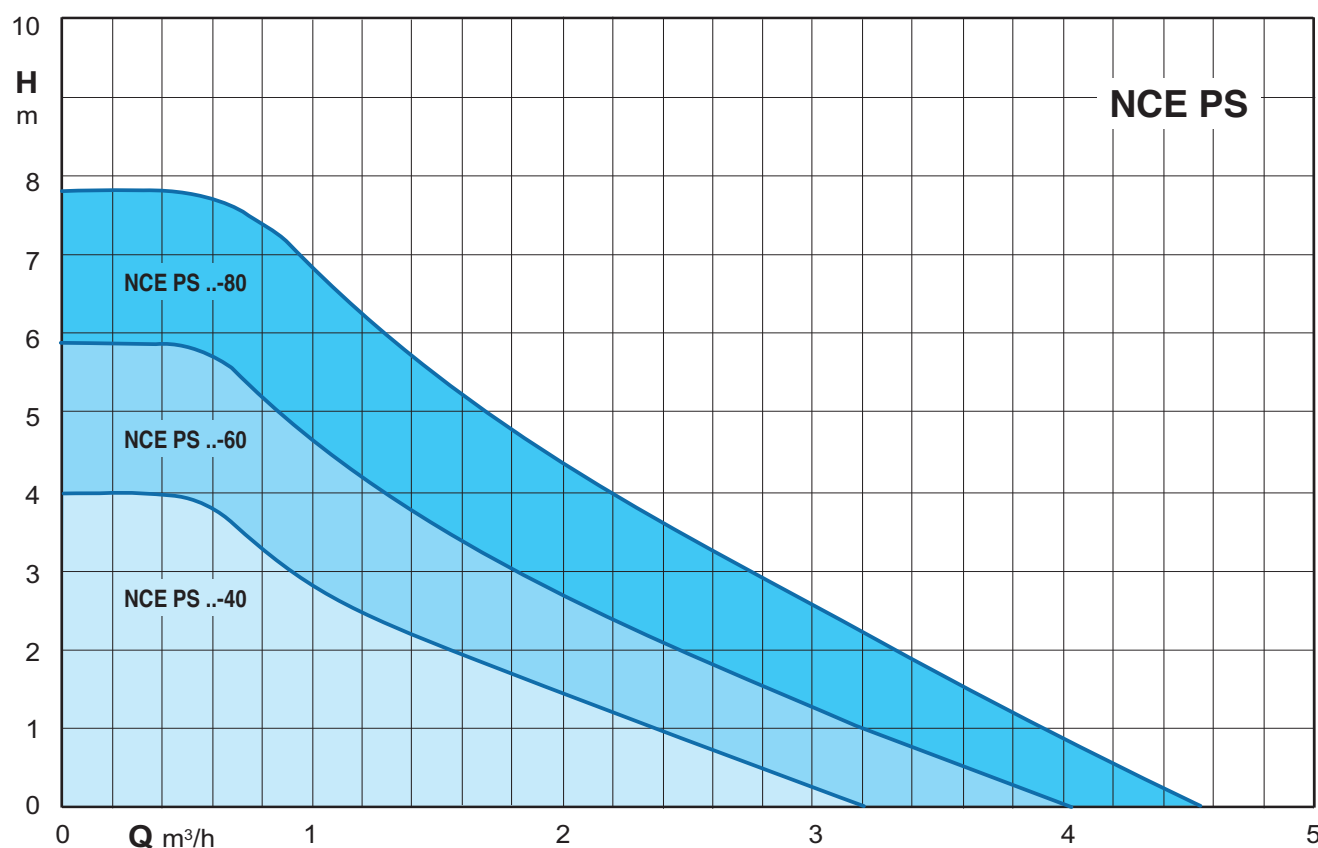


FIXED SPEED CURVE PROGRAMMING

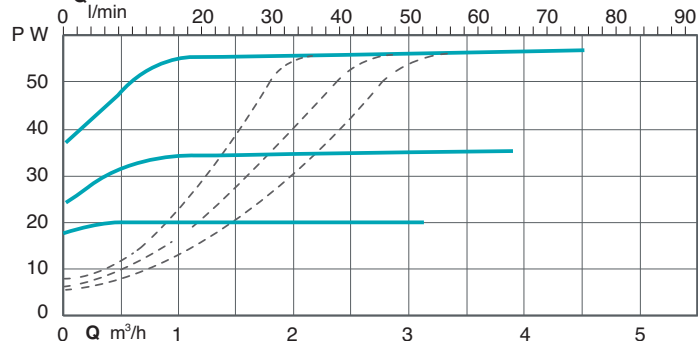
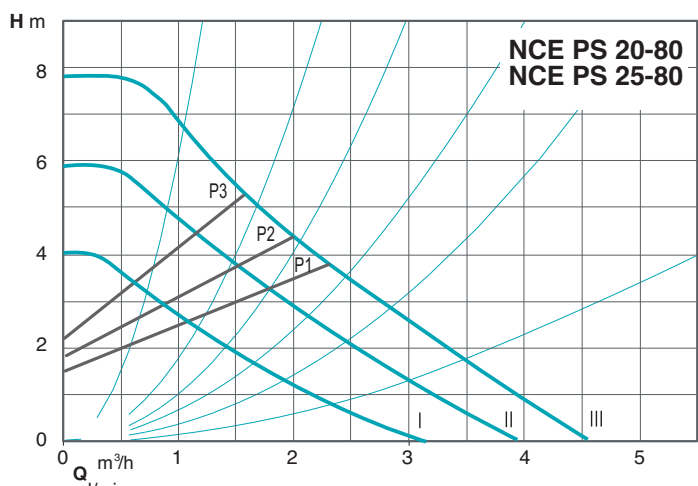
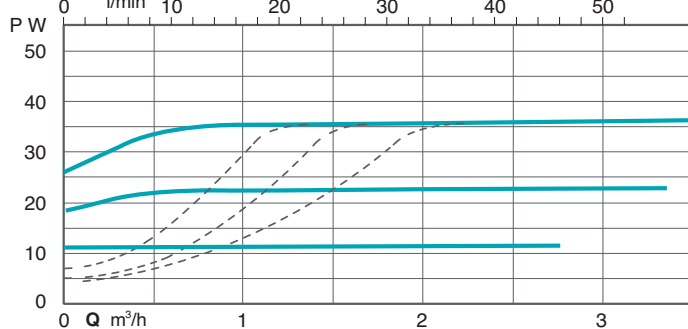
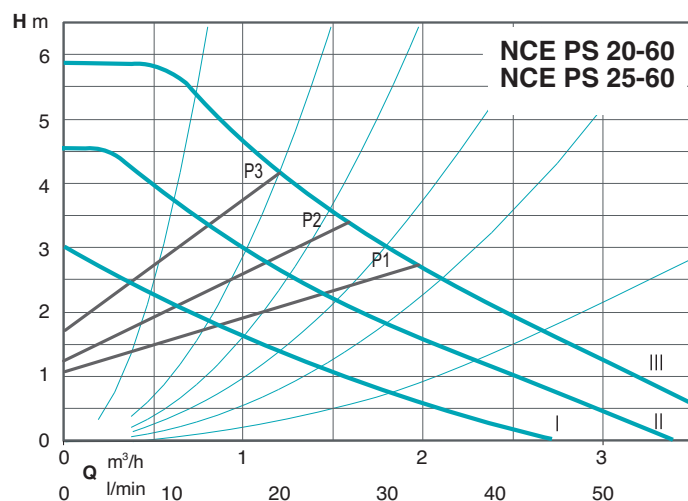
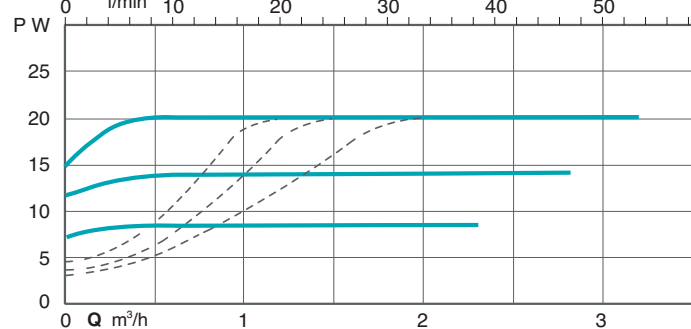
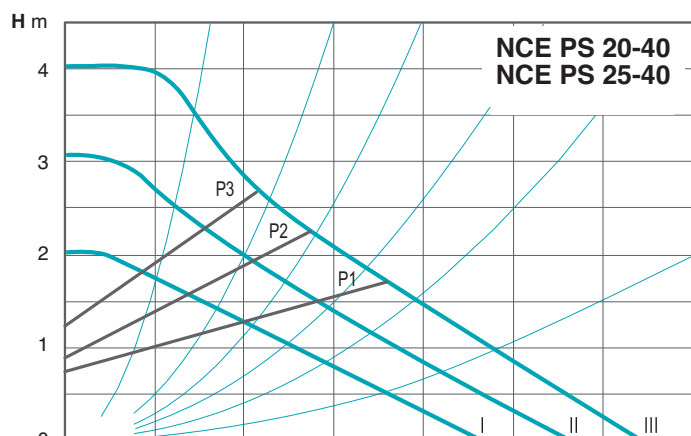
- (I BLUE LED light)
- (II GREEN LED light)
- (III YELLOW LED light)

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).

Coverage chart

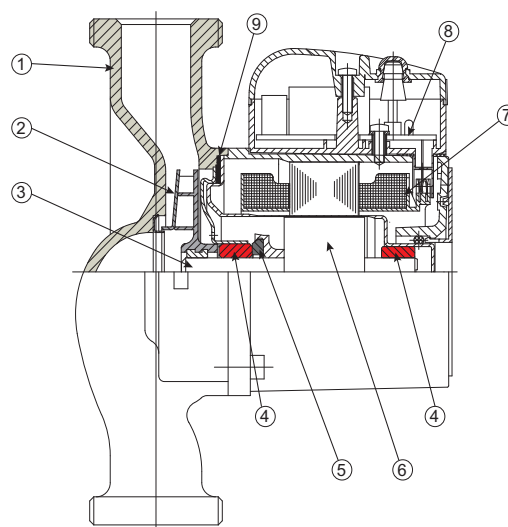


Characteristic curves

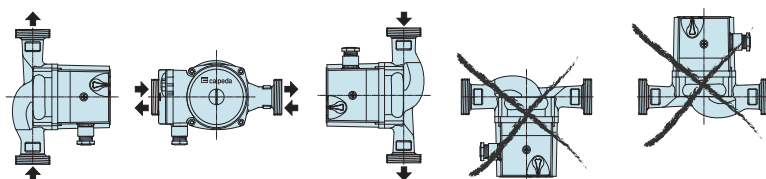


Materials

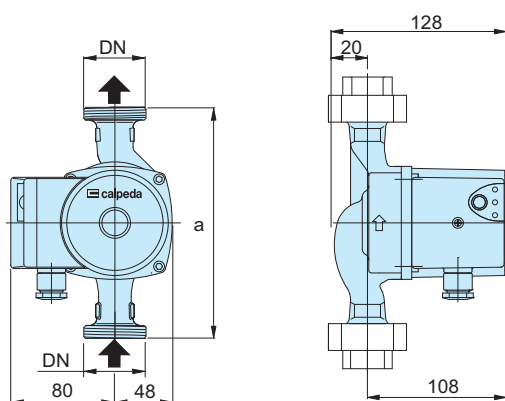
Component	Pos.	Material
Pump casing	1	Bronze
Impeller	2	Composite
Shaft	3	Stainless steel AISI 420
Bearings	4	Carbon
Thrust bearing	5	Ceramic
Rotor	6	Stainless steel jacket
Winding	7	Copper wire
Electronic card	8	-
Gasket	9	EPDM



Examples of installations

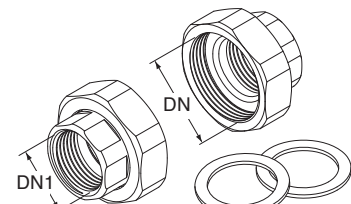


Dimensions and weights



TYPE	DN	H m	Q m ³ /h	1~ 230 V A min A max	P1 W max	a mm	kg
NCE PS 20-40/130 NCE PS 25-40/130	G 1 1/4 G 1 1/2	4	3	0,05 0,2	20	130	2,2 2,2
NCE PS 20-60/130 NCE PS 25-60/130	G 1 1/4 G 1 1/2	6	3,5	0,05 0,32	35	130	2,2 2,2
NCE PS 20-80/130 NCE PS 25-80/130	G 1 1/4 G 1 1/2	8	4	0,05 0,5	55	130	2,2 2,2

Unions (on request)



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

Circulating pumps for sanitary hot water





Construction

Bronze pump casing with suction and delivery connections with the same diameter and on the same axis (in-line).
Stainless steel AISI 316 can.

Materials	NCS3 ..-40, -50	NCS3 ...-70
Pump casing	Bronze	Bronze
Impeller	Composite	Composite
Shaft	Stainless steel AISI 420	Stainless steel AISI 420
Bearings	Graphite	Ceramic

Applications

Circulation of sanitary hot water.

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.

Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NCS3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Special features on request

Brass unions.

Designation

NCS3 20 - 40 / 130

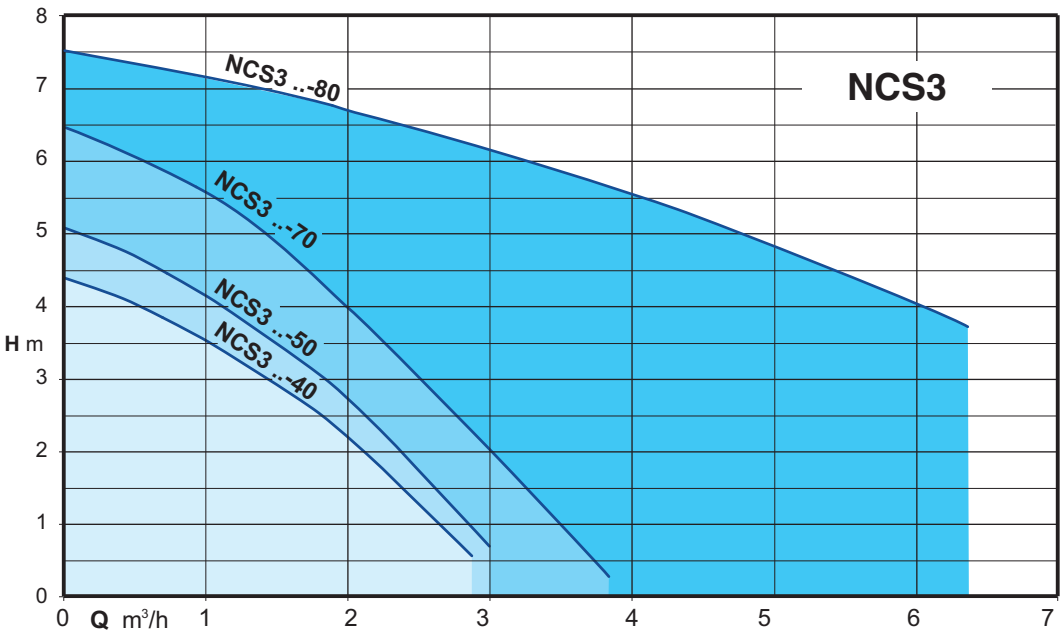
Series

DN ports in mm

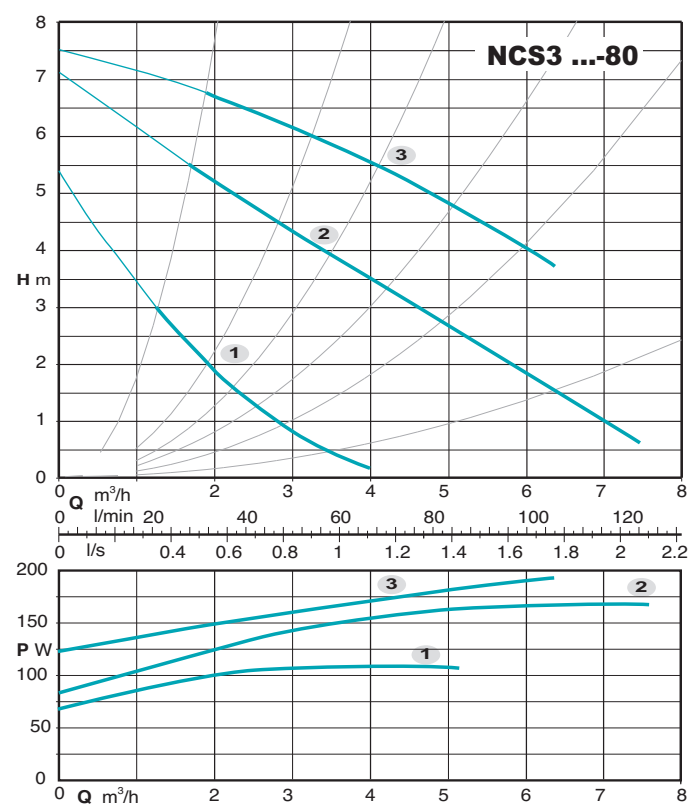
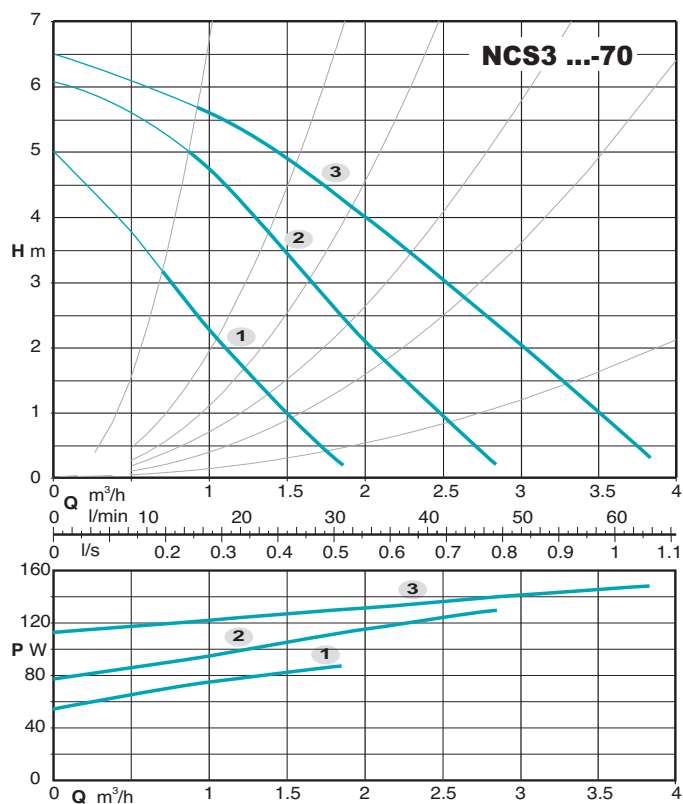
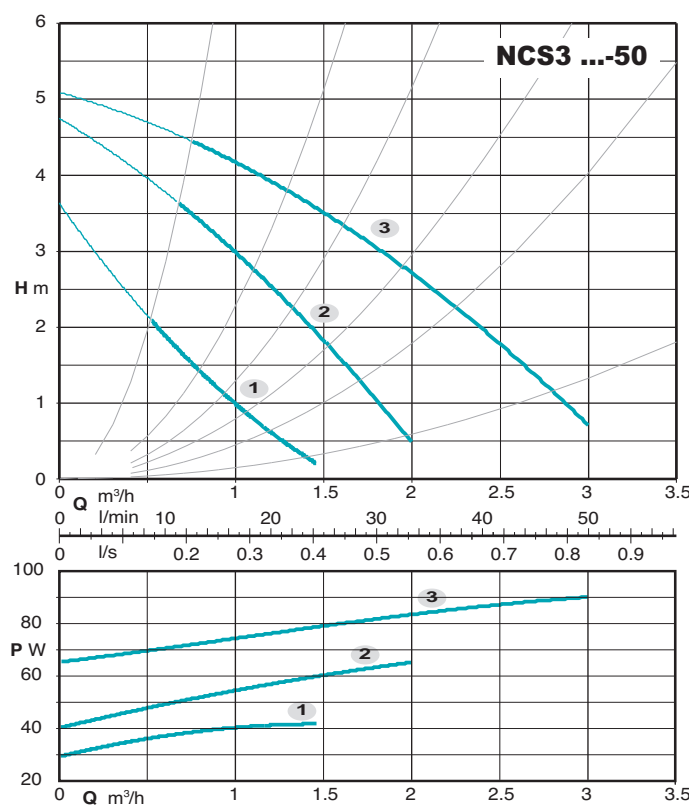
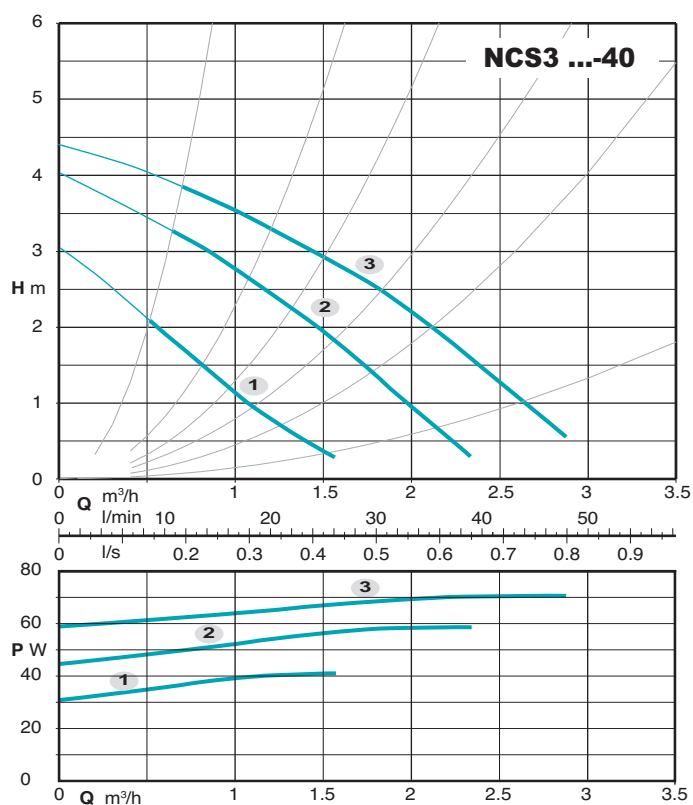
Max. head in dm

connection size mm

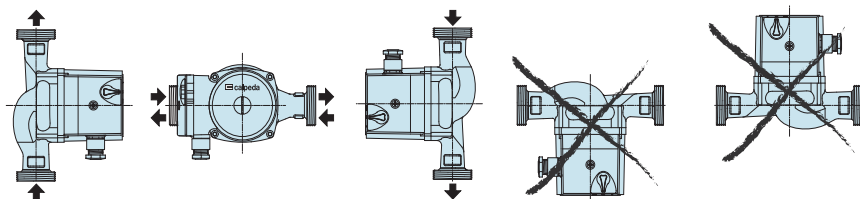
Coverage chart



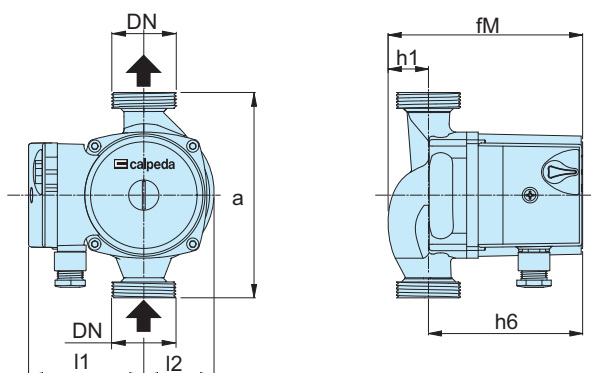
Characteristic curves



Examples of installations

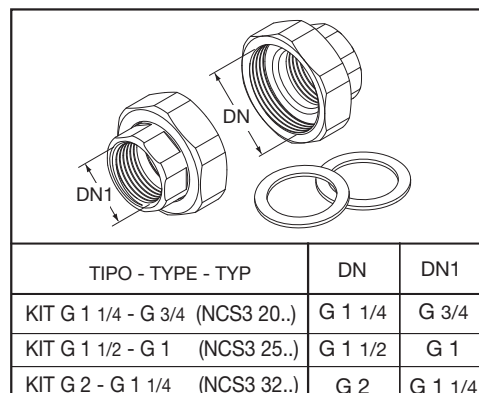


Dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	mm						
					a	fM	h1	h6	l1	l2	[kg]
NCS3 20-40/130	G 1 1/4	3	70	0,30	130	128	21	107	80	49	2,3
NCS3 25-40/130	G 1 1/2	2	59	0,26							
		1	41	0,18							
NCS3 20-50/130	G 1 1/4	3	91	0,38	130	128	21	107	80	49	2,5
NCS3 25-50/130	G 1 1/2	2	65	0,28							
		1	42	0,18							
NCS3 20-70/130	G 1 1/4	3	148	0,66	130	128	21	107	80	49	3,8
NCS3 25-70/130	G 1 1/2	2	128	0,59							
		1	87	0,41							
NCS3 32-80/180	G 2	3	210	0,95	180	185	38	147	80	60	5,1
		2	176	0,80							
		1	107	0,49							

Unions (on request)



NC3

Three speeds circulating pumps
with threaded ports



CANNOT BE SOLD IN THE EU

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.
Civil and industrial heaty systems.

Operating conditions

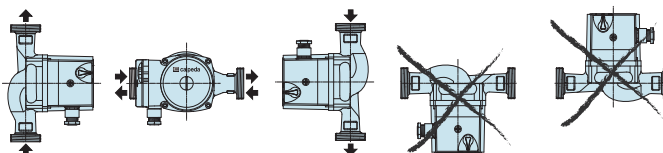
Liquid temperature from +5 °C to +110 °C (from -10 °C to +110 °C for NC3 ...-70 and NC3 ...-80-85-120).
Ambient temperature up to 40 °C.
Sound pressure ≤ 43 dB (A).
Maximum glycol quantity: 50% (Mixture with more than 20% glycol content require rechecking of the pumping data).
Maximum permissible working pressure 10 bar.

TYPE	Minimum suction pressure: bar		
	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

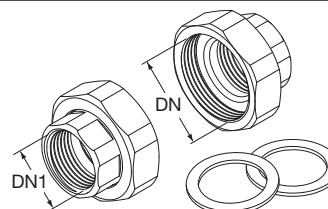
Motor

2-pole induction motor, 50 Hz.
Three adjustable speeds.
NC3: single-phase 230 V.
Insulation class H.
Protection IP 44.

Installation



Unions



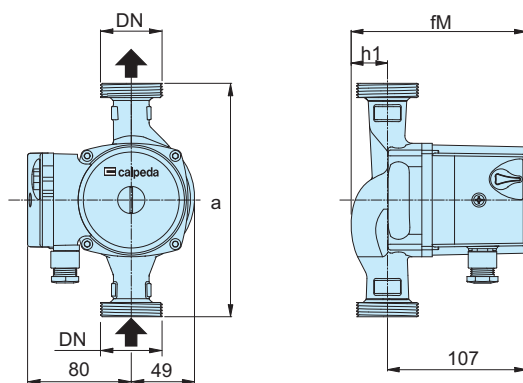
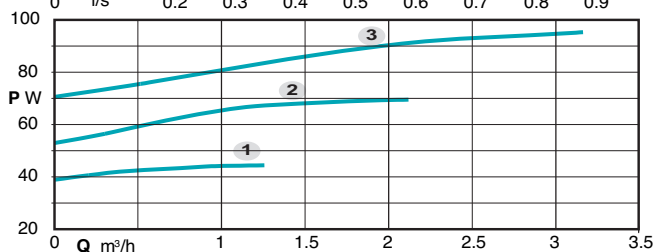
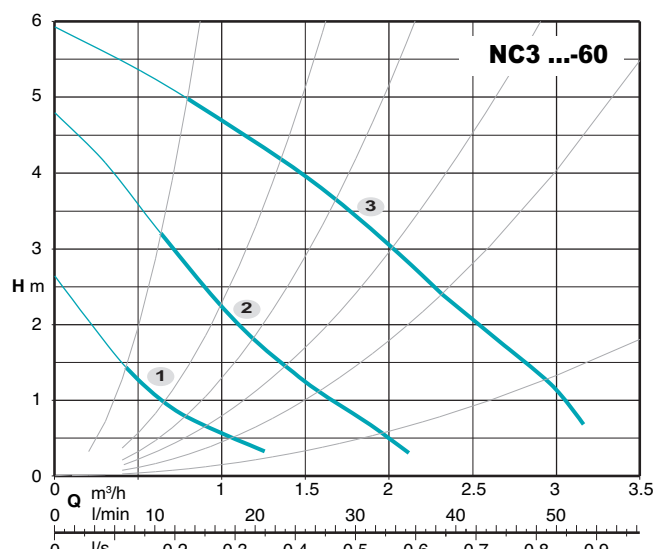
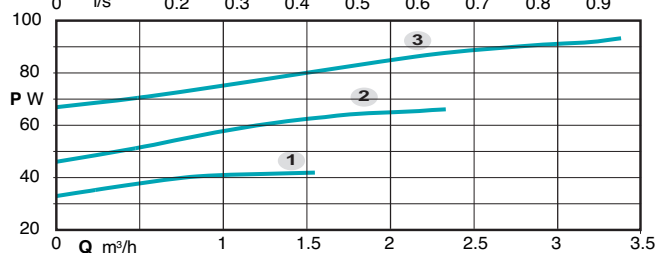
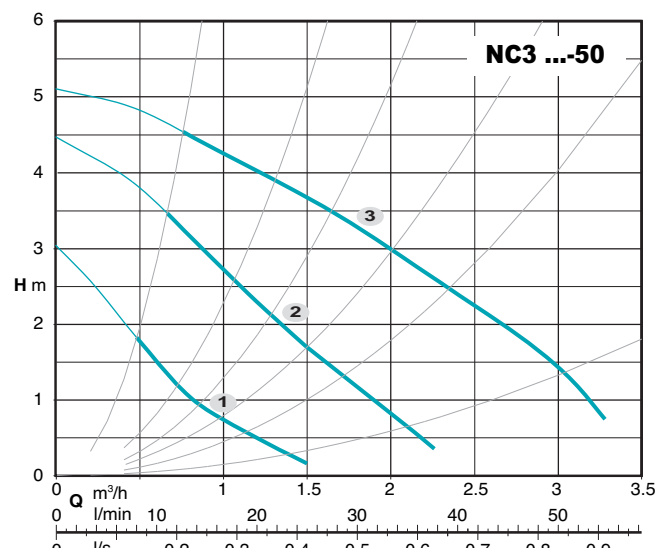
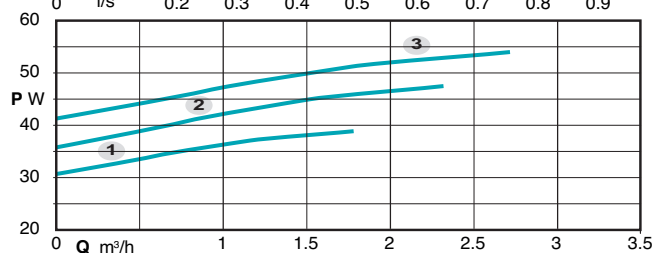
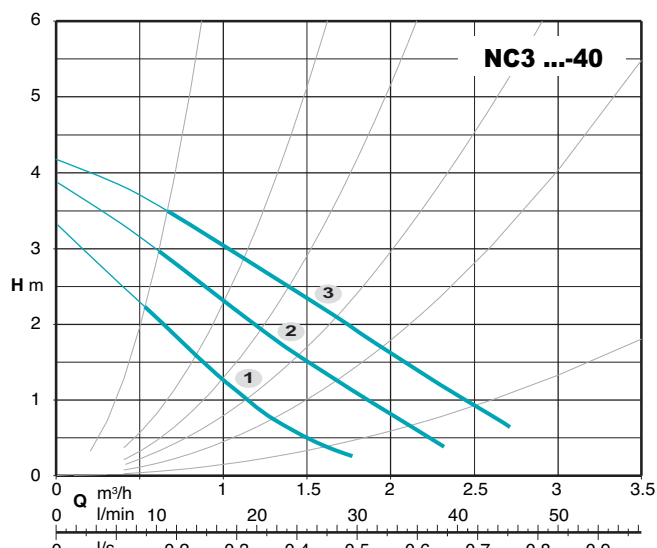
TYPE	DN	DN1
KIT G 1 - G 1/2 (NC3 15..)	G 1	G 1/2
KIT G 1 1/2 - G 1 (NC3 25..)	G 1 1/2	G 1
KIT G 2 - G 1 1/4 (NC3 32..)	G 2	G 1 1/4

Designation

NC3 32 - 70 / 180

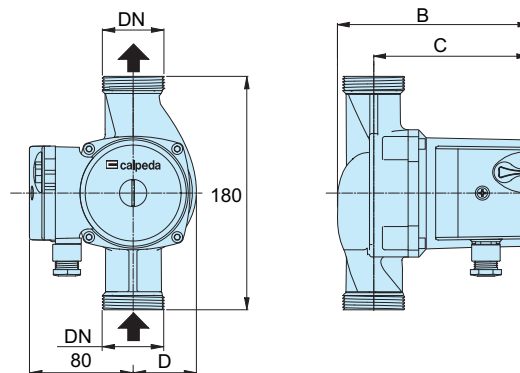
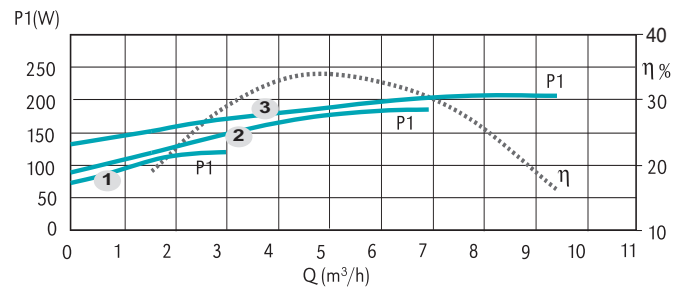
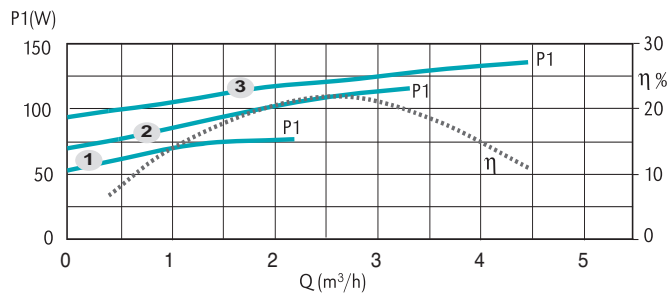
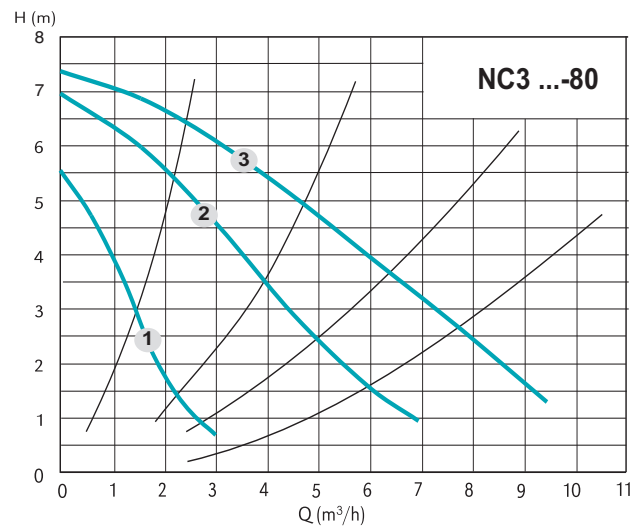
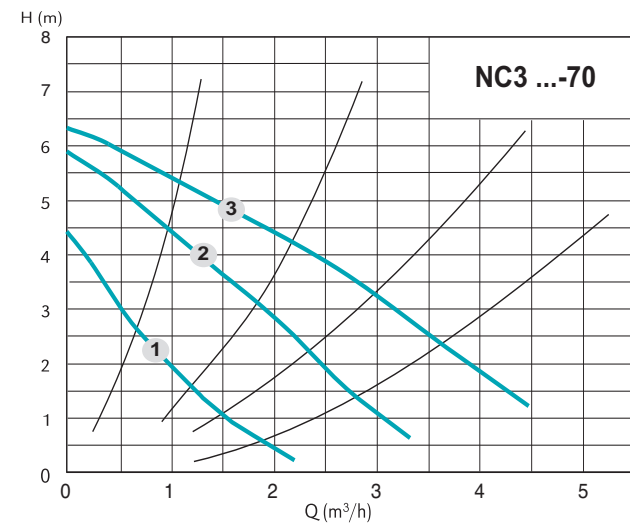
Series _____
DN ports in mm _____
Max. head in dm _____
connection size mm _____

Characteristic curves, dimensions and weights



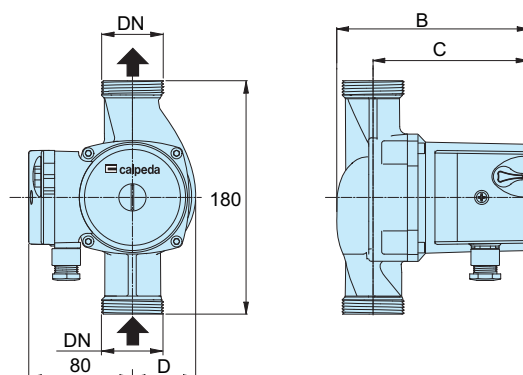
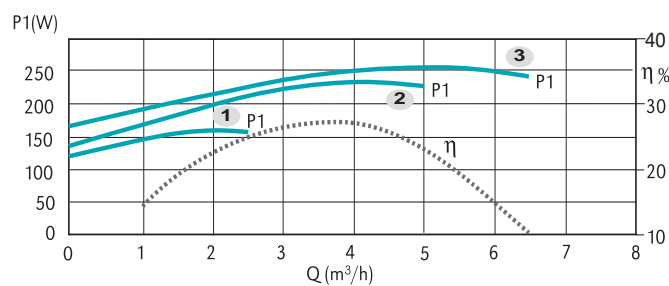
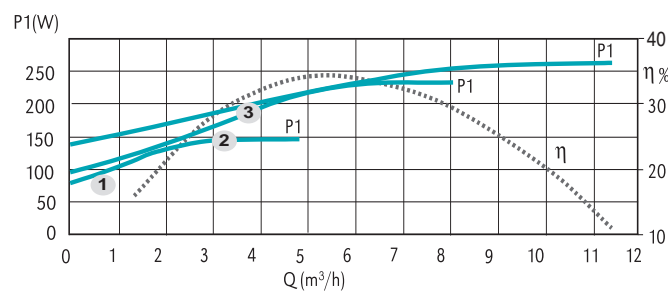
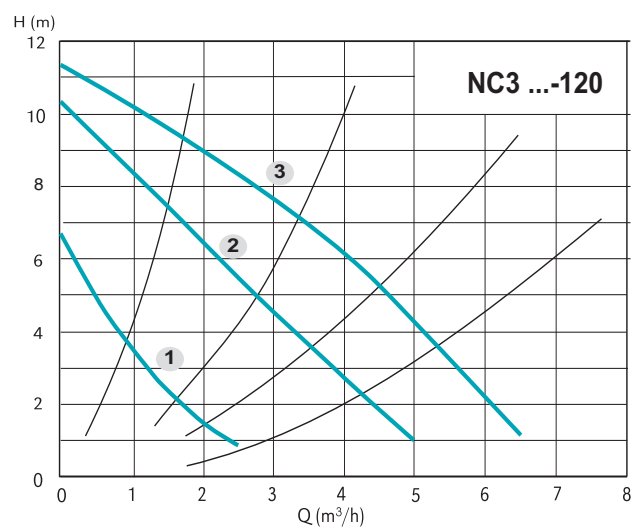
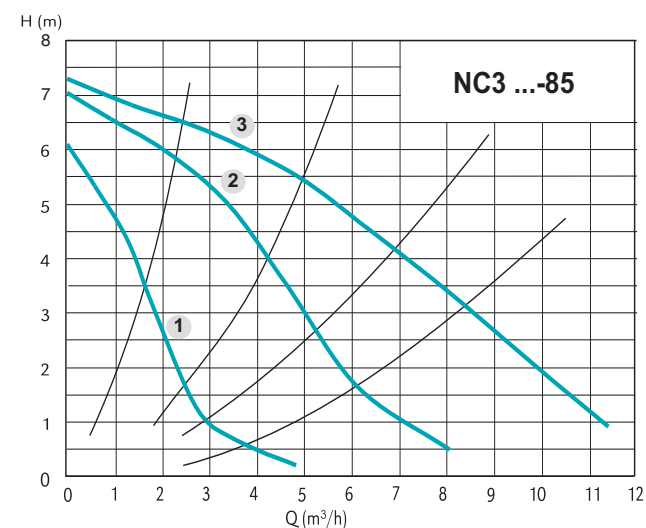
TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	mm			
					a	fM	h1	[kg]
NC3 15-40/130	G 1	3	53	0,23	130	128	21	2,2
NC3 25-40/130	G 1 1/2	2	47	0,21	130	135	28	2,4
NC3 25-40/180	G 1 1/2	1	38	0,17	180	135	28	2,6
NC3 15-50/130	G 1	3	91	0,38	130	128	21	2,2
NC3 25-50/130	G 1 1/2	2	65	0,28	130	135	28	2,4
NC3 25-50/180	G 1 1/2	1	42	0,18	180	135	28	2,6
NC3 32-50/180	G 2	1			180	138	31	3
NC3 15-60/130	G 1	3	95	0,41	130	128	21	2,2
NC3 25-60/130	G 1 1/2	2	70	0,30	130	135	28	2,4
NC3 25-60/180	G 1 1/2	1			180	135	28	2,6
NC3 32-60/180	G 2	1	44	0,20	180	138	31	3

Characteristic curves, dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm]			
					B	C	D	[kg]
NC3 25-70/180	G 1 1/2	3	136	0,61	135	107	49	2,9
		2	116	0,54				
		1	77	0,37				
NC3 32-70/180	G 2	3	136	0,61	138	107	49	3,1
		2	116	0,54				
		1	77	0,37				
NC3 32-80/180	G 2	3	206	0,91	185	143	58	4,7
		2	185	0,88				
		1	120	0,60				

Characteristic curves, dimensions and weights



TYPE	DN	Pos.	P1 (W)	1x 230 V [A]	[mm]			
					B	C	D	[kg]
NC3 32-85/180	G 2	3	277	1,2	185	143	58	4,9
		2	250	1,16				
		1	172	0,85				
NC3 32-120/180	G 2	3	265	1,15	208	174	68	5,2
		2	251	1,14				
		1	176	0,85				