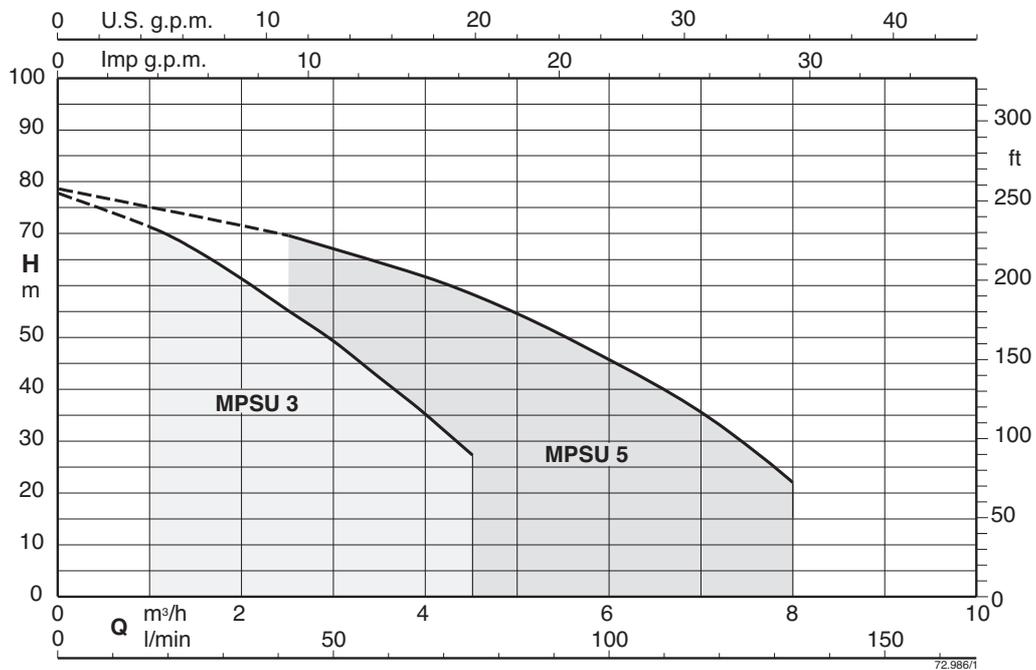




Coverage chart  $n \approx 2900$  rpm



## Vertical multi-stage close coupled pumps

## Construction

5" Vertical multi-stage close coupled submersible or surface pumps.  
 External jacket made of steel 1.4301 EN 10088 (AISI 304) and Noryl stages.  
*MPSUM*: with built-in capacitor, accessible through the delivery casing.  
 Suction connection on the lower casing and delivery connection on the top casing.  
 The motor is cooled by the pumped water, which flows between the motor jacket and the outer 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 spaces without ventilation.  
 In environments where there is a risk of flooding, the pump can be fully submerged.  
 For plants subjected to water jets.  
 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, 50 Hz ( $n \approx 2900$  rpm).

**MPSU**: three-phase

230 V  $\pm$  10%.  
 400 V  $\pm$  10%.  
 Cable: H07RN8-F, 5 m without plug.

**MPSUM**: single-phase

single-phase 230 V  $\pm$  10%, with thermal protector.  
 Incorporated capacitor.  
 Float switch MPSUM.. CG (on demand)  
 Cable: H07RN8-F, 5 m with CEI-UNEL 47166 plug.

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.

## Special features on request

Other voltages.  
 Frequency 60 Hz (as per 60 Hz data sheet).  
 Cable length 15 m.  
 Motor suitable for operation with frequency converter.

## Designation

Example MPSU 306  
 MPSU = Series  
 3 = Rated flow in m<sup>3</sup>/h  
 06 = Number of impellers

## Materials

Components	Material
delivery casing	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
External jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Base	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
motor jacket	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Stage casing	PPO-GF20 (Noryl)
Impeller	PPO-GF20 (Noryl)
Shaft	Chrome-nickel steel 1.4301 EN 10088 (AISI 304)
Capacitor cover	PPS Polymer (Grivory)
Oil chamber cover	PPS Polymer (Grivory)
Support ring preload	PPS Polymer (Grivory)
Preload ring stages	PPS Polymer (Grivory)
Mechanical seal: Upper	Steatite, carbon, NBR
Mechanical seal: Lower	Carbon, silicon carbide, NBR
Seal lubrication oil	Oil for food/pharmaceutical machinery

**Coverage chart n ≈ 2900 rpm**
**Three-phase**

				Q = Flow									
				m³/h	0	1	1,5	2	2,5	3	3,5	4	4,5
Model	400V	P2		l/min			16,66	25	33,33	41,66	50	58,33	66,66
		A	kW	HP	H (m) = Total head								
MPSU 304	1,6	0,55	0,75		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16
MPSU 305	1,9	0,75	1		54	49,5	46,2	43	30,9	35	30	25	19
MPSU 306	2,2	0,9	1,2		66,5	60,5	57	53	48,5	43,5	38	32	26
MPSU 307	2,6	0,9	1,2		75	67,5	63	58	53	47	41	34,5	27

**Single-phase**

					Q = Flow									
					m³/h	0	1	1,5	2	2,5	3	3,5	4	4,5
Model	230V	P2		P1	l/min			16,6	25	33,3	41,6	50	58,3	66,6
		A	kW	HP	kW	H (m) = Total head								
MPSUM 304	4,1	0,55	0,75	0,9		44	41,5	39,5	36,5	33,5	29,5	25,5	21	16
MPSUM 305	5	0,75	1	1,1		54	49,5	46,2	43	30,9	35	30	25	19
MPSUM 306	6	0,9	1,2	1,3		66,5	60,5	57	53	48,5	43,5	38	32	26
MPSUM 307	6,6	0,9	1,2	1,5		75	67,5	63	58	53	47	41	34,5	27

**Three-phase**

				Q = Flow										
				m³/h	0	2,5	3	3,5	4	4,5	5	6	7	8
Model	400V	P2		l/min			41,66	50	58,33	66,66	75	83,33	100	116
		A	kW	HP	H (m) = Total head									
MPSU 504	2,2	0,9	1,2		45	39,5	37,8	35,8	33,5	31	28,5	23	16,5	9,5
MPSU 505	2,6	1,1	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MPSU 506	2,8	1,1	1,5		66,5	58	55,6	53	50	46,3	42,5	34	24,5	14
MPSU 507	4	1,5	2		78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22

**Single-phase**

					Q = Flow										
					m³/h	0	2,5	3	3,5	4	4,5	5	6	7	8
Model	230V	P2		P1	l/min			41,6	50	58,3	66,6	75	83,3	100	117
		A	kW	HP	kW	H (m) = Total head									
MPSUM 504	6	0,9	1,2	1,2		45	39,5	37,8	35,8	33,5	31	28,5	23	16,5	9,5
MPSUM 505	7	1,1	1,5	1,5		53	47,5	45,5	43,5	41	38,5	35,5	29,5	22	13,5
MPSUM 506	8,3	1,1	1,5	1,7		66,5	58	55,6	53	50	46,3	42,5	34	24,5	14
MPSUM 507	12	1,5	2	2,2		78,5	69,5	66,5	64	61,5	58	54,5	45,5	36	22

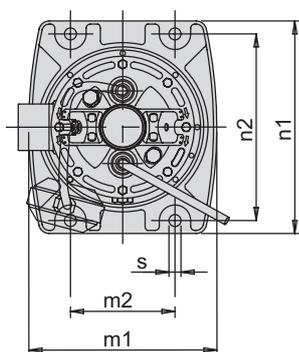
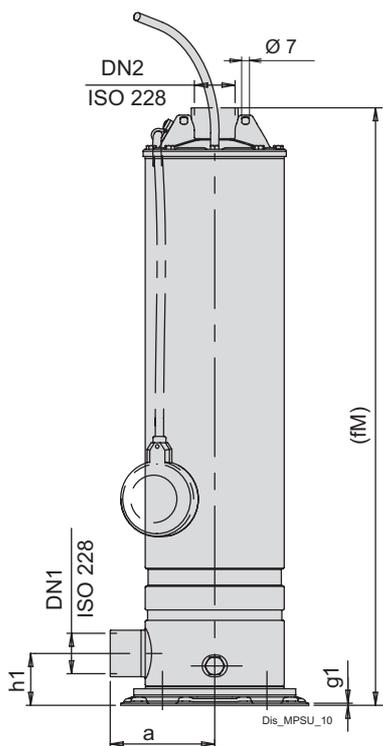
**P1:** Maximum power input.

**P2:** Rated motor power output.

Tolerances according to UNI EN ISO 9906:2012

**Test results with clean cold water, without gas content.**

## Dimensions and weights



weights with cable length: 5 m

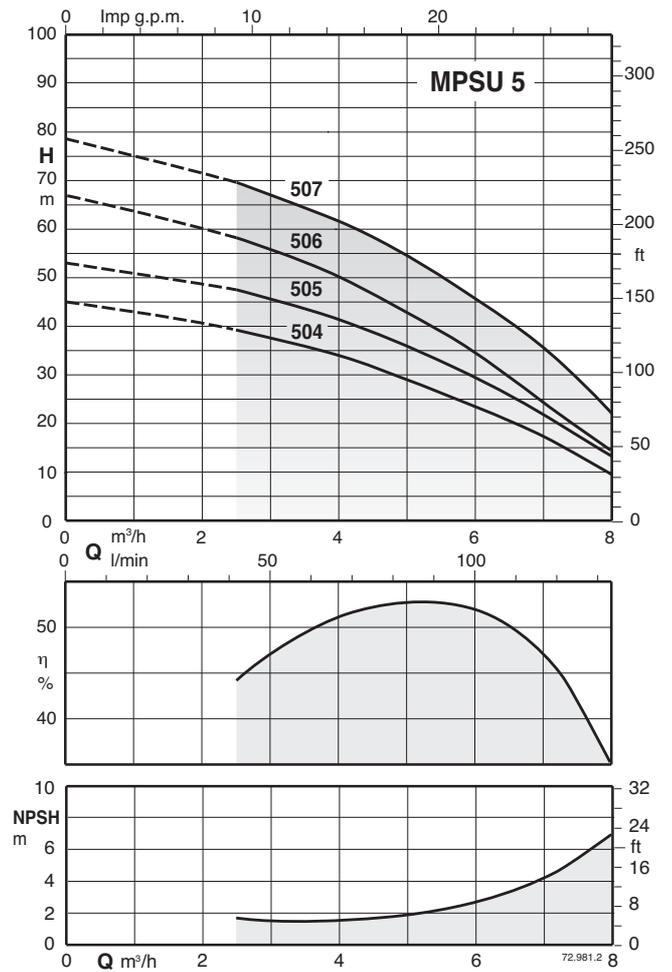
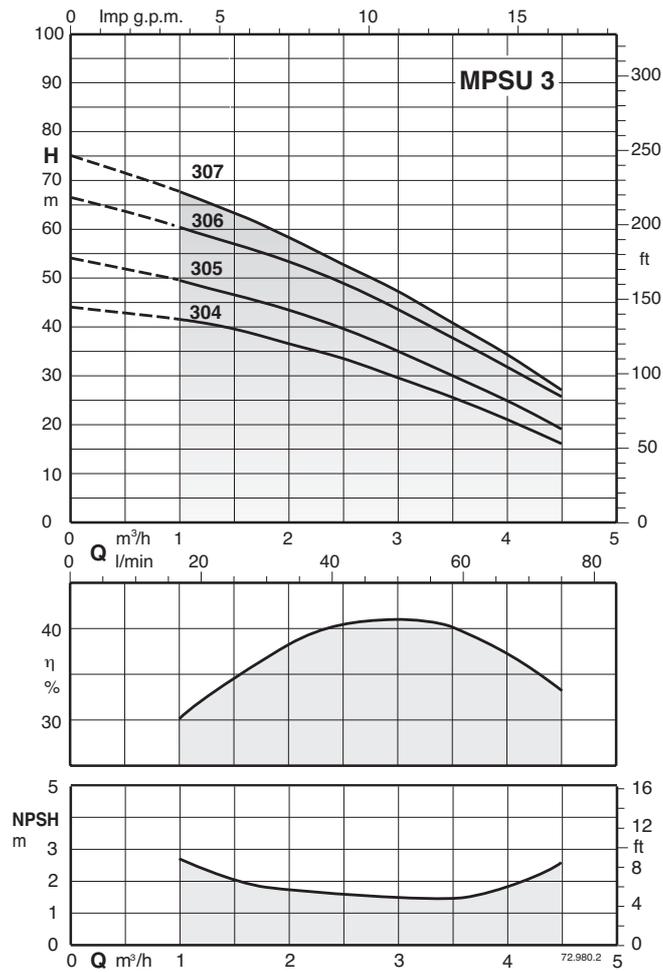
Pump	Cable H07RN8-F,		
	230V	230V	400V
	1 ~	3 ~	3 ~
MPSU 304 - MPSUM 304	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 305 - MPSUM 305	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 306 - MPSUM 306	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 307 - MPSUM 307	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 504 - MPSUM 504	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 505 - MPSUM 505	3G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 506 - MPSUM 506	3G1,5 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>
MPSU 507 - MPSUM 507	3G2,5 mm <sup>2</sup>	4G1 mm <sup>2</sup>	4G1 mm <sup>2</sup>

MPSUM ... CG: With float switch pump (on demand)

TYPE	ISO 228		mm									Kg
	DN1	DN2	a	fM	g1	h1	m1	m2	n1	n2	s1	Weight
MPSU 304	G 1 1/4	G 1 1/4	100	553	2	50	180	100	205	180	11.5	11.4
MPSU 305	G 1 1/4	G 1 1/4	100	602	2	50	180	100	205	180	11.5	11.9
MPSU 306	G 1 1/4	G 1 1/4	100	626	2	50	180	100	205	180	11.5	13
MPSU 307	G 1 1/4	G 1 1/4	100	650	2	50	180	100	205	180	11.5	13.2
MPSU 504	G 1 1/4	G 1 1/4	100	578	2	50	180	100	205	180	11.5	12.1
MPSU 505	G 1 1/4	G 1 1/4	100	602	2	50	180	100	205	180	11.5	12.8
MPSU 506	G 1 1/4	G 1 1/4	100	671	2	50	180	100	205	180	11.5	15
MPSU 507	G 1 1/4	G 1 1/4	100	720	2	50	180	100	205	180	11.5	16.8

TYPE	ISO 228		mm									Kg
	DN1	DN2	a	fM	g1	h1	m1	m2	n1	n2	s1	Weight
MPSUM 304	G 1 1/4	G 1 1/4	100	553	2	50	180	100	205	180	11.5	12.4
MPSUM 305	G 1 1/4	G 1 1/4	100	602	2	50	180	100	205	180	11.5	13.8
MPSUM 306	G 1 1/4	G 1 1/4	100	626	2	50	180	100	205	180	11.5	15.8
MPSUM 307	G 1 1/4	G 1 1/4	100	650	2	50	180	100	205	180	11.5	15
MPSUM 504	G 1 1/4	G 1 1/4	100	578	2	50	180	100	205	180	11.5	14.2
MPSUM 505	G 1 1/4	G 1 1/4	100	602	2	50	180	100	205	180	11.5	14.4
MPSUM 506	G 1 1/4	G 1 1/4	100	671	2	50	180	100	205	180	11.5	16.6
MPSUM 507	G 1 1/4	G 1 1/4	100	720	2	50	180	100	205	180	11.5	19.4

Characteristic curves  $n \approx 2900$  rpm



Examples of installations

