

Series 200

UPS, UPSD circulator pumps
50/60 Hz



1. Product description

Applications

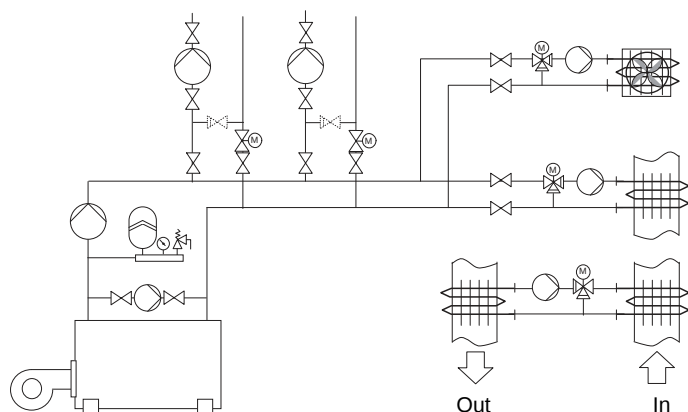
Grundfos circulator pump types UPS and UPSE are designed for the circulation of liquids in heating and air-conditioning systems. Pumps with bronze pump housings are suitable for circulation in domestic hot water systems.

UPS, UPSE are a complete line of circulator pumps with three speeds.

UPS, UPSE pumps are available as single-head or twin-head pumps.

Below you'll find general examples of systems for which UPS, UPSE pumps are suitable.

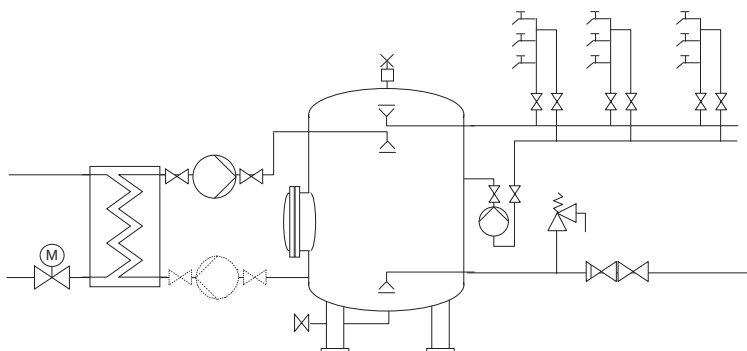
Heating systems



- One- and two-pipe heating systems
- Main pumps
- Zone pumps
- Boiler shunt pumps
- Pumps for heating surfaces
- Calorifiers
- Underfloor heating systems
- Solar heating systems
- Geothermal heating systems
- Heat recovery systems.

TM01 0168 0697

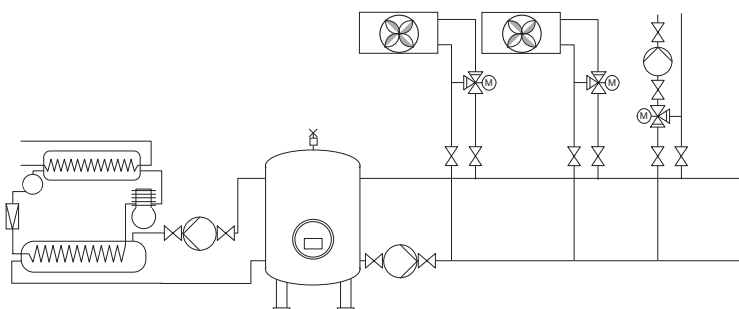
Domestic hot water systems



- Domestic hot water systems.

TM01 0169 0697

Cooling and air-conditioning systems



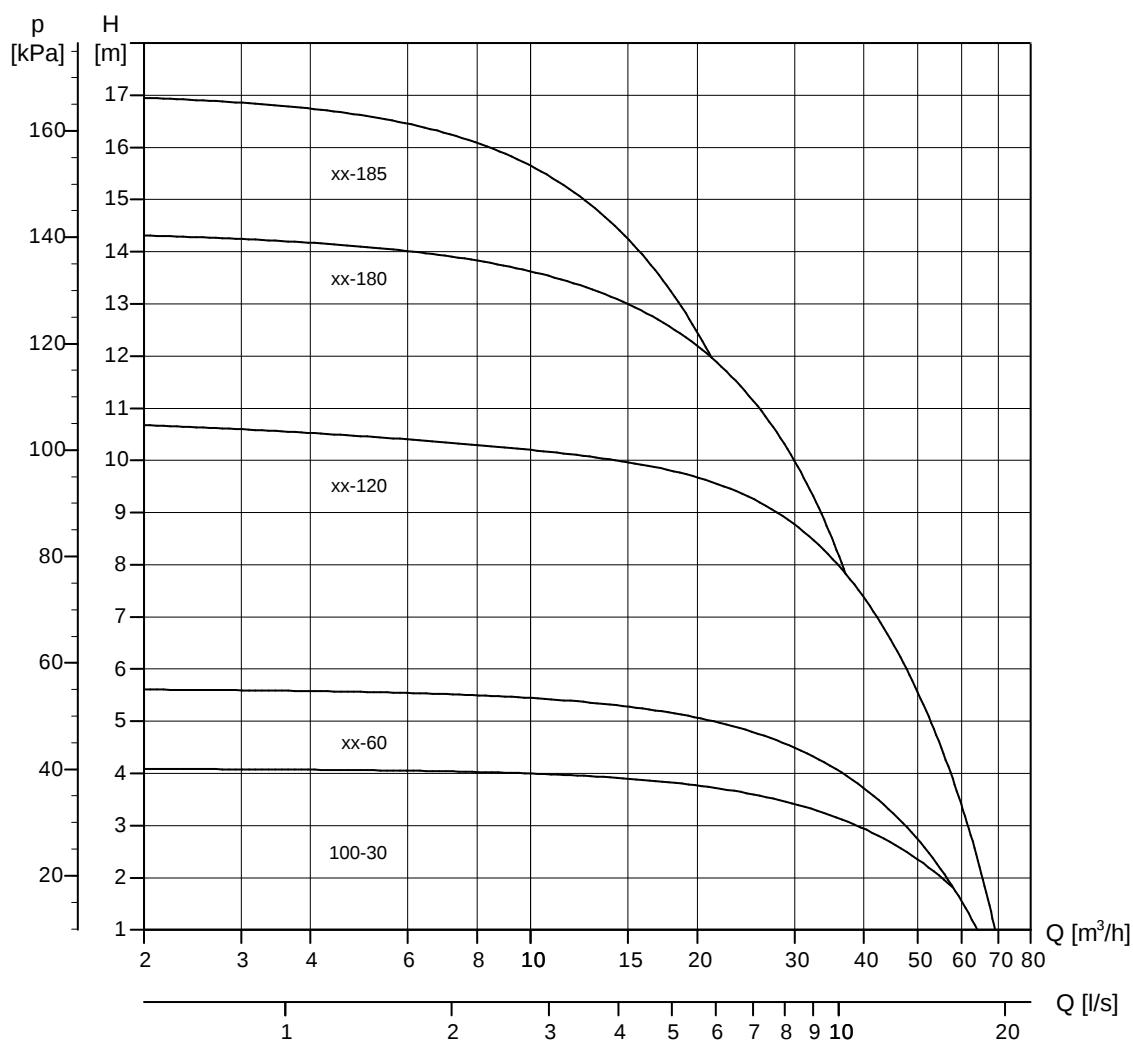
- Two-pipe air-conditioning systems
- Main pumps
- Zone pumps
- Pumps for refrigeration units
- Heat pump systems
- Geothermal heating systems
- Heat recovery systems.

TM01 0170 0697

Type key

Example	UPS	(D)	65	-60	(/2)	F(-)	280
Type range							
Twin-head pump							
Nominal flange diameter [mm]							
Max. head [dm]							
Number of motor poles (stated if available both as 2- and 4-pole motor)							
F - Pump with flanges							
B - Pump with bronze housing (EuP, this circulator pump is suitable for drinking water only.)							
Port-to-port length [mm]							

Performance range



TM06 4623 2615

2. Product range

Pump selection

Single-head pumps

Pump type	Pressure stage						Voltage [V]		Poles	
	PN 6 / PN 10	PN 6	PN 10	PN 6 / PN 10 bronze	PN 6 bronze	PN 10 bronze	1 x 230-240	3 x 400-415	2	4
UPS 32-60 F 220	•			• *			•	•	•	
UPS 32-120 F 220	•			• *			•	•	•	
UPS 40-60/2 F 250	•			• *			•	•	•	
UPS 40-120 F 250	•			• *			•	•	•	
UPS 40-180 F 250	•			• *			•	•	•	
UPS 40-185 F 250	•						•	•	•	
UPS 50-60/2 F 280	•			• *			•	•	•	
UPS 50-120 F 280	•			• *			•	•	•	
UPS 50-180 F 280	•			• *			•	•	•	
UPS 50-185 F 280	•						•	•	•	
UPS 65-60/2 F 340	•			• *			•	•	•	
UPS 65-120 F 340	•			• *			•	•	•	
UPS 65-180 F 340	•			• *				•	•	
UPS 65-185 F 340	•							•	•	
UPS 80-60 F 360		•	•		• *	• *		•		•
UPS 80-120 F 360		•	•		• *	• *		•	•	
UPS 100-30 F 450		•	•		• *	• *		•		•

* Not covered by the EuP requirements from 2013.

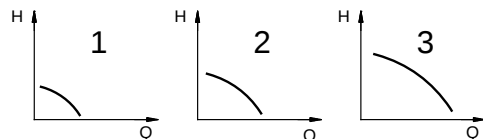
Twin-head pumps

Pump type	Pressure stage						Voltage [V]		Poles	
	PN 6 / PN 10	PN 6	PN 10	PN 6 / PN 10 bronze	PN 6 bronze	PN 10 bronze	1 x 230-240	3 x 400-415	2	4
UPSD 32-60 F 220	•						•	•	•	
UPSD 32-120 F 220	•						•	•	•	
UPSD 40-60 F 250	•						•	•	•	
UPSD 40-120 F 250	•						•	•	•	
UPSD 50-60/2 F 280	•						•	•	•	
UPSD 50-120 F 280	•						•	•	•	
UPSD 50-180 F 280	•						•	•	•	
UPSD 65-60/2 F 340	•						•	•	•	
UPSD 65-120 F 340	•						•	•	•	
UPSD 65-180 F 340	•							•	•	
UPSD 80-60 F 360		•	•					•		•
UPSD 80-120 F 360		•	•					•	•	
UPSD 100-30 F 360		•	•					•		•

3. Functions

Speed switch

The pump offers three speeds for adjustment of pump performance to the system in question.



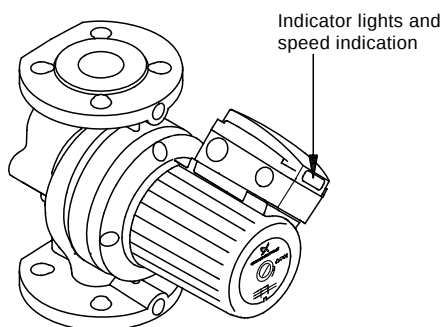
TM00 9247 4595

Fig. 1 Pump performance at the three speeds

The speeds of the various speed switch positions are shown in the table below:

Switch position	Speed in % of maximum speed	
	Single-phase pumps	Three-phase pumps
1	approx. 60 %	approx. 70 %
2	approx. 80 %	approx. 85 %
3	100 %	100 %

Change to a lower speed enables reduction in energy consumption and less noise in the system.



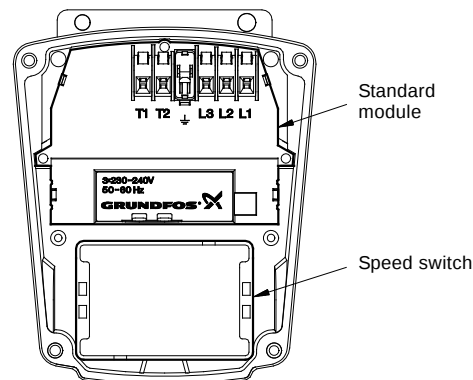
TM00 9747 0602

Fig. 2 Indicator lights on terminal box

Standard module

The module is standard in single-head pumps and is also available for twin-head pumps.

Connect the pump to the mains via an external contactor. Connect the contactor to the pump's built-in thermal overload switch to protect the pump against overload at all three speeds.



TM00 9237 0602

Fig. 3 Standard module

Standard module indicator lights

The function of the indicator lights on the terminal box is as shown in the following tables.

Single-phase pumps

Single-phase pumps incorporate a green indicator light only:

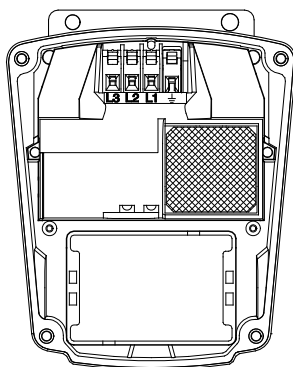
Indicator light	Description
On	The power supply has been switched on.
Off	The power supply has been switched off.

Three-phase pumps

Three-phase pumps incorporate a green and a red indicator light:

Indicator lights		Description
Green	Red	
Off	Off	The power supply has been switched off.
On	Off	The power supply has been switched on.
On	On	The power supply has been switched on. The direction of rotation is wrong.

Protection module



TM01 3879 4798

Fig. 4 Protection module

The protection module is supplied as an accessory for single-head and twin-head pumps.

When fitted with a protection module, the pump can be connected to an external switch directly, as the built-in protection against overheating protects the pump at all three speeds. Furthermore, the module has two indicator lights.

Protection module indicator lights

The function of the indicator lights is shown in the table below.

Indicator lights		Description
Green	Red	
Off	Off	The pump has been stopped.
On	Off	The power supply has been switched off, thermally cut out or a phase is failing.
On	Off	The pump is operating.
On	On	Three-phase pumps only: The pump is operating, but the direction of rotation is not correct.
Off	On	The pump has been cut out by the thermal switch.

Note: Pumps with protection module must not be connected to a frequency converter.

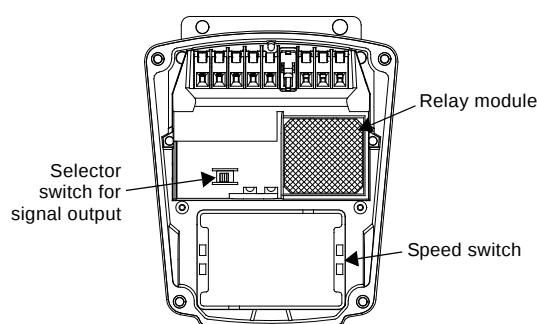
Relay module

The relay module is standard in twin-head pumps and an optional extra for single-head pumps.

The module enables direct connection of the pump to an external mains switch and an external operating or fault indication device. The signal output for an external signal device can be set to activation during operation or fault by means of the selector switch.

As standard, the signal outputs of relay modules in twin-head pumps are interconnected so that the pumps are operating alternately as duty pump and standby pump.

The pump is connected directly to the mains as the pump incorporates overload protection at all three speeds. If the pump has been cut out by the thermal overload switch, it will restart automatically when it has cooled to normal temperature, provided the external on/ off contact is closed.



TM00 9236 4596

Fig. 5 Relay module

Relay module indicator lights

The indicator lights on pumps with relay module have more detailed operating and fault indications.

All pumps with relay module have a green and a red indicator light. Their functions are as shown in the table below.

Signal output

The relay module has a signal output for external operating or fault indication.

By means of the selector switch, the output can be used as:

- Operation signal output between terminals 2 and 3 or
- Fault signal output between terminals 1 and 3.

4. Operating conditions

Pumped liquids

Thin, clean, non-aggressive and non-explosive liquids, not containing any solid particles, fibres or mineral oil. In domestic hot water systems, it is advisable to use bronze pumps only for water with a degree of hardness lower than approx. 14 °dH. For water with a higher degree of hardness, use a close-coupled pump type TP.

If the pump is installed in a heating system, the water should meet the requirements of accepted standards on water quality in heating systems, e.g. the German standard VDI 2035.

The pumps **must not** be used for the transfer of inflammable liquids such as diesel oil and petrol.

UPS and UPSD pumps can be used for pumping water/glycol mixtures up to 50 %. The maximum viscosity of a 50 % glycol mixture at -10 °C is approx. 32 cSt.

Note: When pumping glycol mixtures, the pump performance will be reduced.

To prevent the glycol mixture from degrading, avoid temperatures exceeding the rated liquid temperature and minimise the operating time at high temperatures. It is important to clean and flush the system before the glycol mixture is added.

To prevent corrosion or precipitation, the glycol mixture should be checked and maintained regularly. If further dilution of the supplied glycol is required, follow the glycol supplier's instructions.

Temperature limits

- Ambient temperature: 0 °C to 40 °C
- Liquid temperature
 - for short periods: +140 °C
 - continuously: -10 °C to +120 °C
 - domestic hot water: up to +60 °C
- Storage temperature: -30 °C to +55 °C.

Depending on the cast-iron version and the pump application, the maximum liquid temperature may be limited by local regulations and laws.

System and inlet pressures

Relative humidity: Max. 95 %.

Sound-pressure level: The sound-pressure level of the pump is lower than 41 dB(A) (reference: 20 mPa).

Test pressure:

- PN 6: 10 bar ~ 1.0 MPa
- PN 10: 15 bar ~ 1.5 MPa
- PN 6/10: 15 bar ~ 1.5 MPa.

Test liquid: +20 °C water containing corrosion inhibitor.

Inlet pressure

To avoid cavitation noise, the following minimum pressures are required at the pump suction flange:

Pump type	Liquid temperature		
	75 °C	90 °C	120 °C
UPS, UPSD	[bar]/[MPa]	[bar]/[MPa]	[bar]/[MPa]
32-60 F 220	0.05/0.5	0.20/2.0	1.50/15.0
32-120 F 220	0.40/4.0	0.70/7.0	1.95/19.5
40-60/2 F 250	0.15/1.5	0.45/4.5	1.75/17.5
40-120 F 250	0.10/1.0	0.40/4.0	1.70/17.0
40-180 F 250	0.40/4.0	0.70/7.0	1.95/19.5
40-185 F 250	0.55/5.5	0.90/9.0	1.80/18.0
50-60/2 F 280	0.05/0.5	0.35/3.5	1.65/16.5
50-120 F 280	0.40/4.0	0.70/7.0	1.95/19.5
50-180 F 280	0.35/3.5	0.65/6.5	1.90/19.0
50-185 F 280	0.85/8.5	1.00/10.0	2.15/21.5
65-60/2 F 340	0.45/4.5	0.75/7.5	2.00/20.0
65-120 F 340	0.90/9.0	1.20/12.0	2.45/24.5
65-180 F 340	0.70/7.0	1.00/10.0	2.25/22.5
65-185 F 340	0.90/9.0	1.30/13.0	2.35/23.5
80-60 F 360	1.20/12.0	1.50/15.0	2.75/27.5
80-120 F 360	1.60/16.0	1.90/19.0	3.15/31.5
100-30 F 450	1.05/10.5	1.35/13.5	2.60/26.0

Electrical data

Supply voltage and frequency:	1 x 230-240 V, 50 Hz 3 x 400-415 V, 50 Hz
Motor protection:	The pump requires no external motor protection, if the motor is fitted with a protection module.
Back-up fuse:	Max. 10 A
Enclosure class:	IPX4D
Insulation class:	F, H
Screwed cable entries:	1 x M20 for mains connection. 1 x M20 for signal output (blanked-off if pump with standard module). 1 x M16 for capacitor connection (only single-phase pumps).
EMC (electromagnetic compatibility):	EN 61 000-6-2 EN 61 000-6-3

Thermal overload switch

Voltage	250 V AC
Current	cos φ = 1.0: 2.5 A cos φ = 0.6: 1.6 A

Relay module

Start/stop input

External potential-free contact

- Maximum load: 250 V, 1.5 mA
- Minimum load: 100 V, 0.5 mA

Operating/fault signal output

Internal potential-free changeover contact

- Maximum load: 250 V, 2 A, AC
- Minimum load: 5 V, 100 mA, DC

7. Performance curves and technical data

Curve conditions

The guidelines below apply to the performance curves in the following data sheets:

- Due to the danger of overheating the pumps must not be used at a flow below $0.1 \times Q$ at best efficiency point.
- The bold parts of the curves show the recommended performance range.
- Test liquid: Airless water.
- The curves apply to a liquid temperature of 20 °C.
- All curves show average values and should not be used as guarantee curves. If a stated minimum performance is required, individual measurements must be made.

- The conversion between head H [m] and pressure p [kPa] has been made for water with a density of $\rho = 1000 \text{ kg/m}^3$. For liquids with other densities, e.g. hot water, the discharge pressure is proportional with the density.

Power curves, efficiency curves and electrical data for twin-head pumps apply to single-pump operation.

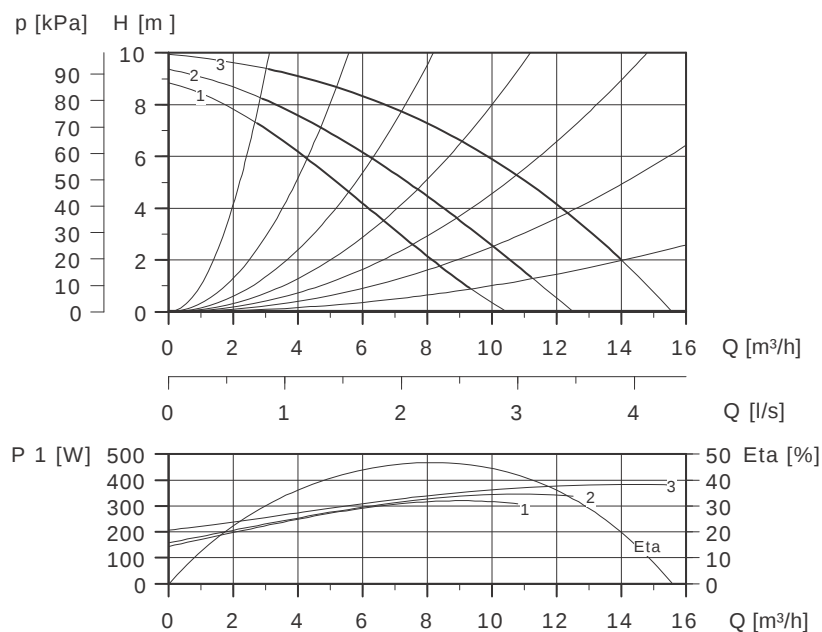
Speed

The table below shows the speed range of the various pump types and speed switch positions.

Pump type	Speed [min^{-1}]											
	Test voltage, 1 x 230 V						Test voltage, 3 x 400 V					
	Voltage range, 1 x 230-240 V						Voltage range, 3 x 400-415 V					
	Speed 1		Speed 2		Speed 3		Speed 1		Speed 2		Speed 3	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
32-60 F 220	2340	2780	2600	2850	2800	2910	2240	2630	2410	2720	2790	2900
32-120 F 220	2040	2770	2390	2840	2730	2920	2090	2660	2280	2740	2700	2910
40-60/2 F 250	2080	2630	2470	2760	2760	2870	2030	2350	2210	2500	2700	2820
40-120 F 250	2200	2770	2510	2840	2790	2920	2200	2590	2370	2690	2770	2890
40-180 F 250	2050	2750	2400	2840	2670	2890	2040	2660	2260	2750	2750	2910
40-185 F 250*	1920	2370	2300	2590	2530	2730	2130	2500	2300	2610	2750	2870
50-60/2 F 280	2180	2520	2510	2690	2790	2850	2230	2380	2400	2520	2790	2830
50-120 F 280	2050	2700	2460	2800	2690	2870	2020	2540	2240	2660	2720	2880
50-180 F 280	2200	2730	2490	2820	2690	2880	2450	2780	2590	2830	2860	2940
50-185 F 280*	2110	2620	2490	2750	2670	2860	2280	2540	2430	2650	2800	2860
65-60/2 F 340	2340	2520	2590	2690	2810	2840	2390	2440	2520	2570	2800	2830
65-120 F 340	2010	2590	2410	2750	2700	2850	2380	2730	2540	2790	2840	2930
65-180 F 340	-	-	-	-	-	-	2330	2750	2490	2810	2830	2930
65-185 F 340*	-	-	-	-	-	-	2400	2630	2530	2720	2830	2900
80-60 F 360	-	-	-	-	-	-	900	1190	1010	1270	1320	1420
80-120 F 360	-	-	-	-	-	-	2310	2530	2460	2640	2820	2880
100-30 F 450	-	-	-	-	-	-	1050	1360	1100	1140	1360	1370

* Only available as single-head pump (UPS)

UPS 32-120 F 220, UPS 32-120 F B 220



TM00 9422 0197

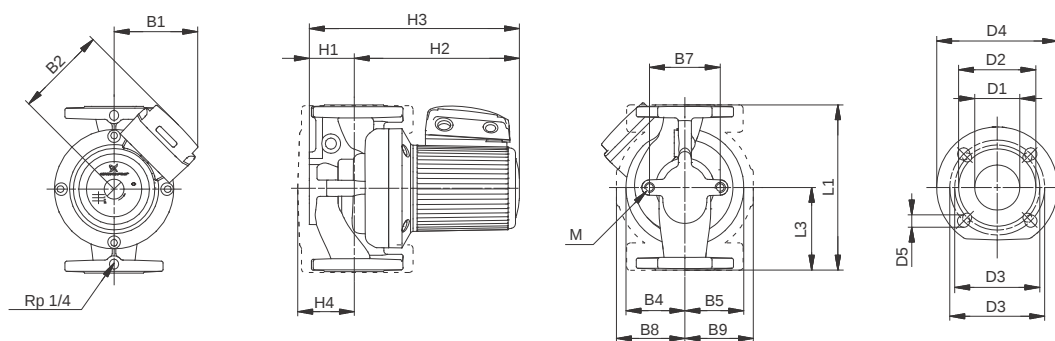
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	320	145	1.55	0.90	10
	Speed 2	340	160	1.65	0.90	10
	Speed 3	380	210	1.75	0.94	10

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	16.3	17.7
Gross weight [kg]	17.6	19.0
Shipping volume [m³]	0.026	0.026

Dimensional sketch

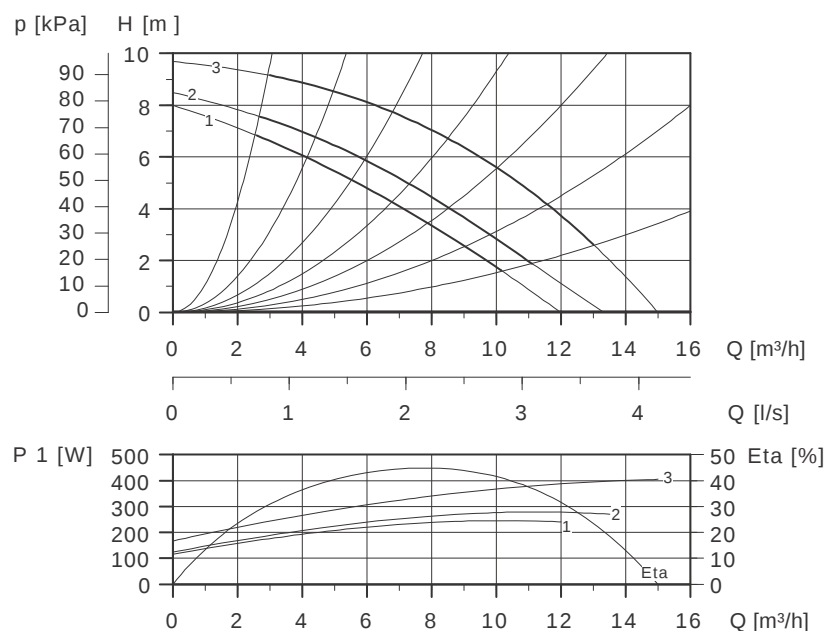


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	220		110	135	141	75	75	80	110	110	68	242	310	103	32	76	90/100	140	14/19	M12

UPS 32-120 F 220, UPS 32-120 F B 220



TM00 9423 0197

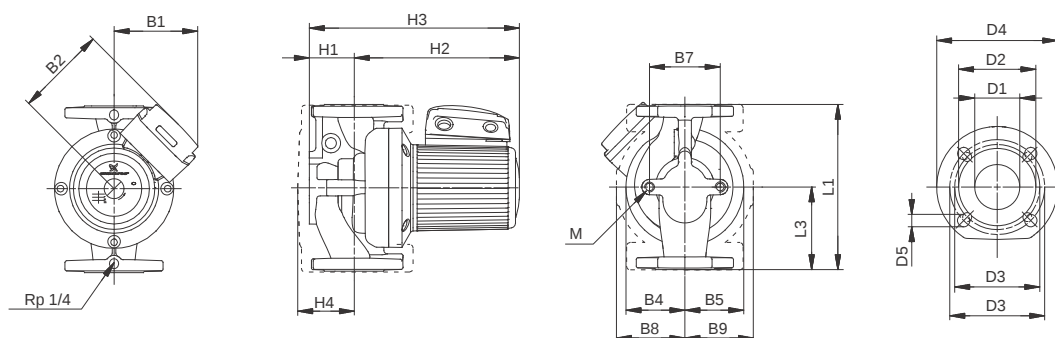
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	245	120	0.42	0.84
	Speed 2	280	130	0.47	0.86
	Speed 3	400	170	0.78	0.74

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	16.3	17.7
Gross weight [kg]	17.6	19.0
Shipping volume [m³]	0.026	0.026

Dimensional sketch

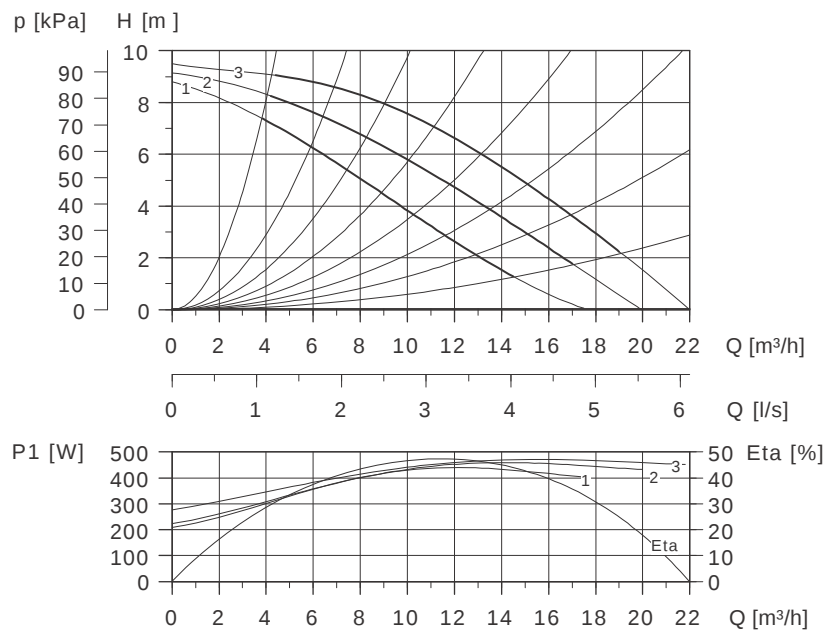


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	220		110	135	141	75	75	80	110	110	68	242	310	103	32	76	90/100	140	14/19	M12

UPS 40-120 F 250, UPS 40-120 F B 250



TM00 9430 0197

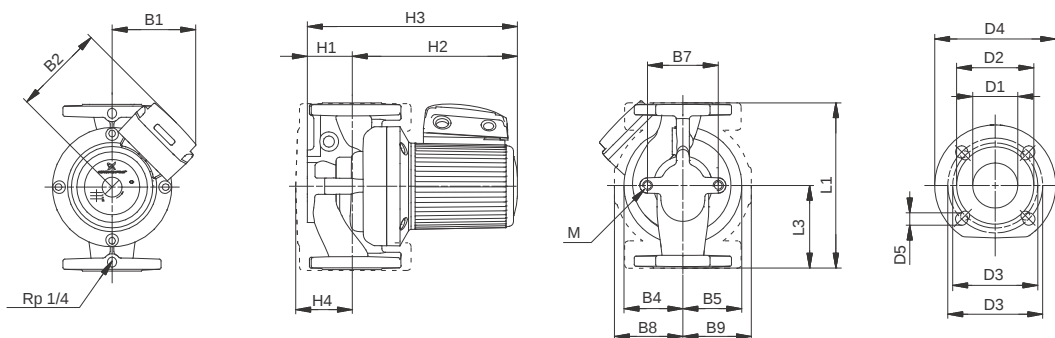
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	440	210	2.20	0.87	12
	Speed 2	460	225	2.30	0.87	12
	Speed 3	470	280	2.20	0.93	12

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	18.3	20.2
Gross weight [kg]	19.6	21.5
Shipping volume [m³]	0.026	0.026

Dimensional sketch

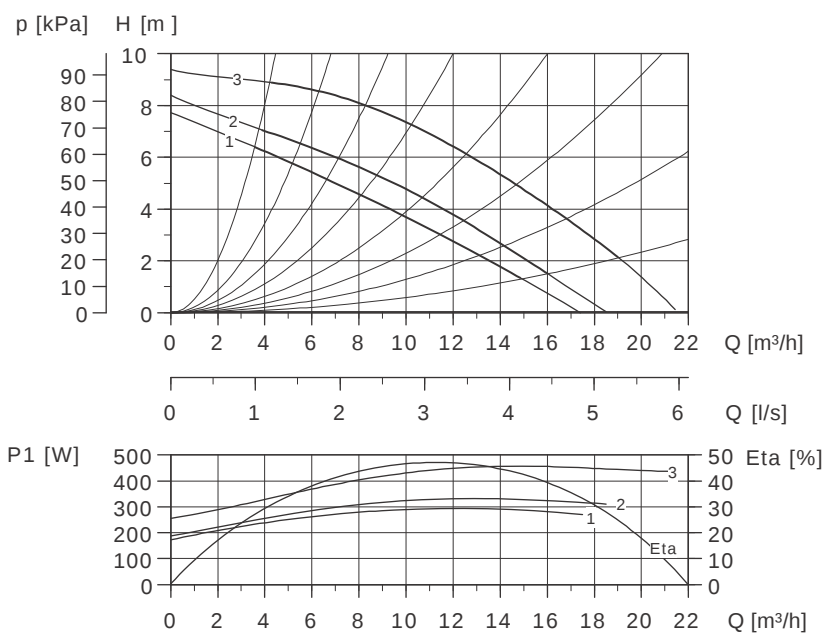


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze) 250			125	135	141	75	75	80	110	110	81	246	314	103	40	84	100/110	150	14/19	M12

UPS 40-120 F 250, UPS 40-120 F B 250



TM00 9431 0197

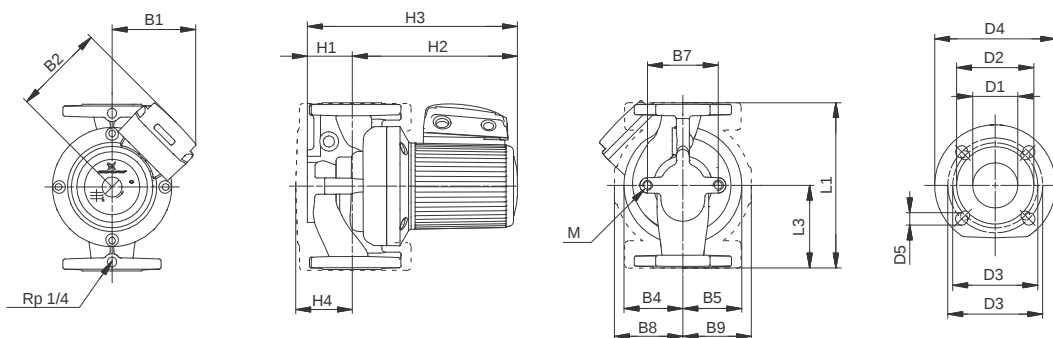
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	290	175	0.49	0.85
	Speed 2	330	190	0.56	0.85
	Speed 3	460	260	0.92	0.72

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	17.7	20.0
Gross weight [kg]	19.2	21.5
Shipping volume [m³]	0.026	0.026

Dimensional sketch

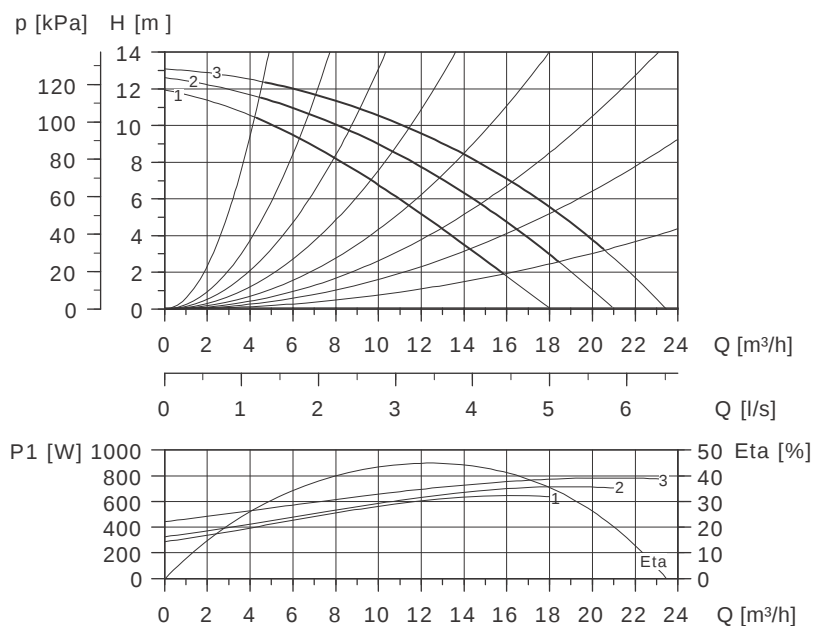


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	250		125	135	141	75	75	80	110	110	81	246	314	103	40	84	100/110	150	14/19	M12

UPS 40-180 F 250, UPS 40-180 F B 250



TM00 9432 0197

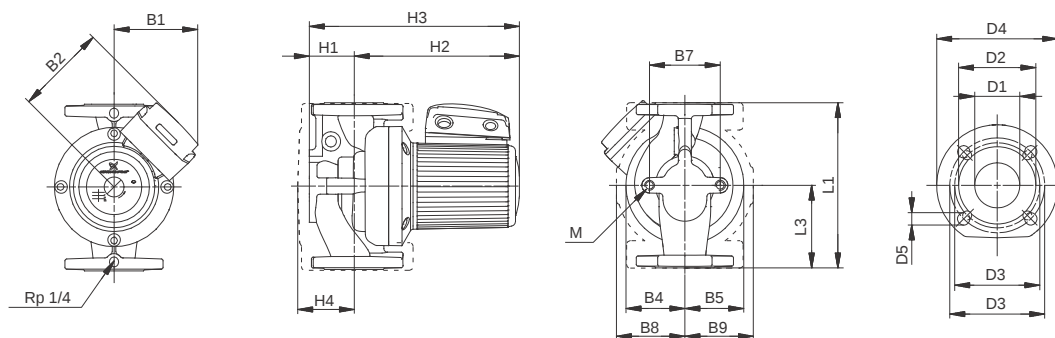
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	650	290	3.15	0.90	25
	Speed 2	730	330	3.50	0.91	25
	Speed 3	790	450	3.65	0.94	25

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	23.7	26.5
Gross weight [kg]	25.3	28.0
Shipping volume [m³]	0.043	0.043

Dimensional sketch

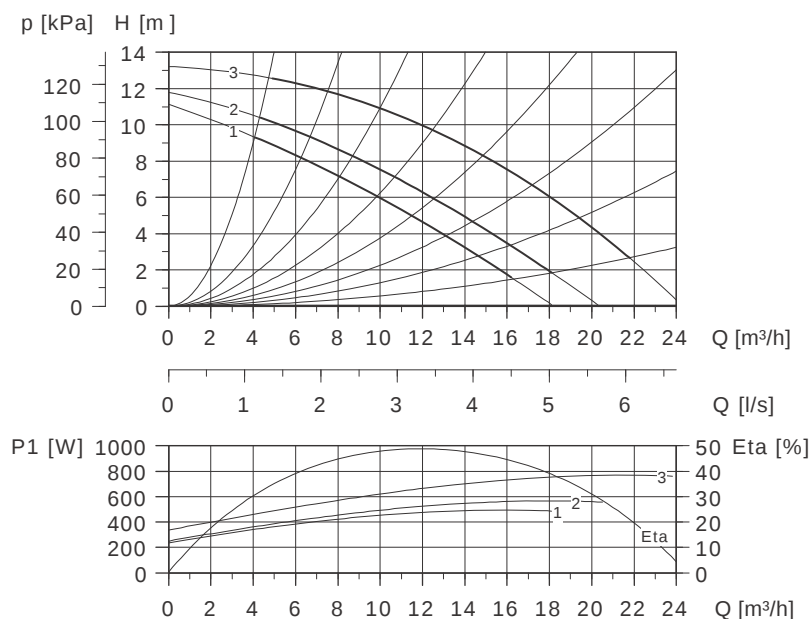


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	250		125	145	156	100	100	80	134	134	68	240	352	106	40	84	100/110	150	14/19	M12

UPS 40-180 F 250, UPS 40-180 F B 250



TM00 9433 0197

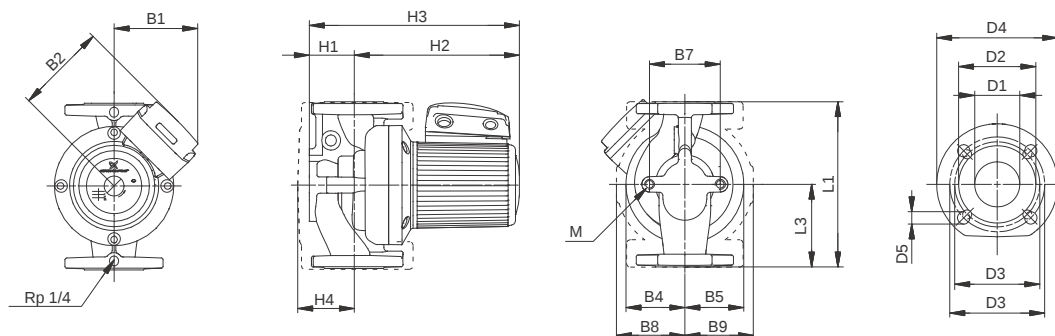
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	490	235	0.82	0.86
	Speed 2	570	250	0.94	0.86
	Speed 3	770	350	1.30	0.85

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	21.4	24.5
Gross weight [kg]	22.8	26.0
Shipping volume [m³]	0.034	0.034

Dimensional sketch

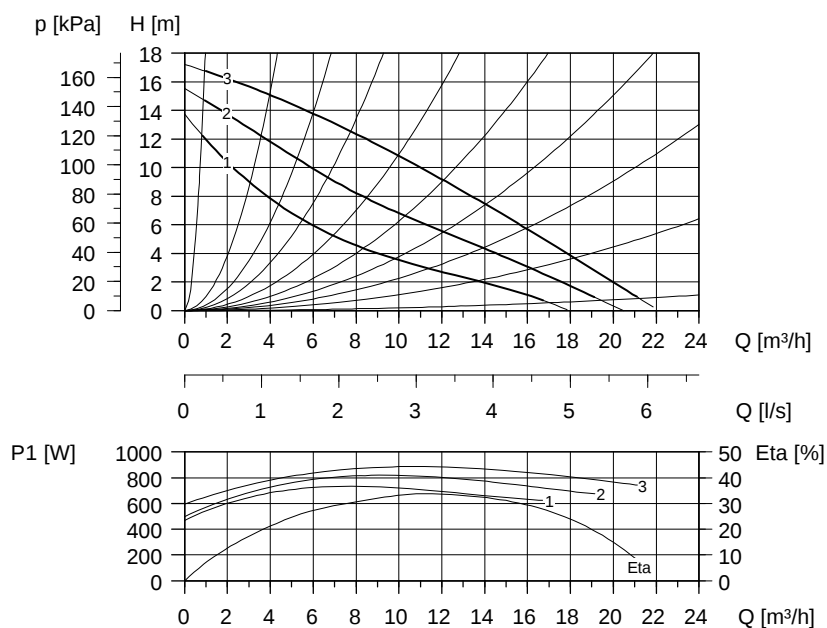


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	250		125	145	155	100	100	80	134	134	68	240	308	106	40	84	100 / 110	150	14 / 19	M12

UPS 40-185 F 250

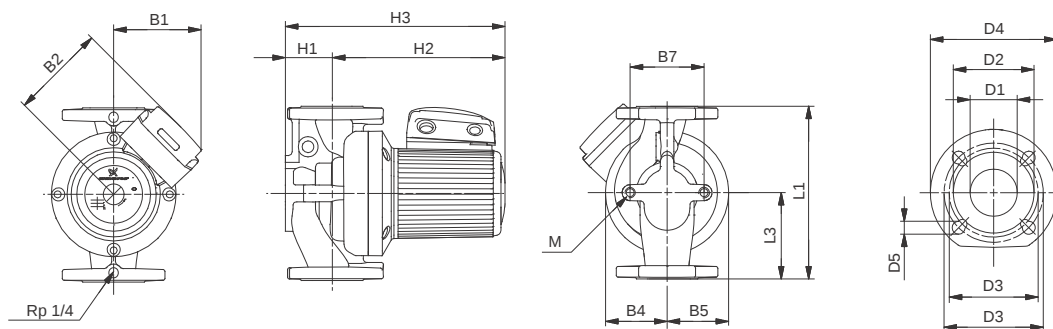


TM01 4940 0899

Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \phi$	C [μF]
1 x 230-240 V	Speed 1	735	470	3.55	0.90	25
	Speed 2	825	490	3.90	0.92	25
	Speed 3	890	590	4.10	0.94	25

Dimensional sketch

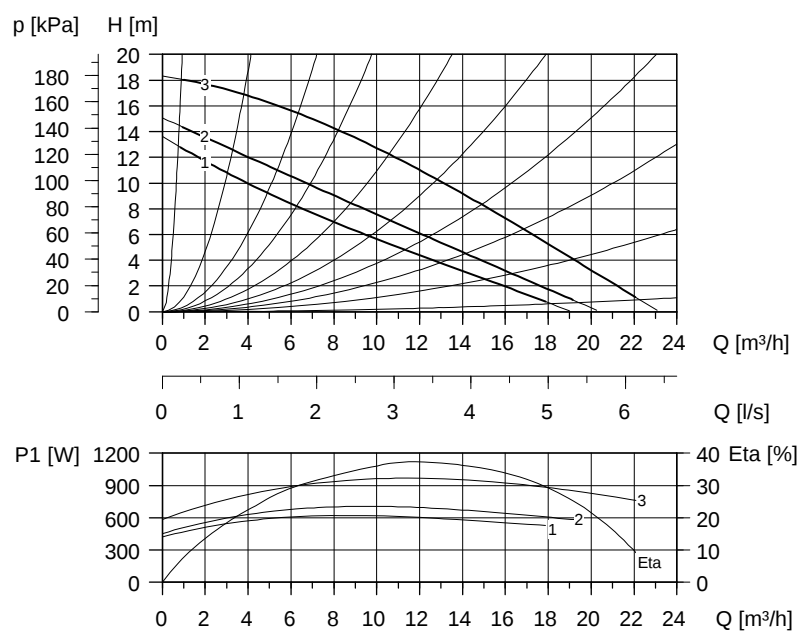


TM03 2075 3605

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10	250		125	145	155	102	100	96			67	243	296		40	88	100 / 110	150	14 / 19	M12

UPS 40-185 F 250



TM01 4941 0611

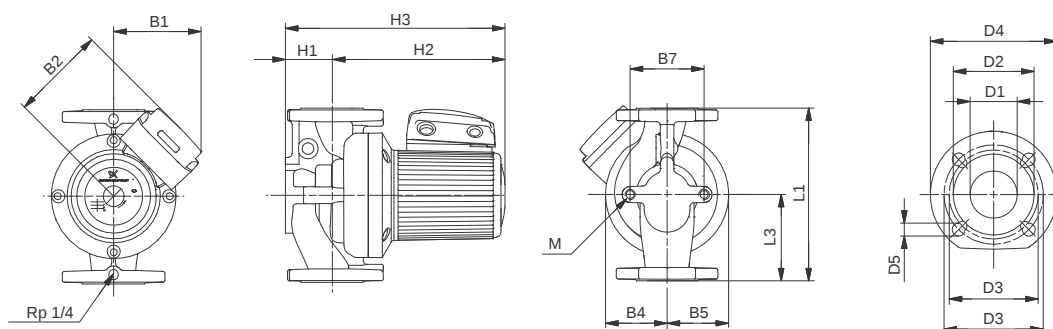
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \phi$
3 x 400-415 V	Speed 1	620	415	1.04	0.86
	Speed 2	705	450	1.18	0.86
	Speed 3	975	580	1.80	0.78

Weights and volume

	PN 6 / PN 10
Net weight [kg]	19.7
Gross weight [kg]	21.4
Shipping volume [m³]	0.034

Dimensional sketch

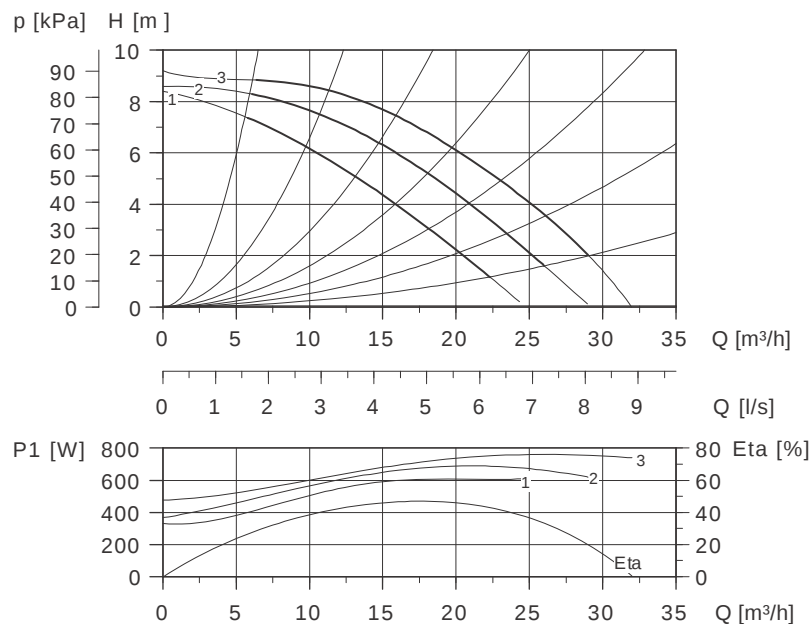


TM03 2075 3605

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10	250		125	145	155	102	100	96			67	243	296		40	88	100/110	150	14/19	M12

UPS 50-120 F 280, UPS 50-120 F B 280



TM00 9438 0197

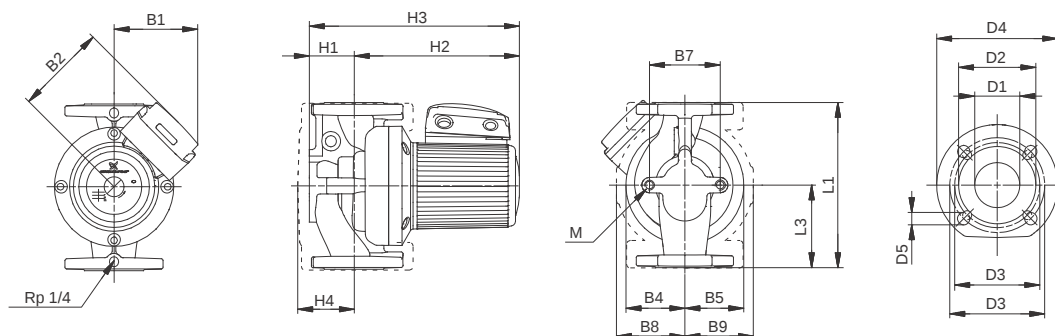
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	620	330	3.05	0.88	25
	Speed 2	700	360	3.35	0.91	25
	Speed 3	760	480	3.60	0.92	25

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	26.5	29.0
Gross weight [kg]	28.0	30.5
Shipping volume [m³]	0.043	0.043

Dimensional sketch

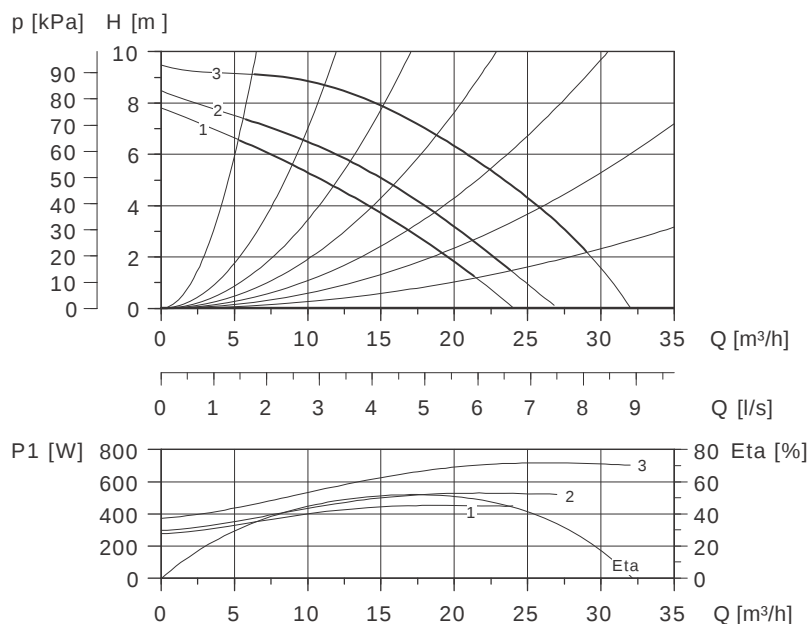


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	280		140	145	155	100	100	120	135	135	75	276	351	116	50	99	110/125	165	14/19	M12

UPS 50-120 F 280, UPS 50-120 F B 280



TM00 9439 0197

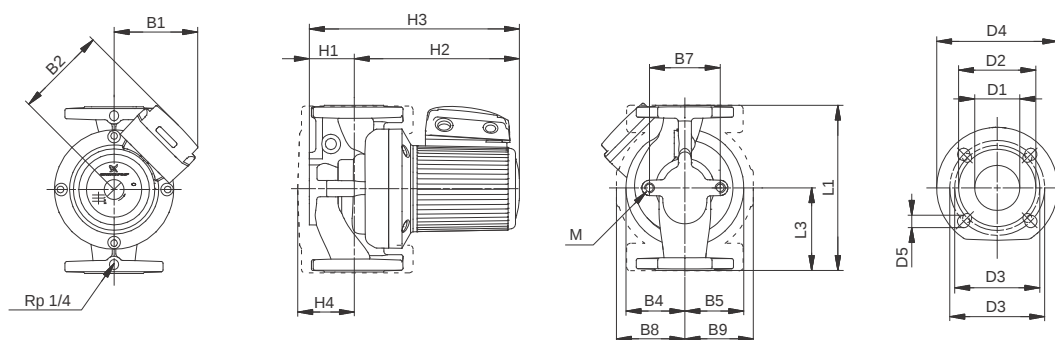
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	450	280	0.82	0.79
	Speed 2	530	300	0.94	0.81
	Speed 3	720	380	1.30	0.80

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	24.3	25.4
Gross weight [kg]	25.8	27.3
Shipping volume [m³]	0.034	0.043

Dimensional sketch

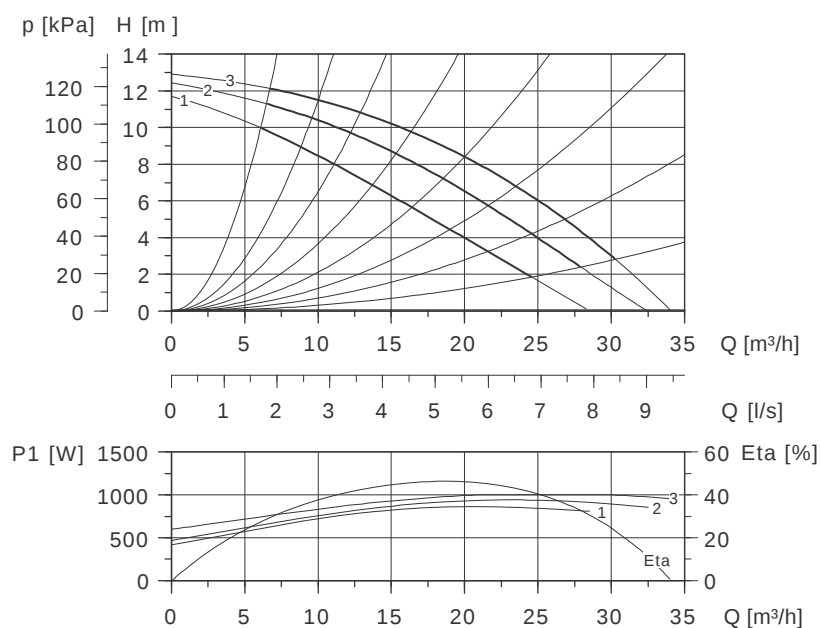


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	280		140	145	155	100	100	120	135	135	75	232	307	116	50	99	110/125	165	14/19	M12

UPS 50-180 F 280, UPS 50-180 F B 280



TM00 9440 0197

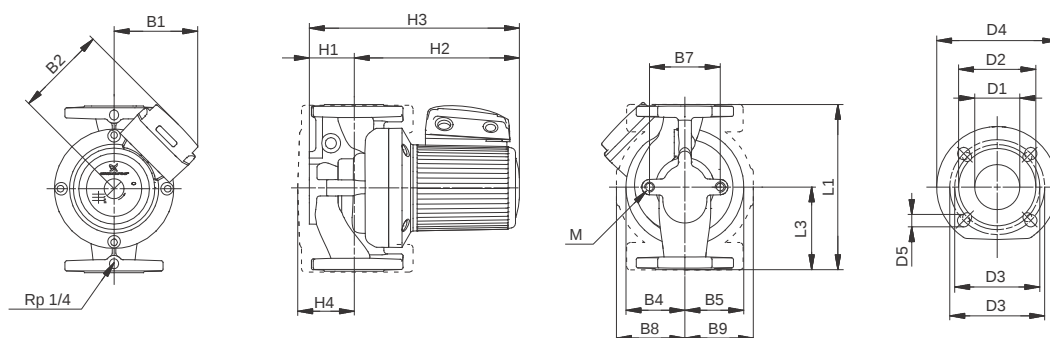
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \phi$	C [μF]
1 x 230-240 V	Speed 1	860	420	4.15	0.90	30
	Speed 2	940	470	4.40	0.93	30
	Speed 3	1000	600	4.65	0.94	30

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	29.0	32.4
Gross weight [kg]	30.5	33.9
Shipping volume [m³]	0.043	0.043

Dimensional sketch

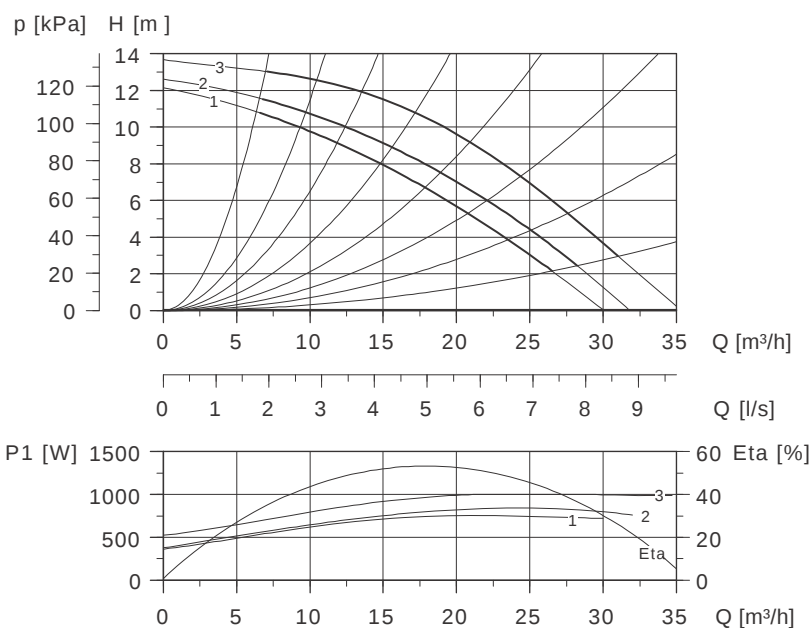


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	280		140	155	169	100	100	120	135	135	75	276	351	116	50	99	110/100	165	14/19	M12

UPS 50-180 F 280, UPS 50-180 F B 280



TM00 9441 0197

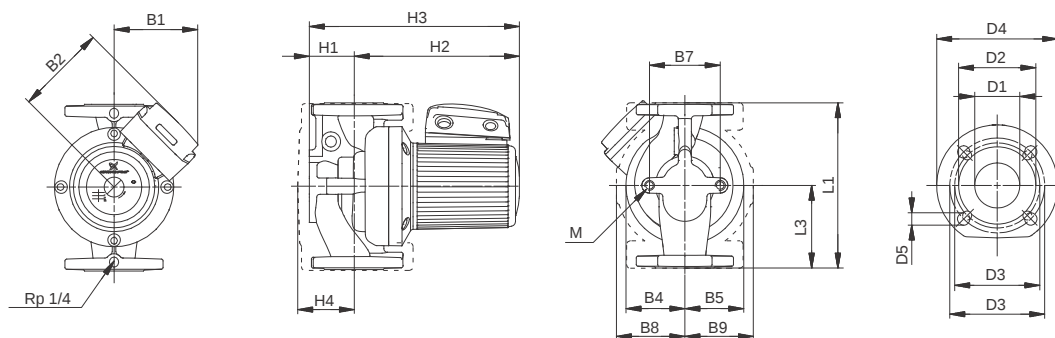
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	760	360	1.25	0.88
	Speed 2	850	380	1.40	0.88
	Speed 3	1000	520	2.00	0.72

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	25.6	28.5
Gross weight [kg]	26.9	30.5
Shipping volume [m³]	0.043	0.043

Dimensional sketch

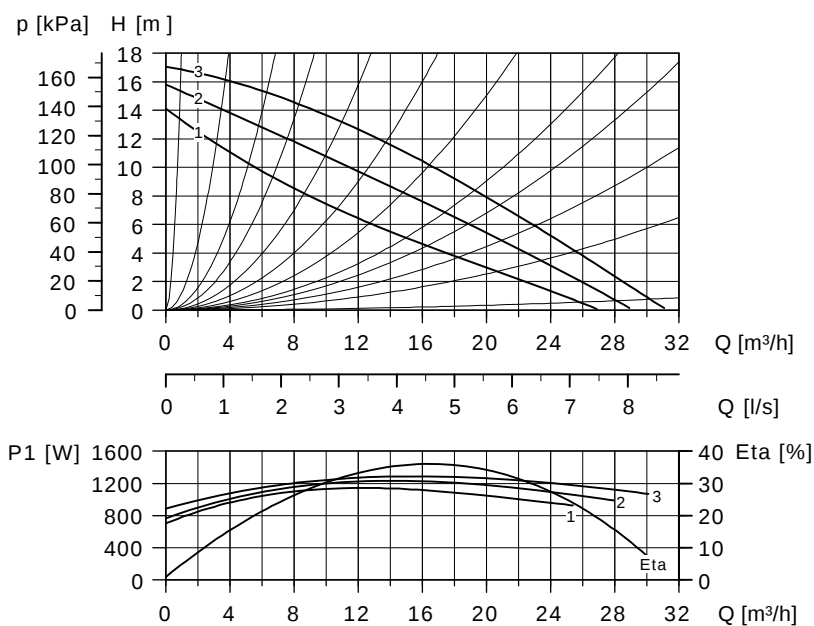


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	280		140	145	155	100	100	120	135	135	75	276	351	116	50	99	110/100	165	14/19	M12

UPS 50-185 F 280



TM01 4942 1199

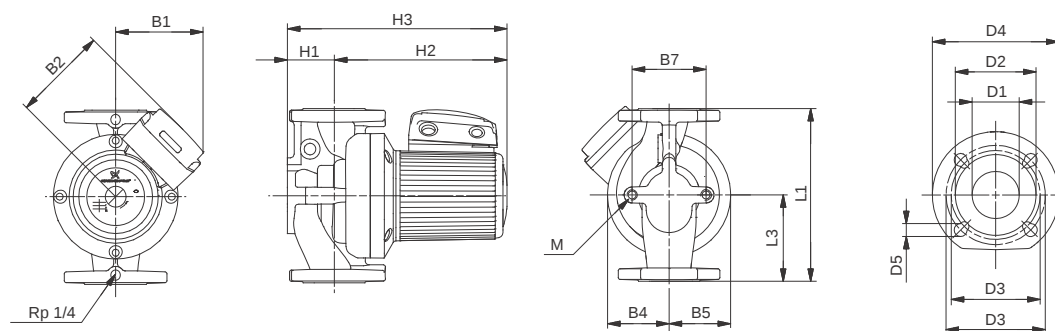
Electrical data

		P_{max} [W]	P_{min} [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	1150	710	5.60	0.89	30
	Speed 2	1240	770	6.05	0.89	30
	Speed 3	1290	810	6.00	0.93	30

Weights and volume

	PN 6 / PN 10
Net weight [kg]	27.4
Gross weight [kg]	29.1
Shipping volume [m³]	0.043

Dimensional sketch

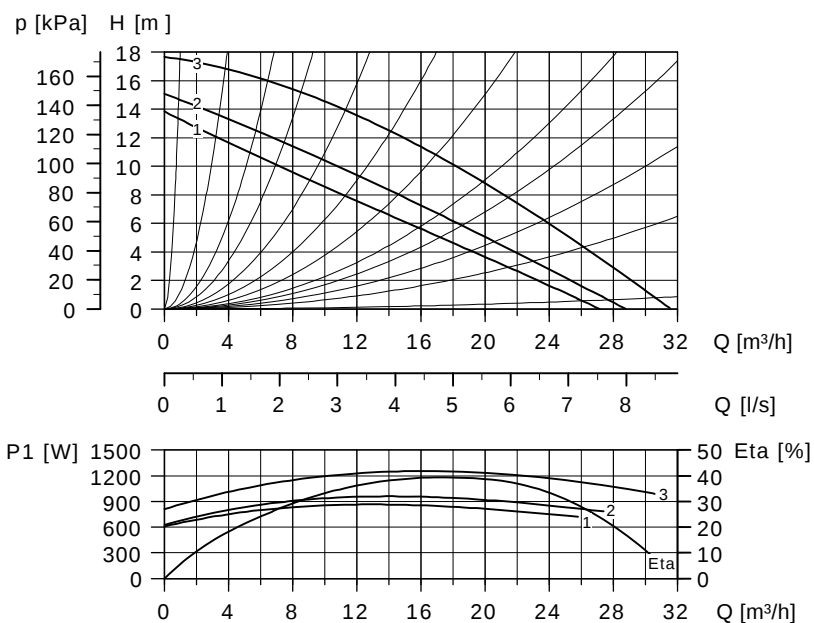


TM03 2075 3605

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10	280		140	145	155	104	100	96			75	274	349		50	99	110/125	165	14/19	M12

UPS 50-185 F 280



TM01 4943 1199

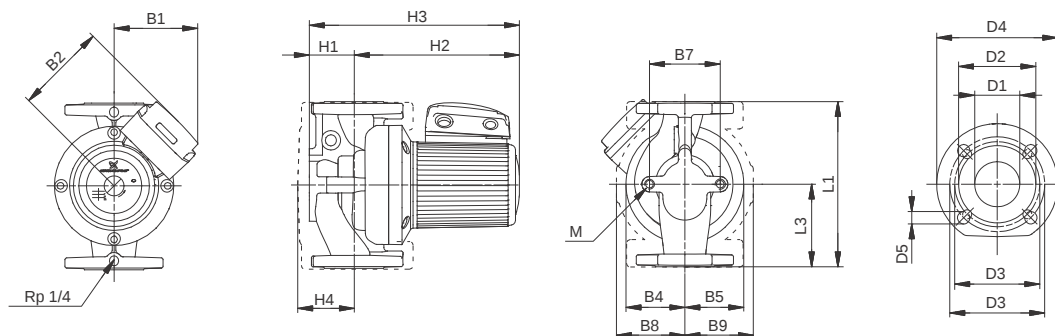
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
3 x 400-415 V	Speed 1	1150	710	5.60	0.89	30
	Speed 2	1240	770	6.05	0.89	30
	Speed 3	1290	810	6.00	0.93	30

Weights and volume

	PN 6 / PN 10
Net weight [kg]	24.8
Gross weight [kg]	26.5
Shipping volume [m³]	0.043

Dimensional sketch

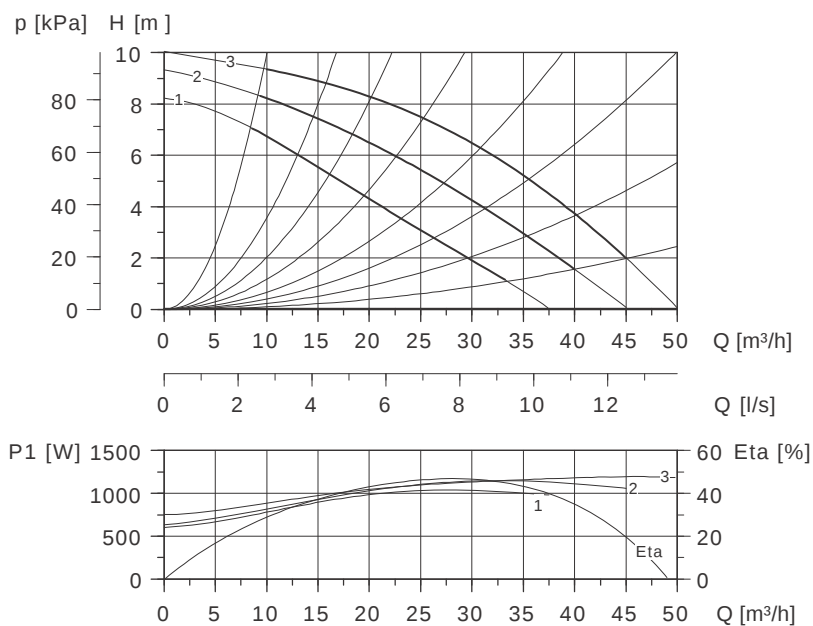


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10	280		140	145	155	104	100	96			75	274	349		50	102	110/125	165	14/19	M12

UPS 65-120 F 340, UPS 65-120 F B 340



TM00 9448 0197

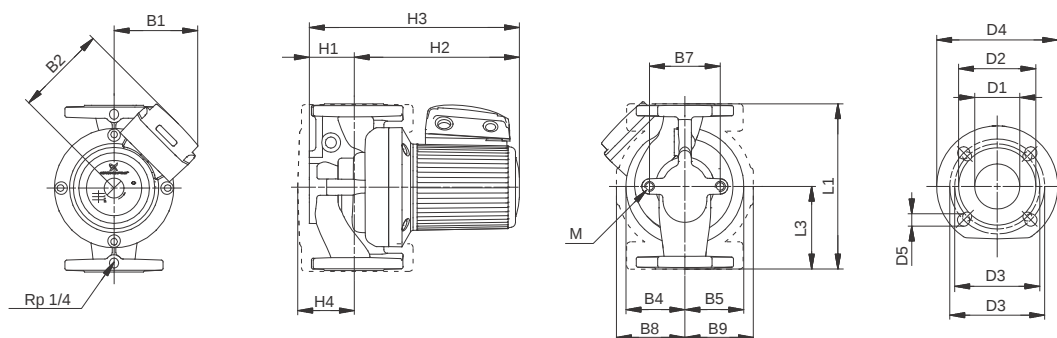
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$	C [μF]
1 x 230-240 V	Speed 1	1050	600	5.10	0.90	30
	Speed 2	1150	630	5.60	0.89	30
	Speed 3	1200	750	5.50	0.95	30

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	29.7	33.5
Gross weight [kg]	31.5	35.3
Shipping volume [m³]	0.043	0.043

Dimensional sketch

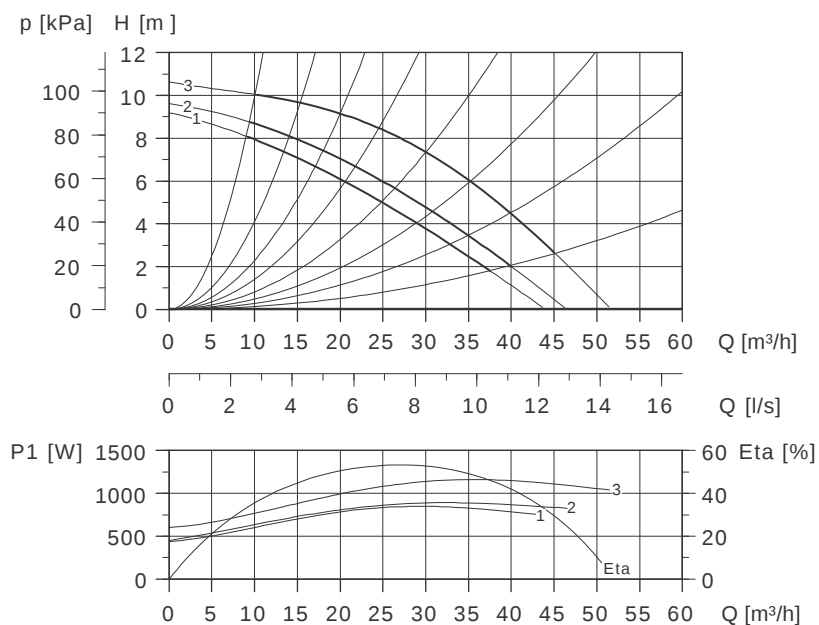


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	340		170	145	155	100	100	120	140	140	82	285	367	127	65	118	130/145	185	14/19	M12

UPS 65-120 F 340, UPS 65-120 F B 340



TM00 9449 0197

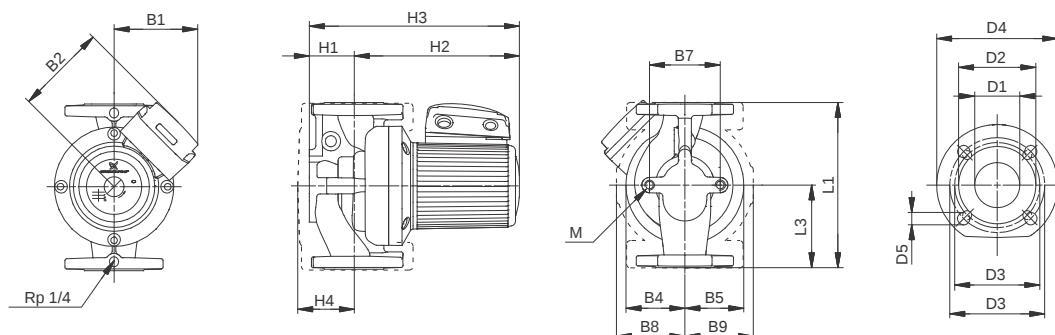
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	850	440	1.35	0.91
	Speed 2	900	460	1.45	0.90
	Speed 3	1150	600	2.15	0.77

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	27.4	32.5
Gross weight [kg]	28.8	34.0
Shipping volume [m³]	0.043	0.043

Dimensional sketch

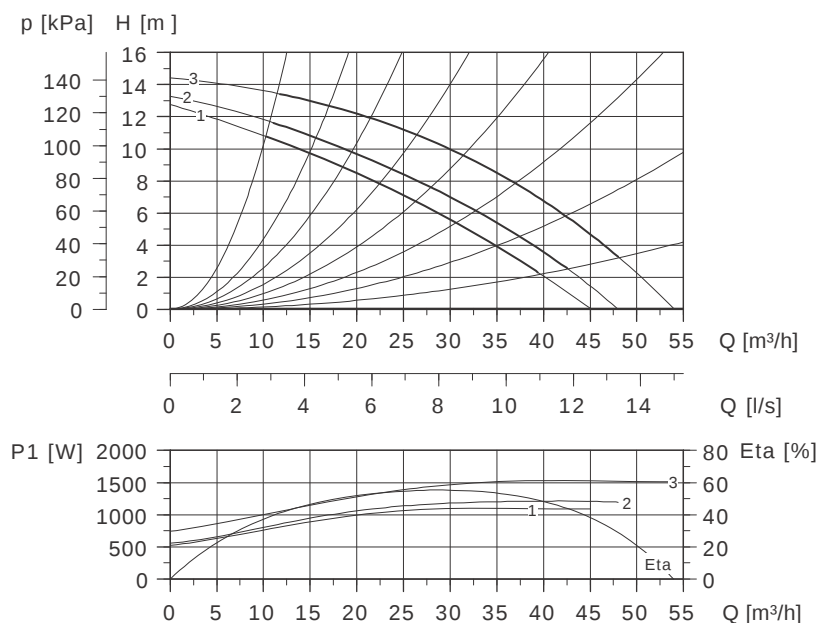


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	340		170	145	155	100	100	120	140	140	82	285	367	127	65	118	130/145	185	14/19	M12

UPS 65-180 F 340, UPS 65-180 F B 340



TM00 9450 0197

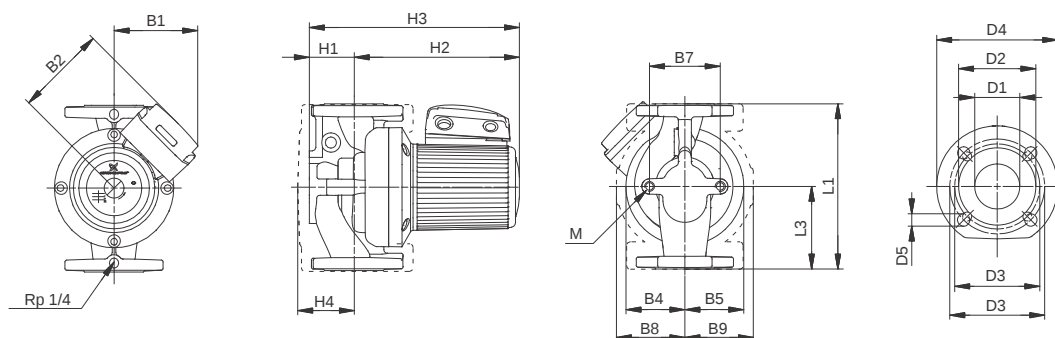
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	1100	520	1.85	0.86
	Speed 2	1200	560	2.00	0.87
	Speed 3	1550	740	2.90	0.77

Weights and volume

	PN 6 / PN 10	PN 6 / PN 10 bronze
Net weight [kg]	29.3	35.0
Gross weight [kg]	33.1	36.5
Shipping volume [m³]	0.043	0.043

Dimensional sketch

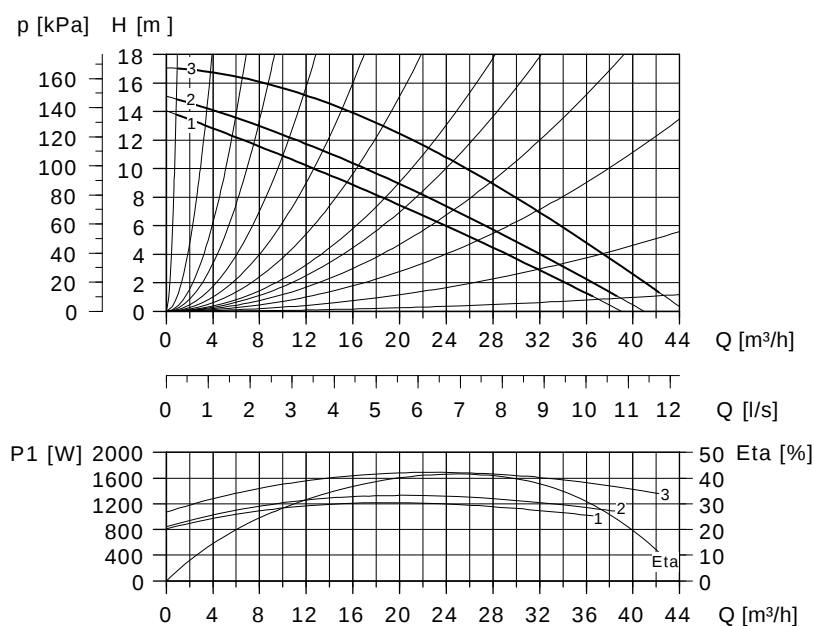


TM02 0701 3601

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10 (bronze)	340		170	145	155	100	100	120	140	140	116	285	367	127	65	118	130/145	185	14/19	M12

UPS 65-185 F 340



TM01 4944 1199

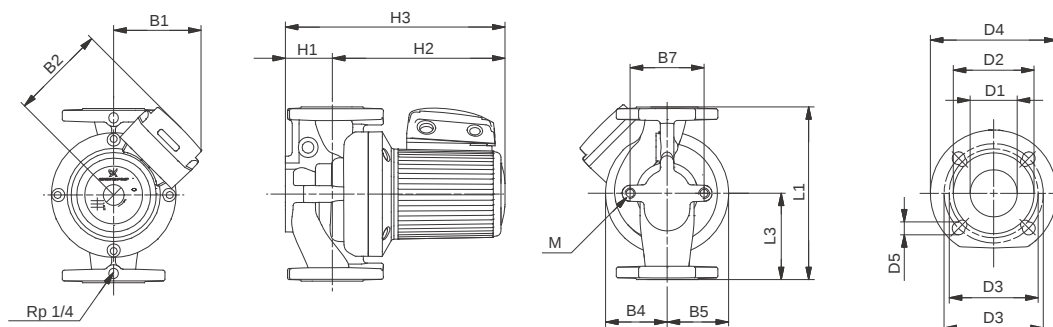
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \phi$
3 x 400-415 V	Speed 1	1220	825	2.00	0.88
	Speed 2	1340	860	2.20	0.88
	Speed 3	1710	1100	3.25	0.76

Weights and volume

	PN 6 / PN 10
Net weight [kg]	31.8
Gross weight [kg]	33.7
Shipping volume [m³]	0.055

Dimensional sketch

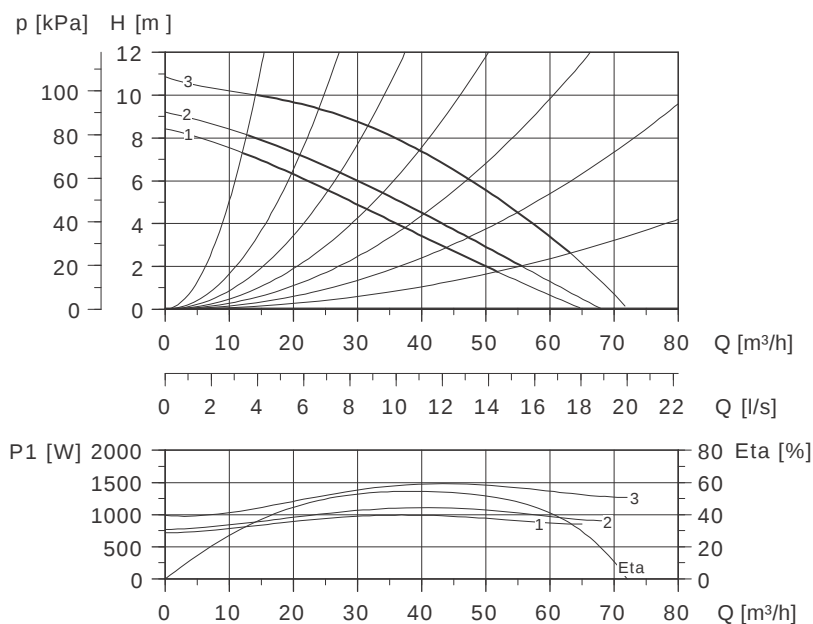


TM03 2075 3605

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 / PN 10	340		170	145	155	128	100	96			116	282	364	65	118	130/145	185		14/19	M12

UPS 80-120 F 360, UPS 80-120 F B 360



TM00 9453 0197

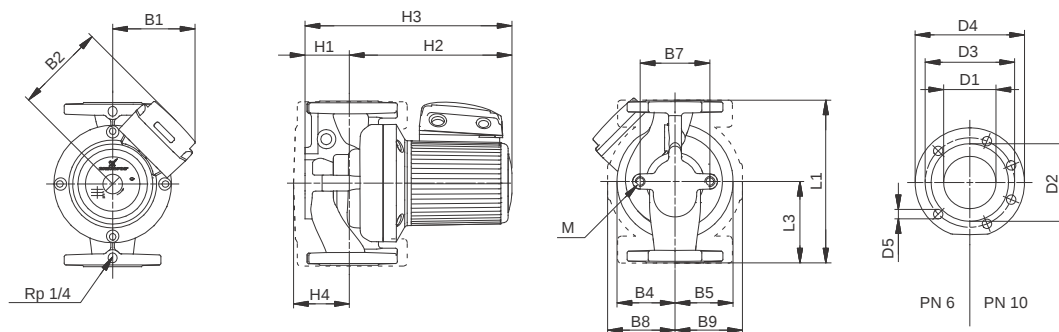
Electrical data

		$P_{\max}$ [W]	$P_{\min}$ [W]	$I_{1/1}$ [A]	$\cos \varphi$
3 x 400-415 V	Speed 1	1000	710	1.65	0.87
	Speed 2	1100	760	1.80	0.88
	Speed 3	1500	960	2.75	0.79

Weights and volume

	PN 6	PN 10	PN 6 bronze	PN 10 bronze
Net weight [kg]	36.7	36.7	43.0	43.0
Gross weight [kg]	38.6	38.6	45.0	45.0
Shipping volume [m³]	0.055	0.055	0.055	0.055

Dimensional sketch



TM02 0733 5100

Dimensions [mm]

	L1	L2	L3	B1	B2	B4	B5	B7	B8	B9	H1	H2	H3	H4	D1	D2	D3	D4	D5	M
PN 6 (bronze)	360		180	145	155	125	100	160	165	145	97	297	394	160	80	132	150	200	4x19	M12
PN 10 (bronze)	360		180	145	155	125	100	160	165	145	97	297	394	160	80	132	160	200	8x19	M12

9. Product numbers

UPS, UPSD 32 Connection: 32 mm (1 1/4")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPS 32-60 F 220	96401771	16
				UPS 32-120 F 220	96401837	18
			3 x 400-415	UPS 32-60 F 220	96401777	17
				UPS 32-120 F 220	96401839	19
	Bronze	PN 6 / PN 10	1 x 230-240	UPS 32-60 F B 220	96401797	16
				UPS 32-120 F B 220	96401844	18
			3 x 400-415	UPS 32-60 F B 220	96401808	17
				UPS 32-120 F B 220	96401846	19
				Twin-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 32-60 F 220	96408898	45
				UPSD 32-120 F 220	96408893	47
			3 x 400-415	UPSD 32-60 F 220	96408900	46
				UPSD 32-120 F 220	96408961	48
Relay module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 32-60 F 220	96401783	45
				UPSD 32-120 F 220	96401841	47
			3 x 400-415	UPSD 32-60 F 220	96401792	46
				UPSD 32-120 F 220	96401843	48
UPS, UPSD 40 Connection: 40 mm (1 1/2")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPS 40-60/2 F 250	96401915	20
				UPS 40-120 F 250	96401942	22
				UPS 40-180 F 250	96401977	24
				UPS 40-185 F 250	96430299	26
			3 x 400-415	UPS 40-60/2 F 250	96401917	21
				UPS 40-120 F 250	96401944	23
				UPS 40-180 F 250	96401979	25
				UPS 40-185 F 250	96430296	27
	Bronze	PN 6 / PN 10	1 x 230-240	UPS 40-60/2 F B 250	96401921	20
				UPS 40-120 F B 250	96401949	22
				UPS 40-180 F B 250	96401983	24
			3 x 400-415	UPS 40-60/2 F B 250	96401923	21
				UPS 40-120 F B 250	96401951	23
				UPS 40-180 F B 250	96401985	25
				Twin-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 40-60 F 250	96408907	49
				UPSD 40-120 F 250	96408901	51
			3 x 400-415	UPSD 40-60 F 250	96408909	50
				UPSD 40-120 F 250	96408903	52
Relay module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 40-60 F 250	96401918	49
				UPSD 40-120 F 250	96401946	51
			3 x 400-415	UPSD 40-60 F 250	96401920	50
				UPSD 40-120 F 250	96401948	52

UPS 50 Connection: 50 mm (2")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPS 50-60/2 F 280	96402053	28
				UPS 50-120 F 280	96402101	30
				UPS 50-180 F 280	96402134	32
			3 x 400-415	UPS 50-185 F 280	96430300	34
				UPS 50-60/2 F 280	96402055	29
				UPS 50-120 F 280	96402103	31
	Bronze	PN 6 / PN 10	1 x 230-240	UPS 50-180 F 280	96402136	33
				UPS 50-185 F 280	96430297	35
				UPS 50-60/2 F B 280	96402064	28
			3 x 400-415	UPS 50-120 F B 280	96402108	30
				UPS 50-180 F B 280	96402140	32
				UPS 50-60/2 F B 280	96402072	29
				Twin-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 50-60/2 F 280	96408919	53
				UPSD 50-120 F 280	96408910	55
				UPSD 50-180 F 280	96408913	57
			3 x 400-415	UPSD 50-60/2 F 280	96408921	54
				UPSD 50-120 F 280	96408912	56
				UPSD 50-180 F 280	96408915	58
Relay module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 50-60/2 F 280	96402057	53
				UPSD 50-120 F 280	96402105	55
				UPSD 50-180 F 280	96402137	57
			3 x 400-415	UPSD 50-60/2 F 280	96402060	54
				UPSD 50-120 F 280	96402107	56
				UPSD 50-180 F 280	96402139	58

UPSD 65 Connection: 65 mm (2 1/2")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPS 65-60/2 F 340	96402258	36
				UPS 65-120 F 340	96402278	38
				UPS 65-60/2 F 340	96402260	37
			3 x 400-415	UPS 65-120 F 340	96402280	39
				UPS 65-180 F 340	96402316	40
				UPS 65-185 F 340	96430298	41
	Bronze	PN 6 / PN 10	1 x 230-240	UPS 65-60/2 F B 340	96402262	36
				UPS 65-120 F B 340	96402285	38
				UPS 65-60/2 F B 340	96402264	37
			3 x 400-415	UPS 65-120 F B 340	96402287	39
				UPS 65-180 F B 340	96402320	40
Standard module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 65-60/2 F 340	96408933	59
				UPSD 65-120 F 340	96408925	61
				UPSD 65-60/2 F 340	96408935	60
			3 x 400-415	UPSD 65-120 F 340	96408927	62
				UPSD 65-180 F 340	96408929	63
				UPSD 65-180 F 340	96408929	63
Relay module	Cast iron	PN 6 / PN 10	1 x 230-240	UPSD 65-60/2 F 340	96404981	59
				UPSD 65-120 F 340	96402282	61
				UPSD 65-60/2 F 340	96404983	60
			3 x 400-415	UPSD 65-120 F 340	96402284	62
				UPSD 65-180 F 340	96402318	63
				UPSD 65-180 F 340	96402318	63

UPS, UPSD 80 Connection: 80 mm (3")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6	3 x 400-415	UPS 80-60 F 360	96402391	42
				UPS 80-120 F 360	96402440	43
	Cast iron	PN 10	3 x 400-415	UPS 80-60 F 360	96402392	42
				UPS 80-120 F 360	96402441	43
	Bronze	PN 6	3 x 400-415	UPS 80-60 F B 360	96404916	42
				UPS 80-120 F B 360	96404924	43
	Bronze	PN 10	3 x 400-415	UPS 80-60 F B 360	96402401	42
				UPS 80-120 F B 360	96402445	43
				Twin-head pumps		
Standard module	Cast iron	PN 6	3 x 400-415	UPSD 80-60 F 360	96408952	64
				UPSD 80-120 F 360	96408944	65
	Cast iron	PN 10	3 x 400-415	UPSD 80-60 F 360	96408951	64
				UPSD 80-120 F 360	96408943	65
Relay module	Cast iron	PN 6	3 x 400-415	UPSD 80-60 F 360	96402397	64
				UPSD 80-120 F 360	96403131	65
	Cast iron	PN 10	3 x 400-415	UPSD 80-60 F 360	96402398	64
				UPSD 80-120 F 360	96403132	65
UPS, UPSD 100 Connection: 100 mm (4")						
Terminal box module	Material	Pressure stage	Voltage [V]	Pump type	Product number	Data sheet Page
				Single-head pumps		
Standard module	Cast iron	PN 6	3 x 400-415	UPS 100-30 F 450	96402503	44
	Cast iron	PN 10	3 x 400-415	UPS 100-30 F 450	96402508	44
	Bronze	PN 6	3 x 400-415	UPS 100-30 F B 450	96404933	44
	Bronze	PN 10	3 x 400-415	UPS 100-30 F B 450	96402527	44
				Twin-head pumps		
Standard module	Cast iron	PN 6	3 x 400-415	UPSD 100-30 F 450	96408892	66
	Cast iron	PN 10	3 x 400-415	UPSD 100-30 F 450	96408891	66
Relay module	Cast iron	PN 6	3 x 400-415	UPSD 100-30 F 450	96402523	66
	Cast iron	PN 10	3 x 400-415	UPSD 100-30 F 450	96402524	66

10. Accessories

The following accessories are available for UPS, UPSD pumps:

- protection module
- relay module for single-head pumps
- relay module kit for twin-head pumps
- counter flanges (standard on pumps for the UK)
- insulation kit (only single-head pumps)
- base plate (only single-head pumps)
- blanking flanges (only twin-head pumps).

Counter flanges

A counter flange kit includes these parts:

- two flanges with internal thread (ISO seal thread) or two flanges for welding/soldering
- two gaskets
- bolts.

Pumps with cast iron pump housing			
Pump type	Pressure stage	Size	Product number
UPS/UPSD 32	PN 10	Rp 1 1/4	539703
		32 mm	539704
UPS/UPSD 40	PN 10	Rp 1 1/2	539701
		40 mm	539702
UPS/UPSD 50	PN 10	Rp 2	549801
		50 mm	549802
UPS/UPSD 65	PN 10	Rp 2 1/2	559801
		65 mm	559802
UPS/UPSD 80	PN 6	Rp 3	569902
		80 mm	569901
	PN 10	Rp 3	569802
		80 mm	569801
UPS/UPSD 100	PN 6	Rp 4	579901
		100 mm	579902
	PN 10	Rp 4	579801
		100 mm	579802
Pumps with bronze pump housing			
Pump type	Pressure stage	Size	Product number
UPS 32	PN 10	Rp 1 1/4	96427029
		32 mm	96427030
UPS 40	PN 10	Rp 1 1/2	539711
		40 mm	539712
UPS 50	PN 10	Rp 2	549811
		50 mm	549812
UPS 65	PN 10	Rp 2 1/2	559811
		65 mm	559812
UPS 80	PN 6	Rp 3	96405735
		80 mm	569911
	PN 10	Rp 3	569812
		80 mm	569811
UPS 100	PN 6	Rp 4	96405737
	PN 10	Rp 4	96405738

Rp: Flange with internal thread (ISO seal thread).

mm: Flange for welding/soldering.

Protection modules

Voltage [V]	Product number
1 x 230-240	96422219
3 x 400-415	96422221

Relay module

Relay modules for single-head pumps.

Voltage [V]	Product number
1 x 230-240	96406611
3 x 400-415	96406609

A relay module kit for twin-head pumps includes these parts:

- two relay modules with screws and screwdriver
- two screwed cable entries
- one intermediate cable
- two wiring diagrams for terminal box covers.

Voltage [V]	Product number
1 x 230-240	96409231
3 x 400-415	96409229