

Series 100

Circulator pumps
50/60 Hz



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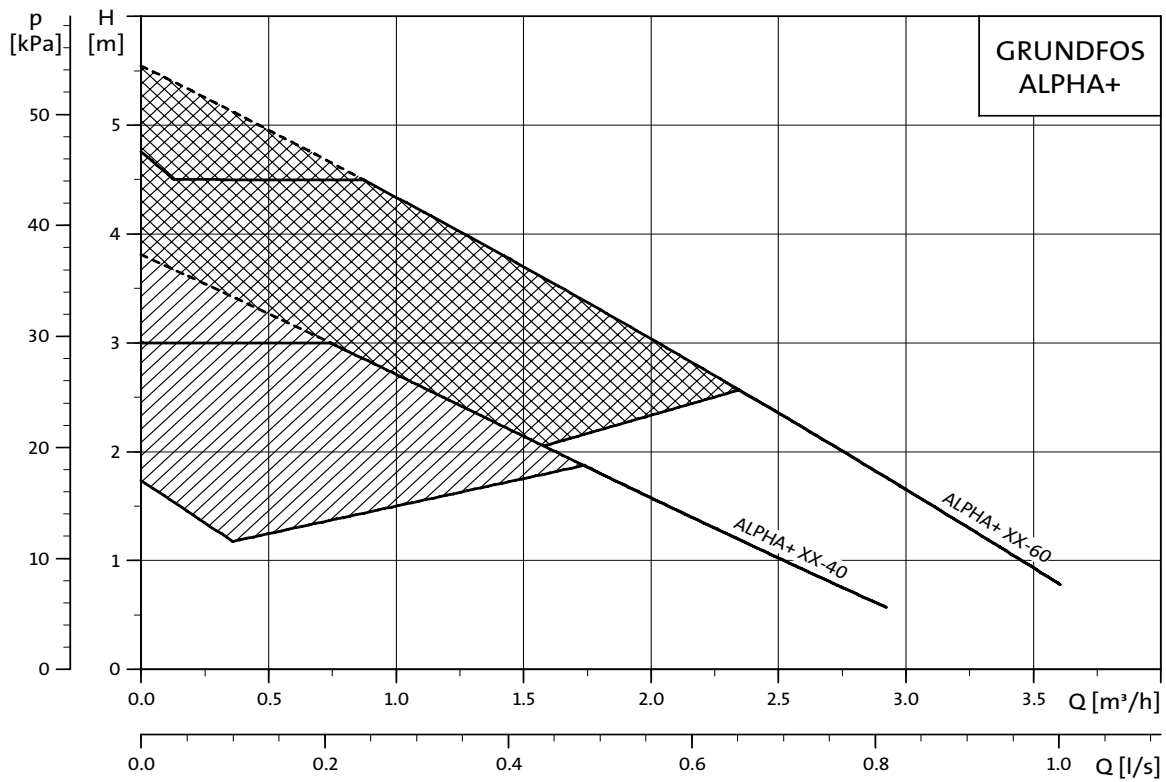
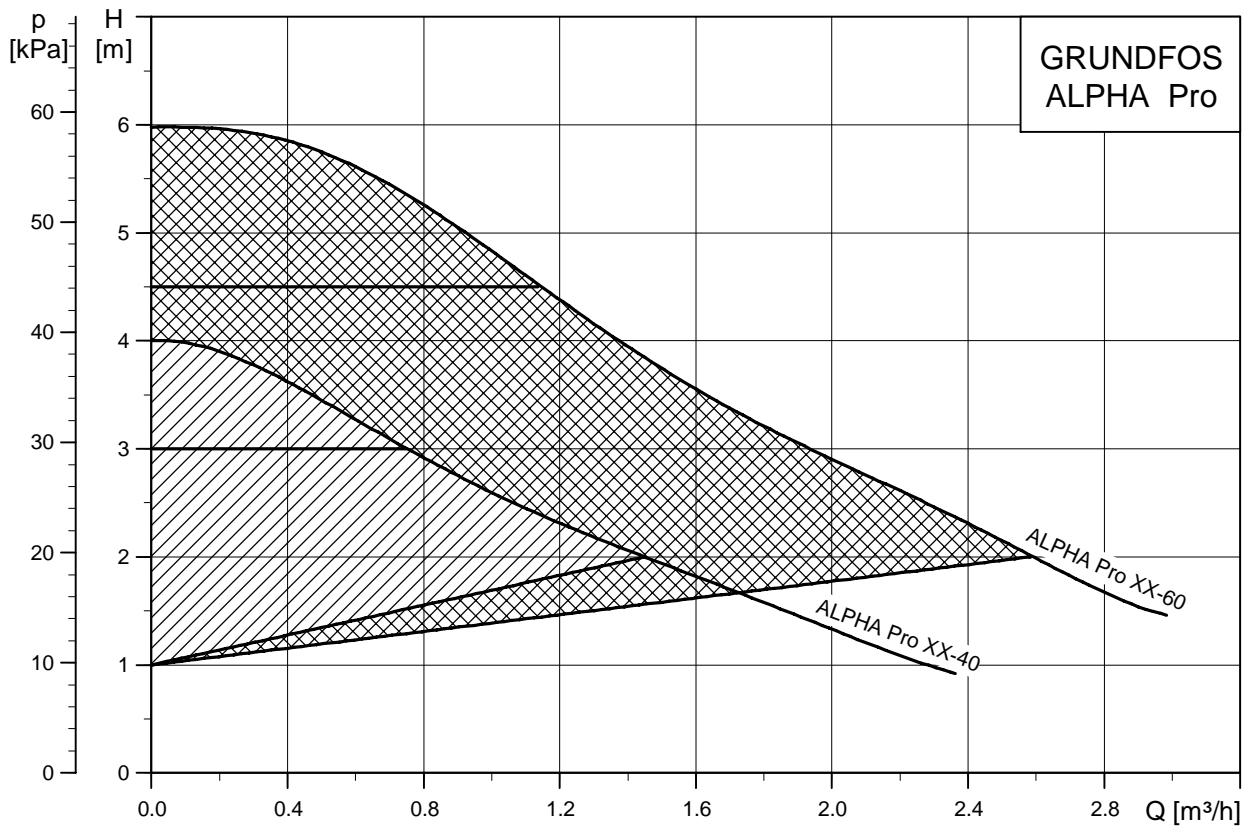
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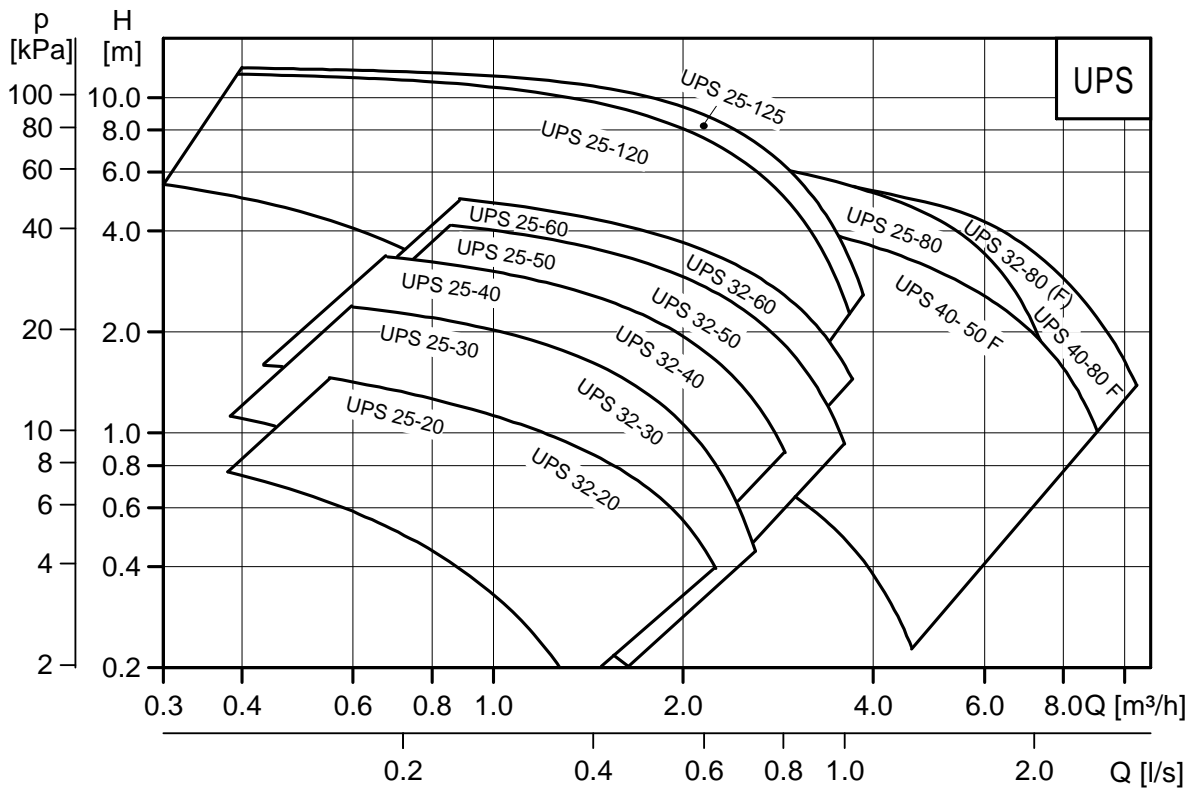
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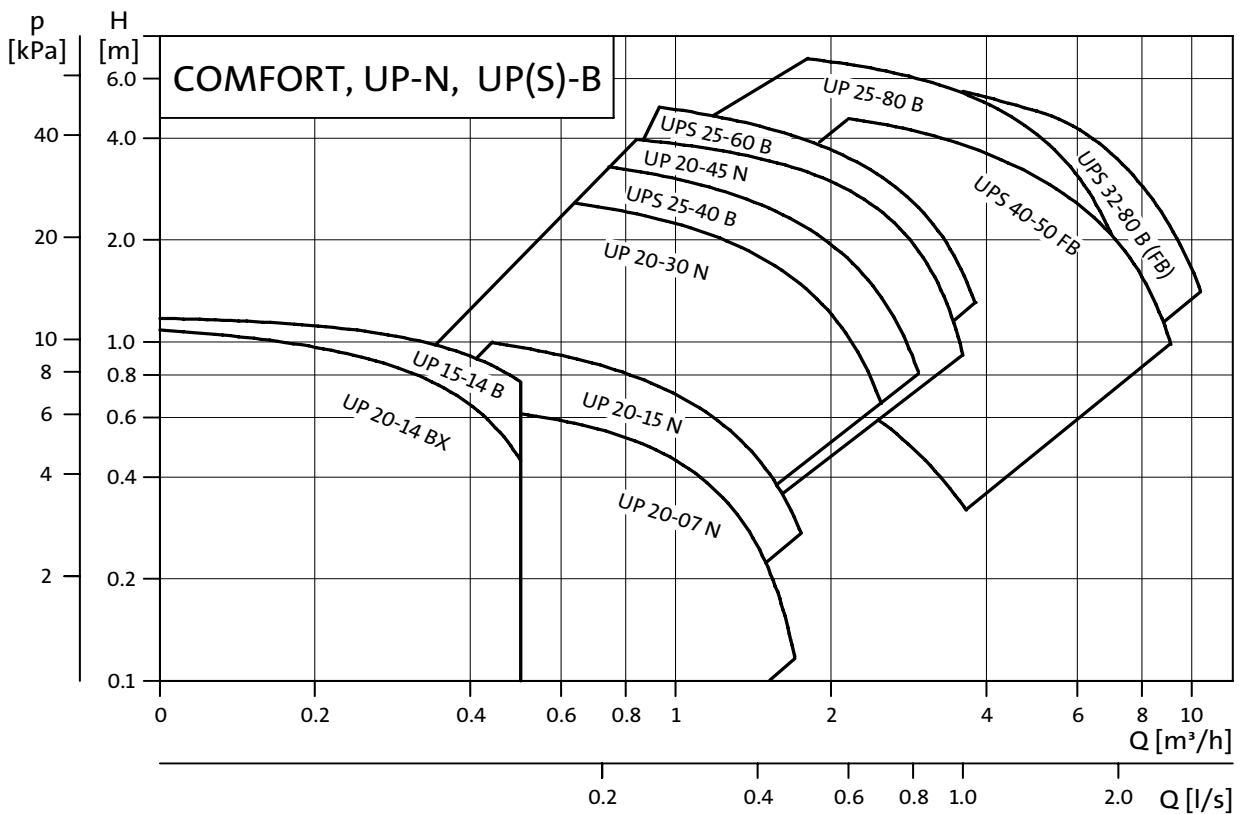
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Performance range



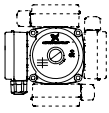
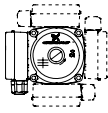
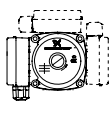
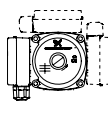
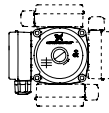
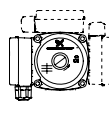
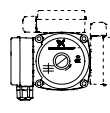
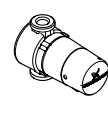


TM00 9602 3701



TM00 9603 0503

Product range, 1 x 230 V, 50 Hz

Pump material	Cast iron	Cast iron	Cast iron	Cast iron	Stainless steel/bronze	Stainless steel/bronze	Bronze	Brass
Liquid temperature	+2°C to +95°C	+2°C to +110°C	-25°C to +110°C	-25°C to +95°C	+2°C to +110°C	-25°C to +110°C	-25° to +95°C	+2°C to +95°C
Terminal box position	 TM02 7023 2303	 TM02 7023 2303	 TM02 7024 2303	 TM02 7024 2303	 TM02 7023 2303	 TM02 7023 2303	 TM02 7024 2303	 TM02 7022 2303
Pump type								
ALPHA Pro 15-40		•						
ALPHA Pro 25-40★		•			•			
ALPHA Pro 32-40		•						
ALPHA Pro 15-60		•						
ALPHA Pro 25-60★		•			•			
ALPHA Pro 32-60		•						
ALPHA+ 15-40		•						
ALPHA+ 25-40★		•			•			
ALPHA+ 32-40		•						
ALPHA+ 15-60		•						
ALPHA+ 25-60★		•			•			
ALPHA+ 32-60		•						
UPS 25-20★		•						
UPS 32-20		•						
UPS 25-30★		•						
UPS 32-30		•						
UPS 25-40★		•		•				
UPS 32-40		•						
UPS 25-50		•		•				
UPS 32-50		•						
UPS 25-60★		•		•				
UPS 32-60		•						
UPS 25-80			•					
UPS 32-80			•					
UPS 25-120	•							
UPS 25-125	•							
UPS 40-50 F			•					
UPS 32-80 F			•					
UPS 40-80 F			•					
UP 15-14								•
UP 20-14								•
UP 20-07 N					•			
UP 20-15 N					•			
UP 20-30 N					•			
UP 20-45 N						•		
UPS 25-40 B					•			
UPS 25-60 B					•		•	
UP 25-80 B						•		
UPS 32-80 B						•		
UPS 32-50 FB						•		
UPS 40-50 FB						•		

★ On request: Pump housing with air separator, type A.

Special range of twin-head pumps and 60 Hz pumps, page 31.

Type keys

GRUNDFOS ALPHA Pro

Example	ALPHA Pro	25	-	40	(A)	(B)	180
Type range							
Nominal diameter (DN) of suction and discharge ports [mm]							
Maximum head [dm]							
Pump housing with air separator							
Bronze pump housing							
Port-to-port length [mm]							

GRUNDFOS ALPHA+

Example	ALPHA+	25	-	40	(A)	(B)	180
Type range							
Nominal diameter (DN) of suction and discharge ports [mm]							
Maximum head [dm]							
Pump housing with air separator							
Bronze pump housing							
Port-to-port length [mm]							

UP, UPS

Example	UP	S	D	40	-40	F
Circulator pump						
S = Electric						
Twin-head pump						
Nominal diameter (DN) of suction and discharge ports						
Maximum head [dm]						
Pipe connection						
= Pipe thread (no letter = pipe thread)						
F = Flange						
Pump housing						
= Cast iron (no letter = cast iron)						
N = Stainless steel						
B = Bronze						
A = Pump housing with air separator, upward water flow						
K = Cold water version						
KU = Cold water version (filled terminal box)						

GRUNDFOS COMFORT

Example	UP	20	-14	B	X	U	T
Circulator pump							
Type range:							
15 = Rp ½, length 80 mm							
20 = G 1¼, length 110 mm							
Maximum head [dm]							
Brass pump housing							
Integrated isolating and non-return valves							
24-hour timer							
Thermostat							

Applications

The Grundfos circulator pumps, Series 100, are specifically designed for heating systems. The pumps are also suitable for circulation of domestic hot water and for circulation of liquid in cooling and air-conditioning systems.

Heating systems

For central and district heating systems, use pump types ALPHA Pro, ALPHA+ or UPS.

The GRUNDFOS ALPHA Pro and ALPHA+ automatically control the differential pressure by adjustment of pump performance to the actual heating demand, without the use of external components.

UPS can be operated at three speeds.

The pumps are used primarily for one- and two-pipe heating systems, but are also suitable, e.g. for mixing loops in large systems.

For underfloor heating systems, it is advisable to use the bronze versions, types ALPHA Pro B, ALPHA+ B and UP(S) B, as the pumped liquid may often become aerated, causing an ordinary cast-iron pump housing to corrode.

Domestic hot-water systems

For circulation of domestic hot water, use type COMFORT or type UP-N with stainless-steel pump housing or type UP(S)-B with brass/bronze pump housing.

The UP-N and UP(S)-B can be connected to an on/off time switch to save energy. The on/off time switch can switch the pump on/off to limit pump operation to periods when hot water is usually required.

COMFORT is available with integrated timer and thermostat.

It is recommended to keep the operating temperature lower than 65°C to avoid precipitation of calcium.

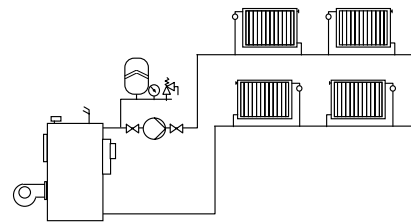
Cooling and air-conditioning systems

For cooling and air-conditioning systems, use standard pumps, type UPS, or special versions, type UPS-K, depending on type/size. (See product range.)

Temperature range: -25°C to +95°C
 -25°C to +110°C

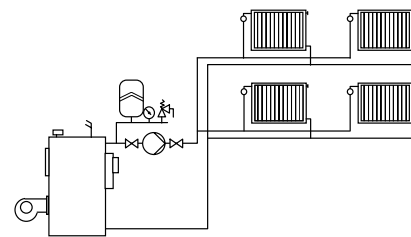
These pumps are thus suitable for circulation of both cold and hot water.

One-pipe heating system



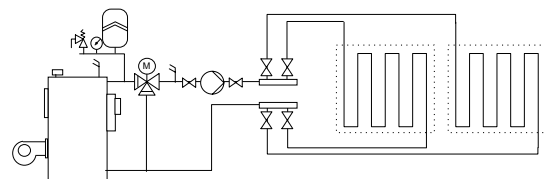
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Two-pipe heating system



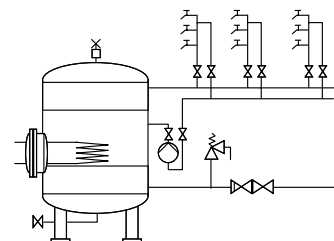
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Underfloor heating system



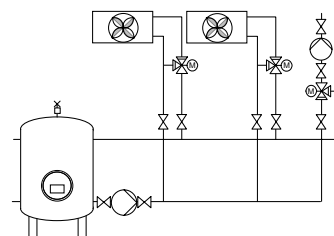
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Domestic hot-water system



TM01 0166 0697

Cooling and air-conditioning system



TM01 0167 0697

Construction

The ALPHA Pro, ALPHA+ and UP, UPS pumps are of the canned rotor type, i.e. pump and motor form an integral unit without shaft seal and with only two gaskets for sealing. The bearings are lubricated by the pumped liquid.

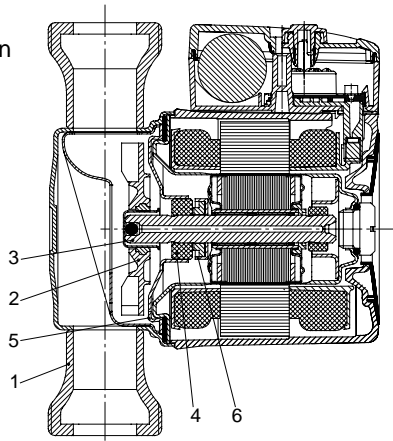
The pumps are characterised by:

- ceramic shaft and radial bearing
- carbon thrust bearing
- stainless-steel rotor can and bearing plate
- impeller in corrosion-resistant material
- pump housing of cast iron, bronze or stainless steel.

Material specification

Pos.	Component	Material	DIN W.-Nr.
1	Pump housing	Cast iron EN-GJL-150/200	EN-JL 1020/1030
		Bronze	2.1176.01
		Stainless steel	1.4301
2	Impeller	Composite / PES or PP	
3	Shaft	Ceramics	
4	Bearing	Ceramics/carbon	
5	Bearing plate	Stainless steel	1.4301
6	Thrust bearing retainer	Stainless steel/	1.4301
		EPDM rubber	
	Gaskets	EPDM rubber	

UPS
N-version

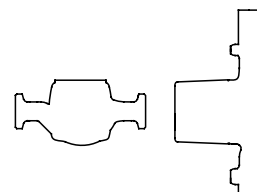


TM00 9672 5196

Installation

The pump must always be installed with horizontal motor shaft.

At start-up the rotor can is to be vented by removing the plug in the top of the motor.



Within a short time, the rotor forces the remaining air out into the system via the shaft.

TM00 0361 5196

Motor

GRUNDFOS ALPHA Pro

The motor is a 2-pole, synchronous permanent-magnet motor.

The pump controller is incorporated in the control box which is fitted to the stator housing with two screws and connected to the stator via a terminal plug.

Incorporating the controller, the control box has a display and two selector switches. The display is lit when the electrical supply is switched on and shows the actual power consumption. The purpose of the switches are:

- Selection of control curve and
- Activation or deactivation of automatic night-time duty.

The controller complies with EN 61 000-6-1 and EN 61 000-6-3.

The motor of GRUNDFOS ALPHA Pro is protected by the electronics in the control box and requires no external motor protection.

GRUNDFOS ALPHA+

The motor is a 2-pole, asynchronous squirrel-cage motor with radio noise filter to VDE 0875. The terminal box and motor-pump unit have been tested in accordance with VDE 0700.

The motor of GRUNDFOS ALPHA+ is impedance-protected and therefore requires no external motor protection.

Incorporating the controller, the terminal box has a selector switch and an indicator light for supply voltage indication.

The controller meets the requirements of EN 61 800-3.

The terminal box is fitted to the stator housing by means of screws and connected to the stator by means of a terminal plug.

UP, UPS pumps

The motor is a 2- or 4-pole, asynchronous squirrel-cage motor in conformity with the EMC directive. Standards used: EN 61 000-6-2 and EN 61 000-6-3. The terminal box and the motor-pump unit have been wet-tested to EN 60 335-1: 1994 and EN 60 335-2-51: 1997.

Single-phase pumps are available in versions with one, two or three speeds.

Three-phase pumps are available in versions with one or two speeds.

The terminal box is easily accessible and has functional cable connecting terminals. The cable entry is tight and has a built-in cable relief. The cable entry of single-phase motors can be pushed out of its guide to facilitate the correct fitting of the cable.

Insulation class: F/H

Cable connection: Pg 11 for 5.6 - 10 mm cable

The motor incorporates thermal overload or impedance protection. Therefore, no external motor protection is required.

Pumped liquids

Depending on type, Grundfos circulator pumps are designed for the following liquids:

- thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres
- cooling liquids, not containing mineral oil
- domestic hot water
- softened water.

The kinematic viscosity of water is $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt) at 20°C. If the circulator pump is used for a liquid with a higher viscosity, the hydraulic performance of the pump will be reduced.

Example: 50% glycol at 20°C means a viscosity of approx. $10 \text{ mm}^2/\text{s}$ (10 cSt) and a reduction of pump performance by approx. 15%.

When selecting a pump, the viscosity of the pumped liquid must be taken into consideration.

Ambient and liquid temperatures

Liquid temperatures, see table on page 5.

The ambient temperature for standard pumps with a permissible liquid temperature from +2°C to +110°C should always be lower than the liquid temperature, as otherwise condensation may form in the stator housing.

Maximum system pressure

Pump with unions (PN 10): 1.0 MPa (10 bar)

Flanged pump (PN 6/10): 0.6/1.0 MPa (6/10 bar)

Pump with Grundfos flanges: 1.0 MPa (10 bar)

Inlet pressure

To avoid cavitation noise and damage to the pump bearings, the following minimum pressures are required at the pump suction port:

Liquid temperature	85°C	90°C	110°C
Inlet pressure	0.5 m head 0.049 bar	2.8 m head 0.27 bar	11.0 m head 1.08 bar

Energy labelling

Grundfos circulator pumps except GRUNDFOS COMFORT, UP-N and twin-head pumps are provided with the energy label.

The energy label indicates the energy-saving level of the pump. The energy classification system has seven levels, i.e. from A to G. Level A is the best.

The energy label can be used to compare pumps of the same type and size.

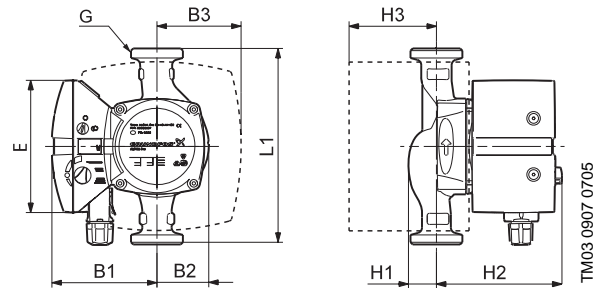
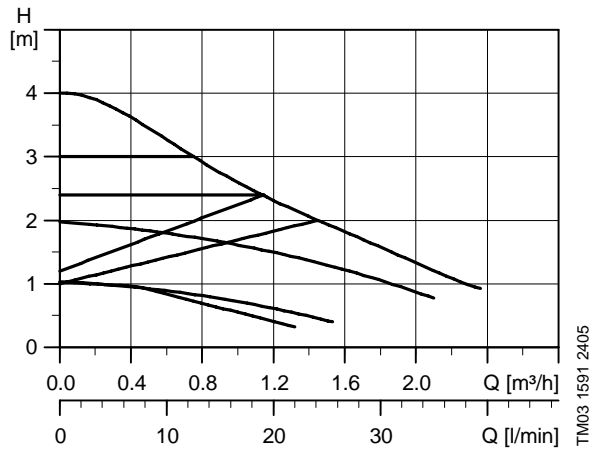
Curve conditions

The guidelines below apply to the performance curves on the following pages:

- The **bold** parts of the curves show the **recommended** performance range.
- Test liquid: Airless water.
- The GRUNDFOS ALPHA Pro and ALPHA+ curves apply to a density of $\rho = 983.2 \text{ kg/m}^3$ and a liquid temperature of 60°C. The measurements for UP and UPS have been made at a water temperature of 80°C for pumps for Great Britain (1 x 230/240 V) and 20°C for other voltages.
- All curves show average values and **should not be used as guarantee curves**. If a specific minimum performance is required, individual measurements must be made.
- The GRUNDFOS ALPHA Pro and ALPHA+ curves apply to a kinematic viscosity of $\nu = 0.474 \text{ mm}^2/\text{s}$ (0.474 cSt). The UP, UPS and UPE curves apply to a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt).
- 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 to the density.

ALPHA Pro 15-40, 25-40, 32-40

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
Min.	6	0.06
Max.	25	0.23
I	8	0.09
II	18	0.17
III	25	0.23

Connections: See "Union and valve kits" on page 12
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: A
 Also available with: Bronze pump housing, type B (only ALPHA Pro 25-40 B 180)

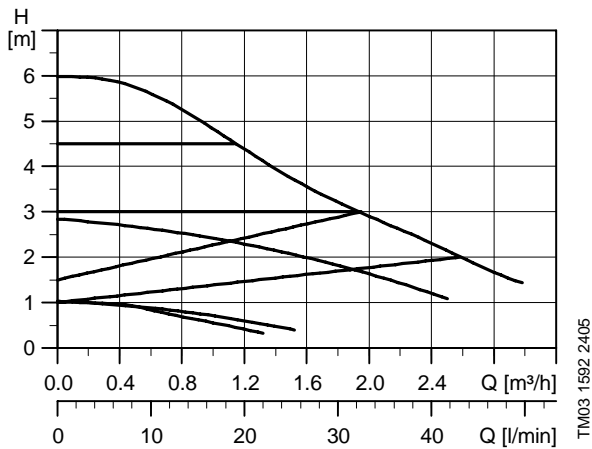
The pump incorporates overload protection.

Pump type	Dimensions [mm]									Weights [kg]★		Ship. vol. [m ³]
	L1	H1	H2	H3	B1	B2	B3	E	G	Net	Gross	
ALPHA Pro 15-40	130	28	116	57	97	48	77	122	1	2.4	2.6	0.00516
ALPHA Pro 25-40	130	28	116	57	97	48	77	122	1½	2.4	2.6	0.00516
ALPHA Pro 25-40	180	28	116	57	97	48	77	122	1½	2.5	2.7	0.00516
ALPHA Pro 32-40	180	30	116	57	97	48	77	122	2	2.8	3.0	0.00516

★ Weights of bronze versions are approx. 10% higher.

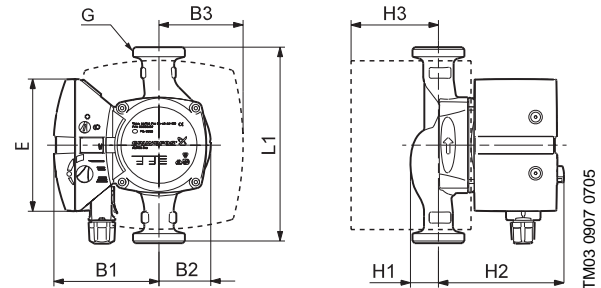
ALPHA Pro 15-60, 25-60, 32-60

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
Min.	6	0.06
Max.	50	0.45
I	8	0.09
II	31	0.28
III	50	0.45

The pump incorporates overload protection.



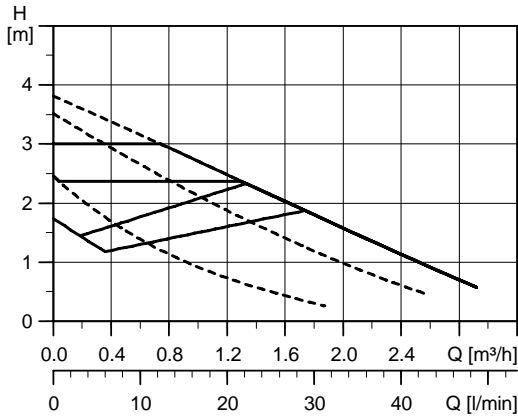
Connections: See "Union and valve kits" on page 12
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: A
 Also available with: Bronze pump housing, type B (only ALPHA Pro 25-60 B 180)

Pump type	Dimensions [mm]							Weights [kg]★		Ship. vol. [m ³]		
	L1	H1	H2	H3	B1	B2	B3	E	G		Net	Gross
ALPHA Pro 15-60	130	28	116	57	97	48	77	122	1	2.4	2.6	0.00516
ALPHA Pro 25-60	130	28	116	57	97	48	77	122	1½	2.4	2.6	0.00516
ALPHA Pro 25-60	180	28	116	57	97	48	77	122	1½	2.5	2.7	0.00516
ALPHA Pro 32-60	180	30	116	57	97	48	77	122	2	2.8	3.0	0.00516

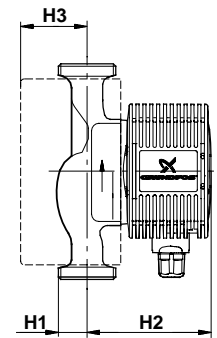
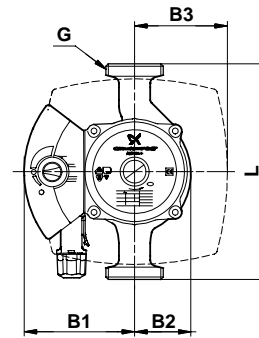
★ Weights of bronze versions are approx. 10% higher.

ALPHA+ 15-40, 25-40, 32-40

1 x 230 V, 50 Hz



TM03 1344 1705



TM03 1632 2505

Speed	P ₁ [W]	I _n [A]
Min.	20	0.09
Max.	45	0.22
I	35	0.10
II	35	0.16
III	45	0.22

The motor incorporates thermal overload protection.

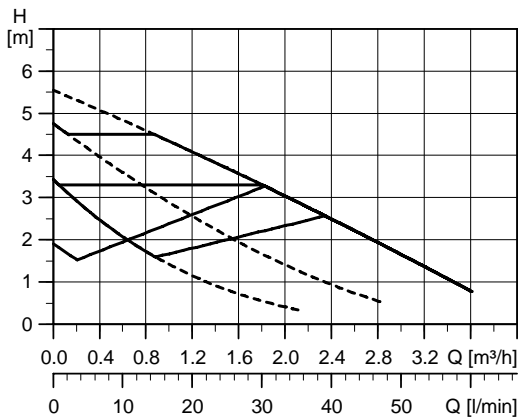
Connections: See "Union and valve kits" page 40
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B
 Also available with: Bronze housing, type B (only ALPHA+ 25-40 B 180)

Pump type	Dimensions [mm]								Weights [kg]*		Ship. vol. [m ³]
	L	H1	H2	H3	B1	B2	B3	G	Net	Gross	
ALPHA+ 15-40	130	28	103	57	92	48	77	1	2.4	2.6	0.00432
ALPHA+ 25-40	130	32	103	57	92	48	77	1½	2.4	2.6	0.00432
ALPHA+ 25-40	180	32	103	57	92	48	77	1½	2.6	3.0	0.00432
ALPHA+ 32-40	180	39	103	57	92	48	77	2	2.7	3.1	0.00432

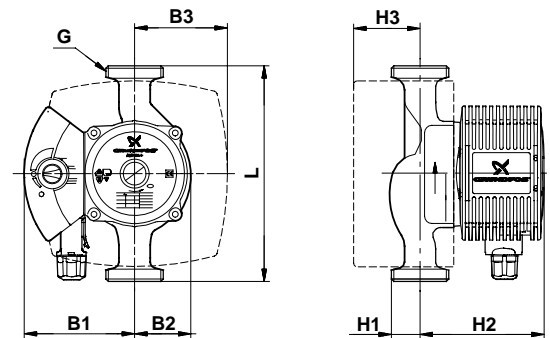
* Weights of bronze versions are approx. 10% higher.

ALPHA+ 15-60, 25-60, 32-60

1 x 230 V, 50 Hz



TM03 1345 1705



TM03 1632 2505

Speed	P ₁ [W]	I _n [A]
Min.	35	0.14
Max.	80	0.34
I	40	0.17
II	55	0.23
III	80	0.34

Connections: See "Union and valve kits" page 40
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B
 Also available with: Bronze housing, type B (only ALPHA+ 25-60 B 180)

The motor incorporates thermal overload protection.

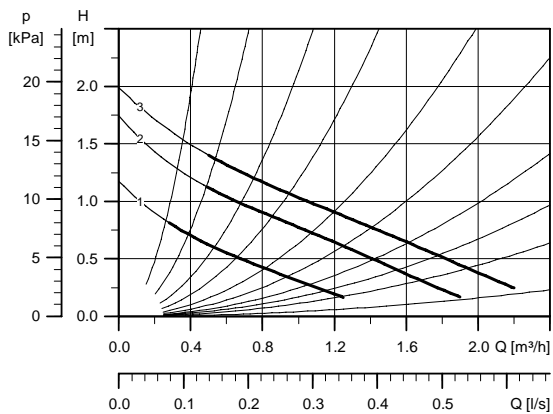
Pump type	Dimensions [mm]								Weights [kg]*		Ship. vol. [m ³]
	L	H1	H2	H3	B1	B2	B3	G	Net	Gross	
ALPHA+ 15-60	130	28	103	57	92	48	77	1	2.4	2.6	0.00432
ALPHA+ 25-60	130	32	103	57	92	48	77	1½	2.4	2.6	0.00432
ALPHA+ 25-60	180	32	103	57	92	48	77	1½	2.6	3.0	0.00432
ALPHA+ 32-60	180	39	103	57	92	48	77	2	2.7	3.1	0.00432

* Weights of bronze versions are approx. 10% higher.

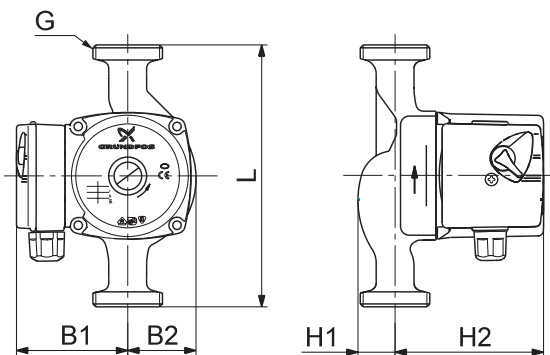
UPS 25-20 / UPS 32-20

180

1 x 230 V, 50 Hz



TM00 9756 2405



TM00 9386 2105

Speed	P ₁ [W]	I _n [A]
3	65	0.26
2	40	0.18
1	25	0.11

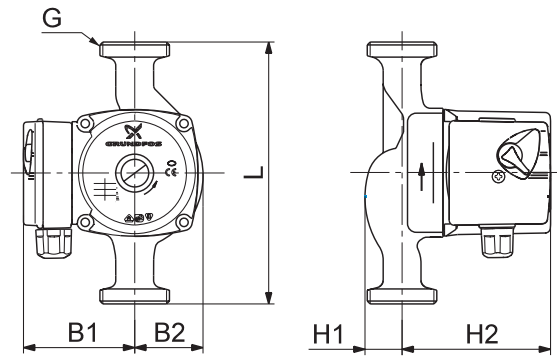
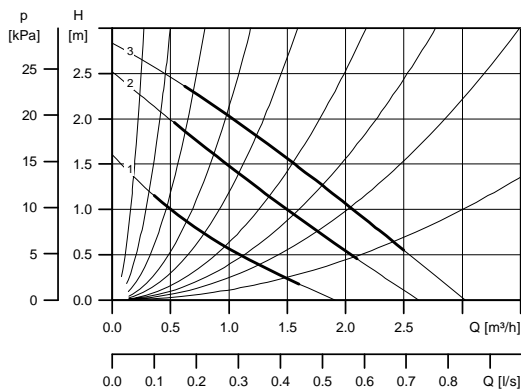
Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: F

Pump type	Dimensions [mm]					Weights [kg]			Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-20	180	32	102	75	51	1½	2.6	2.8	0.004
UPS 32-20	180	39	102	75	51	2	2.6	2.8	0.004

UPS 25-30 / UPS 32-30

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	55	0.24
2	40	0.16
1	25	0.10

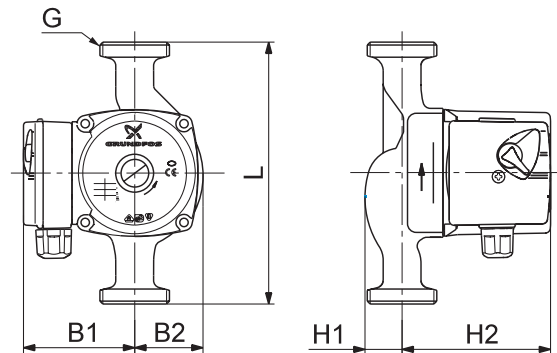
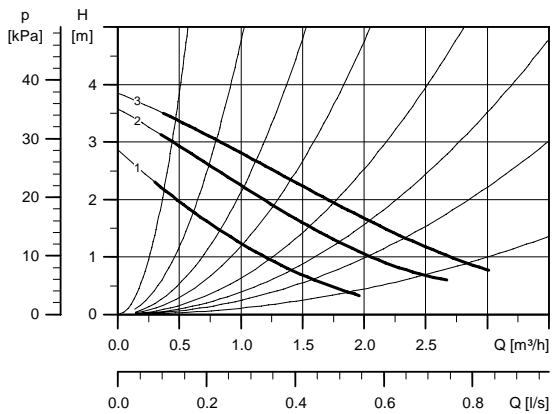
Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]					Weights [kg]		Ship. vol. [m³]	
	L	H1	H2	B1	B2	G	Net		Gross
UPS 25-30	180	32	102	75	51	1½	2.6	2.8	0.004
UPS 32-30	180	39	102	75	51	2	2.6	2.8	0.004

UPS 25-40 / UPS 32-40

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	45	0.20
2	35	0.16
1	25	0.12

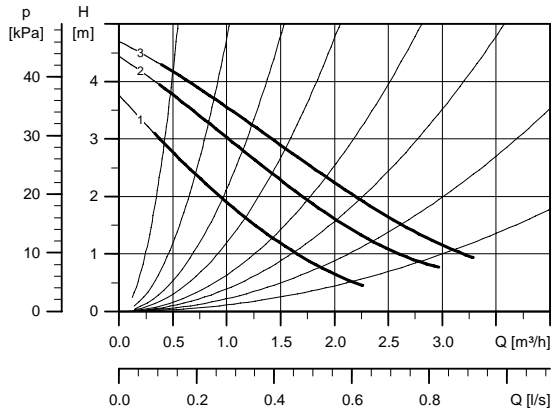
Connections: ¾", 1" or 1¼" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B
 Cold-water version: K for -25°C to +95°C (TF 95)

Pump type	Dimensions [mm]					Weights [kg]		Ship. vol. [m³]	
	L	H1	H2	B1	B2	G	Net		Gross
UPS 25-40	180	32	102	75	51	1½	2.6	2.8	0.004
UPS 32-40	180	39	102	75	51	2	2.6	2.8	0.004

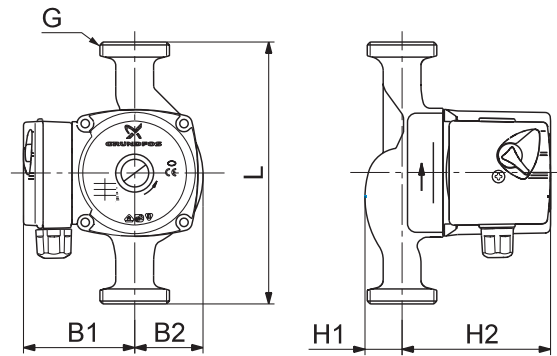
UPS 25-50 / UPS 32-50

180

1 x 230 V, 50 Hz



TM00 97503 2105



TM00 9386 2105

Speed	P ₁ [W]	I _n [A]
3	50	0.23
2	45	0.20
1	35	0.16

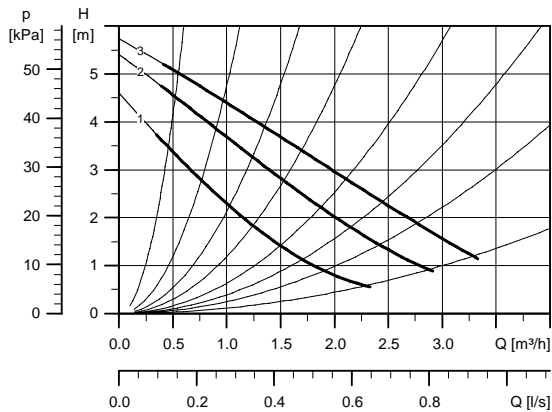
Connections: ¼", 1" or 1½" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B
 Cold-water version: K for -25°C to +95°C (TF 95)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-50	180	32	102	75	51	1½	2.6	2.8	0.004
UPS 32-50	180	39	102	75	51	2	2.6	2.8	0.004

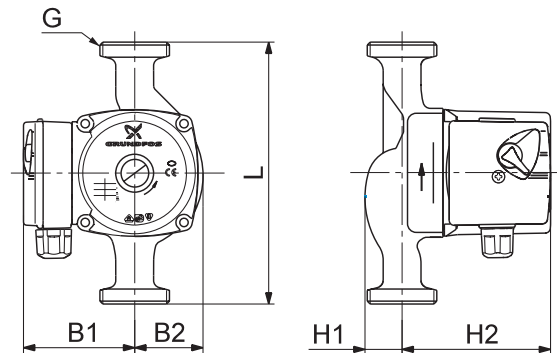
UPS 25-60 / UPS 32-60

180

1 x 230 V, 50 Hz



TM00 9751 2405



TM00 9386 2105

Speed	P ₁ [W]	I _n [A]
3	70	0.30
2	60	0.27
1	50	0.22

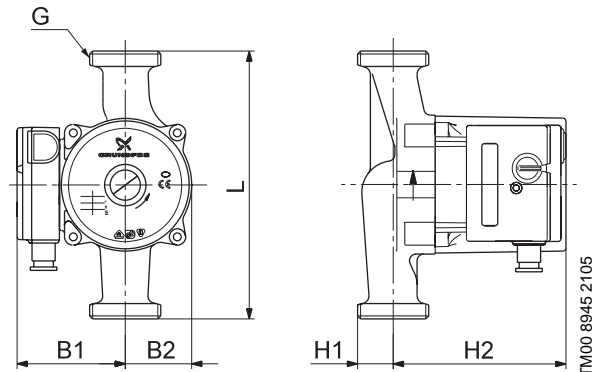
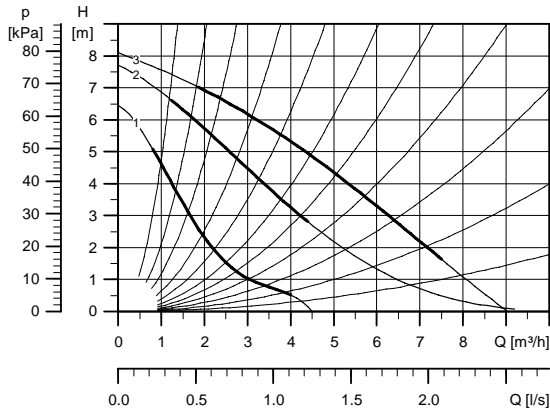
Connections: ¼", 1" or 1½" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: C
 Cold-water version: K for -25°C to +95°C (TF 95)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-60	180	32	102	75	51	1½	2.6	2.8	0.004
UPS 32-60	180	39	102	75	51	2	2.6	2.8	0.004

UPS 25-80

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	190	0.83
2	175	0.78
1	130	0.60

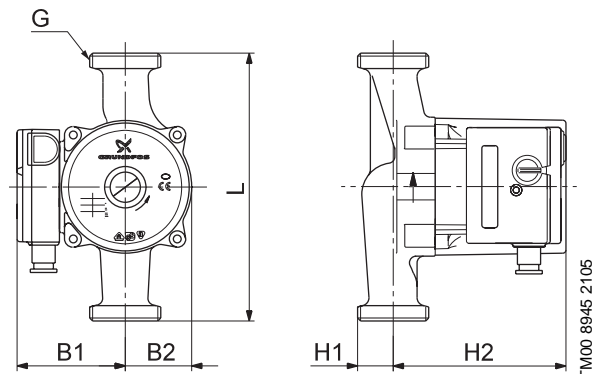
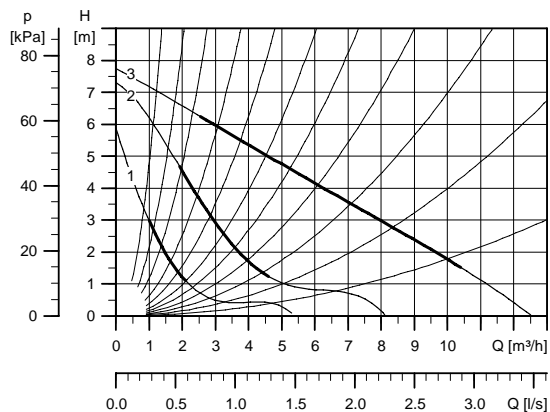
Connections: 3/4" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-80	180	32	130	82	52	1½	4.2	4.5	0.008

UPS 32-80

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	240	1.05
2	205	0.91
1	135	0.62

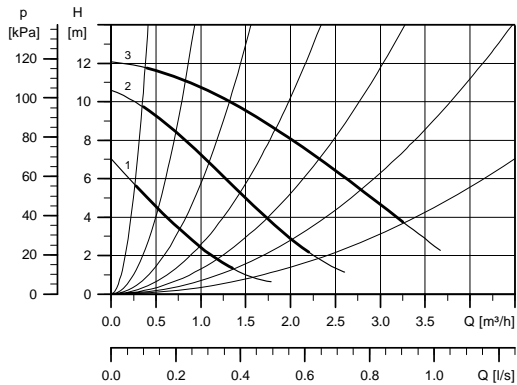
Connections: 3/4" or 1" unions and 1¼" valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 32-80	180	39	130	82	60	2	4.8	5.1	0.0102

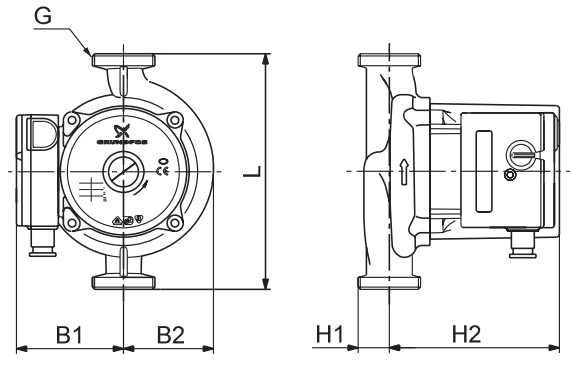
UPS 25-120

180

1 x 230 V, 50 Hz



TM02 2205 3901



TM02 1329 2105

Speed	P ₁ [W]	I _n [A]
3	235	1.02
2	180	0.78
1	120	0.53

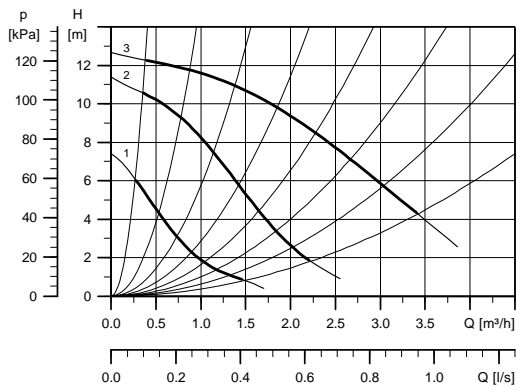
Connections: ¼" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +95°C (TF 110)
 Energy class: F

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-120	180	32	130	82	69	1½	4.4	4.6	0.006

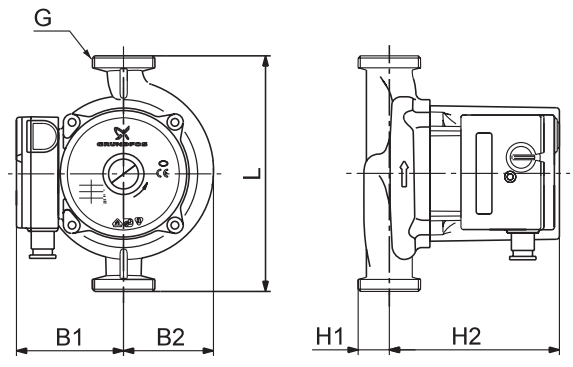
UPS 25-125

180

1 x 230 V, 50 Hz



TM02 2204 3901



TM02 1329 2105

Speed	P ₁ [W]	I _n [A]
3	270	1.18
2	210	0.93
1	135	0.61

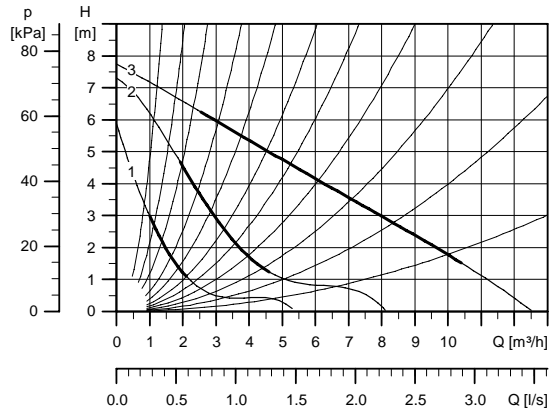
Connections: ¼" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +95°C (TF 95)
 Energy class: E

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-125	180	32	130	82	69	1½	4.4	4.6	0.006

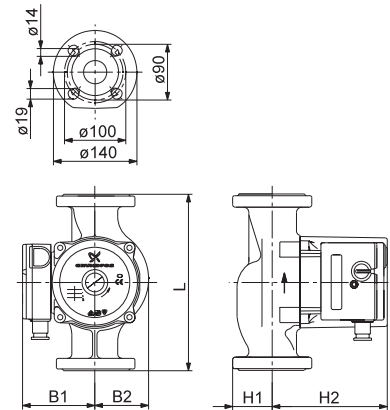
UPS 32-80 F

220

1 x 230 V, 50 Hz



TM00 9753 2405



TM00 9393 2105

Speed	P ₁ [W]	I _n [A]
3	240	1.05
2	205	0.91
1	135	0.62

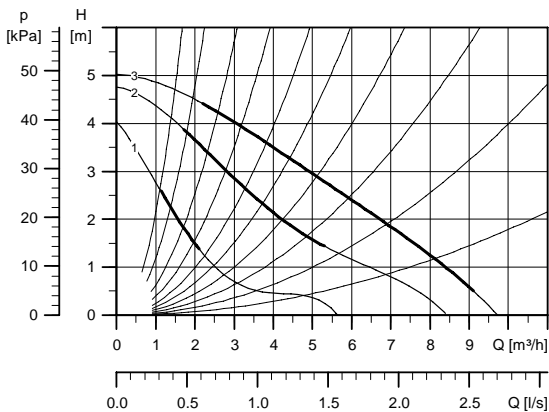
Connections: 1½" screwed flanges or 32 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]					Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	Net	Gross	
UPS 32-80 F	220	60	130	85	65	6.5	6.8	0.0112

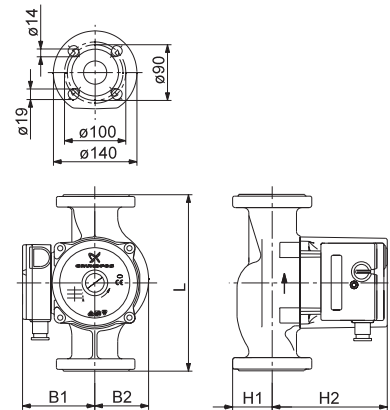
UPS 40-50 F

250

1 x 230 V, 50 Hz



TM00 9755 2405



TM00 9393 2105

Speed	P ₁ [W]	I _n [A]
3	115	0.51
2	110	0.48
1	85	0.38

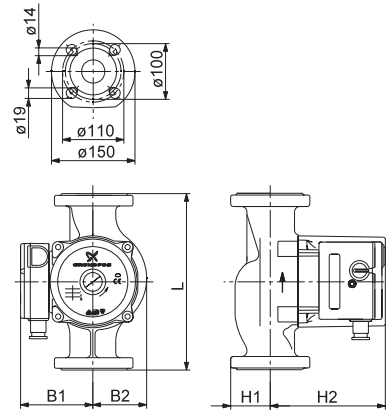
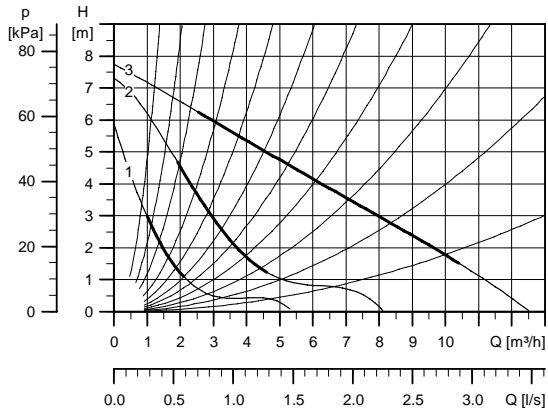
Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: C

Pump type	Dimensions [mm]					Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	Net	Gross	
UPS 40-50 F	250	65	130	82	65	8.1	8.5	0.0122

UPS 40-80 F

250

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	240	1.05
2	205	0.91
1	135	0.62

Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]					Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	Net	Gross	
UPS 40-80 F	250	65	130	82	65	8.1	8.5	0.0122

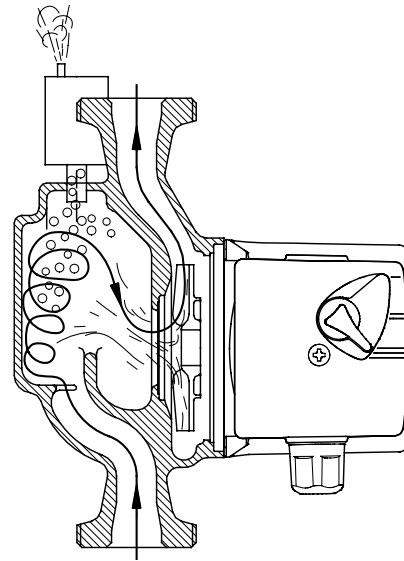
Air separator pump

Grundfos Airlectric is a combined circulator pump and air separator. It removes air from the centre of the system and thus offers optimum operating conditions for any automatic air vent - without extra installation cost.

The air-containing liquid is guided from the suction port to the nozzle of the air-separating chamber. In the nozzle, the liquid is caused to circulate considerably in the relatively large chamber, thus creating a low pressure in the top of the chamber. This low pressure combined with the now reduced low velocity of the liquid will cause a separation of air from the liquid. Due to its lower density, the air will escape through an automatic air vent fitted to the air-separating chamber.

The air separator pump is available only for upward water flow.

The pump housing has an Rp 3/8 thread for the air vent. The air vent is not supplied with the pump.

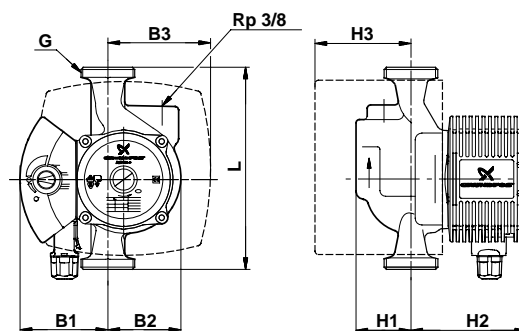
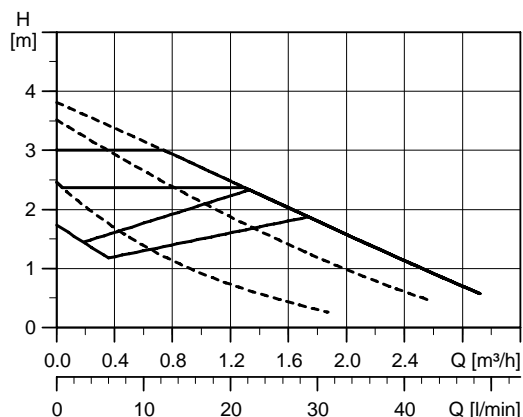


TM00 8966 4296

ALPHA+ 25-40 A

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
Min.	20	0.09
Max.	45	0.22
I	25	0.10
II	35	0.16
III	45	0.22

Connections: See "Union and valve kits" page 40
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B

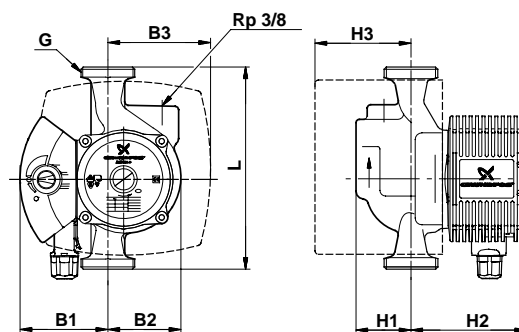
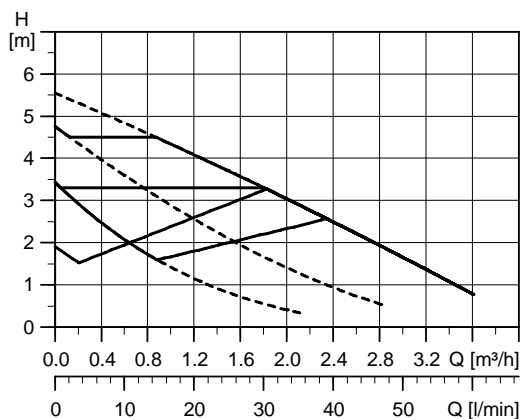
The motor incorporates thermal overload protection.

Pump type	Dimensions [mm]								Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	H3	B1	B2	B3	G	Net	Gross	
ALPHA+ 25-40 A	180	49	113	81	92	51	78	1½	3.6	4.0	0.00542

ALPHA+ 25-60 A

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
Min.	35	0.14
Max.	80	0.34
I	40	0.17
II	55	0.23
III	80	0.34

Connections: See "Union and valve kits" page 40
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B

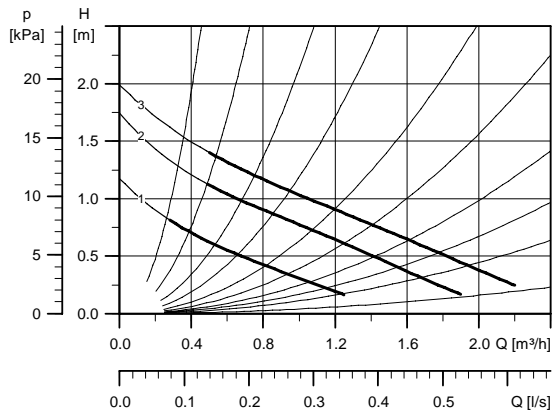
The motor incorporates thermal overload protection.

Pump type	Dimensions [mm]								Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	H3	B1	B2	B3	G	Net	Gross	
ALPHA+ 25-60 A	180	49	113	81	92	51	78	1½	3.6	4.0	0.00542

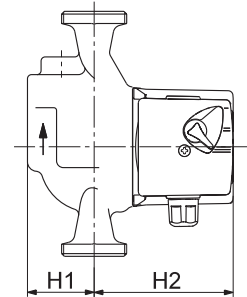
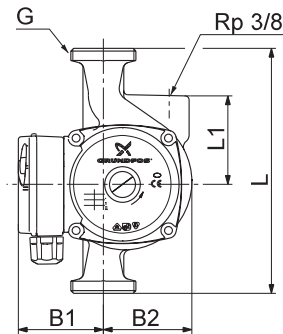
UPS 25-20 A

180

1 x 230 V, 50 Hz



TM00 9756 24057



TM00 8931 2105

Speed	P ₁ [W]	I _n [A]
3	65	0.26
2	40	0.18
1	25	0.11

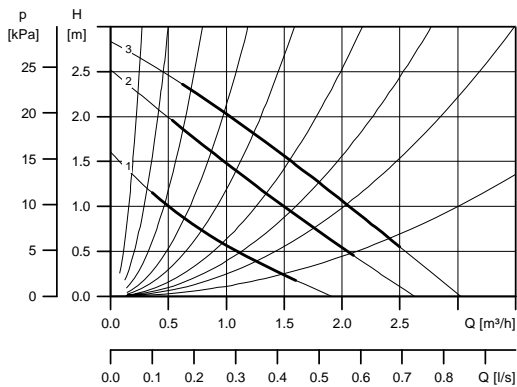
Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: F

Pump type	Dimensions [mm]							Weights [kg]		Ship. vol. [m³]
	L	L1	H1	H2	B1	B2	G	Net	Gross	
UPS 25-20 A	180	65	49	112	61	65	1½	3.5	3.7	0.0053

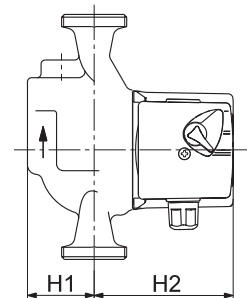
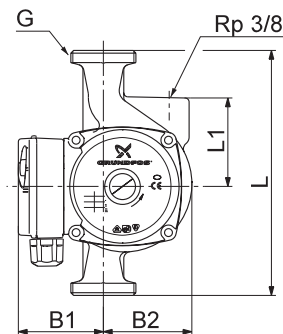
UPS 25-30 A

180

1 x 230 V, 50 Hz



TM00 9748 0397



TM00 8931 2105

Speed	P ₁ [W]	I _n [A]
3	55	0.24
2	40	0.16
1	25	0.10

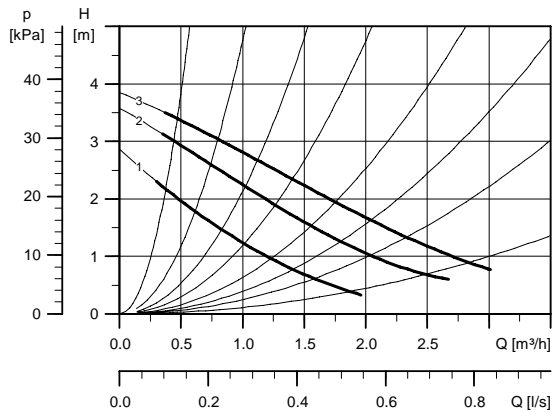
Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]							Weights [kg]		Ship. vol. [m³]
	L	L1	H1	H2	B1	B2	G	Net	Gross	
UPS 25-30 A	180	65	49	112	61	65	1½	3.5	3.7	0.0053

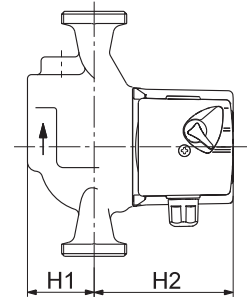
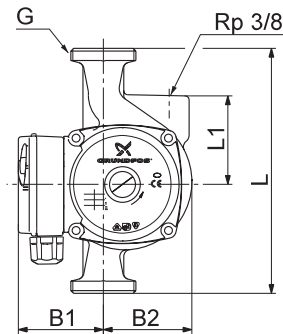
UPS 25-40 A

180

1 x 230 V, 50 Hz



TM00 9749 2405



TM00 8931 2105

Speed	P ₁ [W]	I _n [A]
3	45	0.20
2	35	0.16
1	25	0.12

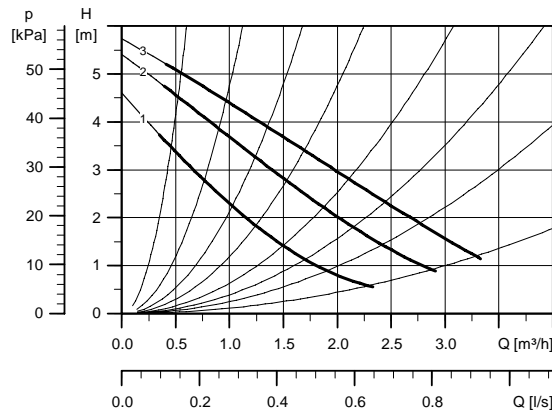
Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B

Pump type	Dimensions [mm]							Weights [kg]		Ship. vol. [m³]
	L	L1	H1	H2	B1	B2	G	Net	Gross	
UPS 25-40 A	180	65	49	112	61	65	1½	3.5	3.7	0.0053

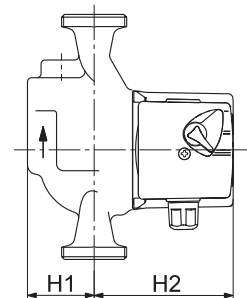
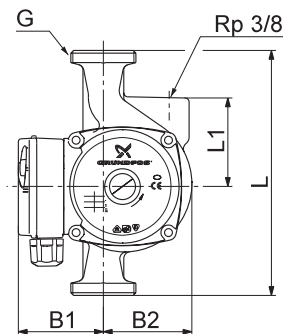
UPS 25-60 A

180

1 x 230 V, 50 Hz



TM00 9751 2405



TM00 8931 2105

Speed	P ₁ [W]	I _n [A]
3	70	0.30
2	60	0.27
1	50	0.22

Connections: ¾" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: C

Pump type	Dimensions [mm]							Weights [kg]		Ship. vol. [m³]
	L	L1	H1	H2	B1	B2	G	Net	Gross	
UPS 25-60 A	180	65	49	112	61	65	1½	3.5	3.7	0.0053

GRUNDFOS COMFORT

The water-conduction part of the pump is hermetically separated from the stator with a stainless-steel spherical separator. The motor can be separated from the pump housing, enabling easy maintenance and replacement.

GRUNDFOS COMFORT is supplied with isolating shells.

Applications

- domestic hot-water systems in single- and two-family houses
- small heating systems
- cooling and air-conditioning systems.

Pumped liquids

- thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres
- cooling liquids, not containing mineral oil
- domestic hot water
- softened water.

The kinematic viscosity of water is $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt) at 20°C. If the circulator pump is used for a liquid with a higher viscosity, the hydraulic performance of the pump will be reduced.

Example: 50% glycol at 20°C means a viscosity of approx. 10 mm²/s and a reduction of pump performance by approx. 15%.

When selecting a pump, the viscosity of the pumped liquid must be taken into consideration.

Motor

Enclosure class: IP 42

Insulation class: F



Ambient and liquid temperatures

Liquid temperature: +2°C to +95°C

It is recommended to keep the operating temperature as low as possible (e.g. 65°C) to avoid lime precipitation.

The ambient temperature should always be lower than the liquid temperature, as otherwise condensation may form in the stator housing.

Maximum system pressure

PN 10: 1.0 MPa (10 bar)

Inlet pressure

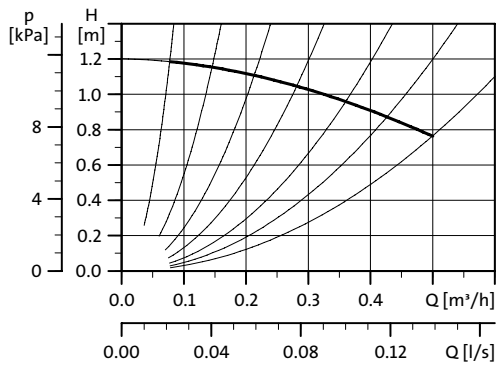
To avoid cavitation noise and damage to the pump bearing at high temperatures, the following minimum pressures are required at the pump suction port.

Liquid temperature	85°C	95°C
Inlet pressure	0.5 m head 0.049 bar	2.8 m head 0.27 bar

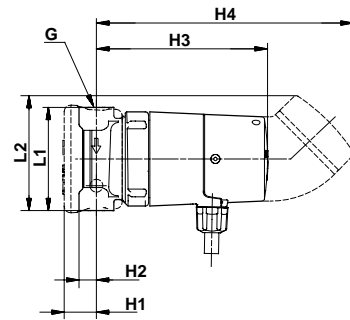
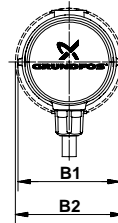
UP 15-14

80

1 x 230 V, 50 Hz



TM01 9070 0503



TM01 8554 1602

P_1 [W]	I_n [A]
25	0.11

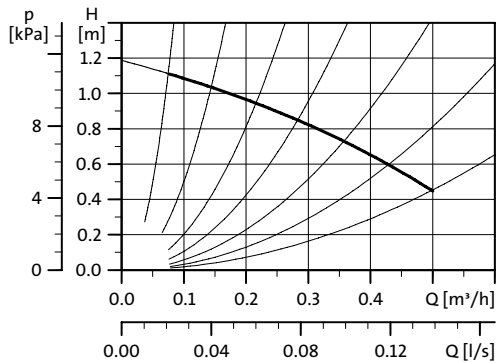
Connections: Various fittings, see page 41
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +95°C (TF 95)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m³]
	L1	L2	H1	H2	H3	H4	B1	B2	G	Net	Gross	
UP 15-14 B	80	-	25	13.5	133	-	79.5	84	Rp ½	1.00	1.12	0.0026
UP 15-14 BU	80	90	25	13.5	-	205	79.5	84	Rp ½	1.15	1.31	0.0034
UP 15-14 BT	80	-	25	13.5	155	-	79.5	84	Rp ½	1.05	1.24	0.0034
UP 15-14 BUT	80	90	25	13.5	-	205	79.5	84	Rp ½	1.16	1.32	0.0034

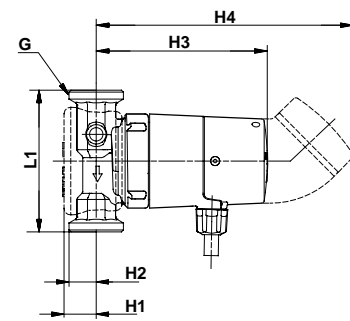
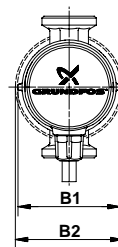
UP 20-14

110

1 x 230 V, 50 Hz



TM01 9098 0503



TM01 8555 1602

P_1 [W]	I_n [A]
25	0.11

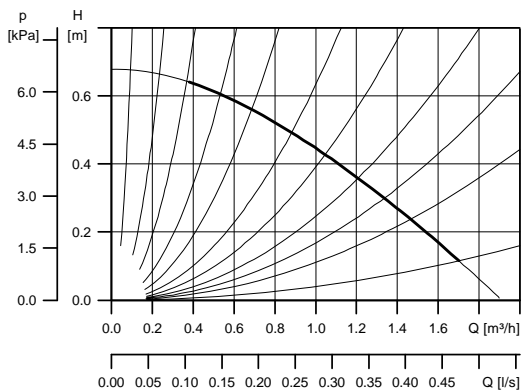
Connections: Various fittings, see page 41
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +95°C (TF 95)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m³]
	L1	H1	H2	H3	H4	B1	B2	G	Net	Gross		
UP 20-14 BX	110	25	21	133	-	79.5	84	G 1¼	1.20	1.35	0.0026	
UP 20-14 BXU	110	25	21	-	205	79.5	84	G 1¼	1.35	1.51	0.0034	
UP 20-14 BXT	110	25	21	155	-	79.5	84	G 1¼	1.25	1.44	0.0034	
UP 20-14 BXUT	110	25	21	-	205	79.5	84	G 1¼	1.36	1.52	0.0034	

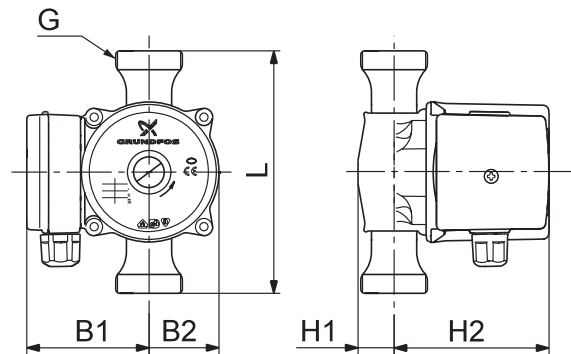
UP 20-07 N

150

1 x 230 V, 50 Hz



TM00 9760 0397



TM00 8932 2105

Speed	P ₁ [W]	I _n [A]
1	50	0.24

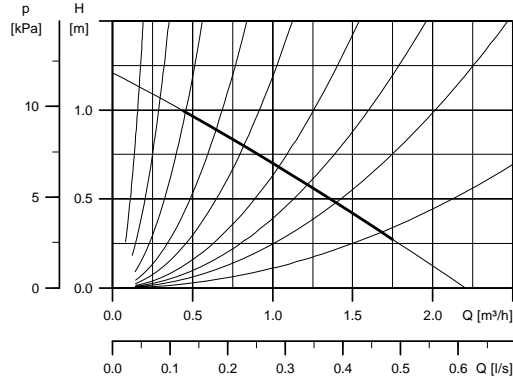
Connections: ¼" or 22 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-07 N	150	25	100	75	43	1¼	2.1	2.3	0.004

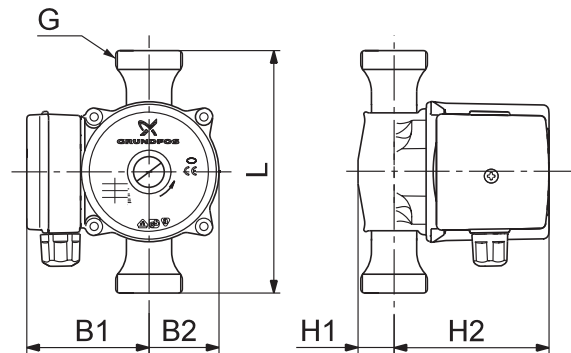
UP 20-15 N

150

1 x 230 V, 50 Hz



TM00 9765 0397



TM00 8932 2105

Speed	P ₁ [W]	I _n [A]
1	65	0.28

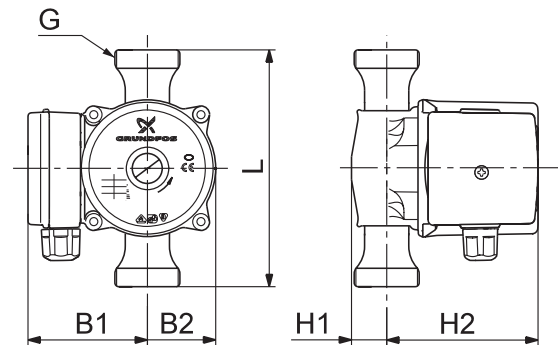
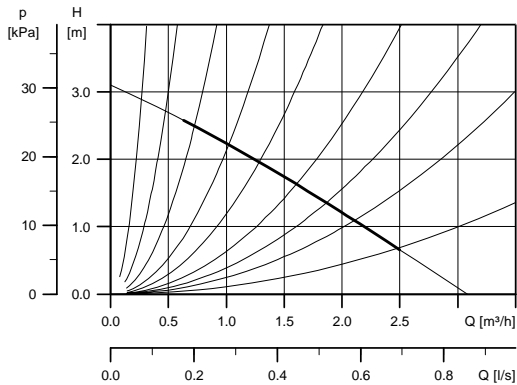
Connections: ¼" or 22 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-15 N	150	28	100	75	43	1¼	2.1	2.3	0.004

UP 20-30 N

150

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
1	75	0.31

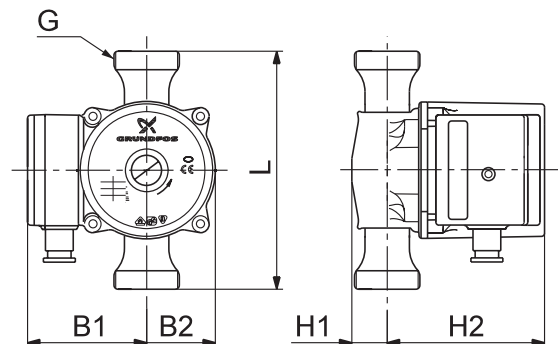
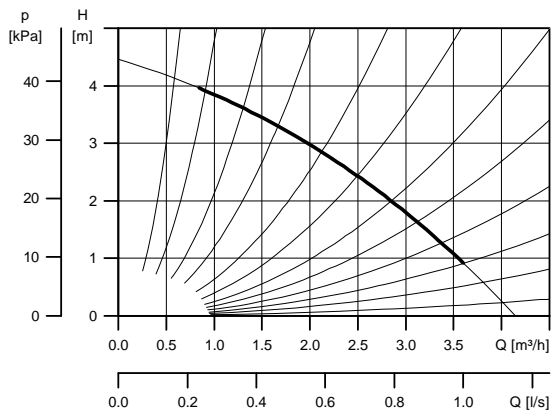
Connections: ¼" or 22 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-30 N	150	28	100	75	43	1¼	2.1	2.3	0.004

UP 20-45 N

150

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
1	115	0.50

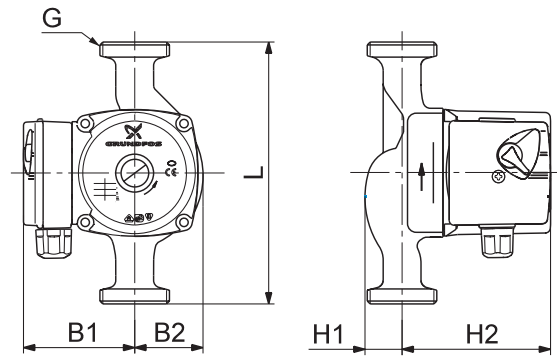
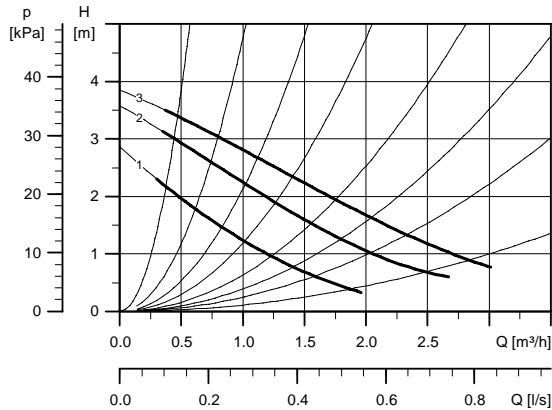
Connections: ¼" or 22 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-45 N	150	28	123	82	51	1¼	4.0	4.3	0.004

UPS 25-40 B

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	45	0.20
2	35	0.16
1	25	0.12

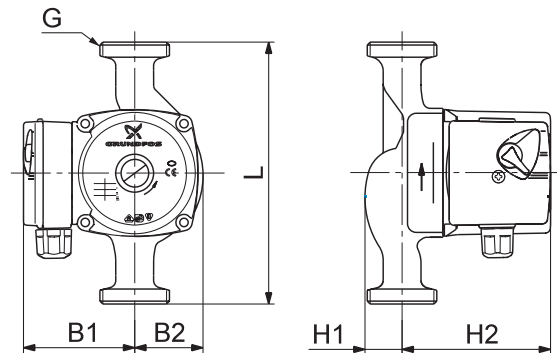
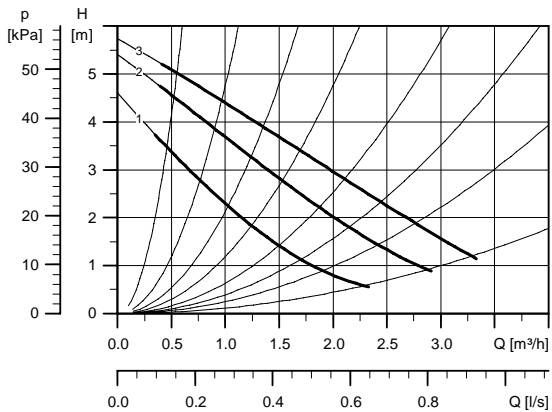
Connections: ¼", 1", 22 or 28 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: B

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-40 B	180	32	102	75	51	1½	2.9	3.1	0.004

UPS 25-60 B

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	70	0.30
2	60	0.27
1	50	0.22

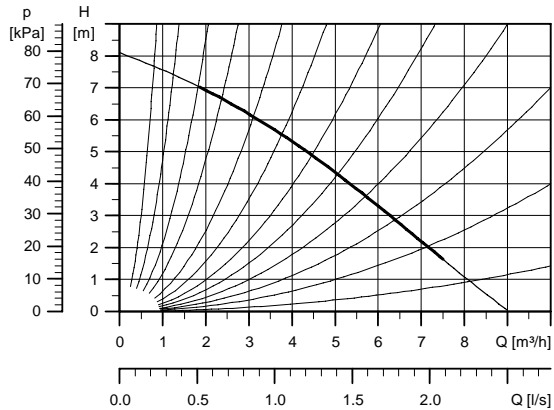
Connections: ¼", 1", 22 or 28 mm unions and valves
 System pressure: Max. 6/10 bar
 Liquid temperature: +2°C to +110°C (TF 110)
 Energy class: C
 Cold-water version: Type BK for -25°C to +95°C (TF 95)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-60 B	180	32	102	75	51	1½	2.9	3.1	0.004

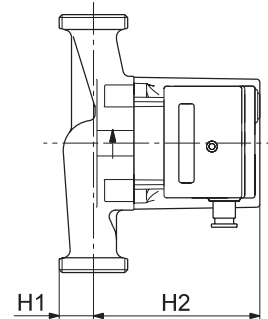
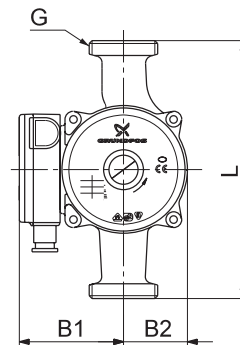
UP 25-80 B

180

1 x 230 V, 50 Hz



TM00 9758 2405



TM00 9387 2105

Speed	P ₁ [W]	I _n [A]
1	190	0.83

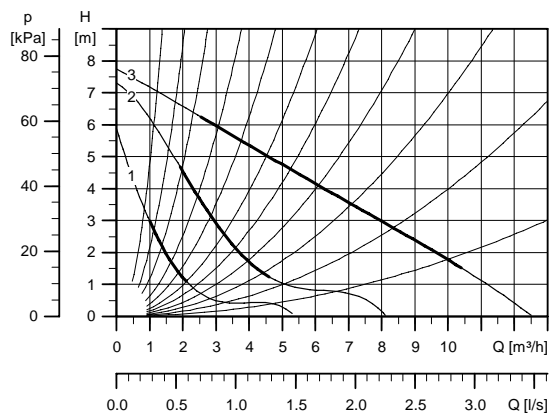
Connections: ¼", 1", 22 or 28 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 25-80 B	180	32	130	82	52	1½	4.2	4.5	0.008

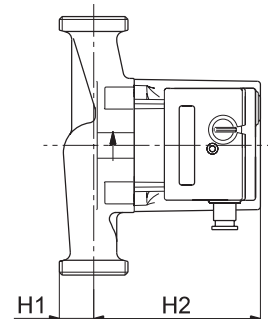
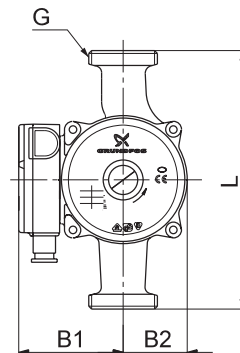
UPS 32-80 B

180

1 x 230 V, 50 Hz



TM00 9753 2405



TM00 8945 2105

Speed	P ₁ [W]	I _n [A]
3	240	1.05
2	205	0.91
1	135	0.62

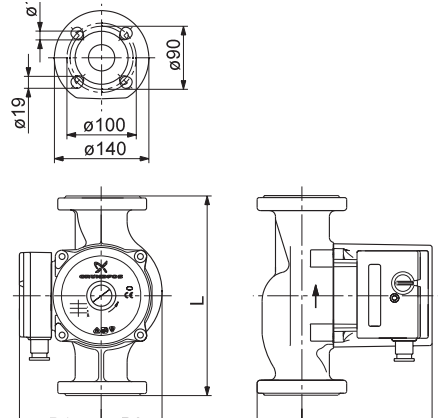
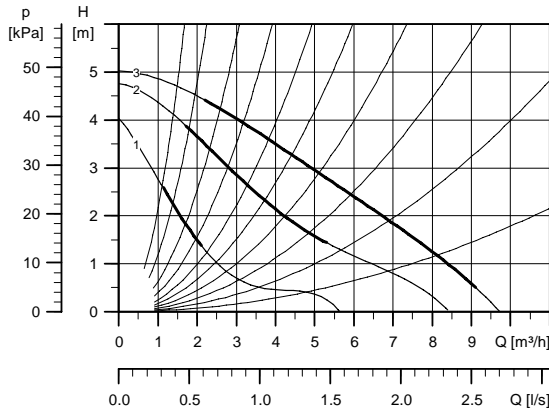
Connections: 1½", 28 or 42 mm unions and 1¼" valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: D

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 32-80 B	180	39	130	82	60	2	5.2	5.5	0.0102

UPS 32-50 FB

220

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	115	0.51
2	110	0.48
1	85	0.38

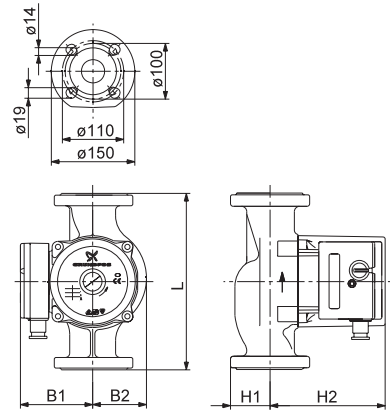
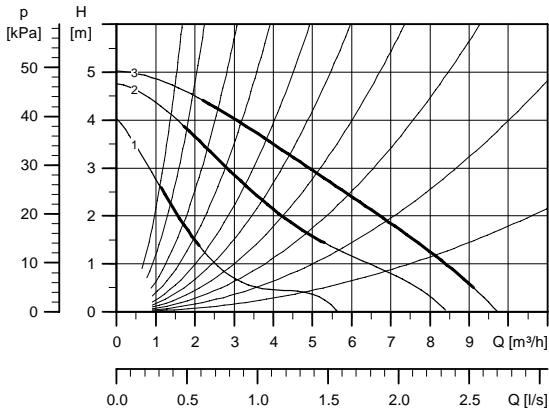
Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: C

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 32-50 FB	220	60	130	82	65		5.3	5.6	0.008

UPS 40-50 FB

250

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	115	0.51
2	110	0.48
1	85	0.38

Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)
 Energy class: C

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 40-50 FB	250	75	130	82	75		9.3	9.7	0.0122

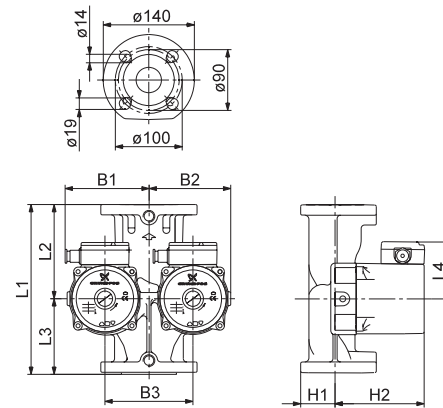
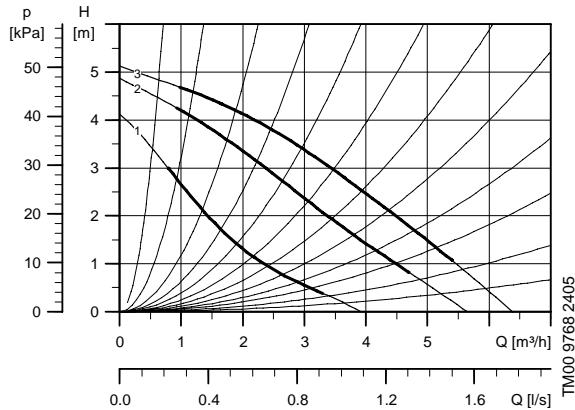
Product range, special versions

Pump type	50 Hz 1 x 230 V	50 Hz 3 x 400 V	50 Hz 3 x 220 V	60 Hz 3 x 440 V	60 Hz 1 x 220 V
UP 25-25		•			
UP 32-25		•			
UPS 25-20		•			
UPS 32-20		•			
UPS 25-40		•			
UPS 32-40		•			
UPS 25-50		•			
UPS 32-50		•			
UPS 25-60		•			
UPS 32-60		•			
UP 25-80		•			
UP 32-80		•			
UP 20-07 N		•			
UP 20-15 N		•			
UP 20-30 N		•			
UP 20-45 N		•	•		
UP 32-80 B		•			
UP 40-50 FB		•			
UP 20-30 NK		•			
UP 25-80			•		
UP 32-80			•		
UPSD 32-50 F	•				
UPSD 32-80 F	•				
UPSD 40-50 F	•				
UPSD 40-80 F	•				
UP 25-72				•	
UP 40-72				•	
UP 20-62 N				•	
UPS 25-42					•
UPS 25-62					•
UPS 20-32 N					•

UPSD 32-50 F

220

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	110	0.47
2	100	0.46
1	80	0.37

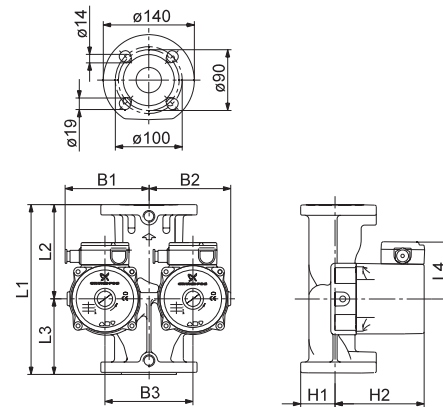
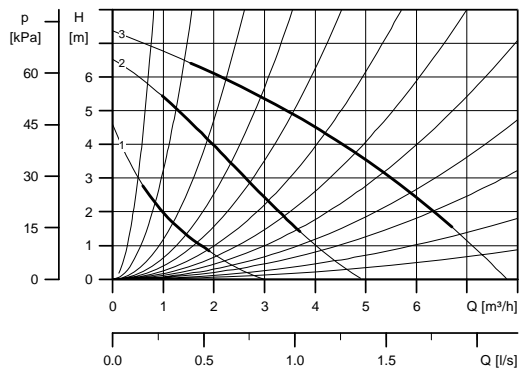
Connections: 1¼" screwed flanges or 32 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m ³]
	L1	L2	L3	L4	H1	H2	B1	B2	B3	Net	Gross	
UPSD 32-50 F	220	125	95	82	70	130	134	119	128	12.6	13.0	0.0126

UPSD 32-80 F

220

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
3	245	1.04
2	210	0.92
1	140	0.63

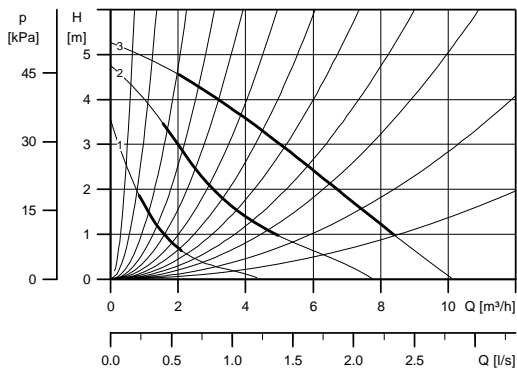
Connections: 1¼" screwed flanges or 32 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m ³]
	L1	L2	L3	L4	H1	H2	B1	B2	B3	Net	Gross	
UPSD 32-80 F	220	125	95	82	70	130	134	119	128	12.6	13.0	0.0126

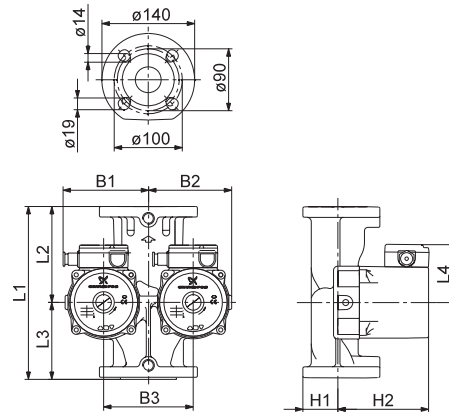
UPSD 40-50 F

250

1 x 230 V, 50 Hz



TM00 9767 0397



TM00 9335 2105

Speed	P ₁ [W]	I _n [A]
3	140	0.60
2	130	0.57
1	90	0.40

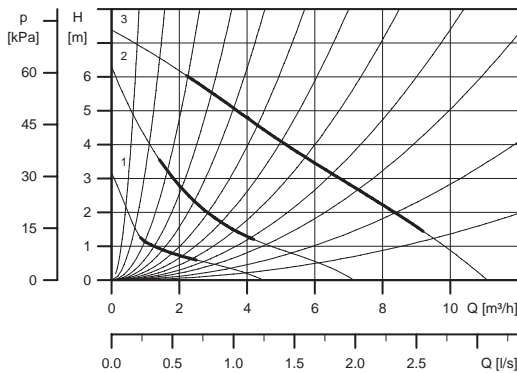
Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m³]
	L1	L2	L3	L4	H1	H2	B1	B2	B3	Net	Gross	
UPSD 40-50 F	250	150	100	82	75	130	134	119	128	14.1	14.5	0.0126

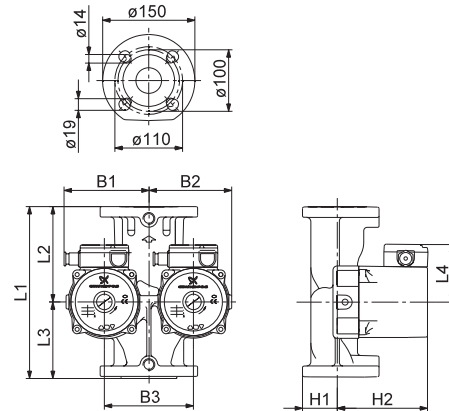
UPSD 40-80 F

250

1 x 230 V, 50 Hz



TM00 9766 0397



TM00 8972 2105

Speed	P ₁ [W]	I _n [A]
3	240	1.05
2	205	0.91
1	135	0.62

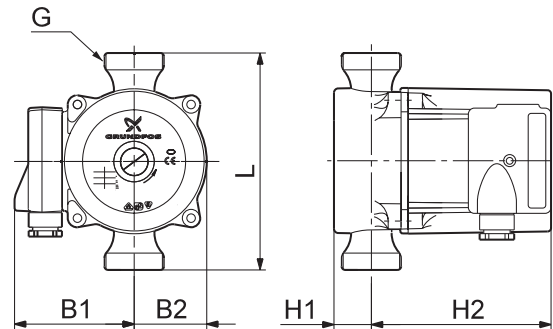
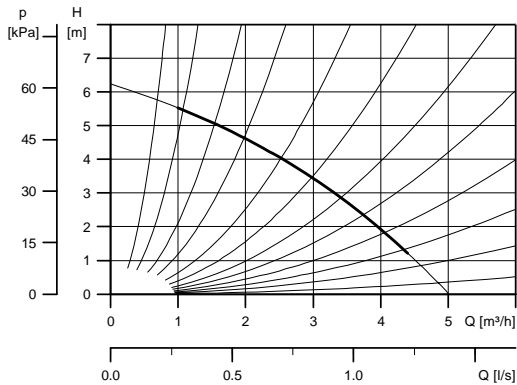
Connections: 1½" screwed flanges or 40 mm flanges for welding
 System pressure: Max. 6/10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]									Weights [kg]		Ship. vol. [m³]
	L1	L2	L3	L4	H1	H2	B1	B2	B3	Net	Gross	
UPSD 40-80 F	250	150	100	82	75	130	134	119	128	14.1	14.5	0.0126

UP 20-62 N

150

3 x 440 V, 60 Hz



Speed	P ₁ [W]	I _n [A]
1	180	0.30

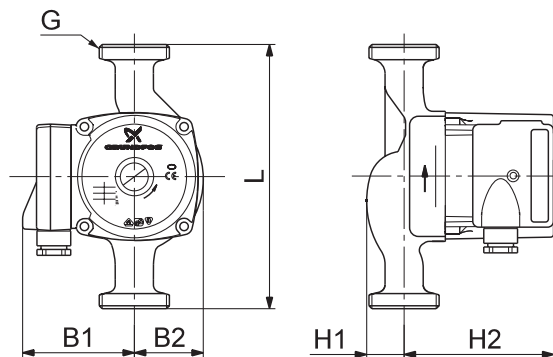
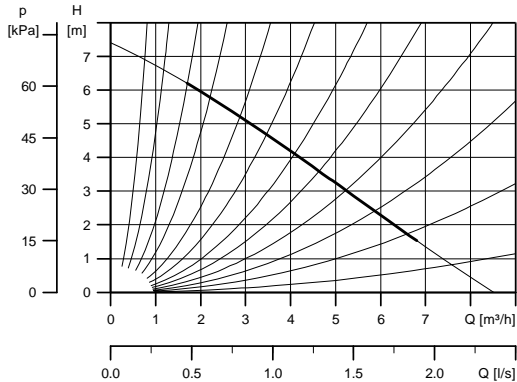
Connections: 3/4" or 22 mm unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-62 N	150	26	123	80	51	1 1/4	4.0	4.3	0.008

UP 25-72

180

3 x 440 V, 60 Hz



Speed	P ₁ [W]	I _n [A]
1	185	0.31

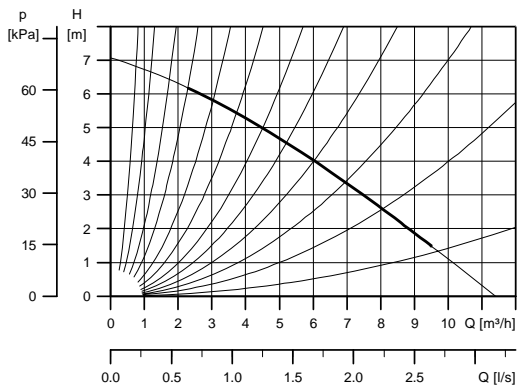
Connections: 3/4" or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 25-72	180	32	130	80	52	1 1/2	4.3	4.6	0.008

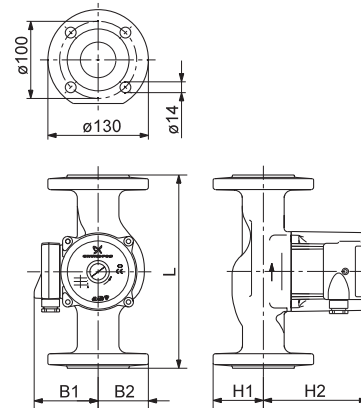
UP 40-72 F

250

3 x 440 V, 60 Hz



TM00 9763 0397



TM00 8962 2105

Speed	P ₁ [W]	I _n [A]
1	230	0.35

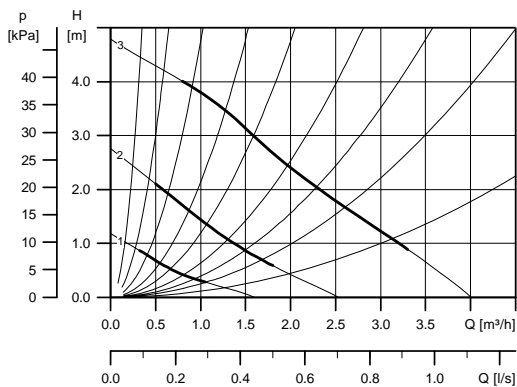
Connections: 1½" screwed flanges or 40 mm flange for welding
 System pressure: Max. 10 bar
 Liquid temperature: -25°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 40-72 F	250	65	130	80	65	-	7.4	7.8	0.0122

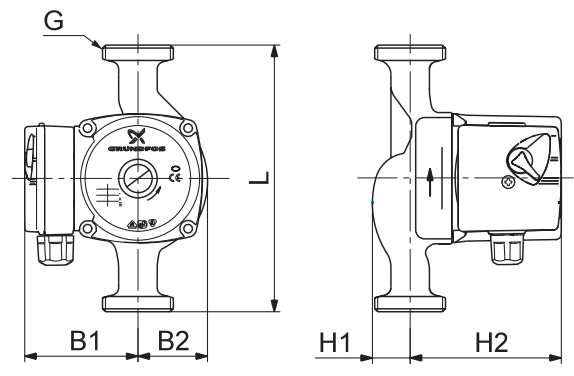
UPS 25-42

180

1 x 220 V, 60 Hz



TM01 0152 0597



TM00 9386 2105

Speed	P ₁ [W]	I _n [A]
3	85	0.40
2	50	0.26
1	30	0.15

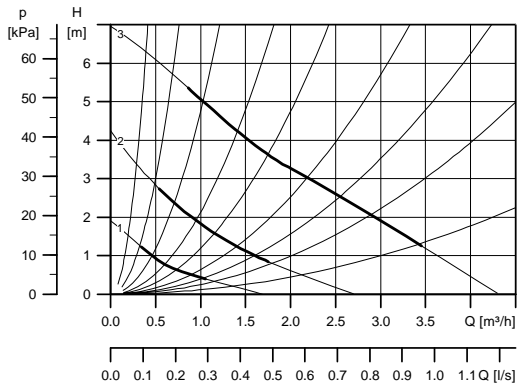
Connections: ¼" or 22 mm unions and ¼" or 22 mm valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-42	180	32	102	75	51	1½	2.6	2.8	0.004

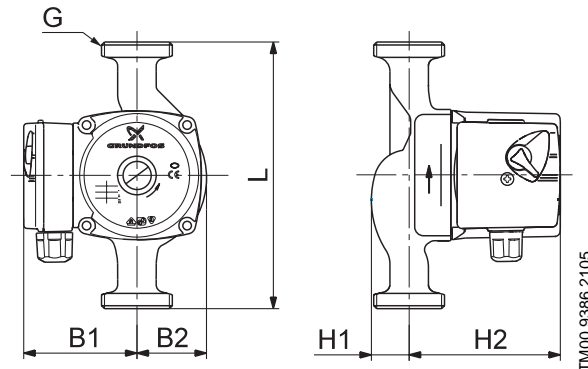
UPS 25-62

180

1 x 220 V, 60 Hz



TM01 0153 0597



TM00 9386 2105

Speed	P_1 [W]	I_n [A]
3	115	0.51
2	65	0.30
1	35	0.17

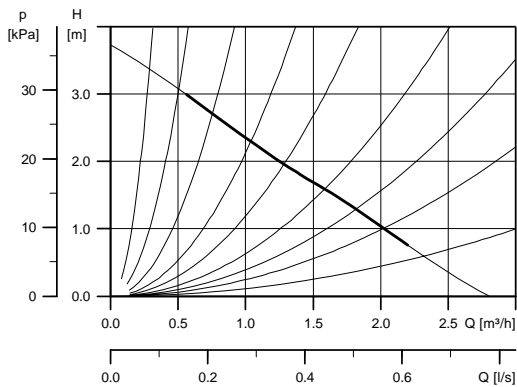
Connections: $\frac{3}{4}$ " or 1" unions and valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UPS 25-62	180	32	102	75	51	1½	2.6	2.8	0.004

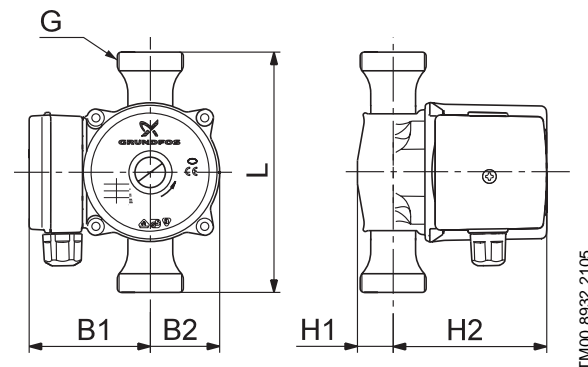
UP 20-32 N

150

1 x 220 V, 60 Hz



TM01 0154 0597



TM00 8932 2105

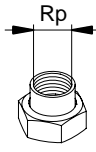
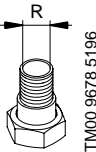
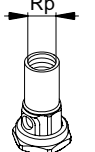
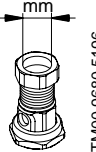
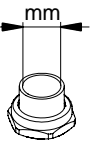
Speed	P_1 [W]	I_n [A]
1	95	0.43

Connections: $\frac{3}{4}$ " or 22 mm unions and $\frac{3}{4}$ " or 22 mm valves
 System pressure: Max. 10 bar
 Liquid temperature: +2°C to +110°C (TF 110)

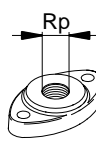
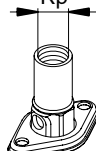
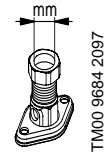
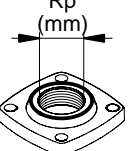
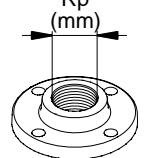
Pump type	Dimensions [mm]						Weights [kg]		Ship. vol. [m ³]
	L	H1	H2	B1	B2	G	Net	Gross	
UP 20-32 N	150	28	100	75	43	1½	2.1	2.3	0.004

Pipe connections

Unions

Pump connection																				
		TM00 9681 2097	TM00 9678 5196	TM00 9679 5196	TM00 9680 5196	TM00 9677 2097														
Pump type		1/2"	3/4"	1"	1 1/4"	1"	1 1/4"	3/4"	1"	1 1/4"	ø22	ø28	ø10	ø12	ø15	ø18	ø22	ø28	ø42	
20-xx	N, B	G 1 1/4	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
25-xx	B	G 1 1/2	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
32-xx	B	G 2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Flanges

Pump connection																							
		TM00 9682 5196	TM00 9683 5196	TM00 9684 2097	TM00 9685 5196	TM00 9686 5196																	
Pump type		3/4"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1"	1 1/4"	ø22	ø28	3/4"	1"	1 1/4"	1 1/2"	2"	ø32	ø40	ø50	1 1/4"	1 1/2"	ø32	ø40
21-xxF	Oval	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
36-xxF	Square	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
32-xxF	PN 6	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	PN 10	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
40-xxF	PN 6	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	PN 10	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	B PN 6	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	B PN 10	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- = Cast iron
- = Brass/bronze

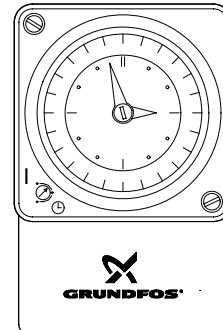
Grundfos controls

TS 3: On/off time switch

The on/off time switch is fitted directly to the wall.

The time switch automatically switches the pump on/off at preset intervals. It is available with 24-hour or week dial.

Type	Time switch	Product no. 1 x 220 V
TS 3/T	24-hour dial	96406992
TS 3/W	Week dial	96406993



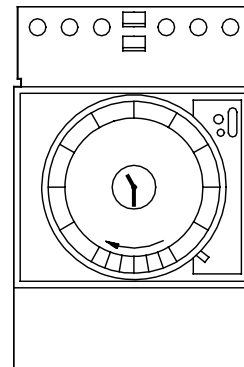
TM01 0205 2602

ST 200: On/off time switch and timed speed control

The ST 200 control is designed to control all single-phase UP, UPS pumps.

The control automatically changes over from one speed to another at preset intervals or only switches on/off (according to wiring).

Type	Time switch	Product no. 1 x 220 V
ST 200	24-hour dial	60041110
ST 200/TG	24-hour dial with battery back-up	60041210
ST 200/WG	Week dial with battery back-up	60041310

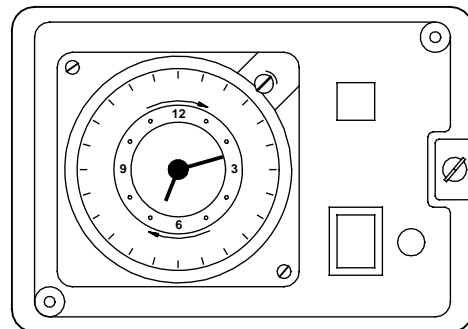


TM00 5142 5094

SAT 200: On/off time switch and timed speed control

The SAT 200 control has the same functions as the above-mentioned ST 200 control, but in addition, the SAT 200 features a built-in fuse and shorter intervals.

Type	Time switch	Product no. 1 x 220 V
SAT 200/TG	24-hour dial with battery back-up	60010210
SAT 200/WG	Week dial with battery back-up	60010310



TM00 5143 5094

Grundfos controls

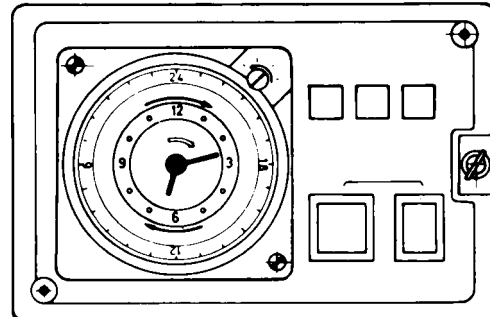
GES 200: Timed changeover between pump heads

The GES 200 control is designed for control of all single-phase twin-head pumps.

The control automatically changes over between the two pump heads at preset intervals.

By selecting different speeds for the duty pump and the standby pump, a speed control facility can be obtained (e.g. left pump on speed 3, right pump on speed 2).

Type	Time switch	Product no. 1 x 220 V
GES 200/WG	Week dial with battery back-up	60020310



TM00 9103 4396

ET 2: Temperature switch

The ET 2 temperature switch can be used in conjunction with ST 200, SAT 200 and GES 200 controls.

The ET 2 is a switch controlling according to the outdoor, room, flow-pipe or return-pipe temperature.

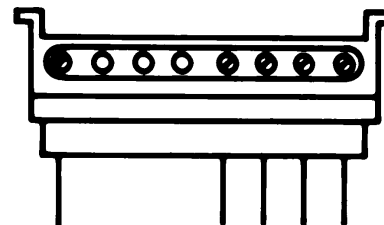
Control signal	Type	Temperature switch	Product no.
Temperature (outdoor, room, flow pipe, return pipe)	ET 2	With housing and outdoor sensor	ID4383
		With sensor for external pipe mounting	ID4384
		With sensor for internal pipe mounting and bushing	ID4385

Differential-pressure controls are also available.

Terminal block

The terminal block is fitted to the terminal box and used for the connection of external controls (e.g. for external changeover between two speeds).

Type	Product no.
Terminal block	605003



TM00 5144 5094

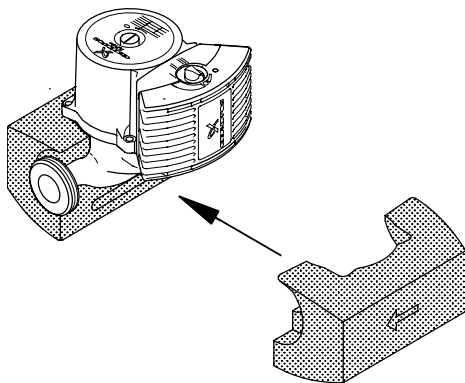
Union and valve kits

Pump type	Description	Material	Product number
ALPHA+ 25-40, 25-40 A, 25-60, 25-60 A	¾" unions	Cast iron	529921
	1" unions	Cast iron	529922
	¾" valves	MS	519805
	1" valves	MS	519806
ALPHA+ 25-40B, 25-60 B	¾" unions	MS	529971
	1" unions	MS	529972
	¾" valves	MS	519805
ALPHA+ 32-40, 32-60	1" unions	Cast iron	509921
	1½" unions	Cast iron	509922

Insulation kits

Series 100 can be fitted with two insulating shells. The insulating thickness of the insulating kit corresponds to the nominal diameter of the pump.

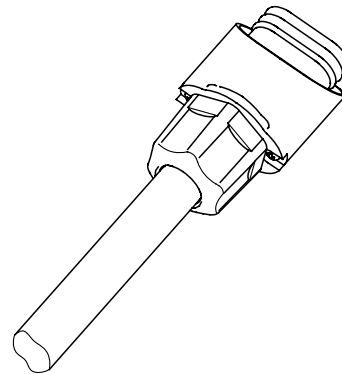
The insulation kit, which is tailored to the individual pump type, encloses the entire pump housing. The two shells are easily fitted around the pump.



TM01 9205 4902

Pump type	Insulation kit
ALPHA+ 15-40, 25-40, 32-40, 25-60, 32-60	505821
ALPHA+ 25-40 A, 25-60 A	505822
UPS 25-20	505821
UPS 32-20	505821
UPS 25-30	505821
UPS 32-30	505821
UPS 25-40	505821
UPS 32-40	505821
UPS 25-60	505821
UPS 32-60	505821
UPS 25-80	525242
UPS 32-80	525242
UPS 25-20 A	505822
UPS 25-30 A	505822
UPS 25-40 A	505822
UPS 25-60 A	505822
UPS 40-50 F	525243
UPS 25-40 B	505821
UPS 25-60 B	505821
UP 25-80 B	525242
UPS 32-80 B	525242
UPS 40-50 FB	525243

Service kit for ALPHA+



TM01 9911 3400



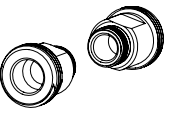


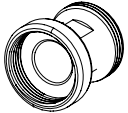
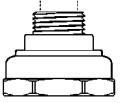
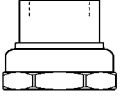
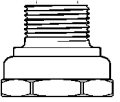
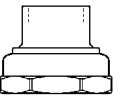
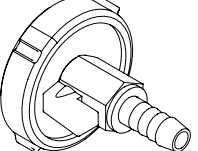
Description	Product number
Plug - GRUNDFOS ALPHA+	595562

Timer and thermostat for COMFORT

According to the table below, the pump types B, BT, BX and BXT can be upgraded with a 24-hour timer. The timer for the pump types BT and BXT includes a thermostat for replacement.

Pump type	Supplied with			Product numbers	
	24-hour timer	Thermostat	Shut-off valve and non-return valve	24-hour timer	24-hour timer + thermostat
UP 15-14 B				96433891	
UP 15-14 BU	●				
UP 15-14 BT		●			96433892
UP 15-14 BUT	●	●			
UP 20-14 BX			●	96433891	
UP 20-14 BXU	●		●		
UP 20-14 BXT		●	●		96433892
UP 20-14 BXUT	●	●	●		

Fittings for COMFORT

Pump type	Fitting	Description	Connection	Material	Prod. no.
		TM01 8539 0300 Extension set Length = 35 mm each	Rp ½ / G 1¼	MS	96433911
		TM01 8540 0300 Extension set Length = 25 mm each	Rp ½ / G 1½	MS	96433912
UP 15-XX		TM01 8541 0300 Extension set Length = 30 mm each	Rp ½ / G 1	MS	96433913
		TM01 8647 0300 Non-return valve	½	MS	96433904
		TM01 8648 0300 Shut-off valve	½	MS	96433905
		TM01 8542 0300 Extension set Length = 40 mm	G 1¼ / G 1¼	MS	96436559
		TM01 8643 0300 Union set	G 1¼ x 15 mm int. / R ½ ext.	MS	96433907
UP 20-XX		TM01 8644 0300 Union set	G 1¼ x Rp ¾ int.	MS	96433908
		TM01 8645 0300 Union set	G 1¼ x Rp ½ int. / R ¾ ext.	MS	96433909
		TM01 8646 0300 Union set	G ¼ x 22 mm int.	MS	96433910
UP 15-XX UP 20-XX		TM01 8560 0300 Venting flange	Flange Union nut Hose	PP CuZn40Pb2 PE	96433906

Further product documentation

In addition to this printed data booklet, Grundfos offers the following sources of product documentation.

- WinCAPS
- WebCAPS.

WinCAPS

WinCAPS is a **Windows-based Computer Aided Product Selection** program containing information on more than 90,000 Grundfos products.

Available on CD-ROM in more than 15 languages, WinCAPS offers

- detailed technical information
- selection of the optimum pump solution
- dimensional drawings of each pump
- detailed service documentation
- installation and operating instructions
- wiring diagrams of each pump.



Fig. 1 WinCAPS CD-ROM

cd-wincaps

Click **Catalogue** and select a product from the extensive product catalogue.

Click **Sizing** and select the most suitable pump for your application.

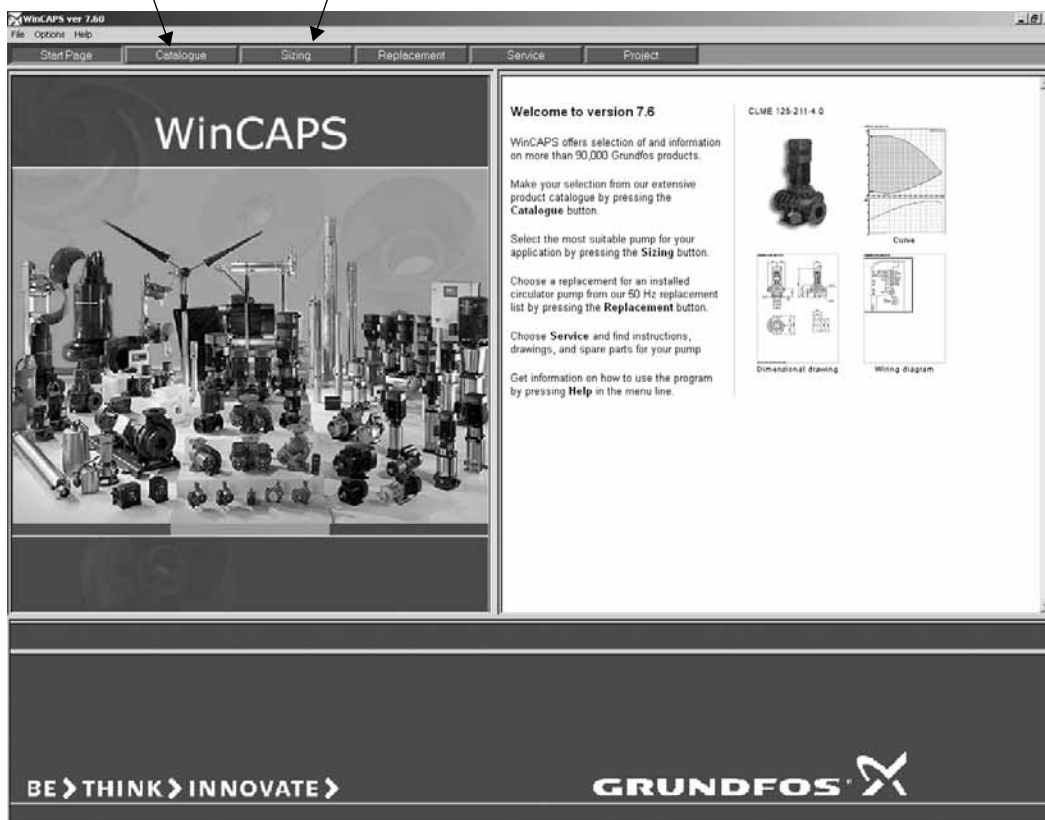


Fig. 2 WinCAPS

WinCAPS

Further product documentation

WebCAPS

WebCAPS is a **Web**-based **Compute Aided Product Selection** program and a web-version of WinCAPS.

WebCAPS is accessible on Grundfos' homepage, www.grundfos.com, and offers

- detailed technical information
- dimensional drawings of each pump
- wiring diagrams of each pump.

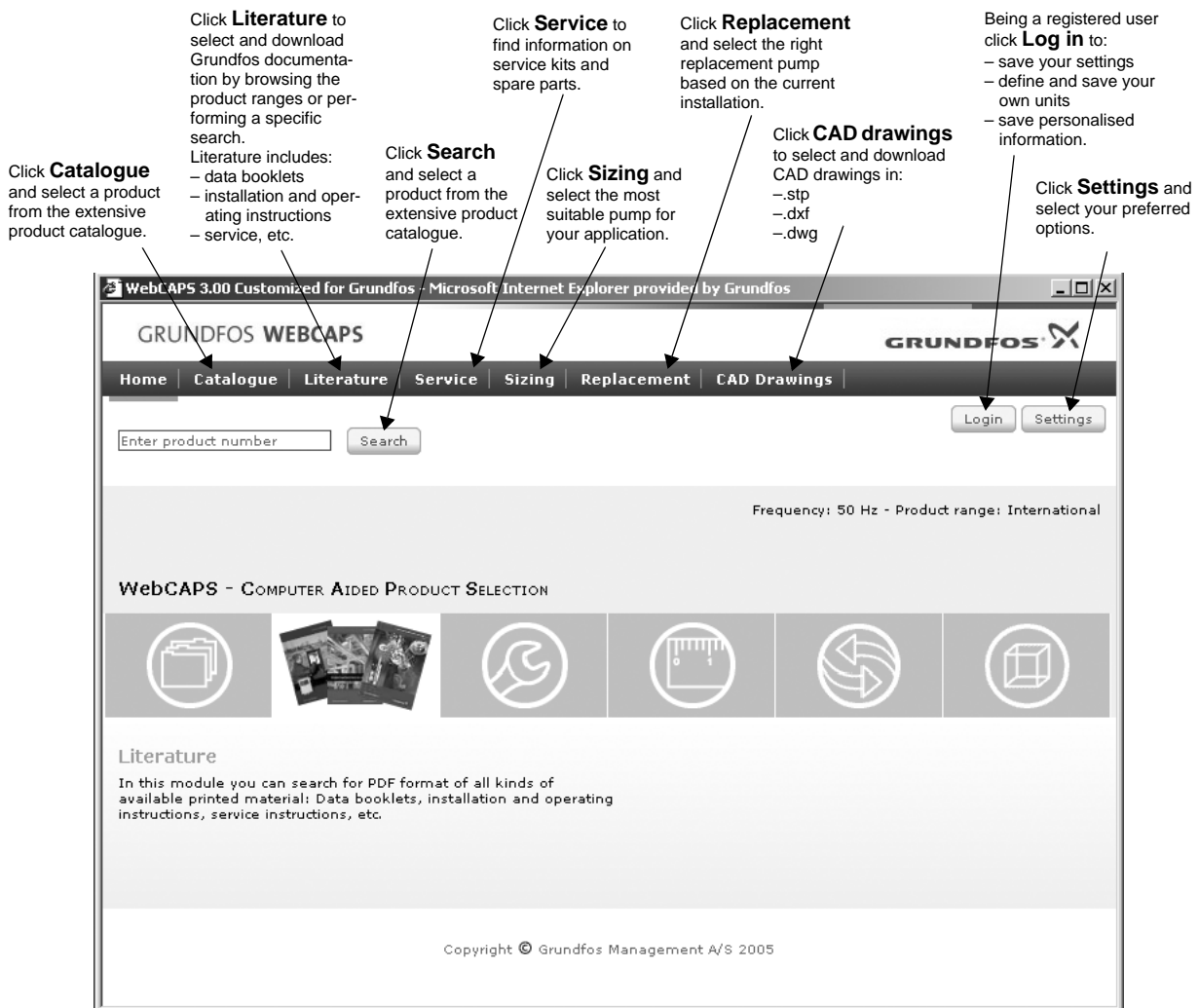


Fig. 3 WebCAPS

WebCAPS_English

V7124413 1105	GB
Repl. V7124413 0705	

Subject to alterations.