Grundfos UPBasic

Circulator pumps 50 Hz



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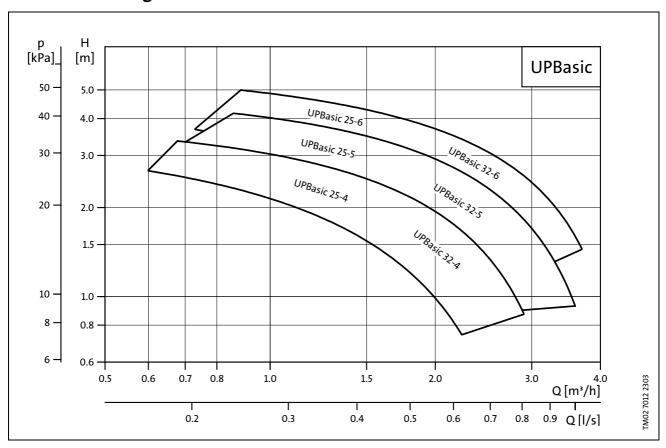
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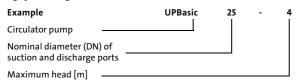
Performance ranges



Product range, 1 x 230 V, 50 Hz

Pump material	Cast iron
Liquid temperature	+2°C to +110°C
Terminal box position	TM00 9306 4969
Pump type	
UPBasic 25-4	•
UPBasic 25-5	•
UPBasic 25-6	•
UPBasic 32-4	•
UPBasic 32-5	•
UPBasic 32-6	•

Type key

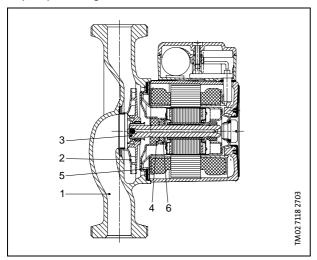


Construction

The Grundfos UPBasic 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 characterized by:

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



Material specification

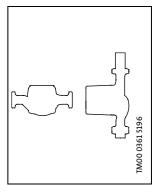
Pos.	Component	Material	DIN/EN
1	Pump housing	Cast iron EN-GJL-150/200	0.6020
2	Impeller	Composite/PES or PP	
3	Shaft	Ceramics	
4	Bearing	Ceramics/carbon	
5	Bearing plate	Stainless steel	1.4301
6	Thrust bearing retainer	EPDM rubber	
	Gaskets	EPDM rubber	

Installation

The pump must allways 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.



Motor

The motor is a 2-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 and EN 60 335-2-51.

The pumps are available with 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 impedance protection. Therefore, no external motor protection is required.

Applications

The Grundfos UPBasic circulator pumps are specificially designed for heating systems.

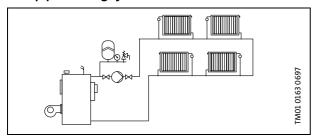
Heating systems

For central and district heating systems, use pump type Grundfos UPBasic. Grundfos UPBasic can be operated at two speeds.

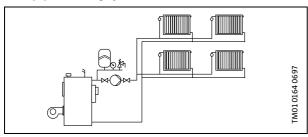
The pumps are used primarily for one and two-pipe heating systems, but are also suitable, e.g. for mixing loops in large systems.

For underfloor heating systems, it is advisable to use the bronze version, type UP(S) B, as the pumped liquid may often become aerated, causing an ordinary cast iron pump housing to corrode.

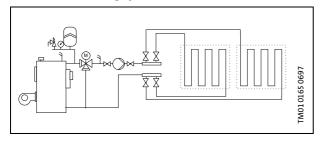
One-pipe heating system



Two-pipe heating system



Underfloor heating system



Pumped liquids

Thin, clean, non-aggressive and non-explosive liquids, not containing solid particles, fibres or mineral oils.

The pump must **not** be used for the transfer of

- · domestic hot water,
- inflammable liquids such as diesel oil and petrol.

The kinematic viscosity of water is υ = 1 mm²/s (1cSt) 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 (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 temperatur: +2°C to +110°C.

To avoid condensation in the terminal box and the stator, the pumped liquid temperature must always be higher than the ambient temperature. See table below:

Ambient temperature	Liquid temperature					
[°C]	Min. [°C]	Max. [°C]				
0	2	110				
10	10	110				
20	20	110				
30	30	110				
35	35	90				
40	40	70				
60★	60★	70★				

[★] At these temperatures, the pump life may be reduced.

Maximum system pressure

PN 10: 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	2.8 m head	11.0 m head
illiet pressure	0.049 bar	0.27 bar	1.08 bar

Curve conditions

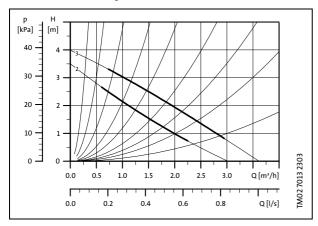
The guidlines below apply to the performance curves on the following pages:

- 1. The **bold** parts of the curves show the **recommended** performance range.
- 2. Test liquid: Airless water.
- 3. The measurements for Grundfos UPBasic has been made at a water temperature of 20°C.
- All curves show average values and should not be used as guarantee curves. If a specific minimum performance is requuired, individual measurements must be made.
- 5. The Grundfos UPBasic curves apply to a kinematic viscosity of 1 mm²/s (1 cSt).
- 6. The conversion between head H [m] and pressure ρ [kPa] has been made for water with a density of ρ = 1000 kg/m³. For liquids with other densities, e.g. hot water, the discharge pressure is proportional with the density.

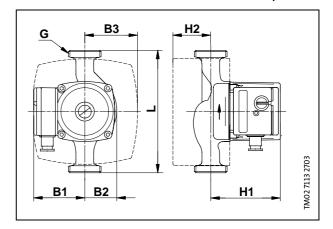
UPBasic 25-4 / UPBasic 32-4

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
2	60	0.26
1	45	0.20



Connections: $\frac{3}{4}$ ", 1" or $\frac{1}{4}$ " unions and valves.

System pressure: Max. 10 bar.

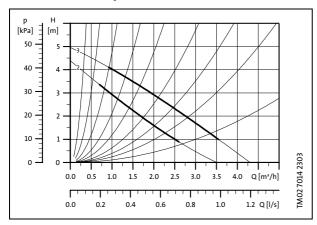
Liquid temperature: +2°C to +110°C (TF110).

Dumn tuno			Dir	nensions [m	Weigh	Ship. vol				
Pump type	L	H1	H2	B1	B2	В3	G	Net	Gross	[m³]
UPBasic 25-4	180	102	57	75	51	77	1½	2.6	2.8	0.004
UPBasic 32-4	180	102	57	75	51	77	2	2.6	2.8	0.004

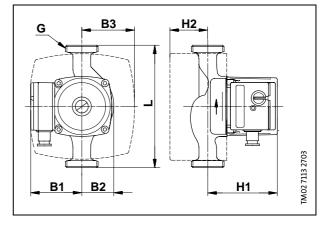
UPBasic 25-5 / UPBasic 32-5

180

1 x 230 V, 50 Hz



Speed	P ₁ [W]	I _n [A]
2	80	0.34
1	55	0.24



Connections: ¼", 1" or 1¼" unions and valves.

System pressure: Max. 10 bar.

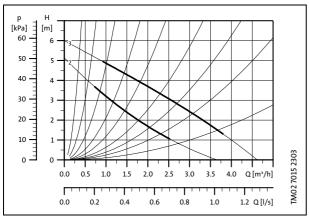
Liquid temperature: +2°C to +110°C (TF110).

Dumn tuno		Dimensions [mm]								Ship. vol
Pump type	L	H1	H2	B1	B2	В3	G	Net	Gross	[m³]
UPBasic 25-5	180	102	57	75	51	77	1½	2.6	2.8	0.004
UPBasic 32-5	180	102	57	75	51	77	2	2.6	2.8	0.004

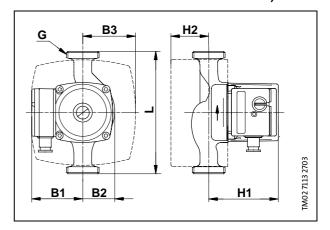
UPBasic 25-6 / UPBasic 32-6

180

1 x 230 V, 50 Hz



0.0	0.2	0.4	0.6	0.8	1.0	1.2 Q[l/s]	TM027
Speed		P ₁ [W]				I _n [A]	
2		90				0.40	
1	65				0.30		



Connections: %", 1" or 1%" unions and valves.

System pressure: Max. 10 bar.

Liquid temperature: +2°C to +110°C (TF110).

Dumn tuno	Dimensions [mm]						Weights [kgs]		Ship. vol	
Pump type	L	H1	H2	B1	B2	В3	G	Net	Gross	[m³]
UPBasic 25-6	180	102	57	75	51	77	1½	2.6	2.8	0.004
UPBasic 32-6	180	102	57	75	51	77	2	2.6	2.8	0.004

Pipe connections

Unions

Pump type	Pump connection	T	Rp	}	TM00 9681 2097	R	TM00 9678 5196
	Pu		34"	1"	1¼"	1"	1¼"
25-x	G 1½		•	•		•	•
32-x	G 2			•	•		

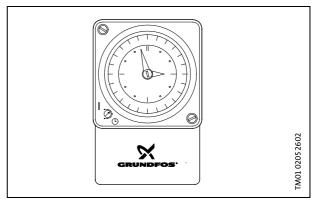
[•] Cast iron

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.

Туре	Time switch	Product no. 1 x 220 V	
TS 3/T	24-hour dial	96 40 69 92	
TS 3/W	Week dial	96 40 69 93	



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

The ST 200 control is designed to control all single-phase Grundfos UPBasic pumps.

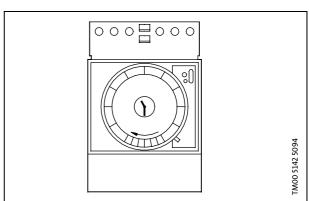
The control automatically changes over from one speed to another at preset intervals or only switches on/off (according to wiring).

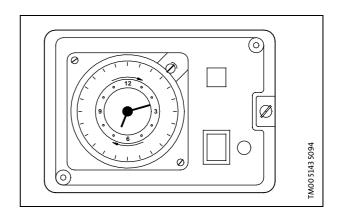
Туре	Time switch	Product no. 1 x 220 V	
ST 200	24-hour dial	60 04 11 10	
ST 200/TG	24-hour dial with battery back-up	60 04 12 10	
ST 200/WG	Week dial with battery back-up	60 04 13 10	

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.

Туре	Time switch	Product no. 1 x 220 V	
SAT 200/TG	24-hour dial with battery back-up	60 01 02 10	
SAT 200/WG	Week dial with battery back-up	60 01 03 10	





ET 2: Temperature switch

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

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

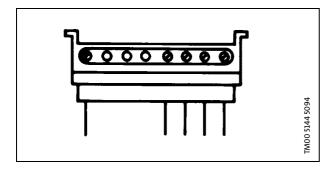
Control signal	Туре	Temperature switch	Product no.
		With housing and out-door sensor	ID 43 83
Temperature (out-door, room, flow-pipe, return-	ET 2	With sensor for external pipe mounting	ID 43 84
pipe)		With sensor for internal pipe mounting and bushing	ID 43 85

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).

Туре	Product no.	
Terminal block	60 50 03	



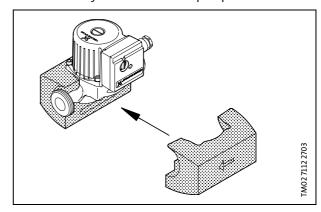
Union and valve kits

Pump type	Description	Material	Product number
UPBasic 25-4 UPBasic 25-5	¾" unions	Cast iron	52 99 21
UPBasic 25-6	1" unions	Cast iron	52 99 22
UPBasic 32-4 UPBasic 32-5	1" unions	Cast iron	50 99 21
UPBasic 32-6	1¼" unions	Cast iron	50 99 22

Insulation kits

Grundfos UPBasic 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.



Pump type	Insulation kit
UPBasic 25-4 UPBasic 25-5 UPBasic 25-6	50 58 21
UPBasic 32-4 UPBasic 32-5 UPBasic 32-6	50 58 21

96 51 14 66 07 03 - c1 **GB**

Subject to alterations.

