

# Grundfos UPBasic

Circulator pumps  
50 Hz



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## Performance curves

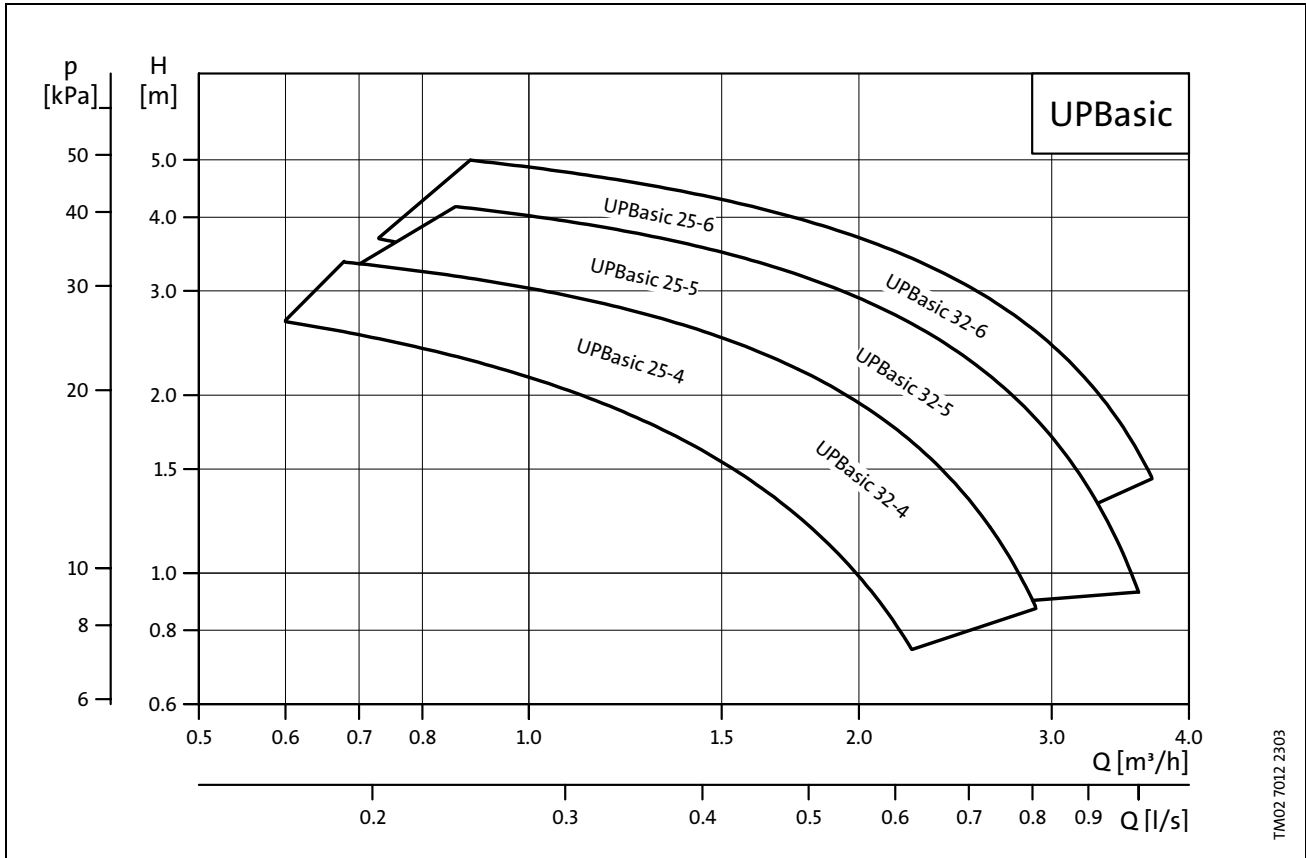
### Technical data

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## Performance ranges





## Applications

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

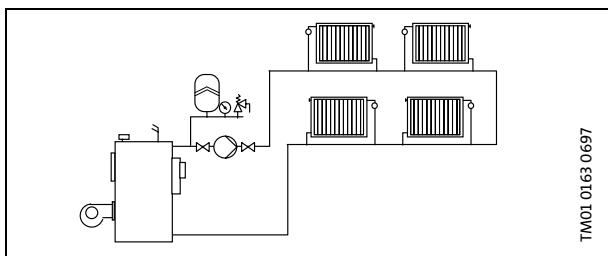
## Heating systems

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

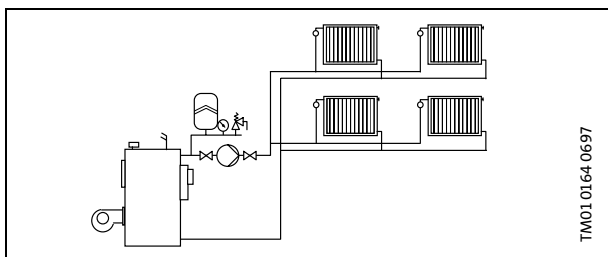
The pumps are used primarily for one and two-pipe heating systems, but are also suitable, e.g. for mixing loops in large systems.

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.

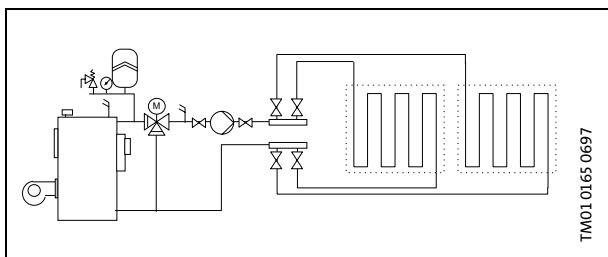
### One-pipe heating system



### 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  $\nu = 1 \text{ mm}^2/\text{s}$  (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.  $10 \text{ mm}^2/\text{s}$  (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 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 [°C]	Liquid temperature	
	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
	0.049 bar	0.27 bar	1.08 bar

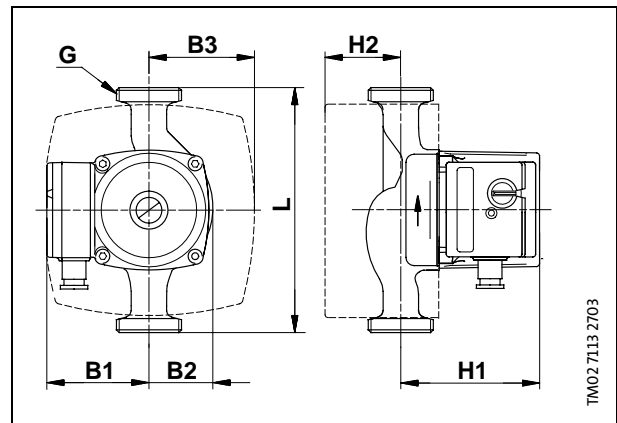
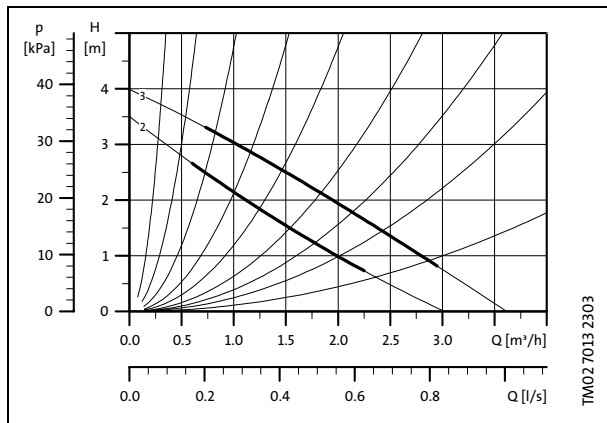
## Curve conditions

The guidelines 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.
4. 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.
5. The Grundfos UPBasic curves apply to a kinematic viscosity of  $1 \text{ mm}^2/\text{s}$  (1 cSt).
6. The conversion between head  $H$  [m] and pressure  $\rho$  [kPa] has been made for water with a density of  $\rho = 1000 \text{ kg}/\text{m}^3$ . 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



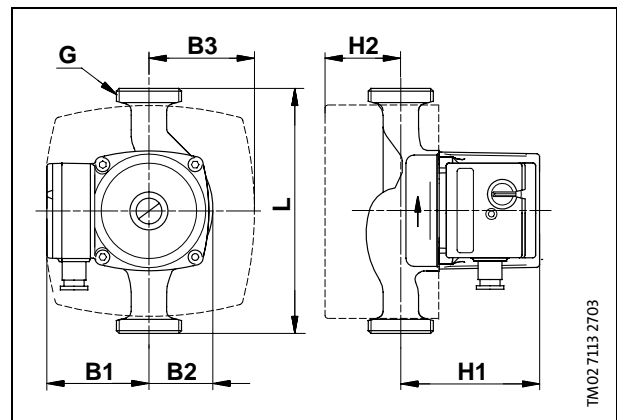
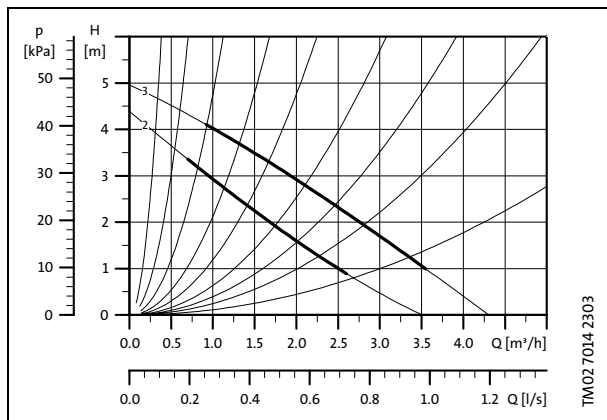
Speed	P <sub>1</sub> [W]	I <sub>n</sub> [A]
2	60	0.26
1	45	0.20

Connections: ¼", 1" or 1½" unions and valves.  
 System pressure: Max. 10 bar.  
 Liquid temperature: +2°C to +110°C (TF110).

Pump type	Dimensions [mm]							Weights [kgs]		Ship. vol [m³]
	L	H1	H2	B1	B2	B3	G	Net	Gross	
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



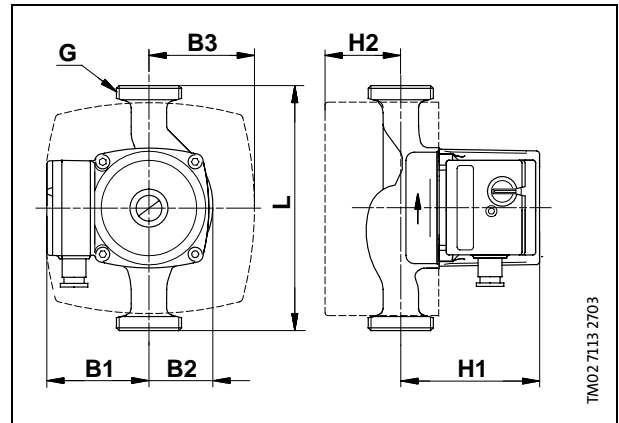
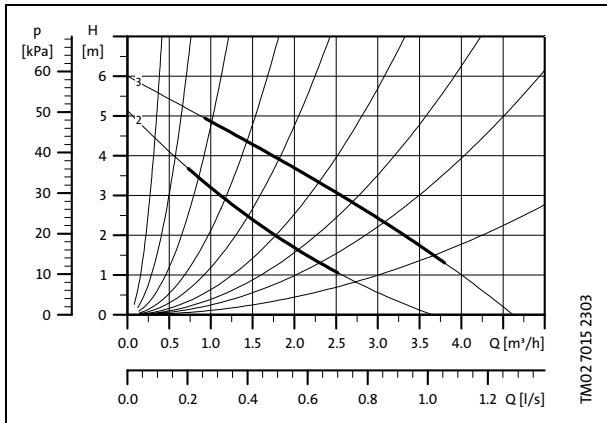
Speed	P <sub>1</sub> [W]	I <sub>n</sub> [A]
2	80	0.34
1	55	0.24

Connections: ¼", 1" or 1½" unions and valves.  
 System pressure: Max. 10 bar.  
 Liquid temperature: +2°C to +110°C (TF110).

Pump type	Dimensions [mm]							Weights [kgs]		Ship. vol [m³]
	L	H1	H2	B1	B2	B3	G	Net	Gross	
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



Speed	$P_1$ [W]	$I_n$ [A]
2	90	0.40
1	65	0.30

Connections:  $\frac{3}{4}$ ", 1" or 1½" unions and valves.  
 System pressure: Max. 10 bar.  
 Liquid temperature: +2°C to +110°C (TF110).

Pump type	Dimensions [mm]							Weights [kgs]		Ship. vol [m³]
	L	H1	H2	B1	B2	B3	G	Net	Gross	
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	Rp			R	
		¾"	1"	1¼"	1"	1¼"
25-x	G 1½	•	•		•	•
32-x	G 2		•	•		

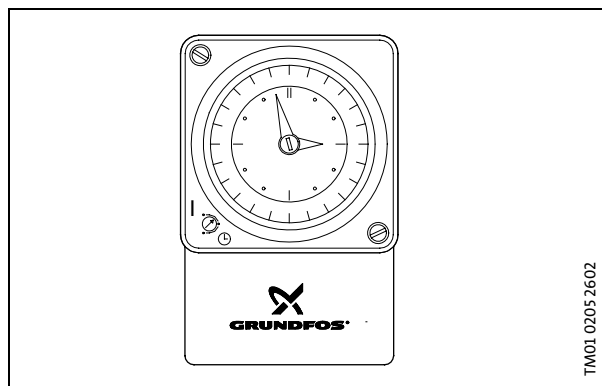
• Cast iron

## 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.

Type	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



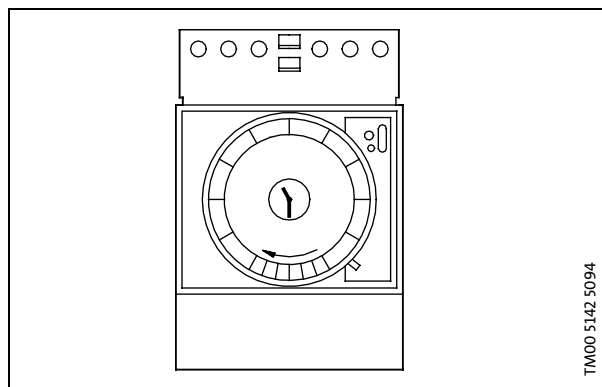
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### ST 200: On/off time switch and timed speed control

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).

Type	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

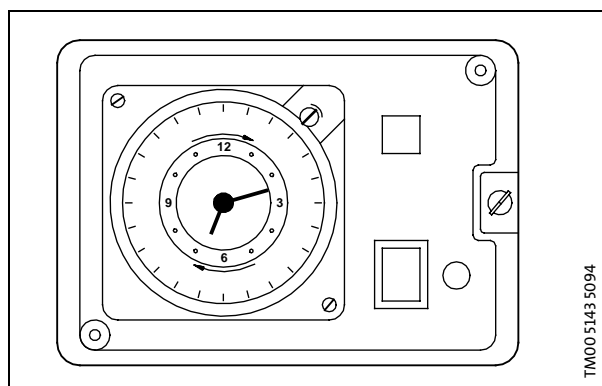


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### SAT 200: On/off time switch and timed speed control

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	60 01 02 10
SAT 200/WG	Week dial with battery back-up	60 01 03 10



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## 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.

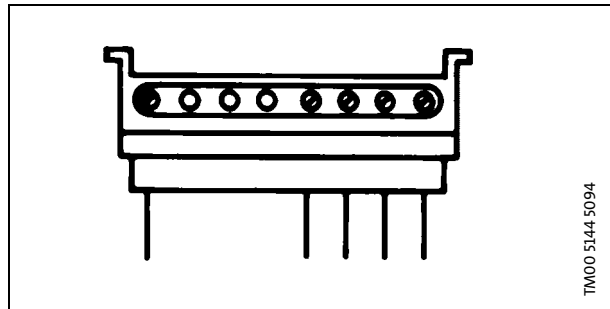
Control signal	Type	Temperature switch	Product no.
Temperature (out-door, room, flow-pipe, return-pipe)	ET 2	With housing and out-door sensor	ID 43 83
		With sensor for external pipe mounting	ID 43 84
		With sensor for internal pipe mounting and bushing	ID 43 85

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).

Type	Product no.
Terminal block	60 50 03



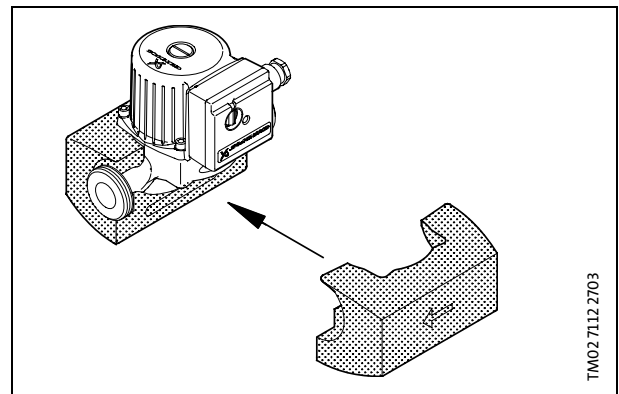
## Union and valve kits

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

Subject to alterations.