



UPM3 HYBRID 25-70 130

Installation and Operation Manual  
Grundfos UPM3 HYBRID 25-70 130 mm Pump

EN

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# UPM3 HYBRID 25-70 130 mm Pump

## Design

Wet-running circulation pump with G 6/4" M connection.

Electrical Data	
Power supply	230 V, 50 Hz
Power consumption (min./max.)	2/52W
Current (min./max.)	0.04/0.52 A
IP rating	IP44
Max. speed	5766 rpm
Weighted average power	≤ 25 W
Energy Efficiency Index	≤ 0.20 by EN 16 297/3
Motor protection	not needed

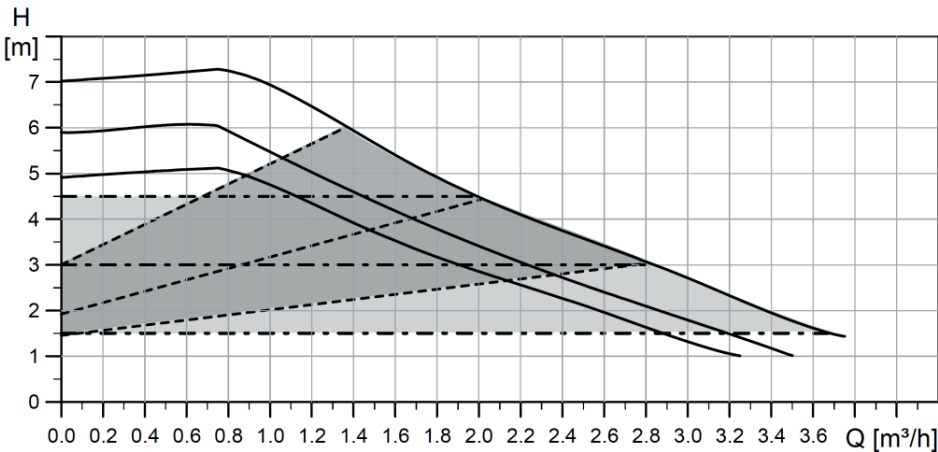
Minimum pressure at pump suction port	
Minimum pressure at suction port to avoid cavitation	0.5 mH <sub>2</sub> O at 75 °C
	5.0 mH <sub>2</sub> O at 95 °C
	10.8 mH <sub>2</sub> O at 110 °C



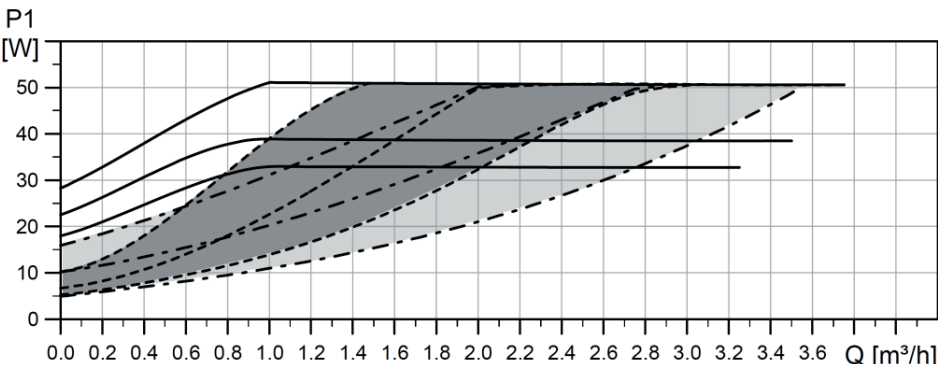
## Pump Control

- The circulation pump can be controlled:
- internally without a PWM signal by selecting a suitable mode and pump performance curve
  - by an external PWM A control signal (profile for use in heating systems) or PWM C control signal (profile for use in solar thermal systems)

## Performance Curves



Line type	Description
—	Constant speed
- - -	Proportional pressure
- . - .	Constant pressure



## Description of Pump Profiles

### a) INTERNAL CONTROL - Proportional pressure

- Head (pressure): reduced with growing system pressure drop and increased with sinking system pressure drop (typically e.g. opening / closing of thermostatic heads)
- Pump operating point: moves up or down on the selected proportional pressure curve depending on the current system pressure drop.



CONTROL MODE		DESCRIPTION
Proportional pressure	I	The lowest curve of proportional pressure
	II	The middle curve of proportional pressure
	III	The highest curve of proportional pressure
	AUTO <sub>ADAPT</sub>	Automatically controls performance in the range from the highest to the lowest proportional pressure curve

### b) INTERNAL CONTROL - Constant pressure

- Head (pressure): kept constant, disregarded of the system pressure drop
- Pump operating point: moves on the selected constant pressure curve depending on the current system pressure drop.



CONTROL MODE		DESCRIPTION
Constant pressure	I	The lowest curve of constant pressure
	II	The middle curve of constant pressure
	III	The highest curve of constant pressure
	AUTO <sub>ADAPT</sub>	Automatically controls performance in the range from the highest to the lowest constant pressure curve

### c) INTERNAL CONTROL - Constant speed

- The pump runs at constant speed.
- Pump operating point: moves up or down on the selected constant curve depending on the current system pressure drop.



CONTROL MODE		Max. H (upper graph)	Max. P <sub>1</sub> (lower graph)
Constant speed	I	5 m	33 W
	II	6 m	39 W
	III	7 m	52 W

### d) EXTERNAL CONTROL - PWM C (solar)

- The pump runs on a curve of constant speed depending on the current PWM value.
- The speed will increase with the increase of the PWM value. If PWM equals 0, the pump stops.



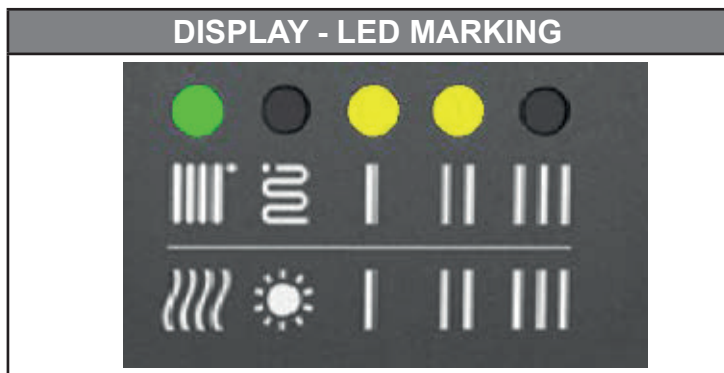
## e) EXTERNAL CONTROL - PWM A (heating)

- The pump runs on a curve of constant speed depending on the current PWM value.
- The speed slows down when the PWM value rises. If PWM equals 0, the pump runs at its max. speed.



CONTROL MODE		Max. H (upper graph)
PWM A	I	5 m
	II	6 m
	III	7 m

## Settings Display



The LED marking is further omitted for better clarity.

	DISPLAY	CONTROL MODE	
	green LED NOT FLASHING	INTERNAL	
1		Proportional pressure AUTO <sub>ADAPT</sub>	
2		Constant pressure AUTO <sub>ADAPT</sub>	
3		Proportional pressure	I
4			II
5			III
6		Constant pressure	I
7			II
8			III
9		Constant speed	I
10			II
11			III

	DISPLAY	CONTROL MODE	
	green LED FLASHING	EXTERNAL	
12		PWM C	
13		PWM A	I
14			II
15			III

GREEN LEDS FLASHING FREQUENCY	CONTROL	PWM SIGNAL RECEPTION
Not flashing	Internal	-
1 flash per second	External	NO
12 flashes per second	External	YES

**WARNING:** LEDs may be turned by 90° or 180°, or mirrored, depending on the specific pump type. When switched on, the pump runs at factory settings or the last setting. The display shows the current pump performance.

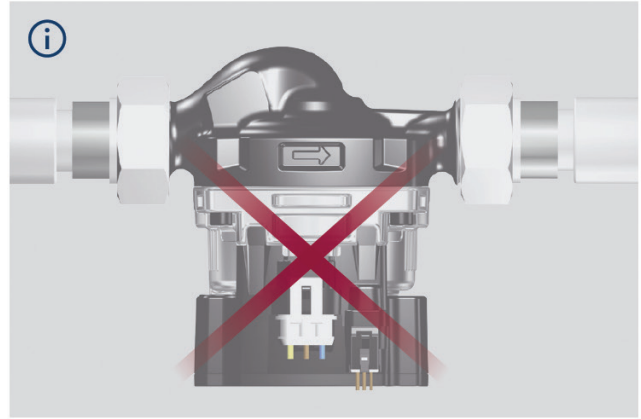
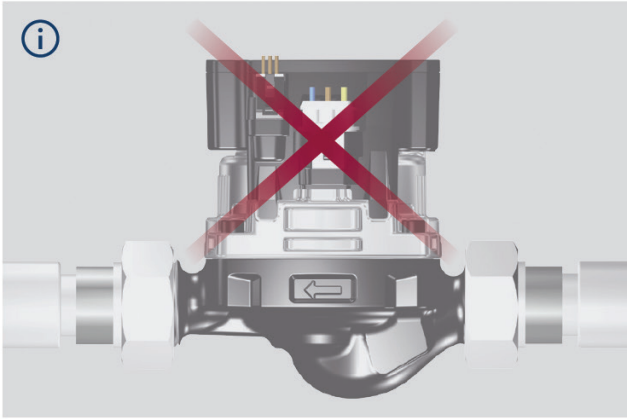
## Setting selection

To select your desired setting, press the button repeatedly until you find the setting you need (see the table above). If you pass the desired setting, you have to go one more round until it appears again. The order of modes corresponds to the table.

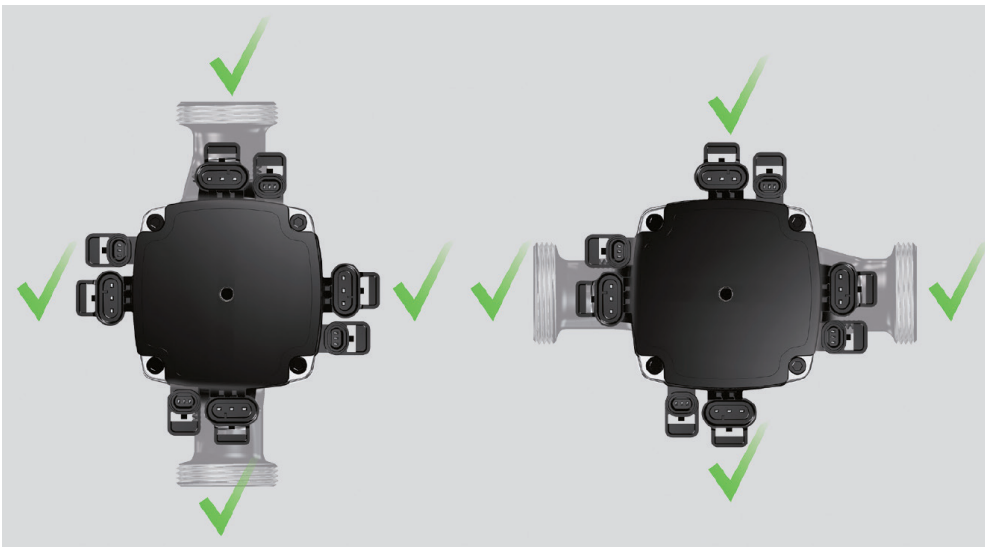
## Error display

DISPLAY	CONTROL MODE
	Seized pump
	Too low power supply voltage
	Electric fault

## Prohibited pump positions



## Permissible pump positions



## Pump wiring

