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CSE TC W-PWM MFB

Installation and Operation Manual

**CSE TC W-PWM MFB PUMP STATION**

**EN**

# CSE TC W-PWM MFB

# 1. Introduction

CSE TC W-PWM MFB pump station is designed to be installed on the return pipe to the heat pump, where it ensures circulation through the heat pump circuit. The circulation pump is switched by an external controller, the pump speed controlled by PWM signal. With no PWM signal the pump runs at max. speed. The pump station includes 2 ball valves, one of them with integrated strainer and magnet (Magnet Filterball). The strainer can be easily removed and cleaned without any tools. The pump station is designed for installation directly on a pipe with a min. pipe centre distance from a wall of 100 mm.

# 2. Description of the pump station

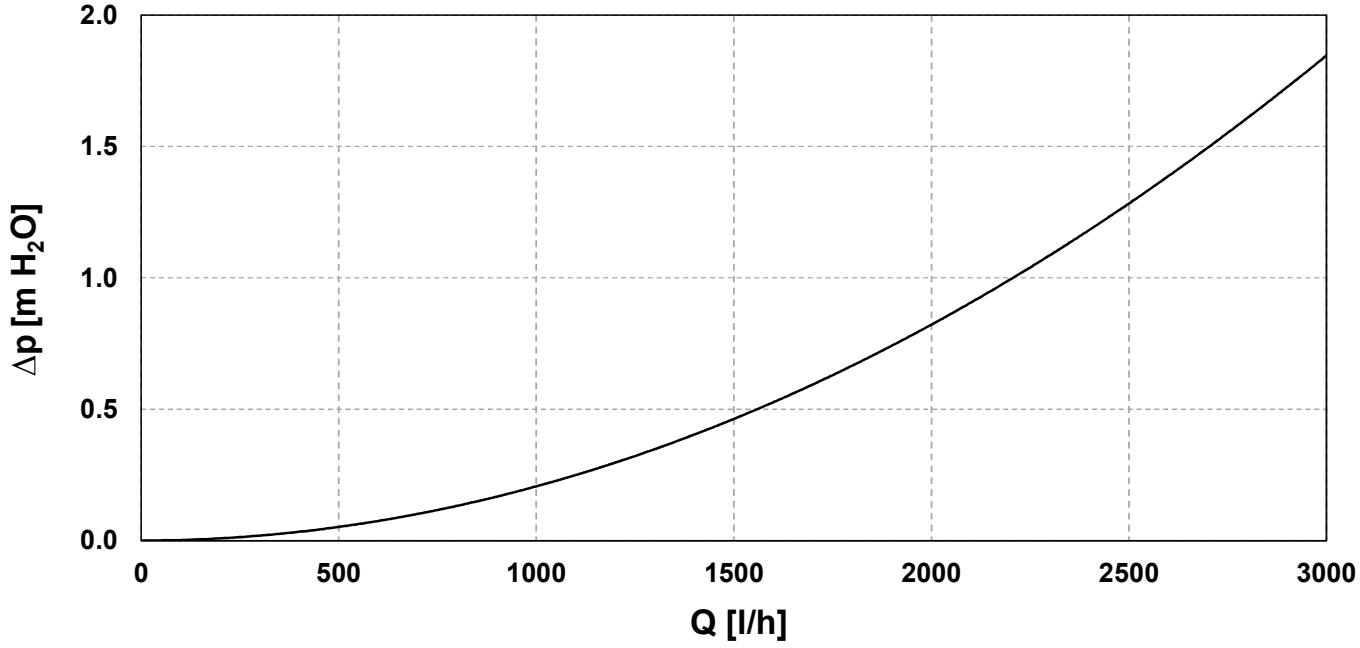
The pump station consists of a Wilo PARA 25/8 iPWM1 130 mm, ball valve, ball valve w. filter and magnet (Magnet Filterball), thermometer, insulation.

| Main Features and Technical Data | |
|---|---|
| Application | Heat pump circuit with pump speed control by means of a PWM signal. The pump speed is controlled by means of the PWM signal from an external controller (not included in supply). |
| Description | It consists of WILO PARA 25/8 iPWM pump, ball valve, ball valve with filter and magnet (Magnet Filterball), thermometer and insulation. |
| Flowrate measurement | The pump transmits the current flow rate electronically to an external controller.* |
| Working fluid | water, water-glycol mixture (max. 1:1) or water-glycerine mixture (max. 2:1) |
| Installation | return pipe of a heat pump, 100 mm min. pipe centre distance from wall |

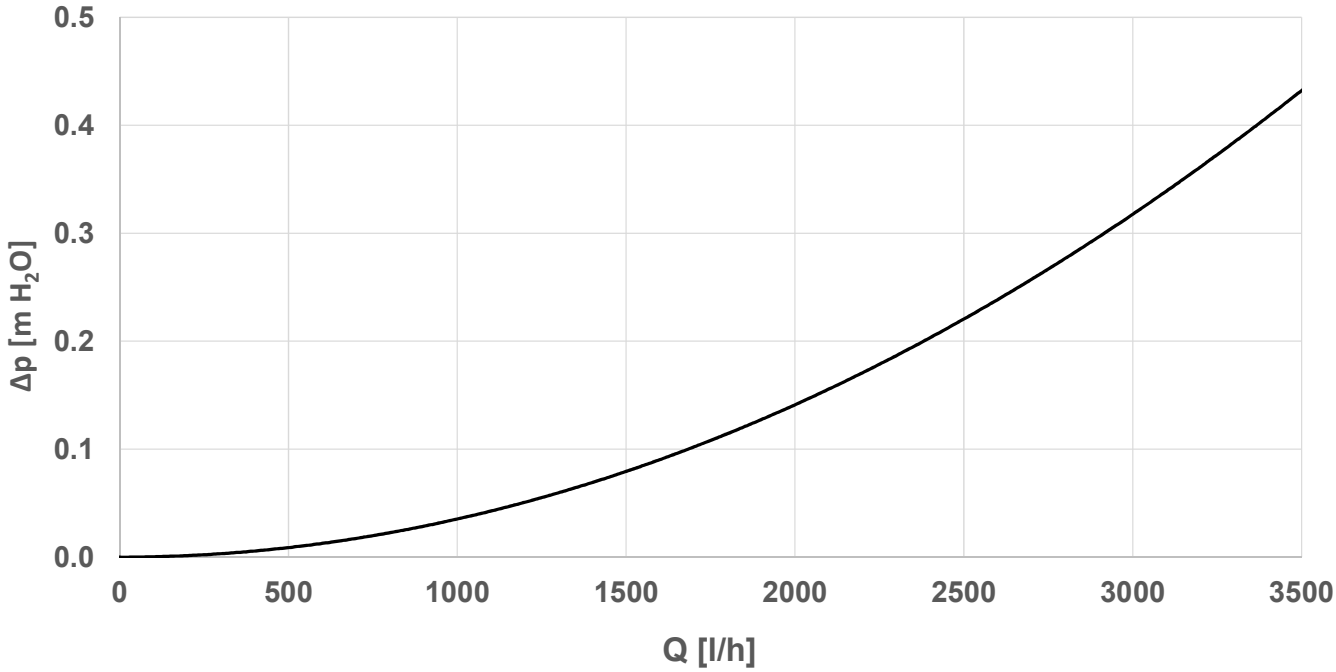
**) For reverse flow reading, the controller must be equipped with an iPWM read input and a flow calculation function.*

| Connection Dimensions | 2 x G 1" F | 2 x G 5/4" F |
|---|---|---|
| Code | **17868** | **22569** |
| Fluid working temperature | 5 – 95 °C | |
| Max. working pressure | 10 bar | |
| Min. working pressure | 0.5 bar | |
| Ambient temperature | 5 – 40 °C | |
| Max. relative humidity | 80 % non-condensing | |
| Overall dimensions | 305 x 135 x 170 mm | 358 x 135 x 170 mm |
| Total weight | 3.4 kg | 4.3 kg |
| Power supply | 230 V, 50 Hz | |
| Pump power input (min./max.) | 2/75 W | |
| Pump current (min./max.) | 0.03/0.66 A | |

## Pressure Drop Graph for Pump Station code 17868




## Pressure Drop Graph for Pump Station code 22569

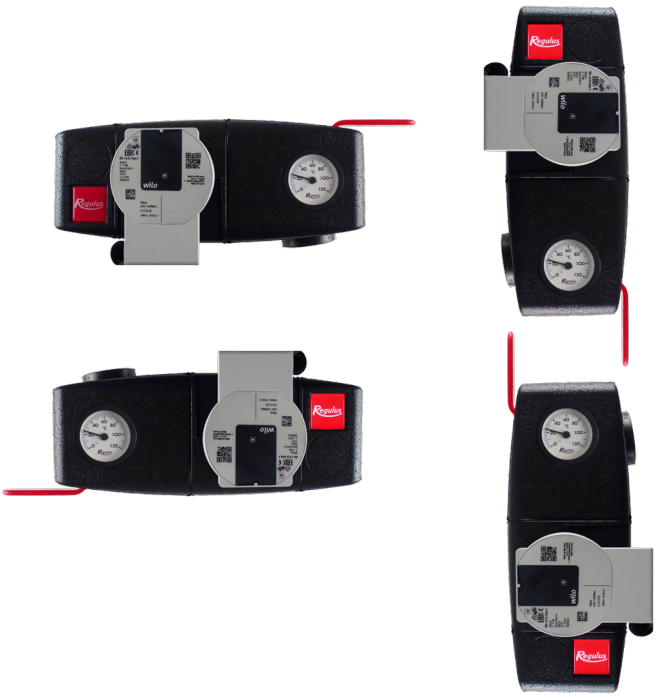


# 3. Pump Station Installation

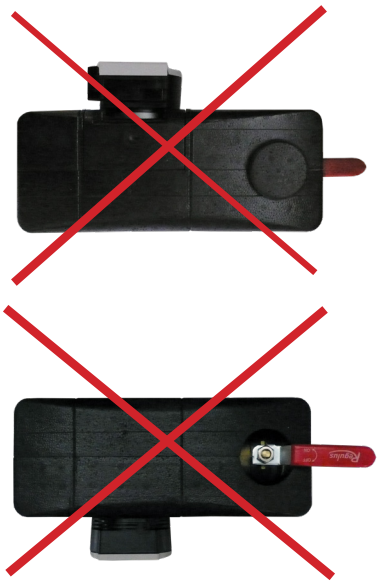
Fit the pump station to the heat pump's return pipe. The axis of the pipe must be at least 100 mm from the wall to allow the insulation to be removed.

Ensure that the flow direction and position of the pump station comply with the pics below.

**Permitted positions**



**Prohibited positions**



# 4. Wilo-Para iPWM1 Pump

## 4.1. General Information

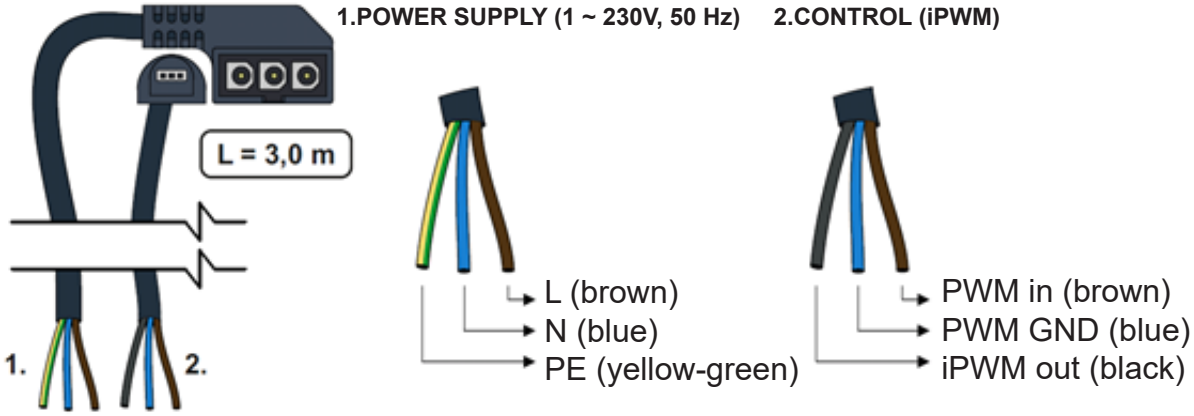
The Wilo Para 25/8 iPWM1 is a wet running circulation pump. The pump speed is controlled by the PWM signal. When the PWM signal is disconnected, the pump runs at its maximum speed. The operating status and possible faults of the pump are indicated by LEDs directly on the pump. The pump can send the current flow rate electronically to an external controller. The controller needs to be equipped with an iPWM read input and a flow rate calculation function.

The high efficiency circulation pumps of the PARA iPWM1 series are used exclusively for the circulation of liquids in hot water heating systems. Operating the pump in other systems or in systems containing too little water, air bubbles or not pressurized can lead to its rapid destruction.

## 4.2. Pump Wiring

**The pump must be wired / disconnected by a qualified person in compliance with EN 50110-1!**

**Wilo PARA 25/8 iPWM1 pump wiring**



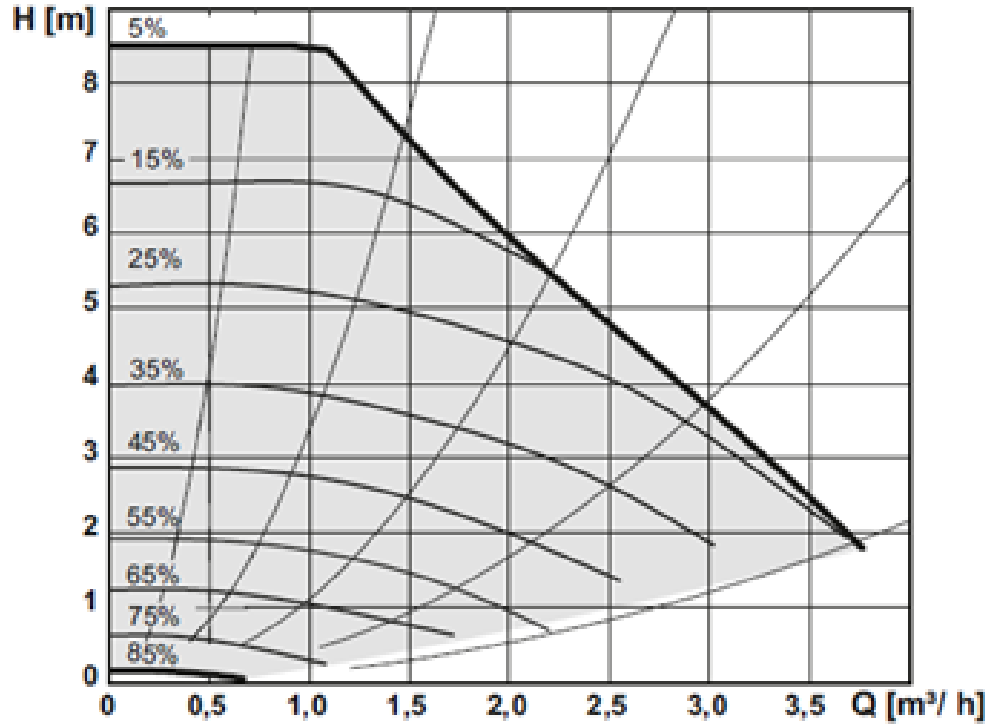
## 4.3. FAULTS AND THEIR REASONS

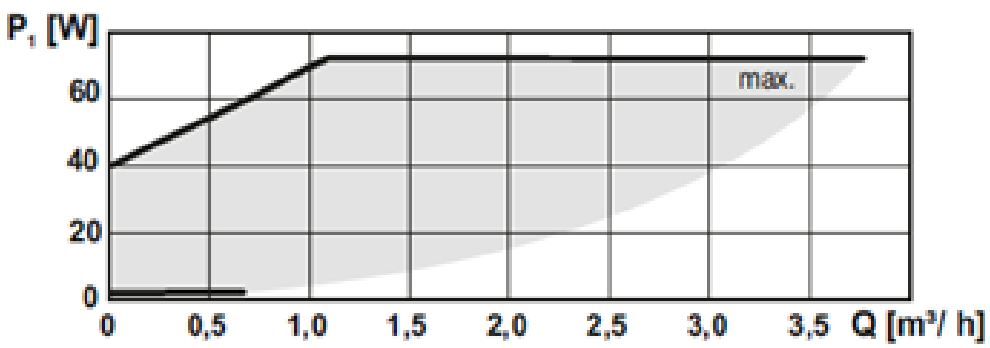
**The LED light signals a defect. The pump will switch off (depending on the defect type) and try to restart.**

| LED signals | | State description and possible fault reasons |
|---|---|---|
| | GREEN IS LIT | 1 - pump is running in trouble-free operation |
| | RED IS LIT | 1 - rotor is blocked |
| | | 2 - electric motor winding defect |
| | FLASHING RED | 1 - power supply lower/higher than 230 V |
| | | 2 - electric short circuit in pump |
| | | 3 - pump overheated |
| | FLASHING RED AND GREEN | 1 - unforced fluid circulation through the pump |
| | | 2 - pump speed lower than desired |
| | | 3 - air in pump |

**If the fault cannot be rectified, contact a qualified technician.**

## 4.4. Performace curves for Wilo Para 25/8 iPWM1 pump



# 5. Ball Valve w. filter & magnet

## 5.1. Maintenance and cleaning

1. Close the ball valve by turning the lever (butterfly) clockwise by 90° (Fig. 1).
2. Unscrew the lid with magnet manually and take out the strainer (Fig. 2).
   Remove impurities from the strainer and magnet. Return the clean strainer back to its place and screw on the lid with magnet.
3. Open the ball valve by turning the lever (butterfly) counter-clockwise by 90° (Fig. 3).

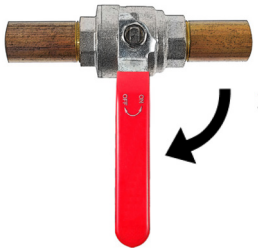


**Fig. 1 - closing the valve**

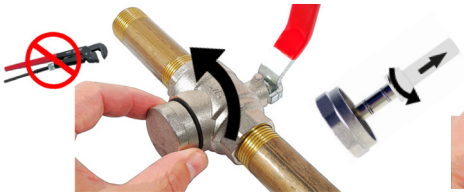


**Fig. 2 - unscrewing the plastic cover and taking out the strainer**

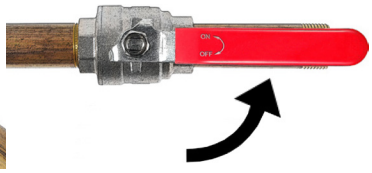


**Fig. 3 - opening the valve**

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*v1.3-09/2026*

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