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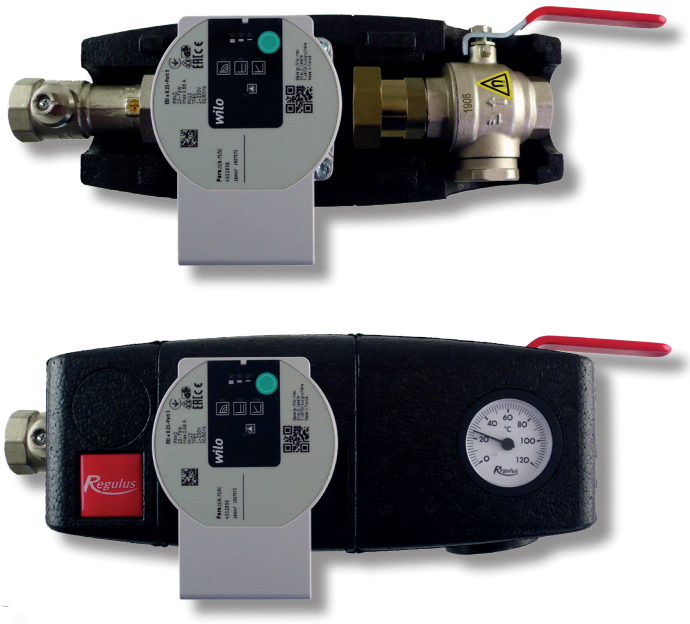


CSE OTS MFB+ZV W

Installation and Operation Manual

CSE OTS MFB+ZV W PUMP STATION

EN

CSE OTS MFB+ZV W

1. Introduction

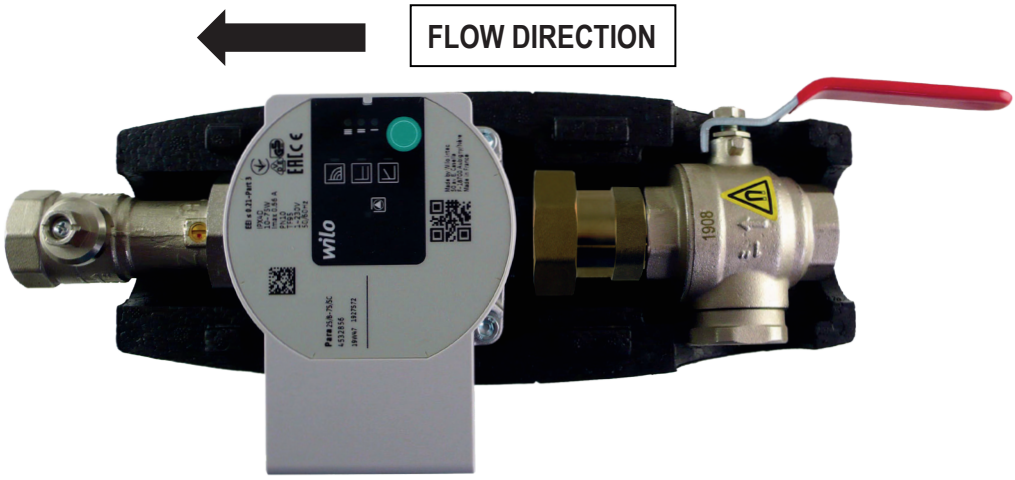
CSE OTS MFB+ZV W Pump Station is designed for installation on a heating system flow pipe. The pump station contains two ball valves, one ball valve is fitted with an integrated filter and magnet. The filter can be easily removed and cleaned without any tools. The pump station is intended for installation directly on a pipe, the minimum pipe centre distance from wall is 100mm.

2. Description of the Pump Station

Main Features	
Application	heating system flow
Description	consists of PARA 25/8 SC 130 mm pump, ball valve w. non-return valve, ball valve w. filter and magnet, thermometer, insulation
Working fluid	water, water/glycol mixture (max. 1:1) or water-glycerine mixture (max. 2:1)
Installation	flow pipe, min. pipe centre distance from wall = 100 mm
Code	**17818**

Data for CSE OTS MFB+ZV W Pump Station	
Fluid working temperature	5 - 95 °C
Max. working pressure	10 bar
Min. working pressure	0.5 bar
Ambient temperature	5 - 40 °C
Max. rel. humidity	80 % non condensing
Power supply	230 V, 50 Hz
Insulation material	EPP RG 60 g/l
Overall dimensions	345 x 140 x 150 mm
Total weight	3.6 kg
Connections	2 x G 1" F

3. Direction of Flow through the Pump Station

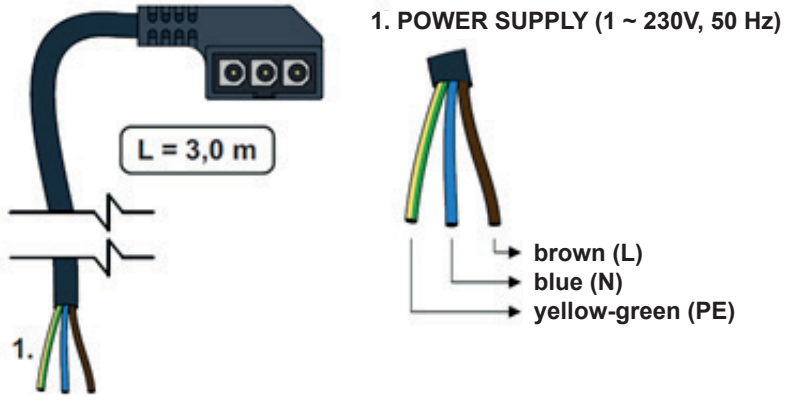


4. Wilo Para 25/8 SC 130 mm Pump

Wilo Para 25/8 SC circulation pump is a wet-running circulation pump permitting to set speed control to Δp-v, Δp-c or n=constant. The operating status and possible faults of the pump are displayed by means of LEDs directly on the pump display. It is used exclusively for the circulation of liquids in hot water heating systems. Operating the pump in other systems or in systems lacking water, containing air bubbles or not pressurized can lead to its rapid destruction.

Data for Wilo Para 25/8 SC Pump	
Power supply	230 V, 50 Hz, from external controller
Power input (min./max.)	2 / 75 W
Current (min./max.)	0.03 – 0.66 A
Max. speed	4800 rpm
Speed control	frequency converter
Energy Efficiency Index (EEI)	≤ 0.21 by EN 16297/3
IP rating	IPX4D
Motor protection	integrated
Max. head	8.4 m

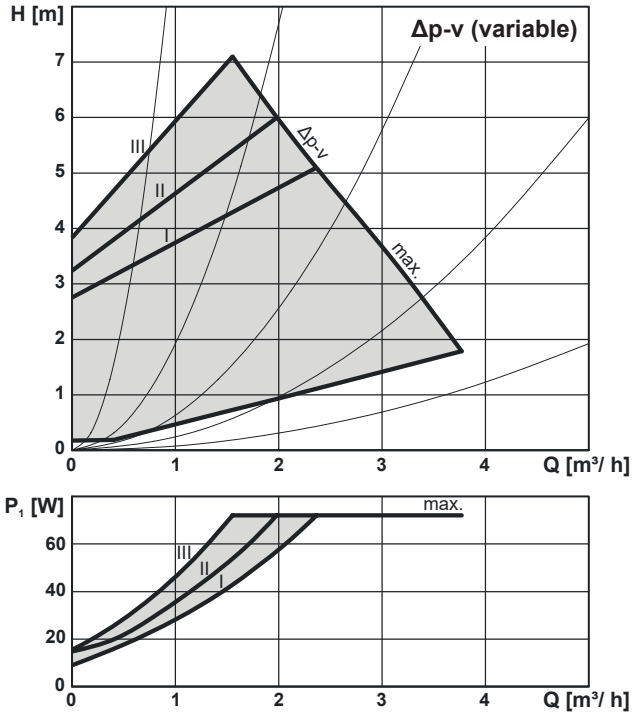
Pump Wiring



4.1. PUMP SPEED CONTROL

Variable differential pressure (Δp-v)

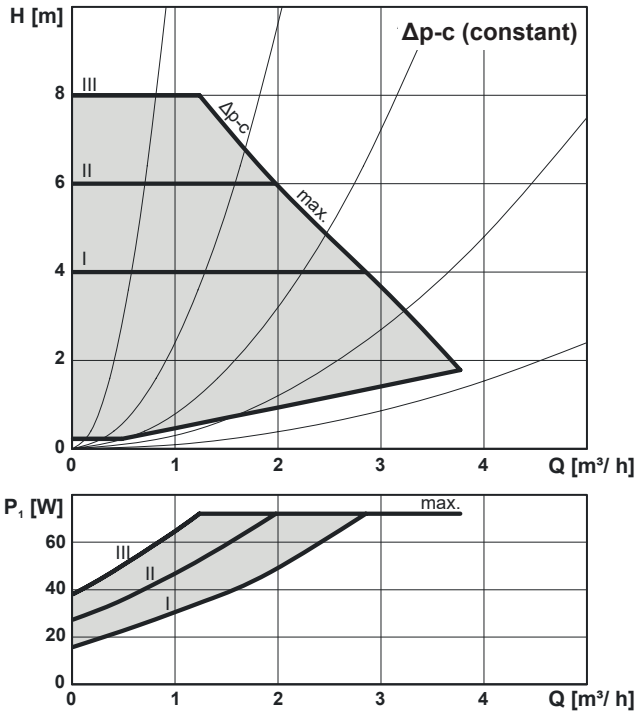
The Variable differential pressure operating mode is recommended in systems where it is advisable to reduce the discharge pressure of the pump in parallel with the decreasing required flow rate. A typical example is a heating circuit with radiators equipped with thermostatic valves, where the selection of this operating mode can reduce the noise from thermostatic valves which is caused by closing too many radiators in the system. **This mode, on the other hand, is unsuitable for circuits with heat sources where the reduction of the head and flow can make these sources even inoperable.**



By reducing the discharge as the flow decreases, the pump‘s power consumption and therefore the operating costs are significantly reduced (see graph Q-P). In larger heating circuits and in circuits where there are significant differences in heating demand in separate heating zones, this mode may temporarily cause insufficient heating. In these systems, it may be preferable to switch the pump to Δp-c mode.

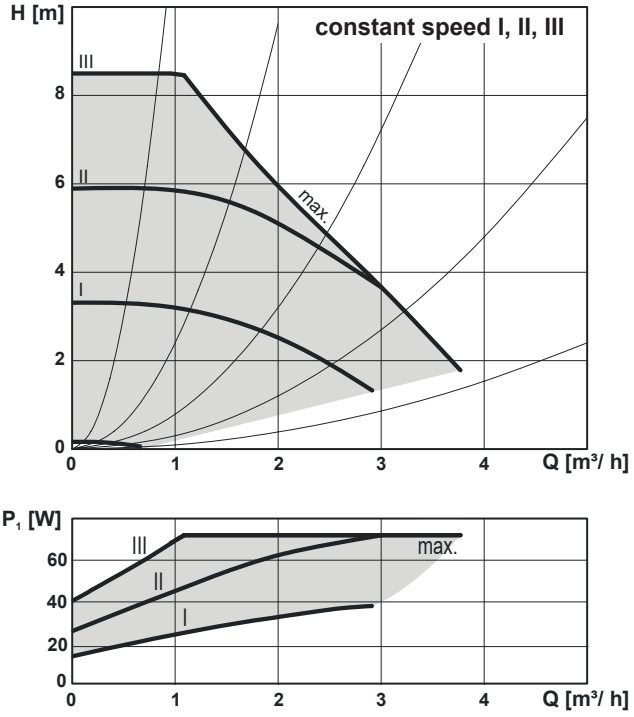
Constant differential pressure (Δp-c)

The Constant differential pressure (constant delivery head) operating mode is suitable for hydraulic circuits of heat sources (boilers, heat pumps, solar thermal systems etc.), hot water storage tanks, heaters, underfloor heating systems and large heating circuits where the previous mode Δp- v could cause insufficient heating through discharge reduction.By decreasing the required flow, the pump maintains a constant delivery head, thus the pump power consumption decrease is more gentle than in the Δp-v mode.



Constant speed (n=const.)

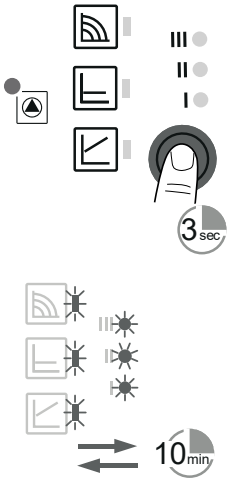
Constant speed operating mode means that the pump does not adjust its speed in any way depending on the flow rate or discharge of the hydraulic circuit. The flow and discharge of the pump are thus entirely dependent on the speed setting set (I, II, III) and the hydraulic circuit settings. This mode is used when the more economical Δp-c mode is not suitable. This is the same mode as in the older types of classic circulation pumps where the speed I, II, III was set by a selector switch.
For example, this mode may be suitable for older circuit types where flow is regulated by throttling and this method required to be maintained. Furthermore, it may be suitable for solid fuel boilers that are equipped with older types of TSV valves with balancing using a manual throttle valve, or in other similar specific cases of requiring a constant pump performance.



4.2. TROUBLESHOOTING, RESTART, FACTORY SETTINGS

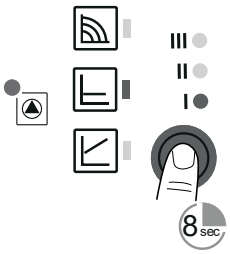
If air is present in the pump:

Activate the pump venting function by pressing and holding the operating button for 3 sec. The upper and lower rows of LEDs will flash in 1sec interval, see Fig.
Pump venting takes 10 minutes, after that the pump returns to current mode. In order to cancel pump venting, press and hold the operating button for 3 sec.



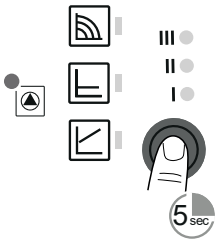
Operating button locking/unlocking

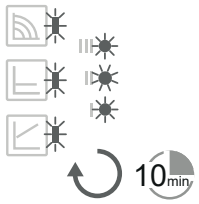
To lock the operating button, press it for 8 seconds.
The selected setting then starts flashing and cannot be changed. To unlock, hold down the operating button again for 8 seconds and the LEDs will stop flashing.



Manual restart

If the pump has been inactive for a long time or is blocked, activate the manual restart by holding the operating button for 5 seconds. The LEDs flash sequentially clockwise. The manual restart takes max. 10 minutes before the pump returns to normal operation. To cancel the manual restart, hold down the operating button for 5 seconds.
If the pump does not get unblocked, contact a qualified technician.





Factory settings

To return to the factory settings, press and hold the operating button for at least 4 seconds (all LEDs flash for 1 second) and turn off the pump by unplugging. When switched on again, the pump will run at the factory settings.

4.3. FAULTS, THEIR REASONS AND REMOVAL

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

5. Ball Valve with Filter & Magnet

5.1. Maintenance, Cleaning

1. Close the ball valve by turning the lever by 90° in the direction of the OFF arrow (Fig. 1)
2. Unscrew the lid with magnet manually and take out the strainer (Fig. 2, 3).
3. Remove impurities from the magnet and strainer.
4. Return the clean strainer back to its place and screw on the lid with magnet.
5. Open the ball valve by turning the lever by 90° in the direction of the ON arrow (Fig. 4).

Fig. 1

Fig. 2

Fig. 3

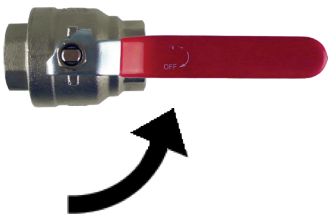


Fig. 4

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