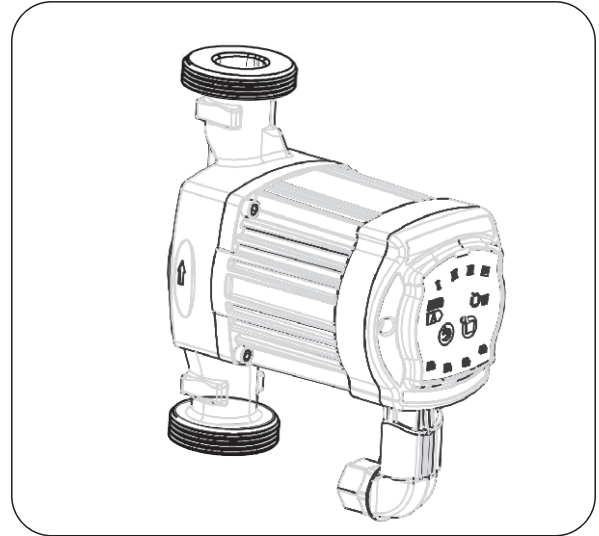


Installation and operating Instruction



Warning

Prior to installation , read these installation and operating instruction. Installation and operation must comply with local Regulations and accepted codes of practice

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1 General information

These Operating Instructions explain the functions and operation of the pump when installed and ready for use.

The figures referred to in the text can be found on the fold-out page at the front

2 Low-energy circulation pump

Low-energy circulation pump is designed for the circulation of water in heating systems.

Install the low-energy circulation pumps in

- Underfloor heating systems
- One-pipe systems
- Two-pipe systems

Low-energy circulation pump incorporates a permanent-magnet motor and difference-pressure control enabling continuous adjustment of the pump performance to the actual requirements.

2.1 Advantages of installing a Low-energy circulation pump

The installation of a Low-energy circulation pump means

Easy installation and start-up

- Low-energy circulation pumps is easy to install.
With the factory setting, the pump can, in most cases, be started Without marking any setting

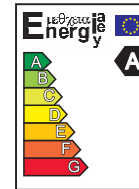
High degree of comfort

- Minimum noise from valves, etc.

Low energy consumption

- Low energy consumption compared to the convention circulation pumps

It is A-labelled as follows:



3 Pump liquid

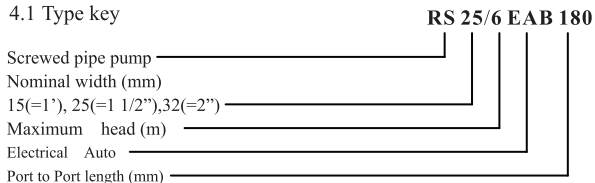
Clean, thin, non-aggressive and non-explosive liquids, not containing solid particles, fibres or mineral oil

In heating systems, the water meet the requirements of accepted standards on water quality in heating system

4 Terms (Fig.1)

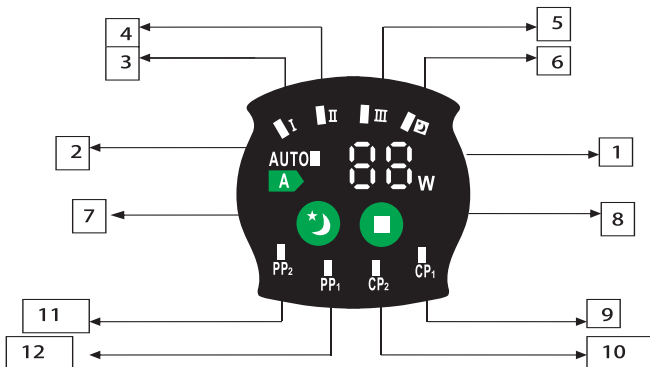
1. Suction joint
2. Condensate outlet
3. Pump housing
4. Motor housing
5. Label
6. Ventilation
7. control panel

4.1 Type key



5 Control panel

5.1 Elements on the control panel



Pos .	description
1	Screen to show actual working power
2	light fields indicating AUTO mode
3	Min speed for manual button
4	Mid speed for manual button
5	Max speed for manual button
6	light fields indicating night mode
7	Push-button to select night mode
8	Push-button for selection of pump setting
9	CP1 indicating Min constant pressure curve
10	CP2 indicating Max constant pressure curve
11	PP1 indicating Min proportion pressure curve
12	PP2 indicating Max proportion pressure curve

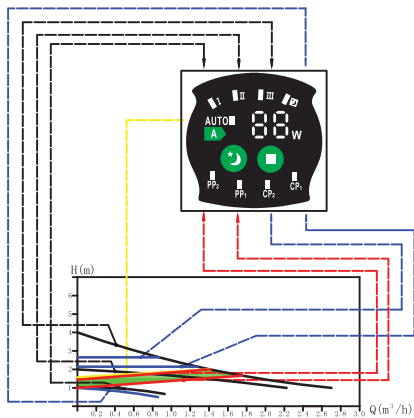
5.2 Lights fields indicating the pumps setting

Low-energy circulation pump has seven optional setting which can be selected with the push-button. See 8 in the above label
The pump setting is indicated by seven different light fields. See the above label.

5.3 Push-button for selection of pump setting

Every time the push-button is pressed , the pump setting is changed.
A cycle is seven button presses.

6 Relation between pump setting and pump performance



Setting	Pump curve	Function
PP1	Lowest proportional-Pressure curve	the duty point of the pump will move up or down on the lowest proportional-pressure curve, depending on heating demand. The head (pressure) is reduced at falling heating demand and increased at rising heating demand
PP2	Highest proportional-Pressure curve	the duty point of the pump will move up or down on the highest proportional-pressure curve , depending on the heating demand. The head (pressure) is reduced at falling heating demand and increased at rising heating demand.
CP1	Lowest constant-Pressure curve	the duty point of the pump will move out or in constant-pressure curve , depending on the heating Demand. The head (pressure) is kept constant, irrespective Of the heating demand.
CP2	Highest constant-Pressure curve	the duty point of the pump will move out or in Constant-pressure curve , depending the heating Demand. The head (pressure) is kept constant, irrespective Of the heating demand.

III	Speed III	Pumps runs at a constant speed and consequently On a constant curve . In speed III, the pump is set to run on the max. Curve under all operating conditions. Quick venting of the pump can be obtained by Setting the pump to speed III for a short period.
II	Speed II	Pumps runs at a constant speed and consequently On a constant curve . In speed II, the pump is set to run on the medium Curve under all operating conditions.
I	Speed I	Pumps runs at a constant speed and consequently On a constant curve . In speed I, the pump is set to run on the min. Curve under all operating conditions.

AUTO Ex-factory setting
Under " AUTO „mode, the power of pump automatically be up or down according to flow of system in certain condition



Night mode
Pump runs select to night mode, after hour the power Automatically down., after two hour , it will be down lowest between 5- 10watt . After sever hour, the pump auto eliminate and recovery to original condition

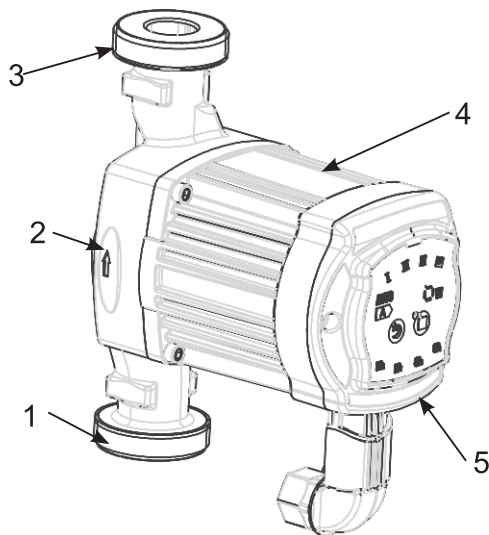
7 Fault in finding chart

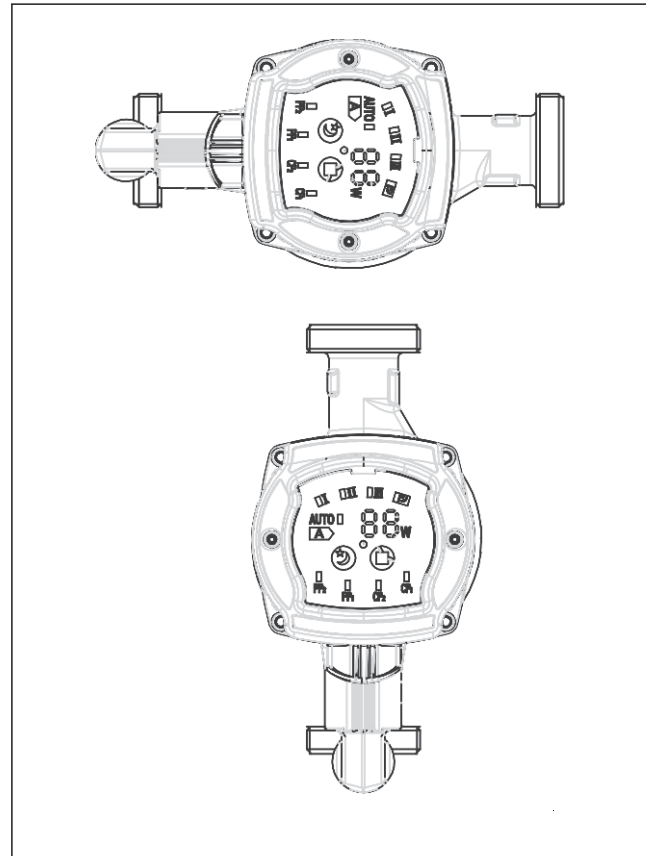
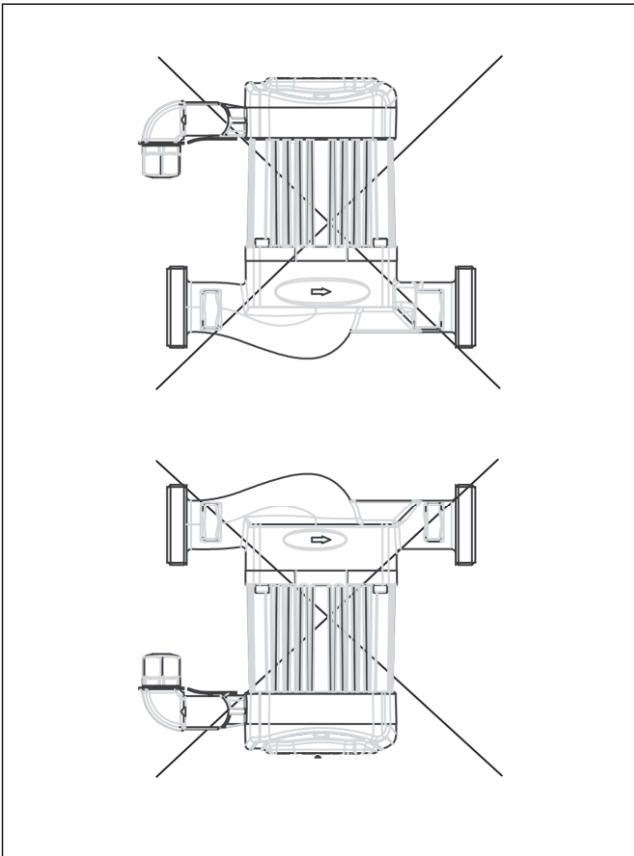


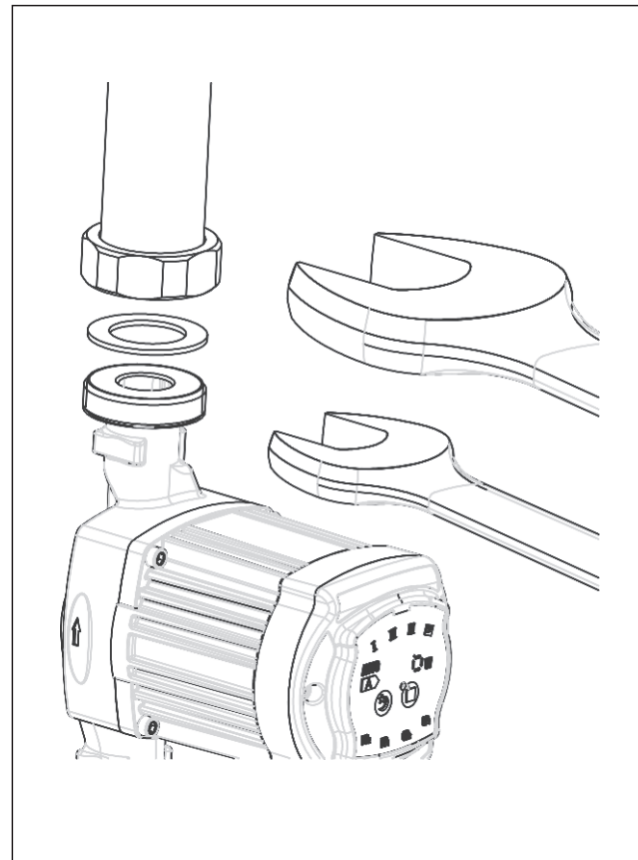
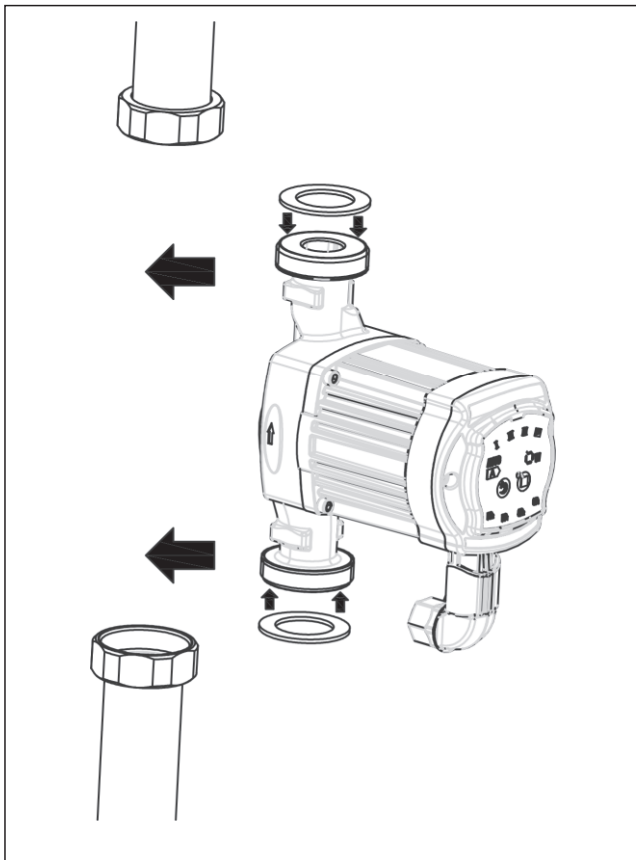
Warning
Before starting any work on the pump, make sure that the Electricity supply has been switched off and that it cannot be Accidentally switched on.

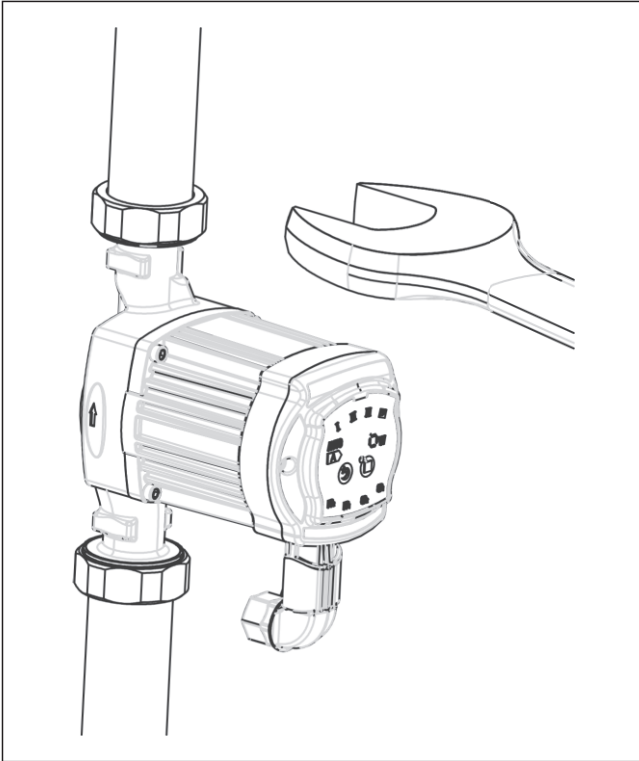
Fault	Control panel	Cause	Remedy
1. the pump does not run	light off.	a) One fuse in the installation is blown	Replace the fuse.
		b) The current-operated or voltage-operated circuit breaker has tripped out	Cut in the circuit break
		c) The pump is defective.	Replace the pump.
Only show Power	a) Electricity supply failure. Might be too low	Check that the electricity supply Falls within the specified Range.	
		b) The pump is blocked	Remove the impurities
2. Noise in the System	show power and light field for Pump setting are On	a) Air in the system	vent the system
		b) the flow is too high	Reduce the suction head
3. Noise in the Pump	show power and light field for Pump setting are On	a) Air in pump	Let the pump run. it vents itself over time
		b) the inlet pressure is Too low.	Increase the inlet pressure Check the air volume in The expansion tank. if installed
4. Insufficient	show power and Light field for Pump setting are on	a) the pump performance is too low	Increase the suction head

Fig 1









Warranty Card

Registration Date :

W.C.R. :

Customer :

Address :

E-mail :

Telephone:

Model :

Serial No. :

Date of Purchase:

Dealer(Signature & Stamp):
