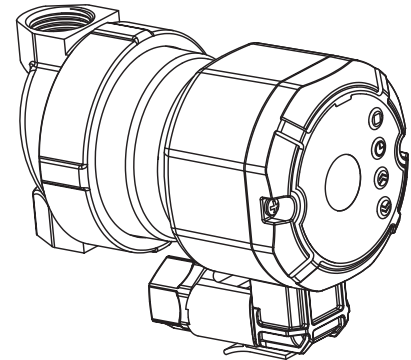


# CIRCULATION PUMPS

## INSTALLATION AND OPERATION INSTRUCTIONS



### **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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RESERVE 3A is subject to change	

Due to continuous technical improvements , Maybe a slight change in the figures, functional solutions and technical parameters.

## 1.1 Who should read this manual

These instructions should be read by :

Engineers for the design;

installers;

users;

service experts.

## 1.2. Warnings

This manual is an integral part of the equipment and the user must receive a copy. The product shall be installed and serviced by qualified personnel in accordance with current standards. The manufacturer is not liable for any damage resulting from incorrect installation.

### **ATTENTION!**

***Installation and commissioning work must be performed only by qualified personnel.***

***In the case of non-compliance with this requirement, the warranty from company is null and void of any warranty from company and, in addition, there is a risk of injury or damage.***

2. SPECIFICATIONS

2.1 Main application

pumps are designed for continuous circulation of the liquid.

High energy efficiency up to 80% is achieved due to the rotor permanent magnet:

- in domestic hot water systems
- in small heating systems
- in ventilation and air conditioning

2.2 Hydraulic pump performance

Hydraulic pump performance curves are presented that specify a range of performance under different operating conditions.

Maximum operating pressure - 10 bar;

The minimum pressure on the suction side (at a water temperature - 90 ° C) 0.2 m

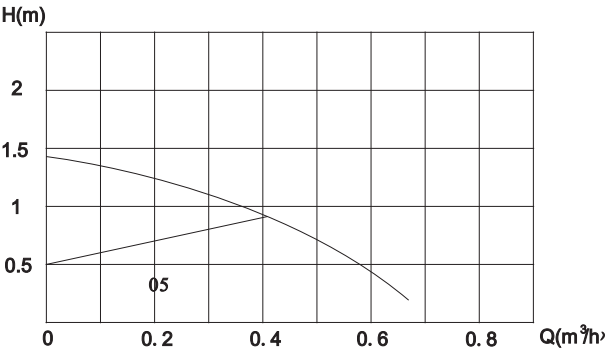
2.3 Fluids

- hot water
- clean, liquid, non-corrosive and non-explosive environment free of mineral oils

2.4 Specifications

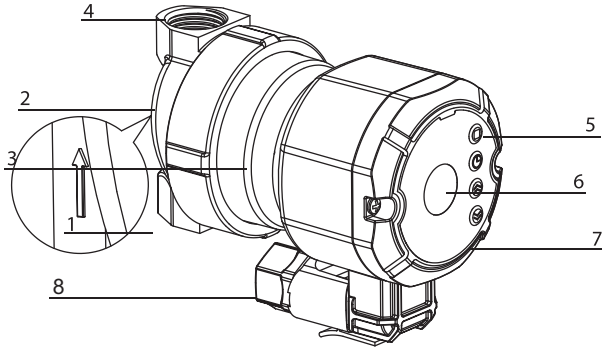
Product Name	RS12/1.2EMB
Inlet/outlet	1/2"
Maximum head m. Waters. Art	1,1
Maximum Flowing, l / h	10
Maximum working pressure, bar	10
The maximum operating temperature of the fluid, ° C	95
Voltage	230V,50HZ
Power, W	3-9
Bodylength, mm	80

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3.1 Pumps

- The design of the stator with a spherical stainless steel
- The rotor of the ferro-magnesium alloy
- Mounted directly into the line
- The pump housing is made of stainless steel
- Seven modes pump
- Pump "A" class energy efficiency.



- 1. Socket connection pump(inset)
- 2. Travel direction of fluid flow
- 3. The motor housing
- 4. Nipple pump connections(outset)
- 5. Mode dial indicator
- 6. Information label
- 7. The control unit pump
- 8. Enter to the cable connection

3.2 Description of the control panel and the operating



- I II III** Displayed during time setting, not displayed during normal operation, representing three time periods.
- ON OFF** Displayed during time and temperature setting, not displayed during normal operation, representing start and stop
- 88:88** When setting, display the temperature and time by pressing the button; Display the working time and temperature when working.
- Display when under time and temperature control working mode.
- 8w** Display working power
- ▶** Manual working mode
- ◀** Auto working mode
- Stop working
- ▶** Pump working

Note:



- 1.ON/OFF: for Time setting function: ON means start for time or temperature. OFF means stop for time and temperature.
- 2.Displayed during time and temperature setting, not displayed during normal operation, representing start and stop. But it will display the set Time and temperature in turn with a time interval of 5S.
- 3.If all three times setting periods are set with 0, the pump is working only based on temperature.

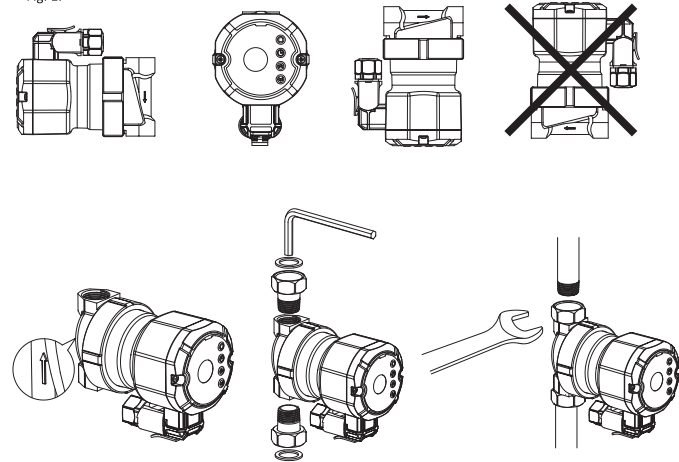
### 3.3 Accessories

The pumps are supplied with a special connector cable.

### 4.1 Installation

- The pump should be installed only after all welding and soldering work and flushing the pipes.
- Place the pump in an easily accessible place, so it can be easily checked or replaced
- Installation is performed directly on the pipeline, in any case at the lowest point (to prevent the accumulation of sediments and lock)
- The arrow on the pump housing indicates the direction of fluid flow
- Shut-off valves should be installed before and after the pump to facilitate maintenance work, cleaning, inspection, replacement, etc.
- The circulation pump should, if possible, to establish as far as possible from the pipe bends, bends and branching units to avoid turbulent eddies in the flow of suction, causing increased noise during pump operation.
- Before installation, carefully wash the circulation pump system. For this purpose, use only warm water at 80 ° C. Then drain the water from the system to eliminate from the circuit any harmful inclusions.
- The circulation pump is always set as shown

Fig. 1.



**Note:**

Installation work is carried out in such a way as to prevent ingress of liquid droplets and the motor terminal box, both during installation and during maintenance.

**Note:**

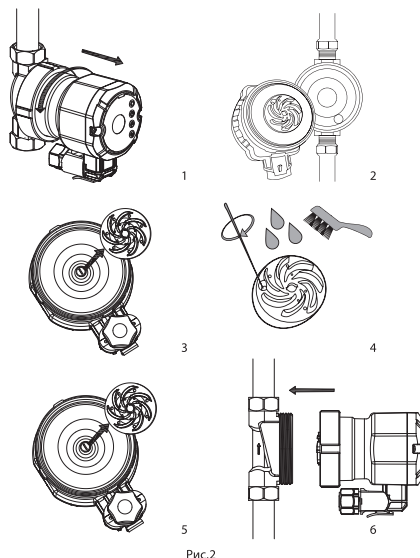
Do not add water poured into the circuit, the additive produced by hydrocarbons and aromatics.

Fig.1 Mounting positions

NOTE: The transfer pump water can be very hot and is under high pressure: risk of burns! Before you disassemble the pump to drain all liquid from the system or close the shut-off valves on both sides of the pump.

NOTE: Periodically check the lack of airing of the working cavity of the rotor. The pump is not allowed to dry.

#### 4.2 Cleaning the rotor



#### ATTENTION!

It is impossible to insulate the pump control unit from the environment. If you have pump casing insulation, make sure that the holes for the removal of condensate remain free.

#### 4.3 Connecting the power supply K.

##### ATTENTION:

- Connection to the mains must be carried out by qualified personnel in accordance with current general and local safety requirements.
- Check the voltage and frequency of the power supply values indicated on the nameplate.
- Supply mismatch may completely withdraw from the electric system.

-Pump must be grounded.

-The installation of the power supply circuit in the bipolar switch with a contact separation of at least 2 mm permitted load current corresponding to the consumption of the motor.

-All AC motors are resistant to short-circuit.

-In order to avoid injury or electric shock, all work on the connection to the mains supply, including the grounding device should be carried out in the cold and the pump with the power off.

-Complete electrical information about the pump is on the nameplate.

-Any faults voltage can cause damage to the motor.

#### NOTE!

*Do not touch the power cable to the pipeline or pump; verify the absence of any kind of moisture.*

#### 4.4 Adjustment Mode

Mode selection is made by turning the knob on the control unit pump.

### 5.COMMISSIONING

#### 5.1 Filling the system with water and venting

-After installation of the pump fill the system with water. The circulation pump is run at maximum speed fixed.

-Do not turn on the circulation pump, if the circuit has not been filled.

-The liquid in counter system is heated to a high temperature under pressure, and may even pass into the vapor state. There is a danger of burns!

-Burn hazard occurs when touching the circulation pump.

-It is necessary to protect all electrical components of the pump control unit from any liquid.

#### 6. MAINTENANCE

-When installing a circulation pump in the heating system, clean the rotor from scale depending on the hardness of the water, but at least 1 time per year. As shown in Fig. 2.

-To avoid burnout or leave the winding energized motor if the shaft is blocked.

## 7. TROUBLES AND SOLUTIONS

In case of problems during operation are advised to contact K in the following table of malfunctions and their solutions.

The pump will not turn on	No power supply	Check electrical connections and fuses
	Line voltage does not correspond to the parameters	Überprüfen Sie die auf dem Typenschild der Pumpe angegebenen Daten, und nach rechts bewegen
	Rotor blocked due to deposits or dirt	In the presence of contaminants and salt deposit purge rotor
Increased noise in the system	Too high circulation rate	Set a lower speed
Increased noise from the pump	Air in the pump	Bleed the pump
	Low pressure suction side	Increase the pressure on the suction side

## 8. WARRANTY

1. The manufacturer guarantees the safety of equipment, subject to the rules of consumer transportation, storage, installation and operation.

Warranty period - 3 years from the date of sale.

2. The warranty covers all defects caused by the fault of the manufacturer.

3. The warranty does not cover defects caused by the fault of the consumer as a result of violation of the rules of installation and operation, as well as mechanical damage.

