Operating Instructions

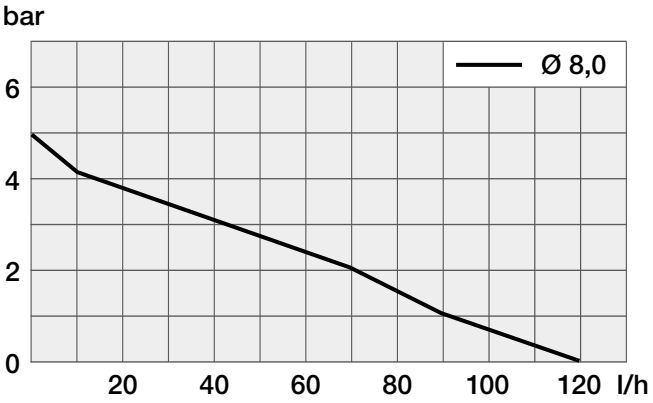
Solar Maintenance Pump

General Information

The KELLER solar maintenance pump is an electro-magnetically-driven oscillating piston pump. The pump is characterised by its reliable functionality and low running noise as well as its ease of use.
The pump has been specially optimised for the maintenance and refilling of thermal solar power systems and other closed cooling and heating circuits. The pump system can be easily exchanged. The performance range with viscosities of 6 mm2/s (water) can be seen in the diagram.
The pump can be operated sporadically or continuously (i.e. for several hours at 100 % ED). Dry running should be avoided. The solar maintenance pump is equipped with an integral thermo-element, which protects it from overheating and permanent damage. The thermo-element switches the solar maintenance pump off when a temperature critical for the pump is reached, and automatically switches it back on again after cooling. Cooling can take up to 45 minutes or longer, depending on the ambient temperature. Note that after the pump has been automatically switched off by the thermo-element, the pressure side is shut off to prevent uncontrolled pumping. The thermo-element should not be used as an automatic shut-off switch as this will ultimately damage it.. The pump must be switched off using the appliance switch after every use or after extended pauses.
Particles of dirt and minerals deposits from liquids will impair the functioning of the pump. The pre-assembled filter should not be removed.
All components that come into contact with the medium are made of stainless steel or plastic. The processing instructions for the products used, and the relevant legal and official regulations must be observed at all times.

Technical Data

Power supply	230 V, ~ 50 Hz, 50 VA
Protection class	IP 64
Cable length	3 m
Weight	approx. 2.3 kgs
Pump dimensions	Ø 56 mm, height 220 mm
Connections	on pressure side 6 mm or 1/2”
Suction side	6 mm
Canister connection	0.5 m + filter
Pump capacity	no. (DIN) 61 **see diagram** (pumping water)



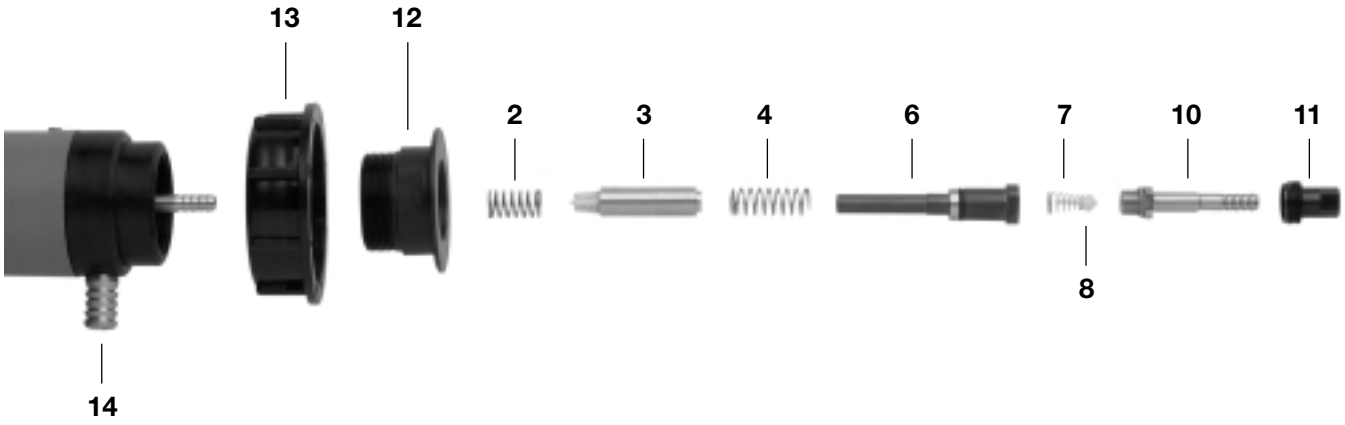
To Clean the Pump:

The lifespan of the pump is dependent on the quality and the purity of the transport medium. The pump can be easily cleaned should its performance be reduced due to contamination of the pump system, or if the piston sticks on the guide tube after extended periods of disuse.

To Clean the Pump:

1. Unscrew the container connection piece (12) and the container screw closure (13).
2. Remove the hose clamp and disconnect the suction hose from the pump.
3. Unscrew the retaining screw (11) on the suction connection (10) with an SW 11 spanner.
4. Turn the suction connection (10) to the right simultaneously pulling it out downwards. The guide tube (6) comes out along with the suction connection (10).
5. The piston (3) with two piston springs (2 + 4) are positioned on the guide tube (6). The piston (3) must be able to move freely on the guide tube (6). Clean it by sliding the piston (3) backwards and forwards on the guide tube (6) and rinse using a cleaning fluid compatible with the trans port medium. If available compressed air can also be used to clean the components..
6. Rinse and blow through the valve in the piston (3). The suction valve components (7 + 8) can be dismantled and cleaned by unscrewing the suction connection (10) from the guide tube (6).
7. It is important to ensure that the parts are assembled in the correct order (see assembly diagram) when reassembling the pump.The long spring (4) must be mounted between the piston (3) and guide tube (6), and the short spring (2) on the piston (3).
8. It is advisable to replace the complete pump system if the piston (3) or guide tube (6) appear worn.

Further repair and maintenance work should only be carried out by a specialist.



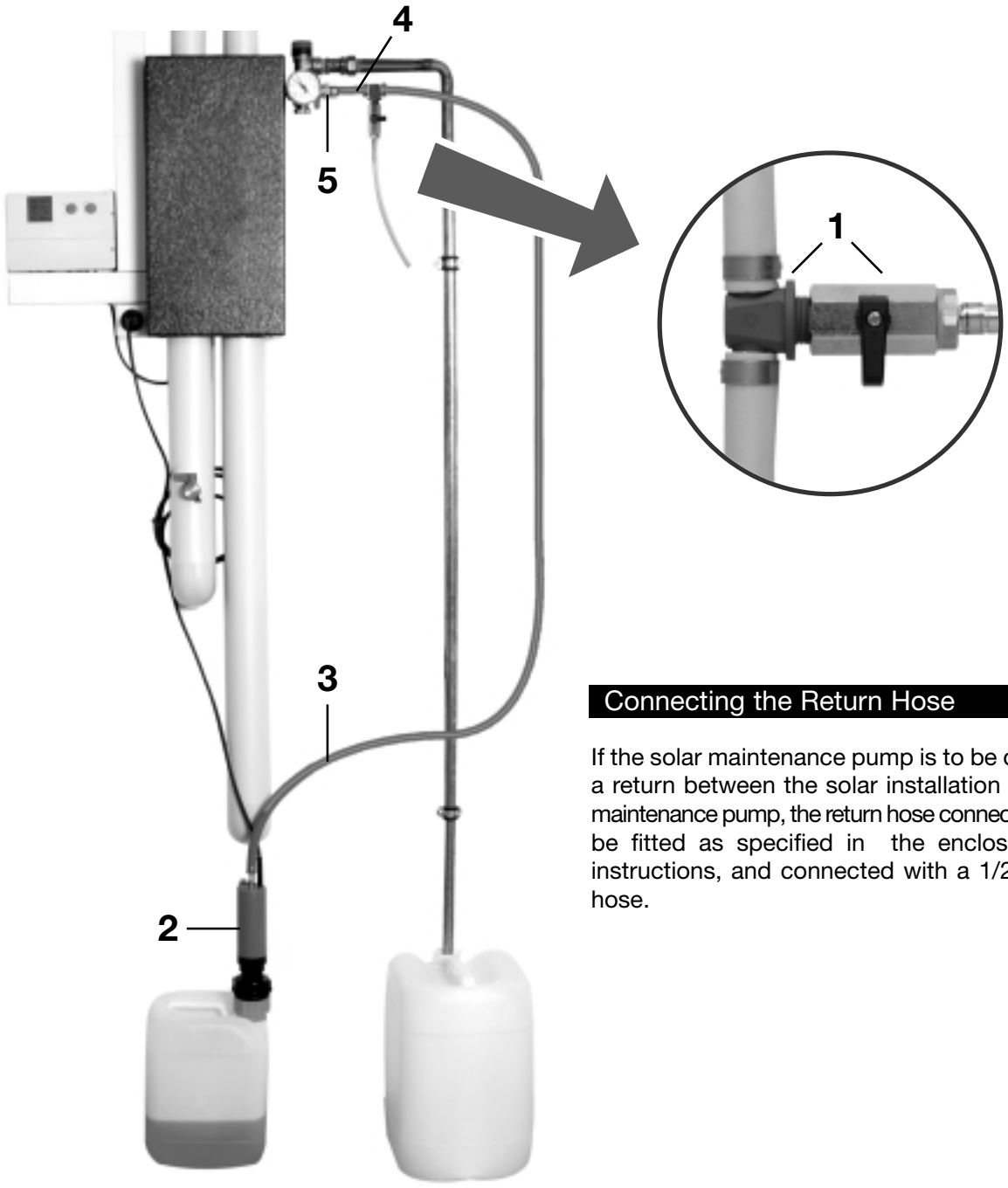
Considerations for Initial Use:

Any loud noise heard on initial use or when replacing the canister only continues until the pump system has been filled with fluid.

Ensure that there is sufficient fluid in the container, and that the suction hose with filter is immersed in the fluid. Adjust the length of the suction hose to the container if necessary.

Should the pump fail to start on initial use, follow the directions for cleaning the pump.

The bleed unit supplied (1) should be connected to the pump (2) on the pressure side with the 2 m 1/2" PVC fabric hose (3) using the hose clamps. The short length of 1/2" PVC fabric hose (4) should be connected to the flushing/filling connection (5). Before all maintenance work and each time the solar maintenance pump is connected to the solar installation, the bleed unit must be opened until the medium coming out of the bleed unit is free of bubbles. This ensures that no additional air from the pressure hose of the solar maintenance pump is conducted into the solar installation. Then the bleed unit (1) must be shut again and the shut-off valve on the solar installation can then be opened for filling.



Connecting the Return Hose

If the solar maintenance pump is to be operated with a return between the solar installation and the solar maintenance pump, the return hose connection (14) must be fitted as specified in the enclosed operating instructions, and connected with a 1/2" PVC fabric hose.

Safety Information:

Only rinse heating circuits when they are cold. Rinsing at temperatures of more than 45°C may result in damage to the pump and hoses ! It also entails the risk of scalding.

The pump should be connected only to AC power with voltage as specified on the pump rating plate.

Electrical equipment is not a toy. The pump must therefore be kept and used out of the reach of children.

Do not leave the pump unattended while it is connected to the mains supply.

Disconnect the pump from the mains supply before filling or draining the canister each time. Do not unplug the pump by pulling on the cable.

The pump is designed according to protection class IP 64 and is splash-proof, however the pump should not be immersed in water or other fluids.

Before disassembling the pressure hose, always unplug the pump and relieve the pressure by briefly opening the bleed unit.

Please note that the pump will become warm when used for extended periods.

Always comply with the processing instructions specified by the manufacturer of the products to be transported.

Do not leave the pump unattended while it is connected to the mains supply or to the tubing.

Rinse the pump after every use so as to ensure that different heat transfer fluids are not mixed.

Ensure that the relevant legal and official accident prevention regulations are observed.

REGULUS spol. s r.o.
Do Koutů 1897/3
143 00 Praha 4
http://www.regulus.eu
E-mail: sales@regulus.eu