

Solar maintenance pump

art. 286.932



General information

The KELLER solar maintenance pump is an electro-magnetically-driven vibrating piston pump. The pump is characterised by its safe and reliable operation, low running noise and ease of operation.

The pump has been specially optimised for the maintenance and refilling of thermal solar power systems. The pump system can easily be replaced. The performance range at a viscosity of 6 mm²/s (water) can be taken from the diagram.

The pump can be operated intermittently or permanently (i.e. several hours at 100 % ED). Dry running must be avoided. The solar maintenance pump is equipped with an integral thermo-element, which protects the pump against overheating and permanent damage. The thermo-element switches the solar maintenance pump off on reaching a temperature critical for the pump, and on again automatically following cooling. The cooling time can be up to 45 minutes or longer, depending on the ambient temperature. Note that after automatic switching off by the thermo-element, the pressure side is shut off, in order to prevent uncontrolled pumping. The thermo-element must not be used as an automatic shut-off switch, since this will eventually result in damage to the switch. After every period of use, or after extended pauses, the pump must be switched off using the switch on the pump.

Dirt particles and mineral contents of fluids will impair the function of the pump. The installed filter must not be removed.

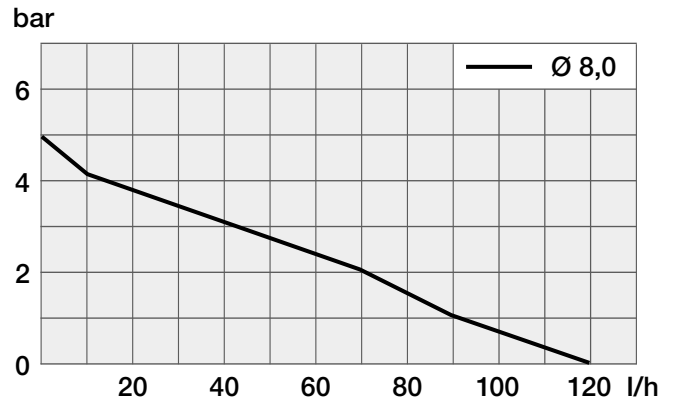
The components coming into contact with the medium are made of stainless steel or plastic. The processing guidelines of the products used, and the applicable legal and official regulations, must be observed at all times.



Technical data

Power supply	230 V, ~ 50 Hz, 50 VA
Protection type	IP 64
Cable length	3 m
Weight	approx. 2.3 kg
Pump dimensions	Ø 56 mm, height 220 mm
Connections	Pressure side 6 mm or 1/2"
Suction hose	6 mm
Canister connection	0.5 m + filter
Pump performance	No. (DIN) 61

see diagram
(medium water)



Cleaning the pump

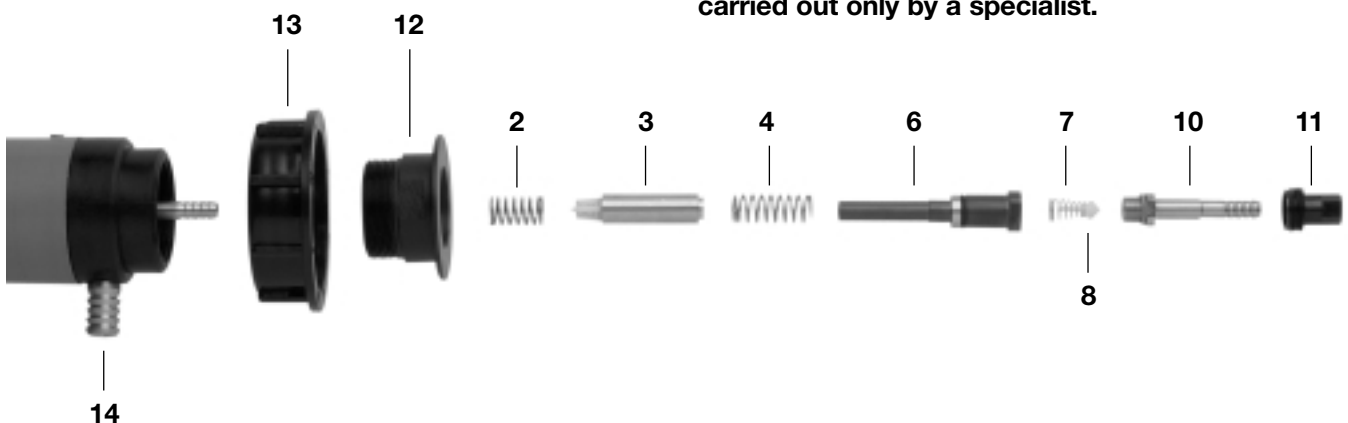
The working life of the pump depends on the quality and purity of the transport medium. If the performance of the pump is reduced due to contamination of the pump system, or the pistons jam on the guide tube following longer periods of disuse, the pump can easily be cleaned.

To clean the pump, proceed as follows:

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. Remove the retaining screw (11) on the suction connection (10) using an SW 11 spanner.
4. Turn the suction connection (10) to the right, and simultaneously withdraw downwards. The guide tube (6) will be removed together with the suction connection (10).

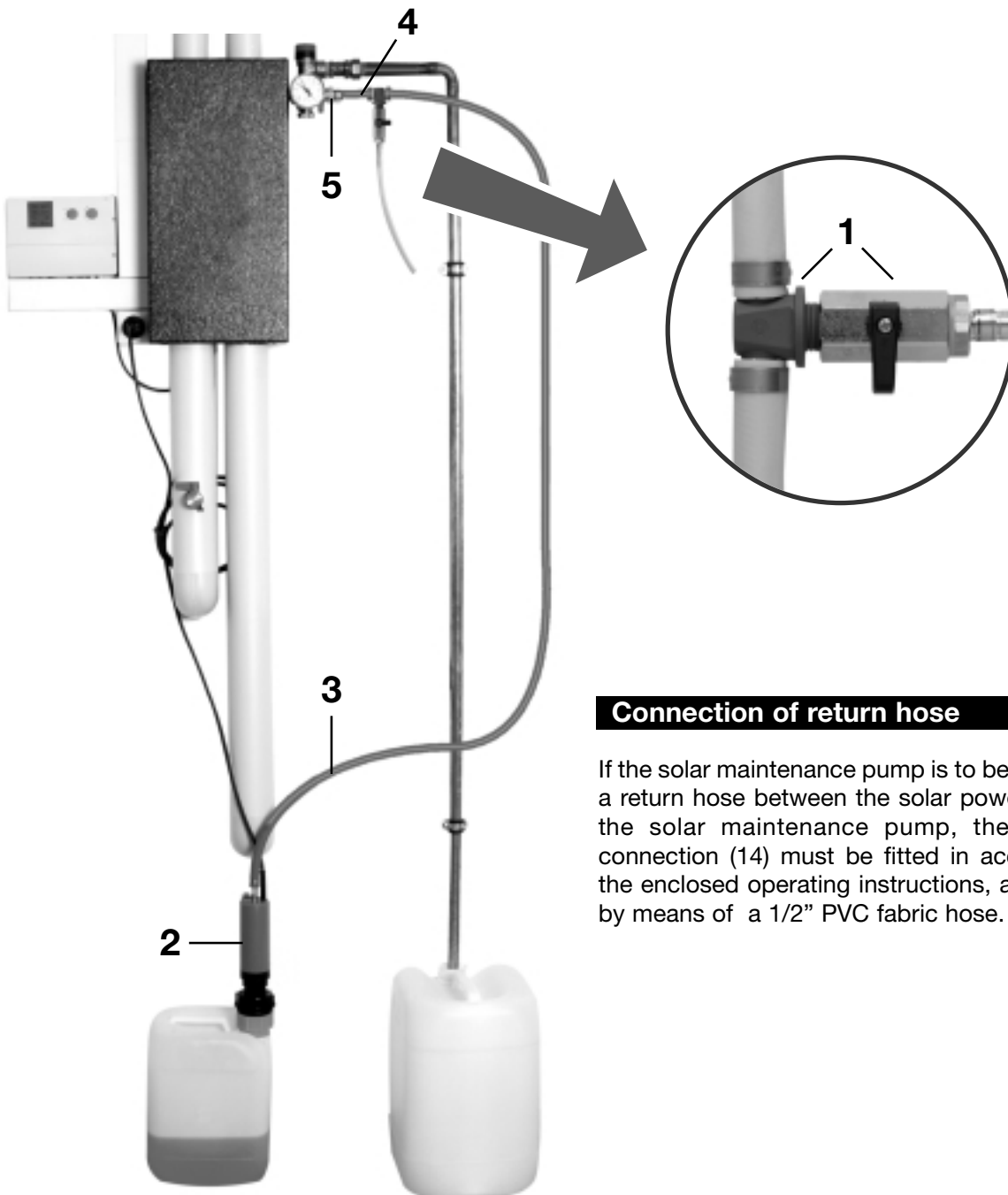
5. The piston (3) and the two piston springs (2 + 4) are located on the guide tube (6). The piston (3) must be able to move freely on the guide tube (6). Clean the assembly by sliding the piston (3) to and from on the guide tube (6) and clean using a cleaning fluid compatible with the transport medium. If compressed air is available, this can also be used to clean the parts.
6. Flush out and blow out the valve in the piston (3). The suction valve components (7 + 8) can be dismantled and cleaned by unscrewing and removing the suction connection (10) from the guide tube (6).
7. When reassembling the pump, take care to ensure the correct installation sequence of the parts (see assembly diagram). The long spring (4) must be installed between the piston (3) and guide tube (6), and the short spring (2) on the piston itself (3).
8. In the event of wear to the piston (3) or guide tube (6) it is advisable to replace the complete pump system.

Any further repair and maintenance work must be carried out only by a specialist.



Instructions on initial commissioning:

- n The loud noise heard on initial commissioning or when changing the canister will only continue until the pump system has been filled with fluid.
- n Ensure that there is sufficient fluid in the container, and that the suction hose with filter is immersed in the fluid. If necessary, adjust the length of the suction hose to suit the container.
- n If the pump fails to start on initial commissioning, proceed as described under "Cleaning the pump".
- n The bleed unit supplied (1) must be connected to the pump (2) on the pressure side using the 2 m long 1/2" PVC fabric hose (3) with the aid of the hose clamps. The short length of 1/2" PVC fabric hose (4) must be connected to the flushing/filling connection (5). After every maintenance, and whenever reconnecting the solar maintenance pump to the solar power system, the bleed unit must be opened until no further bubbles are seen to escape from the bleed unit. This will prevent any additional air in the pressure hose of the solar maintenance pump being transported into the solar power system. The bleed unit (1) must then be closed again and the shut-off valve of the solar power system can now be opened for filling.



Connection of return hose

If the solar maintenance pump is to be operated with a return hose between the solar power system and the solar maintenance pump, the return hose connection (14) must be fitted in accordance with the enclosed operating instructions, and connected by means of a 1/2" PVC fabric hose.

Safety instructions:

- n The pump must be connected only to an AC power supply with the same voltage as shown on the rating plate of the pump
- n Electrical equipment is not a child's toy. The pump must therefore be kept out of the reach of children at all times.
- n Do not leave the pump unsupervised while connected to the power supply
- n Disconnect the pump from the power supply before filling or draining the canister: do not remove the plug from the socket by pulling on the cable.
- n The pump is designed to protection type IP 64, and is protected against spray water. The pump must not however be immersed in water or other fluids.
- n Before removing the pressure hose, always disconnect the pump from the power supply and relieve the pressure in the system by briefly opening the bleed unit.
- n Please note that the pump will become warm during long-term or permanent operation
- n Always note the processing instructions prescribed by the manufacturer of the products being transported.
- n Ensure that the applicable legal and official accident prevention regulations are observed at all times.



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