

Operating instructions

H₂O DESAL® filt 55

for use in the PUROTAP® leader



Installation Function Operation Service



ELYSATOR 
engineering water

swiss made 

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1. Safety instructions



Not drinking water



Maximum 4 bar up to 20 °C



Maximum 2.5 bar up to 40 °C



Disposal with household waste



Operation under supervision



Maximum throughput 15 l/min

2. Function

Heating and cooling systems use water as a heat transfer medium. The water circulates from the heat generator to the consumer. Various circumstances can lead to impurities in the water in both new and existing systems. Contamination can lead to malfunctions, a loss of efficiency and costly repair work. Contamination can take the form of foreign substances such as welding residues, dirt or corrosion products. According to the guidelines, recirculated water should appear clear and be free of sediment. Foreign substances can be removed from the system by means of filtration.

The H₂O DESAL® filt 55 cartridge set contains a layer of natural filter granules for the mechanical separation of foreign substances from circulating water, as well as an ion exchange resin as an additional treatment step. Magnetite is also retained by a magnetic tape.

The H₂O DESAL® filt 55 cartridge set can also be used in the bypass flow during operation. The PUROTAP® leader is required for use. This device is available separately.

In a closed system, the device with the built-in H₂O DESAL® filt 55 cartridge set is connected in the bypass flow and operated with a pump at a low flow rate. The system volume should be circulated at least three times. Up to 5000 litres can be cleaned with one cartridge set, depending on the degree of water contamination. Several cartridge sets must be used for higher system volumes or high levels of soiling.

Due to the risk of transferring contaminants, the cartridge set may only be used once on a system. The cartridge set must be disposed of after a single use.



- Pre-rinsing necessary
- Connect in the bypass flow
- At least three system circulations recommended
- For one-time use

3. Standard delivery

- H₂O DESAL[®] filt 55 cartridge set
- Operating instructions

The set must be used in accordance with the original packaging (marked top, centre, bottom), otherwise the effectiveness may be reduced.

The PUROTAP[®]leader basic device must be available or ordered separately.

4. Specification

4.1. Device description

You can find the operating instructions for the PUROTAP® leader here:



4.2. Properties of the H₂O DESAL® filt 55 cartridge set

The H₂O DESAL® filt 55 cartridge set performs four functions in a single step:

- Coarse filter granulate for coarse filtration
- Fine filter granulate for fine filtration
- Magnetic tape for magnetite separation
- Ion exchange resin for stabilisation

4.3. Dimensions

H ₂ O DESAL® filt 55	Dimension
Height of the cartridge set	50 cm
Diameter	25 cm
Weight	approx. 10.0 kg

4.4. Performance data

H ₂ O DESAL® filt 55	Dimension
Capacity	Depends on the degree of contamination of the system water; at most until blockage occurs
Max. throughput	15 l/min (the lower the flow rate, the more efficient the filtration effect)

Operating pressure for max. 24h	Maximum 4 bar at 20 °C Maximum 2.5 bar at 40 °C
Retention rate	Removes particles up to approx. 5 µm
Recommended use	approx. 1000 to 5000 l system volume



For lower volumes use H₂O DESAL® filt 33.

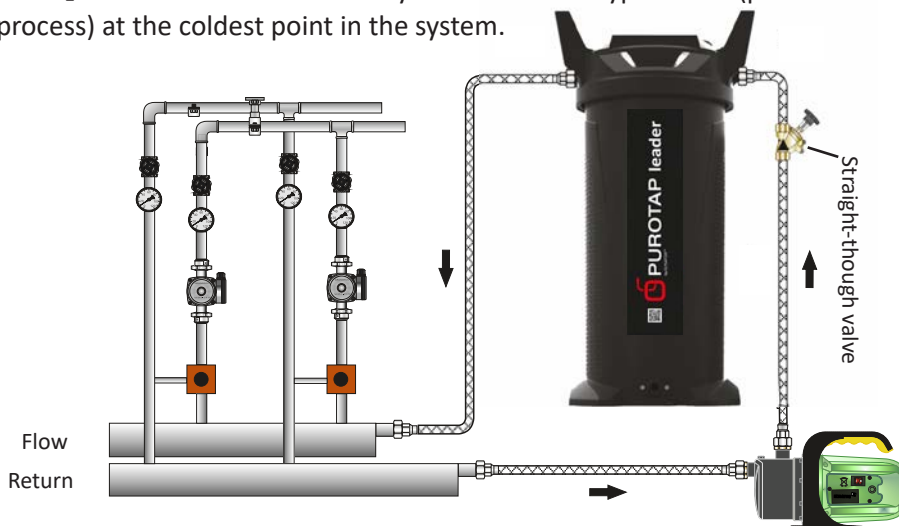
5. Operation

5.1. H₂O DESAL® filt 55 cartridge set

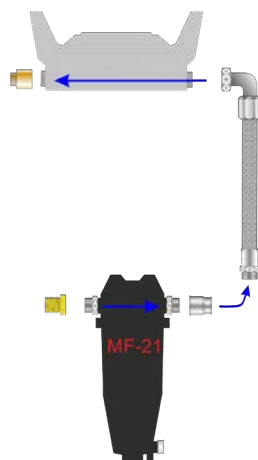
The H₂O DESAL® filt 55 replacement cartridge is inserted into the PUROTAP® leader device for operation. The complete cartridge set (3 individual cartridges) must be used in order to operate the device.

5.2. Connection and commissioning

The H₂O DESAL® filt 55 should only be used in the bypass flow (partial flow process) at the coldest point in the system.



For optimum process control, the differential pressure unit (item no. 102 691) including flow limiter to 10 l/min should also be used. Connect directly to the head of the PUROTAP® leader.



To protect the cartridges from coarse dirt, the H₂O DESAL® coarse filter unit (item no. 102 905 / MF-21) can be installed directly on or in front of the differential pressure indicator inlet.

The recommended maximum flow rate for the H₂O DESAL® filt 55 is 15 l/min. In general, the lower the flow rate, the better the filtration result.

The device with H₂O DESAL® filt 55 cartridge set is integrated into the bypass flow of the system together with a separate pump (e.g. jet pump, centrifugal pump) and three armoured hoses. The device should be connected with the H₂O DESAL® filt 55 cartridge set on the pressure side of the auxiliary pump. It is important that the system's circulation pumps are in operation and that all valves are open and enable thorough mixing of the system water.

With this application, the information unit of the PUROTAP® leader can only be used to set the throughput (l/min) and the total volume of treated water

(total litres). All other functions are irrelevant. The conductivity warning signal that may be issued by the device can be ignored for this application (filtration).



- The device must be monitored during use and must not be permanently pressurised.
- Before use, the cartridge must be pre-rinsed with clean water (drinking water or even better, demineralised water) until clear water flows out of the device. This flushes out any loose powder particles from the filter material. The pre-rinse water can be safely discharged into the drain.

5.3. Inserting and changing the H₂O DESAL® filt 55 cartridge set

1. Stop the water supply
2. Release the pressure
3. Detach hoses from the head if necessary
4. Unlock the head with the release lever, open it with a ¼ turn anti-clockwise and remove it
5. Pull out used H₂O DESAL® filt 55 cartridges
6. Make sure the lip seal (orange/red) on the tank base is seated properly
7. Insert new H₂O DESAL® filt 55 cartridge set
8. If necessary, lubricate O-rings on the cartridges and head with silicone grease
9. Refit the head and close it with a ¼ turn clockwise
10. Connect the inlet hose to the fresh water (or even better, to demineralised water)
11. Route the outlet hose to a drain
12. Pre-rinse the H₂O DESAL® filt 55 with clean water until the water runs clear

The spent cartridges can be disposed of as household waste.

5.4. Filtering the system water

- After pre-rinsing, connect the device with the pump in the bypass flow
- Close the shut-off valve on the device and open the valve upstream of the pump
- Switch on the pump
- Slightly open the shut-off valve on the device and the valve when connecting to the system, to achieve a maximum flow rate of 15 l/min through the H₂O DESAL® filt 55 cartridges
- Leave the device to run while supervised until the entire system volume has circulated at least three times
- Switch off the pump
- Close the valves upstream of the pump and downstream of the device
- Drain the device and remove the cartridges
- All components used (e.g. PUROTAP® leader, pump, hoses, etc.) must be rinsed thoroughly with clean water after each use to remove any dirt residues and prevent the transfer of contaminants.



The PUROTAP® leader does not switch off automatically when the maximum pressure is reached or exceeded.

6. Maintenance

6.1. Changing the H₂O DESAL® filt 55 cartridge set

See 5.3.

6.2. Draining the water

To reduce the weight for transportation, we recommend draining the water after use.



At colder times of year, it is essential to fully drain the water from the device; otherwise frost damage could occur.

7. Consumables

Item no.	Designation
102 889	H ₂ O DESAL® filt 55 cartridge set

8. Options

Item no.	Designation
102 691	H ₂ O DESAL® differential pressure unit incl. flow limiter to 10 l/min
102 905	H ₂ O DESAL® coarse filter unit incl. flow limiter to 10 l/min
101 728	PUROTAP® leader, filling device

9. FAQ H₂O DESAL® filt 55

What should I do if the flow rate decreases sharply or the pressure is too high?

- The cartridge is blocked due to high soiling → Replace cartridge set.

What should I do if the filtration result is inadequate (cartridge set is not blocked)?

- Additionally circulate the system volume at a lower flow rate (10 l/min) to achieve a better filtration effect.

10. Disclaimer

All the information in this document is based on current knowledge and does not purport to be complete. No liability claims may be brought in relation to this information.