

Operating instructions PUROTAP® expert

Installation Function Operation Maintenance

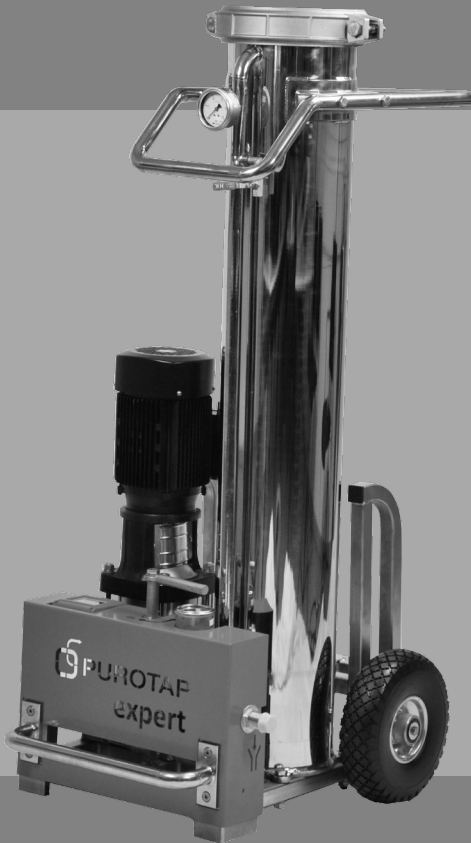


Table of contents

1. Safety instructions	4
2. Function	5
3. Standard delivery	5
4. Specification	
4.1. Device description	6
4.2. Dimensions	6
4.3. Performance data	6
5. Operation	
5.1. Installing/replacing the filter membrane	7
5.2. Connection	8
5.3. Commissioning	8
5.4. Combined meter	9
5.5. Troubleshooting	11
6. Maintenance	
6.1. Changing the batteries	11
6.2. Draining	12
6.3. Storing the membrane	12
7. Spare parts	12
8. Consumables	13

1. Safety instructions



Not drinking water



Maximum 45 °C



Maximum pressure 9 bar (not constantly)



Flow rate max. 10 l/min without pump



Flow rate max. 20 l/min with pump

2. Function

The PUROTAP® expert works on the basis of reverse osmosis. The flow pattern of the water inside the intricately designed tank is controlled in a way that enables the system to achieve incomparably high filtration velocities. With its integrated high pressure pump, the PUROTAP® expert achieves a throughput of 20 litres per minute or 1200 litres per hour.

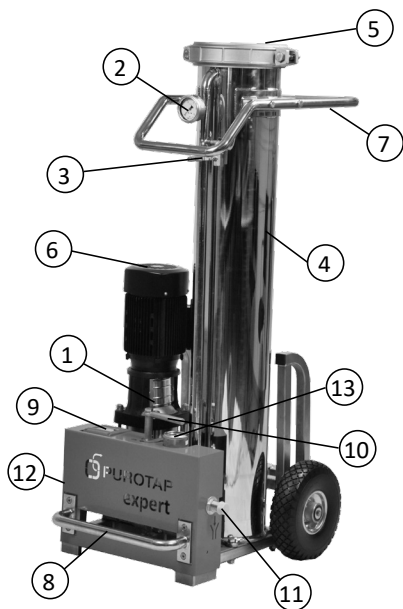
The PUROTAP® expert pushes raw water at pressures of up to 18 bar through a filter membrane with a gauge width of less than one nanometre – this equates to one millionth of a millimetre. This holds back all dissolved solids and only pure water molecules pass through the membrane. The hyper filtered water is particularly suitable for technical applications since dissolved minerals, heavy metals and pesticides, as well as bacteria and organic matter, are removed from the water. The pH value is only slightly affected.

3. Standard delivery

- PUROTAP® expert device
- Label "demineralised"
- Spacer ring, grey
- Operating instructions

4. Specification

4.1. Device description



1. Inlet $\frac{3}{4}$ " male thread
2. Pressure gauge for dynamic pressure, filter membrane
3. Aeration tap
4. Filter casing
5. Filter casing cover
6. Pressure booster pump
7. Handle, top
8. Handle, bottom
9. Combined meter
10. Single lever fitting assembly
11. Waste water outlet $\frac{3}{4}$ " male thread
12. Pure water outlet $\frac{3}{4}$ " male thread, fully desalinated
13. Pressure gauge for pure water outlet

4.2. Dimensions

Dimensions	PUROTAP® expert
Height	133 cm
Width	64 cm
Depth	60 cm
Weight	100 kg

4.3. Performance data

	PUROTAP® expert
Min. inlet pipe throughput	30 l/min
Pmax. inlet pipe	9 bar
Max. pump operating pressure	18 bar

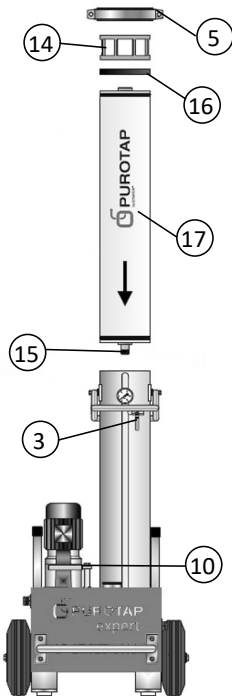
Desalination capacity without pump	up to 10 l/min*
Desalination capacity with pump	up to 20 l/min*
Tmax	45 °C
pH range	3-10
Pump connection	230 V AC, 16 A
Filter membrane service life	approx. 100,000 l**

* The throughput depends on the salt content of the raw water. The higher the salt content, the lower the throughput.

** The service life of the filter membrane depends on the contamination level of the raw water. Contaminants shorten the service life of the filter membrane.

5. Operation

5.1. Installing/replacing the filter membrane



1. Disconnect the pump from the power supply
2. Disconnect the device from the water supply and the system to be filled
3. Release the pressure
4. Open the single lever fitting (10) (lever pointing forwards)
5. Open the aeration tap (3)
6. Open the cover (5) on the filter casing
7. Remove the spacer ring (14)
8. Remove the prefilter (16)
9. Remove the filter membrane (17) (tilt PUROTAP® expert if required)
10. Unpack the new filter membrane. Please note: Open the plastic bag close to the weld seam. The plastic bag is reused for storing the membrane!
11. Lubricate the connector (15) with silicone grease
12. Insert the new filter membrane (17) with connector (15) pointing down
13. Insert a new fine filter (16)

14. Insert the spacer ring (14)
15. Close the cover (5)



The filter casing cover must be closed properly!

5.2 Connection

Connect the device to the raw water at the inlet (1) using an adequately sized hose. Connect the outlet (12) to the system to be filled, also using a hose. Use a hose to route the waste water outlet (11) to an output line. The device is fitted with a non-return valve that prevents any throughput in the wrong direction.



- The water supply must have a throughput of at least 30 l/min
- Where EN 1717 is applicable (Germany), a pipe separator must also be installed upstream of the filling station. Observe the water utilities' regulations.
- PUROTAP® expert may only be pressurised for the duration of the filling process. Permanent connection under pressure is not permitted.

5.3. Commissioning

1. Turn the single lever fitting (10) in the direction of flow = close
2. Close the aeration tap (3)
3. Open the water supply
4. Open the single lever fitting (10) and aeration tap (3) and vent the casing
5. Close when no more air is escaping from the aeration tap
6. If required, plug the pump into the power supply to commission it
7. Observe the pressure at the pure water outlet (13)



The pump can be used to build up a pressure of 18 bar at the device outlet. It is therefore essential to install a pressure reducing valve!

5.4. Combined meter

The combined meter measures the pure water quality and the throughput (l/min and total throughput).



Set key


Each time the set key is pressed, the limit is increased by 10 $\mu\text{S}/\text{cm}$ or 6 TDS. Hold the key for 3 seconds to reset the limit to zero. Programming the limit ensures that a warning is issued when the filter membrane is spent. If the set limit is exceeded, the backlight flashes red and an acoustic alarm sounds. In addition, the floating contact is switched over (only when using the optional power supply unit).

Unit key



Use this key at any time to switch between electrical conductivity ($\mu\text{S}/\text{cm}$)


and TDS (total dissolved solids) as well as between °C and °F. The first two are units of measurement for the amount of minerals dissolved in the water. Most European component manufacturers use the unit of measurement $\mu\text{S}/\text{cm}$ (microsiemens per centimetre). Water hardness at the output of the refill device can be determined using the following rule of thumb: 1 °fH corresponds to approx. 20 $\mu\text{S}/\text{cm}$ or 1 °dH corresponds to approx. 35 $\mu\text{S}/\text{cm}$. Sequence of units: $\mu\text{S}/\text{cm}$ -- °C | $\mu\text{S}/\text{cm}$ -- °F | TDS -- °C | TDS -- °F

ON/OFF key (MANU/AUTO)

Press the  key once to switch on the combined meter. The water quality is measured for 10 seconds and compared to the set limit. During measuring, the screen backlighting is blue and the conductivity value is displayed. If the measured value is below the set limit, everything is OK. If the measured value exceeds the limit, the display flashes red, an alarm signal sounds and the floating contact switches over (only when using the optional power supply unit). The current throughput and the water temperature, as well as the total water throughput, are continuously displayed. Press the key for approx. 3 seconds to switch off the device. If the combined meter is switched on and measures no throughput for about one hour, it automatically switches off. During operation with the optional power supply unit, the combined meter does not automatically switch off and cannot be switched off manually. If the combined meter has switched off automatically, it will automatically restart once the throughput (> 2 l/min) resumes. If the combined meter is switched off using the ON/OFF key, it will not restart automatically.

Auto mode

Press the  key twice in quick succession to start automatic monitoring by the combined meter. The  symbol is shown to indicate that monitoring has been enabled. In auto mode, the meter only takes measurements when water is actually passing over it. If the throughput is interrupted, the meter continues to show the last captured value. When a throughput is present, the meter takes a new reading of the conductivity value after every 10 litres and displays it. If the limit is exceeded in two successive measurements, the display continuously flashes red and an acoustic alarm sounds. In addition,

the floating contact is switched over. If the  key is pressed for a third time, the meter exits auto mode.

Litre-gallon key

Briefly press this key once to select the throughput indication in litres per minute (l/min) or gallons per minute (GPM). Press the key for approx.

3 seconds to reset the total throughput volume ("JOB") to 0. We recommend setting "JOB" to 0 after every filter change. Press the key for 8 seconds to reset the "TOTAL" litres value to 0.

5.5. Troubleshooting

Water conductivity is too high after filtration:

- Has the membrane been installed correctly (tap at the bottom, prefilter, spacer ring, cover)?
- Has the cover been fitted correctly (polished surface on the outside)?
- Is there carbon dioxide in the water? This is not filtered out and increases conductivity.

Throughput is too low:

- Is the minimum throughput of 30 l/min present at the inlet?
- Is the prefilter clogged?

6. Maintenance

6.1. Changing the batteries

If the battery symbol () is displayed, the batteries must be replaced.

Undo the 4 screws on the red cover, lift off the cover and insert 3 new AAA (LR03) 1.5 V batteries. Make sure the cover seal is seated properly. Refit the cover and secure with the screws. Check the device is working correctly.



More detailed information about the combined meter can be found on our website under the product PUROTAP® LFM-20.

6.2. Draining

To reduce the weight of the device for transportation and avoid frost damage in winter, the water must be drained after use. Draining is carried out by opening the aeration tap (3) and single lever fitting (10).



To avoid frost damage, the device must be drained if temperatures are below freezing point!

6.3. Storing the membrane

The membrane must not be allowed to dry out. After use, the membrane may be unusable due to bacteria, fungi, etc. We therefore recommend packaging it, damp, in the plastic bag it was delivered in. The plastic bag should be sealed, for example using a cable tie, so that it is airtight, and should be stored in a cool, dark place.



- The membrane must not be allowed to dry out
- Store the membrane damp and packaged in an airtight bag.

7. Spare parts

Item no.	Designation
102 358	PURROTAP® expert, cover seal
102 220	PURROTAP® expert, pump
102 278	PURROTAP® LFM-20, combined meter
101 172	PURROTAP® expert, prefilter
102 359	PURROTAP® expert, spacer ring
102 360	PURROTAP® expert, tank cover clamp, complete
102 361	PURROTAP® expert, tank cover
100 750	PURROTAP® label, heating system demineralised
100 280	PURROTAP® LFM-20, device batteries (3x)

8. Consumables

Item no.	Designation
101 221	PUROTAP® E90, membrane