PUROTAP
by ELYSATOR™

Operating instructions
PUROTAP® leader

Installation
Function
Operation
Maintenance

ELYSATOR
engineering water

swiss made

Table of contents

1. Safety instructions 4

2. Function 5

3. Standard delivery 6

4. Specification
   - 4.1. Device description 7
   - 4.2. Dimensions 7
   - 4.3. Performance data 7

5. Operation
   - 5.1. Replaceable cartridges 8
   - 5.2. Connection version for system filling 9
   - 5.3. Connection version for system flushing 10
   - 5.4. Information and control unit 12

6. Using the options
   - 6.1. Wireless pump control 13
   - 6.2. EEAG trolley 14

7. Maintenance
   - 7.1. Changing the cartridge 15
   - 7.2. Draining the water 15
   - 7.3. Replacing the batteries 15
   - 7.4. Cleaning/adjusting the probes 16

8. Spare parts 16

9. Consumables 16

10. Options 16

1. Safety instructions

Not drinking water

Maximum 1 bar pressure @ 60 °C

Maximum 2,5 bar pressure @ 40 °C

Maximum 4 bar pressure @ 20 °C

Flow rate max. 20 l/min.

Device: Recyclable

Cartridge: Recyclable **or**

Disposal with household waste

Operation under supervision

2. Function

Heating and cooling systems use water as a heat transfer medium. The water circulates from the place where heat is generated to the consumer and back. Even if the system always reuses the same water, lime and other aggressive substances can still get into the closed water system when it is filled for the first time and may lead to corrosion, or damage modern components.

The PUROTAP® leader treats water for technical applications in closed systems according to the latest standards (VDI 2035, SWKI BT 102-01, Ö H5195).

The filling device filters lime and aggressive substances such as sulphates, nitrates and chlorides out of the fill water. The device uses a mixed bed ion exchanger to provide demineralised, fully desalinated water. This effectively prevents damage due to lime and corrosion in the heating system.

The filling device is equipped with measuring devices for monitoring the quality and volume of pure water production. This method does not transfer any chemical additives to the water.

The device works without an external power connection. If the ion exchange capacity is exhausted, the ion exchange resin can simply be replaced with the replaceable cartridge and recycled or disposed of with the household waste.

3. Standard delivery

- PUROTAP® leader
- Operating instructions

(PUROTAP® replaceable cartridge must be ordered separately)

Recycling & Resin quality

We recycle for you!

Certified quality resin

4. Specification

4.1. Device description

1 Battery compartment
2 Release lever
3 Shut-off valve
4 Connections
5 Information screen
6 Pressure vessel
7 Replaceable cartridge
8 Drain valve

4.2. Dimensions

Dimensions	**PUROTAP® leader**
Overall height	69 cm
Diameter	30 cm
Weight empty	10 kg
Weight with replaceable cartridge	25 kg
Connections	¾" male thread

4.3. Performance data

	PUROTAP® leader		
Max. throughput	20 l/min		
Pmax	4 bar	2,5 bar	1 bar
Tmax	20 °C	40 °C	60 °C

5. Operation

5.1. Replaceable cartridges

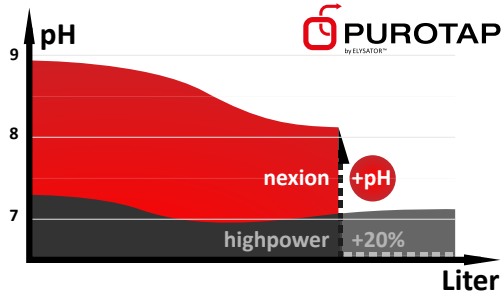
To operate the PUROTAP® leader, you will need:

PUROTAP® L60 highpower, capacity 60,000 l at 1° fH / 34,000 l at 1° dH. PUROTAP® highpower resin with a **high capacity** for conventional heating systems.

...or...
PUROTAP® L50 nexion, capacity 50,000 l at 1° fH / 30,000 l at 1° dH. PUROTAP® nexion resin with a defined surplus of anion resin for **regulating the pH.**

One replaceable cartridge with medium water hardness is able to demineralise:
Approx. 2,500 l water (PUROTAP® L60)
Approx. 2,000 l water (PUROTAP® L50)

	PUROTAP® highpower	PUROTAP® nexion
High capacity	✓	❍
pH regulating (removes free carbon dioxide)	❍	✓
pH neutral (removes bound carbon dioxide)	✓	✓
Complies with SWKI BT 102-01 VDI	✓	✓
Certified quality	✓	✓



nexion: higher pH value, lower litre capacity
highpower: lower pH value, higher litre capacity. Pay attention to the system-specific self-alkalisation.

5.2. Connection version for system filling

This connection version is suitable for filling heating systems with demineralised water.
This connection version is not suitable in systems with surface heating systems, which can only be vented by means of flushing. The capacity of the ion exchanger is not sufficient to expel air from a horizontal line. In these cases, we recommend filling with raw water and then demineralisation via system flushing (see next page).
The equipment includes a non-return valve. If the connection is incorrect/ reversed, the raw water cannot flow through the device.

- Insert replaceable cartridge with ion exchange resin (see 7.1. Changing the cartridge)
- Where DIN EN 1717 is applicable, a pipe separator must also be installed upstream of the filling station. Observe the water utilities' regulations.

- PUROTAP® leader does not contain any mechanism for automatic shut-off when the required pressure is reached. If system filling is not continuously monitored, a pressure reducing valve must be connected upstream to prevent damage to the heating system due to overpressure at the end of filling.
- PUROTAP® leader may be pressurised for the duration of the filling process. Temperature max. 60 °C, pressure max. 4 bar.
  Optional wireless socket (see chapter 6.1.).

5.3. Connection version for system flushing

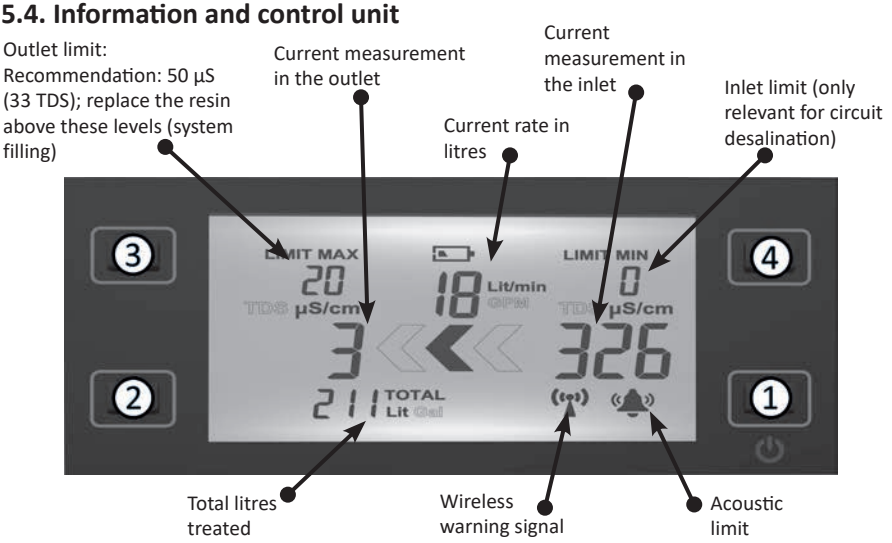
This process is also suitable for subsequently demineralising systems with an excessively high salt content according to boiler manufacturer specifications or guidelines.

Using a separate pump (e.g. jet pump, impeller pump, centrifugal pump) and 2 reinforced hoses, the ion exchanger is integrated into the main circuit of the heating system. Which connectors are used is less important than ensuring

that the circulation pumps are operating and that all valves are open and enable thorough mixing of the system water.
The information unit indicates when the resin is exhausted along with the progress of the system water demineralisation.
The equipment includes a non-return valve. If the connection is incorrect/ reversed, the raw water cannot flow through the device.
Connect the PUROTAP® leader on the pressure side of the auxiliary pump.
Optional wireless socket (see chapter 6.1.).

- Insert replaceable cartridge with ion exchange resin (see 7.1. Changing the cartridge)
- Only **clean water** may be used. Dirty heating water can react corrosively and influence the measurements.
- The probes must be cleaned and newly adjusted if necessary. Please therefore send the PUROTAP® leader head to your ELYSATOR® representative for periodic inspection.
- If this flushing version is carried out during heating operation, the temperature on the device may temporarily be maximum 60 °C. Connect the device on a return line with the lowest possible temperature.
- Always use sufficiently pressure and temperature resistant hoses (reinforced hoses). The ion exchanger (vessel) should not be unsupervised while pressurised.

5.4. Information and control unit



(1) Switch on the control unit: press briefly once.
Wireless signal on/alarm signal on/wireless signal off/alarm signal off: press briefly again.
Switch off the control unit: press and hold for 3 seconds.
All alarm functions are switched off following a restart.
Also activates the backlight or interrupts an alarm. After 3 hours with no water throughput, the device switches off automatically.

(2) Tapping key 2 switches between the overall total and the running total ("JOB") for water treatment. Pressing the key for 3 seconds deletes the total shown.

(3) Each time this key is tapped, the limit for measurements at the PUROTAP® leader "outlet" is increased by one unit. Hold the key for 3 seconds to reset the limit to zero. Programming the limit at the outlet ensures that a warning is issued when the ion exchange resin is spent.

④ Each time this key is tapped, the limit for measurements at the PUROTAP® leader "inlet" is increased by one interval of 10 µS or 2 TDS. Hold the key for 3 seconds to reset the limit to zero. Programming the limit at the inlet ensures that feedback is provided when the target value in the system water is reached (with system flushing).

③ Pressing keys 3 and 4 together for 2 seconds switches
④ from EU to US units of measurement and vice versa.

① The following key combination activates a DEMO mode for the
③ information unit: the information unit must be off. Then press & hold key 3 and tap key 1. Release all keys and the DEMO mode simulates water treatment.
Tapping key 3 switches between DEMO modes for "system filling" and "system flushing". The DEMO mode must not be activated when water treatment is running, as otherwise monitoring is not ensured.
Front lights switch the colour from blue to red when values exceed or fall below the selected limits.

6. Using the options

6.1. Wireless pump control

The wireless plug for the PUROTAP® leader

Wireless transmitter for automatic shut-off of external devices, such as pumps and solenoid valves. With SEV 1011 plug type 13 (1-pin plug in accordance with the Swiss standard) or standard wireless plug with the frequency 433.2 MHz.

1. Linking the devices

1. Plug the wireless plug into the socket: press green key on wireless plug (LED flashes).
2. PUROTAP® leader: information centre switched OFF.
3. Information and control unit (OFF): press & hold key 2 and tap key 1. Release key 2 after 3 seconds.
4. If linking is successful, the LED on the wireless plug shows a steady red light. Otherwise repeat the process from the beginning.
5. The devices remain linked; one-off procedure.

2. Activating the wireless signal

Tap **key 1** repeatedly until the wireless signal appears at the bottom right of the screen.

3. Connecting the pump

Plug the wireless plug into the socket and plug the pump into the wireless plug. The pump runs when the wireless signal (LED on wireless plug) is activated/visible.

4. How the control function works

1. Pump runs when wireless signal (wireless plug LED) is visible.
2. Pump is idle when wireless signal (wireless plug LED) is not visible.
3. Pump stops when limit at inlet or outlet is reached.

6.2. EEAG trolley

An undercarriage with wheels is available for the device, to make it easier to transport. This is secured to the base of the device using the screws provided. First, the four rubber feet must be removed.

7. Maintenance

7.1. Changing the cartridge

1. Stop water supply.
2. Release the pressure.
3. Unlock the cover with the release lever (14), open it with a ¼ turn in anti-clockwise direction and remove it.
4. Remove spent cartridge.
5. Make sure the lip seal on the tank base is seated properly.
6. Insert new cartridge.
7. If necessary, lubricate the O-rings with suitable grease. (silicone-compatible)
8. Replace cover and close it with a ¼ turn in clockwise direction. Check for damage and ensure the seals are seated correctly.
9. Restart water supply.

The spent cartridge can be recycled or disposed of as household waste.

7.2. 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, as otherwise frost damage could occur. The drain valve (8) is located on the lower part of the device.

7.3. Replacing the batteries

1. Undo the two screws on the battery compartment.
2. Lift off the cover.
3. Insert four new batteries C LR14, 1.5 V.
4. Check the seal of the battery compartment.
5. Refit the cover and secure with the screws. Check the device is working correctly.

7.4. Cleaning/adjusting the probes

See chapter 5.3. Connection version for system flushing

8. Spare parts

Item no.	Designation
101 929	PUROTAP® leader, complete head
101 930	PUROTAP® leader, complete vessel
101 870	EEAG head O-ring seal
101 872	PUROTAP® leader, lip seal for vessel base

9. Consumables

Item no.	Designation
101 702	PUROTAP® L60 highpower
101 727	PUROTAP® L50 nexion

10. Options

Item no.	Designation
101 883	PUROTAP®, wireless plug
102 268	EEAG trolley
100 194	Pressure reducing valve ¾” PN16 set to 4 bar

All rights reserved. Subject to technical modifications.
The current version can be found at www.elysator.com.