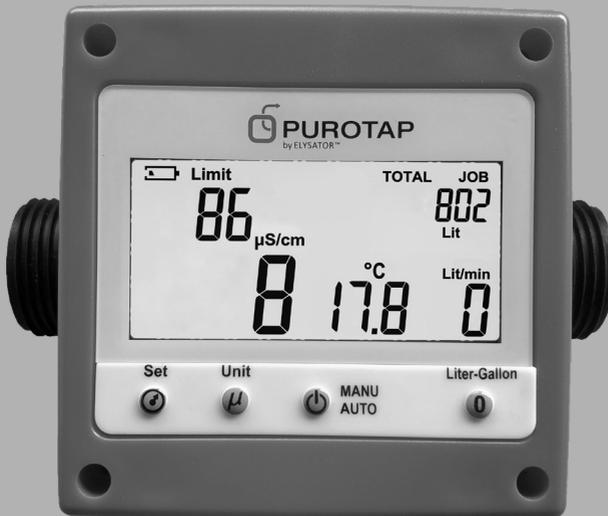


# Operating instructions PUROTAP® LFM-20

# Installation Function Operation





# Table of contents

	Page
1. Safety instructions	4
2. Function	5
3. Standard delivery	5
4. Specification	
4.1. Device description	6
4.2. Dimensions	7
5. Connection	7
6. Operation	
6.1. Information and control unit	8
6.2. Set key	8
6.3. Unit key	8
6.4.1. ON/OFF key (MANU/AUTO)	9
6.4.2. Auto mode	9
6.5. Litre-gallon key	10
6.6. Operation with optional power supply unit	10
6.7. Floating contact	10
7. Maintenance	
7.1. Changing the batteries	11
8. Spare parts list	11
9. Accessories	11

# 1. Safety instructions



Flow rate 2 - 50 l/min



Not drinking water



Maximum 4 bar pressure up to 60 °C



Maximum 6 bar pressure up to 25 °C



Dust proof and protected against water jets from any angle.

## 2. Function

The PUROTAP® LFM-20 can measure/display the present throughput in litres per minute (l/min) or gallons per minute (GPM) as well as the total water throughput. The PUROTAP® LFM-20 also displays the conductivity value in microsiemens ( $\mu\text{S}$ ) or the total content of dissolved minerals in TDS (total dissolved solids). If required, a limit (maximum permissible conductivity value) can be set.

If the set limit is exceeded at the water outlet, the display flashes red and an alarm sounds. In addition, a relay signal (floating, NO or NC) can be used.

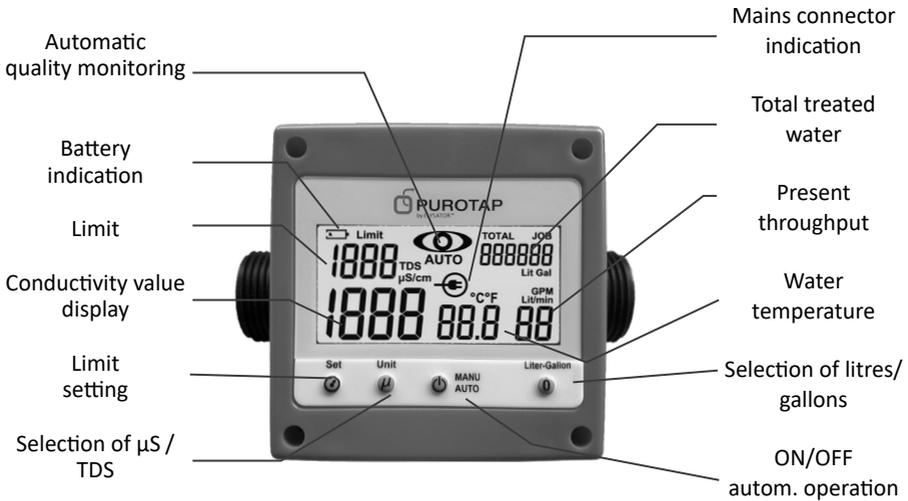
## 3. Standard delivery

- PUROTAP® LFM-20
- Reducer G1" internal G3/4" internal
- Reducer G1" internal G3/4" external
- Operating instructions
- Batteries 3 × AAA (inserted)

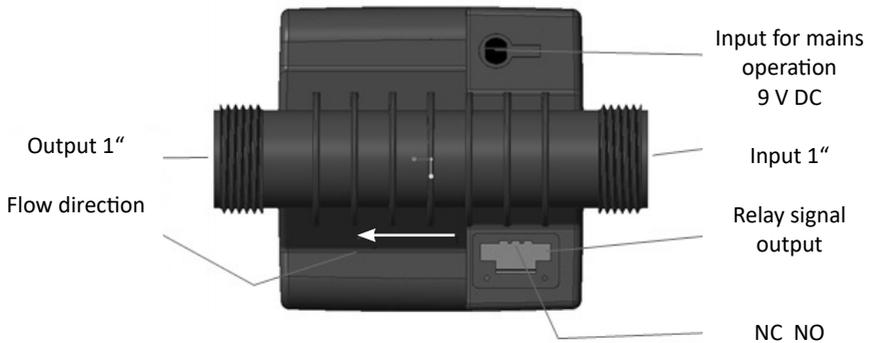
## 4. Specification

### 4.1. Device description

#### Front



#### Back



## 4.2. Dimensions

Casing dimensions:	92 × 92 × 64 mm
Display:	LCD with backlight (red/blue), 72 × 36 mm
Operating temperature:	+ 10 to 60 °C (+ 50 to 140 °F)
Max. pressure	4 bar up to 60 °C / 6 bar up to 25 °C
Display:	up to 999,999 litres (264171 Gallonen)
Throughput:	2 to 50 litres/minute (1 to 13 gallons/minute)
Conductivity:	0 to 1800 µS/cm (0 to 900 TDS)
Temperature:	+ 0 to 99 °C (+ 32 to 210 °F)
Relay output:	floating output, NC and NO, 50 V AC/DC, max. 1 A
IP class:	IP 65
Power supply	3 × batteries AAA (LR03) 1.5 V
Ext. power supply:	9 V DC, 500 mA (linear)

## 5. Connection



The PUROTAP® LFM-20 is installed in a water supply line, in series with e.g. a disposable cartridge. The supplied reducers can be used if required. If the PUROTAP® LFM-20 is installed permanently, the installation must be free of stress. This is most easily achieved by fitting a suitable hose on at least one side.



- Observe the flow direction (arrow on the back of the PUROTAP LFM-20)
- Installation must be stress-free!

## 6. Operation

### 6.1 Information and control unit



### 6.2. Set key

Each time the set key is pressed and released, 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 ion exchange resin 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).

### 6.3. 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  $^{\circ}\text{C}$  and  $^{\circ}\text{F}$ . 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  $^{\circ}\text{fH}$  corresponds to approx. 20  $\mu\text{S}/\text{cm}$  or 1  $^{\circ}\text{dH}$  corresponds to approx. 35  $\mu\text{S}/\text{cm}$ . Sequence of units:  $\mu\text{S}/\text{cm}$  --  $^{\circ}\text{C}$  |  $\mu\text{S}/\text{cm}$  --  $^{\circ}\text{F}$  | TDS --  $^{\circ}\text{C}$  | TDS --  $^{\circ}\text{F}$

#### 6.4.1. 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 background is lit in 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 present throughput and the water temperature, as well as the total amount of 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 throughput (> 2 l/min) resumes. If the combined meter is switched off using the ON/OFF key, it will not restart automatically.

#### 6.4.2. Auto mode

Press the  key twice in quick succession to start automatic monitoring by the combined meter. The  symbol appears 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.

### 6.5. 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 resetting the "JOB" to 0 after every resin change to enable estimating and comparing the residual capacity of the ion exchange resin. Press the key for 8 seconds to reset the "TOTAL" litres value to 0.

### 6.6. TOTAL / JOB

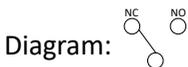
Every time a key is pressed, the backlighting illuminates for approx. 5 seconds. During this time, the display switches back and forth between "TOTAL" litres and "JOB".

### 6.7. Operation with optional power supply unit

Plug in the power supply unit at the back of the device. The plug is covered with a protective rubber cap. The symbol " " is displayed during operation with the power supply unit.

### 6.8. Floating contact

A green female connector is located at the back. This is intended for connection of the male connector supplied with the power supply unit. The contact is floating and is suitable for a maximum load of 50 V AC/DC and 1 A. It is a changeover switch (NC/NO). The contact is switched over when the set limit is exceeded.



Sample applications:

- Control of a pump/valve.
- External warning light
- Etc.

## 7. Maintenance

### 7.1. Changing the batteries

When the battery symbol () appears, the batteries need replacing. Undo the 4 screws on the red cover, lift off the cover and replace the three 1.5 Volt AAA (LR03) batteries with new ones. Make sure the cover seal is seated properly. Replace the cover and secure with the screws. Check the device is working correctly.

## 8. Spare parts list

Designation	Item no.
Reducer G1'' internal G3/4'' internal	100 452
Reducer G1'' internal G3/4'' external	100 453
Spare batteries LR3 / AAA 1.5 V	100 280
Connector for floating output	102 086

## 9. Accessories

Designation	Item no.
PURROTAP® LFM-20, power supply unit with connector	102 280