

# Ultra Pure Water Filter

eliminates nitrate and silica



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10" ultra pure water filter in white housing  
 or in transparent housing

## The advantages of the AquaCare Ultra Pure Water Filter

- to use at concentration of silica above 5 mg/l (ppm) or/and nitrate above 50 mg/l (ppm) in the tap water
- ultra pure water for analytical purposes
- simply to connect after a reverse osmosis unit
- the 10" filter is for about 1,000 liters pure water\*, the 70 cm filter for about 7,100 liters\*; larger filters on request
- one way resin (no regeneration, no acids, no alkaline)
- resin is easy to change
- simple control of the ultra pure water with the electrical conductivity



70 cm Filter  
 made of  
 PVC

## Technical Data of the Resin

ion change resin type: 1 (H<sup>+</sup> and OH<sup>-</sup> form)  
 38...42% strong acid component and 56...62% strong alkaline component,  
 weight: 665...740 g/l,  
 max. working temperature: 60°C,  
 minimum electrical conductivity after a reverse osmosis unit\*: < 0,1 μS/cm

## Technical Data of Filters

	10" Filter	70 cm Filter
Order number	208-009	208-010
Volume in l, approx.	0,7 l	5 l
Capacity in l *	1.000	7.100
Life time of resin in month**	6...7	40...45
Pressure in bar (20°C)	0...8	0...3,2
Temperature in °C	4...35	4...35

\*\* at 5 litres water per day

Order number 2 litres resin in PE bag  
 Order number 25 litres resin in PE bag

580-002  
 580-025

**Larger filters on request**

\* with water of an R.O. unit with a permeate conductivity of 15 μS/cm (25°C); at higher conductivities it will be less  
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# Conductivity Meter for Ultra Pure Water



Type	1/4" connector for small filters	1/2" connector for FPR filters
Order number	610-010	610-011
Measuring range	0.00...19.99 µS/cm	
Resolution	± 0.01 µS/cm	
Accuracy	± 2% of range	
Temperature compensation	automatically at 5...50°C with 2,4%/°C	
Alarm	with LED	
Probe	two-electrode-technique with 2 m cable	
Power supply	External with 12 V adapter (within the scope of delivery)	
Ambient conditions	0...50°C; RH 100%	
Dimensions	86 × 94 × 33	
Weight	150 g	

## Reverse Osmosis Technique

To produce pure water gets more and more important with increasing concentrations of harmful substances in the tap water. Many aquarists have to produce pure water with reverse osmosis units. The advantages of this technique: simple to handle, high rejections of substances, no chemical compounds, automatically operation possible.

## Harmful substances

But in some areas tap water contains high concentrations of silica and nitrate. Silica is used to take care the tap water system of corrosion. Sometimes you can measure more than 20 mg/l (ppm) silica in tap water. Nitrate is a problem caused by the agricultural industry. In German tap water 50 mg/l is the maximum concentration - in the European Community 25 mg/l.

If the tap water contains more than 50 mg/l nitrate of more than 5 mg/l silica the best low pressure reverse osmosis unit is not able to reduce these substances below a harmless concentration for marine aquariums. Good units reduce nitrate and silica only to 80-90%.

If you use water with nitrate and especially silica a massive population of algae (green, blue green and diatoms) can grow. Most times you can see them as a greasy dark brown and green film that grows over stones, sand and animals. If these films get to thick they can kill bentic animals like corals. Additionally these films does not look good.

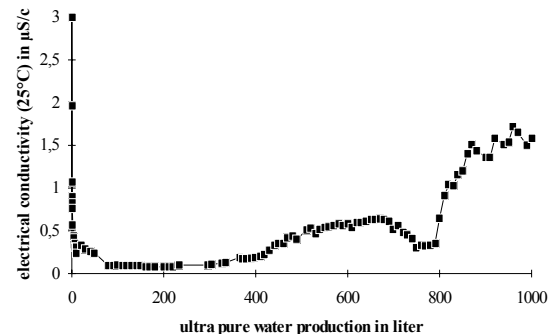
## Ultra Pure Water Filter

The AquaCare Ultra Pure Water Filter contains a resin that changes positive ions (cations) with H<sup>+</sup> and negative ions with OH<sup>-</sup>. The changed H<sup>+</sup> and OH<sup>-</sup> combine to neutral water H<sub>2</sub>O. The result is water of over 99.9% quality without salts like silica and nitrate. The ultra pure water is of best

quality for fresh and sea water, tropical plants and technical purpose.

The AquaCare Ultra Pure Water Filter is easy to install. You have to mount it simply after a reverse osmosis unit (30...160 liters per day for 10" filter).

If you use AquaCare reverse osmosis unit Excel 30 to 160 on the mounting plate is enough place to fix the Ultra Pure Water Filter. If the reverse osmosis unit runs the filter produces ultra pure water without harmful substances.



Ultra pure water quality of an AquaCare filter fed with reverse osmosis water of 15 µS/cm.

## Time to change

The quality of the ultra pure water can be measured with a good electrical conductivity meter. If the conductivity is above 3-5 µS/cm you have to change the resin. To measure regularly concentrations of silica or nitrate is possible, too. If you can measure these substances you have to change the resin.

Capacity of the AquaCare 10" Ultra Pure Water Filter:

conductivity feed in µS/cm	10	15	20	25	30	35	40	50
capacity in liter	1500	1000	750	600	500	430	380	300

\* with water of an R.O. unit with a permeate conductivity of 15 µS/cm (25°C); at higher conductivities it will be less  
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