

The advantages of **Naturaquell** process technology
 PUROLUX®; Active® and COMFORT®
 compared to the generally known
 purification procedures

1. Overview:

Which process is used for which problem?
 (Recommendations of the Consumer Advice Centre)

Problem in intake water:	Procedure:
NITRATE	Anion exchanger <u>Reverse osmosis</u>
PESTICIDES	Active charcoal filter (in some cases) <u>Reverse osmosis</u>
CHCs	Activated charcoal, <u>Reverse osmosis</u>
LEAD/COPPER/POTASSIUM, CADMIUM /ALUMINIUM IONS	Cation exchanger <u>Reverse osmosis</u>
MEDICINAL RESIDUES	Active charcoal filter (in some cases) <u>Reverse osmosis</u>
PARTICULATE LEAD	<u>Reverse osmosis</u>
HARDNESS-PRODUCING SUBSTANCES (CALCIUM/MAGNESIUM)	Cation exchanger <u>Reverse osmosis</u>

2. DISADVANTAGES OF ALTERNATIVE PROCEDURES

CATION EXCHANGER:

- Accumulation of Chloride
- Effluent contamination during regeneration
- Risk of bacterial contamination
- Poor means of efficiency level control during operation

ANION EXCHANGER:

- Accumulation of Chloride
- Effluent contamination during regeneration
- Risk of bacterial contamination in table filters
- Poor means of controlling the efficiency level during operation

ACTIVE CHARACOAL:

(only active charcoal without reverse osmosis upstream of it)

- Risk of breaching after accumulation of the toxic substances
- Not all toxic substances are retained
- Release of silver in higher concentrations
- Risk of bacterial contamination
- No control of function during operation

DESTILLATION:

- High power consumption
- Denaturalisation of the water
- High energy load due to the alternating electromagnetic fields in the heating coils.
- Toxic substances can, in part, be transferred into the pure water in gaseous form

NONE OF THE ABOVE-MENTIONED PROCEDURES TAKE THE BIOLOGICAL AND PHYSIOLOGICAL PROPERTIES OF NATURAL SPRING WATER INTO CONSIDERATION:

3. REVERSE OSMOSIS PROCEDURES ARE NOT ALL THE SAME

The Naturaquell instruments are distinguished by the following:

- Use of high-quality materials
- Quality assurance via monitored production and test run
- Continuous water quality monitoring by means of integrated measuring instrument
- Automatic flushing cycle to prevent blockage and bacterial contamination of the reverse osmosis module
Preset and economical concentrate—permeate ratio
Operating errors by the consumer are thus prevented.
- Digitised and microprocessor-controlled electronics for monitoring and controlling all functions
- Limit switching or exact setting of the desired water quantity to reduce water consumption (no overflow of the water container)
Switching hysteresis (restarting timer) to avoid continuous mixing of old and fresh water
- Permeate (pure water) disposal in QuickWater and Aqua Vita ensure fresh water directly from the membrane even when the instrument has not been used for a longer period of time.
- Aquastop switching with indication of instrument error.
- Easy mounting as a result of instrument plug-in connections
- Low after-costs for consumables such as prefilter, RO membrane and active charcoal filter.
- Magnetic components in accordance with Dr. Aschoff
- High quality standard because of well-engineered technology and the use of high-quality materials.

4. DISADVANTAGES OF BELOW-COUNTER SYSTEMS WITH PRESSURE TANKS OR WATER RESERVOIRS

- Continuous subsequent water production even when only small quantities are removed; thus the water in the pressure tank is for the most part not freshly produced.
- RO membranes cannot function effectively during the subsequent production of small quantities of water.
Consequence: reduction of water quality.
- In most cases there is no automatic flushing cycle.
The flushing cycles which are to be performed and absolutely necessary have to be carried out by the user himself.
In this context, practical experience has shown that the user forgets to do this after a certain length of time.
The consequences are the following: poor water quality, bacterial contamination of the membrane module and thus also bacterial contamination of the inaccessible pressure tank.
- Cleaning of the water tank after contamination is not possible.
- No water quality testing
- No means of disposal of permeate or pure water.
- No Aquastop switching
- High service costs because this type of device cannot be serviced by the user himself.
(For this reason expensive service agreements are offered at the sale of the system in many cases.
- As a rule they cannot be installed by the user himself.