

# AQUAPHOR®

## PROFESSIONAL



WATER PURIFICATION SYSTEMS  
FOR PRIVATE HOUSES AND MUNICIPALITIES



ULTRAPURE WATER PURIFICATION  
SYSTEMS



WATER PURIFYING TECHNOLOGY  
FOR THE PROFESSIONAL GRADE KITCHEN



INDUSTRIAL PROCESSES



AGRICULTURE AND FARMS



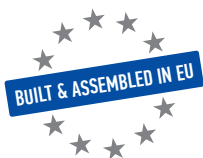


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# NP 80, APRO-120, NP 120, APRO DP 60

PATENTED SPACE SAVING NP 80, APRO-120, NP 120 SINGLE PASS SYSTEMS,  
AND DOUBLE PASS 60 SYSTEMS PRODUCE HIGH QUALITY WATER  
WITH LOW ENERGY AND WATER CONSUMPTION



*APRO-120 and NP 80 reverse osmosis systems*

## BENEFITS

- Two heavy duty miniaturized pumps provide fast recirculating flow with up to 50% energy savings compared to the standard single pump system
- Patented high-frequency, water saving drainage system
- Fully automatic
- Extended membrane lifespan due to membrane anti clogging system
- Low cost operation
- Easy maintenance
- Plug & Play
- High capacity patented pre-filtration

## SYSTEM EQUIPMENT

- Fully equipped electric board
- Stainless steel gauges
- Low Inlet Pressure Shutoff
- High Permeate Pressure Shutoff
- Double K2 pre-filters (NP 80); Viking pre-filter (APRO-120)
- Built-in 2 liter permeate storage tank
- Concentrate flushing valve
- Permeate drainage valve
- Adjustable water mineralization (NP 80, NP 120)

## OPTIONAL FEATURES





- 80 liters and larger permeate tank
- Crystal DiPro - demineralization set with TDS control (APRO-120, DP-60)



*Crystal DiPro*



## Standard features and Specifications of NP 80, APRO-120, APRO-120 NP; APRO DP 60

				
MODEL	NP 80	APRO 120	NP 120	DP 60
Permeate Flow, LPH	80	120	120	60
Membrane Quantity	1	2	2	1+1
Membrane type	3013-1000			
Prefiltration cartridge	B510-12 + 2 x K2	B520-H	B520	B520-H
Adjustable mineralization	+	-	+	-
Max inlet TDS, ppm	1500			
Reduction of salt content, %	Up to 95% (before remineralization)			Up to 99%
System recovery, %	50-90%			
Input pressure, bar	1-4			
Power supply	24VDC (AC/DC adapter is installed)			
Dimensions (LxWxH), mm	480 × 290 × 540	500 × 200 × 660		
Net weight, kg	26	27	28	32
Size (inlet, outlet, concentrate)	3/8"/1/4"/1/4" JG			

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

Materials used in RO systems are **safe, non-toxic and do not release any dangerous substances into the water**. The RO system is the most efficient and safe device for desalination purposes.

**NOTE** The RO system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# APRO SST 150–750 systems

FULLY AUTOMATIC (PLUG & PLAY)

Mass produced APRO SST Brackish Water RO product line (EU and international patents issued and pending)

- Ultra low energy consumption
- Remote control
- Easy setup via APRO Monitor App



APRO-300-SST reverse osmosis system



## BENEFITS

- Low energy consuming booster pump saves up to 50% electricity
- Permeate recovery up to 99%
- Extended membrane lifespan
- Easy maintenance
- Space saving design
- Low cost operation
- Fully Automatic

## STANDARD SYSTEM EQUIPMENT

- Grundfos pump (Made in EU)
- Stainless steel frame and case
- Stainless steel seamless pressure vessels
- Automatic patented preset Permeate Recovery Control
- Fully equipped electric board
- MP controller with TDS/flow/pressure monitoring
- 4.5" (BB) / 5.5" DIA (Viking) with patented high capacity multistage cartridge
- Modbus

## OPTIONAL FEATURES

- Dosing pump with level switch
- Supply pumps and storage vessels
- GSM/GPRS/Modem
- CIP system

APRO TYPE	MAX INLET TDS
APRO Standrad	2 000
APRO (HP) High Pressure	4 000
APRO (HS) High Salinity	8 000



					
MODEL	APRO SST 150	APRO SST 250	APRO SST 300	APRO SST 500	APRO SST 750
Operational pressure, bar	7-10				
Permeate Flow, LPH	150	250	300	500	750
Membrane Quantity	1	1	2	2	3
Membrane size, inch	4 × 21	4 × 40	4 × 21	4 × 40	4 × 40
Max inlet TDS, ppm	2 000				
Reduction of salt content, %	up to 95				
System recovery, %	75 - 99				
Power supply	single-phase 230V, 50Hz				
Dimensions, mm	520 × 370 × 790	520 × 370 × 1 280	670 × 370 × 790	670 × 370 × 1 280	790 × 350 × 1 280
Net weight, kg	39	48	49	58	70
Size (inlet, outlet, concentrate)	3/4"/1/2"/1/2" NPTF				

## APRO 250–750 HP (High Pressure)

MODEL	APRO 250 HP	APRO 500 HP	APRO 750 HP
Operational pressure, bar	12-16		
Membrane Quantity	1	2	3
Membrane size, inch	4 × 40		
Max inlet TDS, ppm	4 000		
Reduction of salt content, %	up to 98		
System recovery, %	75 - 95		
Power supply	three-phase 400V, 50Hz		

## APRO 250–750 HS (High Salinity)

MODEL	APRO 250 HS	APRO 500 HS	APRO 750 HS
Operational pressure, bar	16-30		
Membrane Quantity	1	2	3
Membrane size, inch	4 × 40		
Max inlet TDS, ppm	8 000		
Reduction of salt content, %	up to 98		
System recovery, %	75 - 95		
Power supply	three-phase 400V, 50Hz		

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# APRO 150–750 systems

FULLY AUTOMATIC (PLUG & PLAY)

Mass produced APRO Brackish Water RO product line (EU and international patents issued and pending)

- Ultra low energy consumption
- Remote control
- Easy setup via APRO Monitor App



*APRO-300 reverse osmosis system*

## BENEFITS

- Low energy consuming booster pump
- Permeate recovery up to 99%
- Extended membrane lifespan
- Easy maintenance
- Space saving design
- Low cost operation
- Reduced antiscalant consumption
- Fully Automatic

## STANDARD SYSTEM EQUIPMENT






- Grundfos pumps (Made in EU)
- Stainless steel seamless pressure vessels
- Automatic patented preset Permeate Recovery Control
- Fully equipped electric board
- MP controller with TDS/flow/pressure monitoring
- 4.5" (BB) / 5.5" DIA (Viking) with patented high capacity multistage cartridge
- Modbus

## OPTIONAL FEATURES

- Dosing pump with level switch
- Supply pumps and storage vessels
- GSM/GPRS/Modem
- CIP system





					
MODEL	APRO 150	APRO 250	APRO 300	APRO 500	APRO 750
Operational pressure, bar	7-10				
Permeate Flow, LPH	150	250	300	500	750
Membrane Quantity	1	1	2	2	3
Membrane size, inch	4 × 21	4 × 40	4 × 21	4 × 40	4 × 40
Max inlet TDS, ppm	2 000				
Reduction of salt content, %	up to 95				
System recovery, %	75 - 99				
Power supply	230V, 50 Hz				
Dimensions, mm	520 × 370 × 790	520 × 370 × 1 280	670 × 370 × 790	670 × 370 × 1 280	790 × 350 × 1 280
Net weight, kg	38	47	48	57	69
Size (inlet, outlet, concentrate)	¾"/½"/½" NPTF				

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# APRO-1000 and APRO-1000-SST

FULLY AUTOMATIC (PLUG & PLAY)

Mass produced APRO-1000  
and APRO-1000-SST Brackish Water  
reverse osmosis systems

- Ultra low energy consumption
- Remote control
- Easy setup via APRO Monitor App



## BENEFITS

- Dual low energy booster and recirculation pumps
- Permeate recovery up to 99%
- Extended membrane lifespan
- Easy maintenance
- Space saving design
- Low cost operation
- Fully Automatic

## STANDARD SYSTEM EQUIPMENT

- Grundfos pumps (Made in EU)
- Stainless steel seamless pressure vessels
- Fully equipped electric board
- MP controller with TDS/flow/pressure monitoring
- 4.5" (BB) / 5.5" DIA (Viking) with patented high capacity multistage cartridge
- SS frame (for SST models) and case
- Modbus
- Automatic patented preset Permeate Recovery Control

## OPTIONAL FEATURES

- Dosing pump with level switch
- Supply pump and storage vessels
- GSM/GPRS/Modem
- CIP system





APRO-1000-SST reverse osmosis system



APRO TYPE	MAX INLET TDS
APRO Standrad	2 000
APRO (HP) High Pressure	4 000
APRO (HS) High Salinity	8 000



		
MODEL	APRO 1000	APRO SST 1000
Operational pressure, bar	7 -10	
Permeate Flow, LPH	1 000	
Membrane Quantity	4	
Membrane size, inch	4 × 40	
Max inlet TDS, ppm	2 000	
Frame material	Coated CSTL	SS
Reduction of salt content, %	up to 95	
System recovery, %	75 - 99	
Power supply	single-phase 230V, 50Hz	
Dimensions, mm	820 × 500 × 1 280	
Net weight, kg	93	94
Size (inlet, outlet, concentrate)	¾"/½"/½" NPTF	

## APRO1000 HP (High Pressure)

MODEL	APRO 1000 HP
Operational pressure, bar	12 -16
Membrane Quantity	4
Membrane size, inch	4 × 40
Max inlet TDS, ppm	4 000
Reduction of salt content, %	up to 98
System recovery, %	75 - 95
Power supply	three-phase 400V, 50Hz

## APRO1000 HS (High Salinity)

MODEL	APRO 1000 HS
Operational pressure, bar	16 -30
Membrane Quantity	4
Membrane size, inch	4 × 40
Max inlet TDS, ppm	8 000
Reduction of salt content, %	up to 98
System recovery, %	75 - 95
Power supply	three-phase 400V, 50Hz

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# APRO-HP systems

APRO-HP (HIGH PRESSURE) SYSTEM PROVIDES A  
CONSISTENT PRODUCTION OF ULTRAPURE WATER

## We introduce APRO-HP Reverse Osmosis product line

- Equipped with the highest quality components
- Robust construction and easy maintenance
- Modern design and quiet operation
- Built and assembled in EU



APRO-HP-1000 reverse osmosis system



## BENEFITS

- Improved water quality
- Extended membrane lifespan
- Low maintenance operation
- Space saving design
- Quiet operation
- Reduced operational costs

## SYSTEM EQUIPMENT

- Various Product sizes ranging 250 – 2000 LPH
- Stainless steel Frame
- Multi Stage Stainless steel *Grundfos* pump
- MP controller for quality monitoring
- High rejection TFC Membranes
- Panel mounted Glycerin-filled gauges
- Low Pressure Shutoff
- Double Pre-filter
- High Pressure Stainless steel piping
- Low Pressure PVC piping
- *Belimo* actuated flush valve

## OPTIONAL FEATURES

- Antiscalant dosing pump + Low level switch
- Supply pumps and storage vessels
- GSM/GPRS Modem + Remote monitoring
- UF pretreatment



## Standard features of APRO-HP 250–2000 LPH

						
MODEL	APRO HP 250	APRO HP 500	APRO HP 750	APRO HP 1000	APRO HP 1500	APRO HP 2000
Permeate Flow, LPH	250	500	750	1 000	1 500	2 000
Membrane Quantity	1	2	3	4	6	8
Max inlet TDS, ppm	4,000	4,000	4,000	4,000	4,000	4,000
Flush Valve	Yes	Yes	Yes	Yes	Yes	Yes

## Specifications of APRO-HP 250–2000 LPH

MODEL	APRO HP 250	APRO HP 500	APRO HP 750	APRO HP 1000	APRO HP 1500	APRO HP 2000
Production of clean water, LPH	250	500	750	1 000	1 500	2 000
Reduction of salt content, %	Up to 99,7%					
System recovery, %	45 – 85%					
Membrane type	1 x 4040	2 x 4040	3 x 4040	4 x 4040	6 x 4040	8 x 4040
Power consumption, kWt/h	0.7 – 1 kWt/h per 1m <sup>3</sup> permeat					
Power supply	220V, 50 Hz/ 380V, 50 Hz	380V, 50Hz				
Dimensions, mm	600 × 500 × 1 600	1150 × 750 × 1 390			2 170 × 800 × 1 790	
Net weight, kg	80	109	112	127	154	230
Size (inlet, outlet, concentrate)	¾" / ¾" / ¾" NPT(PB)		1" / ¾" / ¾" NPT (PB)			

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# APRO-HS systems

APRO-HS (HIGH-SALINTY) SYSTEMS ARE DESIGNED TO PRODUCE HIGH QUALITY WATER FROM WATER SOURCES WITH HIGH SALT CONTENT

We introduce APRO-HS Reverse Osmosis product line suitable for high salinity water purification, for example the Baltic sea

- Equipped with the highest quality components
- Robust construction and easy maintenance
- Modern design and quiet operation
- Built and assembled in EU



APRO-HS-2000 reverse osmosis system



## BENEFITS

- Improved water quality
- Extended membrane lifespan
- Low maintenance operation
- Space saving design
- Quiet operation
- Reduced operational costs

## SYSTEM EQUIPMENT

- Various Product sizes ranging 300 – 1500 LPH
- Stainless steel Frame
- Multi Stage Stainless steel 316 Grundfos pump
- MP controller for quality monitoring
- High rejection TFC Membranes
- Panel mounted Glycerin-filled gauges
- Low Pressure Shutoff
- Double Pre-filter
- High Pressure Stainless steel 316 piping
- Low Pressure PVC piping
- Belimo actuated flush valve
- Stainless steel 316 membrane housings
- Antiscalant dosing pumps

## OPTIONAL FEATURES

- Supply pumps and storage vessels
- UF pretreatment
- GSM/GPRS Modem + Remote control





## Standard features of APRO-HS



MODEL	APRO HS 250/500	APRO HS 1000	APRO HS 1500	APRO HS 2000
Permeate Flow, LPH	150/300	600	1000	1500
Membrane Quantity	1/2	4	6	8
Max inlet TDS, ppm	10 000	10 000	10 000	10 000
Flush Valve	Yes	Yes	Yes	Yes

## Specifications of APRO-HS

MODEL	APRO HS 250/500	APRO HS 1000	APRO HS 1500	APRO HS 2000
Reduction of salt content, %	95 - 99			
System recovery, %	25 - 85			
Membrane type	1/2 × 4040	4 × 4040	6 × 4040	8 × 4040
Power consumption, Wt	0.7-1.5 kWt/h per 1 m³ permeat			
Power supply	220 V, 50 Hz			
Dimensions, mm	770 × 620 × 1 525	1 150 × 750 × 1 390	2 170 × 800 × 1 790	
Net weight, kg	102/106	199	211	254
Size (inlet, outlet, concentrate)	1" / 3/4" / 3/4" NPT (PB)			

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# APRO 3000, 4000, 6000 Systems Monoblocks – innovative RO units

STACKABLE REVERSE OSMOSIS WATER PURIFICATION SOLUTION:  
EASILY SCALABLE TO MEET YOUR BUSINESS NEEDS

## Fully automatic large scale Brackish Water RO product line

- Ultra low energy consumption
- Remote control
- Easy settings via APRO Monitor App



APRO-6000 patented



## BENEFITS

- Dual booster and recirculation pumps save up to 50% electricity
- Permeate recovery up to 99%
- Easy maintenance
- Extended membrane lifespan
- Space saving design
- Low cost operation
- Patented high frequency membrane cleaning concentrate discharge

## STANDARD SYSTEM EQUIPMENT

- Fully equipped electric board
- Grundfos pumps (Made in EU)
- MP controller with TDS/flow/pressure monitoring
- 5.5" DIA (Viking) with patented high capacity multistage cartridge
- Modbus
- Dosing pump with level switch

## OPTIONAL FEATURES

- Supply pumps and storage vessels
- GSM/GPRS/Modem
- CIP Tank

APRO TYPE	MAX INLET TDS
APRO Standrad	2 000
APRO (HP) High Pressure	4 000
APRO (HS) High Salinity	8 000



			
MODEL	APRO 3000	APRO 4000	APRO 6000
Operational pressure, bar	7-10		
Permeate Flow, LPH	3 000	4 000	6 000
Membrane Quantity	3	4	6
Membrane size, inch	8 × 40		
Max inlet TDS, ppm	2 000		
Reduction of salt content, %		up to 95	
System recovery, %	up to 98		
Power supply	three-phase 400V, 50Hz		
Dimensions, mm (L×W×H)	3 700 × 840 × 1 160	2 700 × 840 × 1 160	2 700 × 840 × 1 160
Net weight, kg	266	315	389
Size (inlet, outlet, concentrate)	2"/ 1"/ 1"		

### APRO 3000-6000 HP (High Pressure)

MODEL	APRO 3000 HP	APRO 4000 HP	APRO 6000 HP
Operational pressure, bar	12-16		
Membrane Quantity	3	4	6
Membrane size, inch	8 × 40		
Max inlet TDS, ppm	4 000		
Reduction of salt content, %	up to 99		
System recovery, %	up to 95		
Power supply	three-phase 400V, 50Hz		

### APRO 3000-6000 HS (High Salinity)

MODEL	APRO 3000 HS	APRO 4000 HS	APRO 6000 HS
Operational pressure, bar	16-30		
Membrane Quantity	3	4	6
Membrane size, inch	8 × 40		
Max inlet TDS, ppm	8 000		
Reduction of salt content, %	up to 99		
System recovery, %	up to 90		
Power supply	three-phase 400V, 50Hz		

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# Multiarray of monoblocks

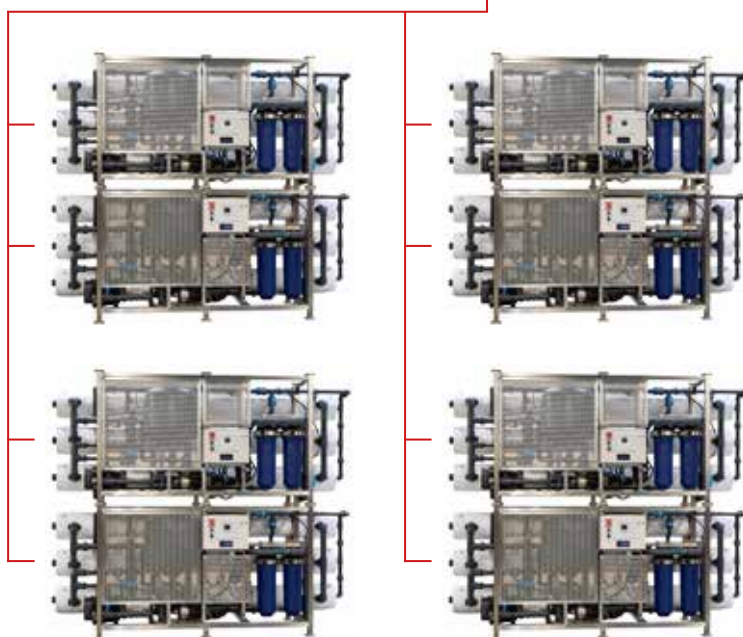
INNOVATIVE PATENTED  
 APRO 12000-50000 LPH MONOBLOCKS

- Mass produced, multipurpose, off-the-shelf inexpensive monoblocks. No need for special design or expensive customization
- Multiarray advantage, minimal needed number of monoblocks is working at any given time
- Water purifier operates always at maximum efficiency
- Turn on the required number of systems, depending on the consumption mode. It saves water and electricity as compared to running a single system of the same capacity
- Redundancy: each monoblock is independently maintained and, if required, serviced
- Management console for monoblocks control
- If a consumer will need additional capacity, more blocks can be added later



MASTER CONTROL BOARD

with touch screen color monitor supports management of up to 8 monoblocks and all kinds of the prefiltration and supply systems.



Monoblocks consist of standard APRO 6000 units



## BENEFITS

- Purified water recovery up to 98%
- Patented high frequency membrane cleaning concentrate discharge
- Low energy consuming *Grundfos* booster and high flow, low energy recirculation pumps (save up to 50%+ of electricity)
- Self-sufficient monoblocks with "slave" controllers and smart master controller (cloud optimization)
- Optional built-in UF pre-filtration
- Extended membrane lifespan
- Space saving design
- Low-cost operation
- Easy maintenance

## STANDARD SYSTEM EQUIPMENT

- *Grundfos* pumps (Made in EU)
- Fully equipped electric board
- MP controller with TDS/flow/pressure monitoring
- 5.5" DIA (Viking) with patented high capacity multistage cartridge
- SS frame
- Modbus
- Antiscalant dosing pump with level switch

## OPTIONAL FEATURES

- Supply pumps and storage tanks
- GSM/GPRS/Modem
- CIP system

## POSSIBLE SYSTEMS CAPACITIES

- 2 monoblocks - 12 000 LPH
  - 3 monoblocks - 18 000 LPH
  - 4 monoblocks - 24 000 LPH
  - 5 monoblocks - 30 000 LPH
  - 6 monoblocks - 36 000 LPH
  - 7 monoblocks - 42 000 LPH
  - 8 monoblocks - 48 000 LPH
- One Master Control board\*

\* Automated software allows to use any number of Master Control boards working

APRO TYPE	MAX INLET TDS
APRO Standrad	2 000
APRO (HP) High Pressure	4 000
APRO (HS) High Salinity	8 000





## Standard APRO

MODEL	STANDARD APRO
Operational pressure, bar	7-10
Permeate Flow per monoblock, LPH	6 000
Membrane Quantity	6
Membrane size, inch	8 × 40
Max inlet TDS, ppm	2 000
Frame material	SS
Reduction of salt content, %	up to 98
System recovery, %	up to 95
Power supply	three-phase 400V, 50Hz
Dimensions, mm	2 800 × 840 × 1 150
Net weight, kg	389
Size (inlet, outlet, concentrate)	2"/ 1"/ 1"

## APRO HP (High Pressure)

MODEL	APRO HP
Operational pressure, bar	12-16
Membrane Quantity	6
Membrane size, inch	8 × 40
Max inlet TDS, ppm	4 000
Reduction of salt content, %	up to 98
System recovery, %	up to 95
Power supply	three-phase 400V, 50Hz

## APRO HS (High Salinity)

MODEL	APRO HS
Operational pressure, bar	16-30
Membrane Quantity	6
Membrane size, inch	8 × 40
Max inlet TDS, ppm	8 000
Reduction of salt content, %	up to 98
System recovery, %	up to 95
Power supply	three-phase 400V, 50Hz

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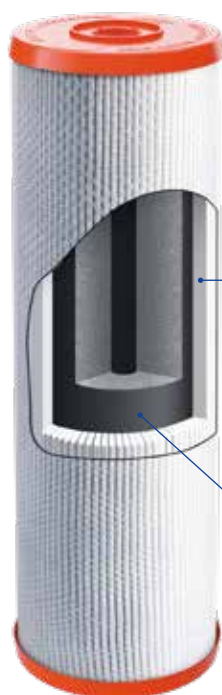
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# Pre-filtration

The filter housing is made of reinforced plastic or optional 316 stainless steel.

Designed for easier installation and maintenance.



Design of B520/B510 Pro series replacement filter cartridges

**Corrugated outer layer** comprises of two layers of different patented microfibrinous composite materials, including AQUALLEN nanofibers.

**Inner layer** is a patented high-capacity composite carbon block. Combined with the outer layer, effectively removes particles of up to 0.5 micron.

*Pre-filter Aquaphor  
VIKING PRO 20"*



*Pre-filter Aquaphor  
GROSS 20"*



*Pre-filter Aquaphor  
VIKING Midi Pro 10"*



*Pre-filter Aquaphor  
GROSS 10"*



## HOUSING BENEFITS

- Glass fiber filled polymer housing
- Excellent resistance to water hammers
- Easy to change filter cartridges
- Pressure relief system

## CARTRIDGE BENEFITS

- High dirt holding capacity
- High flow and low pressure drop
- Chelating AQUALLEN fibers for effective removal of heavy metals and iron
- EFFECTIVELY REMOVES:
  - rust and colloidal iron
  - organic impurities
  - heavy metals
  - active chlorine
  - sand and other insoluble impurities



# Specifications and Performance

				
FEATURES	GROSS 20"	GROSS 10"	VIKING PRO 20"	VIKING MIDI PRO 10"
Housing material	glass fiber filled polymer			
Operating pressure, MPa/bar	0.63 / 6.5			
Operating temperature	+ 5... + 38° C			
Filtration rate , l/min	up to 60			
Dimensions (D × W × C), mm	180 × 260 × 605	180 × 260 × 355	221 × 222 × 606	225 × 279 × 440
Replacement of filter cartridges	filter lifespan depends on a cartridge used			

## Filtration Cartridge Options

Polypropylene, 5 micron	EFG 112/508, 5 micron	EFG 112/250, 5 micron	B520-PP5	-
Polypropylene, 20 micron	EFG 112/508, 20 micron	EFG 112/250, 20 micron	B520-PP20	-
Carbon block	B520-12	B510-12	B520 PRO	B515 PRO

# GENERAL INFORMATION

Materials used in our prefiltration are **safe, non-toxic and do not release any dangerous substances into the water**. The RO system is the most efficient and safe device for desalination purposes.

**NOTE** Our prefiltration is not designed to solve all problems related to water treatment. In some cases, our solutions may require additional pre-treatment.

# Aquaphor S550, S800 and S1000

## WATER SOFTENER

Fully automatic Aquaphor softeners 550, 800 and 1000 provide softened water with exceptionally low salt usage and highly effective iron removal. Aquaphor softeners contain patented high-efficiency Dual Core Valves. Efficient and durable softener tank contains an extra fine mesh of tightly compacted, chlorine resistant ion-exchange resin.



*S550, S800 and S1000 Aquaphor Water Softeners*

### BENEFITS

- 10 years: main parts warranty
- Salt savings up to 60%
- Backwashable quartz sand pre-filtration disc iron removal (up to 15 mg/L, water softening)
- Patented, sturdy two-cylinder head valve with low flow resistance.
- NSF certification
- Fast ion-exchange resin regeneration
- Exceptionally small water usage for regeneration
- Easy installation and set-up. Minimum maintenance requirements

### ADVANTAGES

- Simultaneous removal of iron, manganese and hardness
- Efficient operation even at very low tap pressure
- Optional KDF pre-filtration disc for hydrogen sulfate removal



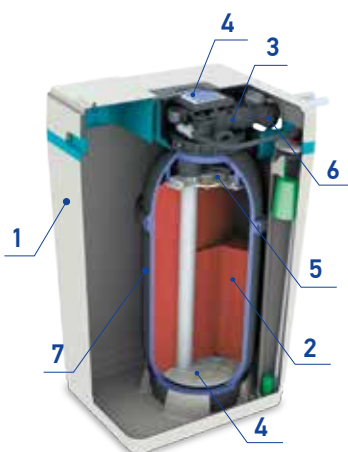


## Water Softener Performance and Specifications

SPECIFICATION	S550	S800	S1000
Maximum Capacity, gram	1 044	1 625	2 061
Maximum Compensated Hardness, mg/l	840	1 200	1 540
Maximum Ferrous Iron Reduction, ppm <sup>1</sup>	10		
Minimum pH, standard units	7		
Water and Ambient Temperature Minimum-Maximum, °C	4° - 49°		
Water Pressure Minimum - Maximum, bar	1.4 - 7		
Maximum Flow Rate to Drain During Regeneration, l/min <sup>2</sup>	7.6		
Service Flow Rate (@1.0 bar) drop, l/min <sup>3</sup>	20.8		
Pressure Drop (@ 22.7 l/min), bar	1		
Capacity in HE mode, kg salt/gram hardness	0.6 / 392	1.0 / 583	1.1 / 680
HE salt saving mode, min/l	17 / 49	23 / 66	24 / 67
Capacity in HC mode, kg salt/gram hardness	1.8 / 821	3 / 1 223	3.8 / 1 846
High capacity HC mode, min/l	23 / 63	30 / 90	33 / 97.3
Maximum capacity in AU mode, kg/g	3.3 / 1 044	> 5.4 / 1 625	> 6.8 / 2 061
AU maximum capacity mode, min/l	30 / 75	44 / 110	50 / 122
Controller Type	Metered		
Regeneration Method	intelligent, by water meter		
Electrical Rating	12VAC, 50/60 Hz, 0.015 kW/hr		
Plumbing Connections (NPT)	1 inch male (MNPT)		
Minimum Drain Line ID, cm	1.6		
Media Tank Size - (ID x Height), cm	26.7 x 27.7	26.7 x 58.4	26.7 x 66
Height, cm	55.4	70.6	79.5
Footprint, cm	32.2 x 43.2	40.4 x 48.5	40.4 x 48.5
Shipping Weight - approx., kg	35	43	48
Media Type / Amount			
Fine Mesh Resin, l	15	23	28
<p><b>For All Models:</b>            Use clean white pellet, cube-style, or solar salt.            Drain Line (Minimum I.D.) 1.6 cm            Brine and Rinse total – 2.8 l/min            Brine Draw – 0.9 l/min            Rinse – 1.9 l/min</p> <p><sup>1</sup> Iron reduction to 0.3 ppm or less.  <sup>2</sup> Flow rate of flow must be verified at the end of the drain line.  <sup>3</sup> Prolonged operation of a water softener at flow rates exceeding 20.8 l/min may compromise performance. Intermittent flow rate must not exceed 35.2 l/min.</p>			

System conforms to NSF/ANSI 44 for the specific performance claims as verified and substantiated by test data.

1. The compact cabinet housing.
2. Tightly packed extra fine ion exchange resin provides nearly total removal of iron, manganese and water hardness.
3. Patented sturdy head valve assures lifetime operation.



4. Controller with a big informative screen.
5. Patented uniform distribution of water throughout the whole sorbent volume.
6. The bypass valve.
7. Extremely high-strength tank from injection-molded glass-filled plastic.

# Nano Purity 1200

ECO-FRIENDLY AND MULTIPURPOSE  
WHOLE-HOME & COMMERCIAL RO STATION

Affordable and practical water purifier for houses, small municipal entities, or local businesses. Fully automatic all-in-one solution that replaces salt-emitting water softeners and cuts maintenance costs.

BUILT & ASSEMBLED IN EU



Nano Purity 1200



## BENEFITS

- Works with any type of tap or artesian well water
- Deals with high levels of hardness and iron
- Prevents scaling and corrosion of household appliances
- Saves up to 50% of energy costs
- Smart permeate recovery up to 95%
- RO water mineralization
- Low-cost operation & maintenance
- User-friendly
- Fully automated

## STANDARD SYSTEM EQUIPMENT

- High rejection low energy membranes
- Grundfos pumps (Made in EU)
- Stainless steel seamless pressure vessels
- Mineralization module
- Fully equipped electrical board
- Feed and permeate conductivity flow pressure control and monitoring
- Built-in water accumulation tank (80 l)
- 5.5" DIA (Viking) with patented high capacity multistage cartridge

## OPTIONAL FEATURES

- Additional storage tank (500/800 l) with supply pump and UV water sterilizer
- GSM/GPRS/Modem
- Rainwater purification



Patented high performance pre-filtration cartridge





MODEL	NANO PURITY 1200
Operational pressure, bar	7-10
Permeate Flow, LPH	1 200
Membrane Quantity	3
Membrane size, inch	4 × 40
Max inlet TDS, ppm	2 000
Reduction of salt content, %	up to 95
System recovery, %	up to 99
Power supply	single-phase 230V, 50Hz
Dimensions, mm (L×W×H)	600 × 800 × 1610
Net weight, kg	202
Accumulation tank	internal, 80 liters
Size (inlet, outlet, concentrate)	1"/¾"/½" NPTF (PB)

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

Materials used in RO systems are **safe, non-toxic and do not release any dangerous substances into the water**. The RO system is the most efficient and safe device for desalination purposes.

**NOTE** The RO system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# Portable all-in-all water purification station APRO 120 UN

A PORTABLE WATER PURIFICATION STATION PROVIDES PREMIUM QUALITY DRINKING WATER UNDER EXTREME CONDITIONS. SUITABLE FOR ANY WATER SOURCE\*.

## APPLICATION EXAMPLES

- Emergency situations with no access to pure water and limited access to electricity
- Floating facility (ship, boathouse, etc.)
- Summer cabins



APRO 120 UN



## BENEFITS

- Patented ultra-low energy consumption technology saves up to 50% of energy and allows any power source: a small solar panel, car battery (with an adapter), electrical network (DC)
- Mineralization module ensures healthy balance of minerals
- Plug & Play

## SYSTEM EQUIPMENT

- Self-priming feed pump with suction piping & washable feed strainer for open water sources
- Automatic disinfection system
- Patented prefiltration cartridge with antiscalant effect (Viking B520-PRO-H)
- Innovative dual-pump reverse osmosis (RO) system
- Permeate mineralization with microfiltration 0.1 micron (K7BM)
- Accumulation tank 80L

\* Except for seawater & water with high oil content



## Standard features of APRO 120 UN

MODEL	APRO 120 UN
Permeate flow, liters/hour	120
Membrane Quantity	2
Membrane type	3013-1000
Prefiltration cartridge	B520-H
Max inlet TDS, ppm	2000
Reduction of salt content, %	Up to 95
System recovery, %	50-75
Input pressure, bar	APRO 120 UN includes a self-priming feed pump & washable feed strainer for open water sources
Power Supply	24VDC (adapter 220/24)
Dimensions (LxWxH), mm	685 × 780 × 925
Net weight, kg	75

## GENERAL INFORMATION

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# Mobile all-in-all water purification station APRO 120-500 IM

MOBILE WATER PURIFICATION STATION DESIGNED FOR PORTABILITY,  
PROVIDES PREMIUM QUALITY DRINKING WATER  
WHENEVER AND WHEREVER YOU NEED IT

## APPLICATION EXAMPLES

- Filling heating systems with purified water
- Solar panel cleaning
- Professional window washing



APRO 120 IM



## BENEFITS

- Patented ultra-low energy consumption technology saves up to 50% of energy
- Mobile and low weight
- Easy maintenance
- Low-cost operation
- Plug & Play
- Fully automatic

## SYSTEM EQUIPMENT

- Patented prefiltration cartridge with antiscalant effect (Viking PRO-H)
- Low energy recirculation system
- Accumulation tank 18L



## Standard features of APRO 120-500 IM

MODEL	APRO 120 IM	APRO 300 IM	APRO 500 IM
Operational pressure max., bar	7-9		
Permeate Flow, LPH	120	300	500
Membrane Quantity	2	2	2
Membrane type	3013-1000	4 x 21	4 x 40
Prefiltration cartridge	B520-H		
Max inlet TDS, ppm	2000		
Reduction of salt content, %	90-95		
System recovery, %	75-99		
Power supply	24VDC (adapter 220/24)	230V, 50 Hz	230V, 50 Hz
Size (inlet, outlet, concentrate)	1/2" 1/2" 3/4" NW		

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

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# APRO-100-DI and APRO-500-DI

APRO-100-DI AND APRO-500-DI WATER DEIONIZATION  
SYSTEMS SAFELY PRODUCE ULTRAPURE WATER

- Fully automated Aquaphor APRO-100-DI and APRO-500-DI RO systems with an advanced drainage system provide steady, reliable ultrapure water supply



APRO-500-DI



## USER BENEFITS

- Robust space-saving compact Cabinet design
- Continuous access to high-quality deionized water supply
- Versatile and easy to operate — a built-in Wi-Fi module allows users to connect to the Aquaphor APRO mobile app
- Suitable for research facilities
- Wide variety of applications
- Fully equipped electric board

## SYSTEM APRO-500-DI

### Standard Equipment

- Grundfos main and dosing pumps
- Fully equipped electric board
- 4.5" (BB) / 5.5" DIA (Viking) with patented high capacity multistage cartridge
- Stainless steel seamless pressure vessels
- Remote control
- Easy settings via APRO Monitor App
- Modbus
- MP controller with TDS/flow/pressure monitoring
- Build in tank with mixed bed ion exchange resin

### Additional Equipment

- Antiscalants
- Water softeners Aquaphor S800 / S1000
- Submersible water sterilizer

## SYSTEM APRO-100-DI

- Grundfos pumps
- Fully equipped electric board
- 4.5" (BB) with patented high capacity multistage cartridge
- TDS monitoring
- Build in tank with mixed bed ion exchange resin
- Build in storage tank





MODEL	APRO-100-DI	APRO-500-DI
Permeate capacity, LPH	100	500
Permeate accumulation tank volume, liters	100	560
Supply pump flow	max 3 000 LPH	max 3 000 LPH
Supply pressure	max 4 bars	max 4 bars
Mixed bed ion-exchange resin volume, liters	18	50
cabinet dimensions, mm	600 × 800 × 1600	600 × 800 × 1600
Accumulation tank, mm	build-in (100l)	1000 × 750 × 1500 (560l)
Power supply	230 V, 50 hz	230 V, 50 hz
Connection Sizing (inlet, outlet, drainage)	1" / ½" / ½" NPTF	1" / ½" / ½" NPTF

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

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**NOTE** The RO system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# Ocean water desalination station with automatic build-in backwash AP-UF-RO SW 1000 LPH

PRE-DESIGNED COMPACT, COST-EFFECTIVE, AND ROBUST SYSTEM  
FOR THE ON-SHORE SEAWATER DESALINATION

A feature-rich and technically superior unit, with extremely low maintenance cost, suitable for remote locations, provides the customer with cost-effective and reliable water desalination for a variety of applications.



AP-UF-RO SW 1000 LPH



## KEY ADVANTAGES

- Fully automatic
- Plug&Play
- Ultralow energy consumption
- Super Duplex stainless steel high-pressure piping
- Low maintenance cost
- High-quality components
- Digital monitoring of all parameters
- Long lifespan of membranes

## MAIN EQUIPMENT

- Screen filter with automatic backwash (250 µm)
- Fully automatic seawater ultrafiltration (0.001 µm)
- Filtered water tank
- Antiscalant dosing station
- RO desalination system
- CIP (clean-in-place)
- Touchscreen controller
- System's pump VFD control
- GSM module

## OPTIONAL EQUIPMENT

- Product water storage tank
- Chlorination skid
- Delivery pumps



Standard feauters of AP-UF-RO SW 1000 LPH

MODEL		AP-UF-RO SW 1000 LPH
Product flow,	liters/hour	1000
	gallon/hour	264
Raw water salinity (TDS), mg/l		<40,000
Operating pressure, bar		40-50
Salts reduction, %		<95
System recovery, %		~30
Power supply, V		400
Power frequency, Hz		50/60
Energy consumption, kWh/m <sup>3</sup>		5-6

GENERAL  
INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

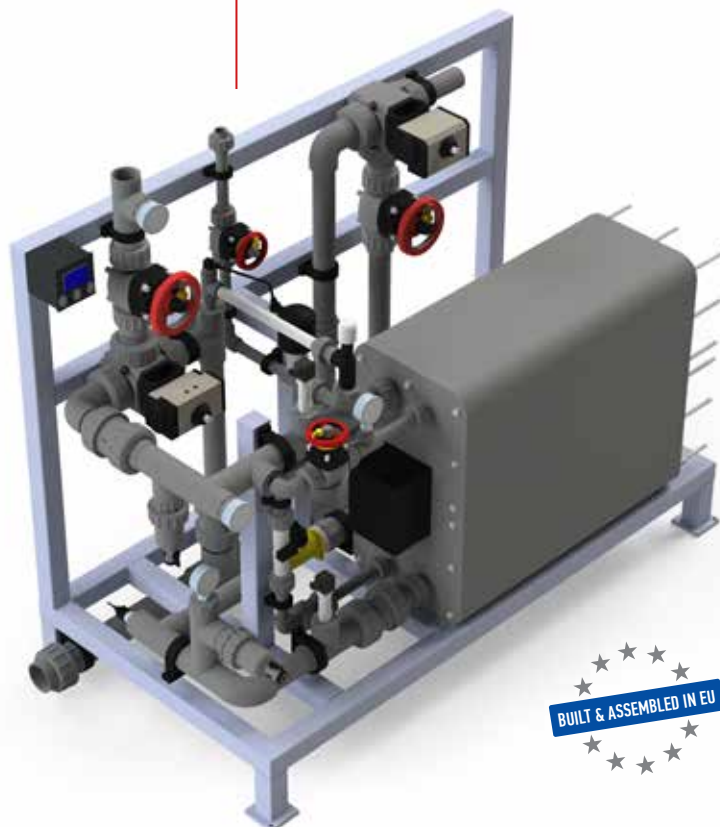
Materials used in RO systems are **safe, non-toxic and do not release any dangerous substances into the water**. The RO system is the most efficient and safe device for desalination purposes.

**NOTE** The RO system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# Electrodeionization system AP-EDI

ELECTRODEIONIZATION SYSTEM IS A CHEMICAL-FREE SYSTEM  
PROVIDING ULTRAPURE WATER AT LOW-COST OPERATION

Control Panel



AP-EDI system



## BENEFITS

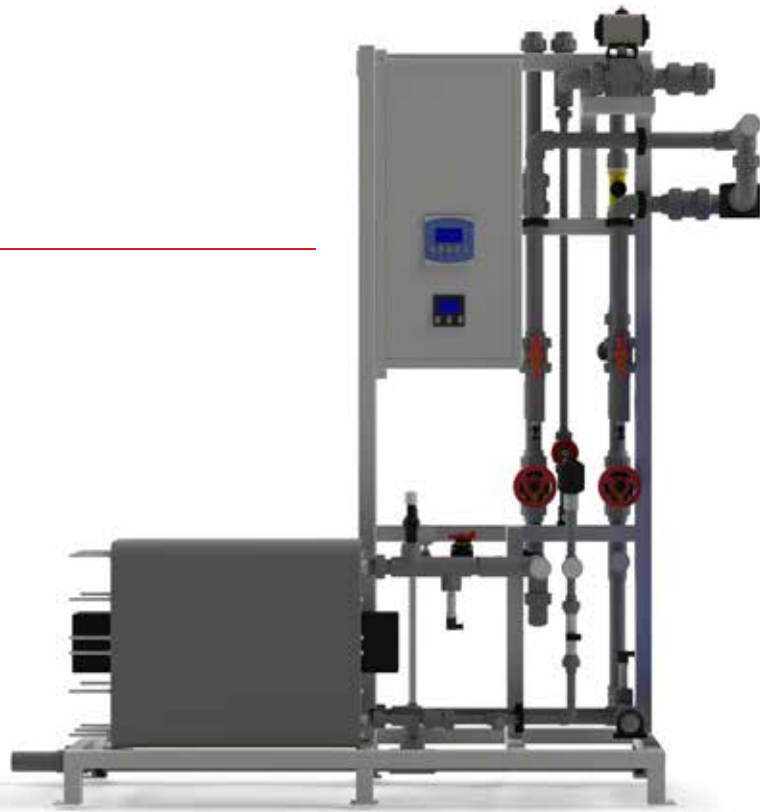
- No dangerous waste
- No chemicals regeneration
- Easy and stable operation
- Space saving design
- Skid Mounted
- High water recovery
- Factory Tested

## STANDARD SYSTEM EQUIPMENT

- EDI modules
- Integral Power supply
- Parameters monitoring
- Control panel with PLC
- Equipped with wires and pipes connections
- Stainless Steel Frame



Control Panel



### Feed water requirements\*

Feed Water Source	RO Permeate
Feed Water Conductivity / Equivalent including CO <sub>2</sub>	< 40 µS/cm
Silica (SiO <sub>2</sub> )	< 1 ppm
Iron, Mn, H <sub>2</sub>	< 0.01 ppm
Total Chlorine (as Cl <sub>2</sub> )	< 0.02 ppm
Hardness (as CaCO <sub>3</sub> )	< 1.0 ppm
Dissolved Organics (TOC) (as C)	< 0.5 ppm
Operating pH Range	4 - 11

*\* If any of the feed water parameters are not within the limits marked, consult Aquaphor Professional*

### Standard features of AP-EDI

MODEL	AP-EDI 1000	AP-EDI 3000	AP-EDI 5000
Product flow, LPH	1 000	3 000	5 000
Product quality, MΩ-cm	>10		
Nominal recovery, %	up to 95		
Inlet pressure, bar	2.5-5		
Power supply	single-phase 230V, 50Hz	three-phase 400V, 50Hz	three-phase 400V, 50Hz

## GENERAL INFORMATION

Materials used in AP-EDI systems are **safe, non-toxic and do not release any dangerous substances into the water.**

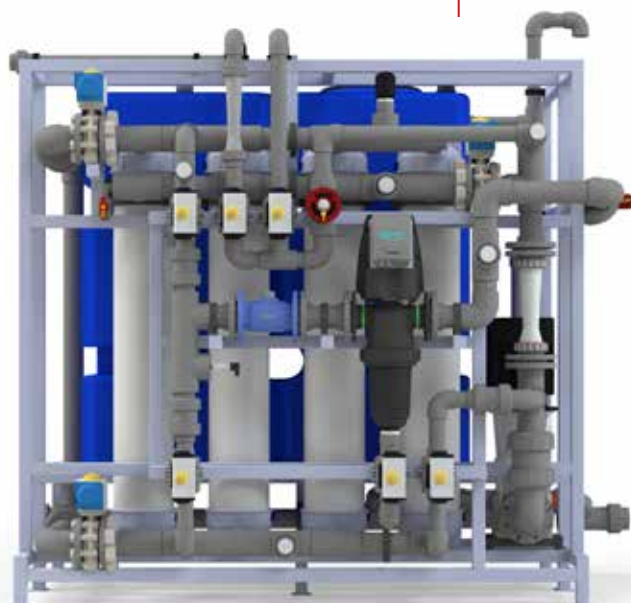
**NOTE** The AP-EDI system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# Ultrafiltration systems AP-UF

UF ULTRAFILTRATION SYSTEMS REMOVE PARTICLES AS SMALL AS 0.01 MICRON, AND PROVIDE PURIFIED WATER WITH NO SUSPENDED SOLIDS, FREE OF MICROBIAL CONTAMINATION

Hollow fiber ultrafiltration membranes provide sterilized water where bacteria, parasites and viruses are safely removed — even with fluctuating water quality, as can occur after heavy rainfall. The quality of the filtrate remains consistently good! In potable water treatment, the filtration process is ideally used before final disinfection.

In regular cycles, back washes are performed to prevent blockages in the modules. Cleaning is supported by the addition of chemicals, where necessary, and adapted to the raw water quality present.



AP-UF system



## BENEFITS

- High retention rates for bacteria (99.9999%) and viruses (99.99%)
- Low-cost operation
- Easy maintenance
- Space and energy saving design
- Fully automatic with PLC and user-friendly interface
- Electronical records of events

ULTRAFILTRATION SYSTEMS ARE APPLICABLE FOR USE WITH THE FOLLOWING FEED WATER PARAMETERS:

- pH range 3.0 ... 12.0
- Free chlorine < 1.2 mg/l
- Turbidity 0.5 ... 30 NTU
- DOC 0.5 ... 12 mg/l
- Suspended solids 50 mg/l







### Standard features of AP-UF\*

MODEL	AP-UF 5000	AP-UF 20000
Filtration capacity, m <sup>3</sup> /h	2-6	12-25
Membrane Quantity	1	4
Membrane surface, m <sup>2</sup>	60	4 × 60
Membrane material	Modified PES	
Nominal pore size, µm	0.02	
MWCO, kD	100-150	
Fiber OD/ID	4.0/0.9 mm	
Power Supply	three-phase 400V, 50Hz	

\* Filter performance depends on the water quality

## GENERAL INFORMATION

The **ultrafiltration systems** by Aquaphor Professional are manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

Materials used in ultrafiltration systems are **safe, non-toxic and do not release any dangerous substances into the water**. The ultrafiltration system is the most efficient and safe device for desalination purposes.

**NOTE** The ultrafiltration system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# AP-UF-R0 systems

ULTRAFILTRATION PRETREATMENT STAGE COMBINED WITH  
APRO SYSTEM AS A SINGLE SKID "PLUG&PLAY" UNIT.

SUITABLE FOR ALL TYPES OF FEED WATER,  
INCLUDING SEA WATER

The ultrafiltration pretreatment stage increases the RO system efficiency and permeate water quality in terms of microbiological contaminant removal ensuring constant high-quality product water supply to the client.

The AP-UF microbiological removal capabilities ensure that the RO feed water is sanitized, and that fact reduce the possibility of contamination formation on the RO membrane surface.



## BENEFITS

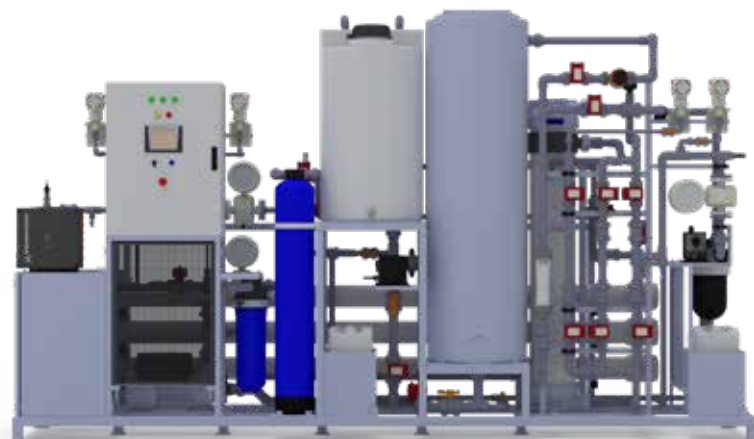
- Improved water quality
- Extended membrane lifespan
- Low-cost operation
- Easy maintenance
- Space saving design
- Low energy consumption booster pump and high flow, low energy recirculation pump



AP-UF-R0 system

AP-R0-UF TYPE	MAX INLET TDS
AP-R0-UF Standrad	2 000
AP-R0-UF (HP) High Pressure	4 000
AP-R0-UF (HS) High Salinity	8 000
AP-R0-UF (SW) Sea Water	45 000





AP-UF-RO (SW) Sea Water

MODEL	STANDARD AP-UF-RO
Operational pressure, bar	7-10
Permeate Flow, LPH	1 000 - 15 000
Max inlet TDS, ppm	2 000
Reduction of salt content, %	up to 95
System recovery, %	up to 98
Power supply	three-phase 400V, 50Hz

### AP-UF-RO HP (High Pressure)

MODEL	AP-UF-RO HP
Operational pressure, bar	12-16
Permeate Flow, LPH	1 000 - 15 000
Max inlet TDS, ppm	4 000
Reduction of salt content, %	up to 99
System recovery, %	up to 95
Power supply	three-phase 400V, 50Hz

### AP-UF-RO HS (High Salinity)

MODEL	AP-UF-RO HS
Operational pressure, bar	16-30
Permeate Flow, LPH	1 000 - 15 000
Max inlet TDS, ppm	8 000
Reduction of salt content, %	up to 99
System recovery, %	up to 90
Power supply	three-phase 400V, 50Hz

### AP-UF-RO SW (Sea Water)

MODEL	AP-UF-RO SW
Operational pressure, bar	35-50
Permeate Flow, LPH	1 000 - 5 000
Max inlet TDS, ppm	45 000
Reduction of salt content, %	up to 95
System recovery, %	up to 60
Power supply	three-phase 400V, 50Hz

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is **designed to remove the organic impurities and reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

# Containerized (Plug&Play) water (PW, UPW) purification system

FULL CONTAINERIZED WATER TREATMENT SYSTEMS  
FOR VARIOUS APPLICATIONS

High-end technology, full redundancy,  
water and energy saving design.



## KEY FEATURES

- Intelligent automatic operation
- Automatic Cleaning In Place program
- The containerized systems can be suited to almost any water inlet quality, with PW, UPW permeate quality
- The containerized systems are a complete unit for water production at almost any required capacity
- Easy Maintenance
- Low-Cost Operation

## THE CONTAINER INCLUDES

- Full dosing stations
- Ultrafiltration pretreatment systems
- Reverse Osmosis systems — Double pass
- Fully analytical controllers and processes (PLC + HMI)
- EDI units
- Mixed bed resin tanks
- Main control and power cabinets





# Containerized drinking water purification plant

The stand-alone drinking water production at any spot in the world, no matter what is the quality of the incoming water. With 13 consecutive purification stages, this mobile solution represents all the processes performed at a drinking water plant, providing safe, soft, and healthy to drink water.

User-friendly plug-and-play installation with minimized maintenance costs. Operated without professional support. It can be equipped with a solar panel and satellite connection. Remote control through encrypted internet traffic allows the monitoring of all system indicators from anywhere in the world.



## A detailed description of water purification stages

The multistage water purification stages inside the AQUAPHOR mobile purification plant includes:

- Submersible screen filter with the high-efficiency built-in suction pump and automatically backwashable 1 mm prefilter. Up to 20 meters of height difference between the submersible filter and the containerized system.
- Flocculation stage with the automatic computer-controlled Grundfos dosing station
- Hydrocyclone for filtering out large particulates
- Sedimentation tank with the automatic electrochlorination\* and filtering out fine precipitate
- Automatical backwashable 200 microns screen filter
- Activated carbon with silver to remove active chlorine and organics.
- 5 microns polypropylene melt-blown cartridge filtration stage
- Reverse osmosis 2000 LPH (liter per hour) with the automatic chemical CIP (clean in place)\*\* and automatic antiscalant dosing station
- Remineralization
- Permeate collection station (800 L) with the automatic chlorination
- Automatic ultraviolet recirculation
- 2 automatic filling stations for water (25L containers)



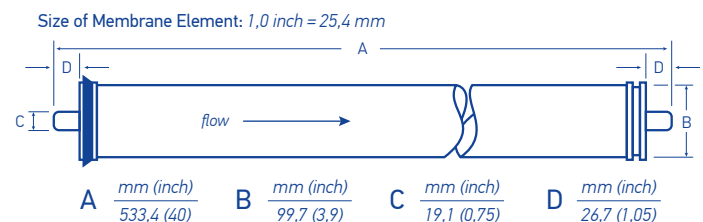
# Aquaphor Professional RO Membrane Elements (XLP, LP series)

LP (low pressure) series of aromatic polyamide compound membrane elements has the following properties of low-pressure operation, high permeate flow and excellent desalination and is applicable to desalination of brackish water. Besides, it is particularly applicable to fabrication of high-purity water for the electronics industry and the electric power industry owing to its excellent performance in removing soluble salts, TOC, SiO<sub>2</sub>, etc.

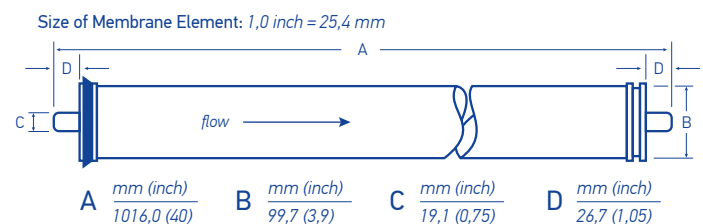
XLP series of extremely low pressure aromatic polyamide compound membrane element can work under ultra low pressure to reach as high permeate flow and salt rejection as regular low-pressure membrane element can, and is applicable to desalination of surface water and underground water. It operates under approximately half the operating pressure of regular low-pressure composite membrane, and achieves a salt rejection rate of up to 98%, which can decrease the investment costs for such relevant facilities as pump, piping, and container, etc. and the operating cost for the RO system, thus increasing the economic efficiency.



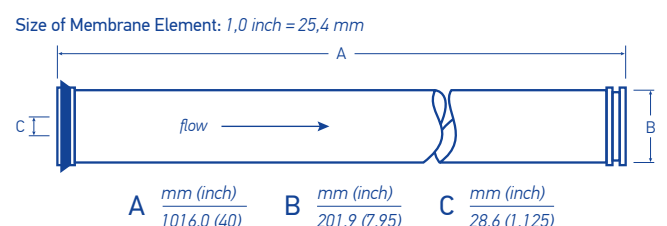
LP21-4021



LP21-4040



LP22-8040



MODEL	LP-4021	LP-4040	LP-8040	XLP-4021	XLP-4040	XLP-8040
Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	36 (3.3)	90 (8.4)	400 (37.2)	36 (3.3)	90 (8.4)	400 (37.2)
Average Permeate GPD, (m <sup>3</sup> /d)	950 (3.6)	2 400 (9.1)	10500 (39.7)	1 000 (3.78)	2 000 (7.6)	12 100 (45.7)
Stable Rejection Rate, %	99.5			98		
Min. Rejection Rate, %	99.3			97.5		

## Testing Conditions

Testing Pressure	225 psi (1,55 MPa)
Testing Solution Temperature	25 °C
Concentration of Testing Solution (NaCl)	2 000 ppm
pH value of Testing Solution	7,5
Recovery Rate of Single Element	15%

## Operation Limits & Conditions

Max. Working Pressure	600 psi (4,14 MPa)
Max. Volume of Feed water	75 gpm (17 m <sup>3</sup> /h)
Max. Temperature of Feed water	45°C
Max. Feed water SDI <sub>15</sub>	5
pH Range of Feed water during Continuous Operation	2 ≈ 11
pH Range of Feed Water during Chemical Cleaning	1 ≈ 13
Residual Chlorine Concentration of Feed Water	< 0,1 ppm
Max. Pressure Drop of Single Membrane Element	15 psi (0,1 MPa)
Max. Pressure Drop of Single Pressure Vessel with Six RO Membranes	50 psi (0,34 MPa)

## NOTICE

1. All data and information provided in this manual have been obtained from long-term experiments by the manufacturer. We confirm the effectiveness and accuracy of the data provided. The manufacturer assumes no liability for any aftermath caused by the user's failure to abide by the conditions specified in this manual regarding the use and maintenance of membrane products. It is strongly recommended that the user strictly follows the designed use and maintenance requirements and keeps relevant records.
2. The permeate value listed in the table is an average value. The permeate flow of a single membrane element has a tolerance not exceeding ±15% of the nominal value.
3. All wet-type membrane elements have been strictly tested before leaving the factory and have been treated with 1.0% sodium hydrogen sulfite (10% glycerin antifreeze required in winter) for storage purposes and then sealed in a plastic vacuum bag, and further packed in cardboard boxes.
4. The membrane used should remain wet after its use; In long term suspensions, to prevent the breeding of microbes, soaking the membrane elements with a protective solution is highly recommended, the solution (prepared with RO filtered water) contains 1.0% sodium hydrogen sulfite (foodstuff-purpose).
5. Operate low pressure flushing for 15-25 minutes during the initial use, high pressure flushing for 60-90 minutes when first using (permeate volume no less than 50% of the designed volume). Discard all permeate and condensed water produced during the first one hour after system start-up.
6. During storage and operation, it is strictly prohibited to add any chemical medicament that may be harmful to the membrane elements. In case of any violation in the addition of the chemical medicament, manufacturer assumes no liability for any damages incurred.
7. Along with technical development and product renovation, all information will be subject to modification without prior notification.





# APRO-HC systems

APRO-HC SYSTEMS PROVIDE A CONSISTENT PRODUCTION OF LARGE VOLUMES OF HIGH-QUALITY WATER FOR LARGE SCALE MUNICIPAL AND INDUSTRIAL APPLICATIONS

## APRO-HC Reverse Osmosis product line for consumers with large pure water consumption requirements

- Equipped with the highest quality components
- Robust construction and easy maintenance
- Modern design and quiet operation
- Built and assembled in EU

### BENEFITS

- Improved water quality
- Extended membrane lifespan
- Low maintenance operation
- Space saving design
- Quiet operation
- Reduced operational costs

### OPTIONAL FEATURES

- Supply pumps and storage vessels
- Integrated *ABB* PLC and colour touch screen display with remote control kit
- UF pretreatment
- *Nalco* antiscalant



### SYSTEM EQUIPMENT

- Various Product sizes ranging 3000-20000 LPH
- Stainless steel frame and equipment panel
- Stainless steel 316 high pressure piping
- 5 micron pre-filtration
- Energy saving *GE* AK-series brackish water high rejection membranes
- Multi-stage centrifugal stainless steel 316 pump
- Fully equipped electric board with pump protection and soft starter
- Clean-in-Place integrated system
- *Grundfos* DDE antiscalant dosing pumps
- 100 liter PE antiscalant tank
- FRP side port membrane housings
- Motorized feed valve, product drain valve and flush valve
- Stainless steel 316 regulation valves
- MP controller for quality monitoring
- High pressure shutoff
- Double low pressure shutoff
- Permeate conductivity SS 316 sensor
- RAW-water pump control relay
- Permeate tank level monitoring
- Alarms: low inlet pressure, low feed pressure, high permeate conductivity, motor fault, high concentrate pressure
- Antiscalant



APRO-HC-12000 reverse osmosis system





reverse osmosis system  
APRO-HC-9000



reverse osmosis system  
APRO-HC-6000

## Standard features of APRO HC 3000-20000

MODEL	APRO HC 9000	APRO HC 12000	APRO HC 15000	APRO HC 20000
Membrane size, inch	8 × 40			
Salt rejection, %	98-99,5			
Recovery rate, %	50-95			
Membrane Quantity	9	12	15	20
Permeate Flow, LPH	9 000	12 000	15 000	20 000
Max inlet TDS, ppm	6 000			
Power supply	380V, 50Hz			
Flush Valve	Yes			
Pre-Filter Quantity	7 × RO.Z 0540	14 × RO.Z 0540	14 × RO.Z 0540	14 × RO.Z 0540
Dimensions, mm	3840 × 1830 × 1400	3920 × 1870 × 1400	5730 × 1870 × 1400	5730 × 1870 × 1400

## GENERAL INFORMATION

The **reverse osmosis systems** by Aquaphor Professional is manufactured by "Aquaphor International OÜ" (Estonia, EU). The RO system is designed to **remove the organic impurities** and **reduce the total salt content** of water from municipal and local water supply systems (borehole, brackish or sea water) in accordance with the requirements.

Materials used in RO systems are **safe, non-toxic and do not release any dangerous substances into the water**. The RO system is the most efficient and safe device for desalination purposes.

**NOTE** The RO system is not designed to solve all problems related to water treatment. For proper operation it may require additional water pre-treatment.

# R0 water supply

A CONVENIENT SUPPLY OF PURIFIED WATER  
WITH A BIG ACCUMULATION TANK AND  
BUILT-IN SYSTEM PROTECTION



*R0 water supply*



## BENEFITS

- Permanent supply of purified water
- Large water reservoir
- UV module ensures water is always clean & not contaminated

## SYSTEM EQUIPMENT

- Water accumulation tank (560/780l)
- Supply pump with pressure control
- UV module
- Low water level switch
- High-level float switch
- Pump overload protection





We provide expertise and solutions for medical, pharmaceutical, electronics, food and other commercial applications. Aquaphor Professional's product lines include RO systems, Ultrafiltration and Water Softeners.