

Reverse Osmose

Capaciteit 250 - 1250 l/h

Brackish water RO systems

Stand-type unit for desalination of softened brackish water (TDS < 5000 mg/l, free chlorine not detectable), operating on the principle of reverse osmosis.

With RO 1000 microprocessor control system.



Centaurusweg 148-02 5015 TA TILBURG
T. +31 (0)13 533 44 69 E. geon@geonwater.nl

www.geonwater.nl

BW serie

Unit design

Stainless steel main frame.

Special inlet filter with 5 µm-filter cartridge, stainless steel **high pressure pump** low noise, multi-stage centrifugal type, **low energy spirally wound modules** with energy efficient PA/PS composite membranes in GRP vessels with inliner.

Valves such as sampling valves for feed water and permeate (for each pressure vessel), inlet solenoid valve, valves made of stainless steel to regulate the flow rate of permeate, concentrate and concentrate recirculation.

Pressure gauges for inlet and outlet pressure pre-filter, pump pressure, operating pressure and concentrate pressure, pressure switch for monitoring the feed water pressure.

Flow meters for permeate and concentrate flow rate.

Permeate **conductivity measurement**, temperature compensated, measuring range 2-200 µS/cm.

Control cabinet with lockable main switch, electrical switchgear with soft-starter for control of the high pressure pump.

Unit is completely wired, pre-assembled and ready for installation. Electrical equipment in accordance with VDE 0100 part 600, VDE part 1.

Technical Data		UO 250 BW	UO 500 BW	UO 750 BW	UO 1000 BW	UO 1250 BW
Permeate flow rate	l/h	250	500	750	1,000	1,250
Min. salt rejection	%	97	97	97	97	97
Recovery	%	50	50	50	50	50
Operating pressure	bar	15	15	15	15	15
Membrane element / number		4040/1	4040/2	4040/3	4040/4	4040/5
Voltage	V/Hz	3 x 400/50	3 x 400/50	3 x 400/50	3 x 400/50	3 x 400/50
Motor power	kW	2.2	2.2	2.2	2.2	2.2
Pre-fusing	A	16	16	16	16	16
Feedwater connection	DN	20	20	20	20	20
Permeate/concentrate connection	DN	20	20	20	20	20
Conductivity range	µS/cm	20 – 2,000	20 – 2,000	20 – 2,000	20 – 2,000	20 – 2,000
Min/max feedwater pressure	bar	2/6	2/6	2/6	2/6	2/6
Min/max feedwater temperature	°C	5/35	5/35	5/35	5/35	5/35
Max ambient temperature	°C	40	40	40	40	40
pH		3 – 11	3 – 11	3 – 11	3 – 11	3 – 11
Height	mm	1,650	1,650	1,650	1,650	1,650
Width	mm	660	660	660	660	660
Depth	mm	690	690	690	690	690
Weight approx	ca. kg	115	135	155	175	195

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RO 1000 microprocessor control system for fully automated monitoring and control of the reverse osmosis unit with **two-line LCD** (16 characters per line) and process-visualisation of

Operating data: permeate conductivity (temperature-corrected), permeate temperature, operating hours,

Malfunction signals: low pressure, hard water, motor overload, high conductivity pre-alarm, high conductivity fault, status signals: permeate discard, permeate recycling, concentrate displacement, concentrate rinse, intermittent rinse during shut-down, shut-down by external signal (forced stop, regeneration), LEDs for operation, malfunction, regeneration, discard, disinfection and full tank.

Inputs (low voltage) for level control with 1 or 2 float switches, hardness monitoring unit (the RO 1000 control system includes control functions for the limitron hardness monitoring unit), shut-downs by external signal (forced stop, regeneration), 2 universal inputs,

Outputs for softening unit (230V/50Hz), 2 solenoid valves for concentrate rinse, permeate discard and recirculation, universal output, analogue output conductivity permeate (4-20 mA) and DDC (collective malfunction signal on floating changeover contact). The units are designed for a maximum TDS of 5,000 mg/l, a water temperature of 15°C, a maximum colloidal index of 3 and free permeate outlet. Under these conditions, the units still reach design permeate flow after three years of operation. The permeate recovery depends on the raw water quality and the type of pre-treatment.

Permeate flushing unit as an option available.

