RO 1000
Controller

Picture: UO 650 SW

Reverse Osmosis Units Series UO 650 - 2500 SW

For desalination of hardness stabilized seawater operating on the principle of reverse osmosis for total salt content up to 45,000 mg/l at 25°C. Capacity 15 - 60 m³ / day.

With controller RO 1000.

Reverse Osmosis Units with controller RO 1000

Series UO 650 - 2500 SW

Unit design

Stainless steel main frame corrosion protected.

Special inlet filter with 10 µm- filter cartridges,

High pressure piston-pump with flexible pressure-hose and overpressure-assembly for fail-safety,

Seawater-spirally wound module(s) with energy-efficient PA/PS composite membrane in GRP vessel with inliner.

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

Pressure switch for pump feed pressure, pressure gauges for inlet and outlet pressure pre-filters, pump pressure, operating pressure and concentrate pressure.

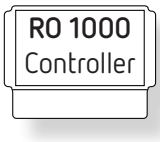
Flow meters for permeate and concentrate.

Conductivity measurement permeate with temperature compensation.

Flushing Device for automated cyclic flushing of the unit with permeate, consisting of permeate tank and pump, integrated injection point post-chlorination (option).

Control cabinet with lockable main switch, electrical switchgear for control of the RO-unit.

Unit completely wired and pre-assembled and ready for installation. Electrical equipment in accordance with VDE 0100 part 600, VDE 0113 part 1.



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 prealarm, 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 45.000 mg/l, a water temperature of 25°C, a maximum colloidal index of 3 and free permeate outlet. Under these conditions, the units still reach design permeate flow after one year of operation. The permeate recovery depends on the raw water quality and the type of pre-treatment.

Technical data		**UO 650 SW**	**UO 850 SW**	**UO 2500 SW**
Permeate flow rate max	l/h	650	850	2.500
Salt rejection rate	%	98.5	98.5	98.5
Recovery min. (at 45,000 mg/l) *	%	25	25	33
Operating pressure max	bar	65	65	65
Membrane element/number		8040/1	8040/2	8040/4
Voltage	V/Hz	3 x 400/50	3 x 400/50	3 x 400/50
Motor power	kW	5.5	7.5	22.0
Feed water connection	DN	25	25	40
Permeate connection	DN	20	20	32
Concentrate connection	DN	25	25	40
Feed water pressure min/max	bar	2/6	2/6	2/6
Feed water temperature min/max	°C	5/35	5/35	5/35
Max. ambient temperature	°C	40	40	40
Height	mm	1,900	1,900	1,900
Width	mm	2,250	2,850	5,800
Depth	mm	840	840	1,000
Weight approx.	kg	400	400	900
Item No.		384 001	384 011	384 021
* Higher recovery is possible for lower salt content.				