

RO 1000
Controller



picture: UO-ED 340

Reverse Osmosis Units Series UO-ED 30 - 850

For desalination of softened drinking water according to German drinking water regulations (free chlorine not detectable).

With controller RO 1000.

Counter Pressure Unit designed for **supply of permeate under pressure up to 7 bar.**

Direct supply of several users (e.g. humidifiers) requiring pure water randomly.
Permeate recirculation already included.

Reverse Osmosis Units with controller RO 1000

Series UO-ED 30 - 850

Unit design

Stainless steel base frame with plastic front panel.

Special inlet filter with 5 µm-filter cartridge and 2 pressure gauges,

high pressure pump as rotary vane type up to UO-ED 90, beginning from UO-ED 170 as low-noise multi-stage centrifugal type.

low energy wound module(s) with energy saving PA/PS composite membranes in GRP pressure vessels with inliner.

Valves such as sampling valves for feed water, inlet solenoid valve, stainless steel valves to regulate the flow rate of permeate and concentrate.

Pressure switches for pump feed pressure and permeate pressure, pressure gauges for pump pressure, concentrate pressure and permeate pressure.

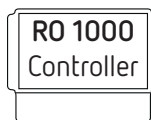
Flow meters for permeate and concentrate.

Solenoid valves for internal permeate recirculation or permeate supply.

Diaphragm pressure vessel for permeate.

Electrical switch gear for control of the high pressure pump, lockable main switch. Connecting cable (3 m) with 16 A - 6 h CEE three-pole plug up to UO-ED 90, beginning from UO-ED 170 five-pole plug.

Unit completely wired and pre-assembled, 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) 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 unit is designed for a maximum TDS of 1,000 mg/l, a water temperature of 15°C, a maximum colloidal index of 3 and permeate back pressure. Under these conditions, the unit still reaches the designed permeate flow after three years of operation. The permeate recovery depends on the raw water quality and the type of pre-treatment.

Technical Data	UO-ED	30	90	170	340	500	660	850
Permeate flow rate at ...								
... 7 bar backpressure	l/h	30	90	170	340	500	660	850
... 4 bar backpressure	l/h	48	140	290	580	800	1,000	1,180
Min. salt rejection	%	97	97	97	97	97	97	97
Recovery	%	80	80	80	80	80	80	80
Operating pressure	bar	12 - 14	12 - 14	13 - 15	13 - 15	13 - 15	13 - 15	14 - 16
Permeate backpressure max.	bar	7	7	7	7	7	7	7
Membrane element / number		2540 / 1	4040 / 1	4040 / 1	4040 / 2	4040 / 3	4040 / 4	8040 / 1
Voltage	V/Hz	230/50	230/50	3x400/50	3x400/50	3x400/50	3x400/50	3x400/50
Motor power	kW	0,25	0,55	2,2	2,2	2,2	2,2	4,0
Feed water connection	DN	20	20	20	20	20	25	25
Height	mm	1,640	1,640	1,640	1,640	1,640	1,640	1,850
Width	mm	600	600	600	600	890	930	600
Depth	mm	660	660	800	800	800	800	1.030
Weight approx.	kg	90	120	140	180	220	260	300
Item no.		380 570	380 571	380 572	380 573	380 574	380 575	380 576
Pre-fusing 16 A, Connection of permeate/concentrate DN 15/15, Conductivity range 2 - 200 µS/cm, Feed water pressure min./max. 2/6 bar, Feed water temperature min./max. 5/35 °C, Ambient temperature max. 40 °C, pH 3 -11								