

RO 5000
Controller



picture: UO 1500 ND/P

Reverse Osmosis Units Series UO 600 – 2000 ND/P

For desalination of softened drinking water according to German drinking water regulations.
With controller RO 5000.

Permeate-staged RO System with 2nd permeate stage for treating the permeate of the first stage once again. Thereby a **very high quality of permeate** is achieved.

Reverse Osmosis Units with controller RO 5000

Series UO 600 – 2000 ND/P

Unit design

Stainless steel base frame with plastic front panel.

Special inlet filter with 5 µm-filter cartridge,

2 high pressure pumps, low-noise, multi-stage centrifugal type,

low energy spirally wound modules 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 of permeate and concentrate.

Pressure switches for pump feed pressure, pressure gauges for inlet and outlet pressure pre-filter, pump pressure, operating and concentrate pressure.

Flow meters for permeate and concentrate.

Conductivity measurement permeate, temperature compensated, measuring ranges 2-200 µS/cm (1. stage) and 0,5-50 µS/cm (2. stage).

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

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

The units are designed for a maximum TDS of 1,000 mg/l, a water temperature of 15°C and a maximum colloidal index of 3. Under these conditions, the units still reach designed permeate flow after three years of operation. The permeate recovery depends on the raw water quality and the type of pretreatment.



RO 5000 microprocessor control system for fully automated monitoring and control of the reverse osmosis unit with graphics display with scrollable display (selectable) of

operating data: permeate- and feed-water conductivity (temperature compensated), permeate- and feed-water temperature, operating hours, time

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

LEDs for operation, malfunction.

Chip card reader for storage of parameters and data (1 chip card is included in our scope of delivery), RS232 interface.

Additional connections possible:

inputs (low voltage) for level control with 1 or 2 float switches, hardness monitoring unit (the RO 5000 control system includes control functions for the limitron hardness monitoring unit), shut-down by external signal (forced stop, regeneration), 2 universal inputs

outputs for additional high pressure pump (in series or switch over operation), 2 solenoid valves for concentrate rinse, permeate discard and recycling, collective malfunction, pre-alarm high conductivity and a freely programmable universal output each on floating changeover contact, analogue output of conductivity or temperature of permeate or feed water.

Technical data	UO ND/P	600	800	1000	1500	2000
Permeate flow rate	l/h	600	800	1000	1500	2000
Min. salt rejection	%	99.5	99.5	99.5	99.5	99.5
Recovery	%	71	71	71	71	71
Operating pressure	bar	14	14	14	14	14
Membrane element/ number		4040/5	4040/6	4040/7	4040/11	4040/14
Feed water connection	DN	20	20	20	32	32
Permeate/concentrate conn.	DN	10	20	20	25	25
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	3.0	3.7	3.7	4.5	5.2
Height	mm	1750	1750	1750	1800	1800
Width	mm	1150	1150	1150	2650	2650
Depth	mm	770	770	770	950	950
Weight approx.	ca. kg	290	330	340	550	550
Item no.		381 107	385 851	385 692	381 139	385 792
Pre-fusing 16 A, Conductivity range 0,5-50 µS/cm, Feed water pressure min./max. 2/6 bar, Feed water temperature min./max. 5/35 °C, Ambient temperature max. 40 °C, pH-value 3-11						