



Reverse Osmosis Unit UO 50 combi – UO 500 combi

Stand-type unit for desalination of softened drinking water according to German drinking water regulations (free chlorine not detectable), operating on the principle of reverse osmosis. These units include the water pre-treatment components.

Stand-type unit with RO 500 controller, incl. pre-filter, pipe separator, **single** softener and limtron.

Reverse Osmosis Unit

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Unit design

Stainless steel base frame with plastic front panel housing the instruments and controls.

Prefilter with 100 µm-filter cartridge and 2 pressure gauges, **pipe separator** (EA1) according to DIN 1988 part 4, **softener**, compact design, **hardness monitoring unit limitron** for continuously monitoring of feedwater hardness, in case of hard water the reverse osmosis shuts-down, **special inlet filter**, polypropylene with 5 µm- filter cartridge and 2 pressure gauges, **high pressure pump**, rotary-vane type, **high performance wound module** with PA/PS composite membranes in GRP pressure vessel with inliner.

Valves and instruments including feedwater sampling valve, solenoid inlet valve, feedwater pressure switch, permeate and concentrate flow meter, vibration-resistant pressure gauges for pump and concentrate pressure, stainless steel valves for adjustment of permeate and concentrate flow rate and concentrate recirculation.

Microprocessor control system, as described below, connecting cable (3 m) with 16A - 6h CEE three-pole plug.

Unit completely wired and pre-assembled and ready for installation. Electrical equipment in accordance with VDE 0100 part 600, VDE 113 part 1.

RO 500 microprocessor control system for fully automated monitoring and control of the reverse osmosis unit with

two-digit alphanumeric display of permeate conductivity, forced stop and full tank,

malfunction signals: low pressure, hard water and high conductivity,

LEDs for operation and disinfection,

inputs (low voltage) for level control with 1 or 2 float switches, hardness monitoring unit (the RO 500 controller includes control functions for the limitron hardness monitoring unit), shut-downs by external signal (forced stop, regeneration),

outputs for softening unit (230V/50 Hz) and DDC (collective malfunction signal on floating changeover contact).

The units are designed for a maximum TDS of 1,000 mg/l, a water temperature of 15°C, a maximum colloidal index of 3 and free permeate outlet. Under these conditions, the units will reach design permeate flow after three years of operation. With new units the working pressure is about 15% lower. The permeate recovery depends on the raw water quality and the type of pre-treatment.

Technische Daten	UO...	50 combi	100 combi	250 combi	300 combi	400 combi	500 combi
Permeate flow rate	l/h	50	100	250	300	400	500
Min. salt rejection	%	97	97	97	97	97	97
Recovery	%	75	75	75	75	75	75
Operating pressure	bar	14	12	11	11	10	10
Membrane element/number		2540 / 1	2540 / 1	4040 / 1	4040 / 1	4040 / 2	4040 / 2
Voltage	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50
Motor power	kW	0.3	0.55	0.55	0.55	0.55	0.55
Pre-fusing	A	16	16	16	16	16	16
Feedwater connection	DN	20	20	20	20	20	20
Permeate/concentrate connection	DN	10/50	10/50	10/50	10/50	10/50	10/50
Conductivity range	µS/cm	1 – 99	1 – 99	1 – 99	1 – 99	1-99	1-99
Min./max. feedwater pressure	bar	3 / 6	3 / 6	3 / 6	3 / 6	3 / 6	3 / 6
Min./max. feedwater temp.	°C	5 / 35	5 / 35	5 / 35	5 / 35	5 / 35	5 / 35
Max. water temperature	°C	40	40	40	40	40	40
pH		3 – 11	3 – 11	3 – 11	3 – 11	3-11	3-11
Capacity of softener	°dH x m ³	60	120	120	120	120	120
	mol x m ³	10.7	21.4	21.4	21.4	21.4	21.4
Salt stock	kg	75	60	60	60	60	60
Height	mm	1700	1700	1700	1700	1700	1700
Width	mm	760	760	760	760	760	760
Depth	mm	700	700	700	700	700	700
Weight approx.	ca. kg	130	135	140	142	155	157
Code no.		420 077	420 078	420 070	420 117	420 076	420 121