

Reverse Osmosis Units

UO 100 combi D – UO 400 combi D



Herco
Präzision in Reinwasser-Technik

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

Unit design

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

Prefilter with 100 μm filter cartridge and 2 pressure gauges, **pipe separator** (EA1) according to DIN 1988 part 4. **Water meter controlled duplex softener**, compact design, **hardness monitoring unit limitron** for continuously monitoring of the feedwater hardness, in case of hard water the reverse osmosis shuts-down, **special inlet filter** with 5 μm filter cartridge and 2 pressure gauges, **high pressure pump**, rotary-vane type, **high performance wound module(s)** with PA/PS composite membranes in GRP pressure vessel(s) 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. **Microprocessor control system**, as described below, connecting cable (3 m) with 16 A – 6 h 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-down by external signal (forced stop, regeneration),

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

Technical Data		UO 100 combi D	UO 250 combi D	UO 300 combi D	UO 400 combi D
Permeate flow rate	l/h	100	250	300	400
Salt rejection	%	97	97	97	97
Max. recovery	%	75	75	75	75
Operating pressure	bar	12.0	11.0	11.0	10.0
Membrane element/number		2540/1	4040/1	4040/1	4040/2
Voltage	V/Hz	230/50	230/50	230/50	230/50
Motor power	kW	0.55	0.55	0.55	0.55
Pre-fusing	A	16	16	16	16
Feedwater connection	DN	20	20	20	20
Permeate/concentrate conn.	DN	10/50	10/50	10/50	10/50
Conductivity range	$\mu\text{S/cm}$	1–99	1–99	1–99	1–99
Min./max. feedwater pressure	bar	3/6	3/6	3/6	3/6
Min./max. feedwater temp.	$^{\circ}\text{C}$	5/35	5/35	5/35	5/35
Max. ambient temperature	$^{\circ}\text{C}$	40	40	40	40
pH		3–11	3–11	3–11	3–11
Capacity of softener	(2 x) $^{\circ}\text{dH} \times \text{m}^3$ (2 x) $\text{mol} \times \text{m}^3$	16 2,8	16 2,8	16 2,8	16 2,8
Salt stock	kg	60	60	60	60
Height	mm	1,700	1,700	1,700	1,700
Width	mm	760	760	760	760
Depth	mm	700	700	700	700
Weight approx	ca. kg	135	140	142	155
Code no.		420 088	420 089	420 118	420 090

The units are designed for a maximum TDS of 1.000 mg/l, a water temperature of 15 $^{\circ}\text{C}$ and a fouling colloidal index of 3. Under these conditions, the units still reach design permeate flow after 3 years of operation. The permeate recovery depends on the raw water quality and the type of pretreatment.

Subject to modification. 08-06

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