

Reverse Osmose

Series UO-ED Z



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

With controller RO digital.

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

Installation in **hygienic design** to prevent biological contamination. For direct supply of several users (e.g. humidifiers) with water according **VDI 6022**, without interposed permeate storage tank.



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Series UO-ED 50 – 1200 Z

Unit design Stainless steel base frame with plastic front panel.

Special inlet filter with 5 µm-filter cartridge,

high pressure pump as rotary vane type up to UO-ED 150 Z, beginning from UO-ED 300 Z as 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 and permeate, solenoid inlet valve, valves to regulate the flow rate of permeate and concentrate.

Pressure sensors for pump feed pressure, operating pressure and concentrate pressure.

Flow sensors for permeate and concentrate.

Conductivity measurement permeate with temperature compensation.

Valves for internal permeate recirculation or permeate supply.

Forced flow through diaphragm pressure vessel for permeate.

Screw connection for manual cleaning unit.

Connecting cable (3 m) with 16 A - 6 h CEE three-pole plug up to UO-ED 150 Z, beginning from UO-ED 300 Z **control cabinet** with lockable main switch, **electrical switchgear** for control of the high-pressure pump.

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.



Microprocessor control RO digital for fully automatic monitoring and control of RO system.

Process visualization with central display of operational status and data (analogue and digital values) and hours of operation on 4-line, backlit LCD text display. Simple menu-driven operation of the controller with 6 buttons.

Automatic logging of relevant operating data (analogue and digital data, 1960 data sets), storage interval programmable.

Highest operational safety due to adjustable alarms and limits of the operating parameters with selectable system response.

Operating conditions: permeate production, permeate rejection / recirculation, concentrate displacement / flushing, intermittent flushing when system is idle, shutdown by an external signal.

Analogue inputs: permeate conductivity (temperature compensated) permeate temperature, feed water, operating and concentrate pressure, flow rates of permeate and concentrate, calculated feed water flow, 2 additional programmable analogue inputs (e.g. for pressure, flow, level measurement).

Digital Inputs: RO-unit start, RO-unit stop, hard water / motor protection, external stop, 3 universal inputs (free configurable)

Analogue outputs: 2 universal outputs 4-20mA, e.g. for DDC.

Digital outputs: high-pressure pump, valve outputs 3x (24 VDC) for example for feed water, concentrate flushing, permeate rejection or recirculation, collective fault indication as a floating changeover contact, universal output.

LED indicators for power and fault, fault alarms as plain text in the display.

Technical Data UO-ED Z		50	150	300	600	900	1200
Permeate flow rate at ...							
... 4 bar pressure	l/h	50	150	300	600	900	1200
... 7 bar pressure	l/h	35	100	200	400	600	800
Min. salt rejection	%	97	97	97	97	97	97
Recovery	%	80	80	80	80	80	80
Operating pressure	bar	12-14	12-14	13-15	13-15	13-15	13-15
Membrane element / number		2540/1	4040/1	4040/1	4040/2	4040/3	4040/4
Voltage	V/Hz	1 x 230/50	1 x 230/50	3 x 400/50	3 x 400/50	3 x 400/50	3 x 400/50
Motor power	kW	0,25	0,55	1,5	1,5	2,2	2,2
Permeate/concentrate connection	DN	10/10	10/10	15/15	15/15	15/15	15/15
Height	mm	1,550	1,550	1,650	1,650	1,650	1,650
Width	mm	600	600	710	710	710	710
Depth	mm	560	560	790	790	790	790
Weight approx	kg	55	60	130	140	150	160

Prefusing 16 A, Conductivity range 2-200 µS/cm, Feed water pressure min./max. 2/4 bar, Feed water temperature min./max. 5/35°C, Feed water connection DN 20, Ambient temperature max. 40 °C, pH 6.5 - 9.5

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