



Figure: UO 500 RKE with options

- Limitron hardness monitor
- Concentrate flushing unit KSE

## RKE Series: Reverse Osmosis Unit UO 120 RKE – UO 500 RKE

Stand-type unit for desalination of softened drinking water according to German drinking water regulations. Drinking water can also be desalinated without pre-treatment, with a reduced permeate recovery rate, and depending on the raw water analysis.

RO 524 controller, with 24 VDC control voltage.

# RKE Series: Reverse Osmosis Unit

## UO 120 RKE – UO 500 RKE



### Unit design

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

**Special 5" inlet filter** with 5 µm filter cartridge and pressure gauge

**High pressure pump**, rotary-vane type,

**High performance wound module** with PA/PS composite membranes in stainless steel pressure vessel.

**Valves and instruments** including solenoid inlet valve, feedwater pressure switch, permeate and concentrate flow meter, vibration-resistant pressure gauge for operation pressure, valves for adjustment of permeate and concentrate flow rate.

**Microprocessor control system RO 524** 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.

### Options:

- Limitron hardness monitor      Code No. 370 038
- Concentrate flushing unit KSE      Code No. 383 222
- Check valve for permeate      Code No. 571 205

### RO 524 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, automatic restart of operation after progressive rest period.

**LEDs** for operation and disinfection status. Automatic concentrate flushing after each operating cycle, forced flushing after 24 h standby.

**Inputs** (low voltage) for level control with 1 or 2 float switches, hardness monitoring unit (the RO 524 controller includes control functions for the limitron hardness monitoring unit), shut-downs by external signal (forced stop, regeneration).

**Outputs** for softening unit (230 V/50 Hz), for 2 solenoid valves and for DDC (collective malfunction signal on floating change-over contact).

The units are designed for a maximum TDS of 1,000 mg/l, a water temperature of 15°C, a max. colloidal index of 3 and free permeate outlet. Under these conditions, the unit still reaches design permeate flow after 3 years of operation. The permeate recovery depends on the raw water quality and the type of pre-treatment.

Technical Data		UO 120 RKE	UO 250 RKE	UO 300 RKE	UO 400 RKE	UO 500 RKE
Permeate flow rate	l/h	120	250	300	400	500
Min. salt rejection	%	97	97	97	97	97
Recovery	%	75	75	75	75	75
Operating pressure	bar	14	12	12	10	10
Membrane element/number		4021/1	4040/1	4040/1	4040/2	4040/2
Voltage	V/Hz	230/50	230/50	230/50	230/50	230/50
Motor power	kW	0.3	0.55	0.55	0.55	0.55
Pre-fusing	A	16	16	16	16	16
Feedwater connection		DN 15				
Permeate/concentrate connection		DN 10				
Conductivity range	µS/cm	1–99	1–99	1–99	1–99	1–99
Height	mm	1650	1650	1650	1650	1650
Width	mm	520	520	520	520	520
Depth	mm	610	610	610	610	610
Weight approx.	kg	50	60	60	75	77
Code no.		381 930	381 931	381 932	381 933	381 934
<b>All sizes:</b> Feed water pressure min./max. 2/6 bar, Feed water temperature min./max. 5/35 °C, Ambient temperature max. 40 °C, pH 3 – 11						