

UO Budget

Under-sink reverse osmosis units

The space-saving under-sink reverse osmosis unit is used for the desalination of softened water with a salinity of up to 1,000 mg/l. If required, operation without upstream softening is also possible, in which case the yield is reduced. The decisive factor is the water analysis. The RO 524 controller allows fully automatic operation without logging of operation data and with fixed, factory-set limit values.

BENEFITS

- Available from stock
- Space-saving undersink unit
- Desalination of hard water also possible (reduced yield)
- Cost-effective, factory-preset RO 524 controller

APPLICATIONS

- Desalination of softened water and hard water (consider water analysis)
- Suitable for commercial applications that do not require operation data logging and parametrisation



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DESCRIPTION

Undersink reverse osmosis

- Base plate made of stainless steel with raised edge
- Pre-filter RO with activated carbon insert (5 µm)
- High-pressure pump as a peripheral impeller pump
- Low-pressure element with PA composite membrane (supplied loose) and stainless steel pressure vessel
- Connection cable (2 m) with Schuko plug
- Unit incl. piping and wiring, electrical construction acc. to VDE 0100 Part 600, VDE 0113 Part 1
- Unit tested, parameterised and conserved in own test field

Fittings and instrumentation

- Inlet solenoid valve and solenoid valve for automatic concentrate displacement
- Flow limiter for setting the flow rates of permeate and concentrate
- Pressure switch for monitoring feed water pressure and manometer for pump pressure

RO 524 microprocessor controller

- Fully automatic monitoring and control of the unit, operation of the controller with switch
- Two-digit, alphanumeric display and two LEDs as local indication for operation and disinfection
- Integrated functions: external stop, tank full, error message due to lack of pressure and hard water, automatic restart with progressive restart times
- Additional functions: limit conductivity exceeded (only with option conductivity measurement permeate)
- Automatic concentrate displacement after each operating phase, forced displacement after 24 h standstill

Available inputs (low voltage)

- Level permeate tank (1 or 2 float switches), hard water, external stop (e.g. if feed water supply interrupted)

Available outputs

- Connection softening unit (230 V / 50 Hz), collective fault signal (floating changeover contact)

Programming options (only factory-preset by manufacturer)

- Conductivity limit value 50 µS/cm (range 1 -99 µS/cm)
- Conductivity advance warning 40 µS/cm (range 1 - 99 µS/cm)
- Conductivity limit value delay 5 min (range 1 - 250 min)
- Flushing interval when tank is full 24 h (range 1 - 250 h)
- Flushing time when tank is full 15 min (range 1 - 99 min)
- Concentrate displacement time 60 sec (range 1 - 250 sec)

Optionally available

- Hardness control unit limitron to protect the membranes from hard water
- Measurement of permeate conductivity (only installation ex factory possible)

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CONDITIONS OF USE

The unit may only be used for the desalination of softened feed water of drinking water quality or appropriately pre-treated well or surface water. The plant is designed for a salinity (TDS) of 1,000 mg/l and a temperature of 15 °C. Under these conditions, the projected permeate output is achieved even after three years of operation. The permeate yield depends on the raw water quality and the pre-treatment. The following parameters must be maintained in the feed water:

Free chlorine	not detectable
Iron (Fe)	< 0.2 mg/l
Manganese (Mn)	< 0.05 mg/l
Silica (SiO ₂)	< 25 mg/l
Silt density index (SDI)	< 3
Feed water temperature	5 – 35 °C
Feed water pressure	3 – 6 bar
Pressure fluctuation	± 0.5 bar

TECHNICAL DATA OF SERIES

Controller	RO 524
Desalination rate min.	95 %
Permeate recovery	35 – 50 %
Permeate back pressure max.	0.3 bar
pH value operation	3.6 – 9.5
pH value cleaning	2 – 12
Ambient temperature	5 – 40 °C

Product name	Mains connection	Hydraulic connection	Dimensions in mm	Item number
Permeate l/h	kW / V / Hz	feed/permeate/conc.	W x D x H	
UO Budget 80	0.40 / 230 / 50	R ¾ / DN 10 / DN 10	800 x 360 x 360	381 900
UO Budget 130	0.40 / 230 / 50	R ¾ / DN 10 / DN 10	800 x 360 x 360	381 901