

## Specification

### Reverse osmosis system **WL-ROL** for adiabatic and isothermal humidifiers

Ready-to-operate, pre-assembled reverse osmosis unit especially for the production of permeate for use in air humidification systems in the performance classes from 160 l/h to 1200 l/h. Ideally suited for supplying humidification systems that need to be supplied with demineralised water.

The system consists of:

- Prefilter 5 µm
- Activated carbon filter for dechlorination and protection of the membrane
- Antiscalant dosing unit (only systems with ending "AS")
- Microprocessor control with LCD display for fully automatic operation and function monitoring with 2 operating levels for service and operation
- Alarm message as potential-free contact
- Adjustable high-pressure pump to generate the necessary osmotic pressure
- TFC (Thin-Film-Composite) reverse osmosis membrane
- Permeate conductivity monitoring
- Optionally available UV-disinfection
- Optionally available pressure expansion tank for constant pressure between 2 and 4 bar

All components are completely mounted on a compact stainless steel frame. The piping is done via plug-in connections as well as prepared installation kits, which reduces the on-site installation effort to a minimum. No open water supply, thus, a germination of water during system standstill is avoided. To reduce flushing water losses, pressure expansion tanks from 40l to 500l are used according to the consumptions. The production of the permeate is demand-controlled.

For adiabatic humidifiers, the optionally available UV-disinfection between the RO system and the humidifier is mandatory.

#### Antiscalant:

The antiscalant dosage prevents the precipitation of lime on the membrane. This counteracts blocking of the membrane by lime deposits on the membrane. A softening plant is not necessary when using an antiscalant dosing device.

#### Requirements for on-site water and sewage installations:

As piping material after reverse osmosis, corrosion-resistant material must be used in the permeate area (e.g. plastic or stainless steel).

A suitable duct connection must be available to discharge the concentrate.

The quality of the supply water must comply with the limit values of the German Drinking Water Ordinance §3/2001. The limit values can be found in our technical documentation.

## Technical data

Water treatment WL-ROL	WL-ROL-160 *(AS)	WL-ROL-320 *(AS)	WL-ROL-460 *(AS)	WL-ROL-600 *(AS)	WL-ROL-1000 *(AS)	WL-ROL-1200 *(AS)
Permeate capacity [ $\pm$ 10%] [l/h at 15 °C]	160	320	460	600	1000	1200
Water consumption during operation [l/h]	320	470	920	1200	1500	1770
Permeate yield [%]	50	68	50	50	68	68
Number of membranes	2 x 40"	4 x 40"	2 x 40"	2 x 40" XL	4 x 40"	4 x 40" XL
Membrane pressure max. [bar]	10					
Water hardness max. [°e (ppm)]	can only be operated with an upstream softening plant or antiscalant dosing device					
Salt content max. (TDS) [ppm]	750					
Water feed conductivity max. [ $\mu$ S/cm]	1000					
Inlet water temperature [°C]	5 - 25					
Inlet water pressure [bar]	2 - 5					
Water pressure permeate max. [bar]	4					
Electrical power supply [kW]	1.0	1.0	1.7	1.7	2.1	2.1
Rated power [V/Hz]	230V / 1Ph / N / 50Hz					
Feed water inlet	3/4" AG					
Permeate pipe connection	John Guest Ø 15 mm				3/4" AG	
Water outlet	John Guest Ø 15mm				3/4" AG	
Dimensions W x H x D [mm]	940 x 1555 x 510		1090 x 1555 x 700			
Operating weight [kg]	75	83	100	100	125	125
Flushing function	yes					
Antiscalant dosing pump	Only included in antiscalant ("AS") version					
Conductivity measurement	1x raw water monitoring, 1x permeate monitoring and alarm function included					
Blending kit for electrode humidifier	not possible					

\* Operation with antiscalant dosing pump possible.  
The permeate yield of ROL systems increases to  
75 % when using softened water.