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Reverse osmosis models EKO 100 range

INDUSTRIAL

System Capacities

- The system capacities indicated below are based on feed water with a total dissolved solid (TDS) content of <1500mg/l and a recovery of around 60 - 70%
- Capacity will vary according to the feed water TDS and temperature.
- The pump operating pressure will vary according to the feed water quality.
- Typically pump pressure will be in the range of 12 to 17 Bar.

Note: Customers are to request a projection and design for their particular water and requirements.

Typical Dimensions

- RO unit : Approximate 7m (L) and 1.5m (W)
- Overall Height: Approximate 1.6m according to model
- Sufficient space will be required in front of the unit to allow filter replacement

Models

Model	Nominal Capacity (cu-m/day)	Membranes 8" X 40
EKO 100-3	50	3
EKO 100-6	100	6
EKO 100-9	150	9
EKO 100-12	200	12
EKO 100-15	250	125

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EKO 100 RANGE

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Operating Conditions

Feed Pressure:	1.5 to 4 Bar
Power:	400VAC 50Hz 3 phase
Temperature range:	5°C to 35 °C
Feed pH:	4 to 8

Equipment

The RO unit will be pre-assembled on a structural stainless steel/ GRP Frame and will include the following main components:

- Lowara SV series or equal 316 stainless steel pump complete with 400VAC 3 phase motor
- Optional speed inverter for main pump
- 40"x 8" CSM Membranes or equal
- GRP Membrane vessels 300psi
- Stainless steel brine control needle valve
- Stainless steel reject control needle valve
- Stainless steel brine – feed by-pass control needle valve (if required by client)
- IP 65 Electrical Control Enclosure
- PLC based control with conductivity monitor
- Low pressure pipes & fittings in PVC
- High pressure pipes & fittings in 316L stainless steel
- Pump low pressure shut off switch
- Inlet solenoid valve
- Brass flush solenoid valve
- SSTL Inlet pressure gauge
- SSTL membrane pressure gauge
- Plastic Pre-filter housing
- Frame for mounting above equipment in stainless steel

Pre-Treatment Information

The membranes used in most reverse osmosis system including our TPRO – EKO 100 range, are spiral wound and made of a polyamide material. This material is not compatible with oxidizing agents such as chlorine that is normally found in tap water. The passages within a membrane are fairly small and therefore un-dissolved materials can become dislodged inside the membrane. This leads to potentially blocking the membrane and reducing its capacity. TUA Engineering designs their systems with an in-built safety carbon block filter, nevertheless pre-treatment in the form of further carbon filtration and undissolved solid removal is normally required. The reject from a reverse osmosis system has an increased concentration of salts and particularly hardness salts. Care must be taken to ensure that these salts do not precipitate in the membrane since this can lead to irreversible damage. Depending on the feed water as well as the system recovery, a water softener or anti-scalant chemical injection may also be required before the system as part of the pre-treatment.

Contact **TUA Engineering** for assistance on your pre-treatment requirement.