

REVERSE OSMOSIS MODELS EKO 10 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% to 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 10 to 14 Bar.

Typical Dimensions

- ⊕ RO unit : 5m(L) and 1.5m (W)
- ⊕ Overall Height: varies between 1m and 1.35 according to the model.
- ⊕ Sufficient space will be required in front of the unit to allow filter replacement

Models

Model	Nominal Capacity (cu-m/day)	Membranes 4" X 40
EKO 10-3	15	3
EKO 10-6	30	6
EKO 10-9	45	9
EKO 10-12	60	12
EKO 10-16	80	16

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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 stainless steel frame and will include the following main components:

- ⊕ Lowara SV series or equal stainless steel pump complete with 400VAC 3 phase motor
- ⊕ 40"x 4" CSM Membranes or equal
- ⊕ GRP Membrane vessels 300psi
- ⊕ Stainless steel brine control needle valve
- ⊕ Stainless steel brine – recirculation control needle valve
- ⊕ IP 65 GRP Electrical Control Enclosure
- ⊕ PLC or Microprocessor Based Controller
- ⊕ Electronic flow meters for product, reject and recirculation flow
- ⊕ Product Conductivity monitor
- ⊕ Low pressure pipe & fittings in PVC
- ⊕ High pressure pipe & fittings in 316L stainless steel
- ⊕ Pump low pressure shut off switch
- ⊕ Inlet solenoid valve
- ⊕ Brass flush solenoid valve
- ⊕ SSTL Inlet pressure gauge
- ⊕ Pre-filter housing

Pre-Treatment Information

The membranes used in most reverse osmosis systems, included in our EKO 10 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 client needs to make sure that effective pre-treatment efforts are taken to remove any chlorine that may be present in the feed water.

The passages within a membrane are fairly small and un-dissolved materials can become lodged inside the membrane blocking it and reducing its capacity. Adequate filtration is also required.

The reject from the 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 as this can lead to an irreversible damage. Depending on the feed water as well as the system recovery, a water softener or anti-scalant chemical injection may be required before the system as part of the pre-treatment.

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