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TPRO Reverse Osmosis
Models EKO 100 Range

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 60 to 70%.

Model	Nominal Capacity cu-m/day	Membranes 8" x 40
EK100-4	100	4
EK100-6	150	6
EK100-8	200	8
EK250-10	250	10

Capacity will vary according to the feed water TDS and temperature and pump-operating pressure will vary according to the feed water quality. Typically pump pressure will be in the range of 12 to 17 Bar. Please request a projection and design for your particular water.

Operating conditions

Feed Pressure: 1.5 to 4 Bar
Power: 400VAC 50Hz 3 phase

Temperature range: 5 to 35 ^{o}C
Feed pH: 4 to 8

Equipment

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

- Lowara SV series 316 stainless steel pump complete with 400VAC 3 phase motor
- 40" (TMG10) x 4 or 8" Toray 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)
- IP55 Electrical Control Enclosure
- Electronic RO Controller with conductivity monitor
- Low pressure Pipe & 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
- Pre-filter housing
- Frame for mounting above equipment in stainless steel.

Approximate dimension

- Approximate dimensions 6m wide x 1.6m deep x 1.6m high

Pre-treatment

The membranes used in most reverse osmosis systems including our TPRO - EKO range, are spiral wound and made of a polyamide material. This material is not compatible with oxidizing agents such as chlorine normally found in tap 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. Our systems come with an in-built safety carbon block filter but pre-treatment in the form of further carbon filtration and un-dissolved 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 administered to make sure that these salts do not precipitate in the membrane as 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 be required before the system as part of the pre-treatment.
Contact your water treatment specialist for assistance on your pre-treatment requirement.