

COMMERCIAL & INDUSTRIAL R.O. SYSTEMS

COMMERCIAL R.O. : RANGE FROM 50 TO 250 LTRS.

All systems are designed and tested for easy installation. Utilizing the highest quality components and stainless steel RU membrane vessels, advanced system design, users will have years of trouble free service.

Note : Models shown are indicative only and would vary as per specifications / requirements of the customers.

The rejection rate of contaminants from the water is generally in the region of 90 to 99.5% depending upon the type of membrane used and water to be treated. This means that a typical mains water supply of around 1000 TDS , when passed through a Reverse Osmosis plant will give water of 100 to 250 TDS. Greater purity can be achieved with a final "polishing" of the water if required.



System Management

Reverse Osmosis systems in their basic form consist of a pressure pump and a high pressure housing containing a semi-permeable membrane. Water is forced into the housing under pressure and pure water or permeate is collected from an outlet and passed to service. Rejected water, or concentrate, is collected from another outlet and routed to drain to prevent a build up of salts on the membrane itself. In order to keep the amount of water to a minimum, a proportion of the concentrated water is recycled back to the inlet of the pump.

The proportion of pure water produced from the feed is known as the recovery rate, and will vary from 15 to 85% depending upon the type of water being treated. Typically, with UK mains water, a recovery rate of 66-75% can be achieved . As water should be softened and de chlorinated before being passed to the membrane, the reject water (which is still soft) can be used for any application where soft water is required such as wash water, grey water for toilet flush, or in some cases cooling tower make up.

COMMERCIAL & INDUSTRIAL R.O. SYSTEMS

Specifying and Sizing

The pressure at which the system will need to operate will vary according to the salt content (salinity) of the raw water. Commercial Reverse Osmosis systems with "tap water" membranes can deal with a TDS level of up to 2,000mg/l and operate at around 200 to 250psi. A TDS of up to 11,000 mg/l is described as brackish and needs a pressure of 400 to 500psi to produce pure water. Sea water has a TDS of over 30,000mg/l and requires specially reinforced membranes and pressures of 1000psi to work effectively.

The membranes used on these units operate at around 175 to 230psi and as such require smaller pressure booster pumps to generate pure water. This leads to a significant reduction in power consumption when in use.

Standard Features

- Output range from 1.2 m³/day to 3.6m³/day
- Cleaning systems
- Continuous conductivity monitoring and readout
- Stainless steel single/three phase high pressure pump
- Permeate, recirculation and concentrate flow gauges
- High Recovery in standard configuration
- Compact size with minimum footprint
- All units are single pass, series array
- Microprocessor controller if required
- Low/high pressure switch and Power on/off switch
- Automatic flush
- Fully electronic MCB panel with flow meter and pressure gauges
- TDS / conducting meter (Optional)
- Anti scalent dosing pump
- Stainless steel frame and RO membrane vessels
- Pressure boosting system
- Superior quality PVC and SS piping
- Vertical multistep centrifugal pump
- PLC Controls
- Multimedia filter
- Carbon filter
- Water softener
- Thin film composite membranes
- Product water flow meter
- Easy operation
- Nylon Tubing
- Inlet Solenoid Valve