



AQUA-RO

REVERSE OSMOSIS SYSTEM



RO Process

Reverse osmosis (RO) is a separation process that uses pressure to force a solution through a membrane that retains the solute on one side and allows the pure solvent to pass to the other side. More formally, it is the process of forcing a solvent **from a region of high solute concentration through a membrane to a region of low solute concentration** by applying a pressure in excess of the osmotic pressure.

Applications

- Drinking water purification
- Water and wastewater purification
- Dialysis
- Food Industry
- Hydrogen production



The Size of the RO and Choice of membrane will be determined by the **permeate quantity required**, feed water salinity and permeate quality expected. Low energy membranes allow the units to run at pressures around **10-14 Kg/cm²**, and as such the Pressure booster pumps required to generate the pure water are smaller and the power consumption is reduced significantly.

These membranes produce water quality with **90-95% reduction in TDS** from input TDS as high as **2500 ppm**.

If higher permeate quality is required a different range of membranes with a higher pressure pumps can be used.

RO units are normally built and used as single units producing the quantity required during the working day. If circumstances demand, the RO units can be duplexed with a central control panel being used to allow the units to run in parallel when the demand for water is higher, thus doubling the permeate production.

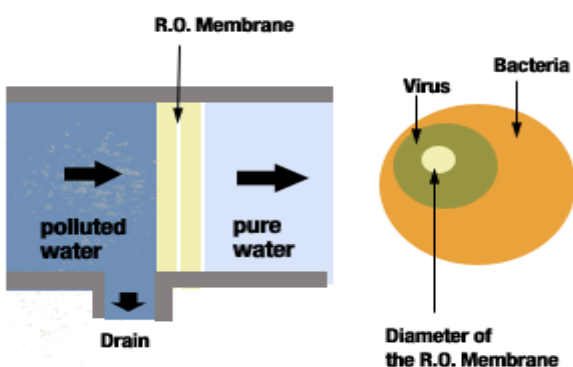
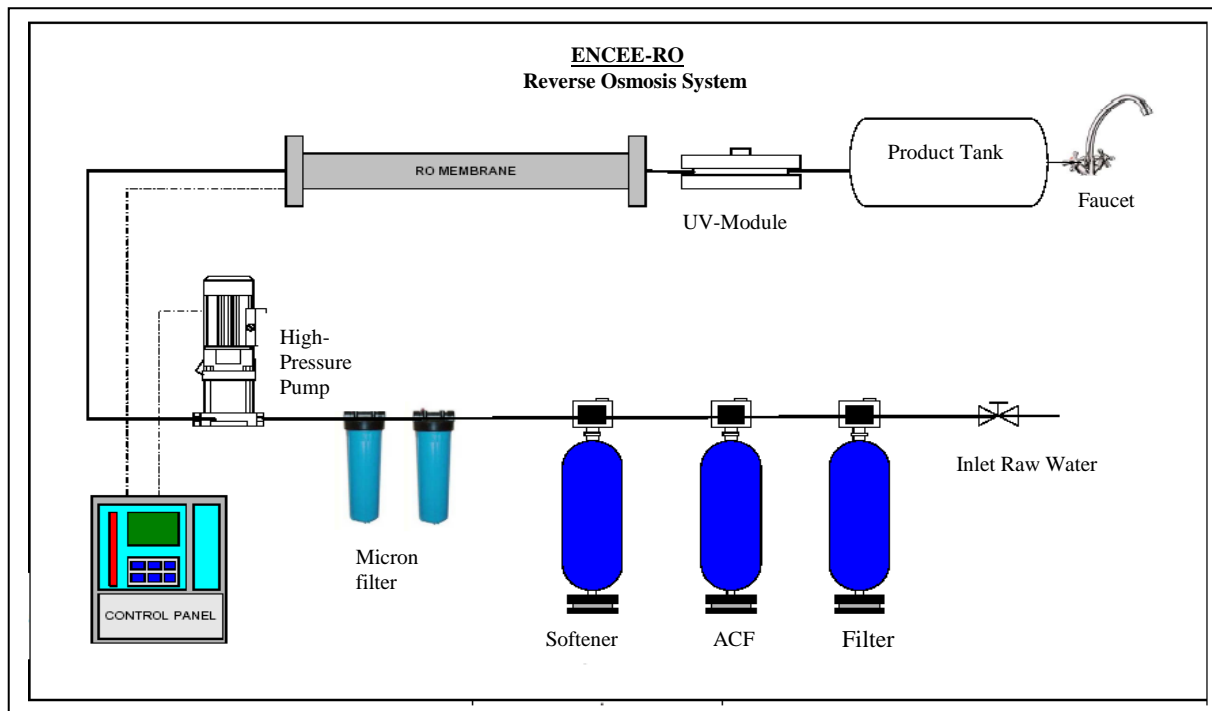


Figure: The Size of Bacteria and Virus is more than the pore size of the RO membrane

ADVANTAGES

- Improves taste, order and appearance.
- Highly effective Purification Process.
- Consumes no energy.
- Very Convenient.
- Flushes away Pollutants, doesn't collect them.
- Easy to Keep Clean.
- Low Production Cost-gives value per Rupee.

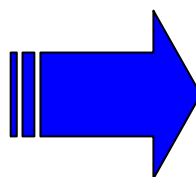
Schematic



Water Quality Improvement

INPUT WATER

| Sr. No. | Parameter | Analysis Value. |
|---------|------------------------|-----------------|
| 1 | Total Dissolved Solids | 2500 ppm (Max.) |
| 2 | Turbidity | <1 NTU |
| 3 | SDI | <4 |



OUTPUT WATER

| SN | Parameter | Analysis Value. |
|----|------------------------|-----------------|
| 1 | Total Dissolved Solids | < 50 ppm. |
| 2 | pH | 7.0 +/- 0.2 |
| 3 | Turbidity | Nil. |
| 4 | Color | Nil. |

Impurities Removal

| | | | |
|------------------|--------------|------------------|-----------|
| Bacteria | Viruses | Pesticides | Turbidity |
| Colloidal Matter | Asbestos | Dissolved Solids | Magnesium |
| Detergents | Hydrocarbons | Arsenic | Fluoride |

Different Models to cater the need of customers.

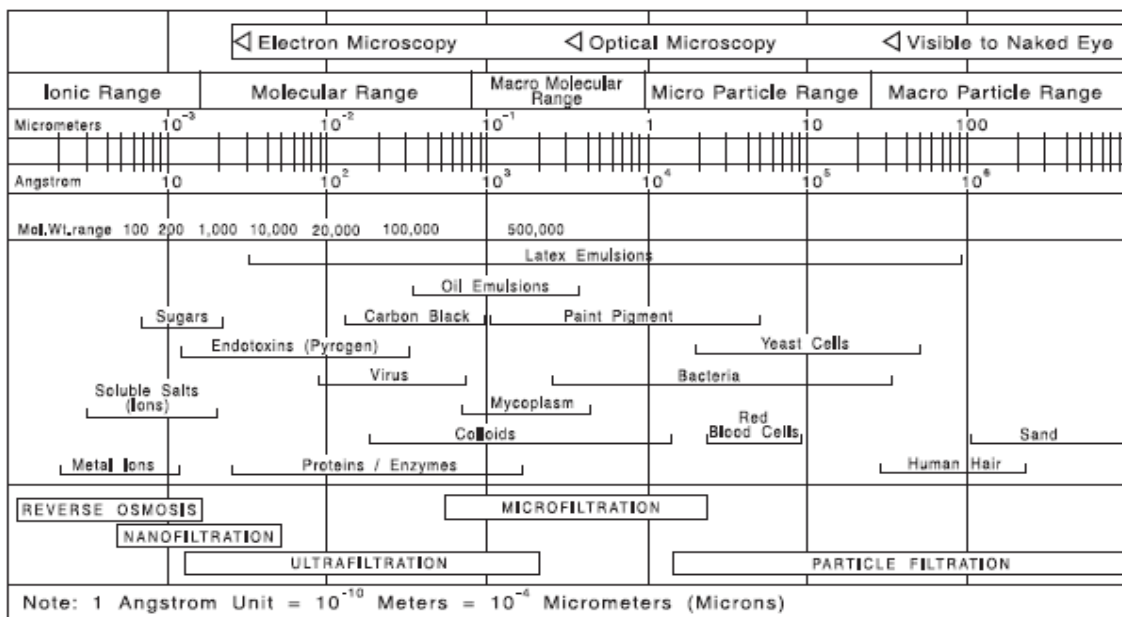
| MODELS | CAPACITY (LPH) |
|---------------|----------------|
| AQUA RO 100 | 100 |
| AQUA RO 250 | 250 |
| AQUA RO 500 | 500 |
| AQUA RO 1000 | 1000 |
| AQUA RO 2000 | 2000 |
| AQUA RO 5000 | 5000 |
| AQUA RO 10000 | 10000 |

In addition we provide all kinds of customized systems to cater the needs of various types of customers different models are available ranging from Manual to fully automatic which can satisfy the needs and requirements of various customers.



Figure: A fully automated RO Plant

The Filtration Spectrum



An ISO 9001:2000



Certified Company