



**ANESH ENVIRO SYSTEMS PVT LTD**



## **R. O. PLANT**

Reverse osmosis 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. This is the reverse of the normal osmosis process, which is the natural movement of solvent from an area of low solute concentration, through a membrane, to an area of high solute concentration when no external pressure is applied. The membrane here is semi permeable, meaning it allows the passage of solvent but not of solute. The membranes used for reverse osmosis have a dense polymer barrier layer in which separation takes place. Since Reverse Osmosis does not occur naturally, it must be created by applying pressure to the high solids water in order to force it through the membrane, with pressures from 8 - 14 bar for fresh and brackish water, and 40 - 70 bar for seawater, which has around 24 bar (350 psi) natural osmotic pressure which must be overcome.