Working principles of RO plants:

RO Process	• In the osmosis process, the semi permeable membrane separates two aqueous solutions of different concentrations and the solvent permeates naturally from the dilute solutions to the concentrated solutions • Reversal of the natural osmotic phenomenon by application of high pressure reverses the direction of flow of water through the semi permeable membrane; this reversed flow produces pure water that is free of excess salts, is known as RO process
Ultra and Nano Filtration facility	• We also provide Ultra and Nano Filtration facility that is highly appreciated by our clients in India • Ultra filtration is a separation process using membranes with pore sizes in the range of 0.1 to 0.001 micron

This RO process helps in eliminating high molecular-weight substances, colloidal material, organic and inorganic polymeric molecules. Moreover, ultra filtration is also a form of filtration that uses membranes to preferentially separate different fluids or ions.

Following are the functions of RO systems and ultra filtration systems:

R.O. systems	• The water from the micron filter is connected to the high-pressure pump where pressure is developed and fed to the RO module and the salts get rejected partially in the RO module

	• The permeate from the RO System is blended with filtered water to obtain the desired TDS • In RO, feed water is pumped at high pressure through permeable membranes, separating salts from the water in RO water purifier • The feed water is pre-treated to remove particles that would clog the membranes and the quality of the water produced depends on the pressure, the concentration of salts in the feed water, and the salt permeation constant of the membranes
Ultra filtration	• These are most commonly used to separate a solution that has a mixture of required components and not required components • Ultra filtration is capable of concentrating bacteria, some proteins, some dyes and constituents that have a larger molecular weight of greater than 10,000 Daltons • Ultra filtration is only dependent upon the charge of the particle and is much more concerned with the size of the particle

Salient Features:

- Produce high-quality dematerialized water
- Most modern membrane technology
- Modular design

- Low water-rejection rate
- Low operational and maintenance costs
- Practical & economical way for cleaning water
- System has compact design
- Easy to operate
- Highly energy efficient

Application Areas:

- Drinking Water Treatment
- Mineral Water Plants
- Sewage Water Recycling
- Effluent Recycling
- Zero Liquid Discharge Systems