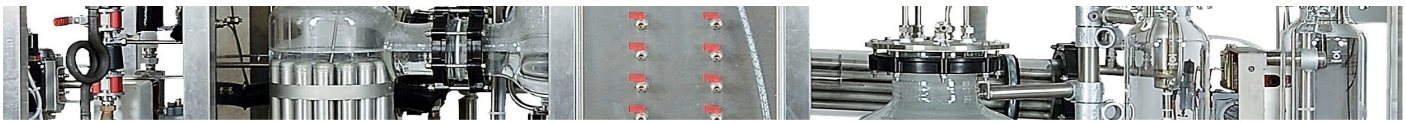

Desalinization by reverse osmosis

Référence : OSM/4000

Reverse osmosis membrane filtration whit operational pressure max 50 bars

Desalinization process

GENERAL SPECIFICATIONS

- 100 L cylindrical feed tank in PE.
- Reverse osmosis module

  High pressure carter.

  Spiral type membrane

- High pressure gear pump (50 bar).
- 30 L graduate permeate tank with removable lid.
- 60 L graduate retentate tank.
- 2 beakers 1 L for sampling.

Instrumentation

- Flowmeters
- Manometers.
- Level sensor.
- Combined probes (conductivity and temperature) with electronic indication.

Dim : 210 x 70 x 180 cm – 150 kg
SS tubular framework 40 x 40mm

Categories: Educational Engineering Environment Reverse osmosis

Reference: OSM/4000

DESCRIPTION

Osmosis and reverse osmosis

Osmosis entails transferring a solvent (generally water) through a semi-permeable membrane due

to the action of a difference in concentration. The transfer is complete when the two concentrations are

equal and equilibrium is reached.

If a pressure is applied on the surface of the concentrated salt solution, the solvent flow reduces to zero.

This pressure applied to cancel out the solvent flow is known as the osmotic pressure.

If the pressure applied is greater than the osmotic pressure, the solvent flow is reversed.

The phenomenon is the principle behind reverse osmosis filtration. A concentrated salt solution circulates

at high pressure over the surface of a membrane.

The solvent (pure water) passes through the membrane, forming the permeate; the solution is depleted in

solvent and leaves the module with a higher salt concentration, resulting in the concentrate

Study of essential parameters of the osmosis process

The osmotic pressure of the water

The permeability of the membrane

The rejection and conversion rate of the reverse osmosis module

Optimization of a process of osmosis

Determination of the operational conditions ideal for attaching the amount and quality of the permeate

Unités livrés avec un manuel pédagogique et dossier technique

Possibilité d'adapter les unités à vos besoins

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Pignat SAS - 6, Rue Calmette - BP 11 - 69741 Genas Cedex - France - Email : pignat@pignat.com
Tél : (33) 04 78 90 50 03 - Fax : (33) 04 78 90 63 88 - SAS au capital de 158 472 € - Code APE 333Z - RC Lyon B 966 504 904