GPBOS2

REVERSE OSMOSIS UNIT

Experimental capabilities

- **Identifying the components of a reverse osmosis treatment module**
- **Study of the characteristics of the reverse osmosis module**
- **Determination of membrane retention rate**
- **Determination of the osmotic pressure of an aqueous liquid (mains water or salt water)**

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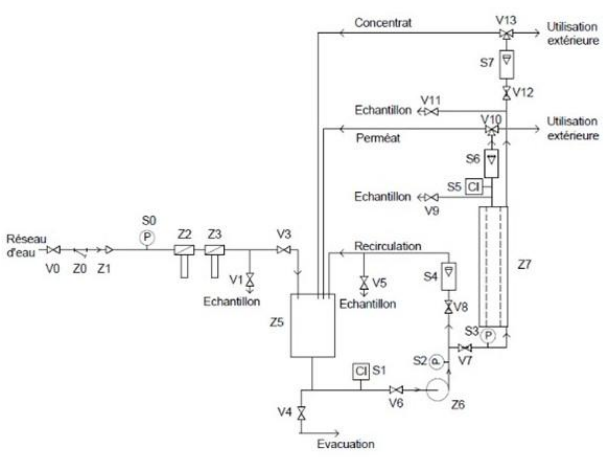
version : FT-GPBOS2-STD-A

GPBOS2

Operating principle

The GPB OS2 pilot allows to characterize a reverse osmosis module and to study the different parameters that determine the quality of the water obtained. The practical realization is made using softened raw water and a saline solution and it is proposed to determine: The osmotic pressure for the solution studied and the overall apparent retention of the reverse osmosis module. This study allows users to become aware of the conditions of reverse osmosis operations in industrial production. The rugged design of this equipment makes it perfectly suited for use in a school setting.
Its anodized aluminum structure on wheels gives it a very high robustness as well as great flexibility of integration into your premises. The manufacture of this equipment complies with the European Machine Directive.

Illustrations



The bench includes a power supply box that complies with European electrical standards with a standby power disconnector, white voltage presence light, emergency stop button, earthing connection and differential protection.

1. Mains water supply circuit including 10µm cartridge filter and activated carbon filter
2. 80L feed tank with the following elements:
   drain valve
   Low level sensor (minimum level)
3. Vertical multi-stage diaphragm feed pump in stainless steel. Maximum pressure: 16 bar.

Technical details

4. Stainless steel hydraulic system for the high-pressure part and transparent PVC pressure for the low-pressure part.
5. Reverse osmosis column
6. Float Flow Meters:
   - recirculating water 600-6000L/h
   - Treated water (permeate) 50-500L/h
   - Discharge water (concentrate) 50-500L/h
7. Needle pressure gauges:
   - water supply (0-10 bar)
   - permeate network upstream of the membrane (0-16bars)
   - recirculation network upstream of the membrane (0-16bars)
8. Stationary conductivity meter
   - entrance of the membrane K=1
   - Membrane output K=0.1
9. Sampling
   - Between the filters and the reverse osmosis module
   - on the "recirculation" circuit
   - at the output of the reverse osmosis module on the "permeat" circuit
   - at the output of the reverse osmosis module on the "concentrate" circuit
10. Supplied accessories
    -conductivity calibration solution.
    -supply and drain hoses-two spare 10µm filters
    -two spare carbon filters-2kg of salt

Services required

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : X phase(s) + Neutral + Earth.
- Water supply : 15 L/min – XX bars
- Dimensions: (LxWxH mm): 2170 x 710 x 1770
- weight (Kg): 100

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Hydraulic diagram
- Certificate of conformity CE

Recommended equipment

- Water softener unit
- Ref : TAD100

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