

ULTRAFILTRATION PILOT UNIT



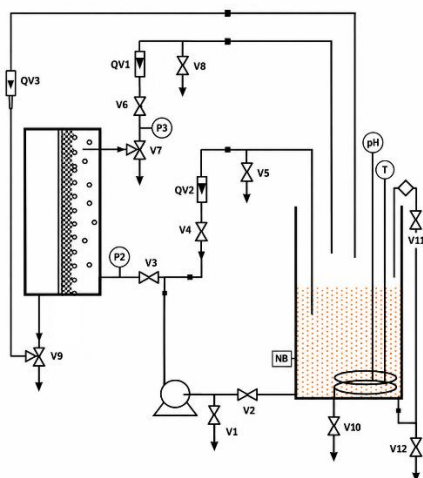
Experimental capabilities

- Identifying the Components of an Ultrafiltration Treatment Module
- Study of the module's characteristics
- Commissioning procedure
- Determination of the rejection rate
- Determination of pressure as a function of flow rate
- Determination of concentration as a function of flow rate
- Shutdown and maintenance procedure

Operating principle

The GPBUF1 trainer allows the study of an ultrafiltration module. It includes the main elements of this type of installation, namely a storage tank, a circulation pump, a hollow fiber ultrafiltration membrane and instrumentation to evaluate the characteristics. The students will first have to identify the components of the installation and then proceed with commissioning. They will then be able to vary the parameters (flow rate, for example) to study the behaviour and efficiency of the membrane. They will then shut down the installation and will have to ensure the cleaning and preparation of the shutdown phase. The bench can be used for training in water treatment or in the food industry. 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 trainer 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. Network water supply circuit including a general shut-off valve, a 10µm cartridge filter
2. 80L feed tank with the following elements:
 - removable lid
 - drain valve
 - Low level sensor (minimum level)
 - Submerged coil for cooling with water shut-off valve

Technical specifications

3. Centrifugal stainless steel diaphragm feed pump controlled by a variable speed drive. Flow rate can be adjusted by a potentiometer + soft start. The pump is protected by the tank's low level sensor.
4. Transparent PVC pressure hydraulics
5. Ultrafiltration module supply circuit with control valve and pressure measurement
6. bypass circuit with control valve and flow measurement and sampling
7. Hollow fiber ultrafiltration module surface 0.44m²+/-5%, PVC backing, cut-off level 10000daltons
8. Retentate circuit with three-way valve, diaphragm flow control valves, flow meter, pressure gauge and sampling
9. Permeate circuit with three-way valve and flow measurement
10. Float Flow Meters
 - recirculation
 - permeate
 - Retentate
11. Needle pressure gauges:
 - Ultrafiltration membrane inlet
 - Ultrafiltration membrane outlet (retentate)
12. Portable pH meter with measuring probe in the feed tank
13. dial thermometer on the recirculation circuit
14. Supplied accessories
 - supply and drain hoses
 - two spare 10µm filters

Services required

- Power supply: 230 VAC - 50 Hz - 10 A
- Electrical supply type: 1 Phase + Neutral + Earth
- Water capacity: 100 L
- Dimensions: (LxWxH mm): 1100 x 800 x 1500
- weight (Kg): 150

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
- lab exercises
- Pedagogical manual
- Technical documentation of components
- wiring diagram
- Hydraulic diagram
- CE Certificate of Conformity