

BELL DISTILLATION STUDY BENCH



Experimental capabilities

- Identification of the components of a continuous distillation plant
- Preparation, commissioning and adjustments
- Study of a bell distillation process
- Material balance
- Heat balance
- Determination of the number of theoretical trays
- Process improvement

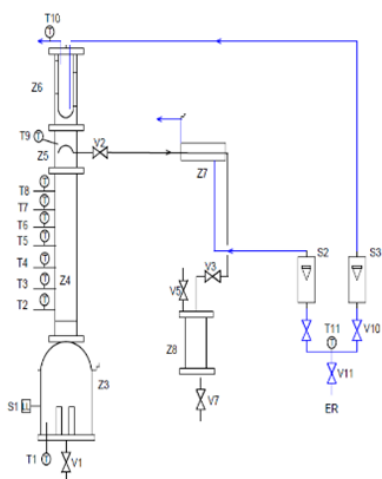
Operating principle

The GPCD21 bench allows the study of continuous distillation. The mixture will be sent to the boiler which is made up of heating elements. The coils will bring the mixture to a boil, thus evaporating and recovering the product that has the lowest boiling temperature.

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 is installed on an aluminum profile structure equipped with four braked-directional castors.

The bench has a main power supply box that complies with European electrical standards with standby power disconnecter, white voltage presence light, emergency stop button, ground connection and differential protection. It is equipped with a 7-inch touch screen displaying temperature, water flow and differential pressure measurements.

The elements in contact with the reagents are made of Teflon, HDPE, stainless steel and borosilicate glass.

Technical details

1. Boiler

- Material: borosilicate glass
- Electric cartridge heaters
- Pt 100 temperature sensor
- draining valve
- Low level detector

2. Distillation column

- Material: borosilicate glass
- DN: 50 mm
- Height: 800 mm
- 7 bell trays
- Each chamber tray is equipped with a Pt 100 type temperature probe

3. Reflux head

- DN: 50 mm
- Pt100 temperature probe
- Programmable reflux rate

4. Condenser

- borosilicate glass shell
- stainless steel exchanger

5. Distillate Cooling Exchanger

- stainless steel
- coil exchanger

6. Graduated recovery tank

- Material: borosilicate glass
- Volume: 3 L

7. Distillate and concentrate tank

- Volume 10L

8. Two float flow meters

- Cooling water flow
- Scale : 30 - 300 L/h

Services required

Documentation

- Electrical supply : 230 VAC – 50 Hz – 16 A
- Electrical network : 1 phase + Neutral + Earth
- Water supply : 15 L/min – 3 bars
- Water drain : on the floor
- Dimensions: (LxWxH mm): 1500 x 800 x 2200
- weight (Kg): 210

- user manual
- Technical documentation of components
- Practical work
- Electrical diagram
- Fluidic diagram
- CE Certificate of Conformity

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