

3 HEAT EXCHANGERS STUDY UNIT



Experimental capabilities

- **Comparative study of three technologies of exchangers: plates, stainless steel tubular beam with glass calender, glass tubular beam with glass calender**
- **Comparison of a co-current circulation and of a counter-current**
- **Calculation of thermal power**
- **Calculation of exchange coefficient**
- **Study of the influence of water flow rates**

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Dans le cadre de l'amélioration permanente de nos produits, ce descriptif technique est susceptible d'être modifié sans préavis
As part of the continuous improvement of our products, this technical specification may be modified without previous notifying

BET100



Operating principle

The bench BET100 allows the study of three industrial type heat exchangers.

The bench comprises a reserve bin with a resistor which produces the hot water. Cold water comes from the establishment network.

The students will first need to select the exchanger to study and connect the inputs and outputs of water using hose equipped with self-sealing couplings. The flow rates are adjusted using multi-turn valves with handle.

After a stabilization period, students must identify the operating parameters (temperature, flow rate) to calculate the different values required for the practical exercises

The robust design of this equipment makes it suitable for use in schools.

Anodized aluminum structure on wheels gives it a very robust as well as a high flexible integration into your premises.

The manufacturing of this equipment meets European machine directive

Illustrations

Technical specifications



1. Flowmeters of cold water with needle adjusting valve and selection valve of the flowmeter used. Scales: 15-150L/h and 100-1000 L/h
2. Stainless exchanger plates, surface equal to 0.5m² minimum. Equipped with four temperature measurement at the input and output of cold water and hot water, circulation mode selection using self-sealing quick couplings
3. Stainless Exchanger with stainless tubular beam, surface equal to 0.5m² minimum. Calender glass with drain valve at the lower part. Equipped with four temperature measurement at the input and output of cold water and hot water, circulation mode selection using self-sealing quick couplings
4. Hot water tank with stainless steel and with lid. Effective volume: 100L. Heating resistors: 15KW. Low level sensor and built-in safety thermostat
5. Electrical supply box. Including: protection (circuit breakers ..) power supply switch, button to switch on, multi lane indicator for temperature probes of the exchangers and tank temperature indicator with thermostat
6. Flowmeters of hot water with needle adjustment valve and valve selection of the flowmeter used. Scales: 15-150L/h and 100-1000L/h
7. Exchanger with glass tubular beam, surface equal to 0.5m² minimum. Calender glass with drain valve at the lower part. Equipped with four temperature measurement at the input and output of cold water and hot water, circulation mode selection using self-sealing quick couplings
8. Pump for circulating the hot water in stainless steel. Max pressure: 2.3bars. Max flow: 3000L/H. Maximum temperature of the pumped water: 100 °C

BET100



Services required

- Power supply: 400 Vac - 50 Hz - 32 A
- Power supply type: 3phase (s) + Neutral + Earth.
- Water supply: 20 L/min - 2 bars
- Water drain: at ground level
- Water Capacity: 100 L
- Dimensions: (LxWxH mm): 1845 x 800 x 1900
- weight (Kg): 180

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

- Training Manual
- Technical file
- Exercises
- Certificate of Conformity EC