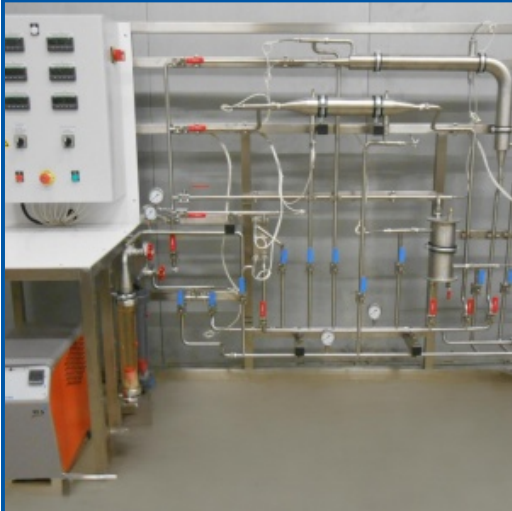


STUDY BENCH OF FOUR HEAT EXCHANGERS



Non contractual photo

**SERVICE : 400 V THREE-PHASE - 9 KW;
COLD WATER SUPPLY 2 BAR, 2 M3 / H
SEWER
DIMENSIONS : 2350 X 810 X 2000 MM**

WEIGHT : 150KG

REFERENCE : MP104

The MP104M bench allows the study and comparison of four types of exchangers
Thermal exchanges are studied co or against the current.

Experimental possibilities :

- Determination of thermal balances
- Determination of global exchange coefficients
- Determination of the flow regimes
- Influence of the transfer mode (co-current / countercurrent)
- Influence of hot fluid and cold fluid supply
- Comparison of the different types of exchanger.
- Analysis of the performances of heat exchanges.

Technical specifications :

- Four exchange exchangers identical exchange (0.1 or 0.2 m²) but of different types:
- 1 brazed plate heat exchanger
- 1 monotubule exchanger
- 1 multitubular exchanger
- 1 exchanger with coil
- The outer shell of the heat exchanger with the coil and the shell exchanger are made of glass
- The outer shelves of the mono tube exchanger are made of stainless steel
- Instrumentation:
- Manometer
- 1 float flowmeter (cold circuit)
- 1 float flowmeter (hot circuit)
- Stainless steel valve for controlling the flow rates of cold water and hot water circuits
- 16 temperature probes Pt 100
- Circuit Selection Valve
- The hydraulic circuit is made of stainless steel, the frame is made of welded stainless steel.
- 1 IP 55 control cabinet
- Emergency stop fist button
- Protection of the pump and electrical circuits
- A 4-position switch for selecting the exchanger type
- A 2-position switch for selecting the circulation mode (co-current and countercurrent)
- Temperature display
- A technical manual with examples of experiences.

OPTIONS :

Option 1 (Data Acquisition): Two electromagnetic demagnetors replace the fuseholders. The acquisition and the visualization of the temperatures and flows on makes a touch screen of 7", moreover

these data can be transferred towards a computer (not provided) .The developed software makes it possible to display the temperatures according to the exchanger and the selected traffic mode. This software allows the acquisition and the recording of the measured values, the calculations and the plots of the heat exchange curves as a function of the time for each exchanger. The following curves can be plotted: Variation in the amount of heat exchanged as a function of flow Variation in thermal efficiency E as a function of flow Variation of heat exchange coefficient U as a function of flow A synoptic of the installation is displayed on the screen, as well as the details of each exchanger. An ergonomic menu allows to select the display of the different temperature and flow parameters according to the exchanger to be studied Option 2 (supervision): This option allows the flow control of hot and cold circuits from a computer. Two flow rates are controlled by a stainless steel pneumatic valve, supplied with 2 P / I converters, the two converters are mounted in the control cabinet, and are configurable according to the computer. Option 3 (water heating group): electric heating of 9 KW, with pump and tank, maximum temperature of 95 ° C.