

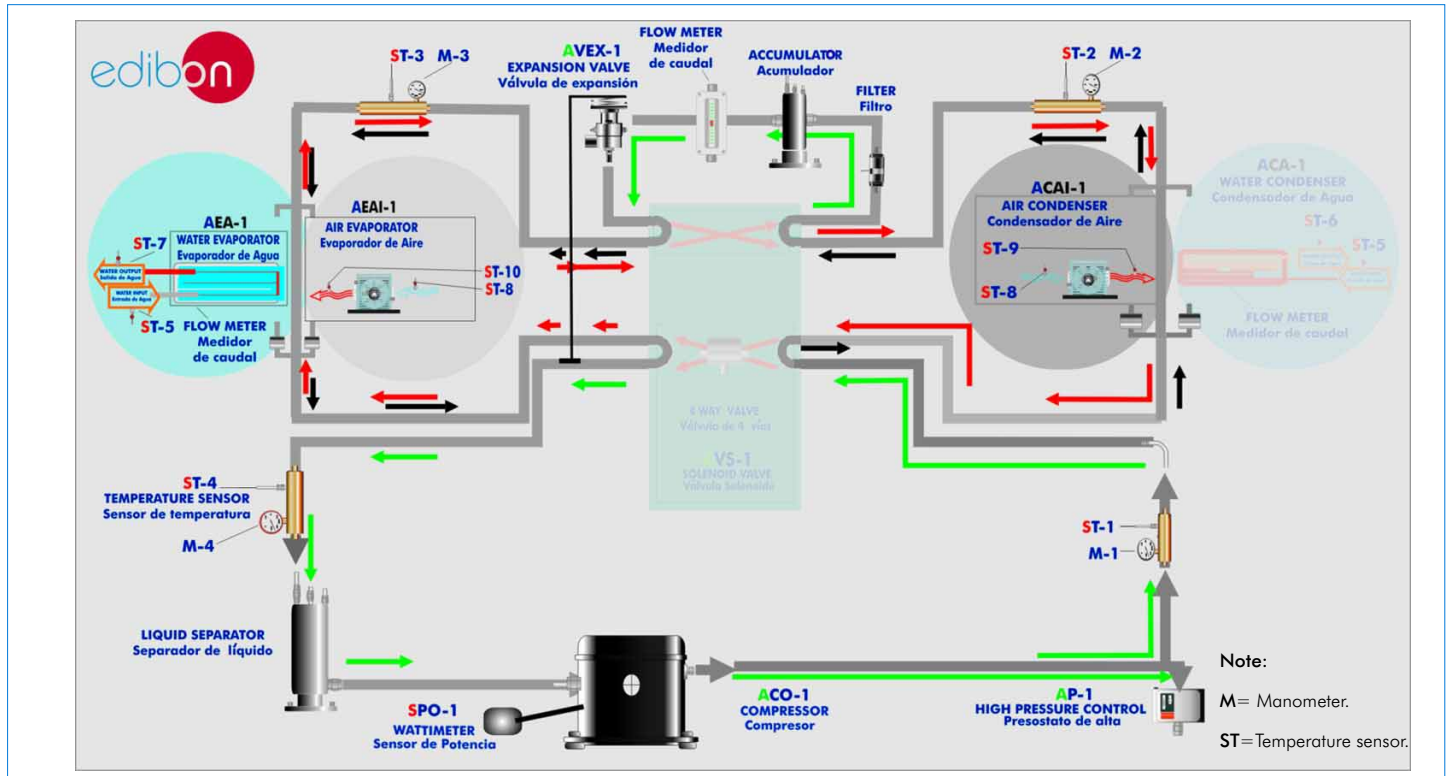


Electronic Console

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- ↳ Products
- ↳ Products range
- ↳ Units
- ↳ 9.-Thermodynamics & Thermotechnics

PROCESS DIAGRAM AND ELEMENTS ALLOCATION



- Bench-top unit.
- Anodized aluminium structure and panels in painted steel (epoxy paint).
- Main metallic elements in stainless steel.
- Diagram in the front panel with similar distribution to the elements in the real unit.
- Cooling compressor.
- Air condenser.
- High pressure control.
- Coolant accumulation tank.
- Cooling filter.
- Expansion valve.
- Water evaporator.
- Air evaporator.
- Tank of division of the cooling liquid.
- 4 Manometers.
- 9 Temperature sensors (4 sensors measure the cooling temperature, 2 sensors measure the water temperature, 3 sensors measure the air temperature):
 - Temperature sensor, J type (compressor outlet).
 - Temperature sensor, J type (condenser outlet).
 - Temperature sensor, J type (evaporator inlet).
 - Temperature sensor, J type (compressor inlet).
 - Temperature sensor, J type (water inlet).
 - Temperature sensor, J type (condenser outlet/air).
 - Temperature sensor, J type (water evaporator outlet/water).
 - Temperature sensor, J type (air evaporator outlet/air).
 - Temperature sensor, J type (room air).
- Flow meters.
- Wattmeter.
- Enthalpy diagram of the refrigerant R134a.
- Electronic Console:
 - Metallic box.
 - Temperature sensors connections.
 - Selector for temperature sensors.
 - Digital display for temperature sensors.
 - Wattmeter display.
 - High pressure control connection.
 - Fans speed regulators.
 - Compressor ON/OFF switch.
 - Electronic Console ON/OFF switch.
- Cables and Accessories, for normal operation.
- Manuals:** This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

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| <ul style="list-style-type: none"> 1.- Determination of the inlet power, heat produced and performance coefficient. Water as heat source. 2.- Determination of the inlet power, heat produced and performance coefficient. Air as heat source. 3.- Preparation of performance curves of the heat pump with different inlet and outlet temperatures. Water as heat source. 4.- Preparation of performance curves of the heat pump with different inlet and outlet temperatures. Air as heat source. 5.- Lay out of the steam compression cycle in a diagram P-H and comparison with the ideal cycle. Water as heat source. 6.- Lay out of the steam compression cycle in a diagram P-H and comparison with the ideal cycle. Air as heat source. | <ul style="list-style-type: none"> 7.- Preparation of performance curves of the heat pump based on the properties of the refrigerant and at different condensation and evaporation temperatures. Water as heat source. 8.- Preparation of the performance curves of the heat pump based on the properties of the refrigerant and at different condensation and evaporation temperatures. Air as heat source. |
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REQUIRED SERVICES

Electrical supply: 220V, 1-phase + neutral + ground, 50 Hz.; or 110V, 1-phase+ neutral + ground, 60Hz.; and 1 CV max.
Water supply and drainage.

DIMENSIONS & WEIGHTS

THBA2B:
Unit: -Dimensions: 900 x 600 x 500 mm. approx.
-Weight: 85 Kg. approx.
Electronic Console: -Dimensions: 490 x 330 x 310 mm. approx.
-Weight: 15 Kg. approx.

RECOMMENDED ACCESSORIES

For refilling R134a refrigerant and maintenance, we recommend:

- T/KIT1 . Maintenance Kit, containing: vacuum pump, hoses and manometers.
- T/KIT2. Maintenance Kit, containing: leakage detector.
- R134a refrigerant (to be acquired by the customer locally).

AVAILABLE VERSIONS

Offered in this catalogue:

- **THBA2B. Heat Pump Unit (one condenser (air) and two evaporators (water and air)).**

Offered in other catalogue:

- **THBA2C. Computer Controlled Heat Pump Unit (one condenser (air) and two evaporators (water and air)).**

OTHER AVAILABLE HEAT PUMP UNITS

- **THIBAR22C. Computer Controlled Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve.**
- **THIBAR22B. Heat Pump + Air Conditioning + Refrigeration Unit with Cycle Inversion Valve.**
- **THB22C. Computer Controlled Heat Pump Unit (two condensers (water and air) and two evaporators (water and air)).**
- **THB22B. Heat Pump Unit (two condensers (water and air) and two evaporators (water and air)).**
- **THB2LC. Computer Controlled Heat Pump Unit (two condensers (water and air) and one evaporator (water)).**
- **THB2LB. Heat Pump Unit (two condensers (water and air) and one evaporator (water)).**
- **THBL2C. Computer Controlled Heat Pump Unit (one condenser (water) and two evaporators (water and air)).**
- **THBL2B. Heat Pump Unit (one condenser (water) and two evaporators (water and air)).**
- **THBALC. Computer Controlled Heat Pump Unit (one condenser (air) and one evaporator (water)).**
- **THBALB. Heat Pump Unit (one condenser (air) and one evaporator (water)).**
- **THB2AC. Computer Controlled Heat Pump Unit (two condensers (water and air) and one evaporator (air)).**
- **THB2AB. Heat Pump Unit (two condensers (water and air) and one evaporator (air)).**
- **THBLAC. Computer Controlled Heat Pump Unit (one condenser (water) and one evaporator (air)).**
- **THBLAB. Heat Pump Unit (one condenser (water) and one evaporator (air)).**
- **THBAAC. Computer Controlled Heat Pump Unit (one condenser (air) and one evaporator (air)).**
- **THBAAB. Heat Pump Unit (one condenser (air) and one evaporator (air)).**
- **THBLLC. Computer Controlled Heat Pump Unit (one condenser (water) and one evaporator (water)).**
- **THBLLB. Heat Pump Unit (one condenser (water) and one evaporator (water)).**

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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REPRESENTATIVE: