

RECIRCULATING AIR CONDITIONING UNIT

GENERAL DESCRIPTION

The DB-216RAS Recirculating Air Conditioning Unit. The unit has been designed to study both the changes in the air conditions and the refrigeration circuit. For that purpose, temperature sensors, pressure meters and flow meters have been strategically located, allowing to study the refrigeration cycle and to quantify the capacity of the evaporation and condensation unit.



db-tech, DB-216RAS

Specification

Tunnel materials: Stainless steel.

Tunnel dimensions: Minimum 300mmx300mmx 1600 mm

- (a) An axial fan, with speed regulation, Max speed: 2500 r.p.m., max. flow: 2160 m3/h
 - (b) 2 heating elements: One (pre-heater) situated at the evaporator inlet. power: 2000W and other (re-heater) situated at the evaporator outlet, power 1000W.
 - (c) 4 hygrometers, placed along the tunnel, formed each one by 2 temperature sensors (wet and dry bulb) Two steam lines inject steam from a steam generator (not included) to the tunnel to modify the air characteristics.
 - (d) 2 windows of minimum 200 x 300 mm. to visualize the tunnel inside.
 - Evaporator:
It consists of a finned radiator where a coolant flow circulates.
 - Coolant circuit:
It includes a Compressor, 1/2 CV. Filter. Condenser. High-pressure switch (it switch off the compressor when the pressure reach the fix pressure). Expansion valve. 11 temperature sensors, type 'J': 8 temperature sensor (4 temperature sensors (dry bulb) and 4 temperature sensors wet bulb) to form 4 hygrometers). A temperature sensors is situated at the evaporator inlet, other is situated at the evaporator outlet and the last one is situated at the condenser outlet.
 - 1 sight glass to view Liquid gas.
 - inclined manometer to measure the air flow, range: 1-1" w.c. (water column)
 - 3 Bourdon manometers: A manometer is situated at the evaporator inlet, other is situated at the evaporator outlet at the last one is situated at the evaporator outlet psychometric chart and enthalpy diagram of R 134a
 - Electronic Console: Metallic box. Temperature sensors connectors. High pressure switches connector. ON/OFF controller for the compressor. ON/OFF controller for the fan.
 - Fan speed controller. Selector for temperature sensors. Digital display for temperature sensors. Heating elements controllers.
 - inclined manometer to measure the air flow, range: 0-1" w.c. (water column)
 - 3 Bourdon manometers: A manometer is situated at the evaporator inlet, other is situated at the evaporator outlet at the last one is situated at the evaporator outlet psychometric chart and enthalpy diagram of R 134a
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 - Fan speed controller. Selector for temperature sensors. Digital display for temperature sensors. Heating elements controllers.
 - Cabk and accessories, for normal operation
- Manuals:** Services Manual, Assembly and Installation, Starting-Up, Safety, Maintenance & practices Manuals.
- Standerd tool box with machine dust cover.