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Product Name :
Air to Water Heat Pump Operation Training Bench Unit

Product Code :
LBNY-0005-1410007



Description :

The Air-to-Water Heat Pump Operation Training Bench Unit is designed to allow students to gain both practical and theoretical knowledge of the operation of heat pumps. The Air-to-Water Heat Pump Operation Training Bench Unit has been designed and manufactured to incorporate all current safety standards. The refrigerant used complies with anti-pollution legislation. An Air-to-Water Heat Pump Operation Training Bench for studying the use of heat pumps to transfer heat from one source at a certain temperature to another source at a higher temperature.

Experiments:

Plant start-up and system monitoring using the protection and safety devices incorporated into the training bench
Studying the operation of a heat pump.

Analysing system behaviour and reactions with the variation of:
Plotting the refrigeration cycle on a p-h diagram
Air flow rate at the evaporator
Water temperature in the tank
Thermostatic valve superheat.

Obtaining data readings and calculation of:
Ideal and actual coefficient of performance (C.O.P.)
Volumetric compression efficiency
Heat balances for the evaporator, condenser and compressor
Refrigerant mass flow.

Technical Specification :

Hermetic compressor
Forced-air variable-speed evaporator
Sight glasses, dehydrator filter, shut-off valve
Valve for plant vacuum, refrigerant charging and recovery
Thermostatic expansion valve
Liquid receiver and liquid separator
Coil condenser immersed in a Plexiglas tank
Thermostat.

Full set of instruments for obtaining data readings including:

Flowmeter

High and low pressure gauges

Double pressure switch

Residual current thermomagnetic circuit-breaker

Start button

wattmeter

Emergency stop button

2x electronic thermocouples with PT100 probes that can be inserted at several test points along the hydraulic circuit.



Laboratory Instrument India