

Product Name :
Mechanical Heat Pump

Product Code :
NLAB-ENGINEERINGLB34005



Description :

Mechanical Heat Pump

Technical Specification :

PRODUCT DESCRIPTION:

All the components of heat pump Test Rig are displayed on powder coated fabricated stand. The primer consists of a hermetically sealed compressor, heat rejection chamber, drier-filter, expansion device, and heat absorption chamber. Hot vapours from the heat absorption chamber in the tank are sucked by the compressor, are compressed & sent to the heat rejection chamber. Liquid emerging out from the heat rejection chamber passes through the expansion device; it is throttled to low pressure & temperature & sent to heat absorption device where it boils. A drier filter is in the way to throttling device. Separate pressure gauges are provided to measure heat absorption device & heat rejection device Pressures at various locations. Energy meter is provided to measure energy consumed by compressor. Rotameter in the liquid line is incorporated to measure the refrigerant flow. Digital temperature indicator displays temperatures at various locations as per the selection viz. temperature before & after compressor and before & after expansion.

SPECIFICATIONS OF THE HEAT PUMP TEST RIG:

500 WATT	HEAT PUMP CROSS	HEAT REJECTION AT RATED TEST CONDITIONS
HERMETIC	HERMETICALLY SEALED	
	emerson climate technologies	make INDIA LTD.OR EQ. MAKE
WATER COOLED	WATER COOLED	PROVIDED CHAMBER
provided	provided	
EXPANSION DEVICE	EXPANSION DEVICE	
HEAT ABSORPTION CHAMBER	HEAT ABSORPTION CHAMBER	REFRIGERANT GRADE COPPER TUBE) DIRECT EXPANSION TYPE PROVIDED

REFRIGERANT	
SEASIDE AIR FLOW METER. measurement	
DIGITAL TEMP. INDICATOR provided	
DIAL TYPE PRESSURE GAUGES: 2 NOS pressure INDICATION	
PROVIDE FOR THE COMPRESSOR	
SUPPLY, 1 PH, 50 HZ AC	

LIST OF EXPERIEMNTS:

- To evaluate the COP of the system of heating & cooling cycle.
- To calculate CARNOT COP.
- To plot the actual Refrigeration Cycle on P-H chart.
- To study various components and controls used in heat pump.

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