

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

REFRIGERANT	
SEASIDE ROTAMETER. measurement	
DIGITAL TEMP. INDICATOR provided	
DIAL TYPE PRESSURE GAUGES: 2 NOS pressure INDICATION	
PROVIDER 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.

## **Naugralabequipments**

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