



Email : sales@laboratoryinstrumentindia.com

**Product Name :**  
Refrigeration Laboratory Unit

**Product Code :**  
LBNY-0005-11700035



#### **Description :**

Refrigeration Laboratory Unit is a fully instrumented refrigerant vapour compression refrigerator with belt driven compressor, electrically heated evaporator, thermostatic expansion valve and water cooled condenser. Refrigeration Laboratory Unit Instrumentation includes all relevant temperatures, condenser pressure, evaporator pressure, refrigerant and cooling water flow rates, evaporator and motor power, motor torque and compressor speed. Operating parameters can be varied by adjustment of condenser cooling water flow and electrically heated evaporator supply voltage. Components have a low thermal mass resulting in immediate response to control variations and rapid stabilisation.

#### **Experimental Capabilities:**

Investigation of the variation in refrigerator duty or cooling ability for various condensing temperatures.  
Investigation of the variation in refrigeration Coefficient of Performance for the various condensing temperatures.  
Production of a vapour compression cycle diagram under various conditions.  
Production of an energy balance for the refrigerator.  
Investigation of the performance of the thermostatic expansion valve.  
Investigation of the heat delivered to the cooling water with variation in condensing temperature.  
Investigation of the variation in Coefficient of Performance based on electrical, shaft and indicated power.  
Determination of the overall heat transfer coefficient for the condenser cooling coil.  
Investigation of power input based on electrical, shaft and indicated power.  
Investigation of the Coefficient of Performance as a Heat Pump for various condensing temperatures.

#### **Technical Specification :**

Refrigeration Laboratory Unit



**Laboratory Instrument India**