



## KLABS THERMAL CONDUCTIVITY OF LIQUID



### PRODUCT DESCRIPTION

- KLABS Thermal Conductivity of Liquid Apparatus is a precision laboratory heat transfer setup designed for determining the thermal conductivity of different liquids and studying the variation of thermal conductivity with temperature.
- The apparatus consists of an electrically heated liquid chamber with a cooling arrangement to ensure unidirectional heat flow through the liquid layer. The complete setup is properly insulated for accurate experimentation and reliable heat transfer analysis.
- The system is equipped with PID temperature control, digital temperature indication, RTD PT-100 sensors, and digital energy measurement for precise monitoring and control during experiments.
- The entire assembly is mounted on a rigid industrial structure with an acrylic cabinet enclosure for safe and convenient laboratory operation.

### FEATURES

- Thermal Conductivity Measurement of Liquids
- Uniform Heat Flow Arrangement
- PID Temperature Controller
- Digital Temperature Indicator
- RTD PT-100 Temperature Sensors
- Digital Energy Meter
- Stainless Steel Cooling Chamber
- Acrylic Cabinet Enclosure
- Drain & Charging Valve Arrangement
- Compact Laboratory Design
- Industrial PU Painted Structure
- User-Friendly Experimental Setup

### CONTROL PANEL FEATURES

- PID Temperature Controller
- Digital Temperature Indicator
- Multi-Channel Switch
- Digital Energy Meter
- Main Power Switch
- Mains Indicator

### UTILITIES REQUIRED

- Electricity Supply: 1 Phase, 220V AC, 2 Amps
- Water Supply: 15 LPH (Approx.)
- Floor Drain
- Table for Setup Support



**STANDARD ACCESSORIES**

- Experimental Setup
- RTD PT-100 Sensors
- Digital Energy Meter
- Acrylic Cabinet
- Instruction Manual
- Experimental Procedure Guide
- Block Diagram Manual

**APPLICATIONS**

- Heat Transfer Laboratories
- Engineering Colleges
- Research Laboratories
- Thermal Engineering Studies
- Industrial Training Institutes
- Educational Demonstration Experiments

**Technical Specifications**

Technical Details	Specification
Liquid Chamber Inner Dia.	40mm (approx).
Liquid Chamber Length	120mm (approx).
Heater Type	Rod type
Heater Outer Dia.	38mm (approx).
Heater Length	120mm (approx).
Cooling chamber	Made of Stainless Steel for water circulation
Cooling Chamber Inner Dia.	70mm (approx).
Cooling Chamber Length	120mm (approx).
PID Controller	0-199.9°C
Digital Temp. Indicator	0-199.9°C
Temperature Sensors	RTD PT-100 type-4Nos.
Energymeter	Digital type for power measurement
Valves	Provided for drain & charging line
Cabinet	Acrylic Cabinet
Structure	Rigid structure painted with industrial PU Paint

**EXPERIMENTATION / LEARNING OBJECTIVES**

- Determination of Thermal Conductivity of Liquid
- Study of Variation of Thermal Conductivity of Liquid with Temperature