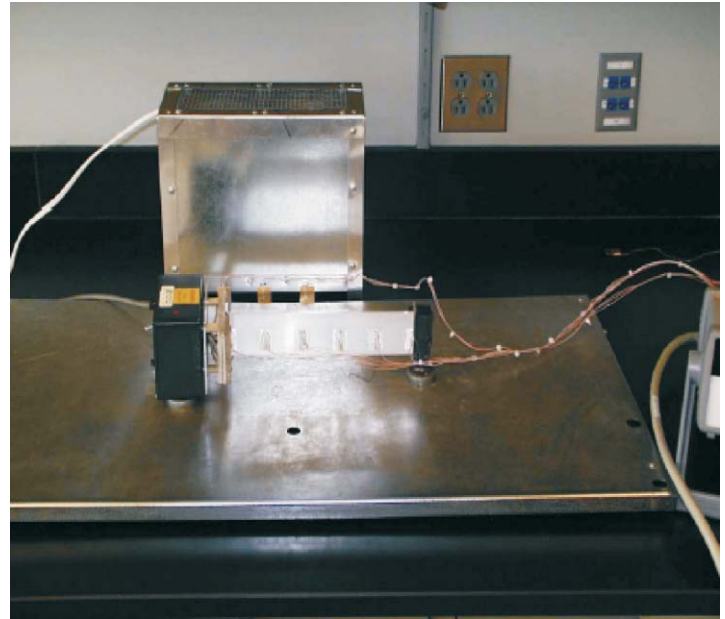


HEAT TRANSFER & REFRIGERATION LAB TEST RIG



TECHNICAL SPECIFICATIONS :

A) THERMAL CONDUCTIVITY OF INSULATING POWDER

- 1) Electricity supply: 1 Phase, 220 VAC, 2 Amp.
- 2) Inner sphere (copper) : Dia.- 100mm.
- 3) Outer sphere (copper) : Dia. - 200mm.
- 4) Heater : Nichrome wire
- 5) Control panel consisting of Digital Voltmeter : 0-300 Volt, Digital Ammeter : 0-2Amp, Variac : 0-230V, 2A. Digital temperature indicator : 0-300°C, with multi-channel switch, Temperature sensors mounted.
Computer interface optional
- 6) The whole set-up provided in aluminum rackdemo panel setup.
- 7) On each sphere, minimum six thermocouples / RTD sensors mounted.
- 8) Setup is provided with operating manual with sample reading and calculations.

B) THERMAL CONDUCTIVITY OF METAL ROD

- 1) Water supply 3 lit/min (approx)with drain.
- 2) Electricity supply : 1 phase, 220 VAC, 2Amp.
- 3) The whole set-up provided in aluminum rack demo panel setup, SS valves.
- 4) Metal Bar : Material : Copper, Length : 450 mm,
Diameter : 25 mm, L/D ratio: 18
- 5) Insulation shell stainless Steel, Length : 250 mm,
Diameter: 200 mm
- 6) Cooling water jacket Length : 75 mm, Diameter : 100 mm
- 7) Heater : Nichrome wire
- 8) Water flow measurement: measuring cylinder & stopwatch
- 9) Control panel consisting of Digital Voltmeter: 0-300 Volt,
DigitalAmmeter: 0-2Amp, Variac:0- 230V, 2A, Digital temp. indicator : 0-199.9°C, with multi-channel switch Temperature sensors mounted.
Computer interface optional
- 10) With standard make on off switch, mains indicator etc.

C) HEAT TRANSFER FROM A PIN FIN

- 1) Electricity supply: 1 phase, 220 V AC, 5 Amp.
- 2) Fin
- 3) Material: Brass
- 4) Size: 12.5 mm (approx), 15cm. long (approx)
- 5) Duct: Made of MS.
- 6) Fan: Standard make.
- 7) Heater : Band type, Nichrome wire.
- 8) Control panel comprising of : Dimmerstat : 0-230V, 2A, Digital temperature indicator 0-300°C, with multi switch, Temperature sensors mounted.
Computer interface optional
- 9) With standard make on off switch, mains indicator etc.
- 10) The whole set-up provided in aluminum rack demo panel setup.

D) HEAT TRANSFER IN FORCED CONVECTION

- 1) Electricity supply : 1 phase, 220VAC, 10 Amp.
- 2) Floor area of 1.2 m x 0.5 m.
- 3) Test section : Diameter : 28mm (approx), Length : 400mm (approx)
- 4) Blower : FHP of standard make.
- 5) Heater : Nichrome wire
- 6) Air flow measurement : Orifice meter and Manometer.
- 7) Control panel comprising of : Digital Voltmeter: 0-300 Volt, Digital Ammeter : 0-2Amp, Variac : 0-230V, 2A. Digital temperature indicator 0-300°C, with multi-channel switch, Temperature sensors mounted.
Computer interface optional.
- 8) The whole set-up provided in aluminum rack demo panel setup.

E) HEAT TRANSFER IN NATURAL CONVECTION

- 1) Electricity supply : 1 phase, 220 VAC, 2 Amp.
- 2) Test Section : Diameter : 38mm(approx),
Length : 500mm (app.), Heater : Nichrome wire.
- 3) Control panel comprising of: Digital Voltmeter : 0-300 Volt, Digital Ammeter : 0-2Amp, Variac : 0-230V, 2A. Digital temperature indicator : 0-300°C, with multi-channel switch, Temperature sensors mounted. Computer interface optional, With standard make on off switch, mains indicator etc.
- 4) The whole set-up provided in aluminum rack demo panel setup.

F) SHELL & TUBE HEAT EXCHANGER

- 1) Water supply 20 lit. / min. (approx) & drain.
- 2) Electricity supply : 1 phase, 220 VAC, 4 kW.
- 3) Floor area of 1.5 m x 0.75 m.
- 4) System : Water to Water.(1-2 Pass)
- 5) Shell : Material stainless steel. Dia. 220mm, length : 500mm (approx) 25% cut baffles at 100 mm distance - 4 Nos.
- 6) Tube : OD 16 mm approx., Length 500mm
- 7) Water flow measurement: Rota meters (2 Nos) 1 each for cold & hot fluid.
- 8) Hot water tank : Made of stainless steel Insulated with ceramic fiber wool.
- 9) Hot water Circulation : Magnetic pump made of polypropylene to Circulate Hot water. Maximum working temperature is 85°C.
- 10) Heaters : 2 KW Nichrome wire heater (2 Nos).
- 11) Control panel comprising of : Digital temperature controller: 0-199.9°C, (for hot water tank), Digital temperature indicator : 0-199.9°C, with multi - channel switch, Temperature sensors mounted. Computer interface optional, with standard make on off switch, mains indicator etc.
- 12) The whole set-up provided in aluminum rack demo panel setup.

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Specifications subject to change without notice