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CRITICAL HEAT FLUX APPARATUS (EE-1580)

The present setup is designed to study the critical heat flux of a given nichrome wire. The setup consists of temperature controlled water bath with controller. Temperature of the water bath can be varied from ambient to 80°C to achieve different environment for nichrome wire. Test heater wire is placed in the bath & voltage is varied by variac provided. The system is complete with digital temperature controller, voltmeter, ammeter & voltage control facility.

SCOPE OF EXPERIMENTATIONS:

- To determine the critical heat flux of given wire
- To study the pool boiling phenomenon up to Critical Heat flux point

UTILITIES REQUIRED:

- Water Supply : Initial fill
- Floor Drain
- Floor area : 1.0m x 0.75 m
- Nichrome wire : 0.1219 mm (40 swg)
- Electricity Supply : 1 Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection (Earth voltage should be less than 5 volts)

TECHNICAL SPECIFICATIONS:

- Boiling chamber : Rectangular chamber (Material SS) with transparent window for observation of test heater
- Test heater : With holding arrangement for quick change of wire
- Control panel comprises of :
- Digital Temp. Controller : 0-199.9 °C, for water bath
- Voltmeter : 0-300 V
- Ammeter : 0-20 Amp (with Peak Hold Facility)
- Dimmerstat : 0-4 A, 230 V
- With standard make On-off switch, mains indicator etc. An ENGLISH instruction manual consisting of experimental procedures, will be provided along with the Apparatus The whole set-up is well designed and arranged on a rigid structure.