

Product Name :
HEAT PIPE DEMONSTRATOR

Product Code :
TRANSFORMER0009



Description :

HEAT PIPE DEMONSTRATOR

Technical Specification :

It is a super-conducting device and involves the transfer of heat by boiling and condensation of a fluid and hence transfer of heat takes place under nearly isothermal condition. In this apparatus the comparison of heat pipe with the copper pipe as good conductor of heat and with the stainless steel pipe as same material of construction is made. It consists of three identical cylindrical conductors in respect of geometry. One end of these is heated electrically while there are small capacity tanks acting as heat sinks at the other end. The unit consists of a heat pipe a copper pipe and a stainless steel pipe. Temperature sensors are embedded along the length to measure the temperature distribution and the heat transfer rate is noted in terms of the temperature rise in the heat sink tanks.

The performance of the heat pipe as a super-conducting device can be studied well in terms of the temperature distribution along the length at a given instant and can be compared with other two members. Nearly isothermal temperature distribution and fast rise of temperature in heat sink tank reveals the heat pipe superiority over the conventional conductors.

Experiments

- To demonstrate the super thermal conductivity of Heat Pipe and to compare its working with heat conductor i.e. Copper pipe & Stainless steel pipe as same material of construction.
- To plot the temperature vs time response of three pipes
- To plot the temperature distribution along the length of three pipes

Utilities Required

- Electricity Supply : 1Phase, 230 V AC, 2 Amp.

Table for set-up support

LAB ENGINEERING

Elab Engineering Equipments Manufacturers