HEAT TRANSFER

HT-330 NATURAL AND FORCED HEAT TRANSFER TRAINING SET



GENERAL EXPLANATION

This training set shows natural and forced convection heat transfer mechanism. The device can examine the heat balance, the energy balance of the inner tube transfer, the Nusselt, Graetz number changes in the natural and forced state.

EXPERIMENTS

- 1. Display of parallel and counter flow heat transfer in a tube-in-tube heat exchanger
- 2. Calculation of heat transfer in natural and forced flow in heat exchanger
- 3. Calculation of the total heat transfer coefficient at the oil and water side
- 4. Calculation of the numberless Nusselt and Graetz numbers
- 5. Experiment to calculate the change in the total heat permeability coefficient in the tube-in-tube heat exchanger in relation to the flow

DIMENSIONS

A x B x H : 1180 x 450 x 1500 mm

OPTIONAL FEATURES

- Touch LCD Display
- USB Computer Connection
- Computer Control

TECHNICAL SPECIFICATION

Heat transfer is analyzed in two parts as natural and forced according to the motion of the fluid. At the beginning, the oil in the tank is heated by a 1kW resistance to generate heat energy. At the same time, the water taken from the network is used as the system where the energy is transferred. In the natural flow; the pump in the device is deactivated, the heated oil rises and the heat exchanger is switched on and the energy is transferred to the other system. The heat transfer here is low. In the forced flow, the pump is activated and the oil sends a heat exchanger with a specific action. The heat transfer there is higher than the natural flow. At the same time, the direction of the installation fluid is changed and heat transfer experiments are carried out by reverse flow.



Heating and circulation system

- 1 kW resistance
- 3 speed steps and 2 mwc discharge capacity
- Recirculation pump
- At least 50 °C oil temperature
- At least 2 L heating tank
- Tube-in-tube heat exchanger

PACKAGE INCLUDED

Device, device cover, 1 printed experiment report, circuit diagram and product catalog



www.argemsan.com