Computerized Heat Transfer in Lagged pipe Apparatus (Product Code: HMTC04)



Features

- Extensive range of Experiments
- Comprehensive teaching manual
- Three-year warranty
- Esthetically designed and finished Rig.
- High Quality instrumentation
- To determine the Thermal conductivity of an insulating material

Product Description

The apparatus consists of a metal pipe with two layers of insulation. An electric heating coil wound on a silica rod is placed at the center. The ends are thickly insulated to prevent heat loss so that, heat flow only in a radial direction. Three thermocouples each are placed at different radii to measure the temperature distribution within the cylinder.

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Computerized Heat Transfer in Lagged Pipe Apparatus (Product Code: HMTC04)

Product / Component Specification

Pipe	M.S Pipe
By pass valve	½" gate valve
Rod heater	250watts
Variac	2 amps
Digital voltmeter	0-300 volts AC
Digital ammeter	0-5 Amps AC
Digital temperature	0-300 Deg (K Type)
Thermocouple	K type
Insulation material	Glass wool
Measuring tank	1 liters (plastic)
Stop watch	Digital

Data Acquisition card

Analog Input	
Differential Channels	12
Resolution	12 bits
Sample Rate	200 Ks/s
Max Voltage	5 V
Number of Ranges	4
Simultaneous Sampling	Yes
On-Board Memory	5120 samples
Analog Output	
Channels	2
Digital I/O	
Input-Only Channels	30
Output-Only Channels	12
Timing	Software
Logic Levels	TTL
Maximum Input Range	0 V - 5V
Maximum Output Range	0 V - 3.3 V
Counter/Timers	
Counters	2
Max Source Frequency	84 MHz
Resolution	12 bits
Logic Levels	TTL
Total DC output Current on all I/O lines	130mA

Measurement of Temperatures at different points

Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Inner Pipe Temperature
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Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Insulation Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Insulation Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Insulation Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Insulation Surface temperature
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Measurement of Voltage & Current

Type Range Signal conditioning/transmitter	Voltage Transducer 0-300V Standalone
Type Range Signal conditioning/transmitter	Current Transducer 0-10Amps Standalone

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