Computerized Parallel flow & Counter flow Heat exchanger (Product Code: HMTC08)



Features

- Extensive range of Experiments
- Comprehensive teaching manual
- Three-year warranty
- Esthetically designed and finished Rig.
- High Quality instrumentation

Product Description

The apparatus consists of a concentric tube heat exchanger. The hot fluid (Hot water) is obtained from an electric geyser and it is made to flow through the inner tube. The cold fluid (cold or ambient temperature water) is made to flow through the outer tube. When the cold fluid and the hot fluid is made to pass in the same direction, the process is called parallel flow, when the cold fluid and the hot fluid is made to flow in opposite direction the process is called counter flow. Temperatures at the inlet and outlet of the fluids are measured using thermocouples and are connected to a digital temperature indicator.

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Computerized Parallel flow & Counter flow Heat Exchanger (Product Code: HMTC08)

Product / Component Specification

Tube size	20 mm Diameter, 500 mm long, 20 Nos.
Fins size	50 mm Diameter, 25 Nos.
Blower	Centrifugal Blower with 2 HP motor
Air Heater	1.5 kW, 3 Nos.
Air Flow measurement	Anemometer
Digital temperature	0-300 0C (K Type)
Thermocouple	K type
Digital Voltmeter	0-300 Volts AC

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 Inlet Steel bottom Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Aspirates bottom Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Aspirates top Temperature
Type Range Signal conditioning/transmitter Location	"K" 0-300°C Standalone Brass top surface Temperature

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