Computerized Shell and Tube Heat exchanger (Product Code: HMTC09)

Features

- Extensive range of Experiments
- Comprehensive teaching manual
- Three-year warranty
- Esthetically designed and finished Rig.
- High Quality instrumentation
- To determine the overall heat transfer Co-efficient
- To determine the effectiveness of the heat exchanger

Product Description

This equipment allows student to fully investigate the performance and characteristic of a shell and multi tube heat exchanger. It consists of 12 tubes of 12mm outside diameter and the effective length of the tube is 1000mm with two tube pass. The shell is made of stainless steel having inside diameter of 150mm with 6 segmental baffles. The water flow rate is measured using a Rota meter. Thermocouples are provided for measuring the inlet and outlet temperature hot and cold fluids.

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Computerized Shell and Tube Heat Exchanger (Product Code: HMTC09)

Product / Component Specification

Shell	MS (150mm OD, 600mm Total length)
Tube	Copper (12mm OD, 8 no's)
Rota meter	0-50cc/sec (Acrylic)
Gate valve	½"
Heater for boiler	1.5 Kw (2 no's)
Boiler	MS
Level gauge	12mm OD
Pressure gauge for the boiler	0 – 10 kg s/cm2
Safety valve	3/8 (spring loaded)
Water inlet for the boiler	MS funnel with gate valve
Thermocouple	K type
Water tank	SS
Circulating pump	Mono block
Stop watch	Digital
Insulation	Asbestos rope
Steam trap	½" standard

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 Steam Inlet Temperature
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