toruqe for each sample

stedev\*students t value = error

The unit is designed to permit the student to determine experimentally:

1. Logarithmic temperature difference for:

a) Double-pipe heat exchanger with parallel-flow

b) Double-pipe heat exchanger with counterflow

c) Shell-and-tube heat exchanger

d) Cross-flow heat exchanger

2. Heat Exchanger Effectiveness for:

a) Double-pipe heat exchanger with parallel-flow

b) Double-pipe heat exchanger with counterflow

c) Shell-and-tube heat exchanger

d) Cross-flow heat exchanger

3. Heat Transfer Coefficients for both forced and free convection for

laminar, transitional and turbulent flows for:

a) Liquid to liquid

b) Liquid to gas with a phase change

c) Gas to gas with a phase change

4. Film coefficients for:

a) Liquids

b) Gases with a phase change

5. Effects of different metals on thin wall heat transfer.

6. Tube entrance effects on heat transfer.

7. Unsteady state heat transfer.

8. Total heat balance.

Test Panel:

Mounted on the test panel are two flowmeters with a ±2% fullscale

accuracy, one digital thermocouple display meter cold

junction compensated with a resolution of 0.1°C/0.1°F and

accurate to within ±0.4°C/0.8°F utilizing Chromel-Alumel

thermocouples. The unit comes complete with 23 fixed thermo

couples on the inlet and outlet of the 1/2" ID tubes of each heat

exchanger pass and at the mixing valve. Also, two thermocouple

probes are supplied which allow the taking of temperature

readings at any point of the outer surface of each of the heat

exchangers.

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