HEAT TRANSFER

HEAT EXCHANGER

MODEL NO.
HMT- 11

PARALLEL AND COUNTER CURRENT FLOW IN ADOUBLE PIPE HEAT EXCHANGER

Description:

- In an Apparatus hot water is generated in the hot water tank using an electric heater. The hot water is then pumped to the inner tube using a centrifugal pump and is metered using a rotameter. Hot water flow rate is controlled by valve V1.
- Cooling water (cw) is taken from water supply line. The flow rate of cw is controlled by the valve V2 and is metered by a rotameter before it is fed to the outer tube of the heat exchanger.
- Valves V3, V4, V5 & V6 are used to direct the water flow in parallel and counter current directions. Four RTDs (Resistance Temperature Detector) are used to measure the inlet and outlet temperatures of cooling as well as hot water streams.

Experimental Capabilities:

- To determine the LMTD and overall heat transfer coefficient of the heat exchanger during parallel and counter current flow configuration.
- To estimate the effectiveness of the heat exchanger under parallel and counter current flow conditions.

Facilities required:

- Electrical Supply (Single phase, 15 Amp)
- Water supply

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