

**Product Name :**  
PARRALE FLOW & COUNTER FLOW HEAT EXCHANGER**Product Code :**  
Heat and Mass0009**Description :**

PARRALE FLOW &amp; COUNTER FLOW HEAT EXCHANGER

**Technical Specification :**

The unit consists of a tube in tube type concentric tube type exchanger hot fluid flow through inner tube and cooling water flows through the annulus. The apparatus is mounted on a board with system of valves and pipes. The heat exchanger arranging to instruction shown on board. Hot fluid flows always in one direction & cold fluid flow direction can be changed accordingly. Inlet temperature of heat exchanger can be measured by thermometers. An electric geyser is used to heat the water. Outer tube of the heat exchanger is provided with adequate thermocouple insulation to minimize the heat losses.

**FEATURES:-**

- Performance and working of heat exchangers can be studied easily.
- Both parallel and counter flow arrangements can be studied on the same set-up with simple operation of valves.
- Wide range of experiments can be performed with varying flow rates on hot and cold side.
- Ideal for group studies.

**SPECIFICATION:-**

- Heat exchanger :-
  - a) Outer tube - I. D. - 25 mm 1 m. long G. I.
  - b) Inner tube - O. D - 12.5 mm 1 m. long Copper.
- Valve arrangement for parallel flow/counter flow operation and flow control.

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- Geyser to obtained hot water.
  - Thermometers to measures inlet and outlet temperature of hot and cold water.

**RANGE OF EXPERIMENTS:-**

- To determine heat transfer coefficient for a tube in tube type heat exchanger.
- To calculate -
  - a) Rate of heat transfer.
  - b) Long mean temperature difference.
  - c) Overall heat transfer coefficient (H) for both parallel and counter-flow condition, under same flow rates.
- To compare values of heat transfer coefficient obtained experimentally with those calculated from empirical formula for flow through tubes and annually.

**SERVICE REQUIRED:-**

- Suitable floor area to mount the instrument.
- 15 A. Single Phase A.C. supply with earthing connection.
- Continuous water supply.

 **LAB ENGINEERING**

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