KHT-002 | **PLATE HEAT EXCHANGER TRAINER**

Heat Exchanger Plates

Plate Heat Exchanger Trainer – Model KHT-002

The Plate Heat Exchanger Trainer (Model KHT-002) is a versatile and effective educational system designed to provide a comprehensive understanding of heat exchanger principles and performance.

System Description

- The hot water unit consists of a tank with electrical immersion heaters, enabling controlled heating.
- Facilities are provided to circulate both hot and cold water through flow meters for precise monitoring.
- The trainer can be equipped with one or more of the following exchangers for experimentation:
  - Plate-Type Heat Exchanger
  - Shell and Tube Heat Exchanger
  - Concentric Pipe Heat Exchanger
- Additional types of heat exchangers are available upon request.
- The system enables experiments in both parallel flow and counter-flow arrangements.

Shell & Tube Heat Exchanger (Optional)

- Constructed with parallel tubes housed in a shell containing baffles along its length.
- Baffles promote turbulent flow, ensuring effective heat transfer.
- Entire unit is insulated to minimize heat loss.
- Independent control of flow rates and temperatures allows calculation of heat transfer coefficients under varying conditions.

Note: Specifications and Photos can be altered without prior notice in our constant efforts for improvement.

Educational Value

The trainer provides students with hands-on learning in:

- Heat transfer analysis in different types of heat exchangers
- Comparison of parallel flow vs. counter-flow performance
- Influence of turbulence on heat transfer rates
- Determination of overall heat transfer coefficients

The Plate Heat Exchanger Trainer is an essential laboratory tool for teaching and research in Thermal Engineering, Process Engineering, and Heat Transfer Studies.

List of Experiments

1. Study and comparison of heat exchanged in shell & tube and concentric type heat exchangers*
2. Determination of mean temperature difference under parallel and counter flow arrangements
3. Determination of overall heat transfer coefficient
4. Determination of heat exchanger capacity

* Only applicable if more than one heat exchanger is ordered

Components

1. Plate heat exchanger
2. Water heater
3. Pump
4. Tank
5. Temperature indicator
6. Flow measuring unit
7. Control panel

Optional Additions

- Computerized data acquisition software for heat transfer experiments
- Advanced PC-based model with:
  • Real-time data acquisition
  • On-line plotting & historical trend analysis
  • Complete performance calculations
  • Comprehensive HELP menu for user-friendly operation
- Glass tube heat exchanger

* Details of optional attachments available on request

Services Required

- Water supply and drainage arrangement
- Electrical power supply

Note: Specifications and Photos can be altered without prior notice in our constant efforts for improvement.