HT113

Stirred Tank with Double Jacket & Coil

Overview

The module is designed to allow the trainees to investigate the functioning and behavior of a stirred tank with double jacket and coil in operation.



Specifications

- The module is connected to the main unit (heat exchanger supply unit) using quick release couplings.
- The jacketed stirred tank is fitted with a coiled tube.
- In heating mode with jacket, the hot water flows through the jacket and transfers a part of the thermal energy to the cold water in the tank.
- In heating mode with coiled tube, the hot water flows through the coil and heats the cold water in the tank.
- The flow regulation valves of the heat exchanger supply unit are used adjust the flow rate of hot water.
- Temperature sensors are installed to the main unit for measuring the inlet and outlet temperature are located at the supply connections.
- Time curves can be plotted and displayed graphically during experiments.
- The measured values can be recorded and processed using data acquisition software.
- The educational unit is mounted to a robust base.

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Experiments

- Function and behavior during operation of a stirred tank with double jacket and coil
- Plotting time curves:
  - » Heating mode with jacket
  - » Heating mode with coiled tube
- Influence of a stirring machine
- Comparison with other heat exchanger types

Technical Data

Stirred tank

» nominal capacity: approx. 1500mL

Jacket Tank:

» nominal capacity: approx. 500mL

Stirring machine

» speed: 0…330 rpm

Coil

» Coil turns: 13 turn

» lenght : 5.7 m

» Tube Diameter: 8mm

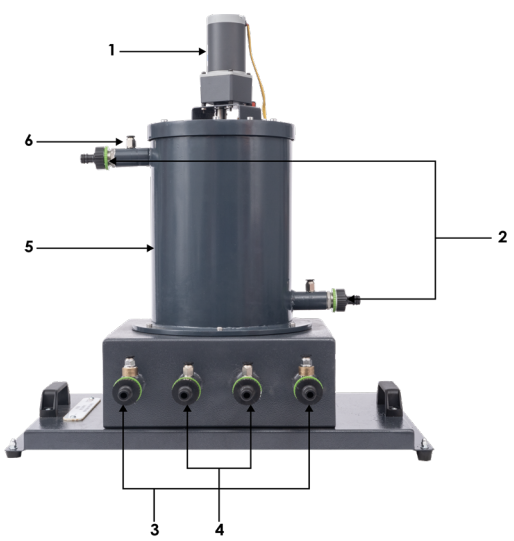
» Coil Diameter: 134 mm

Heat transfer area

» jacket (stainless steel): approx. 0.16 m^2

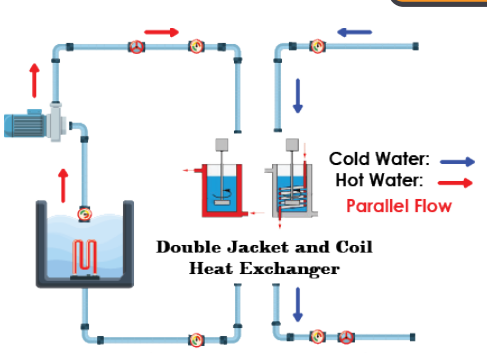
» coil (stainless steel): approx. 0.143 m^2

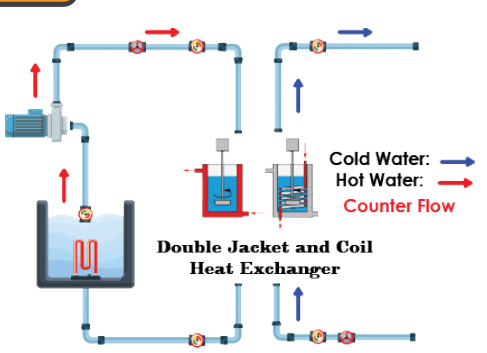
Component



1	Stirring machine
2	Jacket water Connections
3	Tank water Connections
4	Coiled tube water connections
5	Tank Body
6	Temperture Sensor Connection

Schematics





Scope of Delivery

- Stirred Tank with Double Jacket & Coil (HT113)

Required for Operation

- Heat Exchanger supply unit (HT109).

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