



INTEGRATED CIRCUITS
ELECTROINC INDUSTRIES

Heat Exchanger unit ICF-HL-MHX-I01

2024

1. Overview

The ICF-HL-MHX-I01 – Heat Exchanger Unit is a compact bench-top system with a robust anodized aluminum frame and painted steel panels. Key components are made of stainless steel for durability. The front panel includes a clear diagram showing the layout of the system. The unit features a Shell & Tube Heat Exchanger, where hot water flows through internal tubes while cooling water circulates around them within the shell, allowing efficient thermal exchange for educational and experimental analysis.

2. Features

- model of a tubular heat exchanger
- heat exchanger can be operated in parallel and counterflow

3. Experiments will be done

1. Record temperature curves in parallel flow mode and in counter flow mode.
2. determine average heat flux for parallel flow and counterflow operation.
3. determine average overall heat transfer coefficients.



Fig: ICF-MHX-I01

4. Specification

Pump:

- power consumption: 70W.
- max. flow rate: 3300L/h.
- max. head: 4m.

Heater:

- output: 3kW.
- Thermostat: 20...85°C.

Heat transfer surfaces:

- hot side: 0,0306m².
- cold side: 0,0402m².
- average transfer surface: 0,0354m².

Tank: 40L.

Measuring ranges:

- Temperature: 6x 0...100°C.
- Flow rate: 2x 0...360L/h.