

Shell and Tube Heat Exchanger – HT33

Description - requires HT30XC base unit

The shell and tube heat exchanger is commonly used in the food and chemical process industries. This type of exchanger consists of a number of tubes in parallel enclosed in a cylindrical shell. Heat is transferred between one fluid flowing through the tubes and another fluid flowing through the cylindrical shell around the tubes.

The miniature exchanger supplied is designed to demonstrate liquid to liquid heat transfer in a 1-7 shell and tube heat exchanger (one shell and seven tubes with two transverse baffles in the shell).

Technical Details

The accessory consists of a miniature shell and tube heat exchanger with the following features:

- ▶ Hot fluid in the inner tubes and cold fluid in outer shell to minimise heat loss from the exchanger without the need for additional insulation
- ▶ Seven stainless steel tubes, 6.35mm OD
- ▶ The outer annulus, end caps and baffles constructed from clear acrylic to allow visualisation of the heat exchanger construction and minimise thermal losses
- ▶ Nominal combined heat transfer area of 20,000mm², (equivalent to that of the HT31 Tubular Heat Exchanger for direct comparison)
- ▶ Cold fluid (cold water) enters one end of the shell at the bottom and exits at the opposite end at the top having flowed over and under two transverse baffles inside the shell
- ▶ Thermocouples are installed at the following four locations:
 - Hot fluid
 - Hot fluid outlet
 - Cold fluid inlet
 - Cold fluid

Overall dimensions

Length	0.19 m
Width	0.43 m
Height	0.39 m

Packed and created shipping specifications

Volume	0.06 m ³
Gross weight	5 kg

Features

- ▶ A miniature shell and tube heat exchanger for use with an Armfield Heat Exchanger Service Unit
- ▶ Comprises an outer shell and seven internal tubes. There are two transverse baffles inside the shell
- ▶ Four temperature sensors are supplied in tapplings at fluid inlets and outlets
- ▶ The heat exchanger is constructed from stainless steel tube and clear acrylic. It is mounted on a PVC baseplate which is designed to be installed on the plinth of the Heat Exchanger Service Unit without the need for tools
- ▶ The stainless steel tubes can be removed from the heat exchanger for cleaning
- ▶ A comprehensive instruction manual is included

HT33 Essential Accessories

- ▶ HT30XC Computer controlled service unit

Ordering codes

- ▶ HT33 - Shell & Tube heat exchanger - See HT30XC for power options

