SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

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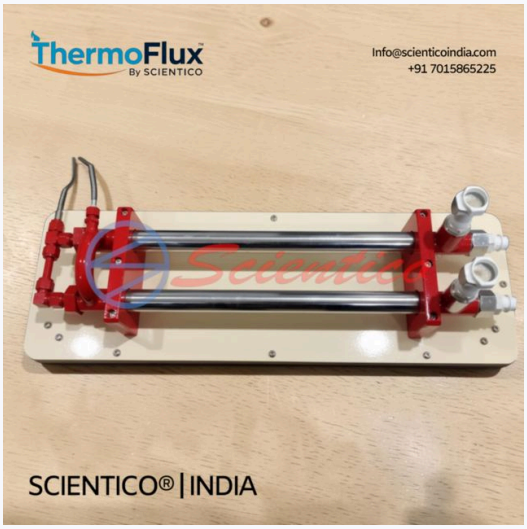
Concentric Tube Heat Exchanger | ThermoFlux - 7108/2

Category: Scientico · **Country of Origin:** India

Product Overview

The Concentric Tube Heat Exchanger ThermoFlux - 7108/2 is a laboratory unit for studying heat transfer through a concentric tube configuration under parallel flow and counter flow conditions. It is formed by two concentric copper tubes with a total exchange length of 2 m (L x 4 x 0.5 m). The internal tube measures 8 mm internal diameter, 10 mm external diameter, and 1 mm wall thickness, with an internal heat transfer area of 0.0377 m² and an external heat transfer area of 0.0471 m². This concentric tube heat exchanger is built on an anodized aluminium frame with HDF panels, with all water-contact parts in PVC, brass, copper, or stainless steel. K-type thermocouple sensors measure hot and cold water temperatures at inlet, midpoint, and outlet positions along the exchanger.

View this product online: https://scienticoindia.com/product/concentric-tube-heat-exchanger-thermoflux-7108-2/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Concentric Tube Heat Exchanger ThermoFlux - 7108/2, Technical Specifications

Parameter	Value
Heat Exchanger Type	Concentric tube, two copper tubes
Flow Configurations	Parallel flow and counter flow
Exchange Length	2 m (L x 4 x 0.5 m)
Internal Tube Internal Diameter	8 mm
Internal Tube External Diameter	10 mm
Internal Tube Wall Thickness	1 mm
Internal Heat Transfer Area	0.0377 m²
External Heat Transfer Area	0.0471 m²
External Tube Internal Diameter	13 to 14 mm
External Tube External Diameter	15 to 16 mm
External Tube Wall Thickness	1 to 1.5 mm
Tube Material	Copper
Structure Material	Anodized aluminium
Panel Material	HDF

Parameter	Value
Water Contact Parts	PVC, brass, copper, stainless steel
Temperature Sensors	K-type thermocouples
Sensor Locations	Hot water inlet, outlet, midpoint; cold water inlet, outlet, midpoint

Technical Data

Internal Tube

Parameter	Value
Internal Diameter	8 mm
External Diameter	10 mm
Wall Thickness	1 mm
Internal Heat Transfer Area	0.0377 m²
External Heat Transfer Area	0.0471 m²
Material	Copper

External Tube

Parameter	Value
Internal Diameter	13 to 14 mm
External Diameter	15 to 16 mm
Wall Thickness	1 to 1.5 mm
Material	Copper

Heat Exchanger Assembly

Parameter	Value
Configuration	Two concentric copper tubes
Exchange Length	2 m (L x 4 x 0.5 m)
Flow Arrangements	Parallel flow and counter flow

Structure and Materials

Parameter	Value
Frame	Anodized aluminium
Panels	HDF
Water Contact Parts	PVC, brass, copper, stainless steel

Temperature Sensors

Parameter	Value
Sensor Type	K-type thermocouples
Hot Water Sensor Locations	Inlet, midpoint, outlet
Cold Water Sensor Locations	Inlet, midpoint, outlet

Key Features

Key Features

- **Concentric Tube Heat Exchanger Type:** Two copper concentric tubes, parallel flow and counter flow configurations
- **Exchange Length:** 2 m (L x 4 x 0.5 m)
- **Internal Tube:** 8 mm internal diameter, 10 mm external diameter, 1 mm wall thickness
- **Internal Heat Transfer Area:** 0.0377 m²
- **External Heat Transfer Area:** 0.0471 m²
- **External Tube:** 13 to 14 mm internal diameter, 15 to 16 mm external diameter, 1 to 1.5 mm wall thickness
- **Tube Material:** Copper
- **Hot Fluid:** Hot water circulating through internal tube
- **Cold Fluid:** Cold water circulating through annular space
- **Temperature Sensors:** K-type thermocouples at inlet, midpoint, and outlet for both hot and cold water streams
- **Frame:** Anodized aluminium structure with HDF panels
- **Water Contact Parts:** PVC, brass, copper, and stainless steel for corrosion resistance
- **Front Panel:** Diagram showing element distribution corresponding to real unit layout
- **Flow Study:** Turbulent flow heat transfer investigation supported

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Experiments

- Study of heat transfer through a concentric tube under parallel flow conditions
- Study of heat transfer through a concentric tube under counter flow conditions
- Measurement of hot water and cold water temperatures at multiple points along the exchanger
- Investigation of turbulent flow heat transfer between hot and cold water streams
- Comparison of heat transfer performance under parallel and counter flow arrangements

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Construction and Design

The Concentric Tube Heat Exchanger ThermoFlux - 7108/2 is constructed on an anodized aluminium frame with HDF panels. The heat exchanger element consists of two concentric copper tubes arranged to achieve a total exchange length of 2 m through a four-pass arrangement of 0.5 m sections. The internal copper tube has an internal diameter of 8 mm, an external diameter of 10 mm, a wall thickness of 1 mm, an internal heat transfer area of 0.0377 m², and an external heat transfer area of 0.0471 m². The external copper tube has an internal diameter of 13 to 14 mm, an external diameter of 15 to 16 mm, and a wall thickness of 1 to 1.5 mm.

Hot water circulates through the internal tube and cold water flows through the annular space between the internal and external tubes. The unit can be configured for parallel flow or counter flow operation. All water-contact parts are constructed from PVC, brass, copper, or stainless steel to prevent corrosion. K-type thermocouple sensors are installed at the inlet, midpoint, and outlet for both the hot water and cold water streams. A diagram on the front panel of this concentric tube heat exchanger displays the distribution of all elements in a layout corresponding to the actual unit arrangement.

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1: What flow configurations does the Concentric Tube Heat Exchanger ThermoFlux - 7108/2 support?
The unit supports both parallel flow and counter flow configurations, enabling direct comparison of heat transfer performance under each arrangement within the same concentric tube exchanger.

Q2: What are the dimensions and heat transfer areas of the internal tube in this concentric tube heat exchanger?
The internal tube has an internal diameter of 8 mm, an external diameter of 10 mm, and a wall thickness of 1 mm. The internal heat transfer area is 0.0377 m² and the external heat transfer area is 0.0471 m².

Q3: What is the total exchange length of the heat exchanger and how is it achieved?
The total exchange length is 2 m, achieved through a four-pass arrangement of 0.5 m sections (L x 4 x 0.5 m).

Q4: What materials are used in the construction of this concentric tube heat exchanger unit?
The tubes are made of copper. The frame is anodized aluminium with HDF panels. All water-contact parts, including fittings and connections, are made of PVC, brass, copper, or stainless steel to prevent corrosion.

Q5: Where are the temperature sensors positioned in this unit?
K-type thermocouple sensors are installed at the inlet, midpoint, and outlet of both the hot water stream (internal tube) and the cold water stream (annular space), enabling temperature measurement at multiple points along the exchanger length.

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