

Heat Transfer Training Systems

Educational Training Equipment for the 21st Century

Bulletin 688-3B

H-6883

Forced Convection Heat Transfer Trainer

Purpose

The Hampden **Model H-6883** Forced Convection Heat Transfer Trainer permits student investigation of the phenomena of forced convection. This unit allows the student to determine the overall heat transfer coefficient, convective heat transfer coefficient, heat transfer rate, Nusselt Number and Stanton Number.

Description

This unit consists of an instrument panel and insulated test duct with pitot traverse assembly.

The **Instrument Panel** consists of:

- Electric heater
- Controller
- Analog wattmeter
- Elapsed timer
- Main circuit breaker with pilot light
- Fan control circuit breaker
- Digital temperature display
- Air velocity manometer

The **Insulated Test Duct** consists of:

- Axial fan complete with motor speed controller
- Electric heater module
- Flow straightener
- Pitot traverse assembly
- Mobile stand

Specifications

Mobile Stand:

Constructed of 14-gauge mechanical steel tubing finished in instrument tan texture. Two locking swivel and two fixed casters are provided along with a storage shelf.

Control Panel:

11-gauge furniture stock steel finished in instrument white enamel



Model H-6883

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Dimensions: 56"H x 72" W x 24" D
Shipping Weight: 514 lbs.

Enclosure:

14-gauge furniture stock steel finished in instrument tan texture.

Insulated Test Duct:

4" I.D. (10.16 cm) by approximately 72" (182.88 cm) long including fan assembly. The test duct includes the flow straightener insert and electric heater element

Fan Assembly:

Axial fan with motor control and speed control

Manometer:

Bench mounted inclined-vertical type

Manual Traverse Unit:

Accuracy of 0.01"

Pitot Tube:

Pitot-static tube

Temperature Sensor:

Type T

Temperature Indicator:

Digital with °C or °F readout

Control On-Off switches:

Circuit breaker type

Indicators:

Omniglow pilot lights

Power:

120V AC, 1 ϕ 60Hz

All Hampden units are available for operation at any voltage or frequency

Hampden
ENGINEERING CORPORATION

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