

H-6950 Flow Measurement Unit



Model H-6950 Flow Measurement Unit
Dimensions: 64"H x 72"W x 34"D, Shipping Weight: 550 lbs.

Purpose

The Hampden **Model H-6950** Flow Measurement Unit is designed to demonstrate the fundamental principles of flow measurement.

Standard industrial flow sensors are used to measure the flow rates. The student can measure the primary output of the flow sensor; e.g. differential pressure, frequency or pulse; and measure the secondary (flow rate) signal. In addition, the student can also measure the pressure drop of each flow sensor and water temperature. Thus the student is able to check the accuracy, linearity and repeatability of each flow sensor and necessary transducers.

Description

The **Model H-6950** Flow Measurement Unit also incorporates two removable spool sections which permit the insertion of optional flowmeters into the fluid circuit. Each flowmeter has a flow straightener and a sufficient run of straight pipe to ensure smooth flow to the sensor. One of the removable spool sections is upstream of a valve so that the effects of a disturbance downstream of the flow sensor can be determined.

The unit also includes positive shut-off pressure taps so that the differential pressure-type sensors can be interconnected to the differential pressure transmitter with-

out spillage. A needle valve located on the unit is used to regulate the water flow rate. All of the flow sensors, transducers and signal conditioners are of the type used in industrial applications. Each of the flow sensors utilized on the unit has an accuracy of at least 0.5% (except the vortex flowmeter which has an accuracy of at least 1.0%). The flow transducers and signal conditioners have an accuracy of at least 0.5%.

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

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Fluid Study/Mechanical Systems

Educational Training Equipment for the 21st Century

Experiment Capabilities

- A. Primary Flow Sensors
 - 1. Differential pressure type
 - a. orifice plate
 - b. venturi tube
 - c. flow nozzle
 - 2. Electronic type
 - a. turbine (optional **H-6950-20**)
 - b. vortex (optional **H-6950-30**)
 - c. magnetic (optional **H-6950-40**)
- B. Secondary Flow Elements
 - 1. Differential pressure transmitter
 - 2. Turbine Flowmeter (optional **H-6950-20**)
 - 3. Vortex Flowmeter (optional **H-6950-30**)
 - 4. Magnetic Flowmeter (optional **H-6950-40**)
- C. Ancillary Sensors
 - 1. Pressure transmitter
 - 2. Temperature transmitter
- D. Transducer Output Displays
 - 1. Digital differential pressure display
 - 2. Digital pressure display
 - 3. Digital temperature display
 - 4. Digital turbine flowmeter display (optional **H-6950-20**)
 - 5. Digital vortex flowmeter display (optional **H-6950-30**)
 - 6. Digital magnetic flowmeter display (optional **H-6950-40**)

Options

The **Model H-6950** Flow Measurement Unit can be provided with optional modules to perform additional analysis and experimentation. These include:

- H-6950-20** Turbine Flowmeter
- H-6950-30** Vortex Flowmeter
- H-6950-40** Magnetic Meter

If ordering the -CDL option, add suffix -CDL to the above accessories.

Computer Data Logging

The Hampden **Model H-6950** Flow Measurement Unit can be outfitted with a computer data logging option. This option consists of:

- Thermocouple
- Pressure Transmitter
- Water solenoid valve for manual or remote control
- Electrically operated control valve for manual or remote control
- Interface package containing National Instruments I/O modules for interfacing into a PC computer through the USB port
- Templates for LabVIEW® control software. National Instruments LabVIEW® not included.

To order the Computer Data Logging option, specify the **Model H-6950-CDL**.

Computer not included

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