

Flow Measurement Training System



Model: 619-000

Process control systems maintain precise control of liquid and gas variables, such as liquid level, flow rate, pressure, temperature, and pH level. These multifaceted systems are a critical part of major industries like power generation, refineries, petrochemicals, chemical manufacturing, pharmaceuticals, biotechnology, and food processing and bottling.

DAC Worldwide's Flow Measurement Training System (619-000) is a working, large-scale, flow-related fluid process system allowing for hands-on training relating to the installation, calibration and maintenance of process field instruments within a controlled working environment.

Flow Measurement Training Includes Hands-On Industrial Components

The Flow Measurement Training System includes a 15-gallon reservoir and a 3/4" pipe diameter process loop with replaceable spool section. Three common flow metering devices mounted in pipe spools are also included. An "open architecture" allows for installation of optional instruments of various designs from a variety of manufacturers within the removable spool section.

Using an optional component package, the product can be used for studies relating to pressure drop within piping systems and through piping components.

The system requires the #600-006A Economy Standard Test and Calibration Equipment Package, #600-056 Differential Pressure Transmitter, and #600-105 Differential Pressure Gauge, 0-400" H₂O. It includes a workstation, caster set, variable-area flow meter, Pitot tube, orifice plate, Venturi tube, pipe spool storage rack, pilot light, GFI circuit protection, process meter, pressure gauge and regulator, power supply, 15-gallon reservoir, pipe stanchion, and #619-500 Use/Exercise Guide.

Enhance Training with Flow Measurement Training Courseware

The system's courseware, useful in both an instructor-led or self-directed format, includes a Use/Exercise Guide, a course map linking the exercises to a related textbook, and six hands-on exercises. The exercises include a variety of topics, including: flow vs. differential pressure for an orifice plate, a Pitot tube assembly, and a Venturi tube; calibration of a flow transmitter and square root extractor; and installation and calibration of a flow measurement channel.

FEATURES & SPECIFICATIONS

- Service requirements: electric - 110 VAC. Alternate voltage, phase, and cycle requirements are possible.
- Welded steel frame workstation using 14-gauge, 1-1/2" x 1-1/2" tube and incorporating two 14-gauge support shelves.
- Four casters, two with locks.
- T-slotted aluminum instrument stanchion mounting rails.
- Clear, 3/4"-diameter PVC piping and fittings throughout.
- Brass metered ball valve.
- Variable-area flow meter.
- Removable 24" pipe spool allowing for installation of standard flow apparatus, as well as optional flow instruments.
- Pitot tube flowmeter spool with tubing quick-connect fittings.
- Orifice plate flowmeter spool with tubing quick-connect fittings.
- Venturi tube flowmeter spool with tubing quick-connect fittings.
- Pipe spool storage rack.
- Control/power assembly including 19" rack-mounted control panel, steel support frame, and electrical enclosure.
- Panel-mounted components, including: pilot light, on/off switch, pump control switch with contacts for remote operation, GFI circuit protection, fuses, process meter with mA input, pressure regulator, pressure gauge, and air quick-connect couplings.
- Pump motor starter.
- 24 VDC power supply with banana jack connections.
- Primary reservoir, 15-gallon capacity.

- Pipe stanchion, allowing for attachment of differential pressure transmitters and pressure transmitters at varying locations and heights.
- High-durability, powder-coated surfaces throughout.
- 100 ¼"-diameter instrument connection tubing of two colors.
- Six quick-disconnect nipples.
- Six tubing tees.
- Six tubing couplers.
- Three orifice plates.
- Use/Exercise Guide.
- Crating for shipment via motor freight.

PRODUCT DIMENSIONS

- **Product Dimensions**
(L x W x H)
63in. x 24in. x 40in. (1600 x 600 x 1275 mm)
255lbs. (116kg)
- **Shipping Dimensions**
325lbs. (147kg)

OPTIONS

- #600-006A - Test and Calibration Package, Hand-Held, Economy. (required)
- #600-056 - Differential pressure transmitter, supplemental. (required)
- #600-105 - Differential Pressure Gauge, 0-400" H2O. (required)
- #581-007 - Instrumentation, 5th Ed.
- #910 - Free-Standing Instrument Rack
- #600-051 - Strip Chart Recorder
- #600-059 - 3-Valve Manifold
- #600-066 - PID Controller and I/P Converter panel
- #619-500 - Additional Use/Exercise Guide
- #619-PAC - Flow Measurement Training System Plus
- #940-001 - Control Module Assembly Base
- #940F - Control Module Horizontal Assembly Frame

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