

H-6981 Centrifugal Pump Test Demonstrator

Purpose

The Hampden **Model H-6981** Centrifugal Pump Test Demonstrator provides a hands-on introduction to the centrifugal pump allowing exploration of pumping mechanics and their effects.

Description

Mounted on the base is a two-section holding tank with a total capacity of 44 gallons (167 liters) of water. The smaller section is designed to hold 15 gallons (56.8 liters) when the water level is at the bottom of the "V"-notch.

Also mounted on the base is a Centrifugal Pump with gauges (mounted on panel) to indicate its suction (input) pressure (vacuum) and its discharge (output) pressure.

The pump is driven by a 1/2 HP trunnion mounted DC motor. The motor is equipped with a torque scale and counter balance weight as well as a Tachometer with a photo-electric pickup mounted at the shaft, a digital display, and an Analog Output Jack (outputs 0.5 volt DC per 1000 RPM indication on display) located on the panel. The pump speed is adjustable from 0–2000 RPM.

The demonstrator provides two methods of determining flow rate which can be manually adjusted with a Throttle Control Valve. One method utilizes a flowmeter. The other utilizes a vernier hook gauge, a "V"-notch weir, and equations.

Specifications

Instruments:

- Tachometer:
 - Photo pickup on motor
 - Digital indicator on panel with 0–5V DC analog output

Gauges:

- Delivery and suction

DC Motor Speed Drive:

- Variable with speed ratio of 50:1, regulation of 2% or better, speed control potentiometer, and pilot light



MODEL H-6981 Centrifugal Pump Test Demonstrator
Dimensions: 40-3/4"H x 58-3/4"W x 28"D - Shipping Weight: 575 lbs.

DC Dynamometer:

- DC motor - 1/2HP trunnion mounted with Digital torque scale and counterbalance weight

Protection:

- Ground Fault Interrupter
 - 15A circuit breaker

Rotometer:

- 0-30 GPM

Tank:

- Stainless Steel, 44 gallon
- Sub tank - 15 gallon
- Weir, "V"-notch

Pump:

- Centrifugal

Valves:

- Throttling, 1 required.
- Ball, 3 required.

Unions:

- Straight section for adding CDL flow transmitter
- Centrifugal pump

Nomenclature:

- Silkscreened with Black KEM Enamel

Accessories

- Operating instruction manual
- Vernier hook gauge

Services Required

120V AC - 1 ϕ - 60 Hz

Computer Data Logging

This feature adds one flow transducer, one torque transducer, two pressure transducers, one speed transducer, and one analog output into the system. One interface package consisting of National Instruments I/O modules and LabVIEW® templates are provided for interfacing into a PC computer through the USB port.

Computer and National Instruments LabVIEW® are not included.

Specify **MODEL H-6981-CDL**

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

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