

# Control Valve Trainers

Educational Training Equipment for the 21st Century

Bulletin 135-2

## H-PVST-200

### Full Scale Pump and Valve System Trainer

#### Purpose

The Hampden **MODEL H-PVST-200** Full Scale Industrial Pump and Valve System Trainer is a custom designed unit built to meet the plant specific training needs of the industrial facility. The trainer includes the basic facilities necessary to pump water (or other fluids) in a loop together with the plant specific pump(s), valves and control configurations. Furthermore, all major components are flanged fitted which allows easy removal from the unit. This will enable the trainee to learn service procedures.

#### Components

- Centrifugal Pump: Two (2) centrifugal pumps mounted on a base with two reservoir tanks. Each pump is attached to a 1.5 HP motor. Pump 1 has a 3.25" impeller and Pump 2 has a 4.0625" impeller.
- Motorized Globe Valve (2"): One (1) globe valve is fitted with a motorized actuator that is controlled from the control panel.
- Motorized Butterfly Valve (3"): One (1) butterfly valve is fitted with a motorized actuator that is controlled from the control panel.
- Ball valve (3"): Two (2) Stainless Steel ball valves are used to direct flow through the 3" section of pipe.
- Ball valve (2"): Two (2) Stainless Steel ball valves are used to direct flow through the 2" section of pipe.
- Butterfly Valves (3"): Two (2) butterfly valves are used to direct the flow from the pump section. The valve configuration will determine if one, two or both pumps will be used.
- Flow meter: Two (2) vortex shedding flow meters are used. One with a range of 20-200 GPM is used in the 2" line. The other with a range of 30-300 is used in the 3" line.



- Pressure Transmitters: Twelve (12) pressure transmitters are located throughout the trainer that feed back to the control panel.
- Reservoir tanks: Two (2) reservoir tanks are mounted on the pump section with 3" coupling linking the two together.
- Control Panel: One (1) control panel is used to read the pressure and temperature measurements along with controlling the pump speeds with the VFDs. The motorized valve controls are also located on the panel.
- Flanged connections: Pair of flanged connections are used on the components for ease of removal.

#### Sections

The unit consists of three (3) sections constructed out of 11 gauge sheet metal with an instrument tan enamel finish with the control panel finished in gloss white enamel.

This unit is approximately 34'L x 10'D.

Section One: Pump Section — 10'L x 3'W

Section Two: Control Section — 4'W x 3'D

Section Three: Valves Section — 28'L x 3'D

#### Requirements

Input Power: 120/208VAC-3Ø-60Hz

#### Option

-P Pigging Maintenance Operation Includes:

- PIG (Wire Brush)
- Pig Launcher "Y" Section
- Receiving Trap Section
- Pigging Pipe Section

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

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