

## H-FSCT Flow System Controls Trainer

### Purpose

The Hampden **Model H-FSCT** Flow System Controls Trainer has been developed to permit students to study the control devices utilized in a flow system. The interaction of the control mechanisms; namely liquid level switches; with one another and the valves and actuators utilized are flange fitted for easy removal from the unit so that the students can learn how to service them.

### Description

The **Model H-FSCT** Flow System Controls Trainer consists of the following:

#### Rotary Gear Pumps (2):

3/4HP @1725 RPM 90V DC PM. Motor complete with motor starter and auxiliary N.O./N.C. contacts. Nominal output at 1200 RPM is 16.4 GPM @ 20 PSI.

#### Motor Speed Controllers (2):

Full wave, solid state DC motor controller with a 1% load regulator and 1/2% line voltage regulator.

#### Circulating Pump:

1/12 HP @ 1725 RPM 115V AC motor with nominal output of 8 GPM @ 8 feet of head.

#### Motorized Valve Actuator:

Limitorque Model L120

Rotork Model 7A

#### Valves:

Globe (2), 1"  
Diverting, 3-way, 1"  
Solenoid, N.C., 1"

#### Switches:

Pressure, with an adjustable range of 1-30 PSI and a SPST relay, N.O. configuration.  
Differential Pressure, with an adjustable range of 0-80" WCD and a SPST relay, N.O. configuration.  
Flow, with a flow of 1.5 GPM necessary to activate it and 1.0 GPM to deactivate the switch. An SPDT relay, N.O. configuration.

#### Pressure Gauges (2):

0-30 PSI range and a full scale accuracy of 4%.

#### Differential Pressure Gauge:

0-100" WC range and a full scale accuracy of 4%.

#### Flowmeters (2):

One with a range 0.6-10.4 GPM and the other with a range of 1.5-21 GPM, both having a full scale accuracy of 2.5%.

#### CMC Control Switch

This trainer also comes complete with all of the system components necessary to realize a working system. These include the following:

- Main water reservoir (23 gal. capacity) with a sight glass and breather
- Clear water holding tanks (2) with a vertical scale
- Pressure relief valves (3), 1"
- Check valves (3), 1"
- Filters (3), 1"
- Shut-off valves, 1"
- Time relays (4)
- Control transformer
- On/Off switch
- Fuse
- Indicators lights
- DPDT switches
- AC main
- Legend plates
- All of the necessary 1" copper tubing, elbows, tees, etc.

All of the components of this trainer are assembled and wired.

The trainer is permanently mounted on a panel and base constructed out of 11 gauge sheet metal. The panel is finished in white enamel and the base is instrument tan texture. The front of the panel is silkscreened with a schematic of the flow system. The unit is 78"H x 102"W x 32"D, and comes with an instruction manual.

### Services Required

Input Power: 208V AC-3 $\phi$ -60Hz

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

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