H-ICS-HET

Heat Exchanger Process Loop

Purpose

The Hampden **H-ICS "T" Series** Trainers provide experience in setting up, tuning, operating, and troubleshooting actual instrument and control systems of the type used in the power and process industries. Each panel, by simulating a different process loop, provides instruction in the measuring and transducing of such physical variables as pressure, temperature, flow and level. Student trainees learn instrumentation and control techniques of standard commercial manufacturers, such as Yokogawa and Rosemount. Covered are open-loop control, as well as the various types of closed-loop control: on/off, proportional, proportional plus integral, and proportional plus derivative, as well as a variety of final control devices, including electric, pneumatic and electronic.

Description

The Hampden Instrumentation and Process Control Training System is comprised of seven mobile panels, each containing a single process loop. These panels may be interconnected to form more complex control configurations. Each panel contains, in addition to the principal measuring and transducing device, an independent indication of the value of the physical variable being controlled. Microprocessor-based controllers provide maximum flexibility in setting control parameters, besides providing the computer interface for distributed control. Each panel contains a means of creating a process disturbance, and a recorder for charting the controller's response to changes in setpoint or load.

The Hampden **ICS "T" Series** Trainers are equipped with six instructor inserted faults covering both mechanical and electrical failures. The fault switches are located in a locked compartment located on the side of the units.

PLC Option

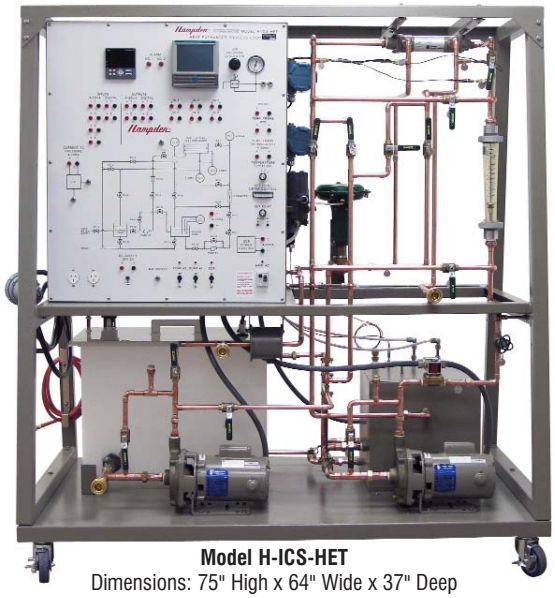
- PLC Control to include (1) Allen Bradley Micrologix **ML-1200** PLC with **H-LTCS** Laptop Control System and Software. Designate **Model H-ICS-HET-PLC**.

Purpose

The Hampden Model **H-ICS-HET** Heat Exchanger Process Loop Trainer is designed to provide instruction on the measurement and control of temperature utilizing a heat exchanger or a SCR. Temperature can be monitored with (4) thermocouples or from the RTD.

The Heat Exchanger Process Loop consists of the following components:

- Single System Microcontroller (PID) with communications port RS485
- Electronic Indicating Recorder, six channel
- SCR Power Controller
- Power Supply, 24V DC
- Air Regulator
- Alarm Indicating Lights (2)
- Temperature Transmitter (for Type "T" Element)
- Temperature Transmitter (for RTD Element)
- Thermocouple, Type "T" (4)
- RTD Element
- Flowmeter, water
- Solenoid Valve
- 6kW Heater with Tank
- Heat Exchanger Tube-in-Shell
- 4-20 mA Power Supply with meter
- Spool Section
- Receptacle
- Electromagnetic Circuit Protector Power Switch with pilot light (3)
- Control Panel and mobile stand
- Patch Cords (18)
- Air Hoses (3)
- Ground Fault Interrupter - 3Ø
- Fault Program (6)
- Storage compartment for patch cords and air hoses
- Current to pressure (I/P) Converter
- Control Valve, air actuated
- Centrifugal Pump with 1/2HP motor (2)
- Storage Tank, 22 gallon



Model H-ICS-HET
Dimensions: 75" High x 64" Wide x 37" Deep
Shipping Weight: 1085 lbs.

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

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