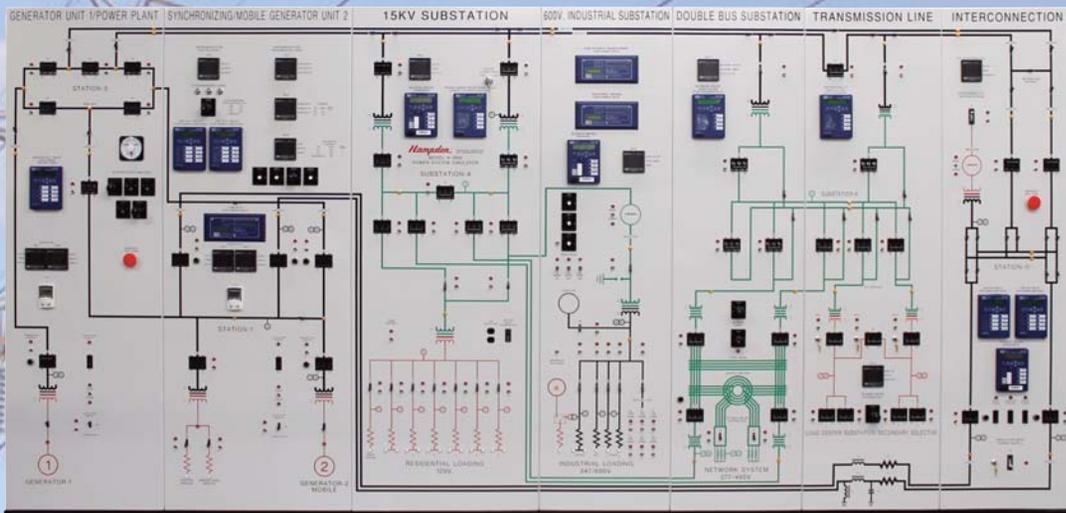


# POWER ENGINEERING



**Hampden**<sup>®</sup>  
ENGINEERING CORPORATION



## The Hampden Model H-180A Power System Simulator Teaches the student to go from Generation and Interconnection through Transmission to Distribution

### Capabilities

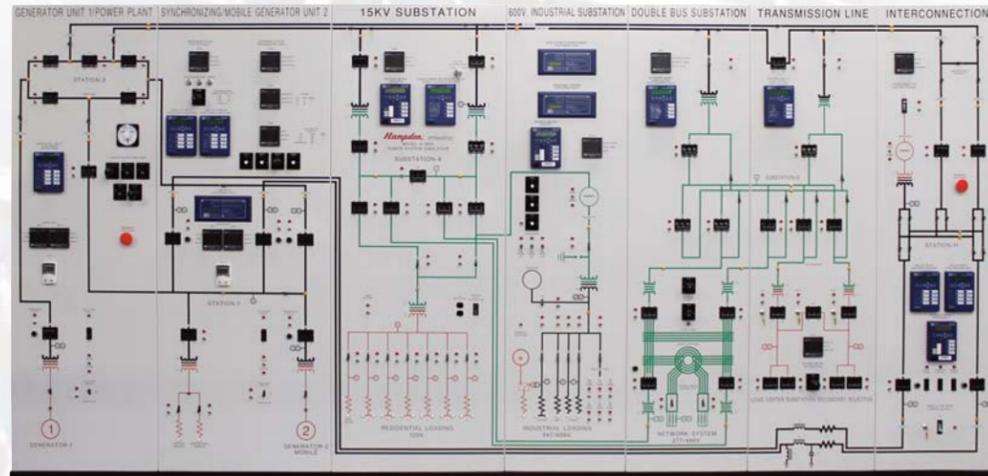
The 7 Sections depict a complete Power System Simulator and can be configured either along a straight wall or in a corner setting

- ◆ **Sections 1 and 2** contain facilities for generation and a sub-station incorporating the generation and power transmission.
- ◆ **Sections 3, 4** incorporate an industrial sub-station and distribution functions covering residential and industrial distribution
- ◆ **Sections 5 and 6** incorporate a double bus distribution sub-station, a network system and a selective secondary distribution load center.
- ◆ **Section 7** incorporate facilities for inter-connection with a separate power system (in the case of this power system simulator, it would be a local power company) and shall contain facilities for generation and a sub-station incorporating the generation and power transmission

### Control Panel

The **180A Power System Simulator** has been designed to provide full functionality and control for the following

1. **LOADS**
2. **VARIABLES IN THE SUPPLY OF ELECTRICITY**
3. **DEMAND METERING**
4. **TRANSMISSION**
5. **REALIBILITY OF SERVICE**
6. **LOCAL GENERATION**
7. **FEEDER DESIGN**



### The following are included with the MODEL H-180A Power System Simulator:

- ◆ **180-GD** Grill Door Set
- ◆ **180-TE** Top Enclosure
- ◆ **H-REM-180** Motor Drive 3-Phase, 1.5KW Alternator with Machine Base
- ◆ **H-REM-180-MR** Motor Mounting Rack
- ◆ **H-REM-180-M** Mobile Motor Drive 3-Phase, 1.5KVA Alternator with Mobile Base and Interconnection Duct
- ◆ **262-180** Console with Interface Cabinet and H-4KJ28 Chair
- ◆ **180-CCS Computer Control System**  
The PC performs data acquisition on the Power System Simulator via a high speed data acquisition system

Spare Parts Packages B and C Options are also available



## The H-181A Single or Dual Fuel-Fired Boiler Trainer (Gas/ Oil or Mix) Teaches students how a power station produces electricity

### The H-181A Steam Power Plant Trainer

consists of four modular sections. The primary function of the Hampden Steam Power Plant Trainer is to demonstrate to the student how a power station uses steam to turn a turbine which is coupled to an alternator which produces electricity.

The boiler converts the water to steam which is piped through the superheater and steam separator to the turbine. The returning steam from the turbine is piped to the condenser. The steam is converted to water and piped to the condensate storage tank. Water is pumped from this storage tank to the economizer and back into the boiler.

### AVAILABLE IN 2 CONFIGURATIONS

**H-181A-G** Gas Fired Steam Power Plant

**H-181A-O** Oil Fired Steam Power Plant

Both models consists of a four section control panel

- **Module 1 - BOILER/CONDENSATE SYSTEM**
- **Module 2 - TURBINE/ALTERNATOR**
- **Module 3 - COOLING TOWER**
- **Module 4 - CONTROL BENCH**

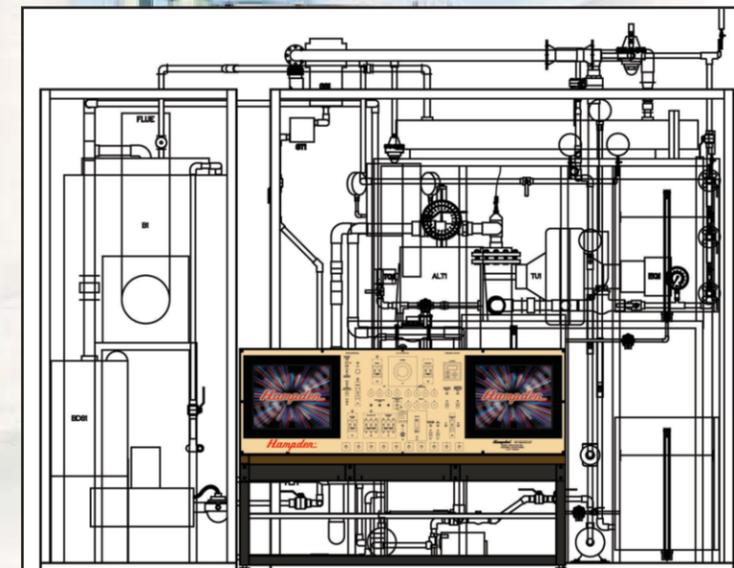


Model H-181A Steam Power Plant Trainer ▲

The Hampden Model HGS-CT Cooling Tower is an accessory for cooling the condenser cooling water as a closed loop system. The cooling tower shall be sized to the condensate system complete with temperature measurement.



◀ Model H-181A Steam Power Plant Trainer



# POWER ENGINEERING

**Additional Hampden Power Engineering Units Also Available:**

## Environmental

- ◆ **H-AHST-D3** Air & Hydraulics Gas/Electric Heating with A/C
- ◆ **H-IRT-1-CDL** Industrial Refrigeration Trainer w/ CDL
- ◆ **H-ACTK-CT** Cooling Tower
- ◆ **H-IRT-ACC** Air Cooled Condenser
- ◆ **H-IRT-EC** Evaporator Chiller
- ◆ **H-ACD-2A-CDL** Recirculating Air Conditioning Trainer with CDL
- ◆ **H-ACCS-1A** Air Conditioning Control System

## Instrumentation & Process Control

- ◆ **H-6485** Instrumentation and Calibration Bench
- ◆ **H-ICS-8189-4** Instrumentation and Controls Bench

## Programmable Logic Control Trainers

- ◆ **H-PLC-PP-1A-ML-1200** Programmable Logic Controls Training System with RSLogix Micro System
- ◆ **H-RS-LOGIX** Programming and Documentation Software
- ◆ **93012SE2103 RSVIEW32 WORKS 150 with RSLINX**

**H**ampden offers an instructor training program either at our factory or at your site.

**O**ur technicians provide an indepth training program to allow the user to get a complete understanding of the equipment and its operation.

## Motor Controls

- HMD-100-CM** Deluxe Model Console
- ◆ **MGB-100-DG** Bedplate with guards
- ◆ **DM-100A** DC Machine
- ◆ **SM-100-3** Synchronous Machine
- ◆ **CSM-100** Capacitor Start Motor
- ◆ **SPM-100** Split Phase Motor
- ◆ **IM-100** AC Induction Motor
- ◆ **WRM-100-3A** Wound Rotor Motor
- ◆ **MFM-100** Multi-function Machine
- ◆ **ACUM-100** AC Universal Motor
- ◆ **H-MGI** Motor Generator Interface
- ◆ **PB-100A** Prony Brake
- ◆ **RL-100A** Resistance Load
- ◆ **RLC-100** Resistance-Reactance Load
- ◆ **DYN-100A-DM** Dynamometer
- ◆ **MS-100-3A** Magnetic Starter
- ◆ **SFR-100** Series Field Rheostat
- ◆ **PSI-100** Phase Sequence Indicator
- ◆ **HT-100-L** Tachometer Generator/Indicator
- ◆ **T-100A** Single Phase Transformer
- ◆ **ACC-100** AC Controller with Faults
- ◆ **DCC-100** DC Controller with Faults
- ◆ **H-VFD-100C** Variable Frequency Drive
- ◆ **H-SCR-104** Four Quadrant DC Speed Controller
- ◆ **SIM-100** Virtual Motors and Machines
- ◆ **HDI-100** Hampden Dissectible Motors Program



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