

# SOLAR HEAT AND SOLAR PHOTOVOLTAICS



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



# Solar Heating and Photovoltaic Trainer from **Hampden**<sup>®</sup>

**GET THE H-SHSP-1 FOR REAL-WORLD HANDS-ON APPLICATIONS APPLIED TO THE CLASSROOM**

**Three Different Types of Solar Panels**

CDL-DEMO Option  
Ir Touch Screen TekPanel 150T

Domestic Hot Water Loop  
Temperature Control (fan cut off)

Charger/Controller

Inverter

ACVM 0-150VAC

Temperature Meter

Thermocouple  
Selector Switch

DCVM 0-15VDC

Solar/Line Selector Switch

(2) 50 Watt Solar PV Panels

Domestic Loop  
WATER OUT Valve

Expansion Tank  
Domestic Loop

Domestic Loop  
WATER IN Valve

Pressure Gauge

Flowmeter Domestic Loop

Blower Coil/Fan

Traditional Solar  
Hot Water Panel

Marine Battery

**NEWEST High Efficiency Tube Type Solar Collector**

**OPTIONAL FAULT PACKAGE AVAILABLE**

Shown with CDL-DEMO Option

The Hampden Model **H-SHSP-1** is a fully mobile solar heat solar photovoltaic control system trainer which lets the student technician examine the hot water and electrical layouts and operational features normally associated with a solar heating system and photovoltaic power source. The trainer demonstrates the characteristics of the solar array, water heating, water circulation, storage battery, AC and DC distribution, and AC and DC loading. The complete water heating and charging sequence can be observed.

**Standard Products...Designed to Meet Your Growing Needs!**

## SOLAR HEAT



Hampden Model **H-SST-1A**  
(Shown with FP Option and CDL Option)

The Hampden Model **H-SST-1A** Solar System Trainer is an actual solar hot water heating system. System components include a solar collector, circulation pumps, storage tank, heat exchanger, air separator, air handler, solar heating coil, automatic air vents, thermostat, and a control panel with sensors. Gauges, thermometers, and flowmeters permit students to observe pressures, temperatures, and flow rate while the system is in operation. The trainer is mounted on a mobile frame and the collector panel is adjustable for easy positioning in direct sunlight. An electrical fault package option can be added, specify **H-SST-1A-FP**. A Computer Data Logging Package can be added, specify **H-SST-1A-CDL**.



Hampden Model **H-SST-3**  
(Shown with FP Option and CDL Option)

The Hampden Model **H-SST-3** Solar Tube Heat System Trainer is an actual solar hot water heating system. System components include 2 vacuum tube solar collector sections, circulation pumps, storage tank, heat exchanger, air separator, air handler, solar heating coil, automatic air vents, thermostat, and a control panel with sensors. Gauges, thermometers, and flowmeters permit students to observe pressures, temperatures, and flow rate while the system is in operation. The trainer is mounted on a mobile frame and the collector panel is adjustable for easy positioning in direct sunlight. An electrical fault package option can be added, specify **H-SST-3-FP**. A Computer Data Logging Option can be added, specify **H-SST-3-CDL**.



Hampden Model **H-SST-4**  
(Shown with FP Option and CDL Option)

The Hampden Model **H-SST-4** Solar Tube and Flat Panel Heat System Trainer is an actual solar hot water heating system. System components include one (1) traditional style solar collector and one (1) vacuum tube solar collector, circulation pumps, storage tank, heat exchanger, air separator, air handler, solar heating coil, automatic air vents, thermostat, and a control panel with sensors. Gauges, thermometers, and flowmeters permit students to observe pressures, temperatures, and flow rate while the system is in operation. The trainer is mounted on a mobile frame and the collector panel is adjustable for easy positioning in direct sunlight. An electrical fault package option can be added, specify **H-SST-4-FP**. A Computer Data Logging Option can be added, specify **H-SST-4-CDL**.



Hampden is committed to providing industry-leading technology.

For the latest from Hampden, visit our home page at <http://www.hampden.com> or e-mail us at [sales@hampden.com](mailto:sales@hampden.com)

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