

# AC & Refrigeration Training Kit

Educational Training Equipment for the 21st Century

Bulletin 227-1E

The **Model H-ACTK-1-BMF** Refrigeration Trainer, using a thermostatic expansion valve as the liquid control device, is factory assembled and charged. The unit contains suction and discharge gauges and four temperature wells for student experimentation. The trainer also consists of evaporator and condenser enclosures with heater and controls.



**MODEL H-ACTK-1-BMF**

Dimensions: 12"H x 45"W x 24"D - Shipping Weight: 250 lbs.



**MODEL H-ACTK-2-BMF**

Dimensions: 12"H x 45"W x 24"D - Shipping Weight: 250 lbs.

The **Model H-ACTK-2-BMK** Refrigeration Trainer is supplied in kit form for assembly, charging and testing by the student. Equipment supplied includes: compressor with forced air condenser, forced air evaporator, filter/drier, capillary tube, Lexan cover for the evaporator, Schrader valve, and the tubing, fittings and other hardware necessary for assembly.



**MODEL H-ACTK-2-BMK**

Dimensions: 12"H x 45"W x 24"D - Shipping Weight: 250 lbs.



**MODEL H-ACTK-CTA-BMF**

Dimensions: 12"H x 35"W x 24"D - Shipping Weight: 250 lbs.

The **Model H-ACTK-CTA-BMF** Refrigeration Trainer is factory assembled, except for the liquid control device. A thermostatic expansion valve, a capillary tube and an automatic expansion valve are supplied. The student installs the liquid control device and charges the system. Suction and discharge gauges and four temperature wells are supplied for student experimentation. The trainer also includes switches for inserting six electrical faults and controls for the heater in the evaporator enclosure.

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

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# A/C & Refrigeration Training Kits

Educational Training Equipment for the 21st Century

Bulletin 233-2B

## Description

Hampden **Air Conditioning and Refrigeration Training Kits** provide practical hands-on experience in connecting, charging, and servicing of current air conditioning and refrigeration systems. The various trainers are suitable for a wide range of institutions including: technical and community colleges, industrial corporations, and government and military training centers.

Each kit comes complete with the necessary tubing, fittings, and electrical hardware as well as the compressor, condenser, evaporator, and auxiliary apparatus and is supplied with a mobile cart of code-gauge furniture stock steel finished in instrument tan enamel with 4-inch swivel rubber-tired casters, except for **H-ACTK-20** which is supplied with a mobile cabinet.

### H-ACTK-1 Beverage Cooler

Includes: forced convection evaporator, air-cooled condenser, open-type compressor with  $\frac{1}{8}$  HP motor, thermostatic expansion valve, filter-drier, sight glass, and low pressure control.

### H-ACTK-2 Single Evaporator Refrigeration/Freezer

Includes: gravity type domestic evaporator, capillary tube, filter-drier, hermetic compressor with  $\frac{1}{4}$  HP motor, air-cooled condenser, dehydrator, and temperature control.

### H-ACTK-3 Two-Door Refrigerator

Includes: domestic freezer evaporator, finned high-humidity evaporator, hermetic compressor with  $\frac{1}{4}$  HP motor, air-cooled condenser, capillary tube, filter-drier, dehydrator, temperature control, and a hand valve to regulate temperature difference at evaporator.

### H-ACTK-4 Grocery Reach-in Cooler

Includes: gravity evaporator with automatic expansion valve, hermetic compressor with  $\frac{1}{8}$  HP motor, air-cooled condenser, sight glass, filter-drier, and temperature control.

### H-ACTK-5 Small Walk-in Meat Cooler

Includes: forced convection evaporator,  $\frac{1}{2}$  HP semi-hermetic compressor, air-cooled condenser, thermostatic expansion valve, filter-drier, sight glass, and low pressure control.



**MODEL H-ACTK-6**

Other models similar in configuration

Cart Base Dimensions: 38"W x 24"D,

Height ranges from 54" to 72"

Shipping Weight: 300 lbs

### H-ACTK-6 Multiple Case Cooler

Includes: 2 forced convection evaporators, hermetic compressor with  $\frac{1}{2}$  HP motor, air-cooled condenser, 2 thermostatic expansion valves, 2 solenoid valves, filter-drier, sight glass, 2 temperature controls, and low pressure control.

### H-ACTK-7 Ice Cream Freezer

Includes: forced convection electric defrost evaporator, air cooled condenser, semi-hermetic compressor with  $\frac{1}{2}$  HP motor, thermostatic expansion valve, filter-drier, sight glass, and temperature control.

### H-ACTK-8 Restaurant High-Temperature Salad-Box

Includes: forced convection evaporator, open-type compressor with  $\frac{1}{2}$  HP motor, water-cooled condenser, thermostatic expansion valve, sight glass, filter-drier, water regulating valve, and low pressure control.

### H-ACTK-9 Commercial Florist Cooler

Includes: semi-hermetic compressor with  $\frac{1}{2}$  HP motor, water-cooled condenser, forced convection evaporator, thermostatic expansion valve, filter-drier, sight glass, and temperature control.

### H-ACTK-10 Room Air Conditioner

Includes: hermetic compressor with  $\frac{1}{2}$  HP motor, air-cooled condenser,  $\frac{1}{2}$ -ton air handler with filters and centrifugal blower, capillary tube and temperature control.

### H-ACTK-11 Small Air Conditioner

Includes: semi-hermetic compressor with 1 HP motor, water-cooled condenser, 1-ton air handler with centrifugal blower, thermostatic expansion valve, filter-drier, sight glass, and temperature control.

### H-ACTK-12 Water Chiller Trainer

Includes:  $\frac{1}{4}$  HP hermetic compressor, forced air-cooled condenser, automatic thermostat, capillary tube, high & low pressure gauges, Type T thermocouples.

### H-ACTK-15 Freezer Trainer

Includes: hermetic compressor with external oil cooling, forced air-cooled condenser, evaporator, 24 hour timer, thermostat, filter-drier, sight glass, accumulator, and capillary tube.

### H-ACTK-20 AC/Refrigeration Control Kit

Includes the components necessary to demonstrate the operation, installation, and troubleshooting procedures for typical installations. Optional fault program available, add suffix -FT.

### H-ACTK-21 Mini Split-Type AC Trainer

Includes: twin rotary compressor, evaporator, 24 hour clock with on/off programmer timer, integrated circuit thermostat, high and low pressure gauges, capillary tube, Type T thermocouples.

### H-ACTK-22 Split-Type Heat Pump Trainer

Includes: hermetic compressor, evaporator, forced air cooled condenser, high and low pressure gauges, TEV valve, Type T thermocouples.

### H-ACTK-23 Geothermal Trainer

Includes: compressor, cap and clamp kit, electric pressure control (2), contactor, transformer, filter drier, sight glass, evaporator and condenser.

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

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# A/C & Refrigeration System Trainers

Educational Training Equipment for the 21st Century

Bulletin 237-1J

## H-MACK Series

### A/C and Refrigeration System Trainers

#### Description

The Hampden **H-MACK** Series Mobile Air Conditioning and Refrigeration Kits provide practical hands-on experience in connecting, charging, and servicing various types of systems.

Each kit contains the necessary tubing, fittings, and electrical hardware as well as the compressor, condenser, evaporator, and auxiliary apparatus. Each unit is supplied with a mobile storage cabinet of code-gauge furniture stock steel with 4-inch swivel rubber-tired casters.

#### H-MACK-1 Beverage Cooler Trainer

Includes: 1/4 HP hermetic compressor, fan-cooled condenser, fan-cooled evaporator, thermostatic expansion valve, filter-drier, low pressure control, sight glass, liquid receiver, main circuit breaker, duplex receptacle, compressor switch, evaporator fan speed control, pilot light, hardware kit, cold box and courseware.

#### H-MACK-2 Domestic Freezer Trainer

Includes: 1/8 HP hermetic compressor, fan-cooled condenser, gravity type evaporator, capillary tube with strainer, filter-drier, sight glass, high-low pressure control, main circuit breaker, duplex receptacle, compressor start switch, pilot light, hardware kit, cold box, and courseware.

#### H-MACK-6 Multiple Evaporator Trainer

Includes: 1/2 HP hermetic compressor - high back pressure, fan-cooled condenser, two fan-cooled evaporators, two adjustable thermostatic expansion valves, temperature controller, solenoid, filter-drier, low-pressure control, main circuit breaker, duplex receptacle, compressor start switch, pilot light, two evaporator fan speed controls, hardware kit, cold box, and courseware.

#### H-MACK-9 Commercial Walk-In Cooler Trainer

Includes: 1/2 HP hermetic compressor - high back pressure, water-cooled condenser, fan-cooled evaporator, thermostatic expansion valve, filter-drier, high-low pressure control, pressure control water valve, liquid receiver, main circuit breaker, duplex receptacle, compressor switch, pilot light, evaporator fan speed control, hardware kit, cold box and courseware.

#### H-MACK-10 Domestic Air Conditioning Trainer

Includes: 1/2 HP hermetic compressor - high back pressure, fan-cooled condenser, fan-cooled evaporator, thermostatic expansion valve, filter-drier, liquid receiver, low pressure control, room thermostat, air filter, main circuit breaker, duplex receptacle, compressor start switch, pilot light, evaporator fan speed control, hardware kit, cold box, and courseware.



**MODEL H-MACK-10 & H-MACK-HP**  
Other models similar in configuration

Average Dimensions: 81"H x 24"W x 28"D  
Average Shipping Weight: 460 lbs

#### H-MACK-12 Split-type Air Conditioning Trainer

Includes: 1.5 ton condensing unit, fan-cooled evaporator, thermostatic expansion valve, filter-drier, liquid receiver, low pressure control, room thermostat, air filter, main circuit breaker, duplex receptacle, compressor start switch, pilot light, evaporator fan speed control, hardware kit, cold box, and courseware.

#### H-MACK-HP Heat Pump Trainer

Includes: 1/4 HP open type belt driven compressor with motor, fan-cooled condenser, fan-cooled evaporator, two check valves, two capillary tubes, 4-way reversing valve, reversing valve switch, filter-drier - dual flow, high pressure control, main circuit breaker, duplex receptacle, compressor switch, pilot light, evaporator fan speed control, hardware kit, cold box and courseware.

Hampden Models **H-MACK-1**, **-2**, **-6**, **-9**, and **-HP** are charged with R-134a HFC refrigerant.

Models **H-MACK-10** and **-12** are charged with R-410A HFC refrigerant.

Power Required: 120V AC 1Ø 60 Hz.

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

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