

## H-6671

### Two-Stage Air Compressor Trainer

#### Purpose

The Hampden **Model H-6671** Two-Stage Air Compressor Trainer has been designed to demonstrate thermodynamic principles of a 2-stage air compressor.

#### Specifications

##### Compressor

- **Frame:** The 100% cast iron frame is designed to support the overhung crankshaft. Cylinders bolt directly to the cast iron frame. Frame is completely sealed yet allows for maximum accessibility.
- **Crankshaft:** The balanced crankshaft is constructed of rugged ductile iron with large diameter throws for minimal bearing loads and counterweights to minimize vibration.
- **Connecting Rods:** The connecting rods are made of high-density, die-cast aluminum alloy rods minimize reciprocating weight. An integral, precision-bored crankpin bearing and needle bearing for the piston pin properly distribute bearing loads for longer bearing life.
- **Cylinder:** The cylinders are multi finned to keep the compressor cool for a longer life and more consistent performance. Each cylinder is positioned vertically and side by side.
- **Pistons:** The first-stage piston is made of aluminum alloy and weight matched to the cast iron second stage piston to ensure proper balance when in operation.

Dimensions: 72"H x 39"W x 89"D  
Shipping Weight: 1,300 lbs.



- **Rings:** There are three compression rings and one oil control ring in the compressor. They provide excellent oil control, minimum blow-by and high efficiency air delivery.
- **Flywheel:** The cast iron flywheel forces air across the finned cylinders and intercooler for cooling purposes. The flywheel is also precision balanced to keep vibration to a minimum.
- **Intercooler:** Large-diameter finned tubing is positioned to obtain the greatest cooling effect between stages for maximum compressor efficiency.
- **Lubrication:** Splash lubrication of running parts is simple and reliable. Lubrication dippers are integral with connecting rods and cannot come loose.

- **Inlet Filter:** Has durable carbon steel canister with baked enamel finish. A dry type 10 micron inlet filter/silencer is standard.
- **Valves:** Single-unit, disc-type valves provide low lift and long life. The discs are made of corrosion resistant Swedish steel. The valves are easily serviced simply by removing the manifolds only.

**Bore:** 4-5/8" and 2-1/2"  
**Stroke:** 3"  
**RPM:** 300 to 1000

**Intercooler:** CTD 25°F, AFCM 14.8,  
BHP 5.3,  
Pressure 175 lbs/in<sup>2</sup>

##### Drive Motor

- 5HP squirrel-cage induction motor trunion mounted with torque load cell. Unit is coupled to the compressor via two belts.

##### Motor Drive:

- 5HP Rated variable frequency drive.

##### Instrumentation:

- Digital temperature indicator complete with thermocouple transfer switch
- Digital torque indicator
- Digital speed indicator - compressor
- Pressure gauges, liquid filled (4)
- Thermocouples, Type T (5)



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

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# Mechanical Engineering Systems

Educational Training Equipment for the 21st Century

- AC ammeters, (3)
- Digital humidity sensors, ambient and compressor stage 2 output
- Variable Frequency Drive control panel with digital indicator

## **Receiver:**

- Horizontal tank with two ball valves.

## **Base:**

- Channel iron frame. Control cabinet of code gauge steel finished in grey texture. Control panel of 11-gauge furniture stock steel finished in instrument white enamel. Base furnished with four swivel casters, two with locks.

## **Protection:**

- Emergency disconnect circuit with mushroom head pushbutton, start-reset key switch, and relay.
- Main circuit breaker.
- Instrumentation circuit breaker.

## **Fittings:**

- ASME rated pipe and fittings

## **Services Required**

- 120/208V AC, 3Ø, 60Hz

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