Air Distribution Systems

Educational Training Equipment for the 21st Century

Bulletin 227-2B

H-AP-2

Air Distribution System Trainer

Purpose

The Hampden Model H-AP-2 Air Distribution System Trainer is designed to acquaint the student with the fundamentals of air movement found in typical forced air heating and air conditioning systems. The trainer aids the student in acquiring a better understanding of static pressures, velocity pressures, and air volumes. The trainer shows the student how air moves under various conditions created in the distribution system.

Description

Test instruments supplied with the trainer include an inclined manometer, air meter and air velocity meter. These test instruments enable the student to take pressure readings and measure air volumes. By adding obstructions, simulating dirty filters and cooling coil restrictions, the instructor can change the pressure and air volume. The student also learns how to balance this type of air distribution system.

Operating from any 120 volt outlet, this trainer is suitable for classroom demonstrations and/or individualized instruction. An instructor manual is supplied to explain trainer operation.



Dimensions: 10"H x 34"W x 15"D Shipping Weight: 120 lbs.

Specifications

The **H-AP-2** is constructed of clear Lexan, permitting the student visual access to the inside of the trainer. The trainer is divided into a return air and supply air chamber. A separate, clear Lexan, four outlet, extended duct system can be attached at the supply air chamber. These outlets have adjustable dampers. By turning the dampers to various positions, the student may study the air movement effects. A miniature blower with a fractional horsepower motor is used to move air through the system. An ammeter mounted on the trainer records motor current draw under various conditions. The trainer also includes two filters: one clean and one dirty, and a removable grid representing a cooling coil.

Electrical: 120V, 60Hz, 2 amps

Learning Objectives:

- Check for positive static pressure.
- Check for negative static pressure.
- · Check for differential static pressure.
- Examine air volume at system outlets
- Measure air volume within duct.
- Perform duct system balancing procedures
- Become familiar with various test instruments

Option

H-AP-2-SS Second Story Addition will add a second level to the air distribution trainer. The second story will include an adjustable damper to simulate pressure loss.



AP-2 with SS Option

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





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