

Nozzle Pressure Distribution Trainer

Educational Training Equipment for the 21st Century

Bulletin 635C

H-6350 Nozzle Pressure Distribution Trainer

Purpose

The Hampden **Model H-6350** Nozzle Pressure Distribution Trainer allows the student to investigate pressure distribution and mass flow rate in nozzles. Three types of nozzles are provided covering convergent and convergent-divergent.

Experiment Capabilities

- Choking
- Under expansion and over expansion with recompression
- Relationship between inlet pressure and mass flow rate
- Relationship between outlet pressure and mass flow rate for the supplied nozzles
- Pressure distribution in convergent and convergent-divergent nozzles when working over a series of overall pressure ratios.

Specifications

This unit consists of table mounted base and panel assembly with:

- Pressure gauges (10)
- Pressure regulator w/filter
- Valves (2)
- Thermometer wells (2)
- Flowmeter
- Nozzles (3)

Base and Panel Assembly

Base: 1.5" square mechanical tubing finished, Instrument Tan texture with levelers

Panel: 14-gauge furniture stock steel finished in instrument white



Model H-6350-CDL shown with optional computer and monitor

Nomenclature: Silkscreen in black KEM enamel

Nozzle Profile Chart: Mylar behind a clear Lexan cover

Pressure Gauges: 4-1/2" liquid filled 0–150 psi (0–11 bar)

Accuracy: $\pm 1/2$ of 1% of scale range

Bourdon Tube: Phosphor bronze tube (2 reqd.)

Thermometer wells: 80mm deep (2 reqd.)

Thermometers: 0–130°F (-35 to 50°C) 12" long division: 1"

Flowmeter: 13 cu.ft./min

Valves: Needle valve (2)

Pressure Regulator with Filter

Nozzles:

- Convergent with six pressure taps
- Convergent-divergent with five pressure taps

- Convergent-divergent with eight pressure taps

Services Required

Instrument Air: 150 psi@13 cu.ft./min (400 ltrs)

Voltage: 120V AC-1Ø-50/60Hz

Computer Data Logging

This feature adds ten pressure transducers, two thermocouples, and a flow transducer into the system. One interface package containing National Instruments I/O modules is provided for interfacing into a PC computer through the USB port. Software and templates for LabVIEW® control software are included.

Computer is included.

Specify **Model H-6350-CDL** ♦



011017

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

Hampden
ENGINEERING CORPORATION