



BOYLES LAW DEMONSTRATOR (COMPRESSOR VERSION) H050



Year 1
study

Features

- Investigation of Boyle's Law ($pV = \text{Constant}$).
- Optional low cost version available as H050A
- Allows investigation above and below atmospheric pressure.
- Allows investigation with other safe gases if available.
- Optional Computerised Data Acquisition upgrade.

Description

Two sealed glass cylinders with access valves are mounted on a base board and connected via a tube. One cylinder performs the measuring function and the other is used to pressurise the volume of gas contained above oil in the measuring cylinder. The measuring cylinder is fitted with a compound gauge designed to measure the gas pressure both above and below atmospheric pressure.

The height of oil and hence the volume of gas in the

measuring cylinder is measured using a graduated scale. A thermometer in the measuring cylinder allows the temperature of the gas in the measuring cylinder to be determined.

A small *electric compressor provides a means of adjusting the pressure of the test gas above and below atmospheric pressure. The compressor is mounted on the base board and controlled by a panel mounted switch. A pressure switch and relief valves ensure operator safety.

Related laws

- Thermodynamics
- Heat Transfer
- Chemical Engineering
- Mechanical Engineering
- Plant and Process Engineering

- Refrigeration
- Air Conditioning
- Physics

H050/115
H050/230/HC
H050/115/HC

Learning capabilities

- Demonstration of Boyle's Law $pV = \text{Constant}$ for air and other safe gases.
- Investigation of the characteristic equation of a gas $pV = mRT$ at ambient temperature

Technical Specification

- Glass cylinder volume: 1 litre.
- Glass cylinder: $\varnothing 100\text{mm} \times 220\text{mm}$ high.
- Measured height displayed by the scale: 200mm.
- Compressor: 500W.

What's in the Box?

- 1 x H050
- 1 x Thermometer
- 1 x Hydraulic Oil
- Instruction manual
- Packing List
- Test Sheet

Weights & Dimensions

- Weight: 30 kg
- Length: 610mm
- Width: 610mm
- Height: 600mm

Essential Services

- 500W 220-240 Volts, Single Phase, 50Hz (With earth/ground).
- Line current up to 2A at 230v.
- 500W 110-120 Volts, Single Phase, 60Hz (With earth/ground).
- Line current up to 4A at 110v.

Ordering information

To order this product, please call PA Hilton quoting the following codes:

H050/230

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS