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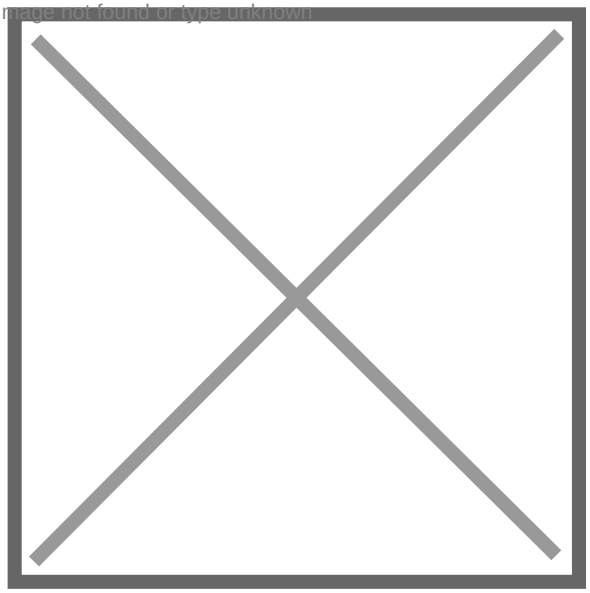
Product Name :

Boyle's Law

Product Code :

SLE/EA/28

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Description :

Boyle's Law (Product Code: SLE/EA/28) is a bench-mounted apparatus used to prove that the pressure of trapped air varies inversely with its volume in engineering and physics laboratories. Students work hand-operated pumps that pressurise one of two clear-walled oil cylinders and so move a 'liquid piston' of oil in the other, while a mechanical gauge, a digital indicator and a thermocouple record pressure, air-column height and temperature. This Boyle law apparatus is made in India by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM engineering lab equipment manufacturer, at its own factory in Ambala.

Specifications

Parameter	Detail
Mounting	Bench-mounting, with a back plate
Cylinders	Two clear-walled cylinders containing oil
Pressure control	Hand-operated pumps to increase or decrease the pressure in the left-hand cylinder
Liquid piston	Oil moving in the right-hand cylinder compresses ordecompresses a trapped column of air in the test cylinder
Volume measurement	Digital indicator for the change in height of the trapped air column (height change × cross-sectional area = volume change)
Pressure measurement	Mechanical pressure gauge on the trapped air
Temperature measurement	Thermocouple and digital display for the trapped air temperature
Working gas	Normal, clean, dry air (behaves as an ideal gas over the pressure range used)
Product code	SLE/EA/28
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Boyle's Law Apparatus Used For?

Boyle's law says that, for a fixed mass of gas at constant temperature, pressure multiplied by volume stays constant. Students pump in steps, reading the trapped-air pressure on the mechanical gauge and the change in air-column height on the digital indicator; multiplying that height change by the column's cross-sectional area gives the change in volume. Plotting pressure against the reciprocal of volume should give a straight line, confirming the inverse relationship.

The thermocouple matters because compressing air warms it: students watch the air temperature and pause between steps so it stays constant, which is the condition the law requires. The same readings let a teacher demonstrate how the air temperature changes during a quick compression or ex
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