

Product Name :
Expansion Processes of a Perfect Gas

Product Code :
NLAB-TECHNICALAB23009

Description :

Expansion Processes of a Perfect Gas

Technical Specification :

The device follows the properties of a Perfect Gas using air to determine the basic thermodynamic processes. This instrument also consists of two floor-standing interconnected rigid vessels, one equipped for operation under pressure and the second under vacuum.

Appropriate valves and tappings are fitted to allow different thermodynamic processes to be evaluated.

An electric air pump is supplied to allow pressurisation or evacuation of the vessels as required for the different exercises.

Each vessel incorporates a fast response thermistor sensor to monitor the temperature of the air and connection to a piezo electric pressure sensor.

All power supplies, signal conditioning circuitry etc are contained in a simple electrical console with appropriate current protection devices and an RCD for operator protection. Readings from the pressure sensors and thermistors are displayed on a common digital meter with selector switch and corresponding signals are routed to an I/O port for connection to a PC using an optional interface device/educational software package or a user supplied chart recorder as required.

A comprehensive instruction booklet describing how to carry out the laboratory teaching exercises is included. Interconnected vessels operating under pressure and under vacuum are supplied complete with electric air pump and appropriate instrumentation ready for use.

This modern version of a classic experiment (attributed to Clément and Désormes) allows pressure and temperature changes to be monitored continuously using a PC. (optional teaching software available)

The vessels can be operated singly or in combination allowing processes whereby air flows from a pressurised vessel to atmosphere, from atmosphere to an evacuated vessel or from a pressurised vessel to an evacuated vessel.

Naugralabequipments

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