



Perfect Gas Expansion Apparatus(SMT-CE-11)

The apparatus consists of two floor-standing interconnected rigid vessels, one equipped for operation under pressure and the second under vacuum. An electrically operated air pump connected to the top of the vessels, together with valves and tappings enables the appropriate vessel to be pressurized or evacuated as required to suit the teaching exercise. The vessels can be used independently or together to enable different thermodynamic processes to be evaluated. A pressure sensor connected to each vessel and a temperature sensor inside each vessel permit the changes in the properties of the air contained within the vessels to be monitored continuously. Both vessels are constructed from clear rigid plastic, which affords light insulation between the air inside the vessel and the surroundings to reduce heating/cooling. This also enables each vessel and its contents to return to ambient temperature reasonably quickly. The capacity of the pressurized vessel is approximately 23 liters. The capacity of the evacuated vessel is approximately 11 liters.

TECHNICAL SPECIFICATIONS

Specifications:

- Capacity: 25 L.
- Material: Glass/PMMA
- With Pressure Vessel and Vacuum Vessel.
- Interconnected vessels operating under pressure and under vacuum are supplied complete with an electric air pump and appropriate instrumentation ready for use.
- This modern version of a classic experiment enables pressure and temperature changes to be monitored continuously using a PC (not supplied). Optional teaching software is available for data logging.
- The vessels can be operated singly or in combination enabling 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.

