

## STUDY GROUP OF THE ADIABATIC GAS LAW

REFERENCE : ET1010



*Non contractual photo*

**SERVICE : 9 V POWER SUPPLY;  
MONOATOMIC (ARGON), DIATOMIC  
(NITROGEN) AND POLYATOMIC (CARBON  
DIOXIDE) GAS PC  
DIMENSIONS : 600 X 200 X 400 MM**

**WEIGHT : 10KG**

Isothermal and adiabatic transformations are difficult processes for students to understand. This apparatus offers a perfect demonstration by the experimental verification of the mathematical formulas of these transformations.

### Educational Objectives :

- Realization of an adiabatic transformation.
- Verification of the laws  $PV^\gamma = \text{cste}$  and  $TV^{(\gamma-1)} = \text{cste}$ .
- Determination of the amount of work provided to compress or dilate an adiabatically gas and comparison with the internal energy change.
- Determination of the ratio of specific heats  $\gamma = C_p / C_v$ .
- Comparison of  $\gamma$  of monoatomic, diatomic and polyatomic gas.
- Study of compression and isothermal expansion

### Technical specifications :

Composition: apparatus of study of the adiabatic law of gases;  
acquisition interface; analog adapter;