

**Product Name :**  
Astra Scientific Bomb Calorimeter

**Product Code :**  
FuelTesting0007



**Description :**

Astra Scientific Bomb Calorimeter

**Technical Specification :**

A Bomb Calorimeter measures the amount of heat generated when matter is burnt in a sealed chamber in an atmosphere of pure Oxygen gas.

Bomb Calorimeter provides a simple inexpensive yet accurate method to determine the Heat of Combustion, Calorific Value and the Sulphur contents of solids & liquids and fuels. The outfit provided is complete for the analysis as per methods recommended by the Indian Standard Institute (IS: 1359 –1959), British Standard Institute (BS 1016: Part 5:1967) and the Institute of Petroleum (IP 12/63T). Each part of the outfit has been finished and tested according to the specifications laid down by these Institutions.

Microprocessor Bomb Calorimeter Salient Features:

- Bomb body is machined from corrosion resistant stainless steel alloy
- Each bomb is tested at a pressure of 300 atm for 10 minutes
- Offset stirrer precludes heat from motor to Calorimeter Vessel

- No temperature correction
- Detection of maximum rise of temperature
- Windows based software
- Temperature resolution:  $\pm 0.0010$  C
- Memory Storage: 100 data
- Battery backup for stirrer and Microprocessor unit (UPS)
- RS 232C interface to connect with computer
- Soft touch keypad
- Auto firing (With software only)
- LCD display with backlit 16 x 2 characters
- Easy to handle and operate

The following tasks are Automated with the Microprocessor Bomb Calorimeter with Software:

- Automatic feeding of Calorific values of ignition wire and cotton thread
- Automatic firing in the bomb
- Automatic detection of maximum rise of temperature
- Automatic calculation of Heat Capacity of Bomb Calorimeter (Equivalent Value)
- Automatic calculation of Calorific Value of samples
- Automatic saving of Heat Capacity of Bomb Calorimeter and Calorific Values in summary format
- Automatic delivery of result data in report format

The Digital Differential Temperature/Firing Unit with Electronic Timer Features:

- Temperature Indication: 3.5 Digit digital display
- Differential Temperature range: 0 - 100 C
- Reading Resolution of temperature:  $0.001^{\circ}$  C
- Firing Voltage for Bomb: 12 VAC
- LED Indication for filament continuity
- LED Indication for Bomb Combustion

Bomb Calorimeter is supplied with the following items

Combustion Bomb Cotton Reel

Calorimeter Vessel Stand for Bomb Lid

Combined Lid Hook for lifting Bomb

Stirrer Crucible – 2 nos.

Connecting Leads Gelatine Capsules – 50 nos.

Connecting tube for Oxygen Cylinder Gas Release Valve

Adjustable Spanner O – Rings for Bomb and Stirrer

Nichrome Ignition Wire (20 M. 36 SWG) Valve for Bomb

Valve Key Pellet Press

Benzoic Acid – 10 Tablets Instruction Manual

Insulated Calorimeter Jacket Battery Backup (UPS)

Leads to connect Microprocessor unit to PC Computer with Printer (Optional)

Platinum Wire (Optional) Semi Auto Gas Filling Device (Optional)



## Astra Scientific

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