



## Bomb Calorimeter – Master Item

### Product Description

Bomb Calorimeter is designed for determination of calorific value and water equivalent in accordance with IS:1448 (Part 6) / IS:1350 (Part 2). The system is available in manual and microprocessor-based automatic configurations with options for automatic calculation, firing unit, printer, computer interface, temperature resolution and auto gas filling facility.

### Available Variants

1. Automatic Bomb Calorimeter – PB
2. Automatic Bomb Calorimeter – 0.001°C
3. Automatic Bomb Calorimeter – Firing Unit
4. Manual Bomb Calorimeter – Firing Unit
5. Automatic Bomb Calorimeter – 0.01°C
6. Automatic Bomb Calorimeter – A4 Printer

### Salient Features

- Bomb Calorimeter conforms to IS:1448 (Part 6) / IS:1350 (Part 2).
- Microprocessor-based controller is provided in automatic models.
- Automatic models calculate calorific value and water equivalent.
- Manual model is operated with firing unit and manual calculation.
- Automatic models can be provided with printer and computer interface as per variant.
- Temperature resolution is available up to 0.001°C in the specified high-resolution configuration.
- Automatic measurement and calculation of calorific value and water equivalent are provided.
- Sample weight can be entered through the keypad.
- Water equivalent can be set through the keypad.
- Sample Test and Water Equivalent Test are selectable.
- Maximum temperature rise is measured and used for automatic calculation.
- Sensor open and fuse wire open detection are provided in automatic configurations.
- Real Time Clock records test date and time in specified automatic configurations.
- Test results can be printed through the specified printer configuration.
- Computer interface and PC software are available in specified configurations.
- Data logging and PDF report generation are available in specified configurations.
- Auto Gas Filling Unit is available in the specified PB configuration.
- Stainless Steel Bomb is provided.
- Bomb firing unit is provided as applicable to the selected configuration.

#### Corporate Office:

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#### Calibration Laboratory:

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GST TIN No. : 24AABCE4018L1ZU  
I.T. PAN No. : AABCE 4018L  
IEC No. : 0813026598 Dt. 04/03/2014  
CIN No. : U29199GJ2004PTC045078  
TAN No. : AHME00572F



## Technical Specifications

| Parameter                             | Specification                                      |
|---------------------------------------|----------------------------------------------------|
| Standard                              | IS:1448 (Part 6) / IS:1350 (Part 2)                |
| Controller                            | Microprocessor Based / Manual, Variant Dependent   |
| Automatic Calorific Value Calculation | Available in Automatic Models                      |
| Water Equivalent Calculation          | Available in Automatic Models                      |
| Maximum Temperature Rise Display      | Yes                                                |
| Display                               | Digital / LCD, Variant Dependent                   |
| Temperature Range                     | Ambient to 55°C                                    |
| Temperature Resolution                | 0.01°C / 0.001°C, Variant Dependent                |
| Printer                               | Dot Matrix / Thermal / A4 Epson, Variant Dependent |
| Computer Interface                    | Available in Specified Automatic Models            |
| PC Software                           | Available in Specified Configuration               |
| Data Logging                          | Available in Specified Configuration               |
| PDF Report Generation                 | Available in Specified Configuration               |
| USB Interface                         | Available in Specified Configuration               |
| Auto Gas Filling                      | Available in Specified PB Configuration            |
| Digital Pressure Gauge                | Variant Dependent                                  |
| Pressure Sensor                       | Variant Dependent                                  |
| Audio/Visual Alarm                    | Yes                                                |
| Benzoic Acid Test                     | Yes                                                |
| Water Equivalent Test                 | Yes                                                |
| Sample Weight Setting                 | Yes                                                |
| Sensitivity Setting                   | Yes                                                |
| Fuse Wire Open Detection              | Yes                                                |

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| Parameter       | Specification                        |
|-----------------|--------------------------------------|
| Real Time Clock | Available in Automatic Configuration |
| Warranty        | 1½ Years                             |

The source provides the detailed technical parameters including display, temperature range, resolution, printer, data logging, USB, PC software, PDF reporting, tests, detection functions and warranty.

### Standard Accessories

The following accessories are supplied as standard with the Bomb Calorimeter system, as applicable to the selected variant:

1. Calorimeter Vessel with Bomb Support & Insulating Base – 01
2. Water Jacket – 01
3. Combined Lid for Calorimeter Vessel & Water Jacket – 01
4. Stirrer – 01 Set
5. Connecting Lead for Calorimeter Bomb – 01 Set
6. Fine Adjustment Valve with Built-in Pressure Gauge – 01
7. Connecting Tube for Bomb, Pressure Gauge & Fine Regulating Valve – 01
8. Safety Relief Valve with Gas Filling Tube Adapter – 01
9. Pellet Press – 01
10. Spanner for Oxygen Tube Connection – 01
11. Nichrome Ignition Wire – 01 Roll of 5 m
12. Cotton Thread – 01 Roll
13. Stand for Bomb Lid – 01
14. Hook for Lifting Bomb – 01
15. Stainless Steel Crucible – 01
16. Gas Release Valve – 01
17. Bomb Firing Unit – 01 Set
18. Differential Type Digital Thermometer with Sensor – 01
19. O-Rings for Bomb & Valve – 01 Set Each
20. Schrader Valve with Key – 01 Each
21. Standard Benzoic Acid – 01 Bottle

### Pre-Installation Requirements

The following arrangements are to be made by the end user:

1. Digital Top Pan Balance – 0.0001 g

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2. 2 KVA UPS with Batteries – 30 min Backup
3. RO Water – Approx. 50 L
4. Oxygen Cylinder – 99.9% Purity, 47 L, Minimum 70 kg/cm<sup>2</sup> Pressure
5. Clean, Dust-Free Room with Solid, Vibration-Free Working Table
6. Working Area Away from Windows, Ovens and Other Heat-Generating Sources
7. Other Required Consumables

#### Recommended Consumables

1. Cotton Reel
2. Bomb O-Ring
3. Valve Body O-Ring
4. Ignition Wire
5. Schrader Valve

#### Optional Accessories

1. Nichrome Ignition Wire – Price on Request
2. Cotton Reel – Price on Request
3. Stainless Steel Crucible – Price on Request
4. Valve Body O-Ring – Price on Request
5. Bomb O-Ring – Price on Request
6. Schrader Valve – Price on Request

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