



TD500

## BOMB CALORIMETER

For the accurate determination of the calorific value of liquid and solid hydrocarbons.



### DESCRIPTION

The equipment is self-contained with the control unit housed in an instrument case that forms the base. It comprises the calorimeter, a calorimeter vessel, an outer double-walled water vessel, electric stirrer gear, combined motor control gear and ignition unit, a digital precision thermometer, and a charging unit with pressure gauges to facilitate the charging of the calorimeter with oxygen.

The particular features of the calorimeter are the method of sealing and the method of ensuring ignition. The body of the calorimeter is screwed into the base and a seal is made with a special rubber joint when the two parts are finger-tight only. No spanners are required and in use the rubber joint is protected by water so it may be used over and over again. In order to make ignition 100% sure, great care has been devoted to the method of anchoring the ignition wire and maintaining electrical contact and to the support of the crucible. All these parts are made to a high degree of precision and the results are very satisfactory.

The calorimeter is machined from a solid billet of stainless steel which after completion is tested to a pressure of 310 bar (4500 lb/in<sup>2</sup>). It meets the Institute of Petroleum Designation IP12/73 Heat of Combustion of Liquid Hydrocarbon Fuels for Calorimeters. The calorimeter vessel and outer vessel wall are fabricated from stainless steel and all parts are made to an extremely high manufacturing standard.

### LEARNING OUTCOMES

- Bomb standardisation using a known chemical standard
- System thermal capacity determination
- Fuel calorific value determination

### STANDARD FEATURE

- Supplied with comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

### ESSENTIAL SERVICES

#### ELECTRICAL SUPPLY:

- For operation on 220/240 volts 50 or 60 Hz single-phase supply. For operation on other voltages please contact TecQuipment.

### OPERATING CONDITIONS

#### OPERATING ENVIRONMENT:

Laboratory or classroom

#### STORAGE TEMPERATURE RANGE:

-25°C to +55°C (when packed for transport)

#### OPERATING TEMPERATURE RANGE:

+5°C to +40°C

#### OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

### SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

#### NETT DIMENSIONS AND WEIGHT:

500 mm long x 1000 mm high x 370 mm front to back; 30 kg

#### INCLUDES:

Calorimeter vessel, double walled outer vessel, electric stirrer gear, ignition control unit, digital precision thermometer, two vitreosil and one nickel crucibles, reel of Nichrome wire and charging unit furnished with pressure gauges.