

5E-C5500

Automatic Calorimeter

Standard Configuration

Main analyzer: Controlling Unit and Chiller
Oxygen Vessel
Data System (PC & Printer)
Handle Oxygen Charger
Crucibles
Ignition Wire
Benzoic Acid
O-ring kit
Tool kit

Optional Configuration

Lens paper
Pellet press
Bench-top oxygen charger
Halogen Resistant Oxygen Vessel



Features

True Isoperibol Calorimeter

The jacket surrounding the vessel is kept at constant temperature with an accuracy to 0.1°C during analysis. Supports for the vessel are made of a very low thermal conductivity plastic. To minimize heat convection, water is added on the sides, top and bottom of the bucket.

High Automation and Efficiency

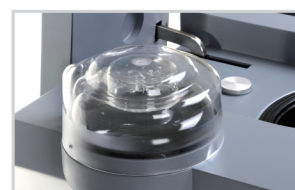
1. Dynamic method is available, without compromising accuracy or precision.
2. Second oxygen vessel and sample can be prepared while the current sample is being analyzed.
3. Two calorimeters can be controlled by one computer. Sample mass can be transferred to PC directly.

Optimized Design for Reliable Test Result

1. A reliable quantitative measuring cup ensures stable water volume of the bucket.
2. Closed-loop water circulation assures the purity of water system without any additional solution.
3. Filter in the bucket purify the water in circulation system.
4. Visible water level indicates the water volume, making it easy to feed sufficient water anytime to minimize the influence of water loss.



Superior Bomb Design



Quantitative Measuring Cup

Test Data

calibrate mass, g	temperature rise	°C or °F	as-determined heat capacity	units
0.8207	2.1783	°C	9885	J/K
0.8115	2.1811	°C	9887	J/K
0.8881	2.3862	°C	9888	J/K
0.9111	2.4498	°C	9880	J/K
0.9746	2.6188	°C	9885	J/K
0.9965	2.6735	°C	9878	J/K
1.0957	2.9393	°C	9879	J/K
1.2052	3.2391	°C	9880	J/K
1.1251	3.0238	°C	9889	J/K
1.2214	3.2827	°C	9879	J/K
Average:9883J/K			RSD:0.043%	

Remark: ASTM-D5865, the precision of ten acceptable calibration test runs shall have a relative standard deviation (RSD) no greater than 0.17% and CKIC's specification is less than 0.05% RSD.

Conclusion: 5E-C5500 Automatic Calorimeter exceeds the ASTM Precision Requirement.

Specification

Model	5E-C5808	5E-C5500	5E-C5508	5E-AC/PL
Conforms to Method	AS 1038.5, ASTM D5865, ASTM D4809, ASTM E711, BIS 1350, BS EN 15400, GB/T 213, GB/T 30727, ISO 1928, ISO 9831			
Precision (1g Benzoic Acid)	0.05%RSD*			
Measuring Range	Up to 50000J			
Temp. Resolution	0.0001°C			
Control Ability	2 Units/1 PC available			
Analysis Time per Sample	8mins	Dynamic Method:10mins, Classical Method:15mins		15mins
Jacket Type	Isoperibol /Adiabatic	Isoperibol		
Heat Capacity Stability	≤0.2% within one year			≤0.2% within 3 months
Ignition Method	Laser Ignition	Ignition Wire	Ignition Wire	Ignition Wire
Vessel Identification	Yes			
Balance Connection	Available			
Network Connection	Available			
Bucket Filling	Automatic			
Oxygen Filling	Automatic	Semi-Automatic	Automatic	Semi-Automatic
Structure	Benchtop	Benchtop or Vertical	Benchtop	Vertical
Bomb Vessel Lifting	Automatic	Manual	Automatic	Manual
Power Supply	Single phase, AC220V±10%, 50/60Hz, ≤500W			
Net Weight	50kg	Bench top: 75kg Vertical type: 103kg	80kg	71kg
Dimensions(L×W×H)	480×500×420mm	Bench top: 480×500×420mm (Analysis unit) 370×500×420mm (Temp. control unit) Vertical: 480×500×940mm	Analysis unit: 580×550×550mm Temp. control unit: 370×540×400mm	Vertical: 580×550×950mm

*Test Condition:

1. Ambient temp. 20°C±1°C, humidity 75%±5% 2.No strong interference source nearby 3.Clean water circuit with distilled water