

5E-C5500

Automatic Calorimeter

Standard Configuration

Main analyzer: Controlling Unit and Chiller
Standard CV bomb
Computer
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 Isooperibol 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 PC. 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 Oxygen Vessel 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-C5808J	5E-C5808	5E-C5500	5E-C5508	5E-AC/PL
Conforms to Method	AS 1038.5, ASTM D240, ASTM D5865, ASTM D4809, ASTM E711, BIS 1350, BS EN 15400, GB/T 213,GB/T 30727, ISO 1928, ISO 9831,ISO 18125				
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		Dynamic method: 11mins Classical method: 16mins
Jacket Type	Isoperibol				
Ignition Method	Laser Ignition	Ignition Wire			
Vessel Identification	Yes				
Heat Capacity Stability	≤0.2% within one year				
Balance Connection	Available				
Network Connection	Available				
Bucket Filling	Automatic				
Oxygen Filling	Automatic		Semi-Automatic	Automatic	Semi-Automatic
Structure	Benchtop		Benchtop/Vertical	Benchtop	Vertical
Bomb Vessel Lifting	Automatic		Manual	Automatic	Manual
Power Supply	Single phase, AC220±10%, 50/60Hz, ≤500W				
Net Weight	75kg		Bench top: 75kg Vertical type: 103kg	80kg	75kg
Dimensions (L×W×H)	705×520×595mm		Bench top: 480×500×420mm (Analysis Unit) 370×500×420mm (Temp. Control Unit) Vertical: 480×400×940mm	Analysis unit: 580×550×550mm Temp. control unit: 370×540×400mm	580×550×950mm

***Test Condition:**

1. Ambient temperature 20°C±1°C, humidity 75%±5%
2. No strong interference source nearby
3. Clean water circuit with distilled water
4. Refer to the precision of ten acceptable calibration test runs