

# 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-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 40MJ/kg					
Temp. Resolution	0.0001°C					
Control Ability	2 Units/1 PC available					
Analysis Time per Sample	Dynamic Method:10mins, Classical Method:15mins		Classical Method: 15mins			
Test Per Hour	Single control	Double control	Single control	Double control	Single control	Double control
	Up to 6	Up to 12	Up to 6	Up to 12	Up to 4	Up to 8
Jacket Type	Isoperibol					
Vessel Identification	Up to 2 for automatic, several for manual					
Balance Connection	Available					
Network Connection	Available					
Bucket Filling	Automatic					
Oxygen Filling	Semi-Automatic	Automatic	Semi-Automatic			
Structure	Benchtop or Vertical	Benchtop	Vertical			
Bomb Vessel Lifting	Manual	Automatic	Manual			
Power Supply	Single phase, AC220V±10%, 50/60Hz, ≤500W					
Net Weight	Bench top: 75kg	80kg	71kg			
	Vertical type: 103kg					
Dimensions(L×W×H)	Bench top: 480mm×500mm×420mm (Analysis unit) 370mm×500mm×420mm (Temp. control unit)	Analysis unit: 580mm×550mm×550mm Temp. control unit: 370mm×540mm×400mm	Vertical: 580mm×550mm×950mm			
	Vertical: 480mm×500mm×940mm					

### \*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