



5E-C5500

Automatic Calorimeter



Standard configuration

Main analyzer : controlling unit and chiller
Standard CV bomb
Data system (PC & Printer)
Handle oxygen charger
Crucibles
Ignition wire
Benzoic acid
O – ring kit
Tool kit

Optional Configuration

Copy paper
Pallet press
Bench-top oxygen charger
Halogen-Resistant Bomb

Note :

Due to keeping innovation,
the specification and
Machine pictures or color
are subject to alteration
without notice!

Features

True Isoperibol Calorimeter

The jacket surrounding the vessel is kept at constant temperature with an accuracy to 0.10C during analysis. Mechanical supports for the vessel are made of a very low thermal conductivity plastic. To minimize convection, water is added on the sides, top and bottom of the bucket,

High Automation and Efficiency

1. 10 minutes analysis time by dynamic method, without compromising accuracy of precision.
2. Optional second bomb operation minimizes down-time because the second bomb 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.



Superior Bomb Design

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.



Quantitative Measuring Cup

Automatic calorimeter



Advantage :

- Professional designed 4-layer PCB and surface mount technology improves the stability and anti-interference of the equipment;
- Unique ultra-high-bit analog to digital conversion technology : adopting 24-bit analog- to-digital converter imported from American with high precision and stability, which ensures the precision and accuracy of the instrument;
- Sensor probe adopts the thin-film platinum resistance imported from German with high-precision and stability , full-silver tube she at head;
- Widows interface : using the most advanced object-oriented software design technique that can connect several intelligent analyzers together to form an analysis system;
- Advanced serial bus technology: the instrument uses advanced RS485 or 485 serial bus, connect the computer by a two-core data communications cable, which makes it possible to control up to 32 sets analyzer by a computer;
- Original water constant volume compensation technology improves the measurement accuracy greatly ;
- Accurate refrigeration technology adopting domestic advanced “circulating water cooling technology”, which makes water temperature return to starting value quickly to ensure the precision of the test;
- The volume of calorimeter tank is up to 60kg, the water circulating adopts two high-powered magnetic pumps imported from German, without solenoid valve, low failure rate, this calorimeter is one of the most popular instruments;
- Particularly suit for testing material of low calorific value, the unique non-fuse ignition way ensures each ignition successful;
- The instrument has function of automatic identification to A,B oxygen bomb, it can automatically use the heat capacity separately to avoid the man-made input errors;

Parameter :

Product model : GMC6000/L		GMC6000/W
Product code : 04130637		04130639
Parameter :		
• Testing time :	Normal way : about 15min, Fast way: about 8min	Normal way : about 15 min Fast way : about 8min
• Temperature testing range :	5~40°C	5-40°C
• Resolution :	0.0001°C	0.0001°C
• Precision :	RSD≤0.1%	RSD≤0.1%
• Power :	≤500W	≤500W
• Power supply :	(220±22) VAC, (50±1)HZ	(220±22) VAC , (50±1)HZ
• Tank volume :		30Kg



5E-AC/PL

Calorimeter

Standard configuration

Main analyzer : controlling unit and chiller
Standard CV bomb
Data system (PC & Printer)
Handle oxygen charger
Crucibles
Ignition wire
Benzoic acid
O – ring kit
Tool kit

Optional Configuration

Copy paper
Pallet press
Bench-top oxygen charger
Halogen Resistant Bomb

Typical structure ensures
trouble free operation



Note :

Due to keeping innovation,
the specification and
Machine pictures or color
are subject to alteration
without notice!



Features

1. Water cycling system applies the theory of connected vessels, simple and reliable.
2. Large volume of jacket minimizes the heat transfer between bucket and the environment.
3. Large water tank is equipped for cooling down water from bucket after each analysis.
4. Auto-diagnose, remote data transfer and balance connection available.



5E-AC/PL

Calorimeter (Test Data & Specification)

Calibrate Mass, g	Temperature Rise	⁰ C or ⁰ F	As-Determined Heat Capacity	Units
0.8207	2.1783	⁰ C	9885	J/K
0.8115	2.1811	⁰ C	9887	J/K
0.8881	2.3862	⁰ C	9888	J/K
0.91111	2.4498	⁰ C	9880	J/K
0.9746	2.6188	⁰ C	9885	J/K
0.9965	2.6735	⁰ C	9878	J/K
1.0957	2.9393	⁰ C	9879	J/K
1.2052	3.2391	⁰ C	9880	J/K
1.1251	3.0238	⁰ C	9889	J/K
1.2214	3.2827	⁰ C	9879	J/K
Average: 9883 J/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 specifications is less than 0.05% RSD.

Conclusion : 5E-CE5500 Automatic Calorimeter exceeds the ASTM Precision Requirement.

Model	SE-C5500	SE-C5508	SE-AC/PL
Conforms to Method	ASTM D5865, ASTM D4809		
Precision (1g Benzoic Acid)	0.05% RSD"		
Measuring range	Up to 40MU/kg		
Temp. resolution	0.0001 ⁰ C		
Control Ability	2 units / 1 PC available		
Analysis Time per Simple	Dynamic method: 10mins, Classical method: 15mins		Classical Method: 15mins
Test per Hour	Single control Up to 6	Double control Up to 12	Single control Up to 4
		Double control Up to 12	Double control Up to 8
Jacket Type	Isoperibol		
Bomb 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	Bench top or vertical	Bench top	Vertical
Bomb Vessel Lifting	Manual	Automatic	Manual
Power Supply	Single phase, AC220±10%, 50/60Hz, ≤500W		
Net weight	Bench top: 75kg Vertical type: 103kg	80kg	71kg
Dimensions (L x W x H)	Bench top: 480mmx500mmx420mm (analysis unit) 370mmx500mmx420mm (temp. control unit) Vertical: 480mmx500mmx940mm	Analysis unit: 580mmx550mmx550mm Temp. control unit: 370mmx540mmx400mm	Vertical: 580mmx 550mmx950mm

***Test condition:**

1. Ambient temp. 200c±10c, humidity 75%±5%
2. no strong interference source nearby
3. clean water circuit with distilled water

Note :

Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!

Automatic calorimeter (temperature controlled type)

Product model: GMC6000/T

Product code : 04130645



Advantage :

Same as D type and L type, the barrelhead is flip-open cover.

Parameter :

• Testing time :	Normal way :about 18min, quick way : about 8min
• Temperature range:	5-40°C
• Resolution :	0.0001°C
• Precision :	RSD≤0.1%
• Power :	≤1.5kw (cooling powers100w, heating powers≤1kw
• Power supply :	(220±22) VAC , (50±1)Hz