AC500

Calorimeter



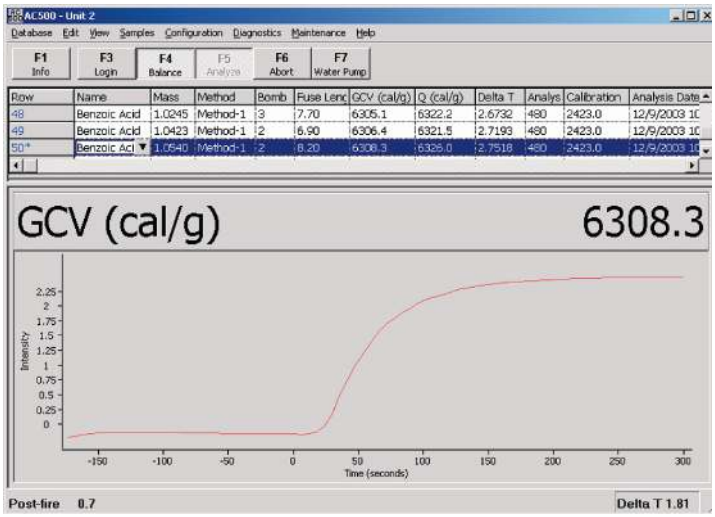
ASTM/DIN-compliant, the robust AC500 from LECO quickly determines gross calorific content.

Unique Design

The AC500 Isoperibol Calorimeter features an integral water-measuring and combustion vessel-filling station simplifying sample preparation. This stand-alone benchtop unit has a fully integrated circulation system, making it compact as well as simple to operate. No additional heaters or coolers are required. The operating system uses an electronic thermometer with an accuracy of 0.0001 °C to measure the temperature every six seconds. The AC500 also features the unique ability to constantly monitor temperature in both the outer jacket and the calorimeter proper, making two-channel correction possible.

A High Level of Performance

The AC500 achieves high precision across a wide range of sample sizes and ambient conditions. Results may be obtained using a choice of three modes: the traditional Regnault-Pfaundler = 20 minutes, Precision = 8 minutes, or Predictive = 4.5 to 7.5 minutes.



LECO's AC500 software seamlessly manages data, report generation, LIMS compatibility, and can control up to four separate calorimeters through a single PC.



Combustion vessel design makes pre-/post-handling of samples trouble-free.



Optional thread-ignition combustion vessel provides a seamless analysis without fuse wire connections.

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Specifications

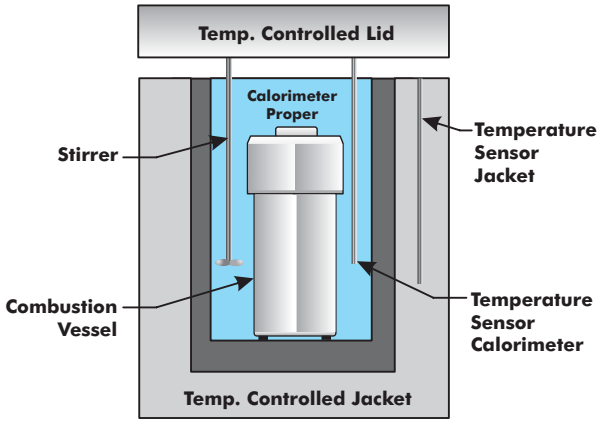
Method	Isoperibol
Range	
Joules/Charge	14000† to 35000††
Calories/Charge	3300† to 8300††
Btu/Charge	13† to 33†† (6000† to 15000†† Btu/lb for a 1 gram sample)
Precision	≤0.05% RSD*
Resolution	1 Btu/lb; 0.1 Cal/g; 0.001 MJ/kg; 0.1 kcal/100 g
Analysis Time	
Regnault-Pfaundler:	20 min
Precision Mode:	8 min
Predictive Mode:	4.5 min to 7.5 min
Corrections	Acid or % nitrogen, fuse wire, sulfur, moisture, spike weight, ash, and hydrogen
Temperature Measuring Resolution	0.0001 °C
Gas Requirements	Oxygen 450 psi (31.0 bar) max; 99.5% purity
Environmental Conditions	Operating Temperature: 15 °C to 35 °C (59 °F to 95 °F) Relative Humidity: 20% to 80%, non-condensing
Sound Pressure Level	50 dBa (max reading at operator's level per IEC/EN 61010-1)
Electrical Requirements	115/230 V~ (±10%; at max load), 50/60 Hz, single phase, 3.2/1.6 A, 1300 Btu/h
Water Requirements	Distilled water only, approximately 16 L full capacity. *NOTE: Do NOT use deionized water. pH: 6-8; Dissolved Solids: 0.5 ppm to 100 ppm; Resistivity:* 50 kΩ•cm to 2 MΩ•cm (0.5 µs/cm to 20 µs/cm)
Required Work Space Benchtop **	32 in W x 31 in D x 26 in H (81.3 cm x 78.8 cm x 66 cm)

**Based on analysis of benzoic acid at 1 g.*
***Includes instrument dimensions and recommended access area; does not include PC requirements.*
†Lower values can be measured by spiking samples that are not completely combusting.
††This is the combustion vessel safety limit. Do NOT exceed this limit. Exceeding this limit could result in vessel failure causing death, serious personal injury, and/or property damage.

Part Numbers

AC500NC	Instrument with PC tower, software, monitor; no vessel
AC500WC	Instrument with PC tower, software, monitor, wire igniter, and vessel
AC500TC	Instrument with PC tower, software, monitor, thread igniter, and vessel
621-245	Vessel with Thread Igniter Kit
621-246	Vessel with Wire Igniter Kit
621-453-110	Printer Kit
751-350-110	Balance

Flow pattern of the AC500



V~ denotes VAC.
Specifications and part numbers may change. Consult LECO for latest information.

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