CALO-11, CALO-11A, CALO-13, CALO-15, Calorimeters

Bucket water circulation system

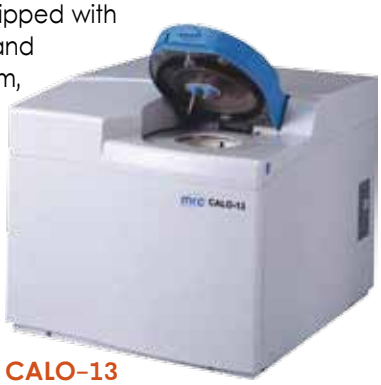
Applications

The CALO Series calorimeters can be used to determine the calorific value of coal, coke, petroleum, cement black meal, solid biomass fuels and other combustibles. Conformance with Standards: GB/T213-2008 Standard Test Method for Calorific Value of Coal ASTM D5865-2010 Standard Test Method for Gross Calorific Value of Coal and Coke ISO1928 Solid Mineral Fuels – Determination of gross calorific value by the bomb calorimetric method and calculation of net calorific value.

High Adaptability to Environment

Stable internal environment

Jacket and jacket lid equipped with water circulation device and temperature control system, which can make sure the water temperature of each part of the jacket to be consensus and constant, thus the test results will not be affected even if the room temperature fluctuates up to 10°C.



High Precision and Accuracy of Test Results

Independent bucket and jacket water system

Bucket water will be drained to water tank directly after finishing the test, so the inlet and outlet of bucket water will not affect the jacket water.

Constant bucket water volume and temperature

Constant volumetric tank with temperature control device makes sure water volume and temperature of each test are exactly the same.

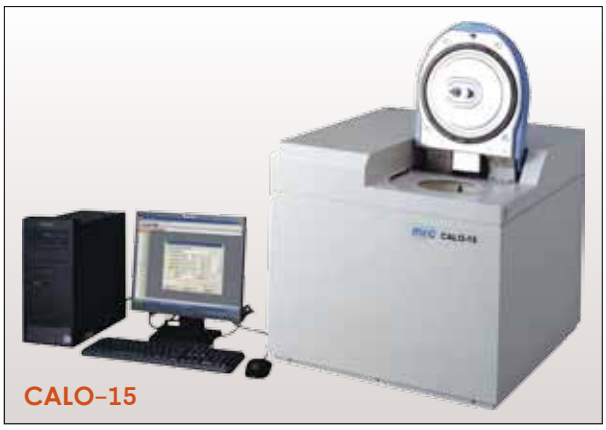
High temperature resolution

Temperature measured by PT1000 Platinum resistance to the nearest 0.0001k.

Stable and reliable water quality

Equipped with high quality water purification device, the water quality of each test is guaranteed.

Model	CALO-11/11A	CALO-13	CALO-15
Method	Isoperibol		
Analysis Time	< 11min	< 13min	< 15min
Precision	RSD < 0.1%		
Heat Capacity Stability	≤ 0.20% within three months		
Heat Capacity Precision	≤ 0.1%		
Temperature Resolution	0.0001K		
Power Requirement	220V(-15%-10%), 50Hz		
Max Power	1.5kW		
Gas Requirement	99.5% purity of oxygen		
Water Requirement	Distilled water		


CALO-15

Easy to Operate, Handle and Maintain

- Easy-to-use Windows- based software.
- Easy data handing, real time data can be transmitted through internal network.
- With CAN bus interface, several calorimeters can be controlled by a single PC.
- Connected with balance and network by standard interface RS232.
- Durable bombs need hydrostatic pressure test only once a year.

High Efficiency and Automation

Test in turn without waiting

With bomb identifier, up to four bombs can be recognized, operators can prepare other bombs while testing thus improvement gained in efficiency & operating time.


Power Inverter

Test finished automatically

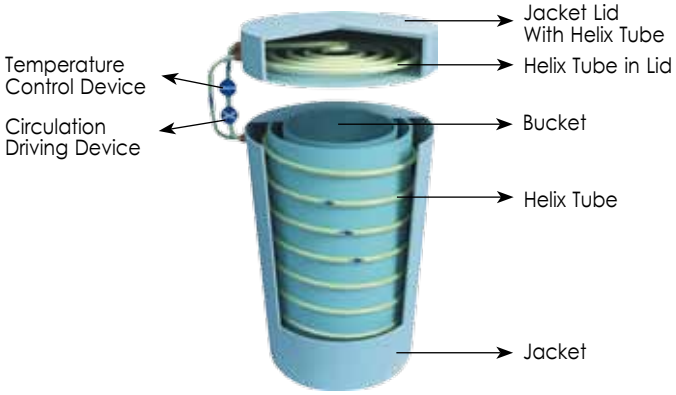
- Automatic oxygen filler equipped, oxygen filling by one press.
- Automatic controlling of water volume, filling, heating, emptying and jacket water circulation.
- Automatic sample ignition.
- Automatic temperature rise measurement and result calculation.


CALO-15

Less sensitive to power supply

Unique design of inverter which can purify and stabilize the power supply, ensures the calorimeter will not be affected by the fluctuation of power voltage (from 160V to 240V) and frequency.

Sectional Drawing of Jacket/Lid With Helix Tube Inside



Model	CALO-11A	CALO-11	CALO-13	CALO-15
Standard Layout	Calorimeter, Lenovo PC (Desktop), Printer	Calorimeter, Water Tank, Lenovo PC (Desktop), Printer		
Type	Vertical type	Benchtop	-	-
Size	437x554x1040mm	432x560x393mm	432x560x393mm	432x560x393mm
Net weight	95kg	60kg	60kg	60kg

CALO-B, Calorimeter


CALO-B

Features

- Weighing the weight and measuring the water temperature of bucket manually, then the calorimeter will finish the whole test automatically.
- Simple structure, easy for maintenance.
- Durable bombs need hydrostatic pressure test only once a year.
- With PCI interface, several calorimeters can be controlled by a single PC.
- Connect with balance and network by standard interface RS232, real time data can be transmitted through Internal network.
- Easy-to-use Windows-based software, easy data handling.

Model	CALO-B
Analysis Time	< 25 min
Heat Capacity Stability	≤ 0.20% within three months
Heat Capacity Precision	≤ 0.2%
Temperature Resolution	0.0001K
Power Requirement	220V(-15%-10%), 50Hz
Max Power	0.5kW
Gas Requirement	99.5% purity of oxygen
Water Requirement	Distilled water
Size / Net weight	528x330x380mm / 30Kg