High Precision Microcomputer Automatic Oxygen Bomb Calorimeter
BXT-ZDHW-9B

Scope of application

The automatic calorimeter is suitable for measuring the power, coal, metallurgy, petrochemical, quality inspection, environmental protection cement, papermaking, geological exploration, scientific research institutes and other industrial sectors. Measuring the calorific value of coal, coke, petroleum, cement, brick and other solid or liquid combustibles, in line with the national standard GB/T213-2008 "calculation method of coal calorific value".

Product advantages

1. The environment adaptability is strong and the test results are accurate and stable.
2. The experimental data full curve tracking function, can easily view the temperature and time in the curve.
3. With instructions for operation, failure, etc., the experiment ends with automatic voice report results.
4. The window display uses a 7.0-inch color LCD touch screen, intuitive and easy to understand.
5. Simple and convenient, the control core uses ARM9 microprocessor, fast, real-time.
6. Reliability fault self-tuning function, the device has a variety of protection functions.
7. Using internal and external tube photoelectric isolation, strong anti-interference ability.
8. Internal loading has standards, instructions and common troubleshooting method.

Working principle

Using advanced single-chip system, the operation is fully automated. All the labor needs to do is to weigh, load and oxygenate. The instrument automatically completes the quantitative water injection, automatic mixing, ignition, output printing results, drainage, etc. In the calorimetric system of the calorimeter, in addition to the heat absorbed by the water, the oxygen bomb, the inner cylinder, the thermometer and the agitator absorb heat, and the respective heat absorption conditions are different. Various factors are complicated, and it is impossible to rely on simple Mathematical calculations can only use the reference of known calorific value, such as benzoic acid, to actually calibrate the heat absorbed by the calorimeter system for every 1 °C increase, that is, to calibrate the calorimeter's heat capacity.

Features

Ultra-large capacity water tank for large batch continuous 24 hour experiment

1. The user only needs to install the oxygen bomb when the user operates, and the remaining electronic balance is used to read the sample weight, oxygen, oxygen bomb, oxygen bomb, quantitative inner cylinder water, ignition, completion test, oxygen bomb deflation, experiment Results statistics and other processes can be fully automated.
2. Automatically adjust the temperature difference between the inner and outer cylinders to ensure that the inner cylinder is about 1K higher than the outer cylinder temperature at the end point, which fully meets the requirements of the national standard 8.2.4, and the test results are stable for a long time.
3. It can carry out experiments for more than 72 hours, which solves the technical problem that the calorimeter without cooling device needs to suspend the experiment due to the increase of the outer cylinder water temperature (overshoot).
4. Imported mechanical parts, automatic oxygenation, automatic deflation, automatic lifting oxygen bombs and other sports.
5. The compressor cooling and special heating device are adopted to realize the automatic control of the water temperature of the outer cylinder, and the temperature control accuracy meets the requirements of the national standard 7.1.4 (±0.1K).

Parameters

Heat capacity	About 10500 J / K
Oxygen bomb working pressure (oxygen charging)	2.8-3.0mpa, maximum 3.2Mpa Pressure test (water pressure): 20.0Mpa Volume: 300ml Mass: 2.5kg Boundary dimension: φ 86mm x 181mm
Capacity of external water cylinder	About 45L
Capacity of the inner water cylinder	About 2. 1L
Ignition voltage	AC24V
Ignition method	Fusible cotton wire ignition
Temperature resolution	0.0001 °C
Temperature measurement range	0-40 °C
Measurement accuracy shall meet the national standard	ASTM D5865, ASTM D240, ASTM D4809, ASTM E711, ASTM D5468, AS 1038.5, BS EN 15400, BIS1350,ISO 1928, ISO 9831,ISO18125,GB/T 213,GB/T 30727
Test time	≤ 15 minutes
Power supply	AC220V～10%， 50Hz
Power of the whole machine	Less than 30W in normal state and less than 300W in ignition state
Operating environment	Room temperature 5-35 °C , humidity < 80%
Size/Weight	600*500*425mm/65kg