BSD-BET400
Auto Fast Specific Surface Area Analyzer

BSD INSTRUMENT
FOCUS ON SORPTION

Gas Flowmeter

LED Screen

Heating Furnace

Dewar

Temperature Control Display

Cold Trap

Sample Tubes

Built-in Fan

Elevator
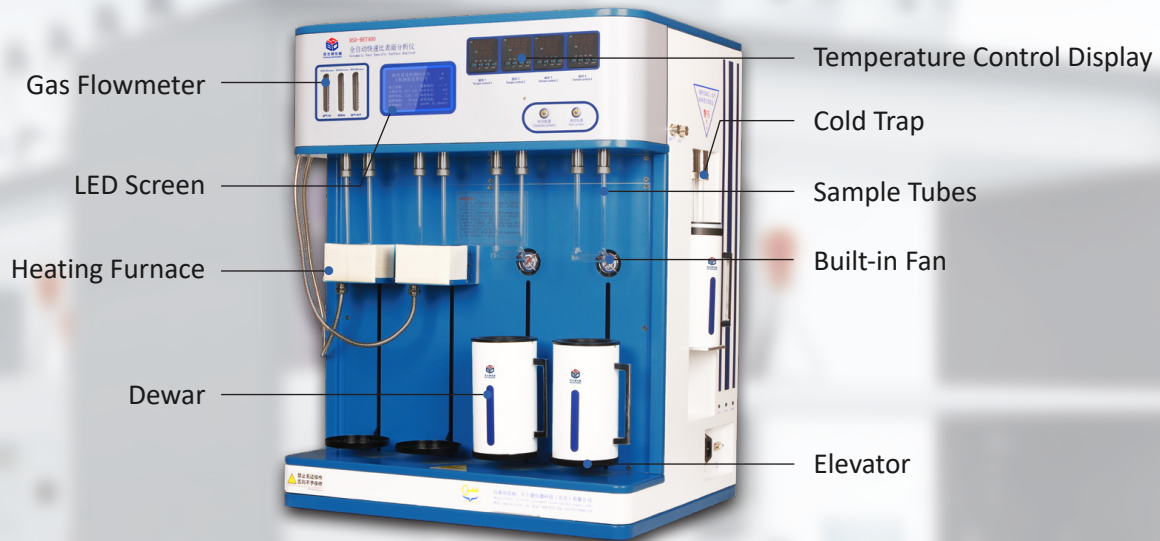
Fast Surface Area Analysis for Battery Industry

Prodcution Line Quality Control

Application: battery materials, metal and organic powders etc;

Feature

◆ High Precision: Above $0.01m^2/g$ of small surface area with relative error ± 1%;

◆ High Efficiency: 4 in-situ degassing and analysis stations;

◆ Analysis Principle: Dynamic Chromatographic Analysis (BET Single point);

◆ Efficiency: 4 samples analysis in ten minutes. High efficiency working with AD8 Pre-treatment Station;

◆ Free of standard reference sample;

◆ High Stability: high sensitivity of TCD with isothermal environment;

Patent Design

◆ **Thermostatic Quantitative Tube**: replace standard sample reference, and set in isothermal environment, providing stable reference testing data.

◆ **LN2 Temperature Monitor:** by monitoring LN2 temperature, system will eliminate the LN2 impurity influence

◆ **Purging and Heating Degassing**: in-situ heating degassing with N2 purging.

◆ **Unique Gas Pipeline Design**: Unique pipeline design achieving the same testing environment for samples, decrease background interference

◆ **Heating assisted desorption** : Reduce background error, ensure rapid desorption and achieve sharp peaks;

◆ **Thermostatic Design**: Zero drift inhibition with stable thermostatic environment for TCD signal, achieving less than 0.1mV in 10mins.

◆ **Cold Trap**: improve purity of gas.

◆ **Patent Sample Tube**: easy-loading sample tube design with high accuracy, limit-free from powder testing

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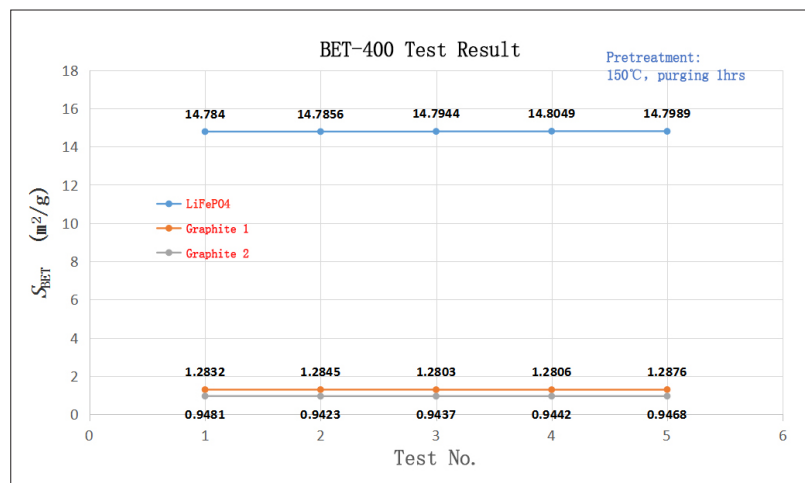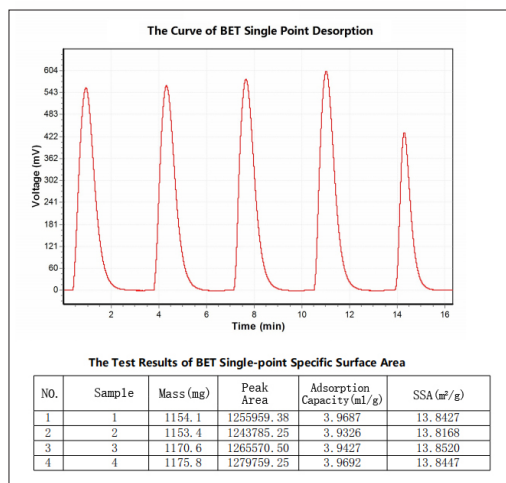# Auto Fast Specific Surface Area Analyzer

Specifications

Model	BSD-BET400
Testing Theory	Low-temperature nitrogen adsorption in dynamic chromatography
Testing Method	BET Single point SSA
Analysis Station	4 samples concurrent analysis
Testing Gas	High-purity (99.999%) nitrogen-helium gas mixture 2:8
Recommend materials	lithium iron phosphate, ternary, graphite, lithium cobalt, oxide, lithium manganese oxide, etc.

Test report

The Curve of BET Single Point Desorption

The Test Results of BET Single-point Specific Surface Area

NO.	Sample	Mass(mg)	Peak Area	Adsorption Capacity(ml/g)	SSA(m²/g)
1	1	1154.1	1255959.38	3.9687	13.8427
2	2	1153.4	1243785.25	3.9326	13.8168
3	3	1170.6	1265570.50	3.9427	13.8520
4	4	1175.8	1279759.25	3.9692	13.8447

BET-400 Test Result

Pretreatment: 150℃, purging 1hrs

S_{BET} (m²/g) vs Test No.

LiFePO4: 14.784, 14.7856, 14.7944, 14.8049, 14.7989
Graphite 1: 1.2832, 1.2845, 1.2803, 1.2806, 1.2876
Graphite 2: 0.9481, 0.9423, 0.9437, 0.9442, 0.9468

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Sample Test Support

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Comprehensive Solutions of Sorption Characterization