

JW-BK112 Surface Area and Mesopore Analyzer



JW-BK112 BET surface area and pore size analyzer is used for analysis the specific surface area and pore size, porosity, pore size distribution, true density with high precision by Static Volumetric Method.

High repeatability and accuracy makes the JW-BK112 an ideal analyzer for both R&D and Quality Control.

Parameters

Model : JW-BK112

Principle Gas physisorption, static volumetric method

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Function : BET surface area (single point. Multi-point)

Langmuir surface area,

STSA

Adsorption-desorption isothermal curve determination

BJH

t-Plot

DR

MP

True density (optional)

Analysis One analysis station, two samples can be degassed in situ, tested

Port : alternately

Vacuum : Two-stage rotary vane mechanical pump, ultimate vacuum is $4-6.7 \times 10^{-2}$ Pa; pumping speed is 30l/min, and it can be adjusted from 2ml/s to 300ml/s automatically.

Sensor : 0-1000 Torr, Accuracy $\pm 0.15\%$ (FS)

P/p₀ : 10^{-4} -0.998

Adsorbate N₂, Ar, Kr, CO₂, etc.

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Test Range Surface area $\geq 0.005\text{M}^2/\text{g}$, no upper limits

Mesopore and macropore 2-500nm, Microspores routine analysis 0.35-2nm

Accuracy 1%

Control Intelligent control method of the equilibrium pressure, pore size analysis are sixth settings, fully automatic control

Degassed Room temperature to 400C

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Features

Theoretical calculations: according to the principle of the static volumetric method, we create a new method of determining cold free space, switching helium / nitrogen automatically. It achieves the temperature real-time measurement and correction, ensuring the reliability of the amount of nitrogen adsorption; through proprietary technology, it can get into the nitrogen adsorption measurements directly for certain samples, improving the test efficiency greatly.

Control accuracy: the multiple parallel vacuum design; the speed of vacuum pumping can be adjusted from 2 to 300ml/min automatically by original built-in fine-tuning system; the precision of pressure control has reached the international advanced level by the unique equilibrium pressure control method; The pressure controlled interval $<0.1\text{KPa}$, while achieving the automatic control in highest points of the equilibrium pressure, relative pressure is up to 0.998;

Liquid nitrogen surface control: eliminating the effect of the liquid nitrogen surface by integrated control method and software compensation;

Automatic control circuit: international advanced self-control circuit and the data acquisition system, the Ethernet interface, greatly improves the reliability of the automatic control, anti-vibration, super anti-jamming capability. The average failure period is more than 25 years, and can be multiple, remote control;

Low carbon environmental protection: the original purification device, eliminating the pretreatment impurities and removing harmful gases discharged by the vacuum pump, environmental, high analysis accuracy, walking in the forefront of the industry;

Analysis software: rich physical models and intelligent analysis software, and integrated into the latest progress, such as the linear selection method of

BET surface area for different materials, the database of isothermal line, the techniques of STSA analysis;

True density: the technology of testing true density is mature, high efficiency, and repeatability and accuracy can fully reach the precision of the professional densitometer.

Application Field

Adsorbent (such as activated carbon, silica gel, activated alumina, molecular sieves, activated carbon, calcium silicate, sepiolite, zeolite, etc.);

Ceramic raw materials (such as alumina, zirconia, silicates, aluminum nitride, silica, yttrium oxide, silicon nitride, quartz, silicon carbide, etc.);

Rubber material reinforcing agent (such as nano calcium carbonate, carbon black, silica, etc.);

Battery material (such as lithium cobalt, lithium manganese, graphite, Lithium nickel cobalt oxide, cobalt oxide, lithium iron phosphate, lithium titanate, three elements, three-element material, a polymer, the polymer material, polymer battery materials, alkali-manganese material, lithium ion material, lithium manganese material, alkaline material, zinc-manganese material, quartz powder, magnesium and manganese material, carbon material, zinc-air material, mercury-zinc materials, acetylene black, nickel hydrogen material, nickel-cadmium material, diaphragm, the active material, additives, conductive agent, corrosion inhibitor, manganese powder, electrolytic manganese dioxide, graphite, nickel hydroxide, nickel, the modified graphite material, the positive electrode active material, a negative electrode active substance, zinc powder, etc.);

Metal oxide (such as zinc oxide, calcium oxide, sodium oxide, magnesium oxide, barium oxide, iron oxide, copper oxide, etc.);

Magnetic powder material (such as tri-iron tetroxide, ferrite, ferrous oxide, etc.); nano-metal materials (such as nano-silver, iron powder, copper powder, tungsten powder, nickel powder, aluminum powder, cobalt powder, etc.);

Environmental industry (such as pigments and fillers, column packing materials, inorganic pigments, calcium carbonate, silicon oxide, mineral powders, sediments, suspended matter, etc.);

Inorganic powder material (such as titanium oxide, titanium dioxide, titanium dioxide, etc.);

Nanomaterials (such as nano-powder materials, nano-ceramic materials, etc.);

Rare earth, coal, cement, energy storage materials, catalysts: (diatomaceous earth); Purifying agent, filter aid, the luminescence of rare earth powder materials, powder materials, powder materials, ultra-fine fibers, porous fabric, composite materials such as powders and particulate materials than detection of surface area and pore size analysis, widely used in universities and research centers the material research and the powder material production enterprise product quality monitoring.