



## Surface area and pore size analyzer

Model: JW-BK132F

### - -Specifications

#### **Power**

Voltage: 100V~230V  $\pm$  10V

Frequency: 50/60Hz

Maximum power: 300W

Connection: grounding, single-phase power socket

#### **Physical properties**

Length: 87cm (34.3 inches)

Width: 57cm (22.4 inches)

Height: 89cm (35.0 inches)

Weight: 80kg (176.37 lbs)

Installation requirements (L \* W) 80 \* 70cm (not including space computers taking up)

#### **Work environment**

Temperature: 20°C -25°C

Maximum relative humidity: 40%--60%

JW-BK132F surface area and porosity analyzer is awarded as the "Good instrument" by the customers and media. It has one analysis port and throughout the surface area, mesopore, and micropore, widely range and high accuracy.

## **Functions:**

- Surface area measurement:
  - BET surface area (single -point and multi-point)
  - STSA
  - Langmuir surface area
  - T-plot method the total inner surface area of micro pore
  - BJH adsorption cumulative surface area of the total pore
  - BJH desorption cumulative surface area of the total pore
- Determination of pore volume:
  - Single point total pore volume
  - BJH adsorption cumulative total pore volume
  - BJH desorption cumulative total pore volume
  - T-plot method the total pore volume of micro porous
- Determination of average pore size
  - Adsorption average pore diameter
  - BJH adsorption average pore diameter
  - BJH desorption average pore diameter
  - The most frequency pore
- Pore size distribution:
  - BJH adsorption and desorption differential pore size distribution ( $dV / Dr-D$ ) and ( $dV / d\log D-D$ )
  - BJH adsorption and desorption /integral distribution (or cumulative distribution)
  - MP method micropore distribution
  - DR (Dubinin-Radushkevich), as-plot method micropore total pore volume
  - HK, FS micropore analysis
  - CO<sub>2</sub> micropore analysis
  - NLDFT micropore analysis
- The average particle size estimate
- Determination of true density
- The amount of gas adsorption, adsorption heat test
- Determination of gas adsorption kinetics
- Density input method analysis



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### Technical Parameters:

Test principle: the static volumetric method, gas adsorption;

Measuring range: surface area  $\geq 0.005\text{M}^2/\text{g}$ , no upper limit; pore size 0.35-500nm; pore volume  $0.0001\text{ cm}^3/\text{g}$ , no upper limit.

Sorption gas:  $\text{N}_2$  (high purity); Ar, Kr,  $\text{CO}_2$ ,  $\text{CH}_4$ , etc. available

Analysis No: 2 samples tested alternately

Sample Type: powders, granules, fibers, flakes and other materials

Pressure Sensor: 1000torr (133kpa), 10torr (1.33kpa); 1torr (0.133kpa) or 0.1torr (0.0133kpa); pressure accuracy  $\leq \pm 0.15\%$  (P.S)

P0 tube: there is a separate P0 tube in every analysis port, two in all, controlled by a separate pressure sensor, completely separates from the analysis bit, real-time detecting the nitrogen saturation vapor pressure, and participating in the theoretical calculation; also the atmospheric input method to determinate the P0 accurately;

Cold trap tube: sample degassing system has a special cold trap device that can effectively remove the water, hazardous substances and other impurities, degassed from the special sample, and it can avoid the contamination of the vacuum system;

Degassing system: two samples can be analyzed simultaneously, also can be degassed in the original port; another with two separate sample degassing station, which is independent and separate from the sample analysis. Throughout the degassing system, there are two independent heating packages, two independent temperature control systems, which can be programmed by temperature control; you can choose another four external vacuum degassing pretreatment system;

Degassing temperature: room temperature -400°C, accuracy  $\pm 1^\circ\text{C}$ ;

Test Efficiency: multi-point BET surface area--30 minutes per sample; Determination micro pore size distribution from adsorption and desorption isotherms\_5-20h per sample.

Nitrogen Partial Pressure:  $P/P_0 1 \times 10^{-8} \sim 0.998$ , the minimum resolvable relative pressure  $5 \times 10^{-7}$

Ultimate vacuum:  $\leq 10\text{P}^{-6}\text{ Pa}$  ( $7.5 \times 10^{-9}\text{ torr}$ )

Measurement Accuracy:  $\leq \pm 1.0\%$  (surface area) ;  $\leq 0.01\text{nm}$  (the most frequency micro pore)

$\leq \pm 0.04\%$  (True density);  $\leq \pm 1.5\%$  (STSA)

Operation Mode: Automatic