

SURFACE AREA AND PORE SIZE DISTRIBUTION
ANALYZER

BELSORP MAX II



The BELSORP MAX II is a versatile instrument which measures specific surface area/pore size distribution, vapor adsorption and chemisorption.

The BELSORP MAX II analyzer allows for comprehensive surface characterization such as micropore analysis by measuring adsorption isotherms from extremely low pressure, or hydrophilicity/hydrophobicity by water vapor adsorption.

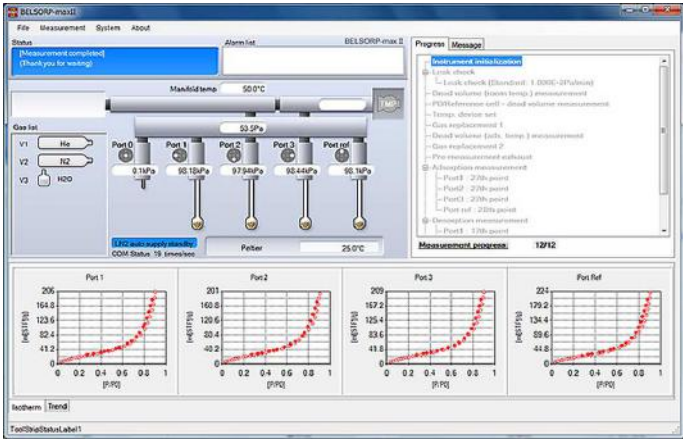
- | Highest throughput thanks to simultaneous measurement of up to 4 samples
- | New advanced GDO function permits optimum gas dosing
- | The most suitable measurement conditions are automatically set based on the user's stored adsorption isotherm data
- | An advanced system of direct evacuation and intelligent valve control reduces the measurement time significantly
- | High precision vapor adsorption measurement under strict temperature control
- | High precision measurement by Advanced Free Space Measurement (AFSMTM)
- | Automatic LN₂ supply and a dedicated heater enable fully automatic seamless process control from pre-treatment to measurement
- | With advanced GCMC method: allows to perform



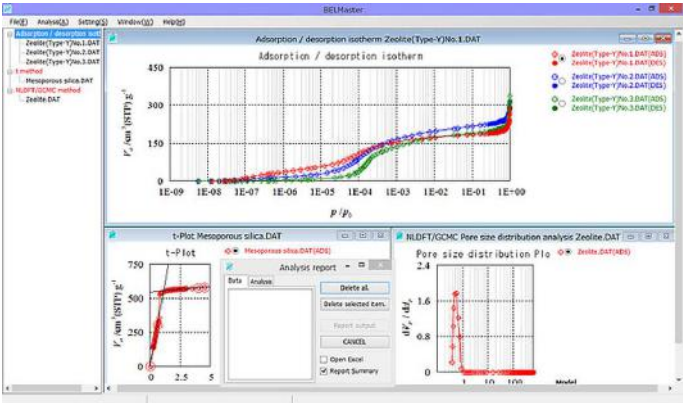
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Product Video

MEASUREMENT SOFTWARE



MEASUREMENT EXAMPLES



SURFACE AREA AND PORE SIZE DISTRIBUTION ANALYZER BELSORP MAX II

TYPICAL APPLICATIONS

Used in various fields such as: battery materials, catalysts, carbon, medicine / pharmaceuticals, cosmetics, cement, Toner particles, pigments, ceramics, semi-conductor (CMP), adsorbent, MOF / PCP ...



To find the best solution for your particle characterization needs, visit our application database

TECHNICAL DATA

Please note that the specifications below are just an exemplary configuration.
Please contact us to discuss your individual requirements.

Measurement principle	Volumetric method + AFSM™
Adsorption gas	N ₂ , Ar, Kr, CO ₂ , H ₂ , O ₂ , CH ₄ , NH ₃ , butane, and other non-corrosive gases
Adsorption vapor	H ₂ O, MeOH, EtOH, C ₆ H ₆ , and other non-corrosive vapor
Gas ports	2 ports (optional: 7 ports; 12 ports max.)
Number of measurements (High Accuracy mode)	BELSORP MAX II & MAX II HV: Max. 4 ports simultaneously (3 ports in High Accuracy mode) BELSORP MAX II HP: Max. 3 ports simultaneously (2 ports in High Accuracy mode)
Measurement range (specific surface)	0.01 m ² /g and above (N ₂) 0.0005 m ² /g and above (Kr) (depending on sample density)
Pore size distribution (Diameter)	0.35 - 500 nm
Low pressure isotherm	BELSORP MAX II & MAX II HP: $p/p_0 = 10^{-8}$ (N ₂ @77K, Ar @87K) BELSORP MAX II HV: $p/p_0 = 10^{-6}$ (N ₂ @77K, Ar @87K)
Vapor adsorption	BELSORP MAX II & MAX II HP: $p/p_0 = \sim 0.95$ @40°C BELSORP MAX II HV: $p/p_0 = \sim 0.95$ @70°C
High pressure gas sorption	BELSORP MAX II HP: 900 kPa (Port 2)
Pressure transducer (1 MPa: 7500 Torr)	BELSORP MAX II HP: 1 unit
Pressure transducer (133 kPa: 1000 Torr)	BELSORP MAX II: max. 6 units BELSORP MAX II HP: 5 units BELSORP MAX II HV: 6 units
Pressure transducer (1.33 kPa: 10 Torr)	BELSORP MAX II: max. 4 units BELSORP MAX II HP: 3 units BELSORP MAX II HV: 4 units
Pressure transducer (0.0133 kPa: 0.1 Torr)	BELSORP MAX II: max. 3 units BELSORP MAX II HP: 2 units
Thermostatic air oven	BELSORP MAX II & MAX II HP: 50°C BELSORP MAX II HV: 80°C
Vacuum gage / pump	Turbo molecular pump + rotary pump
Sample tube	Standard tube, approx. 1.8 cm ³ (optional: 5 cm ³)

Dewar vessel	Volume: 3.8 l Holding time: 80 h
Pretreatment heater	50 - 550°C
Water bath	-10 - 70°C
Analysis software BELMaster™ 7	Adsorption isotherm, BET specific surface area I type (ISO9277), BET automatical analysis, Langmuir specific surface area, BJH, DH, CI, INNES method, t-plot
Analysis software BELMaster™ 7 cont.	HK, SF, CY method, NLDFT / GCMC (OP BELSim™), MP method, Dubinin-Astakhov method, Difference adsorption isotherm, molecular probe, adsorption rate analysis (opt.)
Dimensions (W x H x D)	650 x 1020 x 680 mm
Weight (main body)	120 kg
Utility - Gas	He, adsorption gas: 0.1MPa Joint: 1/8" Swagelok joint
Utility - Power	Main unit: AC 100 - 120 V / 200 - 240 V, 1500 W (incl. rotary pump), 50 / 60 Hz Heater: AC 100 - 120 V / 200 - 240 V, 900 W, 50 / 60 Hz
Environmental conditions	Temperature: 10 - 30°C Humidity: 20 - 80% RH
CE certified	yes

www.microtrac.com/belsorp-max-ii