

SURFACE AREA AND PORE SIZE DISTRIBUTION
ANALYZER

BELSORP MINI X



The BELSORP MINI X measures the specific surface area/pore size distribution by volumetric gas adsorption technique. Microtrac's unique dead volume evaluation method (AFSM) ensures highly accurate and reproducible measurements free of environmental impact. This compact model analyzes up to 4 samples simultaneously with the highest level of precision and reproducibility worldwide. The measurement time is drastically reduced compared to other models.



[Click to view video](#)

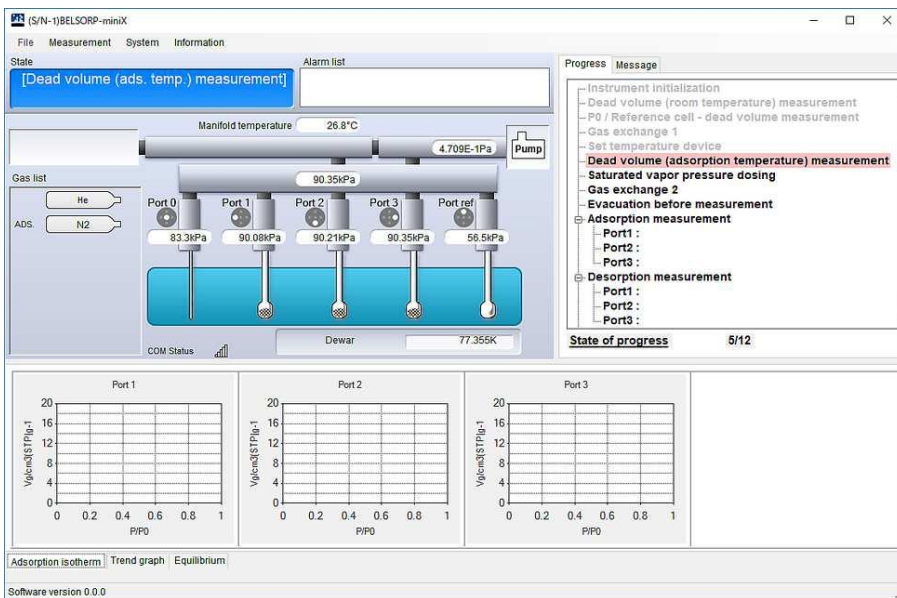
Product Video

PRODUCT ADVANTAGES

- | Simultaneous measurement of up to 4 samples with high precision at 1.5x throughput
- | Dedicated exhaust valve and improved software considerably reduce measurement time
- | [NEW] Speedy measurement with optimum gas dosing (GDO) based on adsorption isotherm data from previous sample measurement.
- | Automatic measurement of adsorption isotherms according to minimum condition settings
- | Equipped with AFSMTM for increased measurement precision and reproducibility (Domestic patent: #3756919 / US Patent: 6,595,036)
- | Adsorption isotherm measurement of various gases over a wide range of temperatures
- | [NEW] Measurement progress checks in the software improve working efficiency.
- | Convenient attachment/detachment of temperature devices (such as Dewar vessels) ensures easy handling.
- | Improved maintenance software allows for performance monitoring of each part.
- | [NEW] The world's smallest and most lightweight instrument.

Conforming to JIS Z8830, Z8831-2, K6217-7 and ISO 9277, 15901-2, 18852. NEW = New function of BELSORP MINI X

SOFTWARE



TYPICAL APPLICATIONS

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



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

LITERATURE REFERENCES

Microtrac MRB instruments are used by scientists around the world. We have prepared a collection of papers and application notes which reference our analyzers.

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 , CH ₄ , butane, and other non-corrosive gases
Gas ports	2 ports (5 ports max.)
Number of measurements (High Accuracy mode)	Max. 4 ports simultaneously (3 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)	0.7 - 500 nm
Low pressure isotherm	p/p ₀ = 10 ⁻⁴ (N ₂ @77K, Ar @87K)
Pressure transducer	133 kPa (1000 Torr) x 6 units
Vacuum gage / pump	Rotary pump
Sample tube	Standard tube, approx. 1.8 cm ³ (optional: 5 cm ³)
Dewar vessel	Volume: 2 l Holding time: 30 h
Pretreatment heater	50 - 430°C (4 ports)
Water bath	-10 - 70°C (4 ports)
Analysis software BELMaster™ 7	Adsorption isotherm, BET specific surface area type I (ISO9277) BET auto analysis, Langmuir specific surface area, BJH, DH, CI, INNES method
Analysis software BELMaster™ 7 cont.	t-plot, NLDFT / GCMC (OP BELSim™), MP method, Dubinin-Astakhov method, Molecular probe, as-plot
Dimensions (W x H x D)	280 x 650 x 465 mm (excluding vacuum pump & PC)
Weight (main body)	38 kg (excluding vacuum pump & PC)
Utility - Gas	He, N ₂ (99.999% or higher purity), 0.1 ± 0.02 MPa, joint: 1/8" Swagelok Exhaust: Rotary pump exhaust port, ø 11 mm
Utility - Power	Single phase, AC 100~240 V (50 / 60 Hz) / 10A (incl. R.P.), 50 / 60 Hz
Environmental conditions	???
CE certified	yes

www.microtrac.com/belsorp-mini-x