

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.



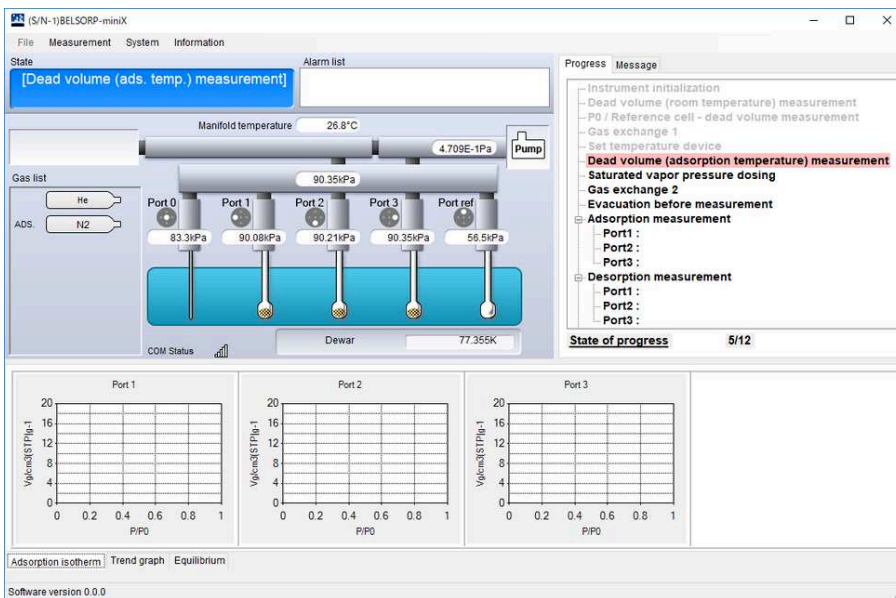
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## PRODUCT ADVANTAGES

- | 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, pigments, ceramics, , separation membrane, semi-conductor (CMP), adsorbent, MOF/PCP ...



To find the best solution for your sample preparation task, visit our application database

## LITERATURE

Application data sheet using our products is here.

## TECHNICAL DATA

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

|   |   |
|---|---|
| <b>Measurement principle</b>                      | Volumetric method + AFSM™ (Advanced Free Space Measurement)   |
| <b>Adsorption gas</b>                             | N <sub>2</sub> , Ar, CO <sub>2</sub> , H <sub>2</sub> , CH <sub>4</sub> , butane, and other non-corrosive gas                               |
| <b>Multi sample measurement</b>                   | Max 4 ports simultaneously/High precision mode: max 3 ports<br>Multi sample mode: max 4 ports   |
| <b>Measurement range - Relative pressure</b>      | P/P <sub>0</sub> ≈0.997 (saturated vapor pressure: actual measurement at dedicated port)  |
| <b>Measurement range - Specific surface area</b>  | 0.01 m <sup>2</sup> /g~ (N <sub>2</sub> , depending on sample density)  |
| <b>Measurement range - Pore size distribution</b> | 0.7~500nm (OP: 0.35~500 nm)   |
| <b>Pressure transducer</b>                        | 6 unit in total (133.3 kPa F.S)<br>Accuracy: ±0.15% of F.S.   |
| <b>Gas port</b>                                   | 2 (5 port maximum by gas selector)  |
| <b>Vacuum pump</b>                                | Rotary pump (etc.)  |
| <b>Sample tube</b>                                | Standard: 1.8cm <sup>3</sup> , Option: 5cm <sup>3</sup> (etc.)  |
| <b>Dewar vessel</b>                               | Volume: 2L, keeping time: 30 hrs  |
| <b>Pretreatment heater</b>                        | 50-430 °C (4 ports)   |
| <b>Water bath</b>                                 | -10-70 °C (4 ports)   |
| <b>Analysis software BELMaster™ 7</b>             | Adsorption isotherm, BET specific surface area type I (ISO9277)BET auto analysis, Langmuir specific surface area, BJH, DH, CI, INNES method |
| <b>Analysis software BELMaster™ 7 cont.</b>       | t-plot, NLDFT / GCMC (OP BELSim™), MP method, Dubinin-Astakhov method, Molecular probe, as-plot   |
| <b>Dimensions (W x H x D)</b>                     | 280 x 650 x 465 mm (excluding vacuum pump & PC)   |
| <b>Weight</b>                                     | 38 kg (excluding vacuum pump & PC)  |
| <b>Utility - Gas</b>                              | He, N <sub>2</sub> (99.999% or higher purity), 0.1 ± 0.02 MPa, joint: 1/8" Swagelok<br>Exhaust: Rotary pump exhaust port, ø 11 mm           |
| <b>Utility - Power</b>                            | Single phase, AC 100~240 V (50 / 60 Hz) / 10A (incl. R.P.), 50 / 60 Hz  |

[www.microtrac.com/belsorp-mini-x](http://www.microtrac.com/belsorp-mini-x)