BELSORP-aqua^3

High precision vapor adsorption instrument



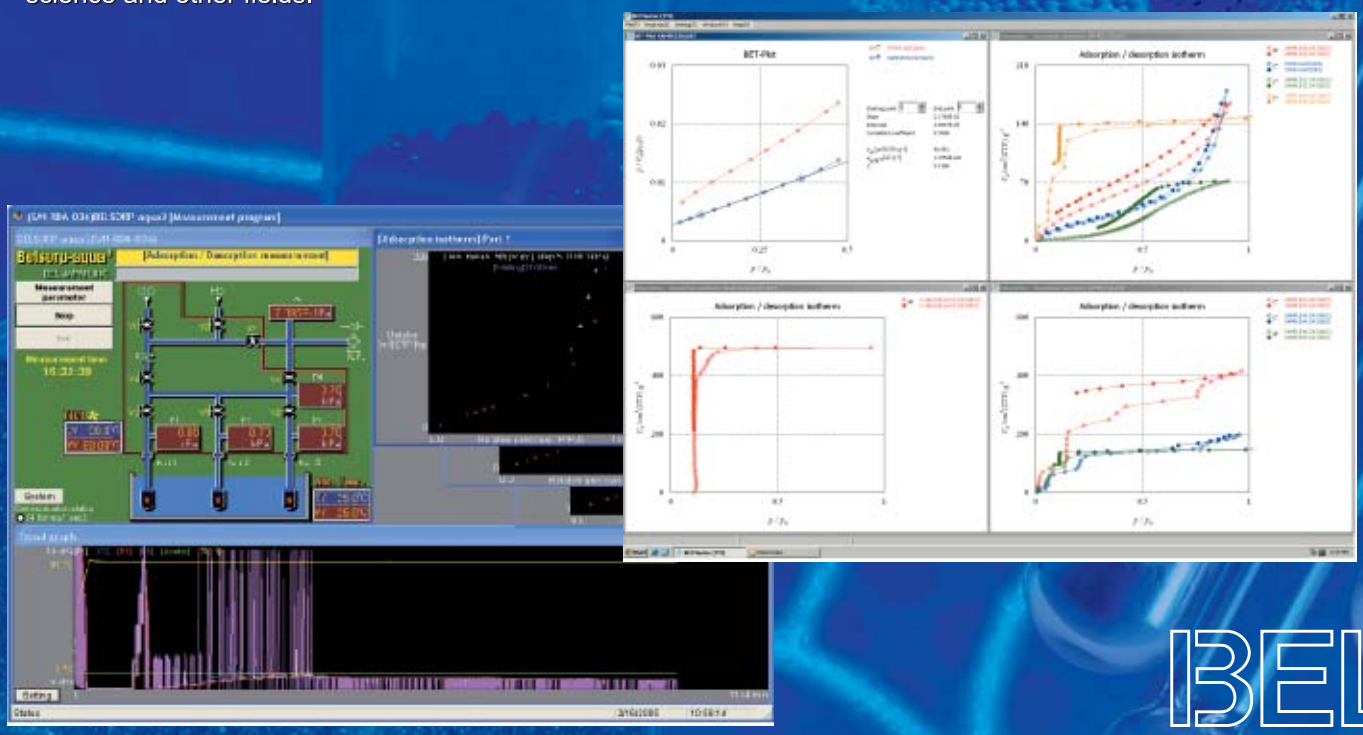
Up to 3 independent samples measured simultaneously

Compact design

Fully automated vapor adsorption measurement

To investigate water vapor sorption behavior of material is important both from scientific and industrial standpoint. Measuring water vapor isotherms gives a lot of information about sorption properties such as hydrophilic and hydrophobic property of particle surface. But it is not easy and laborious. The BELSORP-aqua^3 makes it possible to obtain not only water but other vapor adsorption isotherms with simple operation.

Our unique technologies consisted of our longstanding efforts and experiences are applied to the BELSORP-aqua^3 and this is the powerful tool for the researcher in the pharmaceutical, food industry, material science and other fields.



BEL JAPAN, INC.

Specialist in Adsorption

FEATURES

- **Up to 3 samples can be measured simultaneously**
  The BELSORP-aqua^3 has 3 analysis ports and that allows high-throughput measurement.
- **Compact bench-top type**
- **Easy to use**
  Measurements are performed automatically by the user-friendly software. Support message displayed on the screen enables easy operation.
- **Accurate temperature control**
  Valves and pressure transducers are installed in the thermostatic air bath. Both air bath temperature and measurement temperature are severely controlled and that enables accurate measurements up to high relative pressure range.
  Two kinds of measurement temperature controllers can be selectable :
  Water bath : Wide temperature range (10 ～ 70℃) with high accuracy (+/- 0.1℃).
  BEL-thermo™ : Peltier temperature controller (10 ～ 50℃). Compact and affordable system.
- **BELDyna™ - Adsorption rate analysis software (Option)**
  Adsorption rate is an important factor which indicates the dynamic behavior of adsorption. BELDyna™ can create the graph of concentration changes against time. In addition that, the diffusion coefficient and mass transfer coefficient can be obtained. These values are useful for kinetic study of adsorption.

SPECIFICATIONS

Measurement principle	Volumetric adsorption method	
Adsorptive	Water vapor and non-corrosive organic vapor (within the below temp. and pres. ranges) *Option: organic vapor trap with LN_2 dewer vessel when measuring the organic compounds	
Analysis port	3 ports	
Temperature range	Water bath :10 ～ 70℃ (accuracy: +/- 0.1℃) BEL-thermo™ :10 ～ 50℃ (accuracy: +/- 0.2℃)	
Relative humidity	0.1 ～ 99.5 RH% (within the above temp. range)	
Pressure transducer	Max.13.3 kPa (accuracy: +/- 0.5% of reading)	
Thermostatic air oven	Max. temperature: 80℃ (accuracy: +/- 0.5 ℃)	
Measurement program	Adsorption / desorption isotherm measurement	
Analysis program	Adsorption / desorption isotherm, BET method, Langmuir method, Micropore volume by DA method, Differential enthalpies of adsorption, Difference of adsorption isotherms, Molecular probe method	
Dimension and weight	W540xD470xH710 mm, 80 kg	
Utility	Gas	He: pres. 0.2 bar (Gauge) (1/8" Swagelok joint) Air for pneumatic valve: pres. 4～5 bar (Gauge) (quick connect for 1/4" plastic (teflon) tube)
	Power	AC100 ～ 120, 200 ～ 240V/ 1500W

- A personal computer, an oil vacuum pump and a refrigerated/heating circulator (when water bath is selected) would be provided at the customer's side.
- For sample preparation, BELPREP-flowII or BELPREP-vacII is required.
- Due to our policy of continuous product improvement, the information and the specifications are subject to change without notice.

insurface®
SORPTION INSTRUMENTS

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