

Dynamic Water Vapor 흡착 분석기

Water Vapor Sorption Analyzer

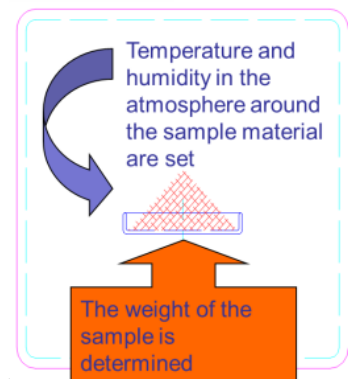
모델: SPS Series

제조사: ProUmid GmbH & Co. KG (독일)

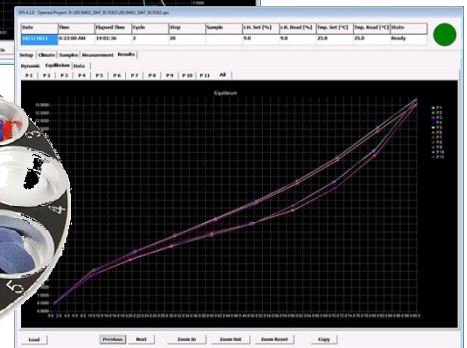
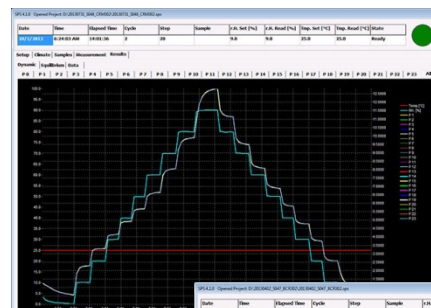
□ SPS 시리즈는 DVS (dynamic water vapor sorption) 방식의 측정 장비로, 흡착된 수분의 질량을 microbalance를 이용하여 최대 23개까지 측정합니다. 또한 옵션으로 permeability, Raman, 고해상도 이미지 분석이 가능하여 제약, 식품, 촉매 등 광범위한 제품의 상대습도에 따른 수분 흡착 특성을 분석할 수 있습니다.

주요특징

- Principle: dynamic water vapor sorption, gravimetric method
- Balance resolution: 0.1 ug, 1 ug, 10 ug (weight range: 3 mg-220 g)
- Sample port: 11 ports, 23 ports
- Relative humidity: 0-98 RH% etc.
- 흡착속도 (ROA: rate of adsorption) 측정 가능



SPS23-100n





Multisample Dynamic Moisture Sorption SPSx-1µ Advance

The SPSx-1µ **Advance** handles small to medium sized samples. The large available sample surface area in the dishes ensures an optimized sorption kinetics. The instrument ideally combines high sensitivity with easy handling.

The System alternatively holds 23 samples with Ø 33 mm or 11 samples with Ø 50 mm at only a few seconds changeover time.

The SPSx-1µ Advance version shows a very high gravimetric reproducibility of better than ± 2 microgram RMS. This enables the investigations of **samples smaller than 10 mg** in mass up to 22 grams at full resolution.



Technical data

Load capacity:

23 samples in pans Ø 33 mm
 24 samples in pans Ø 18 mm (not weighed)
 11 samples in pans Ø 50 mm
 12 samples in pans Ø 35 mm (not weighed)

or (both options included)

Max load:

22g per sample

Resolution:

1 µg

Repeatability:

± 2 µg RMS*

Temperature range:

+5 °C to +60 °C

Temperature accuracy:

Over time ± 0.1 K
 Uniformity ± 0.5 K

Humidity range:

0 % RH to 98 % RH**
 Dew point -70 °C to +38 °C

Humidity accuracy:

± 0.6 % RH (0 ... 100 % RH) at 23 °C ± 5 °C

Long term stability:

Better than 1 % RH per Year

Dimensions:

Width: 488 mm
 Depth: 630 mm
 Height: 437 mm (1024 mm with open cover)
 Weight: 62 kg***

Environmental conditions:

Temperature: +15 °C to +25 °C
 Humidity: +75 % RH max.

Power supply:

Voltage: 100 V - 230 VAC ± 15 % 1/N 50 Hz - 60 Hz
 Power: 0.5 kW***

Gas supply:

Compressed air/nitrogen
 dried, oil-free

Operating pressure:

1.5 bar to 10 bar

Dew point:

≤ -70 °C

Validation:

DKD Calibration Certificate with "Min Weight" certification
 (optional) salt validation test with humidity standards

Optional:

Software validation package according to CFR21 part 11

* Note: An environment capable for the operation of an Ultra-Micro balance is required.

** Note: The full humidity range is only available at chamber temperatures slightly above room temperature.

*** Note: Dimension, weight and power consumption do not include keyboard and monitor.