



Freiberg
Instruments

MSBsortp

Magnetic suspension balance for
high-accuracy sorption measurements
even under extreme conditions



High-resolution mass determination under extreme conditions – from vacuum to high pressure and cryogenic to very high temperatures. MSBsortp can be adapted to nearly all kinds of gases and fluids.

Materials

Inertgas, Aggressive toxic gases, Supercritical fluids, Flammable and explodable gases, Gas mixtures, Vapour, Vacuum and all kind of liquids and solids

Features

Wide range of sample material and measuring atmospheres

Vacuum
up to 150/350/700 bar

Temperature range
-196 °C up to +200 °C

Very sensitive
1 µg or 10 µg
(100ng under development)

Longterm stability

Drift compensated long-term measurements

Accessories & Options

MSBsortp offers versatile configuration options to match specific process and safety requirements. Each system can be tailored for maximum flexibility and reliable operation.

Combine **MSBsortp** with a gas dosing for static or dynamic atmospheres and pressure control unit to build a fully automated measurement solution.

Different configurations are available and can be adjusted to customer needs according to the chosen **MSBsortp** unit.

Key parameters include

- -196 °C up to +200 °C
- Vacuum up to 150/350/700 bar
- Activation up to 350 °C
- Dynamic or static atmosphere
- Heated pipes for fluids in supercritical state or vapours
- Integration of HPLC pumps for combination of gas and vapor dosing

More options on request

Contact



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MSBsorp

Technical specifications

Sample

- Max. weighing range approx. 200 g, max. sample weight approx. 20 g (10 µg scale)
- Max. weighing range approx. 60 g, max. sample weight approx. 10 g (1 µg scale)
- In development:
Max. weighing range approx. 20 g, max sample weight approx. 6 g (100 µg scale)

Material

- Inert gases
- Aggressive, toxic gases
- Supercritical fluids
- Flammable, explosive gases
- Mixed gases
- Vapors
- Mixtures

Conditions

- Max. pressure 150 – 700 bar (depending on setup)
- Temperature range: -10 – 200 °C (up to 350 °C, depending on the maximum pressure of the measuring cell, down to -196 °C with special cooling system)

Weight

app. 150 kg

Dimensions

850 × 870 × 2000 mm

Power

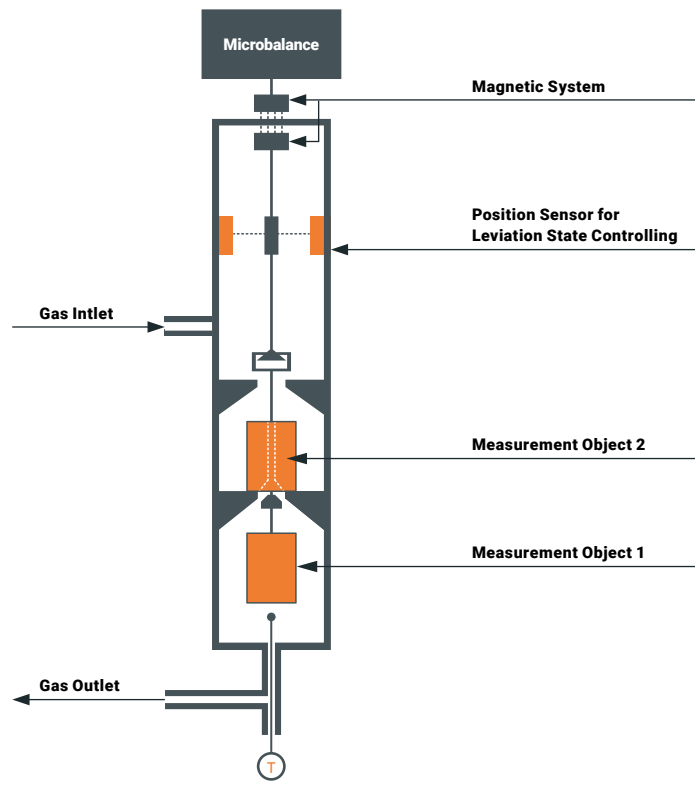
200 – 240 VAC, 50/60 Hz, 2 × C20 (à 16A max)

Resolution

1 µg or 10 µg (100 ng under development)

Measurement Principle

Magnetic Suspension Balance technology allows for high resolution mass determination under high pressure and high temperature conditions by utilizing resistant measurement cells. An industrial microbalance is located outside of the cell.



Magnetic Suspension Balance technology

MSBsorp combines microgram-level sensitivity with robust operation in demanding environments – enabling reliable sorption data where conventional balances reach their limits.

Dr. Nadine Schüller
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