

Measurement in a vacuum of  $10^{-6}$  mBar  
Suspended weighing pan for elimination of eccentricity errors  
Thermo-hygro-barometer and vacuum gauge

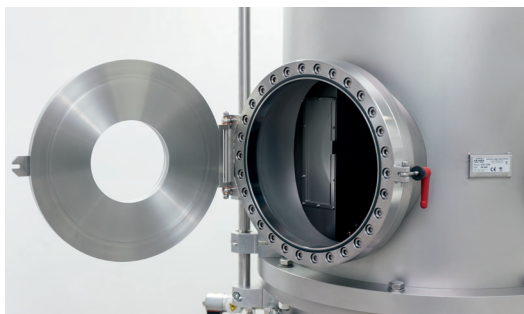


# AVK-1000 Automatic Vacuum Mass Comparator

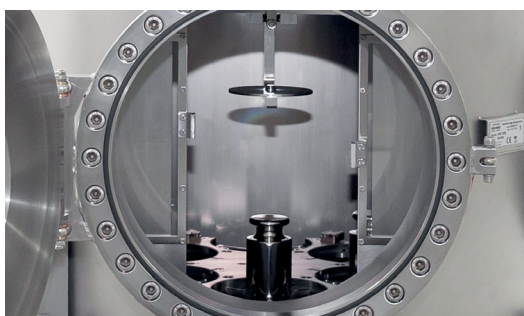
VACUUM COMPARISON WITH THE HIGHEST ACCURACY

# AVK-1000

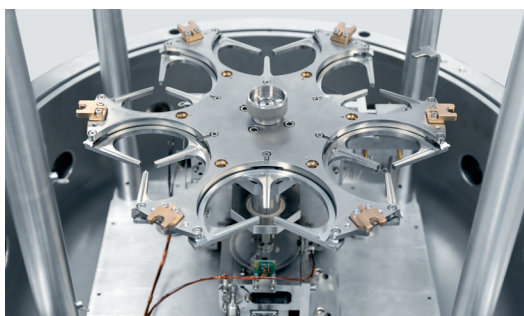
**A resolution of 10 billion reading units**  
**A repeatability of 0.3 µg**



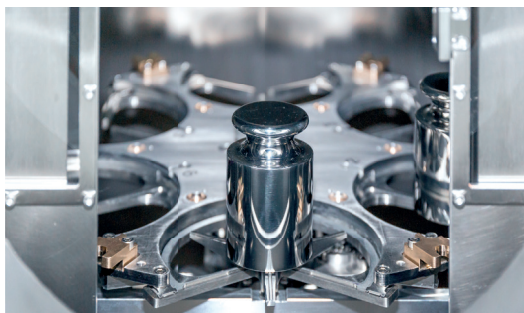
Chamber enabling comparison in a vacuum of maximum  $10^{-6}$  mbar or in noble gases such as argon.



The device is equipped with a vacuum gauge of high class and an ambient conditions station allowing testing the ambient conditions with the highest accuracy.



The mass comparator features magazine for 6 cylindrical objects of  $\varnothing$  (22 – 95) x 110 mm or sphere objects of maximum diameter of  $\varnothing$  100 mm.



Suspended weighing pan of custom design eliminates eccentricity errors and facilitates dropping the weight onto magazine insert correctly.

## Effective and Excellent Measurement

Resolution of 10 billion units plus elimination of human error and other external factors due to the use of vacuum chamber. All these combined together effectively prevent any potential errors that may occur during measurement.

## Mass Standard Maintenance

The AVK-1000 automatic vacuum mass comparator is intended for national metrological institutes that transport and maintain the national reference mass standard of 1 kg.

## Excellent Measurement Accuracy

The comparator enables comparison of up to 6 artefacts of cylinder or sphere shape, and of ax 1 kg mass, with repeatability of 0.3 µg and readability of 0.1 µg. The suspended weighing pan eliminates the influence of eccentricity of mass standards.

## Vacuum Chamber Measurement

A specially designed vacuum chamber enables carrying out measurements in a vacuum of  $10^{-6}$  mBar capacity or in atmosphere containing noble gases.

## Ambient Conditions Monitoring

The AVK-1000 automatic mass comparator is equipped with a vacuum gauge and a thermo-hygro-barameter which enables ambient conditions monitoring to be carried out with very high accuracy (0.001 hPa for pressure, 0.01% for humidity and 0.001 °C for temperature).



**AVK-1000**

|                                |                      |              |
|--------------------------------|----------------------|--------------|
| E1                             |                      | 100 g – 1 kg |
| E2                             |                      | 100 g – 1 kg |
| F1                             |                      | 100 g – 1 kg |
| F2                             |                      | 100 g – 1 kg |
| Resolution                     | 10 000 000 000 units |              |
| Maximum capacity               | 1002 g               |              |
| Readability                    | 0.1 µg               |              |
| Repeatability                  | 0.3 µg               |              |
| Electric compensation range    | -1g – -2g            |              |
| Stabilization time             | 60 s                 |              |
| Adjustment                     | External             |              |
| Pressure in the vacuum chamber | $10^{-6}$ mBar       |              |
| Magazine positions             | 6 positions          |              |
| Weighing pan dimensions        | Ø100 mm              |              |