

Vacuum gas flow meters

The gas flow meter is a device that reproduces a regulated helium flow. The principle of operation is based on the diffusion of gas through the permeable element, while the gas flow is regulated by changing the pressure and temperature of the gas.

The gas flow meters are produced in various modifications, which differ in overall dimensions, the value of the set flow and the limits of the permissible error.



DESIGNED FOR

application in unit standards in the field of gas flow measurements in vacuum. They are used for checking and calibrating instruments for measuring gas flow in a vacuum, such as reference gas flow standards in vacuum and helium mass spectrometric leak detectors, at their places of operation.

Characteristics	
Range of the set flow, Pa·m ³ /s	from 1·10 ⁻¹⁰ to 1·10 ⁻⁴
Limits of permissible relative error of flux reproduction, %	
- in range from 1·10 ⁻¹⁰ to 3·10 ⁻⁹ Pa·m ³ /s	±(10 – 7)
- in range over 3·10 ⁻⁹ to 3·10 ⁻⁶ Pa·m ³ /s	±(7 – 3)
- in range over 3·10 ⁻⁶ to 1·10 ⁻⁴ Pa·m ³ /s	± 5
Operating conditions:	
- ambient temperature, °C	from +15 to +30
- relative air humidity, %, no more	80
- atmospheric pressure of ambient air, kPa	from 86 to 106
Average service life, years	10