GM6500 Series

Gas Monitor

Figure 1: GM6500 Series Gas Monitor

Product Overview

The GM6500 Series Gas Monitor features an all-metal stainless steel mass spectrometry cell with a maximum operating temperature of 200°C. The vacuum environment is maintained by a diaphragm pump combined with a high-performance vortex molecular pump, providing full-range true vacuum support for real-time monitoring of the instrument's vacuum status.

Samples are introduced through an external stainless steel or quartz capillary heating sleeve (up to 350°C), undergo ionization via an open electron impact ion source, and pass through all-metal double-curved quadrupole mass screening. Signal amplification and output are achieved at the electron multiplier detector.

Technical Specifications

Parameter	Specification
Ion Source	Open ion source, standard dual filament

Parameter	Specification
Mass Analyzer	Double-curved quadrupole rod
Cavity Temperature	≤ 200°C
Capillary Temperature	≤ 350°C
Detection Limit (IDL)	1 ppm
Dwell Time	~16 s/amu
Detection Range	~100%
Resolution	1 ms
Mass Resolution	0.5~2 amu (adjustable)
Sample Pressure	0.5~2.5 atm
Communication Interface	Ethernet LAN port
Software Workstation	Fully Chinese single-stage control

Application Cases

Chemical Adsorber - Gas Monitoring and Analysis System

The novel online analytical method combining chemical adsorption instrumentation with gas monitoring analysis enables detailed qualitative and quantitative trend analysis of products generated during the heating process of chemical adsorption procedures. This provides in-depth insights into the reaction mechanisms of catalysts during chemical adsorption.

By analyzing the types, quantities, and trends of gas products, information such as active sites on the catalyst surface and reaction pathways can be inferred, offering robust support for catalyst optimization and development.

Combined Application with Thermogravimetric Analyzer

The combined technique of gas monitoring analysis and thermogravimetric analysis provides simultaneous information on mass changes and gas composition during sample heating. This enables accurate determination of gas molecular composition in samples and provides real-time data support for in-depth investigation of pyrolysis and decomposition processes.