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Data Sheet

August 13, 2026

STANFORD RESEARCH

Stanford Research QMS100

Stanford Research Systems QMS100 Residual Gas Analyzer / High Pressure Gas Analyzer The SRS QMS100 is the 100 amu member of the QMS Series transportable high-pressure gas analyzers. A two-stage capillary inlet samples gases from about 10 mbar to greater than 1 bar while a quadrupole residual gas analyzer operates at high vacuum (about $5\text{e-}6$ mbar). Faraday cup and electron multiplier detectors provide less than 1 ppm detection (multiplier) and better than 0.5 amu resolution at 10 percent peak height. Hybrid turbomolecular/drag and diaphragm pumps are built in. The SRS QMS100 is the 100 amu member of the QMS Series transportable high-pressure gas analyzers. A two-stage capillary inlet samples gases from about 10 mbar to greater than 1 bar while a quadrupole residual gas analyzer operates at high vacuum (about $5\text{e-}6$ mbar). Faraday cup and electron multiplier detectors provide less than 1 ppm detection (multiplier) and better than 0.5 amu resolution at 10 percent peak height. Hybrid turbomolecular/drag and diaphragm pumps are built in. On-line process-gas monitoring of light gases to 100 amu; leak detection; atmospheric and near-atmospheric sampling; replacing batch gas-chromatograph sampling with continuous spectra; portable residual-gas analysis.



MODEL

**Stanford Research
QMS100**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

QMS100

LISTING

<https://aumictechlabs.com/products/qms100-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Stanford Research QMS100 is a quadrupole mass spectrometer for residual gas analysis and vacuum diagnostics. It detects and quantifies gas species and contaminants within vacuum systems across a mass range of 1 to 100 amu. Built on a two-stage pressure-reducing inlet system, the QMS100 samples gases at atmospheric pressures (10 mbar to 1 bar) and conditions them for analysis by a high-vacuum quadrupole mass analyzer. A capillary inlet reduces pressure by three decades, followed by a hybrid turbomolecular/drag pump stage that achieves approximately 10^{-6} Torr analysis conditions. Solenoid valves govern gas flow throughout the system.

Technical Specifications

Mass range: 1 to 100 amu
Mass resolution: Better than 1 amu
Dynamic range: 6 decades
Detection limit: As low as 5×10^{-14} Torr (with optional electron multiplier)
Response time: Less than 0.5 seconds
Sampling pressure: 10 mbar to 1 bar
Sampling flow rate: Several milliliters per minute
Measurement rate: Up to 25 points per second for individual masses
Detector options: Faraday cup or electron multiplier

Key Features

Compact transportable design: 7.06" W × 17.25" H × 24.80" D, 75 lbs
Stainless steel and PEEK capillary with Viton, buna-N, and nitrile butyl rubber seals
Alumina and ceramic insulators
Power: 110 VAC / 60 Hz or 220 VAC / 50 Hz (non-selectable)

Typical Applications

On-line process monitoring
Gas species analysis
Leak detection
Vacuum system diagnostics and troubleshooting

Compatibility & Integration

Standard RS-232 computer interface
RGA Windows software included
Optional Ethernet connectivity and LabVIEW driver support

Features & description

From manufacturer datasheet

Features

- 1 to 100 amu quadrupole (QMS200 is 200 amu; QMS300 is 300 amu)
- Capillary inlet in stainless steel, PEEK, or glass-lined plastic (manual)
- Flow 1 to 10 mL/min at atmospheric pressure
- Six decades of dynamic range; analog, histogram, P vs t, leak, and annunciator modes
- RS-232C at 28800 baud with RGA Windows software
- Compact 75 lb transportable package; about 5 minute start-up from full stop (catalog)

QMS100 Characteristics / Specifications

PARAMETER	VALUE
Model	QMS100
Manufacturer	Stanford Research Systems
Instrument Type	High Pressure Gas Analyzer / Residual Gas Analyzer
Series	QMS 100/200/300
Alias	QMS100; SRS QMS100
Mass Range	1 to 100 amu
Mass Filter Type	quadrupole
Detector Types	Faraday cup standard; electron multiplier optional (catalog lists Faraday and multiplier)
Resolution	better than 0.5 amu at 10 percent of peak height
Detection Limit Catalog	less than 1 ppm
Detection Limit Faraday	less than 10 ppm (QMS series manual)
Detection Limit Multiplier	less than 1 ppm (QMS series manual)
Analyzer Operating Pressure	5e-6 mbar
Dynamic Range	6 decades
Inlet Type	capillary (stainless steel and PEEK; manual also lists glass-lined plastic)
Inlet Flow Rate	1 to 10 milliliter per minute at atmospheric pressure
Inlet Pressure Range	10 mbar to greater than 1 bar (depending on capillary)
Response Time Catalog	less than 0.5 s
Response Time Manual	less than 400 ms
Individual Mass Rate	up to 25 points per second
Inlet Fitting	1/4 inch Ultra-Torr
Exhaust Fitting	1/4 inch Swagelok tube adapter (manual)
Computer Interface	RS-232C, 28800 baud, DB9
Software	RGA Windows application

PARAMETER	VALUE
High Vacuum Pump	hybrid turbomolecular/drag, 70 L/s (manual)
Turbo Ultimate Pressure	2e-9 mbar (manual)
Diaphragm Ultimate Pressure	less than 1 mbar (manual)
Construction Materials	SS304 and SS316
Insulators	alumina, ceramic
Seals	Viton, buna-N, and nitrile butyl rubber
Startup Time Catalog	5 minutes from full stop
Startup Time Manual	2 minutes from full stop
Maximum Ambient Temperature	35 C
Protection Class	IP44 (manual)
Line Power	110 VAC 60 Hz or 220 VAC 50 Hz (not field selectable)
Power Consumption	less than 600 W total (manual)
Catalog Dimensions	8.0 in x 17.0 in x 24.0 in WHL (product page); 7.06 in x 17.25 in x 24.80 in WHD (catalog)
Manual Dimensions	44 cmHx 20 cmWx 61 cm D (17 inHx 8 inWx 24 in D)
Weight	75 lbs (34 kg)
Software Modes	analog scan, histogram, pressure vs time, leak detection, annunciator, gas library Notes Specs from SRS QMS product page, QMSc catalog, and QMS series manual. QMS100 differs from QMS200/QMS300 primarily by 100 amu mass range. Confirm detector option, capillary type, and 110/220 VAC build. Do not confuse with UHV RGA100 probe-only analyzers.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

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Software	RGA Windows application
High Vacuum Pump	hybrid turbomolecular/drag, 70 L/s (manual)

PARAMETER	VALUE
Turbo Ultimate Pressure	2e-9 mbar (manual)
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Manual Dimensions	44 cmHx 20 cmWx 61 cm D (17 inHx 8 inWx 24 in D)
Weight	75 lbs (34 kg)

Optional Direct RGA Port: 2.75 inch CF high-vacuum port

Software Modes: analog scan, histogram, pressure vs time, leak detection, annunciator, gas library

Notes

Specs from SRS QMS product page, QMSc catalog, and QMS series manual. QMS100 differs from QMS200/QMS300 primarily by 100 amu mass range. Confirm detector option, capillary type, and 110/220 VAC build. Do not confuse with UHV RGA100 probe-only analyzers.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.