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Data Sheet

August 13, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research QMS300

Stanford Research Systems QMS300 Residual Gas Analyzer / High Pressure Gas Analyzer The SRS QMS300 is the 300 amu member of the QMS Series transportable high-pressure gas analyzers. It shares the QMS two-stage capillary inlet, hybrid turbo/drag plus diaphragm pumping, and quadrupole detector architecture with QMS100/QMS200, extending the mass range to 300 amu. Sampling covers about 10 mbar to greater than 1 bar at 1 to 10 mL/min. Resolution is better than 0.5 amu at 10 % peak height; detection limit is less than 1 ppm with electron multiplier. The SRS QMS300 is the 300 amu member of the QMS Series transportable high-pressure gas analyzers. It shares the QMS two-stage capillary inlet, hybrid turbo/drag plus diaphragm pumping, and quadrupole detector architecture with QMS100/QMS200, extending the mass range to 300 amu. Sampling covers about 10 mbar to greater than 1 bar at 1 to 10 mL/min. Resolution is better than 0.5 amu at 10 % peak height; detection limit is less than 1 ppm with electron multiplier. On-line monitoring of heavier process gases and solvents to 300 amu; leak detection; continuous atmospheric sampling; portable residual-gas analysis where 200 amu is insufficient.



MODEL

**Stanford Research
Systems QMS300**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

QMS300

LISTING

<https://aumictechlabs.com/products/qms300-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Stanford Research Systems QMS300 is a high-pressure quadrupole mass spectrometer designed for on-line process monitoring, gas composition analysis, and leak detection. It analyzes gases at pressures from 10 mbar to 1 bar using a two-stage pressure-reducing inlet that allows residual gas analysis at high vacuum. The compact, transportable unit integrates mass spectrometry, pumping technology, and sampling inlet into a single package capable of operation in any orientation thanks to oil-free pumps.

Technical Specifications

- Mass Range: 100, 200, or 300 amu
- Pressure Range: 10 mbar to 1 bar
- Resolution: Better than 1 amu
- Response Time: Less than 0.5 seconds
- Dynamic Range: 6 decades
- Sampling Flow Rate: Several milliliters per minute
- Data Acquisition Rate: Up to 25 points per second for individual masses
- Spectrum Acquisition: Complete spectra in seconds
- Detector Options: Faraday cup (standard) or electron multiplier
- Filament: Dual ThO₂/Ir

Key Features

- Two-stage pressure-reducing inlet reduces pressure by up to three decades before the RGA
- Selectable capillaries accommodate varying sample pressures
- Front-panel control of inlet valves and pumps simplifies operation
- Continuous gas sampling and data acquisition without batch processing
- Oil-free pumps enable operation upright or on its side

Typical Applications

- On-line process monitoring
- Gas composition analysis
- Leak detection
- High-pressure gas analysis

Compatibility & Integration

The QMS300 ships with RGA Windows software providing graphical data acquisition and instrument control. Features include analog and histogram scan modes, pressure versus time plots, leak detection, annunciator mode, gas library, and audio/visual alarms. An RS-232 interface enables data transfer to host computers. LabVIEW drivers and a high-level ASCII command set support integration into user-developed control programs.

Features & description

From manufacturer datasheet

Features

- 300 amu quadrupole (family also includes QMS100 and QMS200)
- Capillary pressure reduction so the RGA runs near $5\text{e-}6$ mbar
- Less than 0.5 s response; complete spectra in seconds
- Faraday cup and electron multiplier detectors
- RS-232C 28800 baud and RGA Windows software
- 75 lb transportable chassis with solenoid-valve sequenced pumps

QMS300 Characteristics / Specifications

PARAMETER	VALUE
Model	QMS300
Manufacturer	Stanford Research Systems
Instrument Type	High Pressure Gas Analyzer / Residual Gas Analyzer
Series	QMS 100/200/300
Alias	QMS300; SRS QMS300
Mass Range	1 to 300 amu
Mass Filter Type	quadrupole
Detector Types	Faraday cup and electron multiplier
Resolution	better than 0.5 amu at 10 % of peak height
Detection Limit	less than 1 ppm
Analyzer Operating Pressure	5e-6 mbar
Dynamic Range	6 decades
Inlet Type	capillary (stainless steel and PEEK)
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	less than 0.5 s
Individual Mass Rate	up to 25 points per second
Inlet Fitting	1/4 inch Ultra-Torr
Computer Interface	RS-232C, 28800 baud, DB9
Software	RGA Windows application
High Vacuum Pump	hybrid turbomolecular/drag
Backing Pump	advanced low-pressure diaphragm pump
Construction Materials	SS304 and SS316
Insulators	alumina, ceramic
Seals	Viton, buna-N, and nitrile butyl rubber

PARAMETER	VALUE
Startup Time Catalog	5 minutes from full stop
Maximum Ambient Temperature	35 C
Line Power	110 VAC 60 Hz or 220 VAC 50 Hz (not field selectable)
Power Consumption	less than 600 W total (QMS manual family)
Catalog Dimensions	8.0 in x 17.0 in x 24.0 in WHL
Alternate Catalog Dimensions	7.06 in x 17.25 in x 24.80 in WHD
Weight	75 lbs
Turbo Pump Speed Family	70 L/s (QMS manual)
Turbo Ultimate Pressure Family	2e-9 mbar (QMS manual)
Diaphragm Ultimate Pressure Family	less than 1 mbar (QMS manual)
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. QMS300 differs from QMS100/QMS200 primarily by 300 amu mass range. Confirm detector option, capillary, and AC mains build. Do not confuse with UHV RGA300 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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Alternate Catalog Dimensions	7.06 in x 17.25 in x 24.80 in WHD
Weight	75 lbs

Optional Direct RGA Port: 2.75 inch CF

Specifications

PARAMETER	VALUE
Turbo Pump Speed Family	70 L/s (QMS manual)
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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

Aumictech

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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.