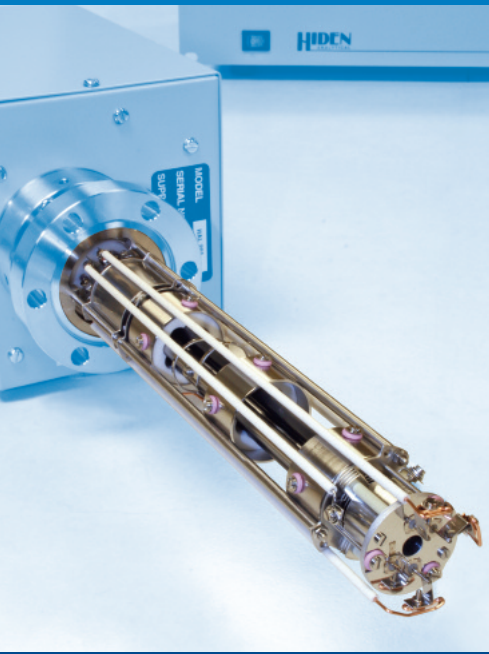


Hidden *RGA* Series Residual Gas Analysers

for vacuum measurement through to fundamental scientific research



gas analysis

surface science

plasma diagnostics

vacuum analysis

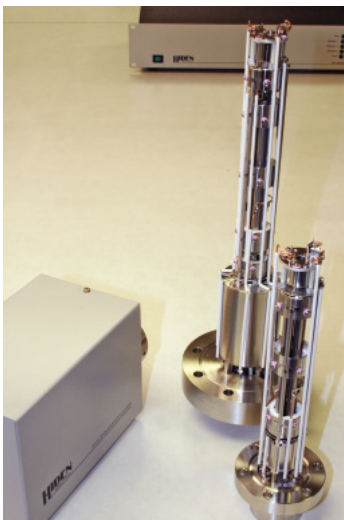
Quadrupole Mass Spectrometers for Residual Gas Analysis.

Hidden residual gas analysers are application tested and calibrated to provide the highest quality performance, and they are backed by an industry best 3 year warranty and lifetime service support.



Core features:

- High sensitivity helium leak detection, mass selectable for alternative search gases
- Ultra-fast data acquisition - up to 500 measurements per second
- Advanced analysis capability for complex gas interpretation
- Data presentation as mass peak ratios for highest stability and accuracy
- Twin burnout-resistant oxide coated iridium filaments
- User-programmable multi-tasking firmware for creation of process-specific control and data acquisition functions
- All backed by an industry best 3 year warranty and lifetime service support

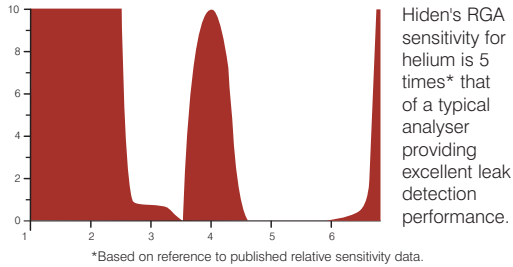


RGA application specific performance

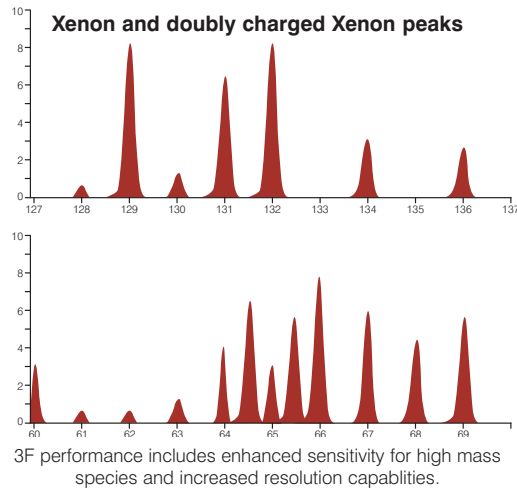
The **Automatic Residual Gas Analyser**

Technology levels to meet the needs of your analysis: from vacuum diagnostics through to fundamental scientific research.

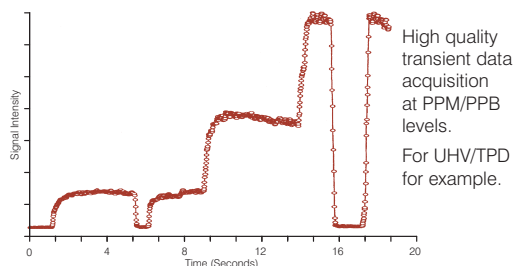
Helium in Air- high sensitivity with stable background - even at high pressure



Xenon and doubly charged Xenon peaks



3F PIC Trend Analysis - up to 500 measurements per second



HALO

For multi-purpose HV/UHV vacuum applications

- Interchangeable gauge heads and control modules reduce operational and aftersales support costs.
- Mass range options 200 amu and 300 amu.
- Dual Faraday / Electron Multiplier detector with partial pressure range 10^{-4} mbar to 10^{-13} mbar.
- Zero blast baseline drift is eliminated

3F

for precise analytical capability

- Triple mass filter technology for high sensitivity with enhanced contamination resistance and abundance sensitivity.
- Application-specific ionisation sources for gas analysis, molecular beam measurement and UHV/XHV studies.
- Mass range options 300 amu and 500 amu.
- Minimum detectable partial pressure 2×10^{-14} mbar.

3F PIC

for fast event studies with optimum sensitivity at UHV/XHV pressure regimes

- Fast pulse ion counting detector with continuous 7 decade measurement from 1c/s to 10^7 c/s.
- Fully compatible with the 3F series ionisation sources.
- Mass range options 300 amu and 500 amu.
- Minimum detectable partial pressure 5×10^{-15} mbar.

RGA

RGA features, specification and software

Lifetime Service Support
Backed by a **3 year warranty**

Hidden's RGAs provide high performance analysis for the long term.

Advanced PC Software - Ethernet comms, RS232 and I/O as standard.

High speed data acquisition - up to 500 measurements/second.

Read in data (eg temperature) from external devices.

Data transfer to higher level systems.

RGA configuration

Hidden's residual gas analyser systems include:

- **Analyser gauge head** – a precision assembly optimised for longevity, thermally stable to withstand repeated bakeout.
- **RF Head** including detection electronics and RF/DC mass filter supplies.
- **MSIU** – mass spectrometer interface unit with advanced microprocessor providing automatic scan functions and real time operation independently of the PC operating system.
- **MASsoft Professional PC software** – A new multi level user interface with automatic operating functions.

Standard mass range options: 200, 300, and 500 amu

Specialist mass range options: 50, 1000 and 2500 amu.

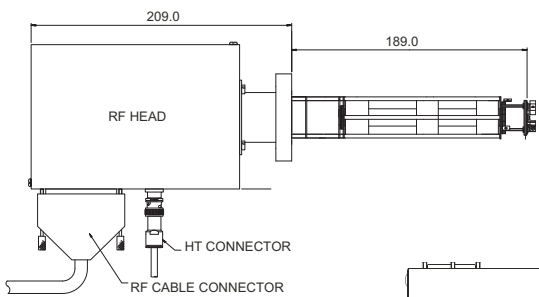
Differential pumping modules and sampling inlet systems are available for a broad range of applications for both gases and vapours.

MASsoft Professional PC Software

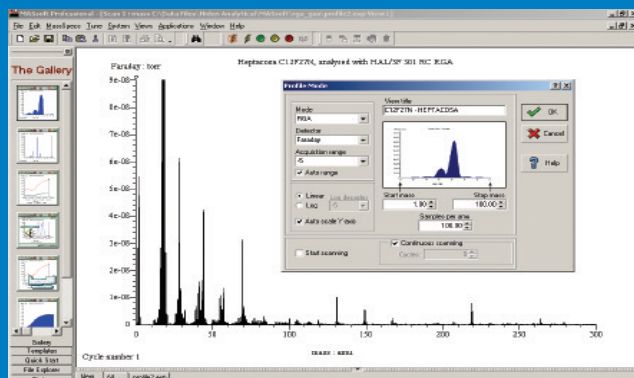
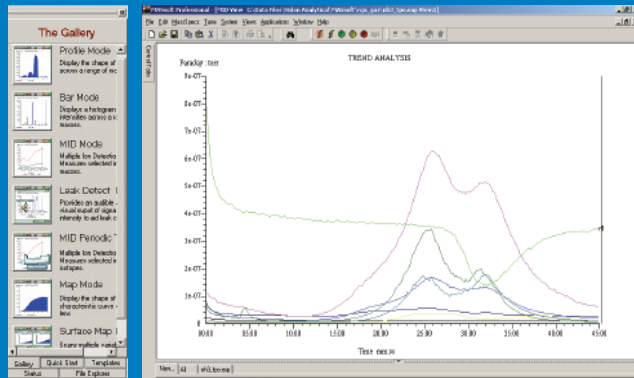
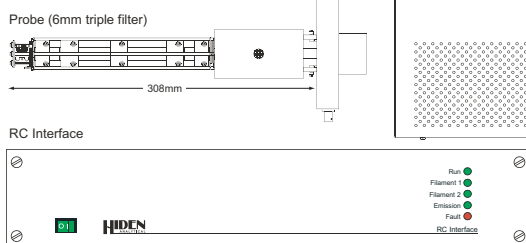
provides for total automatic control of your analyser

- Template files for automatic operation of routine analyses.
- Synchronous data acquisition with external inputs.
- Data output in NIST library format for use with one of the world's largest mass spectral database systems.
- Operator skill level selection.
- Multi-measurement modes, and mixed mode capability.
- Real time data zoom in all measurement modes, including trend analysis for on the fly review of gas composition changes, and for partial pressure measurements.
- Status bar indicates status of filaments, emission, detector, I/O and a broad range of user selectable parameters.
- Multiple system operation through Ethernet link.

HALO



3F and 3F PIC



RGA Series Applications

Vacuum diagnostics

Leak detection

Contamination analysis

Semiconductor production

Vacuum process analysis

Reactive sputtering closed loop control

Vacuum furnace monitoring

Molecular beam studies

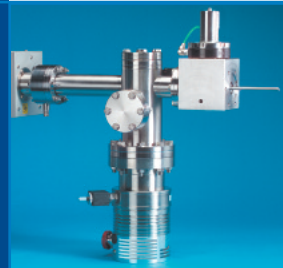
UHV/XHV surface science

UHV TPD

Hidden's quadrupole mass spectrometer systems address a broad application range in:

Vacuum and semiconductor process monitoring:

- Partial measurement and control of process gases
- Reactive sputter process control
- Vacuum furnace gas analysis.
- Process contamination determination
- Vacuum coating process monitoring.
- **Refer to HPR-30 systems**



Gas Analysis

Fast real time measurement of multiple gas species for:

- Catalysis studies
- Evolved gas analysis
- Fuel cell studies
- TG-MS
- **Refer to QIC series**



Plasma diagnostics

Positive and negative ion mass and energy analysis for:

- Plasma source characterisation
- Etch and deposition process reaction kinetics studies
- Neutral and neutral radical analysis
- **Refer to EQP, PSM and Espion**



SIMS - secondary ion mass spectrometry

- High sensitivity surface and interlayer contamination analysis
- End point detection in ion beam etch
- Depth profiling
- Elemental Imaging – surface mapping.
- **Refer to SIMS workstation, EQS and MAXIM**



HIDEN

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It is Hiden Analytical's policy to continually improve product performance and therefore specifications are subject to change.

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