

ANALYZER SOLUTIONS FOR YOUR PROCESS!

Dymaxion Mass Spectrometer



DESCRIPTION

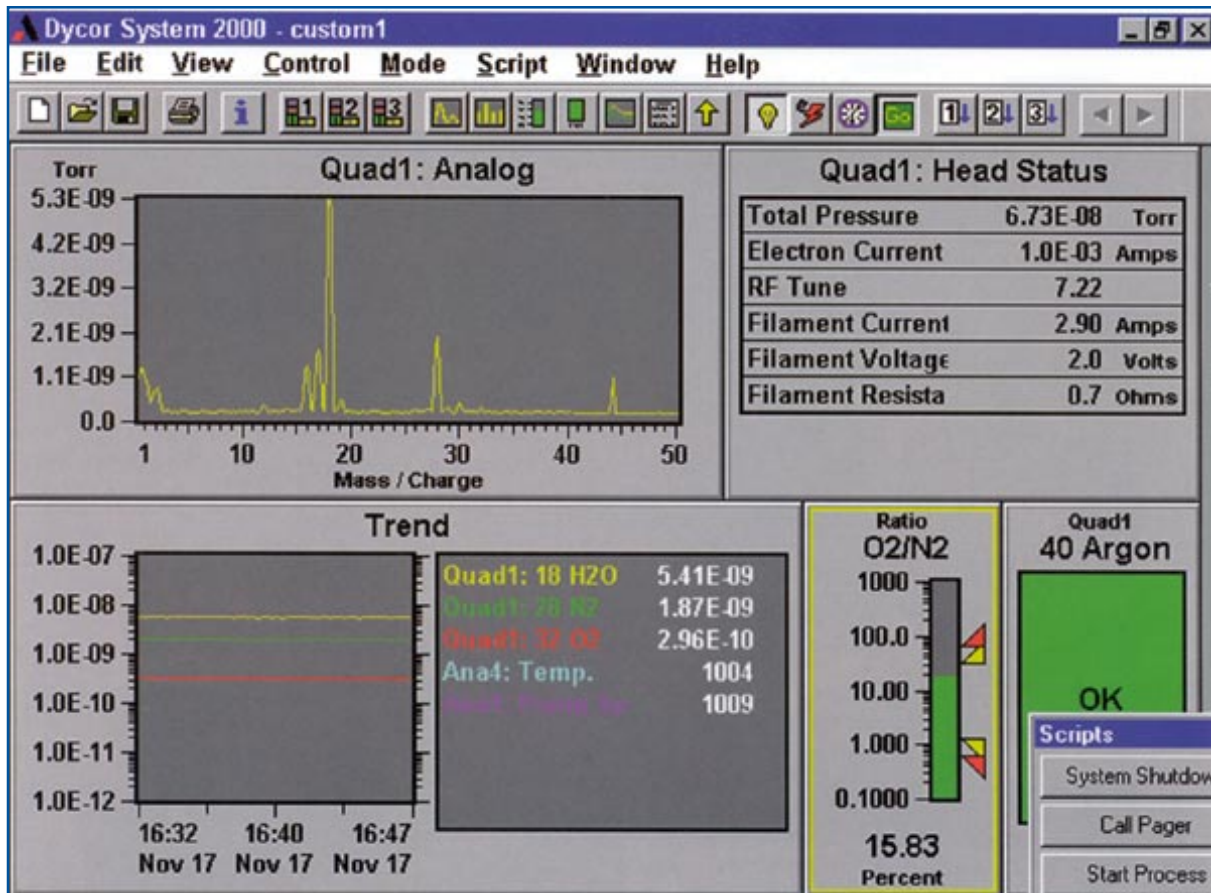
The Dycor Dymaxion Residual Gas Analyzer (RGA) offers the latest quadrupole technology to provide unsurpassed gas analysis monitoring, characterization, or control for your application. Dymaxion RGAs are available in a choice of ion source (open, closed, enclosed) and AMU range (1-100, 1-200, and 1-300) to accommodate your needs.

Dymaxion analyzer heads and electronics can be interchanged to provide maximum versatility.

FEATURES

- No need to match electronics with analyzer head; offers maximum versatility.
- Zero-drift, electrometer-amplifier technology provides repeatable data.
- On-board diagnostics provides data integrity.
- Optional on-board analog and digital I/O for monitoring and control of other sensor inputs.
- RS-232 and RS-485 communication ports for local and network control.

DYCOR SYSTEM 2000 SOFTWARE



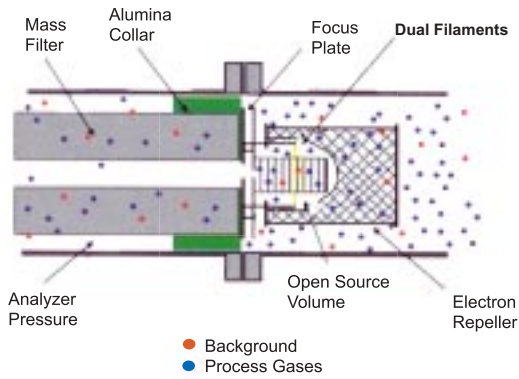
Dycor System 2000 software is a 32-bit, multi-threaded program developed to take full advantage of the capabilities of Windows NT and XP, and is intended for real-time process control.

KEY FEATURES include:

- Extensive systems integration capability with **Visual Basic Scripting** and **DDE and OLE Automation**.
- **Auto-Tune** capabilities to ensure high-quality, repeatable data.
- **Real-Time Calculations** can be applied to quadrupole or other input data.
- **Scripting Capabilities** provide the power to automate equipment and process monitoring.
- **Spectral Interpretation** suggests the gas species that could be contributing to your spectra.
- **Customized Displays** can be created and saved without programming.
- Optional **Analog and Digital I/O** for monitoring and control of your process.
- **Simulation Mode** to facilitate user training and application development.

Dycor System 2000 Upgrades

All Dycor analyzers, M/MA Series, System 1000, and QuadLinks, can be upgraded to operate with Dycor System 2000 software for Windows 95 through XP. Existing customers can now protect their investment while maintaining compatibility with the Dymaxion line of RGAs. With a System 2000 upgrade, even the oldest Dycor analyzer can operate using the latest Windows software.

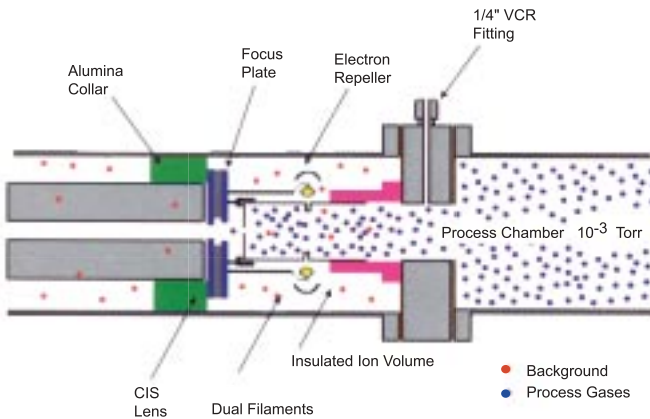


Dycor Open Ion Source

- Excellent for UHV and leak detection.
- Simple design and construction reduces maintenance requirements.
- Lowest-cost ionizer option.
- **Applications Include:**
HV and UHV systems; MBS systems; ion implant systems; load lock/transfer chambers; wafer preheat stations.

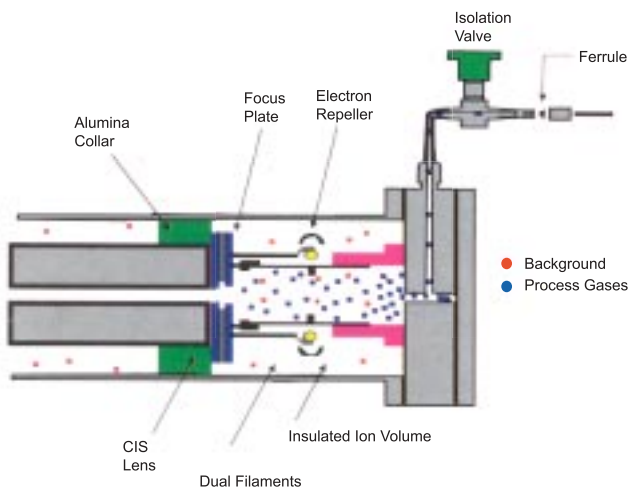
Dycor Conductance Limited Ion Source

- Ideal for PVD applications.
- Increases signal-to-noise by 100 times over the open ion source.
- Background interferences are minimized because the filament does not come in contact with the sample.
- Works best with aprotic (non-hydrogen containing) gases.
- **Applications Include:**
PVD, sputter, high purity gas analysis.

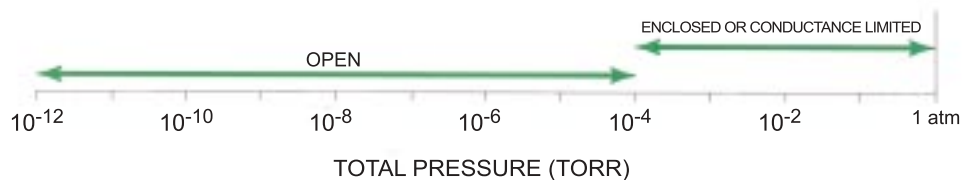


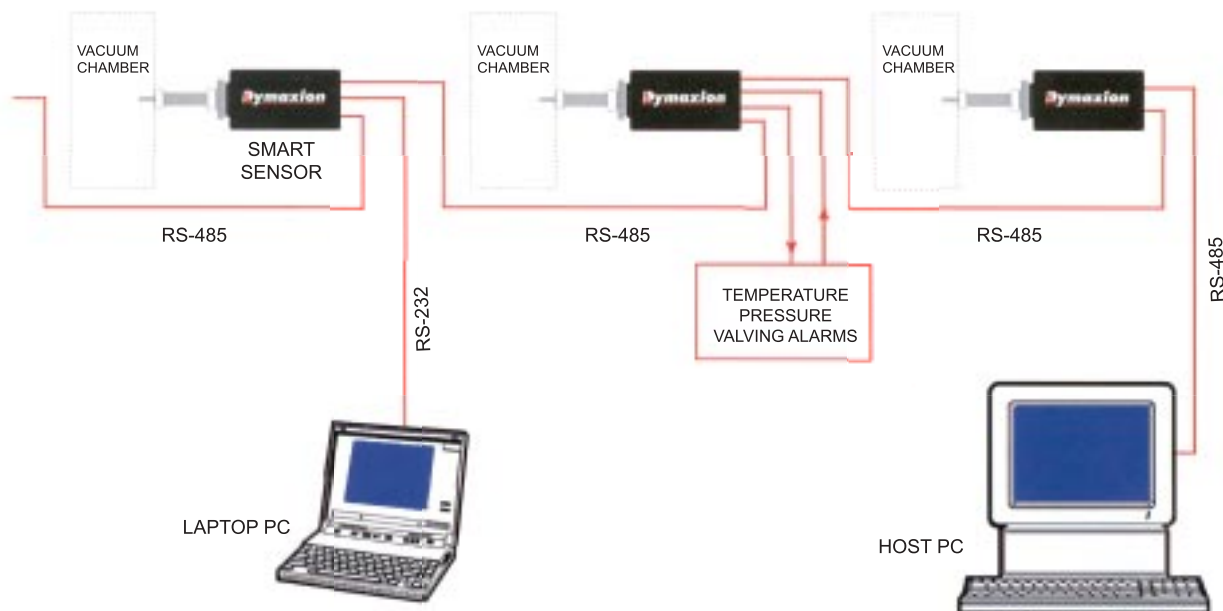
Dycor Enclosed Ion Source

- Excellent for CVD and atmospheric pressure sampling applications.
- Can accommodate a wide range of sample inlet pressures.
- Less pumping speed required than the conductance limited source, lowering overall cost.
- Works better than the open and conductance limited sources in reactive gases.
- No problems with hydrogen-containing gases.
- **Applications Include:**
CVD, vacuum furnaces, fermentation off-gas, atmospheric sampling, process stream sampling, etch, TGA



SUMMARY - Ion Source / Pressure Range





Use a laptop to control a single analyzer, or use an RS-485 network to control multiple analyzers and analog/digital I/O. With the System 2000 software, any number of analyzers can be linked for true simultaneous data acquisition and control from one PC.

SPECIFICATIONS

Mass Range:

1-100, 1-200, and 1-300 AMU.

Operating Pressure Range:

10^{-4} Torr to ultrahigh vacuum.

Minimum Detectable Partial Pressure:

5×10^{-12} Torr (5×10^{-14} Torr for electron multiplier units).

Resolution:

Adjustable to constant peak width (0.5 AMU at 10% height).

Emission Current:

0.1 to 10 mA; 50 mA to degas.

Electron Energy:

30 to 150 volts to operate; 200 volts to degas.

Ion Energy:

1 to 10 volts.

Source Sensitivity (Faraday Cup):

2×10^{-4} Amps per Torr at detector (measured with nitrogen at mass 28) with peak width = 0.5 at 10% height and 1×10^{-3} Amps emission current.

Power Requirements:

24 VDC @ 3 Amps; 110/220 VAC, 50/60 Hz adaptor available.

Stability:

Mass stability: ± 0.1 AMU after 30 minutes warm-up
Peak Height: $\pm 2\%$ after 30 minute warm-up.

Minimum PC Requirements:

Pentium microprocessor or compatible, with Windows 95/98 NT or XP.

RS-232 Serial Communications Interface:

Isolated; baud rate selection of 1200 to 38,400; 9-pin, female D-connectors.

RS-485 Addressable Communications Interface:

Isolated; baud rate selection of 1200 to 38,400; programmable addresses; 2-pin, female D-connectors.

Optional Analog / Digital I/O Board:

Includes two analog inputs, two analog outputs, six relay contact closures, and four digital inputs.

Dymaxion Physical Dimensions:

Weight: 4.6 lb (2.1 kg) without quad head
7.4 lb (3.4 kg) with quad head
Width: 4.5 in. (11.4 cm)
Length: 9.0 in. (22.9 cm)
Height: 5.25 in. (13.3 cm)



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