

Atmos™ Gas Cell

Atmos™ is our range of long pathlength gas cells for measuring the infrared spectra of trace gases and vapors. Available in fixed pathlengths of 2.5, 5.0, 10.0, or 20.0 meters for maximum pathlength stability, the cells have been individually optimized for maximum optical throughput and signal-to-noise. The volume of the cells has been reduced to facilitate rapid gas exchange and stabilization, and feature gold-coated stainless-steel optics which are both highly reflective and chemically inert.

Atmos™ gas cells are metal-bodied and factory-aligned for physical robustness in demanding environments and may be operated at pressures up to 125 psi (8.6 bar). With the addition of a heating jacket, the cell can be heated up to 200 °C to prevent condensation of vapors affecting either the measured results or the performance of the cell. The metal body ensures uniform heating across the length of the cell and the heater itself is retrofittable without needing to remove any installed pipework.

These new cells represent the ultimate in sampling accessories for measuring the infrared spectra of gases and vapors. The use of glues and other potential sources of outgassing have been avoided with the body of the gas cells, and the transfer optics unit is fully purgeable to remove atmospheric vapors from the beam path. The modular build facilitates servicing, ensuring a high performance over many years of use. The Atmos™ cell is designed in all respects to minimize influence and interference with the sample, allowing the analyst to measure its properties with confidence.

Why Atmos™

- Optimized optical path for unmatched signal-to-noise
- Robust metal bodied construction
- Inert stainless-steel mirror substrates
- 125 psi maximum cell pressure
- Heating jacket option for up to 200°C

The Atmos™ cells have been designed to allow the cell to be opened to clean particulates from the mirrors and easily re-assembled without the need for re-alignment of the optical components.

The cells are completely free from adhesives and all of the Viton® 'O' ring seals are carefully pre-baked to eliminate any contamination from solvents or out-gassing. There is also an option to replace the standard Viton seals with Kalrez O-rings for more challenging chemical environments.

Key Applications:
Toxic Combustion Gases
Volatiles/VOC's
Green House Gases
Emissions Testing



Atmos™ Gas Cell & Heating Jacket Specs

Atmos™ Heating Jacket Specs

Feature	Specification
Maximum Temp.	220°C (Jacket) / 200°C (Cell)
Stability	±1 °C
Heater voltage	30V
Compliance	CE

Atmos™ Cell Configurations

Model	A2.5	A5	A10	A20
Pathlength (m)	2.5	5.0	10	20
Base pathlength (mm)	104	139	250	455
Number of passes	24	36	40	44
Internal diameter (mm)	50	68	96	96
Volume (L)	0.27	0.63	2.12	3.68

Atmos™ Specifications

Feature	Specification
Cell body	Nickel-plated aluminium
Mirrors	Stainless-steel, gold coated. Fixed mechanical mounting
Optics Unit	Purgeable, Baseplate mounted, compatible with all common FTIR Spectrometers
Windows	CaF ₂ or ZnSe
Seals	Viton or Kalrez
Vacuum hold	10 ⁻⁴ Torr
Max. Pressure	125 psi (8.6 bar)
Min. Temp.	200 °C

Ordering information

	A2.5	A5	A10	A20
Atmos™ Gas Cell including: CaF ₂ windows and Viton seals	GS24602CV	GS24605CV	GS24610CV	GS24620CV
CaF ₂ windows and Kalrez seals	GS24602CX	GS24605CX	GS24610CX	GS24620CX
ZnSe windows and Viton seals	GS24602ZV	GS24605ZV	GS24610ZV	GS24620ZV
ZnSe windows and Kalrez seals	GS24602ZX	GS24605ZX	GS24610ZX	GS24620ZX
Atmos™ Heating Jacket and controller (optional)	GS24651	GS24652	GS24653	GS24654
Essential Spares Kit (ESK)	GS24625		GS24626	
Tap valve connections			GS24161	
Low- or high-pressure gauge kit			GS24160	
Replacement windows (ZnSe)			GS24627	
Replacement windows (CaF ₂)			GS24628	
Replacement purge bellows			GS10707	
Laser Alignment platform			GS24501	

As standard, Atmos™ cells are supplied with bare 1/4" tubing to enable the customer to interface the cells with their own on-site gas plumbing. Gas taps are available separately as P/N GS24161.

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