



Low-Vol Heated Gas Cell

AT A GLANCE

- ▶ Short pathlength, 10 or 12-cm
- ▶ Volume less than 5 mL
- ▶ Temperature control to 300 °C
- ▶ Precision transfer optics for beam focusing



TEMPERATURE CONTROL OPTIONS AVAILABLE

The Low-Volume Heated Gas Cell is ideal for infrared applications such as determining and quantifying off-gassing and headspace species where gas volume is limited.

At less than 5 mL, the gas cell volume is a fraction of that found in typical short-path gas cells of similar lengths (10 to 12 cm). It connects easily to simple gas flow experimental setups as an IR screening diagnostic tool. Due to its low internal volume, it offers near-instantaneous feedback on gas compositional changes.

This gas cell is an experimentally attractive, independent solution for the practitioner dealing with gas analysis and quantitative challenges. In the polymer materials field, for example, it offers simple gas compositional analysis of headspace volatiles originating in small-volume sealed material aging experiments.



PART NUMBER DESCRIPTION

164-62XX Low-Volume Heated Gas Cell, 10 cm

164-61XX Low-Volume Heated Gas Cell, 12 cm

Note: Replace XX with your spectrometer's Instrument Code listed in the back of the catalog.

Temperature Controllers (*must select one*)

076-2550 Digital Temperature Control Module

007-0207 PIKE TempPRO Software

Note: Digital Temperature Control Module is required. PIKE TempPRO software sold separately.

Replacement Parts

164-6001 Viton O-Rings, max. temp. 200 °C (2 ea.)

164-6002 High-Temperature O-Rings, max. temp. 300 °C (2 ea.)

Note: Low-Volume Heated Gas Cell requires 4 O-rings total.

13 x 2 mm Windows (*must select minimum of two*)

160-1218	BaF ₂	160-1170	NaCl
160-1213	CaF ₂	160-1115	ZnSe
160-1135	KBr	160-5201	SiO ₂

SPECIFICATIONS

Gas Cell Pathlength	10 or 12 cm
Gas Cell Diameter	7 mm
Gas Cell Volume	3.8 or 4.6 mL
Temperature Range	Ambient to 300 °C
Accuracy	+/- 0.5° up to 100 °C +/- 0.5% of set point > 100 °C
Sensor Type	3-wire Pt RTD (low drift, high stability)
Controller	
Input	115/230V
Output	10A/24 VAC 240 W maximum
Dimensions (W X D X H)	
12-cm Pathlength	223 x 110 x 134 mm
10-cm Pathlength	197 x 110 x 134 mm (excludes baseplate mount)
Gas Ports	1/8" tubing, welded

To optimize the energy throughput, this unique cell uses a set of transfer optics that focuses the IR beam from the spectrometer onto the entrance of the 7-mm bore cell body. The interior of the gas cell body is highly polished and gold coated for maximum IR transmission. The gas cell may be heated up to 300 °C to prevent condensation of higher molecular weight gas species.