

# Ranger-EN™ 9.6 Meter Pathlength Gas Cell



## Applications

- Moisture analysis of corrosive gases
- BCl<sub>3</sub>, Cl<sub>2</sub>, NH<sub>3</sub>, HCl, HBr, WF<sub>6</sub>, B<sub>2</sub>H<sub>6</sub>
- Combustion and Exhaust gases
- Electronic specialty gases
- Semiconductor process monitoring

## About Ranger 9.6 meter Pathlength Gas Cell

This high performance cell augments a long line of high sensitivity gas analysis tools. Continuing in the tradition of the Pathfinder™ and the 4Runner™, the Ranger-EN™ optimizes the surface- to-volume ratio for unmatched performance.

## System Specifications

- 1.7-liter volume gives a surface to volume ratio of 0.05 square meter/liter
- 200 mm base path
- 316L stainless steel body for corrosion resistance, durability, simplified cleaning and effective heating
- Viton® or Kalrez® seals
- AgBr, BaF<sub>2</sub>, KBr, CaF<sub>2</sub>, or AR-coated ZnSe window materials
- Welded VCR fittings for gas porting
- Evacuatable and pressurizable: 10<sup>-6</sup> Torr to 300 psi
- Heatable to 300° C with temperature controller and Kalrez O-rings
- Integrated purge box with movable reference optics
- MgF<sub>2</sub>-protected, gold-coated 304 stainless steel mirrors
- Insulation and cover
- \* Optional: Nickel-plated cell body

## Options

- 39B400 Ranger-EN™, Kalrez seals, ZnSe-AR windows, heated cell with temperature controller, purge chamber & movable reference mirrors

## Ranger-EN Features

- The Ranger-EN is an EN-hanced version of the 9.6-meter stainless steel Ranger gas cell that was designed and first-produced in 1996. The new Ranger-EN incorporates several highly beneficial features of CIC Photonics' 4Runner (4.0 and 6.0-meter) gas cell.
- The principal improvement is the substitution of circumferential plenum input and output gas flow porting in place of the older widely used tubular ports into the volume of the gas cell. The plenum configuration provides for highly laminar flow and rapid gas sample exchange.
- In addition, the mountings of the internal two "White Cell" objective mirrors have more effective and tighter face-to-face O-ring seals, along with zero dead-volume spaces. The redesign has also generated a modest reduction in the internal volume to 1.68 liters, while maintaining the same high energy throughput (>= 40%).
- Finally, the Ranger-EN incorporates the proprietary gold-coating layering on the stainless steel mirrors that leads to long life and low cost of ownership.