

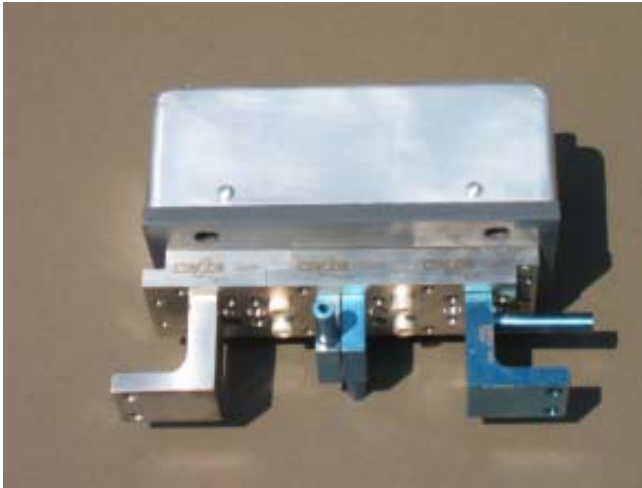
# NeSSI NDIR



Phone: 281 338-1388

Web: [www.starinstruments.com](http://www.starinstruments.com)

Email: [sales@starinstruments.com](mailto:sales@starinstruments.com)



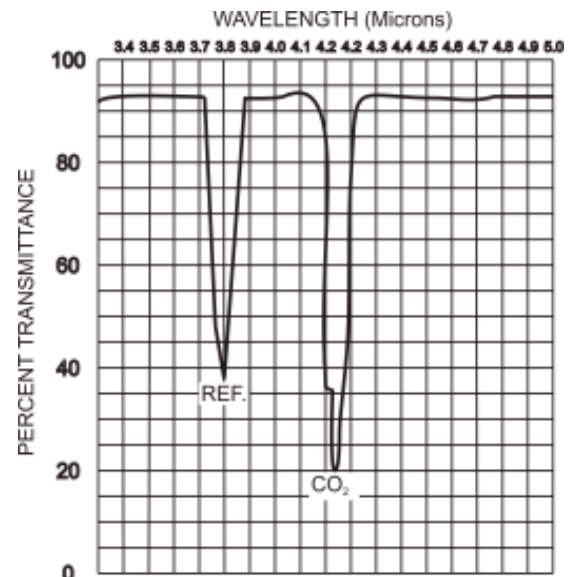
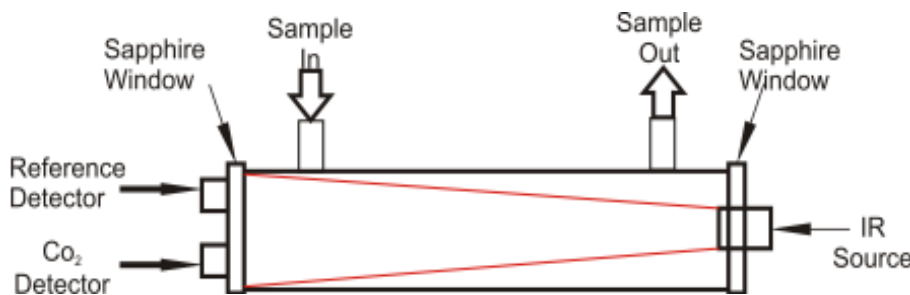
- Specific, Interference-Free CO<sub>2</sub> Detection
- Dual-Wavelength Ratioring Compensates for Drift
- Computer-Controlled for Accuracy
- Sapphire-Protected Optics
- Non-Corrosive, Non-Reflective Sample Cell

- No Moving Parts or Special tools required for Easy Maintenance & Service
- No Critical Realignment



## Detection Technique

The NDIR CO<sub>2</sub> detector uses a solid-state, dual-wavelength system with a borosilicate glass sample cell that requires no wall reflectivity. There is a reference and a CO<sub>2</sub> specific detector in the sample path. Use of the true zero filter eliminates water vapor interference and the requirement for chemically removing acid gases prior to detection. An infrared source is cycled on and off to avoid mechanical choppers required in alternate NDIRs. The Star NDIR has **no moving parts**.



Automatic gain control (AGC) is employed during the reference/sample cycle to compensate for such factors as IR source deterioration, dirty optical windows, and detector gain changes. When the AGC level reaches a predetermined threshold, an optics alarm indicator and a relay are activated. Malfunctions of major IR components are detected as an alarm, providing fail-safe operation. Signal detection is completely synchronous, and because of the differential technique of ratioring the Zero and CO<sub>2</sub> outputs, zero drift is virtually eliminated.

This absolute measuring, dual-line spectra comparison NDIR provides simple direct measurement of all CO<sub>2</sub> contributing factors (including background) for a true and accurate calibration, and precisely offsets these effects for very accurate CO<sub>2</sub> determinations. The consequences of water vapor interferences in low-level precision CO<sub>2</sub> analysis, including blanks - a major source of error - are avoided.