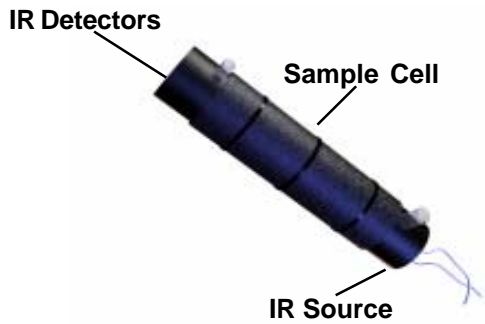


NDIR (The key component for reliable TOC analysis.)



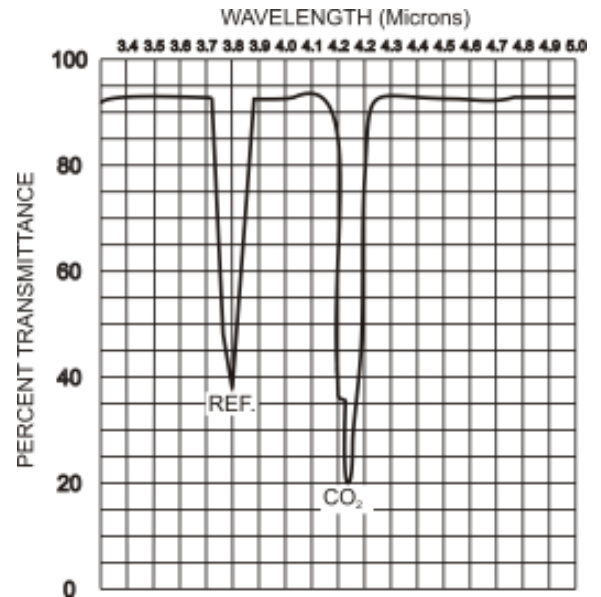
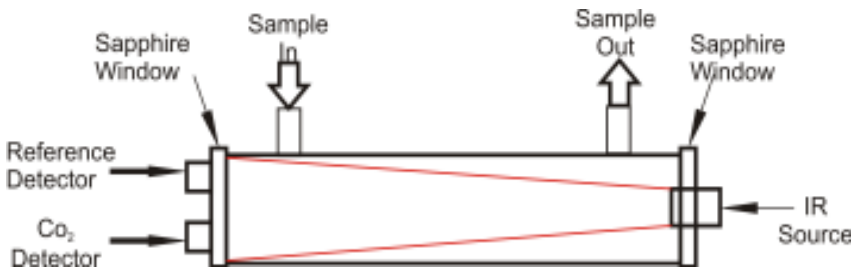
- Specific, Interference-Free CO₂ Detection
- Dual-Wavelength Ratioring Compensates for Drift
- Computer-Controlled for Accuracy
- Sapphire Protected Optics
- Non Corrosive, Non-Reflective Sample Cell (Borosilicate)

- No Moving Parts or tools required for Easy Maintenance and Service
- No Critical Realignment Required



Detection Technique

The NDIR CO₂ detector uses a solid-state, dual-wavelength system with a single borosilicate glass sample cell that requires no wall reflectivity. There is a reference and a CO₂ 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 CO₂ outputs, zero drift is virtually eliminated. All critical optics are protected by sapphire windows. The sample cell can be easily removed and the windows cleaned within 3 minutes, without realignment or the use of any tools.

This absolute measuring, dual-line spectra comparison NDIR provides simple direct measurement of all CO₂ contributing factors (including background) for a true and accurate calibration, and precisely offsets these effects for very accurate TOC determinations. The consequences of water vapor interferences in low-level precision TOC analysis, including blanks - a major source of error - are avoided.