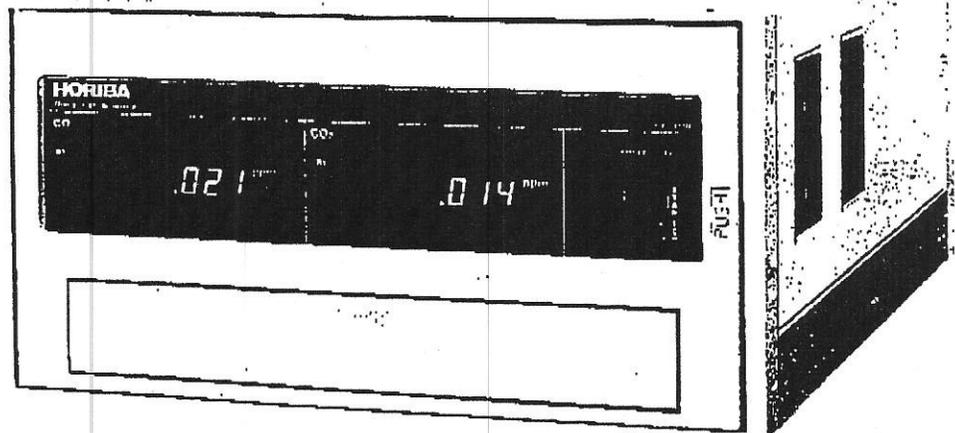


TRACE GAS MONITOR

GA-350E Series



The two-in-one high-sensitivity analyzer

- *Unique cross-flow modulation technique*
- *NDIR absorptiometry*
- *High-purity measurement of CO, CO₂ and CH₄ in N₂*
- *Simultaneous measurement of two components available*
- *Designed to measure impurities in semiconductor industry bulk gas (N₂) and other high-purity gases*
- *Compact and lightweight, fits in a standard 19-inch rack*

HORIBA is a worldwide leader in non-dispersive infrared (NDIR) technology and a major NDIR analyzer manufacturer.

The heart of the GA-350E Trace Gas Monitor is the internationally accepted, field-proven, cross-flow modulated HORIBA NDIR analyzer.

New concept in trace gas monitors

The GA-350E represents a new concept in trace gas monitors. Designed to eliminate routine calibration cycles and to provide long-term stable measurement and continuous unattended operation, it furnishes reliable concentration

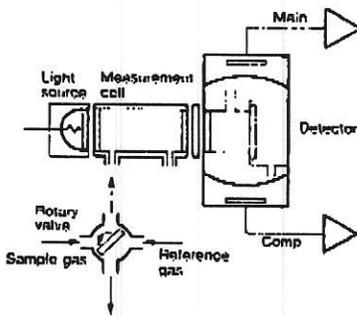
data under such conditions. Every element of the monitor has been selected to offer the ultimate in reliability and accuracy. Solid-state modular electronics ensure maximum performance and minimum maintenance.

Line of two-component versions

The GA-350E is available in two component versions for measuring any two-component combination of CO, CO₂ and CH₄ specified by the customer. Simultaneous measurement of two different components is made possible by linking two detectors to the main unit via a single sample line.

Bulletin: HRE-2834A

PRINCIPLE



An infrared beam in the analyzer unit passes through the cell to the detector. During measurement, the rotary valve alternately introduces the sample gas and reference gas (supplied by the customer) into the cell. The presence of CO, CO₂ and/or CH₄ in the sample gas generates a difference in the intensity of the light reaching the detector when the cell is filled with sample gas from when it is filled with reference gas.

This difference causes a metallic membrane in the detector to move back and forth in accordance with the alternating gas flow (cross-flow modulation). The analyzer requires neither an optical chopper nor optical adjustment. Furthermore, this technique virtually eliminates zero drift and greatly enhances analyzer sensitivity. Zero and span calibrations are performed by introducing standard gases.

SPECIFICATIONS

Model name: GA-350E

Principle: Non-dispersive infrared absorption (NDIR)

Application: CO, CO₂ and CH₄ in N₂

Range: CO: 0 - 2/5/10/20 ppm

CO₂: 0 - 2/5/10/20

(0 - 1/2/5/10) ppm

CH₄: 0 - 2/5/10/20 ppm

Repeatability: Within ±2% F.S.

Linearity: Within ±2% F.S.

Zero drift: Within ±0.04 ppm/day

Within ±0.08 ppm/14 days

Span drift: Within ±2% F.S./day

Within ±5% F.S./14 days

Response (T₉₀): Less than 180 sec.

Display: Measured value, range, alarm

Reference gas: N₂

Alarm: Flow, chopper, power down

Output: 0 - 1/10 V, 4 - 20 mA (non-isolated)

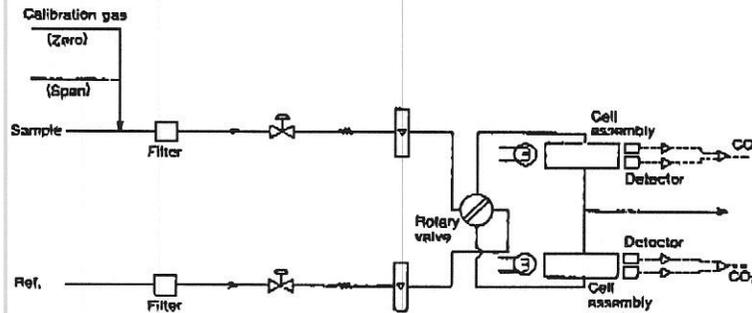
Power supply: 115 V AC/60 Hz

Option: Isolated output

Remarks:

- 1) The two-component version measures any two of the above three components specified by the customer.
- 2) Reference gas is to be supplied by the customer.

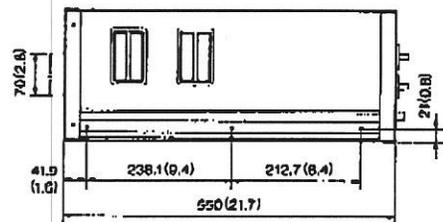
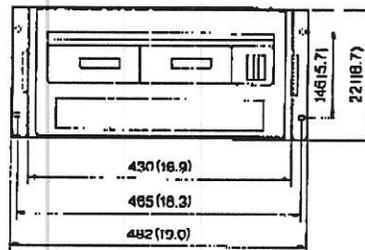
FLOW SCHEMATIC



The above diagram applies to a two-component (e.g. CO and CO₂) analyzer. A one-component version has only one analyzer unit.

DIMENSIONAL OUTLINES

Unit: mm (in)



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