

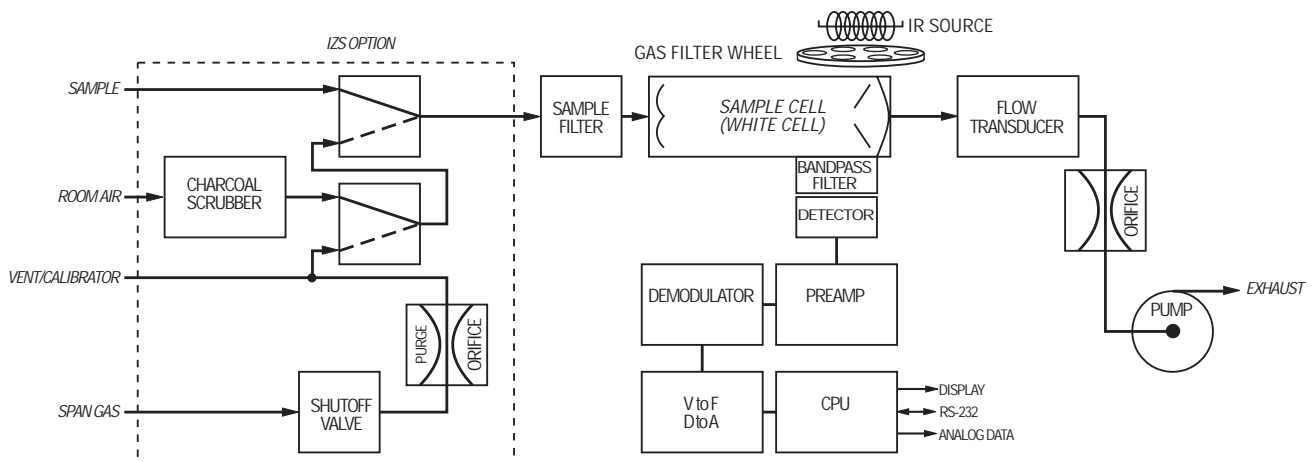
## Gas Filter Correlation CO Analyzer Model 300

EPA Approval RCFA 1093-093

Eignungsgeprüft Approval 351/1046/93-5730 38/01

The Model 300 measures low ranges of carbon monoxide by comparing infrared energy absorbed by a sample to that absorbed by a reference according to the Beer-Lambert law. This is accomplished with a Gas Filter wheel which alternately allows a high energy light source to pass through a CO filled chamber and a chamber with no CO present. The light path then travels through the sample cell, which has a folded path of 16 meters. The energy loss through the sample cell is compared with the zero reference signal provided by the gas filter to produce a signal proportional to concentration, with little effect from interfering gases within the sample. This design produces excellent zero and span stability and a high signal to noise ratio allowing extreme sensitivity. Multi-tasking software gives real time indication of numerous operating parameters and provides automatic alarms if diagnostic limits are exceeded. Built-in data acquisition and internal memory allows logging multiple parameters including average and instantaneous values, calibration data and operating parameters. Stored data can be retrieved via the RS-232 port or from the front panel. The Model 300 features rugged construction and is designed to perform with a minimum of attention. In the event maintenance is required, modular construction makes service a simple operation.

- 0-1ppm to 0-1000ppm, user selectable
- Gas Filter Wheel for CO specific measurement
- 16 meter path length for sensitivity
- Microprocessor controlled for versatility
- Multi-tasking software allows viewing test variables while operating
- Continuous self checking with warning alarms
- Bidirectional RS-232 for remote operation
- Digital status outputs provide instrument condition
- Adaptive signal filtering optimizes response time
- GFC wheel guaranteed against leaks for 5 years
- Temperature & Pressure compensation
- Internal data logging, 1 minute to 24 hour averages



*M300 Flow Schematic*

# Model 300 Gas Filter Correlation CO Analyzer

## Specifications

|                               |                                                                                  |
|-------------------------------|----------------------------------------------------------------------------------|
| Ranges:                       | 0-1 to 0-1,000 ppm CO full scale, user selectable<br>Dual ranges and autoranging |
| Units:                        | ppm, ppb, $\mu\text{g}/\text{m}^3$ , $\text{mg}/\text{m}^3$                      |
| Zero Noise:                   | <0.02 ppm (RMS)                                                                  |
| Span Noise:                   | <0.5% (RMS) of reading above 5 ppm                                               |
| Lower Detectable Limit (LDL): | 0.04 ppm (RMS)                                                                   |
| Zero Drift:                   | <0.1 ppm/24 hours, <0.2 ppm/7 days                                               |
| Span Drift:                   | <1%/7 days                                                                       |
| Rise and Fall Time:           | <60 seconds to 95%                                                               |
| Linearity:                    | 1% full scale                                                                    |
| Precision:                    | 0.5% of reading                                                                  |
| Sample Flow Rate:             | 800cc/min $\pm$ 10%                                                              |
| Operating Temperature Range:  | 5 - 40°C                                                                         |
| Dimensions (HxWxD):           | 7" (178 mm) x 17" (432 mm) x 23.5" (597 mm)                                      |
| Weight:                       | 50 lbs (22.7 kg)                                                                 |
| Power:                        | 100V 50/60 Hz, 115V 60Hz, 220V 50/60 Hz, 230V 50Hz, 240V 50Hz, 250 Watts         |
| Approvals:                    | US EPA, Eignungsgeprüft, CE                                                      |
| Analog Outputs:               | Bi-Polar, 10V, 5V, 1V, 100 mV, selectable                                        |
| Recorder Offset:              | $\pm$ 10%                                                                        |
| RS-232:                       | Standard, DB-9 Connector                                                         |
| Status (Digital)              | 12 outputs from optoisolator, included with standard configuration               |
| Current Output:               | 0-20mA or 4-20mA isolated output, optional                                       |

NOTE: The values expressed above are in accordance with EPA definitions. All error specifications are based on constant conditions. Specifications exceed US EPA requirements.

## How To Order

### Model 300 Gas Filter Correlation Analyzer includes:

- Selectable voltage (specify below)
- Internal pump
- 37mm or 47mm particulate filter
- 12 isolated digital status outputs
- Bi-directional RS-232

#### Specify voltage/frequency:

- |                                         |                                    |
|-----------------------------------------|------------------------------------|
| <input type="checkbox"/> 100V/50Hz      | <input type="checkbox"/> 100V/60Hz |
| <input type="checkbox"/> 220V/50Hz      | <input type="checkbox"/> 115V/60Hz |
| <input type="checkbox"/> 230V/50Hz (CE) | <input type="checkbox"/> 220V/60Hz |
| <input type="checkbox"/> 240V/50Hz      |                                    |

#### Specify output voltage:

- 10V    5V    1V    100mV  
 0-20mA or 4-20mA non-isolated

#### Particulate filter:

- 37mm (standard)    47mm (optional)

### Additional Options:

- Rack Mount (19") with chassis slides
- Rack Mount only
- Isolated 0-20mA or 4-20mA output
- Multi-drop RS-232 connection

#### Calibration Valves:

- Stainless Steel Valves for selection of customer-supplied zero and span gas
- Internal zero air and span valve for external cylinder.

#### Accessories:

- RS-232 Cable
- Expendables Kit
- Spare Parts Kit



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