

CO

Carbon Monoxide Gas Filter Correlation

MODEL CO 2000 G

FRENCH STANDARD AFNOR X 43.044



AMBIENT AIR

Series 2000 G is a line of ambient air analysers using the same printed circuit boards. "Physics" measurement principles associated to digital electronics designed around a 16-bits microprocessor gives the operator the necessary security for the monitoring and control of our environment.

ANALYSER ENSURING ENVIRONMENTAL PROTECTION

The CO 2000 G is an advanced design analyser that incorporates the latest achievements in continuous CO measurement.

- A 4 x 40 character digital display and 16-keyboard permit a dialogue between operator and analyser. Several menus are available for maintenance aid, calibration, zeroing...
- Continuous microprocessor self-diagnostic with display and remote transmission
- Digital signal processing. This new and advanced design improves accuracy while maintaining a very short response time.
- Internal measurement storage memory with data transfer to computer or printer via RS 232 C output.
- Temperature and pressure compensation.

Seres
ANALYSERS

AIR QUALITY UNDER STRICT SURVEILLANCE

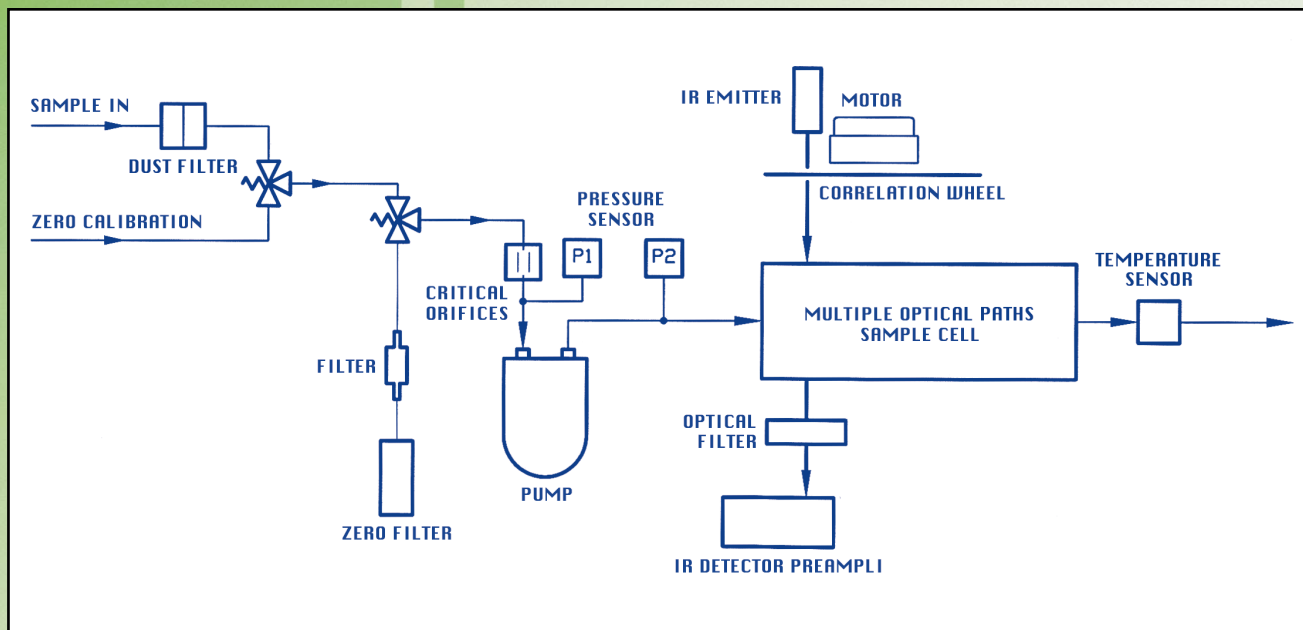
MODEL CO 2000 G

FRENCH STANDARD AFNOR X 43.044

PRINCIPLE

The instrument operates by measuring CO absorption of Infra-Red radiation at specific wave-length near 4.7 microns. The beam emitted by the Infra-Red source passes through a narrow bandpass interference filter and through a rotating gas filter wheel, a part of which contains CO, other part of which an empty cell. When the I.R. radiation passes through the CO cell, all the wave-lengths at which CO can absorb are completely removed creating a reference beam which cannot be affected by additional CO in the sample being measured. When I.R. radiation passes through the empty cell, CO-specific wave-lengths are not removed from the radiation and this mea-

sure beam is attenuated by any CO in the sample. The rotation of gas filter wheel creates a beam which alternates between "measure" and "reference" phases. This alternating beam is passed through a measurement chamber that uses folded optics to achieve an optical path-length of about 5.5 meters with small physical space. On exiting the measurement chamber the beam is directed to a very high sensitive solid-state detector. Only the amount of CO in the sample can affect the difference in intensity between the "reference" and "measure" beams. The micro-processor calculates the concentration of CO according to the Beer-Lambert's law.



TECHNICAL SPECIFICATIONS

- **Ranges** : 10 - 50 - 100 ppm
- **Lower detectable limit** : < 0,2 ppm.
- **Response time** : 1 mn for 90 % change
- **Zero drift** : < 0,3 ppm per week.
- **Automatic zero on option**
- **Span drift** : < 1 % per week.
- **Linearity** : ± 1 % Full Scale
- **Operating temperature** : 0 - 40° C.
- **Humidity** : 0 - 95% non condensing.
- **Power consumption** : 100 V.A.
- **Power supply** : 220/240 V - 50 Hz.
- **Mounting** : 19" - 4 units rack - H = 180 mm, W = 480mm, D= 540mm

- **Sampling flowrate** : 30 to 100 l/h.
- **Span /zero** solenoid valves.
- **Analog output** : 4 - 20 mA with galvanic insulation (other outputs on request).
- **Digital output** : RS 232 C with status.
- **Printer interface**.

SPECIFICATIONS ARE PER US E.P.A. AND GERMAN U.B.A. TEST CRITERIA. ALL US E.P.A. SPECIFICATIONS EXCEEDED.

Seres
ANALYSERS

360, RUE LOUIS DE BROGLIE. LA DURANNE - BP 87000 - 13793 AIX-EN-PROVENCE CEDEX 3 - FRANCE
TÉL. (33) 04 42 97 37 37 - FAX (33) 04 42 97 30 30
INTERNET : www.seres-france.com - E-MAIL : seres-france@seres-france.com