

SULFUR DIOXIDE SO₂

SF 2000G, SERES' CONTRIBUTION TO ENVIRONMENT QUALITY SURVEILLANCE,

- On line, continuous analysis,
- U.V. fluorescence,

FOR SULFUR DIOXIDE CONTROL IN AIR.

SF 2000G benefits :

- ✓ Easy operation
- ✓ Fast & reliable measurement
- ✓ Flexible : optional H₂S measurement
- ✓ Ambient or emission air analysis

SF 2000G is one of SERES' Series 2000G line of air analysers using the same modular electronics. This advanced design monitor incorporates the latest achievements in continuous measurement of Sulfur Dioxide.



Non contractual

APPLICATIONS

Sulfur Dioxide is a poisonous gas,

- with a strong & unpleasant smell and an irritating effect.
- It is a highly toxic pollutant with a negative impact on **human health and environment** : respiratory diseases, acidification of surface water and soil, damage to the architectural heritage.

A variety of sources & applications :

- **Motor vehicle traffic** : presence of sulfur in some engine fuels.
- **Combustion processes** (thermal power stations, central heating plants,...) operated with sulfur-bearing fossile fuels (pas, petroleum, coal).
- **Manufacturing industries** : chemical & petrochemical plants, steel industry, agrifood industry.
- Naturally release in the atmosphere by active volcanoes.

ADVANTAGES

Efficient & robust monitor

Measurement by U.V. fluorescence

User-friendly interface

Internal permeation bench in option

**Optimum response time,
Stable signal & negligible drifts**

H₂S measurement in option (CV 2000G)

**Compliance with EN 14212:2005
US EPA approval**

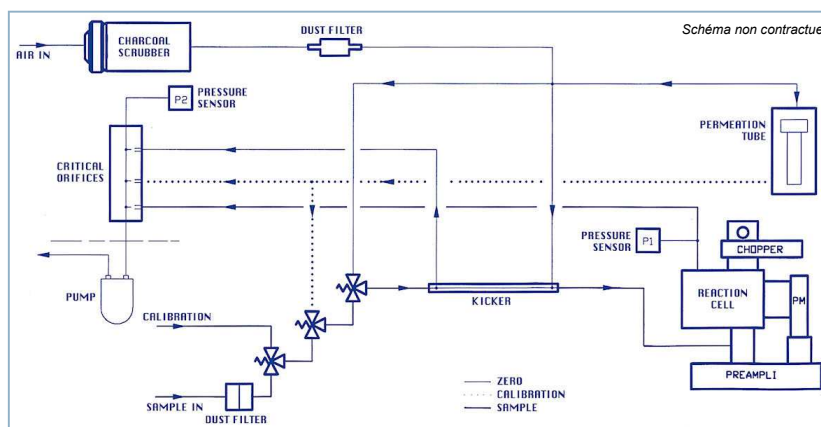
**Turnkey projects : rack system integration,
data processing, ...**

PRINCIPLE - U.V. FLUORESCENCE

A highly energetic U.V. source excites the **SO₂** molecules present in the measuring chamber at a near 215 nm wavelength. Desactivation of these molecules according to a radiating process takes place with simultaneous emission of an electromagnetic radiation. **Measurement at 90°** of this radiation is strictly proportionnal to the **SO₂** concentration in the chamber. Aromatic hydrocarbons are eliminated by means of a **selective membrane**. The zinc-ray lamp, with its proven efficiency, avoids non-radiative desactivation and any interference from water vapour. **No airdrying system** is required. Apart from the dust filter, no other consumable part is to be considered.

The **UV fluorescence** principle used in **SF 2000G** perfectly matches the need for low value **SO₂** concentration measurement (up to 10 ppm), thanks to features set up :

- to **eliminate interferences**,
- to **prevent any drift** resulting from ambient temperature variations that generally affect measurement repeatability and absorption & release phenomena occurring with the hydraulic circuits material.



TECHNICAL SPECIFICATIONS

CONSTRUCTION & ENVIRONMENT

Dimensions	Rack 19" - 4U : 480 x 180 x 540 mm (W x H x D)
Weight	18 kg
Material	Steel epoxy paint
Protection & Environment	Installation in safe area, protected from weather conditions, dust & corrosive atmosphere
Working T°	0 to 40°C (5 to 35°C recommended)
Humidity	0 to 96% non condensing

POWER SUPPLY & CONSUMPTION

Power supply	230 VAC - 50 Hz (other on request)
Consumption	360 VA

ANALYSIS

Method & Parameter	U.V. Fluorescence SO ₂ and / or H ₂ S (CV 2000G option)
Results	Permanent display of SO ₂ , air, pressure, flow, range, zero offset
Range	100 - 500 - 1000 - 5000 - 10000 - 20000 ppb
Unit	ppb or µg/Nm ³
Min. detectable	< 1 ppb
Response time	60 sec. for 90% change (at flowrate 50 l/h)
Linearity	+/- 1.0% end of range
Zero drift	< 2 ppb per week
Span drift	< 1% per month
Zero	Automatic, internal

SAMPLING & OPERATION

Sampling	External sampling pump
Sample flow	30 to 50 l/h
Sample / Zero	Solenoid valves for span / zero gas (manual or remote)
Calibration / Zero	Option : internal permeation bench (standard gas bottles not needed anymore)

COMMUNICATION & ALARMS

User interface	Display 4 x 40 characters and keyboard (16 keys)
Data storage	Internal memory storage 1/4 hourly measurements over 20 days (others on request)
Analog output	4 - 20 mA (others on request)
Digital output	RS 232C with transmission of status
Dry contacts	Fault, threshold, calibration ongoing
Other interfaces	Modem output, Jbus/Modbus interface(option), Serial interface for external printer (printer option on request)

COMPLIANCE

Standards	Compliance with EN14211:2005 US EPA certification
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ENGINEERING / TURNKEY PROJECTS (on request)

Rack cabinet integration - Teletransmission interface - Data acquisition system
Flameproof adaptor for sampling in ATEX area - Heated line
Other options on request