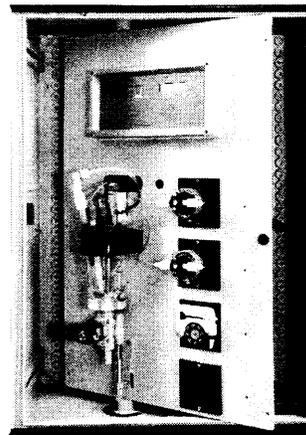


# Sulphide analyzer

## Model 8810



### Applications

#### Chemical / Petrochemical industry

- Protection of the trickling filter of wastewater treatment plants
- Desulphurisation control

#### Wastewater treatment

- Control of biological plants

### Methodology

- **Working principle:** Sulphide concentration ( $S^{2-}$ ) is measured by ORP titration. First, this measurement needs a constant ionic strength and a constant pH. Those conditions are completed by the addition of a basic buffer before the titration starts.
- **Measurement range:** 1–100 mg/l ( $S^{2-}$ ).
- **Electrodes:** silver and reference
- **Detection limit:** 1 mg/l. For lower concentrations, sulphide concentration is measured with a sulphide ion selective electrode (detection limit: 0.1 mg/l).
- **Analysis frequency:** programmable – 1 analysis every 5 min. maximum

### Advantages

- Use of laboratory standard methodology
- No sample filtration (if any suspended solids < 1% and < 1 mm)
- Easy to setup, user-friendly programming
- Reactor cleaning after each measurement cycle: electrode life is increased, manual reactor cleaning is occasional
- Optional automatic calibration: allows potential drift adjustments
- 2 analog outputs 0/4–20 mA (first output is assigned to measurement, second one is assigned to titration curve plotting)
- Monthly maintenance only

data sheet

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## Operating principle

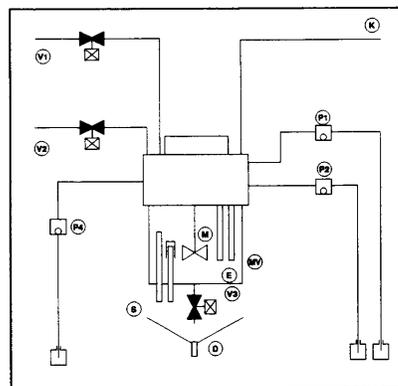
The drain valve and the rinse valve open allowing rinse water to clean the reactor for a programmed time (see figure).

After the rinse valve closes, the sample valve opens while the drain valve stays open a few seconds in order to flush any remaining rinse water droplets with fresh sample solution.

The drain valve closes and the sample volume is accurately adjusted with the siphon.

The conditioning pump is activated and operates for a programmed time. The titration pump is used for the titration. The action time of the titration

pump is directly proportional to the concentration at the equivalent point.



- |                   |  |                               |
|-------------------|--|-------------------------------|
| V1 : Rinse valve  | P4 : Volumetric pump (automatic calibration) | S : Siphon                    |
| V2 : Sample valve | D : Drain                                    | P1 : Titration pump           |
| V3 : Drain valve  | M : Stirrer                                  | P2 : Sample conditioning pump |
| MV : Reactor      | E : Electrodes/Pt100                         | K : Electrode cable           |

## Specifications

### SAMPLE

Number of sample streams:  
 1, up to 6 with optional sequencer model 8811  
 Sampling mode: cyclic, programmable  
 Sample temperature: 0-50°C (32-122 °F)  
 Sample pressure: 0.5-6 bar (7.2-87 psi)  
 Sample flowrate: 50-300 l/h  
 Flush water pressure: 1-6 bar (14.5-87 psi)  
 Air instrument: 5-7 bar (72.5-101.5 psi)

### INSTALLATION

Mounting: 19" panel- or wall-mount unit, or free-standing cabinet  
 Sample tubing: 12/14 mm  
 Flush water: tubing 6/8 mm  
 Air instrument: tubing 4/6 mm

### ANALYSIS

Analysis cycl: ≈ 5 min.  
 Cycle time: programmable 999 min. max.

Units: ppm, ppb, mg/l-programmable  
 Accuracy: ± 2% or ± 1 mg/l  
 Reproducibility: < 3%  
 Calibration: manual, process or automatically programmable

### OUTPUTS

**Analog outputs:**  
 Two 0-4/20 mA signal galvanically isolated

### Alarms:

3 relays: system alarm, low limit/high limit

### Control:

1 sample level detector  
 1 reagent level detector  
 1 calibration solution level detector  
 RS232 output  
 Remote start/stop

E.M.C.: This instrument conforms to European Directive 89/336/CEE concerning electromagnetic compatibility.

## System configuration

### 8810 SULPHIDE ANALYZER BASIC INSTRUMENT

P/N 368810,xxxxx:

8810 SULPHIDE ANALYZER 19" panel-mount unit includes:

- Titration vessel/sprinkler
- Measuring silver electrode/reference electrode/Pt100
- One reagent pump for titration

P/N 368810,7xxxx: Additionnal reagent pump for sample conditioning

### OPTIONS

- P/N 368810,71050: Automatic calibration
- P/N 368810,56000: Chemical cleaning
- P/N 368810,65000: Manual sample entry system
- P/N 368810,40000: Fiberglass enclosure, wall-mount
- P/N 368810,45000: Steel cabinet, floor-mount

\* Reagent pumps are either peristaltic or micropiston (24/50HZ or 24V/60HZ)

\* The product can be configured with different frequency/voltage:  
 - 220V/50HZ - 240V/50HZ - 110V/50HZ - 110V/60HZ

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