

# Fluoride analyzer Model 8810



## Applications

- On-line monitoring of industrial wastewater: chemical industries, glassworks, surface treatment
- On-line monitoring of fluoride concentration in drinking water

## Methodology

- **Measuring principle:** Direct with FLUORIDE ION SELECTIVE ELECTRODE
- **Measuring range:** 0-1000 mg/l programmable (generally 0-100 mg/l/0-10 mg/l/0-1 mg/l)
- **Detection limit:** 0.05 mg/l
- **Analysis frequency:** Programmable - 1 analysis every 5 min. max.

## Advantages

- No sample filtration (if any suspended particles < 1% and < 1 mm)
- Easy to setup user-friendly programming
- Automatic temperature compensation
- Automatic reactor cleaning after each cycle
- Automatic calibration with standard additions
- Monthly maintenance only

data sheet

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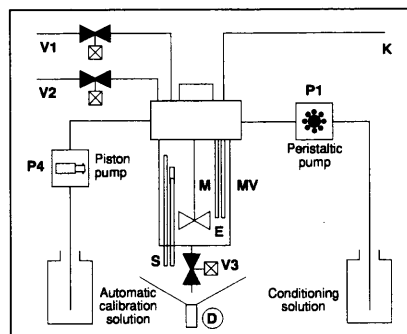
## Operating principle

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

After the rinse valve closes, the sample valve opens while drain valve stays opened 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 adjusted with the built-in siphon.

The conditioning pump is activated and operates during a programmed length of time. When the programmed stabilizing time is over, the ion selective

potential is displayed and allows the determination of the concentration C in fluoride (Nernst Law  $E=E_0 + S \log C$ ).



V1 : Rinsing valve	P4 : Automatic calibration pump	M : Stirrer
V2 : Sample valve	D : Drain	S : Siphon/overflow tube
V3 : Drain valve	E : Electrode/Pt100	MV : Reactor
P1 : Conditioning pump		K : Electrode cable

## Specifications

### SAMPLE

Number of sample streams:  
1, up to 6 with optional sequencer model 8811  
Sample temperature: 0-50°C (32-122°F)  
Sample pressure: 0.5-6 bar (7.2-87psi)  
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, or free-standing cabinet  
Sample: tubing 12/14 mm  
Flush water: tubing 6/8 mm  
Air instrument: tubing 4/6 mm

### ANALYSIS

Analysis cycle: ≈ 5 min.  
Cycle time: programmable 999 min. max.  
Units : ppm, ppb, mg/l-programmable

Accuracy: ± 2% (within one decade)

Reproducibility: < 3%

Calibration: manual (2 standard solutions), process or automatic with standard additions

### 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 FLUORIDE ANALYZER BASIC INSTRUMENT

P/N 368810,32xxx:

8810 FLUORIDE ANALYZER, 19" panel-mount unit, includes:

- Titration vessel/sprinkler
- Measuring FLUORIDE ion selective electrode / Reference / Pt 100
- One reagent pump for sample conditioning

### OPTIONS

- P/N 368810,71050: Automatic calibration
- P/N 368810,56000: Chemical cleaning
- P/N 368810,76000: Automatic heating device/controller
- P/N 368810,65000: Manual sample entry system
- P/N 368810,40000: Fiberglass enclosure, wall-mount
- P/N 368810,45000: Steel cabinet, floor-mount

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



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