

# 8810 ANALYSER

## Chlorine high concentration



### Applications

- On-line monitoring of Chlorine / hypochlorine in the odour control process of waste water treatment plants

### Methodology

- Measurement principle: potentiometric titration with sodium thiosulfate after automatic sample conditioning with acetic acid / acetate buffer.
- Electrodes: platinum and reference.
- Measurement range: 0-3 g/l  $\text{Cl}_2$
- Detection limit: 0.1 g/l  $\text{Cl}_2$
- Titration reagent: sodium thiosulfate.
- Conditioning solution: acetic acid/acetate buffer.
- Calibration solution: chlorine standard solution (freshly prepared).
- Analysis frequency: programmable - 1 analysis every 5 minutes max.

### Advantages

- No sample filtration required (if any suspended solids < 1% and 1 mm)
- Standard laboratory method
- Automatic reactor cleaning
- Accurate on-line measurement of chlorine is used for an optimum treatment quality
- Low maintenance: easy to prepare reagents and pump tube changing monthly only

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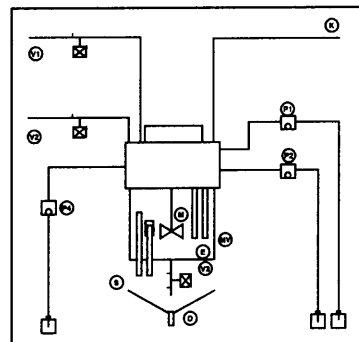


## Operating principle

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, 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 now active and operates for a programmed time. The pump is used for the titration. The power working of the titration is directly proportional to the chlorine concentration at the equivalent time.



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

## Specifications

### SAMPLE

Number of sample streams:  
 1, up to 6 with 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 (10-80 GPH)  
 Flush-water pressure: 1-6 bar (14.5-87 psi)  
 Air instrument: 5-7 bar (72.5-101.5 psi)

### INSTALLATION

Mounting: 19" panel, wall mounting unit or free-standing cabinet  
 Sample tubing: 12/14 mm or 1/2" OD on request  
 Flush water: tubing 6/8 mm or 3/8" OD on request  
 Air instrument: tubing 4/6 mm or 1/4" OD on request

### ANALYSIS

Analysis cycle: '5 min.  
 Cycle time: programmable 999 min. max.

Units : ppm, ppb, mg/l... programmable

Accuracy: ± 2%  
 Reproducibility: <3%  
 Calibration: manual, process or automatic programmable

### OUTPUTS

**Analog outputs:**  
 2 x 0 or 4/20 mA signal galvanically isolated

### Alarms:

3 relays: 1 system alarm, 1 our 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

### CHLORINE ANALYSER BASIC INSTRUMENT

P/N 368810,xxxxx:  
 8810 chlorine analyser 19" panel mounted includes:  
 Titration vessel/sprinkler  
 Measuring pH electrode  
 One reagent pump for titration

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

### OPTIONS

- P/N 368810,60000: Automatic calibration
- P/N 368810,56000: Chemical cleaning
- P/N 368810,65000: Manual sample entry system
- P/N 368810,40000: Fiberglass enclosure, wall mounting
- P/N 368810,45000: Steel cabinet, floor mounting
- \* Reagent pump are either peristaltic or micropiston (24V/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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