

Hydrogen peroxyde analyser Model 8810



Applications

- Process control of textile bleaching operations

Methodology

- Measurement principle: After automatic dilution of the sample conditioned with sulfuric acid, redox titration with potassium permanganate (KMnO_4). The use of potassium dichromate ($\text{K}_2\text{Cr}_2\text{O}_7$) is also possible.
- Measuring range: Usually 0-20 g/l H_2O_2
Lower range (0-1 g/l) or higher range (0,50 g/l) also possible
For low range (0-1 g/l) the automatic dilution option is not needed
- Detection limit: 0-1 g/l
- Analysis frequency: programmable - 1 analysis every 5 min. max.

Advantages of automatic control

Assures constant nominal concentrations of peroxyde during the process of bleaching. This results in several cost reducing advantages:

- Consumption of chemical substantially reduced
- Lower scrap rate because of improved fiber quality
- Saves water energy
- Less water pollution
- Reproducible process characteristics = consistent quality of bleached goods
- Minimize problems in post-treatments (printing-dyeing)

Advantages of 8810 analyser

- Standard laboratory method
- No sample filtration required (if any suspended solids < 1% and < 1mm)
- Automatic reactor cleaning after each cycle
- Automatic calibration (optional): allows drift adjustments
- Monthly maintenance only

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Distributor

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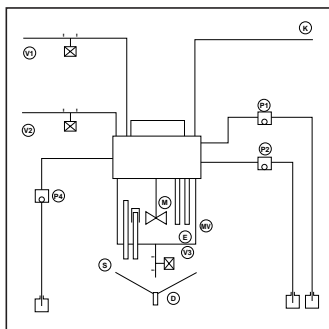
Operating principle

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 accurately adjusted with the siphon.

The conditioning pump is activated and operates during a programmed length of time. The pump is used for the titration. The action time of the titration pump is directly proportional to the concentration of hydrogen peroxide at the equivalence point.



V1 : Rinsing valve
V2 : Sample valve
V3 : Drain valve
P1 : Titration pump
P4 : Volumetric pump for automatic calibration
D : Drain
P2 : Sample conditioning pump
M : Stirrer
S : Siphon/Overflow
MV : Reactor
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 (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- 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
Inches connectors on request with sample :
1/2" OD; rinsing : 3/8" OD; air : 1/4" OD

ANALYSIS

Analysis cycle: '5 min.
Cycle time: programmable 999 min. max.
Units : ppm, ppb, mg/l—programmable
Accuracy: ± 2% (within one decade)
Reproductibility: < 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 HYDROGEN PEROXYDE ANALYSER BASIC INSTRUMENT

P/N 368810,xxxxx:

8810 HYDROGEN PEROXYDE ANALYSER, 19" panel-mount unit, includes:

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

OPTIONS

- P/N 368810,6000: 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 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