zellweger analytics

polymetron

Ammonia Analyser Model 8810

data sheet

Applications

- On-line monitoring of industrial wastewater
- On-line measurement in wastewater treatment plant effluents
- Control of nitrification and denitrification processes
- Alarm plants: monitoring of natural water quality

Methodology

- **Measuring principle:** direct with AMMONIA ION SELECTIVE ELECTRODE (gas diffusion)
- **Measuring range:** 0.01–100 mg/l $N\text{-}NH_4$ (programmable)
- (Higher ranges possible with auto-dilution)
- **Detection limit:** 0.01 mg/l $N\text{-}NH_4$
- **Calibration solution:** ammonium chloride
- **Conditioning solution:** sodium hydroxyde
- **Analysis frequency:** programmable - 1 analysis every 5 min. maximum

Advantages

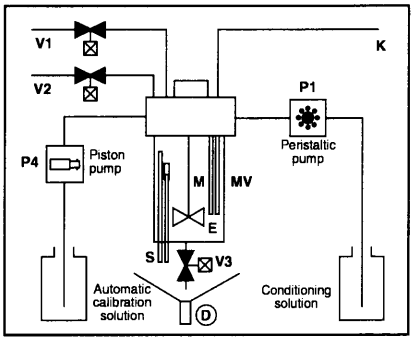
- No sample filtration required (if any suspended particles < 1% and < 1 mm)
- Easy to setup, user-friendly programming
- Automatic temperature compensation
- Reactor cleaning after each cycle (diluted water and acid)
- Automatic calibration with standard additions: avoids matrix effects
- Monthly maintenance only

Operating principle

The drain valve and the rinse valve opens allowing water to clean the reactor during a pre-programmed cycle time (see figure).

After the rinse value closes, the sample valve opens while valve stays opened a few seconds longer 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 built-in siphon.

The conditioning pump is activated and operates during a programmed length of time when the programmed stabilizing time is over, the selective electrode potential reading allows the determination of the concentration C in ammonia (Nernst Law: E=Eo + Slog C).



V1 : Rinsing valve
V2 : Sample valve
V3 : Drain valve
P1 : Conditioning pump
P4 : Automatic calibration pump
D : Drain
E : Electrode/Pt100
M : Stirrer
S : Siphon/overflow tube
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
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–mounting unit, 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)
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 AMMONIA ANALYZER BASIC INSTRUMENT
P/N 368810,36xxx:
8810 AMMONIA ANALYZER 19" panel–mounted unit includes:
- Titration vessel/sprinkler
- Measuring AMMONIA ion selective electrode (combination)/Pt100
- One reagent pump for sample conditioning

OPTIONS
- P/N 368810,72000: 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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