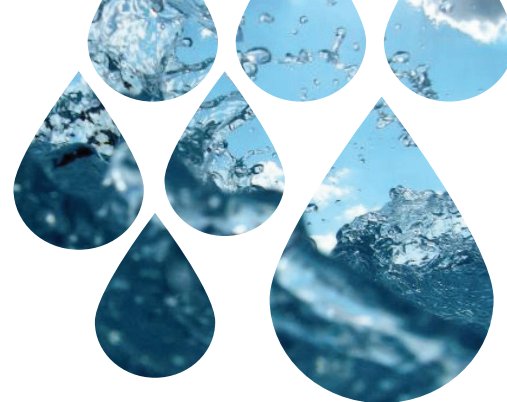


Direct Fluoride Monitor

Model Q46F/82



Flowcell Assembly

Many drinking water systems add fluoride to their water to help their residents prevent tooth decay. To achieve a fluoride concentration of about 1 PPM, a hydrofluorosilicic acid or sodium fluoride solution is metered into the process at a rate that is proportional to total plant flow. However, flow control problems may result in a loss of chemical feed or over-feed condition. An on-line fluoride monitor can provide reliable control of chemical addition for a consistent fluoride concentration.

ATI's Model Q46F/82 Fluoride Monitor provides continuous measurement of free fluoride concentration in potable water without sample conditioning. The system employs a fluoride sensitive ion selective electrode (ISE) which provides reliable measurements down to 0.1 PPM and as high as 1000 PPM. The system is designed for use in applications where the pH and conductivity of the water are relatively stable. Fluoride measurement applications with widely varying sample conditions may require a more sophisticated system employing automated sample conditioning such as ATI's Q46F-AutoChem system.

Fluoride monitoring systems are easy to install, requiring a 1/4" O.D. sample tube connected to a special flowcell provided as part of the system. Inlet flow must be regulated to 6 GPH (0.4 LPM) or less and should be stable. As an option, ATI can supply the fluoride monitoring system factory mounted on a panel containing all necessary flow controls and a visual flow indicator.

Q46F/82 SPECIFICATIONS

ELECTRONIC MONITOR

Display Range	0-20.00 PPM Minimum, 0-2000 PPM Maximum
Accuracy	± 1 mV concentration equivalent (0.1 PPM at 1 PPM; 0.5 PPM at 10 PPM)
Repeatability	± 0.5 mV concentration equivalent
Drift	< 0.5 PPM per month on 20 PPM scale (stable pH & Conductivity)
Power	100-240 VAC, 50/60 Hz., 10 VA Maximum 12-24 VDC, 500 mA maximum
Analog Output	Two isolated 4-20 mA, 500 Ω load maximum
Relays	Three SPDT, contacts rated 6 amp @ 250 VAC, 5 amp @ 24 VDC
Digital Output	Options for Profibus-DP, Modbus RTU & TCP/IP, or Ethernet-IP
Display	4 digit, 0.75" numeric LCD with 12 character second line, LED back light
Enclosure	NEMA 4X (IP-66) Polycarbonate, V-0 flammability
Operating Temperature	Electronics: -20-60° C

SENSOR

Fluoride Sensor	Combination Fluoride ISE Sensor
Sensor Cable	10 feet standard
Response Time	T ₉₀ = 60 seconds
Measurement Chamber	Cast Acrylic
Inlet Sample Flow Rate	1-6 GPH through flowcell (0.06 - 0.40 LPM)
Sample Inlet	1/4" O.D. Instant Tube Fitting
Sample Outlet	1/4" O.D. Instant Tube Fitting
Operating Temp.	2-50°C
pH Range	5-9 pH but stable to ±0.2 pH
Conductivity	Stable to ±50 uS
Inlet pressure	Control to < 5 PSI (0.3 bar) 5-150 PSI (0.3-10 bar) for flow plate assembly

ORDERING INFORMATION

Model Q46F/82-A-B-C Fluoride Monitor

Suffix A - Power

- 1 - 100-240 VAC, +/-10%, 50/60 Hz
- 2 - 12-24 VDC, (requires 300 mA)

Suffix B - Digital Output

- 1 - None
- 2 - Profibus DP
- 3 - Modbus RTU
- 4 - Ethernet/IP
- 5 - Modbus TCP/IP

Suffix C - System Assembly

- 1 - None - Sensor and flowcell only. Customer flow control required.
- 2 - Panel with flow controls, without flow switch
- 3 - Panel with flow controls, with flow switch

ACCESSORIES

- 09-0066** Fluoride Standard, 100 PPM, 120 ml
- 09-0067** Fluoride Standard, 1000 PPM, 120 ml
- 05-0108** Fluoride Standards Dilution Kit (1000 ml & 10 ml graduated cylinders)
- 05-0094** Panel mount bracket kit
- 47-0005** 2" U-bolt, 304SS

Note: One 120 ml. bottle of 100 PPM fluoride standard is included with each system.



Panel Assembly with Flow Controls



Visit Us on the Web: www.analyticaltechnology.com

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