



# CA610 Fluoride Analyzer

## Reliable, Full-time Fluoride Monitoring

The CA610 Fluoride Analyzer uses advanced ion-selective electrode (ISE) technology for continuous monitoring of fluoride concentration in drinking water effluent. Accuracy is ensured with precise control of temperature, ionic strength, and pH. Interferences that can bias measurements are virtually eliminated with this electrode.

## Patented Electrode Design with Replaceable Tip

The proven ISE technology of the electrode is enhanced by a patented\* design and manufacturing process. The lanthanum crystal at the tip of the probe is molded into a one-piece, monolithic tip that is threaded for easy removal. This prevents errors and premature failures. Electrodes are equipped with BNC connectors so that they can be independently checked with laboratory electrochemical meters.

## Cost Effective Operation

The electrode of the CA610 analyzer is made with a molded fluoride crystal tip. The working life of the electrode is approximately one year. The specially designed tip of the electrode should be replaced every six months. Reagent consumption is very low and maintenance is simple.

## Method of Analysis

The ISE system of the CA610 analyzer includes a reference pH electrode and a working electrode. Three reagents are used: Total Ionic Strength Adjustment Buffer (TISAB) solution and two fluoride standards. The TISAB is used for the following purposes. The Ionic strength adjustment lets the electrode respond to concentration instead of activity. The pH control ensures fluoride is present in its ionic state. The Weak complexes formed by certain metals (for example, aluminum) are broken up by TISAB and chelates potential interferents for accurate fluoride measurement.

## Automatic Calibration

Two calibration standards are fully enclosed in the CA610 analyzer's case. The instrument performs a 2-point calibration at 0.5 and 5.0 mg/L fluoride at user-selected time intervals. Automatic calibration intervals can be set for 1 day to 1 month. Readings and calculations of the most recent calibration is stored in the instrument.

### Technical Data\*

Range	0.1 - 10.0 mg/L Fluoride
Accuracy	± 10 % or ±0.10 mg/L whichever is greater
Cycle Time	4.2 min
Sample Temperature	5 - 40 °C (41 - 104 °F)
Inlet Pressure	1 - 10 psig (use sample restriction device to reduce higher pressure samples)
Operating Temperature Range	5 - 40 °C (41 - 104 °F)
Operating Humidity	90% at 40 °C (104 °F)
Mounting	Wall mount
Power Requirements (Voltage)	100 - 115/230 V AC
Power Requirements (Hz)	50/60 Hz
Dimensions (H x W x D)	475 x 341 x 179 mm (18.7 x 13.4 x 7.1 in.)
Weight	11.3 kg (25 lbs)

*\*Subject to change without notice.*

### Order Information

**5740001** CA610 Fluoride Analyzer with Reagents

#### Accessories

The CA610 Fluoride Analyzer comes with one-month supply of reagents, maintenance kit, wall mounting kit, and manual. Power cord has to be ordered separately.

**5448800** Power Cord, 120 VAC

**4643600** Flow meter, 1.2 - 18 L/h, with ¼" OD tubing fittings

#### Replacement Items

**5742100** Maintenance Kit

**5744400** Pump Tubing Set

**5744800** Electrode Kit

**5528100** Electrode, pH reference

**5745100** Electrode Tip, Fluoride Lanthanum Crystal, 2/pk

#### Reagents

One unit of each standard solution is sufficient for two months operation at a 24-hour calibration interval. One unit of Reagent 1 TISAB is sufficient for a 30-day operating period.

**2816900** CA610 Fluoride Reagent Set (includes Reagent 1 TISAB, Standard 1 + 2)

**2812811** CA610 Fluoride Reagent 1 (TISAB), 473 mL

**2743811** CA610 Fluoride Standard 1, 0.5 mg/L, 473 mL

**2797111** CA610 Fluoride Standard 2, 5.0 mg/L, 473 mL

**4450126** Fluoride Half-Cell Electrode Filling Solution, 50 mL

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