

Installing the Fluoride Half-cell in the CA610 Analyzer

**CAUTION**

The heater block portion of the flow cell assembly may be hot. Avoid contact with it.

ATTENTION

Le bloc de chauffage de l'ensemble de la cellule de flux peut être brûlant. Évitez de le toucher.

ACHTUNG

Der Heizelement-Teil der Durchflusszellenbaugruppe kann heiß sein. Vermeiden Sie jede Berührung mit diesem Bauteil.

¡CUIDADO!

El elemento calentador del conjunto célula de flujo suele estar caliente. Evite cualquier contacto físico con el mismo.

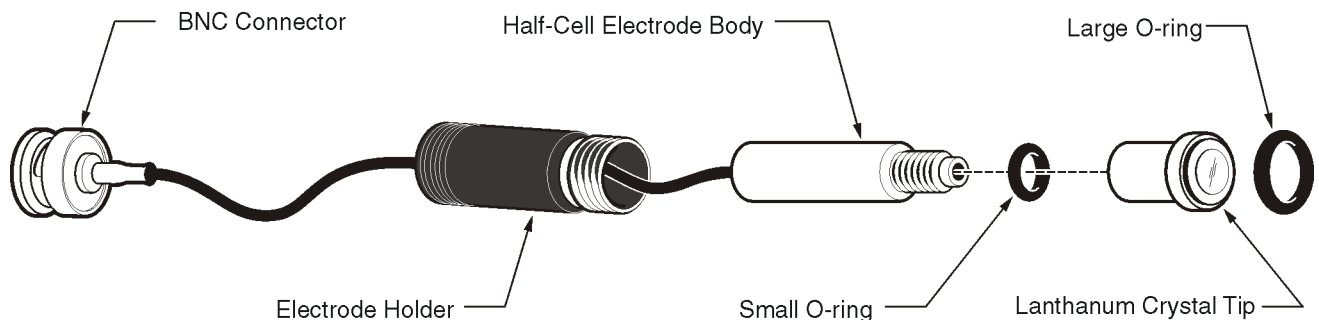
ATTENZIONE

La parte del blocco riscaldante della cella a flusso montata potrebbe scottare. Evitare il contatto.

The reference and measuring half-cells must be installed before the analyzer will function. When initially installing a new half-cell and/or Lanthanum Fluoride Crystal tip, approximately 12 hours are needed for readings to fully stabilize. Typically, offset values will start high and stabilize at a lower value. To minimize the stabilization time, assemble the electrode using the steps below then submerge only the tip of the electrode half-cell in a 1:10 mixture of TISAB and Standard #2 overnight.

Refer to [Figure 1](#) and the following instructions:

Figure 1 Assembling the Electrode Half-cell



1. Fill the measuring half-cell electrode body and lanthanum crystal tip with electrolyte as follows:

Note: This procedure is designed to help ensure no air is trapped in the electrode after filling. Air bubbles can cause erroneous readings.

- a. Fill the supplied syringe with Fluoride Electrode fill solution (Cat. No. 44501-26). (Fill the cap of the fill solution bottle half way and draw the solution into the syringe from the cap.)
- b. If necessary, remove the Lanthanum crystal tip from the electrode half-cell. Verify that the small O-ring is in place at the bottom of the threaded portion of the electrode body; install if necessary. See [Figure 1](#).

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- c. Insert the tip of the syringe into the opening of the electrode half-cell until it bottoms out. Do not bend the wire inside the electrode body. Fill the electrode while slowly pulling the syringe tip out. Fill until inner fill solution begins to overflow.
 - d. Add electrolyte to the tip until it is overflowing as shown in [Figure 2](#).
2. Orient the lanthanum crystal tip with the fill solution upward and screw the measuring half-cell onto the tip, see [Figure 3](#). Always hold the assembled electrode with the tip down so air bubbles rise into the body away from the tip.

Note: If bubbles adhere to the crystal tip, gently tap the electrode, or carefully shake it down (like a mercury thermometer) to remove them.

3. Rinse the assembled half-cell with deionized water.
4. Make sure the openings in the flow cell assembly where the electrode half cells are to be installed are clean and dry.

Figure 2 Filling the Electrode Half-cell with Electrolyte

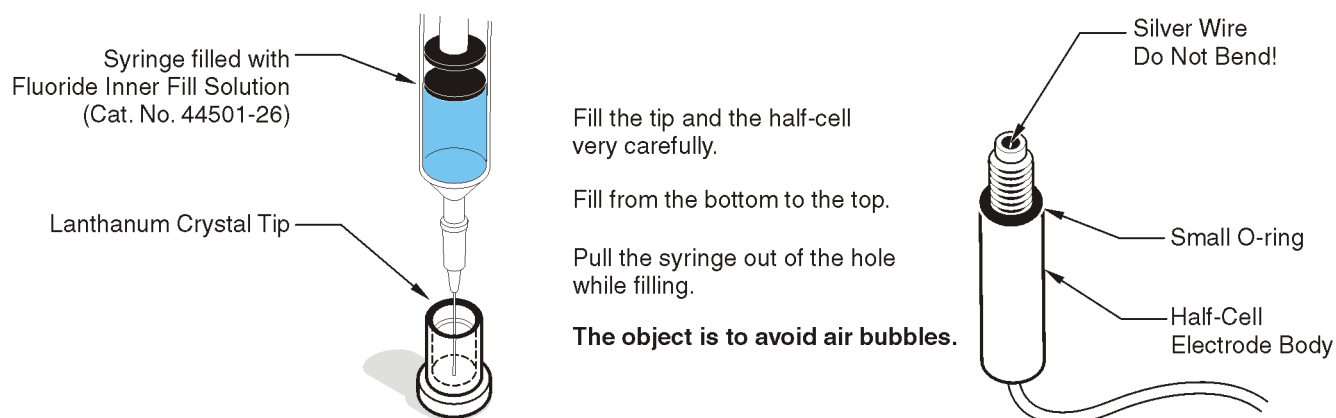
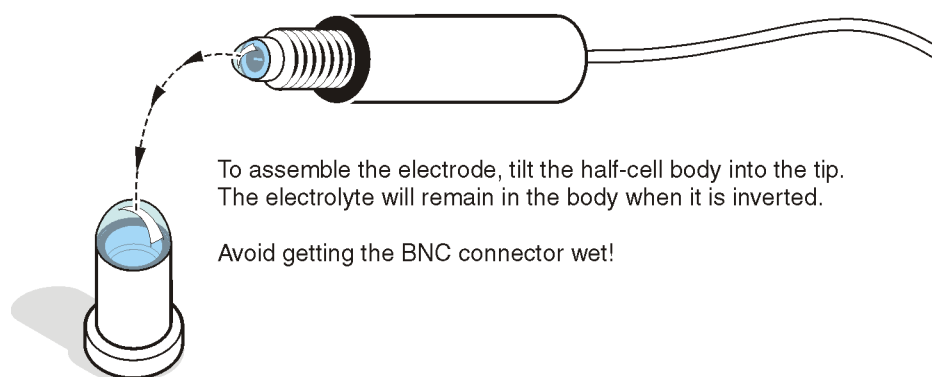


Figure 3 Connecting the Electrode Body to the Tip



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5. Dry the outside of the electrode body with a lint-free tissue. Do not dry the measuring portion of the tip; doing so could cause erroneous readings.

Note: Drift in the readings may be caused by an air bubble in the fill solution. If drift is seen, remove the electrode, dislodge any bubbles, and reinstall the electrode.

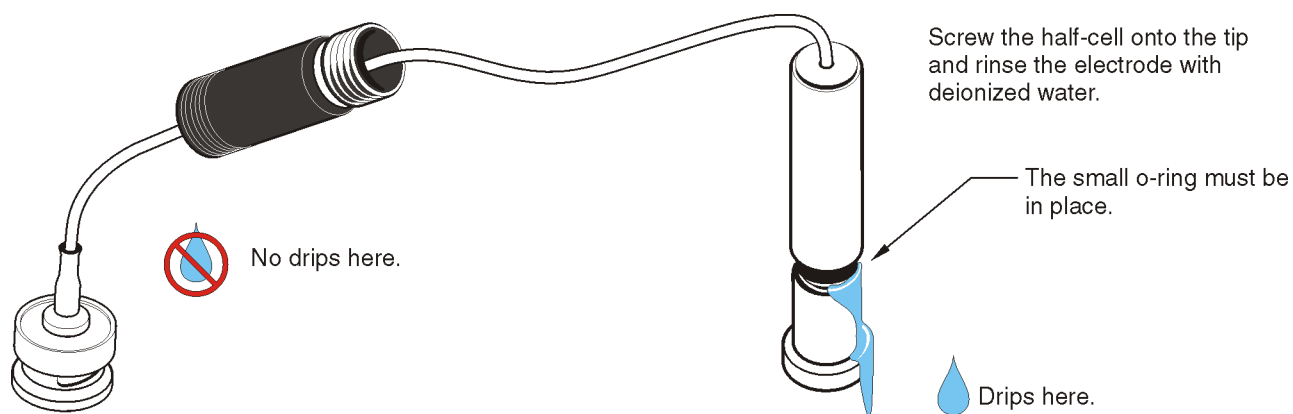
6. Place a large O-ring into the measuring electrode opening (upper position on the flow cell assembly); seat it against the back of the hole. Thread the measuring half-cell into the upper position on the flow cell assembly until finger-tight.

7. Place a large O-ring into the reference electrode opening (lower position on the heater block); seat it against the back of the hole. Thread the reference half-cell into the lower position on the flow cell assembly until finger-tight.

Note: Up to 12 hours may be required for the electrode to become fully conditioned. It is normal to see additional drift in the readings while electrode conditioning is in process.

Attach the BNC connectors to the corresponding connections (measuring half-cell to upper position and reference half-cell to lower position).

Figure 4 Proper Orientation for Assembly





FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:

In the U.S.A. – Call toll-free 800-227-4224

Outside the U.S.A. – Contact the HACH office or distributor serving you.

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