CLX Quick Startup Guide

FLOW: Establish flow ***(min pressure 5 psi)*** to the CLX from the source to be measured. Check that there are no leaks and the drain is open to atmosphere. ***See reverse for flow setting instructions.***

FLUSH: Flush both reagent lines (buffer & indicator) with the provided syringe and syringe tip.

Use only chlorine free water for this step.

10.3 Check Valve Flushing Kit

Sometimes upon initial commissioning, the check valves stick and require manual priming. This should not be needed after commissioning. Be careful when using this kit to use only chlorine free water. Complete instructions are included in the kit.

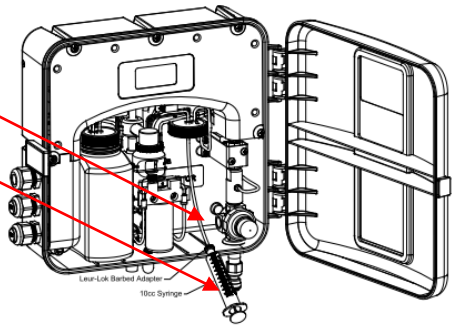
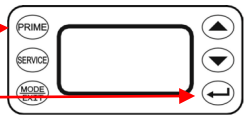


Figure 8: Check Valve Flushing Kit

REAGENT Preparation: Prepare the reagent solutions ***(Free or Total Chlorine)*** according to the provided instructions, install the caps on the reagent making sure the tubes are not restricted (be sure to get the proper reagent on each side, buffer to buffer and indicator to indicator).

PRIME: Prime reagents by pressing the PRIME button then the enter button ↵.



IMPORTANT: CLX must finish at least complete cycle (including any averaging) after any adjustments are made before results are to be considered useful. The CLX displays dashes until a cycle is completed and results are posted.

FACTORY RESET: At some point it may prove useful to return the CLX to factory default settings. All factory defaults including factory configurations can be reset by holding down the ▲ button and then pressing and releasing the ↵ button then releasing the ▲ button.

It will be necessary to re-configure the 4-20 mA output, signal averaging, sample interval (if adjusted) etc. following this procedure.

CALIBRATION: The CLX was factory calibrated prior to shipment. **It is not necessary to recalibrate.** If required, the CLX can be calibrated by collecting a grab sample of the process water at the intake to the CLX and before any reagent addition. That sample is then tested with a lab or field measurement method, then adjusting the CLX to match the grab sample. The procedure for process correction calibration is located in the instruction manual.

Care should be exercised to avoid over zealous calibration.

This guide is only to be used in conjunction with a thorough review of the HF scientific provided instruction manual and is not intended to replace it. It is presumed the CLX has been properly installed. These guidelines will help with effective field startup of the HF scientific CLX chlorine analyzer.

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CLX Chlorine Analyzer: Setting the Flow Rate

The flow rate on the CLX is factory set and it will handle a broad range of inlet pressures. In most installations there should be no need for field adjustment. In a few instances, however, installation variables might impact the flow of sample water to the optical chamber. This can possibly affect the reading of the instrument. If you are seeing an error message related to water flow…

FAST …. Means that the Intake water sample stream flow is greater than desired

SLOW …. Means that the Sample cuvette is filling too slowly

If you are seeing either of these error messages it may be necessary to adjust the incoming water / sample flow. The flow is adjusted by removing the vinyl cap on the pressure regulator and turning the adjustment screw on the regulator. Refer to the image below to locate the regulator and then follow this procedure.

1. Press the **SERVICE** button.
2. Wait for the display to read **HOLD,** then press **Mode/Exit**.
3. Display will show **FLOW** with the number **0**. Press either the ▲ or ▼ button.
4. The CLX will drain, and then pulse water into the optics while a count is displayed on the screen.

8—10 pulses of water is the target feed rate.

NOTE: The cuvette may not fill completely in the FLOW mode, this is normal.

5. The display will show one of three messages **HI, LO or Good**. The flow test determines if the flow rate is suitable for proper operation. If it is deemed necessary to adjust the flow, first remove the protective cover on the pressure regulator, then loosen the locking nut, then adjust the pressure regulator using a large flat blade screwdriver (a coin can work in a pinch, I recommend a 2004 or later vintage Florida State US Quarter, but that's just me, it really comes down to what is in your pocket or tool kit).

Press either the ▲ or ▼ button while in the **FLOW** routine to display a new flow rate. Please note that only ¼ turn incremental adjustments should be made to the regulator on each attempt.

If the message is **LO, turn the regulator control clockwise**. If the message is **HI, turn the regulator counterclockwise**. If the message is **Good**, no adjustment is required. Once a **Good** reading has been achieved **tighten the locking ring** and replace the regulator cover.

IMPORTANT: It is strongly recommended that an additional flow test or two be completed after tightening the locking nut. This will identify if the pressure regulator was inadvertently mis-adjusted when the locking ring was tightened, which is a possibility. If necessary repeat the procedure.

Pressure Regulator with cover removed.

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