To ensure proper operation of the QDC 300 follow the instructions below. Refer to the ICS 4000 manual and the QDC 300 manual for detailed operation guidelines.

**WARNING**

Do not attempt to disassemble the QDC 300; it may result in irreversible damage.

**NOTE**

The QDC 300 should be installed after the Conductivity (CD) background on the system is ≤ 2 µS/cm.

1. **Hydration and start up of QDC**

The QDC 300 is shipped dry and should be hydrated prior to use. This process ensures that the QDC 300 membranes are fully hydrated and ready for operation. Figure 1A shows the top view of the QDC 300 as shipped with the “ELUENT IN” line plumbed to the “REGEN OUT” port of the QDC 300. Figure 1B shows the bottom view of the QDC 300 with the ball stud and connector required for installing the QDC 300.

![Figure 1A: Top View of the QDC 300 as Shipped](image)

![Figure 1B: Bottom view of the QDC 300](image)
The hydration steps for the QDC 300 can be performed online on the ICS 4000 system as outlined below.

A. Ensure that all the consumables except QDC 300 are installed on the ICS 4000 system. Equilibrate the system with the eluent required for the analysis and wait for the CD background to be < 2 µS/cm.
B. Now install the QDC 300 on the system by aligning the ball stud into the correct receptacle on the QD detector location as shown in Figure 2.

C. Disconnect the blue “ELUENT IN” line on the QDC 300 from the QDC 300 “REGEN OUT” port. Connect a small piece of waste tubing to the “REGEN OUT” port of the QDC 300 to ensure that during hydration there is liquid flowing out of the waste tubing.
D. Disconnect the suppressor “REGEN INLET” line from the “CELL OUT” port of the conductivity detector.
E. Turn off the suppressor current at this point.
F. Connect the blue “ELUENT IN” line of the QDC 300 to the “CELL OUT” port of the conductivity detector.
G. Let the QDC 300 flush with cell effluent for 5 minutes while sending the flow out of the QDC 300 “REGEN OUT” port to waste. This ensures that any leachates from the QDC 300 are driven to waste and not into the suppressor regenerant channel.
H. Ensure that there is liquid coming out from the waste line in Step G from the “REGEN OUT” port of the QDC 300 before proceeding further.
I. Turn ON the Power to the QDC 300 from the Chromeleon panel and let the QDC 300 equilibration continue for another 20 minutes.
J. After Step I, remove the waste line from the “REGEN OUT” port of the QDC 300 and discard it.
K. Connect the regen line from the suppressor regenerant channel inlet (line coming out of the suppressor “REGEN IN” port) to the QDC 300 “REGEN OUT” port (as shown in Figure 2).
L. Now turn on the suppressor current from the Chromeleon panel.
M. The QDC 300 is now installed in the IC system following the plumbing schematic shown in Figure 3.
N. Set the compartment temperature to 15°C for the QDC 300 operation. The QDC 300 device is now ready for use.