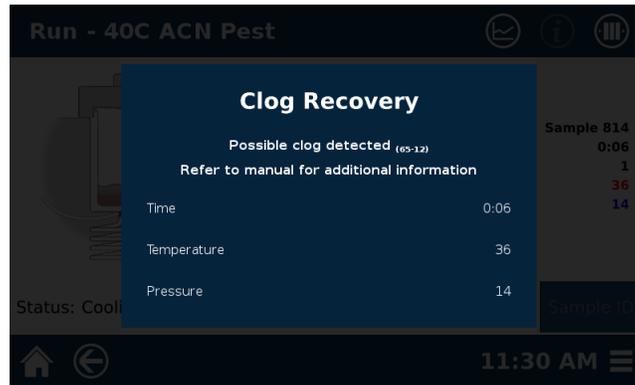
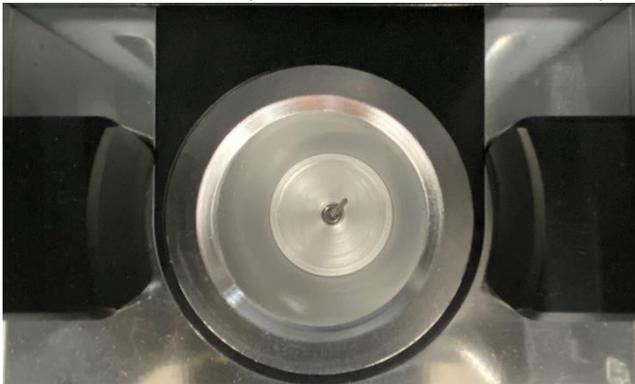


Clog Check Guide

This document is to be used in the event of a possible clog or system clog. Contact molecular.support@cem.com with any questions or concerns. If there is a possible clog or a system clog, the clog recovery will show up on the screen, and you will need to follow the prompts displayed.



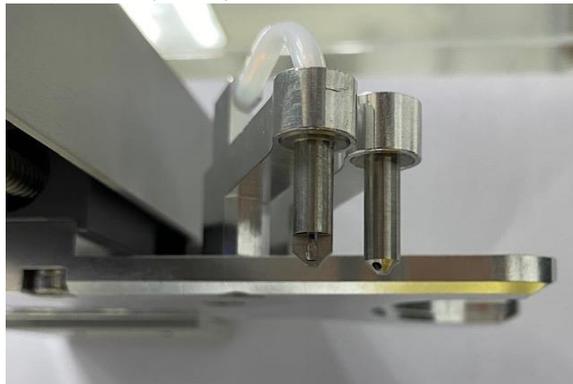
- If a Possible Clog is detected, the system will cool until the temperature is below 30°C and the pressure is 0 psi. This can take up to 15 minutes, do not turn off the system during this time. Once the system cools, the software will walk the user through a series of prompts and the automation will remove the Q-Cup from the chamber and purge the rest of the solvent into the collection vial. If solvent still remains in the Q-Cup after it is removed, the Q-Cup clog was most likely a result of improper sample preparation or a Q-Disc selection issue. Contact molecular.support@cem.com for suggestions and recommendations.
 - If the chamber is clean and free of particulates, run a blank with a Q-Cup containing only a Q-Disc. Record the volume recovery and if the extract contains particulates. If so, continue to run blanks until the extracts are clear.
- If a System Clog is detected, the software will prompt you to run a Clog Cleanse. Before doing so, please perform both a visual inspection and clog check as outlined in the steps below.
 - View chamber – If there are particulates in the chamber, clean with DI water using a paper towel and cotton swabs. The particulates should stick to the damp paper towel making it easier to clean. If there is solvent still in the chamber, remove with a pipette or syringe before attempting to clean the chamber. Do not attempt to run the system until the chamber is visibly free of particulates.
 - The chamber will discolor and lose its shine over time. This is normal. The image below is a brand new chamber that has never seen sample. Please ensure that there are no particulates in the chamber.



- View inside of the actuator – If there are particulates, place a paper towel over the chamber to prevent particulates from falling down into the chamber, and use a damp paper towel to wipe the actuator base clean. In the image below, the vent hole is circled in red. This should be clean and free of particulates. If this is blocked, it should be cleaned with paper towels, cotton swabs, and/or a pick to ensure this is not blocked prior to moving on to the next step.



- Inspect the Q-Cup – Did the Q-Disc break or was it not sealed properly? Make note of how sample passed through the system
- Inspect the Dispense Needle tip – Does this dispense needle have any particulates lodged inside of it? If so, try to clear with a pick.
- Run Clog Check – Make note of where the clog is.
 - Vent: View top of actuator. Is the vent hole visible?
 - Clean with a damp paper towel if possible. Continue to Clog Cleanse if unable to see hole.
 - Drain: Is the thermocouple visible, or are there particulates in the chamber?
 - Clean with a damp paper towel if possible, make sure this is clean before running clog cleanse. If this is not possible, take a picture of the chamber and send to Molecular Support.
 - Dispense needle/cooling coil: Is the dispense needle clear?
 - Try to clear the needle with dental tool or pick if there are debris. Make note of the shape of the dispense needle and the number of holes. In the picture below, the dispense needles on the left and right have one and three holes, respectively.



- Add water to the bottle setup and run Clog Cleanse by going to System Menu -> Tools -> Utilities -> System Wash -> Water -> Cog Cleanse
 - After completing the Clog Cleanse, make note if the water was collected in the waste bottle and run a Clog Check.
 - If the Clog Check passes, run blanks with an empty Q-Cup containing only a Q-Disc with previously used method.
 - If the Clog Check fails, contact Molecular Support and have this information ready and available to share:
 - Sample size: _____
 - Condition of Q-Disc: _____
 - Clog check fail step: _____
 - Dispense needle type: _____