

Good practices recommended for shutting down HPLC systems

The following information is recommended shutdown procedures for reversed phase HPLC. Please refer to your lab's SOPs and column manufacturer guidelines for additional information.

Step 1. Remove any mobile phase salts or additives from the system

- If buffers or additives are routinely being used with the HPLC system, prepare aqueous and organic mobile phases without salt or additives.
- Run 3-4 blank injections with your usual gradient program through the column.
- Isocratic methods require flushing the column more thoroughly compared to gradient methods. Use 20-30 column volumes for flushing.
- Failure to remove all traces of salts may result in precipitation in the system and/or column while the instrument is offline.

Step 2. Refer to the column manufacturer's instructions for the proper storage solvent

- Flush the recommended solvent through the column according to the manufacturer's instructions for flow rate and flush time or number of column volumes.
- Remove the column from the HPLC system.
- Column ends should be securely stoppered, to prevent stationary phase from drying out.



Fig 1. Column end plugs prevent stationary phase from drying out

Step 3. Once you ensure there is no buffer (salt) is in the system, flush the system with methanol and purge the autosampler with methanol for at least 20 minutes. For modular autosamplers purge from front panel. Figure 2 shows how to perform the purge for an i-Series.

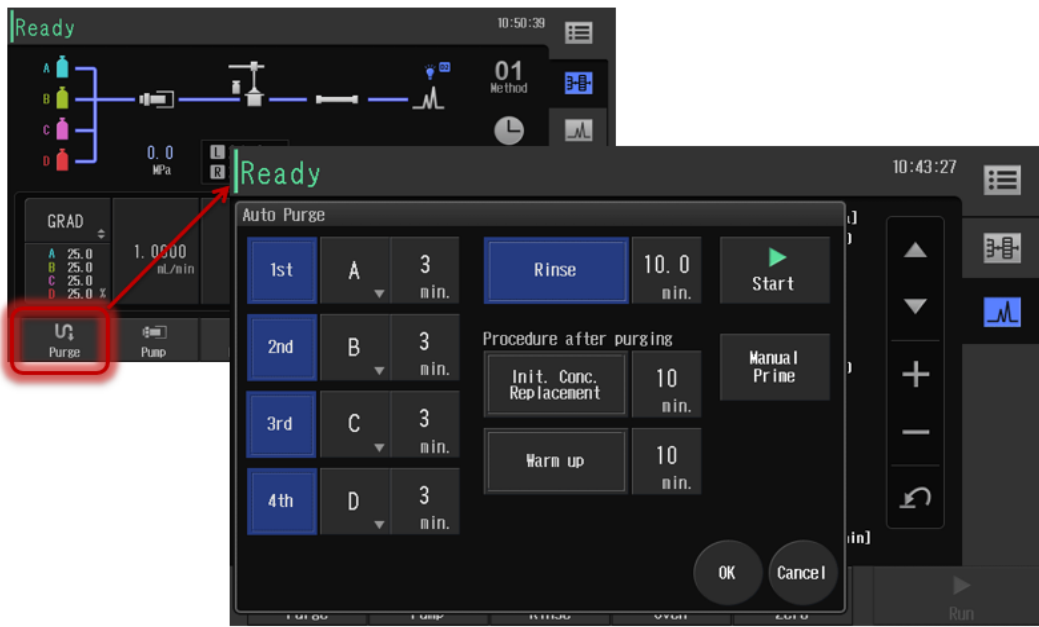


Fig 2. Purging pump and autosampler for i-Series

Step 4. Properly shut down all the HPLC modules from the front (LC-20 and LC-30) or back (LC-40) panel power button, and the i-Series (including Cannabis and Hemp analyzers) from the side panel power button.

- It is completely fine to remove the power cords from the individual modules or i-Series at this point for an extended period.
- Cannabis and Hemp customers: make sure you store all standard vials in -20°C freezer.

- All customers: refer to the product data sheet for storage of all standards used, and to your lab's SOP for sample storage.
- If you leave the suction lines (stones) immersed in methanol or isopropanol at the top of the HPLC system, make sure the mobile phase and the autosampler rinse phase bottles are capped. This prevents particulates from entering and/or evaporation of the solvent. Inspect for any possible leaks around the system due to gravity. Look at the tubing and fittings that go into and come out of the degasser unit as well as the seal rinse connections/tubing at the top and bottom of the pump heads behind the check valves.
- If you take the suction filters out of solvents, it is better to put them in a plastic bag or wrap them with parafilm to prevent dust from contaminating the filters.
- Always ensure the waste cans are empty before you leave the laboratory.

Additional information for how to properly move the autosamplers, i-Series and detectors (not including mass spectrometer) from one place to another:

If you are moving the autosamplers or i-Series systems from one lab to another

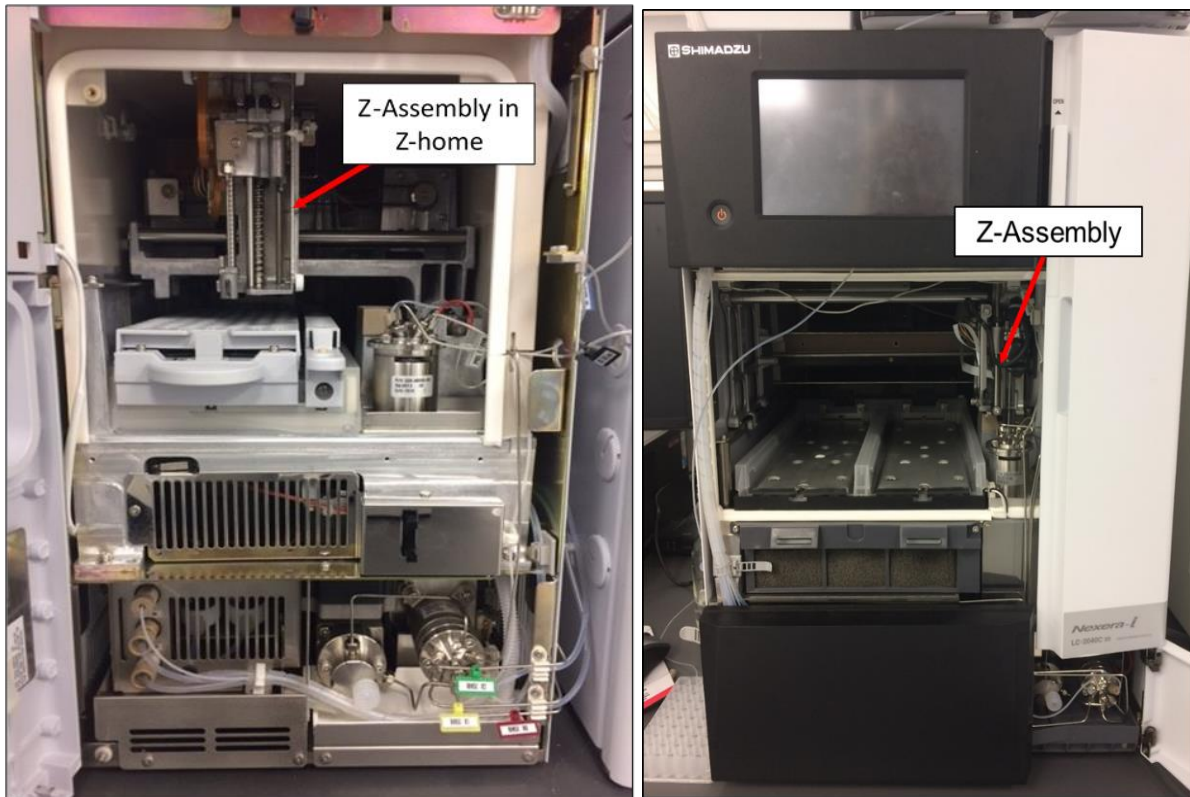
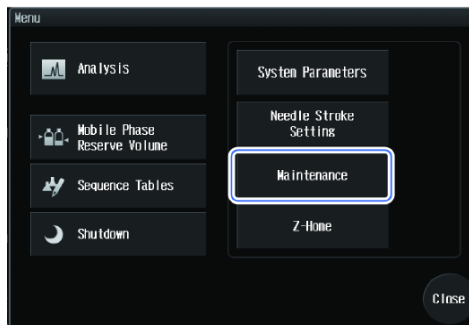


Fig 3. SIL-20 with Z assembly in Z home; Z assembly moves freely (Left). Prominence-i with needle in the injection port; Z assembly does not move freely (Right).

- Put the autosampler in the Z-home position. For modular autosamplers SIL-20, SIL-30 and SIL-40 simply press the Up-arrow key on the front panel of the autosampler, then press enter. For the i-Series follow the instructions in Fig. 4.
- Lock the Z assembly down with its original shipping bracket or put bubble wrap or crumpled up paper in the SIL compartment to prevent movement of the Z assembly as much as possible.
- This is critical to keep the needle assembly safely in place and prevent it from getting damaged during transport, or in the case of an i-Series, damaging the vial sensor cable.



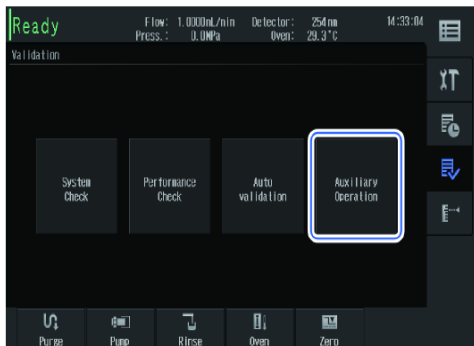
(1) Click on [Menu] screen



(2) Press [Maintenance]



(3) Press [Validation] tab



(4) Press [Auxiliary Operation]



(5) Press Z Home

Fig 4. Steps to put the Z assembly at Z Home for the i-Series autosampler

If you are moving detectors from one place to another:

- Make sure the detectors don't undergo severe or jarring movement during transport.
- This is important because the optical bench may move even slightly and consequently will require a service call to align all optics.
- If you still have the original lockdown bolts, install them in the 2 holes in the bottom of the detector case to secure the optical bench.
- NEVER turn a detector on its side during transport, even if the optical bench is locked down.