IonSwift™ MCC-100 & MCC-200 Concentrators QuickStart

IonSwift Monolithic concentrator columns offer direct connection, as a loop, to the injection valve. Conditioning of the bed is **required** prior to initial use and after long-term storage. This QuickStart process will ensure extended lifetime and reproducibility.

1. Eluent Preparation:
   Typically a 3 to 50 mM MSA (methanesulfonic acid) eluent, either by eluent generation or manually prepared, is recommended, although any eluent suitable for your analysis may be used to condition the concentrator.
2. Concentrator Installation:
   Remove the red caps, by sliding the caps off, from both ends; retain the caps for use later. Use the fittings and ferrules shipped with the concentrator to attach the inlet of the concentrator, in the correct flow direction, directly to Port #1 of the injection valve (Figure 1), **do not connect** the outlet of the concentrator to the injection valve, attach a waste line to the outlet or collect the waste from the outlet into a waste container.
   Using the Instrument Control Panel or DC LED lights verify the Injection Valve is in the "INJECT" position.

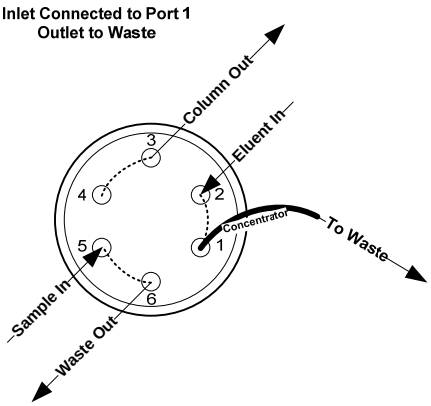

Figure 1

Injection Valve MUST be in the INJECT position

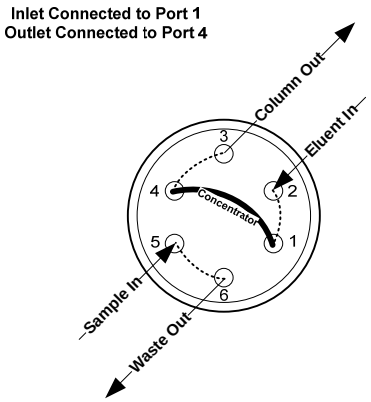

Figure 2

WARNING	***If your eluent composition generates back pressure in excess of the maximum operating pressure, reduce the flow rate to ensure the upstream back pressure of the concentrator is less than the 3000 psi (20.7 MPa) maximum operating pressure.***

3. Recommended Start-Up Flow Rates:
   MCC-100 (0.5 mm ID) concentrator use a flow rate of ≤0.05 mL/min (50 µL/min)
   MCC-200 (0.75 mm ID) concentrator use a flow rate of ≤0.5 mL/min
4. Concentrator Conditioning:
   Use the guidelines below to determine the proper start-up conditions. To properly condition the concentrator it is recommended to pump at least 10 column volumes (CV) through the concentrator.

MCC-100 (0.5mm):

Step #1 – Removal of Storage Solution: Using the start-up flow rate of 0.05 mL/min pump about 1.5 mL for ~30 minutes of 20 mM MSA through the concentrator to waste (Figure 1).

Step #2 – Concentrator Equilibration: Changing from 20 mM MSA to the starting eluent will require pumping 0.25 mL of the desired eluent composition through the concentrator ~5 minutes at 0.05 mL/min.

Step #3 – Final Connection: After equilibration, connect the outlet of the concentrator directly to Port #4 (Figure 2).

Step #4 – Set the flow to the operational flow rate for your analysis, the concentrator is ready to use.

MCC-200 (0.75 mm):

Step #1 – Removal of Storage Solution: Using the start-up flow rate of 0.5 mL/min pump about 15 mL for ~30 minutes of 20 mM MSA through the concentrator to waste (Figure 1).

Step #2 – Concentrator Equilibration: Changing from 20 mM MSA to the starting eluent will require pumping 2.5 mL of the desired eluent composition through the concentrator ~5 minutes at 0.5 mL/min.

Step #3 – Final Connection: After equilibration, connect the outlet of the concentrator directly to Port #4 (Figure 2).

Step #4 – Set the flow to the operational flow rate for your analysis, the concentrator is ready to use.

5. Storage:
   Using the start-up flow rate, flush the concentrator for a minimum of 20 minutes using the storage solution listed below. Then using the red caps, supplied with the concentrator, fill the caps with storage solution to displace any air and slip a cap on to each end of the column.
   - *Short-term storage (<1 week) use the eluent used in your analysis.*
   - *Long-term storage (>1 week) use 3 to 20 mM MSA.*

For additional information, refer to the IonSwift MCC-100 /200 manual, Document. No. 065411 located on the Reference Library CD or www.dionex.com.