5.9 Shutting Down the Module

Observe the following precautions before interrupting the operation or before shipping the module:

Tip: Observe the information on this in point 3 in section 5.8 (→ page 138) when resuming module operation.

- For longer periods of inactivity or if saliferous buffers are used, rinse the fluid lines with MS-grade water. This avoids salt crystallization, which may impair the instrument performance.

- If operation is interrupted for a longer period, make sure that neither the module nor the solvent supply lines or solvent reservoirs contain pure water. Use an appropriate additive, for example, 0.1% formic acid, to prevent the growth of algae.

- For longer periods of inactivity (more than one week) or when shipping the module, no water must remain in the fluid passages. This is, for example, to avoid failure of the sealing surfaces of the column switching valve when the temperature falls below 0 °C.

  Rinse out any solvents from the module and fill the pump with methanol or a similar alcohol, such as isopropanol or ethanol. If the solvents in the pump are not miscible with water, use an appropriate intermediate solvent.

  If a buffer is used as a part of the mobile phase, flush the system with several volumes of methanol/water (50:50) before it is shut down. This is to prevent salt buildup inside the unit.

- If pump operation is interrupted for more than 5 days, remove the PharMed tubing from the peristaltic pump. To remove the tubing, slightly press the lever to the right, remove the tubing, and release the lever. This will avoid that the tubing remains compressed and does not relax, thus blocking the wash solution.

- Rinse out buffers or solvents that form peroxides.

- If the pump flow is interrupted for longer periods (> 1 hour), you have to turn off the lamps in any UV or RF detector connected to the module to prevent evaporation in the flow cell.

- If you want to ship or move the module to a new location, no liquid must remain in the waste line of the rear seal wash system.

  The waste line is routed on the module bottom to the drain port at the bottom right of the module. If necessary, lift and tilt the module from the left side of the enclosure and wait until no more liquid leaves the waste line.

- Ship the NCS-3500RS always *without* valves. To protect the valve drives, reinstall the foam inserts that were installed upon shipment of the NCS.

- Ship the module only in the original shipping container and observe the packing instructions.

  If the original shipping container is not available, appropriate shipping containers and packing material can be ordered from Thermo Fisher Scientific sales organization for Dionex HPLC products. The packing instructions are included in the "Installation and Qualification Documents for Chromatography Instruments" binder and are available on request.

  Shipping the module in any other packaging automatically voids the warranty.

5.8 Shutting Down the Autosampler

Please observe the following precautions before interrupting the operation for more than one week or before shipping the autosampler:

- Rinse out any solvents. If a buffer is used as a part of the mobile phase, flush the system with several volumes of methanol/water (50:50) before it is shut down. This will prevent salt build-up inside the unit.
- Fill the autosampler with methanol or a similar alcohol, such as 2-propanol or ethanol. If the solvents in the autosampler are not miscible with water, use an appropriate intermediate solvent.
- If you want to move or ship the autosampler, you have to
  - ♦ Remove the movable parts of the carousel (sample racks, vials, well plates) and the wash liquid reservoir, if installed.
  - ♦ Secure the needle arm and carousel cover with the foam insert as described in the packing instructions.

  ⚠ **Important:** *This is a must!* First, move the needle and needle arm into the correct position (needle on the right and needle out of the wash port) by either pressing the **Standby** button on the front of the autosampler or performing the **Standby** command in Chromeleon. Then, turn off the autosampler and secure the needle arm. This is to avoid damage to the needle.

  ⚠ **Important:** *C'est à doit!* Afin d'éviter tout dommage à l'aiguille, prenez soin de parquer l'aiguille en position haute avant d'installer le bloc de mousse, en utilisant le bouton **Stand-by** du panneau de commande du passeur ou le command Standby dans Chromeleon.
- Ship the unit only in the original shipping container and observe the packing instructions. If the original shipping container is not available, appropriate shipping containers and packing material can be ordered from the Thermo Fisher Scientific sales organization for Dionex HPLC products. The packing instructions are included in the "Installation and Qualification Documents for Chromatography Instruments" binder and are available upon request.

  Shipping the unit in any other packaging automatically voids the warranty.

If you are running Chromeleon, you can set the autosampler and HPLC system into the standby mode or run a shutdown program (→ page 100).