

Maintenance of UV detector for Recycling Preparative HPLC Model LC-9100 Series

Periodic noise generation or continuous drift recognized in the UV detectors may be caused by flow cell failure. In this case, remove and clean the flow cell according to the procedures below:

Removal

- 1) Remove the column cover.
- 2) Disconnect piping connected to the IN and OUT ports of the flow cell. Loosen two lock screws and remove the flow cell.

Cleaning flow cell

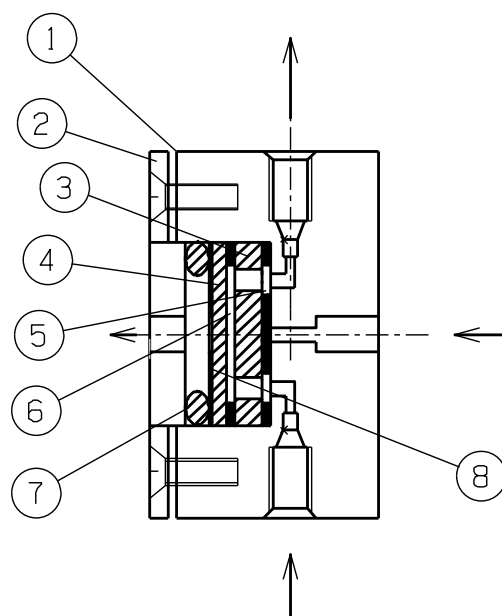
<A>Although no leakage is found from the flow cell, if the window glass looks dirty, clean the window according to the procedures below:

- 1) Directly connect the flow cell to the OUTPUT port (the IN port of the pre-column) to feed solvent at high velocity.
- 2) Feed another type of solvent compatible with the solvent remaining in the flow cell.
- 3) When using organic solvent, it is effective to feed THF or toluene through the flow cell.
- 4) When having used any buffer, feed a sufficient amount of distilled water or ion-exchanged water through the flow cell.

If the instructions above have failed to clean the cell, it is necessary to disassemble and clean the flow cell. As it is difficult to perform a leakage test, we recommend contacting our technical service department.

See the next section for the flow cell assembly drawing (Fig.7-1) and the part names.

1. Flow cell body
2. Cell window retaining window
3. Cell window (with a hole)
4. Cell window (without a hole)
5. Teflon washer (with three holes)
6. Teflon washer (with a long hole) 0.2 mm
7. O-ring
8. Teflon washer (with a hole)



Flow cell assembly(Fig.7-1)

Light source lamp

The average warranty life of the deuterium lamp used in the UV-310B/3702B detector is approximately 2000 hours. When the noise level is high or sensitivity is extremely low even after the flow cell is cleaned, it may be caused by degradation of the deuterium lamp. In this case, replace the lamp with a new one according to the procedures below.

As it is necessary to take the UV detector out of the main unit of the LC-9101, if no experienced personnel are available, contact our technical service department.

Replacement procedures

- 1) Turn off the POWER switch.
- 2) Remove the cover of the light source section located at the left side of the main unit by loosening the screws with a Phillips screwdriver.
- 3) When the cover is removed, the D2 lamp is found to be held on the holder by setscrews.
- 4) Disconnect the three lead wires of the D2 lamp unit from the terminal panel.
- 5) Loosen the two setscrews, and remove the D2 lamp unit from the holder while holding the ring.
- 6) Insert new D2 lamps into the holder so that the two set screws and the D2 lamp unit height fixing screw are in alignment on the same level.
- 7) Lightly tighten the setscrews so that the D2 lamp unit can still be turned for adjustment. Connect the lead wires from the D2 lamp unit to the terminal panel so that the color of the lead wire coincides with that of the wire connected to the terminal panel, for example red to red, and blue to blue.
- 8) Set the wavelength selector dial at 210 nm.
- 9) Turn on the POWER switch to illuminate the D2 lamp.
- 10) Set the CHECK switch located at the back face at "R." The signal value in proportion to the transmitting light on the reference side is indicated on the digital display.
- 11) Using the ring of the D2 lamp unit slightly turn it in either direction to find the position where the value on the digital display is maximized.
- 12) When the largest value is obtained, tighten the two setscrews to fix the D2 lamp unit at that position.
- 13) Replace the light source cover.

Do not touch the D2 lamp with a bare hand because it is very hot during and just after illumination.

Always use the knurled ring to adjust the lamp position.

