

OPTIC-4 Leak Test Procedure

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A gas leak in a GC system affects reproducibility and increases consumption of the carrier gas. To check for carrier gas leaks, use an electronic leak detector (GL Sciences p/no 2702-19340 or similar commercial detector).

To facilitate the search for a leak, follow the procedure below:

1. Set OPTIC-4 into standby mode.
2. Wait until GC oven and inlet temperature are below 40 °C.
3. Remove the capillary column from the inlet and use the injector column nut with an "OPTIC Graphite Ferrule, no-hole" (p/no 2406-1019) to close the inlet bottom.
4. Ensure that the carrier gas supply pressure is set to 700 kPa.
5. Duct the carrier exhaust ports "Exhaust" and "SP Exhaust" away from the "Inlet Gas Lines" connection. Use short pieces of 1/8 in. PTFE tubing for this.
6. Select in Evolution Workstation **Configuration/System Configuration**. Set column parameters to: Internal Diameter - 0.25 mm, Length – 30 m.
7. Select in Evolution Workstation **Configuration/Standby Parameters**. Set standby column flow to 20 ml/min and standby split flow to 200 ml/min.
8. Wait for a few minutes and verify via the status parameter view in the Evolution Workstation that the standby column flow 20 ml/min is set.
9. Verify that the standby split flow 200 ml/min is set.
10. While the inlet port is under pressure, check for a leak with a leak detector. The most critical connections to be checked are shown in the Fig. 1 below.
11. When a leak is detected, tighten the part or remove it and check for a problem. Replace the part if any problem is found.

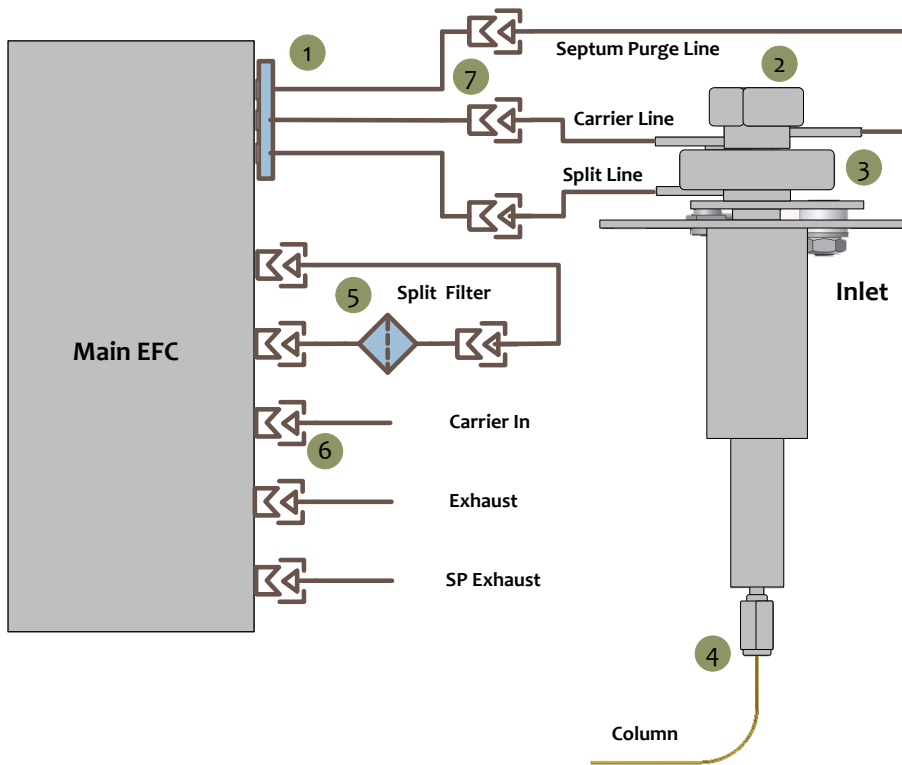


Figure 1 Critical Connections for Leak Checking

Connection Point	Description
1	Inlet gas lines connection
2	Septum
3	O-ring
4	Column connection
5	Split line filter connections
6	Carrier gas supply connection
7	Gas lines connection fittings

Table 1 List of Critical Connections for Leak Checking



CAUTION!

When leak testing connections, use a suitable electronic leak detector. Under no circumstances should a soap solution or similar be used as this will contaminate the inlet!



CAUTION!

Do not tighten the inlet base nut excessively. The inlet base is very fragile and can be damaged easily!