INLET LEAK TESTING
6890 EPC SPLIT/SPLITLESS INLET (S/SL)
Procedure: Leak testing an EPC split/splitless inlet

There are numerous places in the inlet that can leak. This procedure lets you determine, in general, if there is an unacceptable leak in the inlet. If the inlet is leaking, you should use an electronic leak detector to pinpoint the component that is leaking.

**WARNING**
Be careful! The oven and/or inlet may be hot enough to cause burns.

**Materials needed:**
- No-hole ferrule
- 7/16-inch wrench
- Gloves (if the inlet is hot)
- Septum nut wrench (part no. 19251-00100)
- 9/16-inch wrench
- 1/8-inch SWAGELOK cap
- Bubble flow meter

1. Complete the following preliminary steps:
   - If you have entered parameters that you do not want to lose, store them as a method.
   - Turn the oven off.
   - Cool the oven and inlet to room temperature.
   - Turn the inlet pressure off.
   - Remove the column, if one is installed, and plug the column fitting with the column nut and a no-hole ferrule.
   - Remove the old septum and replace it with a new one.
   - Inspect the O-ring and replace it if it is hard and brittle or cracked.
2. Cap the septum purge fitting with a 1/8-inch SWAGELOK cap.

3. Set the oven to its normal operating temperature.

4. Configure the column as 0 length.

5. Press [Front Inlet] or [Back Inlet] to open the inlet's control table.
   - Set the inlet to its normal operating temperature
   - Enter a pressure setpoint of 25 psi, or enter your normal operating pressure if it is greater. Make sure that the pressure at the gas supply is at least 10 psi higher than the inlet pressure.
   - Set the total flow to 60 mL/min.
   - Set the inlet to Split Mode.

   Wait a few moments for the pressure and flow to equilibrate. If pressure cannot be achieved, there is either a large leak or the supply pressure is too low.

6. Turn either the pressure or the flow off. Because the septum purge and the column fittings are capped, gas should be trapped in the system and the pressure should remain fairly constant.

7. Monitor the pressure for 10 minutes. A pressure drop of less than 0.5 psig (0.05 psi/min or less) is acceptable.

   If the pressure drops much faster than the acceptable rate, see “Correcting Leaks”.

Capped septum purge fitting
Procedure: Correcting leaks

Materials needed:

- Electronic leak detector
- Tools to tighten connections

1. Use the electronic leak detector to check all areas of the inlet that are potential sources of a leak. Potential leak areas are:
   - The capped purge vent
   - The plugged column connection
   - The septum and/or septum nut
   - The area where the gas lines are plumbed to the inlet—the O-ring, the O-ring nut, and the inlet base seal.

2. Correct leaks using the correct size wrench to tighten connections. You may need to repeat the leak test again to check for leaks.

   If the pressure drop is now 0.03 psi/min or less, you can consider the inlet system leak-free. If the pressure drops faster than this, continue to search for leaks and repeat the pressure test. If all fittings appear to be leak free, but the inlet system is still losing too much pressure, you may need to replace the inlet manifold. Contact your Agilent service representative.