

19 NonEPC Inlets

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Split/splitless inlet—splitless mode

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NonEPC Inlets

Controls for these inlets are located on a pneumatics module attached to the left side of the GC.

Purged packed inlet

The only adjustment for this inlet is the carrier gas flow through the column. Septum purge flow is set automatically based on the source gas pressure. It can be measured at a vent on the front panel.

Split/splitless inlet—split mode

The carrier gas divides between the column and the split vent depending on their relative flow resistances. A small amount of carrier gas sweeps the lower side of the septum and exits through the septum purge control and vent.

Split/splitless inlet—splitless mode

In a splitless injection, a valve is actuated by [Prep Run] that prevents carrier gas from exiting the bottom of the inlet liner. Total flow does not change, but most of it exits through the septum purge line. All carrier gas that passes through the liner goes to the column—the sample is not split.

At purge time, the valve switches to sweep out residual vapor in the inlet. The system is now in the split configuration, with the purge flow and residual vapor—mostly solvent—exiting through the split vent.

Configuration

The GC is aware that a nonEPC inlet is present—it looks for the heater/sensor connections—but does not know what kind. You must supply this information through configuration.

Procedure: Configuring a nonEPC inlet

1. Press [Config], select Instrument, and [Enter].

```

CONFIG INSTRUMENT
Serial#  US00100001
Auto prep run  Off
F inlet type:  S/SL <
B inlet type:  S/SL
  
```

2. Select the inlet and press [Mode/Type].

```

FRONT INLET TYPE
Purged packed
*Split/splitless
Cool on-column  <
Unknown
None
  
```

3. Select a type and [Enter].

4. Press [Config][Front Inlet] (or [Back Inlet]).

```

CONFIG FRONT INLET
Gas type          He <
  
```

5. Press [Mode/Type], select a gas, and [Enter].

Inlet control tables

The inlet control tables for nonEPC inlets are similar to those for the EPC versions except that flow and pressure settings are absent.

Purged packed inlet

FRONT INLET (He)			
Temp	150	150	<

Split/splitless inlet in split mode

FRONT INLET (He)			
Mode:		Split	<
Temp	150	150	

Split/splitless inlet in splitless mode

FRONT INLET (He)			
Mode:		Splitless	<
Temp	150	150	
Purge time		2.00	

Figure 71 NonEPC inlet control tables

Column control tables

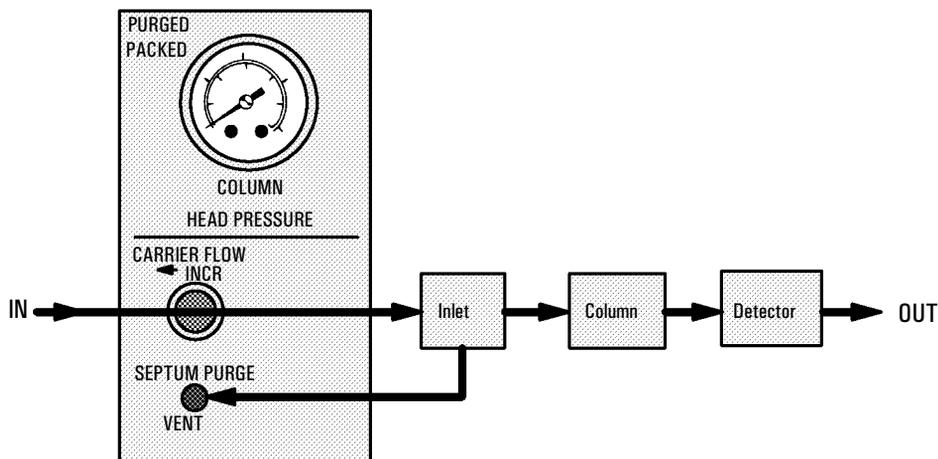
When a nonEPC split/splitless inlet is used with a defined column, the column control table becomes a calculator. Although you cannot control flows from the keyboard, you can determine the flows to be set manually.

Column 1 (He)		
Dim	30.0 m	320 u
Pressure		0.0
Calc flow		0.0
Calc velocity		0

Enter a pressure. Flow and average linear velocity are calculated and displayed.

Procedure: Setting carrier flow for the purged packed inlet

The internal flow path in the instrument is:



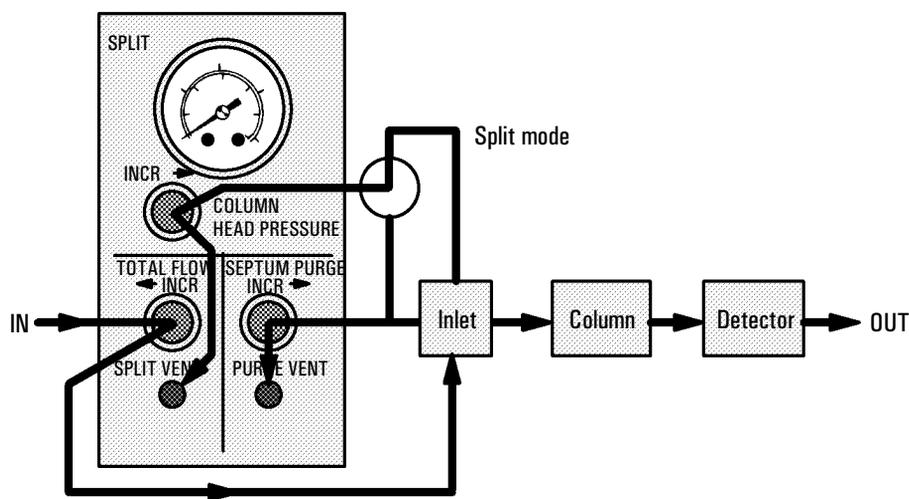
1. Locate the knob labeled CARRIER FLOW. Turn it *clockwise* as far as it will go. Do not force the knob; when it closes it comes to a slightly “soft” stop.
2. Open the carrier gas cylinder valve and set the delivery pressure of the two-stage regulator to 410 kPa (60 psi). If there is a local regulator in the carrier gas line, set the cylinder regulator to 550 kPa (80 psi) and the local regulator to 410 kPa (60 psi).

3. Attach a flow meter to the detector outlet. There should be no flow at this time. If there is, turn the detector gas flows off from the keyboard.
4. Turn the CARRIER FLOW knob in the ←INCR direction to turn the carrier gas on. Adjust and measure to achieve the desired flow. If necessary, increase the source pressure.

The septum purge is set automatically.

Procedure: Setting flows for the split mode inlet

The internal flow path in the instrument is:

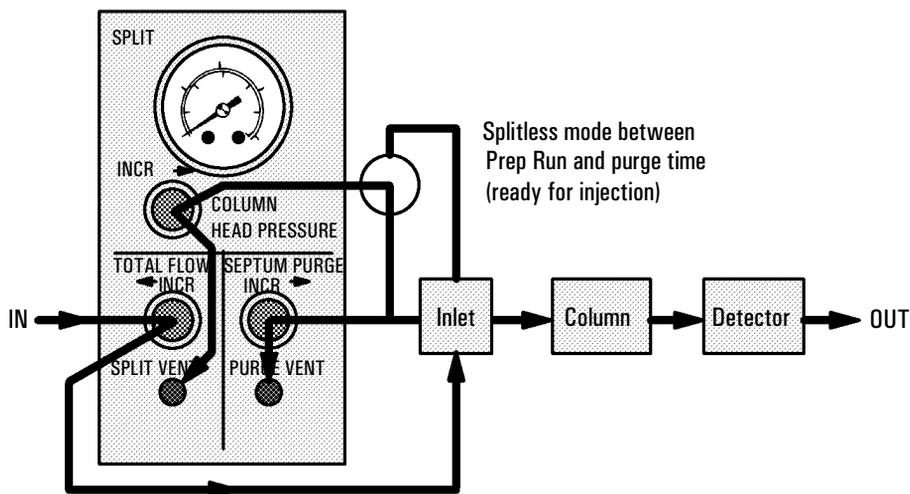


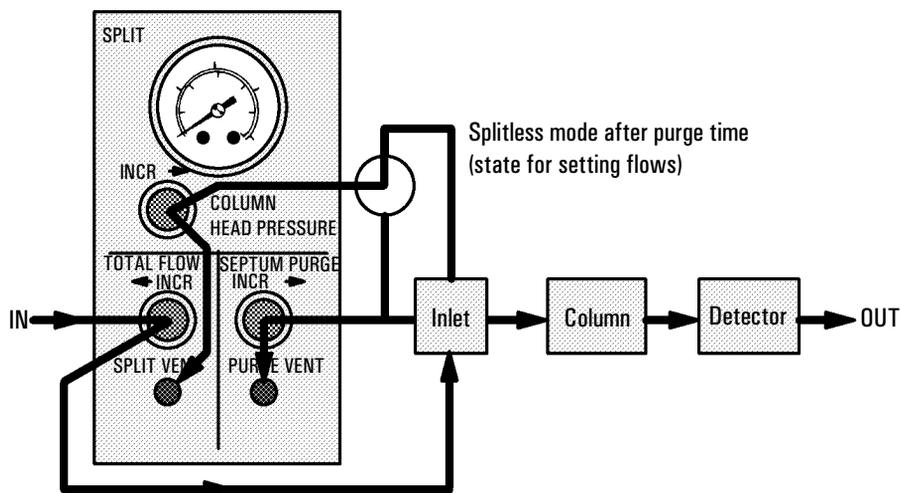
1. Locate the knob labeled TOTAL FLOW. Turn it *clockwise* as far as it will go. Do not force the knob; when it closes it comes to a slightly “soft” stop.
2. Locate the knob marked SEPTUM PURGE. Turn it *counterclockwise* to turn the flow off. There is no definite stop position; when the knob turns freely (does not seem to be touching anything inside), it is off.
3. Open the carrier gas cylinder valve and set the delivery pressure of the two-stage regulator to 410 kPa (60 psi). If there is a local regulator in the carrier gas line, set the cylinder regulator to 550 kPa (80 psi) and the local regulator to 410 kPa (60 psi). If you are using small-bore capillary columns, you may have to use higher pressures.

4. Attach a flow meter to the detector outlet. There should be no flow at this time. If there is, turn the detector gas controls off from the keyboard.
5. Turn the TOTAL FLOW knob in the ◀INCR direction to turn the carrier gas flow on.
6. Turn the COLUMN HEAD PRESSURE knob in the INCR▶ direction. Adjust and measure to achieve the desired column flow. If you cannot, increase TOTAL FLOW until you can. Use TOTAL FLOW for coarse and COLUMN HEAD PRESSURE for fine adjustment.
7. Move the flow meter to the SPLIT VENT. Measure and adjust TOTAL FLOW to achieve the desired split flow. If necessary, increase the source pressure.
8. Move the flow meter to the PURGE VENT. Turn the SEPTUM PURGE knob in the INCR▶ direction to achieve the desired septum purge flow.
9. Repeat steps 6, 7, and 8 until all flows are correct.

Procedure: Setting flows for the splitless mode

The internal flow paths in the instrument are:





1. Locate the knob labeled TOTAL FLOW. Turn it *clockwise* as far as it will go. Do not force the knob; when it closes it comes to a slightly “soft” stop.
2. Locate the knob marked SEPTUM PURGE. Turn it *counterclockwise* to turn the flow off. There is no definite stop position; when the knob turns freely (does not seem to be touching anything inside), it is off.
3. Open the carrier gas cylinder valve and set the delivery pressure of the two-stage regulator to 410 kPa (60 psi). If there is a local regulator in the carrier gas line, set the cylinder regulator to 550 kPa (80 psi) and the local regulator to 410 kPa (60 psi). If you are using small-bore capillary columns, you may have to use higher pressures.
4. Attach a flow meter to the detector outlet. There should be no flow at this time. If there is, turn the detector gas controls off from the keyboard.
5. Turn the TOTAL FLOW knob in the ◀INCR direction to turn the carrier gas flow on.
6. Turn the COLUMN HEAD PRESSURE knob in the INCR▶ direction. Adjust and measure to achieve the desired column flow. If you cannot, increase TOTAL FLOW until you can. Use TOTAL FLOW for coarse and COLUMN HEAD PRESSURE for fine adjustment.

7. Move the flow meter to the SPLIT/SPLITLESS INLET VENT. Measure and adjust TOTAL FLOW to achieve the desired split flow. If necessary, increase the source pressure.
8. Move the flow meter to the SEPTUM PURGE VENT. Turn the SEPTUM PURGE knob in the INCR▶ direction to achieve the desired septum purge flow.
9. Repeat steps 6, 7, and 8 until all flows are correct.