

# Jetanizer™ Installation Manual for Agilent GCs

Manual ID: JT-MAN-IM11

## Quick Start Guide

1. Install the Jetanizer™ like a normal FID jet (do not overtighten).
2. Operate at 400 °C with 35 sccm of hydrogen.

## Installation Instructions

1. Set the oven temperature to 35 °C and wait for the oven to cool to 35°C. Then set the oven to “OFF.”
2. Set FID flame and the FID temperature to “OFF.”
3. Wait for the FID temperature to cool below 50 °C.
4. Set all FID flows (air, hydrogen, and makeup) to “OFF.”
5. If a column is installed, remove it from the FID.
6. Select the correct Jetanizer™ type.
  - a. For capillary-optimized FIDs, use a 43 mm Jetanizer™ (p/n JT-CAP-PK1).
  - b. For adaptable FIDs with capillary columns, use a 61.5 mm Jetanizer™ (p/n JT-ADC-PK1)
  - c. For adaptable FIDs with packed columns, use a 63.5 mm Jetanizer™ (p/n JT-ADP-PK1)
7. To ensure a proper seal is made with the FID assembly, install only a new Jetanizer™. Do not install a Jetanizer™ that has been installed previously.
- 8. Before proceeding, ensure that the FID is set to “OFF.”**
9. Disconnect the ignitor cable.
10. Remove the three T20 Torx screws that secure the collector to the FID assembly.
11. Remove the collector by pulling it upwards. Do not touch or damage the interconnector spring once the collector is removed.
12. Loosen the existing FID jet (if applicable) with a ¼ in nut driver.
13. Remove the existing jet from the FID assembly using a pair of tweezers.
14. Install the Jetanizer™ by placing it into the FID assembly (Figure 1).

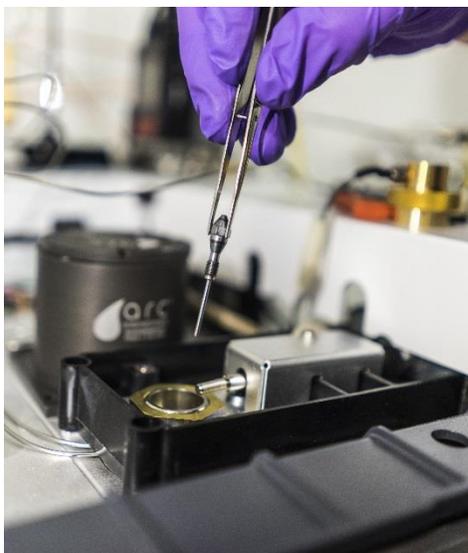


Figure 1. Installation of the Jetanizer™ into an FID.

15. Hand tighten the Jetanizer™ with a ¼ in nut driver. Tighten 30 to 45 degrees past finger tight.  
Warning – Overtightening could cause damage to the Jetanizer™ or the FID assembly.
16. For packed columns, reinstall the column by connecting to the adaptable FID fitting.
17. For capillary columns, reinstall the column into the FID using a graphite ferrule, because only graphite ferrules withstand the high operating temperature of the Jetanizer™. Insert the column into the FID until it stops inside of the jet. Then pull the column back 1 mm and tighten the column nut. Note – The column will not insert as far into the Jetanizer™ as it would into a typical FID jet. To avoid breaking the column, do not force it into the FID jet.
18. Turn on the column head pressure. Measure the column flow rate using a bubble flowmeter or electronic flowmeter connected directly to the outlet of the FID, and adjust the column head pressure if necessary to obtain the desired column flow rate.
19. Set the FID hydrogen setpoint to 40 sccm.
20. Heat the FID to 450 °C for one hour to bake out the Jetanizer™.
21. Set the Jetanizer™ temperature to the operating temperature of 400 °C.
22. Measure the total column and hydrogen flow at the outlet of the FID. Calculate the hydrogen flow rate, which is the total measured flow rate minus the column flow rate. Increase or decrease the hydrogen setpoint if necessary to achieve an actual hydrogen flow rate of 35 sccm.
23. Set the FID air setpoint to 350 sccm.
24. Set the FID makeup gas setpoint to 5 sccm.
25. Set the FID flame to “ON.”

## Operation Instructions

1. Avoid heating the Jetanizer™ without carrier gas and FID hydrogen flowing.
2. Operate the Jetanizer™ with 35 sccm of hydrogen (measured directly from the FID), 350 sccm of air, and 5 sccm of makeup gas at an FID temperature of 400 °C.
3. If the Jetanizer™ will not be used for extended periods of time, turn off the FID flame, set the hydrogen flow rate to 5 sccm, and turn off the FID air.
4. Avoid excessive cycling of the FID temperature to prevent premature failure of the sealing surface.
5. To prolong the lifetime of the Jetanizer™, avoid exposing to large amounts of molecules other than CO and CO<sub>2</sub>, including but not limited to high molecular weight hydrocarbons, alkynes, and sulfur-containing molecules.