

# Jetanizer™ Installation Manual for Shimadzu 2030 GCs

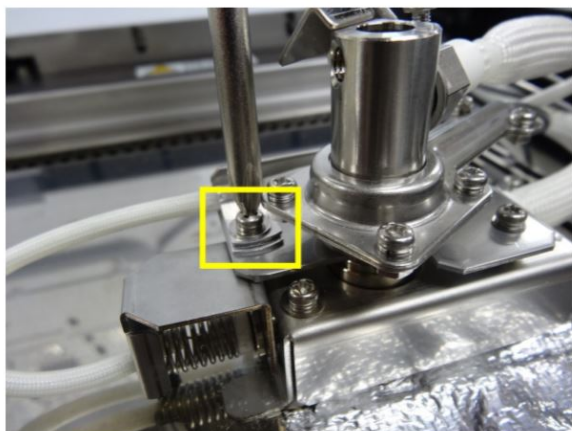
Manual ID: JT-MAN-IM12

## Quick Start Guide

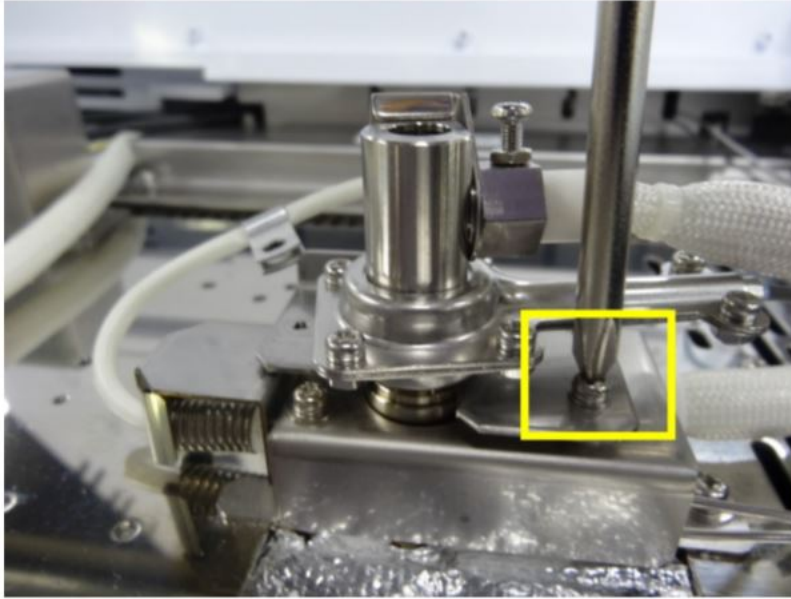
1. Install the Jetanizer like a normal FID jet (do not overtighten).
2. Operate at 400 °C with 32 mL/min of hydrogen and 250 mL/min of air.

## Installation Instructions

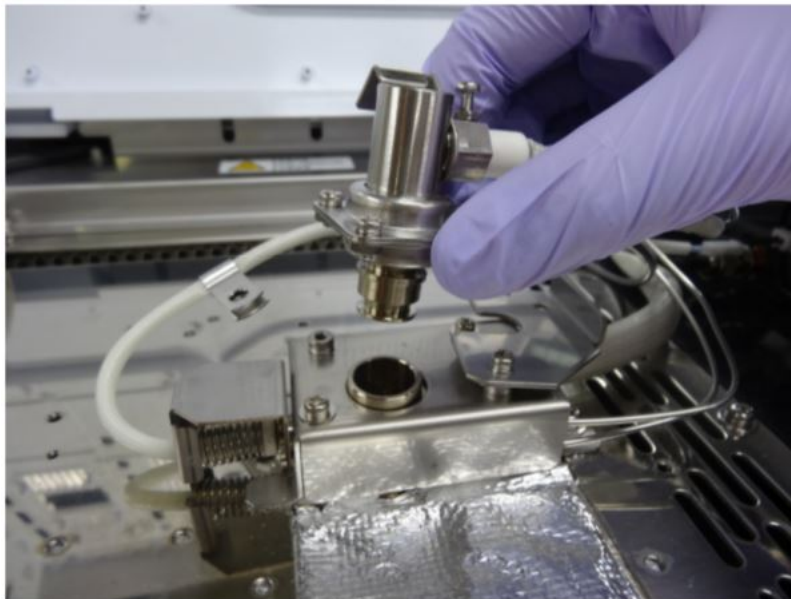
1. Using the GC Keypad, press the “Stop GC” button.
2. Wait for the for the heated zones to cool and the flows to turn off.
3. Turn off the power to the main instrument. The power button should not be illuminated.
4. If a column is installed, remove it from the FID.
5. Open the INJ/DET cover to access the FID assembly.
6. Disassemble the FID. Please follow the exact directions in your Shimadzu manual to ensure this is done properly. A brief interpretation of this is outlined below:
  - a. Remove the screw fixing the high voltage cable clamp and remove the clamp.



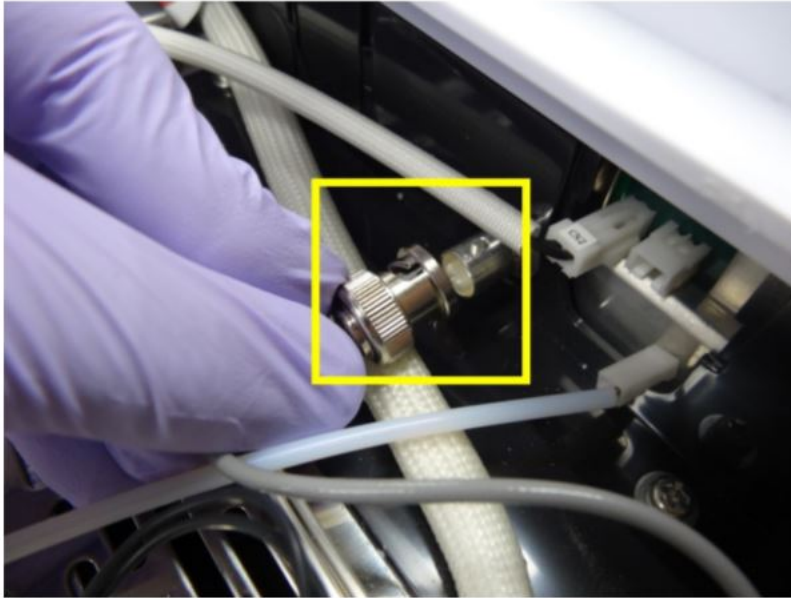
- b. Loosen but do not remove screw adjacent to collector mount plate.



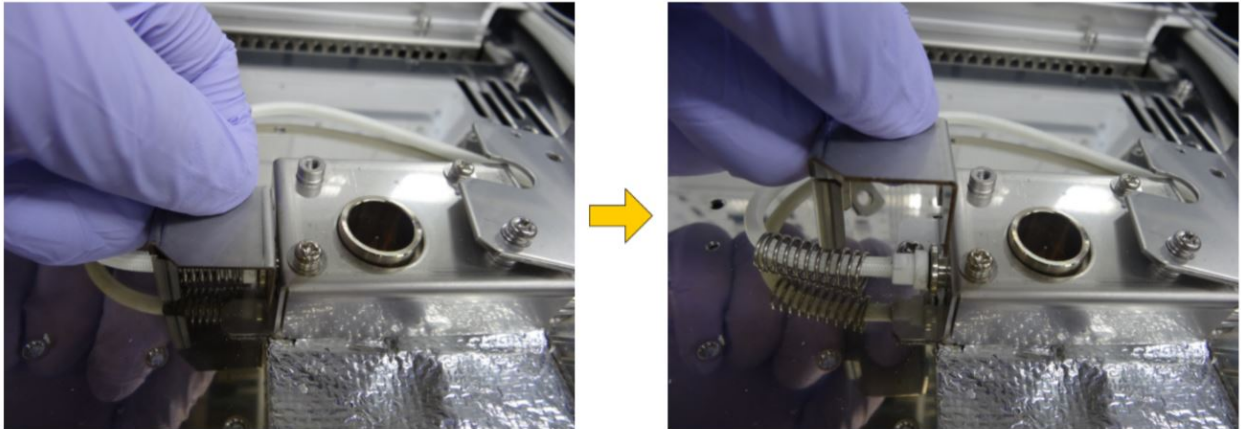
- c. Slide collector mount plate clockwise and remove collector by raising it.



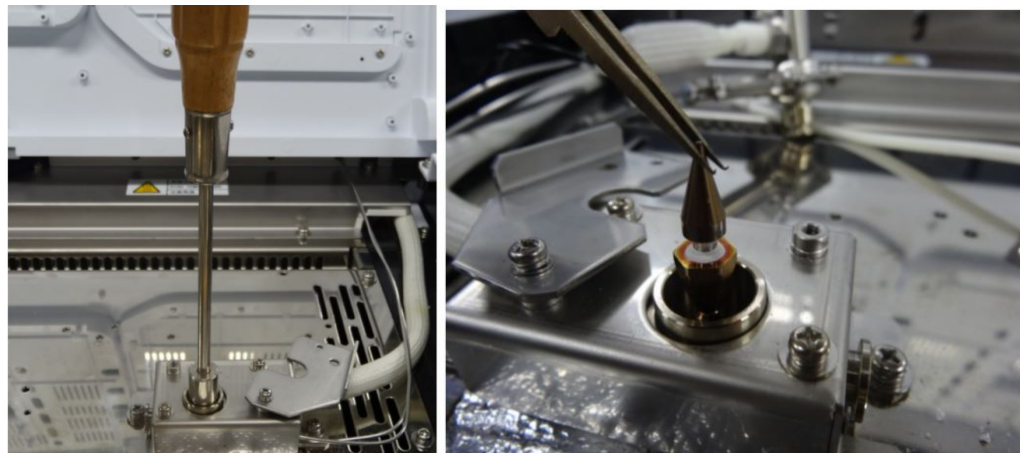
- d. Remove the BNC connector of the signal code.



- e. Raise sheet metal to access the high voltage electrode for removal. Be careful of the compressed spring.



- f. Once the high voltage cable is removed, loosen the existing FID jet with an 8mm deep well hexnut screwdriver and then remove this FID jet using a pair of tweezers.



**Note:** Do not apply an impact force to the jet as this will damage the quartz section.

**Note:** After removing the jet, inspect the FID assembly for debris. Use compressed air to clean as necessary.

7. Install and hand tighten the Shimadzu Jetanizer with a hexnut driver. Tighten until securely fixed in place, but do not over-tighten.  
**Note:** Do not install any other version of the Jetanizer as this will not complete the proper circuitry required for a signal in Shimadzu FID.  
**Note:** 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.  
**Warning:** Overtightening could cause damage to the Jetanizer or the FID assembly.
8. Re-install the remaining components in reverse order of assembly and then close the INJ/DET cover.
9. Re-install the column into the FID using a graphite ferrule. The column insertion length for is 45 mm.  
**Note:** The ferrule setting jig for the FID should not be used as the column insertion depth for the jetanizer is different from that of a standard FID jet.
10. Turn on the GC main power. Set FID temperature to 40°C and ensure that column flows are set correctly. Then use the keypad and select “Start GC”. To confirm the column flow, attach a Shimadzu FID Flow Measurement jig (P/N S221-81209) to the top of the Jetanizer and measure the column flow using a bubble flowmeter or electronic flowmeter .
11. Set the FID hydrogen setpoint to 32 mL/min, the air setpoint to 250 mL/min and the FID makeup gas setpoint to 24 mL/min.
12. Set the FID temperature to 100 C.
13. Set the FID flame to “ON.” Wait for GC to display “FID ignited” or “FID Lit”.  
Heat the FID to 450 °C for one hour to bake out the Jetanizer.  
**Note:** Only bakeout at 450 °C if FID is part of a GC-2030, FID-2030 model. This jetanizer is not compatible with other Shimadzu Gas Chromatographs.
14. Set the Jetanizer temperature to the operating temperature of 400 °C.

## Operation Instructions

1. Avoid heating the Jetanizer above 100 C without carrier gas and FID hydrogen flowing.  
**Tip:** The FID must be lit to have hydrogen gas flowing. To prevent damage to the system, do not light the FID below 100 C.
2. Operate the Jetanizer with 32 mL/min of hydrogen (measured directly from the FID), 250 mL/min of air, and 24 mL/min of makeup gas at an FID temperature of 400 °C.
3. Avoid excessive cycling of the FID temperature to prevent premature failure of the sealing surface.
4. 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.

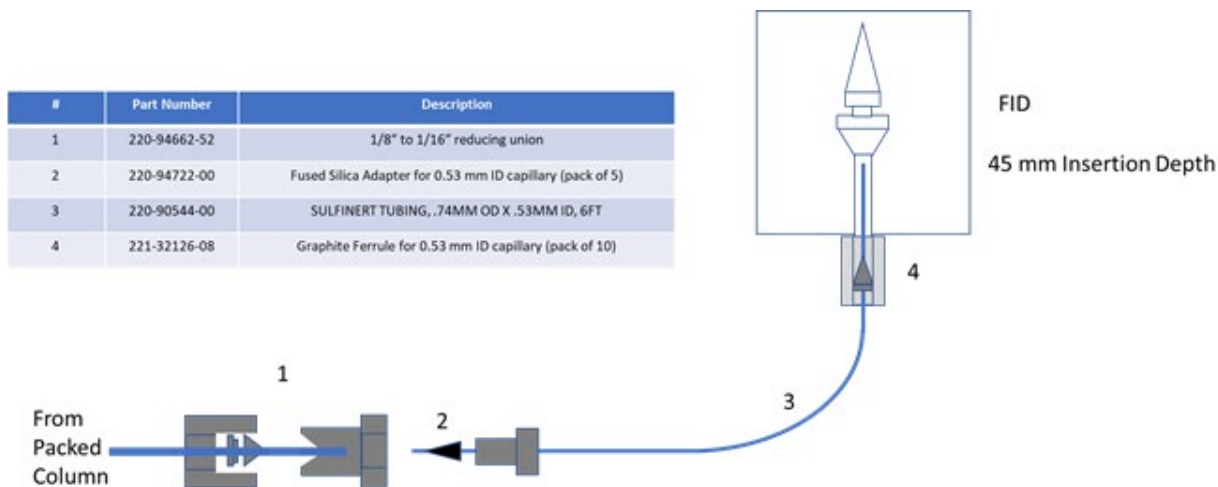
### Shimadzu Installation Tools

Part Number	Description
086-11002-00	#2 Phillips screwdriver
670-18800-00	Nut Driver, 8mm deep set
086-16101-00	Tweezers
086-03011-00	Open ended 10mm and 12mm wrench

### Shimadzu Recommendations for Column Installation

It is recommended that the column is not directly installed into the FID to avoid damaging the end of the column. Additional fittings will be required to connect packed columns into the Jetanizer. The below diagrams display a few recommended connection schemes for various column types that can be connected:

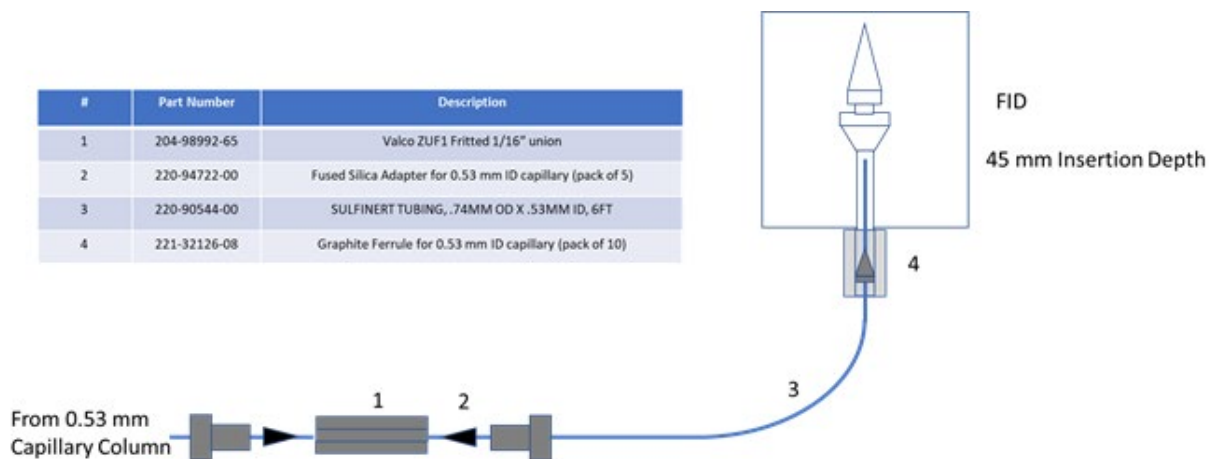
#### 1/8" SS Packed Columns



#### 0.53 mm Capillary and 1/16" packed\* Columns



#	Part Number	Description
1	204-98992-65	Valco ZUF1 Fritted 1/16" union
2	220-94722-00	Fused Silica Adapter for 0.53 mm ID capillary (pack of 5)
3	220-90544-00	SULFINERT TUBING, .74MM OD X .53MM ID, 6FT
4	221-32126-08	Graphite Ferrule for 0.53 mm ID capillary (pack of 10)



\* for 1/16" columns use 1/16" metal ferrule provided with 204-98992-65 in place of the fused silica adapter (220-94722-00) on the column side.

### 0.32 mm Capillary Columns

#	Part Number	Description
1	220-94871-83	Fused Silica Adapter for 0.32 mm ID capillary (pack of 5)
2	204-98992-65	Valco ZUF1 Fritted 1/16" union
3	220-94722-00	Fused Silica Adapter for 0.53 mm ID capillary (pack of 5)
4	220-90544-01	SULFINERT TUBING, 0.56mm OD x 0.28mm ID, 6FT
5	221-32126-08	Graphite Ferrule for 0.53 mm ID capillary (pack of 10)

