

Model 355 FID Adapter - Instructions (DIN 11000) for HP 5890 and 6890 GCs

Accessory G6600-60007

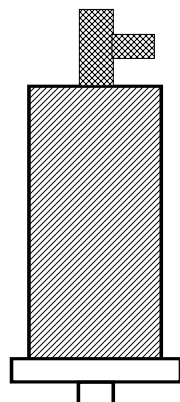
Installing the Model 355 FID Adapter on burners purchased before August 1995

The Model 355 FID Adapter attaches to the base of the Model 355 burner assembly by means of a 1/4" Swagelok nut and ferrule connection as shown in the picture below.

1. Place the HP 5890 collector nut and spring washer over the FID Adapter.
2. Connect the FID Adapter to the base of the Model 355 burner using the 1/4" Swagelok nut and ferrule.
3. Insert the FID adapter into the FID in place of the normal HP FID castle.



Assembly Diagram Pre-August 1995 Burners



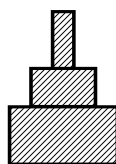
Model 355 Burner Assembly



1/4" Swagelok Nut and Ferrules



FID Collector Nut and Spring Washer
(HP Part No. 19231-20940)



Model 355 FID Adapter

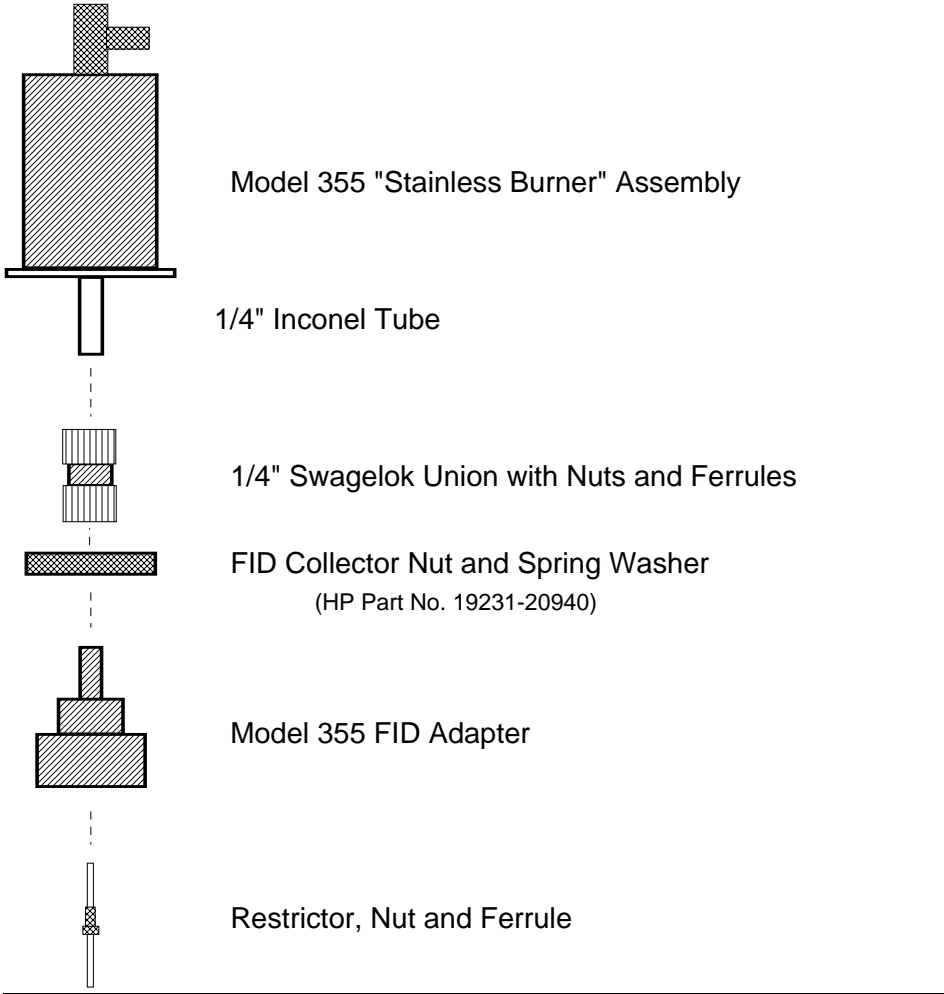


Restrictor, Nut and Ferrule

Installing the Model 355 FID Adapter on the "Stainless Burner" (Introduced August 1995)

The Model 355 FID Adapter attaches to the base of the Model 355 burner assembly by means of a 1/4" Swagelok union as shown in the picture below.

Assembly Diagram "Stainless Burner"



Operating the FID Adapter with the Model 355 SCD

1. Set up the FID with normal flow rates (about 30 mL/min H₂; 350-400 mL/min).
2. Insert the FID adapter in place of the FID castle.
3. Turn on the Model 355 following the directions in the manual.

Note

Air should be set at only 3-8 mL/min instead of the usual 20-40 mL/min, since the FID will serve as a source of oxygen)

4. Turn on the FID detector gases and ignite the FID.

Notes

FID Flame Ignition

Igniting the FID may be more difficult than usual because the restrictor is located near the ignitor. It may be necessary to momentarily increase hydrogen flow rate and/or lower air flow rate in order to ignite the flame easily. Alternatively, use of a butane lighter has been found to facilitate flame ignition.

Column Bleed

Although this adapter/burner combination should be able to withstand higher column bleeds than usual, silicon dioxide particles originating from column bleed can still plug the restrictor and cause loss in sensitivity. If this occurs, pressure on the 355 control box will drop, e.g., from 225 Torr to 175 Torr. If this happens, it will be necessary to change the restrictor or unplug it with a fine cleaning wire, such as those used for cleaning syringe needles. Therefore, it is still desirable to minimize column bleed by using low bleed columns, using final column temperatures as low as possible for a given analysis, and making sure that carrier gas is free of water and oxygen and other foreign materials that promote column degradation and bleed.

SCD Sensitivity

Approximately 10% of the FID exhaust gases are drawn into the Model 355 burner through the restrictor. Therefore, one should expect around 10% of the signal that one would obtain if all of the column effluent went to the detector. Nevertheless, the sulfur signal should be approximately the same as that of a Model 350 SCD, i.e., a MDL around 5 pg S/s.

Potential difficulties: High levels of water can affect the performance of the SCD. Apparently, water can condense or chemisorb in the restrictor and react with SO₂ in the FID exhaust to form sulfurous acid. Since the acid is non-volatile no response will be seen from the sulfur compound. It is important to prevent water from condensing or chemisorbing on the restrictor. This is accomplished by operating the FID at 250°C or higher.

Caution

The outer temperature of the burner is around 200°C. When being operated do not touch the burner without using proper hand protection.

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