

## Hydrostik Hydrogen Fuel Cylinder Installation Instructions

### **Introduction**

Hydrostik™ is a metal hydride hydrogen fuel cylinder that is used as a source of hydrogen gas in a DataFID™ or MicroFID II™. Hydrostik releases hydrogen at low pressure to support up to ten hours of instrument operation.

The following installation instructions are provided:

- ◆ attaching Hydrostik to the Hydrostik adapter
- ◆ filling Hydrostik using a high-pressure hydrogen tank
- ◆ installing Hydrostik adapter assembly into a DataFID or MicroFID II

**NOTE:** These procedures are applicable to both DataFID and MicroFID II.

### **Hydrostik Related Parts**

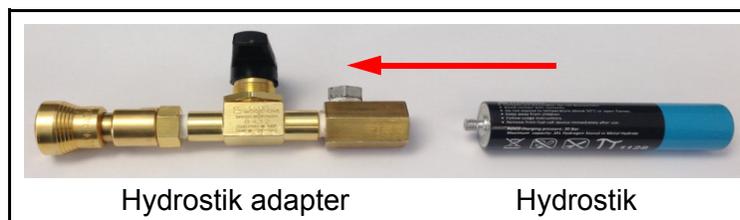
- ◆ Hydrostik (PN ISP-951-402-P1 or PN ISP-951-402-P2)
- ◆ Hydrostik Adapter (PN 951-205-G1)
- ◆ Foam Insert (PN ISP-951-202-G1)

### **Attach Hydrostik to the Hydrostik Adapter**

**NOTE:** In order to fill Hydrostik with hydrogen, it must be attached to the Hydrostik adapter.

Insert the threaded end of Hydrostik into the Hydrostik adapter and screw Hydrostik clockwise until tight (Figure 1).

*Figure 1 Attaching Hydrostik to the Hydrostik Adapter*



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### Fill Hydrostik with Hydrogen

Hydrostik must be filled with hydrogen before it is connected to either DataFID or MicroFID II. Once filled with hydrogen, Hydrostik (with Hydrostik Adapter) can be installed into the DataFID or MicroFID II through a Swagelok® connection.

#### Tools Required

- ♦ 1 1/18" open-ended wrench, for CGA350 fitting

**NOTE:** If using an international version of the filling station, the wrench size will depend on the fitting from the filling station to the hydrogen supply tank.

#### Procedure



#### WARNING

Do not fill Hydrostik in a hazardous location.



#### WARNING

Use only Hydrogen Fill Station PN A1201222 to fill Hydrostik.



#### WARNING

The regulator pressure on the Hydrogen Fill Station is preset at the factory to 250 PSI. *Do not change this setting.*



#### WARNING

Handle the high pressure hydrogen supply tank with extreme caution.



#### WARNING

Before using the hydrogen fill station, make sure that the fitting connecting the hydrogen supply tank has been leak-checked.

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## Installation Instructions



### WARNING

**Do not use an open flame to test for leaks!**

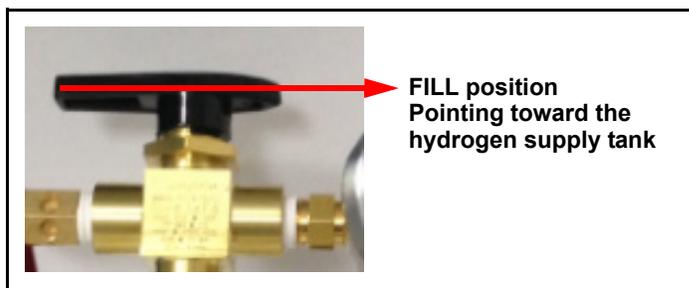
- 1 Connect the hydrogen fill station to the hydrogen supply tank with the fill station 3-way valve in the **OFF** position, pointing towards the user ([Figure 2](#)).

*Figure 2 Connecting hydrogen fill station to hydrogen supply tank, OFF position*



- 2 Tighten the hydrogen fill station fitting counter-clockwise onto the hydrogen supply tank using an open-ended wrench. Do not over tighten.
- 3 Rotate the hydrogen fill station output valve to the **FILL** position, pointing toward the hydrogen supply tank ([Figure 3](#)).

*Figure 3 Output valve fill position*

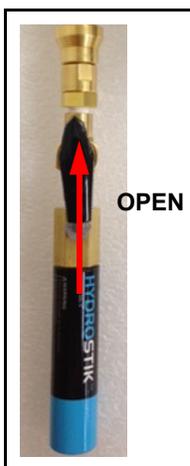


## Hydrostik Hydrogen Fuel Cylinder

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- 4 Attach the Hydrostik adapter assembly to the hydrogen fill station by firmly pushing the adapter assembly up onto the hydrogen fill station until a click is heard. Gently pull down on the Hydrostik adapter assembly to ensure it is properly seated.
- 5 Rotate the Hydrostik adapter valve to the **OPEN**, or vertical position as shown (Figure 4).

Figure 4 Hydrostik adapter valve OPEN position



- 6 Open the valve on the hydrogen supply tank at least one full turn.
- 7 Let Hydrostik fill with hydrogen for one hour.



### CAUTION

**Hydrostik will become warm during the filling process. When Hydrostik is full, it will cool down to ambient temperature.**

**NOTE:** A partially filled Hydrostik will take less time to fill.

- 8 When the filling cycle is complete, close the valve on the hydrogen supply tank.
- 9 Rotate the hydrogen fill station output valve to **VENT** position (Figure 5), pointing away from the hydrogen supply tank.

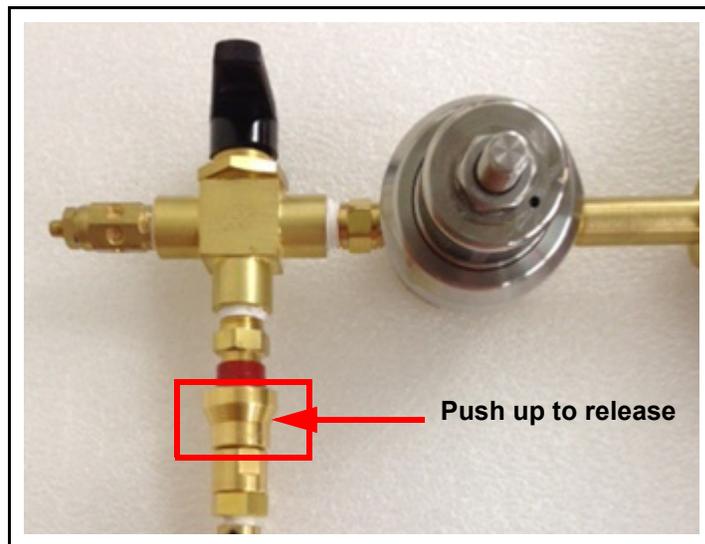
Figure 5 Hydrogen fill station VENT position



## Hydrostik Hydrogen Fuel Cylinder Installation Instructions

- 10** Wait five seconds, then turn the filling station valve to the **OFF** position (Figure 2).  
**NOTE:** Hydrostik will be cool to the touch when it is removed from the hydrogen fill station.
- 11** Disconnect the Hydrostik adapter assembly from the fill station by pushing up on the Hydrostik adapter quick connect (Figure 6) to release it. Pull the entire assembly down to remove from the fill station.

Figure 6 Remove Hydrostik adapter assembly from hydrogen fill station



# Hydrostik Hydrogen Fuel Cylinder

## Installation Instructions

### ***Install the Filled Hydrostik into the FID***

The Hydrostik adapter assembly is ready to be installed and used to fuel the flame in a DataFID or MicroFID II.

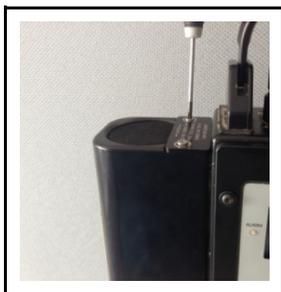
#### ***Tools Required***

- ◆ Phillips #1 screwdriver

#### ***Procedure***

- 1** Remove the hydrogen fuel cylinder retention plate from the DataFID or MicroFID II by unscrewing both captive screws on top ([Figure 7](#)).

*Figure 7 Remove hydrogen fuel cylinder retention plate*



- 2** Insert Hydrostik adapter assembly into the hydrogen fuel cylinder holder ([Figure 8](#)) with the Hydrostik adapter valve in the **OPEN** position.

*Figure 8 Insert Hydrostik into cylinder holder*



## Hydrostik Hydrogen Fuel Cylinder Installation Instructions

- 3 Guide the Hydrostik adapter assembly through the hydrogen cylinder holder and push onto the hydrogen fuel inlet until a “click” is heard.

*Figure 9 Guide Hydrostik into fuel inlet and put into CLOSED position.*



- 4 Turn the Hydrostik adapter valve to the **CLOSED**, or horizontal, position until the instrument is ready for use (Figure 9).

- 5 Place the foam insert over the end of Hydrostik (Figure 10).

*Figure 10 Place foam insert over Hydrostik*



- 6 Replace the hydrogen fuel cylinder retention plate and secure it with two captive screws (Figure 11).

*Figure 11 Replace the hydrogen fuel cylinder retention plate*

