

**POLARIS FID**

**Hydrogen recharge procedure**





Polaris FID accepts hydrogen up to a pressure of about 12 bar maximum: it is therefore necessary to vent a small part of the hydrogen contained in the cartridge before using it.



**WARNING:**

Connecting Polaris FID to the cartridge which is at a pressure higher than 12 bar, it irretrievably damage the instrument. So be sure to ALWAYS DEPRESSURIZE THE CARTRIDGE AFTER THE RECHARGING PROCEDURE, unless the filling recharge carried out at pressures below 12 bar.

**Depressurization of the accumulator up to the working pressure**

1. Depressurize the H<sub>2</sub> cartridge using the same quick connector, pipeline and pressure regulator used during the recharging procedure.
2. Close the valve of the big hydrogen tank and release also the valve of the pressure regulator.
3. Connect the entire hydrogen system to the refilled hydrogen cartridge. The pressure gauge of the pressure regulator now shows the pressure used during the recharging procedure (for example 20 bar).
4. Disconnect the quick connector from the cartridge and vent the line until the manometer shows 0 bar.
5. Connect again the line to the cartridge. Observe the pressure indicated by the pressure gauge: if greater than 12 bar, continue to vent, otherwise the procedure of the depressurization is finished.
6. Repeat the procedure until the pressure is below 12 bar.
7. Disconnect the hydrogen cartridge: It is ready to use!



**NOTE**

The venting procedure does not release substantial quantities of hydrogen as it is chemically bonded to the sponge of hydrides contained inside the cartridge: this means that there are not significant improvements of the cartridge working hours with higher residual pressures. In any case, the accumulator release the gases at constant pressure and flow and depends only on the ambient temperature. Only when the hydrogen inside the sponge is almost finished there is a pressure drop.