

# Frequently Asked Questions

## MicroFID Flame Ionization Monitor

### What compounds can I detect using the MicroFID flame ionization monitor?

In general, any volatile organic compound (VOC) with the following properties is detected by the MicroFID:

- Boiling point <185 degrees C
- Vapor pressure > 1 mm Hg
- Ionization potential from 8.0 eV to 15.4 eV

For a listing of compounds detected by the MicroFID, please refer to Technical Tip Volume 7 Number 1. Please note this Technical Tip also provides ionization potential data for each compound. (Learn more...Technical Tip Volume 7 Number 1)

### How do I calibrate the MicroFID?

Please refer to Photovac's Technical Tip titled 'MicroFID Flame Ionization Monitor Operational Reference Guide' for a walk-through of the MicroFID calibration procedure. (Learn more...Technical Tip Volume 3 Number 1)

### How often should I calibrate?

The recommended calibration interval for the MicroFID is every eight hours of operation

### What gas do I use to calibrate the MicroFID?

Methane at a concentration of 500 PPM in a balance of ultra zero air is recommended for MicroFID span calibration. A cylinder of 500 PPM methane calibration gas (part number MX396028) can be purchased from Photovac, Inc. Please contact Customer Service at 781 290 0777 to place an order.

### How often should I replace the sample inlet filter?

Photovac recommends that the 0.1 micron filter (part number MX396015) on the MicroFID inlet is changed every forty hours of typical use. During the first few days of operation the filter should be checked every eight hours of use to determine how quickly the filter becomes dirty or clogged. In dusty environments or when sampling very high concentrations, it may be necessary to check the filter more often. If water or other liquids are aspirated, the filter should be changed immediately.

### What grade of hydrogen should be used in the MicroFID?

Hydrogen used to fuel the flame ionization detector in the MicroFID must be ultra high purity hydrogen, 99.999% pure. This grade of hydrogen is also referred to as Grade 5. The hydrogen must have less than 1 PPM hydrocarbon contamination.

You can obtain hydrogen in various size cylinders. Regardless of the cylinder size, the cylinder must have a fill pressure of at least 1800 psig in order to completely fill the MicroFID internal cylinder. The tank should have no more than 2400 psig. The hydrogen cylinder must also have CGA 350, male outlet for connection to the MicroFID refill adapter (part number MX396004).

Please note: The refill adapter is shipped as standard equipment with the instrument. You cannot fill the internal MicroFID hydrogen tank without the refill adapter.

### Can I store the MicroFID with hydrogen in the internal tank?

The MicroFID should not be stored in its carrying case (part number MX396007), in its original shipping container or any container which is unventilated if the MicroFID is FULLY OR PARTIALLY CHARGED WITH HYDROGEN GAS. MicroFIDs and all portable flame ionization instruments should always be stored in a well-ventilated area when charged with hydrogen. For further details on hydrogen safety, please refer to Technical Tip Volume 3, Number 5. (Learn more...Technical Tip Volume 3, Number 5)

### Does the MicroFID hydrogen tank need to be emptied for shipment? How do I empty the tank?

It is illegal under US Department of Transportation regulations to ship the MicroFID with hydrogen in the internal tank. Instructions for emptying the internal hydrogen tank prior to shipment can be found in Section 5.2 in the MicroFID User's Manual.

Hydrogen should be transported separately in an appropriate cylinder accompanied by a properly completed Shipper's Declaration form. Consult your shipping company for complete instructions.

### What is a response factor?

A response factor is a correction factor that normalizes the MicroFID's response to a single compound. Since any flame ionization detector can be more or less sensitive to a single compound, the response factor is used to normalize that unique response relative to methane.

Please note: Response factors should only be used where the instrument operator is certain that only a single compound is present. If multiple compounds are present, the response factor should always be set to 1.0.

Since every manufacturer's detector design is unique, response factors from other manufacturers or other Photovac instruments must not be used with the MicroFID. Please refer to Technical Tip Volume 3, Number 2 for a complete listing of the response factors developed for the MicroFID. (Learn more...Technical Tip Volume 3, Number 2)

### What if no RF is listed for my compound of interest?

If no response factor is listed for a particular compound, Photovac has not developed a response factor of that compound. In this case you can develop your own response factor. Please refer to Technical Tip Volume 7, Number 5 for the procedure to determine a response factor. (Learn more...Technical Tip Volume 7, Number 5)

### How can I download data from my MicroFID?

The data stored in your MicroFID datalogger can be downloaded to a PC for archiving and editing. When downloading data to a PC, Terminal emulation software must be used. One such available package is Microsoft Windows HyperTerminal. Instructions for downloading logged data into Windows are outlined in Technical Tips. Please select the Windows operating system below that you are currently using for the appropriate Technical Tip.

### The instrument is locked in "Detector Cooling, Please Wait". What should I do?

The message "Detector Cooling, Please Wait" is an indication that the MicroFID has flamed out but the detector chamber is too warm to allow a controlled restart of the flame. Turn off the MicroFID and wait 5 minutes. Try to restart the detector following the instructions in the MicroFID user's manual. If the MicroFID does not restart, perform a cold start on the MicroFID. Please refer to Technical Tip Volume 7, Number 6 for further details on the cold start procedure. (Learn more...Technical Tip Volume 7, Number 6)

### How often does the brass frit need to be replaced?

The brass frit on the MicroFID should be replaced every twelve months. More frequent replacement may be necessary if humid samples are monitored on a regular basis.