

# Medical Cannabis Gas Chromatograph Configuration choices      November 2010

SRI can configure a gas chromatograph ( GC ) in hundreds of ways to perform almost any analysis.

Four common configurations have become popular for measuring medical cannabis. All four configurations include a vial heater to thermostat the THC extract to 50C for improved accuracy. The vial heater is shown on the SRI 8610C GC in the photos at right.

## Configuration #1

**SRI part# 8610-0090    \$11,749.00**  
**Gas-less Potency Configuration**

This GC is configured with a TID ( thermionic ionization detector ) which can operate without any gases except common room air. A built-in air compressor provides carrier gas so no gas cylinders are required. Only AC power and a Windows computer is required for operation making this GC configuration ideal for mobile labs, for remote locations or for customers with no prior experience in GC operation. Analysis time is less than 5 minutes to determine, CBD, THC and CBN in plant, oil or edible samples.

*Request a detailed quote from SRI showing all items included in this GC configuration*



**TID sensor  
runs on air  
only**

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## Configuration #2

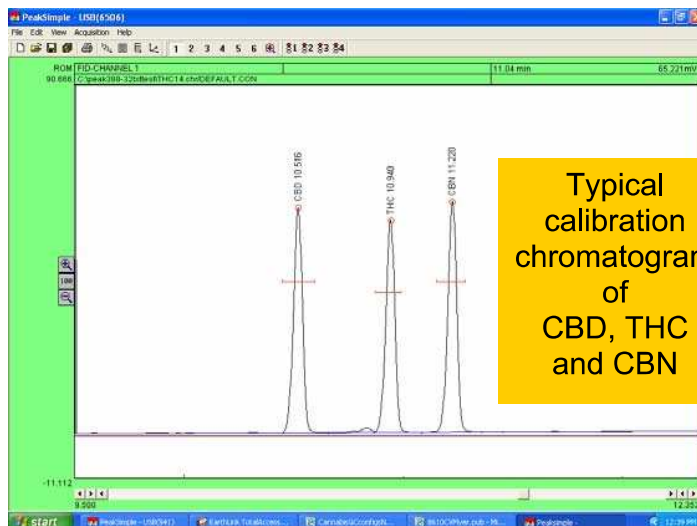
### FID Detector based

### Potency Configuration

Part# 8610-0091 \$10,618.00

This GC configuration includes an FID ( flame ionization detector ) which requires hydrogen gas to operate. Because hydrogen is used as a carrier gas, higher resolution is possible when measuring the CBD, THC and CBN molecules in cannabis. A photo of a typical hydrogen gas cylinder is shown at right. This GC configuration is appropriate for users with prior GC experience, for those who want to be equipped with industry standard hardware, or for those who may later wish to add the extra hardware required to measure the pesticide content of cannabis. Run times can be as short as 3-4 minutes.

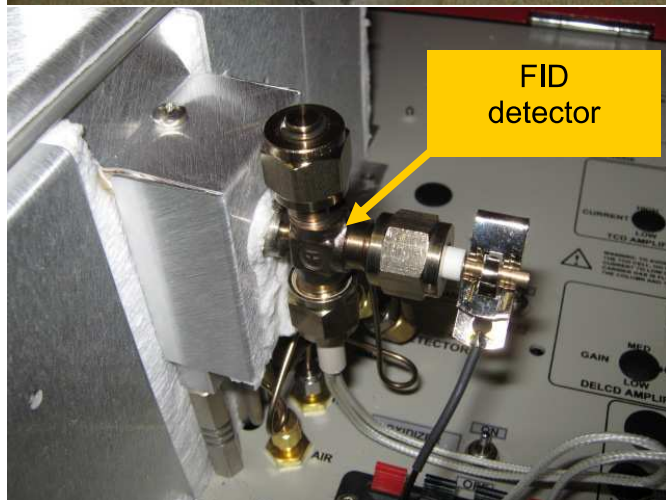
User's will need a hydrogen cylinder, Windows computer and AC power.



Typical calibration chromatogram of CBD, THC and CBN



Hydrogen Gas cylinder



FID detector

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### Configuration #3

**Potency test with FID detector  
and Autosampler**

**Part#8610-0093            \$22,617.00**

This GC configuration is appropriate for user's who have higher numbers of samples per day to analyze for CBD, THC and CBN. The autosampler accommodates 28 of the 40milliliter extraction vials so users do not have to transfer the THC extract from the extraction vial to a smaller autosampler vial thus saving an expensive and time consuming step. The autosampler makes it practical to take 2-3 samples from the same vial and average the results, leading to increased accuracy. The autosampler lets the user walk away or operate overnight. This configuration is appropriate for users with prior GC experience and who have or anticipate a high sample volume. This configuration is not as portable as Configurations #1 or #2 since it is physically larger and the autosampler must be removed from the GC prior to transport.





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## **Configuration #4 Potency plus Pesticides GC configuration Part# 8610-0092        \$22,700.00**

This GC configuration permits two separate analyses which can be run simultaneously. The first analysis is for potency ( CBD, THC and CBN ) using a FID detector. The second analysis is for pesticides in cannabis using dual detectors. The NPD ( nitrogen phosphorus detector ) measures organo-phosphorus pesticides ( Malathion ) and many of the carbamate pesticides ( Sevin ). The DELCD ( dry electrolytic conductivity detector ) measures organo-chlorine pesticides like Dursban, DDT, and Endrin.

The photos at right show the three columns, three detectors and dual injectors which make this possible.

This GC configuration is appropriate for users with prior GC experience since the pesticide screen is more complex than the potency test. It should be understood that while 90% of all pesticides can be detected with this GC configuration, it is not possible to measure every possible pesticide since there are hundreds of pesticide molecules in a variety of chemical classes. It does allow the user to screen for most common pesticides in a very cost effective ( less than 25 cents per analysis ) manner using only .1 grams of sample.

