

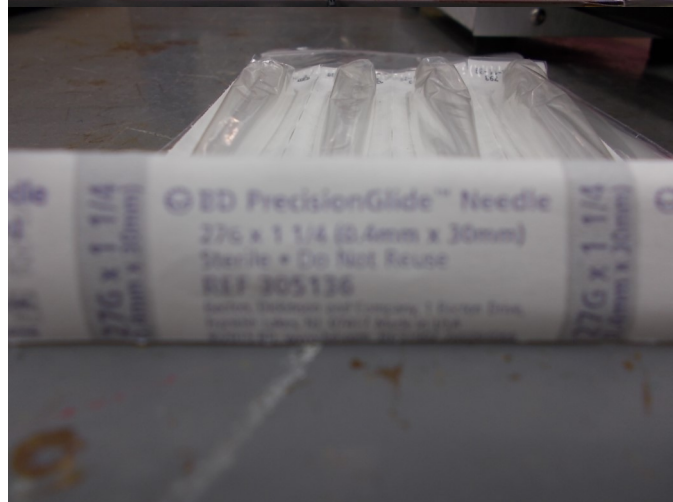
# Greenhouse Gas 10 position Autosampler

May 2021

The GreenHouseGas 10 position Autosampler ( SRI part# 8690-0047 ) comes with:

- 1) Ten 40ml septum vials
- 2) Ten 27 gage Luer-Lok syringe needles BD part# 305136
- 3) AS to GC interface cable
- 4) AS control box
- 5) 24voltDC power supply
- 6) Extra Valco nuts and ferrules

Inside the box is an array of ten vertically mounted needles to puncture the top of the 40ml sample vial.



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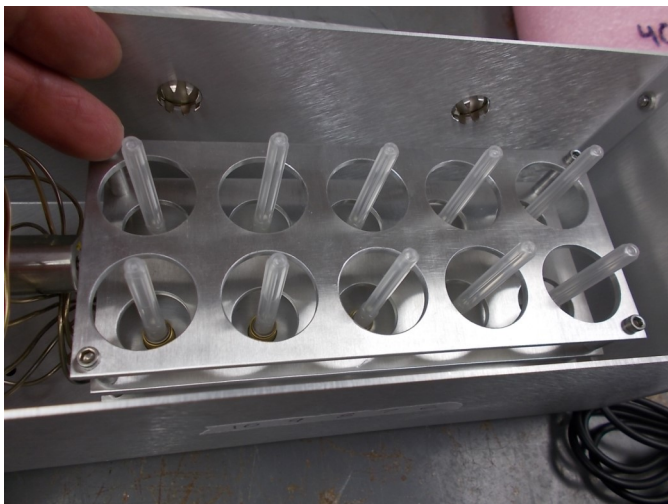
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Install the needles on the vertically oriented Luer-Lok fittings using the needle cover as a wrench. Push down and turn clockwise until you feel a firm connection.

Leave the cover on each needle until you have finished installing all ten needles to protect against getting stabbed accidentally



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The sample vial can be a 40ml septum vial as shown or any other type of septum vial.

Carefully guide the septum vial down onto the upright 27gauge needle. The guide hole is designed for 40ml vials, so if you use smaller vials it may make sense to cut smaller holes in cardboard and paste over the top panel so the smaller vials have some support side to side.

Connect the 24 voltDC power supply to the valve actuator.



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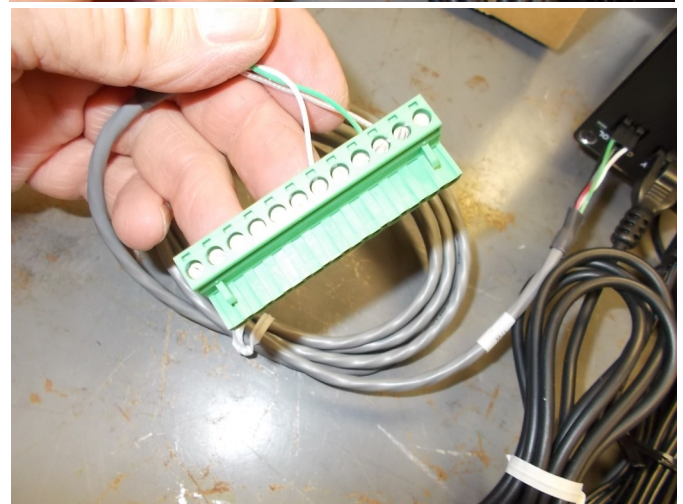
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Connect the control box and the AS to GC interface cable to the back of the actuator.



The interface cable plugs into the right side of the SRI 8610C GC



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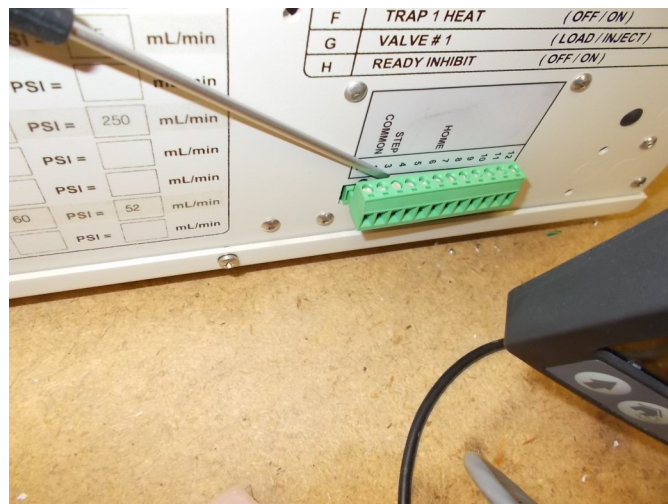
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If there is already a blank plug in the jack, use a small screwdriver to pry the plug loose.

Insert the AS plug firmly. It needs to be pushed in as far as it will go to make good contact.

Connect a 1/16" tube from the outlet of the AS to the GC's sample inlet fitting.



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Connect the other end of the 1/16" tube to the sample loop inlet of the GC.

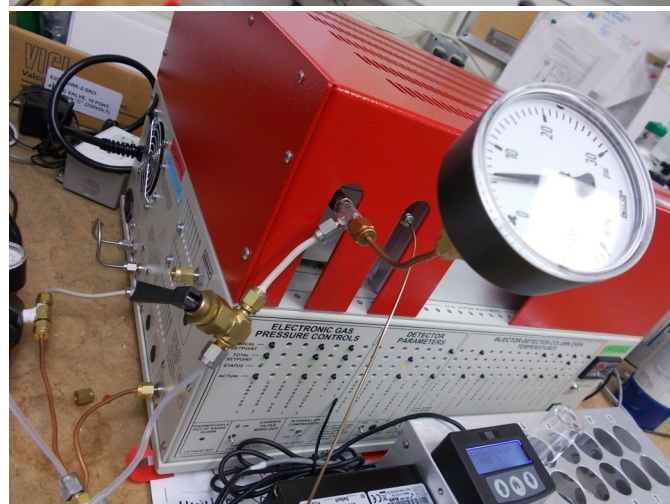
The vials have to be pressurized so that they self-empty themselves through the loop of the gas sampling valve in the GC when selected by the AS.

One convenient method of pressurizing the vials is to connect a toggle valve, pressure regulator and gauge to the other sample inlet.

The AS is then cycled through all ten positions pressurizing all ten vials to the same pressure. This way avoids poking two holes in the septum since the vials are already impaled on the needle.

The Event table shows how Relay A is turned on and off to cycle through 3 positions. Then Relay B is turned on, then off to return the AS to position 1.

Make an Event table with ten positions to cycle through all the 10 vials. Or you can manually advance the AS using the control box or by clicking View/Relay Pump windows and actuating Relay A and B with your mouse.



Channel 1 events

C:\Peak490w\m10CannabisVGGAS.evt

Time	Event
0.000	A ON (Move AS one position)
0.100	A ON (Move AS one position)
0.200	A OFF (Move AS one position)
0.400	A OFF (Move AS one position)
0.500	A ON (Move AS one position)
0.600	A OFF (Move AS one position)
0.700	B ON (Move AS back to position 1)
0.800	B OFF (Move AS back to position 1)

Add... Change... Remove Describe...  
Load... Save... Clear Print  
OK Shift...



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To run the 10 vials there are two methods.

The simple method is to click the “Restart run” box in the Postrun screen and then specify the number of repeats ( typically 9 ).

The Event table would look like this.

At .1minutes Relay A is activated advancing the AS one position. As soon as the AS advances, the pressurized contents of the 40ml vial self-exhausts through the loop of the gas sampling valve ( GSV )in the GC. After a few more seconds Relay G rotates the GSV, injecting the loop contents into the GC column.

Channel 1 post-run actions

Save file as: SiliconeFID11.CHR  Auto-increment  
 Or use list of filenames: List

Save results:  Use data file name  
 Use fixed file name:

Add to results log: CH1.LOG  
 Print results  Update DDE link  Save picture

Execute:

Restart run after: 0.10 minutes 0 times total (0 remaining)  
 Recalibrate at level: 1  Save results file to FTP site  
 Smooth first  Save data file to FTP site  
 Copy data to channel: 2  
 Add to 3D display  
 Generate signature  
 Match signatures

Email  
 No  
 On alarm condition  
 Always

OK Cancel

Channel 1 events

C:\Peak490Win10Cannabis\GGAS.evt

Time	Event
0.000	ZERO
0.100	A ON (Move AS one position)
0.200	A OFF (Move AS one position)
0.300	G ON (Valve1Rotate)

Add... Change... Remove Describe...  
Load... Save... Clear Print  
OK Shift...



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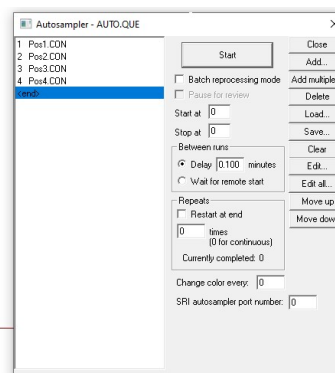
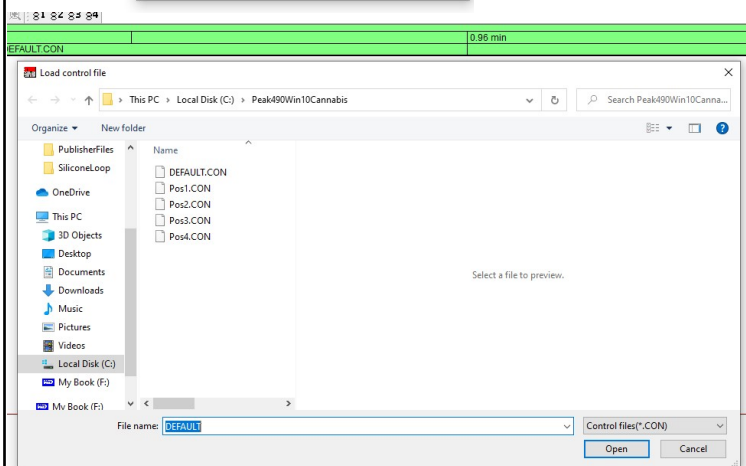
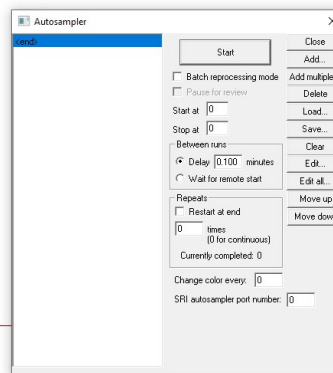
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The other way to operate the AS is to use the View/Autosampler screen.

The Autosampler Queue lets you load a sequence of Control Files. A control file remembers everything you set in PeakSimple, It remembers the name of the temperature program file, the event file the component table file etc.

Make 10 control files each with a unique name ( click File/save Control File ). You might name the control files Pos1, Pos2, Pos3, Pos4 etc as shown, but any name is OK.

Then using the “Add” button the the Autosampler Queue Window make a list of the control files. You can customize the control files any way that makes sense.



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