

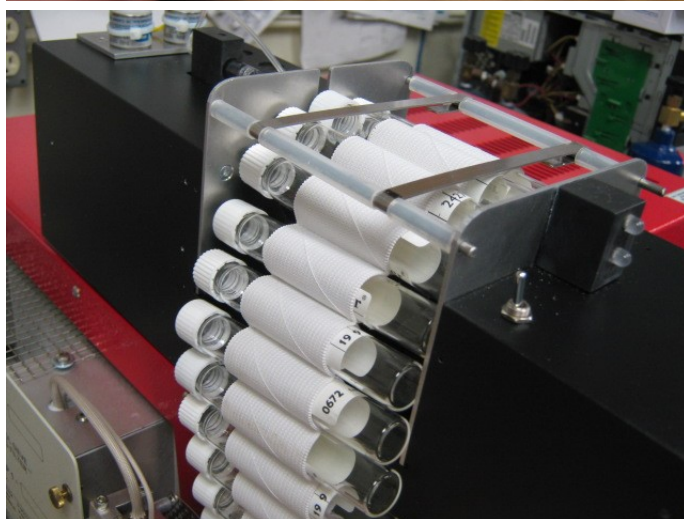
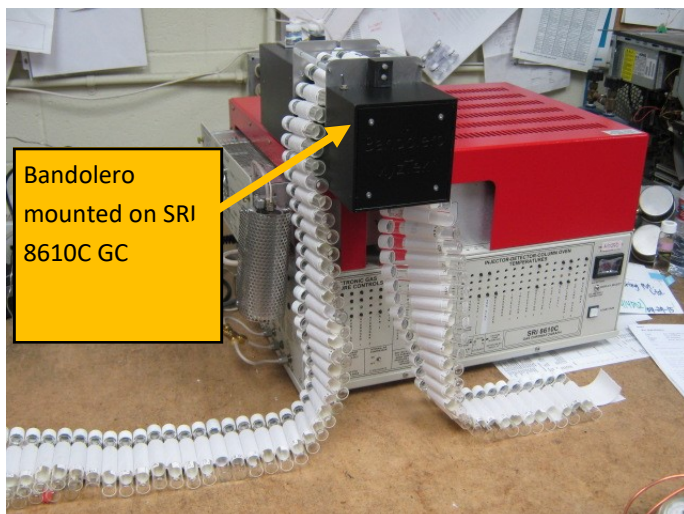
# Bandolero Autosampler

May 2023

The “Bandolero” autosampler for 12 ml Exetainer vials is a low cost solution for Greenhouse Gas applications and other gas samples.

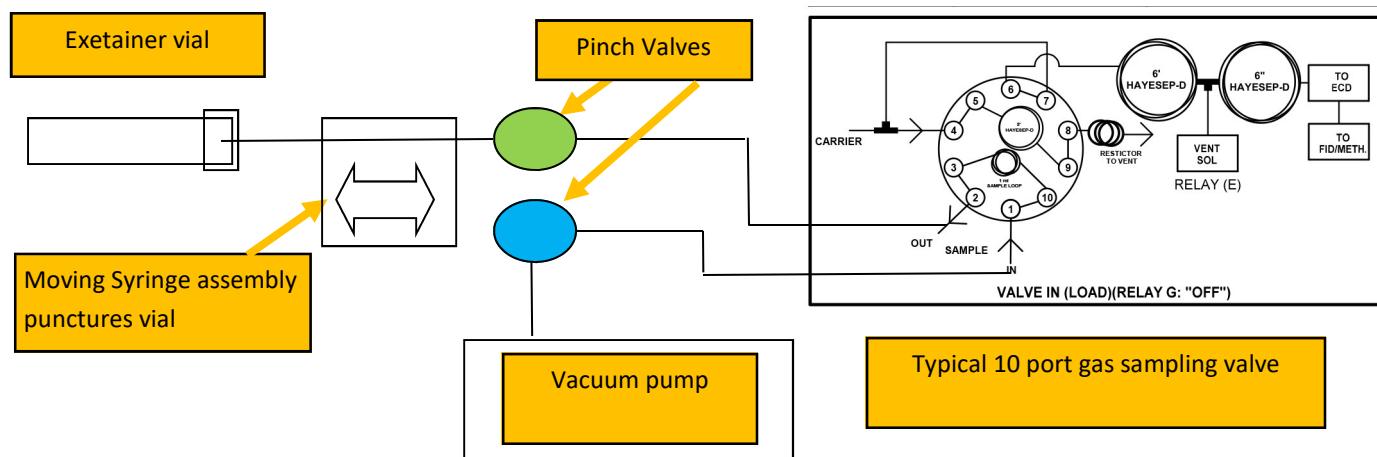
The 12ml Exetainer vial is widely used to collect samples in the field and costs about 90 cents.

The “Bandolero” comes with a 100 vial belt



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The “Bandolero” autosampler starts its cycle when the GC ready signal illuminates.

- 1) The Blue pinch valve opens to let the vacuum pump evacuate the sample loop.
- 2) The Blue valve closes leaving the loop under vacuum
- 3) The syringe punctures the vial.
- 4) The Green pinch valve opens allowing the sample to flow into the sample loop.
- 5) The syringe retracts, allowing ambient air to flow into the tubing connecting the syringe to the sample loop. The air does not reach the loop, but allows the loop to equilibrate to ambient pressure.
- 6) The 10 port valve injects the loop contents.

To order: Price as of May 2023. Price subject to change

8640-1000 “Bandolero” vial autosampler with 100 vial belt.      \$7495.

With universal 12volt power supply

If purchased with an SRI GC, there will be a power plug which can be controlled from the PeakSimple software into which you can plug any vacuum pump up to 200watts. The vacuum pump itself is not included.

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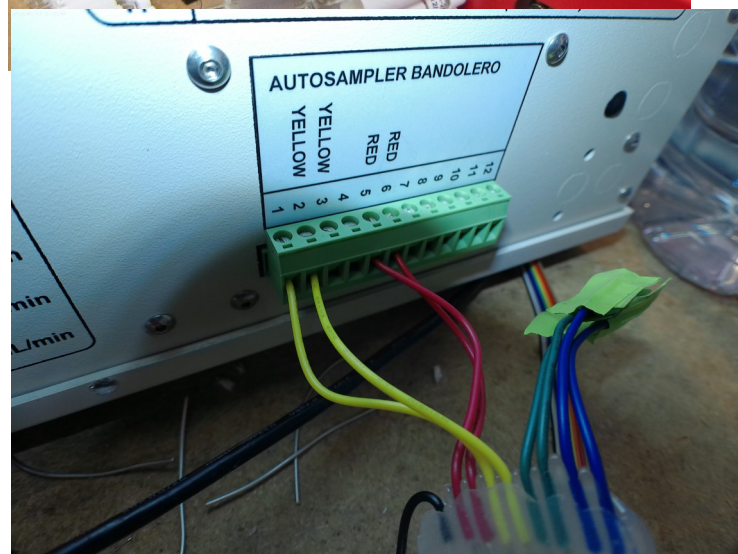
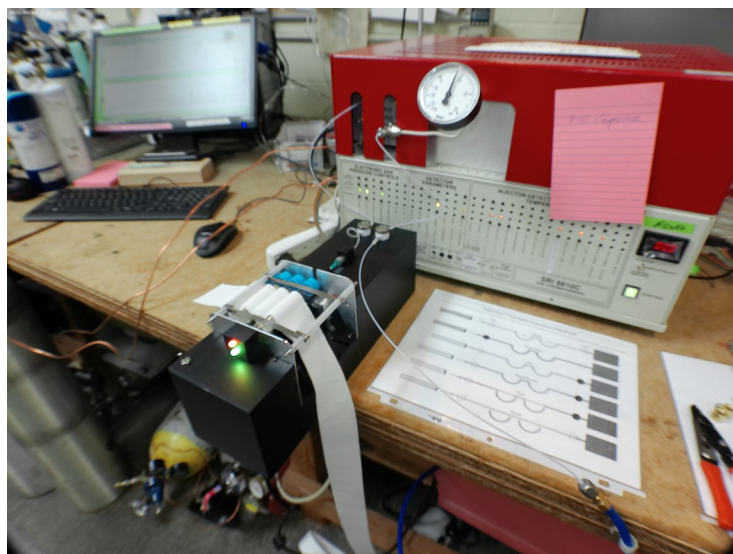
This photo shows the Bandolero connected to a SRI Greenhouse Gas GC. Exetainers are commonly used to collect gas samples in the field.

The Bandolero can mount anywhere the belt containing the Exetainers is free to travel.

The Bandolero interfaces to the GC with two sets of wires. The two yellow wires start the Bandolero cycle when the connection between the yellow wires is broken ( open contact ) not when the contact is closed.

The two red wires start the GC when the Bandolero equilibrates the loop contents.

Note that the yellow wire label on the GC is wrong, but the wires are connected correctly.

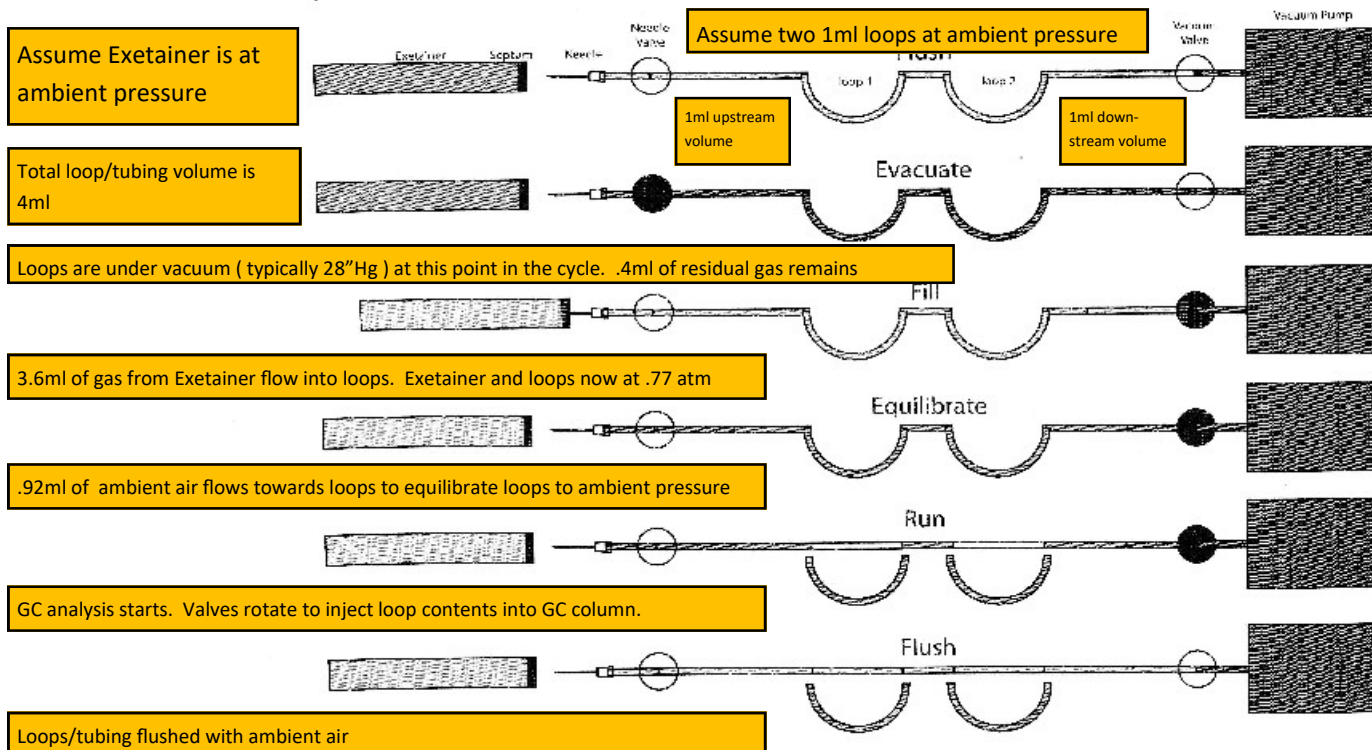


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## Injector™ Sample Injection Method

The Injector™ method eliminates the syringe in GC injections. Sample flows directly from the needle through the sample loop. Contamination is efficiently flushed with minimal use of sample.



This diagram shows the Bandolero cycle. It is important to understand that the vacuum pump evacuates the loop(s) to some pressure like 28" Hg ( about .1 atmosphere ) but not to absolute zero pressure. So there are still some gas molecules in the loop when the needle punctures the Exetainer. The residual gas molecules have to go somewhere so the volume between the loop and the downstream pinch valve has to be large enough to contain those molecules when the loop equilibrates to atmospheric pressure.

Similarly, the volume of the tubing between the upstream pinch valve and the loop has to be large enough that the slug of ambient air which flows towards the loop ( in the fill part of the cycle ) does not reach the loop.