

Flow Measurement on SRI GCs

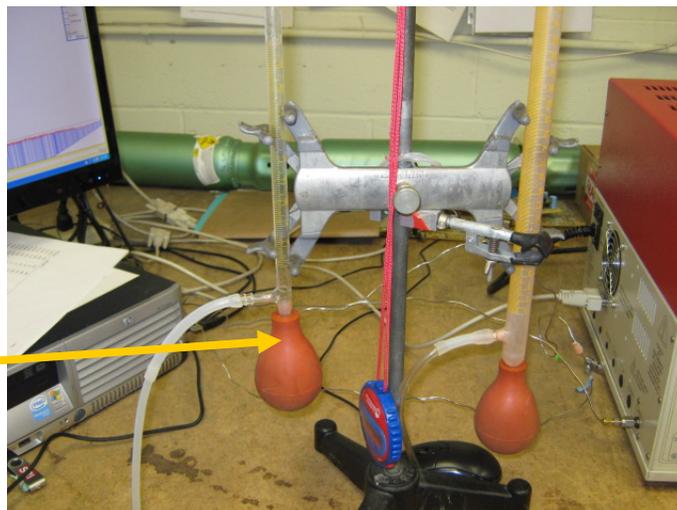
1-15-2013

Measuring the flow of carrier and detector gases is often required when working on gas chromatographs.

Electronic flowmeters like the one shown at right are available for 500-600 dollars from Restek and other sources.

Soap bubble flowmeters work reliably and do not require periodic recalibration like the electronic versions, but are breakable since they are usually made of glass. You really also need a lab stand to hold the glass bubblemeter or it is very likely to break. Between the bubblemeter itself and the lab stand and clamps the cost is in the 100-200 dollar range.

A soap bubble is introduced into the glass tube and the user times how long the bubble takes to move between marks. If the bubble takes 10 seconds to move 1 milliliter (1ml) for example, the flow must be 6ml/minute.



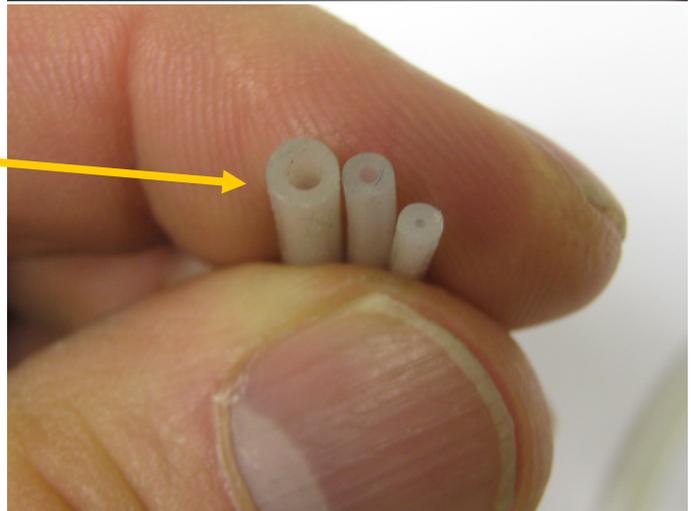
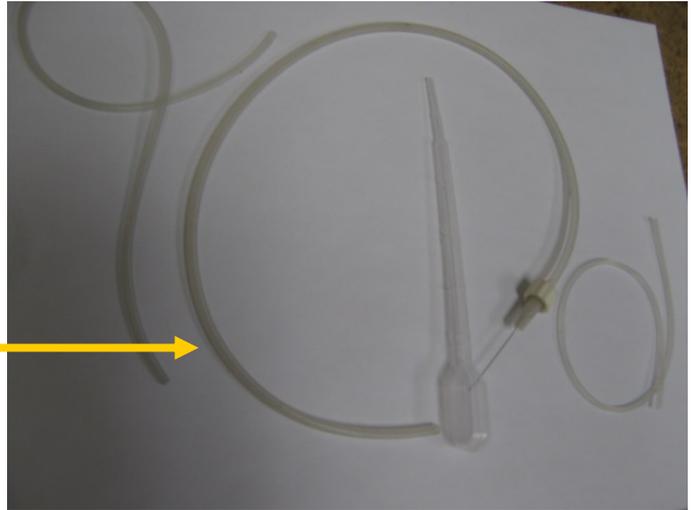
Flow Measurement on SRI GCs

1-15-2013

For occasional use, you can make your own bubblemeter for a few dollars using a plastic bulb pipette, a luer needle and some silicone tubing. SRI has a disposable bubblemeter kit available for about \$20 (part# 8690-9310) if you don't want to invest in the more expensive versions.

The kit includes 12" of three sizes of silicone tubing so you can connect to a variety of tube diameters.

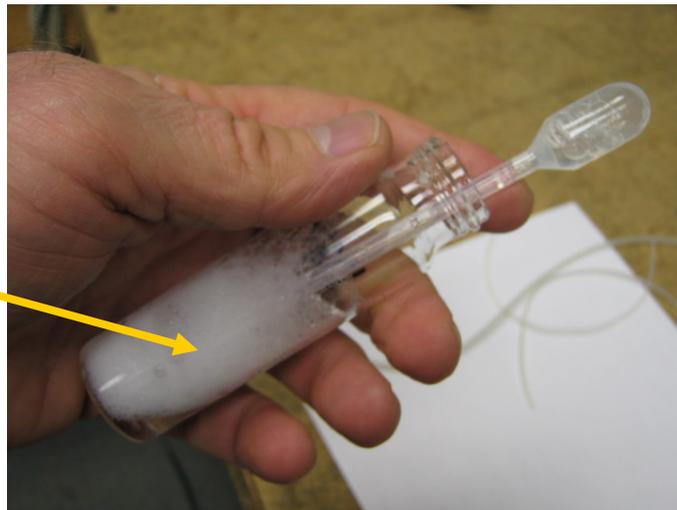
Slide the silicone tube onto the luer-lok fitting. Then connect the luer fitting to the 27gauge luer needle.



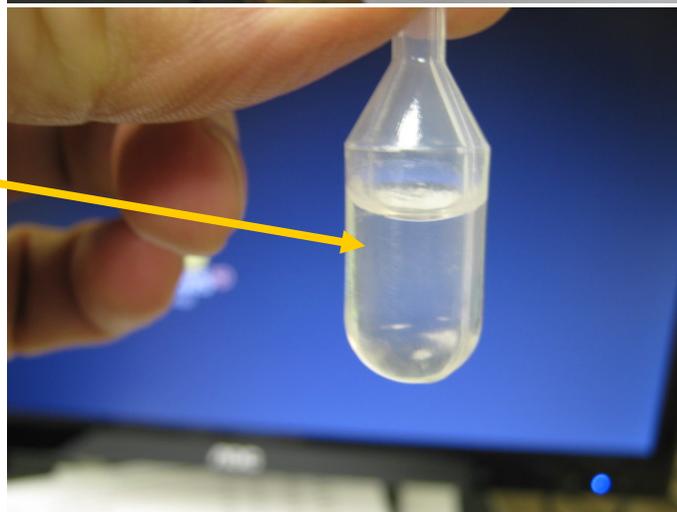
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1-15-2013

Fill the bulb of the plastic pipette with soapy water before puncturing it with the needle.



The bulb should be half full.



Puncture the top of the bulb with the luer needle. As the bubble travels up the pipette, time how long it takes to climb between the marks.

