



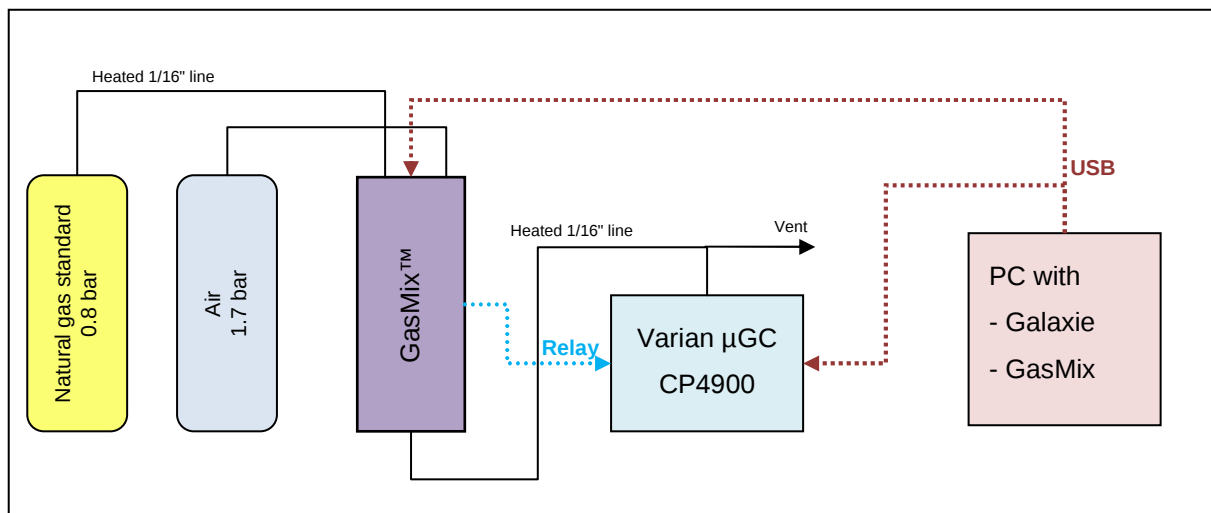
Application Note GasMix 11-02

Automatic GC calibration

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One of the possible applications of GasMix™ is the automatic calibration of a micro-GC.
Here is what has done one of our customers.

Technical set-up description



GasMix™ has two mass flow controllers (MFC) : one is 50 Scc/min and the other is 500 Scc/min. The natural gas standard is connected to the MFC of 50 Scc/min by a heated 1/16" transfer line.

GasMix™ is connected to a Varian CP4900 micro-GC by a heated 1/16" transfer line. The excess of the gas mixture flow will be sent to vent, the micro-GC will take only what it needs thanks to its pump.

Thanks to a relay cable, GasMix™ will drive the micro-GC, in order to synchronize the clocks and make the sequence start together.

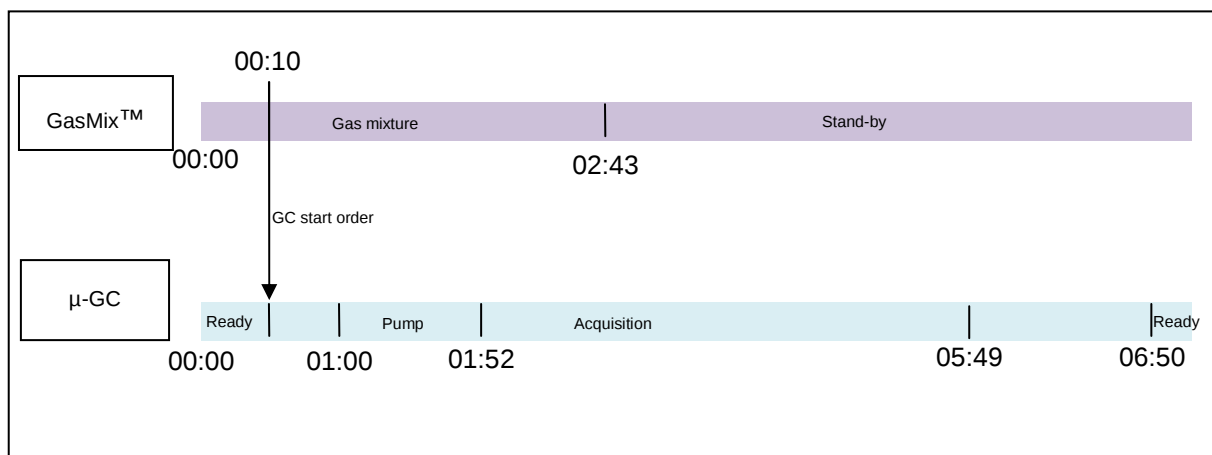
GasMix™ and micro-GC software are set up on the same computer.

Analysis progress

The total procedure lasts about 7 minutes.

GasMix™ starts and generates the gas mixture. At 10 seconds, the start signal is given to the GC. After 1 minute, the GC pump starts and takes the gas mixture. When it stops, GasMix™ continues a little bit longer but stops eventually. Data acquisition is activated for 5 minutes. After 6 minutes 50s, the micro-GC is ready again and waits for the next order of GasMix™.

Let's sum up:



Results

After processing the different chromatograms, our customer was able to plot calibration curves for the different compounds present in a natural gas.

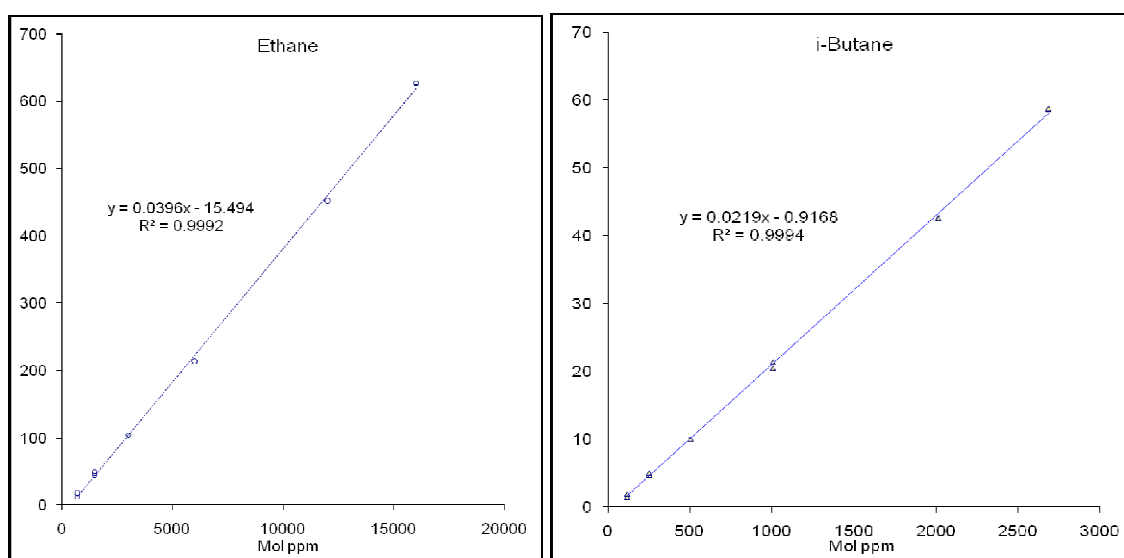


Figure 1 : Examples for calibration curves

Conclusion

With only one gas standard and air, our customer was able to automatically calibrate his micro-GC thanks to GasMix™.