Calibrating an airpointer – Feeding standard gases

1- Tools you need:

- A zero air generator (we recommend using the AirQrate GPT-mobile from MLU-Recordum)
- Calibration gases
- A 9/16” wrench
- A calibrated flowmeter capable of measuring flows in the 0-5000 cc/min range to measure the gas flow rate through the analyzer. DO NOT use the software of the instrument, as it doesn’t take into account the bypass flow, escaping the Airpointer through the sample inlet

2- Connect the zero air or calibration gas outlet of your calibrating device to the airpointer using the Swagelok 1/4” calibration gas inlet in the maintenance door

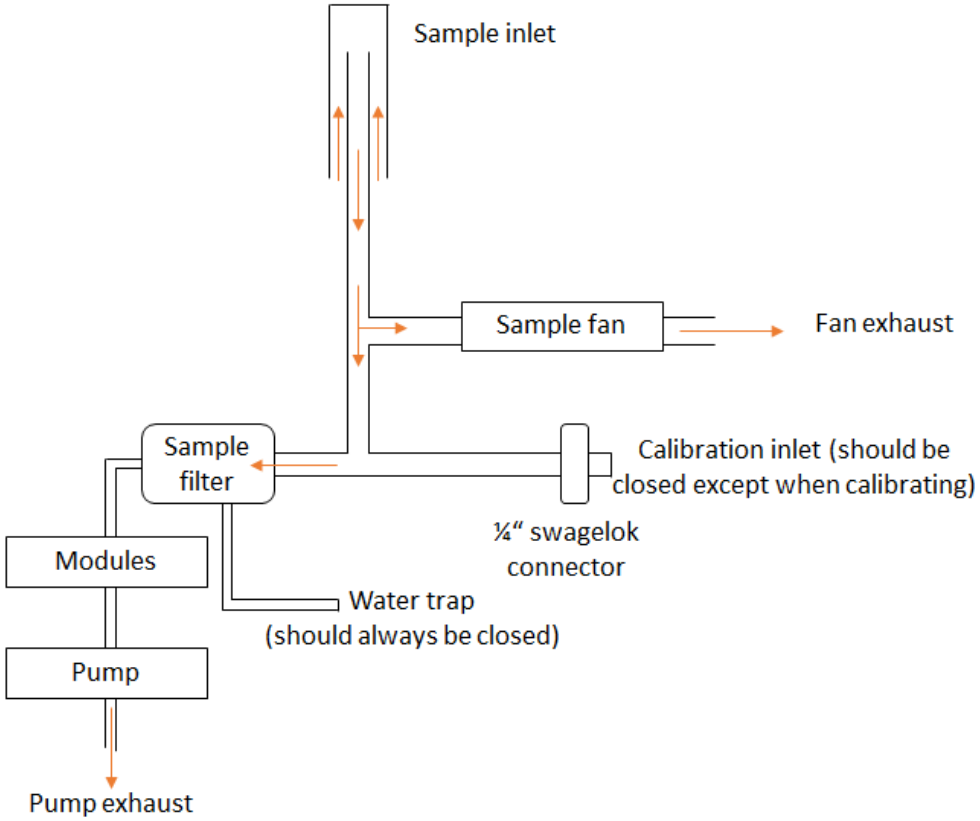
⚠ As the airpointer’s pump is normally sucking the air through the sample inlet, gases should be provided in slight excess to avoid dilution from the bypass

Module	Sample flow rate (cm^3/min ± 10%)	
	Thermo benches	API benches
O3	1000	550
CO	500	550
SO2	500	550
NOx	1000	500

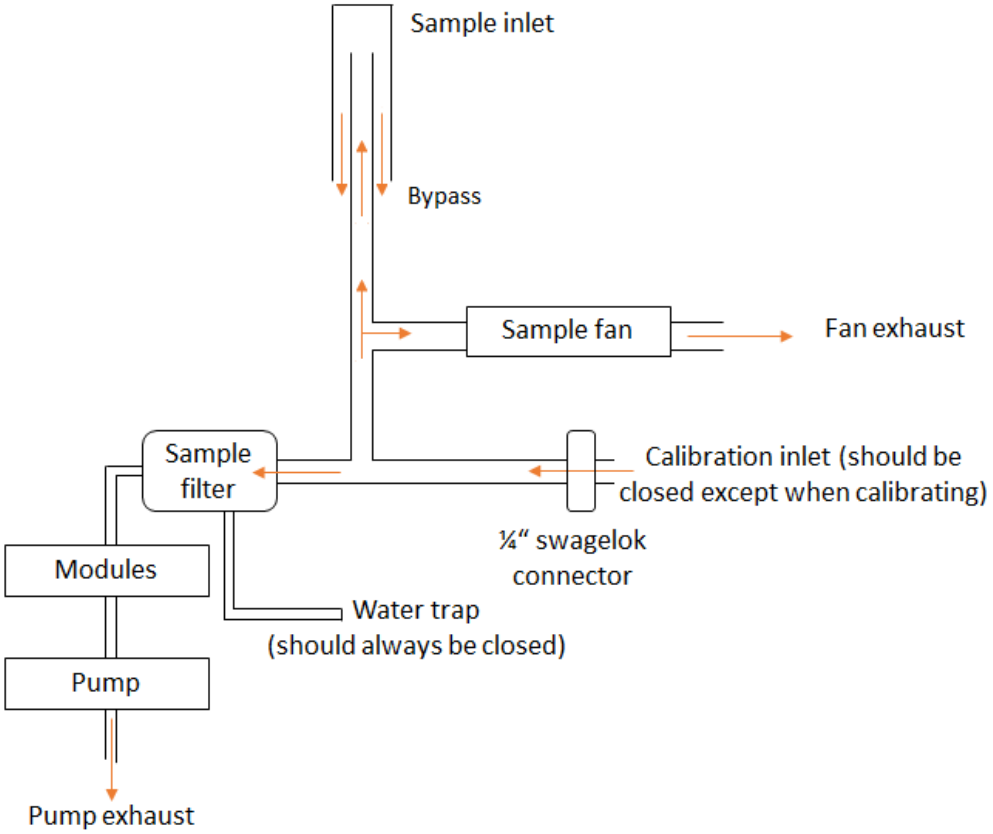
For example, if you have an Airpointer with 4 modules above equipped with Thermo benches, its total sample flow is 1000 + 500 + 500 + 1000 = 3000 mL/min. You therefore need to feed the Airpointer 3500 mL/min of zero air or calibration gas (an excess of 500 mL/min guarantees that the gas is in excess)

⚠ No bypass is needed, as the excess gas can leave the airpointer through the sample inlet and the sample head. Therefore, zero air and calibration gas must be fed strictly in excess

Sample flow during normal operation of the Airpointer:



Sample flow during calibration of the Airpointer:



NB: If you use a cylinder directly without calibrator or Mass Flow Controllers (MFC), it is highly recommended to use rotameters to check the sample flow, as the 2-stage pressure regulators from the cylinders don't necessarily produce a steady flow. Without visual flow control, you may either have too high flow (therefore wasting a lot of calibration gas) or have too little flow, causing the airpointer to suck ambient air through the inlet, diluting your calibration gas (therefore miscalibrating the airpointer)