

11.0 Volumetric vs. mass flow measurements

The Restek ProFLOW 6000 is a volumetric flow measurement device. Volumetric flow is the measurement of the volume of gas through a conveyance per quantity of time. Standard units of measure for this parameter are given in mL/min. The advantage of measuring volumetric flow is its independence to the composition of the flow gas. It is not necessary to correct the flow values based on the gas composition, as is required for mass flow devices.

Mass flow measures the weight of the gas flowing through the instrument per quantity of time. Mass flow units of measure are commonly g/sec.

12.0 Bubble flowmeter measurements

If you employ bubble flowmeters in your laboratory, you may find they give slightly different flow rate values than the Restek ProFLOW 6000. This error is due to technology limitations inherent in the bubble flowmeter device; error from variances in air humidity within the bubble chamber and its direct contribution to the measured flow rate. In the event a bubble flowmeter is used to measure flow gas where the gas is at elevated temperatures, the error due to humidity contributions can be extreme. For the most accurate measurement of laboratory gas flow rates, we recommend using the Restek ProFLOW 6000 over bubble flowmeters.