



Using a Field Rotameter

- Total Air Volume Collected = Average Flow Rates x Time of Sampling
- ***Rotameter reading should be read at the middle of the rotameter ball and correction formula used prior to sampling.*** If you are sampling in an area where the temperature varies by ± 20 °F and/or ± 40 mm Hg, the reading you get from the rotameter will not be accurate. As an alternative to calibrating the rotameter, you may calculate the rotameter flow by using the following formula:

$$Q_2 = Q_1 \sqrt{\frac{P_1}{P_2} \times \frac{T_2}{T_1}}$$

Q₂: actual flow rate at sampling site

Q₁: flow rate read by rotameter at sampling site

P₁: pressure at sampling site (mmHg)

P₂: pressure at Galson Labs when rotameter was calibrated

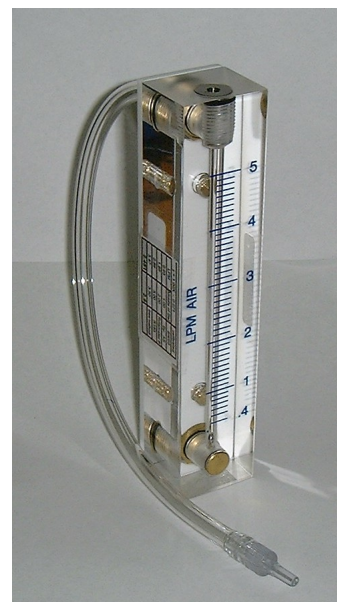
T₁: temperature at sampling site (in Kelvin)

T₂: temperature at Galson Labs when rotameter was calibrated (in Kelvin)

Conversions:

$$^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32 \quad \text{mmHg} = \text{in.Hg} \times 25.4$$

$$\text{K} = ^{\circ}\text{C} + 273 \quad ^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$$



The formula on the side of the rotameter was developed after calibration with a Dry-Cal. Use this formula, the temperature, and pressure to determine the actual flow rate at the sampling site ***prior to sampling.***

The bottom port fitting on all rotameters is intentionally removed by SGS Galson Laboratories. This is an exhaust port only and should not be used during calibration. Removal of this fitting does not affect the functionality of the rotameter.

If any equipment does not work properly, please use provided Equipment Failure Form/stickers. Or call 24/7/365 (1-888-432-5227)

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