

Low Pressure Calibrations

When you're performing a low pressure calibration, there are some things you can do to make the job easier and better (more accurate).

Get Rid Of Leaks: While it's always important to get rid of leaks, it's even more of an issue when you're dealing with really low pressures typical of draft instrumentation. A pressure drop caused by a small leak could be a significant percentage of your full scale calibrated value.

Add Volume To Your System: Normally, you want to keep the volume of the calibration system (calibrator, tubing, etc.) low. For really low pressures, adding volume can make it easier to regulate the calibration pressure source. It acts just like a capacitor in an electronic circuit by smoothing the variations in pressure.

Watch Out For Temperature Effects: In a sealed system, changes in temperature mean changes in pressure. Try to work in a relatively temperature stable environment, or, at least keep an eye on pressure changes caused by changes in temperature.

Consider Head Pressure Errors: In most calibrations using gases as the calibration medium, you don't need to take into account any head pressure corrections. However, with extremely low pressures, the head pressure of air may generate calibration errors. Head pressure is caused by the calibrator and the instrument being at different levels. The best bet is to have both devices at the same level. If they are not, this is an issue for your calibration.

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