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Technical Bulletin

Model 146i MFC Calibration Procedure

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The purpose of this Technical Bulletin is to inform our customers of information that is needed in order to aid in calibrating the MFC (Mass Flow Controllers) in the Model 146i Multi-Gas calibrator.

Example:

If you use a volumetric flow meter to calibrate the MFC, in the service menu pressure and temperature calibration screen, you would enter the actual ambient pressure and temperature.
If you use a flow meter that measures the flow at standard conditions, in the service menu you would enter the pressure at 760mm/HG and temperature at 25°C.
This is entered in the software before you start calibrating the MFC's at 5%,20%..Etc..
The output of the Mass Flow Controllers will be SLPM & SCCM.

Zero Mass Flow Controller calibration sequence for the 146i: (Software portion)

With the zero air connected to the back of the unit and your flow meter plumbed to the outlet of the MFC.
Go to the service menu and select calibration pressure / Temp.
If using volumetric flow meter - enter in actual local barometric pressure and temperature (Example: 740mm/Hg and 29°C)
If using flow meter that reports standard flow - enter standard pressure and temperature (760mm/Hg and 25°C)

MFC Calibration Procedure: (Software portion)
In the service menu, scroll down to zero flow calibration:
Select **95%**
Let flow stabilize for > 5 minutes.
Record the flow on your flow meter and enter the value and save.
Wait 2 minutes before selecting the next value.
Select **80%**
Let flow stabilize for > 5 minutes
Record the flow on your flow meter and enter the value and save.
Wait 2 minutes before selecting the next value.
Continue this same process for the remainder of the flow values.
In order to have a successful MFC calibration, it is critical you wait before and after each step as described above.
Perform the same process for the gas Mass Flow controller.

If you need any further assistance or technical information regarding this matter, please contact our Technical Support Team at 866-282-0430 and press 2 for Technical Support.