Calibration Steps

1. Set up the device according to the diagram below

Device

MFC

Flow Limiter

Facility Air

Analog transducer

DAQ – Current Module

DAQ – Voltage Module

Power Source

1. Check for leaks with a pressure test
2. Make sure that the power source is set at 3.3V and the circuit is open
3. Double check that the power and data pins for the pressure transducers are connected properly
   1. Pin 4 – Ground (Negative terminal in this case)
   2. Pin 3 – Data Voltage Out
   3. Pin 2 – Power source
4. Close the circuit on the power supply
5. Run the LabView program
6. Ensure that the pressure transducers are reading 0 Pa at 0 flow
   1. If it isn’t, change the value for the bias in the front panel
7. Stop the labview program when done calibrating
8. Start the LabView program and collect data for 30 sec.
9. Make sure that the flow limiter is closed (turn left)
10. Turn on the facility air
11. Turn the flow limiter to 0 LPM
12. Start the LabView program and collect data for 30 sec.
13. Do the same for 10, 20, 30, 40, 50, 75, 100, 125, 150, 200 LPM three times
14. Flip the direction of the box
15. Ensure that there are no leaks with a pressure test
16. Plot the pressure vs flow values on Matlab
17. Run a least square fit and determine the missing constant in the flow/pressure equation