

Reducing Uncertainties



Colin Genge
Retrotec CEO



Learn by experimentation



Field Check Gauge & Blower Door

Field check gauge weekly

Check gauge operation and check for blocked, leaking or pinched tubes weekly, and anytime results are in question.



To perform the gauge check, you will need the gauge and Umbilical.

- Set **[Time Average]** to 5 seconds in **[Settings]**.
- Tap **[Channel B]** and select "Pressure: Pa".
- Connect the red tube between the red and yellow ports.

If readings on Channel A and Channel B are within 2% and don't drop rapidly, the tube is not blocked or leaking and the gauge is correct.

- Repeat between different ports with each of the tubes you use for testing.

Checking your gauge and tubes regularly will eliminate a common source of error in readings.

100.3
Pa
100.3
Pa

Control fan speed with software

Speed control is handled automatically with fan-Test software, for complete automation.



Field check system monthly

- Perform a Blower Door test on the building and record the DFLA at 50 Pa.
- Repeat certified in spring.
- Perform a Blower Door test on the building, record the DFLA at 50 Pa.
- Subtract the DFLA result from the second result and the value should be 400 kg, Pa, (100%).



Field check gauge weekly

Check gauge operation and check for blocked, leaking or pinched tube weekly, and anytime results are in question.



To perform the gauge check, you will need the gauge and Umbilical.

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- Repeat between different ports with each of the tubes you use for testing.

Checking your gauge and tubes regularly will eliminate a common source of error in readings.

100.3
Pa
100.3
Pa

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Gauge – Field Check



Gauge – Field Check



Blower Door Fan – Field Check

Control fan speed with software
Speed control is handled automatically with FanTec software. No complex adjustment.

Field check gauge weekly
Check gauge operation and check for blocked, leaking or pinched tubes weekly, and anytime results are in question.

To perform the gauge check, you will need the gauge and Linetube.

- Use Flow Average to 5 seconds in Settings
- Use Channel B1 and select Channel A as yellow ports.
- Blowdown on Channel A until Channel B1 also reads 25, and then stop rapidly. The tube is not blocked at blower and the gauge is correct.
- Repeat between different parts with each of the tubes you use for testing.

Checking your gauge will take roughly one minute a common source of error in readings.

100.3
100.3

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Field check system monthly

- Perform a Blower Door test on the building and record the EqLA at 50 Pa.
- Install cardboard in upper part of doorway with a 20 x 20 inch hole cut in it.
- Perform a second Blower Door test on the building, record the EqLA at 50 Pa.
- Subtract the first result from the second result and the value should be 400 sq. in. (+/-10%).



Use software to repeat a test on a box
Virtual Gauge – Remote control & monitoring using PC.

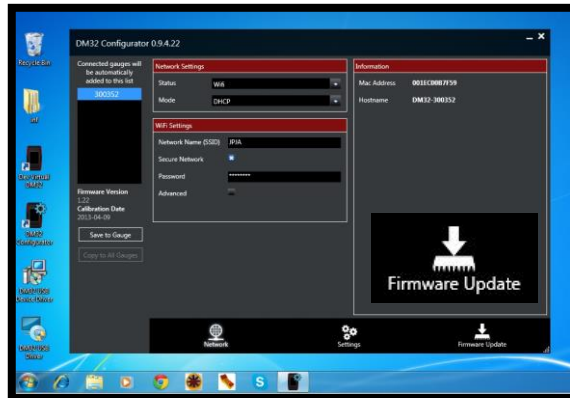


Use Virtual Gauge to have trainer view your test.



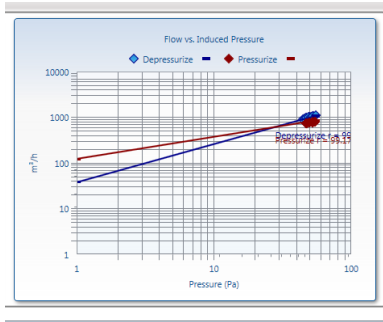
Online updates

DM32 Configurator – Manage settings
Firmware Updates online – via USB

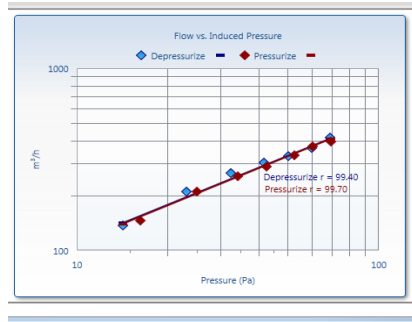


Methods for improved accuracy

Widely spaced points

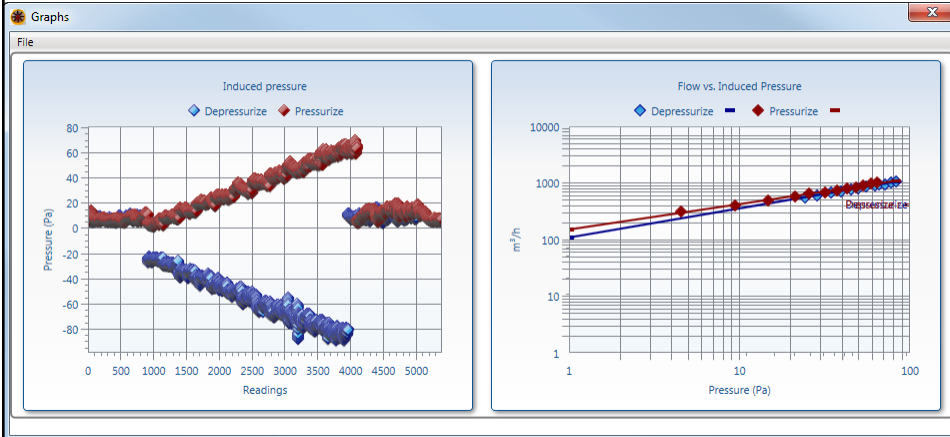


Test from 45 to 55 Pa.
Baseline variation 0.2 Pa

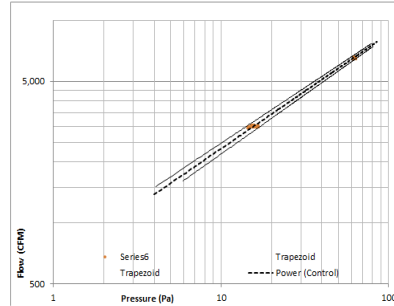
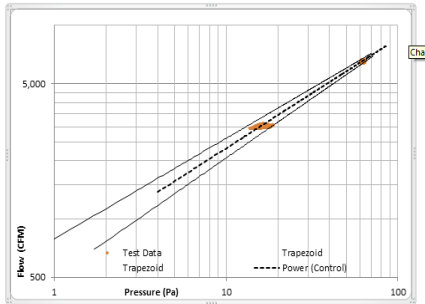


Test from 15 to 55 Pa.
Baseline variation 2 Pa

10 Pa bias, 3 Pa variation



10 vs 60 second data



Increase sample time

Advanced Options

Basics Settings Application

Reset to Standard Defaults

Pressure reference for EN13829:

Air flow reference pressure #1 (also for Air Changes per Hour)	50
Air flow reference pressure #2	4
Flow / unit area reference pressure	4
Effective Leakage Area reference pressure	4
Equivalent Leakage Area (EqLA) reference pressure, P_{ref}	N/A

Take 1 bias pressures for 120 s each.

Take 2 induced pressures from 20 to 75 Pa for 120 s each.

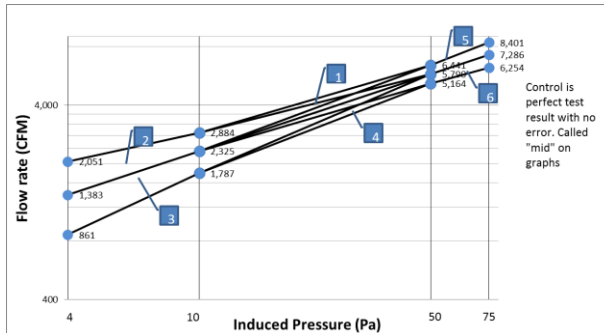
Pressure target arrival criteria Error must be less than 15 % or 3 Pa in a sample of 20 readings.

Bias stability required before testing maximum change of 1 Pa/sec tested over 5 Sec

OK Cancel

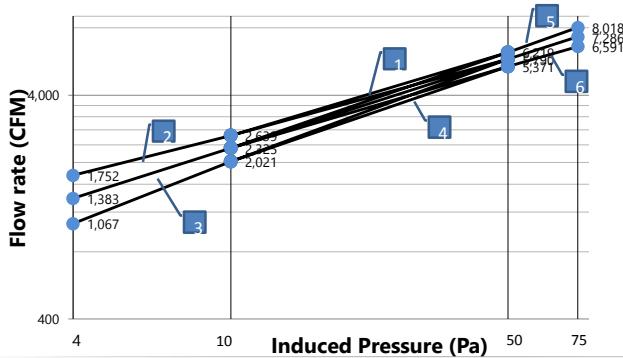
Typical accuracy

Directions	1
Total Time to get Baseline	60
Gauge error	1%
Flow accuracy of test fan	5%
Time to take 1 Induced Point	20
number of points	5
Min time for test, seconds	220
Typical accuracy	



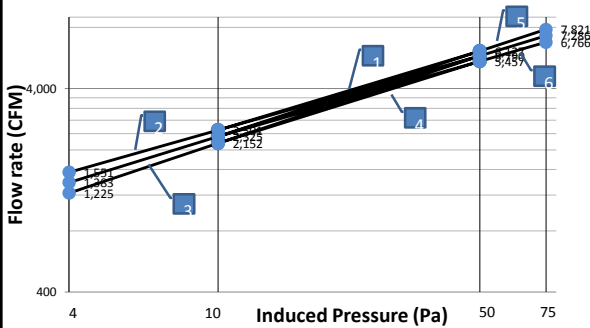
Test in both directions

Directions	2
Total Time to get Baseline	60
Gauge error	1%
Flow accuracy of test fan	5%
Time to take 1 Induced Point	20
number of points	5
Min time for test, seconds	440
Test both directions	



Best

Directions		2
Total Time to get Baseline		120
Gauge error		1%
Flow accuracy of test fan		5%
Time to take 1 Induced Point		120
number of points		2
Min time for test, seconds		600
Best results		



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Thank you!



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