

Technical Bulletin

Change in Calibration for Ring C (for use with the Model 3 Minneapolis Blower Door)

Based on repeated testing done in our calibration facility, we have slightly modified the default calibration formula for Ring C when used with a 110 Volt Model 3 Blower Door fan. This change in calibration reflects an error in the originally published calibration for Ring C. As can be seen in the Table below, the calibration change is relatively small (-4.1% at the high end of Ring C and 0.3% at the low end of Ring C) and in most cases will have little impact on measured airtightness test results.

$$\begin{aligned} \text{New Ring C Calibration:} & \quad \text{Flow (CFM)} = 22.34 \times \text{Fan Pressure}^{.5048} \\ \text{Old Ring C Calibration:} & \quad \text{Flow (CFM)} = 20.70 \times \text{Fan Pressure}^{.5275} \end{aligned}$$

(Pa) Fan Pressure	Flow (CFM) Using New Calibration	Flow (CFM) Using Old Calibration	% Diff	(Pa) Fan Pressure	Flow (CFM) Using New Calibration	Flow (CFM) Using Old Calibration	% Diff
25	113.4	113.1	0.3%	105	234.1	241.1	-2.9%
30	124.4	124.5	-0.1%	110	239.7	247.1	-3.0%
35	134.4	135.0	-0.4%	115	245.1	252.9	-3.1%
40	143.8	144.9	-0.7%	120	250.4	258.7	-3.2%
45	152.6	154.2	-1.0%	125	255.6	264.3	-3.3%
50	161.0	163.0	-1.2%	130	260.7	269.8	-3.4%
55	168.9	171.4	-1.5%	135	265.8	275.2	-3.4%
60	176.5	179.5	-1.7%	140	270.7	280.6	-3.5%
65	183.8	187.2	-1.8%	145	275.5	285.8	-3.6%
70	190.8	194.7	-2.0%	150	280.3	291.0	-3.7%
75	197.5	201.9	-2.2%	155	284.9	296.1	-3.8%
80	204.1	208.9	-2.3%	160	289.5	301.1	-3.8%
85	210.4	215.6	-2.4%	165	294.1	306.0	-3.9%
90	216.6	222.2	-2.6%	170	298.5	310.8	-4.0%
95	222.6	228.7	-2.7%	175	302.9	315.6	-4.0%
100	228.4	234.9	-2.8%	180	307.3	320.4	-4.1%

As a result of the modified Ring C calibration, we are enclosing a new laminated flow table (revised 7/9/98) for the Model 3 fan. The only change to the flow table is the Ring C flow conversion column. Replacement EPROM's (with the new Ring C calibration) for the DG-3 Digital Pressure Gauge are also available at no charge, upon request. To have a new EPROM installed, send your DG-3 gauge to TEC at the address below with a letter referencing Technical Bulletin 100. Be sure to include a return shipping address. We apologize for any inconvenience this may cause you.

Blower Door Test Software for the Modified Ring C Calibration

The Energy Conservatory has recently developed a Windows 95 Building Airtightness Test Program (called TECTITE) to help you analyze manually collected blower door test data. The modified Ring C calibration formula has been incorporated into the new TECTITE program. If you currently own Ring C and use our PC based DOS Test Analysis Program, we will provide you with a copy of the TECTITE program for the reduced price of \$50 (the retail price for TECTITE is \$100). To purchase TECTITE at the reduced price, call TEC at 612-827-1117 and reference Technical Bulletin 100.

If you use one of the Sharp Pocket Computers sold by TEC (Sharp 1262 or Sharp 5500), we can reprogram the computer with the new Ring C calibration. To have this done at no charge, simply send your Sharp computer to TEC at the address below along with a letter referencing Technical Bulletin 100. Be sure to include a return shipping address with the letter.