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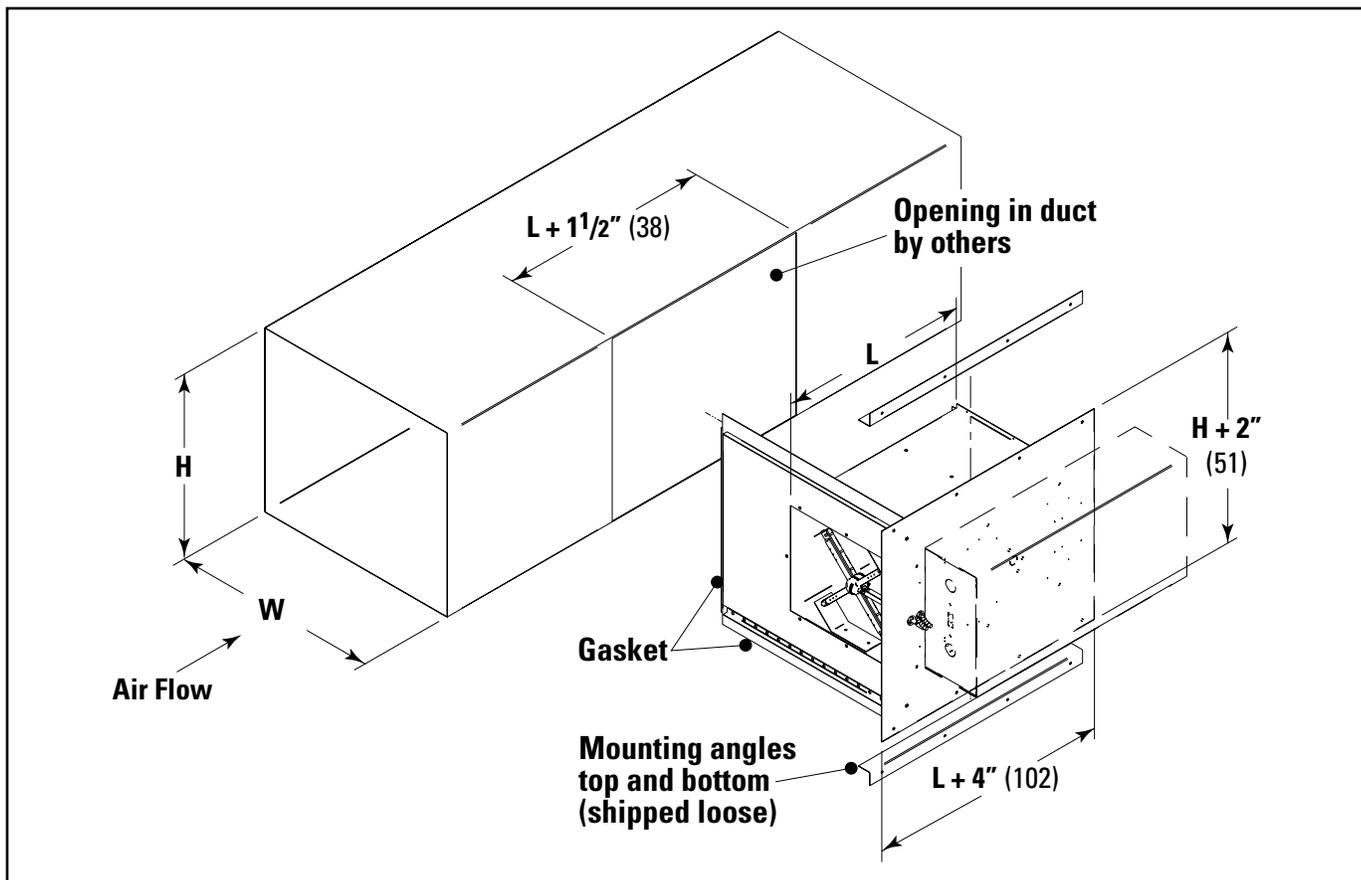
SRDV
PRICE SLIDE-IN RETROFIT TERMINAL UNITS
SERVICE & INSTALLATION MANUAL

Date: 04/11
Reference #: F-95

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Installation Instructions

1. For side insert, cut hole in side of the duct in an accessible location. Hole should be cut the full height (H) of duct and a length (L+1½") to match that of the SRDV unit (not including mounting plate) as shown.
2. Additional support of duct work may be necessary depending on the size of the unit. Locate support on either side of the cut-out, leaving enough room to clear SRDV mounting plate.
3. Slide SRDV unit inside the duct so that the velocity sensor is up stream from the SRDV damper as shown.
4. Mounting plate should be fastened to the duct on the right and left outer edges of the mounting plate using sheet metal screws. Seal as necessary to prevent excess air leakage.
5. Unit is provided with two mounting angles to secure the unit to the top and bottom of the rectangular duct. One side of each angle should be positioned on top/bottom of the duct and the other side against the back of the mounting plate.



To Calculate V.P. for SRDV/SRPV:

Eg. SRDV5///18/19/FLD/CFM////////900/2200/0/0/0////////18/12//
 Duct Size Min. Flow Max. Flow Damper Size

Step 1 - Calculate Damper Area (ft²)

$$A_d = \frac{\text{Damper Height} \times \text{Damper Width}}{144}$$

Eg. $A_d = \frac{18 \times 12}{144}$

$$A_d = 1.5 \text{ ft}^2$$

Step 2 - Calculate K-Factor

$$K = 3062 \times (A_d) - 146$$

Eg. $A_d = 1.5 \text{ ft}^2$

$$K = 3062 \times (1.5) - 146$$

$$K = 4447$$

Step 3 - Calculate V.P.

$$V_p = \left(\frac{\text{CFM}}{K} \right)^2$$

Eg. Max CFM = 2200

Min CFM = 900

$$V_p(\text{max}) = \left(\frac{2200}{4447} \right)^2$$

$$V_p(\text{max}) = 0.24$$

$$V_p(\text{min}) = \left(\frac{900}{4447} \right)^2$$

$$V_p(\text{min}) = 0.04$$

Standard Sizes - Imperial / Metric

Single Blade Damper

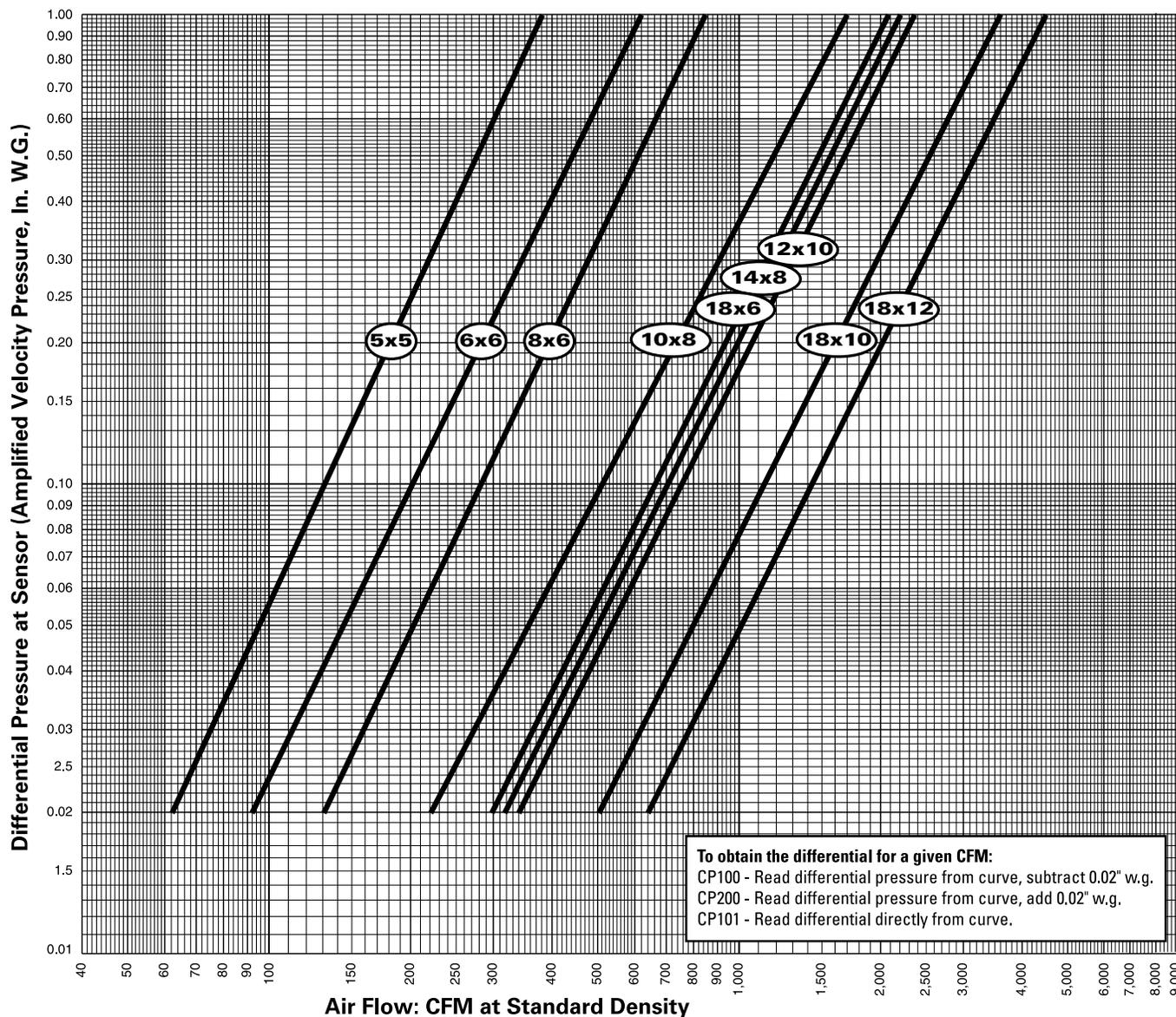
Unit Size	Total CFM Range	Available Duct Sizes											
		Width W						Height H	L				
5 x 5 (127 x 127)	0 (0) To 200 (94)	5 (127)	6 (152)	8 (203)	10 (254)	12 (305)			5 (127)	14 ⁵ / ₈ (371)			
			6 (152)	8 (203)	10 (254)	12 (305)			6 (152)				
				8 (203)	10 (254)	12 (305)			8 (203)				
					10 (254)	12 (305)			9 (229)				
6 x 6 (152 x 152)	0 (0) To 350 (165)	6 (152)	8 (203)	10 (254)	12 (305)	14 (356)			6 (152)	14 ⁵ / ₈ (371)			
			8 (203)	10 (254)	12 (305)	14 (356)			8 (203)				
				10 (254)	12 (305)	14 (356)			9 (229)				
					10 (254)	12 (305)			10 (254)				
8 x 6	0 (0) To 500 (236)	8 (203)	10 (254)	12 (305)	14 (356)	16 (406)			6 (152)	14 ⁵ / ₈ (371)			
		8 (203)	10 (254)	12 (305)	14 (356)	16 (406)			8 (203)				
			10 (254)	12 (305)	14 (356)	16 (406)			9 (229)				
				10 (254)	12 (305)	14 (356)			10 (254)				
10 x 8	0 (0) To 875 (413)	10 (254)	12 (305)	14 (356)	16 (406)	18 (457)			8 (203)	14 ⁵ / ₈ (371)			
		10 (254)	12 (305)	14 (356)	16 (406)	18 (457)			9 (229)				
		10 (254)	12 (305)	14 (356)	16 (406)	18 (457)			10 (254)				
			12 (305)	14 (356)	16 (406)	18 (457)			12 (305)				
14 x 8	0 (0) To 1250 (590)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			8 (203)	14 ⁵ / ₈ (371)		
		14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			9 (229)			
		14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			10 (254)			
		14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			12 (305)			
18 x 6	0 (0) To 1400 (661)	18 (457)	20 (508)	22 (559)	24 (610)	26 (660)			6 (152)	14 ⁵ / ₈ (371)			
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)			8 (203)				
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)			9 (229)				
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)			10 (254)				
12 x 10	0 (0) To 1300 (614)	12 (305)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			10 (254)	14 ⁵ / ₈ (371)	
		12 (305)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			12 (305)		
			14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			14 (356)		
				16 (406)	18 (457)	20 (508)	22 (559)	24 (610)			16 (406)		
18 x 10	0 (0) To 2400 (1133)	18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			10 (254)	14 ⁵ / ₈ (371)	
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			12 (305)		
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			14 (356)		
			20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			16 (406)		
18 x 12	0 (0) To 3100 (1463)	18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)			12 (305)	18 ⁵ / ₈ (473)		
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)			14 (356)			
		18 (457)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)			16 (406)			
			20 (508)	22 (559)	24 (610)	26 (660)	28 (711)			18 (457)			
20 x 14	0 (0) To 4250 (2006)	20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			14 (356)	18 ⁵ / ₈ (473)		
		20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			14 (356)			
		20 (508)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			16 (406)			
			22 (559)	24 (610)	26 (660)	28 (711)	30 (762)			18 (457)			
30 x 12	0 (0) To 6350 (2997)	30 (762)	32 (813)	34 (864)	36 (914)					12 (305)	18 ⁵ / ₈ (473)		
		30 (762)	32 (813)	34 (864)	36 (914)					14 (356)			
		30 (762)	32 (813)	34 (864)	36 (914)					16 (406)			
			32 (813)	34 (864)	36 (914)					18 (457)			
22 x 16	0 (0) To 5150 (2431)	22 (559)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			16 (406)	20 ⁵ / ₈ (524)
		22 (559)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			18 (457)	
		22 (559)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			20 (508)	
			24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)				

Dual Blade Damper

Unit Size	Total CFM Range	Available Duct Sizes												
		Width W						Height H	L					
24 x 18 (610 x 4 57)	0 (0) To 6000 (2832)	24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			18 (457)	14 ⁵ / ₈ (371)		
		24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			20 (508)			
		24 (610)	26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			24 (610)			
			26 (660)	28 (711)	30 (762)	32 (813)	34 (864)	36 (914)			26 (660)			
30 x 20 (762 x 508)	0 (0) To 9000 (4248)	30 (762)	32 (813)	34 (864)	36 (914)	38 (965)	40 (1016)	42 (1067)	44 (1118)	46 (1168)			20 (508)	14 ⁵ / ₈ (371)
		30 (762)	32 (813)	34 (864)	36 (914)	38 (965)	40 (1016)	42 (1067)	44 (1118)	46 (1168)			24 (610)	
		30 (762)	32 (813)	34 (864)	36 (914)	38 (965)	40 (1016)	42 (1067)	44 (1118)	46 (1168)			26 (660)	
			32 (813)	34 (864)	36 (914)	38 (965)	40 (1016)	42 (1067)	44 (1118)	46 (1168)				
40 x 20 (1016 x 508)	0 (0) To 13500 (6371)	40 (1016)	42 (1067)	44 (1118)	46 (1168)	48 (1219)	50 (1270)	52 (1321)			20 (508)	14 ⁵ / ₈ (371)		
		40 (1016)	42 (1067)	44 (1118)	46 (1168)	48 (1219)	50 (1270)	52 (1321)			24 (610)			
		40 (1016)	42 (1067)	44 (1118)	46 (1168)	48 (1219)	50 (1270)	52 (1321)			26 (660)			
			42 (1067)	44 (1118)	46 (1168)	48 (1219)	50 (1270)	52 (1321)						

Note: Max. flow rating based on nominal 0.4" static pressure drop.

SP300 Calibration Curves



Calibration Equation

$$VP = \left(\frac{Q}{K}\right)^2$$

- VP - differential pressure at sensor, inches w.g.
- Q - air flow rate, cfm at standard density.
- K - calibration constant

Unit Size	K
5 x 5	385
6 x 6	619
8 x 6	874
10 x 8	1555
14 x 8	2235
18 x 6	2150
12 x 10	2405
18 x 10	3682
18 x 12	4447

NOTES

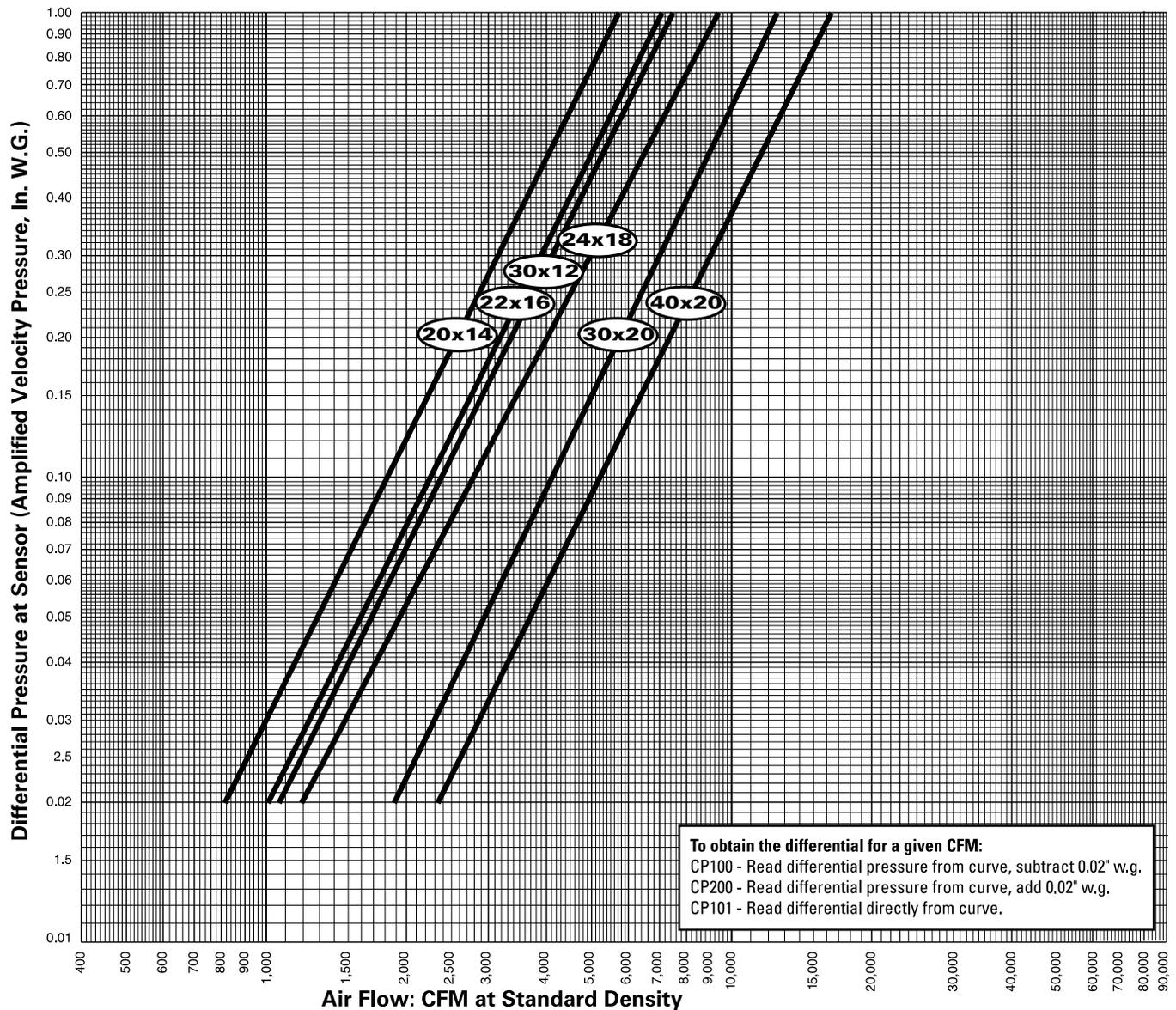
- Gauge taps are normally supplied with the pneumatic controls to allow field measurement of the differential pressure at the sensor with a manometer, magnahelic or other measuring device.

If the terminal velocity controls utilize a flow-through transducer, a proper velocity pressure reading will NOT be read at the gauge taps and the calibration curves CANNOT be used for field measurement. The flow-through transducer operates on the principle of mass flow rather than pressure differential.

Controls utilizing a dead-ended pressure transducer will allow field measurement with the gauge taps and calibration curves provided.

- Setting flow limits for a differential pressure of less than 0.02 inches is NOT recommended. Stability and accuracy of flow limits may not be acceptable due to low velocity pressure signal. Performance will vary depending on the terminal unit controls provided.
- For field calibration of air flow limits refer to the control contractor's documentation.

SP300 Calibration Curves



Calibration Equation

$$VP = \left(\frac{Q}{K}\right)^2$$

- VP** - differential pressure at sensor, inches w.g.
- Q** - air flow rate, cfm at standard density.
- K** - calibration constant

Unit Size	K
20 x 14	5809
30 x 12	7510
22 x 16	7340
24 x 18	9042
30 x 20	12615
40 x 20	16869

NOTES

1. Gauge taps are normally supplied with the pneumatic controls to allow field measurement of the differential pressure at the sensor with a manometer, magnahelic or other measuring device.

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SP300 Calibration For Non- Standard Sizes

Calibration Equation

Predicting SP300 K-factors based on the nominal inlet area.

$$K = K = 2978.1 * (A) - 148.36$$

$$Q = (VP^{0.5}) * K$$

- A** - Nominal Duct Area (ft²)
K - Calibration Constant
VP - Differential Pressure at Sensor (Inches W.G.)
Q - Air Flow Rate (CFM at Standard Density)

NOTES

1. Gauge taps are normally supplied with the terminal unit to allow field measurement of the differential pressure at the sensor with a manometer, magnahelic or other measuring device. If the terminal velocity controls utilize a flow-through transducer, a proper velocity pressure reading will NOT be read at the gauge taps and the calibration curves CANNOT be used for field measurement. The flow-through transducer operates on the principle of mass flow rather than pressure differential. Controls utilizing a dead-ended pressure transducer will allow field measurement with the gauge taps and calibration curves provided.
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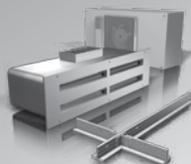
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