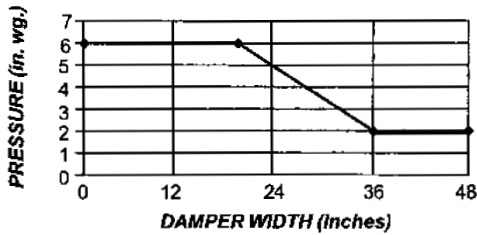


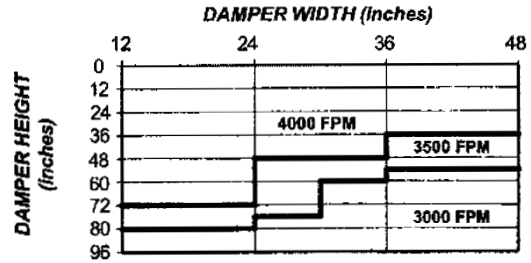
PRESSURE LIMITATIONS:

The pressure limitations shown below are based on the design limits of the axes or blade deflection. Another model should be selected if pressure exceeds the values shown.

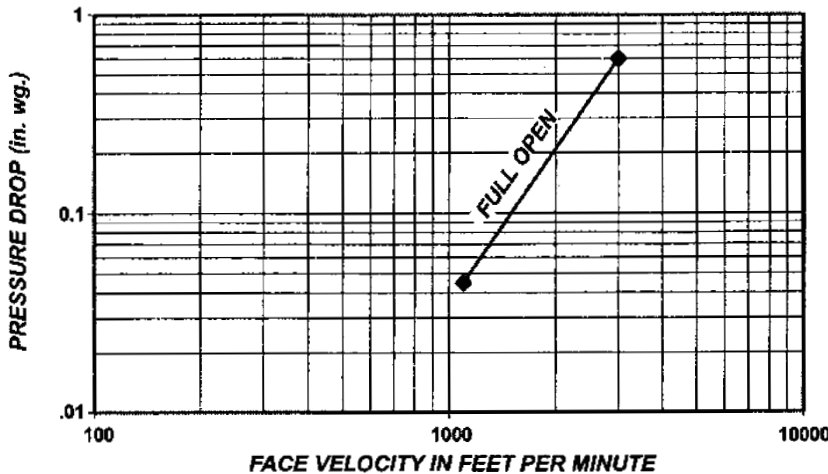


VELOCITY LIMITATIONS:

The velocity limitations shown below are based on the design limits of the axes or blade deflection. Another model should be selected if velocities exceeds the values shown.



PRESSURE DROP: TYPICAL PERFORMANCE CURVE



TESTED PER AMCA
STANDARD 500;
FIGURE 5.3: (IN-DUCT MOUNT)
SIZE TESTED - 42" x 42"

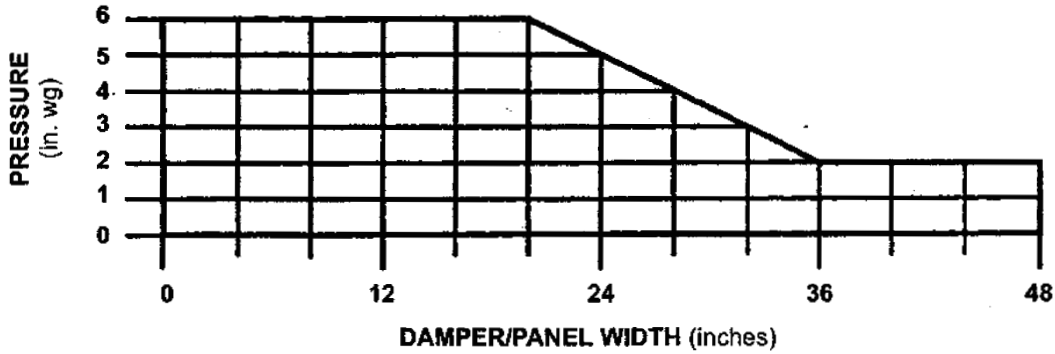
LEAKAGE:

Quantities are derived from tests performed in accordance with AMCA Standard 500. The values shown in the chart are stated in SCFM at 1" wg. Use of the conversion factors below will give leakage values at greater pressures. For lower leakages, consult our representative or factory Customer Service Department prior to selection.

PRESSURE (in. wg.)	CONVERSION FACTOR
2	1.41
3	1.73
4	2.00
5	2.24
6	2.45

	VCD WITHOUT SEALS				VCD WITH SEALS			
	DAMPER WIDTH (inches)				DAMPER WIDTH (inches)			
	12"	24"	36"	48"	12"	24"	36"	48"
12"	75	105	140	170	7	10	13	17
24"	160	200	245	290	13	20	27	33
36"	245	300	355	405	18	27	35	43
48"	335	395	460	525	23	33	43	53
60"	420	505	590	675	30	43	57	70
72"	505	605	700	795	35	50	65	80
84"	605	720	840	955				
96"	690	815	945	1075				

VCD dampers may be used at increased pressures if the damper and/or panel widths are reduced. The graph below illustrates the extended pressure range that is now offered with these models.



Leakage and differential pressure torque will increase with increased pressure, therefore, adjustments must be made when determining leakage and/or the actuator requirements for a damper. The following table gives multipliers for increased pressure applications.

PRESSURE	LEAKAGE MULTIPLIER	PRESSURE TORQUE MULTIPLIER
3	1.73	3
4	2.00	4
5	2.24	5
6	2.45	6

NOTE: OPERATING PRESSURES ABOVE 2 in. wg AND/OR VELOCITIES GREATER THAN 3000 FPM MUST BE SPECIFIED

VCD TORQUE DATA

Torque Values are given in in.-lbs. and (Nm)

		FACE VELOCITY TORQUE Damper Width in. and (mm)				PRESSURE TORQUE Damper Width in. and (mm)				SEALING TORQUE Damper Width in. and (mm)			
		12"	24"	36"	48"	12"	24"	36"	48"	12"	24"	36"	48"
		(305)	(610)	(914)	(1219)	(305)	(610)	(914)	(1219)	(305)	(610)	(914)	(1219)
12"		2	3	4	6	2	3	5	6	21	30	38	47
	(305)	(.226)	(.339)	(.452)	(.678)	(.226)	(.339)	(.565)	(.678)	(2.37)	(3.39)	(4.29)	(5.31)
24"		3	6	9	11	3	6	9	12	40	56	72	88
	(610)	(.339)	(.678)	(1.02)	(1.24)	(.339)	(.678)	(1.02)	(1.36)	(4.52)	(6.33)	(8.14)	(9.94)
36"		4	9	13	17	5	9	14	18	56	76	96	116
	(914)	(.452)	(1.02)	(1.47)	(1.92)	(.565)	(1.02)	(1.58)	(2.03)	(6.33)	(8.59)	(10.85)	(13.11)
48"		6	11	17	23	6	12	18	24	72	96	120	144
	(1219)	(.678)	(1.24)	(1.92)	(2.60)	(.678)	(1.36)	(2.03)	(2.71)	(8.14)	(10.85)	(13.56)	(16.27)
60"		7	14	21	28	7	15	22	30	92	124	156	188
	(1524)	(.791)	(1.58)	(2.37)	(3.16)	(.791)	(1.70)	(2.49)	(3.39)	(10.40)	(14.01)	(17.63)	(21.24)
72"		9	17	25	34	9	18	27	36	108	144	180	216
	(1829)	(1.02)	(1.92)	(2.83)	(3.84)	(1.02)	(2.03)	(3.05)	(4.07)	(12.20)	(16.27)	(20.34)	(24.41)
84"		10	20	30	39	10	22	31	42				
	(2134)	(1.13)	(2.26)	(3.39)	(4.41)	(1.13)	(2.49)	(3.50)	(4.75)				
96"		11	23	34	45	12	24	36	48				
	(2438)	(1.24)	(2.60)	(3.84)	(5.09)	(1.36)	(2.71)	(4.07)	(5.42)				
		Above values are based on 1000 fpm / 5 m/s face velocity. Use multipliers below for other face velocities.				Above values are based on differential pressure of 1 in. wg. / 250 Pa. Use multipliers below for other differential pressures.				Above values are based on the use of dual durometer vinyl seals on the blade and metallic compression seals at the jamps.			
		Face Velocity fpm / m/s	Multiplier			Diff. Pressure in. wg./Pa	Multiplier						
		1500/8	2.25			1/250	1						
		2000/10	4.44			2/500	2						
		2500/13	6.25										
		3000/15	9.00										

The torque required to operate an VCD control damper is the greatest torque value that the damper will see in operation. The tables shown give torque values for various face velocities, differential pressures, and sealing requirements. The torque required for a damper without seals is the torque due to velocity or pressure, whichever is greater. The torque required for a damper with seals is the torque due to velocity or pressure or sealing the damper, whichever is greater.