

Volume Control Damper - VCD; Low Leakage Application

B - 20 Series

Type: Square and Rectangular

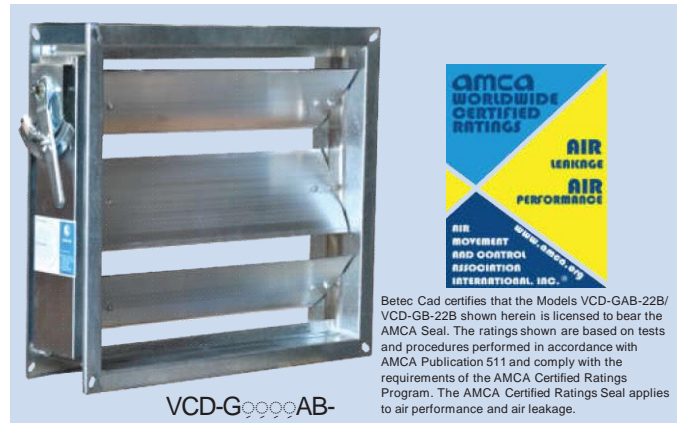
Model: VCD-GAB-22B

Blade Type: Aerofoil ; Galvanized Construction

Blade Operation: A-Parallel, B-Opposed, C-Gear Opposed

BETEC CAD. B-22 Series volume control dampers are square and rectangular type with parallel or opposed blade operation having Aerofoil double skin blade design. These dampers are subjected to medium pressure applications to achieve low leakage and uniform air distribution.

The square and rectangular type **VCD's** are designed for handling maximum air capacities at minimum pressure drop.



Betec Cad certifies that the Models VCD-GAB-22B/ VCD-GB-22B shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance and air leakage.

Damper Performance Ratings

Operating Pressure - 6" wg (1500 Pa.) Max.

Leakage - Class - I (Refer AMCA 500-D-12).

Velocity - 2000 fpm (10.1 m/s).

Standard Construction

Frame

6" x 1.18" x 18 gauge (150 x 30 x 1.2 mm) thick roll formed galvanized steel 'C' channel with Embossed type for low leakage application.

Blades

6" (152 mm) wide, 1 mm (18 gauge) thick extruded aluminium aerofoil type.

Bushes

Nylon.

Mechanical Linkage

Galvanized steel linkages concealed in the frame.

Axles

12 mm square galvanized steel.

Quadrant

Heavy gauge galvanized steel with position indications
Shut, 1/4, 1/2, 3/4, **Open**.

Gasket

Neoprene / Foam / Silicone Rubber Gasket*

Jamb Seal

0.3 mm thick Stainless spring steel

Optional Fittings

Gear Wheel

Gear wheels are of heat resistant Nylon placed within the frame instead of mechanical linkage for rattle free smooth operation, operated with PVC knob / Quadrant.

Bushes

Brass / Bronze* /Stainless Steel.

Axles

12 mm diameter galvanized steel.

Transitions

Neck adaptor for round duct connections.

Note :

Please contact **BETEC CAD.** for customized design & additional information.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

B-20 Series Aerofoil Blade Model details

Material Construction					
Model	Frame		Blade		Quadrant
	Material	Thick	Material	Thick	Material
VCD-GB-22A/B*/C	GI	1.2mm	GI	0.7 mm	GI
VCD-AB-22A/B/C	AL	1.2mm	AL	1 mm	GI
VCD-GAB-22A/B*/C	GI	1.2mm	AL	1 mm	GI
VCD-GSB-22A/B/C	GI	1.2mm	SS	0.7 mm	GI
VCD-SB-22A/B/C	SS	1.2mm	SS	0.7 mm	SS

Alphabet indicates the type of blade operation

A - Parallel Blade

B - Opposed Blade

C - Gear Opposed Blade.

Optional Construction

Frame : Thickness up to 1.5 mm

Frame Depth : 130 mm Optional

Blade : Thickness up to 0.9 mm

Blade Width : Up to 150 mm

Frame and Blade Material : Stainless Steel (304/316L)
: Aluminium

Any Combination of W x H											
VCD-GB-22A/B/C											
W - Inch	6"	8"	12"	16"	18"	20"	24"	28"	32"	36"	48"
H - Inch	6"	8"	12"	16"	18"	20"	24"	28"	32"	36"	48"

Note:

Increments of 2" (50 mm) possible with combination of 4" & 6" blade width.

Maximum single module size is 48"x48" (1200x1200 mm).

Damper, width W > 48" (1200 mm) or H > 48" (1200 mm), is provided with a center mullion partition.

Dampers of size W or H > 800 mm will have blade with stiffener

* Indicates Betec Cad Models Certified by AMCA.

Engineering And Performance Data - VCD

B - 10/20/30/40 Series

Pressure drop for Volume Control Dampers

Single Skin Blade : VCD B 11/21/31/41

Aerofoil Blade : VCD B 12/22/32/42

AIR PERFORMANCE

- Tested for air performance at standard air density in accordance with ANSI/AMCA 500-D, Figure 5.3
- Data are based on a torque of 24 in-lb/ft² applied to close and seat the damper during the test.

Volume Control Damper

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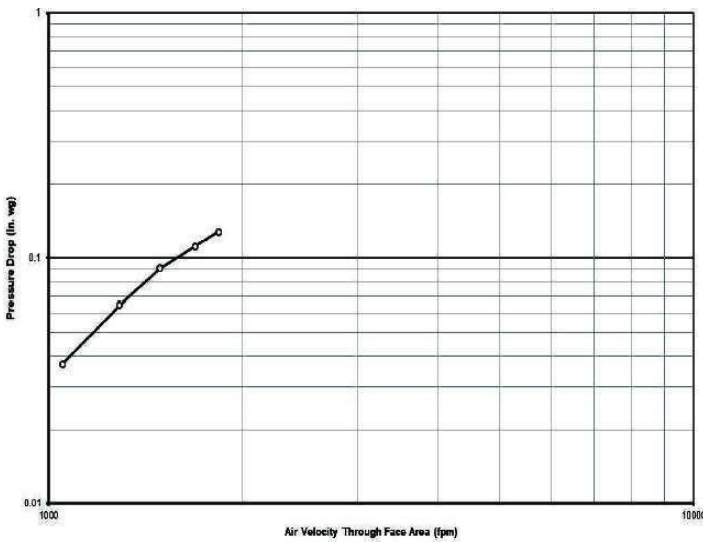
Pressure Loss Vs Face Velocity Pressure Drop For Models VCD - B10/20/30/40 Series.

SIZE 12" X 12"	
Air Velocity (fpm)	Pressure Drop (in. wg)
1100	0.04
1400	0.07
1600	0.09
1800	0.12
1900	0.14

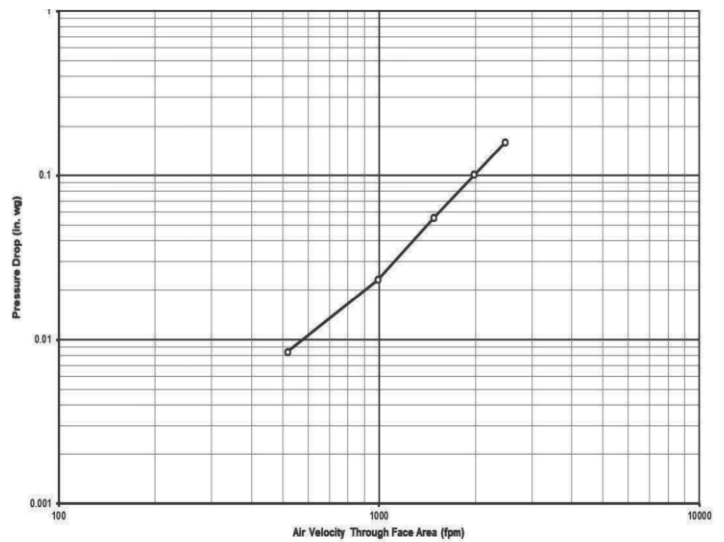
SIZE 24" X 24"	
Air Velocity (fpm)	Pressure Drop (in. wg)
520	0.008
1000	0.02
1600	0.06
2000	0.1
2600	0.18

SIZE 12" X 48"	
Air Velocity (fpm)	Pressure Drop (in. wg)
520	0.01
1000	0.04
1500	0.08
2000	0.14
2600	0.22

SIZE 48" X 12"	
Air Velocity (fpm)	Pressure Drop (in. wg)
520	0.007
1000	0.02
1600	0.05
2000	0.09
2600	0.14

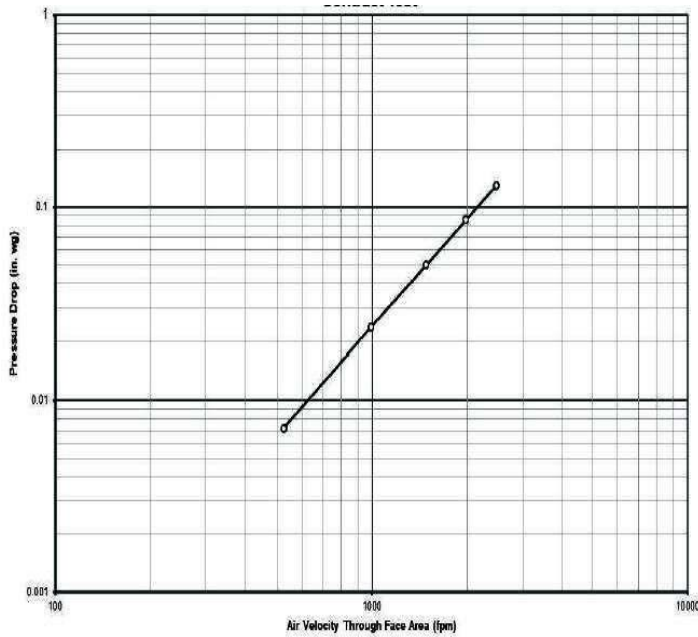


—○— Test Pressure Drop - Device Only
SIZE 12" X 12"

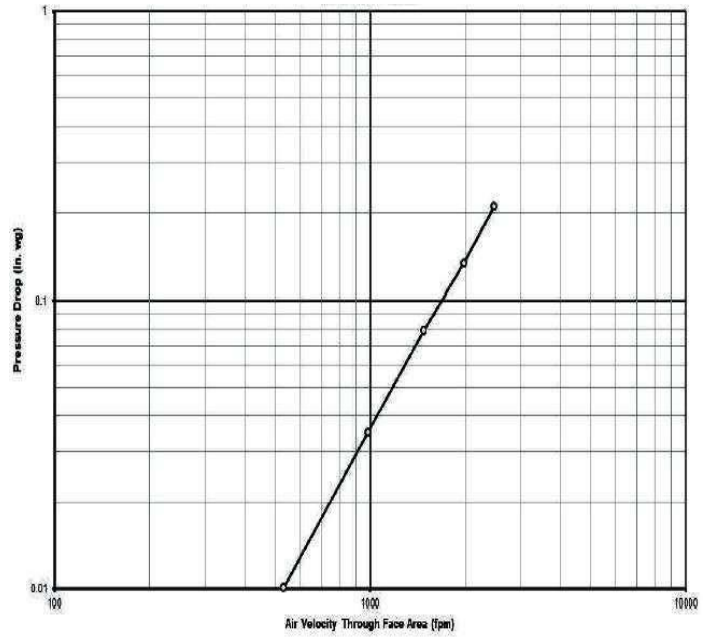


—○— Test Pressure Drop - Device Only
SIZE 24" X 24"

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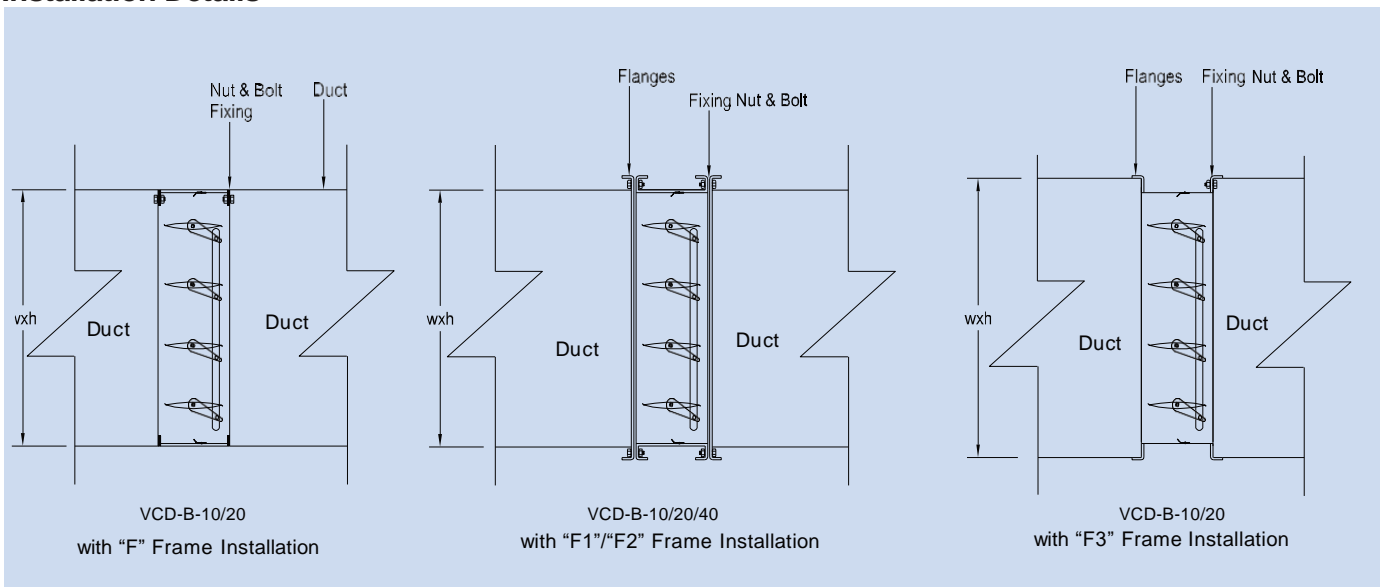


SIZE 48" X 12"



SIZE 12" X 48"

Installation Details



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Engineering And Performance Data - VCD

B 10/20/30/40 Series

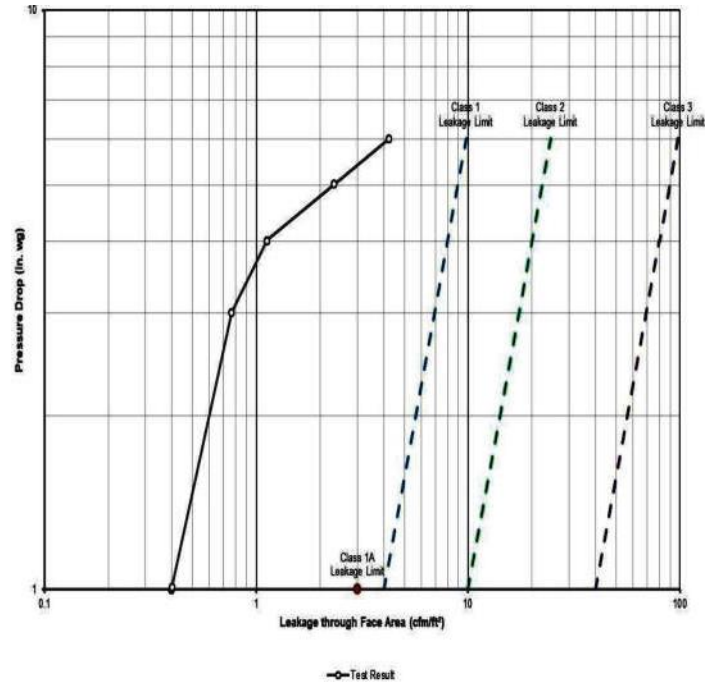
Leakage Characteristics for Volume Control Dampers

Models VCD - B 10/20/30/40 - Leakage Curve (Blades 100% Closed Position)

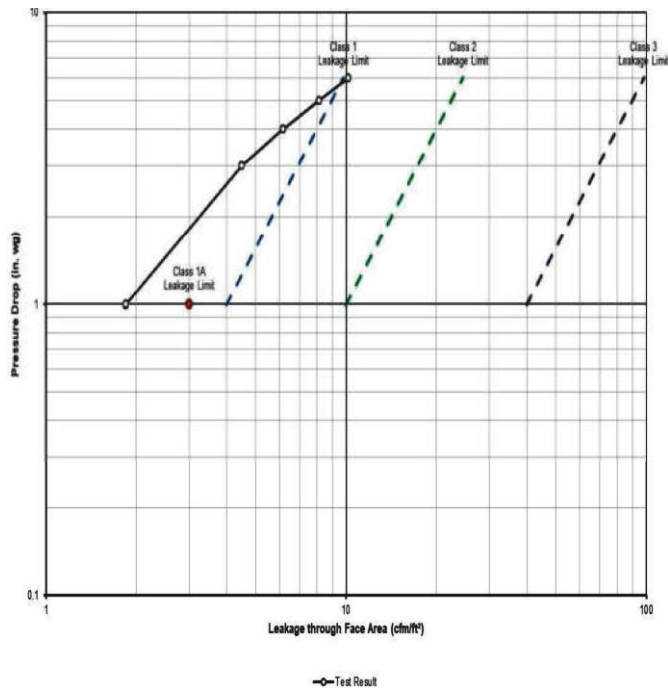
AIR LEAKAGE

- Air leakage is based on operation between 32 °F and 120 °F
- Tested for air leakage at standard air density in accordance with ANSI/AMCA Standard 500-D, Figure 5.4
- Data are based on a torque of 24 in-lb/ft² applied to close and seat the damper during the test.

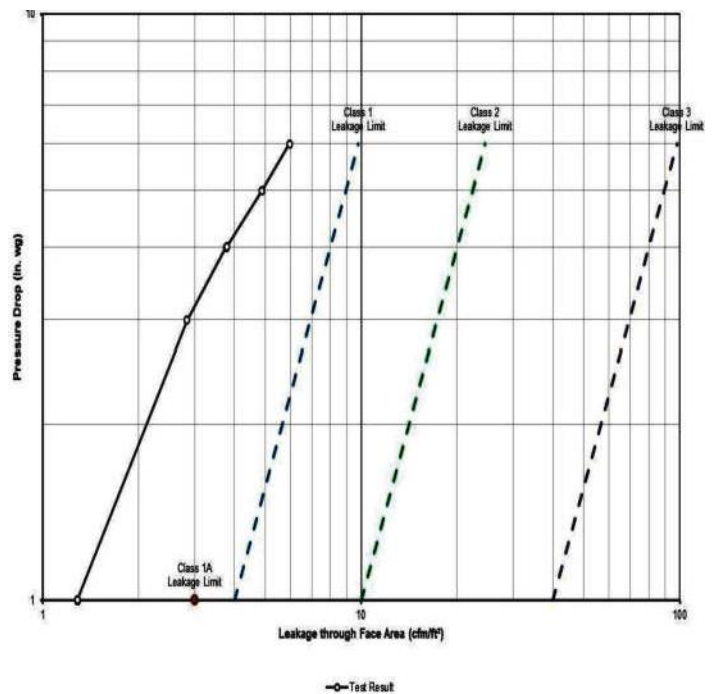
Maximum Allowable Leakage, cfm/ft ²				
Class	at 1 in.wg	at 4 in.wg	at 6 in.wg	at 8 in.wg
1A	3	N/A	N/A	N/A
1	4	8	10	11
2	10	20	24	28
3	40	80	98	112



VCD-GAB-22-B- 36 "X 40"



VCD-GB-21-B- 36 "X 40"



VCD-GB-22-B- 36 "X 40"

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