

**Volume Control Damper - VCD ; Normal Application**
**B - 10 Series**

**Type: Square and Rectangular**

**Model: VCD-GAB-12A**

**Blade Type : Aerofoil ; Galvanized Construction**

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

**BETEC CAD.** B-10 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 efficient and uniform air distribution.

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

**Damper Performance Ratings**

**Operating Pressure** - 4" w.g (1000 Pa.) Max.

**Leakage** - Class - III (Refer AMCA 500D)

**Velocity** - 1500 fpm (7.5 m/s).

**Standard Construction**
**Frame**

6"x 1.18" x18 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 gasket.

**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.



VCD-GAB-12A

B 10 Series Aerofoil Blade Model details					
Material Construction					
Model	Frame		Blade		Quadrant
	Material	Thick	Material	Thick	Material
VCD-GB-12A/B/C	GI	1.2 mm	GI	0.7 mm	GI
VCD-AB-12A/B/C	AL	1.2 mm	AL	1 mm	GI
VCD-GAB-12A/B/C	GI	1.2 mm	AL	1 mm	GI
VCD-GSB-12A/B/C	GI	1.2 mm	SS	0.7 mm	GI
VCD-SB-12A/B/C	SS	1.2 mm	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 1.2 mm

**Blade Width** : Up to 150 mm

**Frame Type** : SNC

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

Any Combination of W x H											
VCD-GB-12A/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 two side linkage.

## 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/ft<sup>2</sup> applied to close and seat the damper during the test.



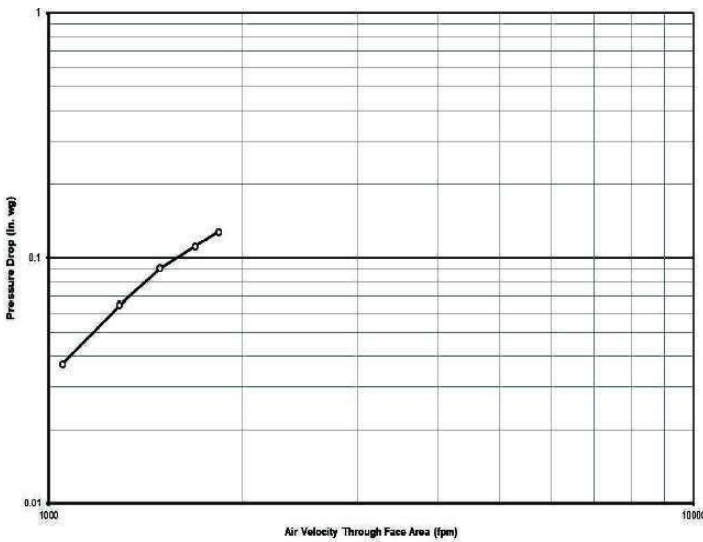
### Pressure Loss Vs Face Velocity Pressure Drop For Models VCD - B10/20/30/40 Series.

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

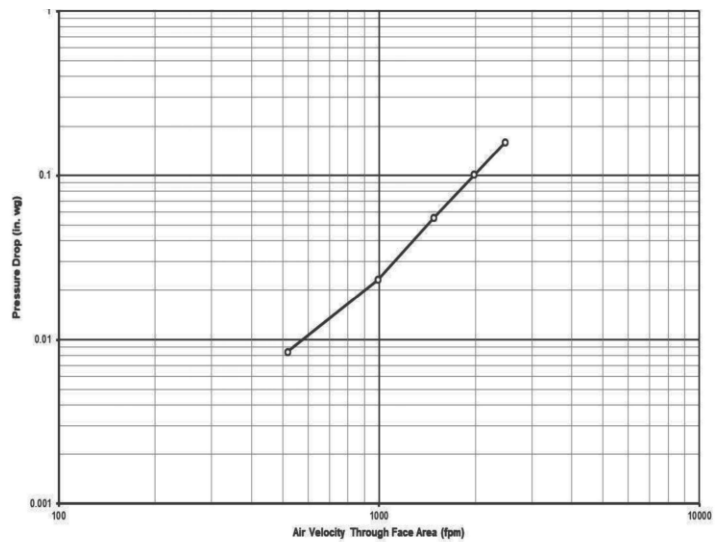
SIZE 24" X 24"	
Air Velocity (fpm)	Pressure Drop (in. wg)
520	0.008
1000	0.02
1600	0.06
2000	0.1
2600	0.18

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

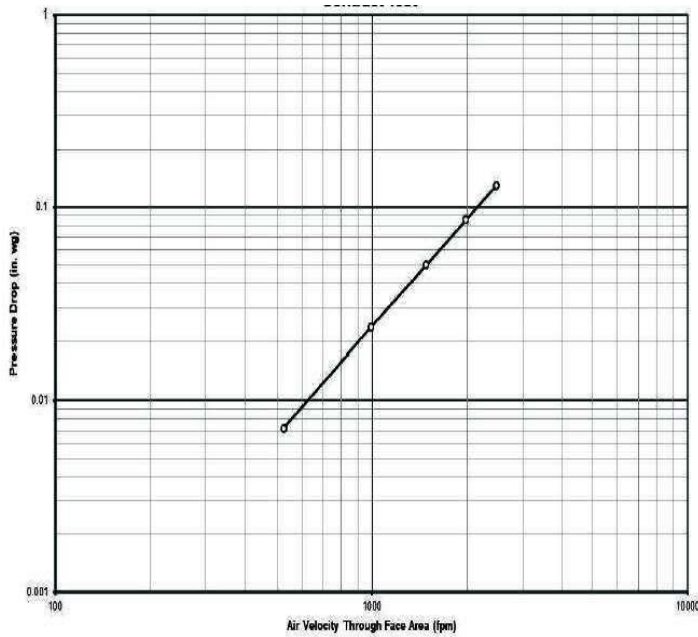


SIZE 12" X 12"

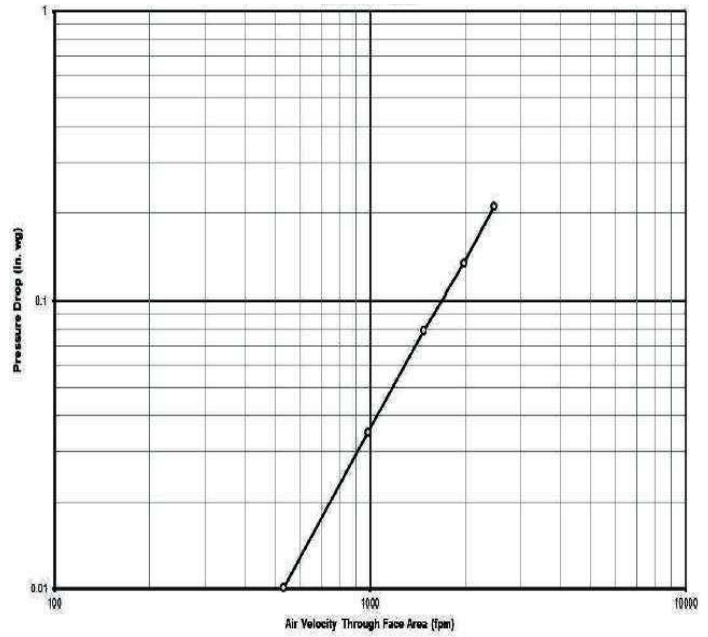


SIZE 24" X 24"

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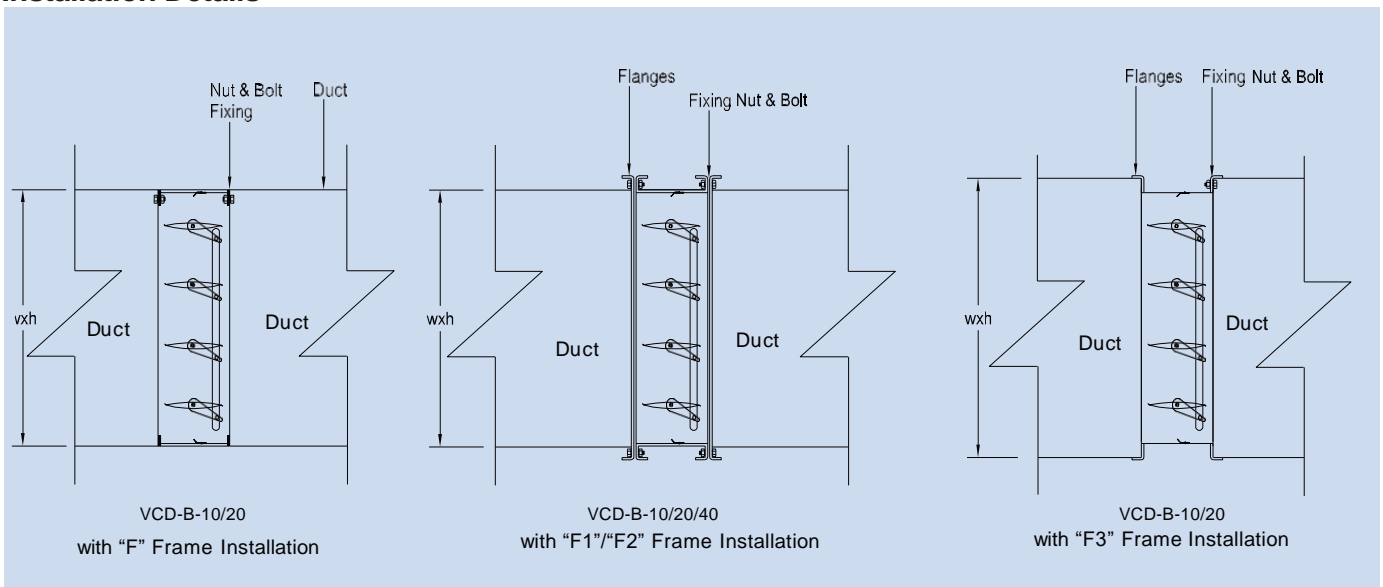


SIZE 48" X 12"



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)

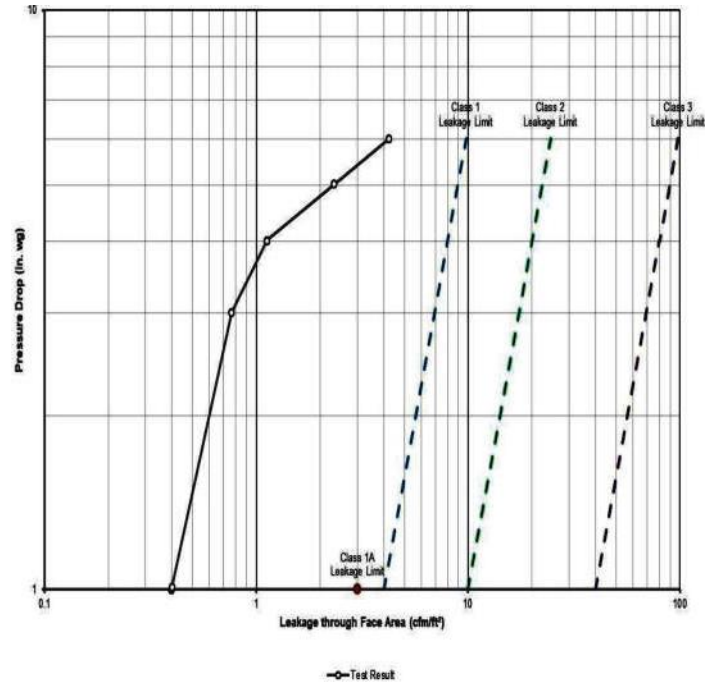
#### AIR LEAKAGE

- Air leakage is based on operation between 32 °F and 120 °F

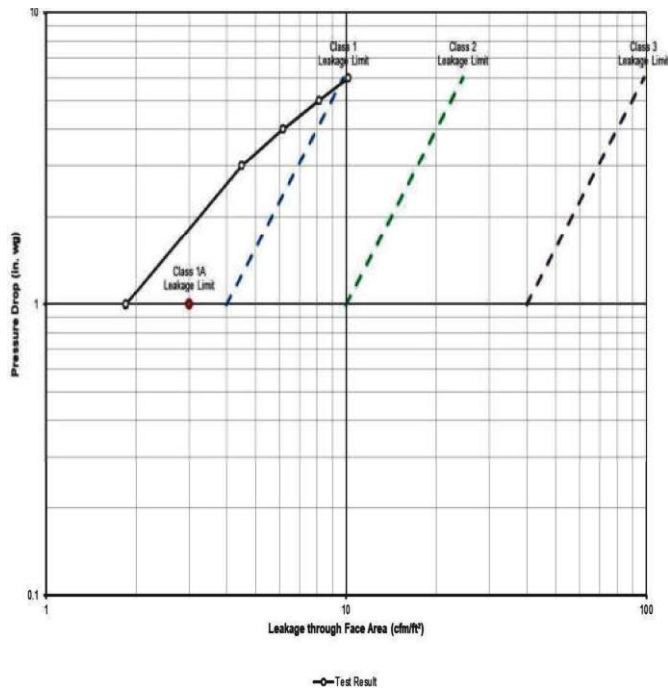
- Tested for air leakage at standard air density in accordance with ANSI/AMCA Standard 500-D, Figure 5.4

- Data are based on a torque of 24 in-lb/ft<sup>2</sup> applied to close and seat the damper during the test.

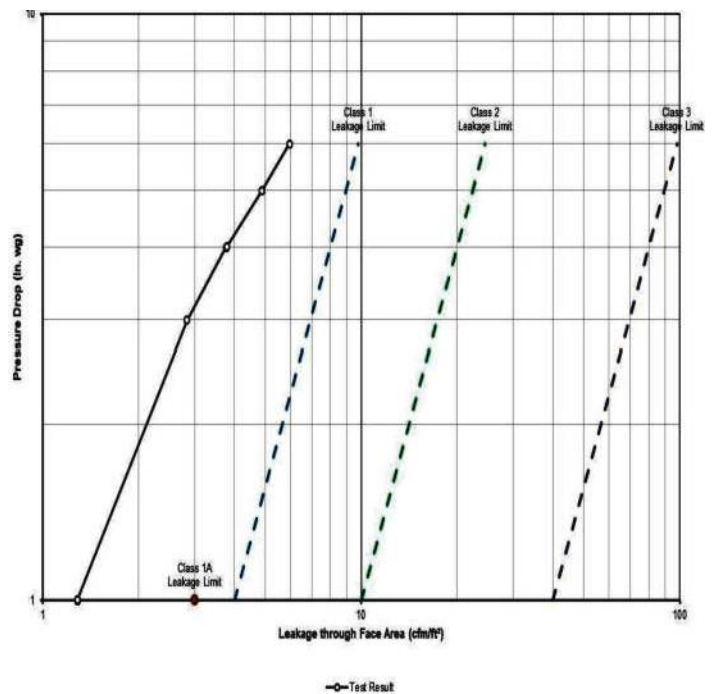
Maximum Allowable Leakage, cfm/ft <sup>2</sup>				
Class	at 1 in.wg	at 4 in.wg	at 6 in.wg	at 8 in.wg
1A	3	N/A	N/A	N/A
1	4	8	10	11
2	10	20	24	28
3	40	80	98	112



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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