

Motorized Volume Control Damper - MCD; Low Leakage Application B-20 Series

Type: Square and Rectangular

Model: MCD-GAB-22A

Blade Type: Aerofoil ; Galvanized Construction

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

BETEC CAD. B-20 Series Motorized 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 **MCD's** are designed for handling maximum air capacities at minimum pressure drop.

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.

Blades

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

Bushes

Bronze.

Mechanical Linkage

Galvanized steel linkages concealed in the frame.

Axles

12 mm square galvanized steel.

Gasket

Neoprene / foam gasket / Silicone Rubber Gasket*.

Jamb Seal

0.3 mm thick stainless spring steel.

Actuator

Siemens (On / Off type 24V AC / 230V AC)

Optional Fittings

Gear Wheel

Gear wheels are of heat resistant Nylon placed within the frame instead of mechanical linkage for rattle free smooth operation.

Bushes

Brass / Nylon.

Axles

12 mm diameter galvanized steel.

Transitions

Neck adaptor for round duct connections.

Actuator

Honeywell /Belimo/Sauter (24V AC / 230V AC)

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	
	Material	Thick	Material	Thick
MCD-GB-22A/B*	GI	1.2 mm	GI	0.7 mm
MCD-AB-22A/B/C	AL	1.2 mm	AL	1 mm
MCD-GAB-22A/B*/C	GI	1.2 mm	AL	1 mm
MCD-GSB-22A/B/C	GI	1.2 mm	SS	0.7 mm
MCD-SB-22A/B	SS	1.2 mm	SS	0.7 mm

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 : Up to 150 mm

Blade : Thickness up to 0.9 mm

Blade Width : Up to 150 mm

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

Any Combination of W x H											
MCD-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"	40"

Note:

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

Maximum single module size is 48"x40" (1200x1000 mm).

Damper, width W > 48" (1200 mm) or H > 40" (1000 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 - MCD

B - 20 Series

Pressure drop for Motorized Control Dampers

Single Skin Blade : MCD B 21/41

Aerofoil Blade : MCD B 22/42

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.

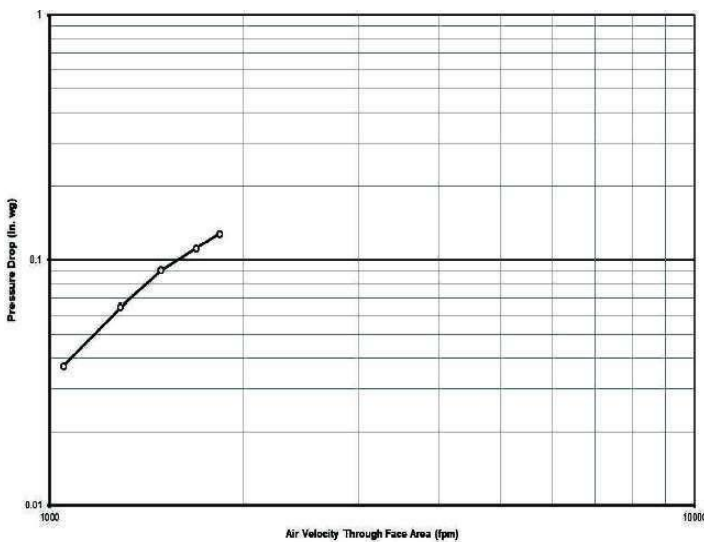


Motorized Control Damper

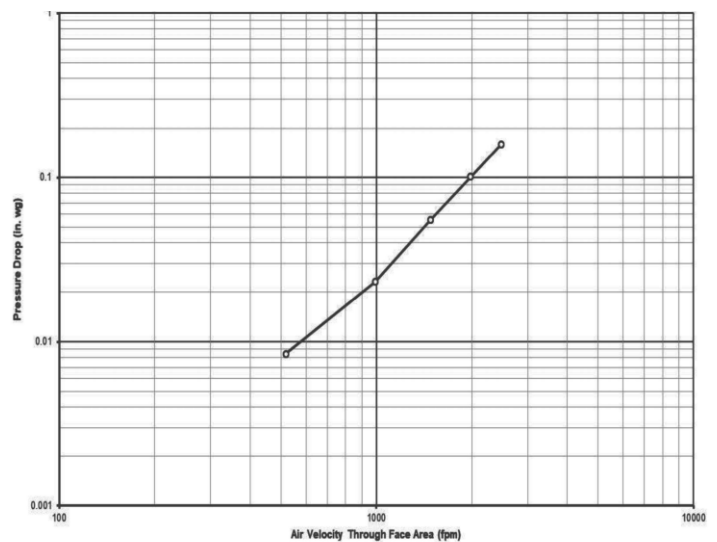
Pressure Loss Vs Face Velocity

Pressure Drop For Models MCD - B 20/40 Series.

SIZE 12" X 12"		SIZE 24" X 24"		SIZE 12" X 48"		SIZE 48" X 12"	
Air Velocity (fpm)	Pressure Drop (in. wg)	Air Velocity (fpm)	Pressure Drop (in. wg)	Air Velocity (fpm)	Pressure Drop (in. wg)	Air Velocity (fpm)	Pressure Drop (in. wg)
1100	0.04	520	0.008	520	0.01	520	0.007
1400	0.07	1000	0.02	1000	0.04	1000	0.02
1600	0.09	1600	0.06	1500	0.08	1600	0.05
1800	0.12	2000	0.1	2000	0.14	2000	0.09
1900	0.14	2600	0.18	2600	0.22	2600	0.14



SIZE 12" X 12"

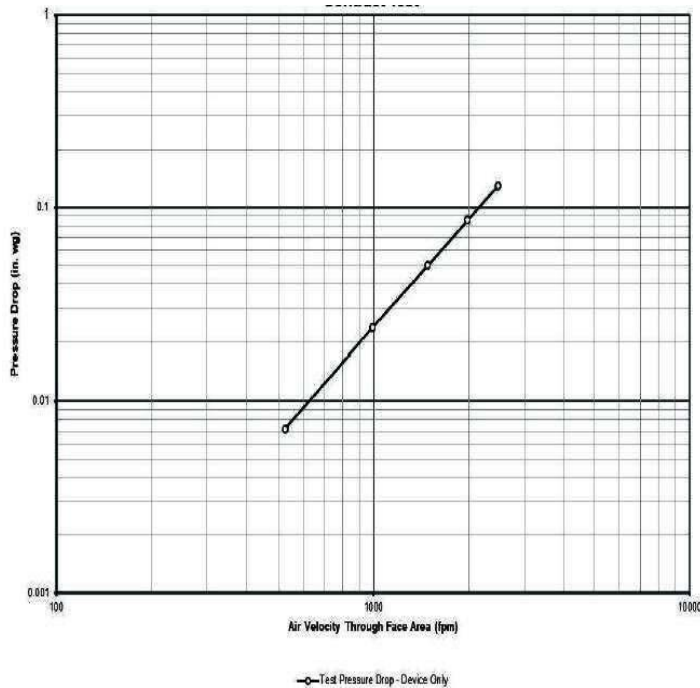


SIZE 24" X 24"

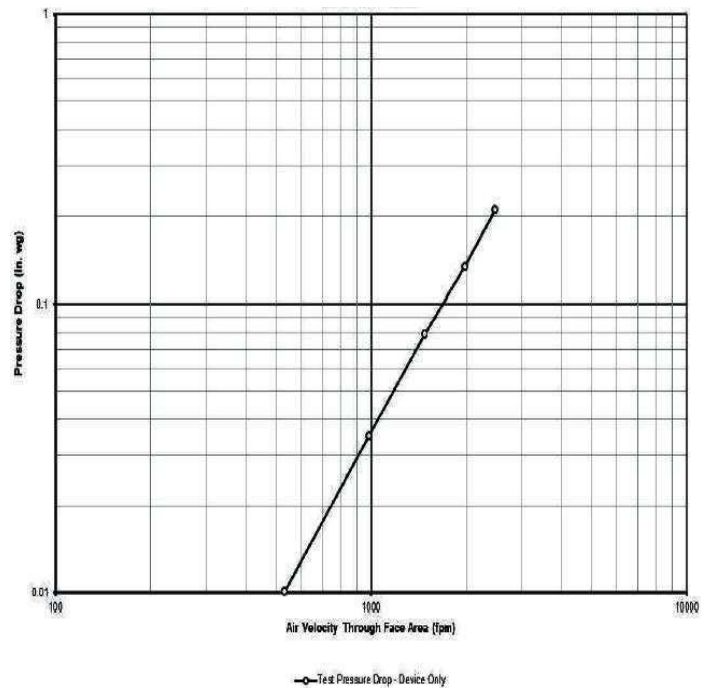
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Pressure drop for Motorized Control Dampers



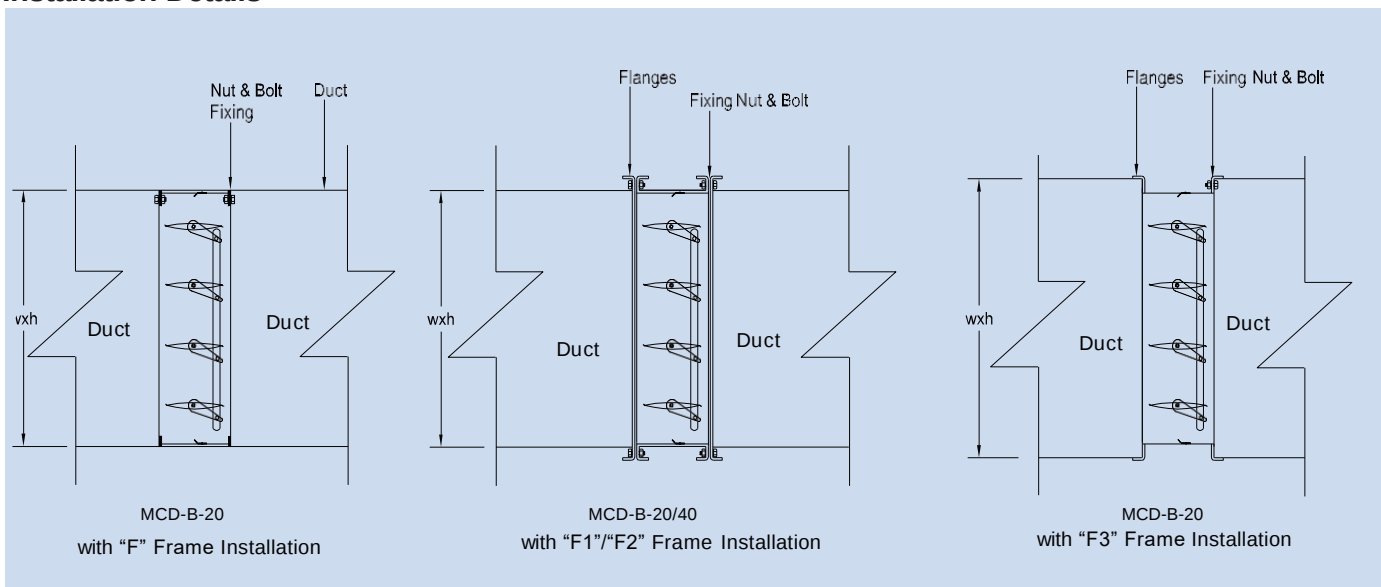
SIZE 48" X 12"



SIZE 12" X 48"

Note: MCD-B-20/40 Series Class - I Leakage type available on request.

Installation Details



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Engineering And Performance Data - MCD

B -20 Series

Leakage Characteristics for Motorized Control Dampers

Models MCD - B 20/40 - Leakage Curve (Blades 100% Closed Position)

AIR LEAKAGE

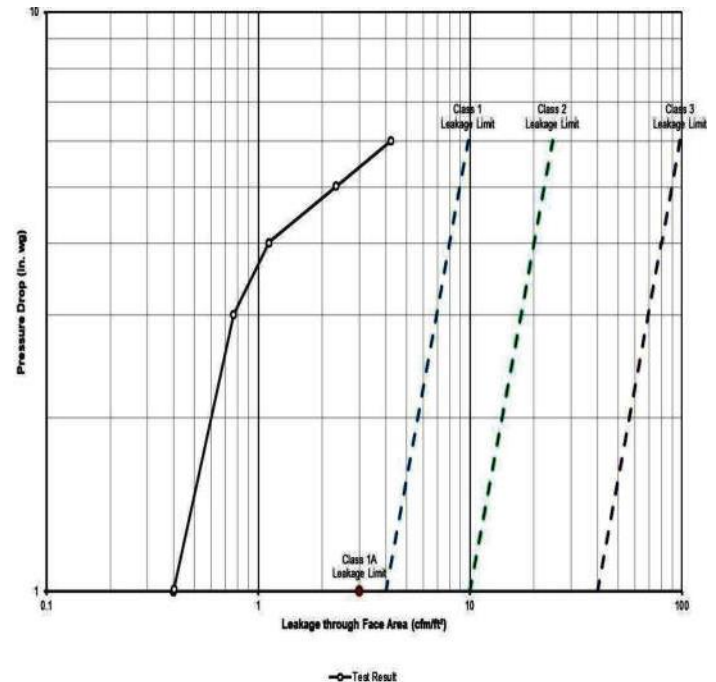
•Air leakage is based on operation between 32 °F and 120 °F

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

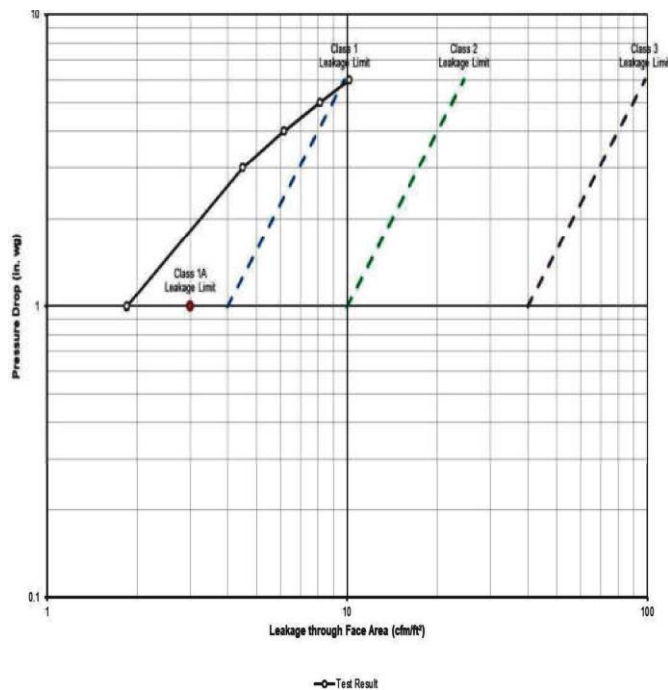
•Data are based on a torque of 24 in-lb/ft² applied to close and seat the damper during the test.

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

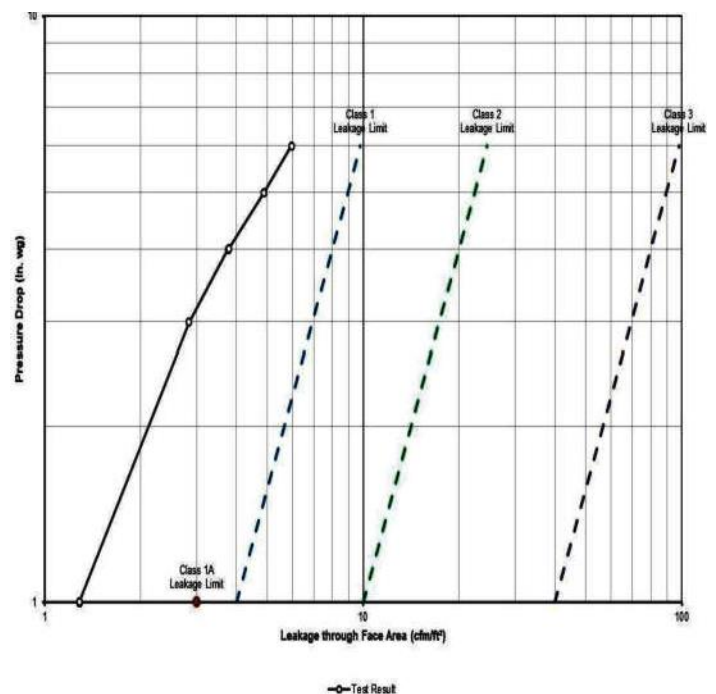
Details of MCD Leakage Class		
MCD-Series	Leakage Class	Static Pressure
MCD B-20 Series	Class - I	1.5 Kpa
MCD B-40 Series	Class - I	1.5 Kpa



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



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



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

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