

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

Type: Square and Rectangular

Model: MCD-GB-21A

Blade Type : 3V Single Skin ; 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 single skin blade design. These dampers are subjected to medium pressure applications to achieve low leakage efficient operation. The square and rectangular type **MCD's** are designed for handling maximum air capacities at minimum pressure drop.



MCD-GB-21A

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, 1.2 mm (18 gauge) thick galvanized steel 3V type roll formed.

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 Single Skin Blade Model Details				
Material Construction				
Model	Frame		Blade	
	Material	Thick	Material	Thick
MCD-GB-21A/B*/C	GI	1.2 mm	GI	1.2 mm
MCD-GSB-21A/B/C	GI	1.2 mm	SS	1.2 mm
MCD-SB-21A/B/C	SS	1.2 mm	SS	1.2 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 1.5 mm

Blade Width : Up to 150 mm

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

Any Combination of W x H											
MCD-GB-21A/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.



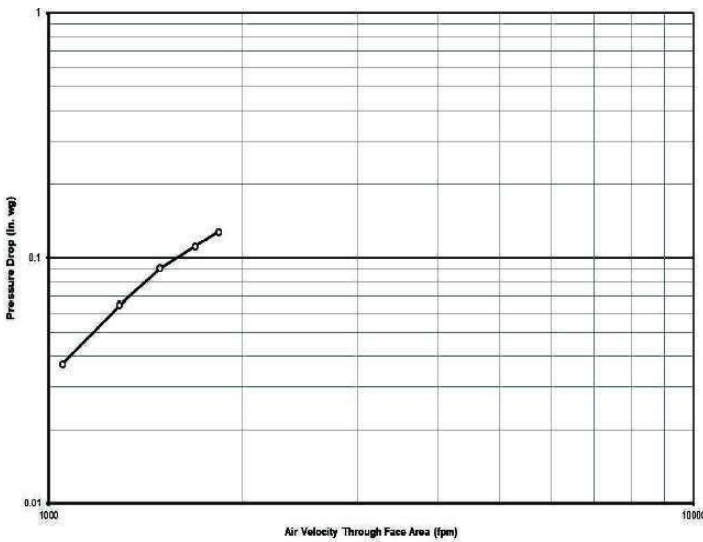
Pressure Loss Vs Face Velocity Pressure Drop For Models MCD - B 20/40 Series.

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

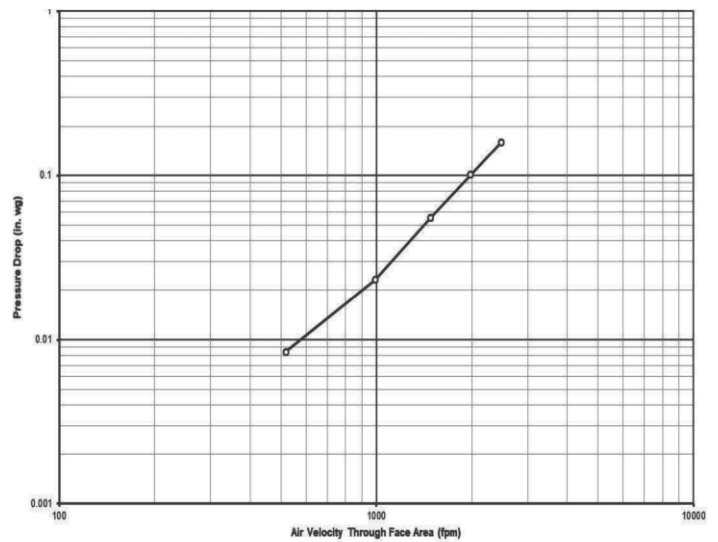
SIZE 24" X 24"	
Air Velocity (fpm)	Pressure Drop (in. wg)
520	0.008
1000	0.02
1600	0.06
2000	0.1
2600	0.18

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"

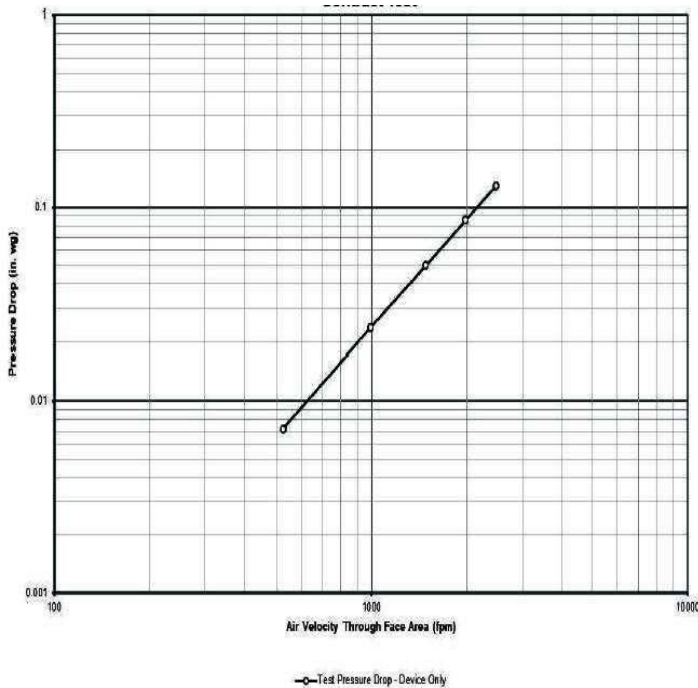


—○— Test Pressure Drop - Device Only
SIZE 24" X 24"

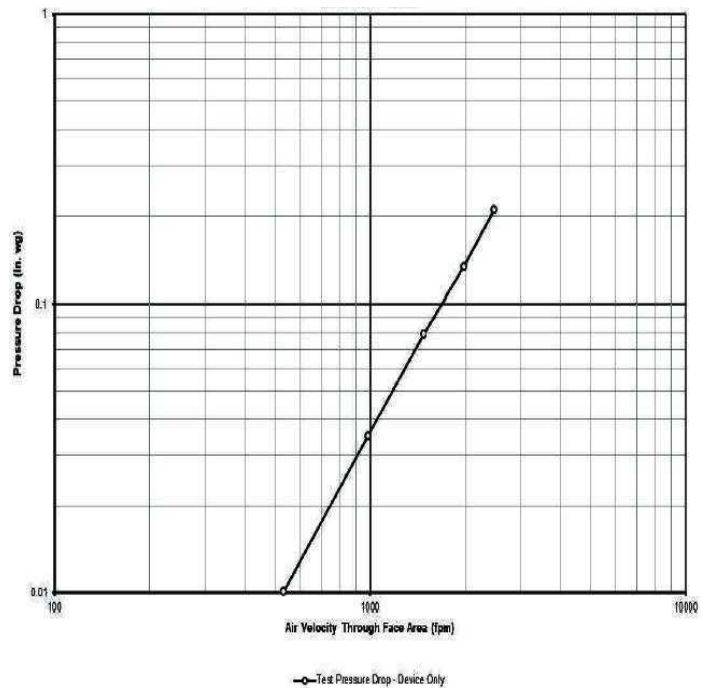
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Pressure drop for Motorized Control Dampers



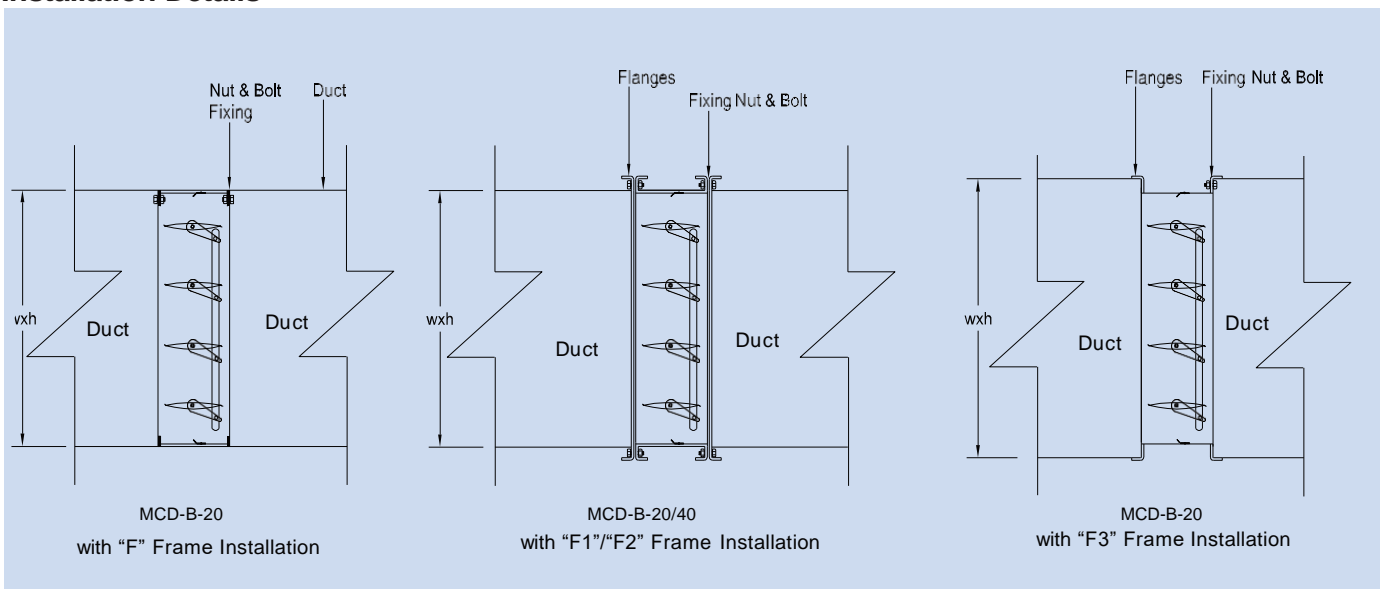
SIZE 48" X 12"



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

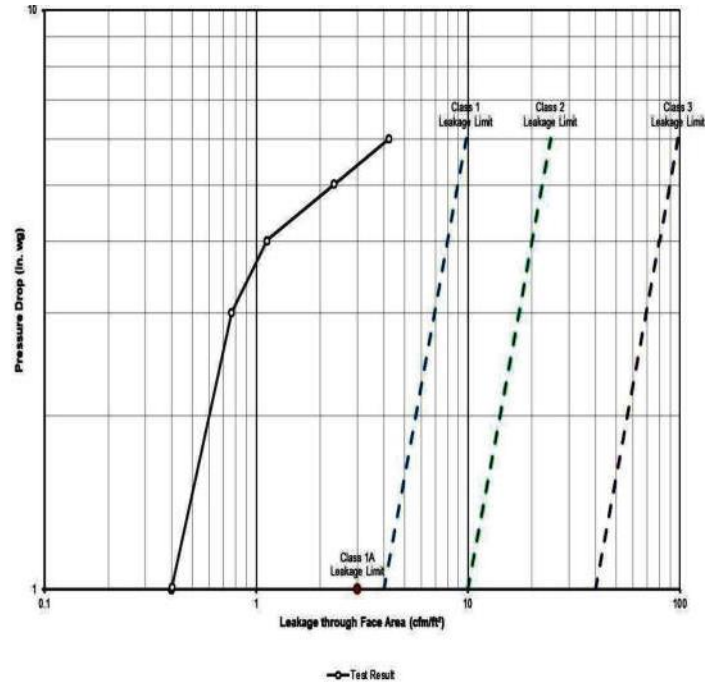
- Air leakage is based on operation between 32 °F and 120 °F

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

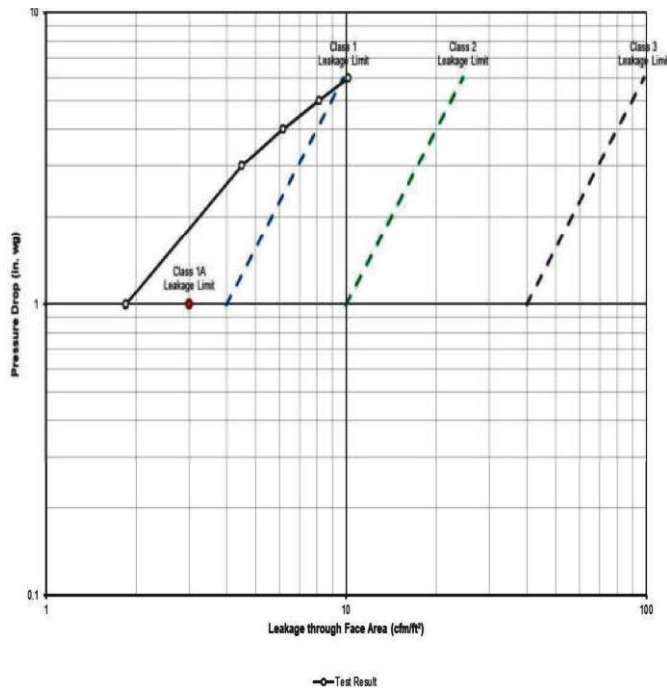
- Data are based on a torque of 24 in-lb/ft² applied to close and seat the damper during the test.

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

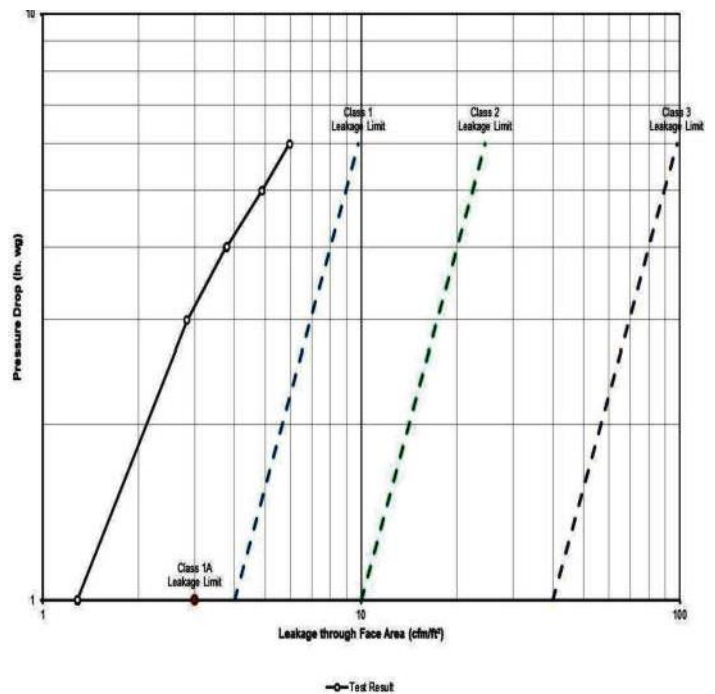
Details of MCD Leakage Class		
MCD-Series	Leakage Class	Static Pressure
MCD B-20 Series	Class - I	1.5 Kpa
MCD B-40 Series	Class - I	1.5 Kpa



MCD-GAB-22-B-36 "X40"



MCD-GB-21-B-36 "X40"



MCD-GB-22-B-36 "X40"

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