AIR CONTROL DAMPER
MODEL KACAB12 or 22

ALUMINUM AIRFOIL LEAKAGE RATED DAMPER

APPLICATION

KACAB-12 or 22 is an Ultra low leakage damper designed to provide superior air control with high performance and heavy duty construction. Dampers are especially designed for manual & motorized balancing & Shut off applications. They are suitable for use in the majority of commercial medium to high pressure and velocity HVAC systems.
They comply to IECC (International Energy Conservation Code) with a leakage rating of 3cfm/ft2 at 1"Wg pressure (55cmh/m^2 at 0.25Kpa) or less.

STANDARD CONSTRUCTION

FRAME:
16 GA galvanized steel interlocking hat channel frame construction.
BLADES:
Extruded aluminum **double skin airfoil** blades
Parallel blades model KACAB12
Opposed blades model KACAB22
SEALS:
Stainless Steel Jamb Seal
Rubber Foam Blade Seal
BEARINGS:
Nylon bearings
AXLES:
0.47”(12mm) Square zinc plated steel stud
LINKAGE:
Concealed in frame 10Ga (3mm) zinc plated steel
MANUAL HAND-QUADRANT:
Galvanized steel die cast hand-quadrant plated for square or round shaft installed on an elevated bearing bracket
BRACKET:
1” (25mm) elevated hand bracket
FINISH:
Mill galvanized

MINIMUM SIZES:

a) SINGLE BLADE: 6"W(152mm) x 6"H(152mm)
b) MULTI-BLADES: 6"W(152mm) x 12"H(305mm)

MAXIMUM SIZES:

a) SINGLE BLADE: 48"W(1219mm) x 10"H(254mm)
b) MULTI-BLADES SINGLE SECTION:
48"W(1219mm)x 48"H(1219mm)
MULTI-SECTIONS: UNLIMITED
Dampers are supplied 1/4" less than order WIDTH & HEIGHT unless specified "ACTUAL SIZE"

OPTIONS:

1) BEARINGS:
Bronze bearings (std for motorized dampers)
or stainless steel bearings.
2) FRAME CONSTRUCTION
Aluminum frame construction
or stainless steel frame construction.
3) ACTUATORS:
a) Electric (24,120 & 230V) or pneumatic.
b) Spring return or non spring return.
c) With or without auxiliairy switch.
4) Blades indicator switch - BIS
5) FLANGES:
Standard duct flanges 35 mm (with 1.5 mm thickness for damper without sleeve or same as sleeve thickness) or duct mate flanges 35mm
6) SLEEVES :
Refer to the air control damper sleeve catalogue for standard type of sleeve
7) EXTENDED SHAFT (without Hand Qaudrant):
4.7” (120mm) extended Shaft (round or square) beyond the air control frame.
8) 2" Elevated hand bracket.

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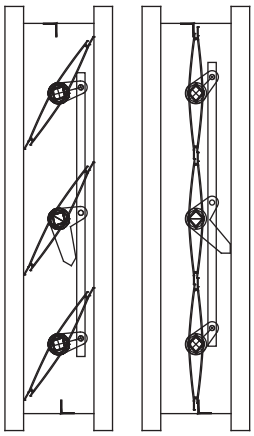
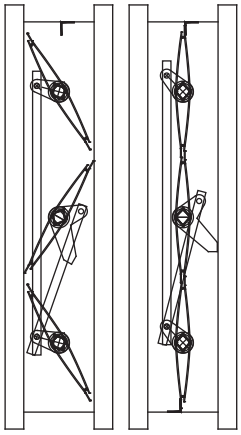
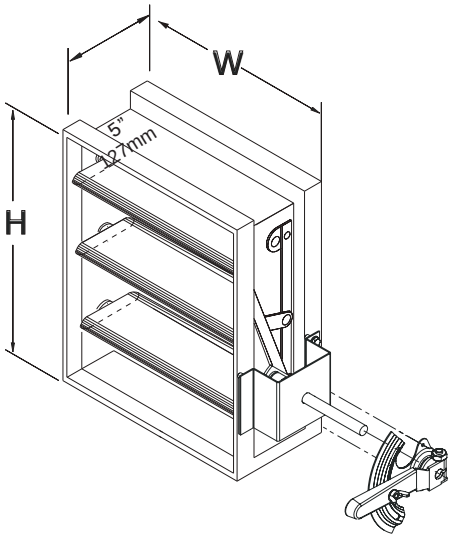
DETAILS

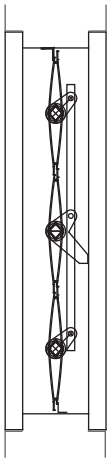


Parallel Blades

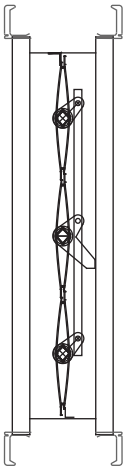


Opposed Blades

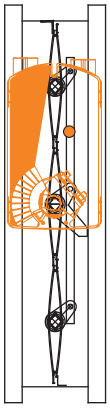




Duct Flanges 35mm



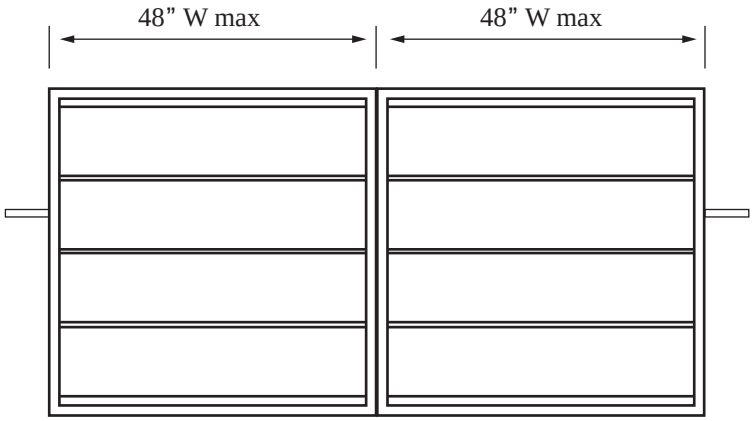
Duct Mate Flanges 35mm



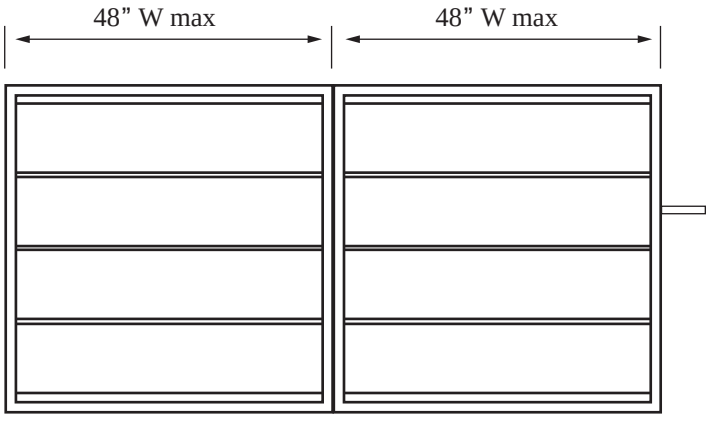
Motorized Damper

Multi-Section Assembly

Damper larger than maximum single section size, will be made up of multiple equal section sections to be assembled at site (as standard) by sheet metal screw or #10 bolts & nuts with hand-quadrant on each side of the damper.
Damper can be factory assembled with single side hand-quadrant as optional with limited assembly of 2 sections --limitation is required to avoid damage during transportation-- unless assembled with factory mounted sleeve.



Standard 2 sections assembly with Hand-quadrant (or Motor) on each side



Optional 2 sections assembly with Hand-quadrant (or Motor) on 1 side

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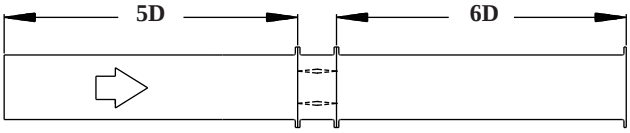
PERFORMANCE DATA

AMCA Test Figures

Figure 5.3 Illustrates a fully ducted damper. This configuration has the lowest pressure drop of the test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.



Damper in Fully open position

48"x12" (1219x305mm)

Velocity (Fpm)	Pressure Drop (In.Wg)
500	0.01
1000	0.04
1500	0.09
2000	0.17
3000	0.44

12"x48" (305x1219mm)

Velocity (Fpm)	Pressure Drop (In.Wg)
500	0.008
1000	0.03
1500	0.07
2000	0.12
3000	0.27

12"x12" (305x305mm)

Velocity (Fpm)	Pressure Drop (In.Wg)
1000	0.06
1500	0.14
2000	0.24
2500	0.39
3000	0.58

24"x24" (610x610mm)

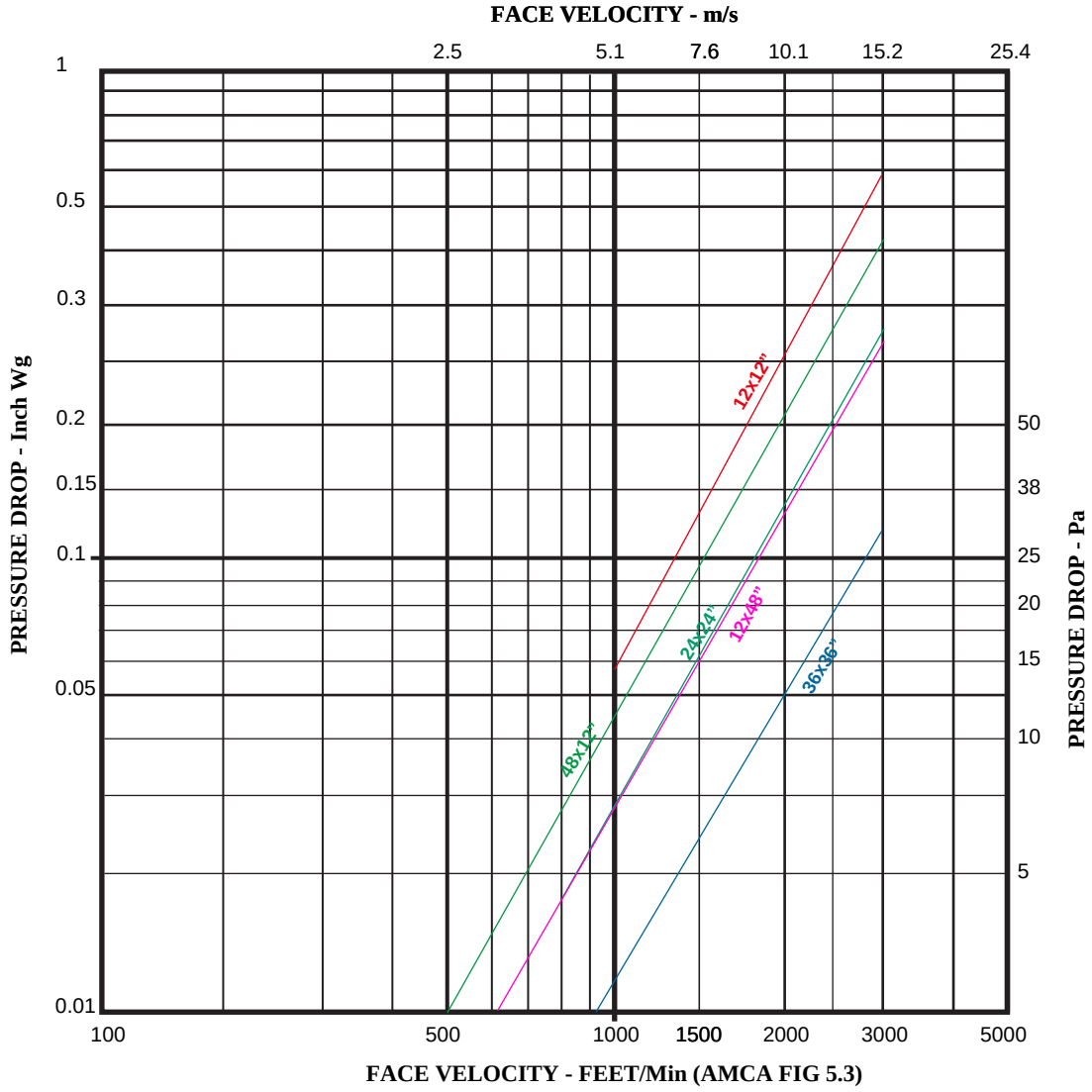
Velocity (Fpm)	Pressure Drop (In.Wg)
800	0.02
1000	0.02
1500	0.06
2000	0.11
3000	0.29

36"x36" (914x914mm)

Velocity (Fpm)	Pressure Drop (In.Wg)
800	0.008
1000	0.01
1500	0.03
2000	0.05
3000	0.12

Tested for Air Performance in accordance with ANSI/AMCA Standard 500-D, Figure 5.3. Air performance testing was conducted using opposed blade dampers; the same results can be applied to parallel blade dampers. All data has been corrected to represent standard air density .075 lb/ft

KBE International certifies that the model KACAB 12 & 22 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 Programs. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance ratings.



AIR CONTROL DAMPER

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LEAKAGE

AMCA Certified Leakage

Maximum Damper Width	Leakage Class at:		
	1 in.Wg (0.25Kpa)	4 in.Wg (1.0 Kpa)	6 in.Wg (1.5Kpa)
48 in. (1219mm)	1A	1	1

Leakage Class Definitions:
Leakage Class 1A - 3 cfm/ft2 @ 1 in. wg (0.015 m3/s/ m2 @ 0.25 kPa)
Leakage Class 1 - 4 cfm/ft2 @ 1 in. wg (0.020 m3/s/ m2 @ 0.25 kPa)
Leakage Class 1 - 8 cfm/ft2 @ 4 in. wg (0.041 m3/s/ m2 @ 1.0 kPa)
Leakage Class 1 - 9.7 cfm/ft2 @ 6 in. wg (0.049 m3/s/ m2 @ 1.5 kPa)

Air leakage is based on operation between 32°F (0°C) and 120°F (49°C). Tested for leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.5.
Data Are based on a Torque of 18in.lb/ft2 applied to close & seat the damper during the test

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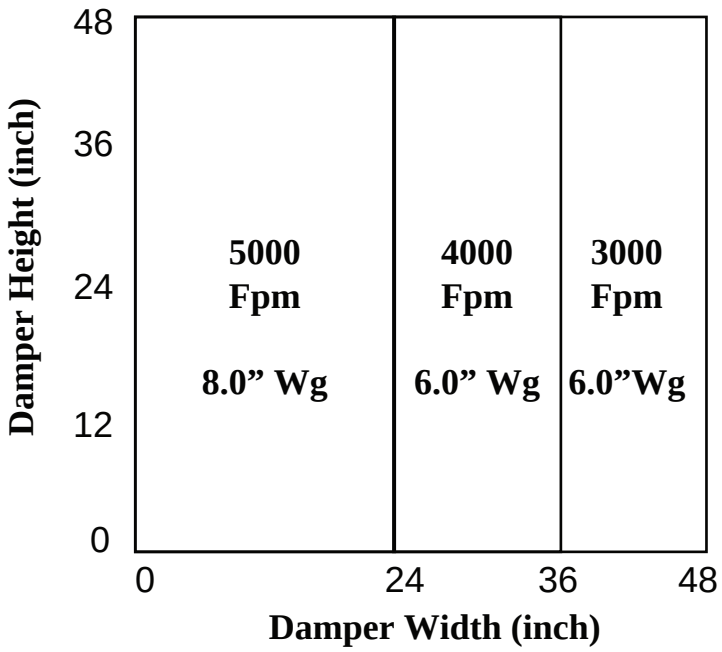
Velocity & Pressure Limitations



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ORDERING INFORMATION

BLADES OPERATION		FRAME CONSTRUCTION		BEARING		BRACKET		DAMPER CONTROL		FLANGE		WIDTH		HEIGHT
	-		-		-		-		-		-		X	

KACAB12: Parallel blades
KACAB22: Opposed blades

-- : Galvanized frame (std)
ALF : Aluminum frame
SSF : Stainless steel frame

-- : Nylon bearing (std)
BB : Bronze bearing
BSS: Stainless steel bearing

-- : 1" bracket (std)
B2 : 2" bracket

-- : Manual hand quadrand (std)
M : Motorized
Ext: 4.7" Extended shaft

-- : Without flange (std)
FLG : Duct flange size 35 mm
DM35 : Duct mate 35 mm

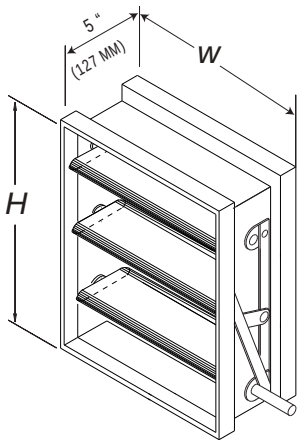
Example KACAB12-BS-BB-M-FLG-24x24

ACTUATOR SELECTION:

Please select the specifications needed for the actuator:

Electric ☐			
24 VAC ☐		230VAC ☐	
Spring return ☐		Non spring return ☐	
On/Off ☐		Modulating ☐	
With auxiliary switch ☐		Without auxiliary switch ☐	

Pneumatic ☐
Spring return ☐
Non spring return ☐



Note:
Volume Dampers with width or height that exceed 48" (1200mm) are manufactured as multiple section and field assembled by others.

	6	8	10	12	14	…	46	48
6	Single Blade							
8								
10								
12	Multi Blade							
14								
…								
46								
48								