

### Applications

The SEVCD-33 is a severe environment 316SS low leakage control damper with 316SS stainless steel airfoil blades. The SEVCD-33 is intended for application in medium to high pressure and velocity systems. Low profile head and sill used on sizes less than 17 in. (432mm) high. This model is also IECC (International Energy Conservation Code) compliant with a leakage rating of 3 cfm/ft<sup>2</sup> @ 1 in. wg (55 cmh/m<sup>2</sup> @ .25 kPa) or less.

### Damper Ratings

#### Pressure

Up to 8 in. wg (2 kPa) pressure differential  
For pressures greater than 8 in. wg, consult factory.

#### Velocity

Up to 4000 fpm (20.3 m/s)

#### Leakage

Class 1A @ 1 in. wg (.25 kPa)  
Class 1 @ 4 in. - 8 in. wg (1 kPa - 2 kPa)

#### Temperature

Up to 250°F (121°C)  
For higher temperatures, consult factory



\*W&H dimension furnished approximately 1/4 in. (6mm) undersize.

### Construction

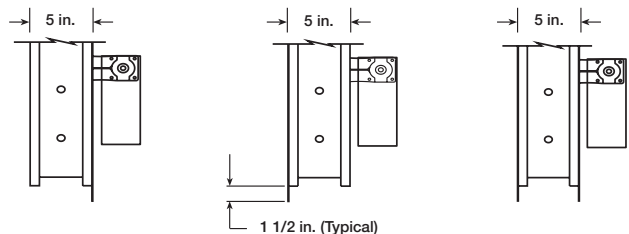
	Standard	Optional
Frame Material	316SS	-
Frame Thickness	16 ga. (1.5mm)	-
Frame Type	5 in. x 1 in. (127mm x 25mm) hat channel	Single Flange, Reverse Flange, Double Flange
Blade Action	Opposed	Parallel
Blade Material	316SS	-
Blade Material Thickness	14 ga. (2mm) equivalent	-
Blade Type	Airfoil	-
Linkage	316SS	-
Axle Bearings	316SS	-
Axle Material	316SS	-
Blade Seals	TPE	Silicone
Jamb Seals	316SS	-

### Size Limitations

W x H	Minimum Size	Maximum Size	
		Single Section	Multi-Section
Inches	6 x 6	60 x 74	Unlimited
mm	152 x 152	1524 x 1880	

### Flange Options

Shown with optional internally mounted actuator.

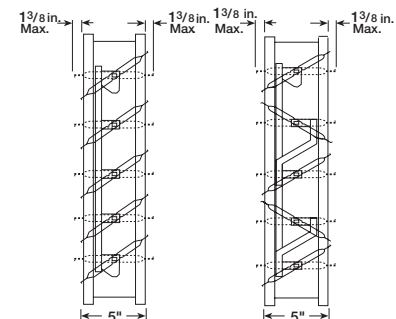


Single Flange

Reversed Flange

Double Flange

### Blade Operation



Parallel Blades

Opposed Blades

## Options and Accessories

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- Actuator: pull chain, manual quadrant, variety of 24V, 120V actuators.  
Factory supplied actuators are sized for 1500 fpm (7 m/s) and fully-closed differential pressure of 2 in. wg (.5 kPa). Contact factory for actuator sizing on applications exceeding those limits.
- Actuator mounting; external, external kit, and internal
- Clean wrap
- NEMA enclosures
- OCI ( Open Closed Indicator)
- Retaining angles
- Transformers

## Document Links

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[Venco All Products Catalog](#)



[Installation Instructions](#)

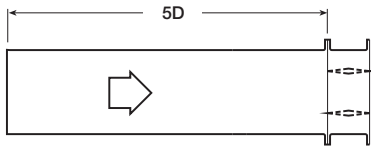


[Warranty Statement](#)



# Pressure Drop

## AMCA 5.2



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.07
2000	0.13
2500	0.19
3000	0.26
3500	0.35
4000	0.45

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.06
2000	0.10
2500	0.15
3000	0.21
3500	0.28
4000	0.36

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.04
2000	0.07
2500	0.11
3000	0.15
3500	0.20
4000	0.26

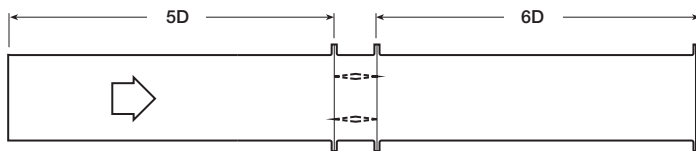
12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.07
2000	0.11
2500	0.17
3000	0.23
3500	0.31
4000	0.39

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.04
2000	0.08
2500	0.12
3000	0.16
3500	0.21
4000	0.27

## AMCA 5.3



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.05
2000	0.08
2500	0.12
3000	0.17
3500	0.23
4000	0.30

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.01
1500	0.03
2000	0.05
2500	0.09
3000	0.13
3500	0.17
4000	0.22

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.01
1500	0.02
2000	0.04
2500	0.06
3000	0.08
3500	0.12
4000	0.15

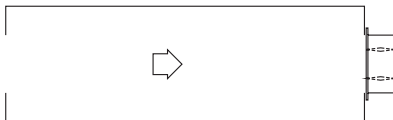
12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.04
2000	0.08
2500	0.12
3000	0.17
3500	0.22
4000	0.29

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.04
2000	0.07
2500	0.11
3000	0.15
3500	0.20
4000	0.25

## AMCA 5.5



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.48
2500	0.74
3000	1.07
3500	1.46
4000	1.91

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.26
2000	0.45
2500	0.71
3000	1.02
3500	1.40
4000	1.89

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.09
1500	0.21
2000	0.38
2500	0.58
3000	0.85
3500	1.15
4000	1.52

12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.24
2000	0.43
2500	0.67
3000	0.96
3500	1.31
4000	1.71

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.24
2000	0.44
2500	0.68
3000	0.97
3500	1.32
4000	1.73

## Leakage

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.

Tested for air performance in accordance with ANSI/AMCA Standard 500-D, Figures 5.2, 5.3 and 5.5.

## Torque

Data are based on a torque of 7.0 in.lb/ft<sup>2</sup> (0.79 N·m) applied to close and seat the damper during the test.

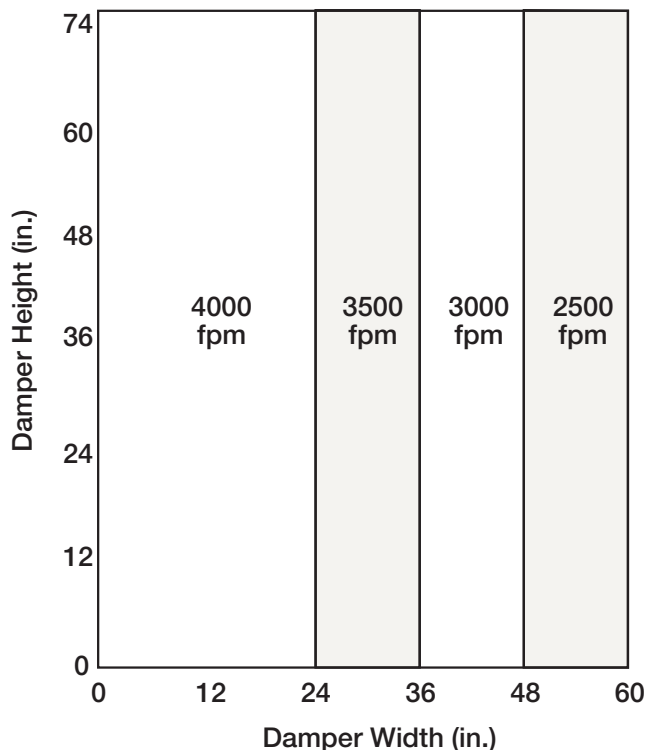
SEVCD-33	Leakage Class		
<b>Maximum Damper Width</b>	1 in. wg (0.25 kPa)	4 in. wg (1 kPa)	8 in. wg (2 kPa)
<b>60 in. (1524mm)</b>	1A	1	1

### \*Leakage Class Definitions

The maximum allowable leakage is defined by AMCA as the following:

- Leakage Class 1A - 3 cfm/ft<sup>2</sup> @ 1 in. wg (class 1A is only defined at 1 in. wg).
- Leakage Class 1
  - 4 cfm/ft<sup>2</sup> @ 1 in. wg
  - 8 cfm/ft<sup>2</sup> @ 4 in. wg
  - 11 cfm/ft<sup>2</sup> @ 8 in. wg
  - 12.6 cfm/ft<sup>2</sup> @ 10 in. wg

## Velocity Limitations

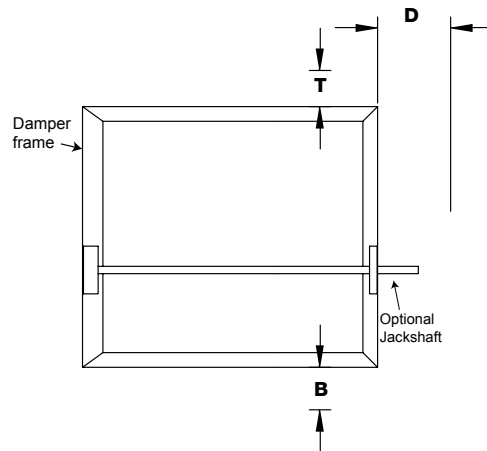


## Temperature Limitations

Blade Seal	Temperature Range
<b>TPE</b>	-10°F to 180°F (-23°C to 82°C)
<b>Silicone</b>	-40°F to 250°F (-40°C to 121°C)

## Space Envelopes

On dampers less than 18 in. (457mm) high, actuators may also require clearances above and/or below the damper frame. "B" and "T" dimensions are worst case clearance requirements for some dampers less than 18 in. (457mm) high. All damper sizes under 18 in. (457mm) high do not require these worst case clearances. If space availability above or below the damper is limited, each damper size should be individually evaluated.



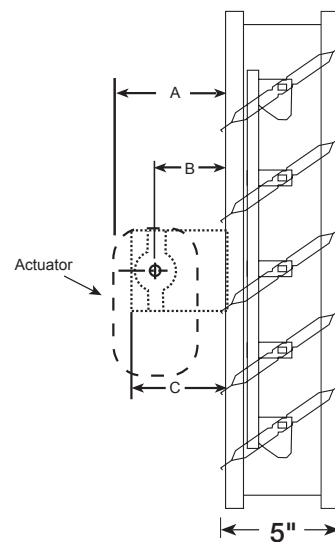
Actuator Type/Model	Height	T	B	D
	Inches (mm)			
AFBUP (-S) and FSNF Series, Belimo MSxx20 Series, Honeywell	≥6 to <10	0	12.75	6
	≥10 to <18	0	2	6
	≥18	0	0	6
FSLF, LF and TFB Series, Belimo	≥6 to <10	0	3.5	6
	≥10	0	0	6
MSxx04 & MSxx09 Series, Honeywell	≥6 to <9	0	4.75	6
	≥9	0	0	6
MS75xx Series, Honeywell	≥6 to <10	0	12.75	6
	≥10 to <18	0	7	6
	≥18	0	0	6

This drawing depicts the worse case clearance requirements for an actuator with a jackshaft.

## Mounting

- External - includes extension pin (standoff bracket optional)
- External kit - actuator and all mounting hardware
- Internal - blade lever

Internal mount only Actuator model	A	B	C
All except - EFB & EFCX Series	7¼ in. (197 mm)	3¾ in. (95 mm)	5⅝ in. (136.5 mm)
EFB & EFCX Series	8½ in. (216 mm)	6 in. (152mm)	8½ in. (216 mm)



## Multi-Section Assembly

Dampers larger than the maximum single section size, will be made up of a multiple of equal size sections. Multiple section dampers can be jackshafted together so that all sections operate together as shown below.

**NOTE:** Dampers larger than 60 in. x 74 in. (1524mm x 1880mm) are not intended to be structurally self supporting. Additional horizontal bracing is recommended to support the weight of the damper and vertical bracing should be installed as required to hold against system pressure.

Refer to IOM document 483509 for structural support requirements on multi-section assemblies.

