

The Alumavent 3900 BF series thermally broken insulated blade aluminum control damper offers greater thermal efficiency than other control dampers. It features AMCA certified performance for Air Leakage, Air Performance and Thermal Efficiency.



3965 BF
Flanged-to-Duct



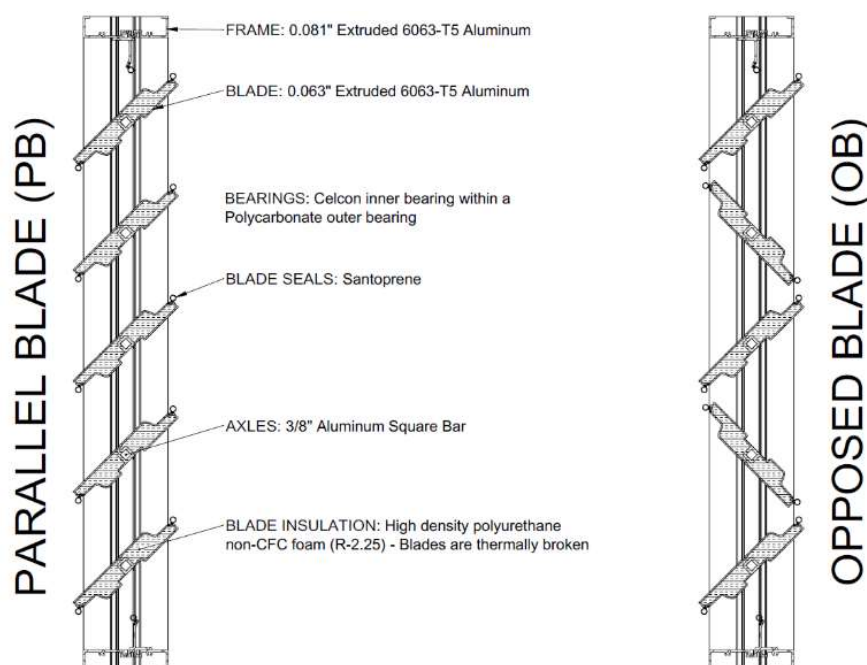
3967 BF
Front Flanged

STANDARD CONSTRUCTION

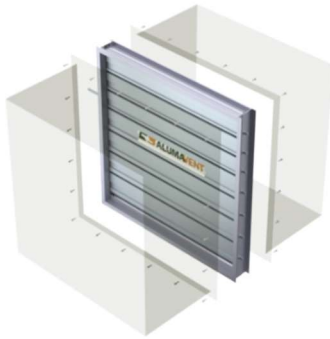
Depth: 4" (102 mm) – 3965BF / 3967BF
Depth with Blades Open: 6.125" (156 mm)
Minimum Height: 6" (152 mm) - Single Blade
 15" (381 mm) - Multiple Blade
Maximum Panel Width: 48" (1219 mm)
Maximum Panel Height: 60" (1524 mm)
Maximum Panel Size: 20 Sq.Ft.
Maximum System Pressure: Up to 8 in.wg. (1.99 kpa) see chart
Maximum Velocity: Up to 4000 fpm (20 m/s)
Operating Temperature Range: -40° to +180° F
Thermal Efficiency: 452%
Standard Finish: Mill
Standard Motor Installation: 6" Side Shaft Direct Drive
Linkage: Outside of Frame (3965/3967)

OPTIONS / ACCESSORIES

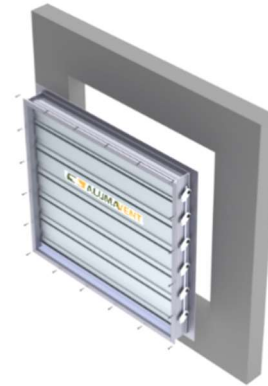
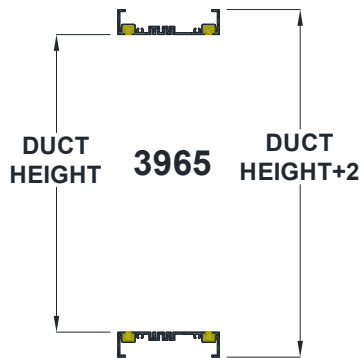
- Factory Supplied Actuators
- End Switch for signaling peripheral devices.
- Jack Shaft
- Hand Quadrants
- Chain Operation for manual operation spring closed
- Silicone Blade and Jamb Seals – Specify 3900S/
- Salt Water Construction – Specify 3900SW
- Available finish: Clear Anodized
- Frame Insulation: Polystyrene Insulation



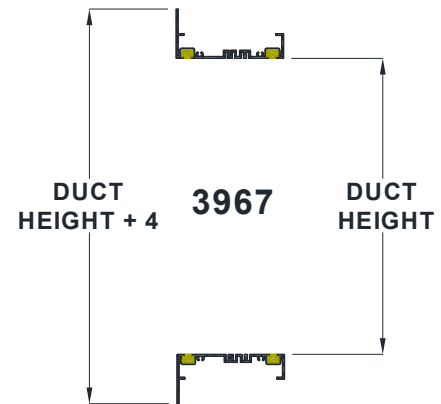
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3965 BF
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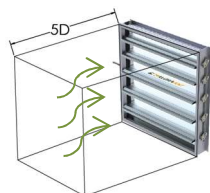
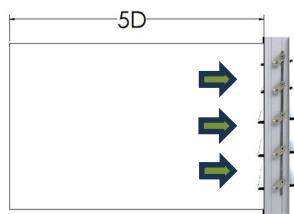
3967 BF
Front Flanged



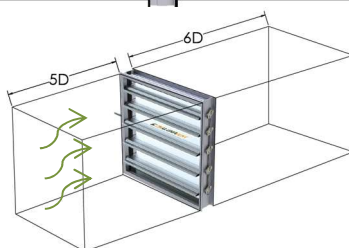
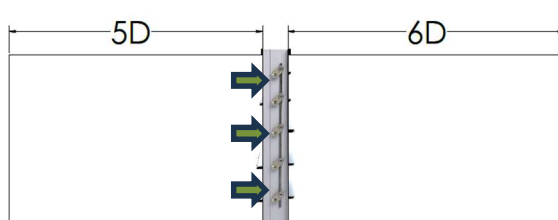
RECOMMENDED SPECIFICATION

Furnish and install control damper models 3965BF / 3967BF as manufactured by Alumavent, Alliston Ontario. Damper must be licensed to bear the AMCA seal for Air Leakage, Air Performance and Thermal Efficiency. Blades shall be 0.063" (1.60 mm) thick, thermally broken with high density Polyurethane non-CFC injected foam insulation. Thermally Broken Frame shall be 0.081" (2.06 mm) thick. Axles shall be 0.375" (9.53 mm) thick, aluminum square bar. Blade and jamb seals shall be Santoprene. Linkage is outside of frame for models 3965BF/3967BF. Air leakage shall not exceed 3 CFM/ft² (15.2 L/s/m²) against 1" w.g (0.25 kPa) static pressure at standard air (as per AMCA testing). Operating temperature range shall be -40° to +212° F.

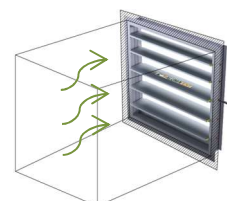
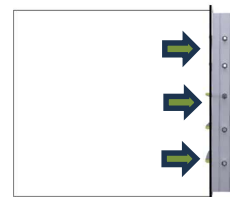
AMCA 5.2



AMCA 5.3



AMCA 5.5



3900BF SERIES CONTROL DAMPER PRESSURE DROP

Velocity [FPM]	Pressure Drop [in. w.g]
12x12 (inches)	
500	0.09
1000	0.27
2000	1.03
3000	2.28
4000	3.79
24x24 (inches)	
500	0.02
1000	0.08
2000	0.45
3000	0.82
4000	1.19
36x36 (inches)	
500	0.02
1000	0.07
2000	0.25
3000	0.56
4000	1.06
12x48 (inches)	
500	0.08
1000	0.31
2000	1.37
3000	2.91
4000	4.04
48x12 (inches)	
500	0.04
1000	0.15
2000	0.58
3000	1.23
4000	2.00

3900BF SERIES CONTROL DAMPER PRESSURE DROP

Velocity [FPM]	Pressure Drop [in. w.g]
12x12 (inches)	
500	0.03
1000	0.08
2000	0.34
3000	0.74
4000	1.21
24x24 (inches)	
500	0.01
1000	0.03
2000	0.15
3000	0.28
4000	0.40
36x36 (inches)	
500	0.01
1000	0.03
2000	0.10
3000	0.24
4000	0.46
12x48 (inches)	
500	0.03
1000	0.13
2000	0.55
3000	1.27
4000	2.20
48x12 (inches)	
500	0.02
1000	0.06
2000	0.24
3000	0.53
4000	0.88

3900BF SERIES CONTROL DAMPER PRESSURE DROP

Velocity [FPM]	Pressure Drop [in. w.g]
12x12 (inches)	
500	0.11
1000	0.26
2000	1.08
3000	2.45
4000	4.10
24x24 (inches)	
500	0.06
1000	0.29
2000	0.87
3000	1.93
4000	3.37
36x36 (inches)	
500	0.05
1000	0.26
2000	0.87
3000	1.90
4000	3.18
12x48 (inches)	
500	0.06
1000	0.33
2000	1.12
3000	2.50
4000	4.18
48x12 (inches)	
500	0.05
1000	0.28
2000	0.97
3000	2.10
4000	3.70

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DEFINITION OF LEAKAGE CLASSIFICATION

CLASS	LEAKAGE ft ³ /min/ft ² (L/s/m ²)			
	1" (0.25 kPa)	4" (1.0 kPa)	8" (2.0 kPa)	12" (3.0 kPa)
1A	3 (15.2)	N/A	N/A	N/A
1	4 (20.3)	8 (40.6)	11 (55.9)	14 (71.1)
2	10 (50.8)	20 (102)	28 (142)	35 (178)
3	40 (203)	80 (406)	112 (569)	140 (711)

3900 SERIES CONTROL DAMPER LEAKAGE RATING

DAMPER SIZE Width x Height	PRESSURE in w.g (kPa)		
	1" (0.25 kPa)	4" (1.0 kPa)	8" (2.0 kPa)
12" x 12" (305x305 mm)	1A	1	1
24" x 24" (610x610 mm)	1A	1	1
36" x 36" (914x914 mm)	1A	1	1
12" x 48" (305x1219 mm)	1A	1	1
48" x 12" (1219x305 mm)	1A	1	1
36" x 48" (914x1219 mm)	1A	1	1

Leakage test was conducted in accordance with AMCA Standard 500-D, Fig.5.4A. Data are based on a torque of 10.625 lb.in./ft² (1.2 N•m) to close and seat the damper which are 12" or less than 12" wide and 8 lb.in./ft² (0.9 N•m) for all other available sizes. Air leakage is based on operation between 0°C-49°C (32°F-120°F). Data corrected to standard air density of 0.075 lbs./ft.³.

AMCA Certified Energy Efficiency Performance

Alumavent Inc. 3900BF insulated control Damper has a Thermal Efficiency Ratio of **452%**

A damper's Thermal Efficiency Ratio (E) is a comparison of the thermal performance of the tested damper with that of a standard reference damper, which is a 3V blade damper with blade and jamb seals. A damper with the same thermal efficiency as the reference damper would have an E of 0%. A damper that is twice as efficient as the reference damper would have an E of 100%.

Test Information

Testing was conducted on a 36 in. x 36 in. (914mm x 914mm) sample in AMCA 500-D11 Damper Efficiency Test Report figure 5.10 per AMCA standard 500-D's Thermal Efficiency test.

Torque

Data are based on a torque of 8 in.lb./ft² (0.90 N•m) applied to close and seat the damper during the test.



3900 Installation
Instructions



Jack Shaft Assembly
Instructions



Jumper Assembly
Instruction



Certification

CERTIFIED RATINGS

Alumavent Inc. certifies that the 3900 Series Insulated Control Dampers shown here are 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 Program. The AMCA Certified Ratings Seal applies to air performance ratings and air leakage ratings and efficiency ratings.



