

Wind - driven Rain Louvers



CVSA 
LOUVER SERIES



4" WIND DRIVEN RAIN FIXED LOUVER MODEL RD-4

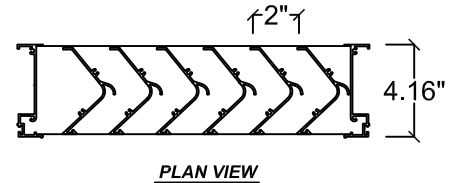
STANDARD CONSTRUCTION:

FRAME: .081 Extruded Aluminum 4.16" Deep
BLADES: .081 Extruded Aluminum on approximately 2" centers.
EXTENDED SILL: .081 Extruded Aluminum, 5.25" Deep
BIRDSCREEN: .75" x .051" Flattened Aluminum in removeable frame.
Screen is mounted as standard on inside (rear)
as looking from exterior of building.

FINISH: Mill Aluminum (Std)

MINIMUM SIZE: 12"w x 12"h

MAXIMUM SIZE: Factory Assembled 60"w x 96"h

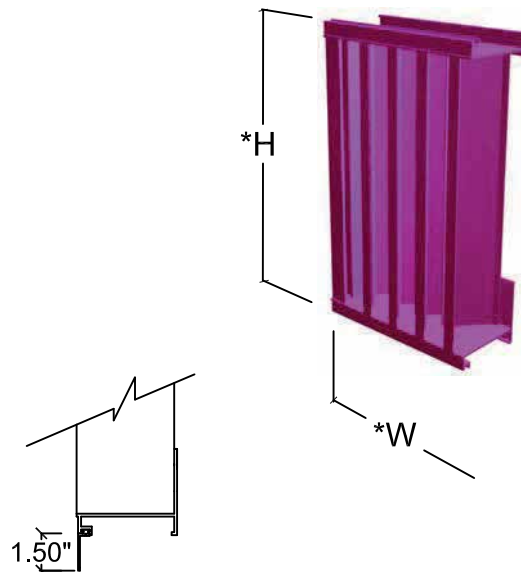


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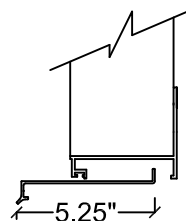
- ☐ Flanged Frame (1.50" std.), (1" std for shapes R_)
- ☐ Custom Flange (1", 2" , or 3"), (1.5", 2", or 3" for shapes R_)
- ☐ Extended Sill
- ☐ Glazing Adapter (.50" or .75")
- ☐ Insect Screen (Other Screen Available, See Screen Page)
- ☐ Filter Racks (no screen)
- ☐ Security Bars
- ☐ Hinged Sub Frame
- ☐ Welded Construction (Wind Load +/- 50 psf)
- ☐ Blank-off, Alum., non-insulated, no screen, non-removeable
- ☐ Blank-off, Alum., non-insulated, with bird screen or insect screen
- ☐ Blank-off, Alum., insulated double wall, with bird screen, removable
- ☐ Blank-off, Alum., insulated double wall, no screen, non-removeable

AVAILABLE FINISHES:

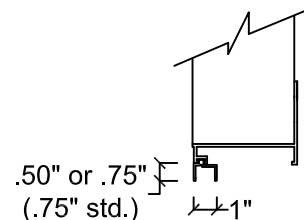
- ☐ **Powder Polyester TGIC** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Powder Super durable polyester** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Acrylic baked enamel** (ACRA-BOND® ULTRA) by AkzoNobel baked on at 350°F, 0.8 to 1.2 mils dry
- ☐ **Kynar® (ALUM*A*STAR®)** 2 coats by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry
- ☐ **Kynar 500® or HYLAR® 5000 70% TRINAR®** (2 coats) by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry,
- ☐ **Kynar 500® or HYLAR® 5000 (70% Tri-Escent II)** (2 coats) by AkzoNobel, a superior finish to other metallic or anodized finishes. A blend of mica, ceramic, and inorganic pigments creates subtle yet dazzling design that goes beyond metallic color without the requirement of a clear coat. 14 standard colors - custom colors available. Baked on at 415°F, 1.4 to 1.8 mils dry,
- ☐ **Clear Anodize 204 R-1 Class II (AA-C22A31)**(0.4 to 0.7 mil)
- ☐ **Clear Anodize 215 R-1 Class I (AA-C22A41)**(>0.7 mil)
- ☐ **Integral Color Anodize (AA-C22A42)**(>0.7 mil)
 - Clear coat available for all above finishes.
 - Hylar® 5000 is a registered trademark of Solvay Solexis, Inc.
 - Kynar® 500 is a registered trademark of Arkema.
 - ALUM*A*STAR® 50 and TRINAR® are registered trademarks of AkzoNobel
 - ACRA-BOND® ULTRA is a registered trademark of AkzoNobel



OPTIONAL FLANGE
(except R_ Shapes, 1" optional std)



EXTENDED SILL (Standard)



OPTIONAL GLAZING ADAPTER

*W & H dimensions furnished approximately 1/4" under size.

MODEL RD-4
4" WIND DRIVEN RAIN FIXED LOUVER

Model RD-4 Louver Performance Data

RD-4 Specifications

Furnish and install louver as hereinafter specified where shown on plans or as described in schedules. Louver shall be stationary type with vertical rain resistant style blades positioned on approximately 2" centers within a 4.162" deep frame. Louver frame and blade materials to be .081" thick 6063-T5 extruded aluminum. Sections up to maximum of 60"w x 96"h shall withstand wind loading of 30 lbs per square foot (PSF) (110 mph wind equivalent). Consult factory for welded construction and higher wind speeds. Louver shall have a minimum free area of 6.32 sq. ft. base on the standard 48"w x 48"h test specimen. Louver shall have a maximum static pressure drop of .23" (exhaust) & .31" (intake) water gauge based on 1000 FPM free area intake velocity. Louver shall carry a Class A water penetration classification base on a ventilation air core velocity of 484 FPM at a rainfall rate of 3" per hour and a 29 mph simulated wind velocity. Louver shall carry a class A water penetration classification based on a ventilation core velocity of 201 FPM at a rainfall rate of 8" per hour and a 50 mph simulated wind velocity.

Wind Driven Rain Performance

Test size 1m x 1m (39"x39") core
41.5"w x 41"h Nominal (1.05m x 1.04m)

75 mm/h (3in/h) Rainfall & 13 m/s (29 mph) Wind Velocity		
Ventilation Air Core Velocity m/s (fpm)	Water Penetration Effectiveness %	*Water Penetration Classification
0.0 (0)	100.0	A
0.5 (126)	100.0	A
1.0 (199)	100.0	A
1.5 (291)	99.9	A
2.0 (390)	99.6	A
2.5 (484)	99.5	A
3.0 (587)	98.6	B
3.5 (672)	89.3	C

*Classes for maximum allowable water penetrations

200 mm/h (8in/h) Rainfall & 32 m/s (50 mph) Wind Velocity		
Ventilation Air Core Velocity m/s (fpm)	Water Penetration Effectiveness %	*Water Penetration Classification
0.0 (0)	99.9	A
0.5 (119)	99.8	A
1.0 (201)	99.4	A
1.5 (274)	98.5	B
2.0 (386)	97.1	B
2.5 (473)	93.8	C
3.0 (570)	85.4	C
3.5 (694)	58.3	D

*Classes for maximum allowable water penetrations

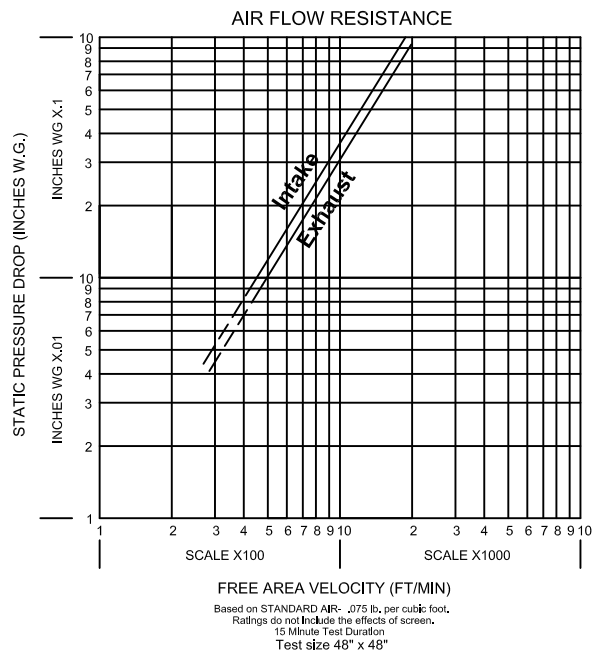
* Discharge Loss Intake	
Wind Velocity (mph)	Class
29	4
50	4

* Discharge loss coefficient is the theoretical air flow of an opening divided by the actual flow rate of a louver the same size,

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	.0199 and below

(the higher the coefficient, the less resistance to airflow.)

Wind Driven Rain Penetration Classes	
Class	Effectiveness
A	1 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8



RD-4 FREE AREA CHART (SQUARE FEET)

Louver Height	Louver Width In Inches																				Louver Height
Inches	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	Inches	
12	0.18	0.29	0.40	0.51	0.62	0.73	0.84	0.95	1.05	1.16	1.27	1.38	1.49	1.60	1.71	1.82	1.93	2.04	2.15	12	
18	0.44	0.70	0.96	1.23	1.49	1.76	2.02	2.29	2.55	2.82	3.08	3.35	3.61	3.88	4.14	4.41	4.67	4.93	5.20	18	
24	0.63	1.01	1.39	1.77	2.15	2.53	2.91	3.29	3.67	4.05	4.43	4.81	5.19	5.57	5.95	6.33	6.71	7.09	7.47	24	
30	0.89	1.43	1.97	2.52	3.06	3.60	4.14	4.68	5.22	5.77	6.31	6.85	7.39	7.93	8.47	9.02	9.56	10.10	10.64	30	
36	1.10	1.76	2.43	3.09	3.76	4.43	5.09	5.76	6.43	7.09	7.76	8.42	9.09	9.76	10.42	11.09	11.75	12.42	13.09	36	
42	1.26	2.03	2.79	3.56	4.32	5.09	5.85	6.62	7.39	8.15	8.92	9.68	10.45	11.21	11.98	12.74	13.51	14.28	15.04	42	
48	1.36	2.19	3.02	3.84	4.67	5.50	6.32	7.15	7.98	8.81	9.63	10.46	11.29	12.11	12.94	13.77	14.59	15.42	16.25	48	
54	1.56	2.50	3.45	4.40	5.34	6.29	7.23	8.18	9.13	10.07	11.02	11.96	12.91	13.86	14.80	15.75	16.69	17.64	18.59	54	
60	1.82	2.93	4.03	5.14	6.24	7.35	8.46	9.56	10.67	11.77	12.88	13.99	15.09	16.20	17.30	18.41	19.52	20.62	21.73	60	
66	2.01	3.23	4.45	5.67	6.89	8.12	9.34	10.56	11.78	13.00	14.22	15.44	16.66	17.88	19.11	20.33	21.55	22.77	23.99	66	
72	2.13	3.42	4.72	6.01	7.30	8.60	9.89	11.18	12.48	13.77	15.06	16.36	17.65	18.94	20.24	21.53	22.82	24.12	25.41	72	
78	2.27	3.65	5.04	6.42	7.80	9.18	10.56	11.94	13.32	14.70	16.08	17.47	18.85	20.23	21.61	22.99	24.37	25.75	27.13	78	
84	2.41	3.87	5.33	6.80	8.26	9.72	11.18	12.65	14.11	15.57	17.03	18.50	19.96	21.42	22.88	24.35	25.81	27.27	28.74	84	
90	2.54	4.09	5.63	7.18	8.72	10.27	11.81	13.36	14.90	16.45	17.99	19.54	21.08	22.62	24.17	25.71	27.26	28.80	30.35	90	
96	2.73	4.38	6.04	7.70	9.35	11.01	12.67	14.32	15.98	17.63	19.29	20.95	22.60	24.26	25.92	27.57	29.23	30.89	32.54	96	
102	2.87	4.61	6.36	8.10	9.85	11.59	13.33	15.08	16.82	18.57	20.31	22.05	23.80	25.54	27.29	29.03	30.77	32.52	34.26	102	
108	2.98	4.80	6.61	8.42	10.24	12.05	13.86	15.68	17.49	19.30	21.12	22.93	24.74	26.55	28.37	30.18	31.99	33.81	35.62	108	
114	3.09	4.97	6.84	8.72	10.60	12.48	14.35	16.23	18.11	19.99	21.86	23.74	25.62	27.50	29.37	31.25	33.13	35.01	36.88	114	
120	3.22	5.18	7.13	9.09	11.05	13.00	14.96	16.92	18.87	20.83	22.78	24.74	26.70	28.65	30.61	32.57	34.52	36.48	38.44	120	



MODEL XSD-130

HIGH PERFORMANCE SIGHT PROOF FIXED LOUVER

STANDARD CONSTRUCTION:

FRAME:

.081 Extruded Aluminum 5.1" (129.5mm) Deep

BLADES:

.063" (1.6mm) Extruded Aluminum on approximately 2" (51mm) centers.

BIRDSCREEN:

0.75" x 0.051" [19.05mm x 1.30mm] Flattened Aluminum in removable frame. Screen is mounted as standard on inside (rear) as looking from exterior of building.

FINISH:

MIII Aluminum (Std)

MINIMUM SIZE:

12"w x 12"h (305mm x 305mm)

MAXIMUM SIZE:

Factory Assembled 120"w x 84"h or 84"w x 120"h
(3048mm x 2134mm or 2134mm x 3048mm)

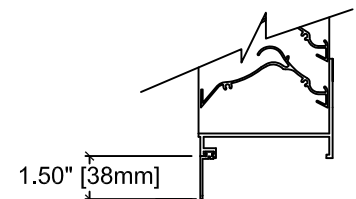
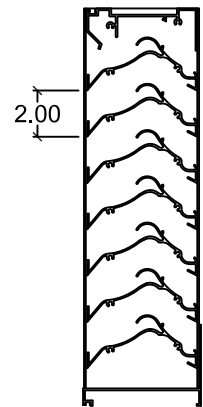
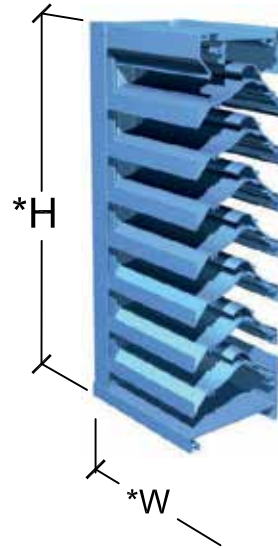
Note: Drainable blade louvers should be limited to 10' maximum section widths (no more than 10' between vertical downspouts) to enable the drainable design to function effectively.

OPTIONS:

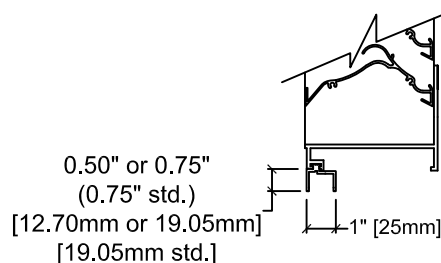
- ☐ Flanged Frame (1.50" std. [38mm]), (1" std. [25mm] for shapes R_)
- ☐ Custom Flange (1", 2", or 3" [25mm, 51mm, or 76mm], (1.5", 2", or 3" for shapes R_)
- ☐ Extended Sill [38mm, 51mm, 76mm]
- ☐ Glazing Adapter (.50" or .75") [12.7mm or 19.1mm]
- ☐ Insect Screen (Other Screens Available, See Screen Page)
- ☐ Filter Racks (no screen)
- ☐ Security Bars
- ☐ Hinged Sub Frame
- ☐ Welded Construction (Wind Load +/- 50 psf)
- ☐ Blank-off, Alum., non-insulated, no screen, non-removeable
- ☐ Blank-off, Alum., non-insulated, with bird screen or insect screen
- ☐ Blank-off, Alum., insulated double wall, with bird screen, removable
- ☐ Blank-off, Alum., insulated double wall, no screen, non-removeable

AVAILABLE FINISHES:

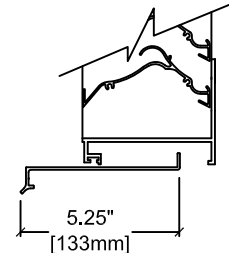
- ☐ **Powder Polyester TGIC** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Powder Super durable polyester** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Acrylic baked enamel** (ACRA-BOND® ULTRA) by AkzoNobel baked on at 350°F, 0.8 to 1.2 mils dry
- ☐ **Kynar®** (ALUM*A*STAR®) 2 coats by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry
- ☐ **Kynar 500®** or **HYLAR® 5000 70% TRINAR®** (2 coats) by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry,
- ☐ **Kynar 500®** or **HYLAR® 5000 (70% Tri-Escent II)** (2 coats) by AkzoNobel, a superior finish to other metallic or anodized finishes. A blend of mica, ceramic, and inorganic pigments creates subtle yet dazzling design that goes beyond metallic color without the requirement of a clear coat. 14 standard colors - custom colors available. Baked on at 415°F, 1.4 to 1.8 mils dry,
- ☐ **Clear Anodize 204 R-1 Class II** (AA-C22A31)(0.4 to 0.7 mil)
- ☐ **Clear Anodize 215 R-1 Class I** (AA-C22A41)(>0.7 mil)
- ☐ **Integral Color Anodize** (AA-C22A42)(>0.7 mil)
 - Clear coat available for all above finishes.
 - Hylar® 5000 is a registered trademark of Solvay Solexis, Inc.
 - Kynar® 500 is a registered trademark of Arkema.
 - ALUM*A*STAR® 50 and TRINAR® are registered trademarks of AkzoNobel
 - ACRA-BOND® ULTRA is a registered trademark of AkzoNobel



OPTIONAL FLANGE
(except R_ Shapes, 1" optional std)



OPTIONAL GLAZING ADAPTER



OPTIONAL EXTENDED SILL

*Width and Height dimensions are approximately 1/4" (6mm) under listed size.

MODEL XSD-130
HIGH PERFORMANCE SIGHT PROOF FIXED LOUVER

**MODEL RD-8 8" [203mm] VERTICAL BLADE SAND/RAIN FIXED LOUVER****STANDARD CONSTRUCTION:**

FRAME: 0.081 [2.06mm] extruded aluminum sides 8.50" [216mm] deep
0.090 [2.29mm] formed aluminum top and bottom
(bottom incorporates 45° angle for maximum drainage)

BLADES: 0.081 [2.06mm] extruded aluminum placed on 2" [51mm] centers

BIRDSCREEN: 0.75" x 0.051 [19.05mm x 1.30mm] Flattened Aluminum in removeable frame. Screen is mounted as standard on inside (rear) as looking from exterior of building.

FINISH: Mill Aluminum (Std)

MINIMUM SIZE: 12"w x 18"h [305mm x 457mm]

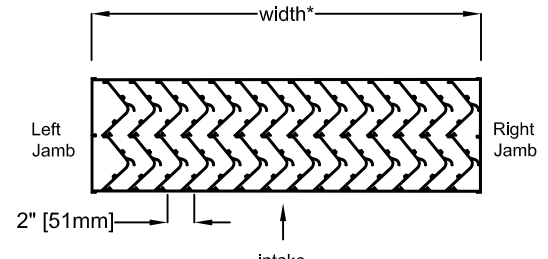
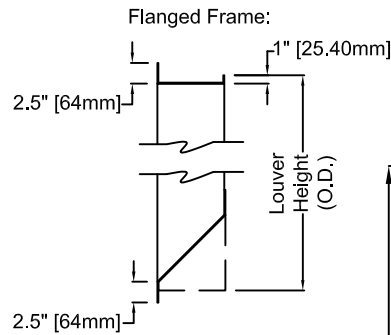
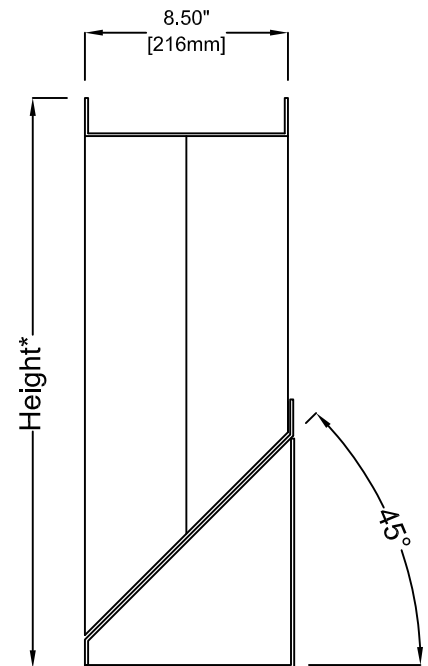
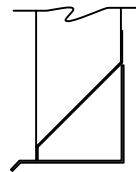
MAXIMUM SIZE: 48"w x 96"h or 120"w x 48"h [1219mm x 2438mm or 3048mm x 1219mm]

OPTIONS:

- ☐ Flanged Frame (1.5" std.) [38mm]
- ☐ Custom Flange (1", 2", or 3") [25mm, 51mm, or 76mm]
- ☐ Extended Sill
- ☐ Insect Screen (Other Screens Available, See Screen Page)
- ☐ Filter Racks (no screen)
- ☐ Security Bars
- ☐ Hinged Sub Frame
- ☐ Welded Construction (Wind Load +/- 50 psf)
- ☐ Blank-off, Alum., non-insulated, no screen, non-removeable
- ☐ Blank-off, Alum., non-insulated, with bird screen or insect screen
- ☐ Blank-off, Alum., insulated double wall, with bird screen, removable
- ☐ Blank-off, Alum., insulated double wall, no screen, non-removeable

AVAILABLE FINISHES:

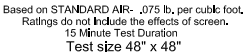
- ☐ **Powder Polyester TGIC** (2 coats) baked on at 410°F [210° C], 2.5 to 3.5 mils
- ☐ **Powder Super durable polyester** (2 coats) baked on at 410°F [210° C], 2.5 to 3.5 mils
- ☐ **Acrylic baked enamel** (ACRA-BOND® ULTRA) by AkzoNobel baked on at 350°F [177° C], 0.8 to 1.2 mils dry
- ☐ **Kynar®** (ALUM*A*STAR®) 2 coats by AkzoNobel baked on at 450°F [222° C], 1.2 to 1.6 mils dry
- ☐ **Kynar 500®** or HYLAR® 5000 70% TRINAR® (2 coats) by AkzoNobel baked on at 450°F [222°C], 1.2 to 1.6 mils dry,
- ☐ **Kynar 500®** or HYLAR® 5000 (70% Tri-Escent II) (2 coats) by AkzoNobel, a superior finish to other metallic or anodized finishes. A blend of mica, ceramic, and inorganic pigments creates subtle yet dazzling design that goes beyond metallic color without the requirement of a clear coat. 14 standard colors - custom colors available. Baked on at 415°F [213° C], 1.4 to 1.8 mils dry,
- ☐ **Clear Anodize** 204 R-1 Class II (AA-C22A31)(0.4 to 0.7 mil)
- ☐ **Clear Anodize** 215 R-1 Class I (AA-C22A41)(>0.7 mil)
- ☐ **Integral Color Anodize** (AA-C22A42)(>0.7 mil)
 - Clear coat available for all above finishes.
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 - ALUM*A*STAR® 50 and TRINAR® are registered trademarks of AkzoNobel
 - ACRA-BOND® ULTRA is a registered trademark of AkzoNobel

**PLAN VIEW****Extended Seal:****SIDE VIEW**

PERFORMANCE DATA (in accordance with AMCA 500L):
Beginning point of water penetration lies above 1250 FPM
Pressure Drop: .14" w.g. @1000 fpm (Intake) .12" w.g. @1000 fpm (exhaust)
For Sand Removal Efficiency and Free Area, see next page.

*Width and Height dimensions are approximately 1/4" [6.35mm] under listed size.

MODEL RD-8
8" [203mm] VERTICAL BLADE SAND/RAIN FIXED LOUVER



SAND REMOVAL EFFICIENCY

Pressure Drop	.10" W.G.	.20" W.G.	.30" W.G.
Free Area Velocity	940 fpm	1300 fpm	1600 fpm
Sand Particle Size	Removal Efficiency	Removal Efficiency	Removal Efficiency
1-1100 Micron	96.1%	86.3%	74.3%
1100-1500 Micron	99.9%	99.8%	99.2%

Select Free Area Velocity:

Using the Airflow Resistance Chart, select a free area velocity that produces an acceptable pressure drop with minimal water penetration. (Water penetration need not be considered when selecting exhaust louvers.)

Determine Louver Free Area:

Using the free area velocity from the previous step and total CFM, determine Louver Free Area required. Using Louver Free Area Chart, select a louver with the required free area. If louver size is given, determine free area from chart and work backwards to determine maximum airflow. See examples below.

Free Area Chart (square feet): *To convert to square meters, divide square feet by 10.765*

Louver Height Inches	Louver Width in Inches																				Louver Height Inches
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120		
18	0.19	0.31	0.42	0.56	0.67	0.79	0.94	1.05	1.16	1.30	1.42	1.54	1.68	1.79	1.91	2.04	2.16	2.28	2.42	18	
24	0.33	0.54	0.75	1.00	1.21	1.42	1.66	1.87	2.07	2.33	2.54	2.75	2.99	3.20	3.41	3.66	3.87	4.08	4.32	24	
30	0.48	0.78	1.08	1.44	1.74	2.03	2.39	2.69	2.99	3.35	3.65	3.94	4.31	4.60	4.90	5.26	5.56	5.86	6.22	30	
36	0.63	1.01	1.40	1.88	2.26	2.66	3.12	3.52	3.90	4.38	4.76	5.16	5.63	6.01	6.41	6.87	7.27	7.65	8.12	36	
42	0.77	1.25	1.74	2.31	2.79	3.27	3.86	4.35	4.82	5.40	5.88	6.37	6.91	7.42	7.90	8.49	8.97	9.44	10.03	42	
48	0.91	1.49	2.07	2.75	3.33	3.90	4.58	5.16	5.74	6.42	6.99	7.56	8.26	8.83	9.40	10.09	10.67	11.34	11.93	48	
54	1.07	1.73	2.39	3.19	3.86	4.52	5.32														
60	1.21	1.97	2.73	3.63	4.38	5.15	6.05														
66	1.35	2.20	3.06	4.07	4.91	5.76	6.78														
72	1.51	2.44	3.37	4.51	5.45	6.39	7.51														
78	1.65	2.68	3.70	4.95	5.98	7.01	8.25														
84	1.79	2.91	4.03	5.39	6.51	7.63	8.98														
90	1.95	3.16	4.36	5.83	7.04	8.25	9.71														
96	2.09	3.39	4.69	6.27	7.56	8.88	10.43														



MODEL SED-4

HIGH PERFORMANCE FIXED LOUVER

STANDARD CONSTRUCTION:

Frame: .081 Extruded Aluminum, 4.16" Deep

Blade: .081 Extruded Aluminum on approximately 2" centers

Birdscreen: .75" x .051" Flattened Aluminum in removable frame. Screen is mounted as standard on inside (rear) as looking from exterior of building.

Finish: Mill Aluminum (Std.)

Minimum Size: 12 x 12

Maximum Single Section: 120"w x 84"h or 84"w x 120"h

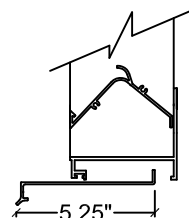
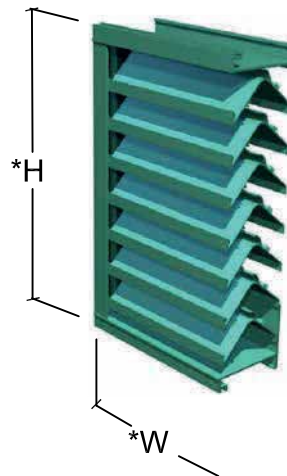
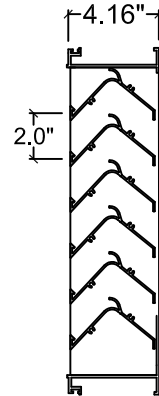
Note: Drainable blade louvers should be limited to 10' maximum section widths (no more than 10' between vertical downspouts) to enable the drainable design to function effectively.

OPTIONS:

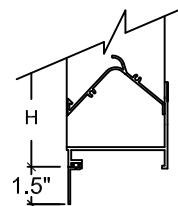
- ☐ Flanged Frame (1.50" std.), (1" std for shapes R_)
- ☐ Custom Flange (1", 2", or 3"), (1.5", 2", or 3" for shapes R_)
- ☐ Extended Sill
- ☐ Glazing Adapter (.50" or .75")
- ☐ Insect Screen (Other Screens Available, See Screen Page)
- ☐ Filter Racks (no screen)
- ☐ Security Bars
- ☐ Hinged Sub Frame
- ☐ Welded Construction (Wind Load +/- 50 psf)
- ☐ Blank-off, Alum., non-insulated, no screen, non-removeable
- ☐ Blank-off, Alum., non-insulated, with bird screen or insect screen
- ☐ Blank-off, Alum., insulated double wall, with bird screen, removable
- ☐ Blank-off, Alum., insulated double wall, no screen, non-removeable

AVAILABLE FINISHES:

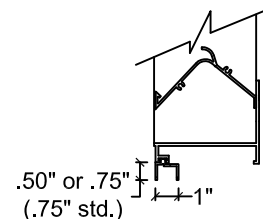
- ☐ **Powder Polyester TGIC** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Powder Super durable polyester** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Acrylic baked enamel** (ACRA-BOND® ULTRA) by AkzoNobel baked on at 350°F, 0.8 to 1.2 mils dry
- ☐ **Kynar® (ALUM*A*STAR®)** 2 coats by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry
- ☐ **Kynar 500®** or **HYLAR® 5000 70% TRINAR®** (2 coats) by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry,
- ☐ **Kynar 500®** or **HYLAR® 5000 (70% Tri-Escent II)** (2 coats) by AkzoNobel, a superior finish to other metallic or anodized finishes. A blend of mica, ceramic, and inorganic pigments creates subtle yet dazzling design that goes beyond metallic color without the requirement of a clear coat. 14 standard colors - custom colors available. Baked on at 415°F, 1.4 to 1.8 mils dry.
- ☐ **Clear Anodize 204 R-1 Class II (AA-C22A31)**(0.4 to 0.7 mil)
- ☐ **Clear Anodize 215 R-1 Class I (AA-C22A41)**(>0.7 mil)
- ☐ **Integral Color Anodize (AA-C22A42)**(>0.7 mil)
 - Clear coat available for all above finishes.
 - Hylar® 5000 is a registered trademark of Solvay Solexis, Inc.
 - Kynar® 500 is a registered trademark of Arkema.
 - ALUM*A*STAR® 50 and TRINAR® are registered trademarks of AkzoNobel
 - ACRA-BOND® ULTRA is a registered trademark of AkzoNobel



OPTIONAL EXTENDED SILL
(except R_ Shapes, 1" optional std)



OPTIONAL FLANGE

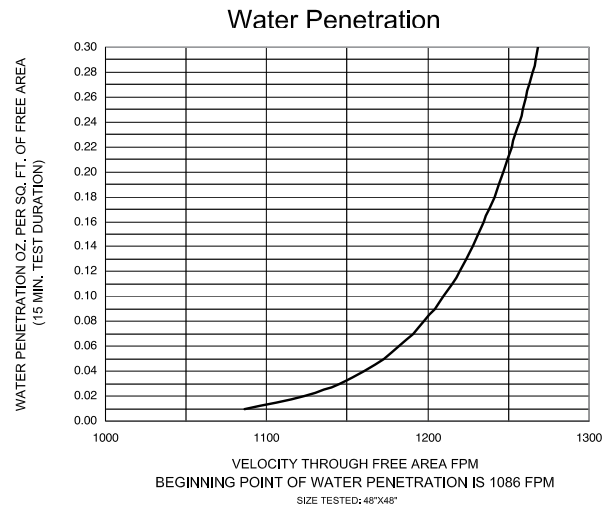
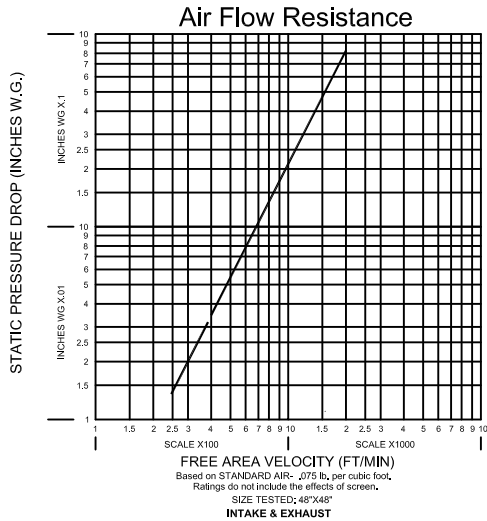


OPTIONAL GLAZING ADAPTER

*Width and Height dimensions are approximately 1/4" under listed size.

MODEL SED-4
HIGH PERFORMANCE FIXED LOUVER

Model SED-4 Louver Performance Data



SED-4 FREE AREA IN SQ. FT.

Louver Height Inches	Width - Inches																			Louver Height Inches
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
12	0.17	0.28	0.38	0.48	0.59	0.69	0.80	0.90	1.00	1.11	1.21	1.32	1.42	1.52	1.63	1.73	1.84	1.94	2.04	12
18	0.34	0.55	0.76	0.97	1.17	1.38	1.59	1.80	2.01	2.21	2.42	2.63	2.84	3.05	3.25	3.46	3.67	3.88	4.09	18
24	0.51	0.83	1.14	1.45	1.76	2.07	2.39	2.70	3.01	3.32	3.63	3.95	4.26	4.57	4.88	5.19	5.51	5.82	6.13	24
30	0.68	1.10	1.52	1.93	2.35	2.76	3.18	3.60	4.01	4.43	4.84	5.26	5.68	6.09	6.51	6.92	7.34	7.76	8.17	30
36	0.86	1.38	1.90	2.42	2.94	3.46	3.98	4.50	5.02	5.54	6.06	6.58	7.10	7.62	8.14	8.66	9.18	9.70	10.22	36
42	1.03	1.65	2.28	2.90	3.52	4.15	4.77	5.40	6.02	6.64	7.27	7.89	8.52	9.14	9.76	10.39	11.01	11.64	12.26	42
48	1.20	1.93	2.65	3.38	4.11	4.84	5.57	6.29	7.02	7.75	8.48	9.21	9.93	10.66	11.39	12.12	12.85	13.57	14.30	48
54	1.37	2.20	3.03	3.87	4.70	5.53	6.36	7.19	8.03	8.86	9.69	10.52	11.35	12.19	13.02	13.85	14.68	15.51	16.35	54
60	1.54	2.48	3.41	4.35	5.28	6.22	7.16	8.09	9.03	9.96	10.90	11.84	12.77	13.71	14.64	15.58	16.52	17.45	18.39	60
66	1.71	2.75	3.79	4.83	5.87	6.91	7.95	8.99	10.03	11.07	12.11	13.15	14.19	15.23	16.27	17.31	18.35	19.39	20.43	66
72	1.88	3.03	4.17	5.31	6.46	7.60	8.75	9.89	11.03	12.18	13.32	14.47	15.61	16.75	17.90	19.04	20.19	21.33	22.47	72
78	2.05	3.30	4.55	5.80	7.05	8.29	9.54	10.79	12.04	13.29	14.53	15.78	17.03	18.28	19.53	20.77	22.02	23.27	24.52	78
84	2.23	3.58	4.93	6.28	7.63	8.99	10.34	11.69	13.04	14.39	15.75	17.10	18.45	19.80	21.15	22.51	23.86	25.21	26.56	84
90	2.40	3.85	5.31	6.76	8.22	9.68	11.13	12.59	14.04	15.50	16.96	18.41	19.87	21.32	22.78	24.24	25.69	27.15	28.60	90
96	2.57	4.13	5.69	7.25	8.81	10.37	11.93	13.49	15.05	16.61	18.17	19.73	21.29	22.85	24.41	25.97	27.53	29.09	30.65	96
102	2.74	4.40	6.07	7.73	9.39	11.06	12.72	14.39	16.05	17.71	19.38	21.04	22.71	24.37	26.03	27.70	29.36	31.03	32.69	102
108	2.91	4.68	6.45	8.21	9.98	11.75	13.52	15.29	17.05	18.82	20.59	22.36	24.13	25.89	27.66	29.43	31.20	32.97	34.73	108
114	3.08	4.95	6.83	8.70	10.57	12.44	14.31	16.19	18.06	19.93	21.80	23.67	25.55	27.42	29.29	31.16	33.03	34.91	36.78	114
120	3.25	5.23	7.20	9.18	11.16	13.13	15.11	17.08	19.06	21.04	23.01	24.99	26.96	28.94	30.92	32.89	34.87	36.84	38.82	120

Wind Driven Rain Performance -AMCA 500-L-

Test size 1m x 1m(39"x39")core
41³/₈"w x 41" h Nominal(1.05m x 1.04m)

75 mm/h (3 in/h) Rainfall & 13 m/s (29 mph) Wind Velocity				
Core Velocity fpm (m/s)	Airflow cfm (m ³ /s)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0.0)	0 (0.00)	0 (0.0)	99.5	A
137 (0.7)	1475 (0.70)	265 (1.3)	99.0	A
193 (1.0)	2077 (0.98)	373 (1.9)	98.3	B
281 (1.4)	3025 (1.43)	543 (2.8)	98.2	B
381 (1.9)	4101 (1.94)	736 (3.7)	98.1	B
471 (2.4)	5070 (2.39)	910 (4.6)	97.6	B
584 (3.0)	6286 (2.97)	1129 (5.7)	96.5	B
679 (3.4)	7309 (3.45)	1312 (6.7)	95.4	B

202.4 mm/h (8 in/h) Rainfall & 22 m/s (50 mph) Wind Velocity				
Core Velocity fpm (m/s)	Airflow cfm (m ³ /s)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0.0)	0 (0.00)	0 (0.0)	98.7	B
120 (0.6)	1292 (0.61)	232 (1.2)	98.0	B
175 (0.9)	1884 (0.89)	338 (1.7)	97.5	B
284 (1.4)	3057 (1.44)	549 (2.8)	97.0	B
406 (2.1)	4370 (2.06)	785 (4.0)	96.2	B
497 (2.5)	5350 (2.52)	960 (4.9)	95.5	B
578 (2.9)	6222 (2.94)	1117 (5.7)	95.2	B
683 (3.5)	7352 (3.47)	1320 (6.7)	93.1	C

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	.0199 and below

(the higher the coefficient, the less resistance to airflow.)

* Discharge Loss Intake	
Wind Velocity (mph)	Class
29	3
50	3

* Discharge loss coefficient is the theoretical air flow of an opening divided by the actual flow rate of a louver the same size.

SED-4 Specifications

Furnish and install louver as hereinafter specified where shown on plans or as described in schedules. Louver shall be stationary type with horizontal rain resistant style blades positioned on approximately 2" centers within 4.162" deep frame. Louver frame and blade materials to be .081" thick 6063-T5 extruded aluminum. Sections up to maximum of 60"w x 96"h shall withstand wind loading of 30 lbs/sq.ft. (110 mph wind equivalent). Consult factory for welded construction and higher wind speeds. Louver shall meet the performance requirements established by the AMCA 500L test procedure and shall be licensed to bear the AMCA certified rating seal for water penetration, air performance, and wind driven rain. Louver shall have a minimum free area of 5.57 sq. ft. based on the standard 48"w x 48"h test specimen. Louver shall have a maximum static pressure drop of .20"(exhaust) & .20"(intake) water gage based on 1000 FPM free area intake velocity. Louver shall carry a minimum Class B water penetration classification based on a ventilation core of 679 FPM at a rainfall rate of 3" per hour and a 29 mph simulated wind velocity. Louver shall also carry a minimum class B water penetration classification based on a ventilation core velocity of 578 FPM at a rainfall rate of 8" per hour and a 50 mph simulated wind velocity.

Wind Driven Rain Penetration Classes	
Class	Effectiveness
A	1 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8



MODEL D-HV-4

HIGH PERFORMANCE FIXED LOUVER
with SNOW RESISTANCE

STANDARD CONSTRUCTION:

Frame: .081 Extruded Aluminum, 4.16" [105mm] Deep

Horizontal (front) Blade: .060 Extruded Aluminum on approximately 1.5" [37mm] centers

Vertical (rear) Blade: .060 Extruded Aluminum on approximately 0.75" [19mm] centers

Birdscreen: 0.75" [19mm] x .051" [1.29mm] Flattened Aluminum in removable frame. Screen is mounted as standard on inside (rear) as looking from exterior of building.

Finish: Mill Aluminum (Std.)

Minimum Size: 12" [305mm] x 12" [305mm]

Maximum Single Section: 120"w x 84"h or 84"w x 120"h
[3048mm] w x [2134mm] h or [2134mm] w x [3048mm] h

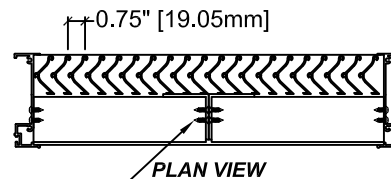
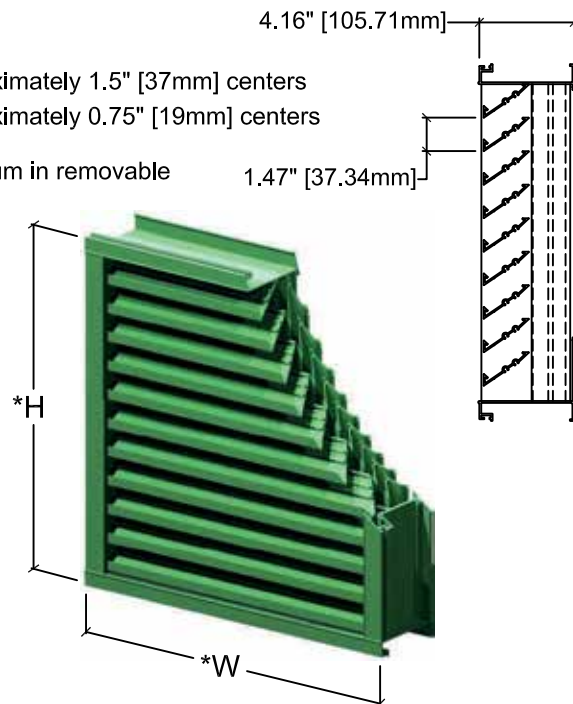
Note: Drainable blade louvers should be limited to 10' [3048mm] maximum section widths (no more than 10' [3048mm] between vertical downspouts) to enable the drainable design to function effectively.

OPTIONS:

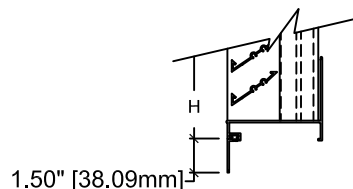
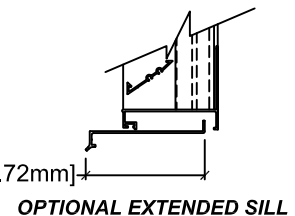
- ☐ Flanged Frame (1.50" [38mm] std.), (1" [25mm] std for shapes R_)
- ☐ Custom Flange (1", 2", or 3"), (1.5", 2", or 3" for shapes R_)
- ☐ [25mm, 51mm, or 76mm], [38mm, 51mm, or 76mm for shapes R_]
- ☐ Extended Sill
- ☐ Glazing Adapter (0.50" [13mm] or 0.75" [19mm])
- ☐ Insect Screen (Other Screens Available, See Screen Page)
- ☐ Filter Racks (no screen)
- ☐ Security Bars
- ☐ Hinged Sub Frame
- ☐ Welded Construction (Wind Load +/- 50 psf)
- ☐ Blank-off, Alum., non-insulated, no screen, non-removeable
- ☐ Blank-off, Alum., non-insulated, with bird screen or insect screen
- ☐ Blank-off, Alum., insulated double wall, with bird screen, removable
- ☐ Blank-off, Alum., insulated double wall, no screen, non-removeable

AVAILABLE FINISHES:

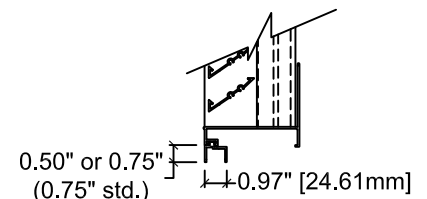
- ☐ **Powder Polyester TGIC** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Powder Super durable polyester** (2 coats) baked on at 410°F, 2.5 to 3.5 mils
- ☐ **Acrylic baked enamel** (ACRA-BOND® ULTRA) by AkzoNobel baked on at 350°F, 0.8 to 1.2 mils dry
- ☐ **Kynar® (ALUM*A*STAR®)** 2 coats by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry
- ☐ **Kynar 500® or HYLAR® 5000 70% TRINAR®** (2 coats) by AkzoNobel baked on at 450°F, 1.2 to 1.6 mils dry,
- ☐ **Kynar 500® or HYLAR® 5000 (70% Tri-Escent II)** (2 coats) by AkzoNobel, a superior finish to other metallic or anodized finishes. A blend of mica, ceramic, and inorganic pigments creates subtle yet dazzling design that goes beyond metallic color without the requirement of a clear coat. 14 standard colors - custom colors available. Baked on at 415°F, 1.4 to 1.8 mils dry,
- ☐ **Clear Anodize 204 R-1 Class II** (AA-C22A31)(0.4 to 0.7 mil)
- ☐ **Clear Anodize 215 R-1 Class I** (AA-C22A41)(>0.7 mil)
- ☐ **Integral Color Anodize** (AA-C22A42)(>0.7 mil)
 - Clear coat available for all above finishes.
 - Hylar® 5000 is a registered trademark of Solvay Solexis, Inc.
 - Kynar® 500 is a registered trademark of Arkema.
 - ALUM*A*STAR® 50 and TRINAR® are registered trademarks of AkzoNobel
 - ACRA-BOND® ULTRA is a registered trademark of AkzoNobel



Blade braces
placed 48"
[1219mm] max. o.c.



OPTIONAL FLANGE
(except R_ Shapes, 1" optional std)

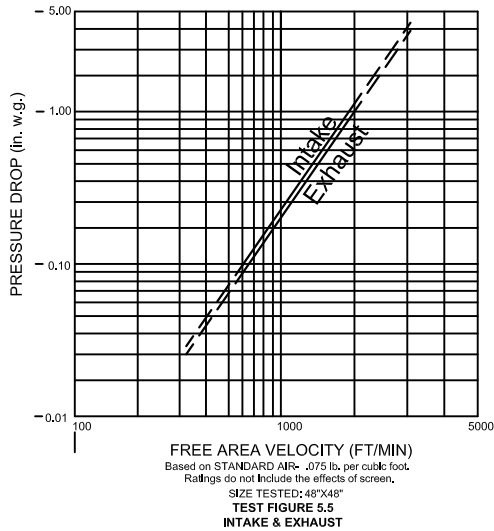


*Width and Height dimensions are approximately 1/4" under listed size.

MODEL D-HV-4
HIGH PERFORMANCE FIXED LOUVER
with SNOW RESISTANCE

Model D-HV-4 Louver Performance Data

Air Flow Resistance



Beginning point of **WATER PENETRATION** for
MODEL D-HV-4 lies above
1250 fpm
free area velocity at .01 oz. of water penetration
Test Duration: 15 minutes

D-HV-4 Specifications

Furnish and install louver as hereinafter specified where shown on plans or as described in schedules. Louver shall be stationary type with horizontal rain resistant style blades positioned on approximately 1.5" centers and vertical wind driven rain blades placed on approximately 0.75" both within 4.162" deep frame. Louver frame and blade materials to be .063" thick 6063-T5 extruded aluminum. Sections up to maximum of 84" w x 120" h shall withstand wind loading of 30 lbs/sq.ft. (110 mph wind equivalent). Consult factory for welded construction and higher wind speeds. Louver shall meet the performance requirements established by the AMCA 500L test procedure and shall be licensed to bear the AMCA certified rating seal for water penetration, air performance, and wind driven rain. Louver shall have a minimum free area of 7.75 sq. ft. based on the standard 48" w x 48" h test specimen. Louver shall have a maximum static pressure drop of 0.27" (exhaust) & 0.29" (intake) water gage based on 1000 FPM free area intake velocity. Louver shall carry a minimum Class A water penetration classification based on a ventilation core of 984 FPM at a rainfall rate of 3" per hour and a 29 mph simulated wind velocity. Louver shall also carry a minimum class A water penetration classification based on a ventilation core velocity of 974 FPM at a rainfall rate of 8" per hour and a 50 mph simulated wind velocity.

D-HV-4 FREE AREA IN SQ. FT.

Height - Inches	Louver Height Inches	Width - Inches																		Louver Height Inches	
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120		
	12	0.35	0.58	0.82	1.05	1.28	1.52	1.75	1.98	2.22	2.45	2.68	2.92	3.15	3.39	3.62	3.85	4.09	4.32	4.55	12
	18	0.56	0.93	1.30	1.67	2.04	2.41	2.78	3.15	3.52	3.89	4.26	4.63	5.00	5.37	5.74	6.11	6.48	6.85	7.22	18
	24	0.76	1.27	1.77	2.28	2.79	3.29	3.80	4.31	4.81	5.32	5.83	6.34	6.84	7.35	7.86	8.36	8.87	9.38	9.88	24
	30	0.97	1.61	2.25	2.90	3.54	4.18	4.83	5.47	6.11	6.76	7.40	8.04	8.69	9.33	9.97	10.62	11.26	11.90	12.55	30
	36	1.17	1.95	2.73	3.51	4.29	5.07	5.85	6.63	7.41	8.19	8.97	9.75	10.53	11.31	12.09	12.87	13.65	14.43	15.21	36
	42	1.38	2.29	3.21	4.13	5.04	5.96	6.88	7.79	8.71	9.63	10.54	11.46	12.38	13.29	14.21	15.13	16.04	16.96	17.88	42
	48	1.58	2.63	3.69	4.74	5.79	6.85	7.75	8.95	10.01	11.06	12.11	13.17	14.22	15.28	16.33	17.38	18.44	19.49	20.54	48
	54	1.79	2.98	4.17	5.36	6.55	7.74	8.93	10.12	11.31	12.50	13.69	14.88	16.07	17.26	18.45	19.64	20.83	22.02	23.21	54
60	1.99	3.32	4.64	5.97	7.30	8.62	9.95	11.28	12.60	13.93	15.26	16.59	17.91	19.24	20.57	21.89	23.22	24.55	25.87	60	
66	2.20	3.66	5.12	6.59	8.05	9.51	10.98	12.44	13.90	15.37	16.83	18.29	19.76	21.22	22.68	24.15	25.61	27.07	28.54	66	
72	2.40	4.00	5.60	7.20	8.80	10.40	12.00	13.60	15.20	16.80	18.40	20.00	21.60	23.20	24.80	26.40	28.00	29.60	31.20	72	
78	2.61	4.34	6.08	7.82	9.55	11.29	13.03	14.76	16.50	18.24	19.97	21.71	23.45	25.18	26.92	28.66	30.39	32.13	33.87	78	
84	2.81	4.68	6.56	8.43	10.30	12.18	14.05	15.92	17.80	19.67	21.54	23.42	25.29	27.17	29.04	30.91	32.79	34.66	36.53	84	
90	3.02	5.03	7.04	9.05	11.06	13.07	15.08	17.09	19.10	21.11	23.12	25.13	27.14							90	
96	3.22	5.37	7.51	9.66	11.81	13.95	16.10	18.25	20.39	22.54	24.69	26.84	28.98							96	
102	3.43	5.71	7.99	10.28	12.56	14.84	17.13	19.41	21.69	23.98	26.26	28.54	30.83							102	
108	3.63	6.05	8.47	10.89	13.31	15.73	18.15	20.57	22.99	25.41	27.83	30.25	32.67							108	
114	3.84	6.39	8.95	11.51	14.06	16.62	19.18	21.73	24.29	26.85	29.40	31.96	34.52							114	
120	4.04	6.73	9.43	12.12	14.81	17.51	20.20	22.89	25.59	28.28	30.97	33.67	36.36							120	

Wind Driven Rain Performance -AMCA 500-L-

Test size 1m x 1m (39.375"x39.375") core
41 5/8" w x 41 5/8" h Nominal

75 mm/h (3 in/h) Rainfall & 13 m/s (29 mph) Wind Velocity				
Core Velocity fpm (m/s)	Airflow cfm (m³/s)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0.0)	0 (0.00)	0 (0.0)	100.0	A
98 (0.5)	1055 (0.50)	184 (0.9)	100.0	A
197 (1.0)	2121 (1.00)	371 (1.9)	100.0	A
295 (1.5)	3175 (1.50)	555 (2.8)	100.0	A
394 (2.0)	4241 (2.00)	741 (3.8)	100.0	A
492 (2.5)	5296 (2.50)	926 (4.7)	100.0	A
591 (3.0)	6362 (3.00)	1112 (5.6)	100.0	A
689 (3.5)	7416 (3.50)	1297 (6.6)	100.0	A
787 (4.0)	8471 (4.00)	1481 (7.5)	100.0	A
886 (4.5)	9537 (4.50)	1667 (8.5)	100.0	A
984 (5.0)	10592 (5.00)	1852 (9.4)	100.0	A

202.4 mm/h (8 in/h) Rainfall & 22 m/s (50 mph) Wind Velocity				
Core Velocity fpm (m/s)	Airflow cfm (m³/s)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0.0)	0 (0.00)	0 (0.0)	100.0	A
96 (0.5)	1033 (0.49)	181 (0.9)	100.0	A
194 (1.0)	2088 (0.99)	365 (1.9)	100.0	A
284 (1.4)	3057 (1.44)	534 (2.7)	100.0	A
400 (2.0)	4306 (2.03)	753 (3.8)	100.0	A
496 (2.5)	5339 (2.52)	933 (4.7)	100.0	A
571 (2.9)	6146 (2.90)	1075 (5.5)	100.0	A
679 (3.4)	7309 (3.45)	1278 (6.5)	100.0	A
786 (4.0)	8461 (3.99)	1479 (7.5)	99.8	A
878 (4.5)	9451 (4.46)	1652 (8.4)	99.6	A
974 (4.9)	10484 (4.95)	1833 (9.3)	99.1	A

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	.0199 and below

(the higher the coefficient, the less resistance to airflow.)

* Discharge Loss Intake	
Wind Velocity (mph)	Class
29	3
50	3

* Discharge loss coefficient is the theoretical air flow of an opening divided by the actual flow rate of a louver the same size.

Wind Driven Rain Penetration Classes

Class	Effectiveness
A	1 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

Product Range

- ▶ Fire-Resisting Ductwork (BS & EN)
- ▶ Fire-rated Insulation (ASTM & UL)
- ▶ Sound Attenuators (ASTM & BS)
- ▶ VAV Boxes (AHRI)
- ▶ Life Safety Dampers (UL)
- ▶ Control Dampers (AMCA & BS)
- ▶ Access Doors (BS & EN)
- ▶ Louvers (AMCA)
- ▶ Smoke Exhaust, Building, Car Park & Tunnel Ventilation Fans (AMCA & EN)
- ▶ Domestic and Industrial Ventilation Fans
- ▶ AHU, FAHU, FCU, RTU, ERV & Ecology Units (Eurovent, TUV & AHRI)
- ▶ Electrostatic Precipitators (ESPs) & UL Listed Air Filters (UL)

Our Brands



Non-Coated Fire-Resisting Ductwork
& Life Safety Dampers



Building & Industry
Smoke Exhaust, Car Park &
Tunnel Ventilation



Control Dampers, Louvers,
Sound Attenuators & VAV Boxes



Fire-rated Insulation



Coated Fire-Resisting
Ductwork



General Ventilation



AHU, FCU, RTU, ERV
& Ecology Units

U.A.E

Industrial Area 2,
Al Wasit Road,
Sharjah, UAE

K.S.A

Dammam 2nd
Industrial City,
Dammam 31952,
K.S.A

Egypt

Al Minya Industrial Zone,
Al Minya Governorate
2427606, Egypt

Qatar

Street 9 Industrial Area,
Doha, Qatar



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