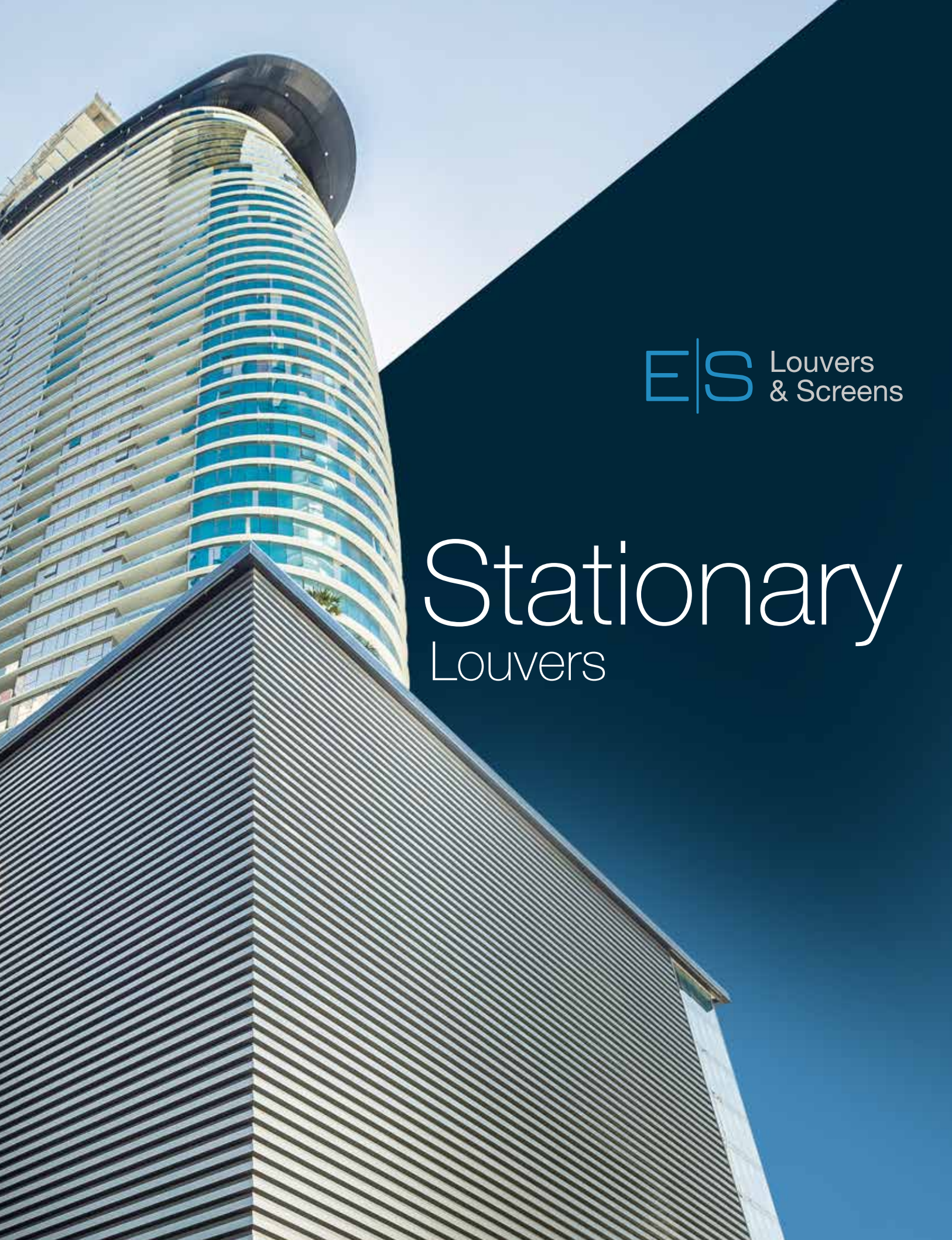


E|S Louvers & Screens

Stationary Louvers

CENTRO CITY (MIAMI,USA)

- Year: 2025
- Area: 43,260 ft^2

E|S METALS

ABOUT US

ES Metals is a company specialized in the design, engineering, and manufacturing of architectural solutions in aluminum, steel, composites and other materials. We offer a diverse portfolio that includes façade systems, cladding, louvers, pergolas, railings, and more.

We work hand in hand with architects and contractors, delivering high-quality, tailor-made products for each project. Our commitment is to exceed expectations through reliability, innovation, and excellence in every detail.

At ES METALS, we turn creative ideas into buildable solutions.

E|S Louvers & Screens

LOUVERS

Our louvers provide efficient ventilation and solar control while protecting against the elements. Made of aluminum, they allow air to pass through while blocking water penetration. They are ideal for indoor and outdoor applications and improve energy efficiency while providing a modern, functional design. They are available in customized versions according to your requirements.

E|S Louvers & Screens

PTAC/VTAC

Specifically designed for PTAC (Package Terminal Air Conditioner) and VTAC (Vertical Terminal Air Conditioner) systems, our louvers optimize air circulation while safeguarding HVAC units from moisture, debris, and other external factors. Their smart design enhances thermal performance and seamlessly integrates into all types of building façades, making them ideal for hotels, offices, and residential developments using vertical or packaged HVAC systems.

ESM 1.4LS-42°
PTAC LOUVER - STATIONARY LOUVER

E|S Louvers & Screens

APPLICATION
The 1.4LS louver is designed primarily to improve the exterior appearance of facades containing PTAC units, making them function properly, due to its low resistance to the passage of air.

STANDARD CONSTRUCTION

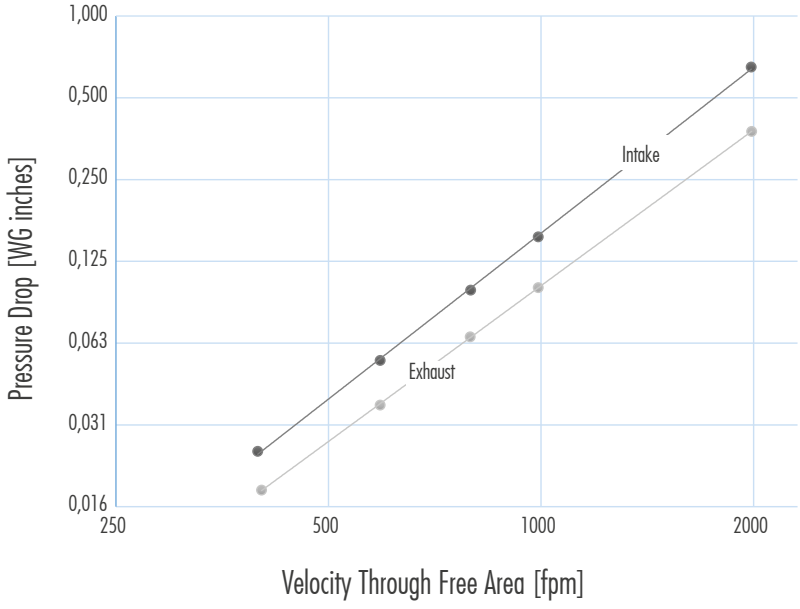
MATERIAL	6063-T6 extruded aluminum
FRAME	The Frame is 1 3/8" or 1 1/4" deep 0.05" nominal wall thickness
BLADES	0.05" nominal wall thickness The distance between centers is 3/4" The Inner Blade distance is 1/2"
MAXIMUM LOUVER SIZE	Dimensions: 120"w x 70"h (Spacing stiffener= 10")
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	1,07 lb/ft^2

FEATURES
- 52% Free Area (Louver 48x48")
- AMCA 500L (Air Performance)
- Air conditioning/PTAC application
- 1 3/8 or 1 1/4" thinline louver
- Corrosion resistant
- Durability and low maintenance

CERTIFICATION
CI ES METALS certifies that Models ESM 1.4LS-42° 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.

AIR PERFORMANCE
Model ESM-1.4LS-42° resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5



ESM 1.4LS-42°
PTAC LOUVER - STATIONARY LOUVER

Louvers & Screens

FRAME

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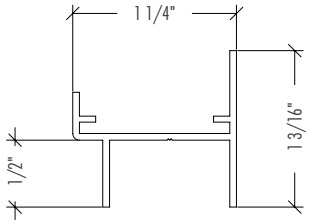
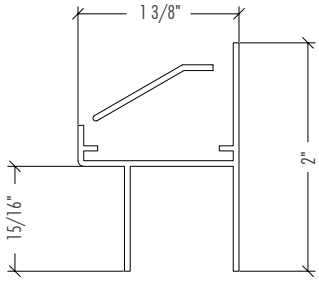
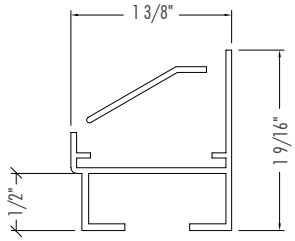


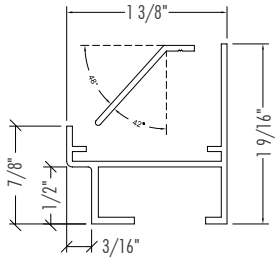
Option 2: ESM-LV-001



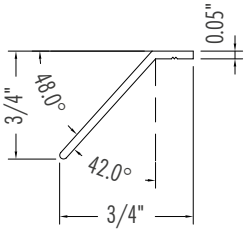
Option 3: ESM-LV-003

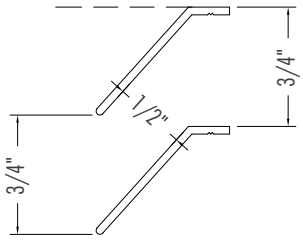


Option 4: ESM-LV-004



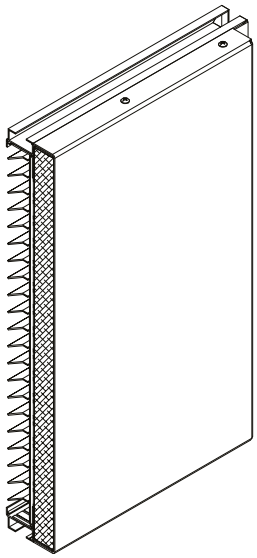
BLADES ES-LV-002





OPTIONAL ACCESORIES

Options available at additional cost include:



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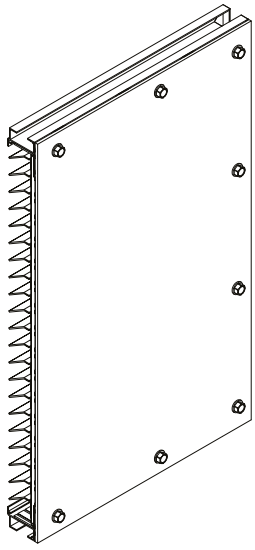
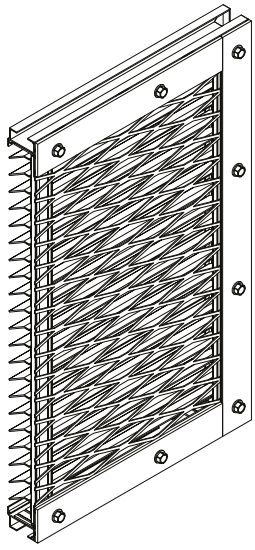
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD SCREEN
(INTERNAL VIEW)

ESM 1.4LS-42°
PTAC LOUVER - STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-1.4LS LOUVER SYSTEM-BLADE 42°
OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	31%	35%	37%	37%	38%	38%	38%	38%	39%	39%
24''	39%	43%	46%	47%	47%	48%	48%	48%	48%	48%
36''	41%	46%	49%	50%	50%	51%	51%	51%	52%	52%
48''	42%	48%	51%	52%	52%	53%	53%	53%	53%	53%
60''	43%	49%	52%	52%	53%	54%	54%	54%	54%	54%
72''	44%	49%	53%	53%	53%	54%	54%	54%	55%	55%
84''	44%	50%	53%	54%	54%	55%	55%	55%	55%	55%
96''	44%	50%	53%	54%	54%	55%	55%	55%	56%	56%
108''	45%	50%	54%	54%	54%	55%	55%	56%	56%	56%
120''	45%	50%	54%	54%	55%	56%	56%	56%	56%	56%

CI ES METALS certifies that Models ESM 1.4LS-42° 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.

ESM 1.4LS-60°
PTAC LOUVER - STATIONARY LOUVER

E|S Louvers & Screens

APPLICATION
The 1.4LS louver is designed primarily to improve the exterior appearance of facades containing PTAC units, making them function properly, due to its low resistance to the passage of air.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The Frame is 1 3/8" deep 0.05" nominal wall thickness
BLADES	0.05" nominal wall thickness The distance between centers is 3/4" The Inner Blade distance is 5/8"
MAXIMUM LOUVER SIZE	Dimensions: 120"w x 70"h (Spacing stiffener= 10")
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	1,07 lb/ft^2

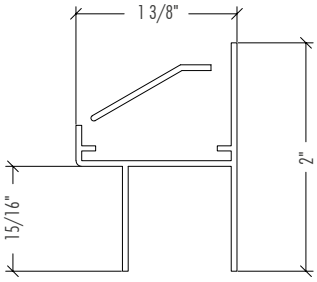
FEATURES
- 68% Free Area (Louver 48x48")
- Air conditioning/PTAC application
- 1 3/8" thinline louver
- Corrosion resistant
- Durability and low maintenance

ESM 1.4LS-60°
PTAC LOUVER - STATIONARY LOUVER

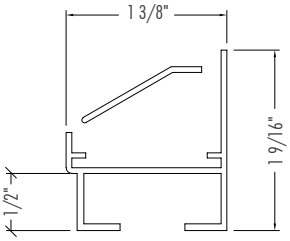
Louvers & Screens

FRAME

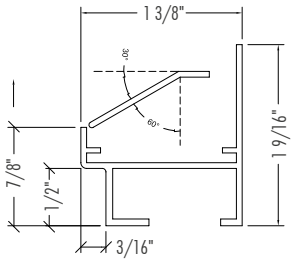
Option 1: ESM-LV-001



Option 2: ESM-LV-003

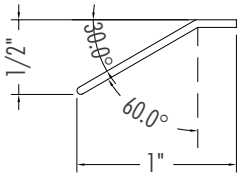


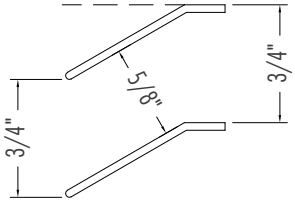
Option 3: ESM-LV-004



BLADES

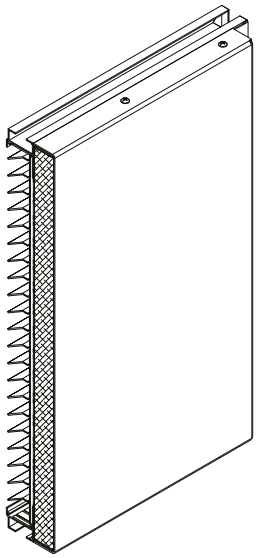
ESM-LV-006





OPTIONAL ACCESORIES

Options available at additional cost include:



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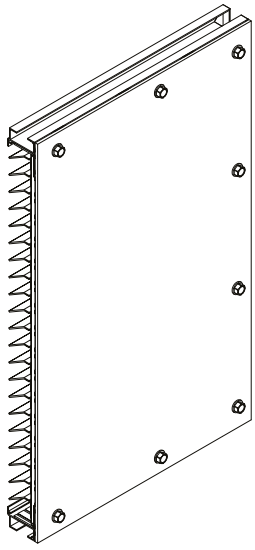
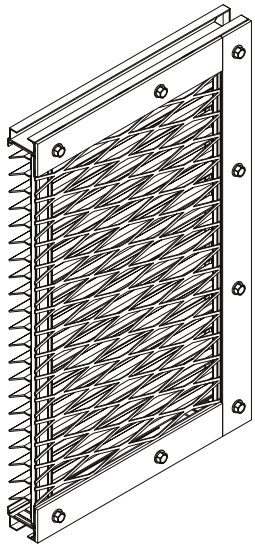


BACK PAN
(INTERNAL VIEW)



BIRD SCREEN
(INTERNAL VIEW)

ESM 1.4LS-60°
PTAC LOUVER - STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-1.4LS LOUVER SYSTEM-BLADE 60°
OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	40%	45%	48%	48%	49%	50%	50%	50%	50%	50%
24''	50%	57%	61%	61%	62%	63%	63%	63%	64%	64%
36''	54%	61%	65%	66%	66%	67%	67%	67%	68%	68%
48''	56%	63%	67%	68%	68%	70%	70%	70%	70%	70%
60''	57%	64%	68%	69%	70%	71%	71%	71%	72%	72%
72''	58%	65%	69%	70%	71%	72%	72%	72%	73%	73%
84''	58%	66%	70%	71%	71%	72%	72%	73%	73%	73%
96''	58%	66%	70%	71%	72%	73%	73%	73%	74%	74%
108''	59%	66%	71%	72%	72%	73%	73%	73%	74%	74%
120''	59%	67%	71%	72%	72%	74%	74%	74%	74%	74%

E|S Louvers & Screens

HIGH PERFORMANCE

Our WDR (Wind-Driven Rain) louvers offer superior weather resistance, ideal for environments exposed to heavy rain and high winds. For extreme conditions, our impact-resistant louvers are reinforced to withstand flying debris and damage from storms and hurricanes. These solutions are engineered for projects that demand maximum durability, safety, and long-term performance.

ESM-1.8LS-H

WIND DRIVEN RAIN (WDR)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

APPLICATION

The ESM-1.8LS-H Louver is a high-performance, wind-driven rain louver designed to provide optimal airflow while effectively minimizing water penetration. Developed for use in demanding exterior environments, it offers a combination of durability, modern design, and superior functionality.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The frame is 1 7/8" deep, 6063 extruded aluminum. 0.06" nominal wall thickness.
BLADES	The blades are 6063 extruded aluminum. 0.04" nominal wall thickness. The distance between centers is 13/16". The Inner Blade distance is 3/8".
MAXIMUM LOUVER SIZE	Dimensions: 90"w x 120"h Area: 75.0 sqft. 120"w x 90"h Area: 75.0 sqft.
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	3,21 lb/ft^2

FEATURES

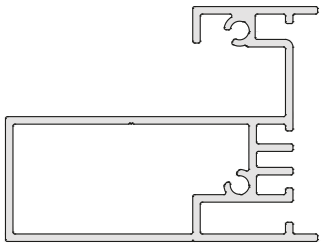
- High performance
- 34,42% Free Area (Louver 48x48")
- 1 7/"8 deep
- Corrosion resistant
- Durability and low maintenance

ESM-1.8LS-H

WIND DRIVEN RAIN (WDR)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

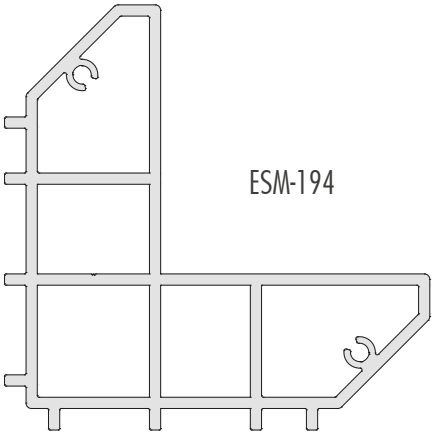
E|S Louvers & Screens

FRAME



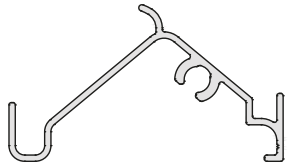
ESM-103

ESM-XXX

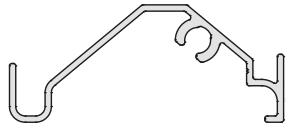


ESM-194

BLADE

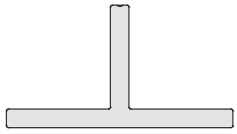


ESM-104

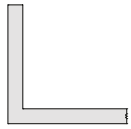


ESM-105

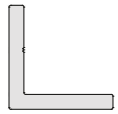
INSTALLATION PROFILES



ESM-107



ALU-A-011



ESM-106

OPTIONAL ACCESORIES

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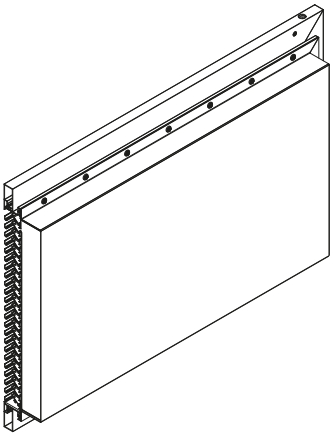
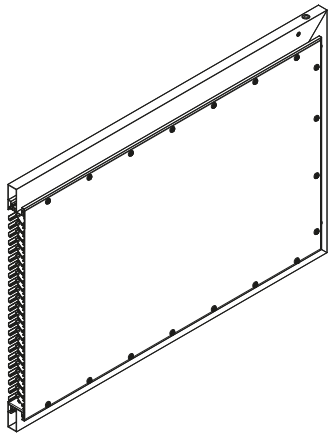
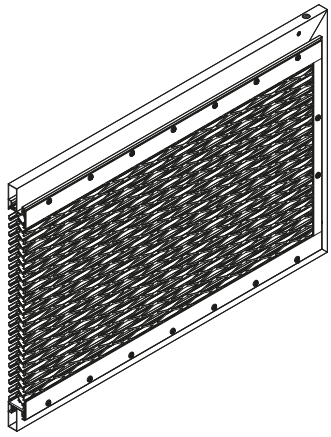


INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD/INSECT SCREEN
(INTERNAL VIEW)

ESM-1.8LS-H

WIND DRIVEN RAIN (WDR)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-1.8LS-H LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	14 %	19 %	20 %	21 %	21 %	22 %	22 %	22 %	23 %	23 %
24''	20 %	27 %	28 %	30 %	31 %	31 %	32 %	32 %	32 %	33 %
36''	22 %	30 %	31 %	33 %	34 %	35 %	35 %	35 %	36 %	36 %
48''	23 %	33 %	32 %	34 %	36 %	36 %	37 %	37 %	38 %	38 %
60''	24 %	33 %	34 %	36 %	37 %	38 %	38 %	39 %	39 %	39 %
72''	25 %	33 %	34 %	36 %	37 %	38 %	39 %	39 %	39 %	40 %
84''	25 %	34 %	34 %	36 %	38 %	38 %	39 %	39 %	40 %	40 %
96''	25 %	34 %	35 %	37 %	38 %	39 %	40 %	40 %	40 %	41 %
108''	25 %	34 %	35 %	37 %	38 %	39 %	40 %	40 %	40 %	41 %
120''	25 %	34 %	35 %	37 %	38 %	39 %	40 %	40 %	41 %	41 %

ESM-1.8LS-H LOUVER SYSTEM FREE AREA SQFT

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	0,14	0,38	0,58	0,83	1,07	1,31	1,55	1,79	2,03	2,27
24''	0,40	1,09	1,67	2,36	3,05	3,74	4,43	5,12	5,81	6,50
36''	0,67	1,81	2,78	3,92	5,07	6,21	7,36	8,50	9,65	10,79
48''	0,94	2,63	3,90	5,51	7,12	8,72	10,33	11,94	13,55	15,16
60''	1,22	3,31	5,06	7,15	9,24	11,33	13,41	15,50	17,59	19,68
72''	1,47	3,99	6,11	8,63	11,15	13,67	16,20	18,72	21,24	23,76
84''	1,73	4,70	7,20	10,17	13,15	16,12	19,09	22,06	25,03	28,00
96''	2,00	5,44	8,33	11,76	15,20	18,47	22,07	25,51	28,94	32,38
108''	2,27	6,16	9,43	13,32	17,21	21,10	24,99	28,88	32,77	36,67
120''	2,53	6,86	10,51	14,85	19,18	23,52	27,85	32,19	36,52	40,86

ESM-3LS-V

HURRICANE LOUVER (PENDING)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

APPLICATION

3LS-V is a stationary sight-proof ventilation louver system manufactured from extruded aluminum and designed to protect air intake and exhaust openings in exterior building walls. The louver system is AMCA 550, AMCA 540, and AMCA 500-L rated, providing enhanced resistance to wind-driven rain, air leakage, and water penetration. Its AMCA 550-rated wind-driven rain performance makes it suitable for applications where protection of equipment and interior spaces from wind-driven rain is critical, including equipment enclosures where conventional drainage provisions may be limited.

The system has been tested and qualified in accordance with Florida test protocols TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure), and TAS 203 (Cyclic Wind Loading). Designed and tested to comply with the requirements of the 8th Edition Florida Building Code (2023), including High-Velocity Hurricane Zone (HVHZ) applications.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The frame is 3" deep0.081" nominal wall thickness
BLADES	0.050" nominal wall thickness. The distance between centers is 0.875" Double drainable
MAXIMUM LOUVER SIZE	Dimensions: 1. 60"w x 96"h 2. 96"w x 60"h Single section Area: 50sqft Louvers exceeding maximum single section will be built in multiple sections
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	4.5 lb/ft^2

FEATURES

- High performance
- High Free Area: 52%
- AMCA 550/540
- AMCA 500L (Pending)
- Florida Building Code Approval (Pending)
- TAS 201, TAS 202 and TAS 203 (Pending)
- Hurricane Resistant
- Stainless Steel Hardware
- 100 psf max design pressure
- Corrosion resistant
- Durability and low maintenance

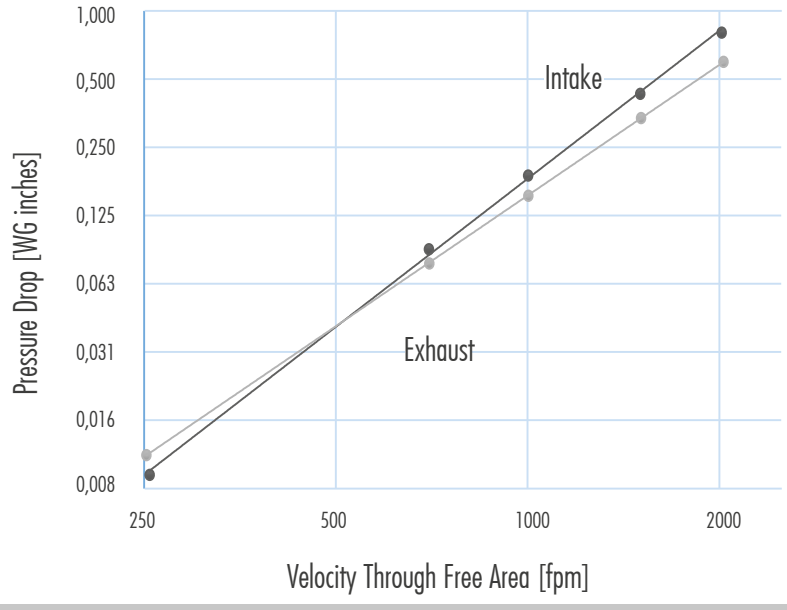
CERTIFICATION

CI ES METALS certifies that the model ESM-3LS-V shown herein is licensed to bear the AMCA seal. The ratings shown are based on test 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, water penetration and wind-driven rain ratings.

AIR PERFORMANCE

Model ESM-3LS-V resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5

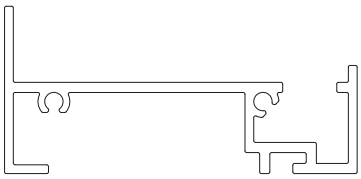


ESM-3LS-V

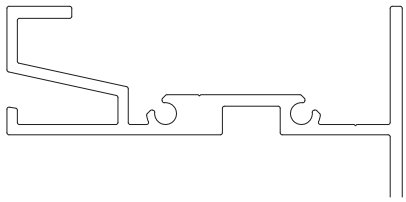
HURRICANE LOUVER (PENDING)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

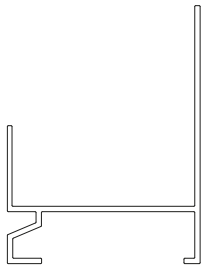
FRAME



ESM-467

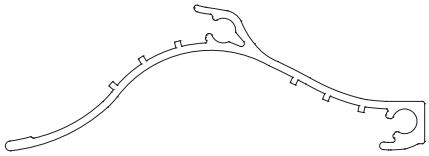


ESM-469



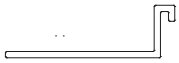
ESM-470

BLADE



ESM-468

INSTALLATION ANGLES



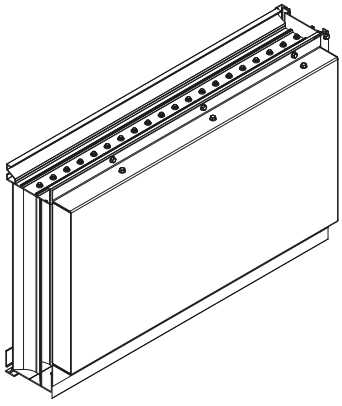
ESM-148

ESM-149

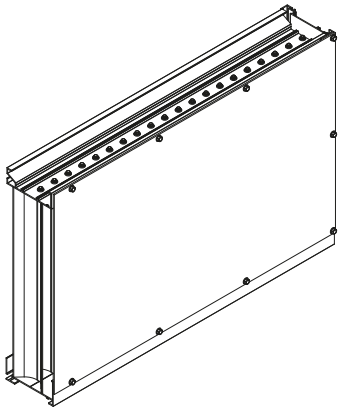
ESM-150

OPTIONAL ACCESSORIES

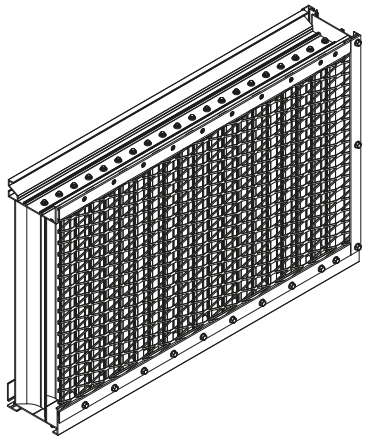
Options available at additional cost include:



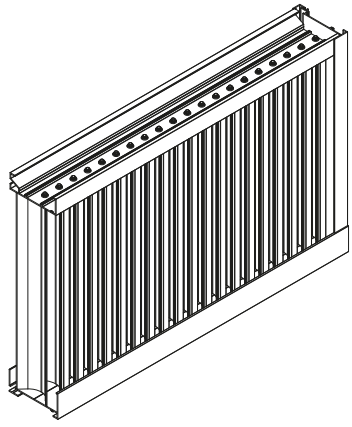
INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD/INSECT SCREEN
(INTERNAL VIEW)



SILL PAN LOUVER
(INTERNAL VIEW)

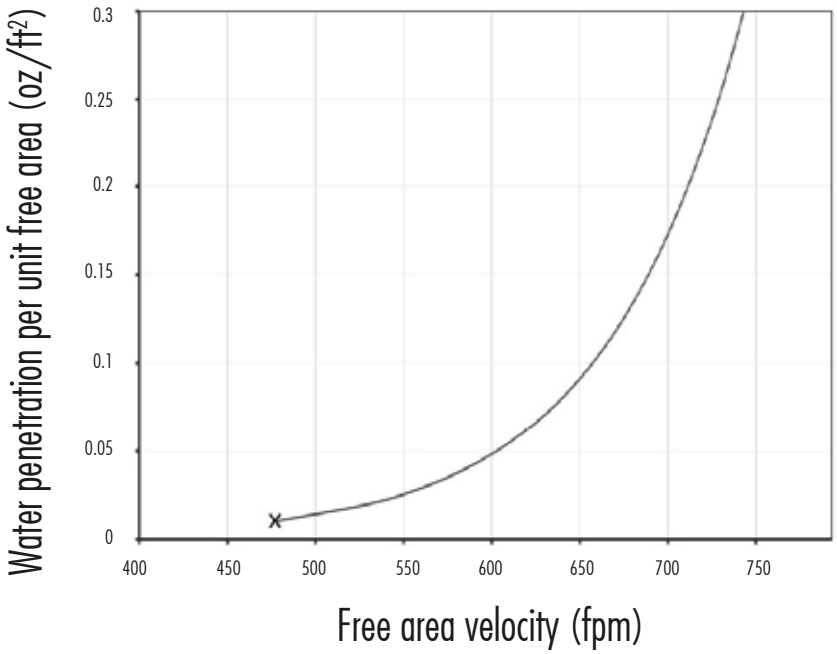
ESM-3LS-V

HURRICANE LOUVER (PENDING)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

WATER PENETRATION

The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. * The beginning point of water penetration for Model ESM-3LS-V is 477,2 fpm free area velocity. Standard Air - 0.075 lb/ft^3 (1.2 kg/m^3), test size 48 in. x 48 in. (1219 mm x 1219 mm) and test duration of 15 min. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.



WIND DRIVEN RAIN

Water penetration classification ratings are based on the amount of simulated rain that penetrates the louver during a specific rainfall rate, wind velocity, and intake velocity. Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

	Rainfall rate of 3" per hour (76 mm) and a wind velocity of 29 mph (47 kph)			Rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (81 kph)		
Ventilation Air Velocity (m/s)	Core Velocity (fpm)	Rating Effectivensess	Class	Core Velocity (fpm)	Rating Effectivensess	Class
4	786,47	100	A	-	-	-
4,5	882,46	99	A	17491	100	A
5	985,21	96.7	B	19469	99,8	A
Effectiveness Rating	A= 1 to 0,99	B= 0,989 to 0,95	C= 0,949 to 0,80	Effectiveness Rating	Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.	

ESM-3LS-V

HURRICANE LOUVER (PENDING)
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-3LS-V LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''
12''	24 %	28 %	29 %	29 %	30 %	30 %	30 %	30 %
24''	36 %	42 %	44 %	44 %	45 %	45 %	45 %	45 %
36''	40 %	47 %	49 %	49 %	50 %	50 %	50 %	50 %
48''	42 %	49 %	51 %	52 %	52 %	53 %	53 %	53 %
60''	44 %	50 %	53 %	53 %	54 %	54 %	54 %	55 %
72''	44 %	51 %	53 %	53 %	54 %			
84''	45 %	51 %	54 %	54 %	55 %			
96''	45 %	52 %	54 %	54 %	55 %			

CI ES METALS certifies that the model ESM-3LS-V shown herein is licensed to bear the AMCA seal. The ratings shown are based on test 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, water penetration and wind-driven rain ratings.

ESM-3LS-V LOUVER SYSTEM FREE AREA SQFT

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''
12''	0,25	0,57	0,89	1,18	1,51	1,83	2,12	2,45
24''	0,74	1,70	2,66	3,55	4,52	5,48	6,37	7,34
36''	1,23	2,83	4,44	5,92	7,53	9,13	10,62	12,23
48''	1,72	3,96	6,21	8,30	10,54	12,78	14,87	17,12
60''	2,21	5,10	7,98	10,66	13,55	16,44	19,12	22,01
72''	2,66	6,14	9,61	12,84	16,31			
84''	3,15	7,27	11,38	15,21	19,32			
96''	3,64	8,40	13,16	17,58	22,33			

ESM-5LS-H

WIND DRIVEN RAIN & IMPACT LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

APPLICATION

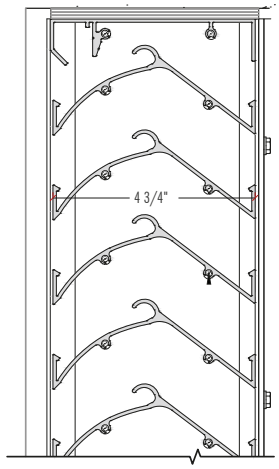
ESM-5LS-H is a Florida Product Approved extruded aluminum sightproof stationary louver system designed to protect air intake and exhaust openings in building's exterior walls. System is tested and qualified per Florida test protocols: TAS 201 (Large Missile Impact), TAS 202 (Loads) and TAS 203 (Cyclic Wind Loading). Designed and tested to comply with the requirements of the 8th Edition Florida Building Code (2023) including High Velocity Hurricane Zone (HVHZ). Louver system shall only be installed in a location where the room behind the louver is designed to drain water penetrating into the room, and the room will house water resistant/waterproof equipment, components or supplies.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The frame is 5" deep 0.081" nominal wall thickness
BLADES	0.081" nominal wall thickness. The distance between centers is 2" Double drainable
MAXIMUM LOUVER SIZE	Dimensions: 1. 120"w x 60"h 2. 60"w x 120"h Single section Area: 50sqft Louvers exceeding maximum single section will be built in multiple sections
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	6,34 lb/ft^2

FEATURES

- High performance
- High Free Area: 50%
- AMCA 500L Air Performance, Water Penetration and Wind Driven Rain
- Florida Building Code Approval : No.FL 31288
- TAS 201, TAS 202 and TAS 203
- Hurricane Resistant
- Stainless Steel Hardware
- 150 psf max design pressure
- Corrosion resistant
- Durability and low maintenance



CERTIFICATION

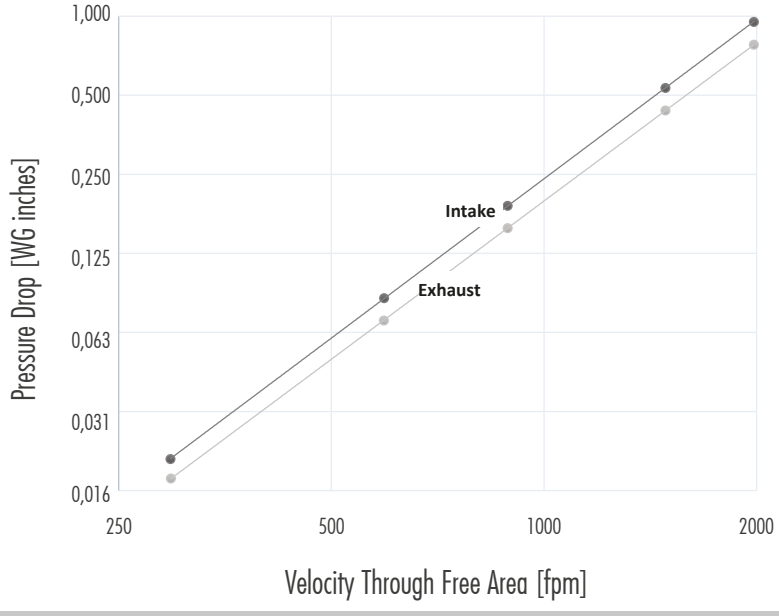
CI ES METALS certifies that the model ESM-5LS-H shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance, water penetration and wind-driven rain ratings.

FLORIDA BUILDING CODE APPROVAL #FL31288

AIR PERFORMANCE

Model ESM-5LS-H resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5

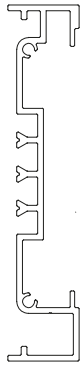


ESM-5LS-H

WIND DRIVEN RAIN & IMPACT LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

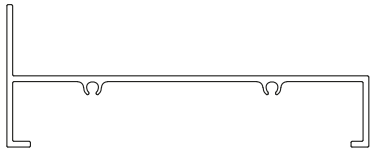
E|S Louvers & Screens

FRAME



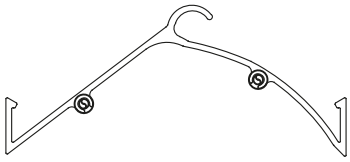
COMP-120

COMP-121



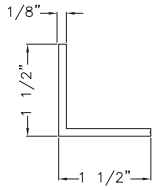
COMP-123

BLADE

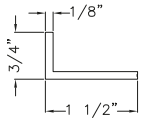


COMP-122

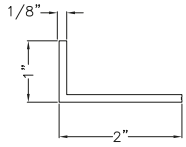
INSTALLATION ANGLES



ALU-A-019



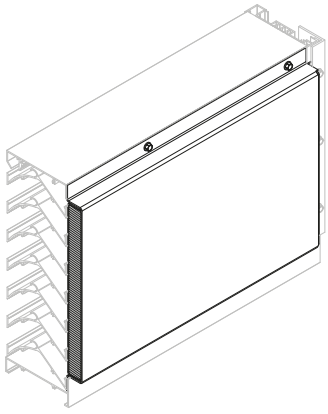
ESM-081



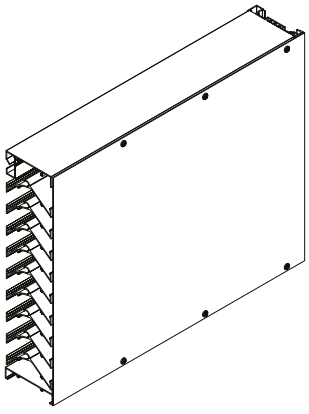
ALU-A-002

OPTIONAL ACCESORIES

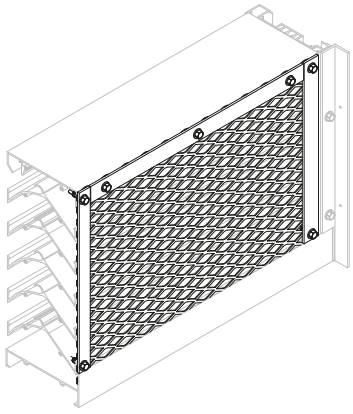
Options available at additional cost include:



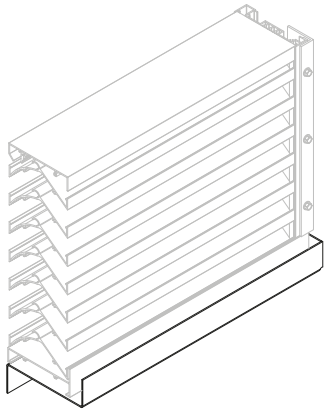
INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD/INSECT SCREEN
(INTERNAL VIEW)



SILL PAN LOUVER
(INTERNAL VIEW)

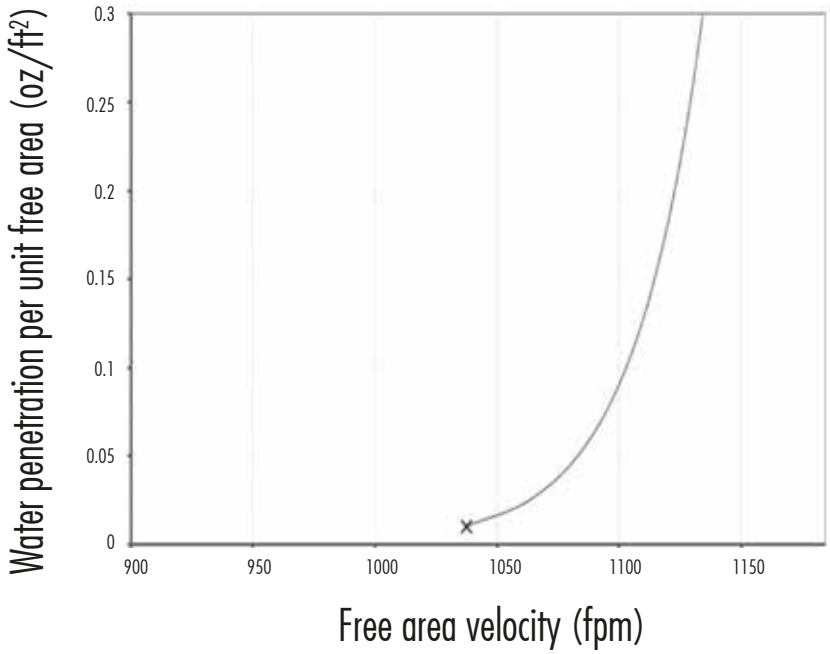
ESM-5LS-H

WIND DRIVEN RAIN & IMPACT LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

WATER PENETRATION

The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. * The beginning point of water penetration for Model ESM-5LS is 1037,5 fpm free area velocity. Standard Air - 0.075 lb/ft^3 (1.2 kg/m^3), test size 48 in. x 48 in. (1219 mm x 1219 mm) and test duration of 15 min. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.



WIND DRIVEN RAIN

Water penetration classification ratings are based on the amount of simulated rain that penetrates the louver during a specific rainfall rate, wind velocity, and intake velocity. Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

	Rainfall rate of 3" per hour (76 mm) and a wind velocity of 29 mph (47 kph)			Rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (81 kph)		
Ventilation Air Velocity (m/s)	Core Velocity (fpm)	Rating Effectivensess	Class	Core Velocity (fpm)	Rating Effectivensess	Class
0	0	99,1	A	0	94,5	C
0,5	97	98,6	B	97,75	93,7	C
1	199,118	97	B	194,43	92,2	C
1,5	288,24	94,8	C	289,27	89,3	C
2	399,31	92,8	C	390,75	86,3	C
2,5	489,91	91,4	C	480,81	83,4	C
3	595	85,2	C	589,35	79,7	D
3,5	694,28	73,3	D	691,13	74,4	D
4	788,38	51,4	D	795,75	67	D
4,5	890,37	4,1	D	887,86	55,8	D
5	985,39	0,7	D	989,85	35,6	D
Effectiveness Rating	A= 1 to 0,99	B= 0,989 to 0,95	C= 0,949 to 0,80	Effectiveness Rating	Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.	

ESM-5LS-H

WIND DRIVEN RAIN & IMPACT LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-5LS-H LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	37 %	41 %	42 %	43 %	43 %	43 %	43 %	43 %	43 %	43 %
24''	43 %	48 %	49 %	50 %	50 %	50 %	50 %	50 %	50 %	51 %
36''	45 %	50 %	51 %	52 %	53 %	52 %	52 %	53 %	53 %	53 %
48''	46 %	51 %	53 %	53 %	54 %	53 %	53 %	54 %	54 %	54 %
60''	47 %	52 %	53 %	54 %	55 %	54 %	54 %	54 %	55 %	55 %
72''	47 %	52 %	54 %	55 %	55 %	54 %	55 %	55 %	55 %	55 %
84''	48 %	53 %	54 %	55 %	55 %	55 %	55 %	55 %	55 %	56 %
96''	48 %	53 %	54 %	55 %	56 %	55 %	55 %	55 %	56 %	56 %
108''	48 %	53 %	55 %	55 %	56 %	55 %	55 %	56 %	56 %	56 %
120''	48 %	53 %	55 %	56 %	56 %	55 %	56 %	56 %	56 %	56 %

ESM-5LS-H LOUVER SYSTEM FREE AREA SQFT

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	0,37	0,82	1,27	1,72	2,16	2,56	3,00	3,45	3,90	4,35
24''	0,87	1,91	2,95	3,99	5,03	5,95	6,99	8,03	9,07	10,11
36''	1,36	3,00	4,63	6,27	7,90	9,33	10,97	12,61	14,24	15,88
48''	1,86	4,09	6,32	8,54	10,77	12,72	14,95	17,18	19,41	21,64
60''	2,35	5,18	8,00	10,82	13,64	16,11	18,94	21,76	24,58	27,40
72''	2,85	6,26	9,68	13,10	16,51	19,50	22,92	26,34	29,75	33,17
84''	3,34	7,35	11,36	15,37	19,38	22,89	26,90	30,91	34,92	38,93
96''	3,84	8,44	13,04	17,65	22,25	26,28	30,88	35,49	40,09	44,70
108''	4,33	9,53	14,73	19,92	25,12	29,67	34,87	40,06	45,26	50,46
120''	4,83	10,62	16,41	22,20	27,99	33,06	38,85	44,64	50,43	56,22

CI ES METALS certifies that the model ESM-5LS-H shown herein is licensed to bear the AMCA seal. The ratings shown are based on test 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, water penetration and wind-driven rain ratings.

ESM-5LS-V

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

APPLICATION

5LS-V is a stationary sight-proof ventilation louver system manufactured from extruded aluminum and designed to protect air intake and exhaust openings in exterior building walls. The louver system is AMCA 550, AMCA 540, and AMCA 500-L rated, providing enhanced resistance to wind-driven rain, air leakage, and water penetration. Its AMCA 550-rated wind-driven rain performance makes it suitable for applications where protection of equipment and interior spaces from wind-driven rain is critical, including equipment enclosures where conventional drainage provisions may be limited.

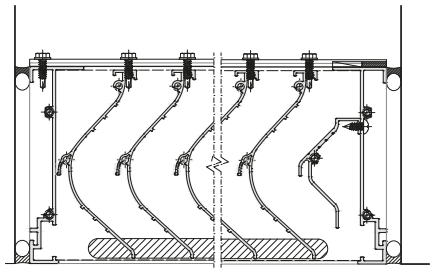
The system has been tested and qualified in accordance with Florida test protocols TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure), and TAS 203 (Cyclic Wind Loading). Designed and tested to comply with the requirements of the 8th Edition Florida Building Code (2023), including High-Velocity Hurricane Zone (HVHZ) applications.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The frame is 5" deep 0.081" nominal wall thickness
BLADES	0.060" nominal wall thickness. The distance between centers is 1.5" Double drainable
MAXIMUM LOUVER SIZE	Dimensions: 1. 120"w x 72"h 2. 72"w x 120"h Single section Area: 60sqft Louvers exceeding maximum single section will be built in multiple sections
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	5,7 lb/ft^2

FEATURES

- High performance
- High Free Area: 51%
- AMCA 500L/540/550
- Florida Building Code Approval : No.FL 47774
- TAS 201, TAS 202 and TAS 203
- Hurricane Resistant
- Stainless Steel Hardware
- 190 psf max design pressure
- Corrosion resistant
- Durability and low maintenance



CERTIFICATION

amca INTERNATIONAL LISTED
550 HIGH VELOCITY RAIN RESISTANT WITH BLADES FULLY OPEN AND
540 IMPACT RESISTANT LOUVER
Enhanced Protection Level E
See www.AMCA.org for all certified or listed products
This label does not signify AMCA airflow performance certification

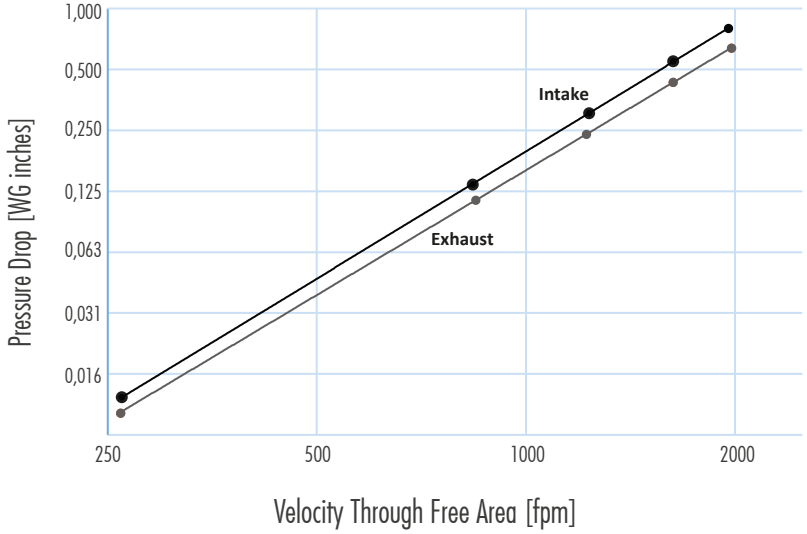
CI ES METALS certifies that the model ESM-5LS-V shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance.

FLORIDA BUILDING CODE APPROVAL #FL47774

AIR PERFORMANCE

Model ESM-5LS-V resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5

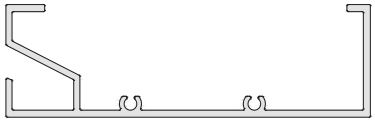


ESM-5LS-V
HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

Louvers & Screens

FRAME

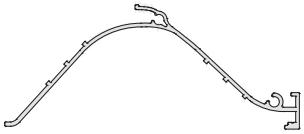
ESM-325



ESM-143

ESM-144

BLADE

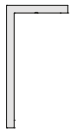


ESM-321

ESM-146

INSTALLATION ANGLES

ESM-147



A-002

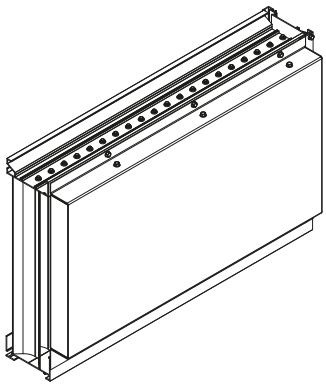
ESM-149

ESM-148

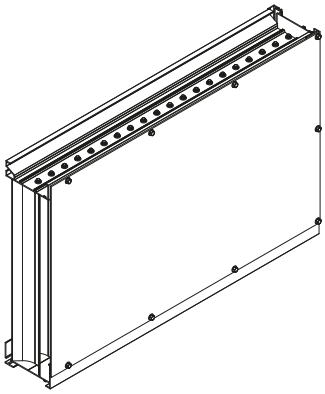
ESM-150

OPTIONAL ACCESORIES

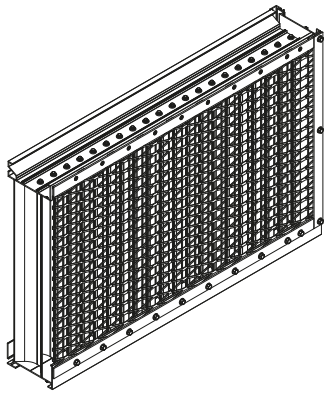
Options available at additional cost include:



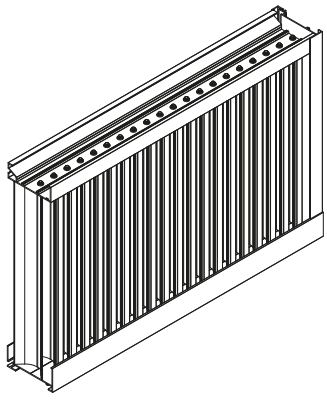
INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



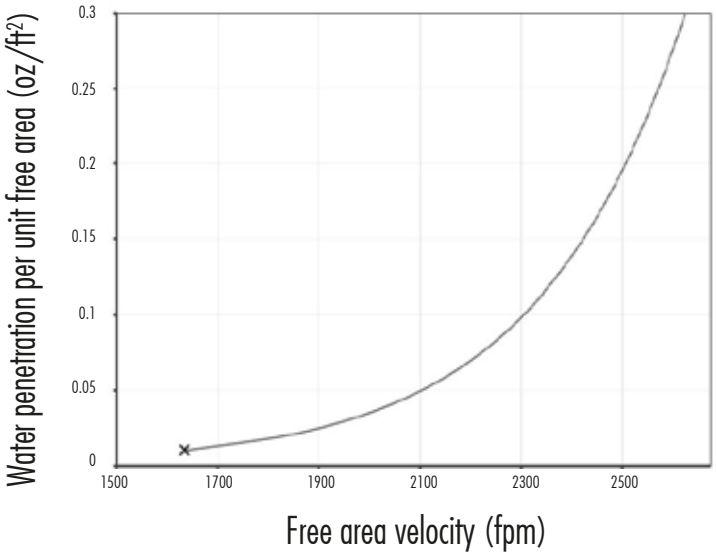
BIRD/INSECT SCREEN
(INTERNAL VIEW)



SILL PAN LOUVER
(INTERNAL VIEW)

WATER PENETRATION

The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. The beginning point of water penetration for Model ESM-5LS-V is 1634,5 fpm free area velocity. Standard Air - 0.075 lb/ft^3 (1.2 kg/m^3), test size 48 in. x 48 in. (1219 mm x 1219 mm) and test duration of 15 min. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.



WIND DRIVEN RAIN

Water penetration classification ratings are based on the amount of simulated rain that penetrates the louver during a specific rainfall rate, wind velocity, and intake velocity. Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

	Rainfall rate of 3" per hour (76 mm) and a wind velocity of 29 mph (47 kph)			Rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (81 kph)		
Ventilation Air Velocity (m/s)	Core Velocity (fpm)	Rating Effectivensess	Class	Core Velocity (fpm)	Rating Effectivensess	Class
4	799,13	100	A	-	-	-
4,5	898,71	99,90	A	-	-	-
5	993,23	99,80	A	995,56	100	A

Effectiveness Rating	A= 1 to 0,99	B= 0,989 to 0,95	C= 0,949 to 0,80	Effectiveness Rating	Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

ESM-5LS-V
HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-5LS-V LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	28 %	35 %	37 %	38 %	38 %	42 %	39 %	39 %	40 %	40 %
24''	35 %	43 %	45 %	47 %	47 %	48 %	48 %	49 %	49 %	49 %
36''	37 %	45 %	48 %	50 %	50 %	51 %	51 %	52 %	52 %	52 %
48''	38 %	47 %	50 %	51 %	52 %	53 %	53 %	53 %	54 %	54 %
60''	38 %	47 %	50 %	52 %	53 %	53 %	54 %	54 %	54 %	55 %
72''	39 %	48 %	51 %	53 %	53 %	54 %	54 %	55 %	55 %	55 %
84''	39 %	48 %	51 %	53 %	54 %	55 %	55 %	55 %	56 %	56 %
96''	39 %	49 %	52 %	53 %	54 %	55 %	55 %	56 %	56 %	56 %
108''	40 %	49 %	52 %	54 %	55 %	55 %	56 %	56 %	56 %	56 %
120''	40 %	49 %	52 %	54 %	55 %	55 %	56 %	56 %	56 %	57 %

ESM-5LS-V LOUVER SYSTEM FREE AREA SQFT

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	0,28	0,69	1,10	1,51	1,92	2,53	2,74	3,15	3,56	3,97
24''	0,69	1,70	2,72	3,73	4,74	5,75	6,77	7,78	8,79	9,81
36''	1,10	2,72	4,33	5,95	7,56	9,18	10,80	12,41	14,03	15,64
48''	1,51	3,73	5,95	8,17	10,39	12,61	14,82	17,04	19,26	21,48
60''	1,92	4,74	7,56	10,39	13,21	16,03	18,85	21,68	24,50	27,32
72''	2,33	5,76	9,18	12,61	16,03	19,46	22,88	26,31	29,73	33,16
84''	2,74	6,77	10,80	14,83	18,85	22,88	26,91	30,94	34,97	39,00
96''	3,15	7,78	12,41	17,05	21,68	26,31	30,94	35,57	40,20	44,83
108''	3,56	8,80	14,03	19,27	24,50	29,73	34,97	40,20	45,44	50,67
120''	3,97	9,81	15,65	21,49	27,32	33,16	39,00	44,84	50,67	56,51

CI ES METALS certifies that the model ESM-5LS-V shown herein is licensed to bear the AMCA seal. The ratings shown are based on test 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, water penetration and wind-driven rain ratings.

ESM-5LS-HV

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

APPLICATION

5LS-HV is a stationary sight-proof ventilation louver system manufactured from extruded aluminum and designed to protect air intake and exhaust openings in exterior building walls. The louver system is AMCA 550, AMCA 540, and AMCA 500-L rated, providing enhanced resistance to wind-driven rain, air leakage, and water penetration. Its AMCA 550-rated wind-driven rain performance makes it suitable for applications where protection of equipment and interior spaces from wind-driven rain is critical, including equipment enclosures where conventional drainage provisions may be limited.

The system has been tested and qualified in accordance with Florida test protocols TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure), and TAS 203 (Cyclic Wind Loading). Designed and tested to comply with the requirements of the 8th Edition Florida Building Code (2023), including High-Velocity Hurricane Zone (HVHZ) applications.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 extruded aluminum
FRAME	The frame is 5" deep 0.081" nominal wall thickness
HORIZONTAL BLADES	0.117" nominal wall thickness. The distance between centers is 1"
VERTICAL BLADES	0.050" nominal wall thickness. The distance between centers is 0.875" Double drainable
MAXIMUM LOUVER SIZE	Dimensions: 1. 96"w x 60"h 2. 60"w x 96"h Single section Area: 40sqft Louvers exceeding maximum single section will be built in multiple sections
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	7.35 lb/ft^2

FEATURES

- High performance
- High Free Area: 52%
- AMCA 550/540/500L
- Florida Building Code Approval: No. FL 48282
- TAS 201, TAS 202 and TAS 203
- Hurricane Resistant
- Stainless Steel Hardware
- 90 psf max design pressure (72"w x 120"h with stiffeners)
- 100 psf max design pressure (60"w x 96"h & 96"w x 60"h)
- 150 psf max design pressure (72"w x 96"h with stiffeners)
- Corrosion resistant
- Durability and low maintenance

CERTIFICATION

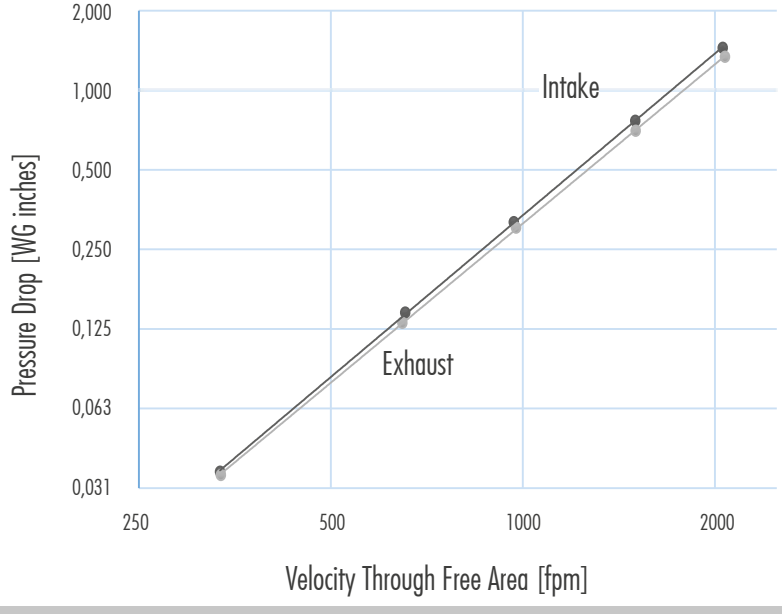
CI ES METALS certifies that the model ESM-5LS-HV shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance, water penetration and wind-driven rain ratings.

FLORIDA BUILDING CODE APPROVAL #FL48282

AIR PERFORMANCE

Model ESM-5LS-HV resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5

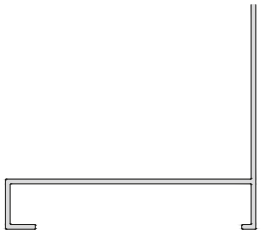


ESM-5LS-HV

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

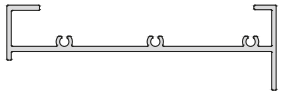
Louvers & Screens

FRAME



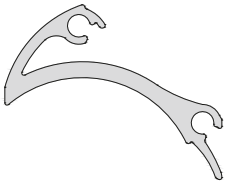
ESM-507

ESM-508

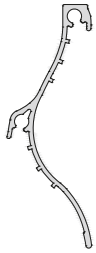


ESM-507

BLADE



ESM-510



ESM-468

INSTALLATION ANGLES

ESM-149

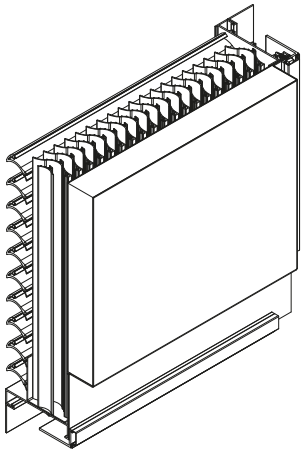
ESM-148

ESM-150

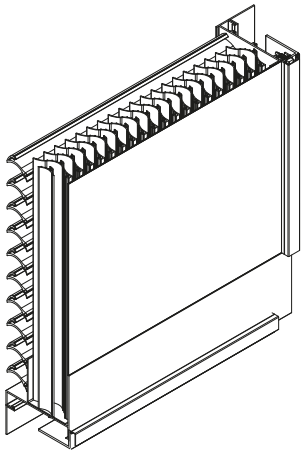
ALU-A-002

OPTIONAL ACCESSORIES

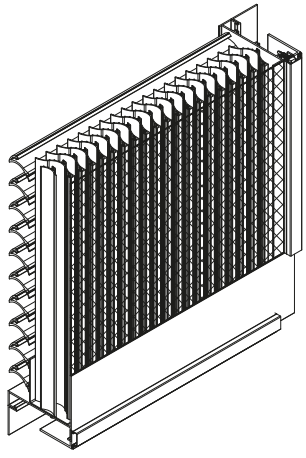
Options available at additional cost include:



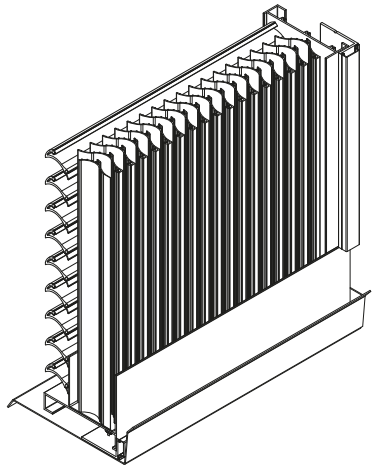
INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD/INSECT SCREEN
(INTERNAL VIEW)



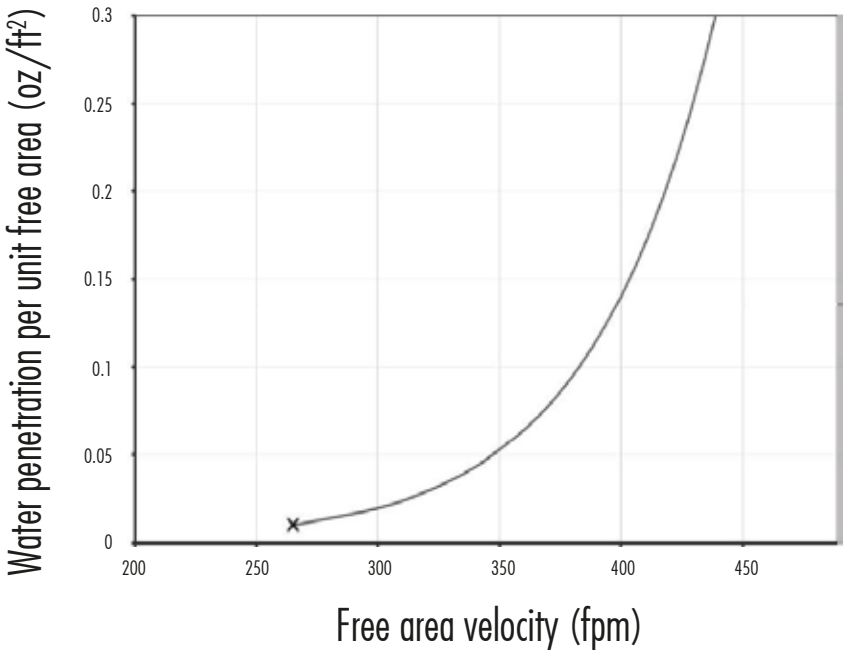
SILL PAN LOUVER
(INTERNAL VIEW)

ESM-5LS-HV
HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

WATER PENETRATION

The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. * The beginning point of water penetration for Model ESM-5LS-HV is 265,1 fpm free area velocity. Standard Air - 0.075 lb/ft^3 (1.2 kg/m^3), test size 48 in. x 48 in. (1219 mm x 1219 mm) and test duration of 15 min. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.



WIND DRIVEN RAIN

Water penetration classification ratings are based on the amount of simulated rain that penetrates the louver during a specific rainfall rate, wind velocity, and intake velocity. Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

	Rainfall rate of 3" per hour (76 mm) and a wind velocity of 29 mph (47 kph)			Rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (81 kph)		
Ventilation Air Velocity (m/s)	Core Velocity (fpm)	Rating Effectivensess	Class	Core Velocity (fpm)	Rating Effectivensess	Class
1	197,15	99,8	A	-	-	-
1,5	296,6	99,7	A	-	-	-
2	394,91	99,6	A	-	-	-
2,5	493,98	98,9	B	-	-	-
3	595,15	97,7	B	-	-	-
3,5	696,45	97	B	687,22	99,7	A
4	-	-	-	791,79	99,5	A
4,5	-	-	-	886,64	99,4	A
5	-	-	-	973,72	98,4	B

Effectiveness Rating	A= 1 to 0,99	B= 0,989 to 0,95	C= 0,949 to 0,80	Effectiveness Rating	Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

ESM-5LS-HV

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

FREE AREA CHART (Free area chart shows free area in %)

ESM-5LS-HV LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	25 %	29 %	30 %	31 %	31 %	3 %	31 %	31 %	32 %	32 %
24''	36 %	43 %	44 %	45 %	46 %	46 %	46 %	46 %	47 %	47 %
36''	40 %	47 %	49 %	50 %	50 %	51 %	51 %	51 %	52 %	52 %
48''	42 %	49 %	51 %	52 %	53 %	53 %	54 %	54 %	54 %	54 %
60''	43 %	51 %	52 %	54 %	54 %	55 %	56 %	55 %	56 %	55 %
72''	43 %	51 %	52 %	54 %	55 %	55 %	55 %	55 %	56 %	57 %
84''	44 %	52 %	53 %	55 %	55 %	56 %	56 %	56 %	57 %	57 %
96''	45 %	52 %	54 %	55 %	56 %	57 %	57 %	57 %	57 %	57 %
108''	45 %	53 %	55 %	56 %	57 %	58 %	58 %	58 %	58 %	58 %
120''	45 %	53 %	55 %	56 %	57 %	57 %	57 %	58 %	58 %	58 %

CI ES METALS certifies that the model ESM-5LS-HV shown herein is licensed to bear the AMCA seal. The ratings shown are based on test 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, water penetration and wind-driven rain ratings.

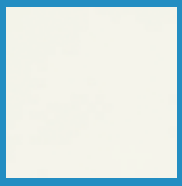
ESM-5LS-HV LOUVER SYSTEM FREE AREA SQFT

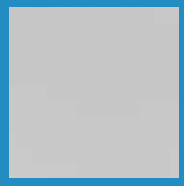
UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	0,25	0,58	0,89	1,51	1,55	1,88	2,19	2,52	2,85	3,17
24''	0,73	1,70	2,63	3,73	4,56	5,53	6,46	7,41	8,40	9,32
36''	1,21	2,83	4,37	5,95	7,57	9,18	10,72	12,30	13,94	15,47
48''	1,69	3,95	6,11	8,17	10,57	12,84	14,98	17,20	19,49	21,62
60''	2,17	5,07	7,85	10,39	13,58	16,49	19,25	22,09	25,03	27,77
72''	2,61	6,10	9,44	12,61	16,34	19,83	23,15	26,58	30,11	33,41
84''	3,09	7,23	11,18	14,83	19,35	23,49	27,42	31,47	35,66	39,56
96''	3,57	8,35	12,92	17,05	22,36	27,14	31,68	36,36	41,20	45,71
108''	4,09	9,57	14,81	19,27	25,62	31,09	36,30	41,66	47,21	52,38
120''	4,53	10,60	16,40	21,49	28,37	34,44	40,21	46,15	52,29	58,02

FINISHES

ES METALS standard colors are the following: Two coats: Primer and color coat:

E|S METALS





	Bone White	Black	Arcadia Silver	Silverstorm	Bermuda Bronze
AAMA2605	UC43350	UC40577	UC70123F	UC106685F	UC105262
AAMA2604	UC141202	UC130902	UC143459	UC139554	UC143010

Note: Contact us for more custom colors.

ESM-5LS-VP

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

ES Louvers & Screens

APPLICATION

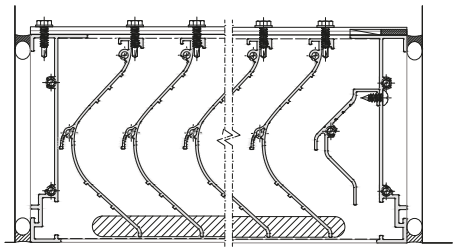
5LS-VP is a stationary sight-proof ventilation louver system made of extruded aluminum, designed to protect air intake and exhaust openings in the exterior walls of buildings. The ventilation grille system is AMCA 550, AMCA 540, TAS 201, TAS 202 & TAS 203 certified. (Tested without the perforated aluminum sheet), allowing it to be installed in rooms without drainage and capable of housing equipment that lacks water protection.
This model includes a perforated sheet that can feature either a standard or customized pattern, depending on the project requirements. Various sheet gauges are available to suit different aesthetic and functional needs.

STANDARD CONSTRUCTION

MATERIAL	6063-T6 and 6005-T5 extruded aluminum
FRAME	The frame is 5" deep 0.081" nominal wall thickness
BLADES	0.060" nominal wall thickness. The distance between centers is 1.5" Double drainable
MAXIMUM LOUVER SIZE	Dimensions: 1. 120"w x 72"h 2. 72"w x 120"h Single section Area: 60sqft Louvers exceeding maximum single section will be built in multiple sections
MINIMUM LOUVER SIZE	Dimensions: 12"w x 12" h
APPROX. WEIGHT	5,7 lb/ft²
PERFORATED PANEL	AL 5052 H32 Standard thickness: 0.125"

LOUVER FEATURES (WITHOUT PERFORATED PANEL)

- High performance
- High Free Area: 51%
- AMCA 550 & 540
- Hurricane Resistant
- Stainless Steel Hardware
- 150 psf max design pressure
- Corrosion resistant
- Durability and low maintenance



CERTIFICATION (WITHOUT PERFORATED PANEL)

amca INTERNATIONAL LISTED
550 HIGH VELOCITY RAIN RESISTANT WITH BLADES FULLY OPEN AND
540 IMPACT RESISTANT LOUVER
Enhanced Protection Level E
* See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification

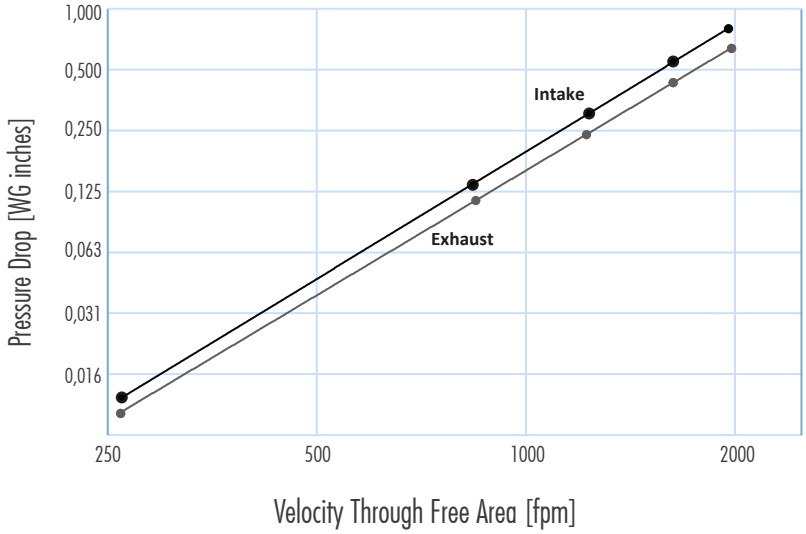
CI ES METALS certifies that the model ESM-5LS-V shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance.

FLORIDA BUILDING CODE APPROVAL #FL47774

AIR PERFORMANCE (WITHOUT PERFORATED PANEL)

Model ESM-5LS-V resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5)

Unite test size (48" x 48")
Airflow rate at standard air density and thee AMCA figure 5.5

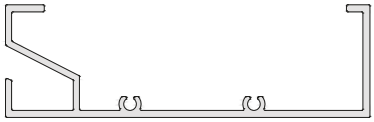


ESM-5LS-VP
HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

FRAME

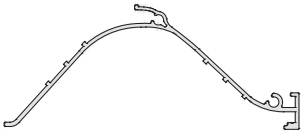
ESM-325



ESM-143

ESM-144

BLADE



ESM-321

ESM-146

INSTALLATION ANGLES

ESM-147

A-002

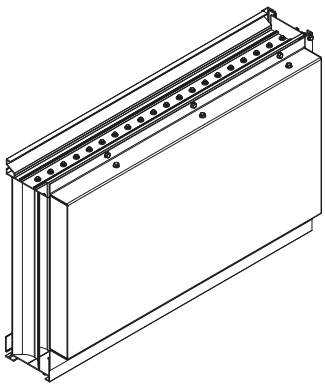
ESM-149

ESM-148

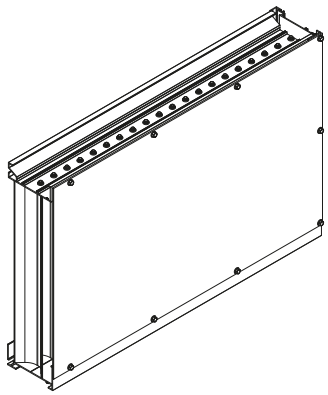
ESM-150

OPTIONAL ACCESORIES

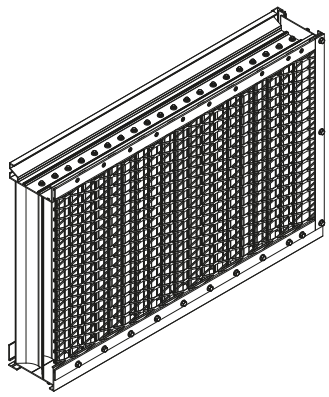
Options available at additional cost include:



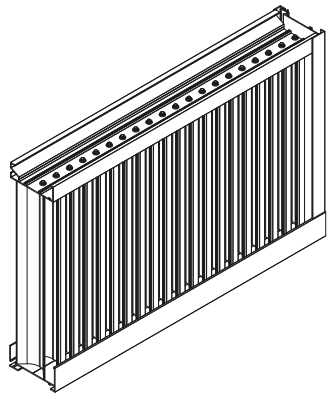
INSULATED BLANK OFF
(INTERNAL VIEW)



BACK PAN
(INTERNAL VIEW)



BIRD/INSECT SCREEN
(INTERNAL VIEW)



SILL PAN LOUVER
(INTERNAL VIEW)

FINISHES

ES METALS standard colors are the following: Two coats: Primer and color coat:

	Bone White	Black	Arcadia Silver	Silverstorm	Bermuda Bronze
AAMA2605	UC43350	UC40577	UC70123F	UC106685F	UC105262
AAMA2604	UC141202	UC130902	UC143459	UC139554	UC143010

Note: Contact us for more custom colors.

Printed samples are not representative for real size or color of the final product. Please request actual samples for specification purposes.

For further information refer to our website:
Para más información visita nuestra página web:
es-metals.com

VERSION APRIL 2026

E|S METALS

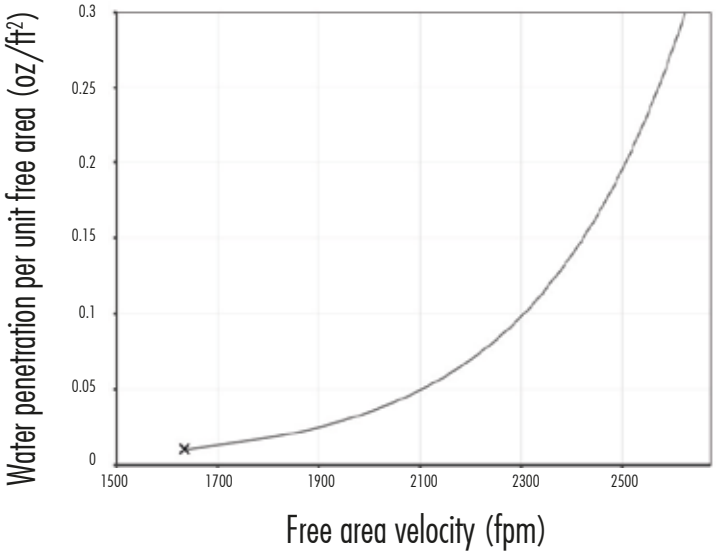
contact@es-metals.com

ESM-5LS-VP
HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

WATER PENETRATION

The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. (3 g) of water (penetration) per sq. ft. (m^2) of louver free area. The beginning point of water penetration for Model ESM-5LS-V is 1634,5 fpm free area velocity. Standard Air - 0.075 lb/ft^3 (1.2 kg/m^3), test size 48 in. x 48 in. (1219 mm x 1219 mm) and test duration of 15 min. These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.



WIND DRIVEN RAIN

Water penetration classification ratings are based on the amount of simulated rain that penetrates the louver during a specific rainfall rate, wind velocity, and intake velocity. Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

	Rainfall rate of 3" per hour (76 mm) and a wind velocity of 29 mph (47 kph)			Rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (81 kph)		
Ventilation Air Velocity (m/s)	Core Velocity (fpm)	Rating Effectivensess	Class	Core Velocity (fpm)	Rating Effectivensess	Class
4	799,13	100	A	-	-	-
4,5	898,71	99,90	A	-	-	-
5	993,23	99,80	A	995,56	100	A

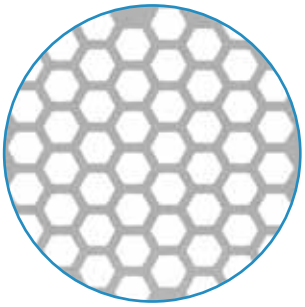
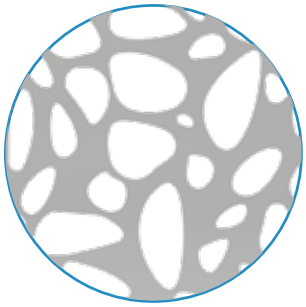
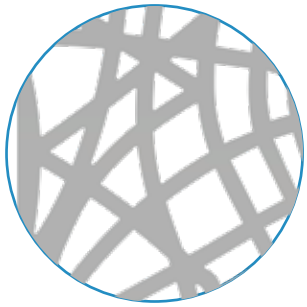
Effectiveness Rating	A= 1 to 0,99	B= 0,989 to 0,95	C= 0,949 to 0,80	Effectiveness Rating	Ratings are based on a 39.4 in. x 39.4 in. (1 m x 1 m) core size.

ESM-5LS-VP

HURRICANE LOUVER
HIGH PERFORMANCE LOUVER
STATIONARY LOUVER

E|S Louvers & Screens

AVAILABLE PERFORATION PATTERNS

Note: The perforation patterns of the sheet can be customized according to project requirements. It is important to note that the perforated element will impact the original free area percentage of the louver. Additionally, the perforated panel can be painted in a different color than the louver to achieve aesthetic contrast or meet specific design criteria.

FREE AREA CHART (Free area chart shows % free area of the model, excluding the perforated panel).

ESM-5LS-VP LOUVER SYSTEM OPEN AREA %

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	28 %	35 %	37 %	38 %	38 %	42 %	39 %	39 %	40 %	40 %
24''	35 %	43 %	45 %	47 %	47 %	48 %	48 %	49 %	49 %	49 %
36''	37 %	45 %	48 %	50 %	50 %	51 %	51 %	52 %	52 %	52 %
48''	38 %	47 %	50 %	51 %	52 %	53 %	53 %	53 %	54 %	54 %
60''	38 %	47 %	50 %	52 %	53 %	53 %	54 %	54 %	54 %	55 %
72''	39 %	48 %	51 %	53 %	53 %	54 %	54 %	55 %	55 %	55 %
84''	39 %	48 %	51 %	53 %	54 %	55 %	55 %	55 %	56 %	56 %
96''	39 %	49 %	52 %	53 %	54 %	55 %	55 %	56 %	56 %	56 %
108''	40 %	49 %	52 %	54 %	55 %	55 %	56 %	56 %	56 %	56 %
120''	40 %	49 %	52 %	54 %	55 %	55 %	56 %	56 %	56 %	57 %

ESM-5LS-VP LOUVER SYSTEM FREE AREA SQFT

UNIT HEIGHT \ UNIT WIDTH	12''	24''	36''	48''	60''	72''	84''	96''	108''	120''
12''	0,28	0,69	1,10	1,51	1,92	2,53	2,74	3,15	3,56	3,97
24''	0,69	1,70	2,72	3,73	4,74	5,75	6,77	7,78	8,79	9,81
36''	1,10	2,72	4,33	5,95	7,56	9,18	10,80	12,41	14,03	15,64
48''	1,51	3,73	5,95	8,17	10,39	12,61	14,82	17,04	19,26	21,48
60''	1,92	4,74	7,56	10,39	13,21	16,03	18,85	21,68	24,50	27,32
72''	2,33	5,76	9,18	12,61	16,03	19,46	22,88	26,31	29,73	33,16
84''	2,74	6,77	10,80	14,83	18,85	22,88	26,91	30,94	34,97	39,00
96''	3,15	7,78	12,41	17,05	21,68	26,31	30,94	35,57	40,20	44,83
108''	3,56	8,80	14,03	19,27	24,50	29,73	34,97	40,20	45,44	50,67
120''	3,97	9,81	15,65	21,49	27,32	33,16	39,00	44,84	50,67	56,51