



- Louvers
- Sunshades
- Penthouses
- Equipment Screens

No. XXXXXX Drawing No. 1063645A1

 GREENHECK
ELEVATION
TRAPEZOID
Bird Screen
S106364

ACTUAL LOUVER
SIZE

FINISH
Anodized
Aluminum
S106364

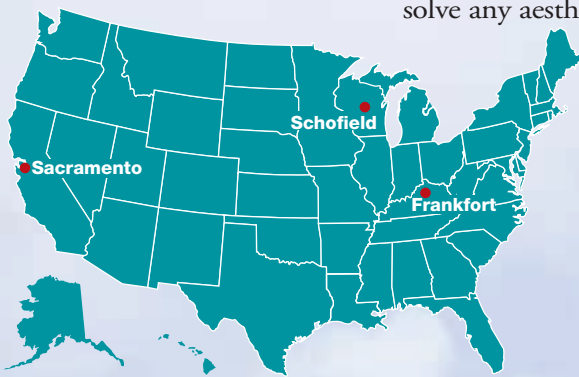
GREENHECK **LOUVERS** GREENHECK

Serving the Mechanical and Architectural Markets

- Mechanical and Architectural Louvers
- Rain Resistant Louvers
- Louvered Penthouses
- Architectural Equipment Screens
- Custom Grilles and Brick Vents
- Architectural Sunshades
- Miami – Dade County Qualified Louvers



Greenheck, the world's largest manufacturer of air movement and control products, has been providing top quality ventilation solutions for more than 50 years. Greenheck's comprehensive line of built-to-order louvers can help you solve any aesthetic or performance challenge you face. And with three



manufacturing facilities strategically located across the country, your Greenheck louvers are always nearby and readily available.

AMCA Licensed Air, Water, and Wind Driven Rain Ratings

Greenheck has more AMCA licensed louvers than anyone in the industry.

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Greenheck certifies that the ESJ, ESK, EDJ, EDK, ESD, EDD, EHM, ECD, EAC, EACN, EAD, EVH, EAH-401, SES, SEH, SED, FSJ, FDS, FAJ, FAD, AFJ, AFA, AFS louvers shown herein 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 only to air performance and water penetration ratings. The AMCA Certified Ratings Seal applies to air performance for model EAH-690 with blade angle at 90°. The AMCA Certified Ratings Seal applies to air and wind driven rain performance for models EVH-602 and EVH-801.

*Please note the following models are not AMCA licensed: EACC, GCE, GCI, EADC, EAH-690 with blade angle at 45°, SEV, ESU, ESF, ESJ, WIH, WRH

Custom Engineering

Greenheck offers complete project coordination from shop drawing, to submittal, through product installation guidelines. Since architectural louvers are seldom “standard” in design, Greenheck engineers are thoroughly familiar with creating custom solutions to meet individual applications. And with more testing than anyone in the industry, architects can be confident of each louver’s performance.

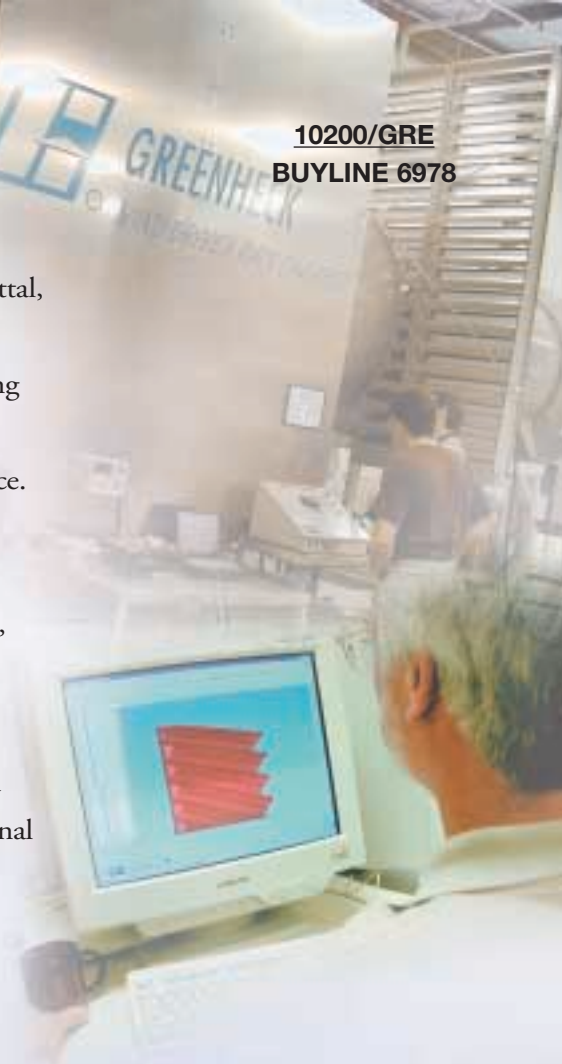
Leading Edge Support

All Greenheck products are supported by the industry’s best product literature, electronic media, and Computer Aided Product Selection program (CAPS).

You’ll also find extensive product information on the Internet.



And, of course, you can always count on the personal service and expertise of our national and international representative organization. To locate your nearest Greenheck representative call 715-359-6171 or visit our website at www.greenheck.com



Quick Delivery and Quick Build

Most Greenheck louver models are available on a 3, 5, and 10 day program for mill finish products. Greenheck also offers a 10, 12, and 17 day Quick Build program for standard color anodized and painted louvers.

SERVICE CHART

	3	5	10
	DAY*	DAY*	DAY
ALL MILL FINISH Rectangular or Square Models			
PAINTED FINISHES**	10	12	17
	DAY*	DAY*	DAY
Extruded Aluminum Louvers (Stationary, Drainable Head, Drainable Blade, Dual Drainable Blade (2, 4 and 6 inches) Thinline, Rain Resistant	■	■	■
Sightproof (2, 4 and 5 inches)	■	■	■
Adjustable Blade (4 and 6 inches)	■	■	■
Combination Louver/Dampers – (Concealed and exposed linkage – 4 and 6 inches)	■	■	■
Combination Louver/ Gravity Dampers (2 and 4 inches)	■	■	■
Fabricated Steel Louvers – (Stationary, drainable blade – 4 and 6 inches)		■	■
(Adjustable blade, drainable & non-drainable – 4 and 6 inches)		■	■
Brick Vents – (Extruded aluminum & cast aluminum – mill finish only)		■	■



Stationary Extruded Louvers



Available in non-drainable, drainable head, drainable blade, and dual drainable blade models. Blade types of J and K with blade angles of 30 or 45 degrees. See *technical comparison chart on pg. 8*.

Models ESJ/ESK: Stationary Blade

The K Blade louver incorporates an additional offset or “rain hook” in each blade which is intended to provide extra protection against water penetration. Performance of the K Blade Louver is quite similar to J Blade Louvers. Frame depths: ESJ - 2, 4, 6; ESK - 4, 6 in.

Models EDJ/EDK: Stationary Drainable Head

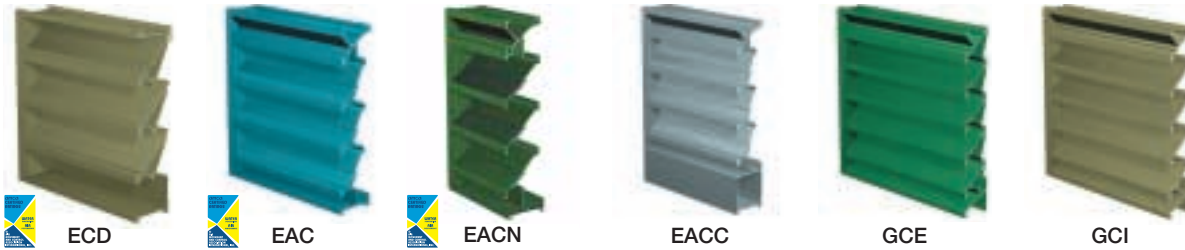
EDJ and EDK louvers incorporate a drainable head member, which further improves water penetration protection. Optional 30 degree blades are also available to maximize free area (EDJ/EDK-430 with 4” frame depth). Frame depths: EDJ - 2, 4, 6; EDK - 4, 6 in.

Models ESD/EDD/EHM: Stationary Drainable Blade

ESD Drainable Blade and EDD Dual Drainable Blade louvers have outstanding resistance to water penetration. EHM louvers offer a recessed mullion design providing a continuous blade appearance. Frame depths: ESD - 2, 4, 6; EDD - 4, 6; EHM - 6 in.



Combination Extruded Louver Dampers



Models combine stationary louver blades and operable damper blades into one common frame member. Damper blades can be closed for tight air shut off. See *technical comparison chart on pg. 9*.

Models ECD/EAC/EACN/EACC: Actuated

Both exposed (ECD) and concealed (EAC, EACN, EACC) linkages are available. Electric, pneumatic, or manual operation. Concealed actuator in the sill member is available (EACC). Frame depths: ECD, EAC and EACC - 4,6 in. EACN - 6 in. only.

Models GCE/GCI: Gravity

Gravity operation allows airflow in one direction and prevents reverse airflow. GCE is designed for exhaust flow, while GCI is designed for intake. Note: These units must be mounted in direct proximity to an exhaust or intake fan. Frame depths: GCE and GCI - 2, 4 in.

Adjustable Extruded Louvers



The AMCA Certified Ratings Seal applies only to air performance and water penetration ratings for models EAD, and EAH-401. The AMCA Certified Ratings Seal applies to air performance for model EAH-690 with blade angle at 90°.

Designed to protect air intake and exhaust openings in building exterior walls. Operable blades can be closed for tight air shut off. See *technical comparison chart on pg. 9*.

Models EAD/EADC: Actuated

EAD and EADC Louvers are designed with drainable blades for maximum resistance to water penetration. Typically operated by electric or pneumatic actuators with manual actuators available. Concealed actuator in the sill member is available (EADC). Frame depths: EAD and EADC - 4 and 6 in.

Model EAH: Actuated

EAH Louvers have a drainable head design for increased resistance to water penetration. The EAH-690 has the option of opening either 45 or 90 degrees. Frame depths: EAH-401 - 4 in.; EAH-690 (45° or 90°) - 6 in.



Typically used when a visual screen is required. Non-drainable, drainable head, and drainable blade models are available. See *technical comparison chart on pg. 10*.

Model SES: Sightproof Chevron Blade

Non-drainable sightproof louver. Frame depth: SES - 2, 4 in.

Model SEH: Sightproof Drainable Head

The drainable head member provides an increased level of resistance to water penetration. Frame depth: SEH - 2, 4 in.

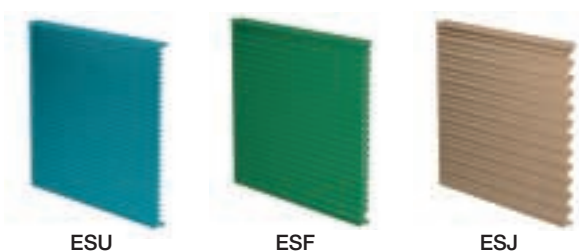
Model SED: Sightproof Drainable Blade

The drainable blade models are very effective louvers in minimizing water penetration through wall openings. Frame depth: SED - 2, 4, 5 in.

Model SEV: Sightproof Vertical Blade

Usually installed as a visual screen only. Frame depth: SEV - 4, 5 in.

Thinline Extruded Louvers

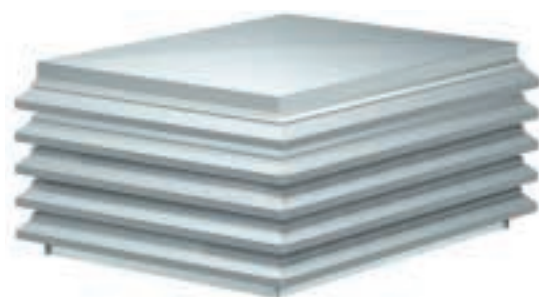


Commonly used for interior or exterior applications where high free area and low airflow resistance is required. See *technical comparison chart on pg. 10*.

Models ESU/ESF/ESJ: Thinline Extruded Louvers

The narrow frame depth and various frame options make them ideal products for installation into curtainwalls, windows, door louvers, and as air conditioning grilles. ESU are available in frame or frameless designs and 30° or 50° blade angles, ESF have flat style blades and ESJ has J style blades.

Penthouse and Equipment Screens



WIH/WRH

Equipment screens, exhaust or intake penthouse products are available in all extruded aluminum and fabricated steel louver models.

Models WIH/WRH

Custom designs to meet your application requirements are available. Numerous options for construction features and finishes are also available.



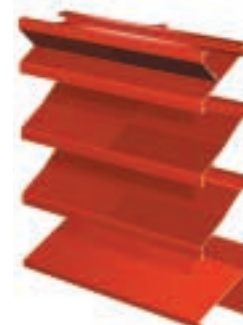
BOX CORNER
Standard for drainable and non-drainable systems



MITERED CORNER
Available for non-drainable systems only



STANDARD DRAINABLE SYSTEM MULLION
Also available for non-drainable systems



STANDARD NON-DRAINABLE SYSTEM MULLION



Rain Resistant Extruded Louvers



EVH

Model EVH is Greenheck's most effective louver in minimizing water penetration through wall openings in building exterior walls that are sensitive to the penetration of wind-driven rain. See *technical comparison chart on pg. 11*.

Model EVH: Rain Resistant Extruded Louvers

The design of each model incorporates a drainable head member, vertical rain resistant blades, and a sloped sill to provide maximum resistance to wind-driven rain in even the most stringent AMCA 500L test procedure. Each model is licensed to bear the AMCA Seal for Air Performance and Wind Driven Rain, as well as having been tested and certified by BSRIA (Building Services Research and Information Association) in Bracknell, England in accordance with the HEVAC technical specification for wind-driven rain. Frame depths: EVH - 6 and 8 in.



	Airflow (cfm)	Free Area Velocity (fpm)	Core Area Velocity (fpm) ¹	Wind Velocity - 29 mph Rainfall - 3 in./hr. ³		Wind Velocity - 50 mph Rainfall - 8 in./hr. ³		Intake Discharge Loss Classification ²	³ Wind Driven Rain Penetration Classes	
				Effectiveness	Classification	Effectiveness	Classification		Class	Effectiveness
EVH-602	7854	1336	591	99.5%	A	99.1%	A	2	A	1 to .99
	9157	1557	689	99.4%	A	98.8%	B		B	0.989 to 0.95
EVH-801	7854	1555	591	100.0%	A	99.8%	A	2	C	0.949 to 0.80
	9157	1813	689	99.6%	A	99.7%	A		D	Below 0.8

NOTES: Based on louver size 48 in. x 48 in. ¹ Core area is the open area of the louver face (face area less louver frames). Core area velocity is the airflow velocity through the core area of the louver. ² Class 1 has the least resistance to airflow.

Stationary Fabricated Louvers



FSJ



FDS

Fabricated from 20, 18, and 16 gauge galvanized materials. See *technical comparison chart on pg. 11*.

Models FSJ/FDS: Fabricated Steel Stationary Blade

Steel Blade louvers are available in J Style Blade (FSJ) and Drainable Blade designs (FDS). Also available in 304 Stainless Steel. Frame depths: FSJ and FDS - 4 and 6 in.

Adjustable Fabricated Louvers



FAJ



FAD

Fabricated from 20, 18, and 16 gauge galvanized materials. See *technical comparison chart on pg. 11*.

Models FAJ/FAD: Fabricated Steel Adjustable Blade, Actuated

FAJ and FAD Adjustable Blade louvers are fabricated from galvanized steel and provide similar features as the EAD extruded aluminum models and are available with non-drainable (FAJ) and drainable (FAD) blades. Operable blades can be closed for tight air shut off. Typically operated by electric or pneumatic actuators with manual actuators available. Also available in 304 Stainless Steel. Frame depths: - 4 and 6 in.

Acoustical Fabricated Louvers



AFJ



AFA



AFS

Acoustical Fabricated models incorporate acoustically insulated blades to provide for sound attenuation to lower infiltrating or escaping noise. See *technical comparison chart on pg. 11*.

Models AFJ/AFA/AFS

J (AFJ), airfoil (AFA), and sightproof (AFS) blade styles are available.

Frame depths: AFJ - 6, 8, 12; AFA - 8; AFS - 12 in.

Free Field Noise Reduction in Decibels

Model	Selected 1/3 Octave Bands Center Frequency HZ								STC	OITC
	63	125	250	500	1000	2000	4000	8000		
AFJ-601	10	11	7	11	14	19	15	19	8	5
AFJ-801	11	14	10	14	19	30	23	21	13	8
AFA-801	12	12	10	12	16	25	19	15	10	7
AFJ-120	14	15	11	16	24	39	30	25	15	10
AFS-120	7	13	11	18	28	35	34	32	17	10

Outdoor Indoor Transmission Class (OITC)

ASTM E1332 and ASTM E966 procedures are used to determine the OITC rating of building facades relative to ground or air transportation noise.

Sound Transmission Class (STC)

This is a numerical two-digit figure rating derived from a standardized performance test made in accordance with ASTM E90-90 and ASTM E413-87. The number is used in evaluating the effectiveness of an assembly in isolating or reducing airborne sound transmission.

Notice of Acceptance Number 00-0929.13



ESD-603D

The design characteristics of model ESD-603D and ESD-603D/HCD-240 allow this product to meet the performance requirements established by the South Florida Building Code (Miami-Dade County). See *technical comparison chart on pg. 10*.

Models ESD-603D:

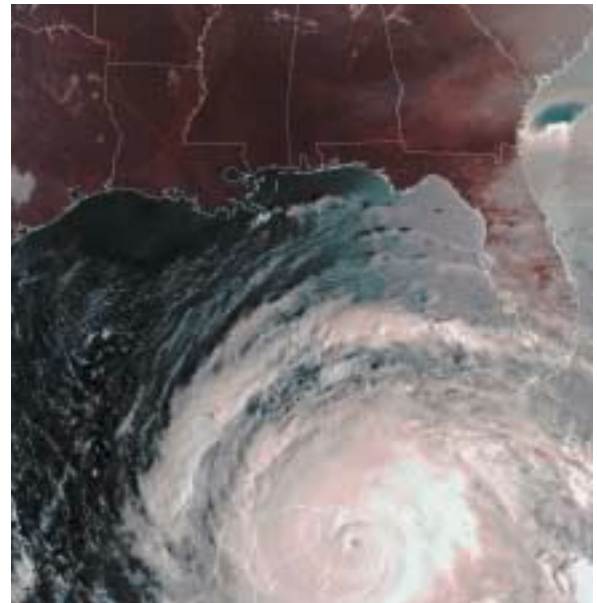
ESD-603D is an extruded aluminum louver with high performance drainable blades designed specifically for applications having extremely high structural design loadings and large missile impact requirements.

Model ESD-603D/HCD-240:

ESD-603D/HCD-240 is an extruded aluminum louver with high performance drainable blades, incorporating a factory mounted heavy duty control damper, designed specifically for applications having extremely high structural design loading, large missile impact requirements, and sensitivity to the penetration of wind-driven rain.



ESD-603D/
HCD-240



South Florida Building Code (Miami-Dade County):

Model ESD-603D and Model ESD-630D/HCD-240 have been tested in accordance with and passes the following South Florida Building Code (Miami-Dade County) test protocols: **PA 201-94** (Large Missile Impact Test), **PA 202-94** (Uniform Static Air Pressure Test) and **PA 203-94** (Cyclic Wind Loading Test). Models ESD-603D and ESD-630D/HCD-240 are qualified to meet the above mentioned South Florida Building Code test protocols based on an individual rough opening size of 60½ in. W x 120 in. H with a maximum design load of 138 lbs/sq ft (corresponds with a 150 mph wind along the coast at a maximum elevation of 60 ft). The unique anchorage system designed and supplied by Greenheck allows for a swift and inexpensive installation of an individual louver section within an opening. This anchorage system, required only at the head (top) and sill (bottom), also allows for a simple installation of multiple louver panels within an opening greater than 60½ in. in width without the need for additional vertical reinforcing members.

Additionally the ESD-630D/HCD-240 has been tested in accordance with and passes the following South Florida Building Code (Miami-Dade County) test protocols: **PA 100 (A)-95** (Wind-Driven Rain Test). In fact, model ESD-603D/HCD-240 allows zero water carry over even with a simulated 110 mph wind and rainfall rate of 8.8 inches/hour!

Sunscreens and Egg Crate Grilles

Standard and Custom Sunscreens are available to meet shading needs. Standard and Custom Egg Crate Grilles are available in most shapes and sizes.



STATIONARY EXTRUDED LOUVERS

FEATURES & PERFORMANCE		ESJ-202	ESJ-401	ESJ-602	ESK-402	ESK-602	EDJ-202	EDJ-401	EDJ-601	EDJ-430	EDK-430	EDK-402	EDK-602	ESD-202	ESD-403	ESD-603	EDD-401	EDD-601	EHM-601
		J	J	J	K	K	J	J	J	J	K	K	K	D	D	D	DD	DD	DD
Blade	Style	J	J	J	K	K	J	J	J	J	K	K	K	D	D	D	DD	DD	DD
	Thickness (inches)	.063	.081	.081	.081	.081	.063	.081	.081	.081	.081	.081	.081	.063	.081	.081	.081	.081	.081
	Angle (degrees)	53	37/45	37/46	37/45	37/45	53	37/45	37/45	30	30	37/45	37/45	53	37/45	37/45	37/45	37/45	37/45
	Spacing (inches)	3	4	6	4	6	3	4	6	4	4	4	6	3	4	6	4	6	6
Frame	Depth (inches)	2	4	6	4	6	2	4	6	4	4	4	6	2	4	6	4	6	6
	Thickness (inches)	.063	.081	.081	.081	.081	.063	.081	.081	.081	.081	.081	.081	.063	.081	.081	.081	.081	.081
Free Area (48 x 48)	Square Feet	6.01	8.44	8.73	8.45	8.46	6.01	8.32	8.69	8.35	8.8	8.49	8.35	5.9	8	8.53	8.22	8.58	7.91
	%	38	53	55	53	53	38	53	54	52.7	55	53	52	38	50	53	51	54	49
Free Area Intake Velocity @ Beginning Point of Water Penetration (Ft/Min)		668	691	739	689	772	869	963	998	941	1002	934	1097	1058	1007	1250	1112	1201	1065
Pressure Drop @ Maximum Intake Velocity (in. wg)		.064	.085	.088	.084	.098	.105	.144	.170	.145	.142	.145	.200	.141	.180	.260	.182	.240	.200
Maximum Intake Volume Flow Rate 48 x 48 unit (cfm)		3914	5832	6451	5939	6538	5127	8012	8673	7857	8817	7929	9160	6242	8056	10662	9151	10292	8339
Exhaust Volume Flow Rate @ 0.15 in. wg (cfm)		6136	8018	8380	8102	8216	5782	8486	8386	8517	9240	8150	8183	5963	8188	8359	8312	8399	6577
Performance Rating		WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA
STANDARD CONSTRUCTION																			
Finish - Mill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Frame and Blade	6063T5 Alum. alloy extr.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Galvanized steel																		
Linkage	Concealed																		
	Exposed																		
Seals	Blade																		
	Jamb																		
Actuator																			
Birdscreen - 3/4 x 0.051 in. mill finish expanded flattened aluminum in removable frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Birdscreen - 1/2 x 1/2 in. 19 gauge galvanized steel in a removable frame																			
Sill Pan																			x
OPTIONS																			
0.125 in. frame and/or blade			x	x	x	x		x	x	x	x	x	x		x	x	x	x	x
Flanged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Extended Sill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
A variety of bird and insect screens		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Aluminum or galvanized construction																			
Heavier gauge construction																			
Stainless steel construction																			
Welded construction		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Security bars		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
A variety of electric and pneumatic actuators																			
Blade and Jamb seals																			
Filter racks		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Glazing adapter		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Hinged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Finishes	Clear anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Integral color anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Baked enamel	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Epoxy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Kynar	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

D=Drainable C=Chevron DA=Drainable Adjustable JG=J Gravity RR=Rain Resistant TL=Thinline opt.=Optional
 DD=Dual Drainable CD=Chevron Drainable A=Adjustable AF=Airfoil SP=Sightproof F=Flat
 AP=AMCA Air Performance WA=AMCA Water Penetration & Air Performance WD=AMCA Wind Driven Rain Performance FA=Formed Aluminum



Greenheck certifies that the ESJ, ESK, EDJ, EDK, ESD, EDD, EHM, ECD, EAC, EACN, EAD, EAH-401, EVH, SES, SEH, SED, FSJ, FDS, FAJ, FAD, AFJ, AFA, AFS louvers shown herein 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 only to air performance and water penetration ratings. The AMCA Certified Ratings Seal applies to air performance for model EAH-690 with blade angle at 90°. The AMCA Certified Ratings Seal applies to wind driven rain performance for model EVH-602 and EVH-801. *Please note the following models are not AMCA licensed: EACC, GCE, GCI, EADC, EAH-690 with blade angle at 45°, SEV, ESU, ESF, ESJ-150, WIH, WRH



COMBINATION EXTRUDED LOUVER DAMPERS

ADJUSTABLE EXTRUDED LOUVER DAMPERS

FEATURES & PERFORMANCE		ECD-401	ECD-601	EAC-401	EAC-601	EACN-601	EACC-401	EACC-601	GCE-202	GCE-402	GCI-202	GCI-402	EAD-401	EAD-601	EADC-401	EADC-601	EAH-401	EAH-690 45° BLADE	EAH-690 90° BLADE
		Blade	Style	DA	DA	DA	DA	DA	DA	DA	JG	JG	JG	JG	DA	DA	DA	DA	A
	Thickness (inches)	.081	.081	.081	.081	.081	.081	.081	.063	.081	.063	.081	.081	.081	.081	.081	.081	.081	.081
	Angle (degrees)	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	90
	Spacing (inches)	4	6	4	6	6	4	6	3	4	3	4	4	6	4	6	4	4	4
Frame	Depth (inches)	4	6	4	6	6	4	6	2	4	2	4	4	6	4	6	4	6	6
	Thickness (inches)	.081	.081	.125	.125	.125	.125	.125	.063	.081	.063	.081	.125	.125	.125	.125	.125	.125	.125
Free Area (48 x 48)	Square Feet	7.6	7.32	6.34	7.41	7.43	5.59	6.2	4.96	6.36	5.26	6.39	6.54	7.34	5.84	6.44	6.48	6.32	10.87
	%	48	46	40	46	46	35	39	31	40	33	40	41	46	37	40	41	40	70
Free Area Intake Velocity @ Beginning Point of Water Penetration (Ft/Min)		805	1035	1192	1020	994	1192	1020	-	-	-	-	920	1007	920	1007	1023	1069	-
Pressure Drop @ Maximum Intake Velocity (in. wg)		.115	.150	.170	.160	.130	.170	.160	-	-	-	-	.185	.140	.185	.140	.170	.165	-
Maximum Intake Volume Flow Rate 48 x 48 unit (cfm)		6118	7576	7581	7537	7385	6663	6324	-	-	-	-	6017	7391	5373	6485	6629	6756	-
Exhaust Volume Flow Rate @ 0.15 in. wg (cfm)		7372	7686	6050	7212	6687	5333	6034	-	-	-	-	7521	7340	6716	6440	5638	5056	10055
Performance Rating		WA	WA	WA	WA	WA	-	-	-	-	-	-	WA	WA	-	-	WA	-	AP
STANDARD CONSTRUCTION																			
Finish - Mill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Frame and Blade	6063T5 Alum. alloy extr.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Galvanized steel																		
Linkage	Concealed			x	x	x	x	x					x	x	x	x	x	x	x
	Exposed	x	x																
Seals	Blade	x	x	x	x	x	x	x		x		x							
	Jamb	x	x	x	x	x	x	x											
Actuator		x	x	x	x	x	x	x					x	x	x	x	x	x	x
Birdscreen - 3/4 x 0.051 in. mill finish expanded flattened aluminum in removable frame									x	x	x	x	x	x	x	x	x	x	x
Birdscreen - 1/2 x 1/2 in. 19 gauge galvanized steel in a removable frame																			
Sill Pan																			
OPTIONS																			
0.125 in. frame and/or blade		x	x																
Flanged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Extended Sill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
A variety of bird and insect screens		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Aluminum or galvaneal construction																			
Heavier gauge construction																			
Stainless steel construction																			
Welded construction																			
Security bars		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
A variety of electric and pneumatic actuators		x	x	x	x	x	x	x					x	x	x	x	x	x	x
Blade and Jamb seals													x	x	x	x	x	x	x
Filter racks		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Glazing adapter		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Hinged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Finishes	Clear anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Integral color anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Baked enamel	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Epoxy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Kynar	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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**SIGHTPROOF
EXTRUDED LOUVERS**

**THINLINE
EXTRUDED LOUVERS**

**MIAMI - DADE
COUNTY**

FEATURES & PERFORMANCE		SES-202	SES-401	SEH-202	SEH-401	SED-202	SED-401	SED-501	SEV-401	SEV-501	ESU-150S	ESU-130S	ESU-150	ESU-130	ESF-145	ESU-150	ESD-603D	ESD-603D/ HCD-240	
		C	C	C	C	CD	CD	CD	C	C	TL	TL	TL	TL	F	J	D	D	
Blade	Style	C	C	C	C	CD	CD	CD	C	C	TL	TL	TL	TL	F	J	D	D	
	Thickness (inches)	.063	.081	.063	.081	.063	.081	.081	.081	.081	.063	.063	.063	.063	.063	.063	0.125	0.125	
	Angle (degrees)	-	-	-	-	-	-	-	-	-	52	30	52	30	30	30	45	45	
	Spacing (inches)	3	4	3	4	3	4	5	4	5	3/4	3/4	3/4	3/4	1	1 7/8	5 1/2	5 1/2	
Frame	Depth (inches)	2	4	2	4	2	4	5	4	5	1 3/8	1 3/8	1 1/2	1 1/2	1 1/2	1 1/2	6	6	
	Thickness (inches)	.063	.081	.063	.081	.063	.081	.081	.081	.081	.063	.063	.063	.063	.063	.063	0.125	0.125	
Free Area (48 x 48)	Square Feet	3.75	5.33	3.73	5.16	3.4	5.16	9.11	5.16	9.11	7.6	11.2	7.6	11.2	8.9	7.4	7.7	7.7	
	%	24	34	23	32	22	32	57	32	57	47	70	47	70	56	46	48	48	
Free Area Intake Velocity @ Beginning Point of Water Penetration (Ft/Min)		516	718	600	765	903	747	1134	-	-	-	-	-	-	-	-	1232	1232	
Pressure Drop @ Maximum Intake Velocity (in. wg)		.115	.250	.140	.280	.240	.280	.415	-	-	.035	.028	.035	.028	.038	.040	0.317	0.317	
Maximum Intake Volume Flow Rate 48 x 48 unit (cfm)		1919	3829	2238	3947	3070	3984	10342	-	-	3800	5600	3800	5600	4450	3700	9449	9449	
Exhaust Volume Flow Rate @ 0.15 in. wg (cfm)		2083	2614	2163	2580	2325	2667	7387	-	-	-	-	-	-	-	-	7118	7118	
Performance Rating		WA	WA	WA	WA	WA	WA	WA	-	-	-	-	-	-	-	-	WA	WA	
STANDARD CONSTRUCTION																			
Finish - Mill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Frame and Blade	6063T5 Alum. alloy extr.	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Galvanized steel																		
Linkage	Concealed																		
	Exposed																		
Seals	Blade																		
	Jamb																		
Actuator																			
Birdscreen - 3/4 x 0.051 in. mill finish expanded flattened aluminum in removable frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Birdscreen - 1/2 x 1/2 in. 19 gauge galvanized steel in a removable frame																			
Sill Pan																			
OPTIONS																			
0.125 in. frame and/or blade																			
Flanged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
Extended Sill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
A variety of bird and insect screens		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Aluminum or galvanneal construction																			
Heavier gauge construction																			
Stainless steel construction																			
Welded construction																			
Security bars		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
A variety of electric and pneumatic actuators																			
Blade and Jamb seals																			
Filter racks		x	x	x	x	x	x	x	x	x									
Glazing adapter		x	x	x	x	x	x	x											
Hinged Frame		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
Finishes	Clear anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Integral color anodized	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Baked enamel	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Epoxy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Kynar	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

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**RAIN RESISTANT
EXTRUDED
LOUVERS**

**STATIONARY
FABRICATED
LOUVERS**

**ADJUSTABLE
FABRICATED
LOUVERS**

**ACOUSTICAL
FABRICATED
LOUVERS**

**10200/GRE
Buyline 6978**

FEATURES & PERFORMANCE		EZH-602	EZH-801	FSJ-402	FSJ-602	FDS-402	FDS-602	FAJ-402	FAJ-602	FAD-402	FAD-602	AFJ-601	AFJ-801	AFJ-120	AFA-801	AFS-120
		RR	RR	J	J	D	D	A	A	AD	AD	J	J	J	AF	SP
Blade	Style	RR	RR	J	J	D	D	A	A	AD	AD	J	J	J	AF	SP
	Thickness (inches)	.081	.081	20 Ga.	20 Ga.	20 Ga.	20 Ga.	16 Ga.	16 Ga.	16 Ga.	16 Ga.	.080	.080	.080	.080	.080
	Angle (degrees)	-	-	45	45	45	45	45	45	45	45	45	45	45	45	45
	Spacing (inches)	1 7/8	1 1/2	4	6	4	6	4	6	4	6	5	5	5	6	5
Frame	Depth (inches)	6	8	4	6	4	6	4	6	4	6	6	8	12	8	12
	Thickness (inches)	.081	.081	18 Ga.	18 Ga.	18 Ga.	18 Ga.	16 Ga.	16 Ga.	16 Ga.	16 Ga.	.080	.080	.080	.080	.080
Free Area (48 x 48)	Square Feet	5.88	5.05	7.55	7.57	7.03	8.15	5.93	6.23	5.98	7.11	4.92	4.3	3.69	5.25	4.3
	%	37	32	47	47	44	51	37	39	38	45	31	27	23	33	27
Free Area Intake Velocity @ Beginning Point of Water Penetration (Ft/Min)		See Pg. 6	See Pg. 6	839	896	1250	1114	691	717	1086	980	799	887	961	879	83
Pressure Drop @ Maximum Intake Velocity (in. wg)		-	-	.110	.130	.225	.185	.063	.064	.120	.130	.060	.074	.094	.050	.120
Maximum Intake Volume Flow Rate 48 x 48 unit (cfm)		-	-	6334	6782	8787	9023	4159	4567	6494	6968	3929	3816	3543	4615	3570
Exhaust Volume Flow Rate @ 0.15 in. wg (cfm)		7842	8632	7399	7343	8436	8505	6321	6541	7475	7607	6030	5209	4558	7537	3862
Performance Rating		WD	WD	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA	WA
STANDARD CONSTRUCTION																
Finish - Mill		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Frame and Blade	6063T5 Alum. alloy extr.	x	x									FA	FA	FA	FA	FA
	Galvanized steel			x	x	x	x	x	x	x	x	opt.	opt.	opt.	opt.	opt.
Linkage	Concealed							x	x	x	x					
	Exposed															
Seals	Blade							x	x	x	x					
	Jamb							x	x	x	x					
Actuator																
	Birdscreen - 3/4 x 0.051 in. mill finish expanded flattened aluminum in removable frame	x	x									x	x	x	x	x
	Birdscreen - 1/2 x 1/2 in. 19 gauge galvanized steel in a removable frame			x	x	x	x	x	x	x	x					
	Sill Pan															
OPTIONS																
	0.125 in. frame and/or blade															
	Flanged Frame	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Extended Sill	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	A variety of bird and insect screens	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Aluminum or galvanized construction			x	x	x	x	x	x	x	x					
	Heavier gauge construction			x	x	x	x	x	x	x	x					
	Stainless steel construction			x	x	x	x	x	x	x	x					
	Welded construction			x	x	x	x									
	Security bars	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	A variety of electric and pneumatic actuators							x	x	x	x					
	Blade and Jamb seals															
	Filter racks	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Glazing adapter	x	x													
	Hinged Frame	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Finishes	Clear anodized	x	x									x	x	x	x	x
	Integral color anodized	x	x									x	x	x	x	x
	Baked enamel	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Epoxy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Kynar	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

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With Greenheck's innovation and creativity, most extruded aluminum louver models can be manufactured in any custom shape!!!

FINISHES

Mill Finish.

Materials may be supplied in natural aluminum or galvanized steel finish when normal weathering is acceptable and there is no concern for color or color change.

Clear Anodize.

Clear anodize finishes result in a clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack. Alcoa designation 204-R1 (AA-M10C22A31) specifies a 0.4 mil coating thickness, suitable to resist normal weathering. Alcoa designation 215-R1 (AA-M10C22A41) is a 0.7 mil coating thickness to resist severely corrosive environments.

Integral Color Anodize.

Commonly referred to as "two-step" anodizing, integral color anodizing is produced by following the normal anodizing step with a second process. The louver is immersed in an electrolyte where a metallic compound is deposited at the base of the pores of the oxide coating. After sealing, the finish is stable, colorfast and uniform even over large production lots. Specify Aluminum Association Designation AA-M10C22A44. Many anodize colors are now available.

Baked Enamel Finish.

Baked enamel finishes are formulated from resins that, when crosslinked by oven curing, provide excellent adhesion and resistance to weathering, corrosion and chemical stain.

Kynar® 500.

The premier finish for extruded aluminum is available in standard two coat and custom matched colors. The tough, long lasting maintenance-free fluoro-polymer coating has excellent color retention and abrasive properties and contains a Kynar 500 base resin that resists chalking, fading, chemical abrasion, and weather. 10 year warranty.

Industrial Coatings

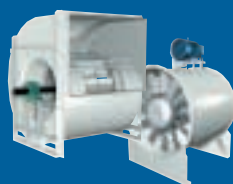
A variety of industrial coatings, such as Epoxy, Heresite and Sanitile are also available.

MAKE GREENHECK YOUR SOURCE FOR LOUVERS

When you need to specify louvers, you can be sure Greenheck will have the best solution for your application needs. For more information, about the industry's broadest selection of louvers including a wide range of built-to-order sizes for custom applications, contact your local Greenheck representative or visit us at www.greenheck.com



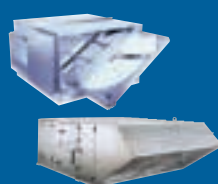
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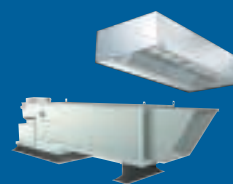
Centrifugal and Vane Axial Fans



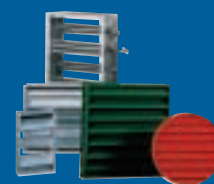
Fans and Ventilators



Energy Recovery Ventilators & Make-Up Air Units



Kitchen Ventilation Systems



Dampers and Louvers

Visit the Greenheck website for the most current information available: www.greenheck.com

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