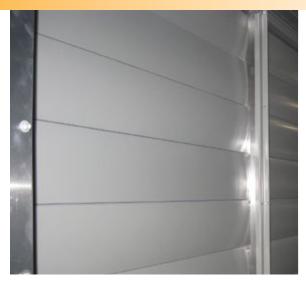






# **Dampers**



Greenheck offers the largest selection of AMCA certified dampers and UL classified life-safety dampers in the industry. Our state-of-the-art damper test lab allows us to accelerate new product development to meet the most challenging applications. And our five regional manufacturing locations give us unmatched production capacity and proximity to market.

### **Air Measuring Products**

Air measuring products help buildings meet the minimum outdoor air requirements of ASHRAE Standard 62 or California Title 24 by providing accurate monitoring and control of outside air.

## Airflow Measuring Station Model AMS

The AMS is an accurate airflow measuring station and is furnished with a properly sized pressure transducer that outputs a signal proportional to CFM. The AMS is compatible with a field-supplied controller or a factory-supplied LON controller to indicate airflow volume.

## Airflow Measuring Station with Damper - Pressure Differential Model AMD

The AMD series combines the function of an accurate airflow measuring station and a low-leakage control damper into one compact assembly that both measures and regulates airflow volumes to a target set point. The AMD series is compatible with a field-supplied controller or a factory-supplied analog controller. The four available models are:

AMD-23 featuring a 3-V blade control damper

AMD-33 featuring a fabricated airfoil blade control damper

AMD-42 featuring an extruded airfoil blade control damper

AMD-42V featuring a vertical extruded airfoil blade control damper



## Airflow Measuring Station with Damper - Thermal Model AMD-xx-TD

The AMD series combines the function of an highly accurate thermal dispersion airflow measuring station and a low-leakage control damper into one compact assembly that both measures and regulates airflow volumes to a target set point. The AMD-xx-TD series is compatible with a field-supplied controller or a factory-supplied analog or BACnet MS/TP controller. The four available models are:

AMD-23-TD featuring a 3-V blade control damper

AMD-33-TD featuring a fabricated airfoil blade control damper

AMD-42-TD featuring an extruded airfoil blade control damper

AMD-42V-TD featuring a vertical extruded airfoil blade control damper

Catalog: Air Measuring Damper Products - AMS, AMD and AMD-TD





### **Control Dampers**

Control dampers are used in buildings to regulate the flow of air in an HVAC system. Greenheck control dampers are configurable to meet the requirements of most commercial applications. Configurable features include: material type (galvanized steel, stainless steel, and aluminum), blade type (3V, airfoil, and round), and actuator type (two position, three position and modulating). When provided with blade and jamb seals, Greenheck control dampers meet the IECC (International Energy Conservation Code) leakage requirement of 3 cfm/ft² at 1 in. wg (5 m³/hr at 248 Pa).

### 3-V Blade Type: Models VCD/SEVCD\*

3-V blades are typically used in low to medium static pressure and velocity systems. Fabricated blades are reinforced with three longitudinal structurally designed vee's. Available with blade and jamb seals for low leakage applications.

### Airfoil Blade Type: Models VCD/SEVCD\*

Airfoil blades are typically used in medium to high static pressure and velocity systems. Airfoil blades are constructed with structural reinforcement through the entire length of the blade. All models include blade and jamb seals for low leakage and ultra-low leakage applications.



### Round Blade Type: Models VCDR/VCDRM

Round blade types are typically used in low to medium static pressure and velocity systems. Available with blade and jamb seals for low leakage applications. The VCDR uses a single blade design while the model VCDRM uses a multiblade design.

### Face & Bypass Type: Models FBH/FBV

Face and Bypass models consist of two dampers connected allowing one damper to open while the other damper closes. The FBH series is a horizontal assembly (dampers alongside each other). The FBV series is a vertical assembly (dampers stacked on top of each other).

Catalog: HVAC Control & Balancing Dampers - VCD, MBD and RBD



### **Insulated/Thermally Broken Dampers**

Model ICD series of dampers were developed for applications where it is necessary to minimize thermal transfer and reduce condensation.

## Insulated Control Damper Model ICD

Model ICD-44 features a thermally broken insulated blade. ICD-45 features a thermally broken, insulated frame and blade. The ICD series meets the IECC (International Energy Conservation Code) requirements with a leakage rating of 3 cfm/ft² (5 m³/hr) at 1 in. wg (248 Pa) or less.

Catalog: HVAC Control & Balancing Dampers — VCD, MBD and RBD



### **Access Doors**

Access doors are designed for use in low to medium pressure duct systems. They provide a durable, practical, and inexpensive means of gaining access to damper components inside the ductwork.

Hinged Style: Model HAD
Cam Style: Model CAD
Round Style: Model RAD

Pressure Relief: Models PRAD/VRAD



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



### **Balancing**

#### Models MBD/MBDR

Models MBD and MBDR are designed to regulate the flow of air in an HVAC system. Round and rectangular single-blade, and multiblade construction models are available. Models are standard with a locking manual quadrant. An optional standoff bracket is available for installations using insulated duct.

Catalog: HVAC Control & Balancing Dampers — VCD, MBD and RBD



#### Models RBD/RBDR

Models RBD and RBDR series offer the same function as MBD/MBDR series plus the added benefit of remote damper control at the diffuser or wall plate. These remote balancing dampers are ideal for applications where it is difficult to get access to manually adjust the dampers and balance airflow. The "EZ Balance" remote control operates the damper motor by connecting to the wall, ceiling, or diffuser mounted RJ11 connector.

Catalog: HVAC Control & Balancing Dampers - VCD, MBD and RBD



### **Automatic Balancing Dampers**

Automatic balancing dampers self adjust to system pressure changes to maintain constant airflow. They are used in residential or commercial buildings to provide precise and automatic airflow regulation in supply or exhaust ventilation systems.

#### **Model ABD**

The ABD is an automatic balancing damper with the blade calibrated to automatically adjust to changing pressures.



The ABD-FD is an automatic balancing damper with a UL 555 rated 11/2 or 3 hour static fire damper.



#### **ABD-RB**

The ABD-RB combines an automatic balancing damper (model ABD) with the convenience of a factory-supplied register box.



### **Model ABD-T**

The ABD-T is an automatic balancing damper with a square transition.



### Model ABD-Z1

The ABD-Z1 has a shutoff damper with an electric actuator, automatic balancing damper (ABD), and a plenum box as one assembly.



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



### **Backdraft and Pressure Relief Dampers**

Backdraft dampers are designed to allow airflow in one direction and prevent reverse airflow. A variety of mounting orientations, airflow directions, operation types, and performance ratings are available.

#### **Backdraft**

### Models BD/WD/ES/EM/HB/HBR/WDR/SSWDR\*\*

Exhaust Backdraft Damper models are designed to allow exhaust airflow but prevent airflow in the reverse direction and are typically used with a fan or power roof exhauster. Available in vertical or horizontal mount.

Intake Backdraft Damper models are designed to allow supply airflow into a building but prevent airflow in the reverse direction and are typically used with a fan or gravity intake ventilator. Available in vertical or horizontal mount.

## Barometric Relief Models BR/SEBR\*

Barometric relief backdraft dampers have an adjustable start-open pressure for low velocity systems. Typically used for gravity hood ventilation, ductwork outlets, and room or stairwell pressurization.

### Pressure Relief Model HPR

Pressure relief backdraft dampers have an adjustable start-open pressure which is capable of maintaining pressure at various airflows and closes upon a decrease in differential pressure. Pressure relief dampers are typically used in industrial systems to relieve unexpected overpressure, or to admit additional air to a direct gas-fired burner or fume exhaust.

Catalog: Backdraft and Pressure Relief Dampers







### **Fire Dampers**

Fire dampers are required by building codes to maintain the fire resistance ratings of walls, partitions, and floors that are penetrated by air ducts or transfer openings. Fire dampers are UL 555 Classified with a fire resistance rating of  $1\frac{1}{2}$  or 3 hour.

### **Dynamic-Rated**

### Models DFD/SEDFD\*/DFDR/ODFD/SSDFD\*\*/SSDFDR\*\*

Dynamic-rated fire dampers are designed to close under airflow and in HVAC systems that are operational in the event of a fire emergency. Fire dampers can be mounted either vertically or horizontally with airflow in either direction.

Catalog: Life Safety Dampers



## Static-Rated Models FD/OFD/FDR/SSFD\*\*/SSFDR\*\*

Static-rated fire dampers are designed for use in HVAC systems that are automatically shut down in the event of a fire emergency. Static fire dampers are not designed to close against airflow.

Catalog: Life Safety Dampers



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



### **Ceiling Radiation Dampers**

Ceiling radiation dampers are designed and tested to protect penetrations through the ceiling membrane of fire-resistive floor ceiling and/or ceiling assemblies.

### Ceiling Radiation – Model CRD

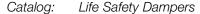
Model CRD is a UL 555C Classified ceiling radiation damper that is used for protection of ceiling openings in fire-rated floor/ceiling assemblies with fire resistance ratings of 3 hours or less. In addition, Greenheck CRDs are Warnock Hersey Listed for application in gypsum board ceilings or ceiling grid systems with fire resistance ratings of up to 3 hours. Models are available in round or rectangular shapes with butterfly-type blades or a curtain blade.

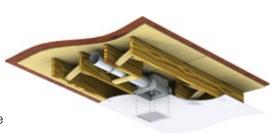
Catalog: Life Safety Dampers



### **Model CRD-1WJ**

The CRD-1WJ is a UL 555C Classified ceiling radiation damper for installation in wood joist ceiling construction and approved for use in 17 ceiling designs as detailed in the UL Fire Resistance Directory. The CRD-1WJ provides the ceiling radiation damper installed in an insulated steel enclosure with C, O or R inlet shapes to connect to ductwork. The damper is positioned in the enclosure to accommodate 1½ in. (38mm) grille depth.

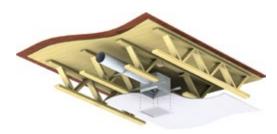




### Models CRD-1WT/CRD-2WT

The CRD-1WT and CRD-2WT are UL 555C Classified ceiling radiation dampers for installation in wood truss ceiling construction. These assemblies are given proprietary design numbers listed in the UL Fire Resistance Directory. The CRD-1WT and CRD-2WT models are provided with a flange attached around the perimeter of the damper. The damper is positioned either flush with the ceiling or above the ceiling for grille installation.





#### Model CRD-501

The CRD-501 is a round ceiling radiation damper with low leakage. This model is UL 555C and UL 555S Classified. The CRD-501 has been qualified to 3000 ft./min (15 m/s) and 4 in. wg (1,000 Pa) for operational closure in emergency smoke control situations for use in HVAC systems.

Catalog: Life Safety Dampers



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



### **Smoke Dampers**

Smoke dampers are designed to be used in conjunction with barriers within a building to control the spread of smoke in the event of a fire. Greenheck smoke dampers have been certified to UL 555S for use in systems up to 4000 ft./min or 8 in. wg. All models are rated for airflow and leakage in either direction.

### Smoke – Models SMD/SMDR/SESMD\*/SESMDR\*/ SSSMD\*\*/SSSMDR\*\*

Smoke damper models are available in leakage class I, II, or III. Smoke dampers can be constructed of galvanized steel, 304SS, or 316SS and are available with a variety of actuators to meet the requirements of any application.

Catalog: Life Safety Dampers



### **Combination Fire Smoke Dampers**

Combination fire smoke dampers perform the function of both a fire damper and a smoke damper. Combination fire smoke dampers are UL 555 and UL 555S Classified with fire resistance for 1½ or 3 hours. Models are rated for use in systems up to 4000 ft./min or 8 in. wg. Greenheck's combination fire smoke dampers have a factory-installed actuator.

### Traditional Fire Smoke – Models FSD/FSDR/SEFSD\*/ SEFSDR\*/SSFSD\*\*/SSFSDR\*\*

Combination fire smoke dampers are Classified to UL 555 and UL 555S and must be mounted within the plane of the wall or floor.

Catalog: Life Safety Dampers



#### Corridor Fire Smoke - Model CFSD

Corridor fire smoke dampers have a one hour fire resistance rating and UL 555S Leakage Rating. The dampers can be installed horizontally behind grilles and diffusers in corridor penetrations.

Catalog: Life Safety Dampers



<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



#### Out-Of-Wall Fire Smoke - Model OFSD

OFSD dampers are Classified to UL 555 and UL 555S and can be installed outside of the plane of the wall or floor. The entire installation can be done from the grille side of the opening.

Catalog: Life Safety Dampers



## Grille Access Out-Of-Wall Fire Smoke Model GFSD

GFSD dampers are Classified to UL 555 and UL 555S and can be installed outside of the plane of the wall or floor. This allows the actuator to be mounted internally with convenient access to the damper, actuator, and heat responsive device through the grille. A separate compartment houses the actuator allowing for a shallow operating depth.

Catalog: Life Safety Dampers



### **Bubble-Tight Dampers**

A bubble-tight damper is a heavy-duty damper designed for isolation applications to meet the requirement for zero leakage. Every bubble-tight damper is factory leakage tested to ensure a bubble-tight seal up to 30 in. wg. Galvanized, 304 or 316 stainless steel. These models are recommended for two position shutoff applications.

### **Models HBTR/HBT**

Model HBTR-151 is rated for pressures up to 10 in. wg (2,490 Pa) Model HBTR-451/551 is rated for pressures up to 30 in. wg (7,470 Pa) Model HBT-221 is rated for pressures up to 10 in. wg (2,490 Pa)

Catalog: Bubble-Tight Dampers

Catalog: Heavy-Duty/Industrial Dampers



### **Blast Dampers**

A blast damper is a heavy-duty damper designed to protect against blasts and rapid pressure changes. A blast damper remains open under normal operating conditions to allow normal airflow.

#### Model HBS

Model HBS-330/430 will close in the same direction as normal flow. Model HBS-331/431 will close in the opposite direction as normal flow.

Catalog: Heavy-Duty/Industrial Dampers



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



### **Industrial Control Dampers**

Heavy-duty flanged-style frame dampers with various blade styles and pressure classes. Designed to control airflow and provide shutoff in HVAC or industrial process control systems.

### Models HCD/SEHCD\*: Rectangular

Models HCD/SEHCD are rectangular dampers available with pressure and velocity capabilities up to 45 in. wg (11,161 Pa) and 6000 ft./min (30 m/s).

### Model HCDR: Round

Model HCDR is a true round industrial damper available for pressure and velocity capacities up to 20 in. wg (4,960 Pa) and 6500 ft./min (33 m/s).

Catalog: Heavy-Duty/Industrial Dampers



## **Tornado Dampers**

A tornado damper is a heavy-duty damper designed to protect against tornadoes and rapid pressure changes. A blast damper remains open under normal operating conditions to allow normal airflow.

#### **Models HTOD**

Model HTOD-330 will close in the same direction as normal flow. Model HTOD-331 will close in the opposite direction as normal flow.

Catalog: Heavy-Duty/Industrial Dampers



### **Tunnel Transit Dampers**

Underground road and metro tunnels are some of the most challenging environments in the world. High humidity, dust-laden air, and limited access can make the installation and operation of ventilation systems problematic. Greenheck's HTD series dampers for tunnel specific applications are designed to meet these challenges. Tunnel transit dampers are designed to meet specific portions of UL 555S, NFPA 130 and NFPA 502. They can be designed to 24 in. wg (6 kPa) of pressure and 4000 fpm (20.3 m/s) of velocity. These dampers are leakage tested in accordance with AMCA 500-D.

### **Models HTD**

Model HTD-621 has a double skin flat blade with perimeter seal. Leakage rated at 4 cfm per sq. foot at 12 in. wg (less than .02 m³/s/m² at 3 kPa), approximately 25% of UL Class I allowable.

Model HTD-630 features a fabricated airfoil blade. Leakage meets UL Class I @ 12 in. wg (3kPa).

Model HTD-636 has a fire-rated airfoil blade. This model has been tested in accordance to BS476 for 2 hours. Leakage meets UL Class I @ 8 in. wg (3 kPa).

HTD-640 features an extruded airfoil blade. Leakage meets UL Class I @ 12 in. wg (3 kPa).

Catalog: Tunnel Transit Dampers — HTD Catalog: Heavy-Duty/Industrial Dampers



<sup>\*</sup> SE in model name denotes 316 stainless steel.

<sup>\*\*</sup>SS in model name denotes 304 stainless steel.



## Louvers



Greenheck offers industry-leading AMCA Licensed louvers. Our experienced sales staff and engineers can configure, design and manufacture a wide range of air control and architectural products to meet your highest standards for both performance and aesthetic appeal. Choose from extruded aluminum or galvanized steel louvers in a variety of designs: stationary, combination, adjustable, acoustic, sightproof, thinline, wind-driven rain or Florida Product Approved and Miami-Dade County Qualified. Louvered penthouses, equipment screens, and brick vents are also available. Most products can be finished as painted or anodized in a variety of standard colors or as a custom color match.

### **Stationary Extruded Louvers**

Available in non-drainable, drainable head, drainable blade, and dual drainable blade models. J and K blades with 30 or 45 degree blade angles. AMCA Licensed for Water Penetration and Air Performance (excludes ESID).

#### Drainable Blade: Models ESD/EDD/EHM

Model ESD drainable blade and EDD dual drainable blade louvers have outstanding resistance to water penetration. Optional 35° blades are also available to maximize free area (ESD-435, 635 and 635HP). EHM louvers offer a recessed mullion design providing a continuous blade appearance. Frame depths: ESD - 2, 4, 6 in.; EDD - 4, 6 in.; EHM - 6 in.

### **Drainable Head: Models EDJ/EDK/ESID**

Models EDJ and EDK incorporate a drainable head member, which further decreases water penetration. Optional 30° blades are also available to maximize free area (EDJ/EDK-430). The ESID-430 has both high free area exhaust blades at the top and weather protective intake blades at the bottom, allowing both air discharge and intake ductwork to be attached behind the louver while preventing the short cycling of air. Frame depths: EDJ - 4, 6 in.; EDK - 4 in., ESID - 4 in.

#### Non-drainable Blades: Models ESJ/ESK

Models ESJ and ESK are quite similar, except the K-blade design incorporates an additional offset or "rain hook" to provide extra protection against water penetration. Both models offer a hidden mullion design for a continuous blade appearance when multiwide sections are necessary. Frame depths: ESJ - 2, 4, 6 in.; ESK - 4 in.





### **Wind-Driven Rain Louvers**

Wind-driven rain louvers are Greenheck's most effective louvers in minimizing water penetration through wall openings. Designed to protect air intake and exhaust openings in building exterior walls that are sensitive to the penetration of wind-driven rain. AMCA Licensed for Water Penetration, Air Performance, and Wind-Driven Rain.

#### **Models EVH/EHH/EHV**

Models EVH, EHH, EHV incorporate a drainable head member with vertical (EVH) or horizontal (EHH), or vertical back and horizontal front (EHV) rain-resistant blades to provide maximum resistance to wind-driven rain in even the most stringent AMCA 500L test procedure.

Frame depths: EVH - 3, 5 in.; EHH - 2, 4, 5, 6, 7 in. EHV - 5.5, 9 in.

Catalog: Louver Products (Severe Duty, Stationary, Operable)

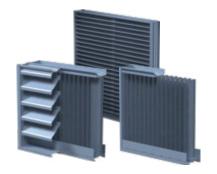
Catalog: Severe Duty Louvered Products



Greenheck manufactures a full line of Florida Building Code Approved and Miami-Dade County Qualified louvers, which may be applied in Florida and throughout the Hurricane Prone Region which spans across all Gulf of Mexico and Atlantic Coastal states, including Hawaii.

All Greenheck Florida Building Code Approved and Miami-Dade County Qualified louvers are AMCA 540 Listed for debris impact protection and several are also AMCA 550 Listed for high velocity wind-driven rain.

Greenheck Florida Building Code Approved and Miami-Dade County Qualified louvered penthouses may be applied in any location where high wind loads and debris impact protection is required.



Miami-Dade County Qualified Louvers



Florida Product Approved Louvers



Miami-Dade County
Qualified Penthouses

Catalog: Louver Products (Severe Duty, Stationary, Operable)

Catalog: Severe Duty Louvered Products

### FEMA 361 Louver

Greenheck louver model AFL-501 is a UL Classified Wind-Storm Rated assembly that meets the requirements indicated within FEMA 361. This model retains extremely high wind load ratings while also passing the ICC 500-14 standard for debris impact testing (15 lb. 2 x 4 traveling at 100 mph).

Catalog: Louver Products (Severe Duty, Stationary, Operable)

Catalog: Severe Duty Louvered Products





### **Thinline Extruded Louvers**

Commonly used for interior or exterior applications where high free area and low airflow resistance are required.

#### Models ESU/ESJ

Models ESU and ESJ have a narrow frame depth and various frame options that make them ideal products for installation into curtainwalls, windows, door louvers, and as air conditioning grilles. ESU is available in frame or frameless designs and 30° or 48° blade angles. ESJ has J style blades. Frame depths: ESU -153S, 154S - 1.125 in.; ESU-153, 154, ESJ-155 - 1.5 in.

Catalog: Louver Products (Severe Duty, Stationary, Operable))



### **Adjustable Extruded Louvers**

Designed to protect air intake and exhaust openings in exterior building walls. Operable blades can be closed for tight air shutoff. AMCA Licensed for Water Penetration and Air Performance (excludes EAH-690 with blade angle at 45°).

#### **Drainable Blades: Model EAD**

Model EAD louvers are designed with drainable blades for maximum resistance to water penetration. Typically operated by electric or pneumatic actuators with manual actuators available. Frame depths: 4, 6 in.

#### Non-drainable Blades: Model EAH

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

Catalog: Louver Products (Severe Duty, Stationary, Operable)



### **Combination Extruded Louver/Dampers**

Models combine stationary louver blades and operable blades into one common frame member. Operable blades can be closed for tight air shutoff. AMCA Certified for Water Penetration and Air Performance (excludes EACC, GCI and GCE).

### Drainable Blades: Models ECD/EAC/EACC/EACA

Model ECD (exposed), and EAC and EACC (concealed) blade linkages are available. Electric, pneumatic, or manual operation. Concealed actuator in the sill member is available (EACC). Airfoil blade available (model EACA). Frame depths: 4, 6 in.

### **Gravity: Models GCE/GCI**

Models GCE and GCI feature gravity operation which 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 depth: 4 in.





### **Sightproof Extruded Louvers**

Sightproof extruded louvers are typically used to prevent visual see-through. Non-drainable, drainable head, and drainable blade models are available. AMCA Licensed for Water Penetration and Air Performance.

**Chevron Blade: Model SES** 

Non-drainable sightproof louver. Frame depth: 2 in.

**Drainable Head: Model SEH** 

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

**Drainable Blade: Model SED** 

The drainable blade models are very effective in minimizing water penetration through wall openings. Frame depths: 4, 5 in.

Catalog: Louver Products (Severe Duty, Stationary, Operable)



### **Acoustical Fabricated Louvers**

Acoustical fabricated models incorporate acoustically insulated blades to provide for sound attenuation to lower escaping noise. Independently tested for sound per applicable ASTM standards and AMCA Licensed for Water Penetration, Air and Sound Performance.

J-Blade: Model AFJ

Most economical. Frame depths: 6, 8, 12 in.

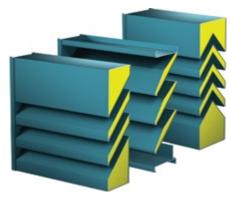
Airfoil Blade: Model AFA

Offers highest free area and lowest airflow resistance. Frame depth: 8 in.

Sightproof Blade: Model AFS

Offers best sound absorption performance. Frame depth: 12 in.

Catalog: Louver Products (Severe Duty, Stationary, Operable)



### **Fabricated Louvers**

Fabricated louvers are typically selected where lowest cost is the primary requirement. Fabricated from galvanized or stainless steel, models are available in both non-drainable and drainable blade designs. AMCA Licensed for Water Penetration and Air Performance.

### Stationary Blade: Models FSJ/FDS

Models FSJ and FDS steel blade louvers are available in J style blade (FSJ) and drainable blade designs (FDS). Also available in stainless steel. Frame depths: FSJ/FDS - 4, 6 in.

### Adjustable Blade: Models FAD

Model FAD louvers are adjustable blade louvers fabricated from galvanized steel and provide similar features as the EAD extruded aluminum models. They are available with drainable blades. Operable blades can be closed for tight air shutoff. Typically operated by electric or pneumatic actuators with manual actuators available. Also available in stainless steel and 35° blade angle. Frame depths: 4, 6 in.





### **Sand Louver**

Sand louvers are designed to protect air intake and exhaust openings in building exterior walls from winddriven sand. Design incorporates vertical sightproof blades to separate sand from the airstream which is then channeled out at the sloped sill.

### Sightproof Blade: Model FSL-401

Model FSL-401 was tested per ASHRAE Standard Method 52.1-1992 (previously ASHRAE standard 52-76), by an independent third-party test lab using crushed quartz of (150-300 mm) dust medium. Standard construction material is galvanized steel and optional formed aluminum is available. Frame depth: 4 in.

Catalog: Louver Products (Severe Duty, Stationary, Operable)

### **Penthouses and Equipment Screens**

Equipment screens and exhaust or intake penthouse products are available in extruded aluminum or fabricated steel louver models. Custom designs to meet your application requirements are available. Numerous options for construction features and finishes are also available.

#### Penthouses: Models WIH/WRH

Penthouse models WIH and WRH offer clean horizontal lines, mitered corners, all aluminum construction, removable hoods, and weather-resistant blades. Custom louvered penthouses are also available to meet your specifications.

### **Model PEV-400**

A gravity ventilator comprised of three sides of standard stationary non-drainable louver model ESJ-401, along with one side of 1/8-in. thick plate glass that can be broken with the pressure of a fire hose. A fire smoke damper is located in the throat of the curb and wired into the fire control panel. The unit is shop-assembled and shipped complete.

### Model EES-401

For screen applications, standardized model EES-401 is a horizontal equipment screen offering extruded aluminum inverted "J" style blades.

Catalog: Louver Products (Severe Duty, Stationary, Operable)

### **Brick Vents**

Brick vents provide a permanent means of ventilation for crawl spaces, hung ceilings, incinerator rooms, chimney flues, foundations, pipe spaces and corridors. Many standard sizes and finishes are available.

#### Model BVE

Model BVE features extruded construction that provides a quality, finished appearance. The units are designed with deep-louvered overlapping blades with storm drips on the rear of the blades. The units also have a high water stop at the rear of the unit for maximum protection against rain and weather.

#### **Model BVF**

Model BVF features extruded construction that includes an aesthetically pleasing flanged frame for easy installation in existing walls. The units are designed with deep-louvered overlapping blades with storm drips on the rear of the blades. The units also have a water stop at the rear of the unit for maximum protection against rain and weather.







P.O. Box 410 • Schofield, WI 54476-0410 USA Phone 715.359.6171 • Fax 715.355.2399 greenheck.com