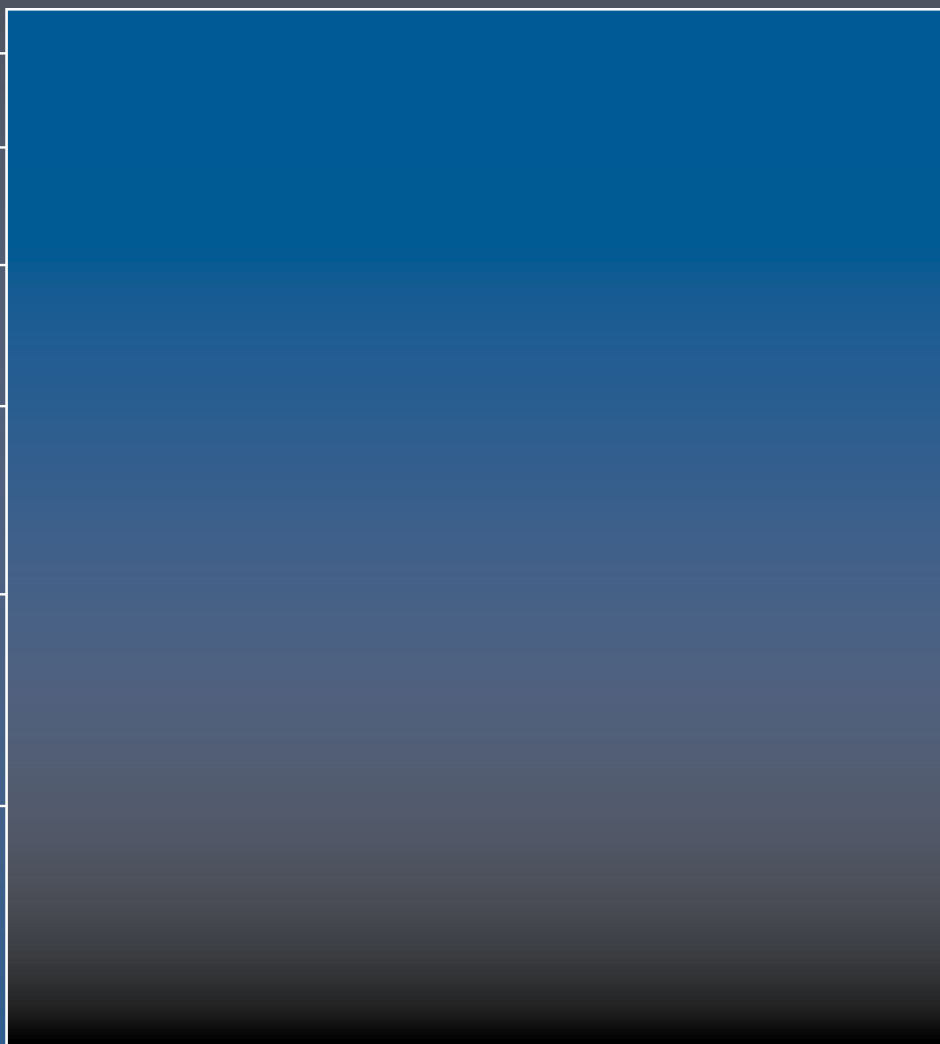




ARROW UNITED INDUSTRIES

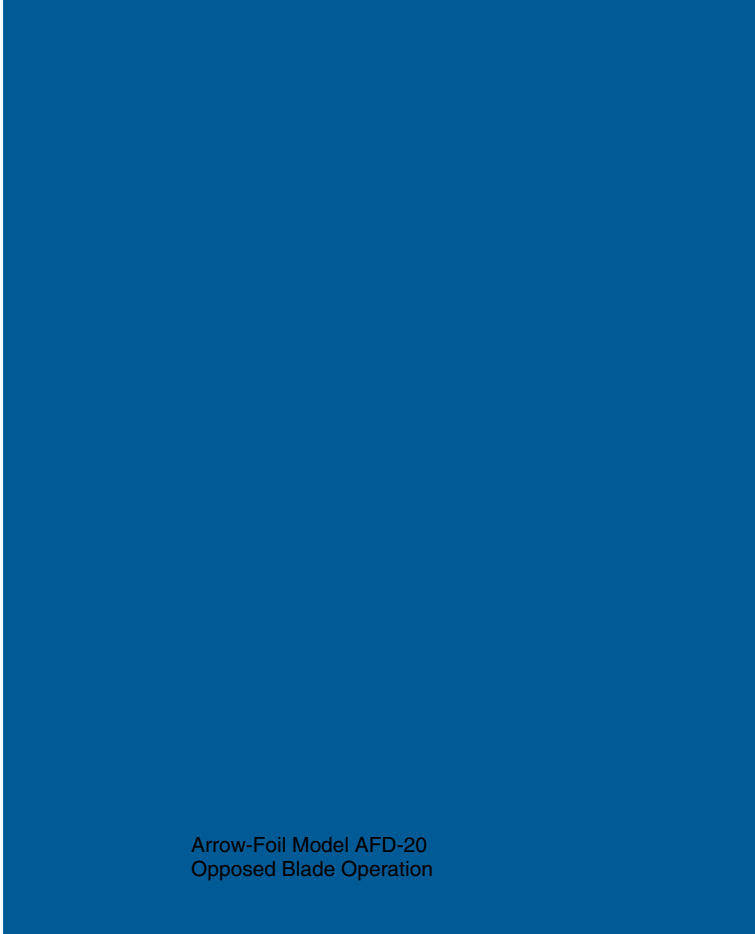
DAMPERS



**FOR COMMERCIAL
& INDUSTRIAL APPLICATIONS
IN HEATING, VENTILATING & AIR CONDITIONING**

The most widely used dampers in commercial HVAC applications

Control Dampers - Extruded Aluminum



Arrow-Foil Model AFD-20
Opposed Blade Operation

ARROW-FOIL DAMPER

Model AFD-20

For opposed or parallel blade operation

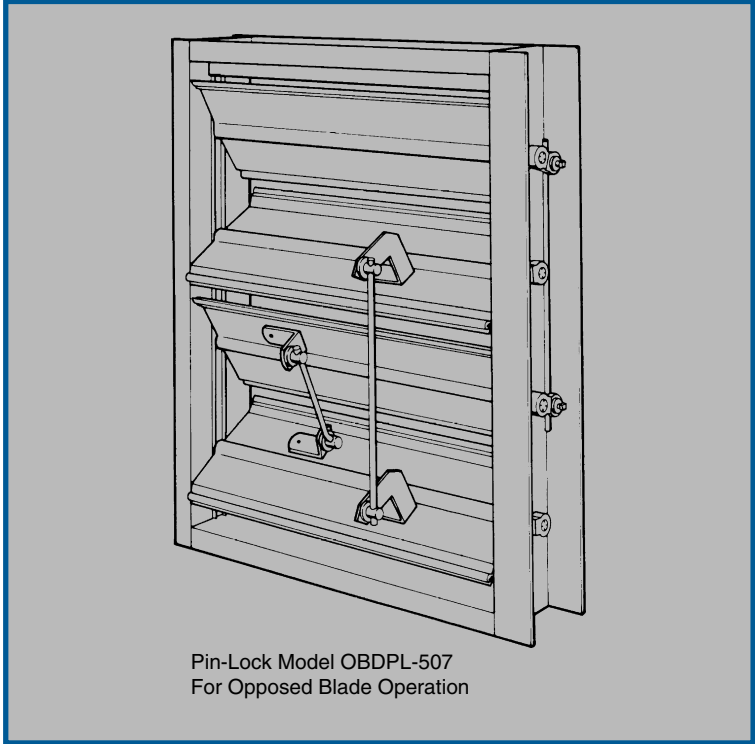
Improved construction makes for outstanding performance. Air leakage is exceptionally low. Pressure drop is extremely efficient. Recent tests conducted by an AMCA registered laboratory show air leakage less than 6 cfm per sq. ft. at 4" wg for the entire range of product sizes. ■ For detailed performance data on the Model AFD-20, send for Brochure AFD.

Features

- Arrow-Foil blades for minimum resistance. 6" shaft spacing.
- Overlapping blades with extruded silicone rubber seals at blade edges for tight closing over a wide range of temperatures.
- Compressible stainless steel jamb seals for tight shut-off.
- Intricate, factory adjustment of rugged linkage system...permanently locked to avoid failure.

Standard Specifications

Frames are 5" deep extruded aluminum, hat-shaped, .081" thick (.125" optional). 6" blades of Arrow-Foil design, .081" thick, extruded aluminum, cored at the shaft location to lock permanently to the splined 1/2" diameter Pin-Lock aluminum shaft. Blade shafts ride in trouble-free, maintenance-free, "Double Sealed" bearings. Linkage system to be concealed in frame. Low leakage seal system. Minimum panel size: 8" x 8" Maximum panel size: 60" x 72"



Pin-Lock Model OBDPL-507
For Opposed Blade Operation

Models OBDAF-207/PBDAF-206

For opposed or parallel blade operation. Standard specifications are identical to Model AFD-20, except the jamb seals are of continuous extruded silicone material.

Minimum panel size: 6" x 6"
Maximum panel size: 60" x 96"

Options Available

- Frames: 4" or 6" deep
- Blades: 4" or 5"
- Bearings: Ball or Rulon
- Linkage: Face-blade linkage

PIN-LOCK DAMPERS

Models OBDPL-507/PBDPL-506

For opposed or parallel blade operation

Standard Specifications

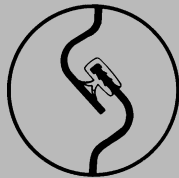
Dampers feature blades of single web Pin-Lock design, 6" wide (4" wide, available). Frames are a minimum 12 ga. (.081") extruded aluminum; blades are a minimum 1/8" extruded aluminum. "Double-Sealed" bearings for trouble-free operation. Overlapping blades for minimum air leakage.

- For detailed specifications, see individual data sheets.

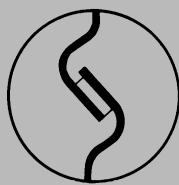
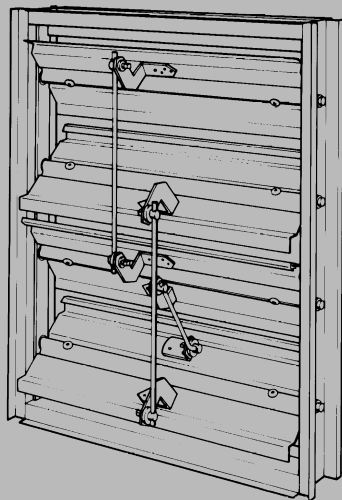
These efficient, low leakage dampers meet specifications for commercial HVAC applications

Control Dampers - Steel

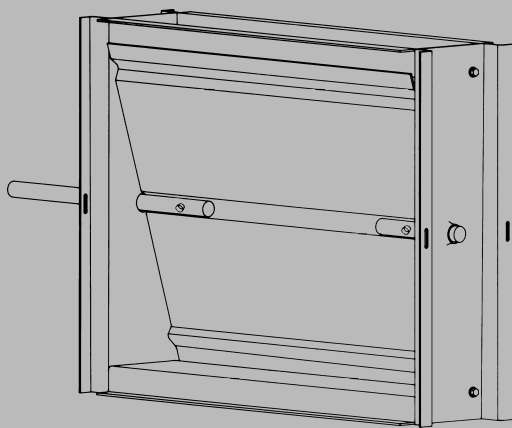
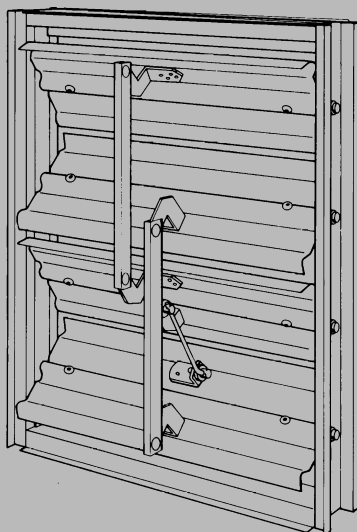
Available with opposed or parallel blades



Model 395
Interlocking blades provide better coverage and rigidity



Model 1770
Interlocking blades provide better coverage and rigidity



Model 150-VCD

Model 395

Single web construction offers greater rigidity and strength at the lowest possible pressure drop. Leakage will not exceed 6 cfm per sq. ft. at 4" wg according to tests performed on a 48" x 48" damper.

Standard Specifications

Frame: 4" wide, 16 ga. galvanized steel. Hat shaped channel.
Blades: 16 ga. galvanized steel. Maximum length 48", on 6" centers.
Bearings: Oilite bronze.
Axles: 1/2" dia. plated steel. Cadmium plated.
Linkage: 1/8" plated steel, Chevron type bracket. Cadmium plated.
Seals: Vinyl grip on blades; compressible stainless steel on jambs.
Panel size: Min.: 6" w x 6" h. Max.: 48" x 96".

Model 1770

An efficient, low leakage damper. Rated for use in systems up to 2,000 fpm/up to 4" wg.

Standard Specifications

Frame: 4" wide, 16 ga. galvanized steel. Hat shaped channel.
Blades: 16 ga. galvanized steel. Maximum length 48", on 6" centers.
Bearings: Oilite bronze.
Axles: 1/2" dia. plated steel. Cadmium plated.
Linkage: 12 ga. plated steel brackets. Galvanized steel bar (U-formed) interconnects the blades. 1/4" dia. stainless steel pivot.
Seals: Polyurethane, on blade edges and jamb. (Other seals available)
Panel size: Min.: 6" w x 6" h. Max.: 48" w x 96" h.

Model 182 (Not Illustrated)

An all-stainless steel damper that meets the requirements of many critical applications associated with chemical plants, food processors, etc. Rated for use in systems up to 2,000 fpm/up to 4" wg.

Model SB-28 (not illustrated)

Single Blade Damper with 2" wide (.081") extruded aluminum channel and flat, single web blade of 16 ga. galvanized steel, oilite bronze bearings, 1/2" dia. cadmium plated steel axle and polyurethane seal on jamb. Min. (section) size: 6" x 2-1/2". Max. (section) size: 36" x 12". Available in other materials and sizes.

Manual Volume Dampers

Model 150-VCD-Single Blade

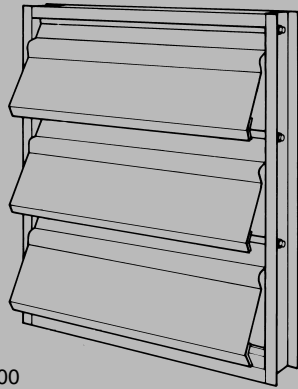
Galvanized steel construction.
Locking Quadrant Operator included.
Minimum panel size: 6" x 4".
Maximum panel size: 36" x 12".

Model 200-VCRD-Single Blade Round (not illustrated)

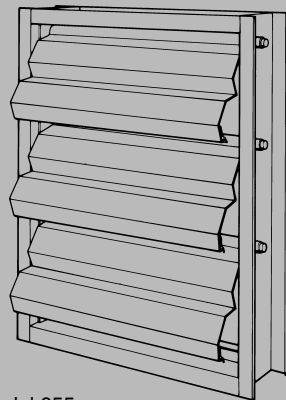
Galvanized steel construction.
Locking Quadrant Operator mounted to damper.
Minimum panel size: 4" diameter.
Maximum panel size: 24" diameter.

For control of air flow in one direction only, without reversal of air flow.

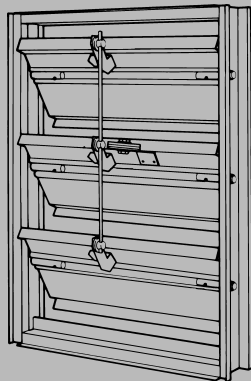
Backdraft Dampers



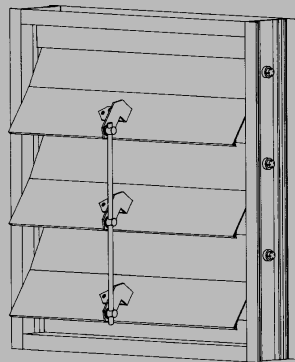
Model 500



Model 655



Model 366



Model 850

Model 500

An efficient, general purpose aluminum damper with positive closing. Several variations are available.

Standard Specifications

Frame: .093" extruded aluminum channel, 2" deep.
Blades: .032" aluminum, formed.
Bearings: Oilite bronze.
Axles: 3/16" dia. steel rod.
Linkage: Blade to blade.
Seals: 1/8" polyurethane foam on blade edges.
Counterweights: Optional. To assist or resist opening.
Panel size: Min.: 6" w x 8-3/4" h. Max.: 48" w x 72" h.

Model 655

Extruded aluminum damper for applications specifying velocities up to 3,500 fpm. Often used in exterior walls. Can be provided with architectural finishes.

Standard Specifications

Frame: .081" extruded aluminum channel.
Blades: .081" extruded aluminum with overlapping edges.
Bearings: "Double Sealed".
Axles: 1/2" dia. extruded aluminum. Pin-Lock design.
Linkage: Face mounted, in air stream.
Seals: Extruded silicone rubber on blade edges.
Counterweights: Optional. To assist or resist opening.
Panel size: Min.: 10" w x 9-1/4" h. Max.: 48" w x 72" h.

Model 366

Formed metal damper rated for systems up to 3,200 fpm/up to 4" wg. A variety of modified arrangements is available.

Standard Specifications

Frame: 16 ga. galvanized steel. Hat shaped channel.
Blades: 16 ga. galvanized steel, on 6" centers.
Bearings: Sintered bronze, flanged sleeve.
Axles: 1/2" dia. plated steel.
Linkage: 1/8" steel bracket with 1/2" dia. steel pivot.
Cadmium plated.
Seals: 3/16" polyurethane foam on blade edges.
Counterweights: Optional. To assist or resist opening.
Panel Size: Min.: 6" w x 9" h. Max.: 48" w x 72" h.

Model 850

Heavy duty, extruded aluminum construction with teardrop style blades. For use in high velocity environments. Many options are available for special applications.

Standard Specifications

Frame: 12 ga. extruded aluminum channel.
Blades: 12 ga. extruded aluminum teardrop shape.
Bearings: "Double Sealed" type.
Axles: 1/2" dia. aluminum Pin-Lock design.
Linkage: Cadmium plated steel; face linkage on the blades.
Seals: Extruded silicone rubber blade seals.

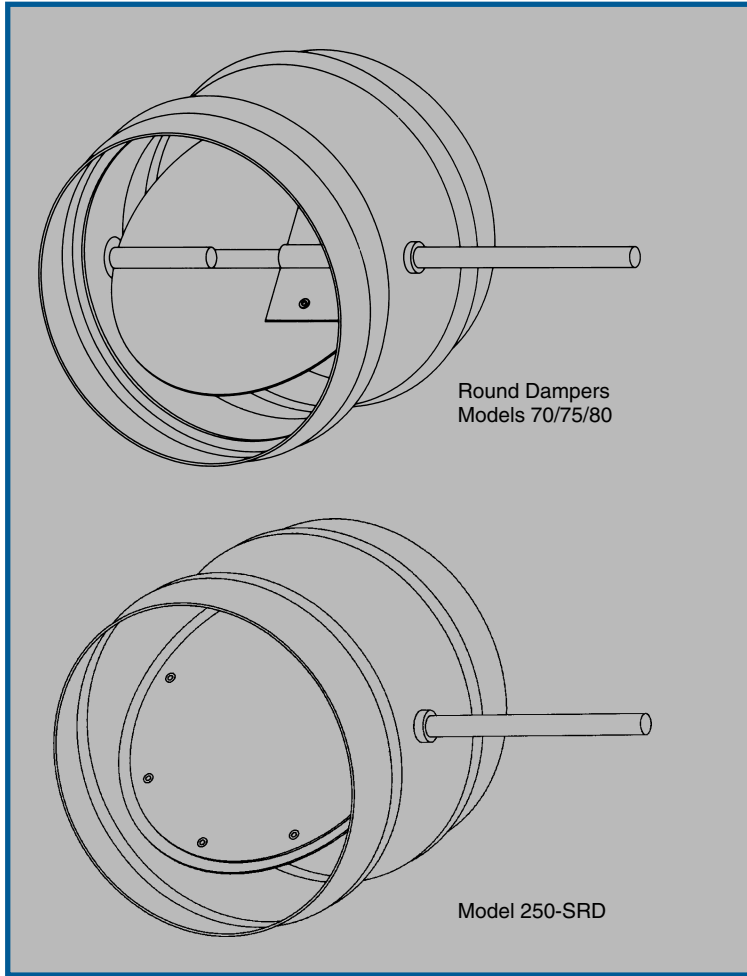
Counterweights: Optional. Adjustable to a full range of opening pressures.

Panel Size: Min.: 10" w x 10" h. Max.: 48" w x 96" h.

■ For options and detailed specifications, see individual data sheets. See facing page for Round Backdraft Dampers.

For general air control

Round Dampers



Model 70-Galvanized steel, 16 ga. frame and blade.

Model 75-Aluminum, 12 ga. frame and blade.

Model 80-Stainless steel (304), 16 ga. frame and blade.

Standard Specifications

Frame: 7-1/2" deep sleeve-type.

Blade: Reinforced as required for larger sizes.

Bearings: Bronze oilite flange sleeve-type.

Axle: 1/2" diameter.

Seals: Neoprene, 1/4" tick closed-cell secured to frame.

Minimum size: 4" diameter.

Maximum size: 48" diameter.

Optional Flange Frame Available

Model 250-SRD-Low Leakage Damper

For use up to 6" wg and 3000 fpm. Galvanized steel construction, with Low Leakage Neoprene rubber blade seal system. Single blade construction from 4" to 24" diameters. Optional Flange Frame available.

Round Backdraft Dampers (not illustrated)

Maximum 4" wg differential back pressure for standard construction. Tight closing for minimum leakage. Counterweights (to assist or resist opening) may be mounted to blade or installed on extended shaft. Minimum size: 4" diameter. Maximum size: 48" diameter. All other specifications identical to standard Round Dampers.

Model 388-Galvanized steel, 16 ga. frame and blades.

Model 389-Aluminum, .081" frame and blades.

Model 390-Stainless steel, 16 ga. frame and blades.

■ For detailed specifications, see individual data sheets.

Model 56-Arrow-Foil. For use up to 10" sp. Maximum width: 60".

Model 85-Pin-Lock. For use up to 4" sp. Maximum width: 48".

Multi-bladed, of extruded aluminum (.081") with 1-1/2" x 6" x 1-1/2" frame. Available with either Arrow-Foil or Pin-Lock construction, for opposed or parallel blade operation.

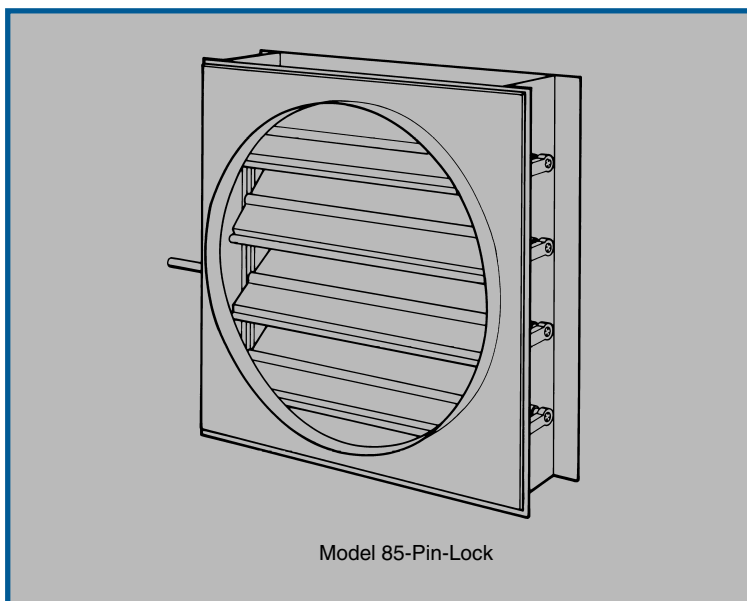
Tight closing ensures minimum leakage. Effective as smoke damper. Transition piece connects to round or oval ducts.

For dampers/Oval Ducts, add "OV" to model number.

■ For further information on Arrow-Foil and Pin-Lock Dampers, refer to Page 2.

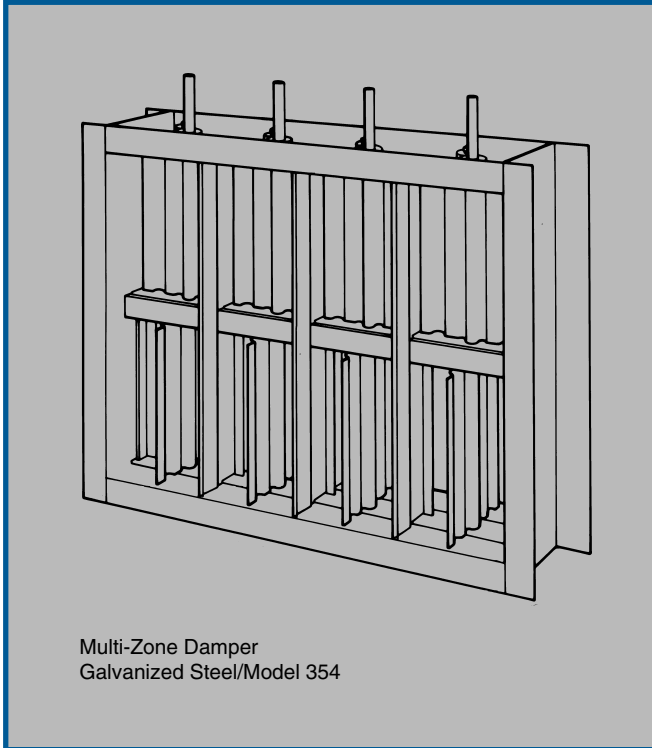
Multi-Bladed: For Round and Oval Ducts

Transition Dampers



For package unit applications

Custom Dampers



Multi-Zone Damper
Galvanized Steel/Model 354

By using existing models as building blocks, Arrow United is able to offer a line of custom dampers for integration into ventilating, heating and air conditioning units.

Through close coordination with designers, Arrow United has developed dampers that not only exceed the original requirements for low-leakage and modulation control, but also install easily and mesh with the original equipment.

Custom dampers include applications for face and bypass, mixing box, fresh air (dampers and/or louvers) return-air and multi-zone (double or triple deck).

Any of these can be modified to meet specific requirements of performance criteria or actuation needs.

Illustrated is Arrow United's Multi-Zone Damper. Available in aluminum (.125" frame) or galvanized steel (16 ga. frame), it is a highly efficient damper, with minimum leakage, and is compatible with most air handling equipment.

Aluminum/with Arrow-Foil blades

Leakage less than 1/2% at 5" wg.

Aluminum/with Pin-Lock blades

Leakage less than 3/4% at 4" wg.

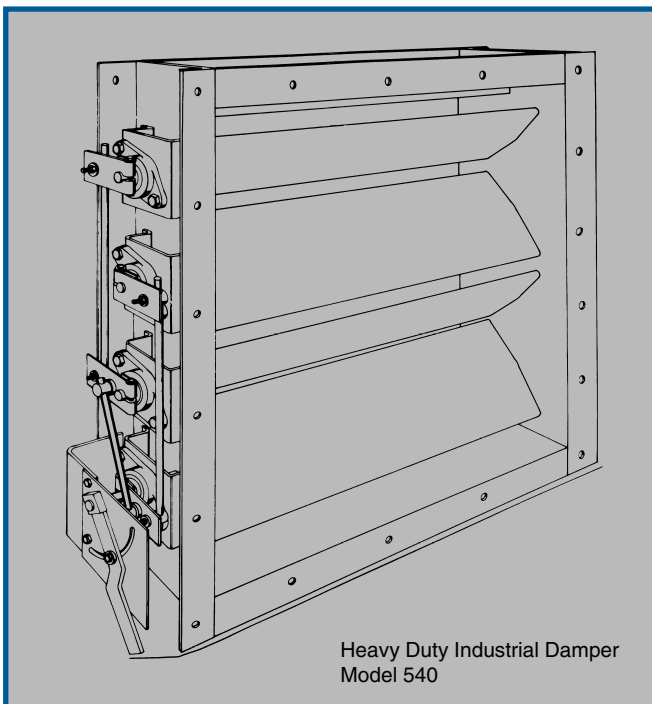
Galvanized steel/Model 354

Leakage less than 4 cfm per sq. ft. at 3.5 wg.

■ For detailed specifications, see individual data sheets.

For applications in air and process controls

Heavy Duty Industrial Dampers



Heavy Duty Industrial Damper
Model 540

For use in modulating volume control and varying pressure drop or in 2-position for maintaining constant pressure drop and shut-off in industrial applications.

Frame and blades are of heavy duty galvanized steel. Shafts are of corrosion-resistant cold finished steel and moving parts (such as linkages and bearings) are consistent with heavy duty, industrial usage.

High Pressure Applications

Model 540: to 15" wg Static Pressure.

Medium to High Pressure Applications

Model 530: to 12" wg Static Pressure.

Model 531: to 20" Static Pressure.

For Clean Air Applications

Model 545: to 10" wg Static Pressure 8" wide, extruded aluminum Arrow-Foil blades, steel formed channel frame.

Medium Pressure Applications

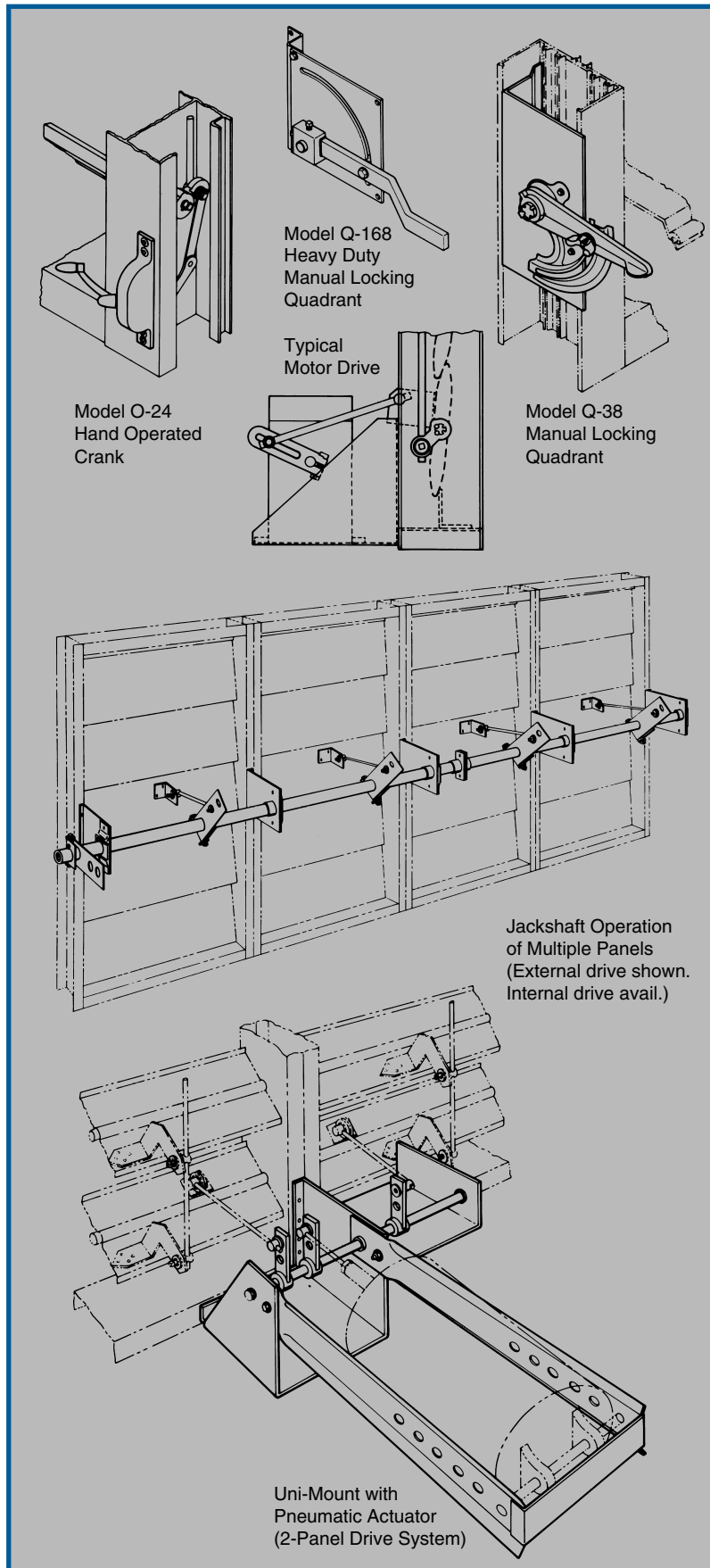
Model 421: to 6" wg Static Pressure at 2,500 fpm.

Model 422: to 8" wg Static Pressure at 2,500 fpm.

Model 423: to 10" wg Static Pressure at 2,500 fpm.

■ For detailed specifications, see Brochure No. IP-1 and individual data sheets.

Operators and Accessories



Arrow United dampers can be factory coordinated with a variety of actuators such as manual, electric, pneumatic or electrohydraulic. We can provide dampers with linkage and mounts for actuators, or mount actuators supplied by you, or (as often proves economically advisable), include actuators recommended by us. In every instance, our experienced technicians ensure that you get efficient damper actuation.

Jackshafting

Jackshaft assemblies extend the output power of actuators to multiple-panel dampers without loss of torque or damper effectiveness. These assemblies provide a heavy, continuous shaft that spans the damper frames and include proper linkage connections to each panel. The jackshafting can accommodate an actuator that is either inside or outside the airstream.

Without effective distribution of actuator power, even a damper of highest quality will provide inefficient service. We therefore consider it important to review each damper order before implementing it.

The adjacent illustration shows the application of typical jackshafting.

The Arrow Uni-Mount

The Arrow Uni-Mount is an ingenious device that maintains the quality of damper performance while lowering the cost of mounting actuators. It is designed to accept all of the actuators normally used in damper installations. The actuator must be identified when the damper/Uni-Mount order is placed.

The Arrow Uni-Mount is extremely versatile. Though used principally when the actuator must be installed in the air stream, it can be used in external installations as well. The Arrow Uni-Mount is for application with actuators of the pneumatic-piston type but is also often used with electric actuators.

Uni-Mount Features

- Alternate function of the actuator from normally-closed to normally-open can be determined and changed by a simple 5-minute procedure.
- When lack of space creates interference for pneumatic actuators, the actuator-position can be easily changed from parallel to the airstream to perpendicular to the airstream.
- Uni-Mounts can be ordered to incorporate solid shaft extensions for operating dampers two and three panels in width.
- The damper panel is factory-fitted so that field installation of the mount is a fast, simple procedure.
- Rigidly constructed and designed for repeatability, the Uni-Mount will maintain original performance during prolonged use.

Louvers by Arrow

Louvers are another major product line from Arrow United. Every louver style common to the architectural, commercial and industrial world is included. They are produced with the same concern for quality, service and reliability as are the dampers in this catalog.

Arrow United is an active member of AMCA (Air Movement and Control Association, Inc.) and supports its program to provide standards to rate louver performance. Many of Arrow's louver models are listed under the AMCA Certified Ratings Program.

Stationary Drain Louvers. Extruded aluminum and formed metal. Drainable blades minimize pressure drop while affording maximum weather protection. Excellent performance permits the use of smaller size louvers.

Adjustable/Combination Drain Louvers. Extruded aluminum. Drainable blades offer efficient control of air flow combined with maximum weather protection.

Extruded Aluminum Stationary Louvers. Furnished in single or multiple sections with mullions or as continuous line.

Louvers for Special Applications. Extruded aluminum. Available in 2", 4" and 6" depths including sightproof, "Y" and Chevron-shaped blades. Installed vertically or horizontal.

Extruded Aluminum Adjustable and Combination Louvers (stationary and adjustable blades in one frame). Excellent air flow control.

Extruded Aluminum Vertical Louvers for Cooling Towers/Mechanical Rooms. Sightproof. For protection against vandalism. Maintains air flow with maximum weather protection.

Formed Metal Stationary Louvers. Performance comparable to extruded aluminum models.

Formed Metal Adjustable Louvers. Provides excellent weather protection. Performance comparable to extruded aluminum models.

Penthouse Louvers. Extruded aluminum and formed metal. Provides efficient air intake or exhaust through roof.

Aluminum and Steel Acoustical Louvers. For intake or discharge. For noise reduction.

Extruded Aluminum Brick Vents. Standard sizes in stock. Combines ventilation with weather protection.

Louver Catalog shows detailed specifications including AMCA performance data (where applicable). Write for Publication No. 697-96.



Custom Louver Installation



ARROW UNITED INDUSTRIES
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Wyalusing, PA 18853
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Check our website for other products.
arrowunited.com

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