

## FD35/OW, FD35SS/OW "OUT OF WALL OR FLOOR" FIRE DAMPER 1½ HOUR RATING

### APPLICATION

Ruskin FD35/OW and FD35SS/OW 1½ hour static rated fire dampers are designed for "out of wall or floor" installation. The FD35/OW and FD35SS/OW are designed for "through penetration" or "duct termination" with the damper up to 8" (203) out of the plane of the wall or floor. The FD35/OW is constructed of galvanized steel and the FD35SS/OW is constructed of 304 or 316 stainless steel. All models are wrapped with an insulating material around the assembly.

### STANDARD CONSTRUCTION

#### FRAME

5" x 1" x 16 gage (127 x 25 x 1.52) galvanized or stainless steel hat channel, structurally superior to 13 gage (2.3) channel frame.

#### BLADES

6" (152) wide, 16 gage (1.52) galvanized, 304 or 316 stainless steel, approximately 6" (152) on center.

#### BEARINGS

Stainless steel sleeve, pressed into frame.

#### BLADE SEALS

Blade edge overlap for flame seal to 1900°F (1083°C).

#### LINKAGE

Concealed in frame.

#### AXLES

½" (13) plated steel hex (FD35/OW) or ½" (13) 300 series stainless steel (FD35SS/OW).

#### FUSIBLE LINK

165°F (74°C).

#### SLEEVE

20 (1.0) gage galvanized steel factory installed with thermal insulation on four sides.

#### DAMPER WEIGHT

Approximately 18 lbs. per sq. ft.

### DAMPER SIZES

#### MINIMUM SIZE

FD35/OW and FD35SS/OW – 8"w x 6"h (203 x 152).

#### MAXIMUM UL CLASSIFIED SIZES

FD35/OW –

Single section vertical and horizontal installation – 36"w x 36"h (914 x 914).

FD35SS/OW –

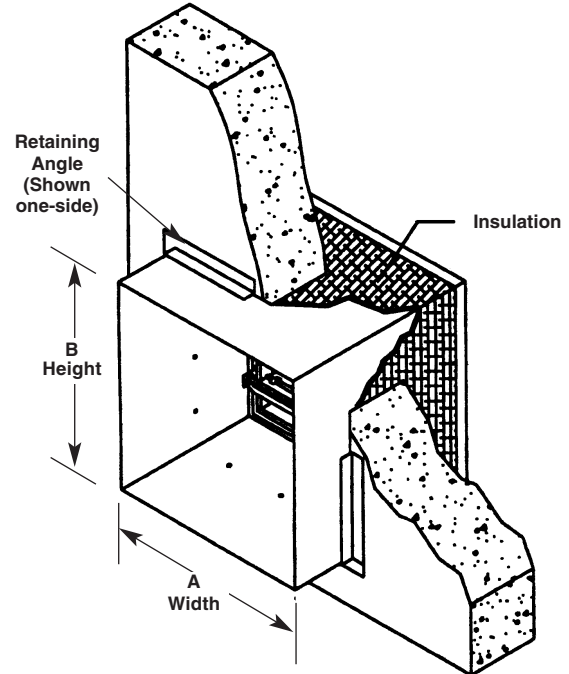
Single section vertical and horizontal installation – 36"w x 36"h (914 x 914).

### OPTIONS

- **FM Approvals** as Specification Tested Product.
- **SP100 Switch Package** to remotely indicate damper blade position.
- **Sleeve** of various lengths and gages to ensure field compliance with UL installation requirements.
- Stainless steel flexible metal jamb seals.
- Silicone blade seals.
- PFMA and FAST Angles
- Crank lever (to assist with re-opening)
- Extended shaft
- Multiple frame styles (B, G, WC, WO, WR, C, CR and CO)

### NOTES:

1. Dimensions in inches, parentheses ( ) indicate millimeters.
2. Unit furnished approximately ¼" (6) smaller than given opening dimensions.



Ruskin FD35/OW and FD35SS/OW dampers meet the requirements for fire dampers established by:

- **National Fire Protection Association** NFPA Standards 90A, 92A, 92B and 101
- **ICC International Building Codes**
- **CSFM California State Fire Marshal Listing**



SEE COMPLETE  
MARKING  
ON PRODUCT

UL555 Classification R5531

### FM Approvals

Specification Tested Product  
(Option)



# AMCA LICENSED LEAKAGE AND AIR PERFORMANCE DATA

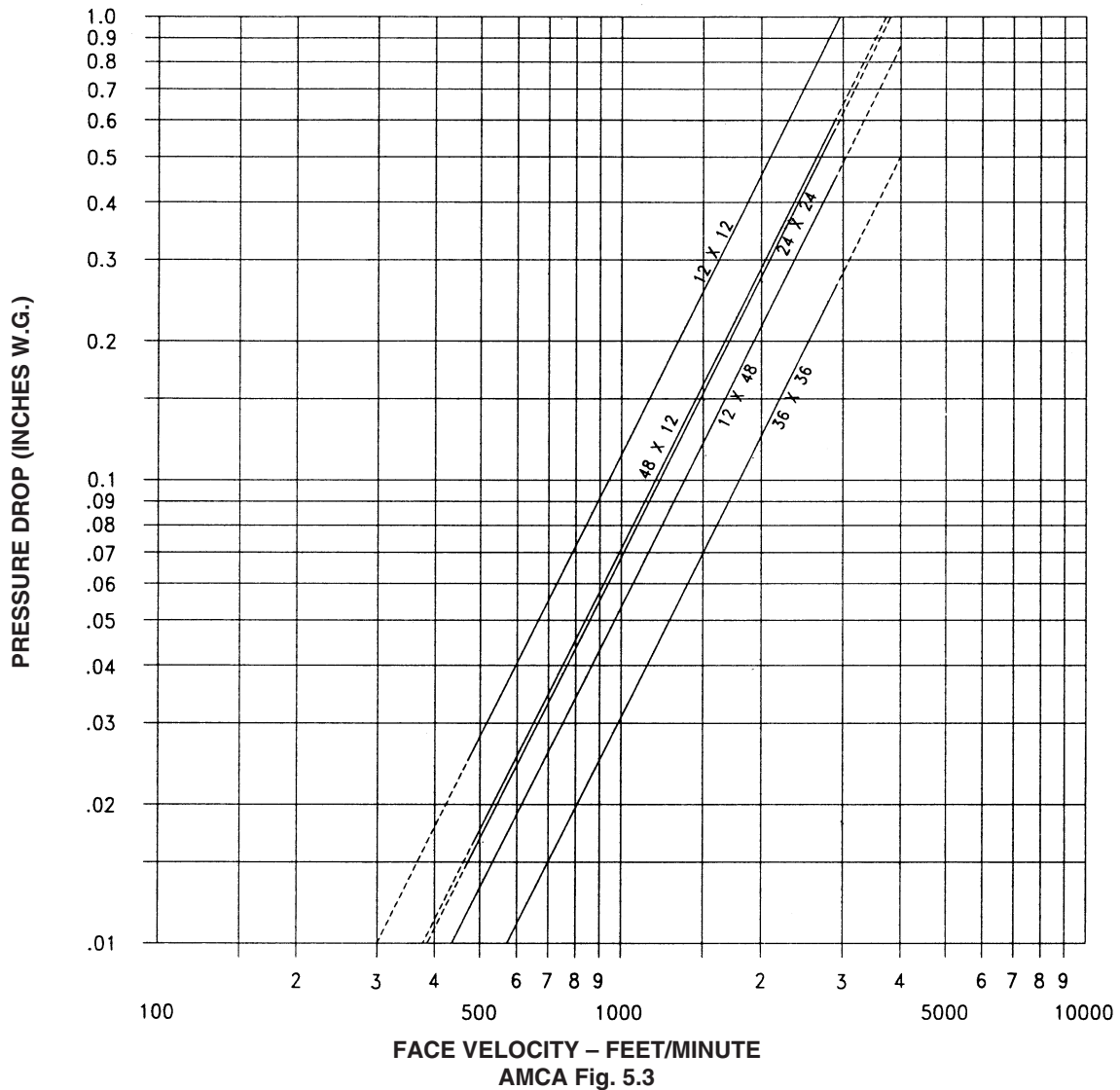


Ruskin Company certifies that models FD35/OW and FD35SS/OW shown hereon are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance for the FD35/OW and FD35SS/OW.

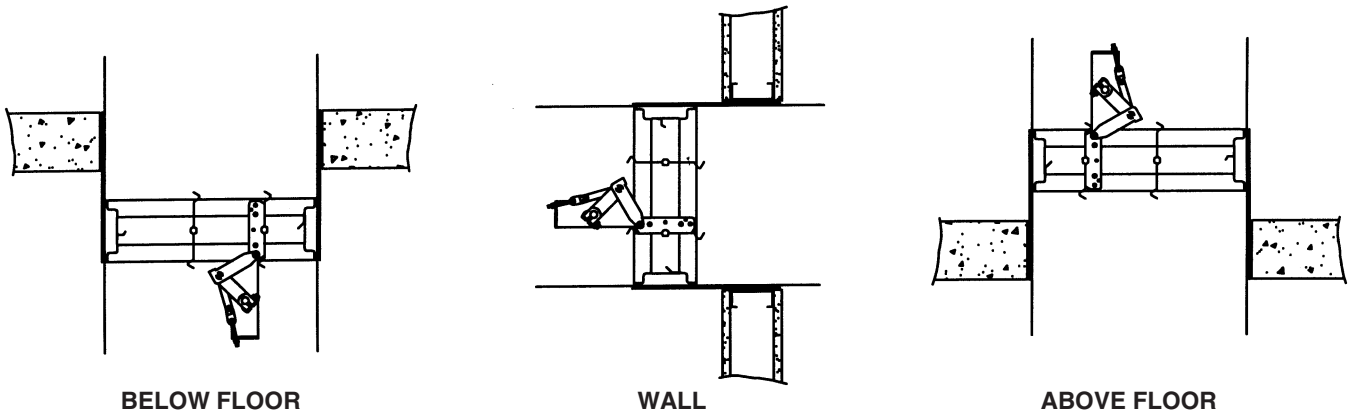
To determine the AMCA Licensed air performance:

Locate the applicable feet per minute face velocity on the bottom of the velocity vs. pressure drop chart below. Move up the chart to the most appropriate size damper line. From the intersection point, move left to determine the pressure drop on the left side of the chart.

**VELOCITY vs. PRESSURE DROP**



# ORIENTATION



## SLEEVE TRANSITION DIMENSIONAL DATA

### DUCT TRANSITION CONNECTIONS

FD35SS dampers may be supplied with Round, Oval and Rectangular duct connections.

Style	Description
BC	Units Under 6" (152) Tall
WR	Round Welded (High Pressure)
WC	Rectangular Welded (High Pressure)
WO	Oval Welded (High Pressure)

The square damper size will be 2" (51) larger in width and height than the round, oval or rectangular duct size ordered.

### MINIMUM and MAXIMUM SIZES

#### WR Round Transitions

Minimum 6" (152) diameter  
Maximum 34" (864) diameter

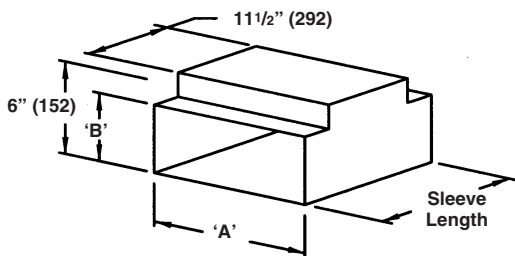
#### WO Rectangular and Oval Transitions

Minimum 6" x 4" (152 x 102) diameter  
Maximum 34" x 32" (864 x 813) diameter

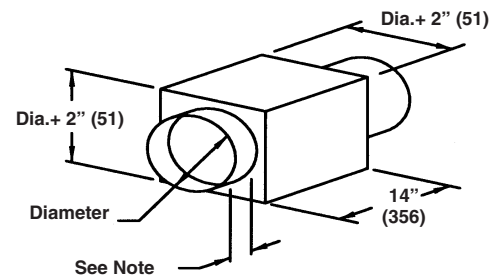
#### 'BC' Style Transitions

Minimum height 4" (102) 'B' style transitions are utilized on units where the damper height is less than 6" (152).

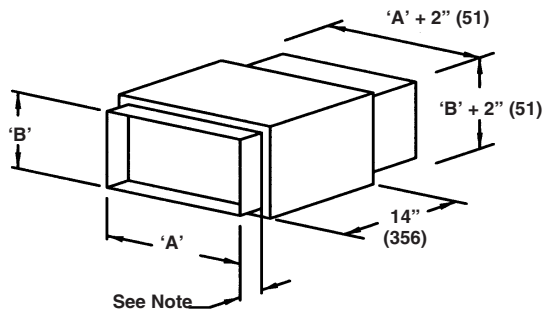
Consult Ruskin for other available styles and sizes.



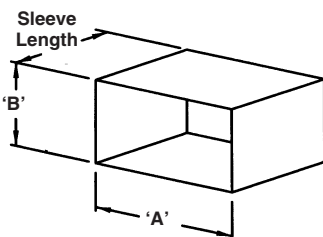
Style BC



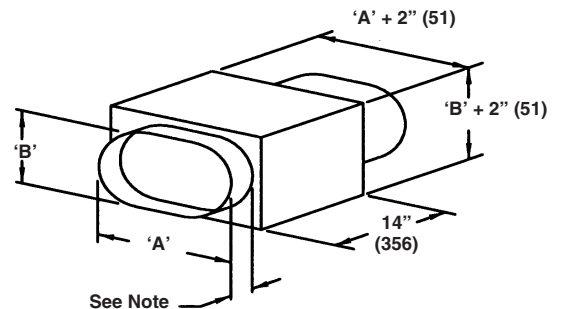
Style WR



Style WC



Style A

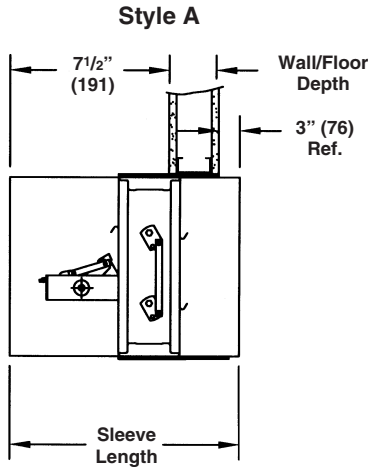


Style WO

## DAMPER SLEEVE DIMENSIONAL DATA

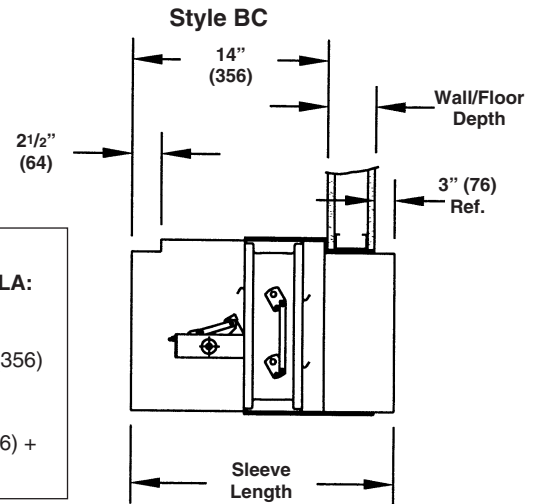
These drawings show the position of the damper mounted in a factory sleeve. The standard location permits the damper to be installed outside the plane of the wall or floor. For damper styles WR, WC, WO and BC only the duct connection portion extends through the wall and the damper assembly is mounted flush with the wall.

(Note: For grille type installation, omit the 3" (76) sleeve extension.)



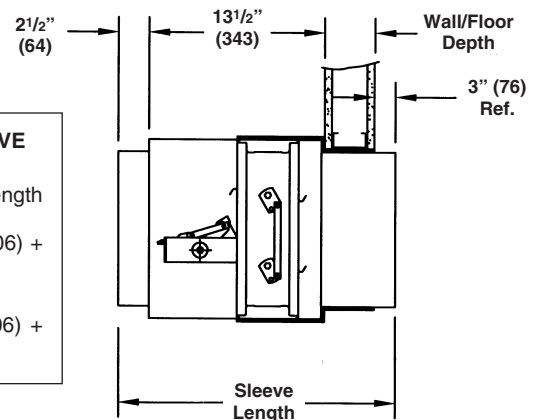
**STYLE A**  
**SLEEVE LENGTH FORMULA:**  
To determine correct sleeve length necessary:  
Add wall or floor depth 7 1/2" (191) + 3" (76)  
**Example:**  
Wall depth 4 1/2" (114) + 7 1/2" (191) + 3" (76) = 15" (381)

**STYLE BC**  
**SLEEVE LENGTH FORMULA:**  
To determine correct sleeve length necessary:  
Add wall or floor depth + 14" (356) + 3" (76)  
**Example:**  
Wall depth 4" (102) + 14" (356) + 3" (76) = 21" (533)



**Style WC, WR and WO**

**STYLE W, WC & WO SLEEVE LENGTH FORMULA:**  
To determine correct sleeve length necessary:  
Add wall or floor depth 16" (406) + 3" (76)  
**Example:**  
Wall depth 4" (102) + 16" (406) + 3" (76) = 23" (584)



## SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans or as described in schedules AMCA Certified fire dampers constructed and tested in accordance with UL Safety Standard 555 that meet or exceed the following specifications. Fire Dampers shall be produced in an ISO 9001 certified factory.

Damper frame, where size permits, shall be constructed using Uniframe Design Concept (UDC) and shall be minimum 16 gage (1.61) galvanized steel [or stainless steel] formed into a structural hat channel superior to 13 gage (2.30) channel frame. Top and bottom frame members on dampers less than 13" (330) high shall be low profile design to maximize the free area of these smaller dampers. Damper blades shall be single skin 16 gage (1.61) galvanized steel [or stainless steel] with three longitudinal grooves for reinforcement. Bearings shall be stainless steel sleeve turning in an extruded hole in the frame for maximum life.

Each fire damper shall have a 1 1/2 hour fire protection rating and shall be supplied with a 165°F (74°C) or 212°F (100°C) fusible link.

Fire dampers shall be approved for vertical or horizontal mounting as required by the location and approved for installation "out of the wall or floor." Dampers shall be installed using steel sleeves, angles, other materials and methods required to provide an installation in accordance with the damper manufacturer's installation instructions. In addition, the fire dampers shall be AMCA licensed for air performance.

### Optional FM Approvals Specification

Each fire damper shall be listed in Factory Mutual (FM) Approvals Specification Tested Product and labeled accordingly.

Fire dampers shall be Ruskin model FD35/OW (or FD35SS/OW).

(Consult [www.ruskin.com](http://www.ruskin.com) for electronic version of this "Quick" spec as well as for complete 3-part CSI MasterFormat Specifications)

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