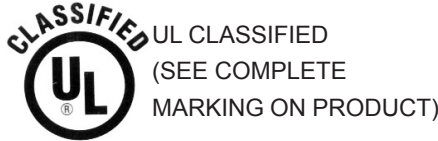




# INSTALLATION INSTRUCTIONS FOR MFD, MFD3, MFD3, MFD3, MFDS, MFDS3, MFDUS, MFDUS3, MDFDS AND MDFDS3



Damper shall be secured to sleeve and to each other (when joined to make up multiple damper assemblies) with #10 sheet metal screws 6" on center, 1/4" diameter nuts and bolts, welding, 3/16" steel pop rivets, or clinching (toggle)

See **SECTION 2 and 3** for joint detail.

Angles shall be a minimum of 1-1/2" x 1-1/2" x 16 gauge. Fasten to sleeve with 1/4" diameter nuts and bolts, welding 6" on center, #10 sheet metal screws 6" on center, or 3/16" steel pop rivets. (See **SECTION 4** for clearance and overlap).

### VERTICAL MOUNTINGS SHOWN - HORIZONTAL MOUNTING SIMILAR

1. Sleeves shall be of the SAME GAUGE or heavier as the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE duct standards. Sleeves shall extend approximately 3" on either side of wall or floor to facilitate the joining of the sleeve to the duct. In cases where the width of the retaining angle is such that it would extend approximately 2" beyond the edge of the angles see **SECTION 3**.

2A. The following duct-sleeve connections may be used on all systems:

- Inside slip
- Plain 'S' slip
- Hemmed 'S' slip
- Bar slip
- Alternate bar slip (standing slip)
- Reinforced bar slip (cleat)
- Angle slip
- Double 'S' slip
- Cup slip
- Drive slip
- Pocket lock

Refer to separate "Breakaway Connection" sheet for further information.

2 B. Duct-sleeve connections may be of the rigid or fixed type when fire dampers are installed in sleeves that are 16 ga. up to 36" W x 24" H or 14 ga. for sizes exceeding 36" W x 24" H. For sleeves lighter than 16 GA. use breakaway connections.

3. When the duct work terminates at the damper, retaining angles on the opposite side of the opening may be reversed providing the size of the opening is increased by an amount equal to twice the combined thickness of the angle and the height of the screw or bolthead to maintain expansion clearance (See **SECTION 4**). In this case the sleeve at the open end must be made flush with the edge of the retaining angle.

4. Clearance between the sleeve and wall/floor opening shall be a minimum 1/8" per foot on height and width of sleeve to a total maximum of 1-1/2" (e.g. damper 47-3/4" x 47-3/4", collar 48" x 48", opening 49-1/2" x 49-1/2"). Minimum clearance shall be 1/4". Perimeter angles shall overlap the wall/floor by a minimum of 1".

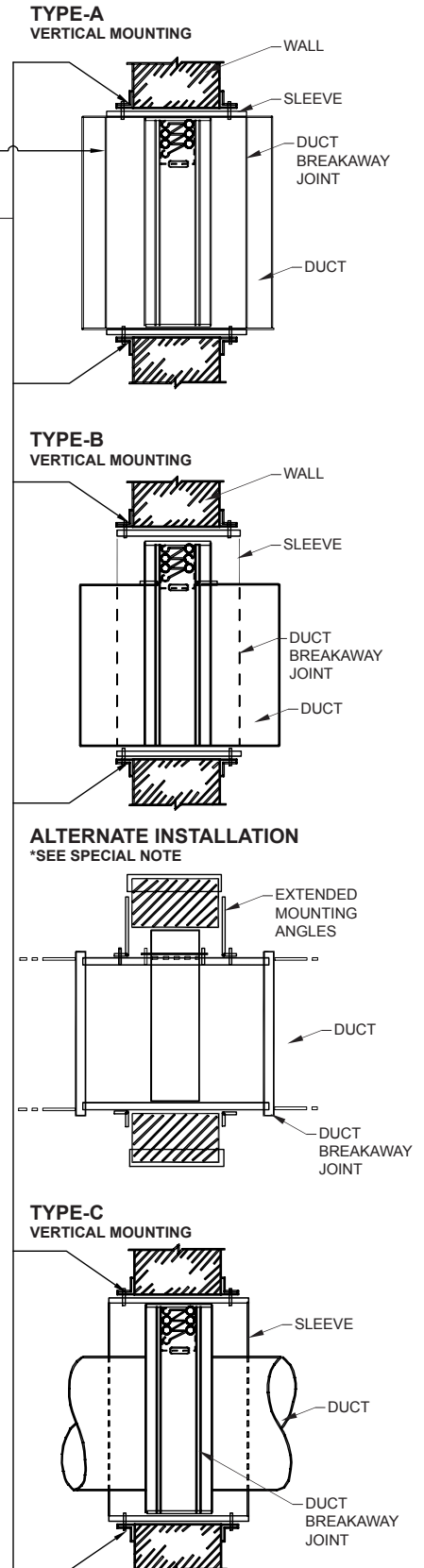
5. In cases where the openings are larger than the maximum multiple assembly sizes specified in Note 5, a 12" wide brick or reinforced concrete mullion must be provided between adjacent assemblies.

6. As with all joints, contractor must seal duct-collar connection, in field, after installation.

### IMPORTANT

- Do Not Cast Damper In Place.
- Do Not Fasten Retaining Angles Or Damper Directly To Wall Or Floor.
- Cycle Damper After Installation To Insure Free Movement
- Do Not Install Damper Out Of Square Or Out Of Flat.
- Install Damper In Plane Of Fire Separation.
- \*See separate instructions for fire dampers in drywall.

\***SPECIAL NOTE:** When the damper or damper assemblies exceeds either 48" in width or 60" in height, the retaining angles shall not be less than 1-1/2" x 1-1/2" x 1/8" thick and shall be attached to the sleeve using 1/4-20 x 3/4" bolts at 8" on C. 1" long welds or #14 x 3/4" sheet metal screws at the same spacing.



MAXIMUM SIZE TABLE								
MODEL	Single Section				Multiple Section			
	Vertical		Horizontal		Vertical		Horizontal	
	Max. Width	Max. Height	Max. Width	Max. Height	Max. Width	Max. Height	Max. Width	Max. Height
MFD	60	60	40	40	120	120	80	40
MFD3	48	48	40	40	-	-	80	40
MDFD	36	36	18	18	-	-	36	36
MDFD3	36	36	18	18	-	-	36	36
MFDS	48	48	48	48	-	-	-	-
MFDS3	48	48	48	48	-	-	-	-
MDFDS	36	36	18	18	-	-	36	36
MDFDS3	36	36	18	18	-	-	36	36
MFDUS	48	48	-	-	-	-	-	-
MFDUS3	48	48	-	-	-	-	-	-

**NOTE:** For maximum single section sizes refer to maximum size table. For openings larger than given for single section, multiple dampers are required. For openings larger than given in multiple sections a 12" wide brick or reinforced mullion must be provided between adjacent assemblies.