



Fire Dampers

MAFS



Fire Dampers – MAFS

FIRE DAMPER MODEL MAFF (RATED PARTITIONS OF 2 HOURS OR LESS)

STANDARD CONSTRUCTION :

FRAME

16 gauge galvanized steel
interlocking hat section channel
frame construction

BLADES

16 gauge galvanized 3 "V" formed

FUSIBLE LINK

UL listed 165° F (others available)

BEARINGS

Sintered bronze, oil impregnated

AXLES

1/2" square zinc plated steel studs

LINKAGE

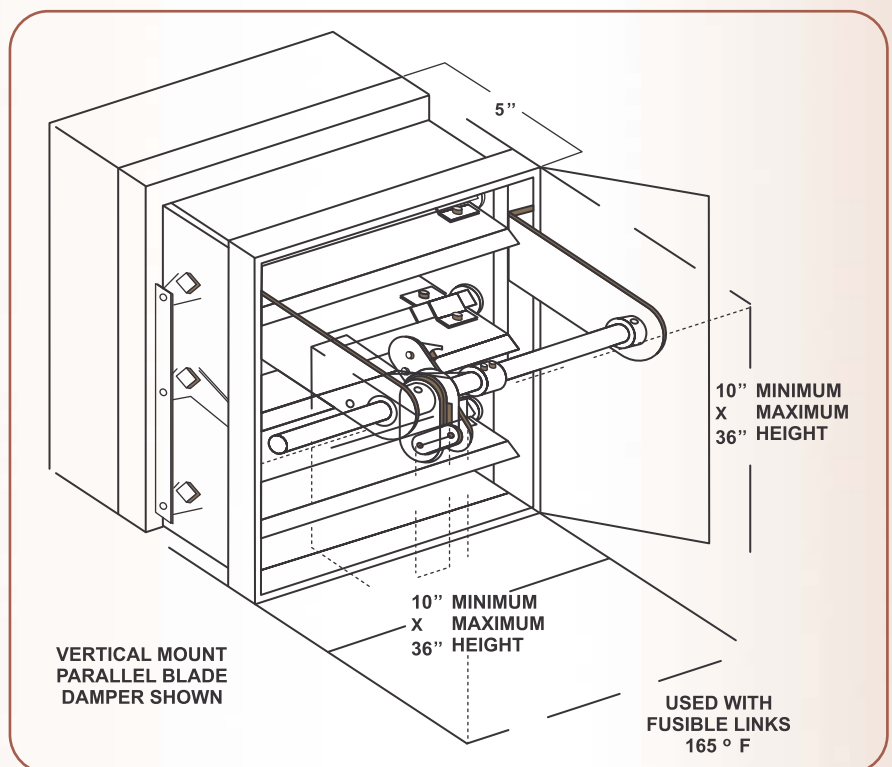
0.12 x 0.50 zing plated steel concealed
in the channel frame

FINISH

Mill galvanized

BLADES SEALS

None





Fire Dampers – MAFS

JAMB SEALS

None

JACK SHAFT

1/2" diameter zinc plated steel with jack shaft connector coupling

CAULKING

UL approved silicone sealants: down . corning RTV-732, 999A

ACTUATOR

Electric spring return 230V, 120V or 24V and pneumatic

OPTIONS

SLEEVES: Rectangular, round, oval and specials.

ACTUATOR MOUNTING: External & internal.

OPTIONAL MATERIAL: stainless steel construction

MINIMUM SIZE : 10"width × 10" height

MAXIMUM SIZE : 36"width × 36" height

Operation: parallel blades.

Power Open/Spring Closure.



Fire Dampers – MAFS

INSTALLATION / INSTRUCTION .

FIRE SMOKE DAMPER

VERTICAL OR HORIZONTAL MOUNT 1-1/2 HOURS RATING
(FOR USE IN 2 HOURS OR LESS RATED PARTITIONS)

Damper shall be fastened to sleeve. Mounting angle shall be a minimum of 4 Cm x 4 Cm x 2 mm thick and fastened to the sleeve and damper only on all 4 sides with 6mm bolts. Angles shall not be fastened to each other at the corners or fastened to the fire wall. Angles may be reversed when diffusers or grilles require flush mountings. Installation per NFPA 90A, UL 555, and SMACNA Fire Smoke And Radiation Installation Guide. FASTENERS MUST BE PLACED WHERE THEY DO NOT INTERFERE WITH THE DAMPER OPERATION.

NOTES:

1- Sleeves shall be of the same gauge or heavier than the duct to which it is attached. .

Gauge shall conform to SMACNA or .ASHRAE standards

When the following sleeve connections

2- are used, the minimum gauge of the sleeve shall be 16 gauge on dampers not exceeding 36" w x 24" h and 14 gauge on larger dampers

.a. Angle reinforced standing seam

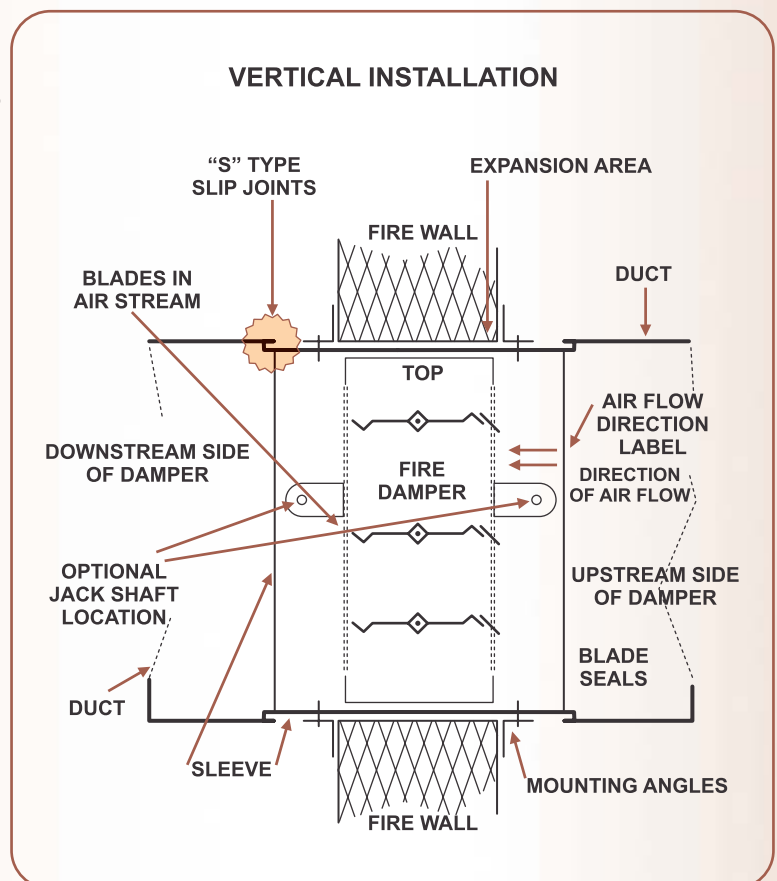
.b. Angle reinforced pocket lock

.c. Companion angles

d. Metal fasteners approximately 16" on .centers

3- The following breakaway sleeve connections may be used on all systems :

- a. Plain "5" slip
- b. Hemmed "5" slip
- c. Bar slip
- d. Standing "5" slip
- e. Reinforced bar slip f. Angle slip
- g. Inside slip joint
- h. Double "5" slip





Fire Dampers – MAFS

4- Clearance for expansion of 1/8" per foot of sleeve dimension is required. Angles should lap masonry a minimum of 1" around the entire opening.

5- Maximum sleeve extension is 6" on both sides of wall or floor opening for dampers without actuators.

6- Maximum sleeve extension is 16" on both sides of wall or floor opening for dampers with actuators .

7- Dampers may be installed in wall or partition (masonry or gypsum wallboard) or concrete floor.

8- The connecting ducts" shall not be continuous, but shall terminate at the sleeve or frame .

9-Dampers are supplied with factory mounted actuators designed to close automatically upon detecting heat, or the loss of actuator power .

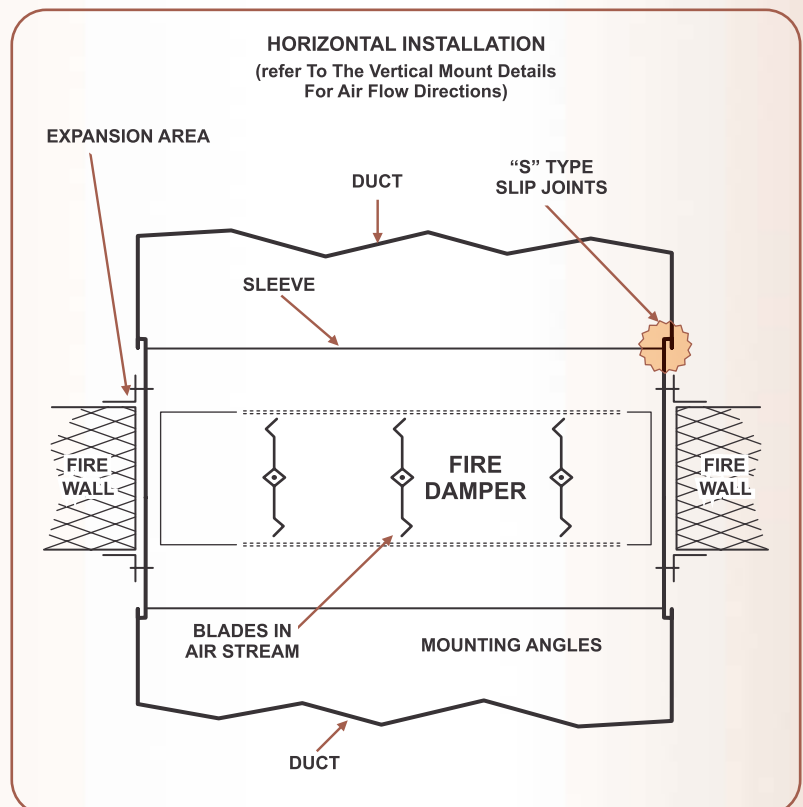
10- Installation requires the "AIR FLOW DIRECTION ARROW" .

11- A continuous beads of Dow Corning RTV-732, Dow Corning 999A, or GE-1200 silicone rubber sealant shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum .

12- Installed damper units require operational checks upon completion to insure proper functioning.

13- An' ACCESS DOOR is a NFPA requirement for damper inspection and testing .

14- CAUTION: THE HEAVY DAMPER CLOSURE SPRING IS UNDER LOAD .





Fire Dampers – MAFS

INSTALLATION / INSTRUCTIONS

FIRE / SMOKE DAMPER. MULTIPLE SECTIONS DAMPERS

VERTICAL MOUNT 1-1/2 HOURS RATING

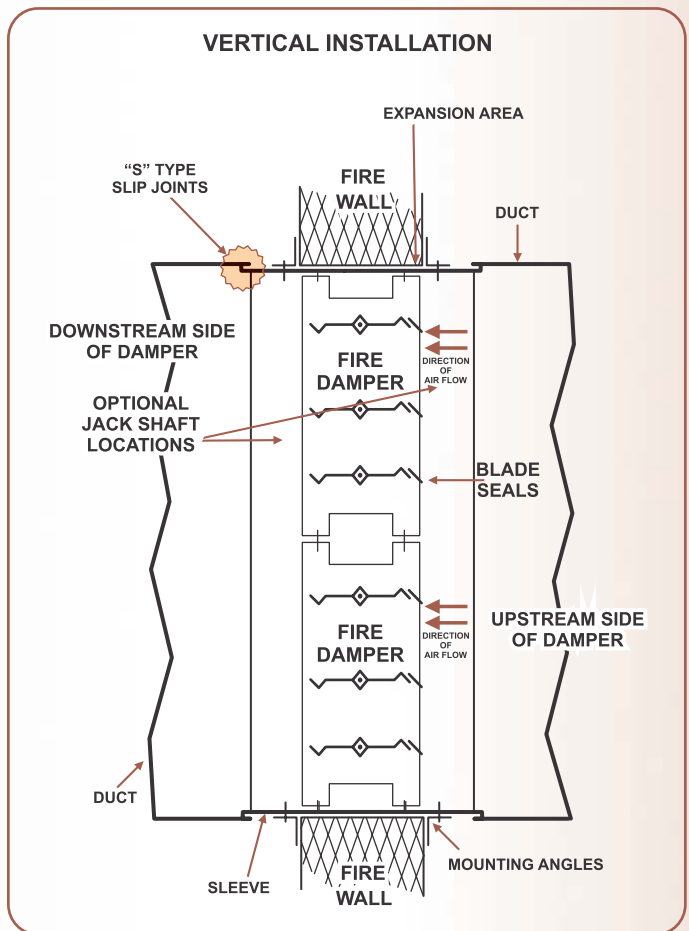
(FOR USE IN 2 HOURS OR LESS RATED PARTITIONS)

Damper frames shall be fastened to sleeves with no.10 x 3/4 sheet metal screws or steel welds on 6" centers (max). No further than 2" from end.

Damper frame to frame connections shall use zinc plated 1/4 x 1/2" long bolts with locking nuts or 1/2" long welds on 8" centers 2" from end. Angles shall be a minimum of 1-1/2 X 1-1/2" X 1/16" and fastened to the sleeve and damper only on all (4) sides with 1/4" bolts, 1/2" long welds, or #10 sheet metal screws on 8" maximum centers. (See note 4 for expansion and overlap.) Angles shall not be fastened to each other at the corners or fastened to the fire wall. Angles may be reversed when diffusers or grills require flush mountings.

Installation per NFPA 90A, UL 555, and SMACNA Fire Smoke and radiation installation guide.

FASTENERS MUST BE PLACED WHERE THEY DO NOT INTERFERE WITH THE DAMPER OPERATION .

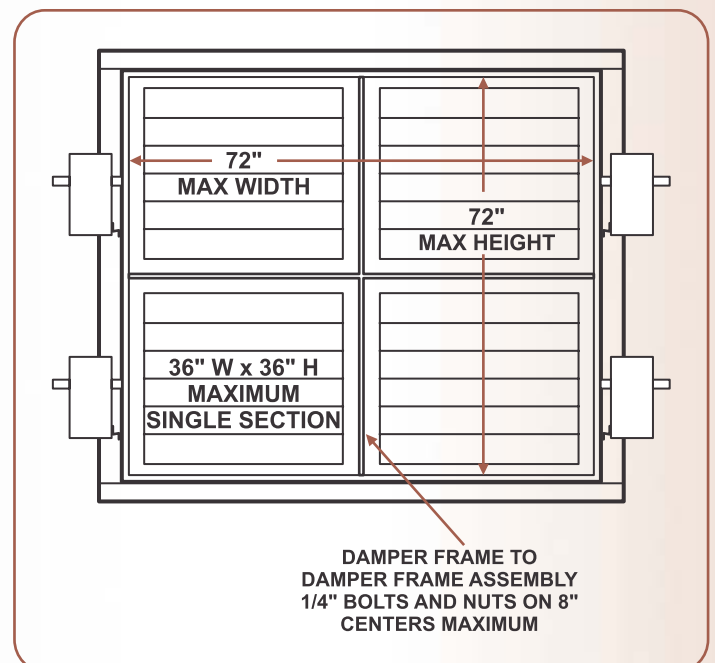




Fire Dampers – MAFS

NOTES:

- 1- Sleeves shall be of the 16 gauge minimum, or heavier than the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE standards
- 2- When the following sleeve connections are used, the minimum gauge of the sleeve shall be 14 gauge .
 - a. Angle reinforced standing seam
 - b. Angle reinforced pocket lock
 - c. Companion angles
 - d. Metal fasteners approximately 16" on centers
- 3- The following: breakaway sleeve connections may be used on an systems :
 - a. Plain "S" slip e, Reinforced bar slip
 - b. Hemmed "S" slip f. Angle slip
 - c. Bar slip g. Inside slip joint
 - d. Standing "S" slip h. Double "S" slip
- 4- Clearance for expansion of 1/8" per foot of sleeve dimension is required. Angles should lap masonry a minimum of 1" around the entire opening
- 5- For multiple section damper assemblies above 72" w x 72" h refer to the mullion installation instructions sheets for fire dampers
- 6- Maximum sleeve extension is 6" on both sides of wall or floor opening for dampers without actuators. Maximum sleeve extension is 16" on both sides of wall or floor opening for dampers with actuators





- 7- Dampers may be installed in wall or partition (masonry or gypsum wallboard) or concrete floor
- 8- The connecting ducts shall not be continuous, but shall terminate at the sleeve or frame
- 9- Dampers are supplied with factory mounted actuators designed to close automatically upon detecting heat, or the loss of actuator power
- 10- Installation requires the "Air flow Direction Arrow" pointing to the "Downstream Air Flow Side" of the damper in dynamic systems
- 11- The jack shaft side of the damper may be installed either "Upstream or "Downstream" contingent on the "Air flow Direction Arrow"
- 12- A continuous beads of Dow Corning RTV-732, Dow Corning 999A, or GE-1200 silicone rubber sealant shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum
- 13- Installed damper units require operational checks upon completion to insure proper functioning
- 14 An access door is a NFPA requirement for damper inspection and testing
- 15- Electric actuator connections shall conform to the national electric code
- 16- Pneumatic actuators require metallic airline connections and a minimum of 20 PSI Supply air (not to exceed 30 PSI)
- 17- CAUTION: The heavy damper closure springs are under load.

INSTALLATION / INSTRUCTIONS

CORRIDOR FIRE / SMOKE DAMPER

HORIZONTAL MOUNT 1 HOUR RATED DAMPERS

Dampers shall be fastened to sleeve with no.10 x 3/4" sheet metal screws on 6" centers (max), no further than 2" from end. See notes 2 and 3 for duct connections. Angles shall be a minimum of 11/2" x 11/2" X 1/16" and fastened to the sleeve and damper only on all (4)





Fire Dampers – MAFS

sides with 1/4" bolts, 1/2" long welds, or #10 sheet metal screws on 8" maximum centers (See note 4 for expansion and overlap). Angles shall not be fastened to each other at the corners or fastened to the firewall.

Assemblies supplied for diffusers/grills may be installed with 1 1/2" x 1 1/2" X 1/16" angles reverse mounted for the grill surface.

Installation per NFPA 90A, UL 555, and SMACNA Fire Smoke and Radiation Installation Guide. FASTENERS MUST BE PLACED WHERE THEY DO NOT INTERFERE WITH THE DAMPER OPERATION.

NOTE :

1- Sleeves shall be of the same gauge or heavier than the duct to which it is attached.

Gauges shall conform to SMACNA . or ASHRAE standards

2- When the following sleeve connections are used, the minimum gauge of the sleeve shall be 16 gauge on dampers not exceeding 24" w x 24" h

.a. Angle reinforced standing seam. c. Companion angles

.b. Angle reinforced pocket lock. d. Metal fasteners approximately 16" on centers

3-The following breakaway sleeve connections may be. used on all systems :

a. Plain "5" slip e. Reinforced bar slip

a. Plain "5" slip e. Reinforced bar slip

c. Bar slip g. Inside slip joint

c. Bar slip g. Inside slip joint

4- Clearance for expansion of 1/8" per foot of sleeve dimension is practical. Angles should

.lap rated ceiling a minimum of 1" around the entire opening

5- Maximum Sleeve Extension is 6" on Both Sides of the rated ceiling surface.

Exceptions :

Maximum sleeve extension is 16" on a damper equipped with an actuator, on the actuator side of the damper only. Maximum sleeve extension is 16" opposite to the actuator side of the damper only when an . access door is provided



Fire Dampers – MAFS

6- Dampers may be installed outside the rated ceiling surface, provided that the edge of the damper frame does not exceed 3" from the rated surface and a qualified thermal blanket is installed around the sleeve 8" high.

.7- The connecting ducts shall not be continuous, but shall terminate at the sleeve or frame

8- Dampers supplied with factory mounted actuators are designed to close automatically upon detecting heat, or the loss of actuator power

9- Installation for "Bidirectional Air Flow".

10- The jack-shaft side of the damper may be installed either "Upstream" or "Downstream" independently of the "Air Flow Direction"

11- A continuous beads of Dow Corning RTV-732, Dow Coming 999A, or GE-1200 Silicone Rubber Sealant shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum

.12- Installed damper units require operational checks upon completion

.13- An access door is a NFPA requirement for damper inspection and testing

.14- For use in dynamic systems at labeled temp, velocities, and W.G

.15- Electric actuator connections shall conform to the national electric code

16- Pneumatic actuators require metallic airline connections, and a minimum of 20 PSI supply air (Not to exceed 30 PSI).

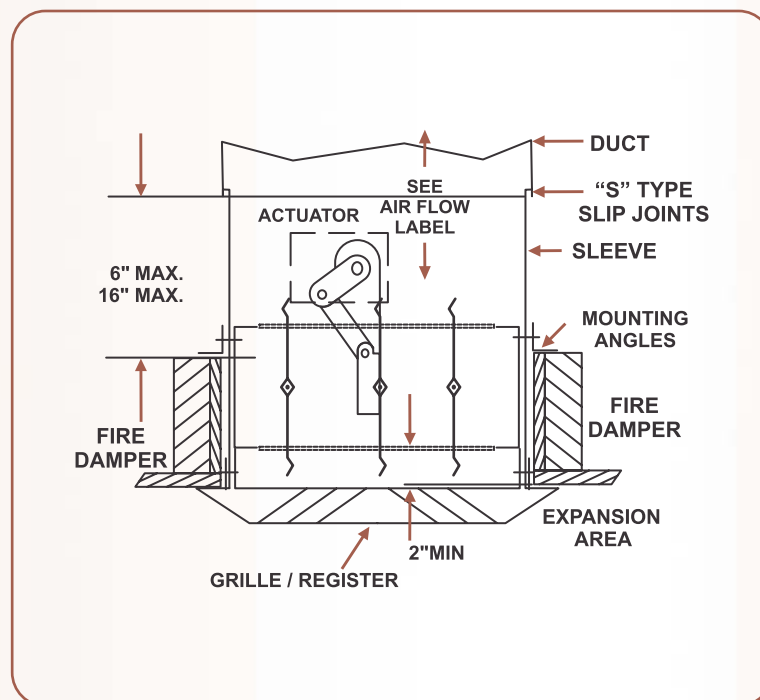
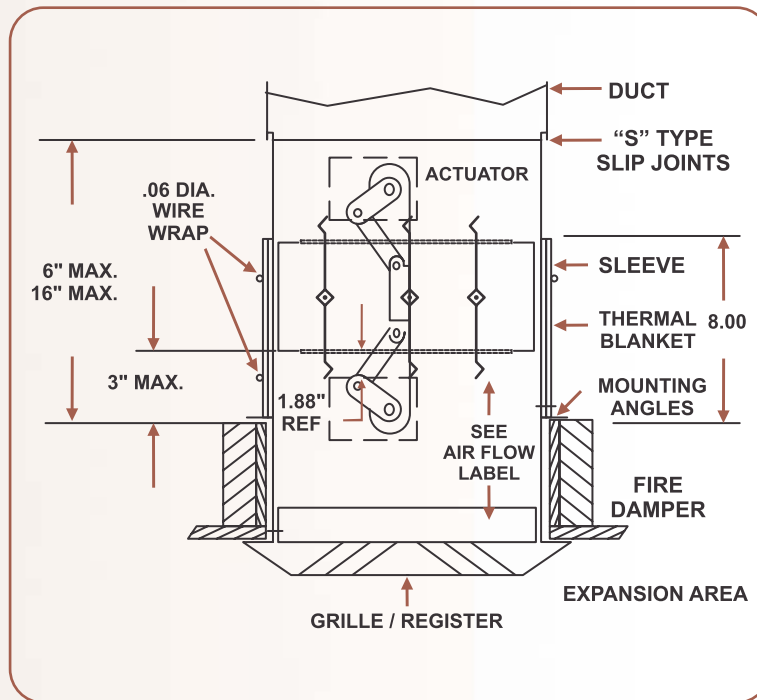
17- CAUTION: The Heavy Damper Closure Spring is under load

Fire Dampers – MAFS

INSTALLATION INSTRUCTIONS

CORRIDOR FIRE SMOKE DAMPER

HORIZONTAL MOUNT 1 HOUR RATED DAMPERS

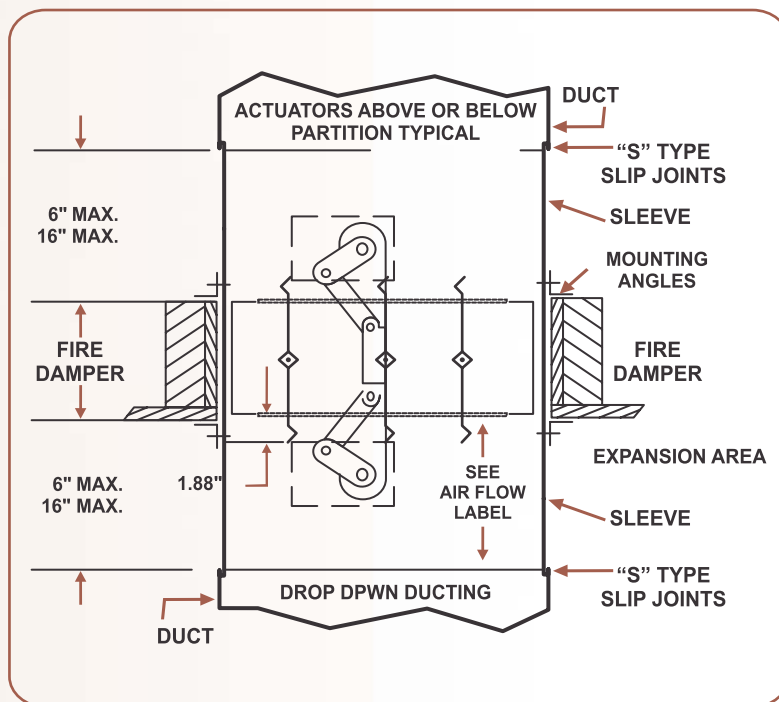
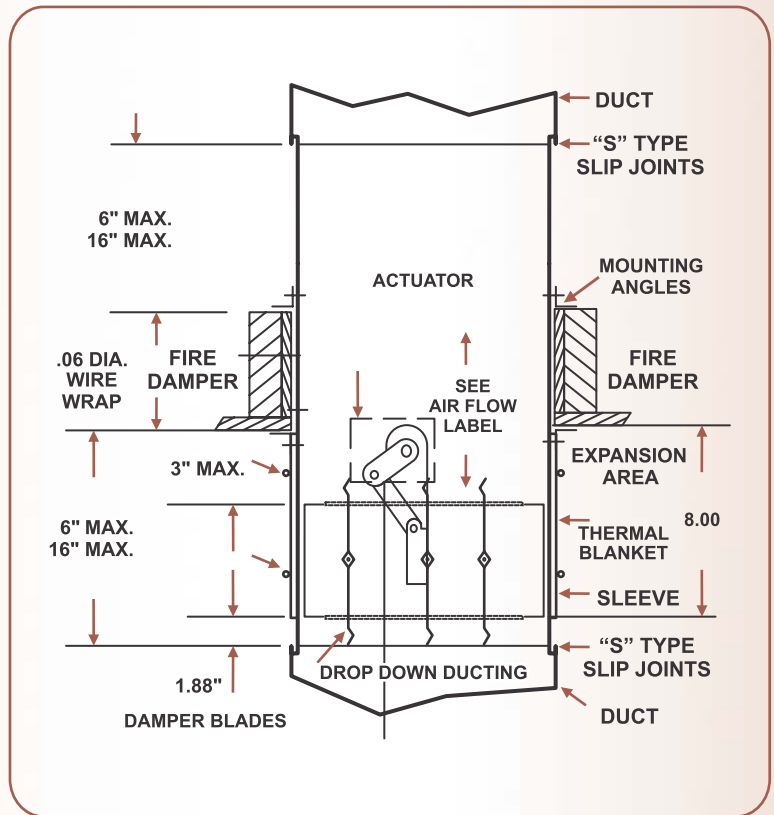
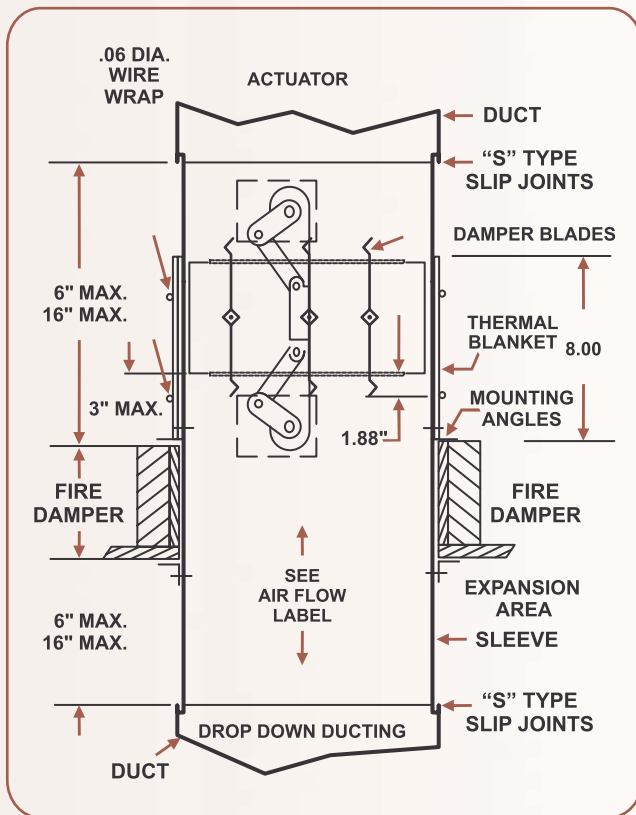




DAMPER > Fire Damper



Fire Dampers – MAFS





Fire Dampers – MAFS

SELECTION SPECIFICATIONS FOR EXTERNAL LINKAGE DRIVE ACTUATORS

DAMPER MODELS:

MAFS/F

Maximum single unit 36" wide x 36" height "

ACTUATOR MODELS

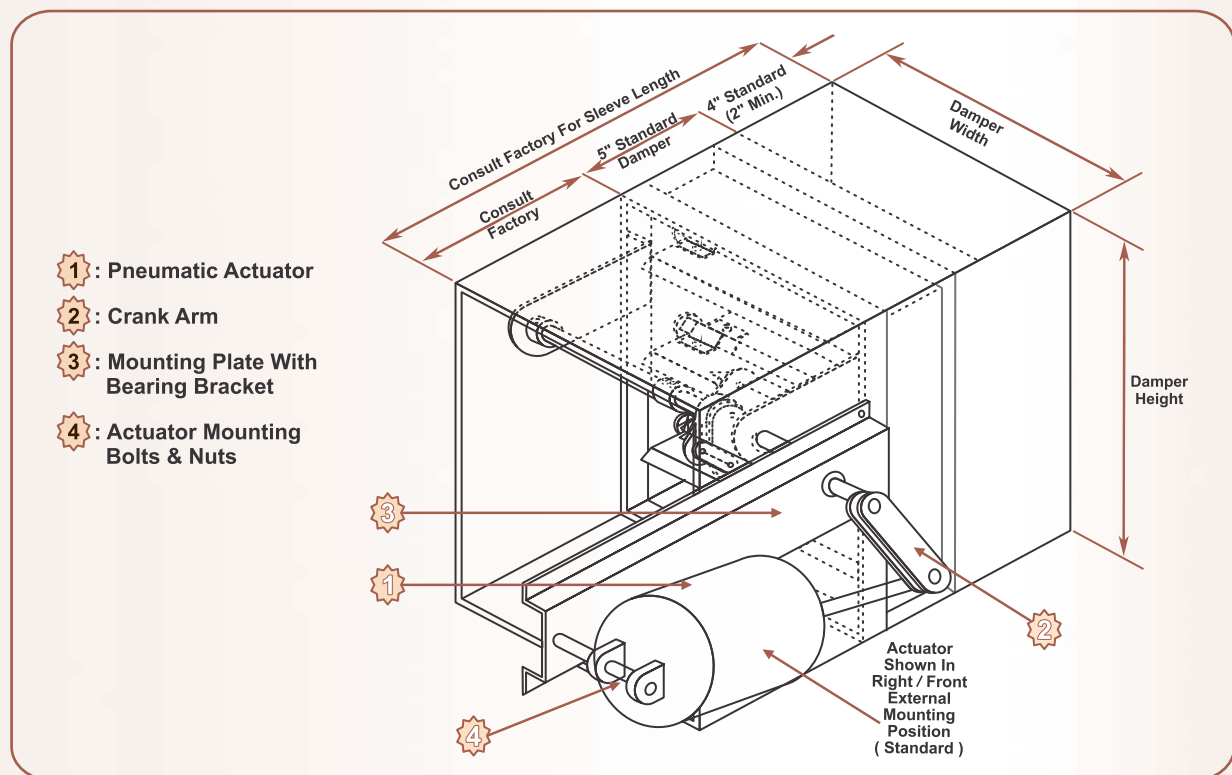
Landis . pneumatic: 2973, 3011

1- Actuator mounting location : Standard is left front as shown

2- Sleeve length :

Consult factory (optional: specify dimension requirements above minimums)

3- Bi-directional air flow .



Note : Consult The Factory For Minimum Damper Sizes.



Fire Dampers – MAFS

SELECTION SPECIFICATIONS FOR INTERNAL LINKAGE DRIVE ACTUATORS

DAMPER MODELS:

Maximum single unit 36" wide x 36" height .

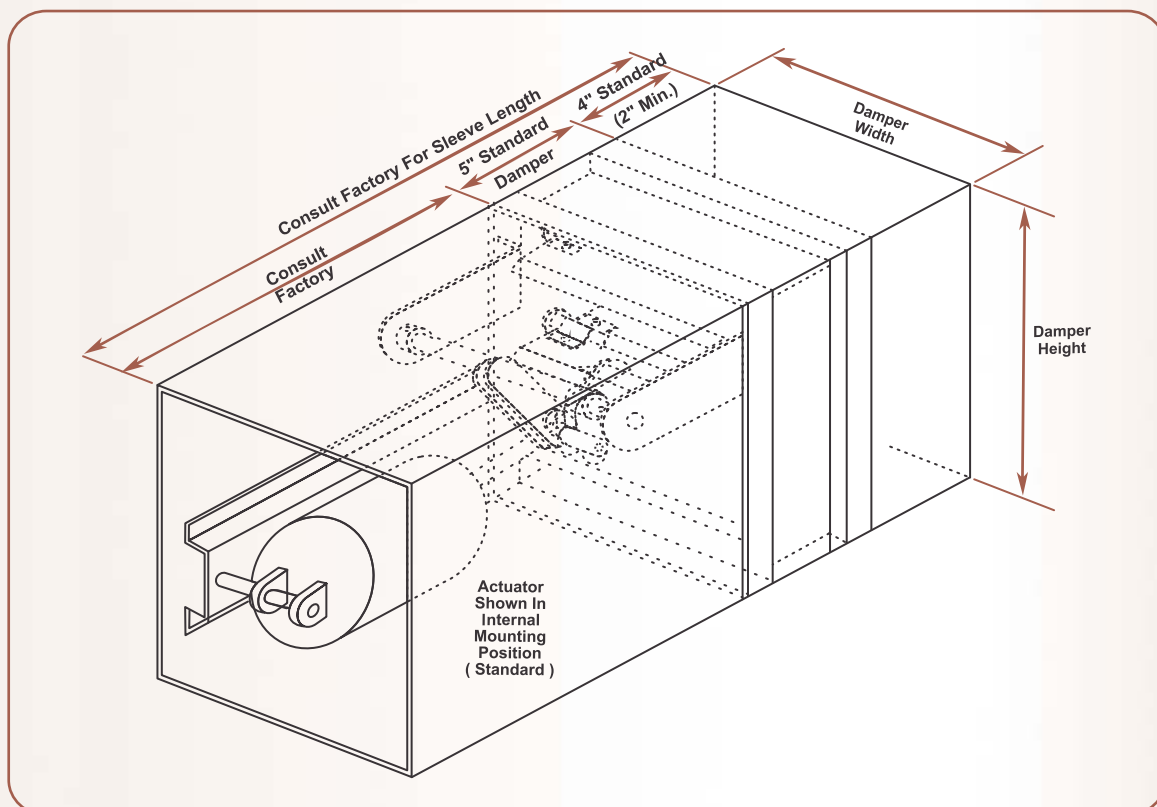
ACTUATOR MODELS:

Landis pneumatic: 2973, 3011

1- Actuator mounting location : Standard is left front as shown.

2- Sleeve length : Consult factory (optional: specify dimension requirements above minimums).

3- Bi-directional air flow.



Note : Consult The Factory For Minimum Damper Sizes.





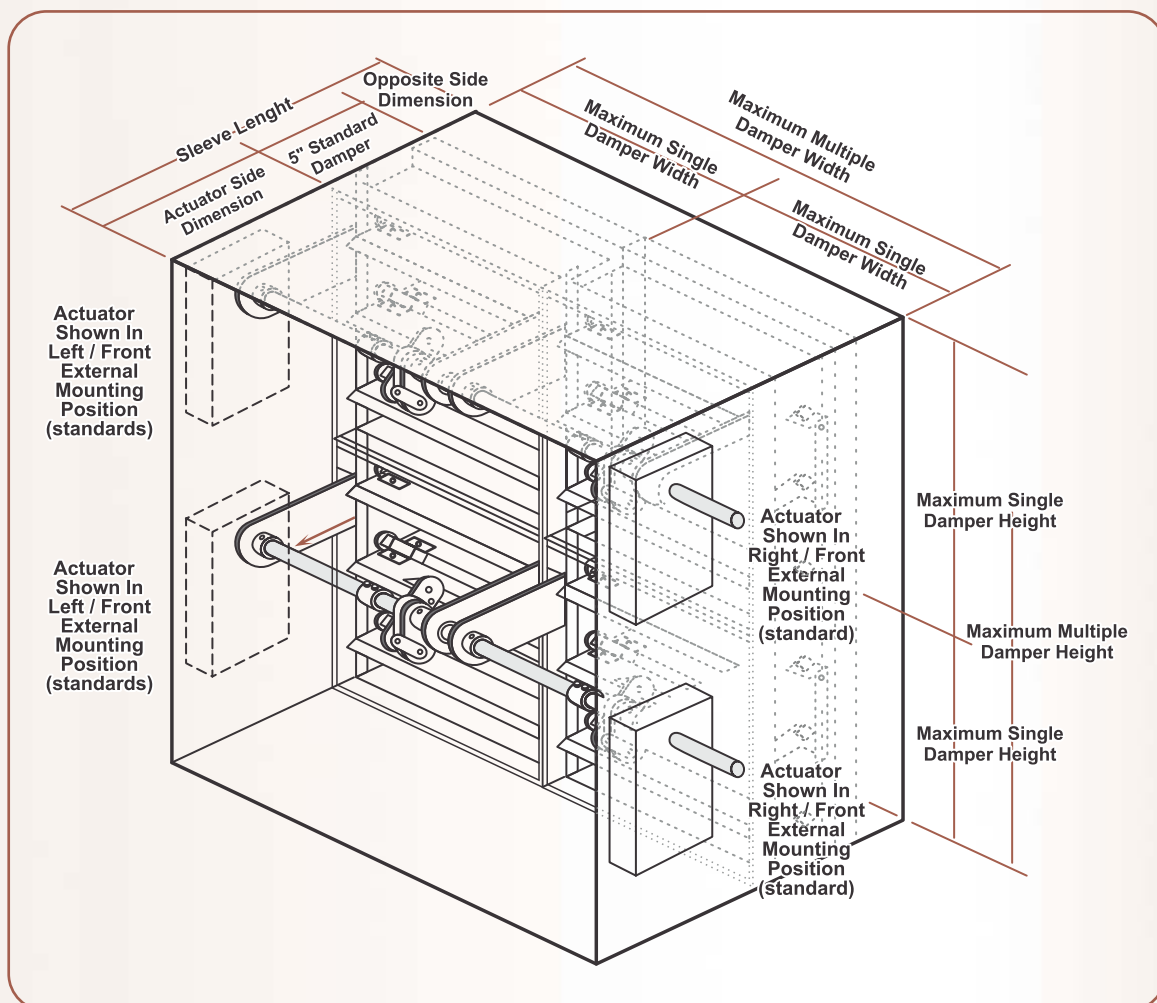
Fire Dampers – MAFS

SELECTION SPECIFICATIONS FOR MULTIPLE SECTION DAMPER VERTICAL INSTALLATIONS WITH SINGLE SLEEVE

DAMPERS MODELS :

Maximum multiple section 72" wide × 72" height
(maximum single unit 36"wide × 36" height) .

SELECTION SPECIFICATIONS FOR . MULTIPLE SECTION DAMPERS



Note : Shown As Vertical Unit With External Direct Drive Actuators



Fire Dampers – MAFS

DAMPER MODELS :

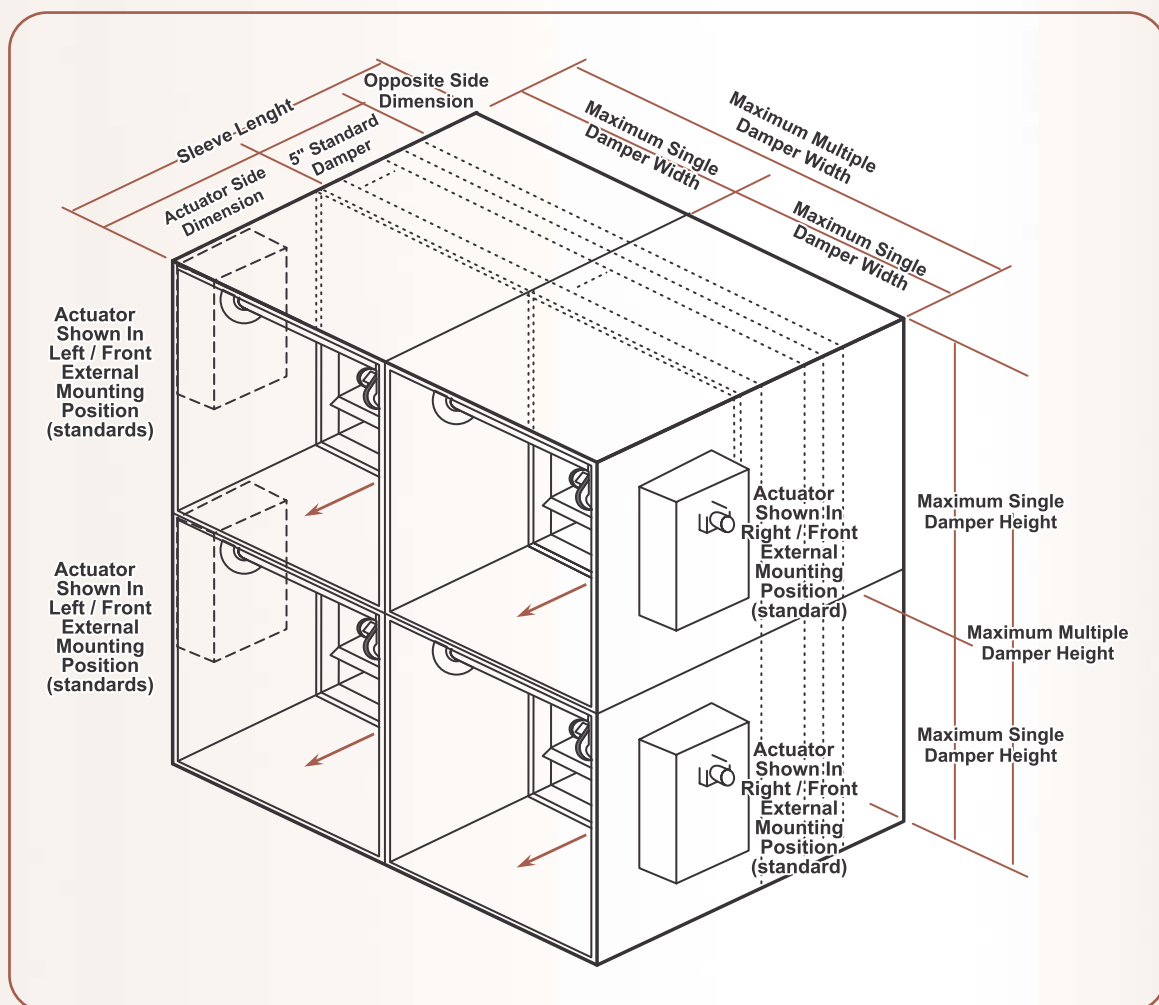
MAFS/F (Vertical and horizontal) ~

Maximum multiple section: 72" wide x 72" height
(maximum single unit 36" wide x 36" height)

DAMPER MODELS:

MAFS/F (horizontal)

Maximum multiple section; 48" wide x 48" height
(maximum single unit 24" wide x 24" height)



Note : Shown As Vertical Unit With External Direct Drive Actuators



Fire Dampers – MAFS

SELECTION SPECIFICATIONS

FOR MULTIPLE SECTION DAMPERS.

USING Mullion FRAMEWORK.

DAMPER MODELS :

MAFS/F (Vertical and horizontal)

Maximum multiple section: (unlimited)

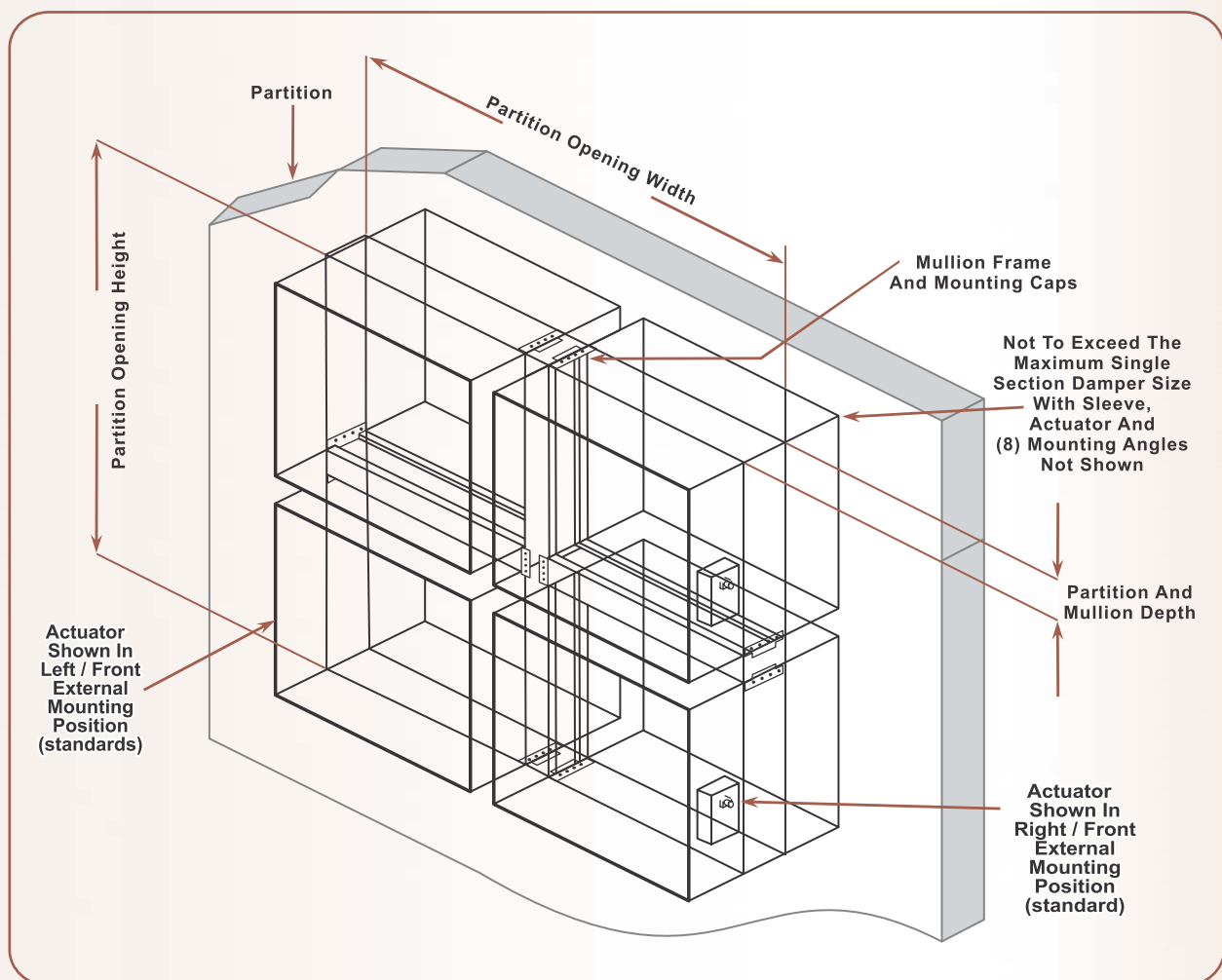
(maximum single unit 36" wide x 36" height)

DAMPER MODELS :

MAFS/F (horizontal)

Maximum multiple section: (unlimited)

(maximum single unit 24" wide x 24"



Notes: * Shown As Vertical Unit With External Direct Drive Actuators
* See Detail Sheets For Mullion Installation On Fire Dampers.



Fire Dampers – MAFS

SELECTION SPECIFICATIONS

FOR EXTERNAL DIRECT DRIVE ACTUATORS

DAMPER MODELS

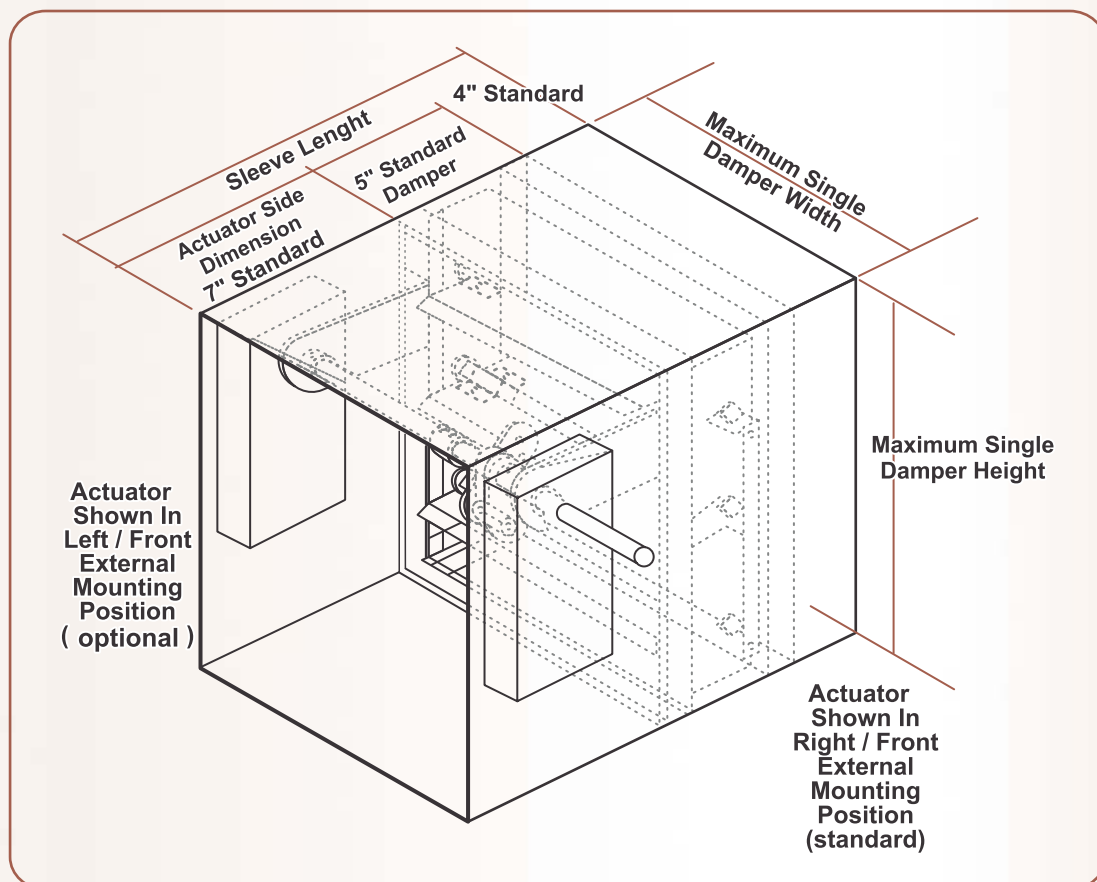
MAFS – MAFS/F

Maximum single unit 36" wide x 36" height

ACTUATOR MODELS

UL listed (refer to manufacturer for approved models)

1. Actuator mounting location Standard is right front (optional: left front)
- 2- Sleeve length Standard 16" (minimum 13")
- 3- Bi-directional air flow.



Notes: * Shown As Vertical Unit With External Direct Drive Actuators



Fire Dampers – MAFS

SELECTION SPECIFICATIONS FOR INTERNAL DIRECT DRIVE ACTUATORS

DAMPER MODELS:

MAFS – MAFS/F

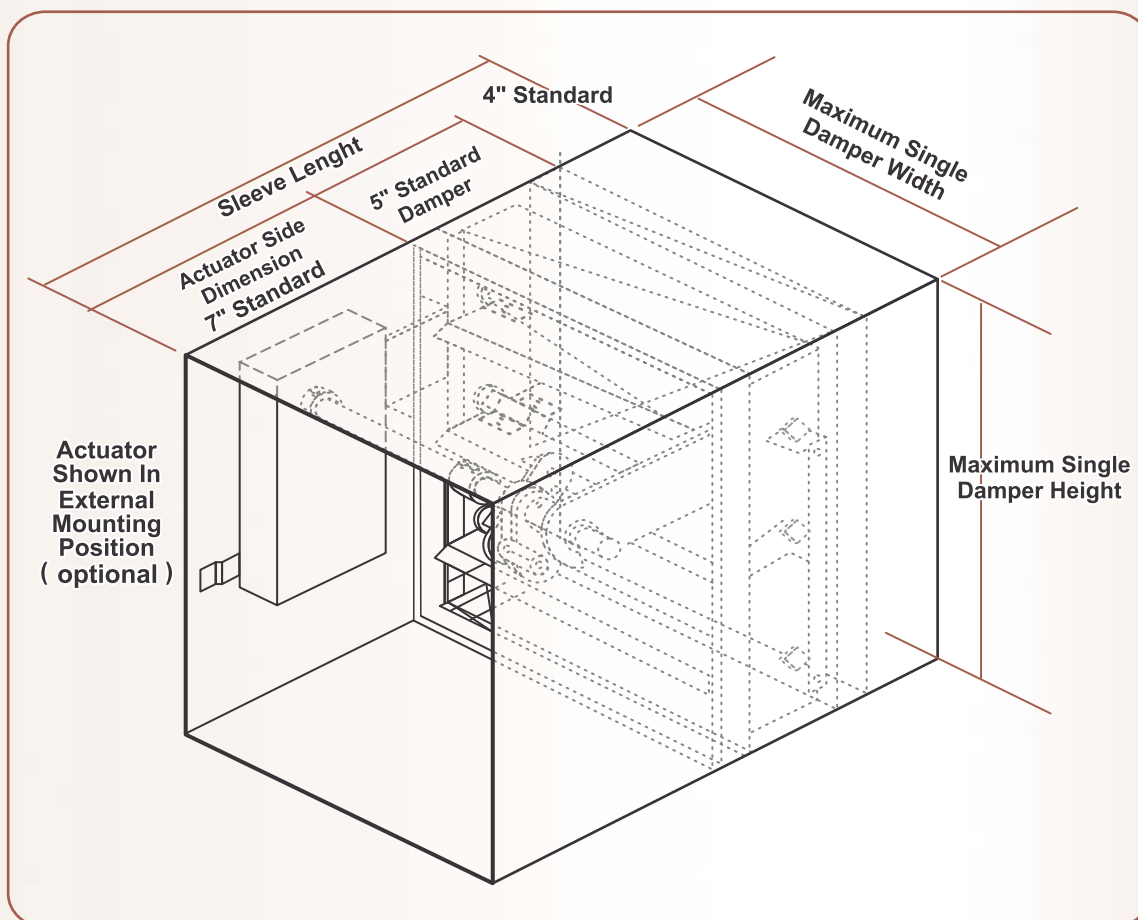
Maximum single unit 36" wide x 36" height

ACTUATOR MODELS:

UL listed (refer to manufacturer for approved models)

1- Actuator mounting location: Standard is left front (optional right front)

2- Sleeve length: Standard 16"



Notes: * Shown As Vertical Unit With External Direct Drive Actuators



Fire Dampers – MAFS

SMOKE DAMPER

HORIZONTAL & VERTICAL MOUNT MODEL MAFS

STANDARD CONSTRUCTION FRAME

16 gauge galvanized steel
interlocking hat section channel
frame construction.

BLADES

gauge galvanized 3 "V" formed 16

BEARINGS

Sintered bronze, oil impregnated

AXLES

1/2" square zinc plated steel studs

LINKAGE

0.12 x 0.50 zing plated steel
concealed in the channel frame

FINISH

.Mill galvanize

BLADES SEALS

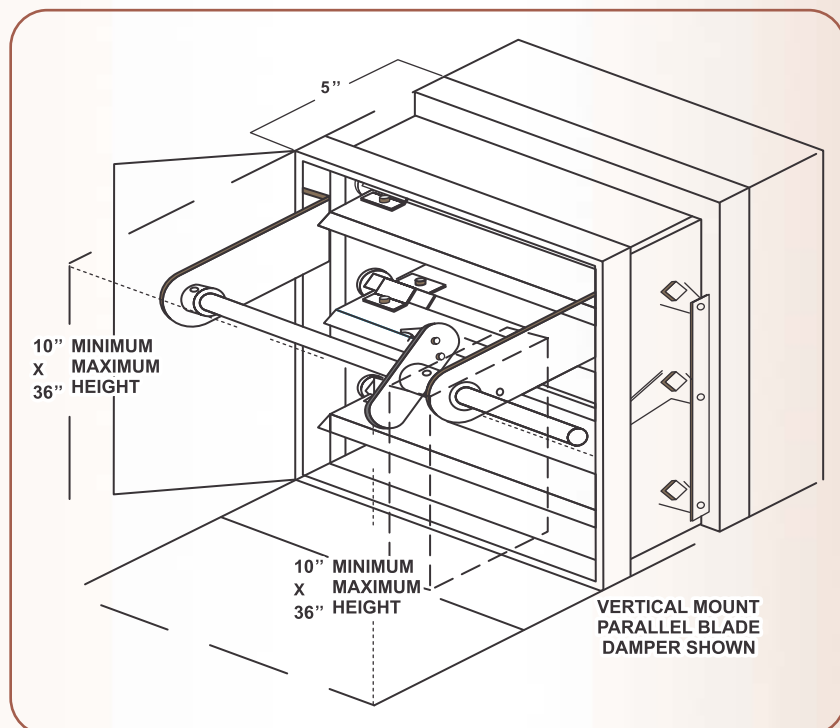
60-65 durometer silicon rubber laminated acrylic adhesive permanently bonded to blade
.edge

JAMB SEALS

Corrosion resistant stainless steel

JACK SHAFT

.1/2" diameter zinc plated steel with jack-shaft connector coupling





Fire Dampers – MAFS

ACTUATOR

Electric spring return 230V, 120V or 24V and pneumatic

CAULKING

UL approved silicone sealants: Dow Corning RTV-732, 999A

SLEEVES

Rectangular

OPTIONS :

SLEEVES :

round, oval and specials

ACTUATOR MOUNTING :

external & internal. OPTIONAL MATERIAL: stainless steel construction

MINIMUM SIZE :

10"width × 10" height

MAXIMUM SIZE :

36"width × 36" height

Class: 1 ultra low leakage.

Temperature Ratings: 250° F.

Operation:

parallel blades

Max. static pressure: to 4.0" W.G.

Max. velocity: to 2400 FPM.

Power Open/Spring Closure.



Fire Dampers – MAFS

SMOKE DAMPER MODEL MAFS

STANDARD CONSTRUCTION FRAME

gauge galvanized steel interlocking hat section channel frame construction 16.

BLADES

16 gauge galvanized 3 "V" formed

BEARINGS

Sintered bronze, oil impregnated

AXLES

1/2" square zinc plated steel studs

LINKAGE

0.12x 0.50 zing plated steel concealed
in the channel frame

FINISH

Mill galvanized

BLADES SEALS

60-65 udometer silicon rubber laminated acrylic
adhesive permanently bonded to blade edge

JAMB SEALS

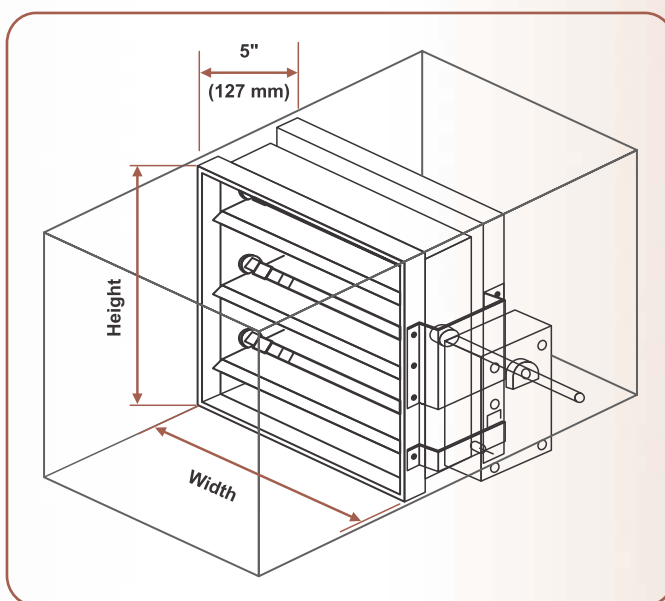
Corrosion resistant stainless steel

ACTUATOR

Electric spring return 230V, 120V or 24V and pneumatic

CAULKING

UL approved silicone sealants: Dow Corning RTV-732, 999A





Fire Dampers – MAFS

OPTIONS :

SLEEVES:

round, oval and specials

ACTUATOR MOUNTING:

external & internal. OPTIONAL MATERIAL: stainless steel
.construction

MINIMUM SIZE :

8"width × 8" height

MAXIMUM SIZE :

36"width × 36" height

Leakage Rating:

low leakage.

Operation:

parallel blades.

Power Open / Spring Closure.

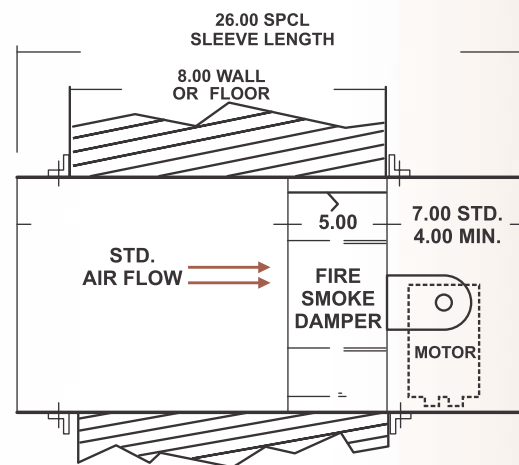
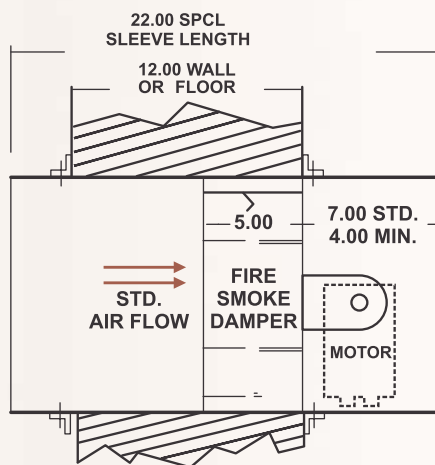
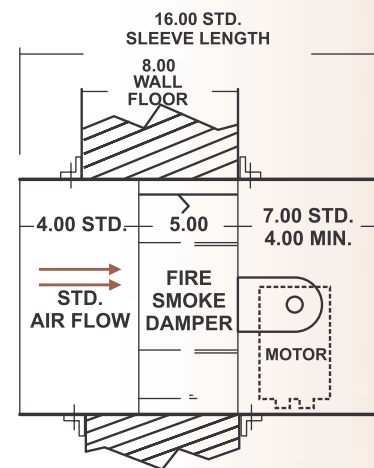
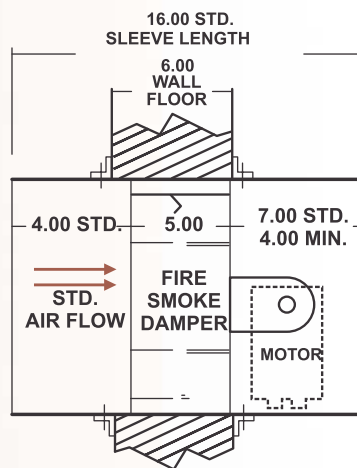
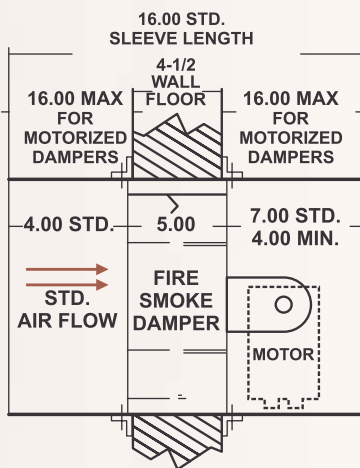


Fire Dampers – MAFS

ASSEMBLIES FIRE SMOKE DAMPER/MOTOR /SLEEVE IN VARIOUS PARTITION THICKNESSES

Sample installations of fire smoke dampers with sleeves in various partition thicknesses using external and internal mount model: MAFS/F

TYPE:
MAFS/F SLEEVES .





Fire Dampers – MAFS

NOTE :

Minimum sleeve length from the face of dampers on the motor side of damper is 4".
Maximum sleeve length beyond fire walls on motorized Internally mounted ." dampers is 16
motors may be rotated about the jack shaft when required. Angle sets are required for
installation in partitions (refer to UL installation sheets) 20 gauge sleeves will be provided for
use with break-away connectors unless specified. External motors will be provided in the
right/front location unless specified ("left front") special sleeve lengths and configurations
are available (specify) .

STANDARD SLEEVE DIMENSIONS FOR GIVEN PARTITIONS :

PARTITION THICKNESS	OVERALL SLEEVE LENGHT FOR MOTORIZED DAMPER	SLEEVE DIMENSION ON MOTOR MOUNT SIDE	SLEEVE DIMENSION OPPOSITE MOTOR MOUNT SIDE
4 "	18"	7 "	4 "
6 "	18"	7 "	4 "
8 "	18"	7 "	4 "
12 "	22"	7 "	10 "
16 "	26"	7 "	14 "

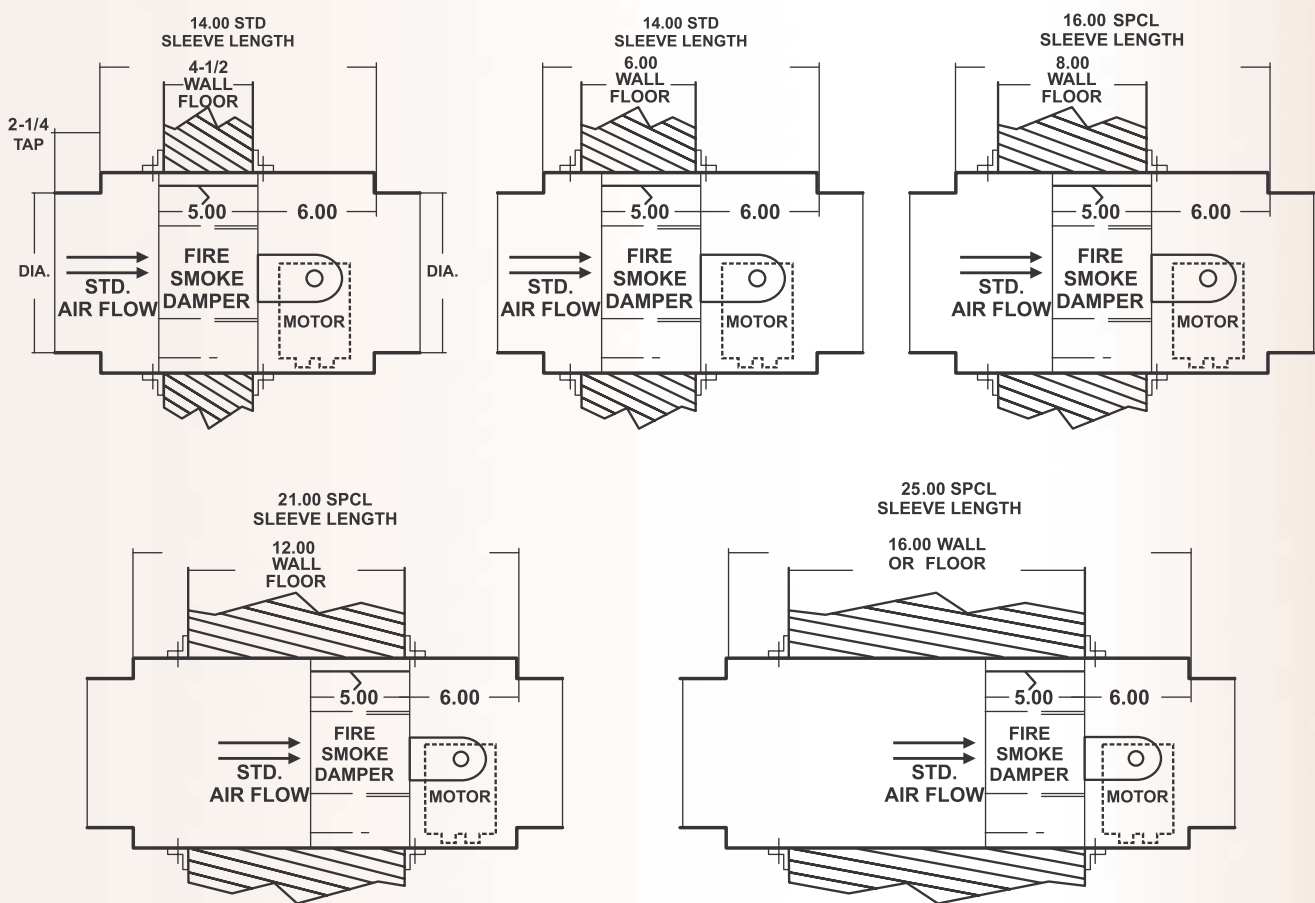


Fire Dampers – MAFS

Sleeves Models Type

FIRE SMOKE DAMPER/MOTOR /SLEEVE IN VARIOUS PARTITION THICKNESSES

Sample installations of fire smoke dampers with sleeves in various partition thicknesses using external and internal mount models MAFS/F .



Minimum sleeve length from the face of dampers on the motor side of damper is 6". Internally mounted motors, may be rotated about the jack shaft when required angle sets are required for installation in partitions (refer to UL installation sheets) 20 gauge sleeves will be provided for use with break-away connectors unless specified. External motors will



Fire Dampers – MAFS

be provided in the right/front location unless specified ("left front") special sleeve lengths and configurations are available (specify) .

PARTITION THICKNESS	OVERALL SLEEVE LENGHT FOR MOTORIZED DAMPER	SLEEVE DIMENSION ON MOTOR MOUNT SIDE	SLEEVE DIMENSION OPPOSITE MOTOR MOUNT SIDE
4 "	14 "	6 "	3 "
6 "	14 "	6 "	3 "
8 "	16 "	6 "	5 "
12"	21 "	6 "	10"
16"	25 "	6 "	14"