



SMOKE DAMPERS



MODELS:
SD-333-2-PB Low Leakage
(UL-555S Leakage Class 2 Classified)

APPLICATION

The SD-333-2-PB is a Lloyd's Smoke dampers, which is designed to resist the opening of air and smoke in HVAC systems which shut down in the event of a fire. The movement of smoke through the building is controlled by Smoke damper.

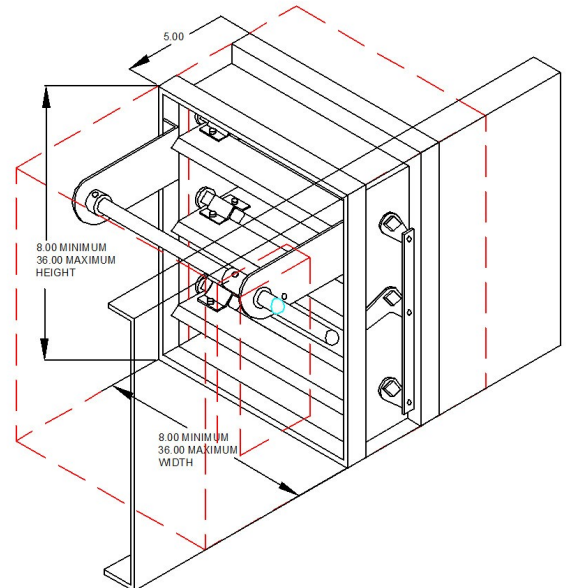
OPERATIONAL RATING

Velocity: up to 2400 fpm
Pressure: up to 4 in. wg
INSTALLATIONS: Vertical and Horizontal
OPERATION: Parallel Blade

STANDARD CONSTRUCTION

POWER OPEN/SPRING CLOSURE

- FRAME:** 16 GAUGE GALVANIZED STEEL INTERLOCKING STACKED HAT SECTION CHANNEL FRAME CONSTRUCTION
- BLADES:** 16 GAUGE GALVANIZED 3"V" FORMED
- BEARINGS:** SINTERED BRONZE, OIL IMPREGNATED
- AXLES:** 1/2 SQUARE ZINC PLATED STEEL STUDS
- LINKAGE:** .12 X .50 ZINC PLATED STEEL CONCEALED IN THE CHANNEL FRAME
- FINISH:** MILL GALVANIZED
- BLADE SEALS:** 60-65 DUROMETER SILICONE RUBBER WITH LAMINATED ACRYLIC ADHESIVE PERMANENTLY BONDED TO BLADE EDGES.
- JAMB SEALS:** CORROSION RESISTENT STAINLESS STEEL
- JACKSHAFT:** 1/2" DIAMETER ZINC PLATED STEEL WITH JACKSHAFT CONNECTOR COUPLING
- CAULKING:** UL APPROVED SILICONE SEALANTS: DOW CORNING RTV-732, 999A, GE-1200



SLEEVE OPTIONS

- Round transition (Type CR)
- Oval transition (Type CO)
- Rectangular transition (Type C)

OPTIONAL MATERIAL:

Stainless steel construction

ACTUATOR:

- Specify type: Electric or Pneumatic
- Specify brand: SIEMENS, HONEYWELL, BELIMO
- Specify mounting: External or internal
- Specify voltage: 24V, 120V, 220V

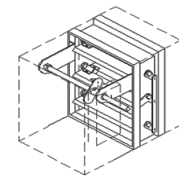
PRODUCT LABELS OF CERTIFICATION



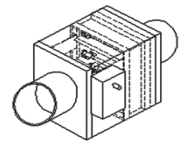
CONFORMING TO UL-555S

PERFORMANCE TESTING BY: AMCA INTERNATIONAL IN ACCORDANCE TO AMCA STD 500

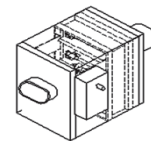
ACCEPTED FOR USE CITY OF NEW YORK DEPARTMENT OF BUILDING MEA 215-99-E



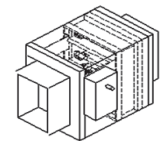
Model SD-333-1-PB



Model SD-333-1-PB (Round type "CR")



Model SD-333-1-PB (Oval type "CO")



Model SD-333-1-PB (Rectangular type "C")

| | Class 1 | Class 2 & 3 |
|----------------|----------|-------------|
| Single Section | | |
| Minimum | 12"x8" | 8"x8" |
| Maximum | 36"x36" | 36"x36" |
| Multi-Section | | |
| Maximum | 144"x72" | 144"x72" |

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Website: www.firedamper.com

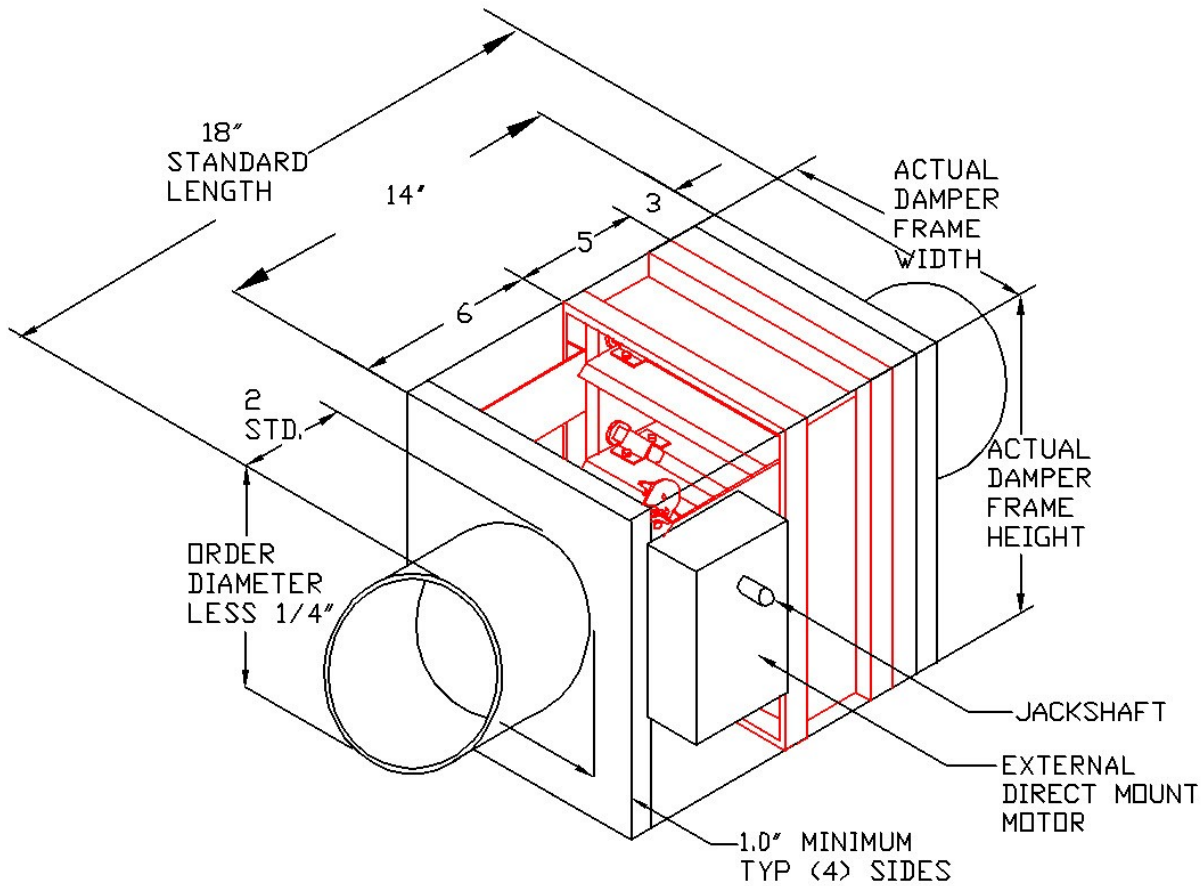
*ALL STATED SPECIFICATIONS ARE SUBJECT TO UPDATE WITHOUT NOTICE OR OBLIGATION.



SLEEVES FIRE/SMOKE DAMPERS

Model FSD-111, CFSD-222, SD-333
Standard sleeve sizes for dampers with external mounted actuators

Type CR-Round
Type CO Oval
Type C reduced rectangle



FSD-111-1CR round type shown

| Single section size | |
|---------------------|----------|
| | Diameter |
| Minimum | 4" |
| Maximum | 34" |





SLEEVES FIRE/SMOKE DAMPERS

SLEEVE TRANSITION DIMENSIONAL INFORMATION

STANDARD SLEEVES

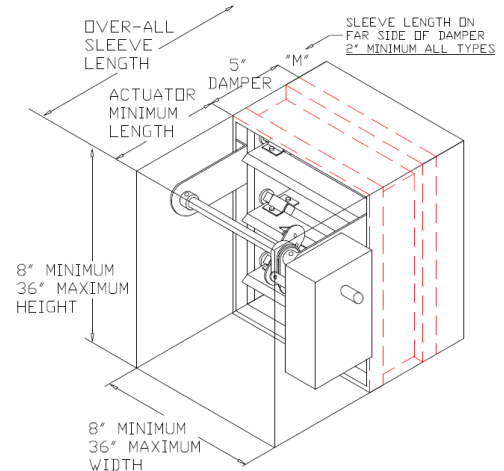
Fire smoke dampers and corridor fire smoke dampers will be supplied with factory mounted sleeve.

Type "A" sleeves for standard system ducting to the catalog dimensions unless otherwise specified.

Non-standard "A" sleeve ordering information

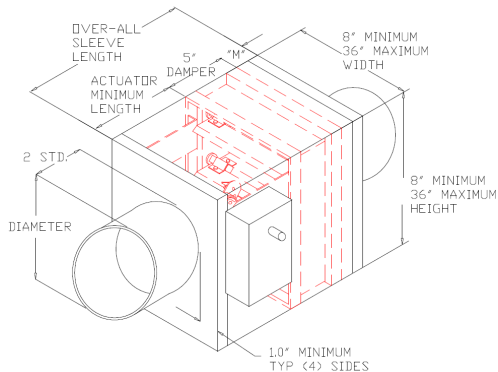
To determine a non-standard sleeve length

1. Establish damper width x height.
2. Determine the actuator type, model, and mounting type.
3. Establish the minimum actuator mounting distance from the mounting diagrams.
4. Determine the sleeve distance "M" opposite to the actuator side of the damper.
5. Add the actuator mounting distance to the "M" distance and the 5.00" damper thickness.
6. Integral flanges 1-1/2" wide can be provided on sleeves when specified.

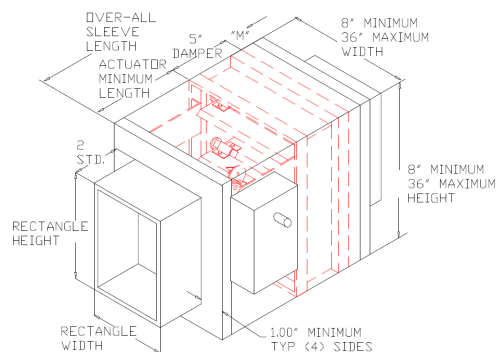


Standard sleeve
Type "A"

SLEEVE TRANSITIONS

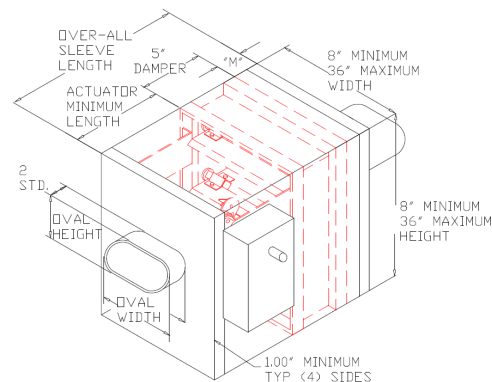


Type "CR"- Round
Specify the round ducting diameter.
(The actual damper frame will be +2.00"W x +2.00H)



Type "C"- Rectangle
Specify the rectangle width x rectangle height
(The actual damper frame will be +2.00"W x +2.00H)

Fire smoke dampers and corridor fire smoke dampers can be supplied with factory mounted sleeves to transition to round, square, rectangular, oval, or special system ducting.



Type "CO"- Oval
Specify the oval width x oval height
(The actual damper frame will be +2.00"W x +2.00H)

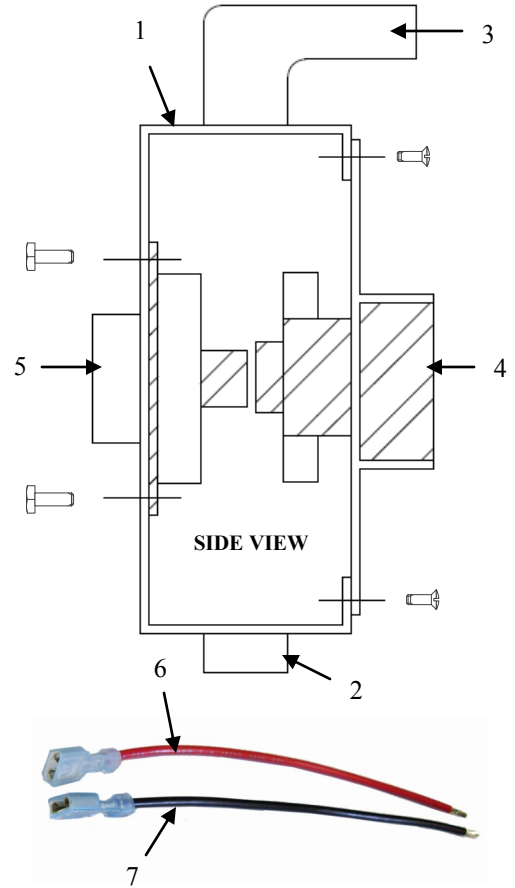
When ordering specify:

W x H x L x Gauge.

And distance "M" when "M" is not specified dampers will be centered in sleeve.

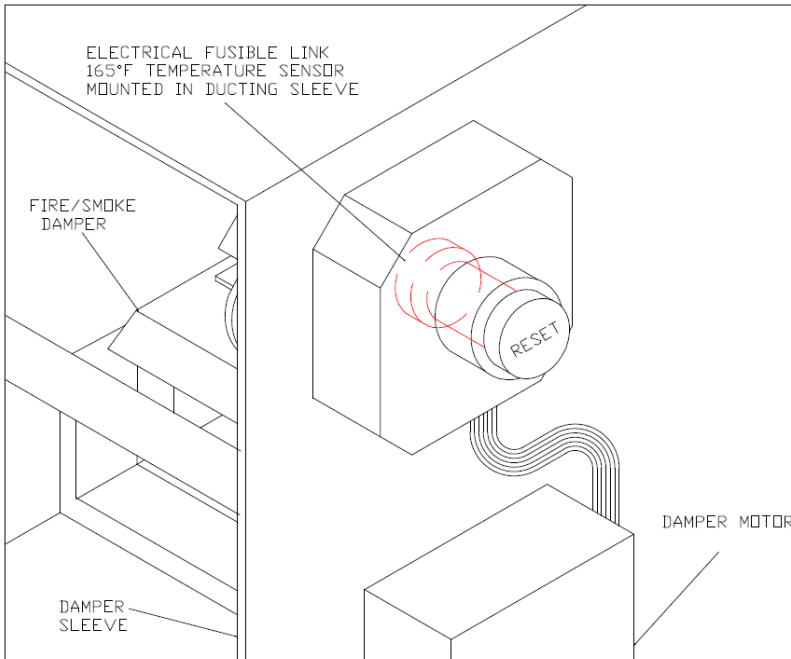


LLOYDSTAT



APPLICATION

The Lloydstat is an electronic fusible link that is used in conjunction with fire/smoke dampers. When it detects temperature exceed 165°F, the damper will close and lock. Upon cessation of fire conditions the damper can be reopened by pressing the reset button.



| Item | QTY | DESCRIPTION |
|------|-----|--------------------------------------|
| 1 | 1 | OCTAGON BOX |
| 2 | 1 | STRAIGHT CONNECTOR |
| 3 | 1 | 90 DEGREE CONNECTOR |
| 4 | 1 | RESET BUTTON |
| 5 | 1 | 165 D. THERMOSTAT |
| 6 | 1 | TERMINAL CONNECTED FEMALE WIRE (RED) |
| 7 | 1 | TERMINAL CONNECTED FEMALE WIRE (BLK) |

Available combination fire/smoke dampers, smoke dampers, and corridor combination fire/smoke damper assemblies with electronic fusible link installed.

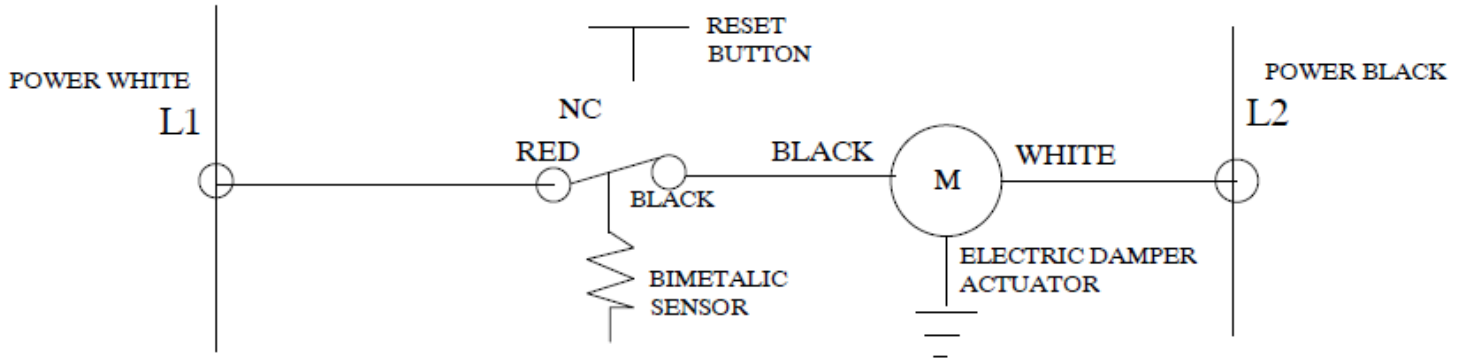
- Models No: FSD-111-1-PB-LS CFSD-222-1-PB-LS
 FSD-111-2-PB-LS CFSD-222-1-PB-LS
 FSD-111-3-PB-LS CFSD-222-1-PB-LS
 SD-333-1-PB-LS
 SD-333-1-PB-LS
 SD-333-1-PB-LS



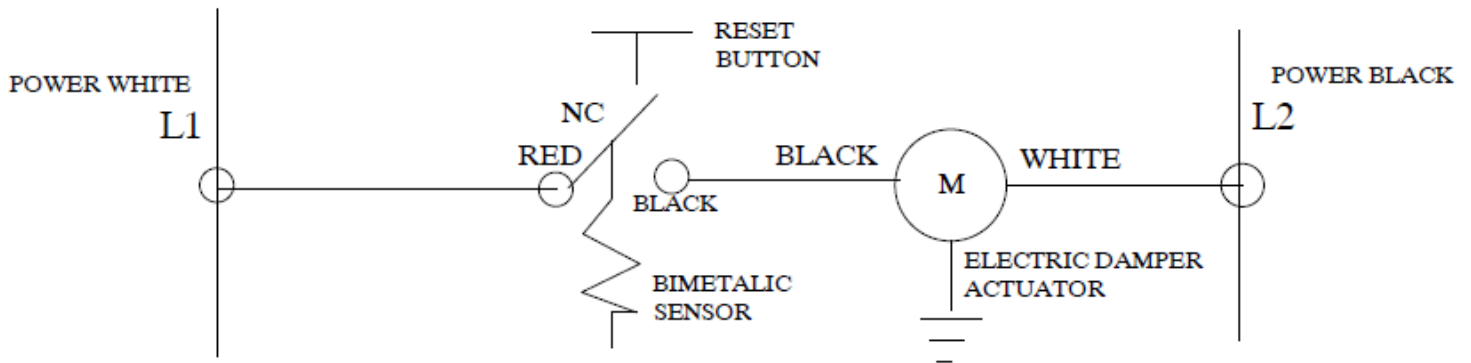


WIRING DIAGRAMS

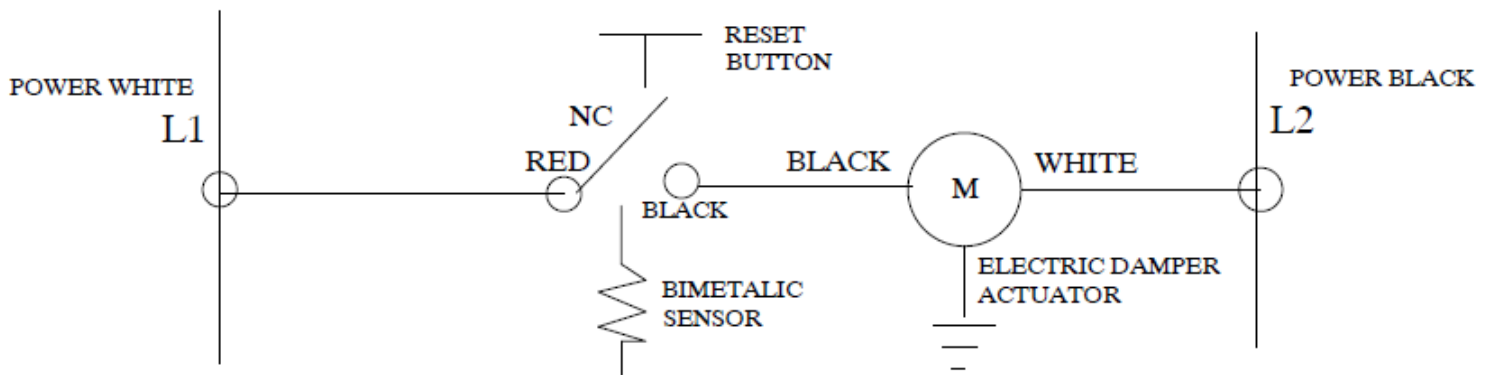
NORMAL OPERATING CONDITION



HIGH TEMPERATURE CONDITION



NORMAL TEMPERATURE PRE-MANUAL RESET CONDITION



ACTUATOR FOR DAMPERS

MODELS:
FSD-111
CFSD-222
SD-333

FIGURE 1 : SELECTION SPECIFICATIONS FOR EXTERNAL DIRECT DRIVE ACTUATORS:

ACTUATOR MODELS:

SIEMENS: GGD121.1U, GGD221.1U, GGD321.1U

SIEMENS: GGD121.1U, GND221.1U, GND321.1U

BELIMO: FSNF24, FSNF120, FSNF230

* For more actuator specification, please refer to individual spec sheet.

1. Actuator mounting locations:
Standard is right front (Optional: Left Front)
2. Sleeve lengths:
Standard is 18" shown (Optional: Specify dimension requirement above minimums)
3. Jackshaft locations:
Standard is downstream (Optional: Upstream)
4. Air flow direction: Normally jackshaft is downstream unless specified

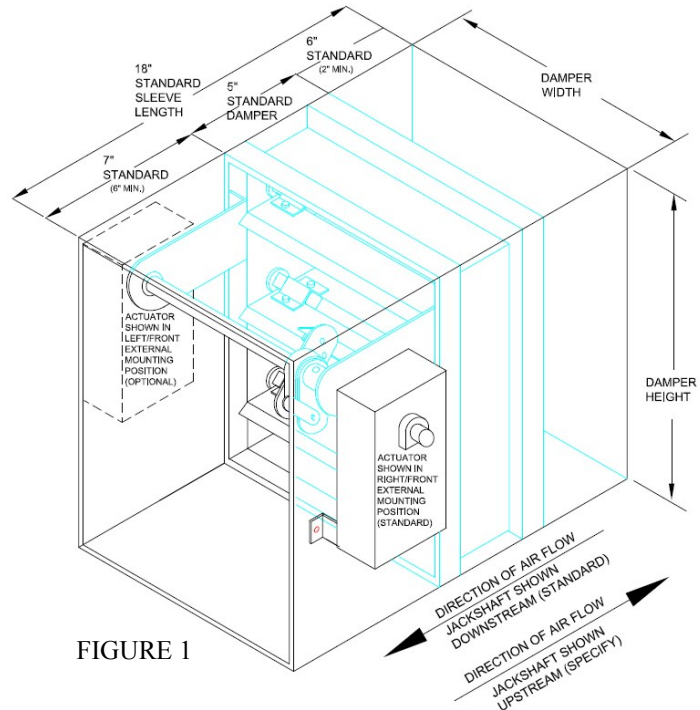


FIGURE 1

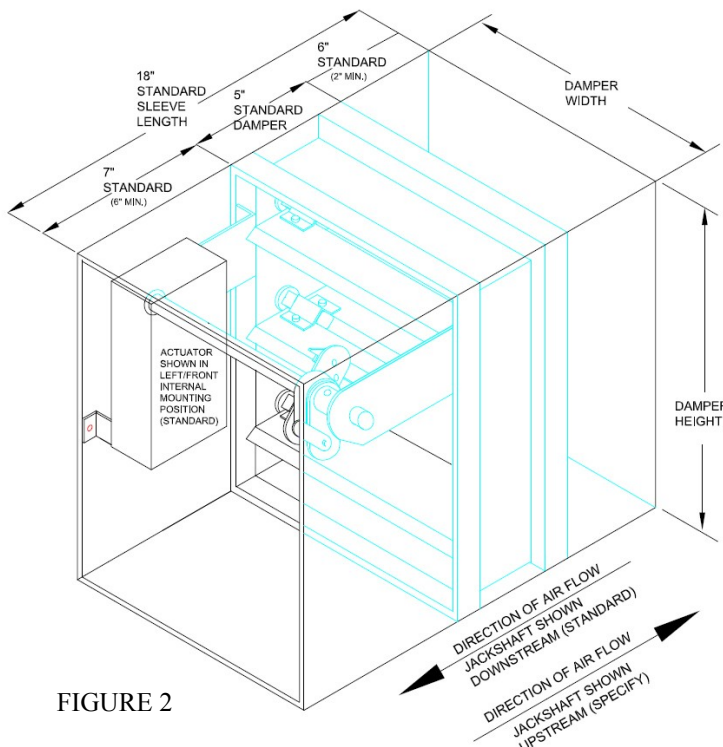


FIGURE 2

FIGURE 2: SELECTION SPECIFICATIONS FOR INTERNAL DIRECT DRIVE ACTUATORS:

ACTUATOR MODELS:

SIEMENS: GGD121.1U, GGD221.1U, GGD321.1U

SIEMENS: GGD121.1U, GND221.1U, GND321.1U

BELIMO: FSNF24, FSNF120, FSNF230

* For more actuator specification, please refer to individual spec sheet.

1. Actuator mounting locations:
Standard is left front as shown
2. Sleeve lengths:
Standard is 24" shown (Optional: Specify dimension requirement above minimums)
3. Jackshaft locations:
Standard is downstream (Optional: Upstream)
4. Air flow direction: Normally jackshaft is downstream unless specified

NOTE:
CONSULT THE FACTORY FOR MINIMUM DAMPER SIZES.



ACTUATOR FOR DAMPERS

MODELS:
FSD-111
CFSD-222
SD-333

FIGURE 3 : SELECTION SPECIFICATIONS FOR EXTERNAL LINKAGE DRIVE ACTUATORS:

ACTUATOR MODELS: **SIEMENS PNEUMATIC**

For more actuator specification, please refer to individual spec sheet.

1. Actuator mounting locations:
Standard is right front (Optional: Left Front)
2. Sleeve lengths:
Consult factory (Optional: Specify dimension requirement above minimums)
3. Jackshaft locations:
Standard is downstream (Optional: Upstream)
4. Air flow direction: Normally jackshaft is downstream unless specified

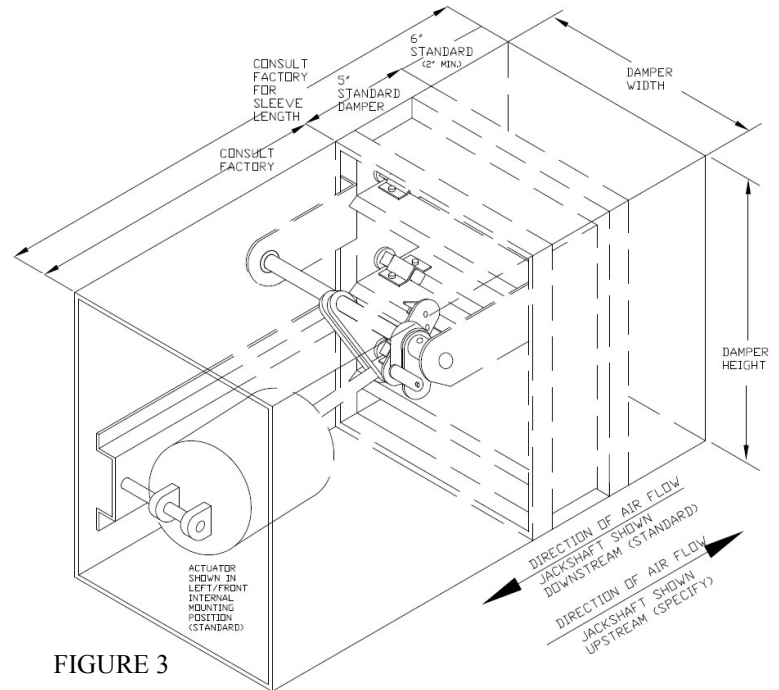


FIGURE 3

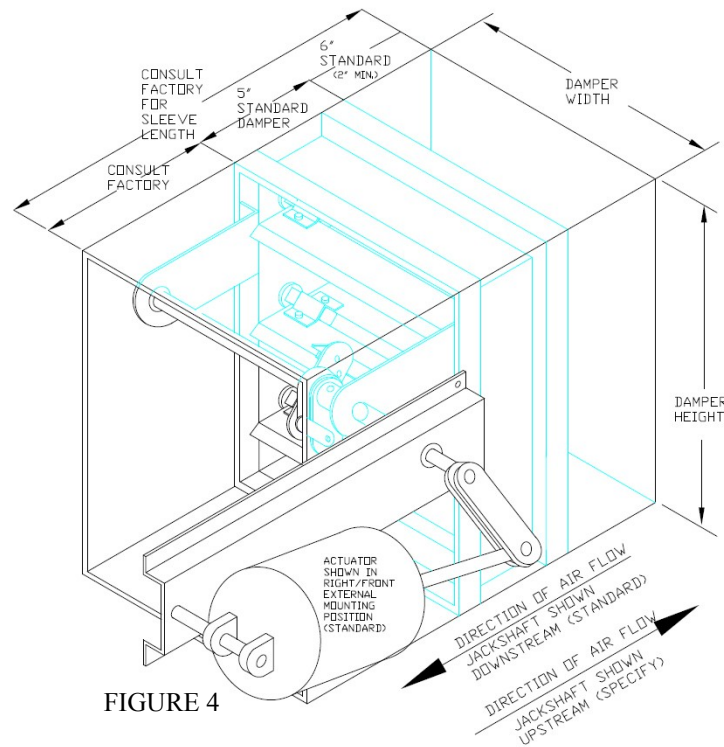


FIGURE 4

FIGURE 4: SELECTION SPECIFICATIONS FOR INTERNAL LINKAGE DRIVE ACTUATORS:

ACTUATOR MODELS: **SIEMENS PNEUMATIC**

* For more actuator specification, please refer to individual spec sheet.

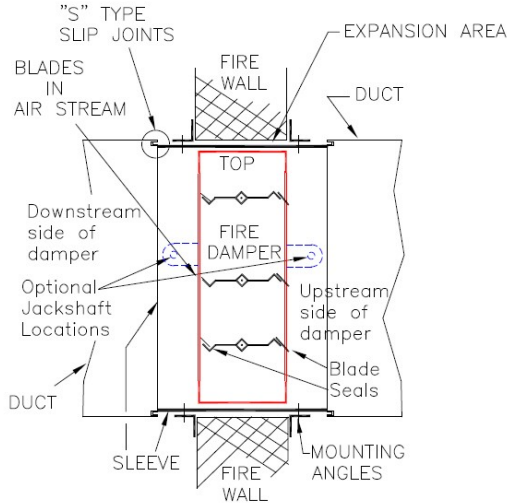
1. Actuator mounting locations:
Standard is left front as shown
2. Sleeve lengths:
Consult factory (Optional: Specify dimension requirement above minimums)
3. Jackshaft locations:
Standard is downstream (Optional: Upstream)
4. Air flow direction: Normally jackshaft is downstream unless specified

NOTE:
CONSULT THE FACTORY FOR MINIMUM DAMPER SIZES.



INSTALLATION INSTRUCTIONS

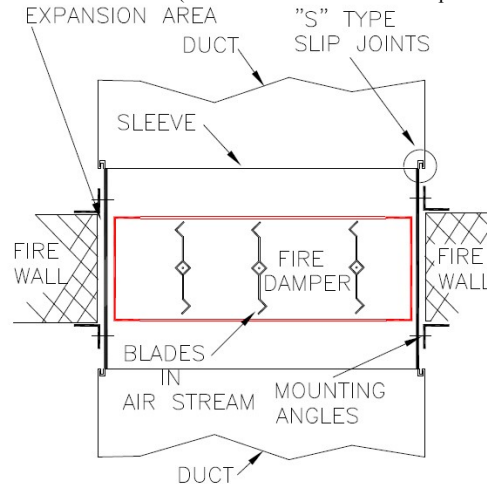
1-1/2 HOUR FIRE/SMOKE DAMPER



VERTICAL INSTALLATION

FIRE/SMOKE DAMPER VERTICAL OR HORIZONTAL MOUNT 1-1/2HR RATING

(Bi-Directional)
(For use in 2hour or less rated partitions)



HORIZONTAL INSTALLATION

FUSIBLE LINKS
165°F is standard.
Located in pin grooves.

| MAXIMUM DAMPER SIZES | | |
|----------------------|------------------------|--------|
| TYPE | SINGLE UNITS IN INCHES | |
| INSTALLATION | Width | Height |
| Vertical | 36 | 36 |
| Horizontal | 36 | 36 |
| Vertical | 30 | 48 |

Damper shall be fastened to sleeve with No.10 or No.8 x 3/4" sheet metal screws on 6" centers (max). No further than 2" from either end. See notes 2 and 3 regarding duct connections.

Angles shall be a minimum of 1-1/2" x 1-1/2" x 1/16" and fastened to the sleeve and damper only. Must be fastened on all (4) sides with 1/4" bolts, 1/2" long welds or No.10 or No.8 sheet metal screws on 8" maximum centers. (See Note #4 for expansion clearance 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 mounting.

Installation per NFPA90A, UL555 and SMACNA Fire Smoke and Radiation Installation Guide.

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

Notes:

- 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.
- When the follow sleeve connections are used, the minimum gauge of the sleeve shall be 16Ga on dampers not exceeding 36"W x 24"H and 14Ga on larger dampers.
 - Angle reinforced standing seam.
 - Angle reinforced pocket lock.
 - Companion angles.
 - Metal fasteners approximately 16" on centers.
- The following breakaway sleeve connections may be used on all systems:
 - Plain "S" Slip
 - Hemmed "S" Slip
 - Bar Slip
 - Standing "S" Slip
 - Reinforced Bar Slip
 - Angle Slip
 - Inside Slip Joint
 - Double "S" Slip
- 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.
- Maximum sleeve extension from the wall or floor opening is 6" on the damper side without actuator.
Maximum sleeve extension from the wall or floor opening is 16" on the damper side with actuator.
- Dampers may be installed in wall or partition (masonry, gypsum wallboard) or concrete floor.
- The connection ducts shall not be continuous, but shall terminate at the sleeve or frame.
- Dampers are supplied with factory mounted actuators designed to close automatically upon loss of power.
- The jackshaft side of the damper may be installed either "upstream" or "downstream".
- A continuous bead of Dow Corning RTV-732, Dow Corning 999A, GE-1200 Silicone Rubber Sealant (or approved equal) shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum.
- Installed damper units require operational checks upon completion to ensure proper functioning.
- An access door is a NFPA requirement for damper inspection and testing.
- For use in static and dynamic systems up to the maximum rated temperature, velocity and water gauge.
- Electric actuator connections shall conform to the National Electric Code.
- Pneumatic actuators require metallic airline connections, and a minimum of 20PSI supply air. (Not to exceed 30PSI)
- CAUTION: THE HEAVY DAMPER CLOSURE SPRING IS UNDER LOAD.**



INSTALLATION INSTRUCTIONS

3 HOUR FIRE/SMOKE DAMPER

Damper shall be fastened to sleeve with No.10 or No.8 x 3/4" sheet metal screws on 6" centers (max). No further than 2" from either end.
See notes 2 and 3 regarding duct connections.
Angles shall be a minimum of 1-1/2" x 1-1/2" x 1/16" and fastened to the sleeve and damper only. Must be fastened on all (4) sides with 1/4" bolts, 1/2" long welds or No.10 or No.8 sheet metal screws on 8" maximum centers. (See Note #4 for expansion clearance 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 mounting.
Installation per NFPA90A, UL555 and SMACNA Fire Smoke and Radiation Installation Guide.

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

Notes:

- Sleeves shall be 16 gauge heavier than the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE standards.
- When the follow sleeve connections are used, the minimum gauge of the sleeve shall 14 gauge.
 - Angle reinforced standing seam.
 - Angle reinforced pocket lock.
 - Companion angles.
 - Metal fasteners approximately 16" on centers.
- The following breakaway sleeve connections may be used on all systems:
 - Plain "S" Slip
 - Hemmed "S" Slip
 - Bar Slip
 - Standing "S" Slip
 - Reinforced Bar Slip
 - Angle Slip
 - Inside Slip Joint
 - Double "S" Slip
- 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.
- For multiple section damper assemblies larger than 72" x 72", refer to the mullion installation instruction sheet for fire dampers.
- Maximum sleeve extension from the wall or floor opening is 6" on the damper side without actuator.
Maximum sleeve extension from the wall or floor opening is 16" on the damper side with actuator.
- Dampers may be installed in wall or partition (masonry, gypsum wallboard) or concrete floor.
- The connection ducts shall not be continuous, but shall terminate at the sleeve or frame.
- Dampers are supplied with factory mounted actuators designed to close automatically upon loss of power.
- The jackshaft side of the damper may be installed either "upstream" or "downstream".
- A continuous bead of Dow Corning RTV-732, Dow Corning 999A, GE-1200 Silicone Rubber Sealant (or approved equal) shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum.
- Installed damper units require operational checks upon completion to ensure proper functioning.
- An access door is a NFPA requirement for damper inspection and testing.
- For use in static and dynamic systems up to the maximum rated temperature, velocity and water gauge.
- Electric actuator connections shall conform to the National Electric Code.
- Pneumatic actuators require metallic airline connections, and a minimum of 20PSI supply air. (Not to exceed 30PSI)
- CAUTION: THE HEAVY DAMPER CLOSURE SPRING IS UNDER LOAD.**

MULTIPLE SECTION DAMPER VERTICAL MOUNT 3HR RATING

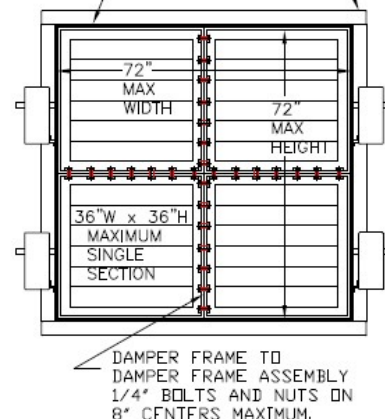
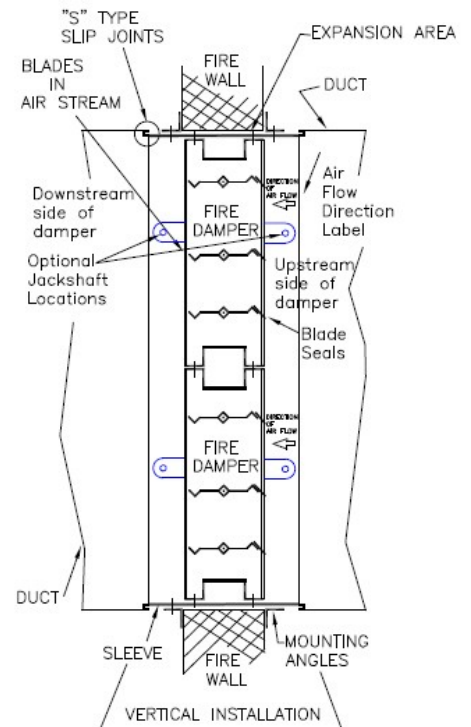
(For use in 4 Hour or less rated partitions)

| MAXIMUM MULTIPLE SECTION SINGLE UNITS IN INCHES | |
|--|--------|
| Width | Height |
| 72 | 72 |

FUSIBLE LINKS
Temperature rating is not to exceed 250°F.
165°F is standard.
Located in pin grooves.

| MAXIMUM SINGLE SECTION (MODEL:FSDL-111) SINGLE UNITS IN INCHES | |
|--|--------|
| Width | Height |
| 36 | 36 |
| 30 | 48 |

*Each single section damper shall be supplied with an independent motor operator.



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INSTALLATION INSTRUCTIONS

FIRE/SMOKE DAMPER

Damper shall be fastened to sleeve with No.10 or No.8 x 3/4" sheet metal screws on 6" centers (max). No further than 2" from either end.
See notes 2 and 3 regarding duct connections.
Angles shall be a minimum of 1-1/2" x 1-1/2" x 1/16" and fastened to the sleeve and damper only. Must be fastened on all (4) sides with 1/4" bolts, 1/2" long welds or No.10 or No.8 sheet metal screws on 8" maximum centers. (See Note #4 for expansion clearance 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 mounting.
Installation per NFPA90A, UL555 and SMACNA Fire Smoke and Radiation Installation Guide.

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

Notes:

- Sleeves shall be 16 gauge heavier than the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE standards.
- When the follow sleeve connections are used, the minimum gauge of the sleeve shall 14 gauge.
 - Angle reinforced standing seam.
 - Angle reinforced pocket lock.
 - Companion angles.
 - Metal fasteners approximately 16" on centers.
- The following breakaway sleeve connections may be used on all systems:

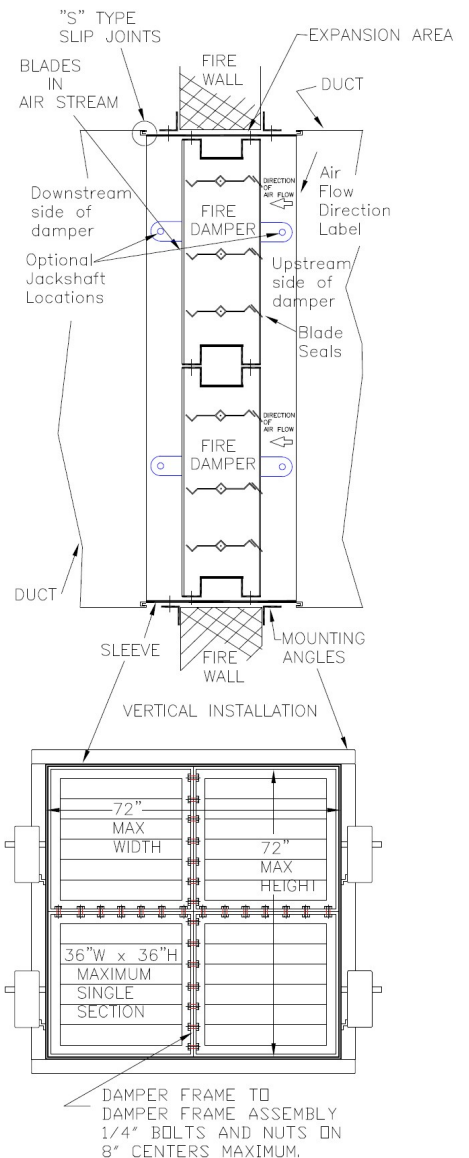
| | |
|----------------------|------------------------|
| a. Plain "S" Slip | e. Reinforced Bar Slip |
| b. Hemmed "S" Slip | f. Angle Slip |
| c. Bar Slip | g. Inside Slip Joint |
| d. Standing "S" Slip | h. Double "S" Slip |
- Clearance for expansion of 1/8" per foot of sleeve dimension is required. Angles should lap masonry a minimum of 1" around the entire opening.
- For multiple section damper assemblies larger than 72" x 72", refer to the mullion installation instruction sheet for fire dampers.
- Maximum sleeve extension from the wall or floor opening is 6" on the damper side without actuator.
Maximum sleeve extension from the wall or floor opening is 16" on the damper side with actuator.
- Dampers may be installed in wall or partition (masonry, gypsum wallboard) or concrete floor.
- The connection ducts shall not be continuous, but shall terminate at the sleeve or frame.
- Dampers are supplied with factory mounted actuators designed to close automatically upon loss of power.
- The jackshaft side of the damper may be installed either "upstream" or "downstream".
- A continuous bead of Dow Corning RTV-732, Dow Corning 999A, GE-1200 Silicone Rubber Sealant (or approved equal) shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum.
- Installed damper units require operational checks upon completion to ensure proper functioning.
- An access door is a NFPA requirement for damper inspection and testing.
- For use in static and dynamic systems up to the maximum rated temperature, velocity and water gauge.
- Electric actuator connections shall conform to the National Electric Code.
- Pneumatic actuators require metallic airline connections, and a minimum of 20PSI supply air. (Not to exceed 30PSI)
- CAUTION: THE HEAVY DAMPER CLOSURE SPRING IS UNDER LOAD.**

MULTIPLE SECTION DAMPER VERTICAL MOUNT 1-1/2HR RATING

| MAXIMUM MULTIPLE SECTION SINGLE UNITS IN INCHES | |
|---|--------|
| Width | Height |
| 72 | 72 |

| MAXIMUM SINGLE SECTION (MODEL:FSL-111,SD-333,FD-111) SINGLE UNITS IN INCHES | |
|---|--------|
| Width | Height |
| 36 | 36 |
| 30 | 48 |

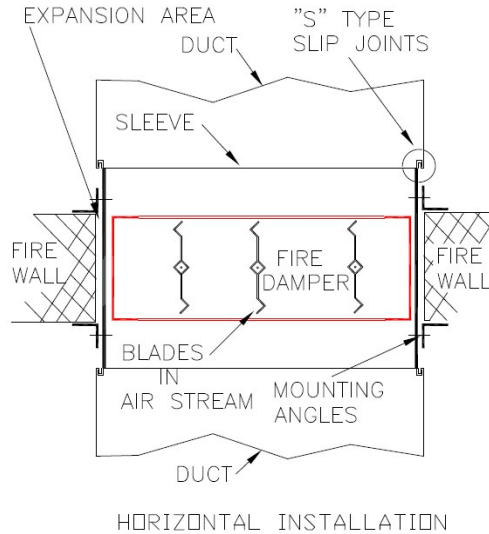
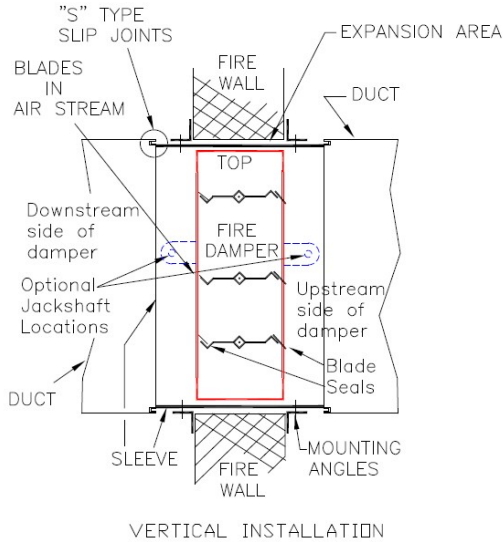
FUSIBLE LINKS
Temperature rating is not to exceed 250°F. 165°F is standard. Located in pin grooves.
*Each single section damper shall be supplied with an independent motor operator.



INSTALLATION INSTRUCTIONS

3 HOUR FIRE/SMOKE DAMPER

MULTIPLE SECTION DAMPER VERTICAL or HORIZONTAL MOUNT 3HR RATING



FUSIBLE LINKS
165°F is standard.
Located in pin grooves.

| MAXIMUM DAMPER SIZES | | |
|----------------------|------------------------|--------|
| TYPE INSTALLATION | SINGLE UNITS IN INCHES | |
| | Width | Height |
| Vertical | 36 | 36 |
| Horizontal | 36 | 36 |
| Vertical | 30 | 48 |

Damper shall be fastened to sleeve with No.10 or No.8 x 3/4" sheet metal screws on 6" centers (max). No further than 2" from either end. See notes 2 and 3 regarding duct connections.

Angles shall be a minimum of 1-1/2" x 1-1/2" x 1/16" and fastened to the sleeve and damper only. Must be fastened on all (4) sides with 1/4" bolts, 1/2" long welds or No.10 or No.8 sheet metal screws on 8" maximum centers. (See Note #4 for expansion clearance 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 mounting.

Installation per NFPA90A, UL555 and SMACNA Fire Smoke and Radiation Installation Guide.

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

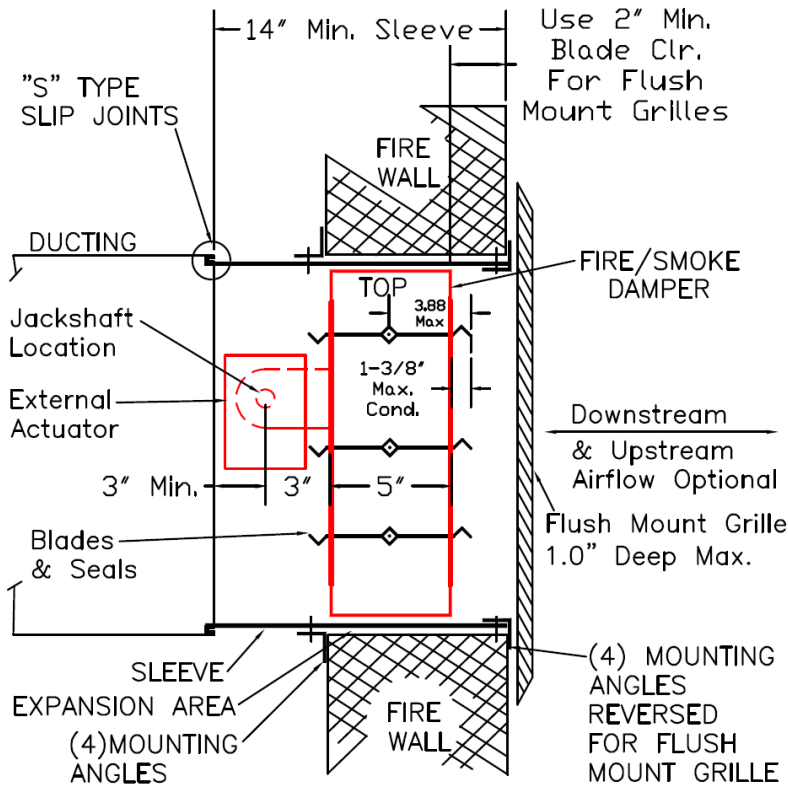
Notes:

- 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.
- When the follow sleeve connections are used, the minimum gauge of the sleeve shall be 16Ga on dampers not exceeding 36"W x 24"H and 14Ga on larger dampers.
 - Angle reinforced standing seam.
 - Angle reinforced pocket lock.
 - Companion angles.
 - Metal fasteners approximately 16" on centers.
- The following breakaway sleeve connections may be used on all systems:
 - Plain "S" Slip
 - Hemmed "S" Slip
 - Bar Slip
 - Standing "S" Slip
 - Reinforced Bar Slip
 - Angle Slip
 - Inside Slip Joint
 - Double "S" Slip
- 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.
- Maximum sleeve extension from the wall or floor opening is 6" on the damper side without actuator.
Maximum sleeve extension from the wall or floor opening is 16" on the damper side with actuator.
- Dampers may be installed in wall or partition (masonry, gypsum wallboard) or concrete floor.
- The connection ducts shall not be continuous, but shall terminate at the sleeve or frame.
- Dampers are supplied with factory mounted actuators designed to close automatically upon loss of power.
- The jackshaft side of the damper may be installed either "upstream" or "downstream".
- A continuous bead of Dow Corning RTV-732, Dow Corning 999A, GE-1200 Silicone Rubber Sealant (or approved equal) shall be applied between the damper and the sleeve for its entire profile on one side of the installation as a minimum.
- Installed damper units require operational checks upon completion to ensure proper functioning.
- An access door is a NFPA requirement for damper inspection and testing.
- For use in static and dynamic systems up to the maximum rated temperature, velocity and water gauge.
- Electric actuator connections shall conform to the National Electric Code.
- Pneumatic actuators require metallic airline connections, and a minimum of 20PSI supply air. (Not to exceed 30PSI)
- CAUTION: THE HEAVY DAMPER CLOSURE SPRING IS UNDER LOAD.**



INSTALLATION INSTRUCTIONS

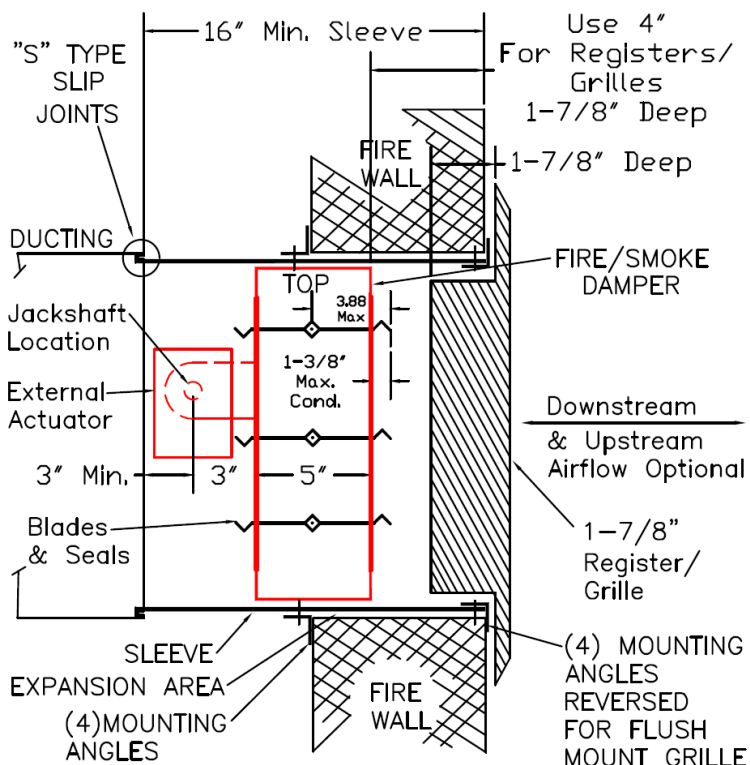
FIRE/ SMOKE DAMPER



Vertical & Horizontal installation with flush mount grille.

Note:
Installation fasteners must not interfere with damper operation and sealing.

FIRE/ SMOKE DAMPER- EXTERNAL MOUNT MOTORS



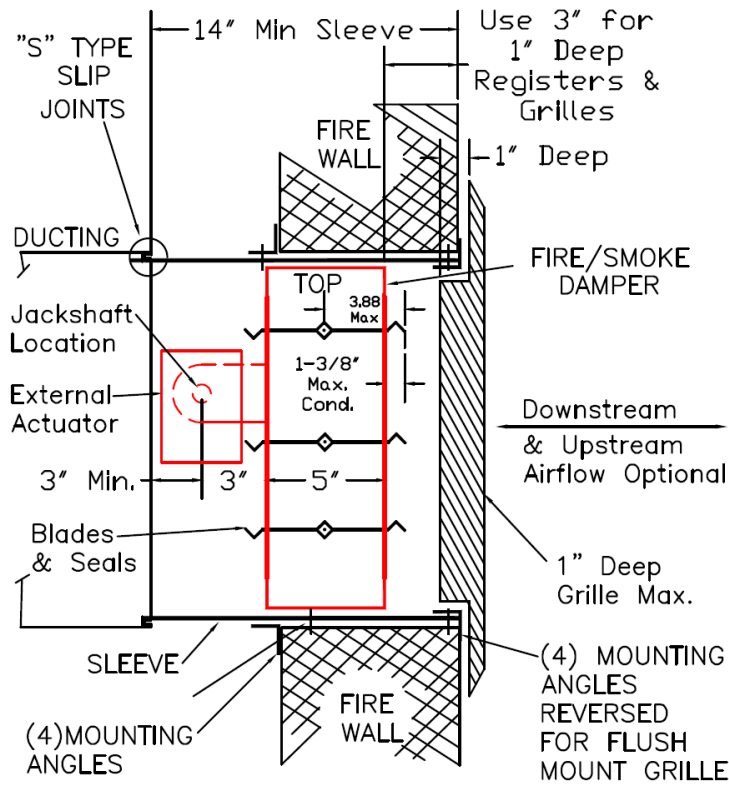
Minimum sleeve for vertical & horizontal installation with up to 1-7/8 inch deep registers/grills

Note:
Installation fasteners must not interfere with damper operation and sealing.





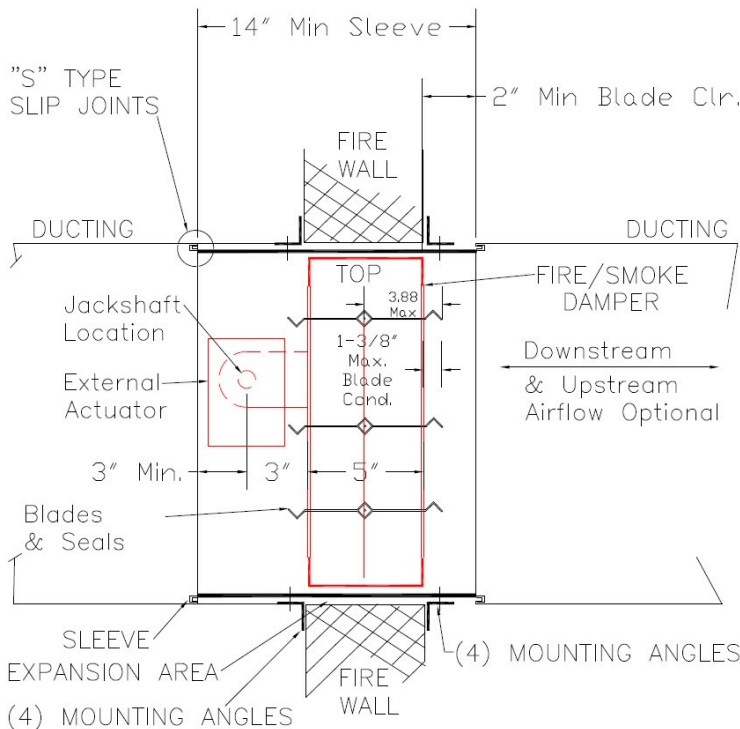
INSTALLATION INSTRUCTIONS



FIRE/ SMOKE DAMPER
FSD-111-1-PB
FSD-111-2-PB
FSD-111-3-PB

Minimum sleeve for vertical & horizontal installation with up to 1' deep registers/ grilles

Note:
Installation fasteners must not interfere with damper operation and sealing.



FIRE/ SMOKE DAMPER

Minimum sleeve for vertical & horizontal installation with standard ducting both sides

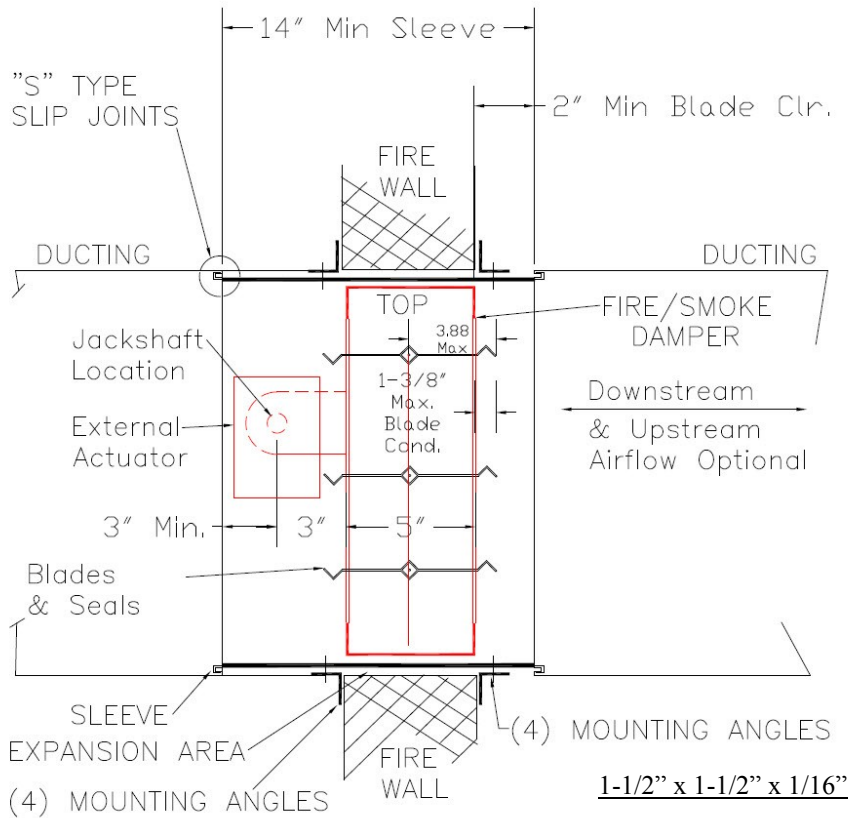
Note:
Installation fasteners must not interfere with damper operation and sealing.





INSTALLATION INSTRUCTIONS

FIRE/ SMOKE DAMPER



Minimum sleeve for vertical & horizontal installation with round ducting collars both sides

Note:
Installation fasteners must not interfere with damper operation and sealing.

