



STAINLESS STEEL COMBINATION FIRE / SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
1 1/2 HR. LABEL • ULTRA-LOW LEAKAGE
MODELS: 1220SS AND 1221SS (TYPE A)



QUALIFICATIONS:

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER** 1 1/2 hr. Label (File # R9492).
- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER** Leakage Class I or II at 250°F elevated temperature (File # R9492).
- **City of New York MEA #366-03-M.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.**
- **Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.**
- **Maximum velocity: 2000 fpm @ 4" w.g.**

The 1220SS Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 2 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Damper W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum		
		Single Section Vertical	Single Section Vertical	Multiple Section Vertical	Single Section Vertical	Multiple Section Vertical	Multiple Section Vertical
24	250	8" x 8" (203 x 203)	30" x 48" (762 x 1219)	120" x 96" (3048 x 2438)			

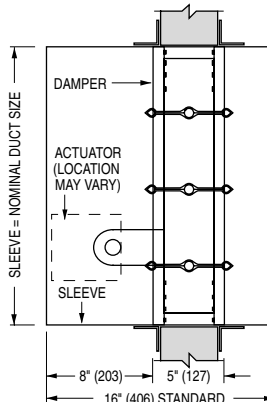
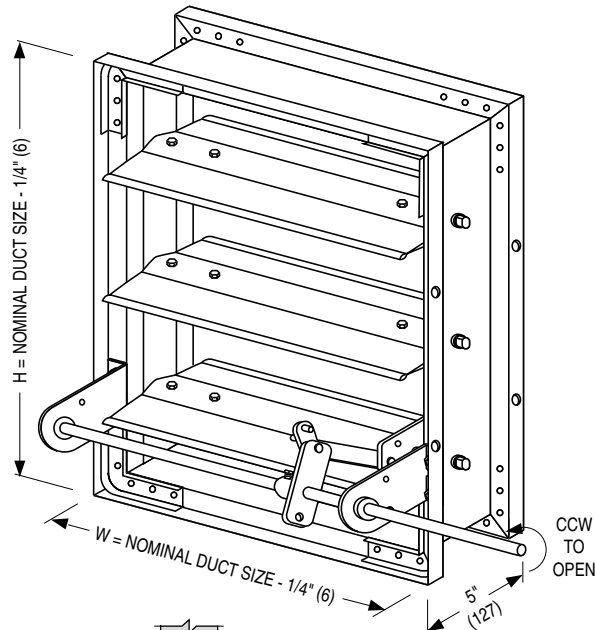
Note: Dampers with duct heights less than 8" (203) require a Type 'B' sleeve enclosure (Model 1222SS). Duct sizes less than 8" (203) in width only, or in both width and height require a Type 'C' enclosure (Model 1223SS).

BASE MODEL SELECTION:

- 1220SS** With side actuator mounting plate.
- 1221SS** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1221SS** Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

- 304** Type 304 Stainless Steel construction (Standard).
- 316** Type 316 Stainless Steel construction (Optional).



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION :

- External (std.) Internal (in the airstream)

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300** Position indicator switch pack
- MLS-400** Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1** Quick-set retaining angle (one side)
- QS2** Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

For installation instructions, see IOM-1220INST.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-1



**STAINLESS STEEL COMBINATION
FIRE/SMOKE DAMPER**
AIRFOIL BLADE • HIGH PERFORMANCE
1 1/2 HR. LABEL • ULTRA-LOW LEAKAGE
MODEL: 1222SS (TYPE B SLEEVE ENCLOSURE)



FOR DUCTS UNDER 8" (203) IN HEIGHT AND 8" (203) OR MORE IN WIDTH

QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 2 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum		Maximum	
		Single Section		Single Section	Multiple Section
		Vertical		Vertical	Vertical
24	250	8" x 4" (203 x 102). Overall damper size is 8" x 8" (203 x 203).		30" x 7 1/2" (762 x 191)	120" x 7 1/2" (3048 x 191)

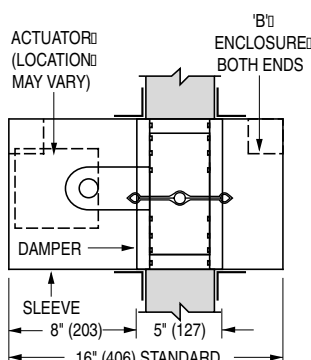
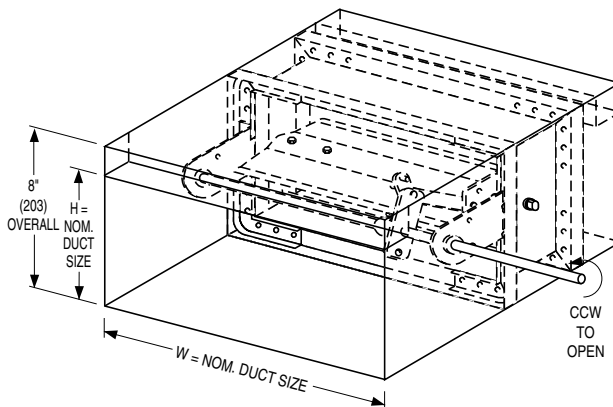
Note: Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1223SS).

SLEEVE/ENCLOSURE SELECTION:

- 1222SS** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width). Available up to 36" (914) dependent upon wall thickness.
- 1222SS** Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

- 304** Type 304 Stainless Steel construction (Standard).
- 316** Type 316 Stainless Steel construction (Optional).



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION: External.

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300** Position indicator switch pack
- MLS-400** Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1** Quick-set retaining angle (one side)
- QS2** Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

For installation instructions, see IOM-1220INST.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-2



**STAINLESS STEEL COMBINATION
FIRE/SMOKE DAMPER**
AIRFOIL BLADE • HIGH PERFORMANCE
1 1/2 HR. LABEL • ROUND DUCT CONNECTION
MODEL: 1223SS (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 2 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.
 PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Duct Diameter):

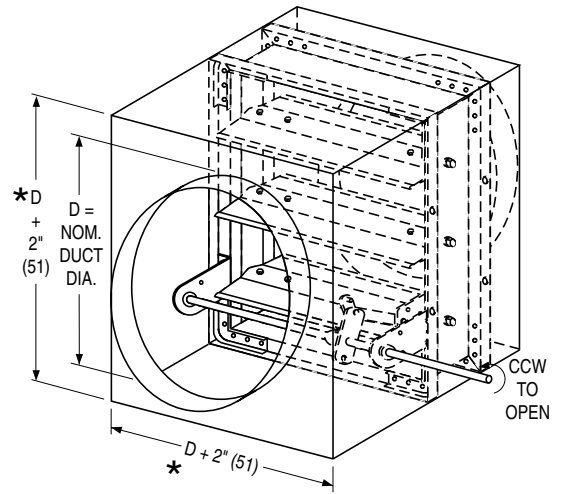
Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum		
		Single Section Vertical	Single Section Vertical	Multiple Section Vertical	Single Section Vertical	Multiple Section Vertical	
24	250	4" (102) diameter. (Overall damper size is 8" x 8" [203 x 203] min.).	28" (711) diameter	94" (2388) diameter			

SLEEVE/ENCLOSURE SELECTION:

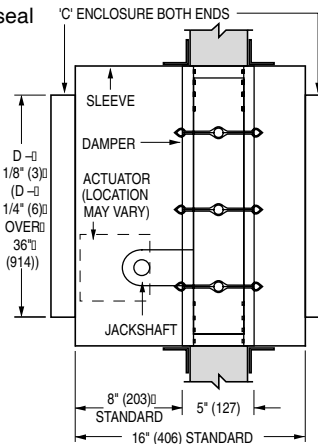
- 1223SS Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1223SS Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

- 304 Type 304 Stainless Steel construction (Standard).
- 316 Type 316 Stainless Steel construction (Optional).



* or 8" (203) min.



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION :

- External (std.) Internal (in the airstream)

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300 Position indicator switch pack
- MLS-400 Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1 Quick-set retaining angle (one side)
- QS2 Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

For installation instructions, see IOM-1220INST.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-3



STAINLESS STEEL COMBINATION FIRE/SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
3 HR. LABEL • ULTRA-LOW LEAKAGE
MODELS: 1220SS-3 AND 1221SS-3 (TYPE A)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 3 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS-3 Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 4 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS-3 Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Damper W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum		Maximum	
		Single Section		Multiple Section	
		Vertical	Vertical	Vertical	Vertical
24	250	8" x 8" (203 x 203)	30" x 48" (762 x 1219)	120" x 96" (3048 x 2438)	

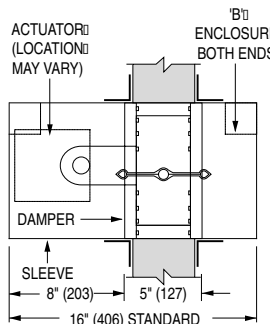
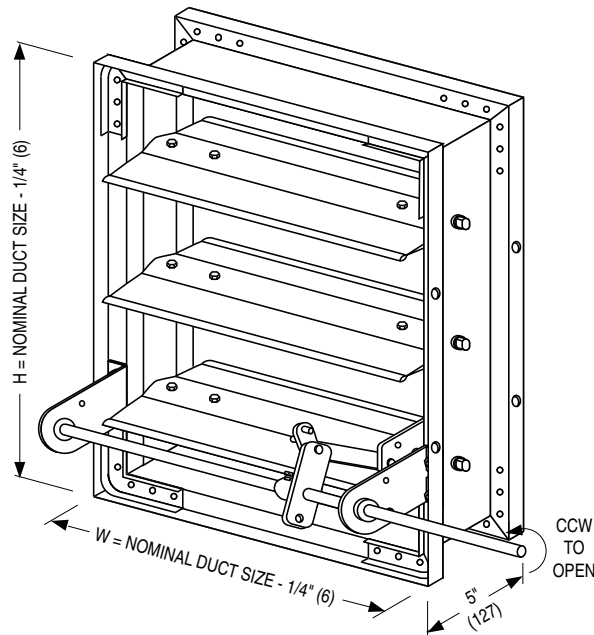
Note: Dampers with duct heights less than 8" (203) require a Type 'B' sleeve enclosure (Model 1222SS-3). Duct sizes less than 8" (203) in width only, or in both width and height require a Type 'C' enclosure (Model 1223SS-3).

BASE MODEL SELECTION:

- 1220SS-3 With side actuator mounting plate
- 1221SS-3 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1221SS-3 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

- 304 Type 304 Stainless Steel construction (Standard).
- 316 Type 316 Stainless Steel construction (Optional).



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION:

- External (std.) Internal (in the airstream)

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300 Position indicator switch pack
- MLS-400 Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.

- QS1 Quick-set retaining angle (one side)
- QS2 Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

For installation instructions, see IOM-1220INST.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-3-1



**STAINLESS STEEL COMBINATION
FIRE/SMOKE DAMPER**
AIRFOIL BLADE • HIGH PERFORMANCE
3 HR. LABEL • ULTRA-LOW LEAKAGE
MODEL: 1222SS-3 (TYPE B SLEEVE ENCLOSURE)



FOR DUCTS UNDER 8" (203) IN HEIGHT AND 8" (203) OR MORE IN WIDTH

QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 3 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS-3 Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 4 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS-3 Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
- Blades:** 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers.
- Linkage:** Concealed in frame. 12 ga. (2.7) stainless steel.
- Bearings:** 1/2" (13) dia. sintered stainless steel.
- Axles:** 1/2" (13) dia. stainless steel double bolted to blades.
- Jackshaft:** 1/2" (13) dia. stainless steel.
- Jamb Seals:** Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

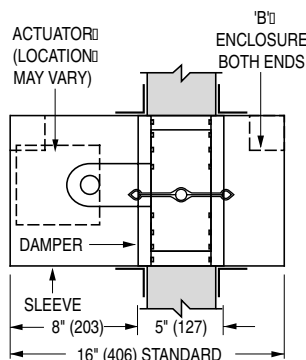
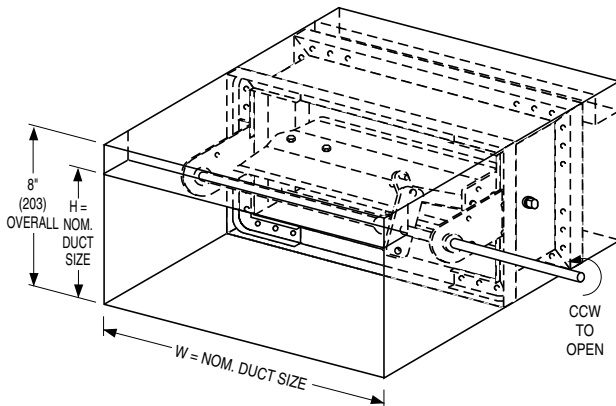
Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum		Maximum	
		Single Section	Single Section	Multiple Section	
		Vertical	Vertical	Vertical	
24	250	8" x 4" (203 x 102) (Overall damper height is 8" [203]).	30" x 7 1/2" (762 x 191)	120" x 7 1/2" (3048 x 191)	

Note: Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1223SS-3).

SLEEVE/ENCLOSURE SELECTION:

- 1222SS-3 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width). Available up to 36" (914) dependent upon wall thickness.
- 1222SS-3 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

CONSTRUCTION TYPE:

- 304 Type 304 Stainless Steel construction (Standard).
- 316 Type 316 Stainless Steel construction (Optional).

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION : External.

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300 Position indicator switch pack
- MLS-400 Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1 Quick-set retaining angle (one side)
- QS2 Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

For installation instructions, see IOM-1220INST.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-3-2



**STAINLESS STEEL COMBINATION
FIRE/SMOKE DAMPER**
AIRFOIL BLADE • HIGH PERFORMANCE
3 HR. LABEL • ROUND DUCT CONNECTION
MODEL: 1223SS-3 (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER** 3 hr. Label (File # R9492).
- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER** Leakage Class I or II at 250°F elevated temperature (File # R9492).
- **City of New York MEA #366-03-M.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.**
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- **Maximum velocity: 2000 fpm @ 4" w.g.**

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Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Duct Diameter):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum		Maximum	
		Single Section	Single Section	Multiple Section	Multiple Section
24	250	Vertical	Vertical	Vertical	Vertical
		4" (102) diameter (Overall damper size is 8" x 8" [203 x 203] min.)	28" (711) diameter	94" (2388) diameter	

SLEEVE/ENCLOSURE SELECTION:

- 1223SS-3** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1223SS-3** Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

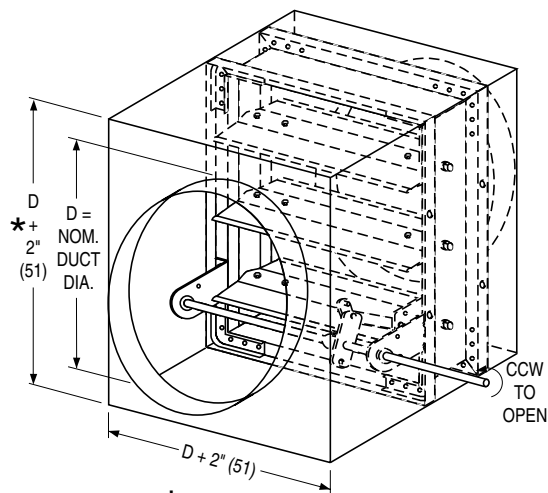
- 304** Type 304 Stainless Steel construction (Standard).
- 316** Type 316 Stainless Steel construction (Optional).

SCHEDULE TYPE:

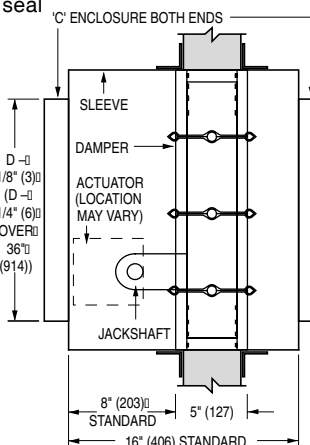
PROJECT:

ENGINEER:

CONTRACTOR:



* or 8" (203) min.



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION: External.

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300** Position indicator switch pack
- MLS-400** Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1** Quick-set retaining angle (one side)
- QS2** Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

For installation instructions, see IOM-1220INST.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-3-3



STAINLESS STEEL COMBINATION FIRE/SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
3 HR. LABEL • SQUARE, RECTANGULAR OR
OVAL DUCT CONNECTION
MODEL: 1223SS-3 (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 3 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS-3 Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 4 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS-3 Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
Blades: 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.
Bearings: 1/2" (13) dia. sintered stainless steel.
Axles: 1/2" (13) dia. stainless steel double bolted to blades.
Jackshaft: 1/2" (13) dia. stainless steel.
Jamb Seals: Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) standard. 165°F (74°C) and 212°F (100°C) available.
 PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum		
		Single Section Vertical	Single Section Vertical	Multiple Section Vertical	Single Section Vertical	Multiple Section Vertical	Multiple Section Vertical
24	250	4" x 4" (102 x 102) (Overall damper size is 8" x 8" [203 x 203] min.)	28" x 46" (711 x 1168)	118" x 94" (2997 x 2388)			

SLEEVE/ENCLOSURE SELECTION:

- 1223SS-3 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1223SS-3 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

CONSTRUCTION TYPE:

- 304 Type 304 Stainless Steel construction (Standard).
- 316 Type 316 Stainless Steel construction (Optional).

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

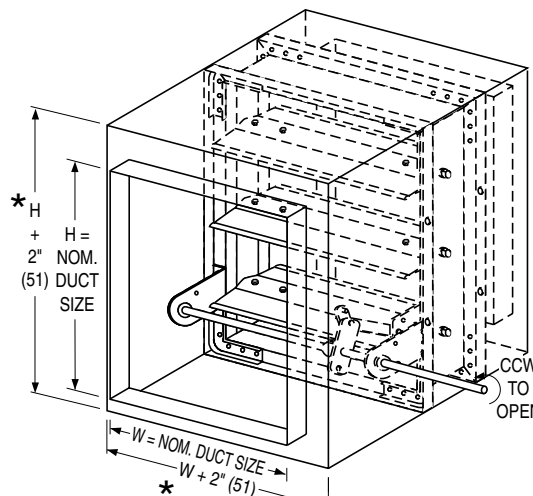
24 2000 fpm @ 4" w.g.

SCHEDULE TYPE:

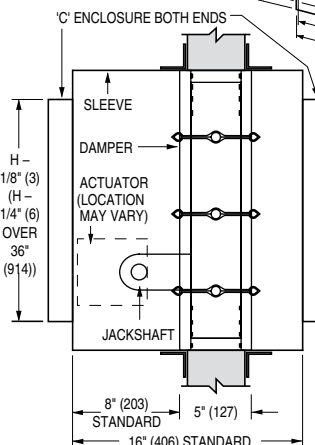
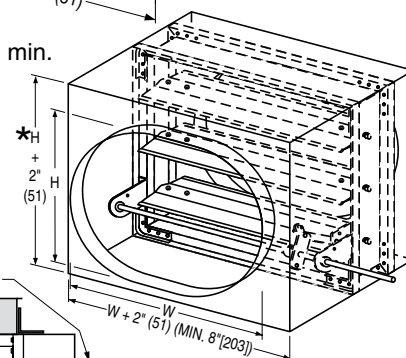
PROJECT:

ENGINEER:

CONTRACTOR:



* or 8" (203) min.



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION :

- External (std.) Internal (in the airstream)

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

- MLS-300 Position indicator switch pack
- MLS-400 Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.
- QS1 Quick-set retaining angle (one side)
- QS2 Quick-set retaining angles (two sides)

Note: QS1 and QS2 are galvanized steel.

For installation instructions, see IOM-1220INST.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 14 - 24	1200	5 - 7 - 12	1220SS-3-4



STAINLESS STEEL COMBINATION FIRE/SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
1 1/2 HR. LABEL • SQUARE, RECTANGULAR OR
OVAL DUCT CONNECTION
MODEL: 1223SS (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).
- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature (File # R9492).
- City of New York MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:106.
- Meets NFPA 80, 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1220SS Series dampers are ideal for high humidity, mildly corrosive or, with optional Type 316 construction, more severe environment applications where building codes require both a fire damper for the protection of ductwork penetrations in walls that have a fire resistance rating of up to 2 hours and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems.

The 1220SS Series has been especially designed and tested to provide premium performance. It offers the lowest leakage class available and is qualified for installation with airflow in either direction and inverted mounting. Airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.

Unique, inter-locking double skin blade design provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) stainless steel hat channel.
- Blades:** 14 ga. (2.0) equivalent stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.
- Linkage:** Concealed in frame. 12 ga. (2.7) stainless steel.
- Bearings:** 1/2" (13) dia. sintered stainless steel.
- Axles:** 1/2" (13) dia. stainless steel double bolted to blades.
- Jackshaft:** 1/2" (13) dia. stainless steel.
- Jamb Seals:** Cambered stainless steel.

Heat Responsive Device (Controlled Closure):

ERL (Electric Resettable Link) is standard on dampers with electric actuators: 250°F (121°C) std. 165°F (74°C) and 212°F (100°C) available.
 PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) available.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum	
		Single Section Vertical	Single Section Vertical	Multiple Section Vertical	Single Section Vertical	Multiple Section Vertical
24	250	4" x 4" (102 x 102) (Overall damper size is 8" x 8" [203 x 203] min.)	28" x 46" (711 x 1168)	118" x 94" (2997 x 2388)		

SLEEVE/ENCLOSURE SELECTION:

- 1223SS Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. [1.3] for dampers over 84" [2134] in width).
- 1223SS Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 through 1.0).

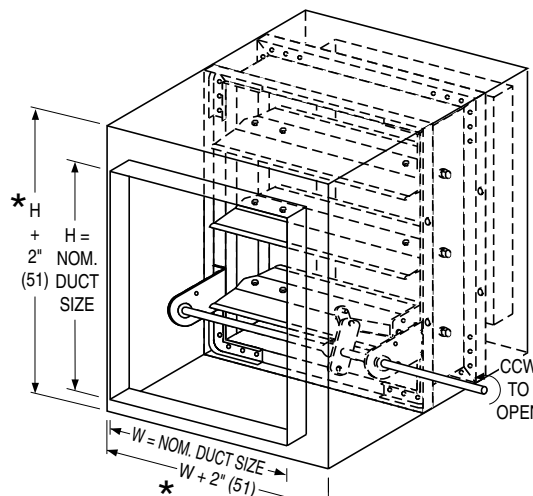
CONSTRUCTION TYPE:

- 304 Type 304 Stainless Steel construction (Standard).
- 316 Type 316 Stainless Steel construction (Optional).

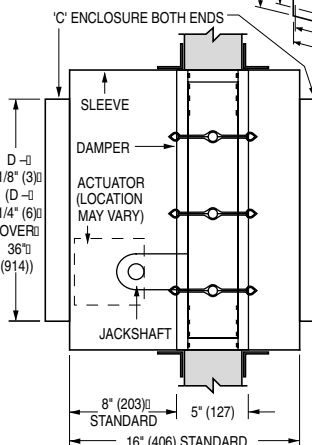
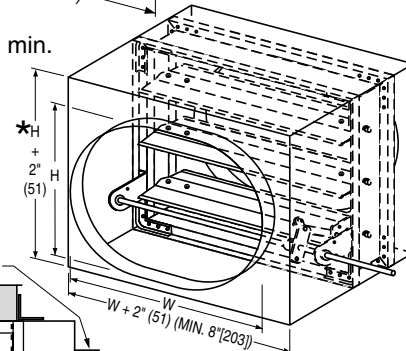
LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING: 24 2000 fpm @ 4" w.g.



* or 8" (203) min.



Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION :

- External (std.) Internal (in the airstream)

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

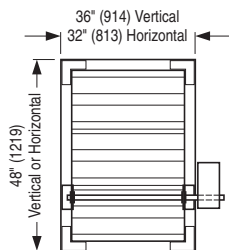
- MLS-300 Position indicator switch pack
- MLS-400 Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F) and position indicator switch pack.

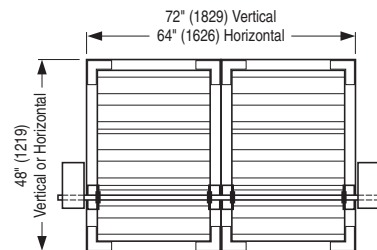
- QS1 Quick-set retaining angle (one side)
- QS2 Quick-set retaining angles (two sides)

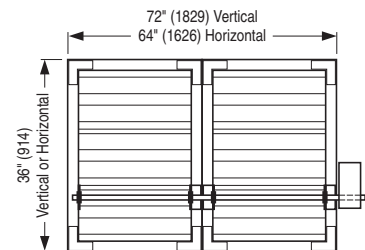
Note: QS1 and QS2 are galvanized steel.

SCHEDULE TYPE:	For installation instructions, see IOM-1220INST.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 14 - 24	1200	5 - 7 - 12	1220SS-4

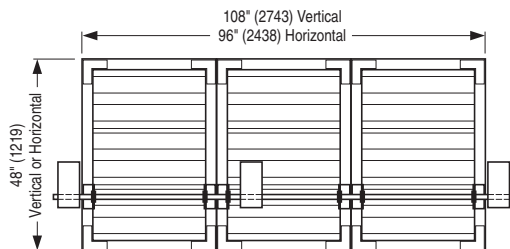
Sizes shown are maximum dimensions for section/actuator configurations as shown in the following figures. Available actuators for each particular configuration are listed below figure number. Multiple section assemblies are made up from equal size sections. All damper/actuator assemblies shown herein have been tested to UL 555S at 250°F (121°C) elevated temperature rating and 2000 fpm @ 4" w.g. Higher ratings are available with reduced actuator selection. External mounting of actuators is recommended whenever possible as internally mounted actuators increase pressure drop, especially on smaller sizes.


FIGURE 1X1

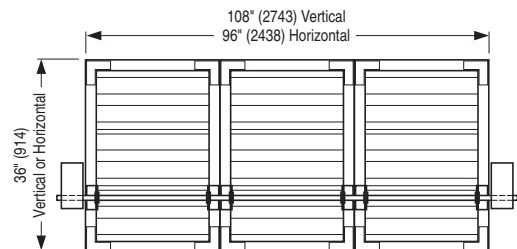
 MS-4X09/MS-8X09, MS-4120/MS-8120,
 FSNF120/FSNF24 & GGD221/GGD121

FIGURE 2X1A

 MS-4X09/MS-8X09, MS-4120/MS-8120,
 FSNF120/FSNF24 & GGD221/GGD121

FIGURE 2X1B

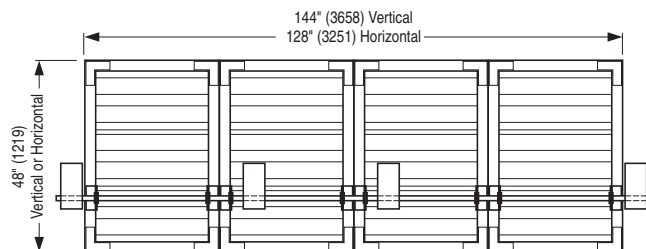
MS-4120/MS-8120


FIGURE 3X1A

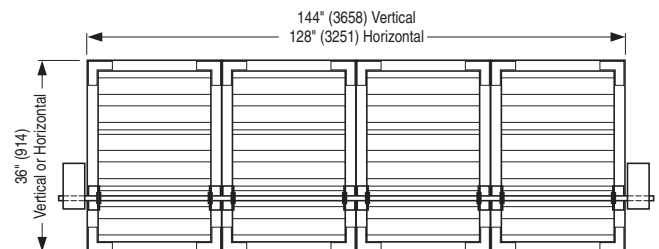
MS-4120/MS-8120, FSNF120/FSNF24 & GGD221/GGD121


FIGURE 3X1B

MS-4120/MS-8120


FIGURE 4X1A

MS-4120/MS-8120, FSNF120/FSNF24 & GGD221/GGD121


FIGURE 4X1B

MS-4120/MS-8120

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

 Page 1 of 2
 Dimensions are in inches (mm).

DATE
B SERIES
SUPERSEDES
DRAWING NO.

11 - 16 - 04

1220

NEW

MSC-1220

MULTIPLE SECTION CONFIGURATIONS AND ELECTRIC ACTUATOR LOCATIONS FOR COMBINATION FIRE/SMOKE DAMPERS MODEL SERIES: 1220

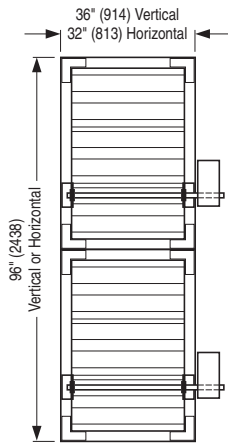


FIGURE 1X2
 MS-4X09/MS-8X09, MS-4120/MS-8120,
 FSNF120/FSNF24 & GGD221/GGD121

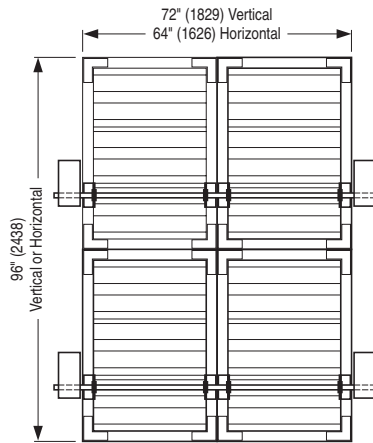


FIGURE 2X2A
 MS-4X09/MS-8X09, MS-4120/MS-8120,
 FSNF120/FSNF24 & GGD221/GGD121

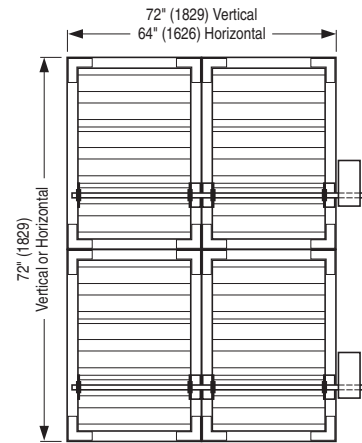


FIGURE 2X2B
 MS-4120/MS-8120

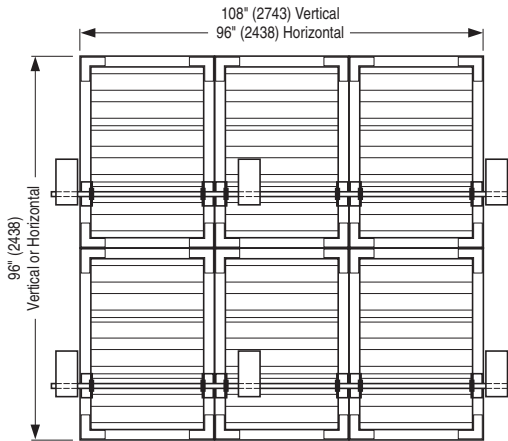


FIGURE 3X2A
 MS-4120/MS-8120, FSNF120/FSNF24 & GGD221/GGD121

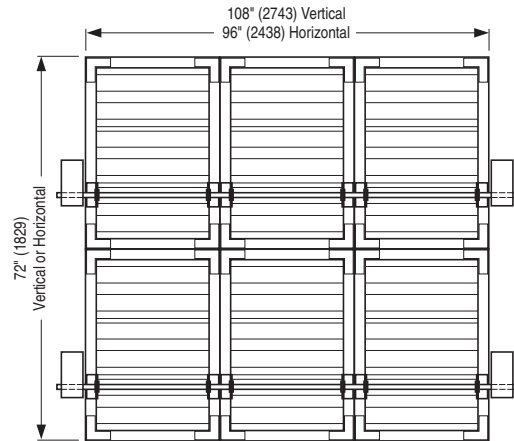


FIGURE 3X2B
 MS-4120/MS-8120

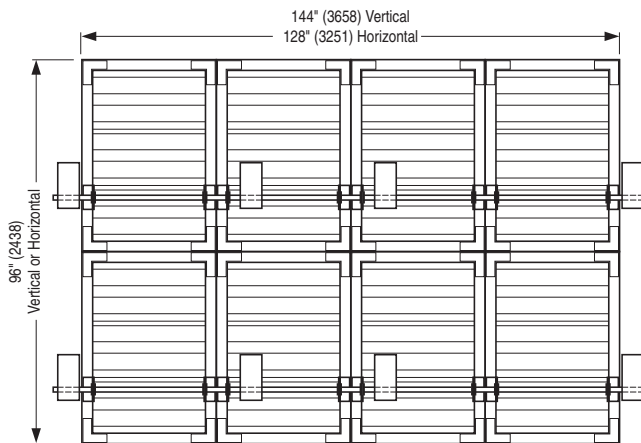


FIGURE 4X2A
 MS-4120/MS-8120, FSNF120/FSNF24 & GGD221/GGD121

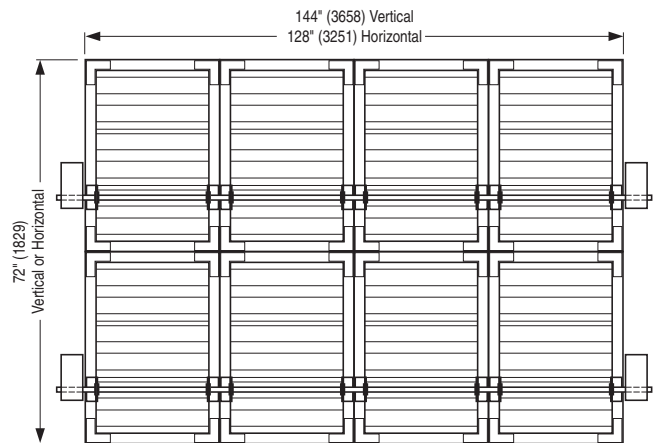


FIGURE 4X2B
 MS-4120/MS-8120

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2
 Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

11 - 16 - 04

1220

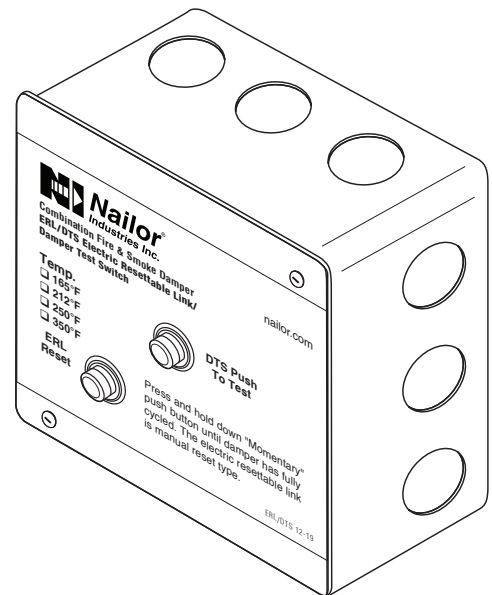
NEW

MSC-1220

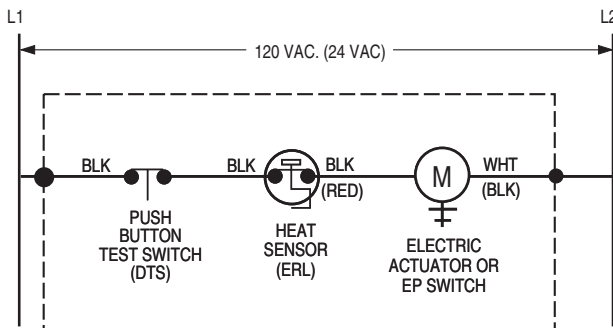
The DTS (Damper Test Switch) is an optional "momentary" push button test switch available on all Nailor smoke and combination fire/smoke dampers. The DTS provides the ability to "cycle test" the damper by pushing and holding down the button until the damper has cycled and closure has been visually verified, either by inspecting the damper through the access door or by confirmation at a remote control panel when equipped with the optional MLS-300 position indicator.

The DTS is mounted right on the damper and enables a single maintenance person to test and cycle the damper, eliminating the need for help from another person in the control room.

When a combination fire/smoke damper is ordered, the DTS is combined with the ERL (Electric Resettable Link), in a common enclosure.



WIRING DIAGRAMS:



MOUNTED ON DAMPER (FACTORY WIRING TERMINATES AT SPLICE POINTS INDICATED INSIDE 4" x 4" ELECTRICAL BOX)

Figure 1. DTS/ERL Damper Test Switch with Electric Resettable Link

Belimo Actuator Aux. Switch Wiring Connections

Model Series	Open (OP)	Closed (CL)
FSTF	Orange / Gray	Violet / Red
FSLF / FSAFA	Gray / Gray	Violet / Violet
FSNF / FSAFB	White S4 / S6	White S1 / S2

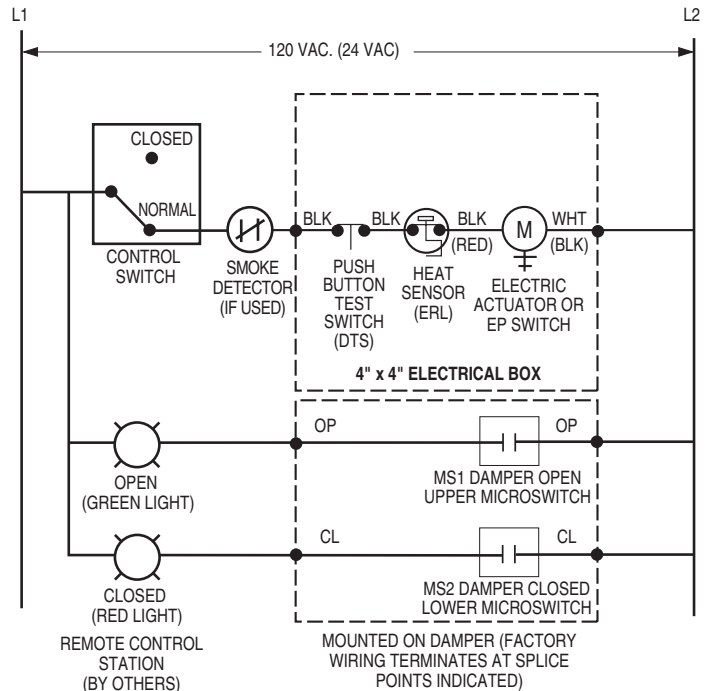


Figure 2. DTS/ERL with MLS-300 Belimo (actuator aux. switches) Position Indicator Package

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 3 - 20

FD-ACC

3 - 29 - 18

DTS

WIRING DIAGRAMS:

Honeywell Actuator Aux. Switch Wiring Connections

Model Series	Open (OP)	Closed (CL)
MSXX04	Yellow / Yellow	Blue / Blue
MSXX20	Yellow / Yellow	Blue / Blue

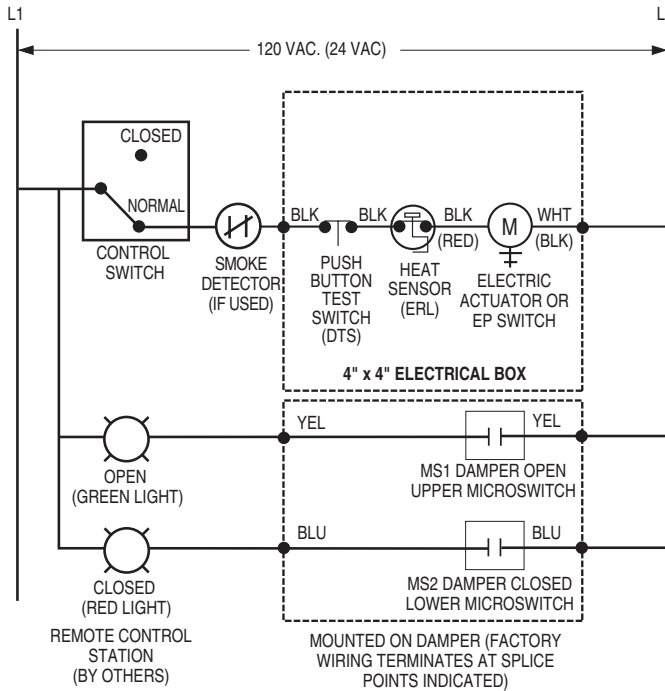


Figure 3. DTS/ERL with MLS-300 Nailor or Honeywell (actuator aux. switches) Position Indicator Package

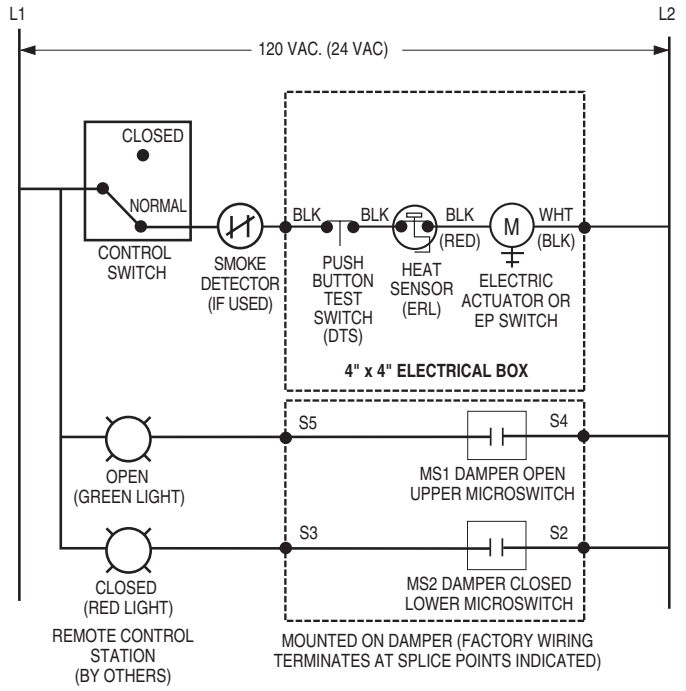
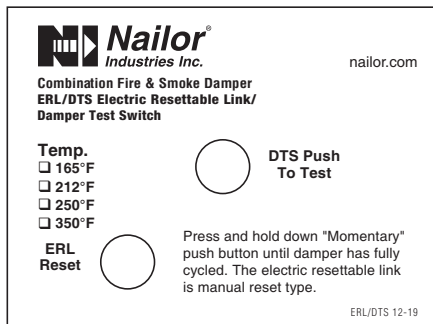
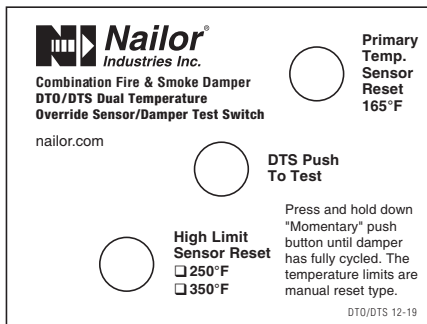


Figure 4. DTS/ERL with MLS-300 Siemens GJD Series (actuator auxiliary switches) Position Indicator Package

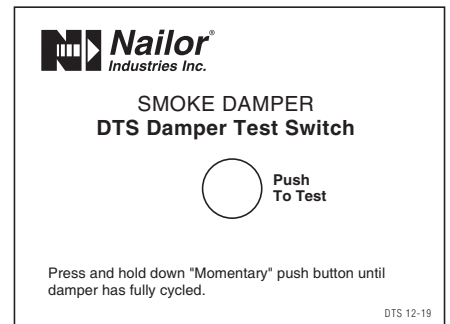
DTS LABEL VARIATIONS:



ERL/DTS Combination Fire/Smoke Damper



DTO/DTS Combination Fire/Smoke Damper



DTS Smoke Damper

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 3 - 20

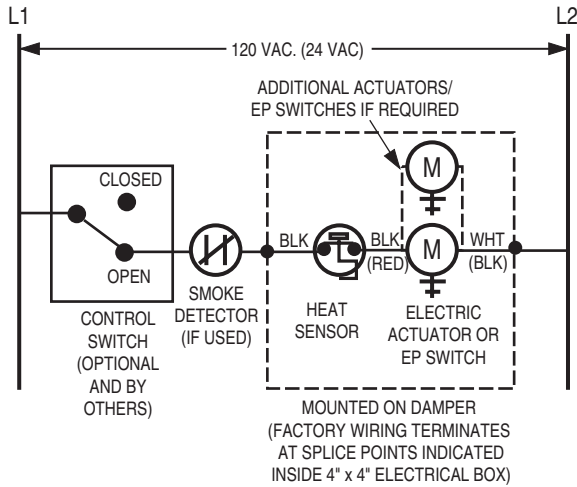
FD-ACC

3 - 29 - 18

DTS



ELECTRIC RESETTABLE LINK FOR COMBINATION FIRE / SMOKE DAMPERS MODEL: ERL



APPLICATION AND OPERATION:

The ERL Electric Resettable Link (heat sensor) is standard on all Nailor combination fire/smoke dampers with an electric actuator. The ERL is a thermally responsive bimetal disc/thermostat that opens and closes electrical contacts at a specific calibrated temperature. The ERL is a UL Classified Heat Responsive Device. The standard ERL has a fixed temperature setting of 250°F (121°C) which is the UL listed elevated/degradation temperature of the damper/actuator assembly. A 350°F (177°C) elevated temperature classification and ERL is available as an option.

[A 165°F and 212°F (74°C and 100°C) ERL are also available. Local codes have specified 165°F (74°C) widely in the past.]

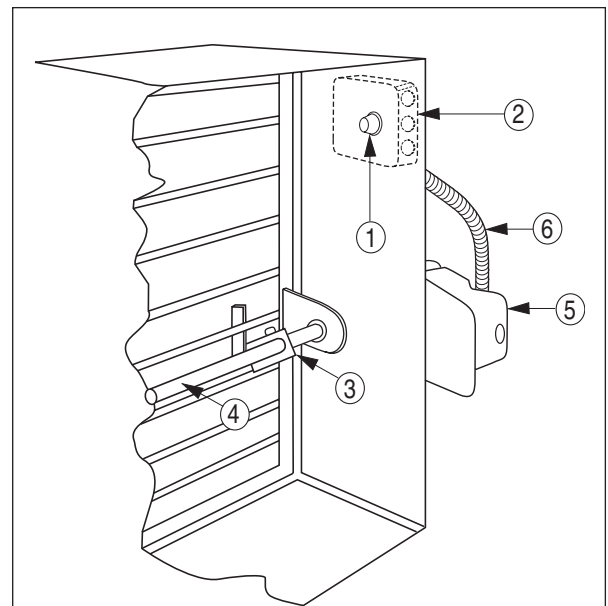
The ERL's function is to sense an abnormally high temperature, as caused by a fire and allow the damper to close in order to prevent the spread of fire and smoke. The sensor interrupts power to the actuator and the actuator's spring return mechanism causes the damper to close and lock.

In smoke control mode, when a signal is detected via a normally closed smoke detector connection, the damper will close and remain closed until the smoke signal ceases. The system will then reset when power is re-applied and the damper will open. The damper may be closed at anytime by placing a control switch (optional and by others) in the closed position.

The ERL in combination with all Nailor qualified electric or pneumatic actuators provides controlled closure and eliminates the instantaneous damper closure associated with traditional fusible links that can cause damage to the ductwork.

The ERL sensor is of the manual reset type and can be reset after the temperature has cooled down below the sensor set point. Exposure to actual fire conditions may render these devices unusable. In this case, it is recommended that a careful inspection of the damper, actuator and ERL be performed.

The ERL requires factory installation and wiring together with the associated actuator to meet UL requirements. If the damper is provided with a pneumatic actuator, an EP switch is required.



DESCRIPTION:

1. ERL 165, 212, 250, 350 Electric Resettable Link (heat sensor)
2. Electrical Junction Box (and EP Switch with Pneumatic Actuator)
3. Over-Center Knee Lock
4. Jackshaft
5. Actuator
6. Flexible Conduit

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 9 - 20

FD-ACC

9 - 23 - 02

ERL

**"QUICK-SET" RETAINING ANGLES BOTH SIMPLIFY AND SPEED INSTALLATION,
SAVING BOTH TIME AND MONEY.**

BENEFITS:

- One piece angles are fastened together in the corners. Only two sets of angles to handle per damper (rather than four separate angles per side).
- Angles are shipped with damper - no sorting or matching.
- Provided with pre-drilled fastening holes on 2" (51) centers to ensure correct angle/sleeve attachment.
- Factory fabricated by Nailor to suit the individual fire damper.
- Reduced cost when compared to conventional retaining angles.
- Dampers can ship directly to the job site complete with all necessary installation sheet metal hardware (saves on double handling at contractor's shop).
- Help ensure a correct installation as per U.L. approved installation instructions.

The majority of installing contractors view fire damper installation as a costly time consuming and troublesome procedure. Eight conventional angles must be custom fabricated for each damper either in a sheet metal shop or at the job site and sized to suit each individual damper. Invariably, they are mislaid or lost and must be matched to each factory supplied damper.

The Nailor "Quick-Set" solution solves the majority of problems. They are pre-formed to fit and ship with the individual damper for ultimate convenience. "Quick-Set" angles are supplied with correctly spaced pre-drilled screw-holes to ensure a quick, easy and accurate installation for all integral sleeve Nailor fire and combination fire/smoke dampers - no measuring required.

"Quick-Set" retaining angles provide the "complete" installation package. Simple, fast, convenient.

MODELS:

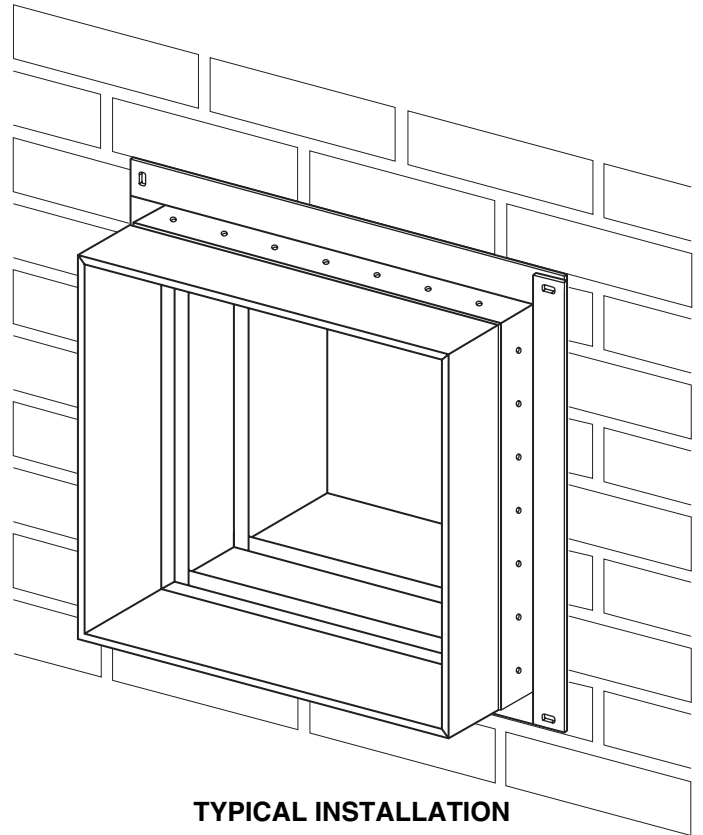
Nailor "Quick-Set" retaining angles are an accessory option for all dampers ordered with factory sleeves.

QS2: Two sides (pair). For standard installations where angles are installed on both sides of the fire partition.

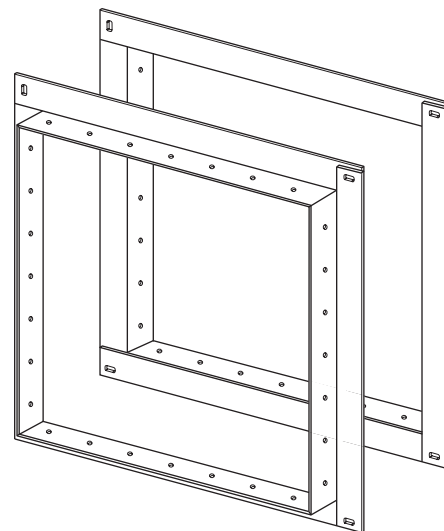
QS1: One side (single set). For use in single side retaining angle installations and with grille mount and "out of wall" damper models.



Refer to the UL or ULC
Classification marking
the product.



TYPICAL INSTALLATION



**TYPICAL PAIR OF PRE-ASSEMBLED
QUICK-SET' RETAINING ANGLES**

SCHEDULE TYPE:	Page 1 of 2			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 26 - 09	FD-ACC	6 - 5 - 03	QSRA

"QUICK-SET" RETAINING ANGLES
FOR ALL SLEEVED FIRE AND
COMBINATION FIRE/SMOKE DAMPERS
MODELS: QS1 AND QS2

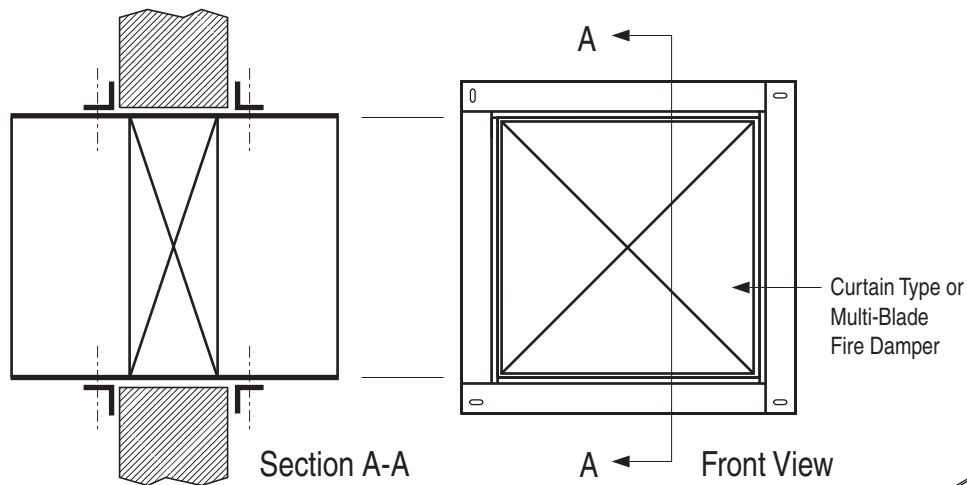


FIGURE 1. TYPICAL TWO SIDED INSTALLATION.

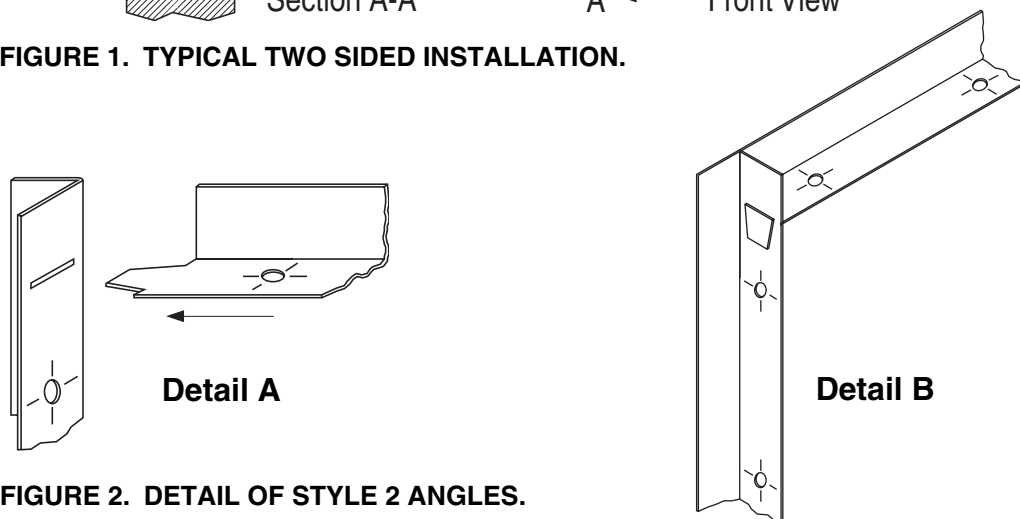


FIGURE 2. DETAIL OF STYLE 2 ANGLES.

APPLICATION:

The Nailor Quick-Set Retaining Angle System may be used in lieu of conventional retaining angles on all Nailor Fire and Combination Fire/Smoke Dampers.

Quick-Set angles are supplied in one of two styles, dependent upon fire resistance label, damper size and installation method.

Style 1: 1 1/2" x 1 1/2" x 20 ga. (38 x 38 x 1.0) Four sides are connected together with rivets in three corners.

Standard for the majority of applications with the following limitations:

- 1 1/2 hour label fire dampers.
- Maximum Size: 36" x 36" (914 x 914)
- Two sided installation only

Style 2: 1 1/2" x 1 1/2" x 16 ga. (38 x 38 x 1.6) Slot and tab design. The retaining angle assembly for each side has four angles, each with a tab end and a slot end (Detail A).

The tabs are to be inserted into the slots and knocked down either before or after fastening to the sleeve (Detail B).

- 1 1/2 or 3 hour label fire dampers
- Maximum Size: 90" x 48" (2286 x 1219) or 48" x 90" (1219 x 2286)
- Single side (1 1/2 hour only. Refer to Single Side Retaining Angles Supplementary Installation Instructions for size limitations) or two sided installation

Refer to the Following Installation Instructions:

Quick-Set Retaining Angles	FDQSRA
Curtain Type Fire Dampers (D)0100 & (D)0500	FDINST
Curtain Type Fire Dampers 0200 & 0500 Thinline	FDTINST
Multi-Blade Fire Dampers 1200 & 1250	MBFDINST
Combination Fire/Smoke Dampers 1220	1220INST
Combination Fire/Smoke Dampers 1270	1270INST
Single Side Retaining Angles	FDSSRAINST

SCHEDULE TYPE:	Page 2 of 2			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 26 - 09	FD-ACC	5 - 5 - 03	QSRA

PERFORMANCE DATA:

MODEL SERIES: 1220SS - 1 1/2 HOUR LABEL AND 1220SS-3 - 3 HOUR LABEL

LEAKAGE CLASS:

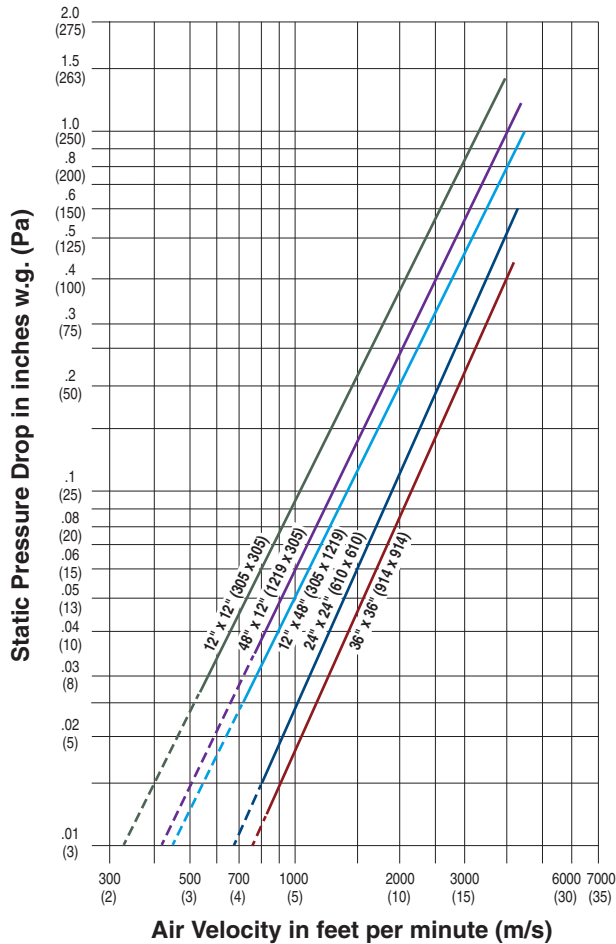
The 1220SS Series Stainless Steel Combination Fire/Smoke Damper has been designed and qualified under UL 555S in order to provide maximum system design flexibility. They are available with a Class I (currently the lowest available) or Class II leakage rating with all damper/actuator assemblies having been tested successfully at an elevated temperature of 250°F (121°C), dependent on actuator, under airflow of 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).

The 1220SS-3 Series Stainless Steel Combination Fire/Smoke Damper has been designed and qualified under UL 555S in order to provide maximum system design flexibility. They are available with a Class I (currently the lowest available) or Class II leakage rating with all damper/actuator assemblies having been tested successfully at an elevated temperature of 250°F (121°C), dependent on actuator, under airflow of 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).

1220SS Series - Maximum Performance Ratings	
UL 555 Fire Rating	1 1/2 Hour
UL 555S Leakage Rating	Class I
Maximum Velocity	2000 fpm (10 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)
Maximum Temperature	250°F (121°C)

1220SS-3 Series - Maximum Performance Ratings	
UL 555 Fire Rating	3 Hour
UL 555S Leakage Rating	Class I
Maximum Velocity	2000 fpm (10 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)
Maximum Temperature	250°F (121°C)

PRESSURE DROP:



Pressure drop tested per AMCA Standard 500-D, Figure 5.3. Data corrected to standard air density of 0.075 lbs/ft.³.