



SMOKE DAMPER

AIRFOIL BLADE • HIGH PERFORMANCE
ULTRA-LOW LEAKAGE • LOW PRESSURE DROP
MODELS: 1210 AND 1211 (TYPE A)



QUALIFICATIONS:

- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER (File # R9492) Leakage Class I or II at 250°F or 350°F elevated temperature.
- Meets NFPA 90A, 92, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- California State Fire Marshal Listing No. 03230-0935:0107.
- City of New York MEA# 366-03-M.
- Maximum velocity: Up to 4000 fpm @ 8" w.g. (20 m/s @ 2 kPa).

The 1210 Series dampers are ideal for use in applications where building codes require a leakage rated smoke damper as part of a static smoke control or dynamic smoke management system.

The 1210 Series has been especially designed and tested to offer premium performance and is AMCA licensed. The 1210 Series provides the lowest leakage class available and is qualified for vertical or horizontal installation with airflow in either direction. Airfoil blade design and elimination of blade sills, top and bottom, provide lowest pressure drop. Unique inter-locking double skin blade design eliminates combustible blade seals and provides flame and smoke seal under fire conditions.

STANDARD CONSTRUCTION:

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

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum		
		Single Section		Single Section		Multiple Section	
		Vertical/Horizontal		Vertical/Horizontal		Vertical/Horizontal	
24, 34, 36, 48	250/350	Minimum width is 6" (152). Minimum height is 6" (152) (8" [203] if width is over 18" [457]).		36" x 48" (914 x 1219)		144" x 96" (3658 x 2438) or 288" x 48" (7315 x 1219)	
48	250			36" x 48" (914 x 1219)		144" x 96" (3658 x 2438) or 288" x 48" (7315 x 1219)	
48	350			36" x 24" (914 x 610)		144" x 48" (3658 x 1219) or 288" x 24" (7315 x 610)	

Note: Dampers with duct heights less than 6" (152) (8" [203] if width is over 18" [457]) require a Type 'B' sleeve enclosure (Model 1212). Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1213).

BASE MODEL SELECTION:

- 1210 With side actuator mounting plate
- 1211 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. for dampers over 84" [2134] in width).
- 1211 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) in length and 10 through 20 ga. (3.5 through 1.0).

LEAKAGE CLASS/ELEVATED TEMPERATURE:

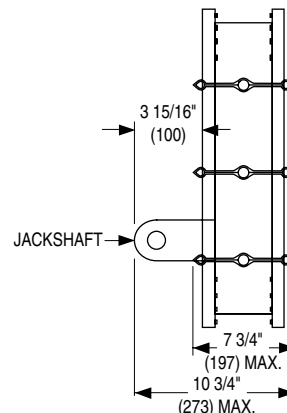
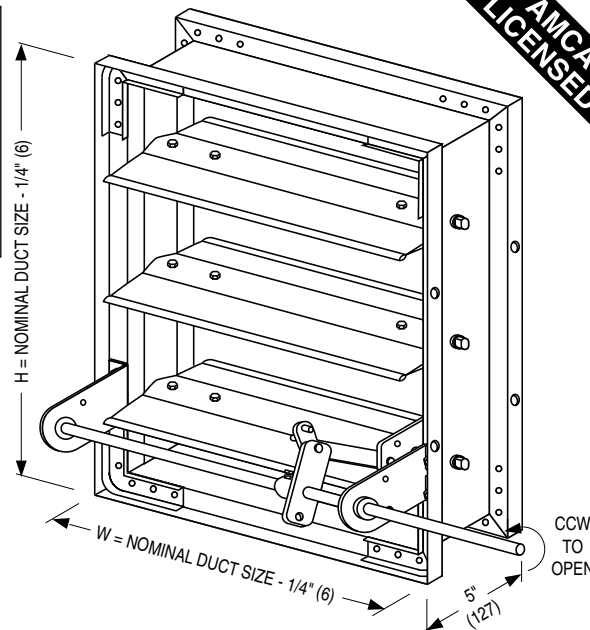
- I II @ 250°F (Standard)
- I II @ 350°F (Optional)

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:



DYNAMIC VELOCITY/PRESSURE RATING:

- 24 2000 fpm @ 4" w.g. (Standard)
- 34 3000 fpm @ 4" w.g. (Optional)
- 36 3000 fpm @ 6" w.g. (Optional)
- 46 4000 fpm @ 6" w.g. (Optional)
- 48 4000 fpm @ 8" w.g. (Optional)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION:

- External Internal (in the airstream)

ACTUATOR FAIL POSITION:

- Normally Closed (std.) Normally Open

OPTIONS:

- BS Stainless steel bearings
- MLS-300 Position indicator switch pack
- TDF1 Flange (one end) } (20 or 22 ga. sleeves only)
- TDF2 Flange (both ends) }

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

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 4 - 24	1200	6 - 14 - 13	1210-1



SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
ULTRA-LOW LEAKAGE
MODEL: 1212
(TYPE B SLEEVE ENCLOSURE)



FOR DUCTS 8" (203) OR MORE IN WIDTH AND UNDER 8" (203) IN HEIGHT.
 (6" [152] IF WIDTH IS 18" [457] OR UNDER).

QUALIFICATIONS:

- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER (File # R9492) Leakage Class I or II at 250°F or 350°F elevated temperature.
- Meets NFPA 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- California State Fire Marshal Listing No. 03230-0935:107.
- City of New York MEA# 366-03-M.
- Maximum velocity: 2000 fpm @ 4" w.g.

The 1210 Series dampers are ideal for applications where building codes require a leakage rated smoke damper as part of a static smoke control or dynamic smoke management system.

The 1210 Series has been especially designed and tested to offer premium performance and is AMCA licensed. The 1210 Series provides the lowest leakage class available and is qualified for vertical or horizontal installation with airflow in either direction. Airfoil blade design and elimination of blade sills, top and bottom, provide lowest pressure drop. Unique inter-locking double skin blade design eliminates combustible blade seals and provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

Frame: 5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized steel hat channel.

Blades: 14 ga. (2.0) equivalent galvanized steel formed airfoil on 5 1/2" (140) centers.

Linkage: Concealed in frame. 12 ga. (2.7) stainless steel.

Bearings: 1/2" (13) dia. self-lubricating oilite bronze.

Axles: 1/2" (13) dia. plated steel double bolted to blades.

Jackshaft: 1/2" (13) dia. cadmium plated steel.

Jamb Seals: Cambered stainless steel.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum		Maximum	
		Single Section		Single Section	Multiple Section
		Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal
24, 34, 36, 46, 48	250/350	Minimum size is 8" x 4" (203 x 102). Overall damper height is 8" (203), 6" (152) on duct sizes 18" x 5 1/2" (457 x 120) and under.		36" x 7 1/2" (914 x 191)	144" x 7 1/2" (3658 x 191)

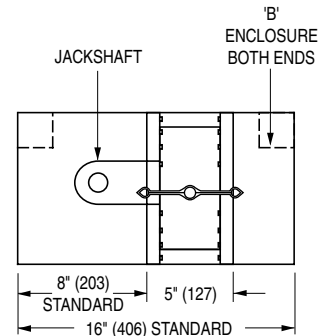
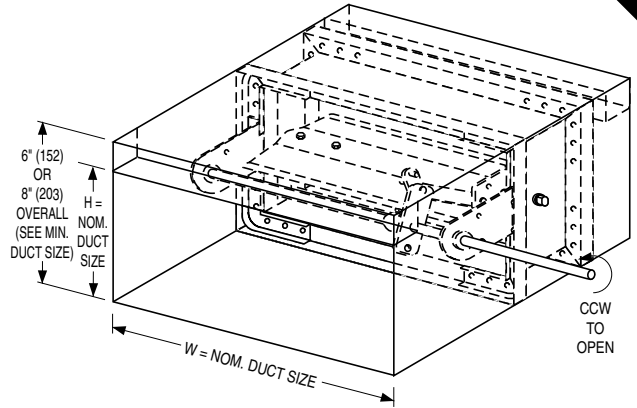
Note: Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1213).

SLEEVE/ENCLOSURE SELECTION:

- 1212 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. for dampers over 84" [2134] in width).
- 1212 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) in length and 10 through 20 ga. (3.5 through 1.0).

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F (Standard)
- I II @ 350°F (Optional)



DYNAMIC VELOCITY/PRESSURE RATING:

- 24 2000 fpm @ 4" w.g. (Standard)
- 34 3000 fpm @ 4" w.g.
- 36 3000 fpm @ 6" w.g.
- 46 4000 fpm @ 6" w.g.
- 48 4000 fpm @ 8" w.g. } (Optional)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION:

- External

ACTUATOR FAIL POSITION:

- Normally Closed (std.) Normally Open

OPTIONS:

- BS Stainless steel bearings
- MLS-300 Position indicator switch pack

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

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 4 - 24	1200	5 - 7 - 12	1210-2



SMOKE DAMPER
AIRFOIL BLADE • HIGH PERFORMANCE
ULTRA-LOW LEAKAGE
ROUND DUCT CONNECTION
MODEL: 1213 (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER (File # R9492) Leakage Class I or II at 250°F or 350°F elevated temperature.
- Meets NFPA 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- California State Fire Marshal Listing No. 03230-0935:107.
- City of New York. MEA # 366-03-M.
- Maximum velocity: Up to 4000 fpm @ 8" w.g.

The 1210 Series, dampers are ideal for applications where building codes require a leakage rated smoke damper, as part of a static smoke control or dynamic smoke management system.

The 1210 Series has been especially designed and tested to offer premium performance and is AMCA licensed. The 1210 Series provides the lowest leakage class available and is qualified for vertical or horizontal installation with airflow in either direction. Airfoil blade design and elimination of blade sills, top and bottom, provide lowest pressure drop. Unique inter-locking double skin blade design eliminates combustible blade seals and provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

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

Sizes (Duct Diameter):

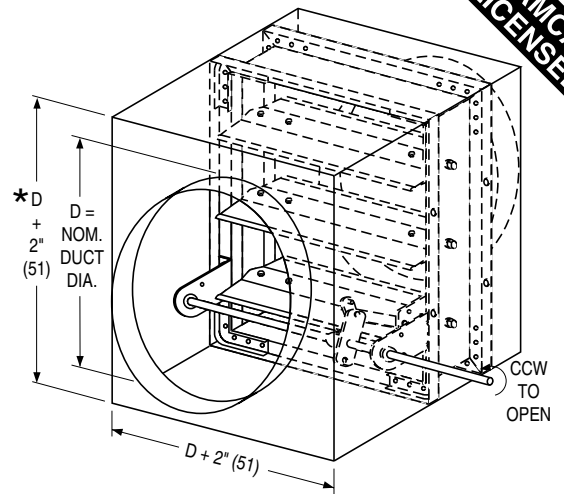
Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum		
		Single Section		Single Section	Multiple Section		
		Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal	
24, 34, 36, 48	250/350	4" (102) dia.		34" (864) dia.	94" (2388) dia.		
48	250			34" (864) dia.	94" (2388) dia.		
48	350			22" (559) dia.	44" (1118) dia.		

SLEEVE/ENCLOSURE SELECTION:

- 1213** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. for dampers over 84" [2134] in width).
- 1213** Non-standard sleeve. Specify _____ length ____ ga. Available up to 36" (914) in length and 10 through 20 ga. (3.5 through 1.0).

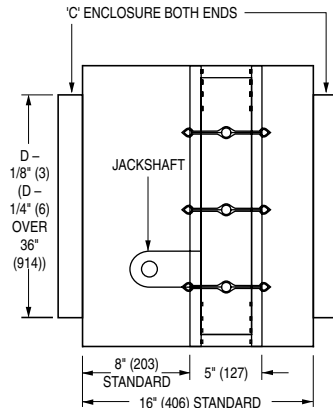
LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F (Standard)
- I II @ 350°F (Optional)



*** Exception:**

5" (127) duct dia. is 8" (203) overall height.



DYNAMIC VELOCITY/PRESSURE RATING:

- 24** 2000 fpm @ 4" w.g. (Standard)
- 34** 3000 fpm @ 4" w.g.
- 36** 3000 fpm @ 6" w.g.
- 46** 4000 fpm @ 6" w.g.
- 48** 4000 fpm @ 8" w.g. } (Optional)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION:

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

ACTUATOR FAIL POSITION:

- Normally Closed (std.) Normally Open

OPTIONS:

- BS** Stainless steel bearings
- MLS-300** Position indicator switch pack

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

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

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 4 - 24	1200	9 - 11 - 23	1210-3



SMOKE DAMPER
 AIRFOIL BLADE • HIGH PERFORMANCE
 ULTRA-LOW LEAKAGE • SQUARE, RECTANGULAR
 OR OVAL DUCT CONNECTION
 MODEL: 1213 (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- UL 555S & CANULC-S112.1 CLASSIFIED SMOKE DAMPER (File # R9492) Leakage Class I or II at 250°F or 350°F elevated temperature.
- Meets NFPA 90A, 92A, 92B, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- California State Fire Marshal Listing No. 03230-0935:107.
- City of New York. MEA # 366-03-M.
- Maximum velocity: Up to 4000 fpm @ 8" w.g.

The 1210 Series dampers are ideal for applications where building codes require a leakage rated smoke damper as part of a static smoke control or dynamic smoke management system.

The 1210 Series has been especially designed and tested to offer premium performance and is AMCA licensed. The 1210 Series provides the lowest leakage class available and is qualified for vertical or horizontal installation with airflow in either direction. Airfoil blade design and elimination of blade sills, top and bottom, provide lowest pressure drop. Unique inter-locking double skin blade design eliminates combustible blade seals and provides flame and smoke seal under fire conditions.

STANDARD SPECIFICATION:

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Blades: 14 ga. (2.0) equivalent galvanized steel formed airfoil on 5 1/2" (140) centers.
Linkage: Concealed in frame. 12 ga. (2.7) plated steel.
Bearings: 1/2" (13) dia. self-lubricating oilite bronze.
Axles: 1/2" (13) dia. plated steel double bolted to blades.
Jackshaft: 1/2" (13) dia. cadmium plated steel.
Jamb Seals: Cambered stainless steel.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum			Maximum	
		Single Section Vertical/Horizontal	Single Section Vertical/Horizontal	Multiple Section Vertical/Horizontal	Single Section Vertical/Horizontal	Multiple Section Vertical/Horizontal
24, 34, 36, 48	250/350	4" x 4" (102 x 102)	34" x 46" (864 x 1168)	142" x 94" (3607 x 2388) or 286" x 46" (7264 x 1219)	34" x 22" (864 x 559)	142" x 94" (3607 x 2388) or 286" x 46" (7264 x 1219)
48	250		34" x 46" (864 x 1168)	142" x 94" (3607 x 2388) or 286" x 46" (7264 x 1219)		
48	350		34" x 22" (864 x 559)	142" x 46" (3607 x 1168) or 286" x 22" (7264 x 559)		

SLEEVE/ENCLOSURE SELECTION:

- 1213 Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0) (18 ga. for dampers over 84" [2134] in width).
- 1213 Non-standard sleeve. Specify _____ length _____ ga. Available up to 36" (914) in length and 10 through 20 ga. (3.5 through 1.0).

LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F (Standard)
- I II @ 350°F (Optional)

DYNAMIC VELOCITY/PRESSURE RATING:

- 24 2000 fpm @ 4" w.g. (Standard)
- 34 3000 fpm @ 4" w.g.
- 36 3000 fpm @ 6" w.g.
- 46 4000 fpm @ 6" w.g.
- 48 4000 fpm @ 8" w.g. (Optional)

ACTUATOR SELECTION:

- Electric Pneumatic

ACTUATOR LOCATION:

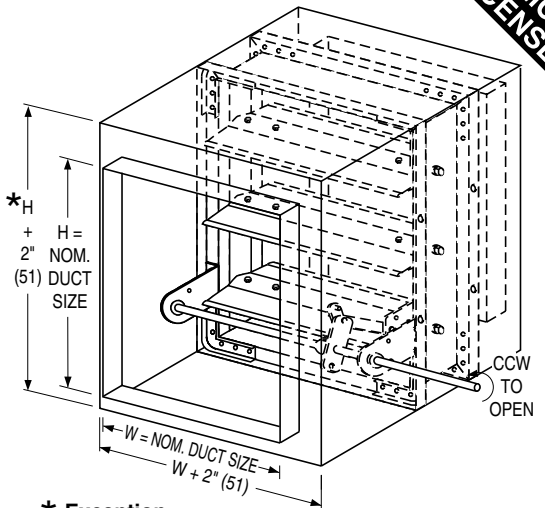
- External Internal (in the airstream)

SCHEDULE TYPE:

PROJECT:

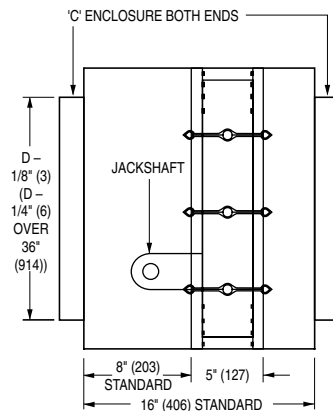
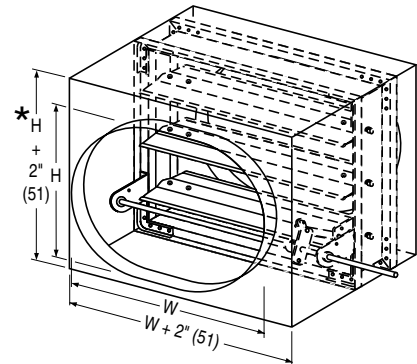
ENGINEER:

CONTRACTOR:



*** Exception:**

5" (127) duct height is 8" (203) overall height.



ACTUATOR FAIL POSITION:

- Normally Closed (std.) Normally Open

OPTIONS:

- BS Stainless steel bearings
- MLS-300 Position indicator switch pack

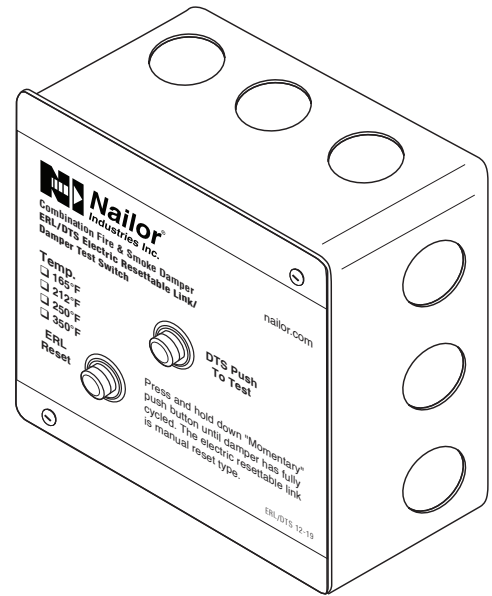
For installation instructions, see IOM-SDINST.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 4 - 24	1200	9 - 1 - 23	1210-4

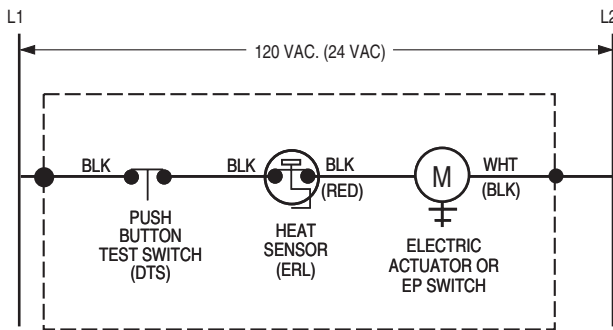
The DTS (Damper Test Switch) is an optional "momentary" push button test switch available on all Nailor smoke and combination fire/smoke dampers. The DTS provides the ability to "cycle test" the damper by pushing and holding down the button until the damper has cycled and closure has been visually verified, 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

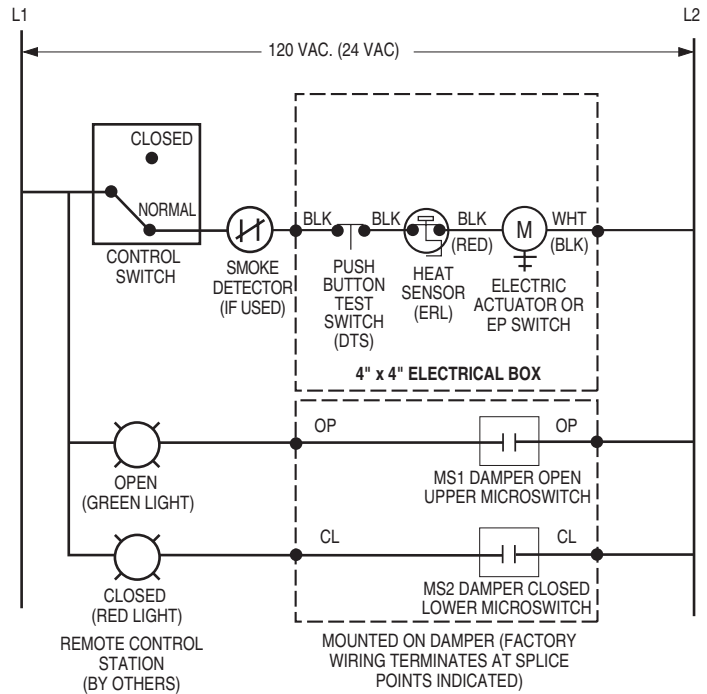


Figure 2. DTS/ERL with MLS-300 Belimo (actuator aux. switches) Position Indicator Package

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

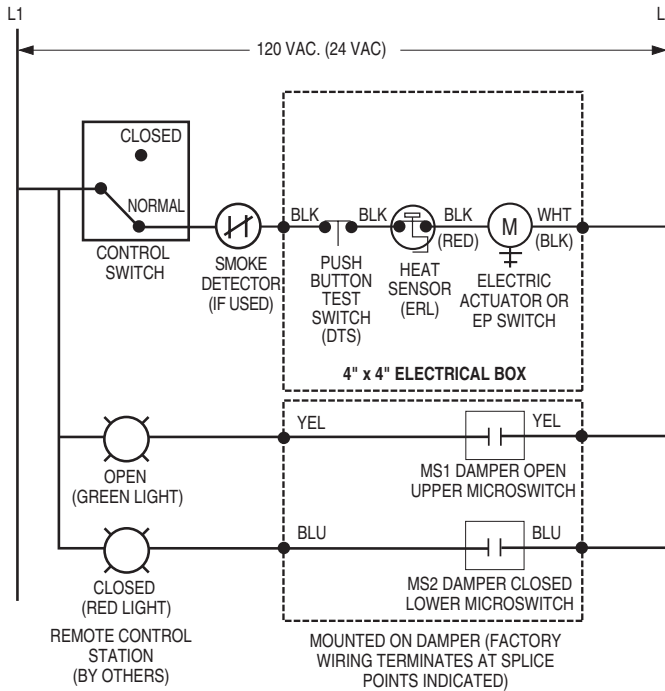


Figure 3. DTS/ERL with MLS-300 Nailor or Honeywell (actuator aux. switches) Position Indicator Package

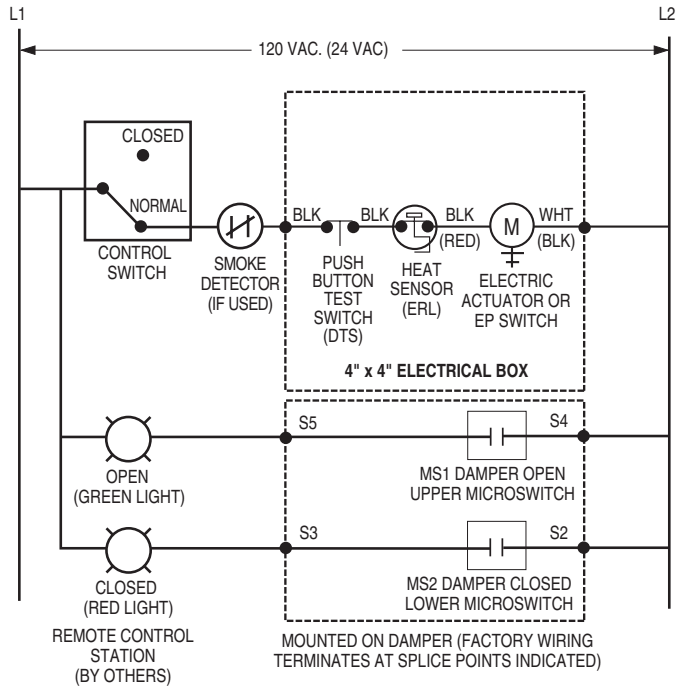
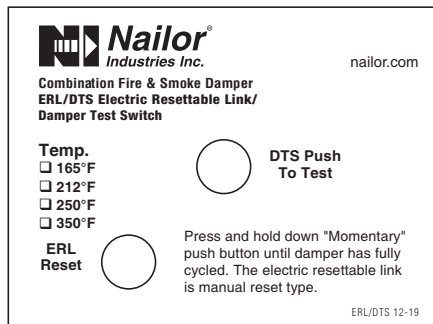
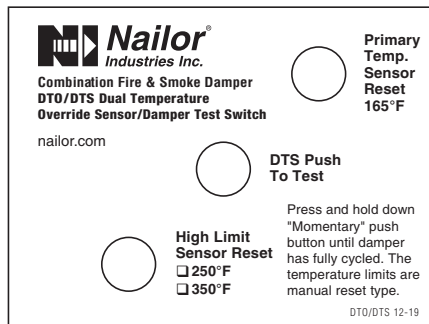


Figure 4. DTS/ERL with MLS-300 Siemens GJD Series (actuator auxiliary switches) Position Indicator Package

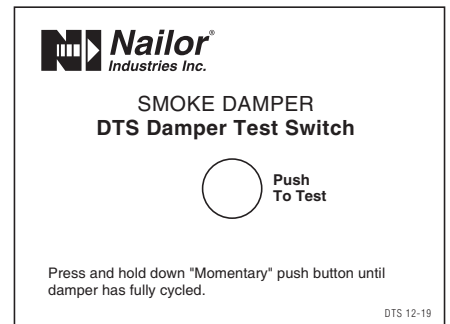
DTS LABEL VARIATIONS:



ERL/DTS Combination Fire/Smoke Damper



DTO/DTS Combination Fire/Smoke Damper



DTS Smoke Damper

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

Page 2 of 2

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 3 - 20

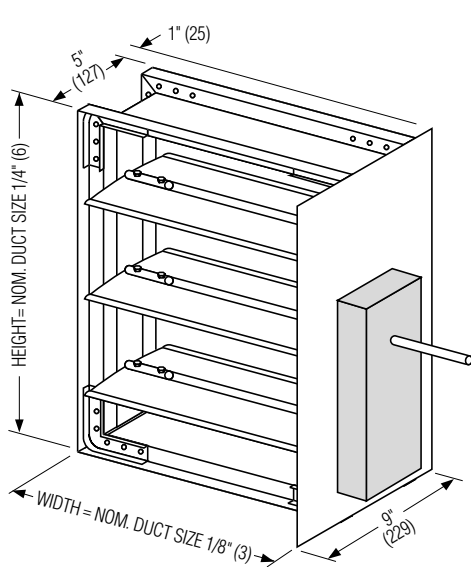
FD-ACC

3 - 29 - 18

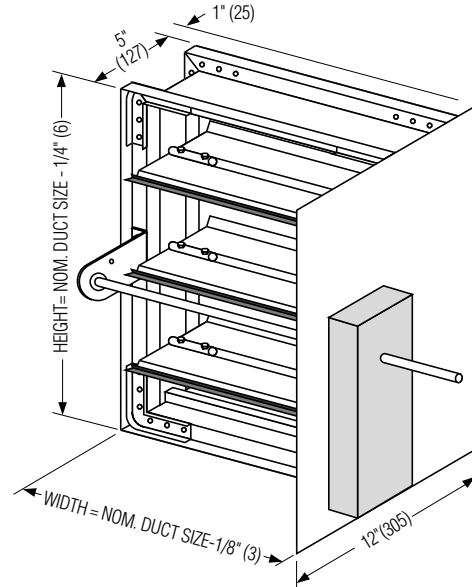
DTS



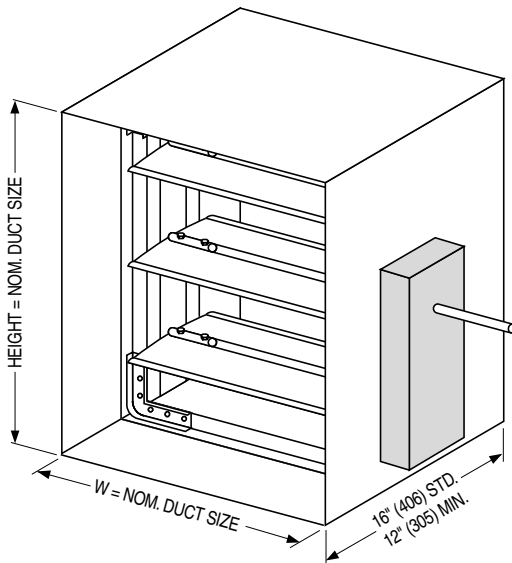
**SMP SIDE ACTUATOR MOUNTING PLATE
AND TYPE 'A' SLEEVE DETAIL
SMOKE DAMPERS
MODEL SERIES: 1210, 1260 AND 1280**



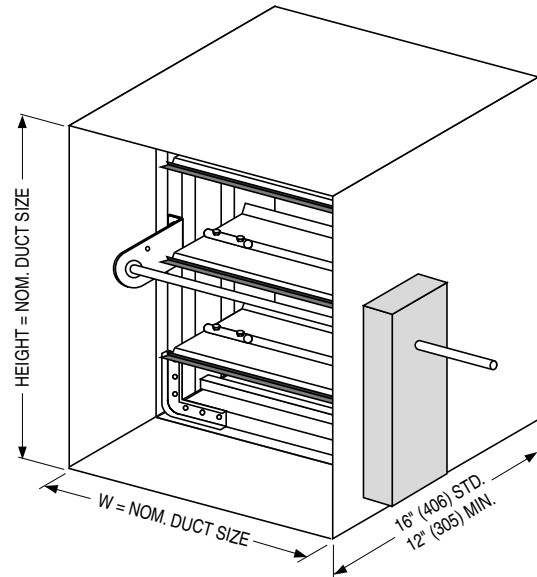
**SMP SIDE ACTUATOR MOUNTING PLATE
DIRECT DRIVE MODELS**



**SMP SIDE ACTUATOR MOUNTING PLATE
JACKSHAFT DRIVE MODELS**



**TYPE 'A' SLEEVE
DIRECT DRIVE MODELS**



**TYPE 'A' SLEEVE
JACKSHAFT DRIVE MODELS**

NOTE:

Smoke Dampers shall be installed in accordance with NFPA 90A, latest edition and Nailor installation instructions – see IOM-SDINST. Dampers must be installed within 24" (610) of the smoke barrier to conform with installation requirements.

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
11 - 4 - 13	1200	9-00R/1200-11	SMP-SL-1

PERFORMANCE DATA:

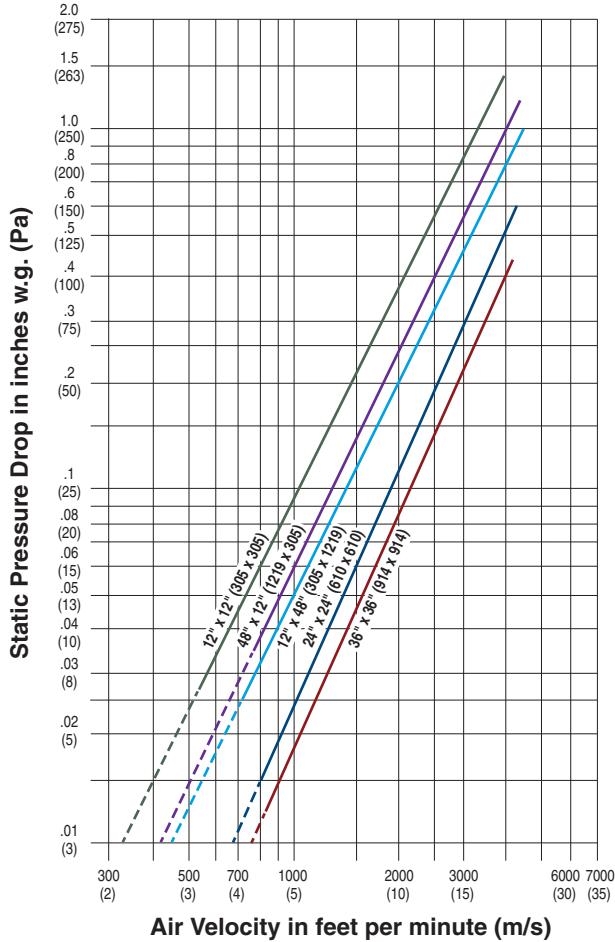
MODEL SERIES: 1210

LEAKAGE CLASS:

The 1210 Series Smoke Damper has been designed and qualified under UL 555S in order to provide maximum system design flexibility. It is available with a Class I or Class II leakage rating with all damper/actuator assemblies having been tested successfully at an elevated temperature of 250°F (121°C) or 350°F (177°C) under airflow of 4000 fpm (20 m/s) at 8" w.g. (2 kPa).

Maximum Performance Ratings	
UL 555S Leakage Rating	Class I
Maximum Velocity	4000 fpm (20 m/s)
Maximum Pressure	8 in. w.g. (2 kPa)
Maximum Temperature	350°F (177°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.



Nailor Industries Inc. certifies that the Model 1210 Damper shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only.