



SMOKE DAMPER
VERTICAL AIRFOIL BLADE
ULTRA-LOW LEAKAGE
HIGH PERFORMANCE
MODELS: 1210VB AND 1211VB (TYPE A)



QUALIFICATIONS:

- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER Leakage Class I or II at 250°F elevated temperature. (File # R9492)**
- **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.**

Model 1210VB (Vertical Blade) is a high performance smoke damper that provides superior protection and versatility. The vertical blade configuration allows for the actuator to be mounted below the damper and is ideal for applications where bottom access is desired or where there isn't space for a side mounted actuator.

The 1210VB 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 1210VB 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. Airfoil blade design and elimination of blade sills provide low 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: Stainless steel.

Sizes (Damper W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum	Maximum
		Single Section Vertical	Single Section Vertical
24	250	8" x 8" (203 x 203)	48" x 36" (1219 x 914)

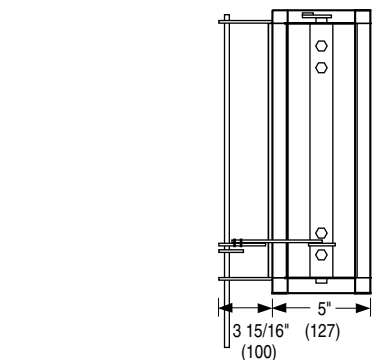
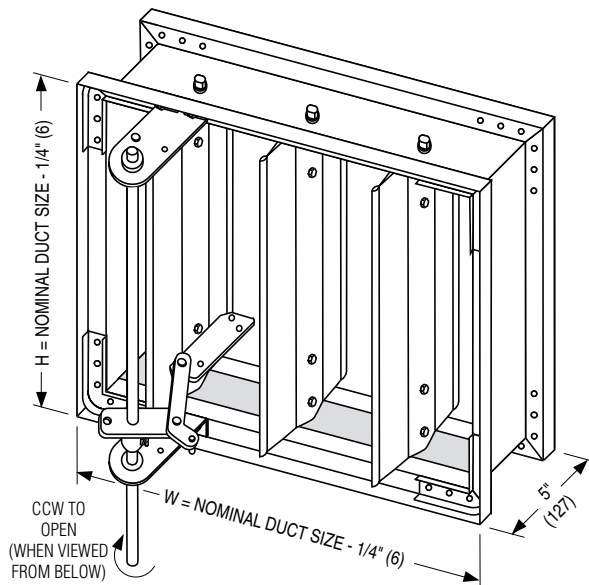
Notes:

1. Dampers with duct heights less than 8" (203) require a Type 'B' sleeve enclosure (Model 1212VB). Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1213VB).

2. Multiple Section Assemblies are not permitted.

BASE MODEL SELECTION:

- 1210VB** With actuator mounting plate
- 1211VB** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).
- 1211VB** 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).



LEAKAGE CLASS/ELEVATED TEMPERATURE:

I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION: Electric.

ACTUATOR LOCATION: External, bottom mount.

ACTUATOR FAIL POSITION: Closed.

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.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm)

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 11 - 24	1200	5 - 7 - 12	1210VB-1



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



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

QUALIFICATIONS:

- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER** Leakage Class I or II at 250°F elevated temperature. (File # R9492)
- **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.**

Model 1212VB (Vertical Blade) is a high performance smoke damper that provides superior protection and versatility. The vertical blade configuration allows for the actuator to be mounted below the damper and is ideal for applications where bottom access is desired or where there isn't space for a side mounted actuator.

The 1210VB 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 1210VB 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. Airfoil blade design and elimination of blade sills provide low 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: Stainless steel.

Sizes (Duct W x H):

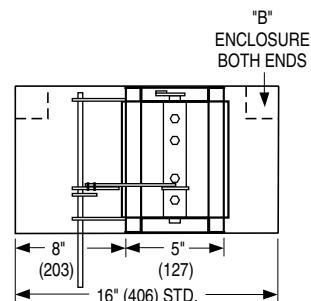
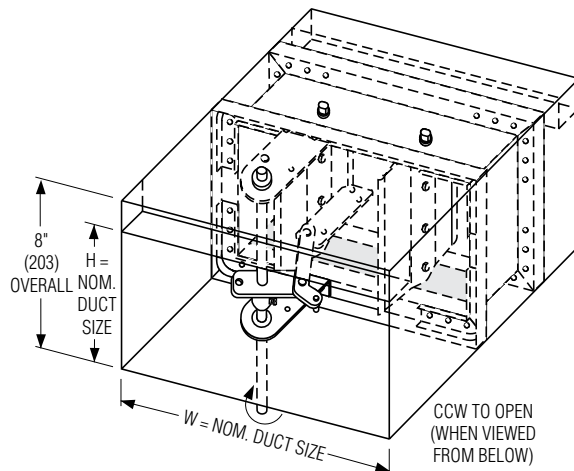
Velocity/ Pressure Rating	Elevated Temp. °F	Minimum	Maximum
		Single Section Vertical	Single Section Vertical
24	250	8" x 4" (203 x 102) (overall damper height is 8" [203]).	48" x 7 1/2" (1219 x 191)

Notes:

1. Duct sizes less than 8" (203) in width require a Type 'C' enclosure (Model 1213VB).
2. Multiple Section Assemblies are not permitted.

BASE MODEL SELECTION:

- 1212VB** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).
- 1212VB** 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).



LEAKAGE CLASS/ELEVATED TEMPERATURE:

I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION: Electric.

ACTUATOR LOCATION: External, bottom mount.

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

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

For installation instructions, see IOM-SDINST.

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 11 - 24	1200	5 - 7 - 12	1210VB-2



SMOKE DAMPER
VERTICAL AIRFOIL BLADE
ROUND DUCT CONNECTION
HIGH PERFORMANCE
MODEL: 1213VB (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER** Leakage Class I or II at 250°F elevated temperature. (File # R9492)
- **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.**

Model 1213VB (Vertical Blade) is a high performance smoke damper that provides superior protection and versatility. The vertical blade configuration allows for the actuator to be mounted below the damper and is ideal for applications where bottom access is desired or where there isn't space for a side mounted actuator.

The 1210VB 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 1210VB 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. Airfoil blade design and elimination of blade sills provide low 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: Stainless steel.

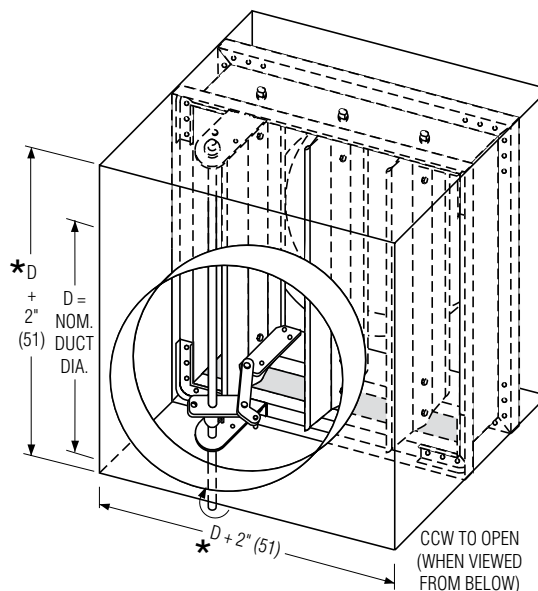
Sizes (Duct Diameter):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum	Maximum
		Single Section Vertical	Single Section Vertical
24	250	4" (102) dia. (overall damper size is 8" x 8" [203 x 203]).	34" (864) dia.

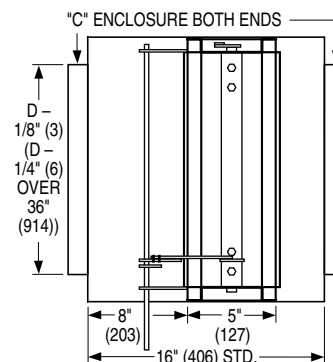
Note: Multiple Section Assemblies are not permitted.

SLEEVE/ENCLOSURE SELECTION:

- 1213VB** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).
- 1213VB** 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).



\star or 8" (203) min.



LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

DYNAMIC VELOCITY/PRESSURE RATING:

24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION: Electric.

ACTUATOR LOCATION: External, bottom mount.

ACTUATOR FAIL POSITION: Closed.

OPTIONS:

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

For installation instructions, see IOM-SDINST.

SCHEDULE TYPE:				
PROJECT:	Dimensions are in inches (mm)			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 11 - 24	1200	5 - 7 - 12	1210VB-3



SMOKE DAMPER
VERTICAL AIRFOIL BLADE
SQUARE, RECT. OR OVAL DUCT CONNECTION
HIGH PERFORMANCE
MODEL: 1213VB (TYPE C SLEEVE ENCLOSURE)



QUALIFICATIONS:

- **UL 555S & CAN/ULC-S112.1 CLASSIFIED SMOKE DAMPER** Leakage Class I or II at 250°F elevated temperature. (File # R9492)
- **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.**

Model 1213VB (Vertical Blade) is a high performance smoke damper that provides superior protection and versatility. The vertical blade configuration allows for the actuator to be mounted below the damper and is ideal for applications where bottom access is desired or where there isn't space for a side mounted actuator.

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The 1210VB 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. Airfoil blade design and elimination of blade sills provide low 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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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: Stainless steel.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Elevated Temp. °F	Minimum	Maximum
		Single Section Vertical	Single Section Vertical
24	250	4" x 4" (102 x 102) (overall damper size is 8" x 8" [203 x 203] min.).	46" x 34" (1168 x 864)

Note: Multiple Section Assemblies are not permitted.

SLEEVE/ENCLOSURE SELECTION:

- 1213VB** Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).
- 1213VB** 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).

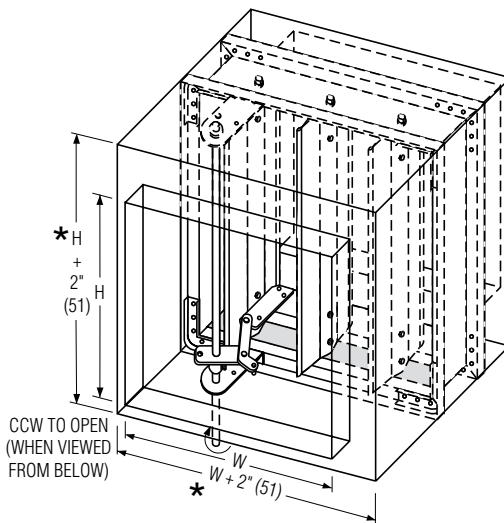
LEAKAGE CLASS/ELEVATED TEMPERATURE:

- I II @ 250°F

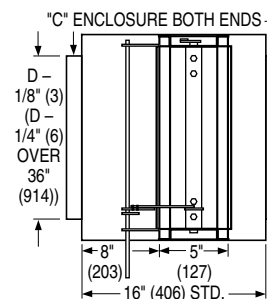
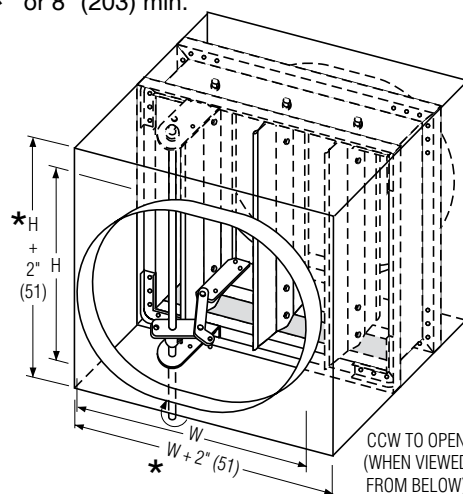
DYNAMIC VELOCITY/PRESSURE RATING: 24 2000 fpm @ 4" w.g.

ACTUATOR SELECTION: Electric.

ACTUATOR LOCATION: External, bottom mount.



* or 8" (203) min.



ACTUATOR FAIL POSITION: Closed.

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:				
CONTRACTOR:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
	10 - 11 - 24	1200	5 - 7 - 12	1210VB-4

DAMPER TEST SWITCH

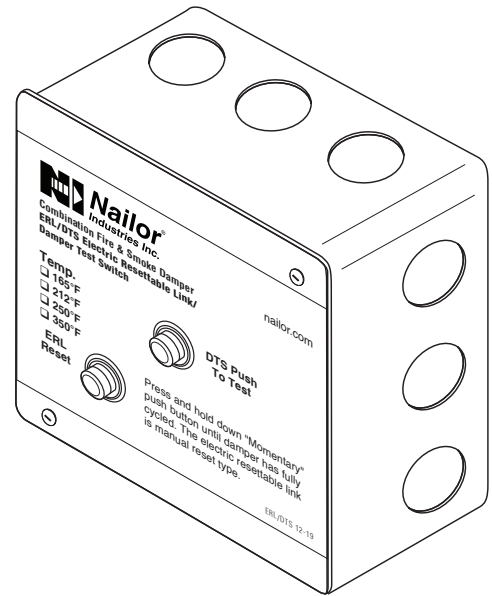
FOR USE WITH ALL SMOKE AND COMBINATION FIRE/SMOKE DAMPERS

MODEL: DTS

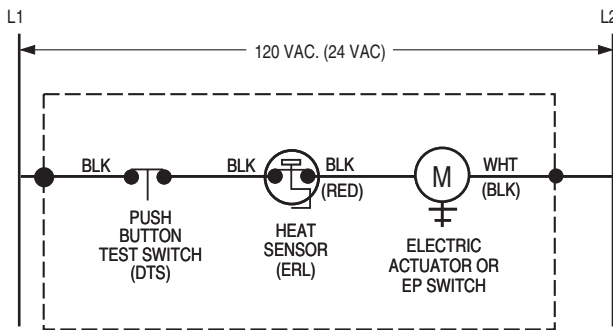
The DTS (Damper Test Switch) is an optional "momentary" push button test switch available on all Nailor smoke and combination fire/smoke dampers. The DTS provides the ability to "cycle test" the damper by pushing and holding down the button until the damper has cycled and closure has been visually verified,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

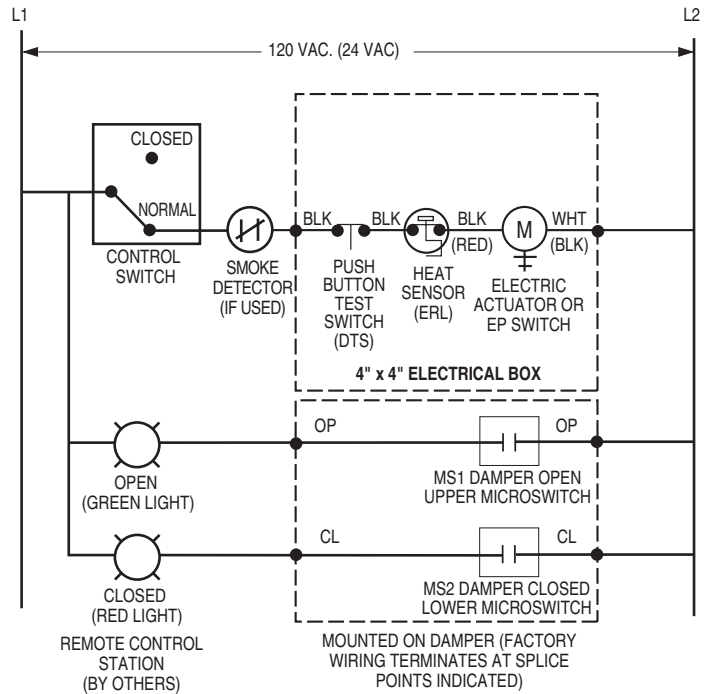


Figure 2. DTS/ERL with MLS-300 Belimo (actuator aux. switches) Position Indicator Package

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

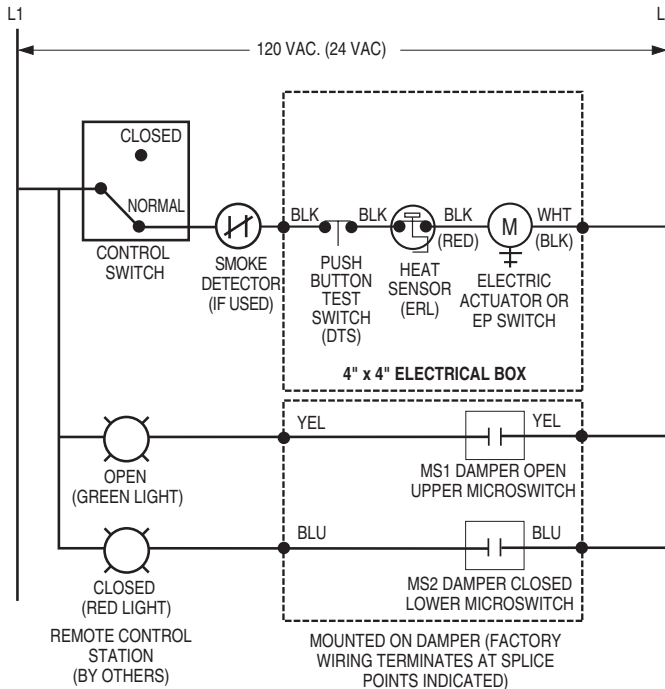


Figure 3. DTS/ERL with MLS-300 Nailor or Honeywell (actuator aux. switches) Position Indicator Package

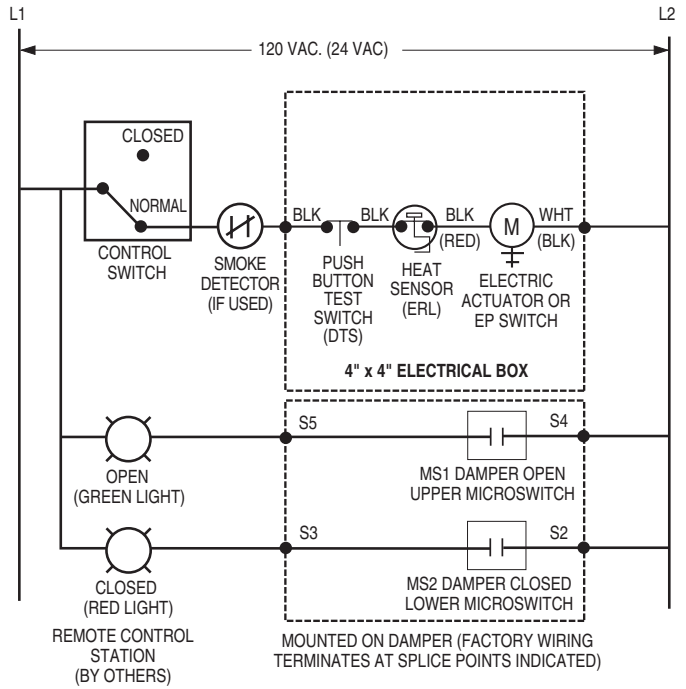
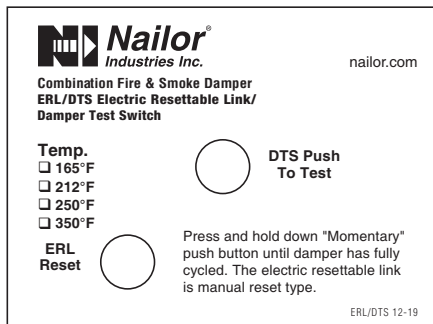
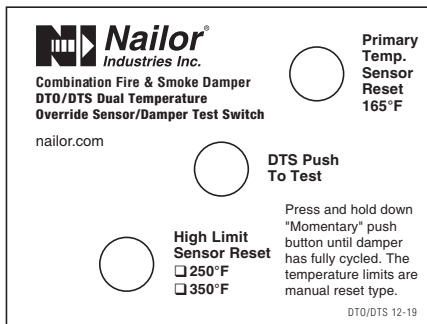


Figure 4. DTS/ERL with MLS-300 Siemens GJD Series (actuator auxiliary switches) Position Indicator Package

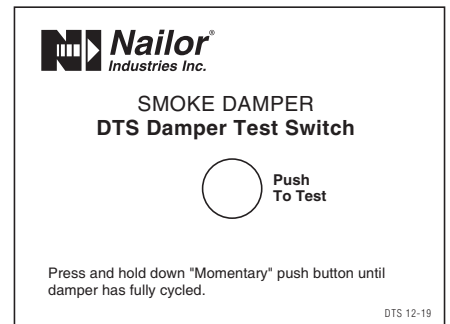
DTS LABEL VARIATIONS:



ERL/DTS Combination Fire/Smoke Damper



DTO/DTS Combination Fire/Smoke Damper



DTS Smoke Damper

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR