



**DYNAMIC ROUND FIRE DAMPER**  
 1 1/2 HR. LABEL • VERT. OR HORIZ.  
 FOR USE IN DYNAMIC OR STATIC SYSTEMS  
**MODEL: 1290F**



**QUALIFICATIONS:**

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).**
- **Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) Building Code requirements.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0101.**
- **Maximum velocity: 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).**

Model 1290F fire damper is ideal for applications where building codes require a fire damper for the protection of ductwork penetrations in walls or floors that have a fire resistance rating of up to 2 hours. The 1290F is classified for use in dynamic "fans on" systems where the HVAC system remains operative in the event of a fire. Damper closure under airflow is assured.

The 1290F is an economical true round fire damper designed and qualified specifically for point-of-origin fire containment where round ductwork passes through metal or wood stud drywall partitions and masonry walls or floors.

Features include the industry proven over-center knee lock design with high torque spring/fusible link closure. The 1290F is supplied as standard with a crank arm and locking screw which holds the damper in the fully open position, but may also be used for system balancing if required.

**STANDARD CONSTRUCTION:**

- Frame:** 20 ga. (1.0) galvanized steel integral sleeve and retaining plates.
- Blade:** 2 x 20 ga. (1.0) galv. steel laminated together. 14 ga. (2.0) equivalent thickness.
- Linkage:** Jackshaft to blade.
- 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. Supplied with factory mounted hand locking quadrant.
- Fusible Link:** 165°F (74°C) standard. 212°F (100°C) available.

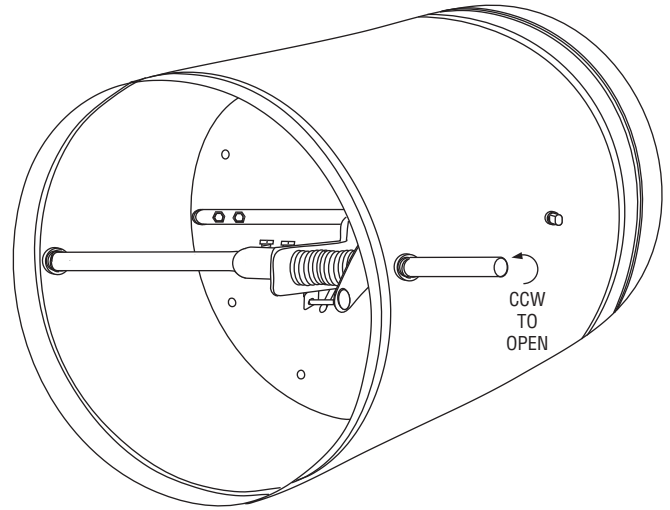
**Sizes (Duct Dia.):**

Minimum	Maximum
6" (152) dia.	24" (610) dia.

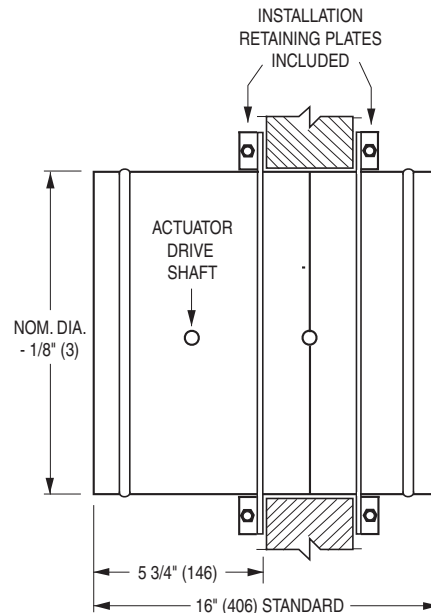
**Note:** Dampers available in 1" (25) increments. Vertical or horizontal installation.

**OPTIONS:**

- BS** Stainless steel bearings
- MLS-300** Position indicator switch pack (8" (203) dia. minimum size required).



(Retaining Plates not shown)



Wall Thickness	Min. Sleeve Length
4 to 8 (102 to 203)	16 (406)
10 to 12 (254 to 305)	20 (508)
14 to 16 (356 to 406)	24 (610)

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

For installation instructions, see IOM-1290FINST.  
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 28 - 14	1200	11 - 28 - 11	1290F-1



**DYNAMIC STAINLESS STEEL ROUND FIRE DAMPER**  
**1 1/2 HR. LABEL • VERT. OR HORIZ.**  
**FOR USE IN DYNAMIC OR STATIC SYSTEMS**  
**MODEL: 1290F-SS**



**QUALIFICATIONS:**

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).**
- **Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) Building Code requirements.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0101.**
- **Maximum velocity: 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).**

Model 1290F-SS fire damper is ideal for high humidity or mildly corrosive applications where building codes require a fire damper for the protection of ductwork penetrations in walls or floors that have a fire resistance rating of up to 2 hours. The 1290F-SS is classified for use in dynamic "fans on" systems where the HVAC system remains operative in the event of a fire. Damper closure under airflow is assured.

The 1290F-SS is a true round fire damper designed and qualified specifically for point-of-origin fire containment where round ductwork passes through metal or wood stud drywall partitions and masonry walls or floors.

Features include the industry proven over-center knee lock design with high torque spring/fusible link closure. Supplied as standard with a crank arm and locking screw which holds the damper in the fully open position, but may also be used for system balancing if required. Available in either Type 304 or 316 stainless steel.

**STANDARD CONSTRUCTION:**

- Frame:** 20 ga. (1.0) stainless steel integral sleeve and retaining plates.
- Blade:** 2 x 20 ga. (1.0) stainless steel laminated together. 14 ga. (2.0) equivalent thickness.
- Linkage:** Stainless steel; jackshaft to blade.
- Bearings:** 1/2" (13) dia. stainless steel.
- Axles:** 1/2" (13) dia. stainless steel double bolted to blades.
- Jackshaft:** 1/2" (13) dia. stainless steel. Supplied with factory mounted hand locking quadrant.
- Fusible Link:** 165°F (74°C) standard. 212°F (100°C) available.

**Sizes (Duct Dia.):**

Minimum	Maximum
6" (152) dia.	24" (610) dia.

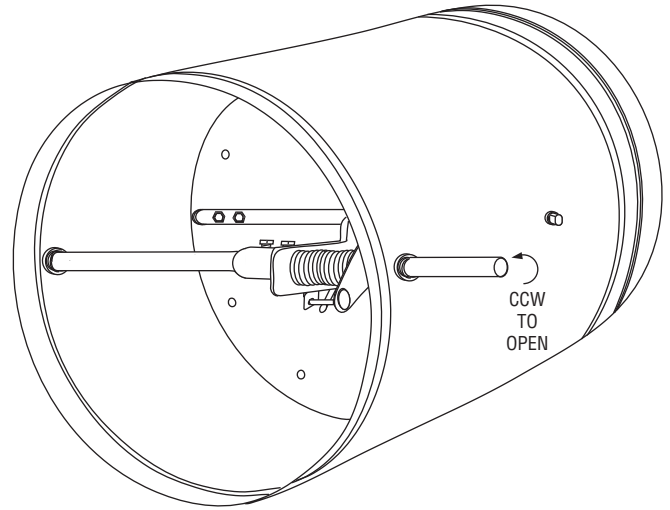
**Note:** Dampers available in 1" (25) increments. Vertical or horizontal installation.

**CONSTRUCTION TYPE:**

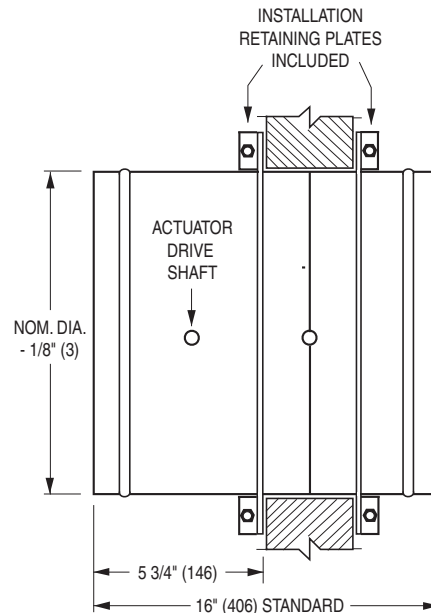
- 304** Type 304 Stainless Steel construction (Standard)
- 316** Type 316 Stainless Steel construction (Optional)

**OPTIONS:**

- MLS-300** Position indicator switch pack (8" (203) dia. minimum size required)



(Retaining Plates not shown)



Wall Thickness	Min. Sleeve Length
4 to 8 (102 to 203)	16 (406)
10 to 12 (254 to 305)	20 (508)
14 to 16 (356 to 406)	24 (610)

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

For installation instructions, see IOM-1290FINST.  
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 28 - 14	1200	11 - 28 - 11	1290F-SS-1



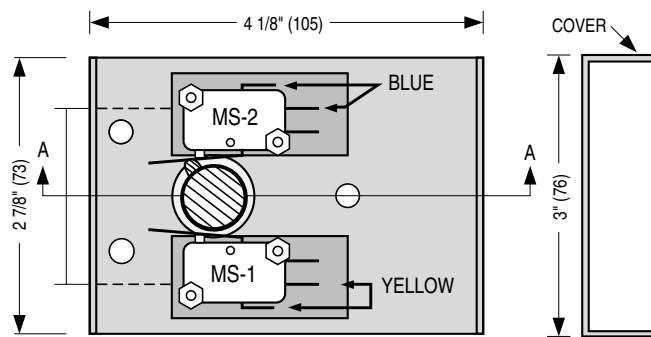
## POSITION INDICATOR PACKAGE

FOR COMBINATION FIRE / SMOKE, SMOKE AND CONTROL DAMPERS

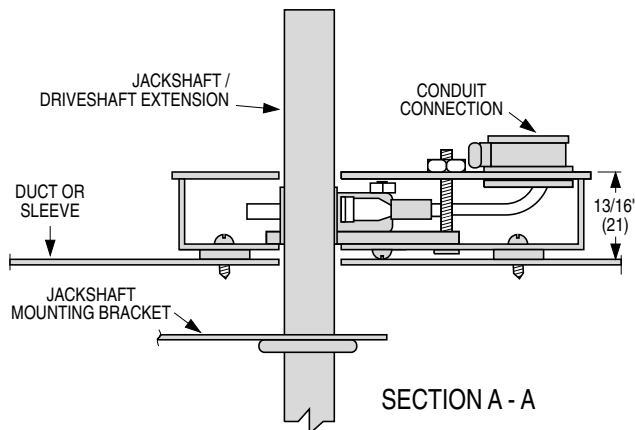
MODEL: MLS-300. For use with GGD221/121 (electric) and 331-2961 / 3060 (pneumatic) actuators

### APPLICATION:

- The MLS-300 Position Indicator Package operates as a function of the damper blade position and provides the ability to remotely indicate damper blade position.
- The MLS-300 incorporates two SPDT switches and provides a positive open or closed signal when used in conjunction with remote indicator lights. MLS-300's are used in active smoke control management systems to positively indicate the status of all combination fire/smoke and smoke dampers in the building.
- The MLS-300 is available only as a factory installed option on combination fire/smoke and smoke dampers.
- The MLS-300 may also be used to provide a stop/start circuit for remote fans or to signal alarms.



EXTERNAL RIGHT HAND MOUNTING: FRONT VIEW (LESS COVER)



### Position Indicator Microswitch Data:

Switch Type: Single Pole double throw (2)  
 15 Amps, 1/3 HP, 125, 250 Vac or 24 Vdc.  
 1/2 Amp, 125 Vdc. 1/4 Amp, 250 Vdc.

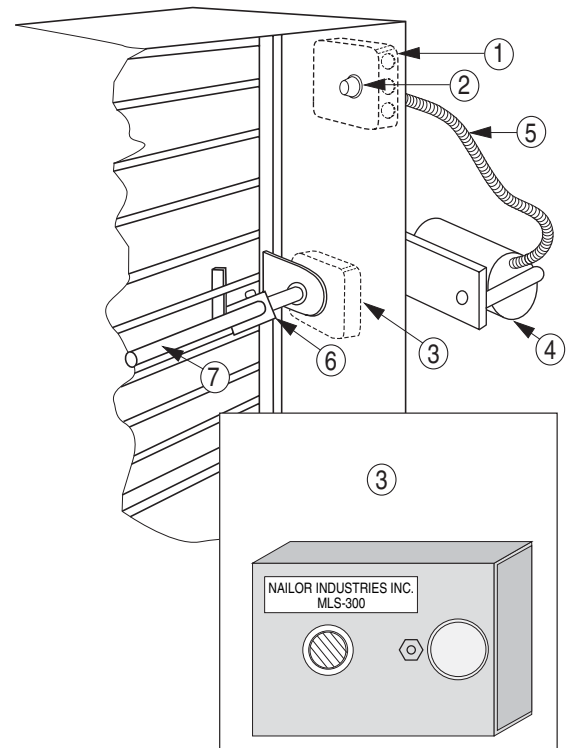
### Standard Mounting:

**MS1** is damper open signal.

**MS2** is damper closed signal.

### Non-Standard Mounting:

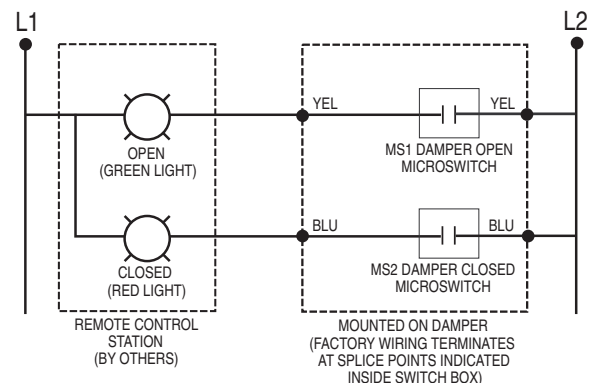
**Important:** Installer must double check continuity of MS1 and MS2 before wiring to determine which switch signals the damper's open or closed position.



### Typical Combination Fire / Smoke Damper Installation With UL Listed Actuator

#### Description:

1. Electrical Junction Box (and EP switch with pneumatic actuator[s])
2. ERL 165, 212, 250, 350°F Electric Resettable Link (Heat Sensor)
3. Position indicator package
4. Actuator (pneumatic illustrated).
5. Silicone Tubing or Flexible Conduit
6. Over-Center Knee Lock
7. Jackshaft



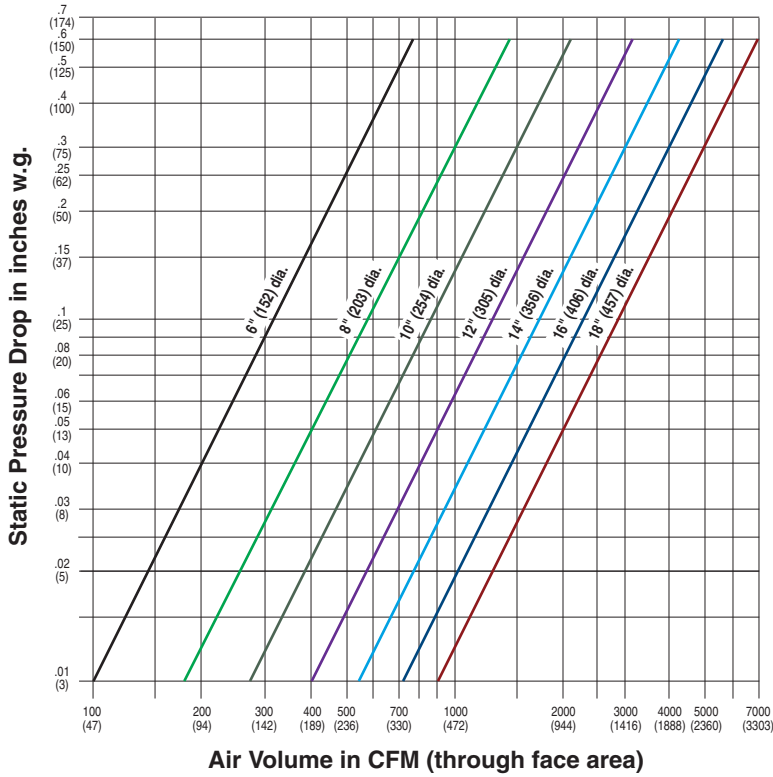
Dimensions are in inches (mm).

<b>SCHEDULE TYPE:</b>				
<b>PROJECT:</b>				
<b>ENGINEER:</b>	<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>	<b>DRAWING NO.</b>
<b>CONTRACTOR:</b>	7 - 20 - 07	FD - ACC	12 - 4 - 02	MLS-300-2

## PERFORMANCE DATA:

MODEL SERIES: 1290F - 1 1/2 HOUR LABEL AND 1290F-SS - 1 1/2 HOUR LABEL

### PRESSURE DROP



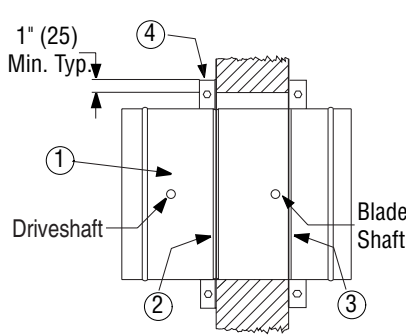
Pressure Drop tested per AMCA Standard 500-D, Fig. 5.5.

1290F Maximum Performance Ratings	
UL 555 Fire Rating	1 1/2 Hour
Maximum Velocity	2000 fpm (10 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)

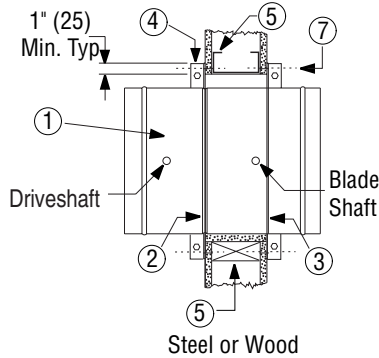
1290F-SS Maximum Performance Ratings	
UL 555 Fire Rating	1 1/2 Hour
Maximum Velocity	2000 fpm (10 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)

**QUALIFICATIONS:**

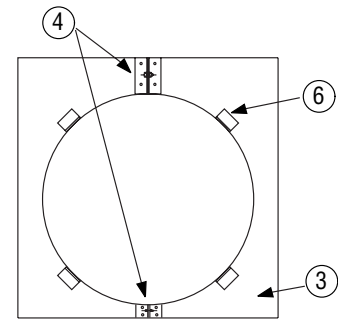
- UL 555 & CAN/ULC-S112 CLASSIFIED FIRE DAMPER 1 1/2 hr. Label (File #'s R9492 & R19569).
- Meets NFPA 80, 90A and 101 as well as IBC & NBC (Canada) Building Code requirements.
- California State Fire Marshall Listing No. 03225-0935:101.
- City of New York. MEA# 336-03-M.
- These dampers are qualified for installation in 1 hr. and 2 hr. rated masonry walls or floors and 1 hr. and 2 hr. rated metal or wood stud drywall partitions.



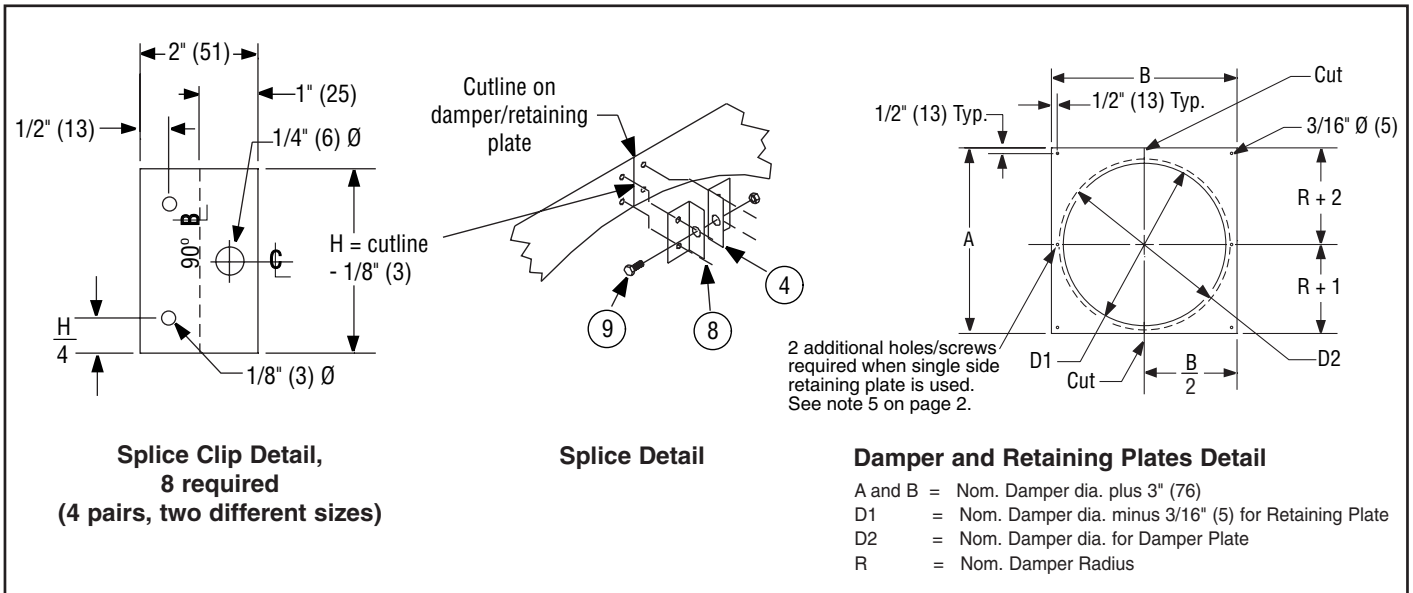
**Figure 1. Masonry Wall or Floor**



**Figure 2. Drywall Partition**



**Figure 3. Damper Plate**



**ITEMS:**

1. Model 1290F or 1290F-SS fire damper.
2. Retaining Plate, 20 gauge (1.0) galvanized steel (1290F) or stainless steel (1290F-SS).
3. Damper Plate, 20 gauge (1.0) galvanized steel (1290F) or stainless steel (1290F-SS).
4. Splice clips, 20 gauge (1.0) galvanized steel (1290F) or stainless steel (1290F-SS), two pairs for each plate.
5. Steel or wood runner.
6. Retaining clip - 1" x 1" x 1" (25 x 25 x 25) 20 gauge (1.0) galvanized steel (1290F) or stainless steel (1290F-SS) angle (see note 5).
7. #10 sheet metal screw
8. 1/8" (3) dia. steel pop rivet, or #10 x 1/2" (13) sheet metal screws, or tack or spot welds.
9. 1/4" (6) dia. x 1" (25) long nut and bolt for securing splice clip halves together.

**For Metal and Wood Stud Framing in Drywall Partitions Instructions; See doc. FDSWSFINST**

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## GENERAL INSTALLATION:

1. Installation shall be in accordance with NFPA 90A, latest edition. Connecting duct gauge shall be 20 gauge (1.0) maximum (standard integral damper sleeve) and in accordance with SMACNA Duct Construction Standards. (Exception, see Note 7).
2. The square (drywall/masonry) or round (masonry) wall opening shall be 1" (25) larger than the overall size of the damper diameter.
3. If not supplied, fabricate retaining plate and damper plate using dimensions shown in details.
4. Install retaining plate in groove on actuator side of damper using 1/4" (6) dia. nut and bolt through splice clip. Install damper within wall opening as shown in Figure 1 or 2. Install damper plate and clamp using 1/4" (6) dia. nut and bolt through splice clip. Both retaining and damper plates should be tight to the wall.
5. On drywall installations screw the retaining and damper plates to the wall through the 3/16" (5) dia. holes in the corners of the plates. Major diameter or body of screws must engage metal or wood studs or runners. On masonry installations, the damper plate shown in Fig. 3 should be used. This has four equally spaced clips 1" x 1" x 1" (25 x 25 x 25) 20 gauge (1.0) which are attached to the plate and damper sleeve using 3/16" (5) rivets, tack or spotwelds. (Make sure that fasteners do not interfere with the operation of the damper blade). For dampers 12" (305) dia. or less, single side retaining plate may be used (damper plate optional) but retaining plate must be fastened to wall or floor with 6 screws instead of 4.
6. The connecting duct shall not be continuous through the wall or floor but shall terminate at each end of the damper sleeve. Sleeves shall extend a maximum of 6" (152) on either side of the wall or floor opening or 16" (406) on one side intended for use with an actuator or an access door. The sleeve may extend a maximum of 16" (406) on each side when access door and actuator are on opposite sides.
7. Connecting ducts shall be attached using three equally spaced #10 sheet metal screws or a 4" (102) wide draw band spanning the joint. Duct sealant may be used. If damper frame/sleeve and connecting duct are 16 gauge (1.61), a rigid duct connection may be used.
8. **Maximum Damper Size:** 24" (610) dia. Minimum size is 6" (152) dia.

## REFER TO THE APPROPRIATE NAILOR INSTALLATION INSTRUCTION SUPPLEMENTS FOR ADDITIONAL INFORMATION OR SPECIAL REQUIREMENTS:

MLS-300 (Nailor) POSITION INDICATOR  
STEEL AND WOOD STUD FRAMING  
CAVITY SHAFT WALL PARTITIONS

MLS3N  
FDSWSFINST  
FDCSWINST

Dimensions are in inches (mm).

Page 2 of 2



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Las Vegas, Nevada  
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Fax: 702-638-0400

Toronto, Canada  
Tel: 416-744-3300  
Fax: 416-744-3360

Calgary, Canada  
Tel: 403-279-8619  
Fax: 403-279-5035

Dampers are an essential part of the fire protection system in a building. The NFPA recommends that fire dampers be tested periodically to verify the operational abilities of each installed damper. See NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, for Operational and Periodic Inspection and Testing details.

**CAUTION:**

High torque helical spring under tension, ensure HVAC fans are turned off. Testing spring assisted fire dampers under airflow conditions is **NOT RECOMMENDED** and may severely damage or destroy ductwork. Use protective eyewear or safety glasses. Keep hands out of the blade path, as this can cause serious injury. Keep any hard objects or tools out of the blade path as they can damage the blades when closing.

**Releasing of the fusible link**

1. Using a suitable heat source, apply heat at a slightly higher temperature than the rating of the fusible link until the link melts. When applying the heat to the fusible link position the heat source in a manner so no heat is directed towards the spring as the excessive heat can negatively affect the spring performance.

**AS SOON AS THE LINK HAS MELTED, THE SPRING WILL FORCE THE BLADES TO CLOSE INSTANTANEOUSLY. THE BLADE PATH MUST BE KEPT CLEAR.**

**Reloading the spring assembly**

2. Loosen the jackshaft from the bolt on crank arm quadrant, located on the jackshaft side opposite of the spring assembly **(A)**. Do not remove the bolt completely. See Detail 1.

3. Attach a pair of vise grips on the jackshaft **(B)** and turn upwards until the two pins on the spring assembly are at a distance at which the new fusible link can be installed **(C)**. This is approximately 90° of rotation. See Detail 2.

**Note:** On smaller size dampers, two vise grips may be required to open the damper. Use one vice grip to open as much as the duct free area will allow, then set the second vise grips on the jackshaft per above. Unlock the first set of vise grips, remove and turn the second set upwards as free area will allow. Repeat as necessary.

4. Place the new fusible link over the two pins on the spring assembly (making sure temperature rating is visible) and locate in the pin grooves **(C)**. See Detail 2.

**Required Items:**

- (1) Protective eyewear or safety glasses
- (1) Pair of work gloves
- (1) Suitable heat source
- (2) Vise grips
- (1) 1/2" (13) wrench
- (1) Needle nose pliers
- (1) Replacement "Globe" Fusible link per damper section, of the same temperature rating as the original link.



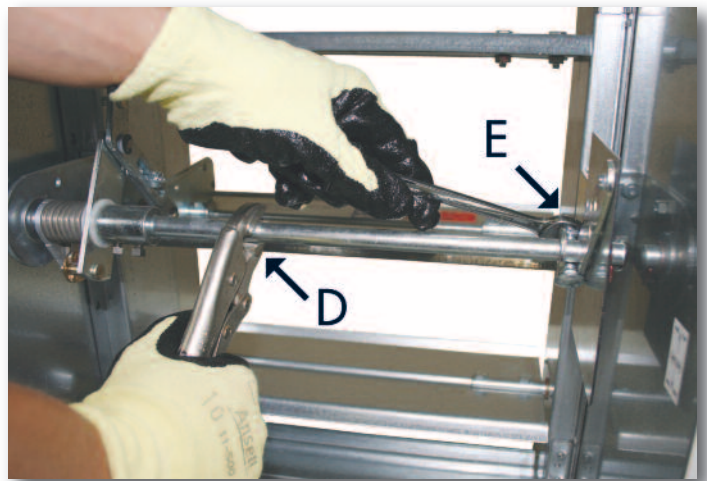
Detail 1



Detail 2

5. Manually open the damper to 100% full open position (D). See Detail 3.
6. Tighten the bolt on the crank arm (E). See Detail 3.

**Reopening spring assisted fire dampers may be extremely difficult and in some cases, impossible.** If it is determined that the damper is impossible or impractical to test or reopen, a thorough examination of the blade path is required to ensure that nothing will prevent the damper from closing. Common obstructions include: racked damper frames, retaining angle installation screws, construction debris and contaminants.



Detail 3

### Periodic Inspection, Testing and Maintenance

Consult your local building code to verify whether there is a required maintenance and testing schedule. Most local jurisdictions reference NFPA 80 for Fire Dampers.

Per NFPA 80, each damper should be inspected 1 year after installation and then every 4 years, except for hospitals, where the frequency is every 6 years.

1. Remove any obstructions, dirt, rust, corrosion, or other observed conditions that could impede proper damper operation. Clean damper blades and other moving parts if necessary. Use of a mild detergent or solvents is recommended for any cleaning required.

2. Check closure springs. If damaged or defective, repair or replace.

3. Linkage and jackshaft bearing brackets should be lubricated with a dry lubricant (such as T.F.E. Dry Lube). Never use a regular lubricating oil on dampers, as it will attract dirt and grit. Blade linkage is concealed in the side jamb out of the airstream and is maintenance free. Bearings are self-lubricating oilite bronze (or stainless steel for -SS models).

4. If firing of the fusible link is not required by local code, cycle damper with its quadrant handle to verify that it fully opens and closes. HVAC fans should be shut down. Care should be exercised to ensure that such tests are performed safely and do not cause system damage.

5. All inspections and testing shall be documented indicating the location of the damper, date of inspection, name of inspector, deficiencies detected, and how deficiencies were corrected.

### Receiving, Storage, Preparation

Upon delivery, inspect shipping containers and contents closely. Note any damages on freight carrier's delivery receipt.

Store dampers in a cool, dry and safe location in an orderly manner away from construction site, warehouse traffic, other materials, etc. Cover with plastic sheeting to protect from excessive moisture, dirt and debris.

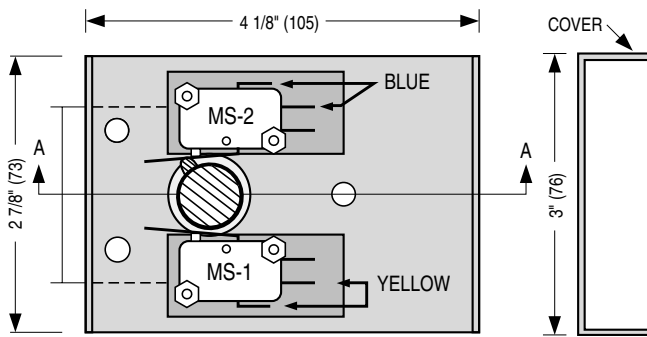
Inspect dampers prior to installation. Dampers must be cleaned per procedures outlined in this document prior to installation if dirt, rust or corrosion is observed.

SPARE PARTS LIST		PART NUMBER
Fusible Links: Model 1200, 1250, 1290	165°F/74°C	B2-037
	212°F/100°C	B2-038

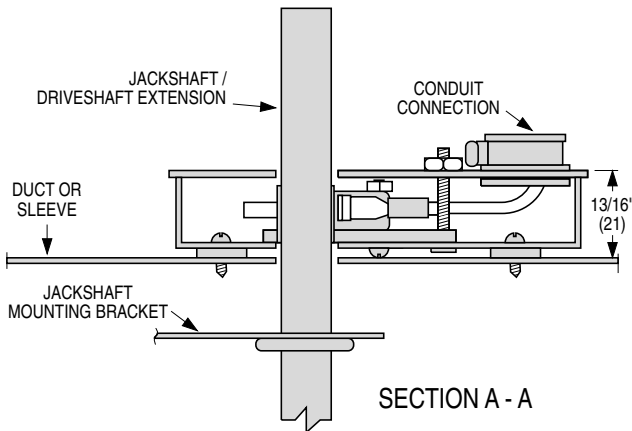


**APPLICATION:**

- The MLS-300 Position Indicator Package operates as a function of the damper blade position and provides the ability to remotely indicate damper blade position.
- The MLS-300 incorporates two SPDT switches and provides a positive open or closed signal when used in conjunction with remote indicator lights. MLS-300's are used in active smoke control management systems to positively indicate the status of all combination fire/smoke and smoke dampers in the building.
- The MLS-300 is available only as a factory installed option on combination fire / smoke and smoke dampers.



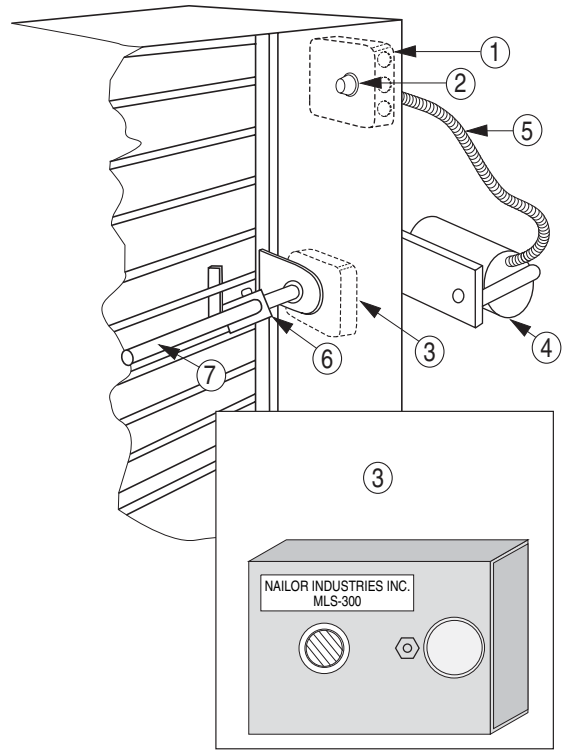
**EXTERNAL RIGHT HAND MOUNTING: FRONT VIEW (LESS COVER)**



**SECTION A - A**

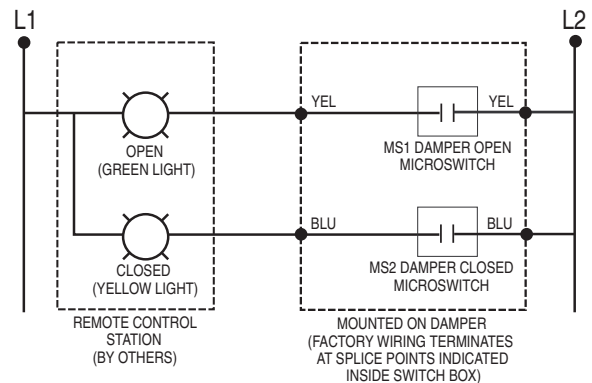
**Position Indicator Microswitch Data:**

Switch Type: Single Pole double throw (2)  
 15 Amps, 1/3 HP, 125, 250 Vac or 24 Vdc.  
 1/2 Amp, 125 Vdc. 1/4 Amp, 250 Vdc.



**Typical Combination Fire / Smoke Damper Installation With UL Listed Actuator Description:**

1. Electrical Junction Box. [and EP switch with pneumatic actuator(s)]
2. ERL 165, 212, 250, 350 Electric Resettable Link (Heat Sensor)
3. MLS-300 Position indicator package
4. Actuator (pneumatic illustrated).
5. Silicone Tubing or Flexible Conduit
6. Over-Center Knee Lock
7. Jackshaft



**Figure 1. MLS-300 Wiring Schematic.**

Dimensions are in inches (mm).

**Electrical Connections:**

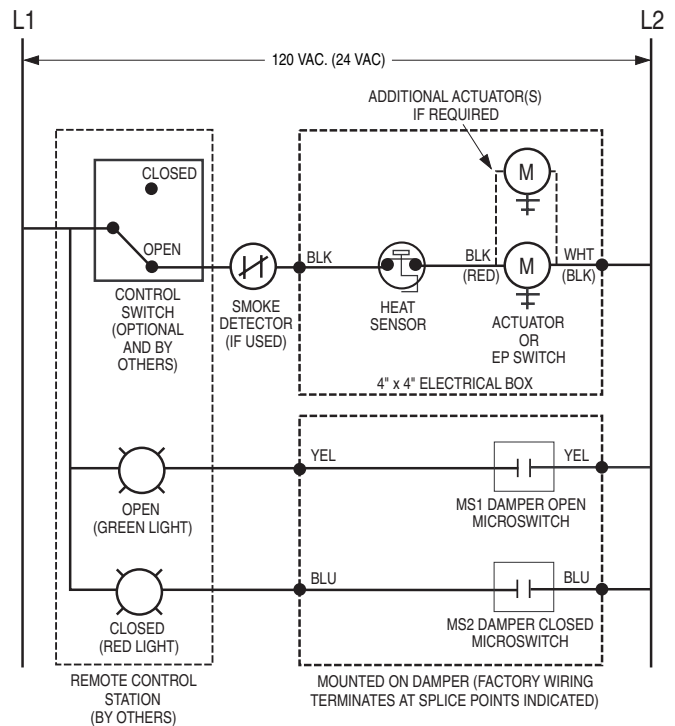
1. Remove cover of junction box. There are four or six coded color wires. Four wires are the MLS-300 position indicator package. If six wires are present, the additional two are the field connection for either an electric actuator or an EP switch for a pneumatic actuator.

**MS1** is damper open signal.

**MS2** is damper closed signal.

**Important:** Installer must double check continuity of **MS1** and **MS2** before wiring to confirm which switch signals the damper's open or closed position.

2. Connect external wiring and electrical power supply (120 or 24 Vac) in accordance with N.E.C. and any applicable local codes.
3. Replace junction box cover and check operation.



**Figure 2.** Combination Fire/Smoke Damper Wiring Schematic.

Dimensions are in inches (mm).

Page 2 of 2



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Las Vegas, Nevada  
Tel: 702-648-5400  
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Toronto, Canada  
Tel: 416-744-3300  
Fax: 416-744-3360

Calgary, Canada  
Tel: 403-279-8619  
Fax: 403-279-5035