



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



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 at 250°F or 350°F elevated temperature (File # R9492).
- **Meets NFPA 80, 90A, 92, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.**
- **City of New York. MEA # 366-03-M.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0106.**
- **Maximum velocity: 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).**

Model 1290FS Damper is ideal for applications where building codes require both a fire damper for the protection of ductwork penetrations in walls or floors 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 1290FS Damper is an economical true round combination fire/smoke damper designed and qualified for round ductwork passing through metal or wood stud drywall partitions and masonry walls or floors. The 1290FS offers the lowest leakage class available and is qualified for installation with airflow in either direction.

STANDARD CONSTRUCTION:

- Frame:** 20 ga. (1.0) galvanized steel integral sleeve and retaining plates.
- Blades:** 2 x 20 ga. (1.0) galvanized 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.
- Blade Seal:** Silicone rubber. Peripheral gasket sandwiched between two piece blade.

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), 212°F (100°C) and 350°F (177°C) available. PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators: 212°F (100°C) standard. 165°F (74°C) and 280°F (138°C) available.

Sizes (Duct Dia.):

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

Note: Dampers available in 2" (51) increment ents.

LEAKAGE CLASS / ELEVATED TEMPERATURE:

- ☐ I @ 250°F (Standard)
☐ I @ 350°F

DYNAMIC VELOCITY / PRESSURE RATING:

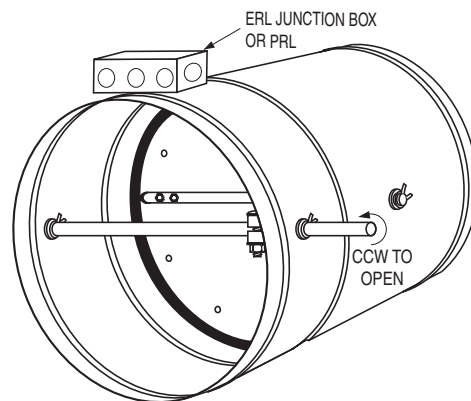
- ☐ 24 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa) (Standard)
☐ 34 3000 fpm @ 4" w.g. (15 m/s @ 1 kPa), 14" (356) dia. max.
☐ 44 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa), 14" (356) dia. max.

ACTUATOR SELECTION:

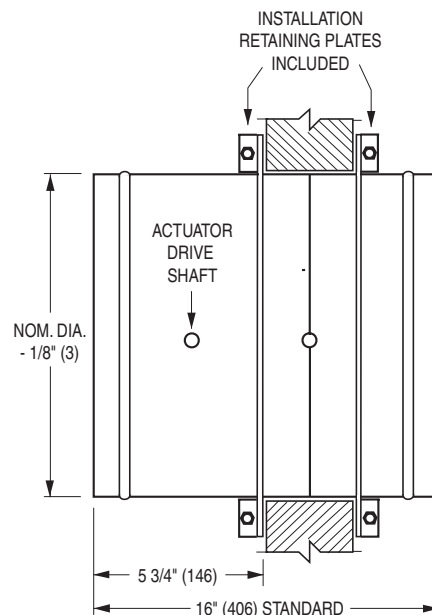
- ☐ **Electric** ☐ **Pneumatic** Specify model _____.
Actuators are mounted out of airstream only.

ACTUATOR FAIL POSITION:

Normally Closed. (Normally Open actuators are not available).



(Retaining Plates not shown)



Wall Thickness	Minimum 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)

OPTIONS:

- ☐ **304** 304 Stainless steel construction
☐ **BS** Stainless steel bearings
☐ **MLS-300** Position indicator switch pack
☐ **MLS-400** Electric Fire Sensor (Re-openable control system). Includes dual heat sensors (165°F and 250°F or 350°F) and position indicator switch pack.

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

SCHEDULE TYPE:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
PROJECT:	8 - 27 - 26	1200	10 - 22 - 24	1290FS-1
ENGINEER:				
CONTRACTOR:				



STAINLESS STEEL ROUND COMBINATION FIRE/ SMOKE DAMPER

1 1/2 HR. LABEL • VERT. OR HORIZ.
FOR USE IN DYNAMIC OR STATIC SYSTEMS
MODEL: 1290FS-SS



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 at 250°F or 350°F elevated temperature (File # R9492).
- **Meets NFPA 80, 90A, 92, 101 and 105 as well as IBC and NBC (Canada)**
Building Code requirements.
- **City of New York. MEA # 366-03-M.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0106.**
- **Maximum velocity: 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).**

Model 1290FS-SS damper is ideal for high humidity or mildly corrosive applications where building codes require both a fire damper for the protection of ductwork penetrations in walls or floors 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 1290FS-SS damper is a true round combination fire/smoke damper designed and qualified for round ductwork passing through metal or wood stud drywall partitions and masonry walls or floors. The 1290FS-SS offers the lowest leakage class available and is qualified for installation with airflow in either direction. Available in either Type 304 or 316 stainless steel.

STANDARD CONSTRUCTION:

Frame: 20 ga. (1.0) stainless steel integral sleeve and retaining plates.

Blades: 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.

Blade Seal: Silicone rubber. Peripheral gasket sandwiched between two piece blade.

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), 212°F (100°C) and 350°F (177°C) available.

PRL (Pneumatic Replaceable Link) is standard on dampers with pneumatic actuators:
212°F (100°C) standard. 165°F (74°C) and 280°F (138°C) available.

Sizes (Duct Dia.):

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

Note: Dampers available in 2" (51) increments.

CONSTRUCTION TYPE:

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

LEAKAGE CLASS / ELEVATED TEMPERATURE:

- ☐ **250°F** (Standard)
☐ **350°F** (Optional)

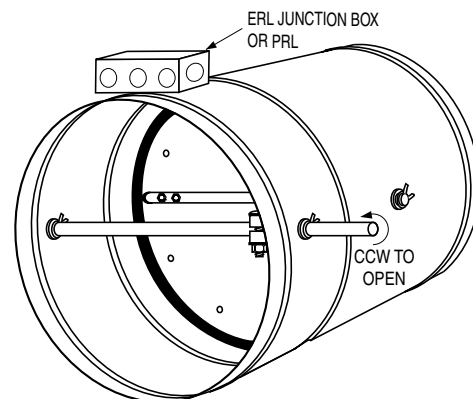
DYNAMIC VELOCITY / PRESSURE RATING:

24 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa) (Standard)

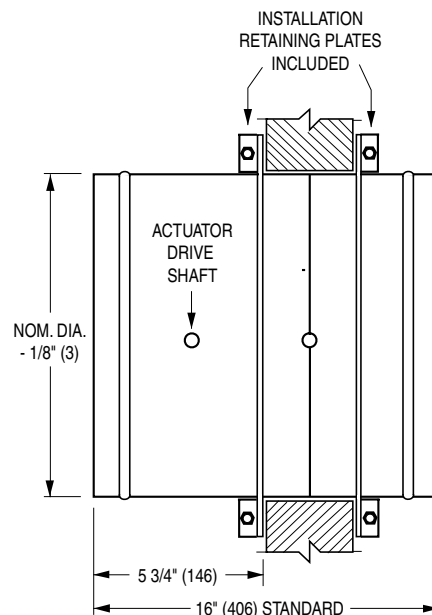
ACTUATOR SELECTION:

- ☐ **Electric** ☐ **Pneumatic** Specify model _____.

Actuators are mounted out of airstream only.



(Retaining Plates not shown)



Wall Thickness	Minimum 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)

ACTUATOR FAIL POSITION:

Normally Closed. (Normally Open actuators are not available).

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 or 350°F) and position indicator switch pack.

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

SCHEDULE TYPE:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
PROJECT:	10 - 23 - 24	1200	4 - 28 - 14	1290FS-SS-1
ENGINEER:				
CONTRACTOR:				

DAMPER TEST SWITCH

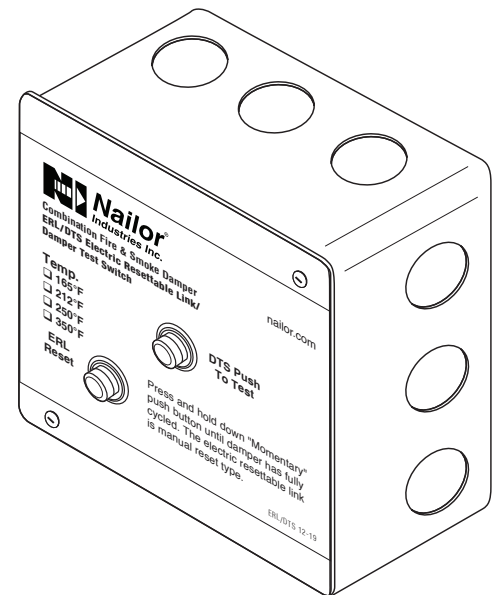
FOR USE WITH ALL SMOKE AND COMBINATION
FIRE/SMOKE DAMPERS

MODEL: DTS

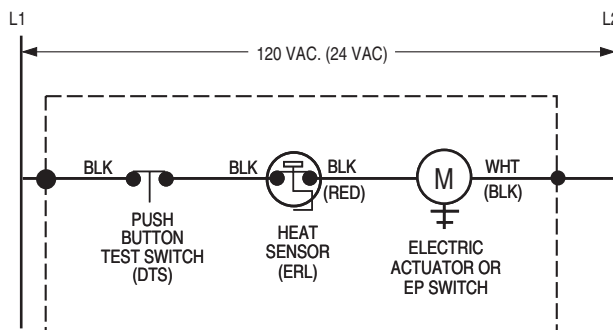
The DTS (Damper Test Switch) is an optional "momentary" push button test switch available on all Nailor smoke and combination fire/smoke dampers. The DTS provides the ability to "cycle test" the damper by pushing and holding down the button until the damper has cycled and closure has been visually verified,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

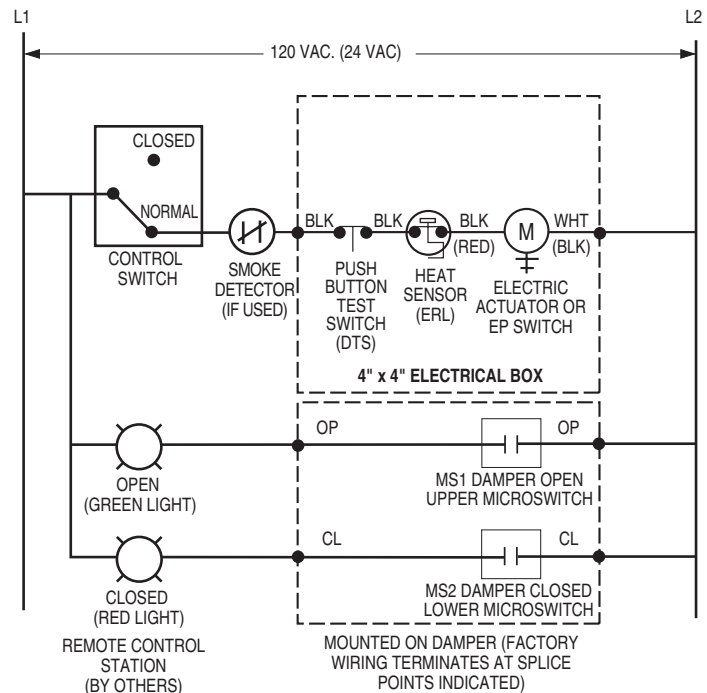


Figure 2. DTS/ERL with MLS-300 Belimo (actuator aux. switches) Position Indicator Package

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

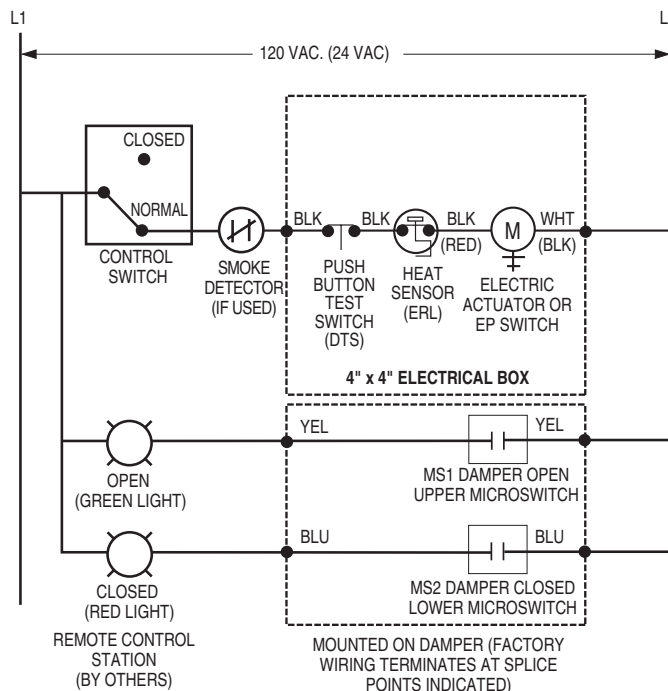


Figure 3. DTS/ERL with MLS-300 Nailor or Honeywell (actuator aux. switches) Position Indicator Package

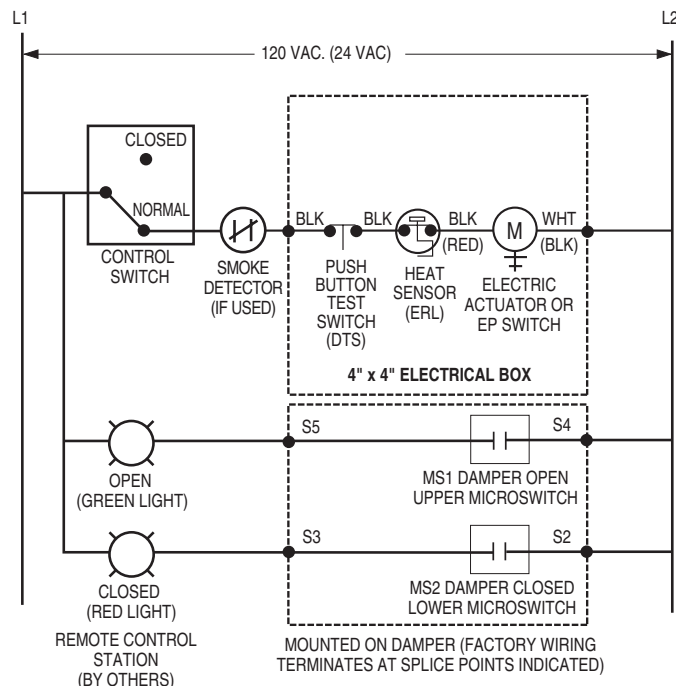
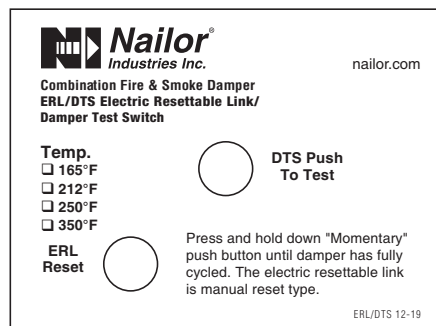
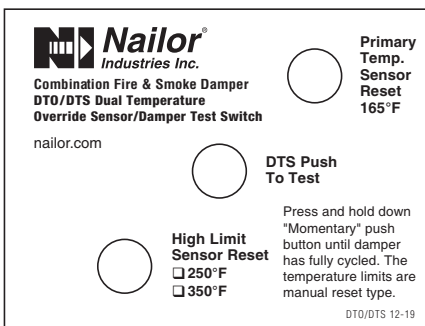


Figure 4. DTS/ERL with MLS-300 Siemens GJD Series (actuator auxiliary switches) Position Indicator Package

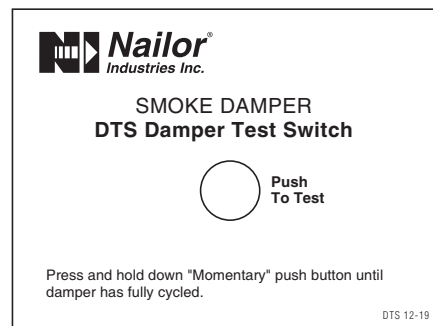
DTS LABEL VARIATIONS:



ERL/DTS Combination Fire/Smoke Damper



DTO/DTS Combination Fire/Smoke Damper



DTS Smoke Damper

SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

DATE

B SERIES

SUPERSEDES

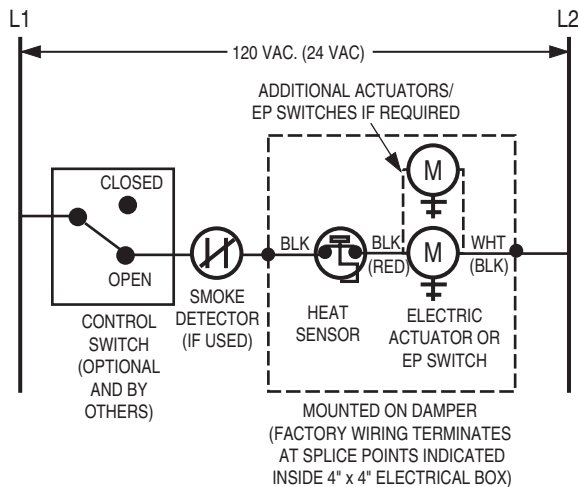
DRAWING NO.

9 - 3 - 20

FD-ACC

3 - 29 - 18

DTS



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.]

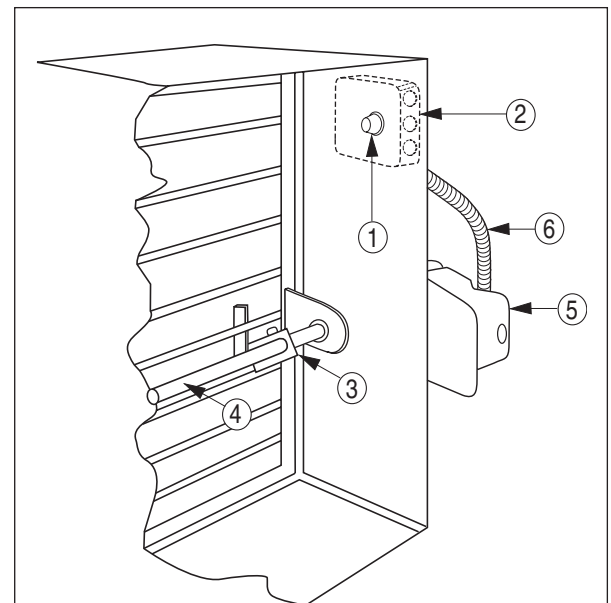
The ERL's function is to sense an abnormally high temperature, as caused by a fire and allow the damper to close in order to prevent the spread of fire and smoke. The sensor interrupts power to the actuator and the actuator's spring return mechanism causes the damper to close and lock.

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

PERFORMANCE DATA:

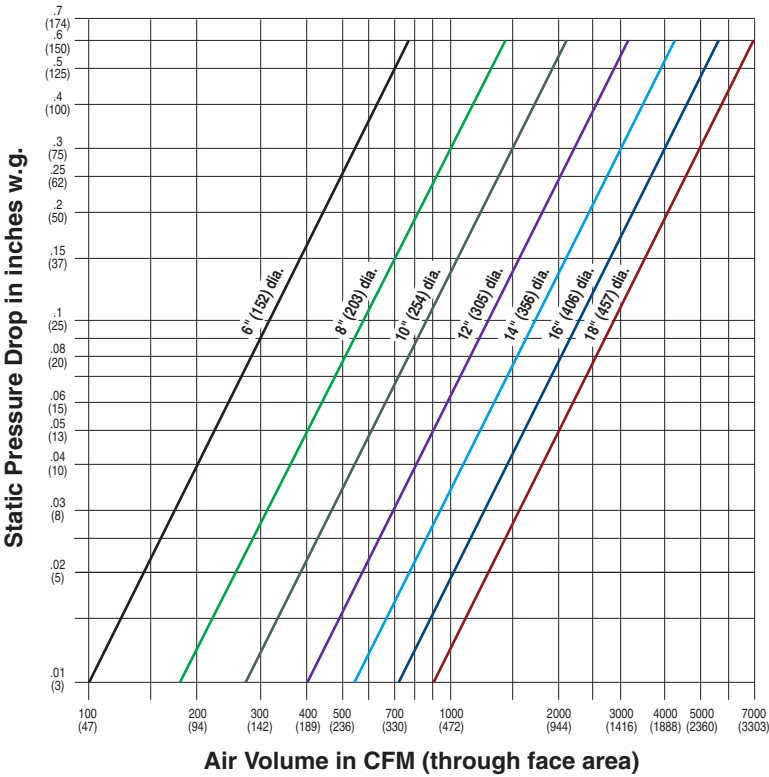
MODEL SERIES: 1290FS - 1 1/2 HOUR LABEL AND 1290FS-SS - 1 1/2 HOUR LABEL

LEAKAGE CLASS:

The Model 1290FS Series Round Combination Fire/Smoke Damper and the Model 1290FS-SS Series Stainless Steel Round 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 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), dependent on actuator, under airflow of 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).

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	350°F (177°C)

PRESSURE DROP (damper fully open)



Tested per AMCA standard 500, Fig. 5.5.