



DYNAMIC OUT OF WALL CURTAIN TYPE FIRE DAMPER FOR THROUGH PENETRATIONS FOR DYNAMIC OR STATIC SYSTEMS MODEL: D0120DOW (TYPE B)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER. 1 1/2 hr. label (File # R9492).
- Meets all the requirements of UL and NFPA 80, 90A and 101 for fire dampers in dynamic HVAC systems, as well as IBC and NBC (Canada) Building Code requirements.
- City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:0113.
- Maximum velocity: 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).

Model D0120DOW is an "out of wall or floor" integral sleeve dynamic curtain type fire damper, specifically designed for through penetrations (ductwork connected to both sides) where the damper cannot be installed within the plane of the wall. For use where local building codes require the protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of up to two hours.

FEATURES:

- Type B "Blades out of the airstream" design provides a high free area and low pressure drop.
- Shipped complete with integral insulated sleeve. No field assembly required.
- UL Classified for vertical or horizontal installation.
- Qualified for use in both Dynamic and Static Systems.

STANDARD CONSTRUCTION:

- Frame:** One piece, 22 ga. (0.85) roll-formed galvanized steel.
- Blades:** Curtain type interlocking blades, 22 ga. (0.85) roll-formed galvanized steel.
- Fusible Link:** 165°F (74°C) standard. UL Listed. 212°F (100°C) available.
- Sleeve:** 16 ga. (1.61) galvanized steel. Length varies to suit wall/floor depth.
- Blade Closure:** Stainless steel closure springs & galv. steel locking ramps.
- Insulation:** Intumescent thermal insulation on four sides.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Single Section				Multiple Section	
	Minimum		Maximum		Maximum	
	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal
24	6" x 4" (152 x 102)	6" x 4" (152 x 102)	24" x 21" (610 x 533)	24" x 21" (610 x 533)	36 x 21" (914 x 533)	—
34, 44	6" x 4" (152 x 102)	—	24" x 21" (610 x 533)	—	—	—

NOTES:

1. Sleeve Length Formula:
Wall or Floor Depth + 10" (254)
Example: Wall Depth 4" (102) + 10" (254) = 14" (356)

Duct Height (H)	Dim. 'A'
4" - 17" (102 - 432)	2" (51)
18" - 21" (457 - 533)	3" (76)

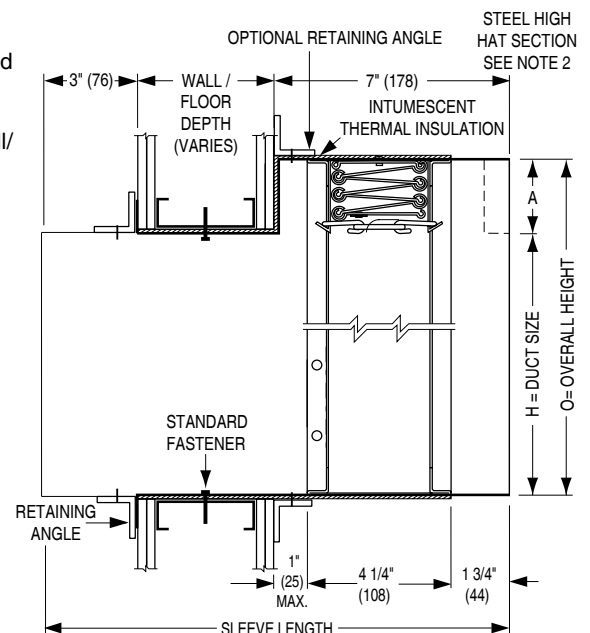
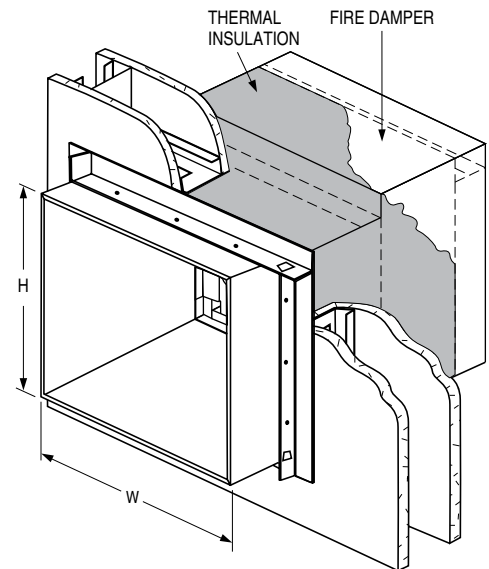
DYNAMIC VELOCITY/PRESSURE RATING:

- ☐ 24 2000 fpm @ 4" w.g. (Standard)
- ☐ 34 3000 fpm @ 4" w.g. } (Optional)
- ☐ 44 4000 fpm @ 4" w.g. }

OPTIONS:

- ☐ QS1 Quick-set retaining angles, one side
- ☐ QS2 Quick-set retaining angles, two sides (pair)

STANDARD DAMPER/SLEEVE:



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

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

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 14 - 25	FD	11 - 12 - 24	D0100-10

QUALIFICATIONS:

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER. 1 1/2 hr. label (File # R9492).**
- **Meets all the requirements of UL and NFPA 80, 90A and 101 for fire dampers in dynamic HVAC systems, as well as IBC and NBC (Canada) Building Code requirements.**
- **City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0113.**
- **Maximum velocity: 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).**

Model D0110GOW is an "out of wall or floor" integral sleeve dynamic curtain type fire damper, specifically designed for supply or return ducts that terminate at a grille or register. For use where local building codes require the protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of up to two hours.

The D0110GOW design provides sufficient damper off-set to accommodate most commercial grille/register designs while ensuring an approved installation in any fire partition or wall no matter how narrow. This model is particularly suited for use in common steel stud drywall partition designs, as narrow as 3 1/2" (89) where a traditional "within the plane of the wall" fire damper installation is not possible.

FEATURES:

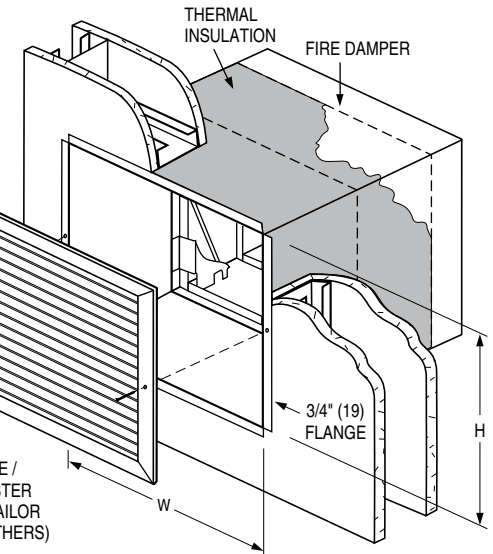
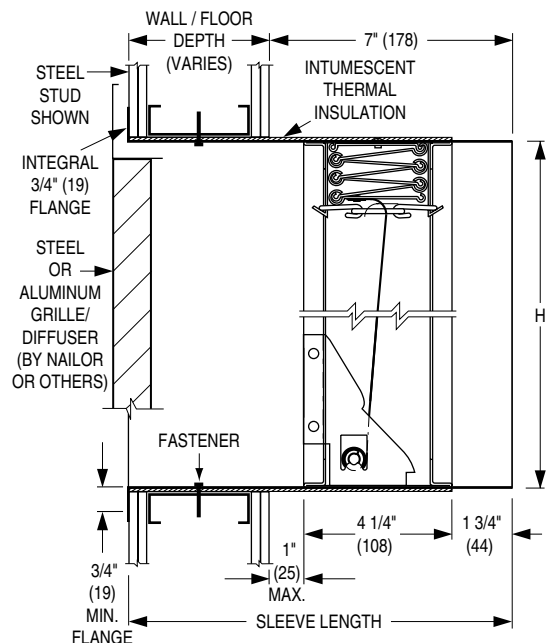
- 3/4" (19) mounting flange simplifies installation, is hidden by grille frame and eliminates the requirement for unsightly mounting angles.
- Qualified for use with steel or aluminum grilles and registers (by Nailor or others).
- Shipped complete with integral insulated sleeve. No field assembly required.
- Can be installed completely from grille side of wall.
- Rear retaining angles are not required.
- UL Classified for vertical or horizontal installation.
- Qualified for use in both Dynamic and Static Systems.

STANDARD CONSTRUCTION:

- Frame:** One piece, 22 ga. (0.85) roll-formed galvanized steel.
- Blades:** Curtain type interlocking blades, 22 ga. (0.85) roll-formed galvanized steel.
- Fusible Link:** 165°F (74°C) standard. UL Listed. 212°F (100°C) available.
- Sleeve:** 16 ga. (1.61) galvanized steel with 3/4" (19) wide mounting flange. Length varies to suit wall/floor depth.
- Blade Closure:** Stainless steel closure springs and galvanized steel locking ramps.
- Insulation:** Intumescent thermal insulation on four sides.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Single Section				Multiple Section	
	Minimum		Maximum		Maximum	
	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal
24	6" x 6" (152 x 152)	6" x 6" (152 x 152)	24" x 24" (610 x 610)	24" x 24" (610 x 610)	36" x 24" (914 x 610)	—
34, 44	6" x 6" (152 x 152)	—	24" x 24" (610 x 610)	—	—	—

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

STANDARD DAMPER/SLEEVE:

NOTES:

Sleeve Length Formula:

Wall or Floor Depth + 7" (178)

Example: Wall Depth 4" (102) + 7" (178) = 11" (279)

DYNAMIC VELOCITY/PRESSURE RATING:

- ☐ **24** 2000 fpm @ 4" w.g. (Standard)
- ☐ **34** 3000 fpm @ 4" w.g. } (Optional)
- ☐ **44** 4000 fpm @ 4" w.g. }

For installation instructions, see IOM-FDGOWINST.

Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 24 - 25	FD	9 - 1 - 23	D0100-7



**DYNAMIC OUT OF WALL CURTAIN TYPE FIRE DAMPER
FOR THROUGH PENETRATIONS
FOR DYNAMIC OR STATIC SYSTEMS
MODEL: D0110DOW (TYPE A)**



QUALIFICATIONS:

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER.** 1 1/2 hr. label (File # R9492).
- **Meets all the requirements of UL and NFPA 80, 90A and 101 for fire dampers in dynamic HVAC systems, as well as IBC and NBC (Canada) Building Code requirements.**
- **City of New York Board of Standards and Appeals.** Cal. No. 460-88-SA.
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0113.**
- **Maximum velocity: 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).**

Model D0110DOW is an "out of wall or floor" integral sleeve dynamic curtain type fire damper, specifically designed for through penetrations (ductwork connected to both sides) where the damper cannot be installed within the plane of the wall. For use where local building codes require the protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of up to two hours.

FEATURES:

- Shipped complete with integral insulated sleeve. No field assembly required.
- UL Classified for vertical or horizontal installation.
- Qualified for use in both Dynamic and Static Systems.

STANDARD CONSTRUCTION:

Frame: One piece, 22 ga. (0.85) roll-formed galvanized steel.
Blades: Curtain type interlocking blades, 22 ga. (0.85) roll-formed galvanized steel.
Fusible Link: 165°F (74°C) standard. UL Listed. 212°F (100°C) available.
Sleeve: 16 ga. (1.61) galvanized steel. Length varies to suit wall/floor depth.
Blade Closure: Stainless steel closure springs & galv. steel locking ramps.
Insulation: Intumescent thermal insulation on four sides.

Sizes (Duct W x H):

Velocity/ Pressure Rating	Single Section				Multiple Section	
	Minimum		Maximum		Maximum	
	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal
24	6" x 6" (152 x 152)	6" x 6" (152 x 152)	24" x 24" (610 x 610)	24" x 24" (610 x 610)	36 x 24" (914 x 610)	—
34, 44	6" x 6" (152 x 152)	—	24" x 24" (610 x 610)	—	—	—

NOTES:

Sleeve Length Formula:

Wall or Floor Depth + 10" (254)

Example: Wall Depth 4" (102) + 10" (254) = 14" (356)

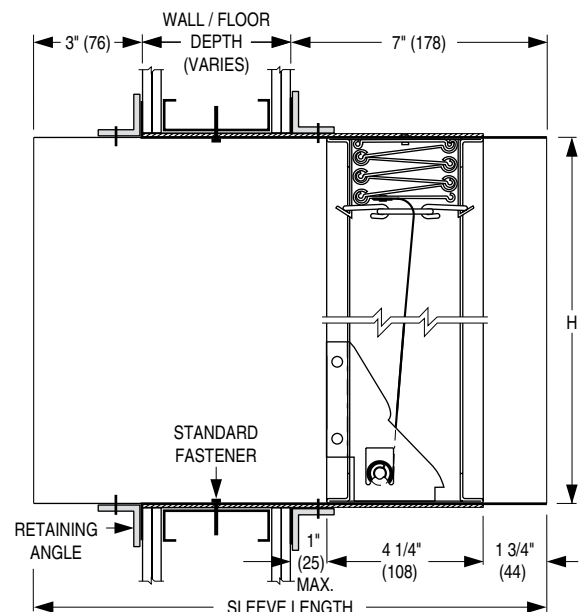
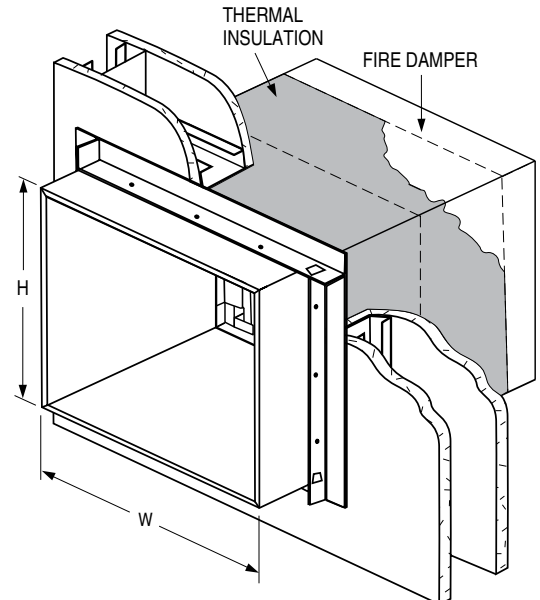
DYNAMIC VELOCITY/PRESSURE RATING:

- ☐ **24** 2000 fpm @ 4" w.g. (Standard)
- ☐ **34** 3000 fpm @ 4" w.g. } (Optional)
- ☐ **44** 4000 fpm @ 4" w.g. }

OPTIONS:

- ☐ **QS1** Quick-set retaining angles, one side
- ☐ **QS2** Quick-set retaining angles, two sides (pair)

STANDARD DAMPER/SLEEVE:



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

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

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 17 - 25	FD	9 - 1 - 23	D0100-8



DYNAMIC OUT OF WALL CURTAIN TYPE FIRE DAMPER FOR GRILLES AND REGISTERS FOR DYNAMIC OR STATIC SYSTEMS MODEL: D0120GOW (TYPE B)



QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER. 1 1/2 hr. label (File # R9492).
- Meets all the requirements of UL and NFPA 80, 90A and 101 for fire dampers in dynamic HVAC systems, as well as IBC and NBC (Canada) Building Code requirements.
- City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:0113.
- Maximum velocity: 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).

Model D0120GOW is an "out of wall or floor" integral sleeve dynamic curtain type fire damper, specifically designed for supply or return ducts that terminate at a grille or register. For use where local building codes require the protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of up to two hours.

The D0120GOW design provides sufficient damper off-set to accommodate most commercial grille/register designs while providing maximum free area without having to oversize the grille/register. This model is particularly suited for use in common steel stud drywall partition designs, as narrow as 3 1/2" (89) where a traditional "within the plane of the wall" fire damper installation is not possible.

FEATURES:

- 3/4" (19) mounting flange installation (field supplied), is hidden by grille frame and eliminates the requirement for unsightly mounting angles.
- Qualified for use with steel or aluminum grilles and registers (by Nailor or others).
- Shipped complete with integral insulated sleeve.
- UL Classified for vertical or horizontal installation.
- Qualified for use in both Dynamic and Static Systems.

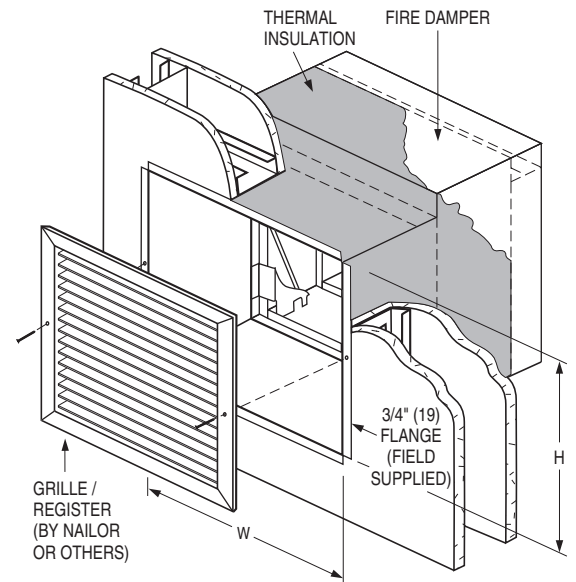
STANDARD CONSTRUCTION:

- Frame:** One piece, 22 ga. (0.85) roll-formed galvanized steel.
- Blades:** Curtain type interlocking blades, 22 ga. (0.85) roll-formed galvanized steel.
- Fusible Link:** 165°F (74°C) standard. UL Listed. 212°F (100°C) available.
- Sleeve:** 16 ga. (1.61) galvanized steel with 3/4" (19) wide mounting flange. Length varies to suit wall/floor depth.
- Blade Closure:** Stainless steel closure springs & galv. steel locking ramps.
- Insulation:** Intumescent thermal insulation on four sides.
- Sizes (Duct W x H):**

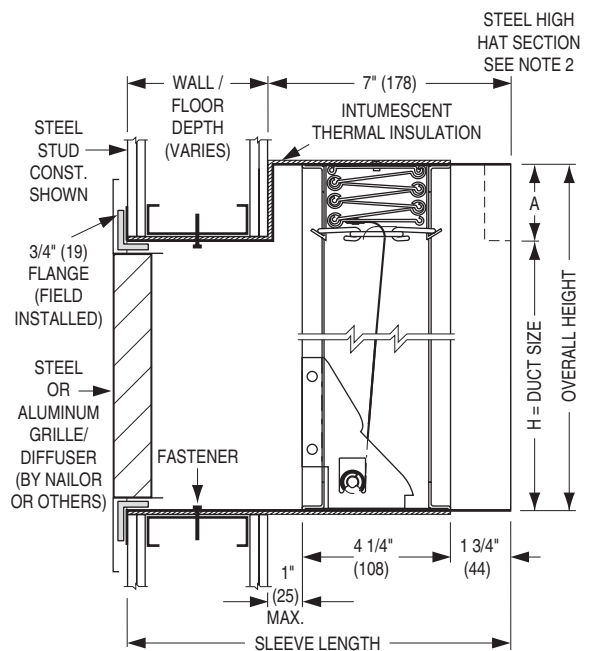
Velocity/ Pressure Rating	Single Section				Multiple Section	
	Minimum		Maximum		Maximum	
	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal
24	6" x 4" (152 x 102)	6" x 4" (152 x 102)	24" x 21" (610 x 533)	24" x 21" (610 x 533)	36" x 21" (914 x 533)	—
34, 44	6" x 4" (152 x 102)	—	24" x 21" (610 x 533)	—	—	—

NOTES:

1. Sleeve Length Formula:
Wall or Floor Depth + 7" (178).
Example: Wall Depth 4" (102) + 7" (178) = 11" (279) sleeve.



STANDARD DAMPER/SLEEVE:



2.

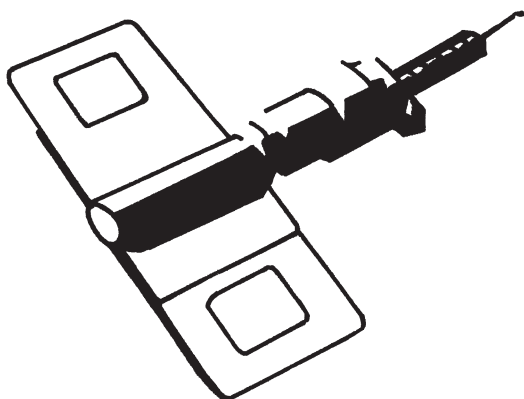
Duct Height (H)	Dim. 'A'
4" - 17" (102 - 432)	2" (51)
18" - 21" (457 - 533)	3" (76)

DYNAMIC VELOCITY/PRESSURE RATING:

- ☐ 24 2000 fpm @ 4" w.g. (Standard)
- ☐ 34 3000 fpm @ 4" w.g. } (Optional)
- ☐ 44 4000 fpm @ 4" w.g. }

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

SCHEDULE TYPE:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
PROJECT:	8 - 19 - 26	FD	1 - 24 - 25	D0100-9
ENGINEER:				
CONTRACTOR:				



ETL®

WHAT IT IS – WHAT IT DOES

The Electro Thermal Link (ETL®) is a multi purpose, dual responsive fusible link which reacts (melts) when subjected to;

1. Local heat (165°F (74°C)) exactly the same as an ordinary link.
2. External electrical impulse of low power and short duration.

It is specifically designed to substitute for ordinary links and/or actuators in existing and new installations of Fire Dampers, Fire Doors, Fire Extinguishers, Fire and Smoke Roof Hatches, Sprinklers, Smoke Towers, and chemical or gas Automatic Release Systems.

The substitution should be made in every installation of the above devices where it is desirable to improve life safety by making those devices responsive to -

SMOKE in the early form of invisible products of combustion through ionization detectors, or
FIRE at an earlier stage than ordinary links thru the use of rate of rise or maximum temperature devices.

The ETL's electro-response is the unique feature. It is not smoke responsive of itself, but its power requirement is so low that it can be released with an electrical impulse from any smoke detector's power source. It is compatible with every smoke detector on the market in the United States today.

The operating range is 6 to 30 volts AC or DC, less than 0.2 ampere of trip current required, and 1/2 millisecond (.0005 second) response at 24 v. The electrical response is a trigger for the chemical heating of the center element which is a self-contained exothermic reactor, yielding no noise, smoke, or gas - just quick heat to open the link in seven seconds.

The ETL's thermal response is identical to that of ordinary fusible links of identical temperature (165°F (74°C)) and strength (40#) rating.

In its capacity of converting a FIRE safety device into a FIRE/SMOKE safety device the ETL can be substituted for both an ordinary link and motor, or link and electromagnetic operator with advantages of simplicity, economy, operational reliability and wide acceptability. With its dual responsiveness the ETL can be substituted for two other devices at a savings in first cost as well as operating cost and maintenance. The ETL is a Space Age Device built to zero defect standards and to last at least fifty years and then still react properly – only on fire or smoke emergency. It is totally independent of power failures since it draws power from the detector standby source if needed. The ETL is listed by Underwriter's Laboratories, Inc. as a Fusible Link.

With the ongoing development of dynamic smoke control systems and building code changes in recent years, application and use of this product should be governed by acceptance of the local authority having jurisdiction.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

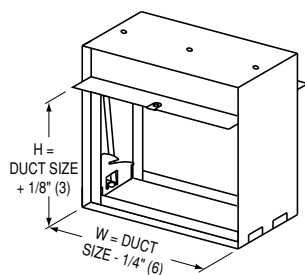
31 - 7 - 00R

ACC

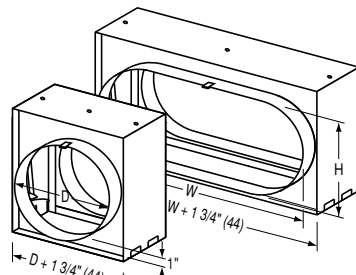
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ACC.ETL

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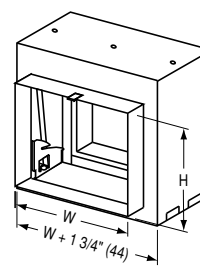


**MODEL D0120:
TYPE B**

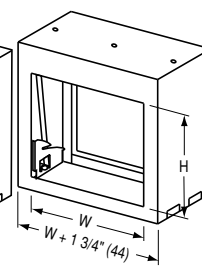


**MODEL D0130:
TYPE CR**

**MODEL D0130:
TYPE CO**



**MODEL D0140:
TYPE CSR
WITH COLLAR
(STANDARD)**



**MODEL D0140:
TYPE CSR
WITHOUT COLLAR**

For overall damper dimensions see sizing chart on page D53.

PERFORMANCE DATA:

MODEL SERIES: D0100 - 1 1/2 HOUR LABEL

Curtain type fire dampers impose minimal resistance to air flow in the system. The following charts indicate both free area for the different damper types and static pressure losses for various velocities.

Type A Damper Free Area – sq. ft.

		Duct Width in inches (mm)									
		6" (152)	12" (305)	18" (457)	24" (610)	30" (762)	36" (914)	42" (1067)	48" (1219)	54" (1372)	60" (1524)
Duct Height in inches (mm)	6" (152)	.14	.33	.52	.70	.89	1.1	1.3	1.5	1.7	1.8
	12" (305)	.31	.72	1.1	1.5	1.9	2.4	2.8	3.2	3.6	4.0
	18" (457)	.48	1.1	1.7	2.4	3.0	3.7	4.3	4.9	5.6	6.2
	24" (610)	.65	1.5	2.4	3.2	4.1	5.0	5.8	6.7	7.5	8.4
	30" (762)	.82	1.9	3.0	4.1	5.2	6.3	7.3	8.4	9.5	10.6
	36" (914)	.99	2.3	3.6	4.9	6.3	7.6	8.9	10.2	11.5	12.8
	42" (1067)	1.2	2.7	4.2	5.8	7.3	8.8	10.4	11.9	13.4	15.0
	48" (1219)	1.3	3.1	4.9	6.6	8.4	10.2	11.9	13.7	15.5	17.2
	54" (1372)	1.5	3.5	5.5	7.5	9.5	11.5	13.5	15.5	17.5	19.4
	60" (1524)	1.7	3.9	6.1	8.3	10.6	12.8	15.0	17.2	19.4	21.7

Type B Damper Free Area – sq. ft.

		Duct Width in inches (mm)									
		6" (152)	12" (305)	18" (457)	24" (610)	30" (762)	36" (914)	42" (1067)	48" (1219)	54" (1372)	60" (1524)
Duct Height in inches (mm)	6" (152)	.17	.39	.62	.84	1.1	1.3	1.5	1.7	2.0	2.2
	12" (305)	.36	.83	1.3	1.8	2.3	2.7	3.2	3.7	4.1	4.6
	18" (457)	.54	1.3	2.0	2.7	3.4	4.2	4.9	5.6	6.3	7.1
	24" (610)	.73	1.7	2.7	3.7	4.6	5.6	6.6	7.5	8.5	9.5
	30" (762)	.92	2.1	3.4	4.6	5.8	7.0	8.3	9.5	10.7	11.9
	36" (914)	1.1	2.6	4.1	5.5	7.0	8.5	9.9	11.4	12.9	14.4
	42" (1067)	1.3	3.0	4.7	6.5	8.2	9.9	11.6	13.4	15.1	16.8
	48" (1219)	1.5	3.5	5.4	7.4	9.4	11.4	13.3	15.3	17.3	19.2
	54" (1372)	1.7	3.9	6.1	8.3	10.6	12.8	15.0	17.2	19.5	21.7

Type C Dampers have Free Area equal to Nominal Duct Area.

To calculate Free Area of round duct: Diameter² x .00545 = Free Area (sq ft.)

D0100 Series - Maximum Performance Ratings

UL 555 Fire Resistance Rating	1 1/2 Hour
Maximum Velocity	4000 fpm (20 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)

To determine pressure drop across open damper, calculate **free area velocity** as shown, find velocity on curve and read across for s.p. differential.

$$\text{Free Area Velocity (fpm)} = \frac{\text{cfm}}{\text{Free Area}}$$

Example:

1 – 36" x 24" Damper required for 8,500 cfm. (Type A)

$$\text{FAV} = \frac{8500}{5 \text{ sq. ft.}} = 1700 \text{ fpm}$$

1700 fpm located on the 'A' curve shows a pressure drop of .07 in. wg.

cfm = cubic feet per minute

fpm = feet per minute velocity

S.P. = static pressure in inches water gauge

FAV = Free Area Velocity

Imperial System Shown

To convert to SI (metric) system:

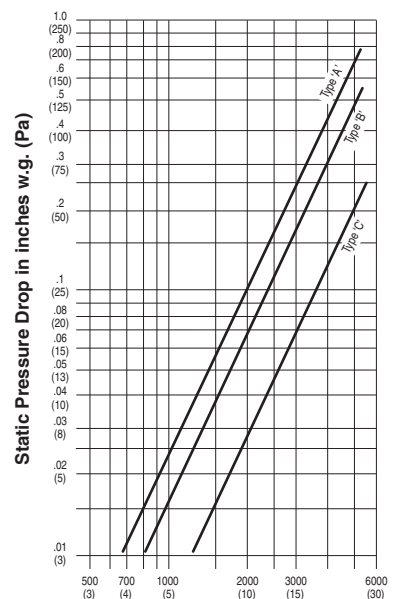
Multiply cfm by .4719 for liters per second

Multiply fpm by .00508 for meters per second

Multiply in. wg. by .2486 for kilopascals

Multiply sq. ft. by .0929 for square meters.

Pressure Drop



Free Air Velocity in feet per minute (m/s)