

2011 - 01

FIRE TECHNOTE

NOTE TECHNIQUES DES INCENDIE

From: Technical Inspection Services

Date: April 2011

Subject: Fire Dampers

The installation of fire dampers depends on the operation of the ventilation system.

If the ventilation system does not shut down on activation of fire alarm device, and air continues to move through the ductwork under a fire condition, the fire damper must be a "Dynamic Fire Damper". This means the fire damper has been tested under air flow conditions and will function properly under these conditions. As seen in Appendix A this example of a dynamic fire damper is listed to be installed in ductwork with fans operating with a maximum of air flow of 2000 fpm @ 4" w.g. (water gauge).

If the ventilation system shuts down on activation of fire alarm, and no air moves through the ductwork, the fire damper can be a "Static Fire Damper". This means the fire damper has been tested under no air flow condition and will only function properly under this condition. As seen in Appendix B this example of a static fire damper is listed only when fans are shut off.

A dynamic fire damper would still operate in a static condition; however, a static fire damper may not operate properly in a dynamic condition. Static fire dampers are not to be installed when ventilation fans continue to run in a fire condition.

Origine : Services d'inspection technique

Date : Avril 2011

Objet : Registres coupe-feu

L'installation de registres coupe-feu varie selon le type de système de ventilation.

Si le système de ventilation ne s'arrête pas à l'activation de l'alarme-incendie et que l'air continue de se déplacer dans le réseau de gaines en situation d'incendie, il faut installer un registre coupe-feu pour système dynamique. Ce type de registre coupe-feu a été soumis à des essais dans des situations de circulation d'air et fonctionne correctement dans ces conditions. Un registre coupe-feu pour système dynamique comme celui montré à l'annexe A doit être installé dans le réseau de gaines où les ventilateurs créent une circulation d'air maximale de 2 000 pi/min avec quatre pouces de colonne d'eau.

Si le système de ventilation s'arrête à l'activation de l'alarme-incendie et que l'air ne circule alors pas dans le réseau de gaines, il faut installer un registre coupe-feu pour système statique. Ce type de registre coupe-feu a été soumis à des essais dans des situations dépourvues de circulation d'air et ne fonctionnera correctement que dans ces situations. Un registre coupe-feu pour système statique comme celui montré à l'annexe B ne doit être installé que dans un réseau de gaines où les ventilateurs cessent de fonctionner.

Un registre coupe-feu pour système dynamique peut fonctionner dans une situation où il n'y a aucune circulation d'air, mais un registre coupe-feu pour système statique pourrait ne pas fonctionner correctement dans une situation où il y aurait circulation d'air. Il ne faut pas installer de registres coupe-feu pour système statique là où les ventilateurs continuent de souffler en situation d'incendie.

Typically the fire damper will have a visible label on the sliding portion of the fire damper that identifies if it is a static fire damper or dynamic fire damper.

If a building is equipped with a bathroom exhaust fan that penetrates a fire separation there is a special fire damper application for this configuration. In this instance a 'Ceiling Radiation Damper' can be used. This has the fire damper connected directly to the bathroom exhaust fan as seen in Appendix C.

All fire dampers are to be equipped with an access door to allow for inspection of the damper and the resetting of the release device (fusible link).

Normalement, une étiquette apposée sur la partie coulissante du registre indique s'il s'agit d'un registre pour système statique ou dynamique.

Il existe une configuration de registres coupe-feu particulière pour les bâtiments où se trouvent des tuyaux d'évacuation d'air de salle de bain qui pénètrent une séparation coupe-feu. Dans ce cas, un registre coupe-feu de plafond peut être installé. Comme le montre l'annexe C, ce type de registre est installé directement sur la trappe du ventilateur d'extraction de la salle de bain.

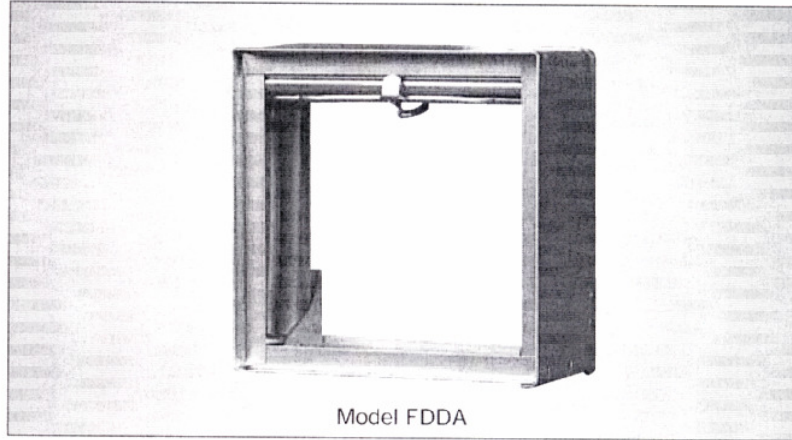
Tout registre coupe-feu doit être accessible au moyen d'une trappe d'accès permettant l'inspection du registre et le réarmement de son dispositif de déclenchement (maillon fusible).

APPENDIX A

DYNAMIC FIRE DAMPERS • 1 1/2 HOUR



- STANDARD FRAME
- FOR USE IN DYNAMIC SYSTEMS
- 1 1/2 HOUR RATING
- UL 555 CLASSIFIED



Models:

- FDDA Type A
- FDDB Type B
- FDDC Type CR/CO
- FDDC Type CSR



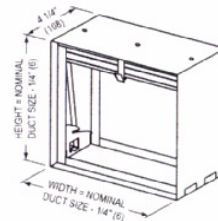
The MAP FDD Series dynamic curtain fire dampers are UL/ULC approved for use where building codes require protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of 2 hours or less. Classified for use in dynamic systems (max. 2000 fpm @ 4" w.g.) where the HVAC system remains operative in the event of a fire, the FDD Series features stainless steel closure springs for assured damper closure under airflow, corrosion resistant steel frame and blades for lasting performance, and choice of transition styles.

DAMPERS

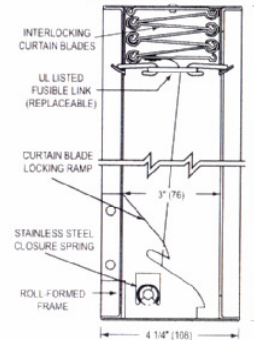
CONSTRUCTION DETAILS:

	FDDA (Type A)	FDDB (Type B)	FDDC (Type CR/CO)	FDDC (Type CSR)
FRAME:	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel; out of airstream	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel; out of airstream
BLADES:	Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel	Out of airstream. Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel	Out of airstream. Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel	Out of airstream. Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel
ENCLOSURE:	N/A	Type B 22 ga. (.085) galvanized steel	Type C Round or Oval 22 ga. (.085) galvanized steel	Type C Square or Rect. 22 ga. (.085) galvanized steel
FUSIBLE LINK: (UL Listed)	165°F (74°C) Std. 212°F (100°C) available	165°F (74°C) Std. 212°F (100°C) available	165°F (74°C) Std. 212°F (100°C) available	165°F (74°C) Std. 212°F (100°C) available
BLADE CLOSURE:	Stainless steel closure springs and galvanized steel locking ramps	Stainless steel closure springs and galvanized steel locking ramps	Stainless steel closure springs and galvanized steel locking ramps	Stainless steel closure springs and galvanized steel locking ramps
MOUNTING:	Vertical or Horizontal	Vertical or Horizontal	Vertical or Horizontal	Vertical or Horizontal
AVAILABLE SLEEVE:	Galvanized steel; Specify SL Option	Galvanized steel; Specify SL Option	Galvanized steel; Specify SL Option	Galvanized steel; Specify SL Option

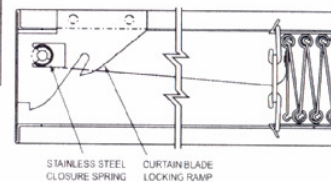
For MIN./MAX. UL SIZES see chart on page C11.



Type A: Model FDDA



Vertical Mount



Horizontal Mount

APPENDIX B

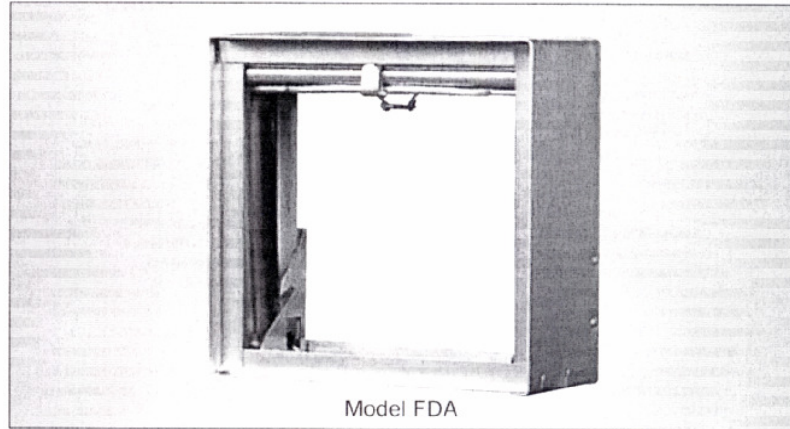
STATIC FIRE DAMPERS • 1 1/2 HOUR



- STANDARD FRAME
- FOR USE IN STATIC SYSTEMS
- 1 1/2 HOUR RATING
- UL 555 CLASSIFIED

Models:

- FDA Type A
- FDB Type B
- FDC Type C



The MAP FD Series curtain fire dampers, for use in static fans off systems where the HVAC system shuts down in the event of a fire, are UL/ULC approved to provide protection of HVAC ductwork penetrations in walls, partitions or floors that have a fire resistance rating of 2 hours or less. The FD Series features corrosion resistant steel frame and blades for performance that lasts, and a choice of transition styles and factory installed sleeves to suit duct size, making installation fast and simple.

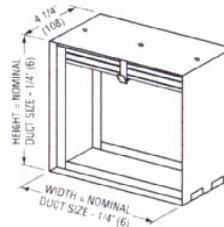
C

DAMPERS

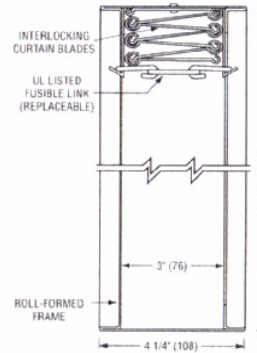
CONSTRUCTION DETAILS:

	FDA (Type A)	FDB (Type B)	FDC (Type C)
FRAME:	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel	4 1/4" (108) wide. 22 ga. (0.85) roll-formed G60 galvanized steel, out of airstream
BLADES:	Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel	Out of airstream. Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel	Out of airstream. Curtain type, interlocking blades, 22 ga. (0.85) roll-formed G60 galvanized steel
ENCLOSURE:	N/A	Type B 22 ga. (0.85) galvanized steel	Type C Round or Oval 22 ga. (0.85) galvanized steel
FUSIBLE LINK: (UL Listed)	165°F (74°C) Std. 212°F (100°C) available	165°F (74°C) Std. 212°F (100°C) available	165°F (74°C) Std. 212°F (100°C) available
BLADE CLOSURE:	Vertical mount; gravity Horizontal mount; stainless steel closure springs with galvanized steel locking ramps	Vertical mount; gravity Horizontal mount; stainless steel closure springs with galvanized steel locking ramps	Vertical mount; gravity Horizontal mount; stainless steel closure springs with galvanized steel locking ramps
MOUNTING:	Vertical or Horizontal	Vertical or Horizontal	Vertical or Horizontal
INTEGRAL SLEEVE:	See Model 22 ga. (0.85) x12" (305) long 22 ga. (0.85) x14" (356) long 22 ga. (0.85) x16" (406) long	See Model FDBx-12 FDBx-14 FDBx-16	See Model FDCx-12 FDCx-14 FDCx-16

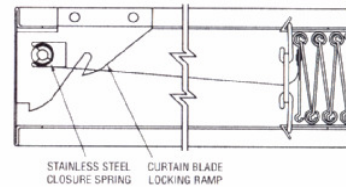
For MIN./MAX. UL SIZES see chart on page C11.



Type A: Model FDA



Vertical Mount



Horizontal Mount

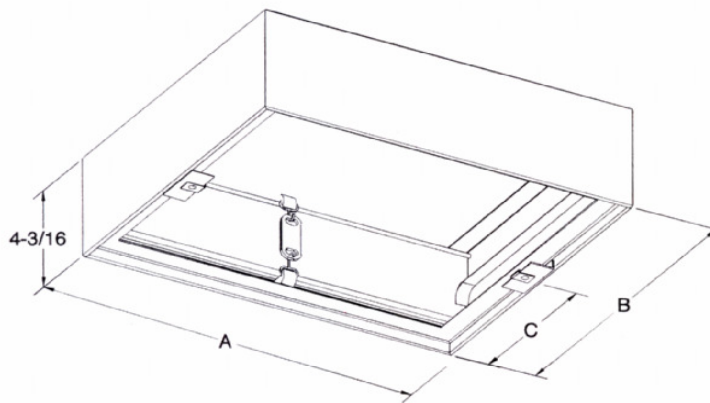
APPENDIX C



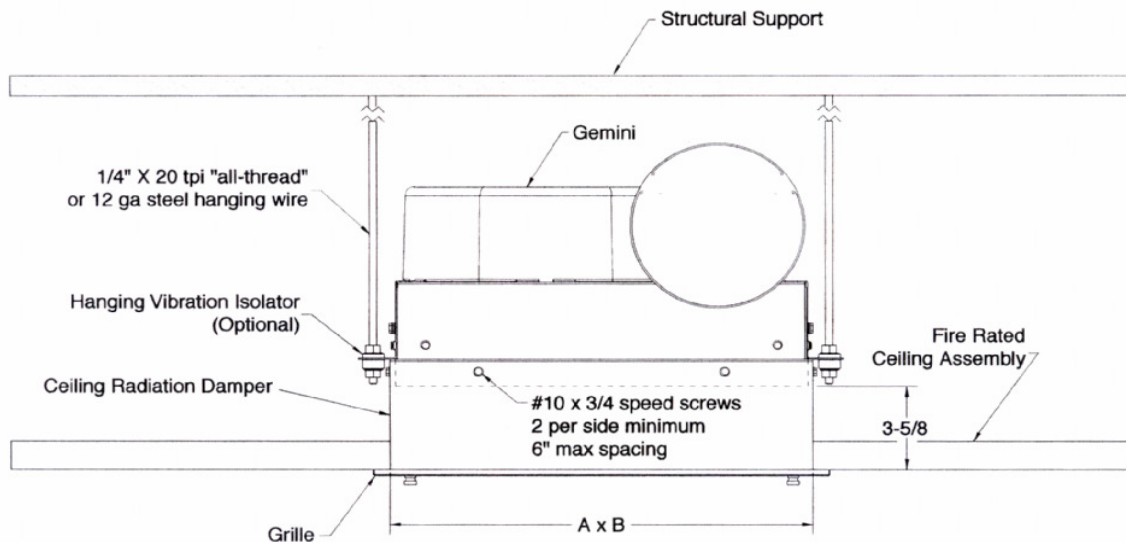
COOK

Curtain Style Ceiling Radiation Damper INSTALLATION INSTRUCTION

Loren Cook Company's curtain style ceiling radiation damper models CRD1, CRD2, CRD3 and CRD4 are classified by UL to function as heat barriers in air handling penetrations through fire resistive membrane ceiling assemblies. These dampers are for use in lieu of hinged door type dampers in fire resistive floor-ceiling or roof-ceiling designs which contain air ducts and specify hinged door type dampers over each duct outlet, as covered in UL's Fire Resistance Directory. The CRD dampers can be installed either with a specific size Loren Cook Company Model Gemini fan as a listed fan and damper assembly or as a stand-alone damper. The following installation instructions show the recommended installation procedures for the CRD's with the Gemini fan. If the CRD is installed as a stand-alone damper, then a 16 ga. steel support channel must be attached to the damper. Use 12 SWG galvanized steel wire or all thread to attach the damper to a supporting structural member. Where it is necessary to cut a main runner or cross tee, each cut end shall be supported by a vertical No. 12 SWG hanger wire. A 1/2" (13mm) clearance shall be maintained between the duct outlet and each cut end at main runner and cross tee. The duct outlet shall be located so that no more than one main runner or cross tee is cut when penetrating the ceiling membrane. Consult with local authorities that have jurisdiction with regard to local codes and guidelines regarding installation.



CRD Model #	Gemini Fan Model	A	B	C
CRD1	120	14-1/2	12-3/8	6-3/16
CRD1	140	14-1/2	12-3/8	6-3/16
CRD1	160	14-1/2	12-3/8	6-3/16
CRD1	180	14-1/2	12-3/8	6-3/16
CRD2	220, 240	12-5/8	10-1/8	5-1/16
CRD3	320, 340	12-5/8	11-1/8	5-9/16
CRD4	420	17-5/8	12-1/4	6-1/8
CRD4	520	17-5/8	12-1/4	6-1/8
CRD4	620	17-5/8	12-1/4	6-1/8
CRD4	640	17-5/8	12-1/4	6-1/8
CRD4	720	17-5/8	12-1/4	6-1/8
CRD4	740	17-5/8	12-1/4	6-1/8



Meets NFPA 90A requirements.
 Meets BOCA, SBCCA, UBC requirements.
 The City of New York 460-88-5A
 California State Fire Marshall 3225-0935:102

See details on
UL Classification Marking
on enclosed product.