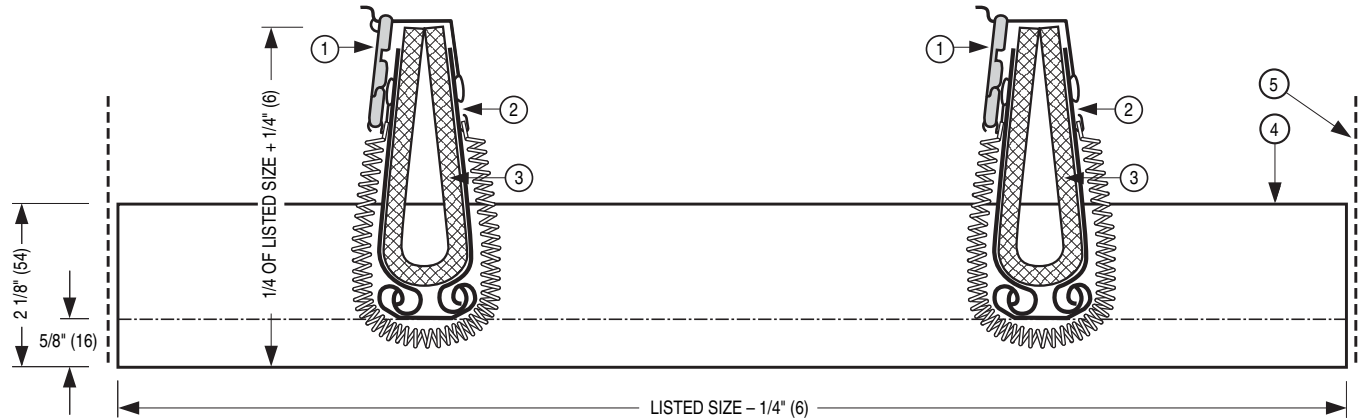




**CEILING RADIATION DAMPER  
LOW PROFILE (DUAL BLADES)  
SQUARE OR RECTANGULAR  
MODEL: 0716-4**



**QUALIFICATIONS:**

- **UL 555C CLASSIFIED CEILING DAMPER (File # R9660).**
- **CAN4/ULC-S112.2 Ceiling Firestop Flap Assemblies.**
- **Meets the requirements for NFPA 90A as well as IBC, NBC (Canada) and associated local building codes.**
- **City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0102.**

**DESCRIPTION:**

Ceiling dampers, or ceiling radiation dampers (known as Fire Stop Flaps in Canada), are designed to function as a fire and heat barrier in air duct openings penetrating fire resistive membrane ceilings. Model 0716-4 is for use in square or rectangular applications, in lieu of hinged door type dampers in any UL/ULC floor/ceiling or roof/ceiling assembly with up to a 3 hour fire resistance rating where air ducts are allowed.

Model 0716-4 provides a low profile, dual set of blades design, ideal for installation in tight places that require a fire and heat barrier in air duct openings penetrating fire resistive membrane ceilings.

**STANDARD CONSTRUCTION:**

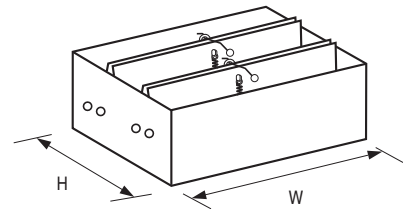
1. **Fusible Link:** UL Listed, 212°F (100°C), standard.
2. **Blades:** 22 ga. (0.85) G60 galvanized steel.
3. **Insulation:** Non-asbestos UL Classified on units over 80 sq. in. (516 sq. cm) finished size, std. Not required on smaller units.
4. **Frame:** Roll-formed 22 ga. (0.85) G60 galvanized steel.
5. **Duct Drop:** By others.

**Model 0716-4 Sizes (Duct W x H):**

Minimum	Maximum
12" x 6" (305 x 152)	24" x 24" (610 x 610)

**OPTION:**

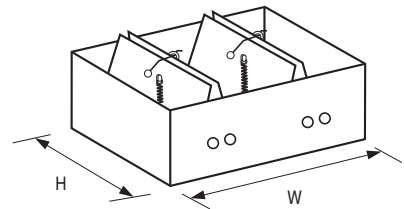
1. Non-standard temperature U.L. Listed fusible link.
  - 165** 165°F (74°C)



**DETAIL 1**

(H = 12" [305] or more)

Units manufactured with blade length on long dimension (W) except where short dimension (H) is less than 12" (305). (See Detail 1 above).



**DETAIL 2**

(H = less than 12" [305])

If short dimension (H) is less than 12" (305), units are manufactured with blade length on short dimension. (See Detail 2 above).

For installation instructions, see IOM-CRDSINST and IOM-CRDTBINST.

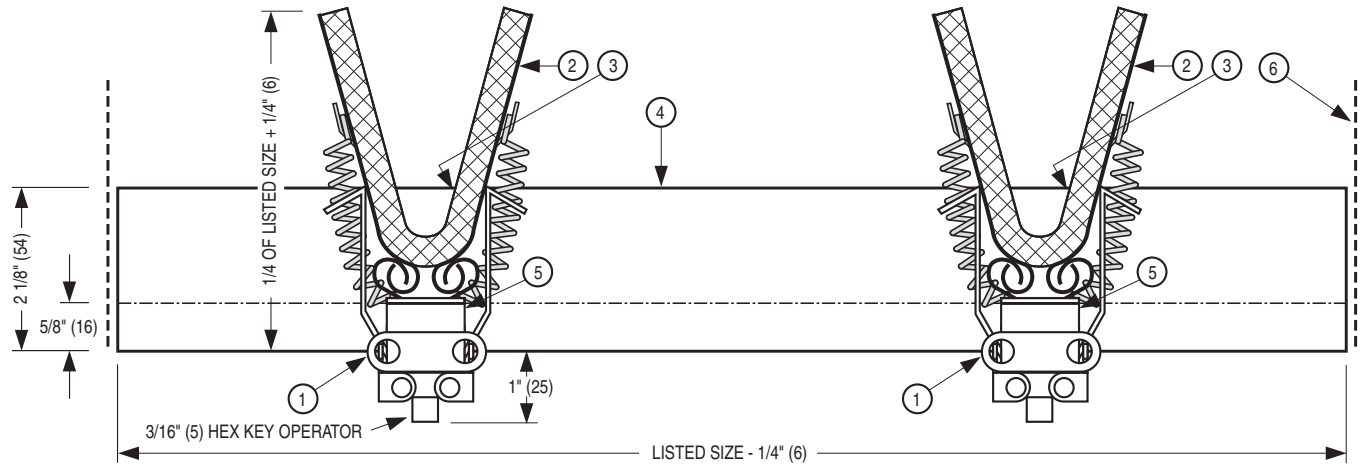
Dimensions are in inches (mm).

<b>SCHEDULE TYPE:</b>
<b>PROJECT:</b>
<b>ENGINEER:</b>
<b>CONTRACTOR:</b>

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 28 - 14	0700	12 - 12 - 11	0700-4



**CEILING RADIATION DAMPER WITH  
ADJUSTABLE VOLUME CONTROL**  
LOW PROFILE • SQUARE OR RECT.  
**MODEL: 0716-4A**



**QUALIFICATIONS:**

- **UL 555C CLASSIFIED CEILING DAMPER (File # R9660).**
- **CAN4/ULC-S112.2 Ceiling Firestop Flap Assemblies.**
- **Meets the requirements for NFPA 90A as well as IBC, NBC (Canada) and associated local building codes.**
- **City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0102.**

U.S. Patent No.  
4,936,287

Canadian Patent No.  
2,014,587-1

**DESCRIPTION:**

Ceiling dampers, or ceiling radiation dampers (known as Fire Stop Flaps in Canada), are designed to function as a fire and heat barrier in air duct openings penetrating fire resistive membrane ceilings. Model 0716-4A is for use in square or rectangular applications, in lieu of hinged door type dampers in any UL/ULC floor/ceiling or roof/ceiling assembly with up to a 3 hour fire resistance rating where air ducts are allowed.

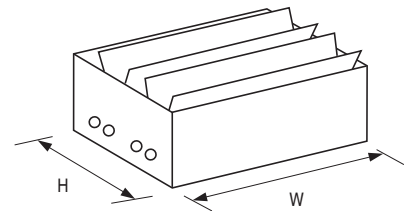
Model 0716-4A provides a low profile, dual set of adjustable blades design, ideal for installation in tight places, and incorporates an Adjustable Volume Control mechanism to adjust the opening of the blades for balancing airflow through the diffuser.

**STANDARD CONSTRUCTION:**

1. **Fusible Link:** UL Listed, 212°F (100°C), standard.
2. **Blades:** 22 ga. (0.85) G60 galvanized steel.
3. **Insulation:** Non-asbestos UL Classified on units over 80 sq. in. (516 sq. cm) finished size, std. Not required on smaller units.
4. **Frame:** Roll-formed 22 ga. (0.85) G60 galvanized steel.
5. **Vol. Control:** Adj. fusible link assembly permits volume control.
6. **Duct Drop:** By others.

**Model 0716-4A Sizes (Duct W x H):**

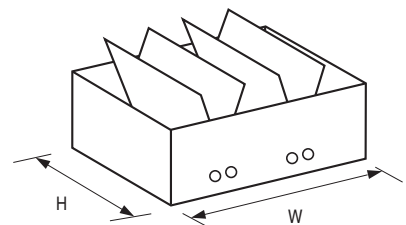
Minimum	Maximum
12" x 6" (305 x 152)	24" x 24" (610 x 610)



**DETAIL 1**

(H = 12" [305] or more)

Units manufactured with blade length on dimension (W) except where short dimension (H) is less than 12" (305). (See Detail 1 above).



**DETAIL 2**

(H = less than 12" [305])

If short dimension (H) is less than 12" (305), units are manufactured with blade length on short dimension. (See Detail 2 above).

**OPTION:**

1. Non-standard temperature U.L. Listed fusible link.

**165** 165°F (74°C)

For installation instructions, see IOM-CRDSINST and IOM-CRDTBINST.

Dimensions are in inches (mm).

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

**DATE**

**B SERIES**

**SUPERSEDES**

**DRAWING NO.**

4 - 28 - 14

0700

11 - 1 - 04R

0700-5

**QUALIFICATIONS:**

- UL 555C CLASSIFIED CEILING DAMPER (File # R9660).
- CAN4/ULC-S112.2 Ceiling Firestop Flap Assemblies.
- Meets the requirements for NFPA 90A as well as IBC, NBC (Canada) and associated local building codes.
- City of New York MEA. No. 366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3226-0935:0102.

**DESCRIPTION:**

Ceiling dampers (known as Fire Stop Flaps in Canada) are designed to function as a fire and heat barrier in air handling openings penetrating fire resistive membrane ceilings. The 0700 Series is for use in lieu of hinged door type dampers in any UL/ULC floor/ceiling or roof/ceiling assembly with up to a 3 hour fire resistance rating where air handling openings are permitted.

The Model 0720 Curtain type provides a low profile design that is ideally suited to applications where the available duct drop height for installation is restricted. Compact curtain design maximizes free area in the open position.

**STANDARD CONSTRUCTION:**

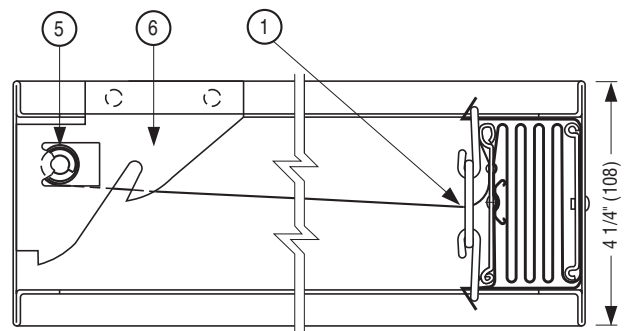
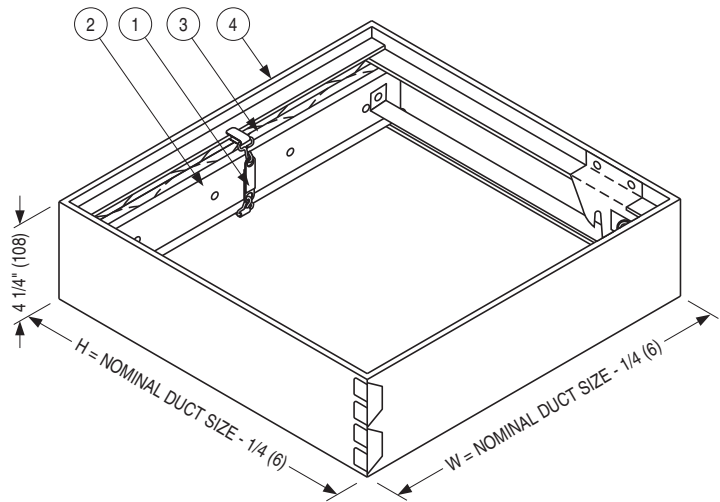
1. **Fusible Link:** UL Listed, 212°F (100°C), standard.
2. **Blades:** 22 ga. (0.85) G60 galvanized steel.
3. **Insulation:** Non-asbestos UL Classified.
4. **Frame:** Roll-formed 22 ga. (0.85) G60 galvanized steel.
5. **Spring:** Stainless steel negator closure spring.
6. **Ramp:** Curtain blade locking ramp.

**Models 0720 and 0720B Sizes (Duct W x H):**

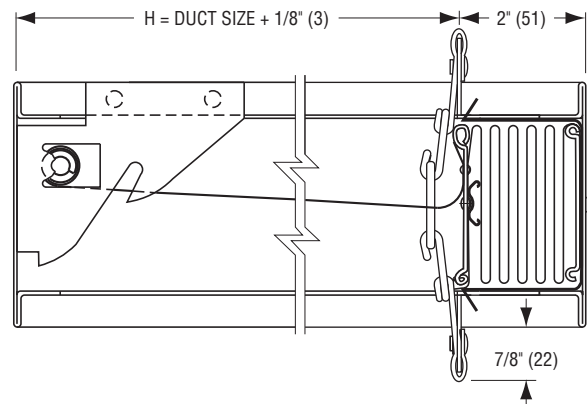
Minimum	Maximum	
	0720	0720B
6" x 4" (152 x 102)	18" x 18" (457 x 457)	18" x 16" (457 x 406)

**OPTION:**

1. Non-standard temperature U.L. Listed fusible link.  
 165 165°F (74°C)



**MODEL 0720**



**MODEL 0720B: TYPE B**

Type B places the curtain out of the airstream for higher free area and reduced pressure drop.

For installation instructions, see IOM-CRDSINST and IOM-CRDTBINST.

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>	4 - 28 - 14	0700	5 - 30 - 08R	0700-6

The NFPA recommends that ceiling radiation dampers be tested periodically.

These dampers are an essential part of the fire protection system in a building. Owners should develop a greater awareness of the life and property protecting abilities of these systems and establish a planned maintenance schedule. Failure to maintain proper conditions of cleanliness in air duct systems and carelessness with repair operations have been important contributing causes of several fires that have involved air conditioning systems. The following recommendations apply, in general, to year round operation of the system; systems operating only part of the year should be given a thorough general checkup before starting operation and again after shutting down.

The maintenance interval will vary widely depending on duration of system operation, condition of fresh air, amount of dust in return air, and other factors. The intervals given are intended to be maximum and should be shortened if system conditions warrant. Consult your local building code to verify whether there is a required maintenance schedule.

1. Each damper should be inspected at least every two years to see that it is not rusted or blocked by an obstruction of any kind, which could interfere with the operation of the blades. Clean off any dirt build-up on blades and frame.
2. Ceiling radiation dampers generally do not require lubrication, but hinges and, if applicable, adjustable fusible link adjustment screw and mechanism may be lubricated with a dry lubricant (such as T.F.E. Dry Lube) if necessary. Never use a regular lubricating oil on dampers, as it will attract dirt and grit.
3. Disconnect fusible link and release blades to verify that they fully close. Caution should be exercised with spring loaded dampers in order to avoid physical injury. Reset blades and reattach fusible link.

Dimensions are in inches (mm).



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**Calgary, Canada**  
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Fax: 403-279-5035

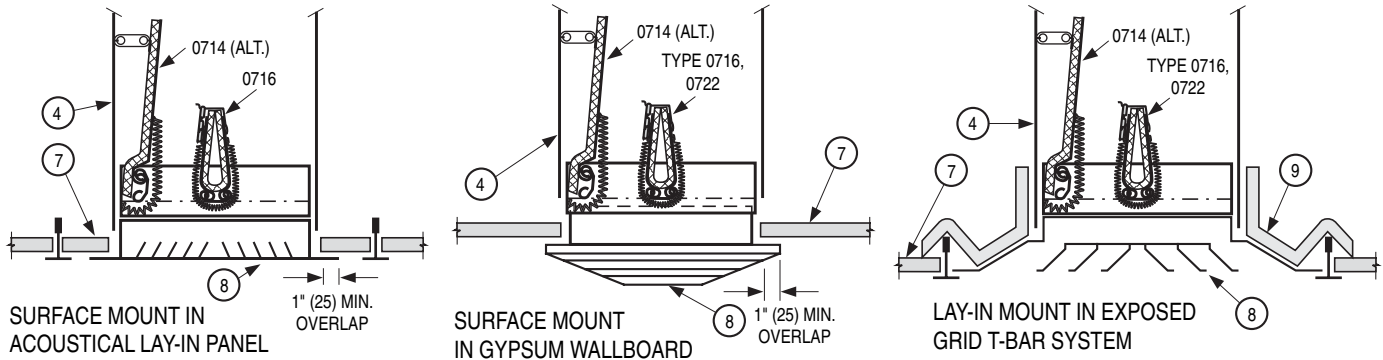
**QUALIFICATIONS:**

- **UL 555C Classified Ceiling Damper (File #9660).**
- **CAN4-S112.2 Ceiling Firestop Flap Assemblies.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:102.**
- **City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.**
- **Meets the requirements for NFPA 90A, IBC and NBC (Canada) and associated local building codes.**

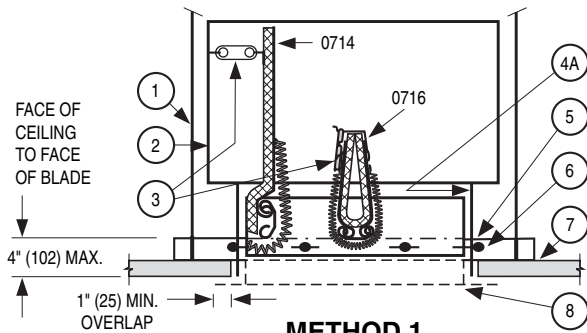
**NOTES:**

1. Model Series 0700 Ceiling Dampers (known as Fire Stop Flaps in Canada) are for use in place of the hinged blade, sheet metal damper in steel ducts with steel diffuser or grille as specified in the "Design Information Section – General" and in the individual floor or roof ceiling design(s) being used, as illustrated and described in the current UL Fire Resistance Directory. One ceiling damper of the same size as the allowable duct outlet size may be substituted for each hinged sheet metal damper specified in the design.  
The clearance between each side of the ceiling damper and the duct drop shall be 1/8" (3) maximum.
2. Opening in ceiling membrane may be up to 1" (25) larger than the nominal size of the ceiling radiation damper. For exposed grid T-Bar ceiling systems, where the opening in the ceiling membrane is larger (more than 1" (25)) than the ceiling damper, a thermal blanket (Model 0725 or 0726) must be installed over the exposed surface of the diffuser (see lay-in diffuser applications).  
Duct outlets in lay-in ceilings should be located within the field of an acoustical ceiling panel or tile.  
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" (13) 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.
3. A. Before installing Model 0716 or 0722, open blades and install fusible link between spring loaded wire clips. Do not bend or deform clips after assembly. If dampers are provided with link tabs instead of wire clips, install link and bend tabs to secure link in position.  
B. After installing damper model 0714 in duct drop, open blade and attach link to duct or duct drop.
4. **INSTALLATION:**  
**Method 1.** Type 0714, 0716 and 0720  
Attach the two 16 ga. (1.6) steel support channels. (1 1/2" (38) deep with 1/2" (13) flanges), through the duct drop and ceiling damper using 3/16" (5) diameter by 1/2" (13) long steel bolts spaced 6" (152) o.c. maximum, with two bolts per channel minimum. The bolts shall not interfere with the closing of the ceiling damper.  
**Method 2.** Type 0714, 0716, 0720 and 0722  
Support the duct with two 16 ga. (1.6) steel support channels (1 1/2" (38) deep with 1/2" (13) flanges). Place the support channels at the bottom of the duct adjacent to both sides of the duct drop. Install the ceiling damper in the duct drop using 3/16" (5) diameter by 1/2" (13) long steel bolts, #8 by 1/2" (13) sheet metal screws or 3/16" (5) diameter steel rivets at 6" (152) o.c. with 2 per side minimum for rectangular or square dampers. For round dampers, use three equally spaced #8 x 1/2" (13) sheet metal screws for dampers up to 10" (254) dia. and four for larger sizes.
5. Use No. 12 SWG galvanized steel wire hangers to independently support channels to the structural members of the floor or roof above.
6. Maximum damper size. Models 0714, 0716, 0716-4 and 0716-4A: 24" x 24" (610 x 610).  
Model 0716A: 16" x 16" (406 x 406). Model 0720: 18" x 18" (457 x 457).  
Model 0722: 24" (610) dia. Model 0722A: 16" (406) dia..
7. **Steel grille or diffuser installation:** Attach to the duct drop or ceiling damper using #8 by 1/2" (13) long sheet metal screws at 8" (203) o.c. maximum and at least one screw per side for rectangular or square dampers. Round neck grilles or diffusers shall be attached to the duct drop or ceiling damper using a minimum of four equally spaced #8 x 1/2" (13) sheet metal screws. The grille or diffuser flange face shall overlap the ceiling opening by 1" (25) minimum and provide structural support for the ceiling membrane.  
**Non-steel grille or diffuser installation:** Duct drop requires a support flange as detailed on page 2. Grille or diffuser may be attached in any suitable manner.

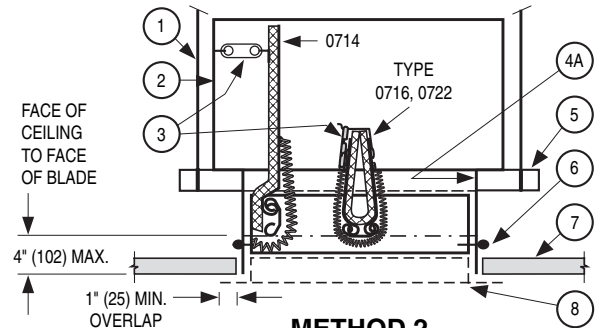
## TYPICAL GRILLE/DIFFUSER APPLICATIONS



## STEEL GRILLE OR DIFFUSER DETAIL

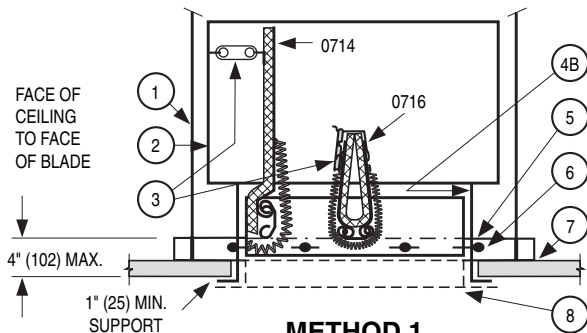


**METHOD 1**  
MODELS 0714, 0716, 0716A,  
0716-4, 0716-4A AND 0720

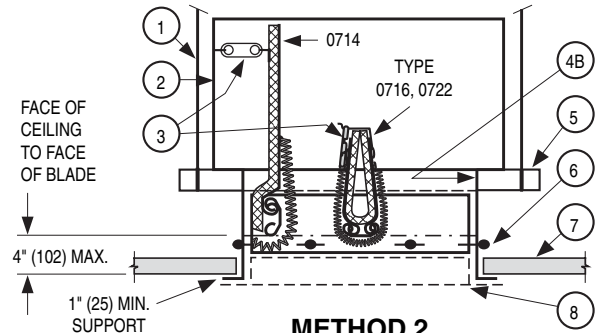


**METHOD 2**  
MODELS 0714, 0716, 0716A,  
0716-4, 0716-4A, 0720, 0722 AND 0722A

## NON-STEEL GRILLE OR DIFFUSER DETAIL



**METHOD 1**  
MODELS 0714, 0716, 0716A,  
0716-4, 0716-4A AND 0720



**METHOD 2**  
MODELS 0714, 0716, 0716A,  
0716-4, 0716-4A, 0720, 0722 AND 0722A

### ITEMS:

1. Wire hangers (4 required).
2. Main duct.
3. Listed fusible link or alt. listed adj. fusible link assembly. (Blade control through screw adjustment).
- 4a. Steel duct drop.
- 4b. Steel duct drop with 1" (25) lower support flange. The support flange may be integral to the duct drop or 1" x 1" (25 x 25) angles may be fastened to the duct drop at 4" (102) max. on center, min. two per side.
5. Support channels (2 required).
6. Mounting bolts, screws or rivets.
7. Ceiling: Acoustical panel (lay-in), acoustical tile or gypsum wallboard.
8. Grille or diffuser (see note 7).
9. Supplementary thermal blanket for use where ceiling opening is larger than nominal damper size. (See lay-in diffuser applications).

Dimensions are in inches (mm).

Page 2 of 2



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

**CEILING DAMPER, DIFFUSER AND THERMAL BLANKET ASSEMBLY  
FOR LAY-IN INSTALLATION WITH FLEXIBLE OR STEEL DUCT****QUALIFICATIONS:**

- UL 555C Classified Ceiling Damper. (File # 9660).
- CAN4-S112.2 Ceiling Firestop Flap Assemblies.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:102.
- City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.
- Meets the requirements for NFPA 90A, IBC, BOCA, SBCCI, UBC, NBC (Canada) and associated local building codes.

**NOTES:**

1. Follow carefully the installation procedure shown on page 2 for flexible duct and page 3 for hard duct.
2. Before installing, open damper blades and install link between spring loaded wire clips. Do not bend or deform clips after assembly. If dampers are provided with link tabs instead of wire clips, install link and bend tabs to secure link in position.
3. The end tabs of the 2'-0" (610) cross T-Bar shall be bent back against the web of the 4'-0" (1219) cross T-Bars. The 4'-0" (1219) cross T-Bars must have slots in the web for connection of the 2'-0" (610) cross T-Bar.
4. Use No. 12 SWG galvanized steel hanger wires to independently support the ceiling T-Bars to the structural members of the floor or roof above. Ensure hanger wires are plumb and straight.
5. Maximum distance from face of ceiling to face of damper blade is 4" (102).
6. Maximum size of the Ceiling Damper/Ceiling Air Diffuser neck is 12" x 12" (305 x 305) for square hard duct and 14" (356) dia. for flexible duct installations.  
Larger neck sizes require the duct to be independently supported. See IOM pages 5.050-5.051.  
The Flexible Duct shall be Class 0 or 1 bearing the UL Classification marking. The maximum length of the duct shall not exceed 14'-0" (4267) in length. No portion of the duct shall rest on the back surface of the ceiling panels or tiles and a minimum of 4" (102) clearance must be maintained. Where the duct must be supported, use straps or No. 12 SWG steel hanger wires 4'-0" (1219) to 6'-0" (1829) o.c.
7. Caution should be observed so that the duct does not interfere with the operation of the Classified Ceiling Damper of the Ceiling Air Diffuser assembly.
8. No Diffuser shall be located in an adjacent 24" x 48" (610 x 1219) ceiling grid module.
9. Ceiling Damper/Ceiling Air Diffuser assemblies are for use in lieu of the hinged blade, sheet metal damper in steel ducts as specified in the "Design Information Section - General", and in the individual floor and roof ceiling design(s) being used, as illustrated and described in the current UL "Fire Resistance Directory".



**CEILING DAMPER, DIFFUSER AND THERMAL BLANKET ASSEMBLY  
FOR LAY-IN INSTALLATION WITH FLEXIBLE DUCT.  
MODELS: 0722 & 0722A.**

Slip ceiling damper over neck of diffuser and install screws (item 5) on equally spaced centers.

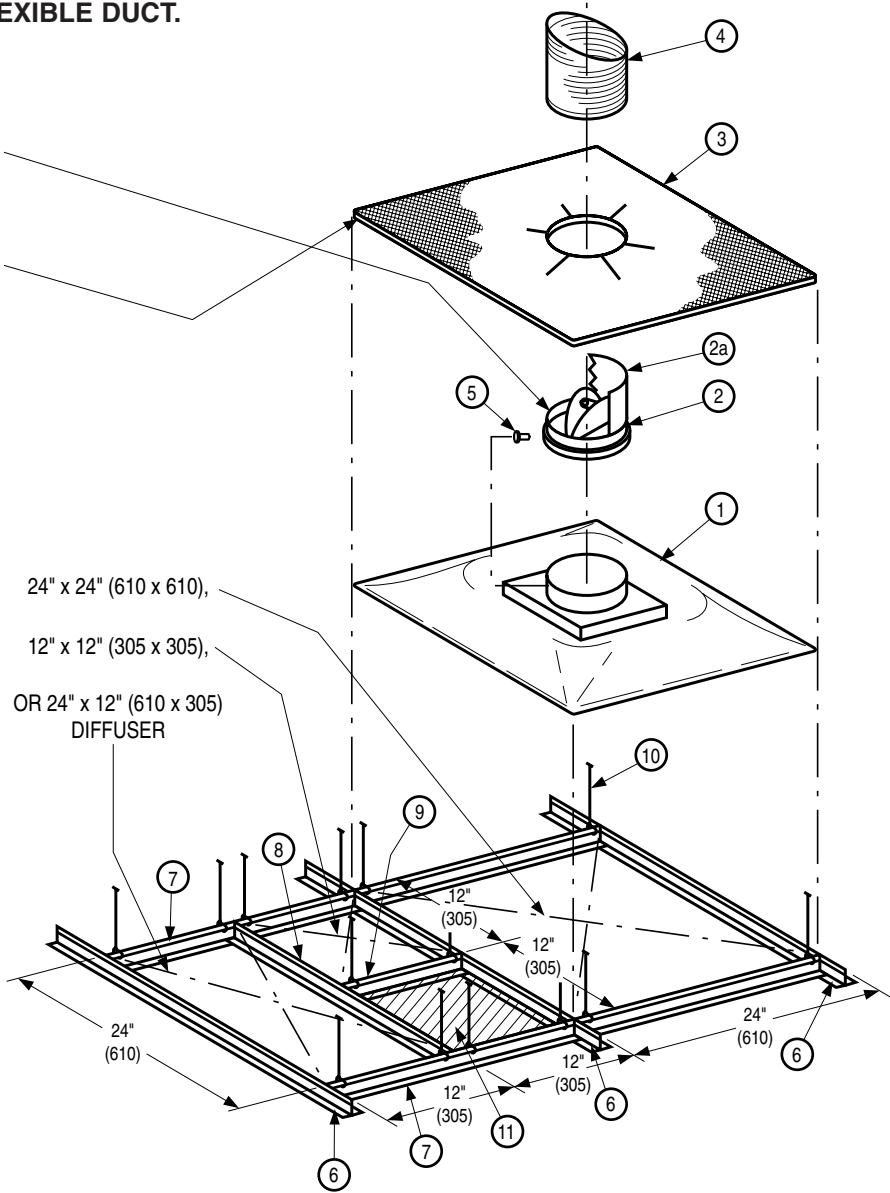
Place thermal blanket over ceiling damper and diffuser neck and set square with ceiling grid. Cut corners of blanket to clear hanger wires (item 10).

**ITEMS:**

1. Lay-in type steel diffuser with round neck or square-to-round adapter. (24 gauge minimum).
2. Ceiling damper.
- 2a. Ceiling damper with top extension.
3. Thermal blanket. (Model 0725).
4. UL Listed flexible duct.
5. #8 x 1/2" (13) sheet metal screws; equally spaced. Three required for 10" (254) dia. or less. Four required for 12" (305) and 14" (356) dia.
6. Main T-bar runner.
7. 4'-0" (1219) cross T-bar.
8. 2'-0" (610) T-bar.
9. 1'-0" (305) T-bar.
10. The 4 corners of the grid module in which the lay-in diffuser is installed shall have a hanger wire support.
11. Ceiling panel or tile set in ceiling grid.

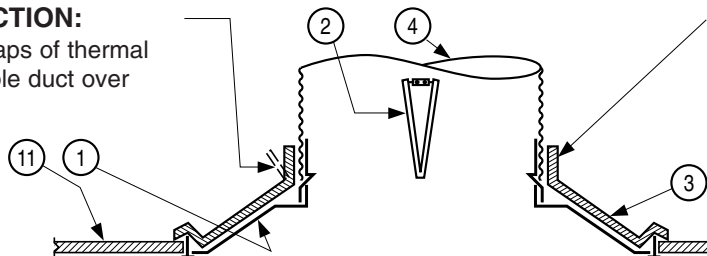
Combined diagram of typical ceiling grid layouts to suit 12" x 12" (305 x 305), 24" x 12" (610 x 305) or 24" x 24" (610 x 610) diffuser sizes as noted.

No diffusers shall be located in adjacent modules. Refer to notes on page 5.060.



**DUCT CONNECTION:**

Fold back neck flaps of thermal blanket, slip flexible duct over diffuser neck.



**THERMAL BLANKET ATTACHMENT:**

Replace neck flaps of thermal blanket over duct and fasten duct to neck over blanket using 18 SWG min. steel wire or steel clamp in accordance with duct manufacturer's installation instructions. Do not use bolts, screws or rivets.

**CEILING DAMPER, DIFFUSER AND THERMAL BLANKET ASSEMBLY FOR LAY-IN INSTALLATION WITH RECTANGULAR STEEL DUCT. MODELS: 0714, 0716, 0716A, 0716-4, 0716-4A & 0720.**

Slip ceiling damper over neck of diffuser and install screws (item 5) on equally spaced centers.

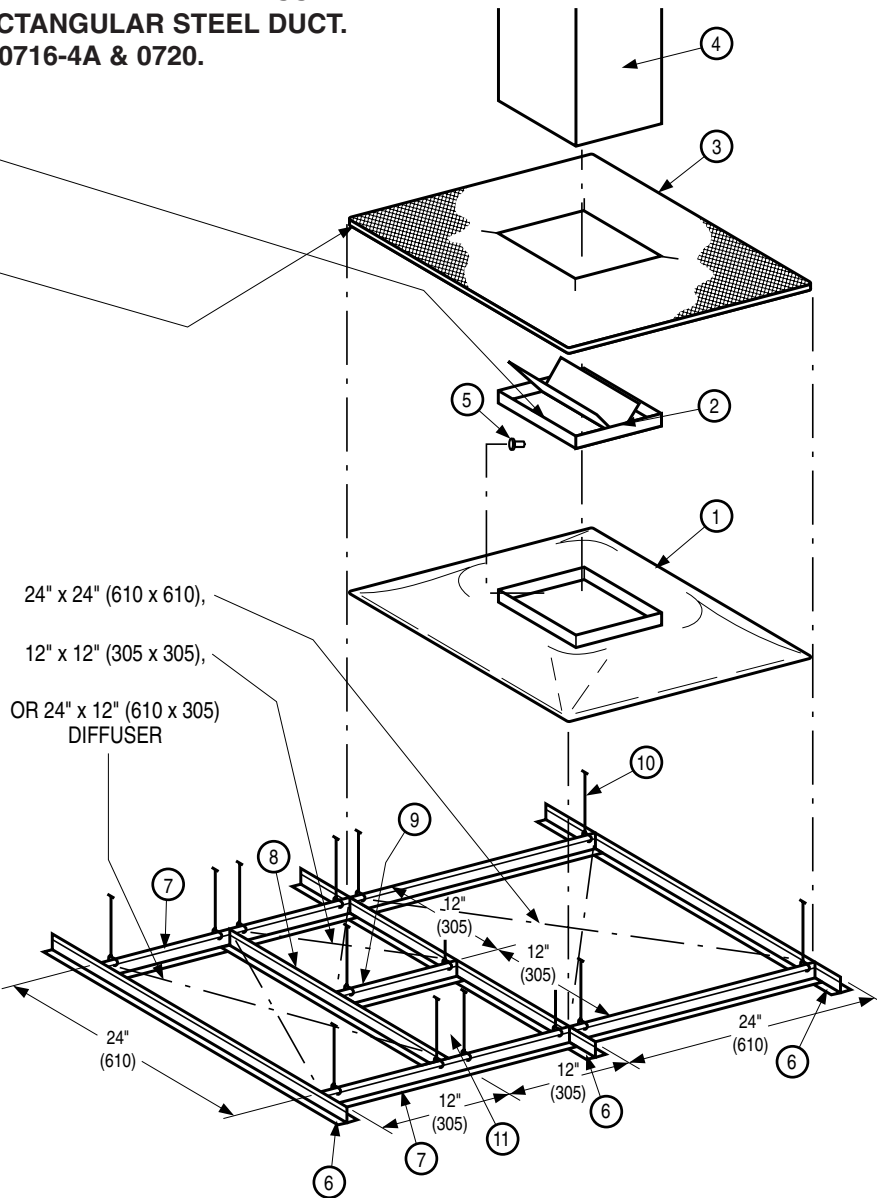
Place thermal blanket over ceiling damper and diffuser neck and set square with ceiling grid. Cut corners of blanket to clear hanger wires (item 10).

**ITEMS:**

1. Lay-in type steel diffuser with square or rectangular neck. (24 gauge min.).
2. Ceiling damper.
3. Thermal blanket. (Model 0726).
4. Steel duct drop.
5. #8 x 1/2" (13) sheet metal screws; equally spaced at 8" (203) o.c. maximum with at least one screw per side.
6. Main T-bar runner.
7. 4'-0" (1219) cross T-bar.
8. 2'-0" (610) T-bar.
9. 1'-0" (305) T-bar.
10. The 4 corners of the grid module in which the lay-in diffuser is installed shall have a hanger wire support.
11. Ceiling panel or tile set in ceiling grid.

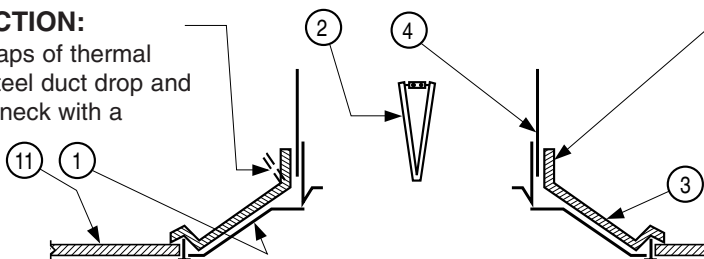
Combined diagram of typical ceiling grid layouts to suit 12" x 12" (305 x 305), 24" x 12" (610 x 305) or 24" x 24" (610 x 610) diffuser sizes as noted.

No diffusers shall be located in adjacent modules. Refer to notes on page 5.060.



**DUCT CONNECTION:**

Fold back neck flaps of thermal blanket, slip on steel duct drop and fasten to diffuser neck with a minimum of four #8 sheet metal screws, one per side.



**THERMAL BLANKET ATTACHMENT:**

Replace neck flaps of thermal blanket over duct and fasten using 18 SWG steel wire.



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