

# Reliable

**Models DD56-6, DD56-27, DD80-6, DD80-27, DS56, & GP56**  
**Specific Application Sprinklers**  
**for Sloped Combustible and Noncombustible Light Hazard Concealed Spaces**

**Attic Sprinklers**  
**cULus Listed**

## Product Features

- DD80 Series sprinklers provide coverage for spans up to 70 ft (21 m) with one row of sprinklers
- DD56 Series sprinklers provide coverage for spans up to 40 ft (12 m) with one row of sprinklers.
- Model DS56 sprinkler provides coverage up to 6 ft x 40 ft (1.8 m x 12 m)
- Model GP56 sprinkler provides coverage up to 10 ft x 15 ft (3.0 m x 4.6 m)
- All models use a 212°F (100°C) temperature rated fusible-link operating element

## Product Description

Reliable Attic Sprinklers are cULus Listed Specific Application sprinklers. The sprinklers are available for protection of combustible and non-combustible light hazard concealed spaces with roof/ceiling slopes of 4:12 to 8:12. Reliable Attic Sprinklers are upright sprinklers listed for use on wet-pipe or dry-pipe sprinkler systems. All Reliable Attic sprinklers use a 212°F (100°C) temperature rated fusible-link operating element that is Listed for installation where the maximum ceiling temperature is up to 150°F (66°C). Table A provides a summary of available Reliable Attic sprinklers.

## Attic Sprinklers



**Attic Sprinkler Summary**

**Table A**

Sprinkler Model	Nominal K-Factor gpm/psi <sup>1/2</sup> (L/min/bar <sup>1/2</sup> )	Thread Size NPT or ISO7-1	Max. Coverage Area (Measured on Floor) ft x ft (m x m)	Roof Slope	Design Criteria	Sprinkler Identification Number (SIN)
DD56-6	5.6 (80)	1/2	6 x 40 (1.8 x 12)	4:12 to <6:12	Table B	RA5624
DD56-27	5.6 (80)	1/2	6 x 40 (1.8 x 12)	6:12 to 8:12	Table C	RA5694
DD80-6	8.0 (115)	3/4	6 x 66 or 5 x 70 (1.8 x 20 or 1.5 x 21)	4:12 to <6:12	Table D	RA5622
DD80-27	8.0 (115)	3/4	6 x 66 or 5 x 70 (1.8 x 20 or 1.5 x 21)	6:12 to 8:12	Table E	RA5692
DS56	5.6 (80)	1/2	6 x 40 (1.8 x 12)	4:12 to 8:12	Table F	RA5625
GP56	5.6 (80)	1/2	10 x 15 (3.0 x 4.6)	4:12 to 8:12	Table G	RA5695

## Model DD56-6 Specific Application Sprinkler

SIN RA5624

### Technical Specifications

**Style:** Upright  
**Orientation:** Deflector horizontal  
**Threads:** 1/2" NPT or ISO 7-1R1/2  
**Nominal K-Factor:** 5.6 (80 metric)  
**Max. Working Pressure:** 175 psi (12 bar)  
**Sprinkler Temperature Rating:** 212°F (100°C)  
**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Table H)

### Finish

Brass

### Sprinkler Wrench

Model R2 or W2

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe  
 Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 6 ft (1.8 m) across roof slope  
 Min: 4 ft (1.2 m) across roof slope  
 Min: 26 ft (7.9 m) down the roof slope  
 measured parallel to the roof deck

#### Horizontal Distance from Face of Truss

Min: 6 inches (150 mm)

#### Vertical Distance of Deflector Above Scissor Truss

Min: 18 inches (450 mm)

#### Horizontal Distance from Centerline of Ridge

Max: 6 inches (150 mm)

#### Vertical Distance of Top of Deflector Below Peak, Ridge, or Deck

Min: 17 inches (430 mm)  
 Max: 21 inches (530 mm)

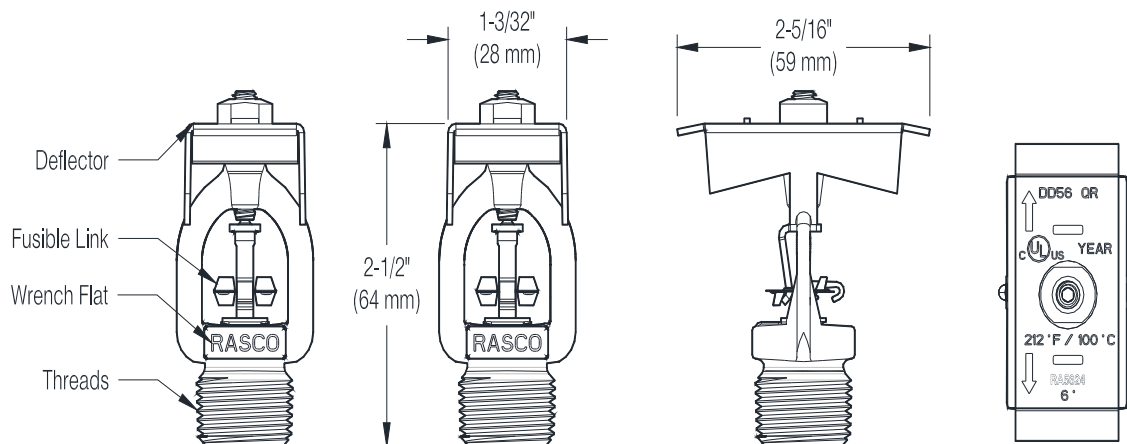


### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link  
**Levers:** Stainless Steel  
**Sprinkler Frame:** Brass Alloy  
**Button:** Copper Alloy  
**Button Clip:** Stainless Steel  
**Sealing Assembly:** Nickel Alloy with PTFE  
**Load Screw:** Bronze Alloy  
**Deflector:** Bronze Alloy

## Model DD56-6 Sprinkler Components and Dimensions

Figure 1



## Model DD56-6 Minimum Required Flow and Residual Pressure

Table B

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
4:12 to less than 6:12	6 x 40* (1.8 x 12)	25 (95)	19.9 (1.37)

\* Coverage is 20 ft (6.1 m) down slope in two directions measured along the floor.

## Model DD56-27 Specific Application Sprinkler

SIN RA5694

### Technical Specifications

**Style:** Upright  
**Orientation:** Deflector horizontal  
**Threads:** 1/2" NPT or ISO 7-1R1/2  
**Nominal K-Factor:** 5.6 (80 metric)  
**Max. Working Pressure:** 175 psi (12 bar)  
**Sprinkler Temperature Rating:** 212°F (100°C)  
**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Table H)

### Finish

Brass

### Sprinkler Wrench

Model R2 or W2

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe  
 Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 6 ft (1.8 m) across roof slope  
 Min: 4 ft (1.2 m) across roof slope  
 Min: 26 ft (7.9 m) down the roof slope  
 measured parallel to the roof deck

#### Horizontal Distance from Face of Truss

Min: 6 inches (150 mm)

#### Vertical Distance of Deflector Above Scissor Truss

Min: 18 inches (450 mm)

#### Horizontal Distance from Centerline of Ridge

Max: 6 inches (150 mm)

#### Vertical Distance of Deflector Below Peak, Ridge, or Deck

Min: 17 inches (430 mm)  
 Max: 21 inches (530 mm)

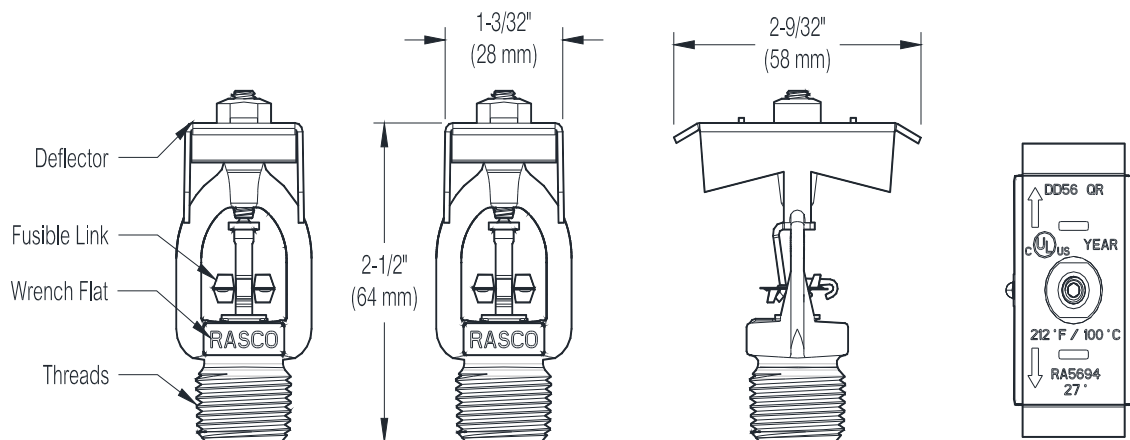


### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link  
**Levers:** Stainless Steel  
**Sprinkler Frame:** Brass Alloy  
**Button:** Copper Alloy  
**Button Clip:** Stainless Steel  
**Sealing Assembly:** Nickel Alloy with PTFE  
**Load Screw:** Bronze Alloy  
**Deflector:** Bronze Alloy

## Model DD56-27 Sprinkler Components and Dimensions

Figure 2



## Model DD56-27 Minimum Required Flow and Residual Pressure

Table C

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
6:12 to 8:12	6 x 40* (1.8 x 12)	25 (95)	19.9 (1.37)

\* Coverage is 20 ft (6.1 m) down slope in two directions measured along the floor.

## Model DD80-6 Specific Application Sprinkler

SIN RA5622

### Technical Specifications

**Style:** Upright  
**Orientation:** Deflector horizontal  
**Threads:** 3/4" NPT or ISO 7-1R3/4  
**Nominal K-Factor:** 8.0 (115 metric)  
**Max. Working Pressure:** 175 psi (12 bar)  
**Sprinkler Temperature Rating:** 212°F (100°C)  
**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Table H)

### Finish

Brass

### Sprinkler Wrench

Model R2 or W2

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe  
 Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 6 ft (1.8 m) across roof slope  
 Min: 4 ft (1.2 m) across roof slope  
 Min: 26 ft (7.9 m) down the roof slope  
 measured parallel to the roof deck

#### Horizontal Distance from Face of Truss

Min: 6 inches (150 mm)

#### Vertical Distance of Deflector Above Scissor Truss

Min: 18 inches (450 mm)

#### Horizontal Distance from Centerline of Ridge

Max: 6 inches (150 mm)

#### Vertical Distance of Deflector Below Peak, Ridge, or Deck

Min: 17 inches (430 mm)  
 Max: 21 inches (530 mm)

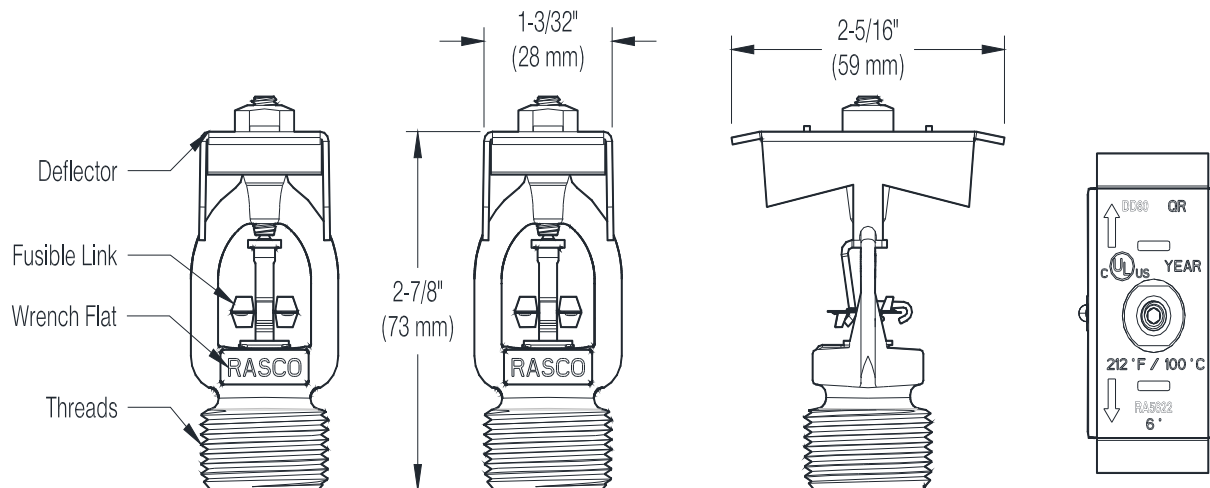


### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link  
**Levers:** Stainless Steel  
**Sprinkler Frame:** Brass Alloy  
**Button:** Copper Alloy  
**Button Clip:** Stainless Steel  
**Sealing Assembly:** Nickel Alloy with PTFE  
**Load Screw:** Bronze Alloy  
**Deflector:** Bronze Alloy

## Model DD80-6 Sprinkler Components and Dimensions

Figure 3



## Model DD80-6 Minimum Required Flow and Residual Pressure

Table D

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
4:12 to less than 6:12	6 x 40 <sup>1</sup> (1.8 x 12)	25 (95)	9.8 (0.68)
	6 x 63 <sup>2</sup> (1.8 x 19)	38 (144)	22.6 (1.56)
	6 x 66 <sup>3</sup> (1.8 x 20)	40 (151)	25 (1.72)
	5 x 70 <sup>4</sup> (1.5 x 21)	38 (144)	22.6 (1.56)

<sup>1</sup> Coverage is 20 ft (6.1 m) down slope in two directions measured along the floor.

<sup>2</sup> Coverage is 31.5 ft (9.6 m) down slope in two directions measured along the floor.

<sup>3</sup> Coverage is 33 ft (10.0 m) down slope in two directions measured along the floor.

<sup>4</sup> Coverage is 35 ft (10.7 m) down slope in two directions measured along the floor.

## Model DD80-27 Specific Application Sprinkler

SIN RA5692

### Technical Specifications

**Style:** Upright  
**Orientation:** Deflector horizontal  
**Threads:** 3/4" NPT or ISO 7-1R3/4  
**Nominal K-Factor:** 8.0 (115 metric)  
**Max. Working Pressure:** 175 psi (12 bar)  
**Sprinkler Temperature Rating:** 212°F (100°C)  
**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Tables E and H)

### Finish

Brass

### Sprinkler Wrench

Model R2 or W2

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe  
 Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 6 ft (1.8 m) across roof slope  
 Min: 4 ft (1.2 m) across roof slope  
 Min: 26 ft (7.9 m) down the roof slope  
 measured parallel to the roof deck

#### Horizontal Distance from Face of Truss

Min: 6 inches (150 mm)

#### Vertical Distance of Deflector Above Scissor Truss

Min: 18 inches (450 mm)

#### Horizontal Distance from Centerline of Ridge

Max: 6 inches (150 mm)

#### Vertical Distance of Deflector Below Peak, Ridge, or Deck

Min: 17 inches (430 mm)  
 Max: 21 inches (530 mm)

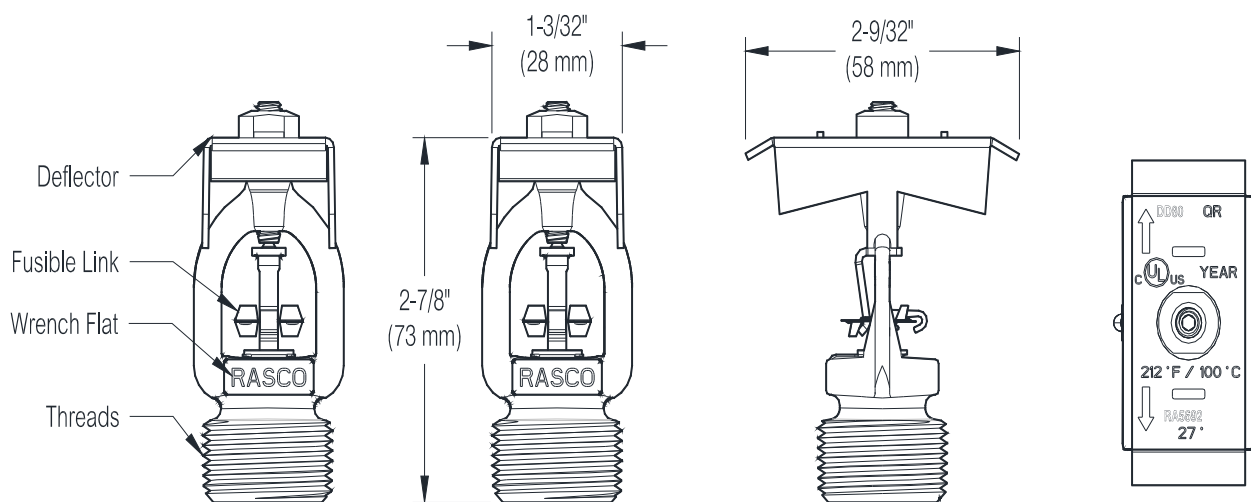


### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link  
**Levers:** Stainless Steel  
**Sprinkler Frame:** Brass Alloy  
**Button:** Copper Alloy  
**Button Clip:** Stainless Steel  
**Sealing Assembly:** Nickel Alloy with PTFE  
**Load Screw:** Bronze Alloy  
**Deflector:** Bronze Alloy

## Model DD80-27 Sprinkler Components and Dimensions

Figure 4



## Model DD80-27 Minimum Required Flow and Residual Pressure

Table E

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
6:12 to 8:12	6 x 40 <sup>1</sup> (1.8 x 12)	28 (106)	12.3 (0.85)
	6 x 63 <sup>2</sup> (1.8 x 19)	38 (144)	22.6 (1.56)
	6 x 66 <sup>3</sup> (1.8 x 20)	40 (151)	25 (1.72)
	5 x 70 <sup>4</sup> (1.5 x 21)	38 (144)	22.6 (1.56)

<sup>1</sup> Coverage is 20 ft (6.1 m) down slope in two directions measured along the floor.

<sup>2</sup> Coverage is 31.5 ft (9.6 m) down slope in two directions measured along the floor.

<sup>3</sup> Coverage is 33 ft (10.0 m) down slope in two directions measured along the floor.

<sup>4</sup> Coverage is 35 ft (10.7 m) down slope in two directions measured along the floor.

## Model DS56 Specific Application Sprinkler

SIN RA5625

### Technical Specifications

**Style:** Upright

**Orientation:** Frame arms perpendicular to roof deck

**Threads:** 1/2" NPT or ISO 7-1R1/2

**Nominal K-Factor:** 5.6 (80 metric)

**Max. Working Pressure:** 175 psi (12 bar)

**Sprinkler Temperature Rating:** 212°F (100°C)

**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Tables F and H)

### Finish

Brass

### Sprinkler Wrench

Model DS56

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe

Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 6 ft (1.8 m) across roof slope

Min: 4 ft (1.2 m) across roof slope

Min: 26 ft (7.9 m) down the roof slope measured parallel to the roof deck

#### Horizontal Distance from Face of Truss

Min: 6 inches (150 mm)

#### Horizontal Distance from Draft Curtain or Wall

Min: 34 inches (860 mm)

Max: 38 inches (970 mm)

#### Vertical Distance of Top of Deflector Above Bottom of Draft Curtain

Min: 8 inches (200 mm)

Model DS56 sprinklers may be installed back-to-back on opposite sides of a ridge where a draft curtain is installed to separate the back-to-back rows of sprinklers.

#### Vertical Distance of Top of Deflector Above Scissor Truss

Min: 18 inches (450 mm)

#### Distance from Top of Deflector to Roof Deck (measured perpendicular to roof deck)

Min: 9 inches (230 mm)

Max: 13 inches (330 mm)



### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link

**Levers:** Brass Alloy

**Frame Body:** Brass Alloy

**Frame Arms:** Brass Alloy

**Yoke:** Copper Alloy

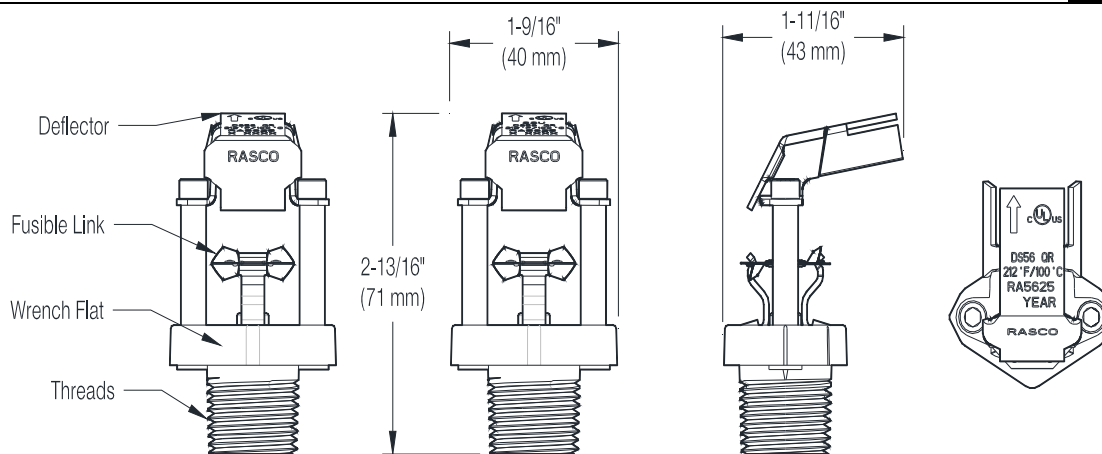
**Sealing Assembly:** Nickel Alloy with PTFE

**Load Screw:** Bronze Alloy

**Deflector:** Bronze Alloy

## Model DS56 Sprinkler Components and Dimensions

Figure 5



## Model DS56 Minimum Required Flow and Residual Pressure

Table F

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
4:12 to 8:12	6 x 30 <sup>1</sup> (1.8 x 9.1)	23 (87)	16.9 (1.17)
	6 x 40 <sup>2</sup> (1.8 x 12)	35 (132)	39.1 (2.70)

<sup>1</sup> Coverage is 30 ft (9.1 m) down slope measured along the floor.

<sup>2</sup> Coverage is 40 ft (12 m) down slope measured along the floor.

## Model GP56 Specific Application Sprinkler

SIN RA5695

### Technical Specifications

**Style:** Upright  
**Orientation:** Top of deflector parallel to roof deck  
**Threads:** 1/2" NPT or ISO 7-1R1/2  
**Nominal K-Factor:** 5.6 (80 metric)  
**Max. Working Pressure:** 175 psi (12 bar)  
**Sprinkler Temperature Rating:** 212°F (100°C)  
**Sensitivity:** Quick-response

### Hydraulic Design Criteria

(See Tables G and H)

### Finish

Brass

### Sprinkler Wrench

Model R2 or W2

### Listings and Approvals

cULus Listed

### Hazard Classification

Light Hazard

### System Types

Wet-pipe with steel or Listed CPVC pipe  
 Dry-pipe with steel pipe

### Installation Criteria

#### Sprinkler Spacing

Max: 10 ft (3.0 m) across roof slope  
 measured along the floor  
 Max: 15 ft (4.6 m) up and down roof  
 slope measured along the floor  
 Min: 6 ft (1.8 m) measured parallel to the  
 roof deck

#### Distance from Top of Deflector to Roof Deck (measured perpendicular to roof deck)

Min: 9 inches (230 mm)  
 Max: 13 inches (330 mm)

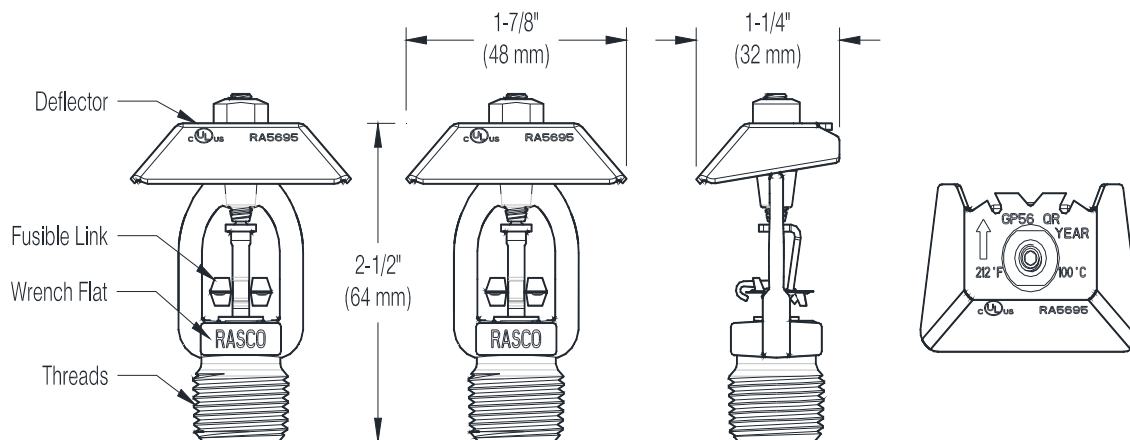


### Material Specifications

**Thermal Sensor:** Nickel Alloy Solder Link  
**Levers:** Stainless Steel  
**Sprinkler Frame:** Brass Alloy  
**Button:** Copper Alloy  
**Button Clip:** Stainless Steel  
**Sealing Assembly:** Nickel Alloy with PTFE  
**Load Screw:** Bronze Alloy  
**Deflector:** Bronze Alloy

## Model GP56 Sprinkler Components and Dimensions

Figure 6



## Model GP56 Minimum Required Flow and Residual Pressure

Table G

Ceiling Slope	Max. Coverage Area ft x ft (m x m)	Flow gpm (l/min)	Pressure psi (bar)
4:12 to 8:12	10 x 15* (3.0 x 4.6)	17 (64)	9.2 (0.63)

\* Coverage is 3 ft (0.9 m) up slope and 12 ft (3.7 m) down slope measured along the floor.

## Application

Reliable Attic Sprinklers are cULus Specific Application sprinklers intended for installation in accordance with this Bulletin and NFPA 13. The sprinklers are classified as Special Sprinklers by NFPA 13.

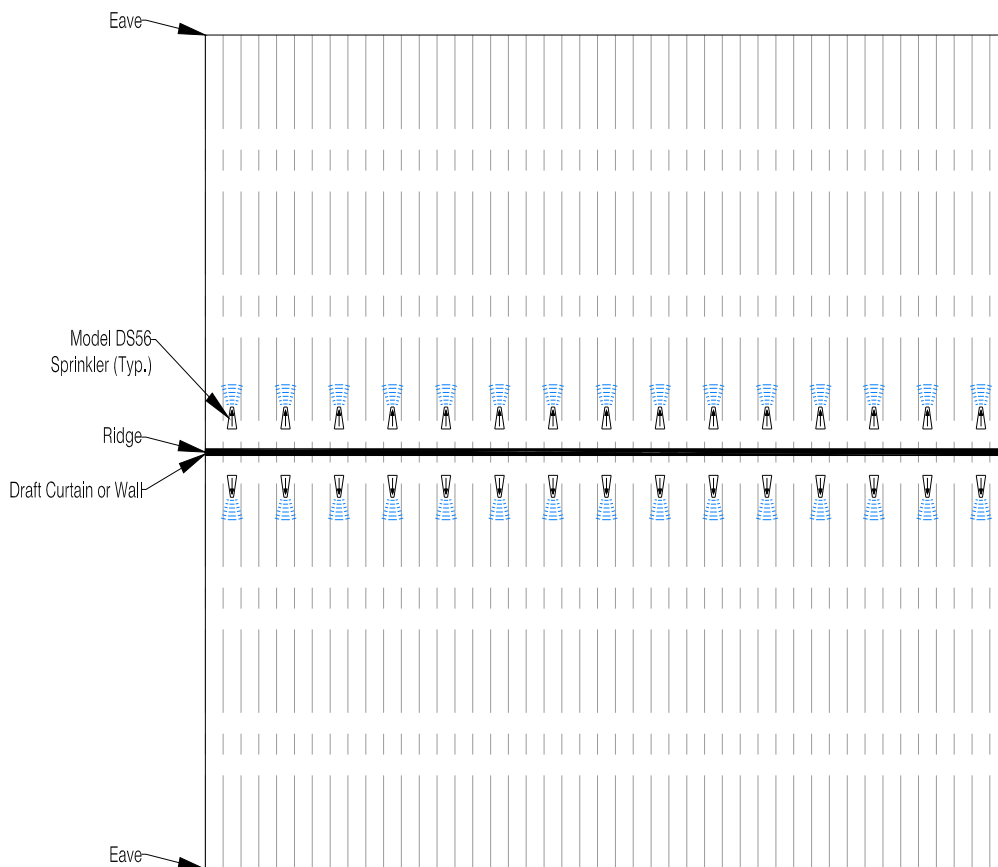
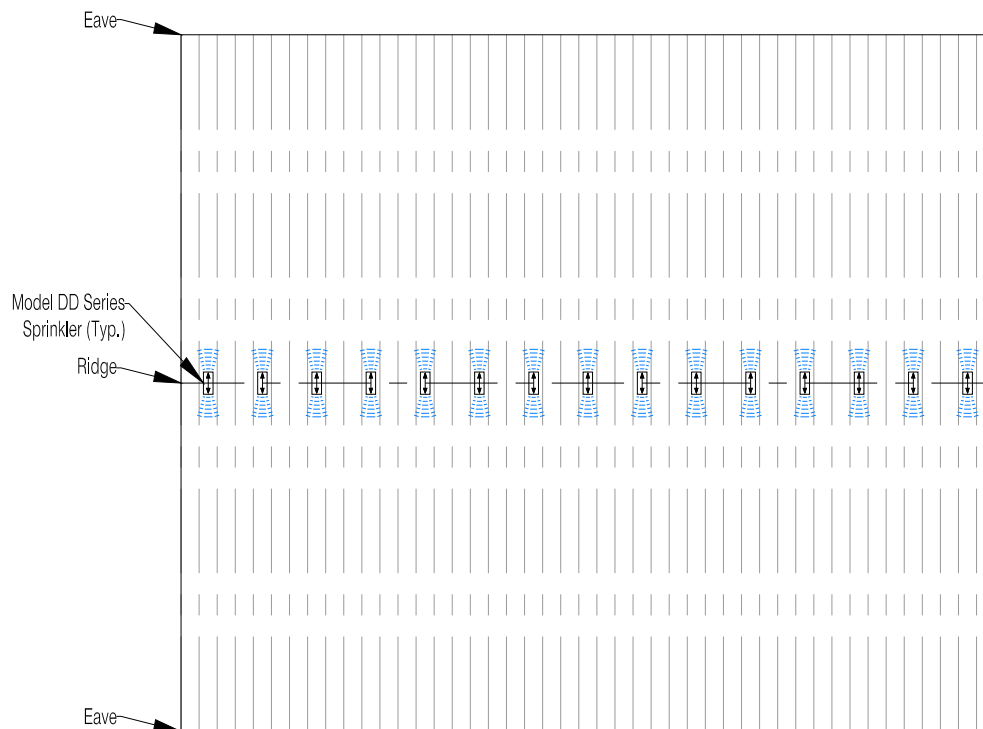
The sprinklers are intended for installation within combustible or noncombustible roof structures, including those with wood joists or trusses.

Coverage area and spacing requirements for each sprinkler are provided on the individual sprinkler data sheets in this Bulletin. Example sprinkler layouts are illustrated in

Figures 7 through 21. Design criteria for Reliable Attic Sprinklers must be in accordance with Table H based on the minimum flows and pressures for each sprinkler in Tables B through G. Provide additional sprinklers beyond obstructions where required by Figure 22.

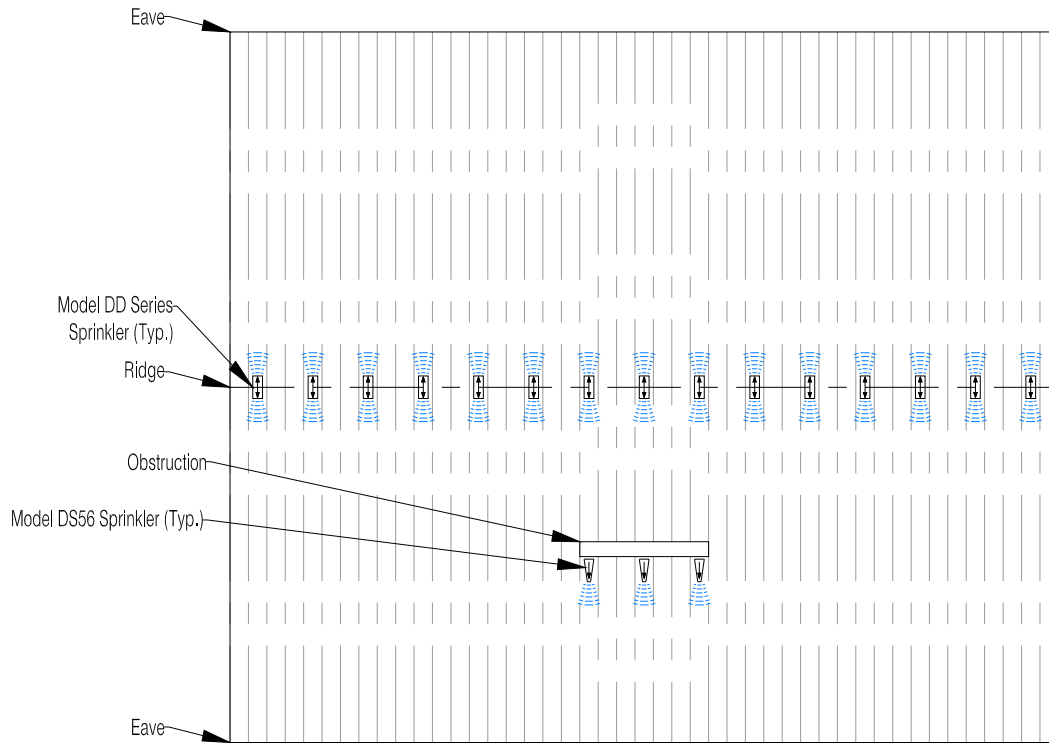
For example, hydraulic calculations for a sprinkler system using DD Series sprinklers at the ridge with Model GP56 sprinklers at the eave must include the hydraulically most remote 5 DD Series sprinklers plus 2 Model GP56 sprinklers for a wet pipe sprinkler system or 7 DD Series sprinklers plus 2 Model GP56 sprinklers for a dry pipe sprinkler system.

Sprinklers in Attic	Number or (Area) of Sprinklers Included in Hydraulic Design (Select Hydraulically Most Remote Sprinklers of Each Type)							
	Wet Pipe Sprinkler System				Dry Pipe Sprinkler System			
	DD Series	DS56	GP56	Standard Spray	DD Series	DS56	GP56	Standard Spray
DD Series at ridge only (Fig. 7)	5	N/A	N/A	N/A	7	N/A	N/A	N/A
DS56 at ridge only (Fig. 8)	N/A	5	N/A	N/A	N/A	9	N/A	N/A
DD Series at ridge with DS56 beyond obstruction (Fig. 9)	5	2	N/A	N/A	7	2	N/A	N/A
DS56 at ridge with DS56 beyond obstruction (Fig. 10)	N/A	5	N/A	N/A	N/A	9	N/A	N/A
DD Series at ridge with GP56 beyond obstruction (Fig. 11)	5	N/A	2	N/A	7	N/A	2	N/A
DS56 at ridge with GP56 beyond obstruction (Fig. 12)	N/A	5	2	N/A	N/A	9	2	N/A
DD Series at ridge with GP56 in dormer or cross (Fig. 13) (Calculate upper row if 4 or less GP56 sprinklers are used in each dormer or cross; Separately calculate upper row and lower row if more than 4 GP56 sprinklers are used in any dormer or cross and use the greater demand)	5	N/A	2	N/A	7	N/A	2	N/A
	0	N/A	(1,500 ft <sup>2</sup> ) (139 m <sup>2</sup> )	N/A	0	N/A	(1,950 ft <sup>2</sup> ) (181 m <sup>2</sup> )	N/A
DD Series at ridge with Standard Spray sprinklers in dormer or cross (Fig. 14) (Calculate upper row if 4 or less Standard Spray sprinklers are used in each dormer or cross; Separately calculate upper row and lower row if more than 4 Standard Spray sprinklers are used in any dormer or cross and use the greater demand)	5	N/A	N/A	2	7	N/A	N/A	2
	Calculate design area per NFPA 13 and include all sprinkler types that are in the design area				Calculate design area per NFPA 13 and include all sprinkler types that are in the design area			
DD Series at ridge with DD Series in dormer (Fig. 15)	5 at ridge and up to 2 in dormer	N/A	N/A	N/A	7 at ridge and up to 2 in dormer	N/A	N/A	N/A
DD Series sprinklers at ridge with GP56 sprinklers at eave (Fig. 16)	5	N/A	2	N/A	7	N/A	2	N/A
DS56 sprinklers at ridge with GP56 sprinklers at eave (Fig. 17)	N/A	5	2	N/A	N/A	9	2	N/A
DD Series sprinklers at ridge with DS56 sprinklers at hip or ell (Fig. 18)	5 total		N/A	N/A	9 total (Include a max. of 7 DD Series sprinklers in hydraulic design)		N/A	N/A
DS56 sprinklers at ridge with DS56 sprinklers at hip or ell (Fig. 19)	N/A	5	N/A	N/A	N/A	9	N/A	N/A
DD Series sprinklers at ridge with Standard Spray sprinklers at hip or ell (Fig. 20) (Calculate upper row if 4 or less Standard Spray sprinklers are used in each hip or ell; Separately calculate upper row and lower row if more than 4 Standard Spray sprinklers are used in any hip or ell and use the greater demand)	5	N/A	N/A	2	7	N/A	N/A	2
	Calculate design area per NFPA 13 and include all sprinkler types that are in the design area				Calculate design area per NFPA 13 and include all sprinkler types that are in the design area			
DS56 sprinklers at ridge with Standard Spray sprinklers at hip or ell (Fig. 21) (Calculate upper row if 4 or less Standard Spray sprinklers are used in each hip or ell; Separately calculate upper row and lower row if more than 4 Standard Spray sprinklers are used in any hip or ell and use the greater demand)	N/A	5	N/A	2	N/A	9	N/A	2
	Calculate design area per NFPA 13 and include all sprinkler types that are in the design area				Calculate design area per NFPA 13 and include all sprinkler types that are in the design area			



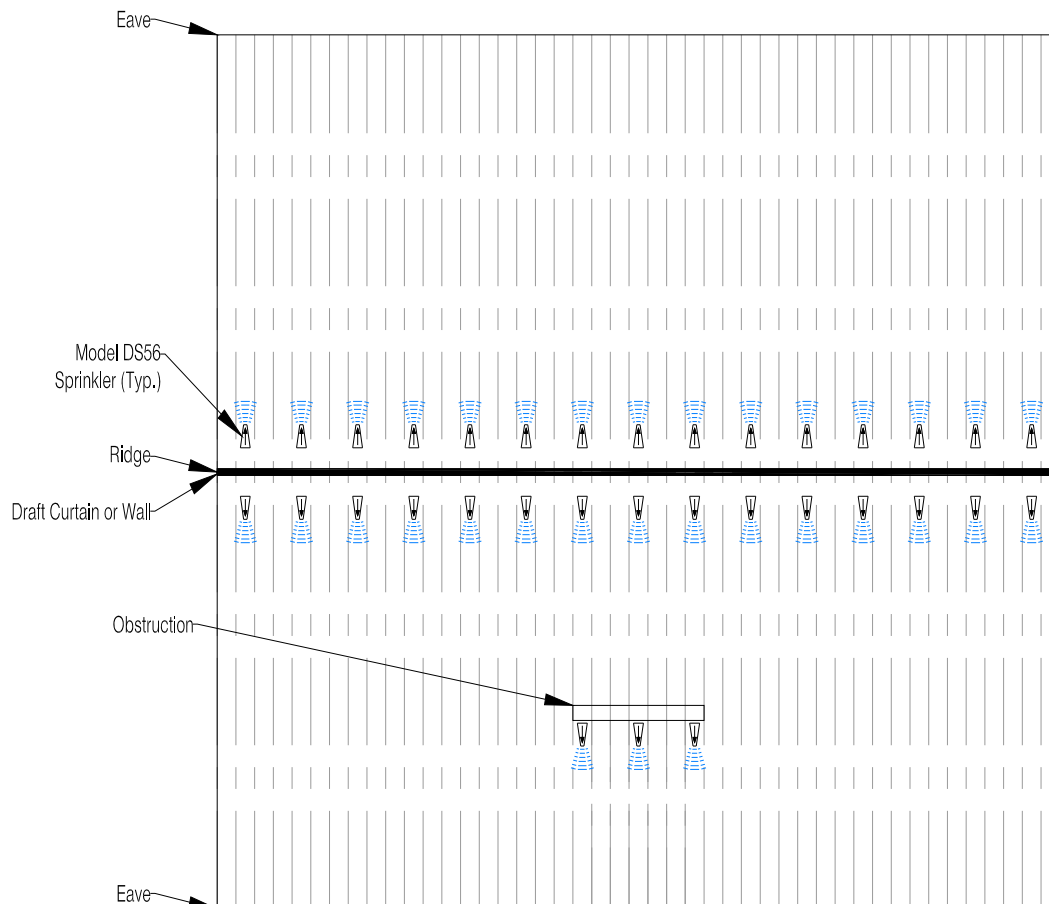
**Model DD Series Sprinklers at Ridge with Model DS56 Sprinklers Beyond Obstruction**  
**Example Layout (Not to Scale)**

**Figure 9**



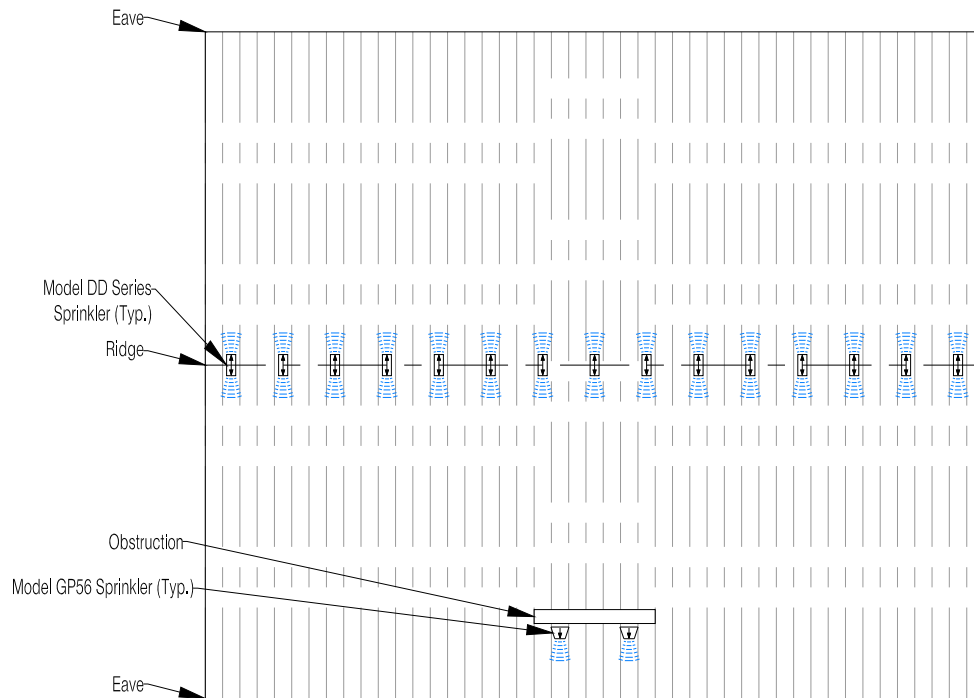
**Model DS56 Sprinklers at Ridge with Model DS56 Sprinklers Beyond Obstruction**  
**Example Layout (Not to Scale)**

**Figure 10**



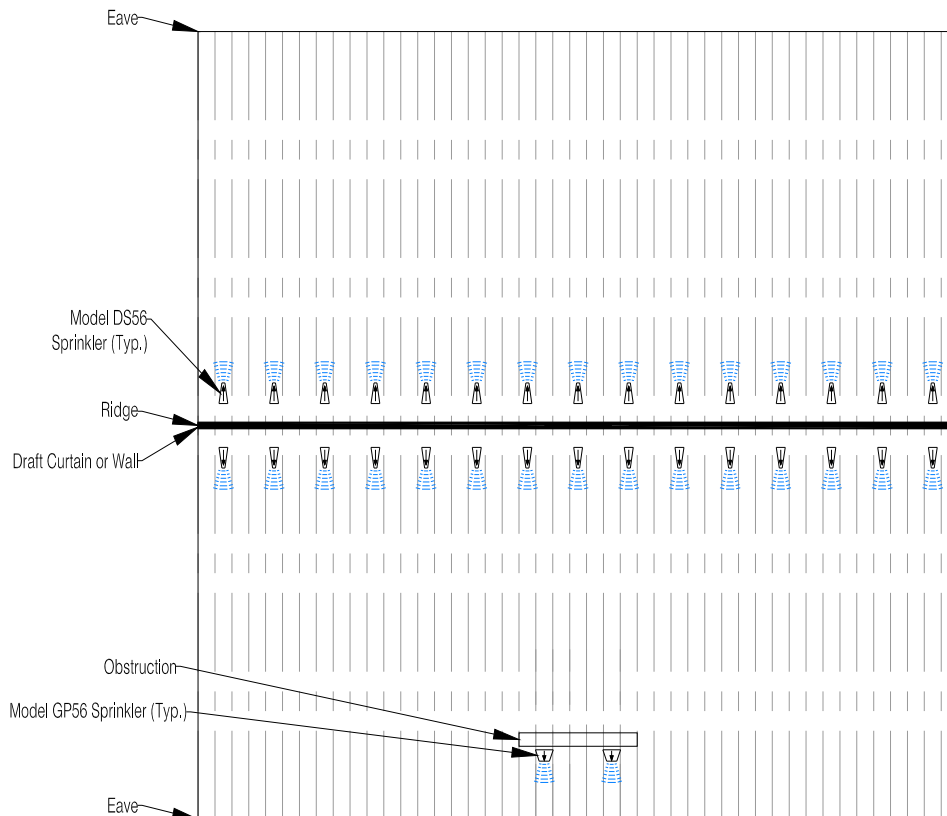
**Model DD Series Sprinklers at Ridge with Model GP56 Sprinklers Beyond Obstruction**  
**Example Layout (Not to Scale)**

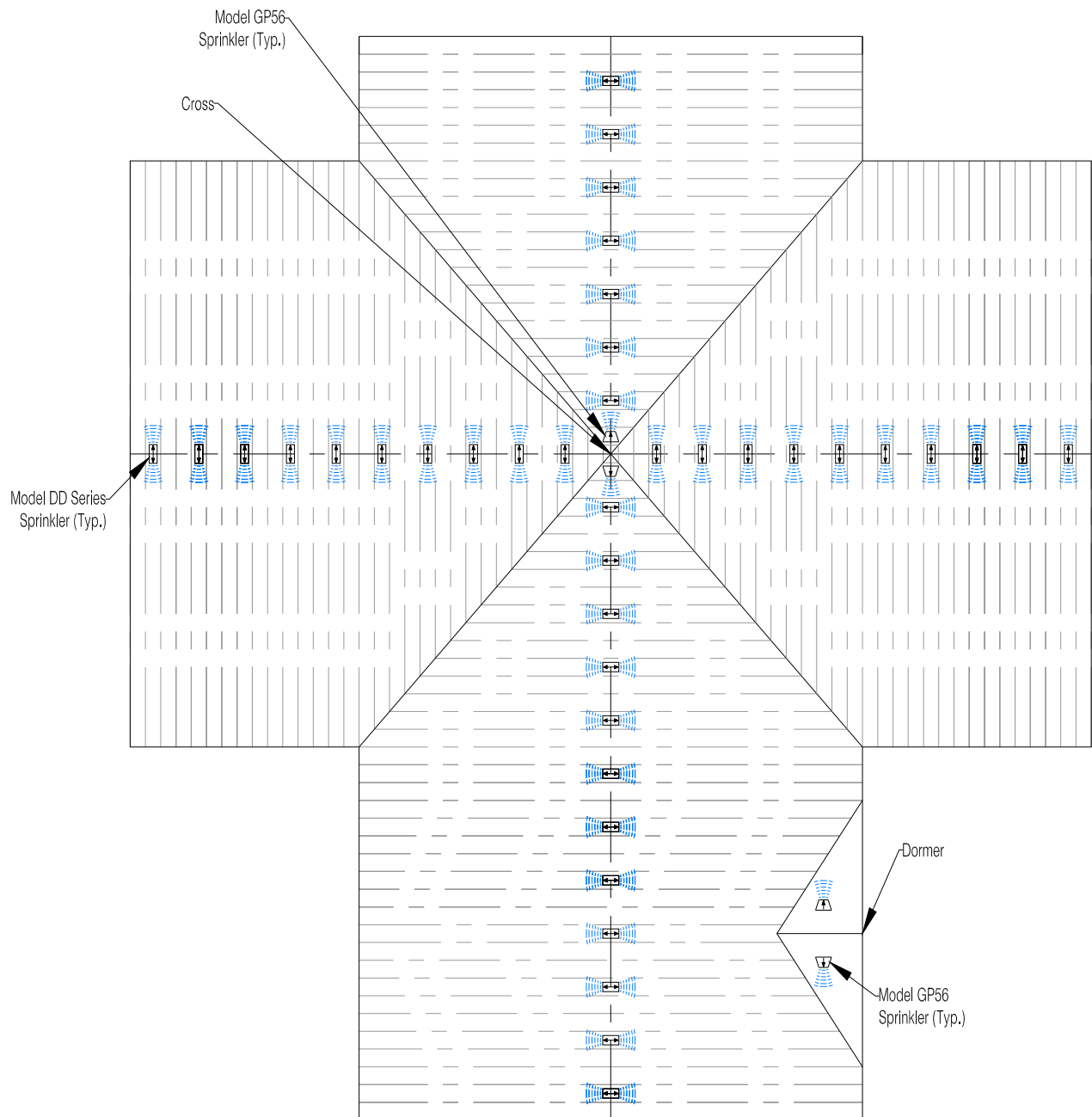
**Figure 11**

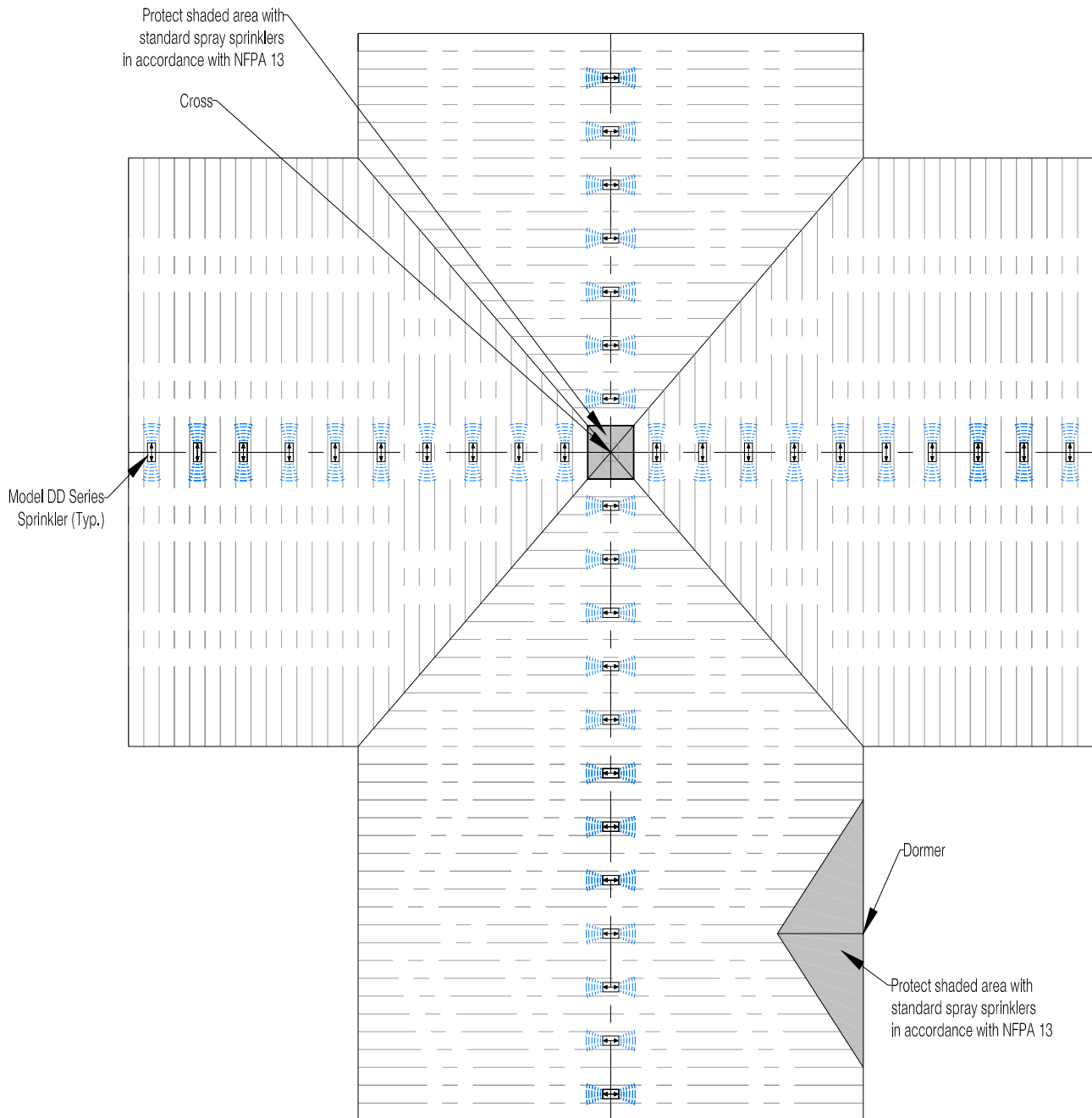


**Model DS56 Sprinklers at Ridge with Model GP56 Sprinklers Beyond Obstruction**  
**Example Layout (Not to Scale)**

**Figure 12**

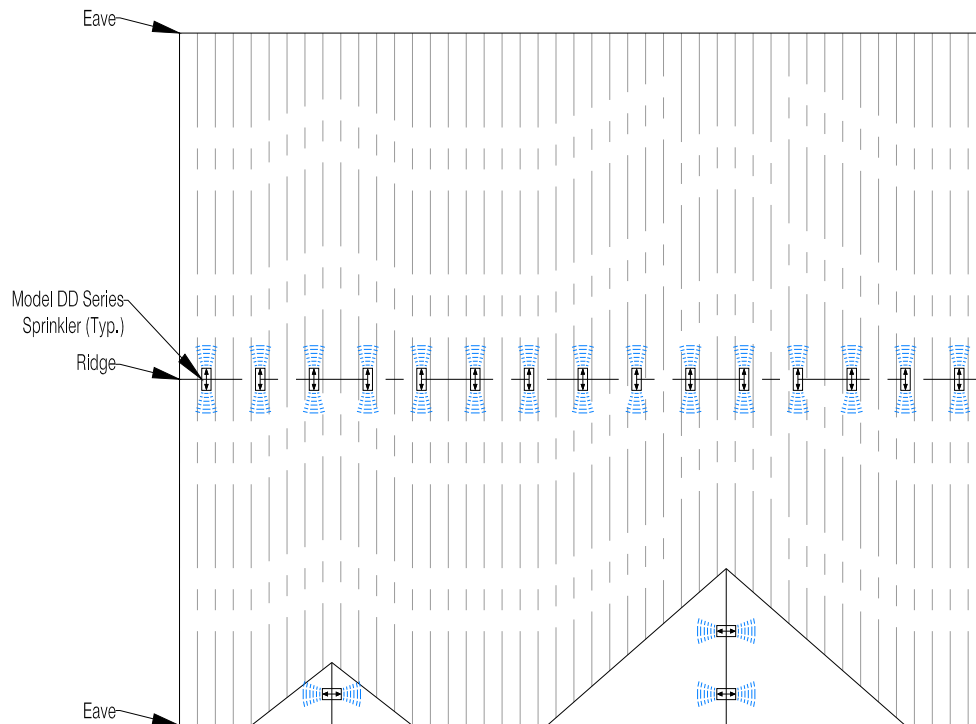






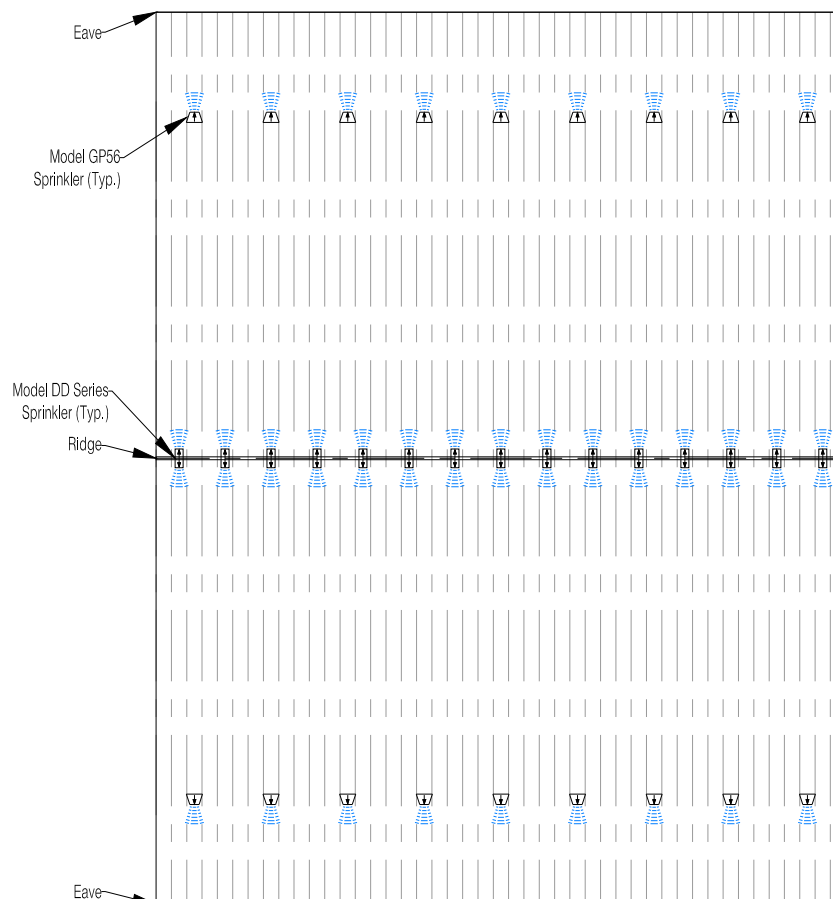
**Model DD Series Sprinklers at Ridge with Model DD Series Sprinklers in Dormers**  
**Example Layout (Not to Scale)**

**Figure 15**



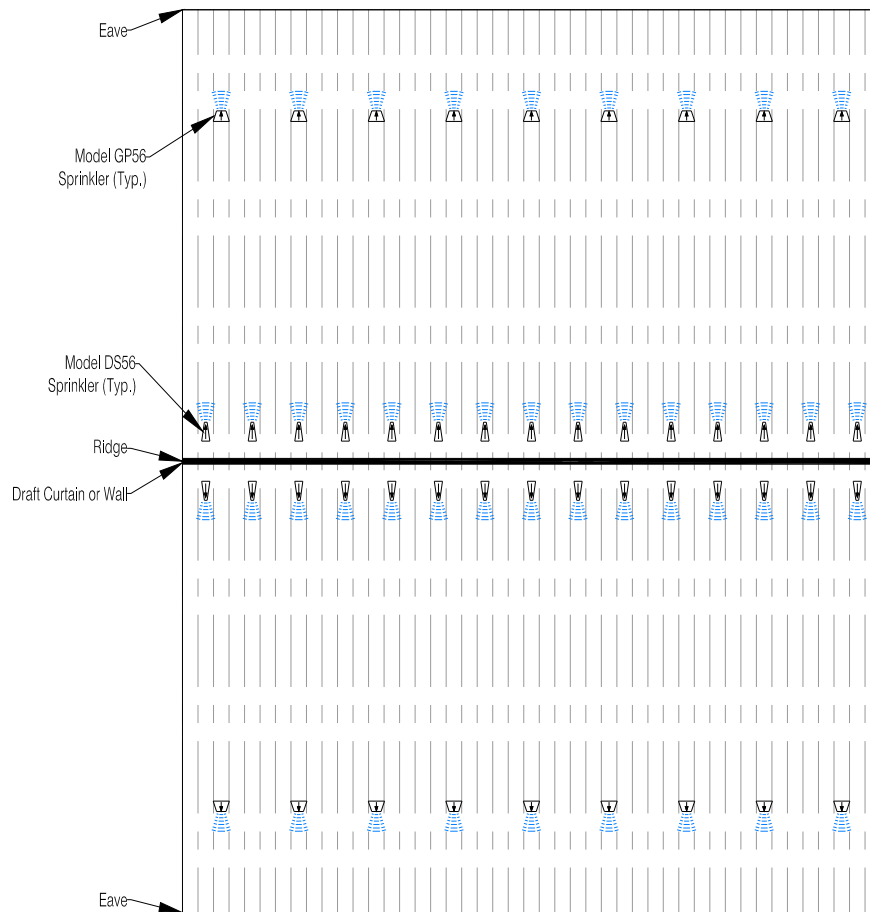
**Model DD Series Sprinklers at Ridge with Model GP56 Sprinklers at Eave**  
**Example Layout (Not to Scale)**

**Figure 16**



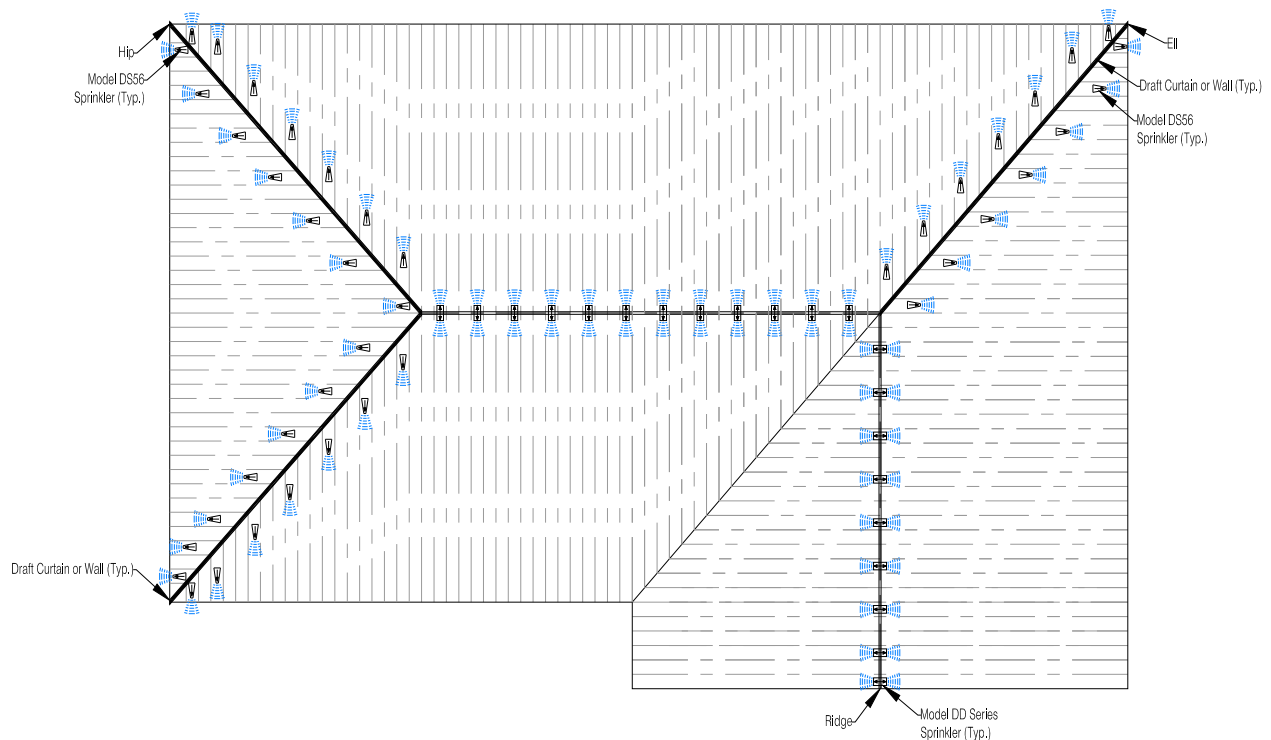
**Model DS56 Sprinklers at Ridge with Model GP56 Sprinklers at Eave**  
**Example Layout (Not to Scale)**

**Figure 17**



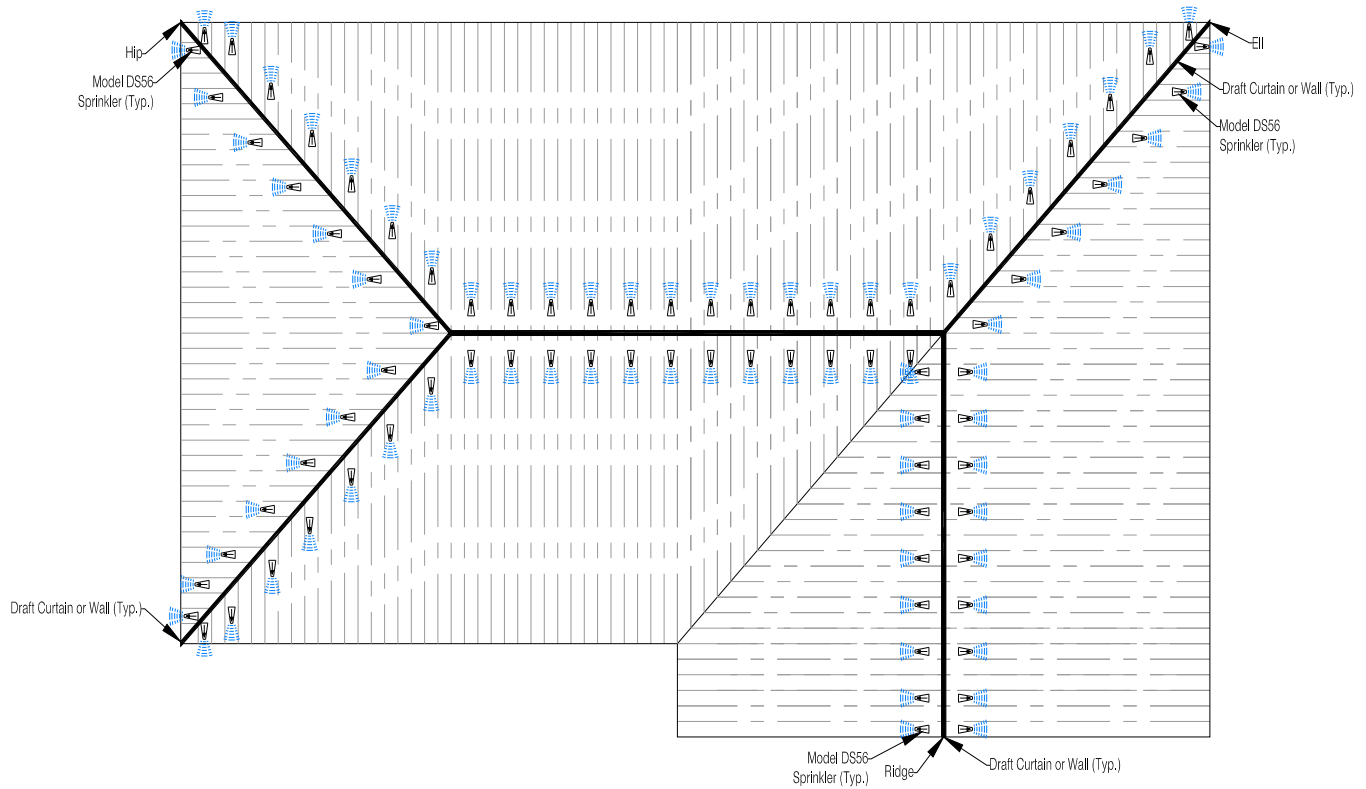
**Model DD Series Sprinklers at Ridge with DS56 Sprinklers at Hip or Ell**  
**Example Layout (Not to Scale)**

**Figure 18**



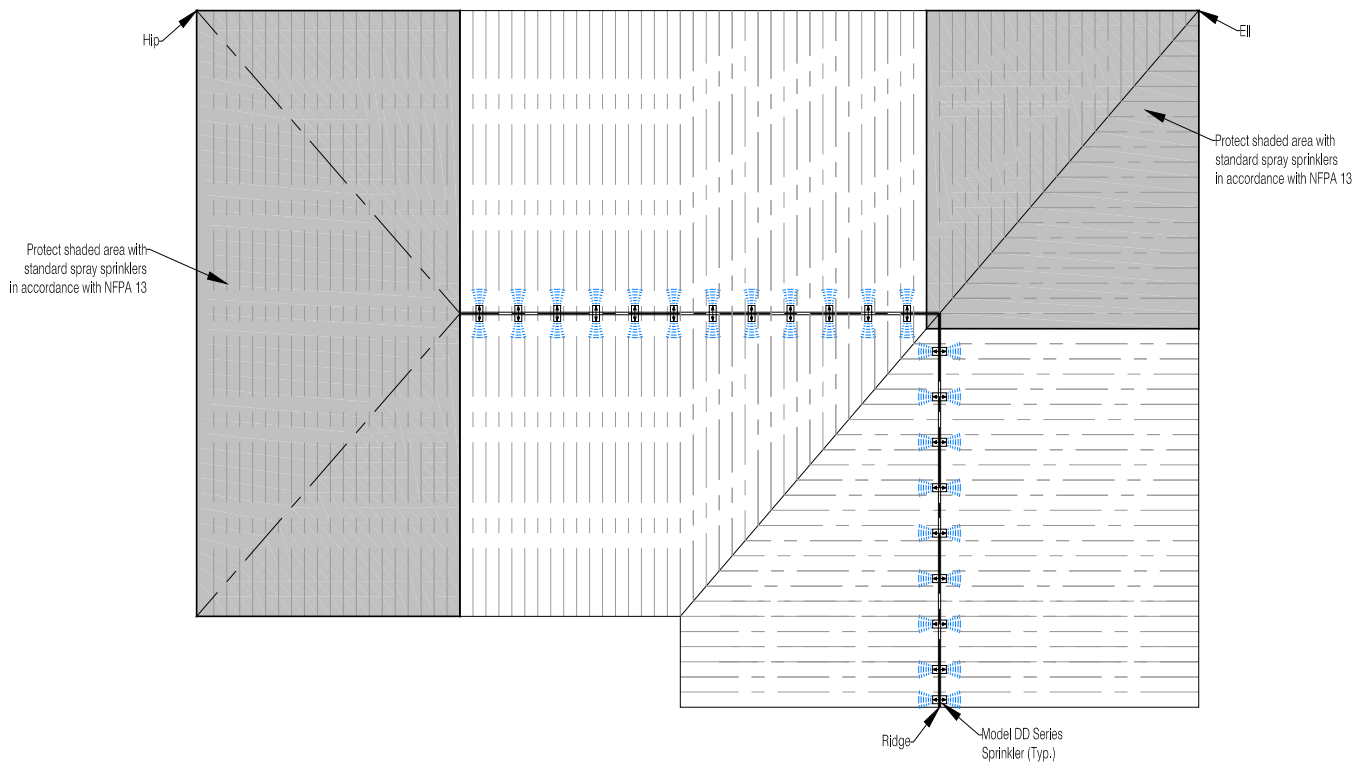
**Model DS56 Sprinklers at Ridge with DS56 Sprinklers at Hip or Eil**  
**Example Layout (Not to Scale)**

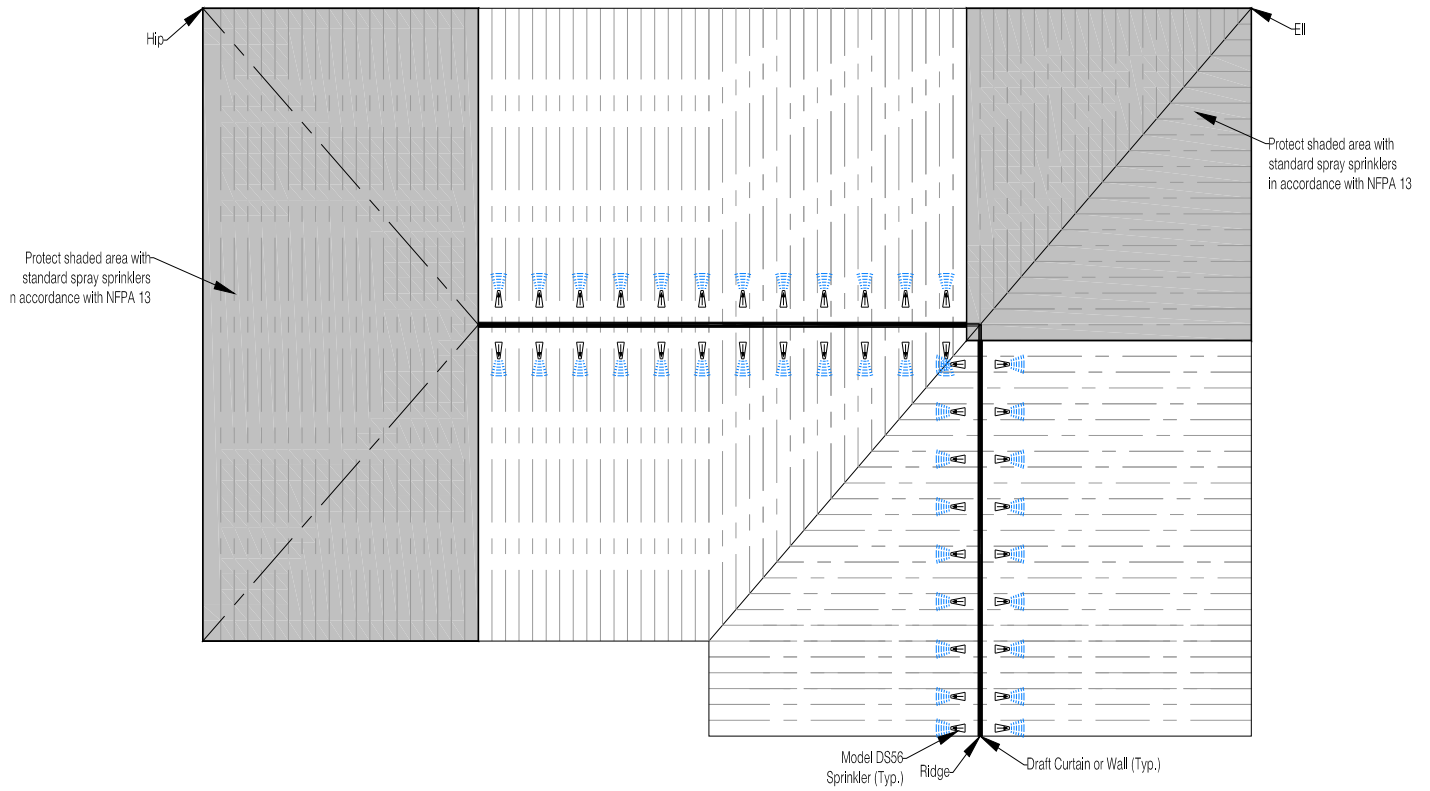
**Figure 19**

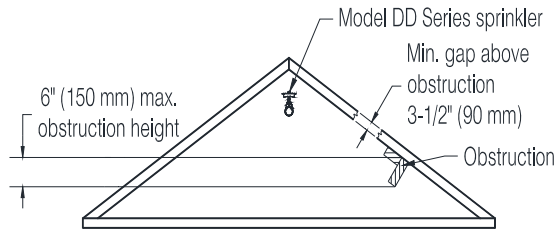


**Model DD Series Sprinklers at Ridge with Standard Spray Sprinklers at Hip or Eil**  
**Example Layout (Not to Scale)**

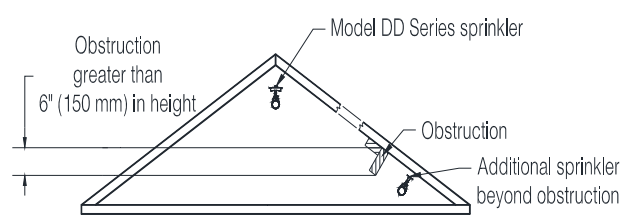
**Figure 20**



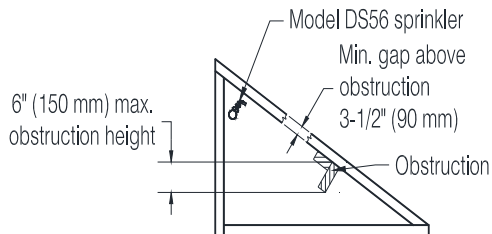




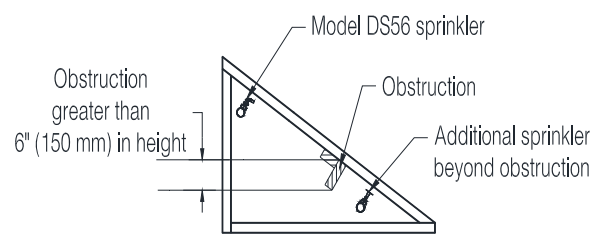
Additional sprinklers not required due to obstruction 6" (150 mm) or less in height with a minimum 3-1/2" (90 mm) gap provided between the top of the obstruction and the roof deck.



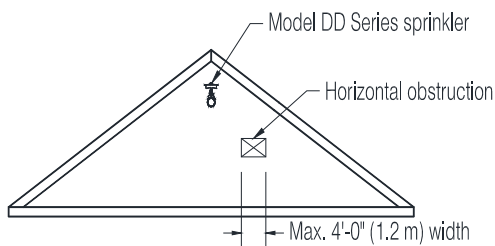
Additional sprinklers required beyond obstruction greater than 6" (150 mm) in height or where a minimum 3-1/2" (90 mm) gap is not provided between the top of the obstruction and the roof deck.



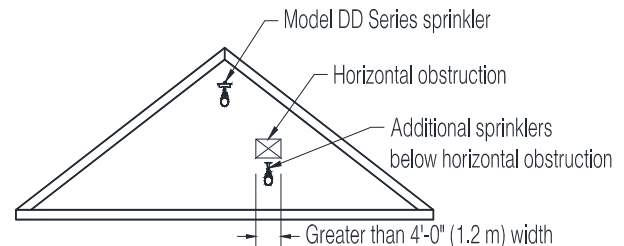
Additional sprinklers not required due to obstruction 6" (150 mm) or less in height with a minimum 3-1/2" (90 mm) gap provided between the top of the obstruction and the roof deck.



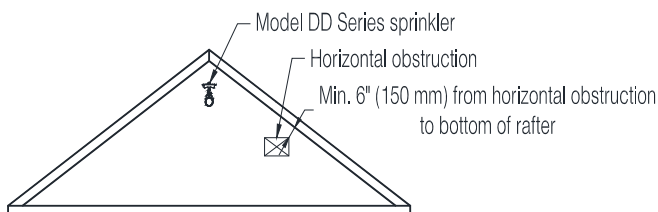
Additional sprinklers required beyond obstruction greater than 6" (150 mm) in height or where a minimum 3-1/2" (90 mm) gap is not provided between the top of the obstruction and the roof deck.



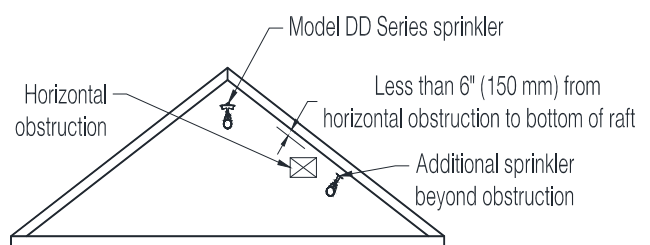
Additional sprinklers not required below horizontal obstruction 4'-0" (1.2 m) or less in width.



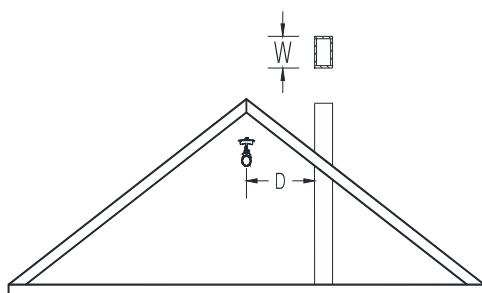
Additional sprinklers required below horizontal obstruction greater than 4'-0" (1.2 m) in width.



Additional sprinklers not required beyond horizontal obstruction more than 6" from bottom of rafter.



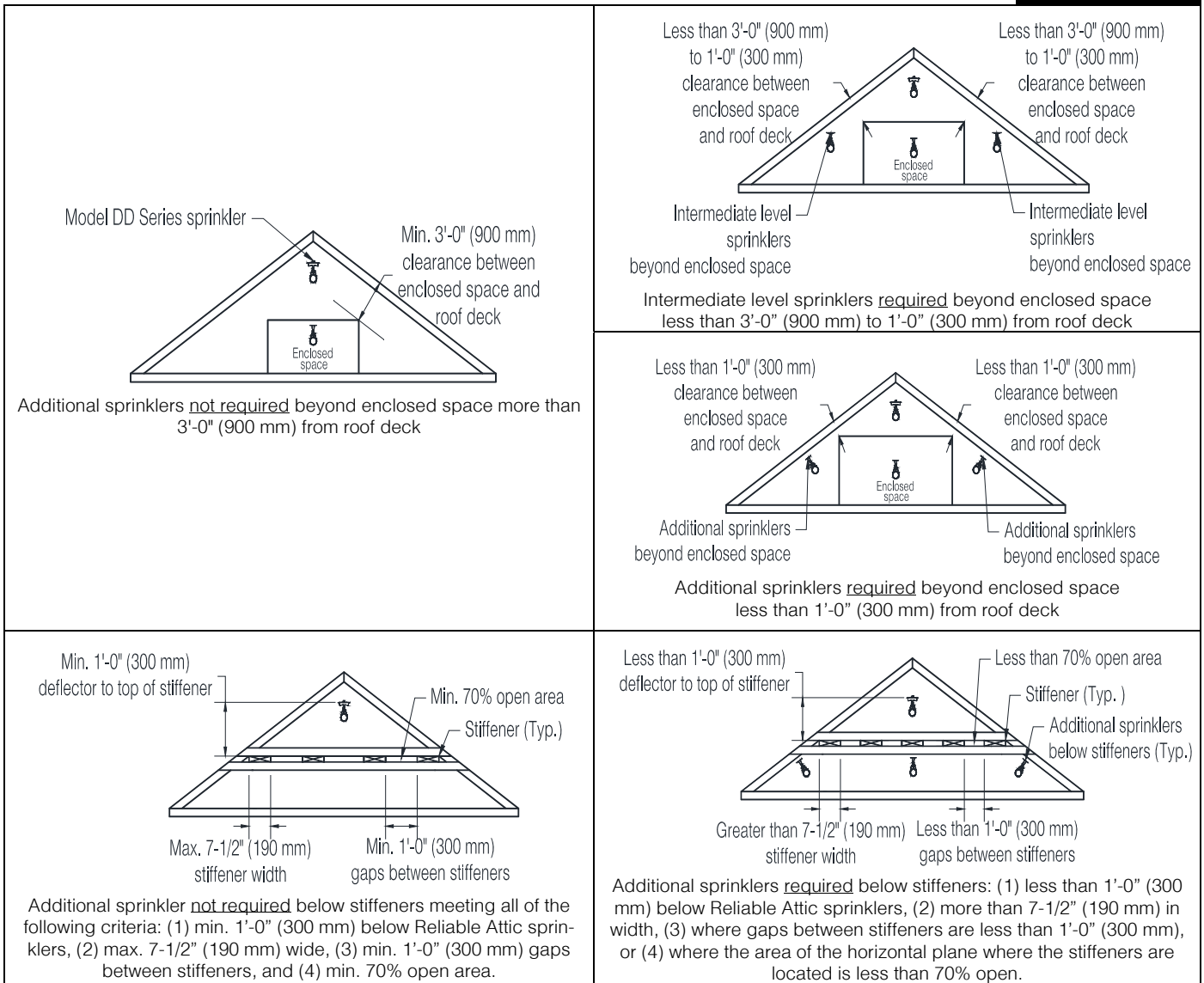
Additional sprinkler required beyond horizontal obstruction less than 6" (150 mm) from bottom of rafter.



Additional sprinkler not required beyond vertical obstruction (see figure at left) where:

Obstruction width, W	Minimum distance between sprinkler and obstruction, D
1" or less (25 mm or less)	6" (150 mm)
1" to 4" (25 to 100 mm)	1'-0" (300 mm)
4" to 8" (100 to 200 mm)	2'-0" (600 mm)
8" to 10" (200 to 250 mm)	5'-0" (1.5 m)
10" to 20" (250 to 500 mm)	10'-0" (3.0 m)
20" to 30" (500 to 750 mm)	15'-0" (4.5 m)
30" to 40" (750 to 1000 mm)	20'-0" (6.0 m)
40" to 48" (1000 to 1200 mm)	25'-0" (7.5 m)

Provide sprinklers beyond vertical obstructions not meeting the criteria above.



## Listing & Approval Agency

Underwriters Laboratories, Inc. and UL Canada (cULus)

Listing Category: Sprinklers, Automatic and Open

Guide Number: VNIV, VNIV7

## Installation

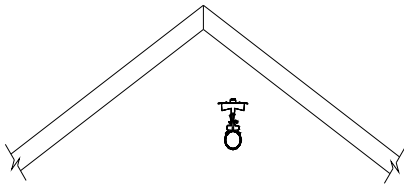
Reliable Attic sprinklers are intended to be installed in accordance with NFPA 13 and the requirements of other applicable authorities having jurisdiction. In addition, Reliable Attic sprinklers must also be installed in accordance with the requirements contained in this Bulletin.

Installation Reliable Attic Sprinklers only in the orientation specified in Figure 23.

Installation Orientation

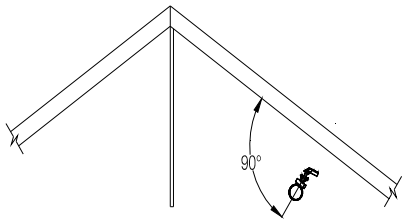
Figure 23

### Model DD Series



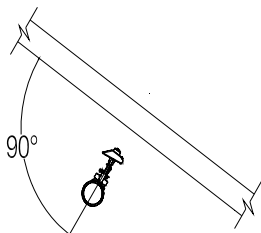
Install Model DD Series sprinklers with the **deflector parallel to the floor** and arrows on deflector pointing down the roof slope in both directions.

### Model DS56



Install Model DS56 sprinklers with the **frame arms perpendicular to the roof deck** and the arrow on the deflector pointing down the roof slope.

### Model GP56



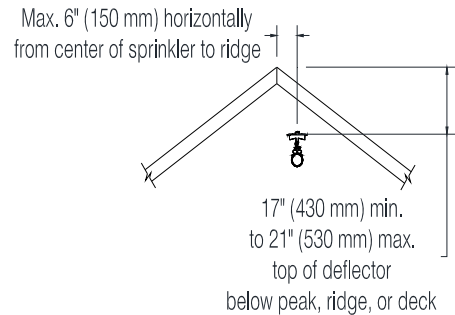
Install Model GP56 sprinklers with the **deflector parallel to the roof deck** and the arrow on the deflector pointing down the roof slope.

Follow installation requirements specified in the individual sprinkler data sheets in this bulletin. Figure 24 illustrates select installation criteria for each sprinkler.

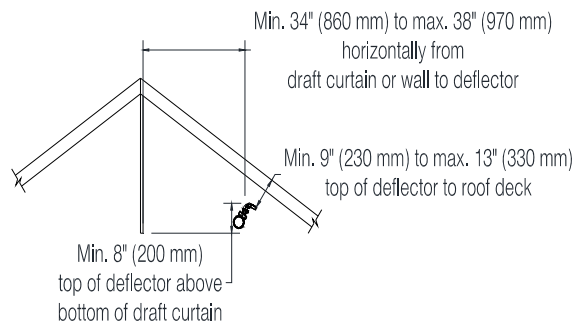
Installation Dimensions

Figure 24

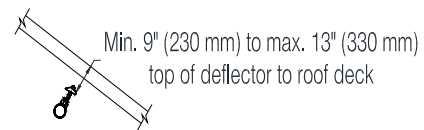
### Model DD Series



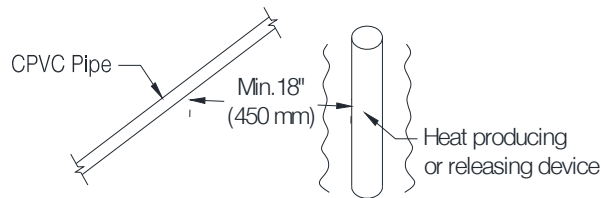
### Model DS56



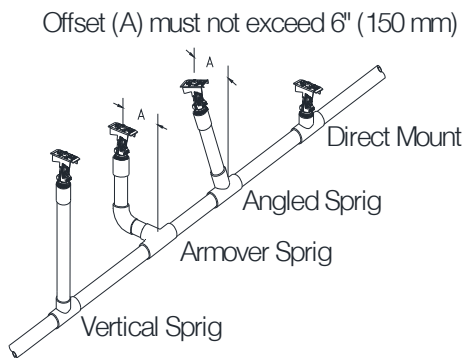
### Model GP56



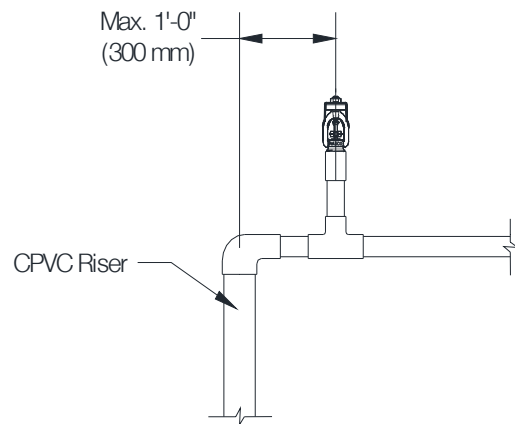
Where Reliable Attic Sprinklers are installed on wet-pipe sprinkler systems with CPVC pipe, the CPVC pipe must be protection in accordance with the pipe manufacturer's installation instruction as well as the requirements in Figure 25.



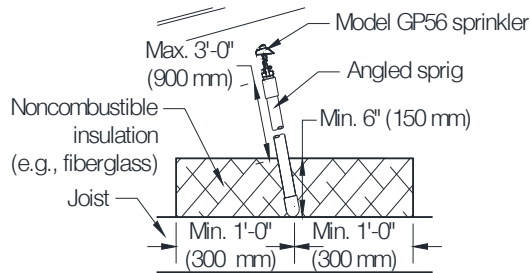
Maintain at least 18" (450 mm) between CPVC pipe and heat producing or releasing devices.



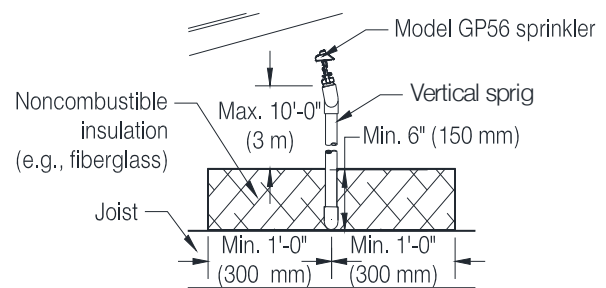
Install sprinklers on CPVC pipe only in the following configurations: (1) directly mounted to a fitting on the branch line pipe, (2) on an angled sprig where the horizontal distance between the sprinkler and the branch line does not exceed 6" (150 mm), (3) on an armover sprig where the horizontal distance between the sprinkler and the branch line does not exceed 6" (150 mm), or (4) on a vertical sprig.



Locate a sprinkler within 1'-0" (300 mm) horizontally of CPVC risers



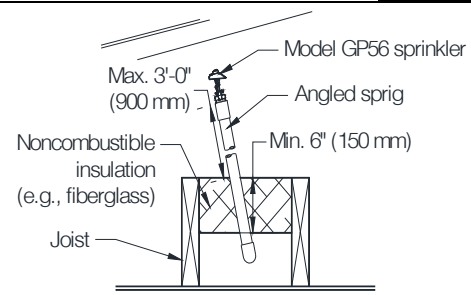
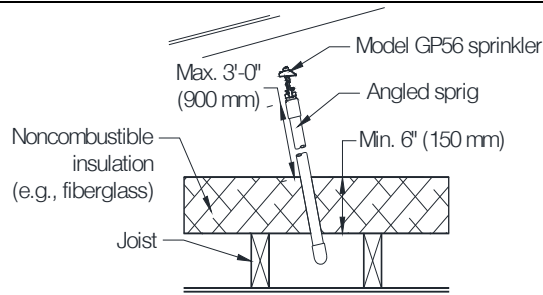
Branch lines over joists must be protected with a minimum 6" (150 mm) thickness of noncombustible insulation (e.g., fiberglass). A maximum of 3'-0" (900 mm) of an angled sprig may extend above the insulation to supply Model GP56 sprinklers.



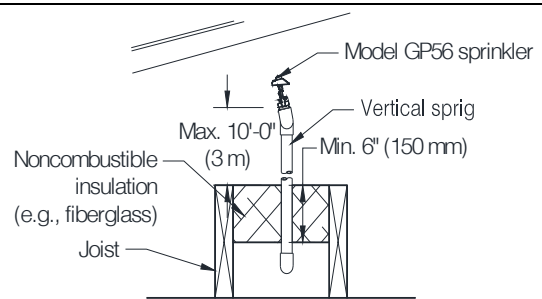
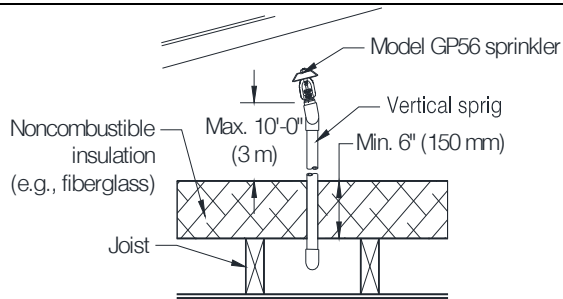
Branch lines over joists must be protected with a minimum 6" (150 mm) thickness of noncombustible insulation (e.g., fiberglass). A maximum of 10'-0" (3 m) of a vertical sprig may extend above the insulation to supply Model GP56 sprinklers.

**Caution:**

1. Insulation required by Figure 25 is for fire protection purposes and not for freeze protection.
2. Follow installation requirements of the CPVC pipe manufacturer and listing, including verifying compatibility of any insulation or other materials used with CPVC pipe.



Branch lines between joists must be protected with a minimum 6" (150 mm) thickness of noncombustible insulation (e.g., fiberglass) either within the joist bay or on top of the joists. A maximum of 3'-0" (900 mm) of an angled sprig may extend above the insulation to supply Model GP56 sprinklers.



Branch lines between joists must be protected with a minimum 6" (150 mm) thickness of noncombustible insulation (e.g., fiberglass) either within the joist bay or on top of the joists. A maximum of 10'-0" (3 m) of a vertical sprig may extend above the insulation to supply Model GP56 sprinklers.

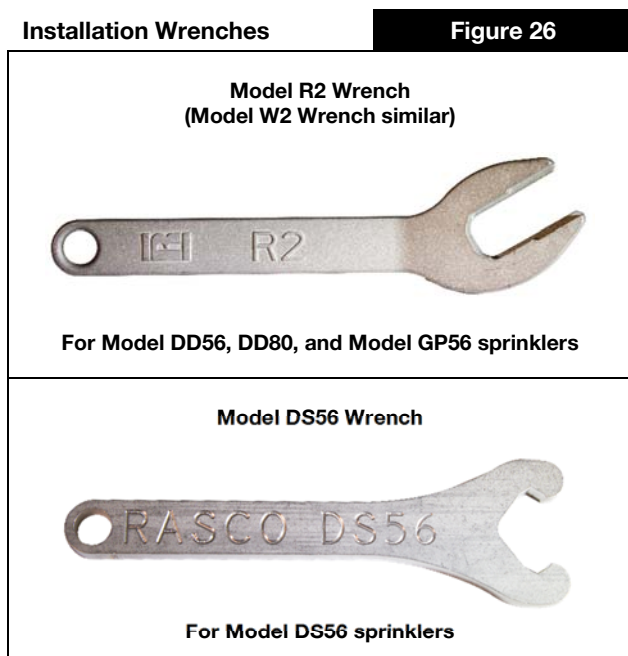
**Caution:**

1. Insulation required by Figure 25 is for fire protection purposes and not for freeze protection.
2. Follow installation requirements of the CPVC pipe manufacturer and listing, including verifying compatibility of any insulation or other materials used with CPVC pipe.

Model DD56, DD80, and GP56 sprinklers are installed with the Model R2 or W2 wrench. The Model DS56 wrench is used to install Model DS56 sprinklers. The use of any other wrench to installed Reliable Attic sprinklers is not permitted and may damage the sprinkler. Insert the specified wrench over the sprinkler until the wrench engages the wrench flats. Do not wrench any other part of the sprinkler assembly. Tighten the sprinkler into the fitting after applying a PTFE based thread sealant to the sprinkler's threads. Recommended installation torque is specified in Table I.

Installation Torque		Table I	
Sprinkler Threads	Recommended Installation Torque (min. – max.)		
	ft-lb	N-m	
	½" NPT or ISO7-1R1/2	8-18	11-24
¾" NPT or ISO7-1R3/4	14-20	19-27	

Do not exceed the maximum recommended torque. Exceeding the maximum recommended torque may cause leakage or impairment of the sprinkler. Use care when inserting or removing the wrench from the sprinkler to avoid damage to the sprinkler.



## Maintenance

Reliable Attic sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). Replace any sprinkler which has been damaged. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers.

Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

## Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit [www.reliablesprinkler.com](http://www.reliablesprinkler.com).

## Ordering Information

Specify the following when ordering.

### Sprinkler

- Model (DD56-6, DD56-27, DD80-6, DD80-27, DS56, GP56)
- Threads (NPT or ISO 7-1)

### Sprinkler Wrench

- Model R2 or W2 (for Model DD56, DD80, and GP56 sprinklers)
- Model DS56 (for Model DS56 sprinklers)