

**IDENTIFICATION BROCHURE
FOR
“Star” DRY TYPE
SPRINKLERS**

INTRODUCTION TO THE “VOLUNTARY REPLACEMENT PROGRAM”

This brochure provides information that will assist you in identifying whether the sprinklers in your sprinkler system are the O-ring sprinklers involved in this Voluntary Replacement Program (“VRP” or “Program”). In addition, this brochure contains information that you will need to accurately complete your Proof of Claim form and participate in the VRP. **Please read this brochure carefully and follow all instructions closely.**

DO NOT ATTEMPT TO REMOVE OR DISTURB YOUR SPRINKLER HEADS WHILE TRYING TO IDENTIFY YOUR SPRINKLERS.

General Description of the O-Ring Fire Sprinklers Involved in this VRP

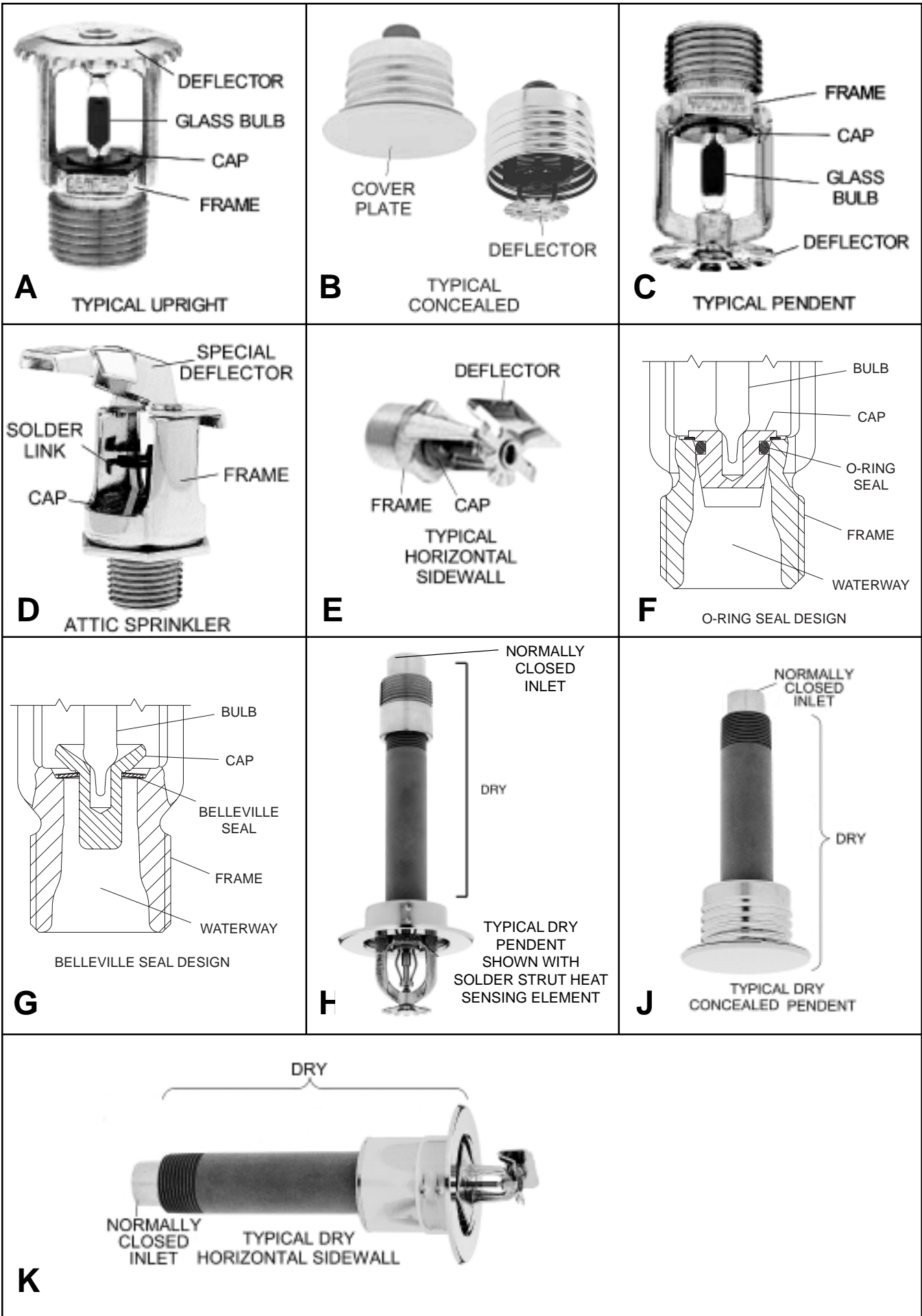
All the automatic fire sprinklers involved in this VRP utilize a heat-sensing element, for example, a liquid filled glass bulb (Fig. A), a solder link (Fig. D), or a solder strut (Fig. H), loaded within the sprinkler’s “frame” (Fig. A, C, D, or E). The frame is the piece of metal at the end of the sprinkler closest to the wall, ceiling, or pipe that is connected to the sprinkler via pipe threads. The heat-sensing element holds the sprinkler “cap” (Fig. A, C, D, or E) in the “orifice,” blocking the flow of water through the orifice from the water supply. Should a fire occur, sufficient heat from the fire automatically releases the heat sensing element permitting the water to push the “cap” out of the waterway and strike against the “deflector.” The “deflector” is the rounded plate furthest from the wall, ceiling, or pipe that typically resembles a starburst, flower, or gear. The deflector distributes water in a desirable spray pattern to provide fire control.

The heat sensing elements are provided in a variety of operating temperatures and the sprinklers incorporate a temperature identification system that combines a stamping on the sprinkler with a color code. The stamping will typically appear on either the “cap” or the “deflector”. Color coding is as follows:

Typical Bulb Ratings	Fluid Color	Typical Solder Ratings	Frame Color*
135F/57C	Orange	135F/57C	Plain
155F/68C	Red	165F/74C	Plain
175F/79C	Yellow	212F/100C	White
200F/93C	Green	286F/141C	Blue
250F/121C	Blue	360F/182C	Red
286F/141C	Blue	*Stripe on frame or dot on deflector	
360F/182C	Purple		

The fire sprinklers involved in this Program use an “O-ring Seal Design” (Fig. F) to seal the sprinkler waterway. These O-ring sprinklers are being replaced with sprinklers that utilize a “Belleville Seal Design” (Fig. G).

The O-ring sprinklers involved in this Program are found in two categories of sprinkler systems: wet sprinkler systems or dry sprinkler systems. Wet sprinkler systems deliver water immediately upon sprinkler activation and can be used in areas not subject to freezing. In dry sprinkler systems (Fig. H, J, or K) the sprinklers are attached to a dry length of pipe. Sprinkler operation releases the seal and inner tube thus allowing the sprinkler to operate. Once the sprinkler has operated, a control type valve such as a dry pipe valve opens, filling the pipe with water and delivering water to the open sprinklers. Dry type sprinklers are commonly used where a sprinkler must be located in an area subject to freezing yet water-filled supply piping is in an area not subject to freezing. For example, sprinkler drops into a freezer or sprinkler sprigs up into an attic where the water supply pipes are located in the heated areas outside the freezer or attic. Dry sprinklers will have a small hole (a small “weep hole”) on the “cap” or seal.



The sprinklers in the VRP can be found in various installed positions to accommodate building construction and aesthetic considerations. Commonly, the sprinklers are either upright or pendent. Upright sprinklers (Fig. A) have the deflector on top and are usually located on top of horizontal piping. Pendent sprinklers (Fig. C) hang with the deflector facing the floor; they are often installed with optional escutcheon plates to cover clearance holes in ceilings and sometimes the sprinklers are “concealed” behind the removable cover plates (Fig. B). In addition to upright and pendent sprinklers, horizontal sidewall sprinklers (Fig. E), as the name implies, are located along a side-wall or side of a beam. Similar to pendent sprinklers, the horizontal sidewall sprinklers are often installed with optional escutcheon plates to cover clearance holes in the wall.

Precautionary Steps in Identifying Your Sprinklers

Prior to attempting the identification of a given sprinkler as being part of this Program, please review the following safety warnings:

Prior to attempting to view installed sprinklers, consult sprinkler system drawings, records of installation and/or maintenance and spare heads located in the spare head box to attempt to identify the sprinkler model(s) installed in your sprinkler system.

If you are unable to determine what type of sprinklers you have in this manner, you may try to get close enough to the sprinklers to visually inspect them. Caution must always be exercised when climbing a ladder, using lifts, and scaffold to view installed sprinklers. Do not attempt to visually inspect your sprinklers if doing so places you in a precarious position.

Caution should be used at all times when attempting to identify and view sprinklers. The glass bulb or heat-sensitive element can be easily damaged, causing the sprinkler to activate. If you are required to remove a cover plate for a concealed sprinkler, use caution not to disturb the sprinkler or damage the operating element which may cause activation of the sprinkler. Do not apply sources of heat and do not strike, disturb, or apply pressure to the glass bulb or activation element of the sprinkler. **MORE IMPORTANTLY, DO NOT REMOVE YOUR SPRINKLERS IN ORDER TO IDENTIFY THEM.** Sprinkler systems contain water under pressure or compressed air/gas that can cause severe damage or personal injury if sprinklers are removed while under pressure. Proper draining of a sprinkler system by a professional sprinkler installer prior to sprinkler removal is required to protect the building from water damage. If a sprinkler is to be removed or installed after the system has been properly shut down and drained, only the approved sprinkler wrench for the model sprinkler being removed or installed should be used to prevent damage to the sprinkler(s). Maintenance of sprinkler systems should be completed by a qualified, professional fire sprinkler contractor in accordance with local and national guidelines. Sprinkler systems should be regularly inspected and maintained by a professional fire protection installer. All sprinkler heads in a sprinkler system should be tested, and replaced if necessary, no later than ten years after installation.

IF YOU CANNOT IDENTIFY THE TYPE OF SPRINKLERS INSTALLED IN YOUR SPRINKLER SYSTEM, PLEASE CONSULT WITH A PROFESSIONAL FIRE SPRINKLER CONTRACTOR.

Identification of Your Sprinklers

First. Visually inspect your sprinklers, noting the “frame” and the “deflector.” The sprinkler model may appear on the frame or deflector (Figs. A-G).

Second. Make note of all of the inscriptions (including the year of manufacture) on the sprinkler “frame” and the sprinkler “deflector”. In the case of concealed sprinklers, remove (unscrew in most cases) the cover plate to observe the deflector inscriptions. Many sprinklers used in the fire protection industry contain similar components and look similar to each other. It is important to review the inscriptions on the sprinkler to properly identify certain Central, Gem, and Star models included in this Program.

- The presence of either a “CENTRAL” or “CSC” marking will at first verify the sprinkler as having been manufactured by Central Sprinkler Company.
- The presence of a “G in a Triangle” marking will at first verify the sprinkler as having been manufactured by Gem Sprinkler Company.
- The presence of either a “STAR” or “Star shaped logo” marking will at first verify the sprinkler as having been manufactured by Star Sprinkler Company.

The VRP includes sprinklers having O-ring seals and that are listed in the following tables:

- **Central:** Tables A, B, C, and D (Not included in this document)
- **Gem:** Table E (Not included in this document)
- **Star:** Table F (Page 7)

Third. After verifying manufacture by Central, Gem, or Star, match the alpha and numeric inscriptions to the model identifiers given in Tables A, B, C, D, E, and F as applicable. (Only those models identified in Tables A, B, C, D, E, and F having O-ring seals are part of this Program.) By referring to the figure number referenced in the “Figure” column, a further identification of the sprinkler can be confirmed. It is important to properly identify the model(s) of sprinklers installed in a building as sprinklers have different performance characteristics. Replacement with sprinklers of different performance characteristics may impair the sprinkler system's ability to control or extinguish a fire. If your sprinklers are dry type sprinklers, you will also need to determine the length of the supply pipe. Due to varying locations of the sprinkler supply pipe to the desired location of a dry type sprinkler, dry type sprinklers are made to order with a desired length. The length is normally determined by measuring from the face of the sprinkler fitting (the pipe fitting into which the dry type sprinkler will be fitted) to the face of the ceiling or wall where the sprinkler is to be located. Because this pipe is often not exposed, you may need to contact a professional sprinkler installer to obtain these measurements.

Fourth. It is important to know that Central now manufactures sprinklers with Belleville seals, which are a different design than the sprinklers with O-ring seals that are subject of this Program. Where applicable, the Table indicates “Yes” in the “Sprinklers May Contain O-ring or Belleville Seal” column. Central did not manufacture sprinklers with Belleville seals until 1998, although Central also continued to manufacture sprinklers with O-ring seals after 1998. **Note: The year of manufacture is typically stamped on the deflector as four digits (e.g., 1984). If the four digits for the year of manufacture cannot be found on the deflector, the year of manufacture will appear on the frame.** You can determine whether your sprinklers contain O-ring seals or Belleville seals in the following manner:

- If a Central sprinkler has been identified as being included in Tables A, B, or C and if the year stamped on the “frame” or “deflector” is 1997 or earlier, or “No” is indicated in the “Sprinklers May Contain O-ring or Belleville Seal” column for any given year of manufacture, the sprinkler has an O-ring seal and is part of the Program.
- If a Central sprinkler has been identified as being included in Tables A, B, or C and if the year stamped on the “frame” or deflector is 1998 or later, and “Yes” is indicated in the “Sprinklers May Contain O-ring or Belleville Seal” column, a closer inspection of the “cap” and its shape will be required to determine whether the sprinkler utilizes an O-ring seal and is part of the Program.
- After the “Yes” indication in the “Sprinklers May Contain O-ring or Belleville Seal” column, a reference to a “Style Letter” is given. In this case, refer to the “Visualization Guide” located on page 8. An examination of the “cap” shape can be used to determine if the identified sprinkler has an “O-Ring Seal Design” or the newer “Belleville Seal Design.” If the sprinkler is determined to have an O-ring seal, then the sprinkler is part of the Program.

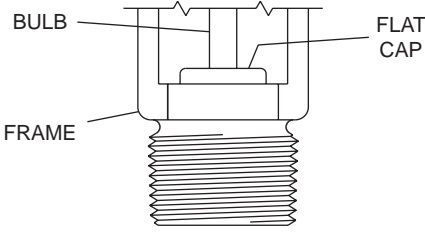
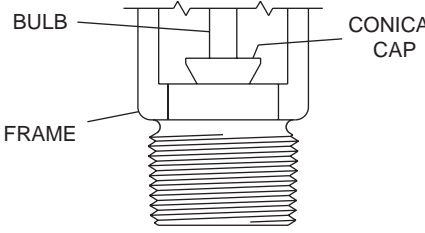
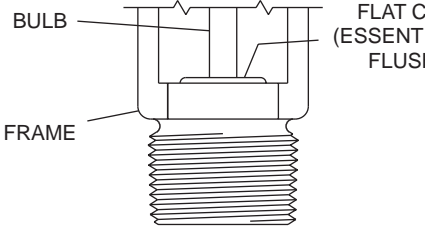
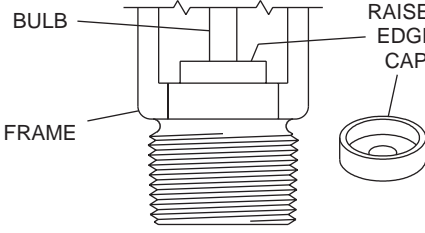
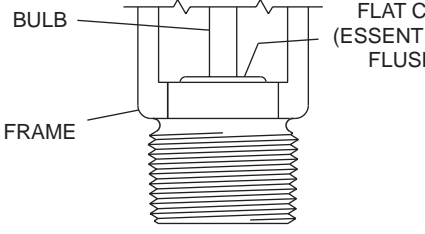
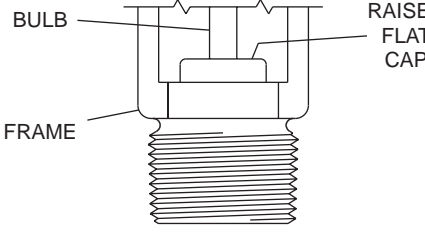
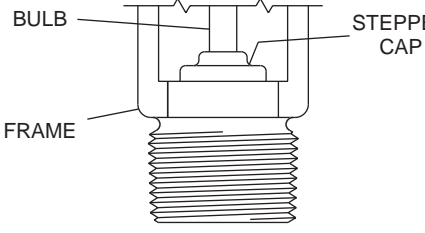
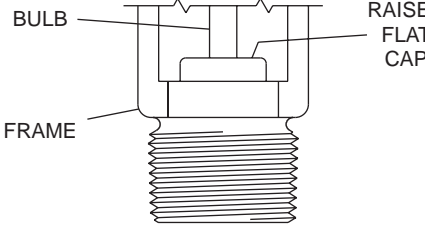
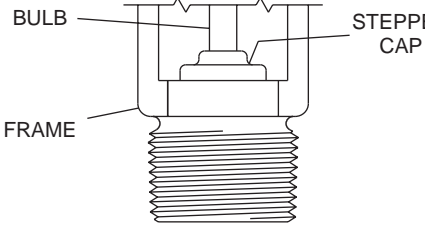
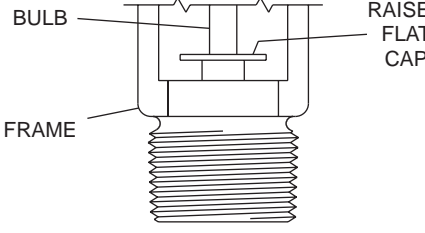
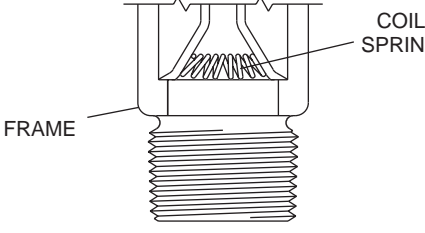
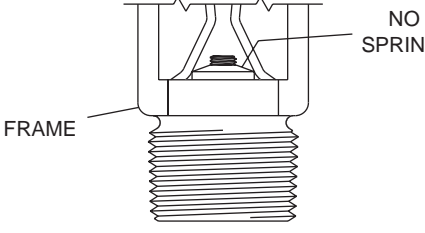
Fifth. Call Central O-ring Sprinkler Replacement Customer Service Hotline at (866) 505-8553, if there is any doubt as to the type of sprinkler you have installed in your home or building. Please be prepared to provide all of the noted inscriptions, as well as the use of the building (e.g., residential, hotel, manufacturing, storage, retail, etc.).

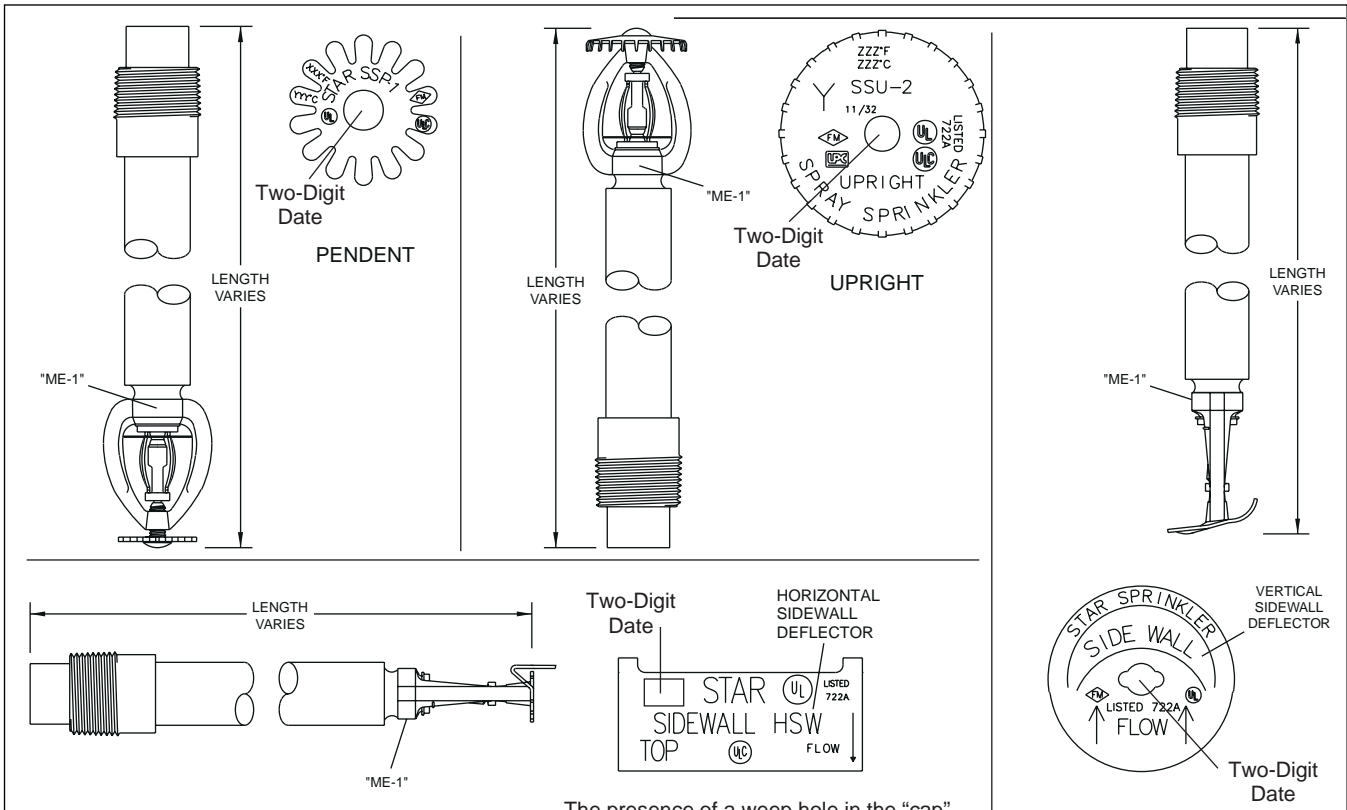
TABLE F — “STAR” DRY TYPE SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
ME-1 Dry	5.6	Pendent, Upright, Horizontal Sidewall, & Vertical Sidewall	60	Solder Strut	NO*
SG Dry	5.6	Pendent, Upright & Horizontal Sidewall	61	Glass Bulb	NO*
SG (QR) Dry	5.6	Pendent, Upright & Horizontal Sidewall	62	Glass Bulb	NO*
Q Dry	5.6	Pendent Concealed	63	Glass Bulb	NO*
QR-Q Dry	5.6	Pendent Concealed	64	Glass Bulb	NO*

*** THERE WAS NO O-RING TO BELLEVILLE DESIGN CHANGE FOR THIS MODEL.**

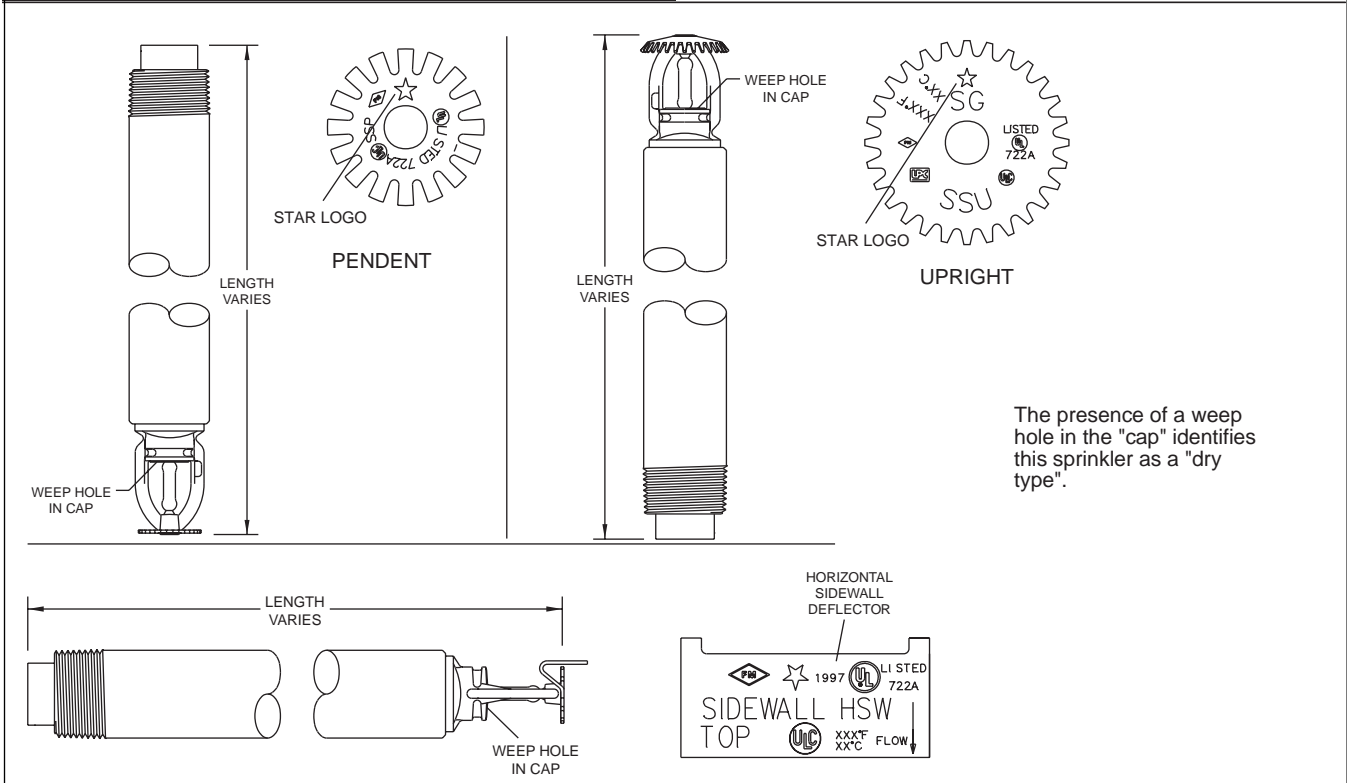
VISUALIZATION GUIDE

STYLE	O-RING SEAL DESIGN	BELLEVILLE SEAL DESIGN
A		
B		
C		
D		
E		
F		



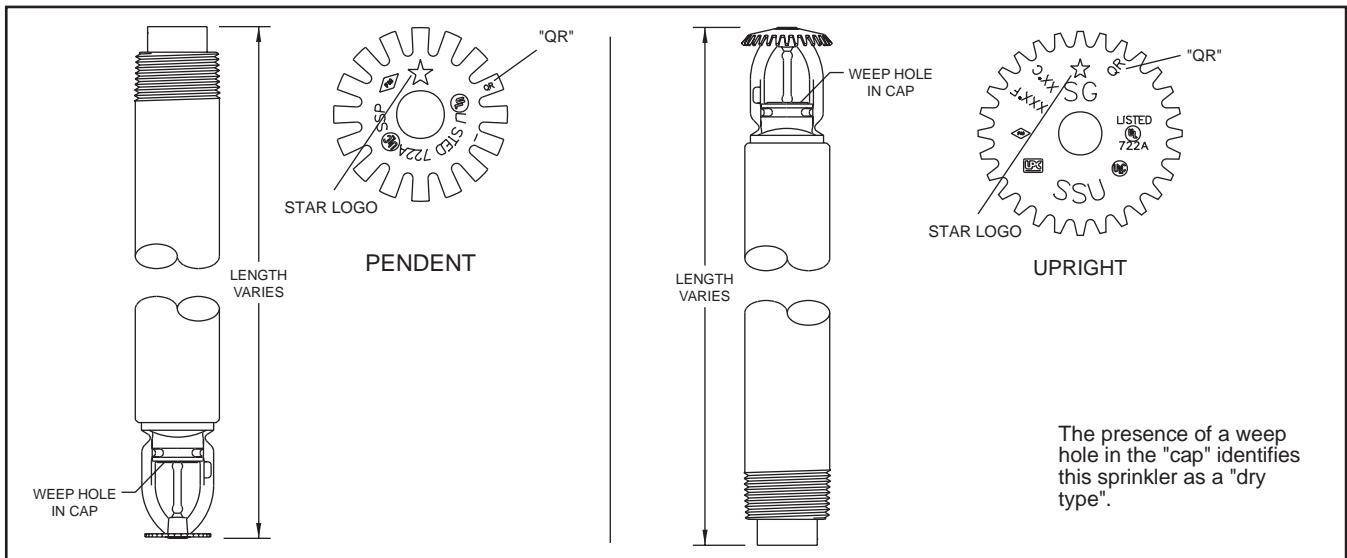
The presence of a weep hole in the "cap" identifies these sprinklers as a "dry type".

Figure 60
ME-1 Dry, K=5.6, Pendant, Upright, Horizontal Sidewall, and Vertical Sidewall Dry Type Sprinklers
STAR



The presence of a weep hole in the "cap" identifies this sprinkler as a "dry type".

Figure 61
SG Dry - Standard Response, K=5.6, Pendant, Upright, and Horizontal Sidewall Dry Type Sprinklers
STAR



The presence of a weep hole in the "cap" identifies this sprinkler as a "dry type".

Figure 62
SG Dry - Quick Response, K=5.6, Pendent, Upright, and Horizontal Sidewall Dry Type Sprinklers
STAR

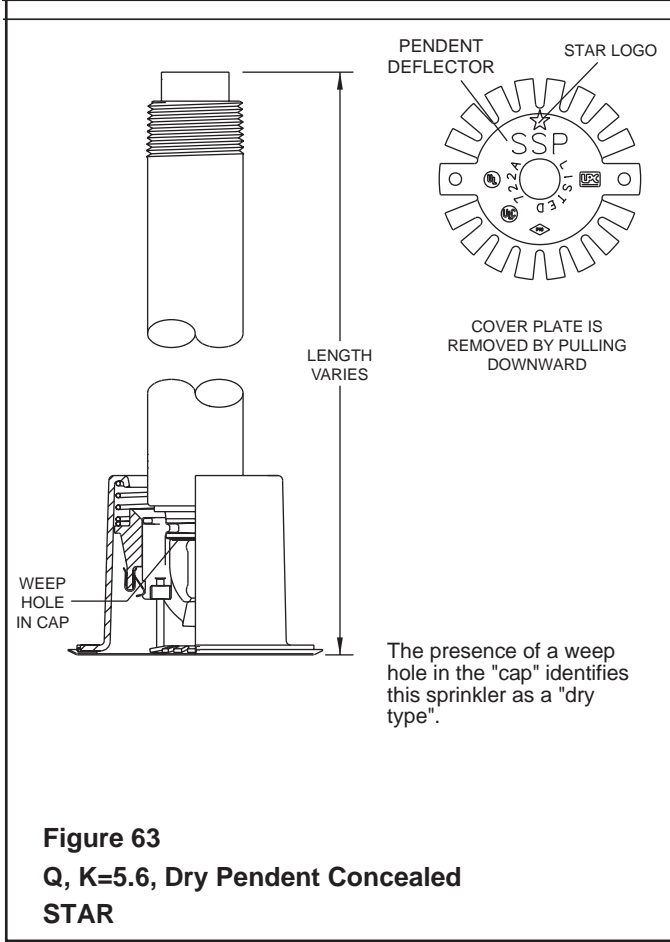


Figure 63
Q, K=5.6, Dry Pendent Concealed
STAR

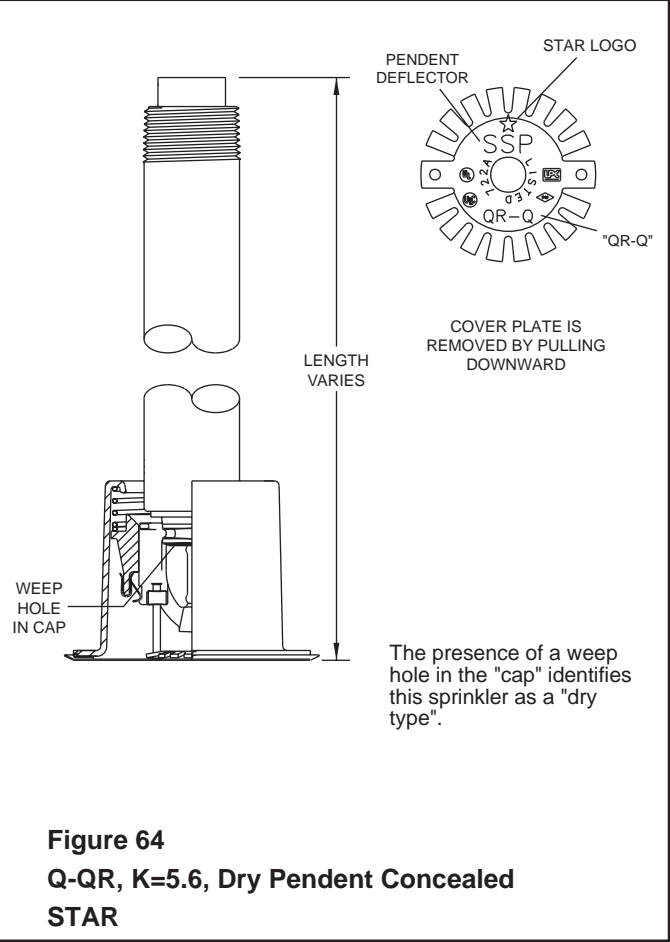


Figure 64
Q-QR, K=5.6, Dry Pendent Concealed
STAR