

**IDENTIFICATION BROCHURE
FOR
WET AND DRY O-RING
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

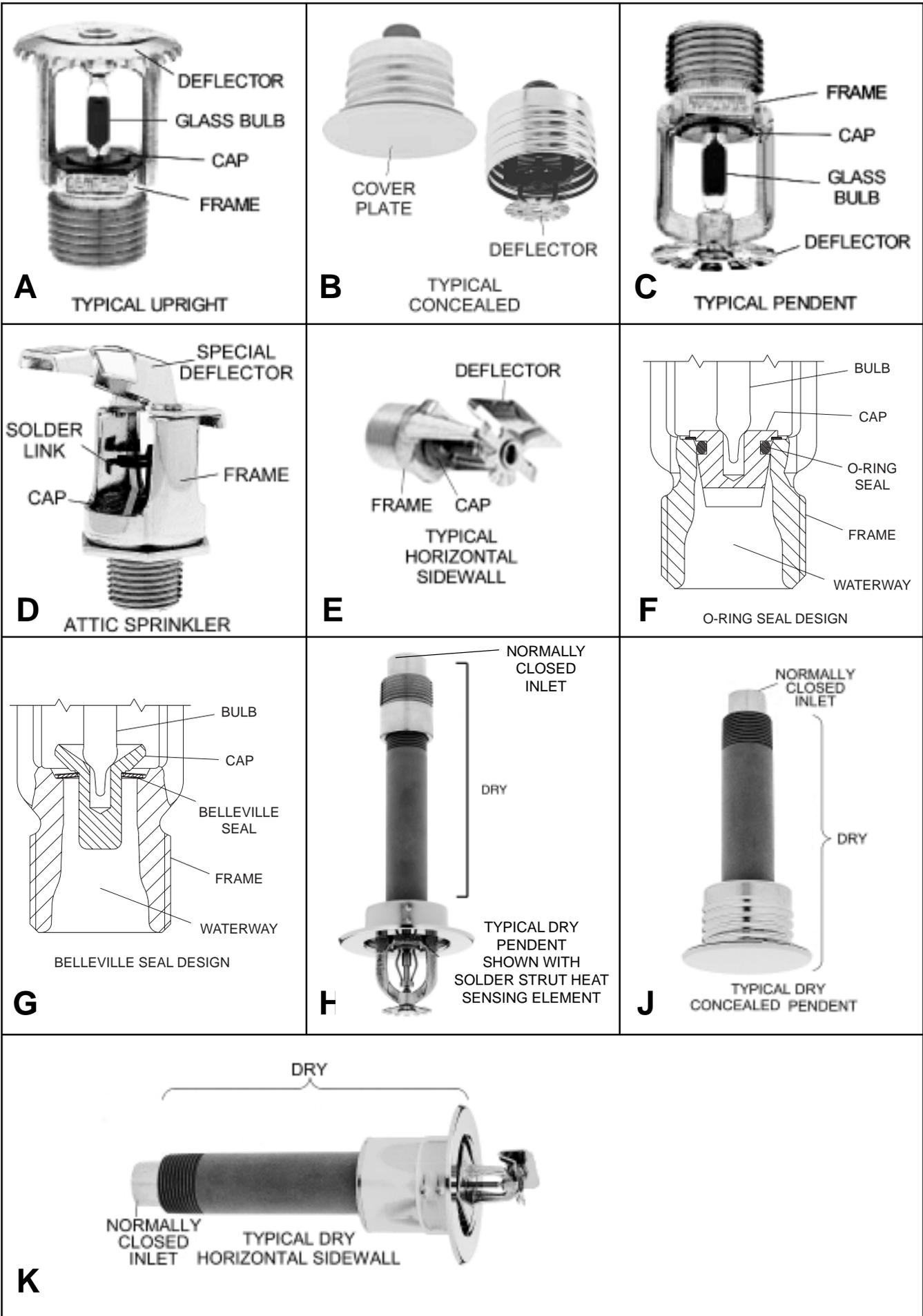
All the automatic fire sprinklers involved in this VRP utilize a heat-sensing element, for example, a liquid filled glass bulb (Fig. A), a solder link (Fig. D), or a solder strut (Fig. H), loaded within the sprinkler’s “frame” (Fig. A, C, D, or E). The frame is the piece of metal at the end of the sprinkler 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 (Pages 7 and 8)
- **Gem:** Table E (Page 8)
- **Star:** Table F (Page 8)

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 9. 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 A — “CENTRAL” COMMERCIAL SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
ELOC	11.2	Concealed Pendent	01	Solder Link	Yes (Style F)
ELO GB	11.2	Pendent and Upright	02	Glass Bulb	NO*
ELO GB QR	11.2	Pendent and Upright	03	Glass Bulb	NO*
ELO-LH	11.2	Pendent	04	Glass Bulb	NO*
ELO SW20	11.2	Horizontal Sidewall	05	Glass Bulb	Yes (Style B)
ELO SW24	11.2	Horizontal Sidewall	06	Glass Bulb	Yes (Style B)
ELO-16 GB	11.2	Pendent and Upright	07	Glass Bulb	NO*
ELO-16 GB FR	11.2	Pendent and Upright	08	Glass Bulb	NO*
ELO-231 GB	11.2	Pendent and Upright	09	Glass Bulb	Yes (Style D & E)
ELO-231 GB QR	11.2	Pendent and Upright	10	Glass Bulb	Yes (Style D & E)
ESLO	14.0	Pendent and Upright	11	Glass Bulb	NO*
ESLO-20 GB	14.0	Pendent and Upright	12	Glass Bulb	NO*
GB	5.6	Pendent and Upright	13	Glass Bulb	Yes (Style A)
GB	5.6	Horizontal Sidewall	14	Glass Bulb	Yes (Style A)
GB Multi Level	5.6	Upright	15	Glass Bulb	Yes (Style A)
GB-ALPHA	5.6	Pendent	16	Glass Bulb	NO*
GB-EC	5.6	Pendent	17	Glass Bulb	Yes (Style A)
GB-EC	5.6	Horizontal Sidewall	18	Glass Bulb	Yes (Style A)
GB-J	5.6	Pendent and Upright	19	Glass Bulb	Yes (Style A)
GB-LO	8.0	Horizontal Sidewall	20	Glass Bulb	NO*
GB-QR	4.2	Pendent and Upright	21	Glass Bulb	Yes (Style A)
GB-QR	5.6	Pendent and Upright	22	Glass Bulb	Yes (Style A)
GB-QR	5.6	Horizontal Sidewall	23	Glass Bulb	Yes (Style A)
GB-QR Multi Level	5.6	Upright	24	Glass Bulb	Yes (Style A)
GB-1	5.6	Pendent and Upright	25	Glass Bulb	NO*
GB4	5.6	Concealed Pendent	26	Glass Bulb	Yes (Style C)
GB4-EC	5.6	Concealed Pendent	27	Glass Bulb	Yes (Style C)
GB4-FR	5.6	Concealed Pendent	28	Glass Bulb	Yes (Style C)
GB4QREC	5.6	Concealed Pendent	29	Glass Bulb	Yes (Style C)
GB20	8.0	Pendent	30	Glass Bulb	NO*
GB20-QR	8.0	Pendent	31	Glass Bulb	Yes (Style B)
K17-231	16.8	Pendent and Upright	32	Glass Bulb	Yes (Style C)
LD	11.2	Upright	33	Glass Bulb	Yes (Style B)
ULTRA K17	16.8	Upright	34	Glass Bulb	Yes (Style C)

TABLE B — “CENTRAL” RESIDENTIAL SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
GBR	4.3	Pendent	35	Glass Bulb	Yes (Style A)
GBR	4.3	Pendent Concealed	36	Glass Bulb	Yes (Style A)
GBR	5.4	Horizontal Sidewall	37	Glass Bulb	Yes (Style A)
GB-R	5.4	Horizontal Sidewall	38	Glass Bulb	NO*
GB-R1	5.3	Pendent	39	Glass Bulb	Yes (Style A)
GBR-2	4.3	Pendent	40	Glass Bulb	Yes (Style A)
GB-RS	4.3	Pendent	41	Glass Bulb	NO*
LF	3.0	Pendent	42	Glass Bulb	Yes (Style C)
LF	3.5	Horizontal Sidewall	43	Glass Bulb	Yes (Style A)
ROC	4.2	Concealed Pendent	44	Solder Link	Yes (Style F)

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

TABLE C - "CENTRAL" SPECIAL PURPOSE SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
BB1	5.6	Attic	45A	Solder Link	Yes (Style F)
BB2	5.6	Attic	45B	Solder Link	Yes (Style F)
BB3	5.6	Attic	45C	Solder Link	Yes (Style F)
BB1 17/32	8.0	Attic	46A	Glass Bulb	Yes (Style B)
BB2 17/32	8.0	Attic	46B	Glass Bulb	Yes (Style B)
BB3 17/32	8.0	Attic	46C	Glass Bulb	Yes (Style B)
HIP	5.6	Attic	47	Glass Bulb	Yes (Style A)
SD1	5.6	Attic	48A	Solder Link	Yes (Style F)
SD2	5.6	Attic	48B	Solder Link	Yes (Style F)
SD3	5.6	Attic	48C	Solder Link	Yes (Style F)
WS	5.6	Window, Vertical	49	Glass Bulb	Yes (Style A)
WS	5.6	Window, Horizontal	50	Glass Bulb	Yes (Style A)

TABLE D — "CENTRAL" DRY TYPE SPRINKLERS

Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
A-1	5.6	Pendent & Concealed Pendent	51	Solder Strut	NO*
GB	5.6	Pendent & Horizontal Sidewall	52	Glass Bulb	NO*
GB QR	5.6	Pendent & Horizontal Sidewall	53	Glass Bulb	NO*
GB4	5.6	Concealed Pendent	54A	Glass Bulb	NO*
GB4-EC	5.6	Concealed Pendent	54B	Glass Bulb	NO*
GB4-FR	5.6	Concealed Pendent	54C	Glass Bulb	NO*
GB4-QREC	5.6	Concealed Pendent	54D	Glass Bulb	NO*
ELO-16 GB	11.2	Pendent	55A	Glass Bulb	NO*
ELO-231 GB	11.2	Pendent	55B	Glass Bulb	NO*
ELO-16 GB FR	11.2	Pendent	55C	Glass Bulb	NO*
ELO-GB QR	11.2	Pendent	55D	Glass Bulb	NO*
H-1	5.6	Horizontal Sidewall	56	Solder Strut	NO*
J	5.6	Pendent	57	Solder Strut	NO*
K	5.6	Concealed Pendent	58	Solder Strut	NO*

Replacement with Belleville Seal will be marked "TY" on the deflector.

TABLE E — "GEM and STAR" ON-OFF SPRINKLERS

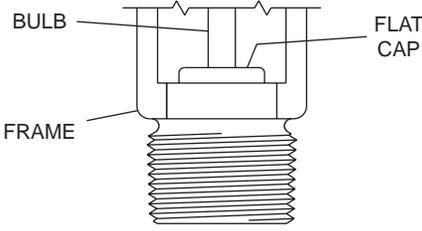
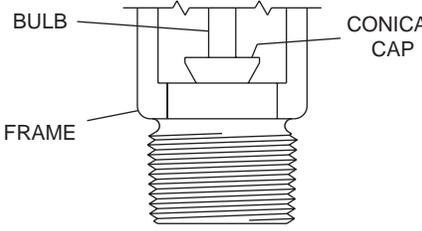
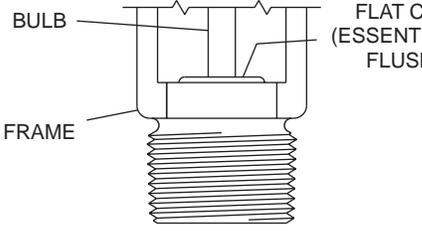
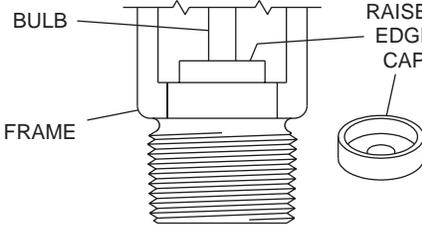
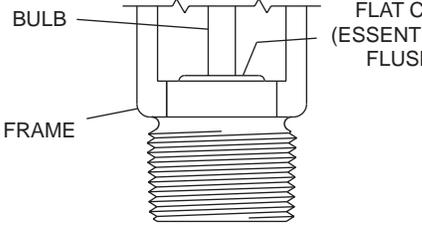
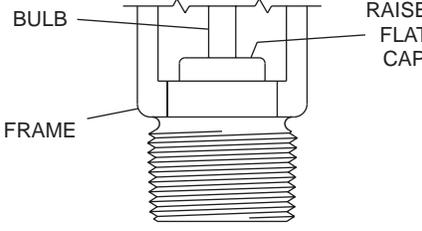
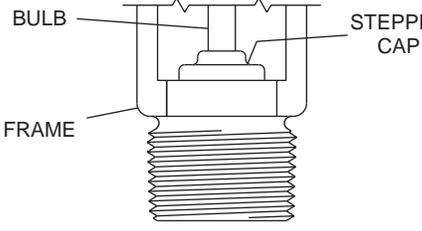
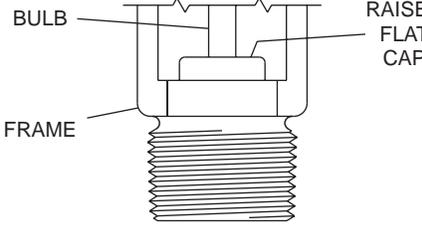
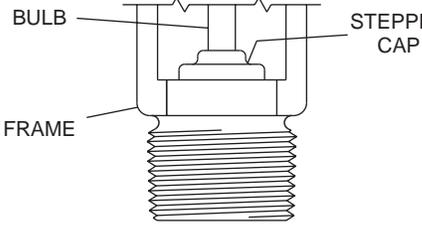
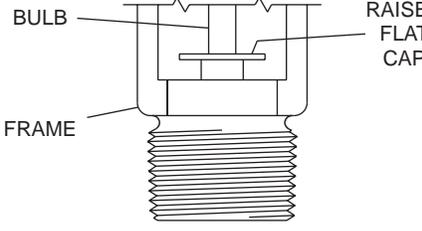
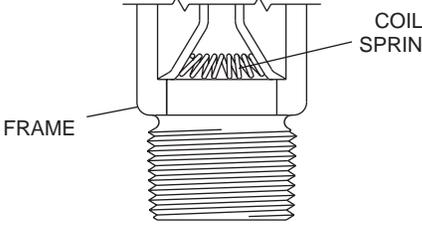
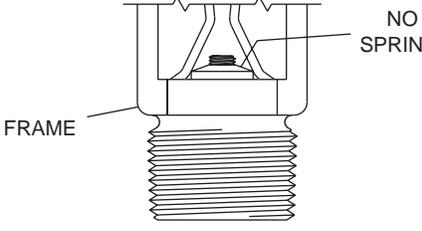
Model	K-Factor	Type/Orientation	Figure	Heat Sensing Element	Sprinkler May Contain O-ring Or Belleville Seal (See Guide - Page 9)
F927	5.6	Pendent	59	Glass Bulb	NO*

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	 <p>BULB</p> <p>FRAME</p> <p>FLAT CAP</p>	 <p>BULB</p> <p>FRAME</p> <p>CONICAL CAP</p>
B	 <p>BULB</p> <p>FRAME</p> <p>FLAT CAP (ESSENTIALLY FLUSH)</p>	 <p>BULB</p> <p>FRAME</p> <p>RAISED EDGE CAP</p>
C	 <p>BULB</p> <p>FRAME</p> <p>FLAT CAP (ESSENTIALLY FLUSH)</p>	 <p>BULB</p> <p>FRAME</p> <p>RAISED FLAT CAP</p>
D	 <p>BULB</p> <p>FRAME</p> <p>STEPPED CAP</p>	 <p>BULB</p> <p>FRAME</p> <p>RAISED FLAT CAP</p>
E	 <p>BULB</p> <p>FRAME</p> <p>STEPPED CAP</p>	 <p>BULB</p> <p>FRAME</p> <p>RAISED FLAT CAP</p>
F	 <p>BULB</p> <p>FRAME</p> <p>COIL SPRING</p>	 <p>BULB</p> <p>FRAME</p> <p>NO SPRING</p>



COVER PLATE IS REMOVED
BY UNSCREWING
COUNTER-CLOCKWISE

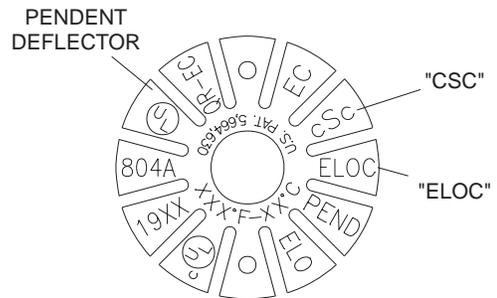


Figure 01
ELOC, K=11.2, Concealed Pendent
CENTRAL

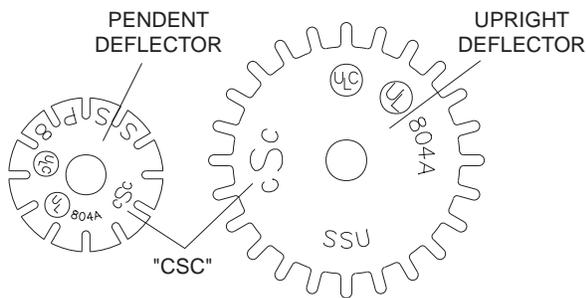
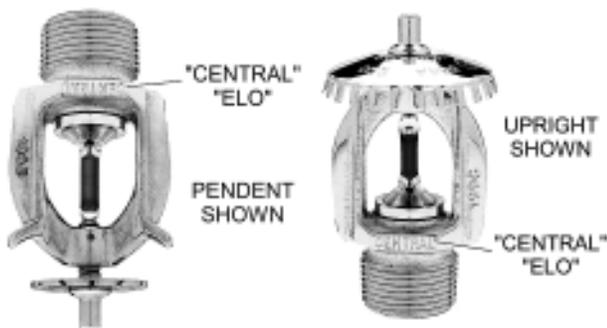


Figure 02
ELO GB, K=11.2, Pendent & Upright
CENTRAL

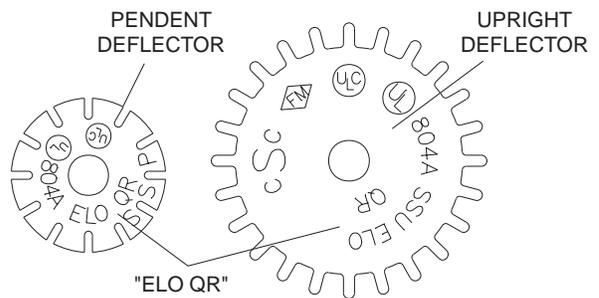
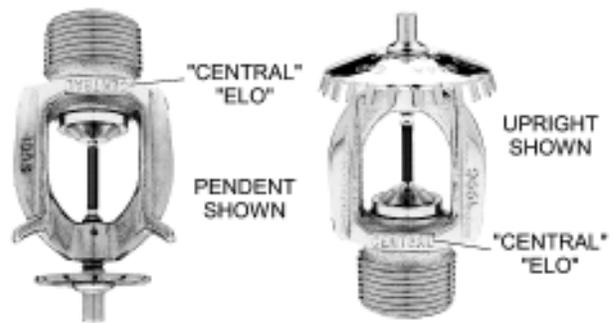


Figure 03
ELO GB QR, K=11.2, Pendent & Upright
CENTRAL

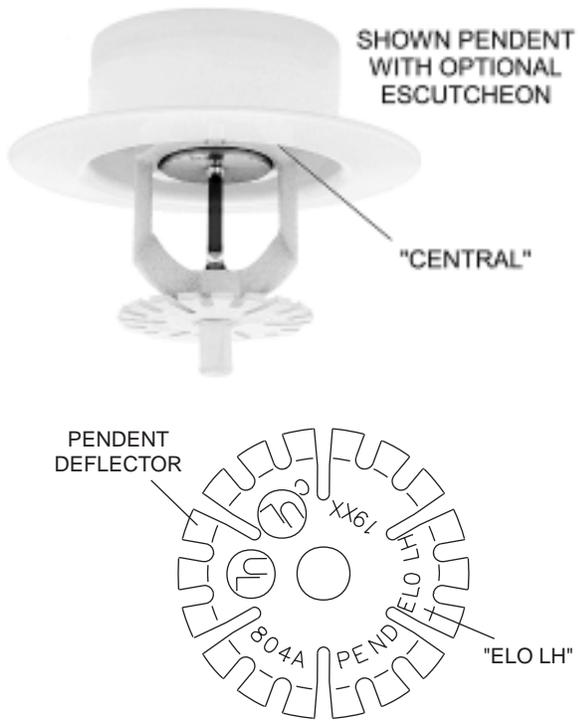


Figure 04
ELO-LH, K=11.2, Pendent
CENTRAL

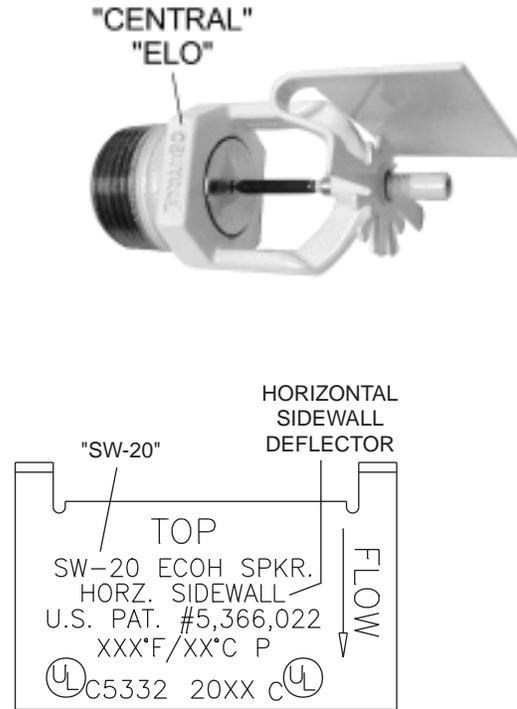


Figure 05
ELO SW20, K=11.2, Horizontal Sidewall
CENTRAL

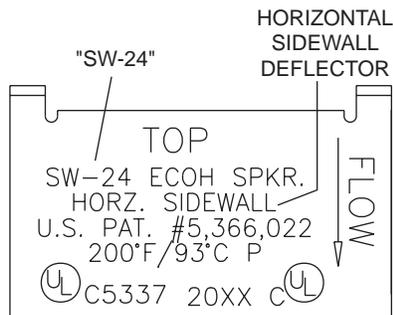
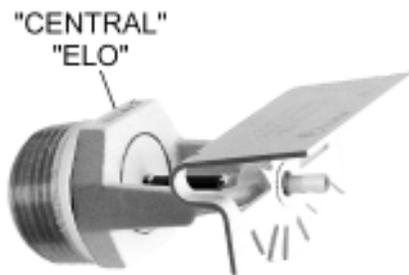


Figure 06
ELO SW24, K=11.2, Horizontal Sidewall
CENTRAL

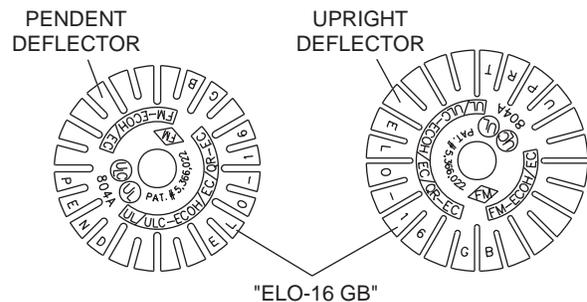


Figure 07
ELO-16 GB, K=11.2, Pendent & Upright
CENTRAL

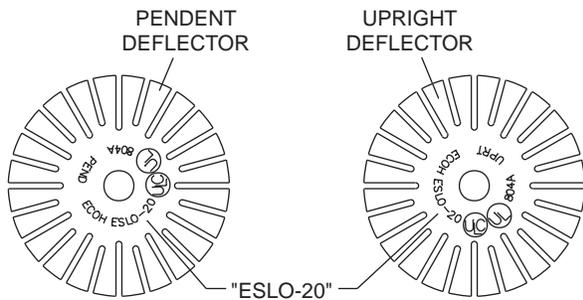
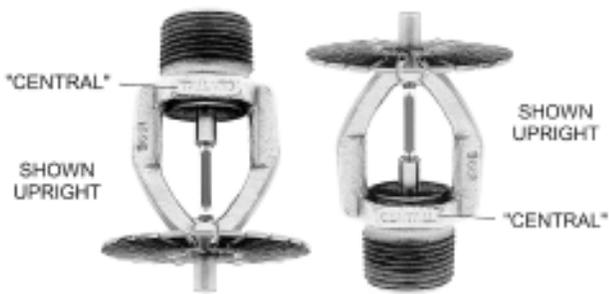


Figure 12
ESLO-20 GB, K=14.0, Pendent & Upright
CENTRAL

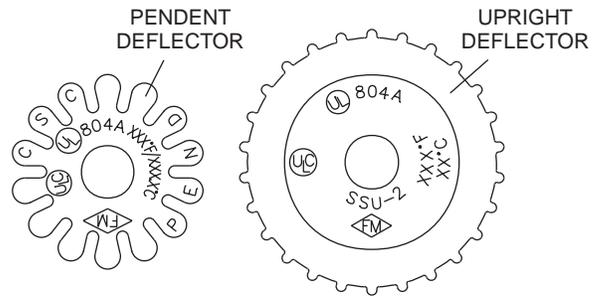


Figure 13
GB, K=5.6, Pendent & Upright
CENTRAL

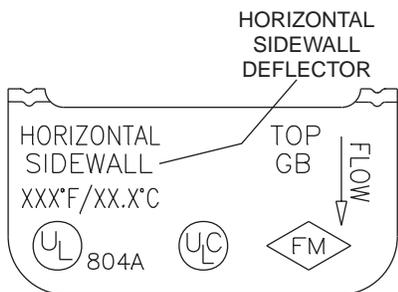


Figure 14
GB, K=5.6, Horizontal Sidewall
CENTRAL



5mm (3/16") DIAMETER GLASS BULB

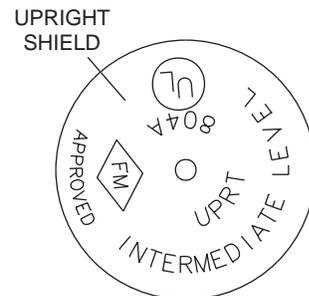


Figure 15
GB, K=5.6, Multi Level, Upright
CENTRAL

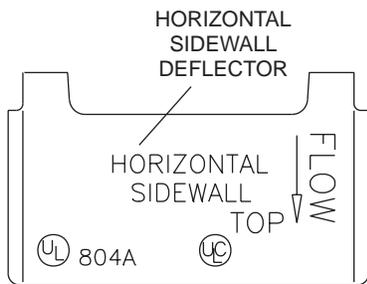


Figure 20
GB-LO, K=8.0, Horizontal Sidewall
CENTRAL

THE PINTLE INDICATES A SMALL ORIFICE (K=4.2) SPRINKLER

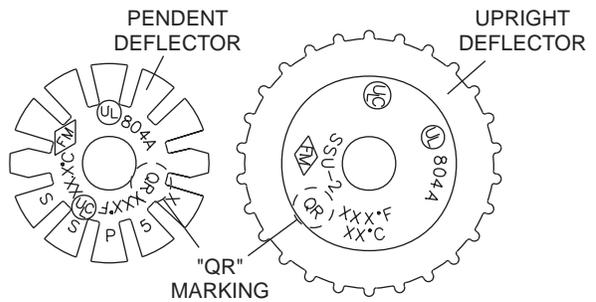


Figure 21
GB-QR, K=4.2, Pendent & Upright
CENTRAL

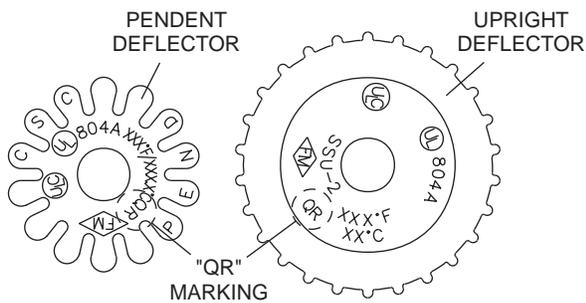


Figure 22
GB-QR, K=5.6, Pendent & Upright
CENTRAL

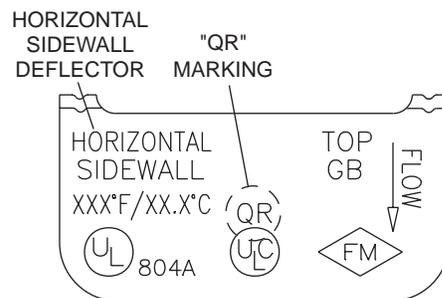


Figure 23
GB-QR, K=5.6, Horizontal Sidewall
CENTRAL



3mm (1/8") DIAMETER GLASS BULB

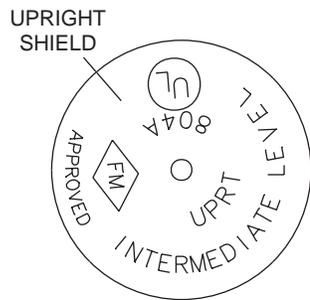


Figure 24
GB-QR, K=5.6, Multi Level, Upright
CENTRAL

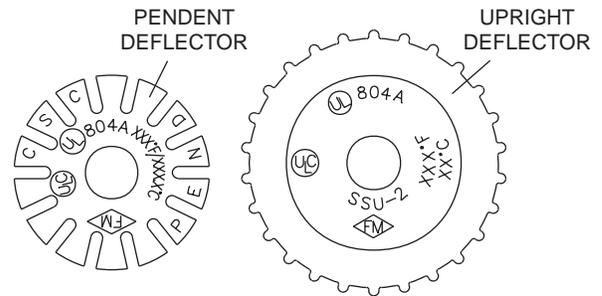


Figure 25
GB-1, K=5.6, Pendent & Upright
CENTRAL



COVER PLATE IS REMOVED
 BY UNSCREWING
 COUNTER-CLOCKWISE

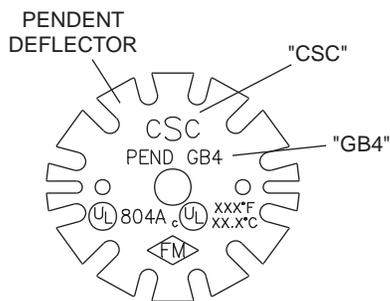


Figure 26
GB4, K=5.6, Concealed Pendent
CENTRAL



COVER PLATE IS REMOVED
 BY UNSCREWING
 COUNTER-CLOCKWISE

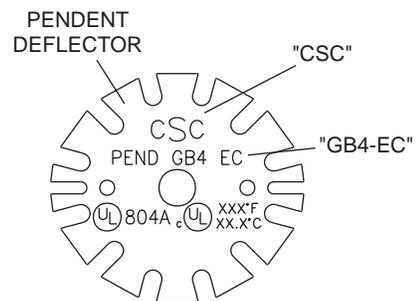


Figure 27
GB4-EC, K=5.6, Concealed Pendent
CENTRAL



COVER PLATE IS REMOVED BY UNSCREWING COUNTER-CLOCKWISE

DEFLECTOR

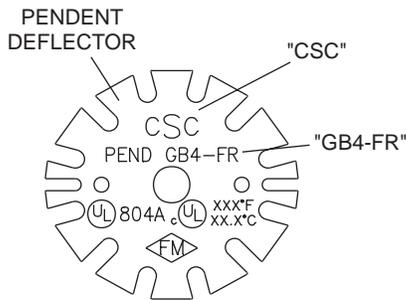


Figure 28
GB4-FR, K=5.6, Concealed Pendant CENTRAL



COVER PLATE IS REMOVED BY UNSCREWING COUNTER-CLOCKWISE

DEFLECTOR

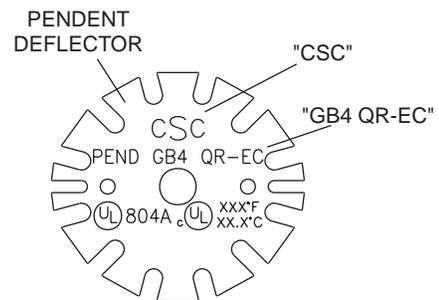


Figure 29
GB4QREC, K=5.6, Concealed Pendant CENTRAL

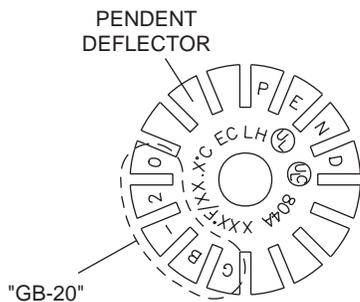


Figure 30
GB20, K=8.0, Pendant CENTRAL

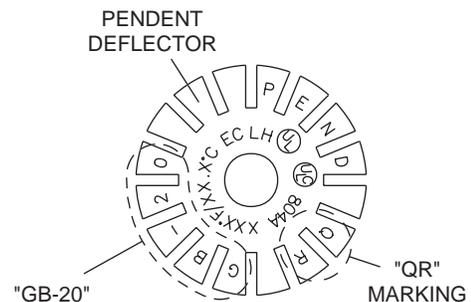


Figure 31
GB20-QR, K=8.0, Pendant CENTRAL

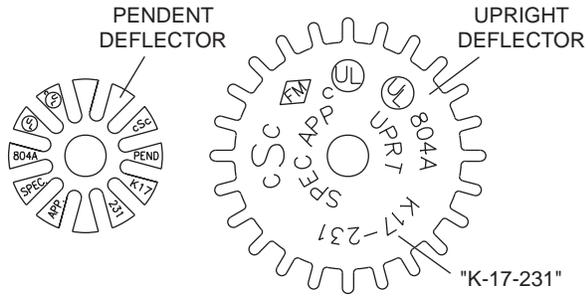


Figure 32
K17-231, K=16.8, Pendent & Upright
CENTRAL

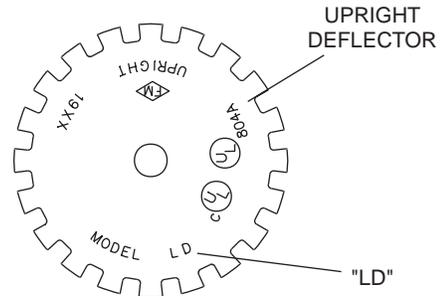


Figure 33
LD, K=11.2, Upright
CENTRAL

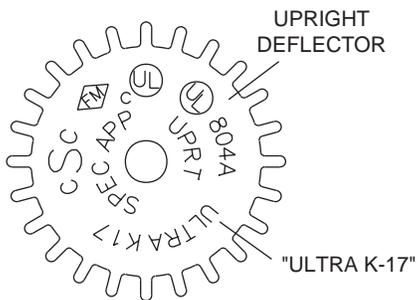


Figure 34
ULTRA K17, K=16.8, Upright
CENTRAL

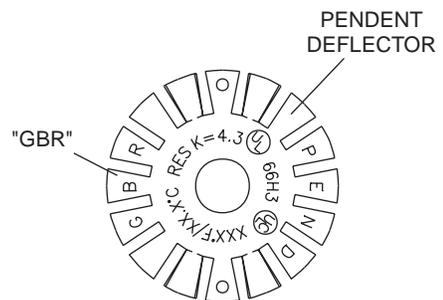


Figure 35
GBR, K=4.3, Pendent
CENTRAL



COVER PLATE IS REMOVED BY PULLING DOWNWARD

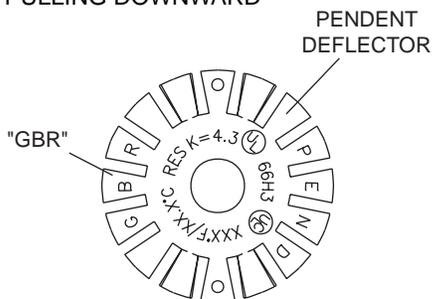


Figure 36
GBR, K=4.3, Concealed Pendent
CENTRAL

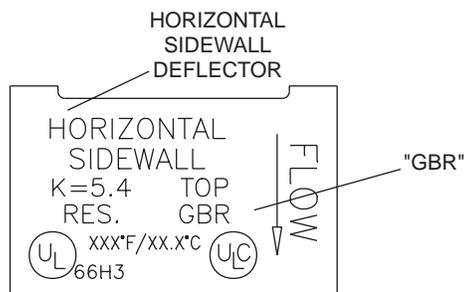
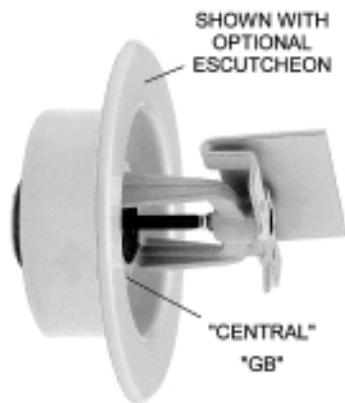


Figure 37
GBR, K=5.4, Horizontal Sidewall
CENTRAL

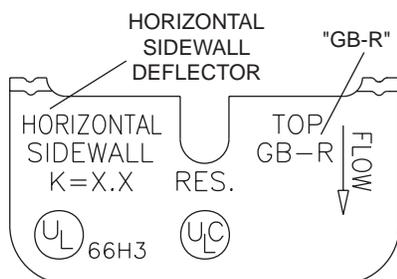


Figure 38
GB-R, K=5.4, Horizontal Sidewall
CENTRAL

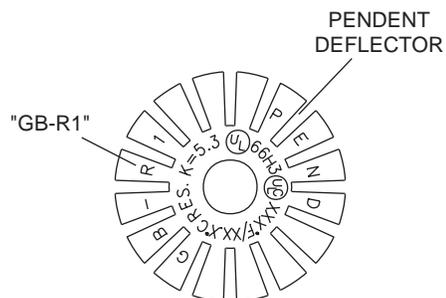


Figure 39
GB-R1, K=5.3, Pendent
CENTRAL

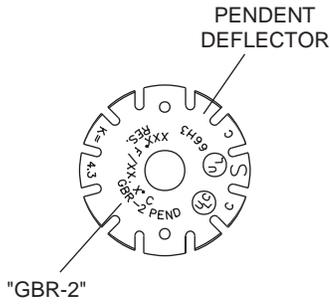


Figure 40
GBR-2, K=4.3, Pendent
CENTRAL

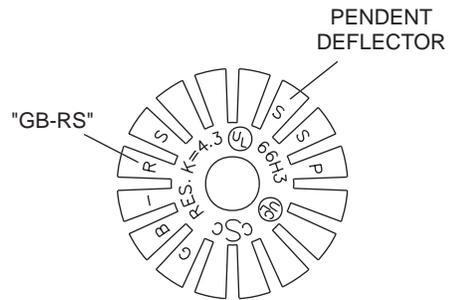


Figure 41
GB-RS, K=4.3, Pendent
CENTRAL

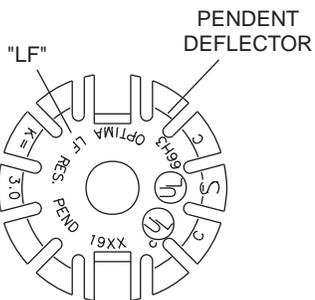
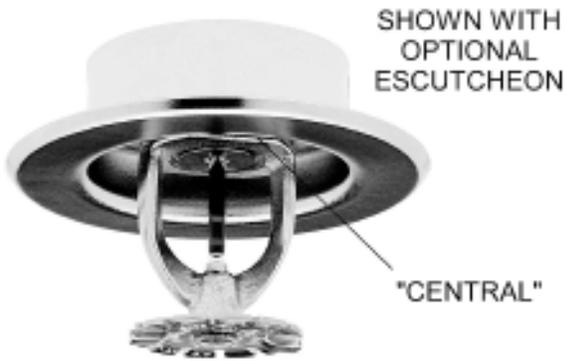


Figure 42
LF, K=3.0, Pendent
CENTRAL

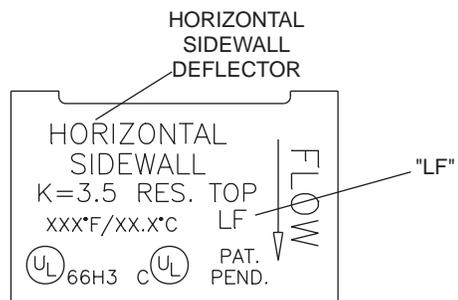


Figure 43
LF, K=3.5, Horizontal Sidewall
CENTRAL



COVER PLATE IS REMOVED
BY UNSCREWING
COUNTER-CLOCKWISE

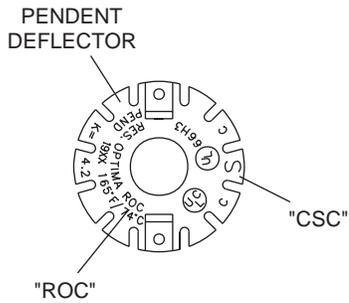


Figure 44
ROC, K=4.2, Concealed Pendent
CENTRAL

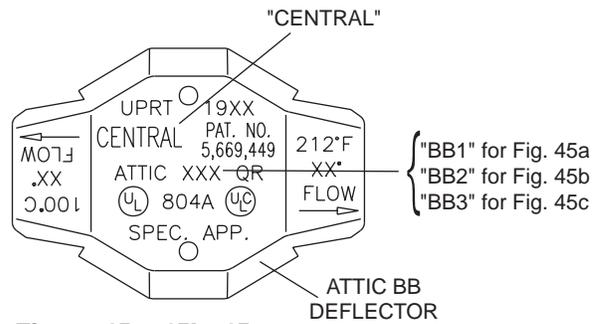


Figure 45a, 45b, 45c
BB1 (45a), BB2 (45b), BB3 (45c), K=5.6, Attic
CENTRAL

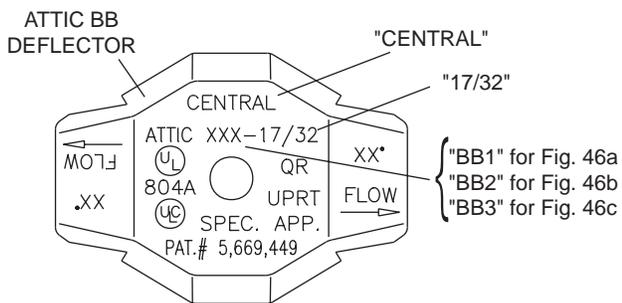


Figure 46a, 46b, 46c
BB1 (46a), BB2 (46b), BB3 (46c), K=8.0, Attic
CENTRAL

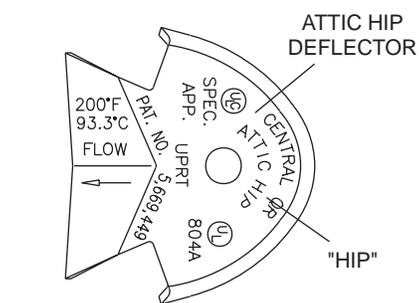


Figure 47
HIP, K=5.6, Attic
CENTRAL

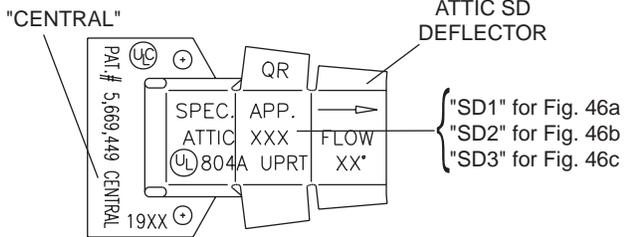


Figure 48a, 48b, 48c
SD1 (48a), SD2 (48b) ,SD3 (48c),K=5.62, Attic
CENTRAL

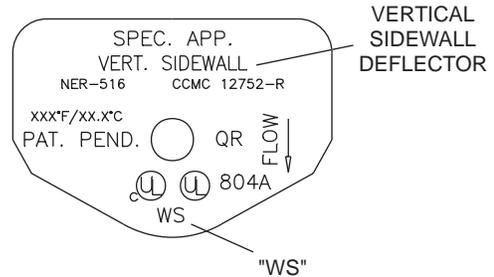
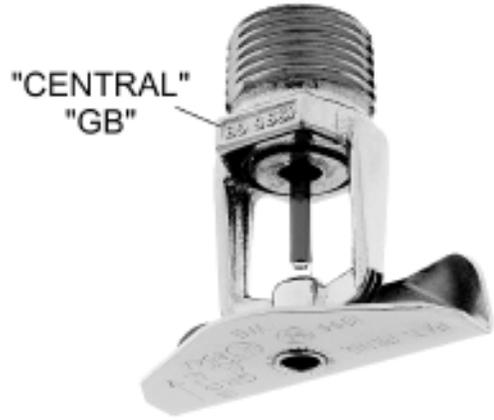


Figure 49
WS, K=5.6, Vertical Window
CENTRAL



"CENTRAL"
"GB"

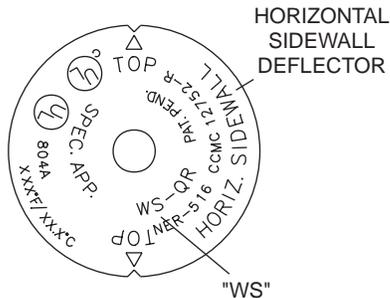
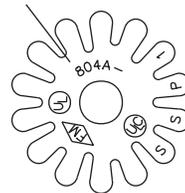


Figure 50
WS, K=5.6, Horizontal Window
CENTRAL

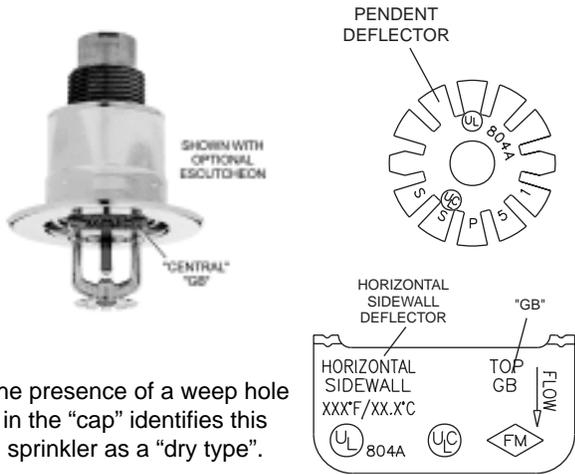


PENDENT
DEFLECTOR



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

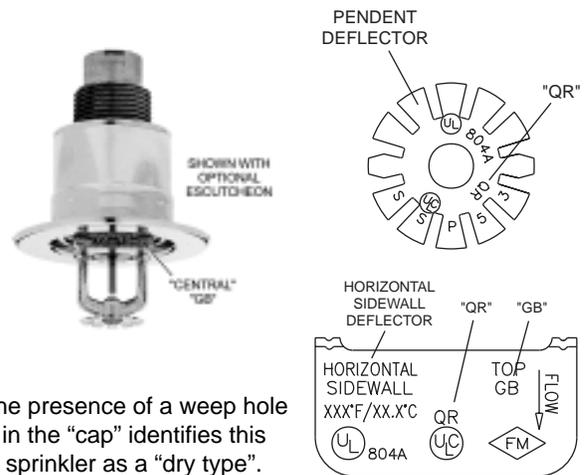
Figure 51
A-1, K=5.6, Dry Pendent & Dry Concealed
CENTRAL



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



Figure 52
GB, K=5.6, Dry Pendant & Hor. Sidewall
CENTRAL



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



Figure 53
GBQR, K=5.6, Dry Pendant & Hor. Sidewall
CENTRAL

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

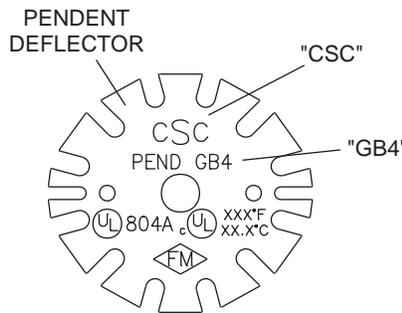


Figure 54a

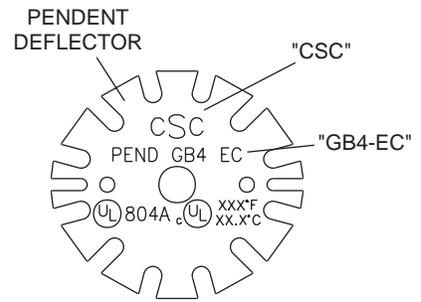


Figure 54b

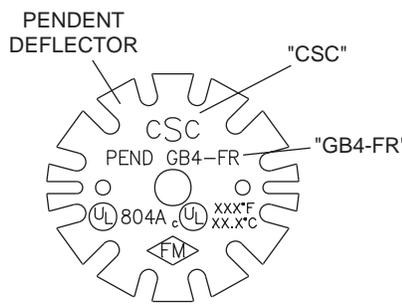


Figure 54c

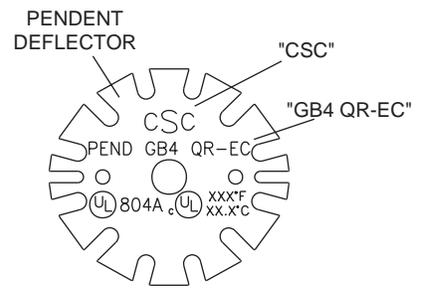


Figure 54d

Figure 54a, 54b, 54c, 54d
GB4 (54a), GB4-EC (54b), GB4-FR (54c), GB4-QREC(54d), K=5.6, DryConcealed Pendant
CENTRAL



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

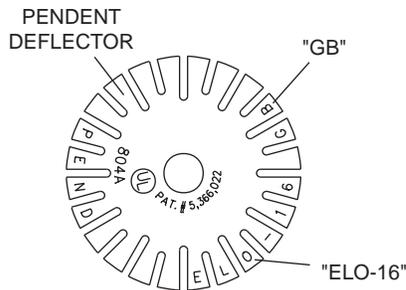


Figure 55a

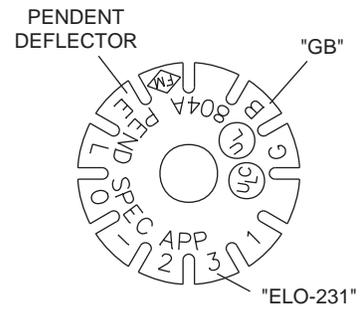


Figure 55b

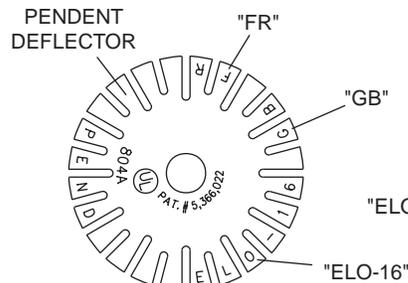


Figure 55c

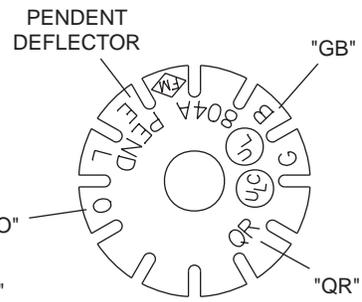
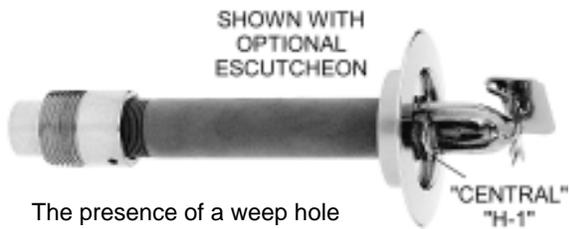


Figure 55d

Figure 55a, 55b, 55c, 55d

ELO-16 GB (55a), ELO-231 GB (55b), ELO-16 GB FR (55c), ELO-GB QR (55d), K=5.6, DryConcealed Pendent CENTRAL



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

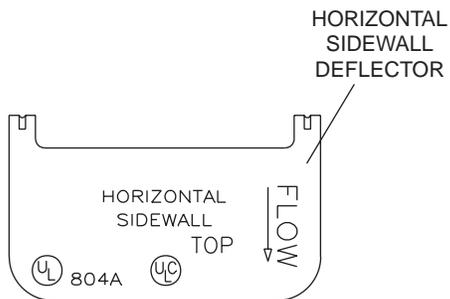


Figure 56
ELOC, K=5.6, Dry Horizontal CENTRAL



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

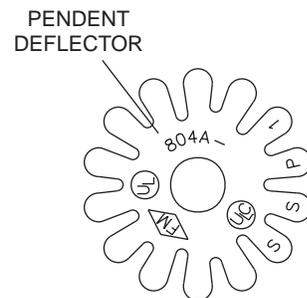


Figure 57
J, K=5.6, Dry Pendent CENTRAL



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

COVER PLATE IS REMOVED BY UNSCREWING COUNTER-CLOCKWISE ONE-EIGHTH TURN AND THEN PULLING DOWNWARD

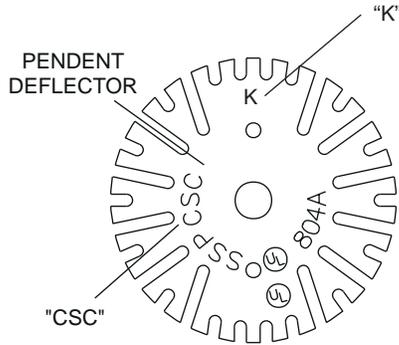


Figure 58
K, K=5.6, Dry Concealed Pendent
CENTRAL

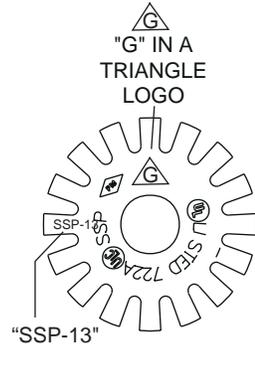


Figure 59
F927, K=5.6, On-Off Pendent
GEM

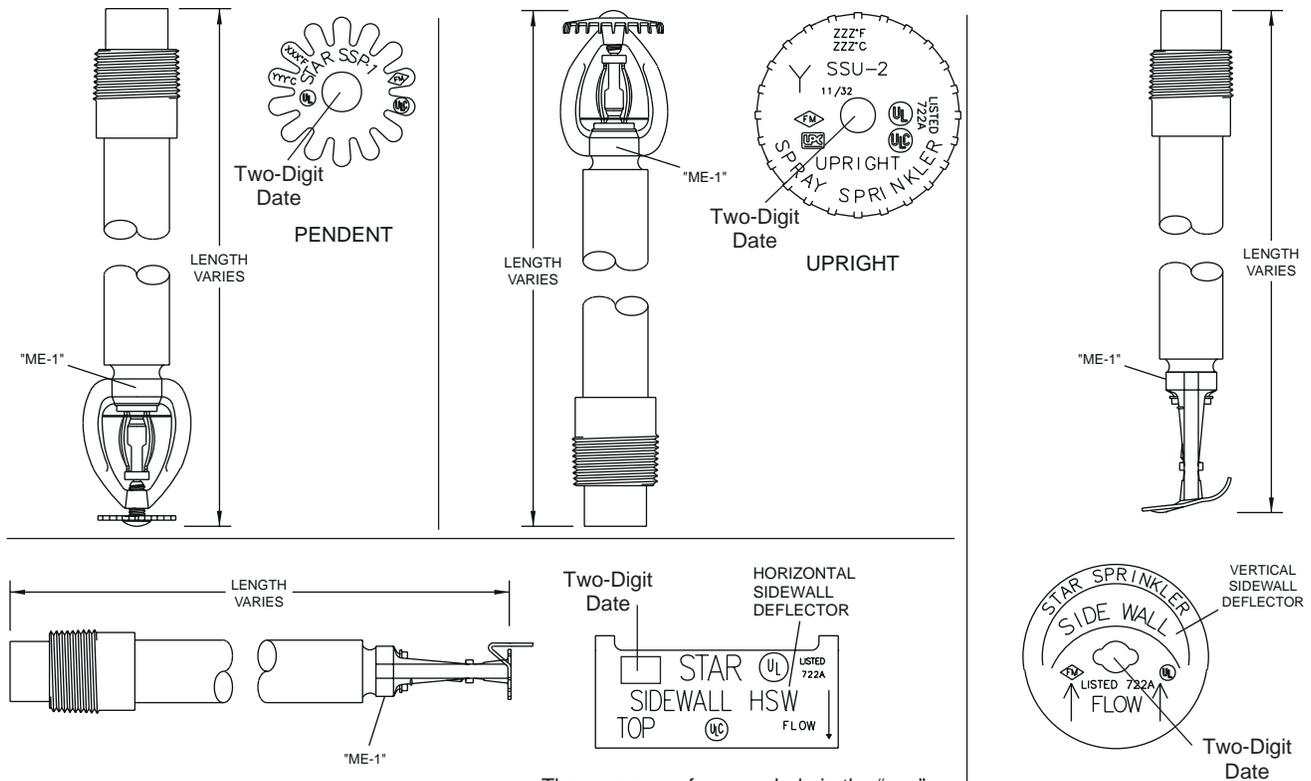
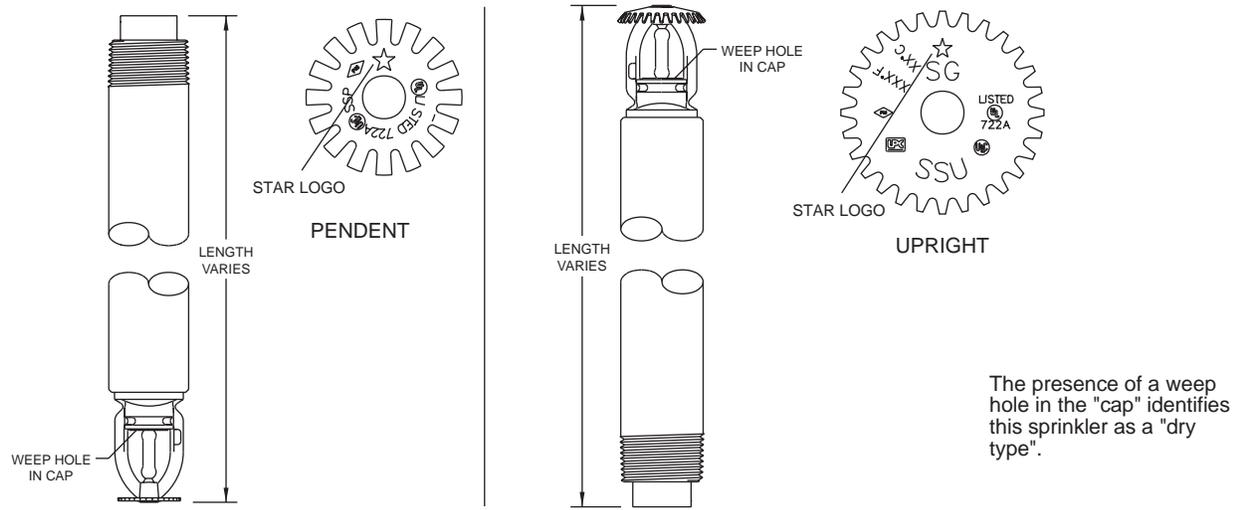


Figure 60
ME-1 Dry, K=5.6, Pendent, Upright, Horizontal Sidewall, and Vertical Sidewall Dry Type Sprinklers
STAR

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



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

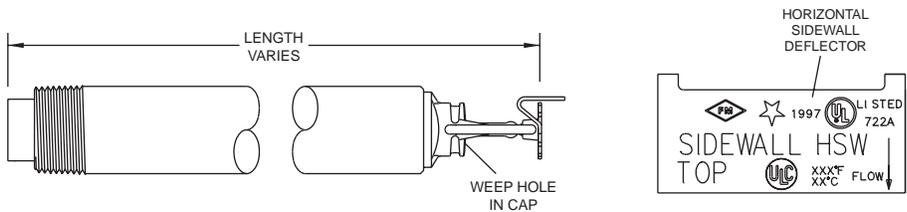
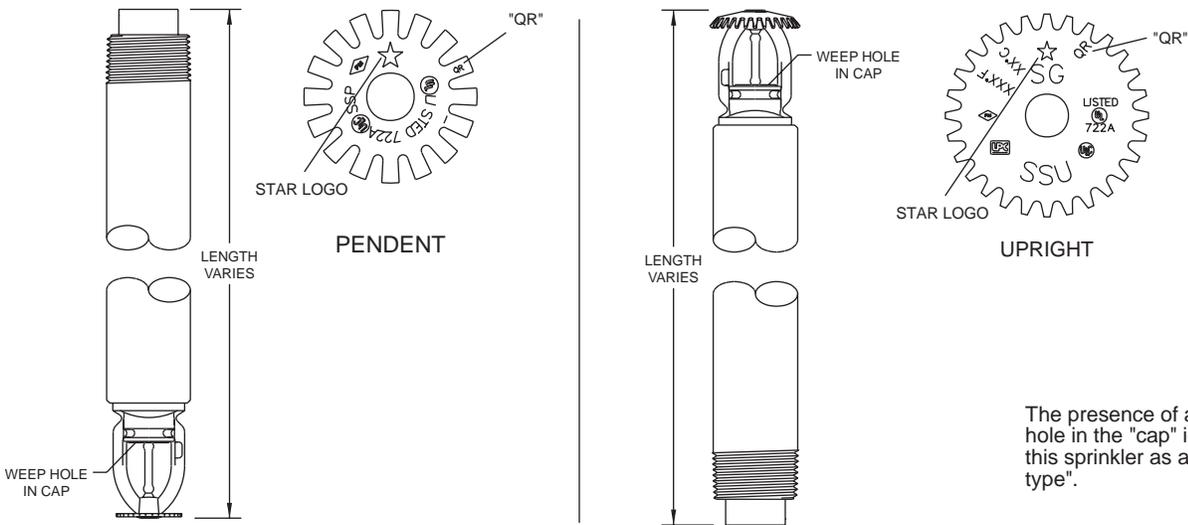


Figure 61
SG Dry - Standard Response, K=5.6, Pendent, Upright, and Horizontal Sidewall Dry Type Sprinklers
STAR



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

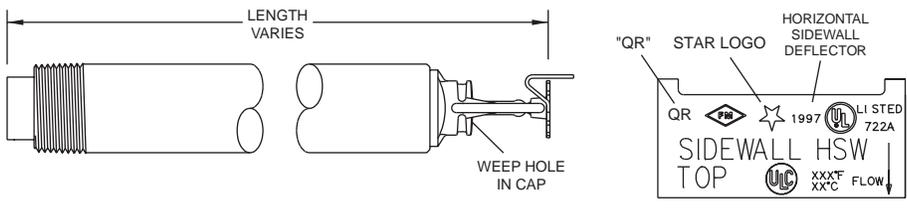


Figure 62
SG Dry - Quick Response, K=5.6, Pendent, Upright, and Horizontal Sidewall Dry Type Sprinklers
STAR

