



Model F3QR Quick Response Dry Sprinklers

Features

1. The Model F3QR sprinkler utilizes Belleville Spring Closure Technology. Reliable is the first in the industry to produce a Quick Response Dry Concealed sprinkler utilizing this technology.
2. Styles available
 - Pendent
 - Recessed Pendent
 - Concealed
 - Horizontal Sidewall
 - Recessed Horizontal Sidewall
3. 1½" (38mm) escutcheon adjustment on pendent sprinkler.
4. ½" (13mm) escutcheon adjustment on recessed sprinkler with push-on/ thread-off FP Model Escutcheon ring.
5. ⅜" (9.5mm) cover plate adjustment on concealed sprinkler with push-on/ thread-off CCP Cover Plate.
6. Attractive appearance. Employs 3mm frangible glass bulb and galvanized nipple.
7. Lengths available to accommodate installation dimensions from 2" - to - 48" (51mm - to - 1219mm), in ¼" (6mm) increments.
8. Available in a variety of plated and painted finishes.

U.S. Patent Numbers 5,775,431 and 5,967,240.

Approvals

1. Listed by Underwriters Laboratories Inc. and UL Certified for Canada (cULus)

| Style | Response | Sprinkler System Type | Hazard |
|--|----------|---------------------------------------|-------------------|
| Pendent Recessed Pendent CCP Concealed (R5714) | Quick | Wet Pipe Dry Pipe All Preaction | Light Ordinary |
| Horizontal Sidewall Recessed Horizontal Sidewall (R5734) | | | |

2. Certified by FM Approvals

| Style | Response | Sprinkler System Type | Hazard |
|--------------------------------|----------|--|-------------------------------------|
| Pendent (R5714) | Quick | Wet Pipe, Single Interlock Preaction | Light Ordinary, Groups 1&2 |
| Horizontal Sidewall (R5734) | Quick | Wet Pipe, Single Interlock Preaction | Light |

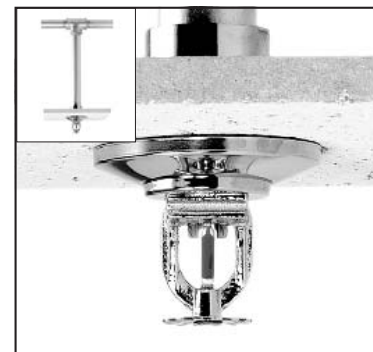
3. NYC MEA 258-93-E



Concealed



Recessed Pendent



Pendent



Horizontal Sidewall

Model F3QR Dry Pendent Sprinkler

| | |
|-----------------|---|
| "A" Dim. | 2" to 48" (51mm to 1219mm) in 1/4" (6mm) increments |
|-----------------|---|

Finishes⁽¹⁾

| Sprinkler | Escutcheon |
|------------------------------|---------------|
| Bronze | Brass |
| Chrome Plated | Chrome Plated |
| White Painted ⁽²⁾ | White |

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details.

⁽²⁾ White painted sprinklers will have chrome plated cans.

Standard Temperature Ratings

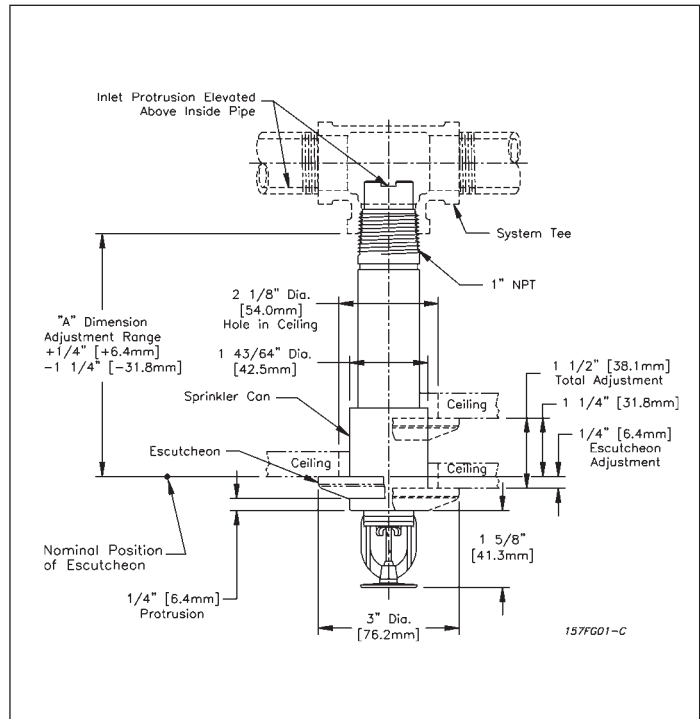
| Classification | Sprinkler Temperature Rating | Max. Ambient Temp. | Bulb Color |
|----------------|------------------------------|--------------------|------------|
| Ordinary | 135°F (57°C) | 100°F (38°C) | Orange |
| Ordinary | 155°F (68°C) | 100°F (38°C) | Red |
| Intermediate | 200°F (93°C) | 150°F (66°C) | Green |
| High | 286°F (141°C) | 225°F (107°C) | Blue |

Sprinkler Guard: Model C-2

Sprinkler Installation Wrench

Model G3 Sprinkler Wrench

Sprinkler Identification Number (SIN): R5714



Note: The sprinkler Can protrudes 1/4" when escutcheon is in nominal position. Escutcheon adjustment provides +1/4" (+6mm) to -1/4" (-32mm) "A" dimension adjustment range.

Model F3QR Dry Recessed Pendent Sprinkler

| | |
|-----------------|---|
| "A" Dim. | 3 1/2" to 48" (89mm to 1219mm) in 1/4" (6mm) increments |
|-----------------|---|

Finishes⁽¹⁾

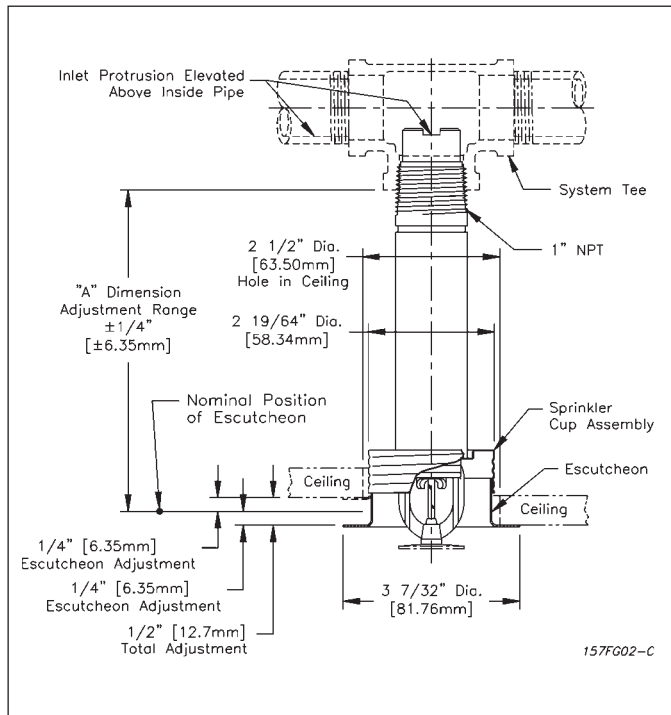
| Sprinkler | Escutcheon |
|---------------|---------------|
| Bronze | Brass |
| Chrome Plated | Chrome Plated |
| White Painted | White |

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details. Cup remains unfinished. Only the escutcheon will contain desired finish.

Standard Temperature Ratings

| Classification | Sprinkler Temperature Rating | Max. Ambient Temp. | Bulb Color |
|----------------|------------------------------|--------------------|------------|
| Ordinary | 135°F (57°C) | 100°F (38°C) | Orange |
| Ordinary | 155°F (68°C) | 100°F (38°C) | Red |
| Intermediate | 200°F (93°C) | 150°F (66°C) | Green |
| High* | 286°F (141°C) | 225°F (107°C) | Blue |

* Listed and Certified only by cULus



Note: Do not install the Model F3QR Dry Recessed Sprinkler in ceilings which have positive pressure in the space above.

Sprinkler Installation Wrench

Model G3 R/C Sprinkler Wrench

Sprinkler Identification Number (SIN): R5714

Model F3QR Dry Pendent Concealed Sprinkler

| | |
|-----------------|--|
| "A" Dim. | 3½" to 48" (89mm to 1219mm) in ¼" (6mm) increments |
|-----------------|--|

CCP Cover Plate⁽¹⁾ Finishes⁽²⁾

| Standard Finishes | Special Application Finishes |
|------------------------|---|
| Chrome Plated White | Bright Brass Plated Black Plated Black Paint Off White Satin Chrome |

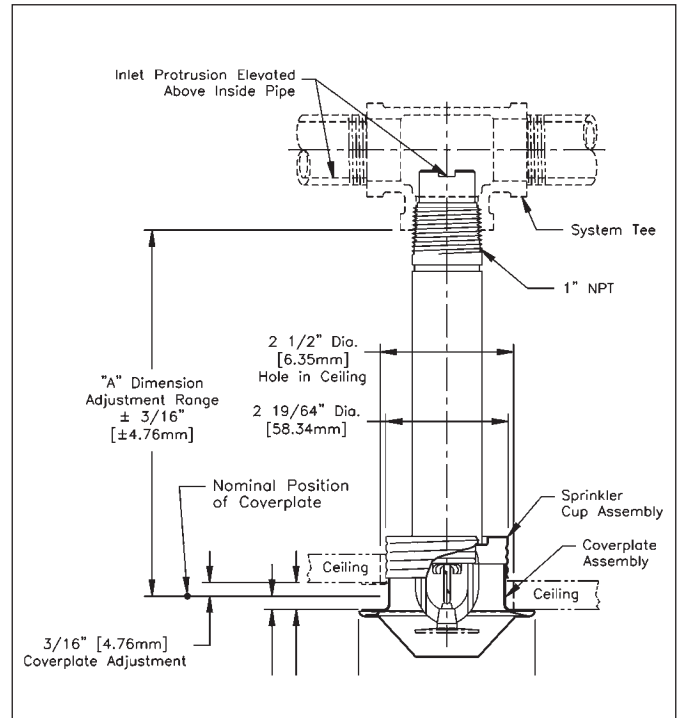
⁽¹⁾ Utilizes the ½" cover plate with ⅜" total adjustment.

⁽²⁾ Other finishes and colors are available on special order. Consult factory for details.

Standard Temperature Ratings

| Classification | Sprinkler Temperature Rating | Cover Plate Temp. Rating | Max. Ambient Temp. |
|----------------|------------------------------|--------------------------|--------------------|
| Ordinary | 135°F (57°C) | 135°F (57°C) | 100°F (38°C) |
| Ordinary | 155°F (68°C) | 135°F (57°C) | 100°F (38°C) |
| Intermediate | 200°F (93°C) | 165°F (74°C) | 150°F (66°C) |
| High* | 286°F (141°C) | 165°F (74°C) | 150°F (66°C) |

* Listed and Certified only by cULus.



Note: Do not install the Model F3QR Dry Pendent Concealed Sprinkler in ceilings which have positive pressure in the space above.

Sprinkler Installation Wrench:

Model G3 R/C Sprinkler Wrench

Sprinkler Identification Number (SIN): R5714

Model F3QR Dry Horizontal Sidewall Sprinkler

| | |
|-----------------|---|
| "A" Dim. | 2' to 48" (51mm to 1219mm) in ¼" (6mm) increments |
|-----------------|---|

Finishes⁽¹⁾

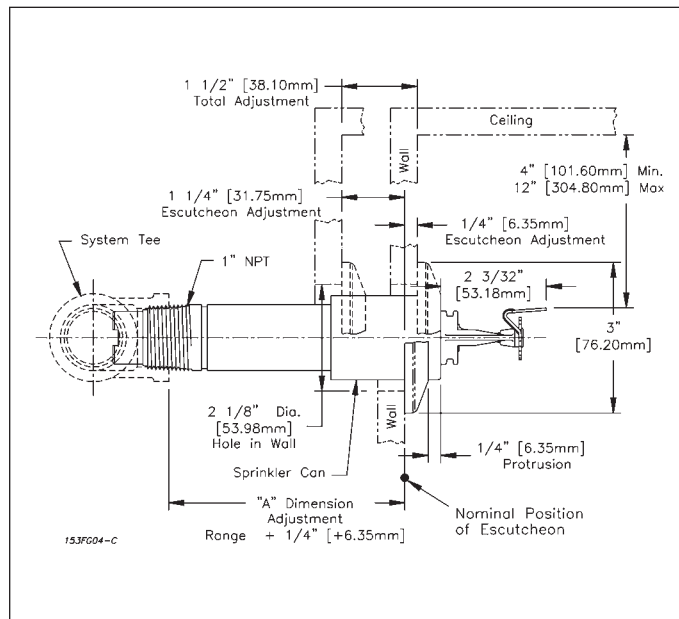
| Sprinkler | Escutcheon |
|------------------------------|---------------|
| Bronze | Brass |
| Chrome Plated | Chrome Plated |
| White Painted ⁽²⁾ | White |

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details.

⁽²⁾ White painted sprinklers will have chrome plated can.

Standard Temperature Ratings

| Classification | Sprinkler Temperature Rating | Max. Ambient Temp. | Bulb Color |
|----------------|------------------------------|--------------------|------------|
| Ordinary | 135°F (57°C) | 100°F (38°C) | Orange |
| Ordinary | 155°F (68°C) | 100°F (38°C) | Red |
| Intermediate | 200°F (93°C) | 150°F (66°C) | Green |
| High | 286°F (141°C) | 225°F (107°C) | Blue |



Note: The sprinkler Can protrudes ¼" when escutcheon is in nominal position. Escutcheon adjustment provides +¼" (+6mm) to -¼" (-32mm) "A" dimension adjustment range.

Sprinkler Installation Wrench:

Model G3 Sprinkler Wrench

Sprinkler Identification Number (SIN): R5734

Model F3QR Dry Horizontal Recessed Sidewall Sprinkler

| | |
|-----------------|---|
| "A" Dim. | 3 1/2" to 48" (89mm to 1219mm) in 1/4" (6mm) increments |
|-----------------|---|

Finishes⁽¹⁾

| Sprinkler | Escutcheon |
|---------------|---------------|
| Bronze | Brass |
| Chrome Plated | Chrome Plated |
| White Painted | White |

⁽¹⁾ Other finishes and colors are available on special order. Consult factory for details. Cup remains unfinished. "See page 2"

Standard Temperature Ratings

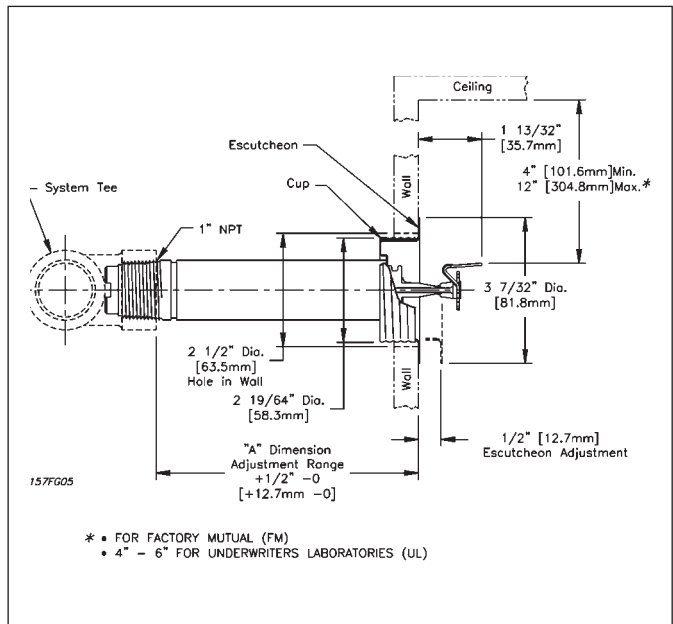
| Classification | Sprinkler Temperature Rating | Max. Ambient Temp. | Bulb Color |
|----------------|------------------------------|--------------------|------------|
| Ordinary | 135°F (57°C) | 100°F (38°C) | Orange |
| Ordinary | 155°F (68°C) | 100°F (38°C) | Red |
| Intermediate | 200°F (93°C) | 150°F (66°C) | Green |
| High* | 286°F (141°C) | 225°F (107°C) | Blue |

* Listed and Certified only by cULus.

Sprinkler Installation Wrench:

Model G3 R/C Sprinkler Wrench

Sprinkler Identification Number (SIN): R5734



Notes: Do not install the Model F3QR Dry Horizontal Recessed Sidewall Sprinkler in walls which have positive pressure in their side space.

- Listed by cULus for Quick Response. Approved by FM for Standard Response.
- Recessed Horizontal sidewall sprinklers are listed with cULus for installation of min. 4" (100mm) - to - max. 6" (150mm) below ceiling and approved by FM for installation of min. 4" (100mm) - to - max. 12" (300mm) below ceiling.

Technical Data:

Orifice Size: 1/2" (15mm)
 Thread Size: 1" NPT per ANSI B2.1
 Working Pressure: 175 psi (12 bar)
 Nominal K Factor - US / (Metric): 5.6 / (80)

Product Description

Reliable Model F3QR Dry Sprinklers are quick response sprinklers utilizing a durable 3mm frangible glass bulb. This quick response enables these sprinklers to apply water to a fire much sooner than standard response sprinklers of the similar temperature rating.

Model F3QR Dry Sprinklers are intended for use in enclosed dry and preaction systems and in enclosed areas subjected to freezing temperatures, such as freezers and unheated portions inside buildings.

Environments wherein dry sprinklers are employed can be corrosive. For this reason, Model F3 Sprinklers have a special wax fillet placed in the gap between the cup that supports the bulb and the wrenching boss. This wax will not interfere with the operation of the sprinkler, and it prevents contaminants from entering the internal portion of the drop nipple. The wax must not be removed.

Operation

The glass bulb consists of an accurately controlled amount of special fluid hermetically sealed inside a precisely manufactured glass capsule. This glass bulb is specially constructed to provide fast thermal response. When the temperature increases sufficiently, due to a fire, the bulb shatters allowing operating parts to clear the waterway. This enables the inlet seal to release air or water and subsequently, cause water flow over the deflector in a uniform spray pattern, controlling or extinguishing the fire.

Ordering Information

Specify:

1. Sprinkler Type (select one):
 - (a) Model F3QR Dry Pendant
 - (b) Model F3QR Dry Recessed Pendant
 - (c) Model F3QR Dry Concealed Pendant
 - (d) Model F3QR Dry Horizontal Sidewall
 - (e) Model F3QR Dry Recessed Horizontal Sidewall
2. Sprinkler Temperature Rating.
3. Sprinkler Finish.
4. Cover Plate/Escutcheon Finish.
5. Length:

"A" Dimension (face of tee to face of ceiling or wall) in 1/4" (6mm) increments.
6. Model F3QR Dry Pendant (a) is available without sprinkler can and escutcheon.

Note:

1. The "A" dimension is based on a nominally gauged pipe thread "make-up" of 0.600" (15mm) per ANSI B2.1 [7 1/2 threads approximately].
2. All platings and paintings are decorative and intended for interior use.

General Installation Instructions

In steel pipe, the Model F3QR Dry Sprinklers must be installed only in standard (ANSI B 16.3 class 150 and ANSI B 16.4 class 125) pipe tees even at branch line ends. For these and CPVC* Tees, the dry sprinkler should be installed and confirmed to have appropriate protrusion into the tee in accordance with the figures on pages 2 & 3. Dry sprinklers must not be installed into elbows and into pipe couplings located on drop nipples to the sprinklers. The "A" dimension of a dry sprinkler, which extends into a freezer from a wet pipe system, should be selected to provide at least 14" (356mm) between the freezer's outside wall or ceiling and the wet pipe line. When the temperature inside the freezer will be below -30°F (-35°C), increase the 14" to 20" (509mm).

1. Cut the specified size hole (see illustrations) for the sprinkler in the ceiling directly in line with the tee.
2. Apply pipe joint compound to the 1" (25mm) pipe threads and install sprinkler using the Model G3 or G3 R/C Sprinkler Wrench as specified.
3. Install the push-on / thread-off escutcheon or cover plate.

Note: Installation of the Model F3QR Sprinklers in copper pipe systems is not recommended, as this may reduce the life expectancy of the sprinklers.

Model F3QR Concealed and Recessed Installation Instructions

- The Model G3 R/C wrench (Fig. 1) is designed to locate on the wrenching pads of the recessed sprinkler while centering in the cup. A standard 1/2" drive ratchet may be used to drive this wrench. Figures 1 and 2 show sequentially the insertion of the wrench. First the wrench, with its jaws above the sprinkler deflector, is moved laterally until centered with the cup. Then raise the wrench inside of the cup until its jaws engage the sprinkler's square wrenching pads (Fig. 3). To remove the wrench, follow this procedure in reverse order. Care should be taken to avoid striking the deflector, with the wrench.
- Model G3 Wrench (Fig. 4) is used for installation of Pendent and Horizontal Sidewall sprinklers.
- Glass bulb sprinklers have orange bulb protectors to minimize bulb damage during shipping, handling and installation. REMOVE THIS PROTECTION AT THE TIME THE SPRINKLER SYSTEM IS PLACED IN SERVICE FOR FIRE PROTECTION. Removal of the protectors before this time may leave the bulb vulnerable to damage. RASCO wrenches are designed to install sprinklers when covers are in place. REMOVE PROTECTORS BY UNDOING THE CLASP BY HAND. DO NOT USE TOOLS TO REMOVE THE PROTECTORS.

Maintenance

The Model F3QR Quick Response Dry Sprinklers should be inspected quarterly and the sprinkler system maintained in accordance with NFPA 25. Do not remove the factory applied thermally sensitive wax fillet between

the bulb supporting cup and the wrenching boss. Do not replace this wax with a substitute substance. An Alternate substance may interfere with proper operation of the sprinkler. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gently vacuuming. Remove any sprinkler which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in the original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation.

* Spears CPVC sprinkler adapter tees (with steel thread insert) can only be used with horizontal sidewall sprinklers which do not require protrusion into tees to prevent ice or debris blockage of sprinkler inlets. These CPVC tees do not permit sufficient sprinkler inlet protrusion as required for pendent installation.

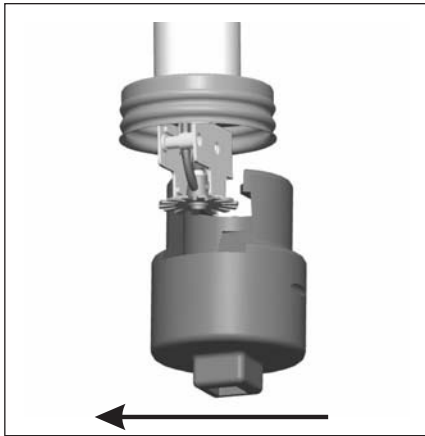


Fig. 1 - G3 R/C Wrench

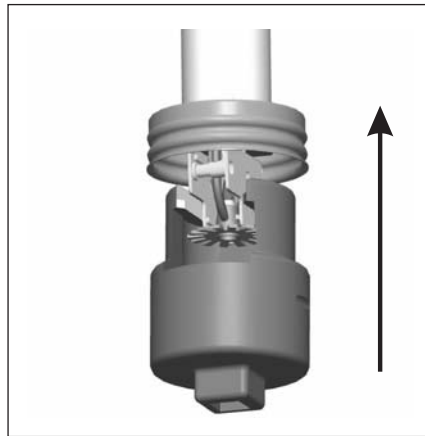


Fig. 2 - G3 R/C Wrench

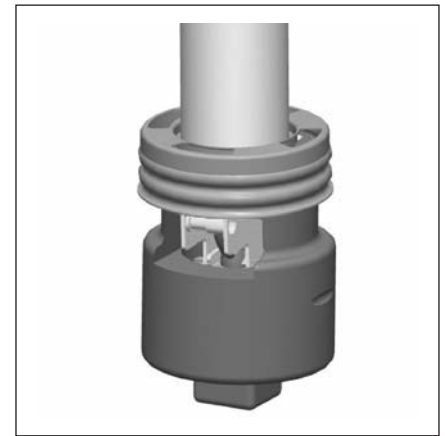


Fig. 3 - G3 R/C Wrench

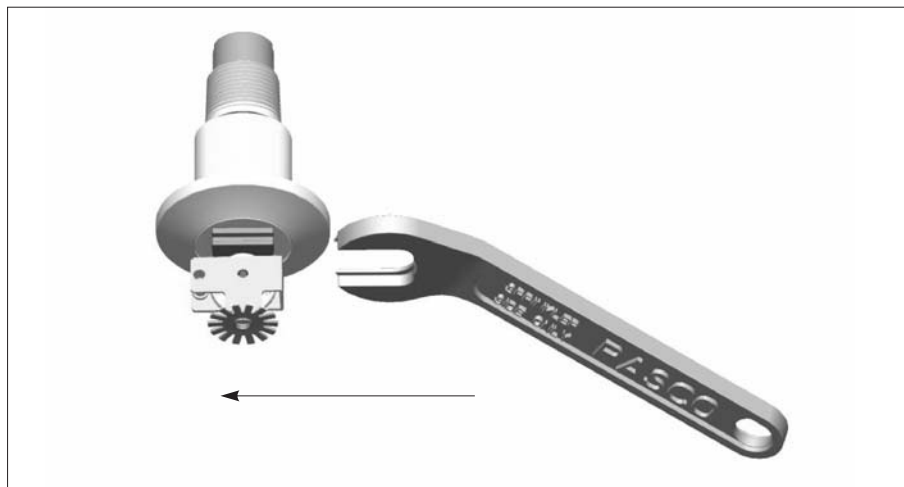


Fig. 4 - G3 Wrench

The equipment presented in this bulletin is to be installed in accordance with the latest pertinent Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

Products manufactured and distributed by Reliable have been protecting life and property for over 80 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by



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