Sprinkler Guards, Shields, and Intermediate Level Accessories

General Description

TYCO Sprinkler Guards and Shields are designed for use as accessories for sprinklers located in areas that make them susceptible to mechanical or physical damage.

Installation of Guards and Shields form Intermediate Level Sprinkler assemblies intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing agency, for example the UL Listing is based on NFPA requirements.

Model G1 and G4 Sprinkler Guards, G1/S1 and G4/S3 Sprinkler Guard with Shield assemblies, and S2, S4 and S5 Sprinkler Shields are compatible with specific types of Series TY-B, TY-FRB, TY-L, and TY-FRL sprinklers. See Table A.

Model G2 Sprinkler Guard, WSG-2 Sprinkler Guard with Shield assembly, and WS-2 Sprinkler Shield are compatible with Series ELO-231, ELO-231B, and ELO-231FRB sprinklers. See Table A.

The Model G5 Sprinkler Guard is compatible with Series DS-1 dry-type sprinklers. See Table A.

In addition to providing protection from mechanical or physical damage, Model G1/S1, G4/S3, and WSG-2 Guard with Shield assemblies protect upright sprinklers from water spray of higher elevation sprinklers, for example, rack storage sprinkler installations.

Pendent sprinklers located in areas not susceptible to the threat of mechanical or physical damage can be equipped with Model S2, S4, S5 and WS-2 Shields for protection from water spray of higher elevation sprinklers.

NOTICE

Sprinkler Guards, Shields, and Guard with Shield assemblies described herein must be installed and maintained in compliance with this document and with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of these devices.

The Model G5 Sprinkler Guard cannot be installed in recessed applications.

Approvals

UL and C-UL Listed
FM Approved
See Table A

Finishes*
Plain Brass, Red Painted, Chrome Plated, Zinc Coated, and Zinc Chromate
* See Ordering Procedure for applicability

Technical Data

Model G1 and G4 Sprinkler Guards are redesignations for Gem F938 and F937 respectively.

Model G1/S1 and G4/S3 Sprinkler Guard with Shield assemblies are redesignations for Gem F938/Q-76 and F937/Q-75 respectively.

Model G2 Sprinkler Guard, WSG-2 Sprinkler Guard with Shield, and WS-2 Sprinkler Shield are re-designations for Central G2, WSG-2, and WS-2 respectively.

Approvals

UL and C-UL Listed
FM Approved
See Table A

Finishes*
Plain Brass, Red Painted, Chrome Plated, Zinc Coated, and Zinc Chromate
* See Ordering Procedure for applicability

Physical Characteristics

Sprinkler Guards, Shields, and Guard with Shield assemblies are Carbon Steel; O-Rings are EPDM
In accordance with the requirements of the NFPA, Sprinkler Guards and Shields shall be Listed. Guards and Shields are Listed or Approved for use only with specific sprinklers:

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<th>Data Sheet</th>
<th>SIN</th>
<th>Orientation</th>
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Notes:
1. UL Listed
2. FM Approved
3. C-UL Listed
N/A Not Applicable

**TABLE A (1 OF 2)**
SPRINKLER GUARD AND SHIELD LABORATORY LISTINGS AND APPROVALS

**Design Criteria**
In accordance with the requirements of the NFPA, Sprinkler Guards and Shields shall be Listed. Guards and Shields are Listed or Approved for use only with specific sprinklers:

Models G1, G4, G1/S1, G4/S3, S2, S4, and S5 must only be used with Series TY-B, TY-FRB, TY-L, and TY-FRL sprinklers.

Model G2, WSG-2, and WS-2 must only be used with Series ELO-231, ELO-231B, and ELO-231FRB sprinklers.

Model G5 must only be used with the Series DS-1 sprinklers.

See Table A for specific compatibility and Listings or Approvals.
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<td>G5* (1)</td>
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<td>Wrench Area</td>
<td>G5* (1)</td>
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<td>N/A</td>
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Notes:
1. UL Listed
2. FM Approved
3. C-UL Listed
N/A Not Applicable
* Model G5 Guard can be installed only on sprinklers with standard and deep escutcheons, as well as sprinklers without escutcheons. G5 Guard cannot be installed in recessed applications.
Installation

Series TY-B, TY-FRB, TY-L, TY-FRL Sprinklers

TYCO Model G1 and G4 Sprinkler Guards, G1/S1 and G4/S3 Sprinkler Guard with Shield assemblies, and Model S2, S4, and S5 Sprinkler Shields must be installed in accordance with this section. See Figures 1 to 8.

G1 and G4 Guard and G1/S1 and G4/S3 Guard with Shield Installation

Step 1. Install the sprinkler in accordance with the applicable technical data sheet. See Table A.

Step 2. With the Clips loose, carefully spread the two halves of the Guard sufficiently to clear the sprinkler frame and the deflector from the side and mount the Guard on the sprinkler.

Step 3. Engage the sprinkler mounting location, see Table A, by the Guard Base Plates.

Step 4. With the Base Plates positioned on the sprinkler mounting feature, slide the Clips away from the Base Plates and swivel them to engage the Bars of the opposing halves of Guard.

Step 5. Slide the Clips until seated against the Base Plates.

Step 6. Fully engage the Clips against the Base Plates.

Note: A Guard Installation Tool may be used to reduce the effort required to fully engage the Clips. Additionally, a common pliers can be used to facilitate engagement of the Clips.

Notice

Both Clips must be seated and fully engaged against the Base Plates to complete the installation.

Guard Base Plates and Bars may be oriented in any position axially relative to the sprinkler frame arms.

S2, S4 and S5 Shield Installation

Notes: Install a Shield on the pendent sprinklers alone or in conjunction with a G1 or G4 Sprinkler Guard. Assemble the Shield onto the sprinkler prior to installing the sprinkler into the sprinkler fitting.

Step A. Install an O-Ring on the TY-FRL sprinkler, see Figure 6, or on the TY-L sprinkler, see Figure 7.

Step B. With the stamped markings facing toward the deflector, thread the Shield onto the sprinkler threads to the end nearest the frame arms or until flush with the O-Ring as applicable.

Note: Final installation step is easier to complete if the Shield is not assembled onto the sprinkler beyond the end of the threads.

Step C. Install an O-Ring over the sprinkler threads until flush against the Shield.

Step D. Install the sprinkler into the sprinkler fitting in accordance with the applicable sprinkler technical data sheet. See Table A.

Step E. Install the Guard (pendent applications as applicable).
Installation

Series ELO-231, ELO-231B, and ELO-231FRB Sprinklers

TYCO Model G2 Sprinkler Guards, WSG-2 Sprinkler Guard with Shield assemblies, and Model WS-2 Sprinkler Shields must be installed in accordance with this section. See Figures 9 to 12.

G2 Guard and WSG-2 Guard with Shield Installation

Step 1. Install the sprinkler in accordance with the applicable technical data sheet. See Table A.

Step 2. With the Clips loose, carefully spread the two halves of the Guard sufficiently to clear the sprinkler frame and deflector from the side, and mount the Guard on the sprinkler.

Step 3. Engage the sprinkler mounting location, see Table A, by the inner diameter of the Guard Base Ring.

Step 4. With the Base Ring positioned on the sprinkler mounting feature, slide the Clips away from the Base Ring and swivel them to engage the Bars of opposing halves of the Guard.

Step 5. Slide the Clips until the Guard Clip Detents applicable to the sprinkler thread size are engaged. Two sets of detents are featured:

- Set farthest from Base Ring accommodates 3/4 in. NPT sprinklers.
- Set closest to Base Ring accommodates 1/2 in. NPT sprinklers.

Notes: Ensure a tight fit between the Clip and the Detents. If loose, carefully bend the Clip slightly and repeat the process until a tight fit is obtained. Clips must seat securely in appropriate Detents to be considered fully engaged and in order to complete the installation.

Guard Base Ring and Bars may be oriented in any position axially relative to the sprinkler frame arms.

WS-2 Shield Installation

Notes: Install a Model WS-2 Shield on the pendent sprinklers alone or in conjunction with a G2 Sprinkler Guard.

Assemble the Shield onto the sprinkler prior to installing the sprinkler into the sprinkler fitting.

Step A. With the stamped markings facing toward the deflector, thread the Shield onto the sprinkler threads to the end nearest the frame arms.

Note: Final installation step is easier to complete if the Shield is not assembled onto the sprinkler beyond the end of threads.

Step B. Install the sprinkler into the sprinkler fitting in accordance with the applicable sprinkler technical data sheet. See Table A.

Step C. Rotate the Shield clockwise until flush against the face of the sprinkler fitting.

Step D. Install the Guard (pendent applications as applicable).
Installation

Series DS-1 Sprinklers

TYCO Model G5 Sprinkler Guards must be installed in accordance with this section. See Figures 13 and 14.

G5 Guard Installation

**NOTICE**

This procedure requires a 9/64 in. (3.5 mm) Allen Wrench.

**Step 1.** Install the sprinkler in accordance with the applicable technical data sheet. See Table A.

**Step 2.** Loosen the Guard Screws and carefully separate the halves of the Guard. See Figure 14A.

**Note:** G5 Sprinkler Guard is designed to fit over the sprinkler deflector without removing the Screws. However, if necessary to provide adequate clearance over the deflector, loosen or remove the Screws and separate the Base Plates.

**Step 3.** Remove the sprinkler bulb protector and carefully pass the Guard over the deflector without damaging the sprinkler. Alter alignment as necessary. See Figure 14B.

**Step 4.** Align the centerline of the Guard with the centerline of the sprinkler while guiding the Base Plates toward the sprinkler.

**Step 5.** Position the Grips on the sprinkler wrench flats. Proper position is achieved when the Base Plates are seated against the sprinkler frame base. See Figure 14C.

**Step 6.** While firmly holding the Guard in position against the sprinkler frame base, alternately tighten the Screws with a 9/64 in. (3.5 mm) Allen Wrench until evenly snug and the Grips uniformly engage the sprinkler wrench flats. See Figure 14C.

**Step 7.** Evenly apply a final torque of 5 to 6 ft-lb to both Screws. See Figure 14C.

**Step 8.** Inspect the Guard installation to verify:
- Guard centerline is aligned with the sprinkler centerline
- Base Plates are fully seated against the sprinkler frame base
- Grips are evenly engaged with the sprinkler wrench flats
- Screws are equally engaged across the Base Plates

**NOTICE**

Base Plates must seat against the sprinkler frame base to be fully engaged and in order to complete the installation.
INSTALL SPRINKLER (WITH ESCUTCHEON AS APPLICABLE)

SEPARATE BASE PLATES FOR ADEQUATE INSTALLATION CLEARANCE

ORIENT GUARD WITH GRIPS ALIGNED TO WRENCH FLATS AS SHOWN

 LOOSE OR REMOVE SCREWS AS NEEDED

GUIDE BASE PLATES OVER SPRINKLER

SLIGHTLY ALTER ALIGNMENT AS NECESSARY TO CLEAR SPRINKLER DEFLECTOR

PROPERLY POSITION GUARD, HOLD IN PLACE, AND ALTERNATELY TIGHTEN SCREWS WITH 9/64" ALLEN WRENCH UNTIL EVENLY SNUG

FULLY SEAT BASE PLATES AGAINST FRAME BASE

EVENLY ENGAGE WRENCH FLATS BY BASE PLATE GRIPS

APPLY FINAL 5-6 ft. lbs. TORQUE TO EACH SCREW

INSPECT GUARD FOR PROPER INSTALLATION

INSTALLATION AND INSPECTION DETAIL

FIGURE 14
MODEL G5 GUARD INSTALLATION SERIES DS-1 DRY-TYPE SPRINKLERS
Care and Maintenance

TYCO Model G1, G2, G4, and G5 Sprinkler Guards, G1/S1, G4/S3, and WSG-2 Sprinkler Guards with Shields, and S2, S4, S5, and WS-2 Sprinkler Shields do not require any regularly scheduled maintenance; however, proper installation of the Sprinkler Guards and Shields should be verified during the annual visual inspection of the sprinklers.

Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, obtain permission to shut down the affected fire protection system from the proper authorities and notify all personnel who may be affected by this action.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, for example, NFPA 25, in addition to the standards of any other authorities having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service in accordance with local requirements and/or national codes.

The owner must assure that the sprinklers are not used for hanging of any objects and that the sprinklers are only cleaned by means of gently dusting with a feather-duster. Otherwise, non-operation in the event of a fire or inadvertent operation may result.

Limited Warranty

For warranty terms and conditions, visit www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

Model G1 Sprinkler Guard
Specify: Model G1 Sprinkler Guard, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-938-1-001
- Zinc Chromate ........................................ 56-938-9-001

Model G2 Sprinkler Guard
Specify: Model G2 Sprinkler Guard, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-000-1-087
- Zinc Coated ............................................. 56-000-1-086

Model G4 Sprinkler Guard
Specify: Model G4 Sprinkler Guard, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-937-1-001
- Zinc Chromate ........................................ 56-937-9-001

Model G5 Sprinkler Guard
Model G5 Sprinkler Guard is available only in Zinc Chromate finish.
Specify: Model G5 Sprinkler Guard, P/N 56-938-9-000

Model G1/S1 Sprinkler Guard with Shield
Specify: Model G1/S1 Sprinkler Guard with Shield, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-938-1-066
- Zinc Chromate ........................................ 56-938-9-066

Model G4/S3 Sprinkler Guard with Shield
Specify: Model G4/S3 Sprinkler Guard with Shield, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-937-1-066
- Zinc Chromate ........................................ 56-937-9-066

Model WSG-2 Sprinkler Guard with Shield
Specify: Model WSG-2 Sprinkler Guard with Shield, (specify) finish, P/N (specify):

- Red Painted ............................................ 56-000-1-098
- Zinc Coated ............................................. 56-000-1-097

Model S2 Sprinkler Shield
Model S2 Sprinkler Shield is available only in Plated Steel finish.
Includes S2 Shield and one O-Ring.
Specify: Model S2 Sprinkler Shield, (specify) Thread Size, P/N (specify):

- 1/2 in. NPT ............................................. 56-070-9-332
- 3/4 in. NPT ............................................. 56-070-9-342

Model S4 Sprinkler Shield
Includes S4 Shield and two O-Rings.
Specify: Model S4 Sprinkler Shield, (specify) finish, (specify) Thread Size, P/N (specify):

- Plain Brass .............................................. 56-952-9-001
- 1/2 in. NPT ............................................. 56-152-9-001
- 3/4 in. NPT ............................................. 56-152-9-001

Model S5 Sprinkler Shield
Model S5 Sprinkler Shield is available only in Brass finish.
Includes S5 Shield and two O-Rings.
Specify: Model S5 Sprinkler Shield, (specify) Thread Size, P/N (specify):

- 1/2 in. NPT ............................................. 56-015-6-802
- 3/4 in. NPT ............................................. 56-015-6-803

Model WS-2 Sprinkler Shield
Specify: Model WS-2 Sprinkler Shield, (specify) finish, (specify) Thread Size, P/N (specify):

- Red Painted ............................................ 56-000-1-081
- 1/2 in. NPT ............................................. 56-000-1-083
- 3/4 in. NPT ............................................. 56-000-1-085

Sprinkler Guard Installation Tool* Specify: Sprinkler Guard Installation Tool, P/N 56-000-8-597

* For use with Model G1 and G4 guards and Model G1/S1 and G4/S3 guards with shields only. A Sprinkler Guard Installation Tool is included with orders in original carton quantities.