

## Technical Data Sheet: Model MG-6 Guards and MS-6 Water Shields for Sprinklers

### 1. DESCRIPTION

Minimax Model MG-6 Sprinkler Guards and MS-6 Water Shields are used in conjunction with Minimax style sprinklers (see models below) where allowed by the approvals. (Refer to the Approval Charts) The guards are hard-wire cages designed to encase the sprinklers and protect them from mechanical damage. They are recommended for areas where sprinklers are installed at a low elevation and/or near a high degree of human or mechanical activity.

Water shields protect the sprinkler's heat-sensing operating element from water spray discharge from sprinklers located at a higher elevation. Minimax style sprinklers with Model MG-6 or MS-2 Water Shields and/or MG-6 Guards are converted to intermediate level/rack storage sprinklers. They may be used in any application where water shielding is required, such as in-rack sprinkler systems, under grating, on pilot sprinklers for deluge systems, and outdoors as a weather shield.

**NOTE: Sprinkler water shields and guards are not designed to be used on sprinklers installed in recessed escutcheons.**

### 2. LISTINGS AND APPROVALS

**FM Approved:** Class 2091

**cULus Listed:** Category VNIV

MG-6 Guard is approved for use with the following sprinklers:

MX7100, MX7102, MX7300, MX7302, MX7200, MX7202, MX7350, and MX7352

MS-6 Water Shield is approved for use on Upright sprinklers **with MG-6 Guards**:

MX7100, MX7300, MX7200, and MX7350

MS-2 Water Shield is approved for use with Pendent sprinklers:

MX7102, MX7302, MX7352, and MX7202

Refer to the Approval Charts for more information.

### 3. TECHNICAL DATA

**Specifications:** See Table 2.

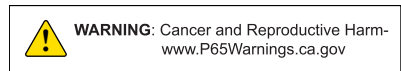
**Material Standards:**

**MG-6 Sprinkler Guard:** UNS-G10100 Bright Basic Steel Wire or JIS G3141 SPCF

**MS-6 Water Shield:** UNS-G10080 Cold Rolled Steel or JIS G3141 SPCF

**Wrench:** 65-45-12 Ductile iron or QT 450-12

**MS-2 Water Shield:** UNS-G10080 Cold Rolled Steel



**TABLE 1: ORDERING INFORMATION AND DIMENSIONS**

Guards and water shields can be ordered separately or as a preassembled units with sprinklers. See below for details. Refer to the approval charts in this document as well as the appropriate sprinkler Technical Data Page.

**NOTES:**

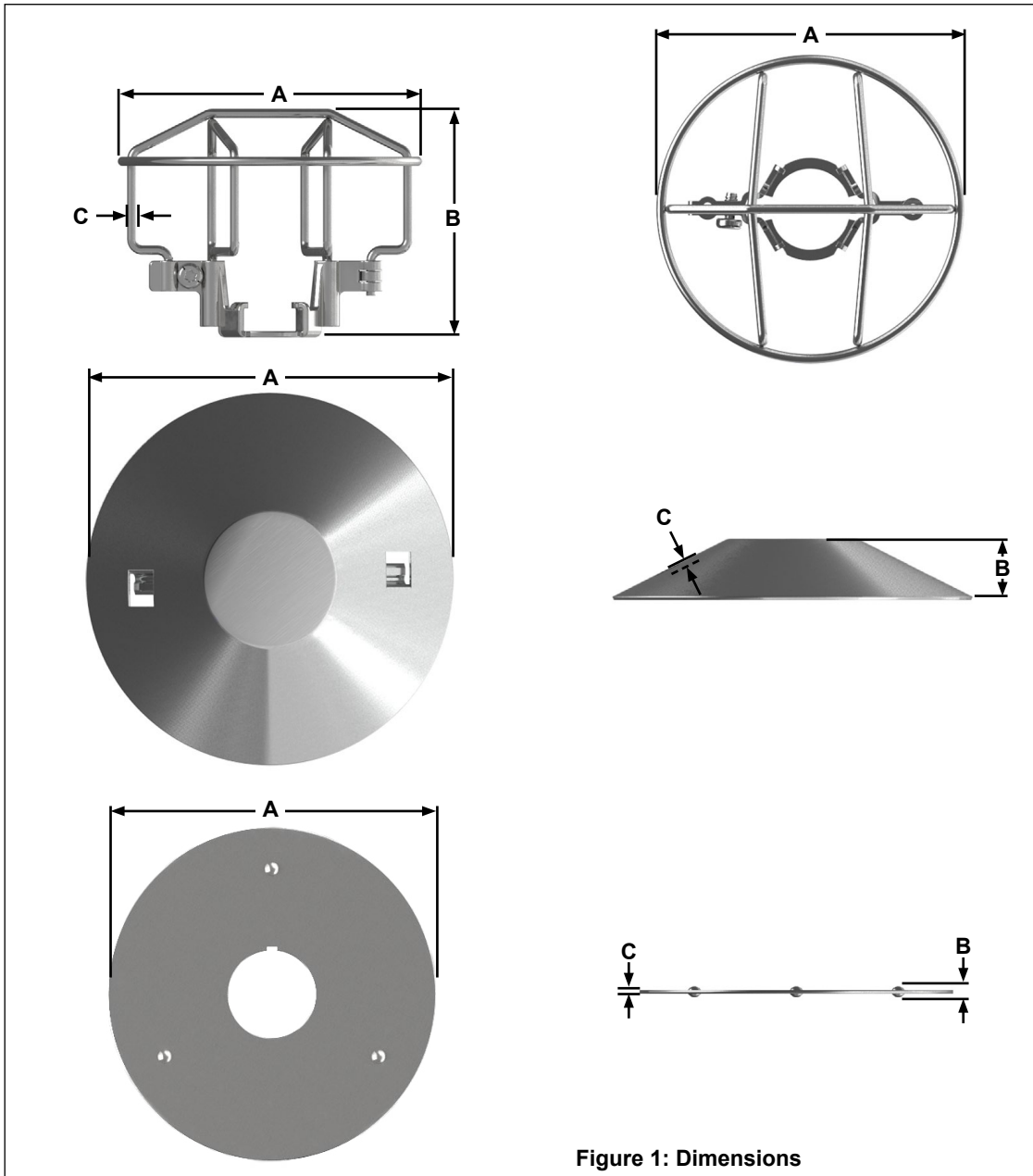
- To order the Model MG-6 Sprinkler Guard factory-installed on the sprinkler, first determine the sprinkler part number according to the appropriate sprinkler technical data sheet, then add the additional suffix "G" to the sprinkler part number. Refer to the approval charts for approved sprinkler models and base part numbers.
- To order the Model MG-6 Sprinkler Guard AND Model MS-6 Upright Water Shield Pre-assembled onto the sprinkler, first determine the sprinkler part number according to the appropriate sprinkler technical data sheet, then add the additional suffix "GU" to the sprinkler part number.

Part Number	Description	Size	
		NPT	BSPT
61984	Model MG-6 Sprinkler Guard (see Note above for factory-installed option)	1/2" or 3/4"	15 mm or 20 mm
61985	Model MS-6 Upright Water Shield (must be used with Model MG-6 Guard)	--	--
22927MB*	Sprinkler Guard Wrench	1/2" or 3/4"	15 mm or 20 mm
61880	Model MS-2 Pendent Water Shield	1/2"	15 mm
61389	Model MS-2 Pendent Water Shield	3/4"	20 mm

\* Not for use with Sprinklers NOT equipped with the MG-6 Guards.

**TABLE 2: SPECIFICATIONS**

Part Number	Description	Dimensions		
		A	B	C
61984	MG-6 Sprinkler Guard	2-15/16" (75 mm)	2-3/16" (56 mm)	3/32" (2.3 mm)
61985	MS-6 Upright Water Shield	3-3/8" (86 mm)	9/16" (14 mm)	1/32" (1 mm)
61880	MS-2 Pendent Water Shield (1/2")	3" (75 mm)	0.08" (2 mm)	0.036" (0.9 mm)
61389	MS-2 Pendent Water Shield (3/4")	3" (75 mm)	0.08" (2 mm)	0.036" (0.9 mm)



**Figure 1: Dimensions**

## 4. INSTALLATION

### **⚠ DANGER** FIRE HAZARD - RISK OF SERIOUS INJURY OR DEATH

Improper installation can impede the sprinkler operation and lead to serious injury or death.  
▶ Follow the procedures in this document to properly install the sprinkler guard.

#### A. Installing the MG-6 Sprinkler Guard on the Sprinkler

Tools needed:

- T15 Torx screwdriver (not available from us.)

Procedure:

1. Loosen the torx screw and open the guard.

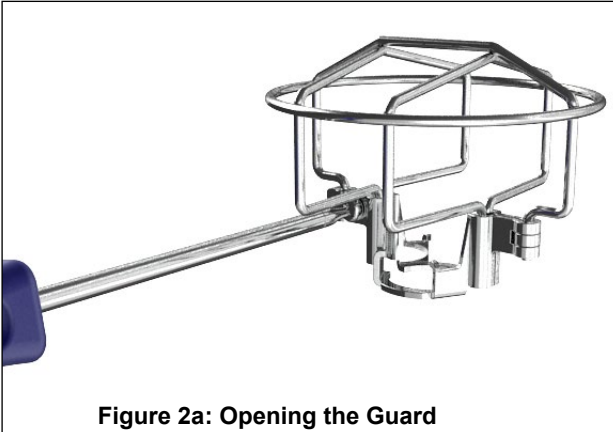


Figure 2a: Opening the Guard

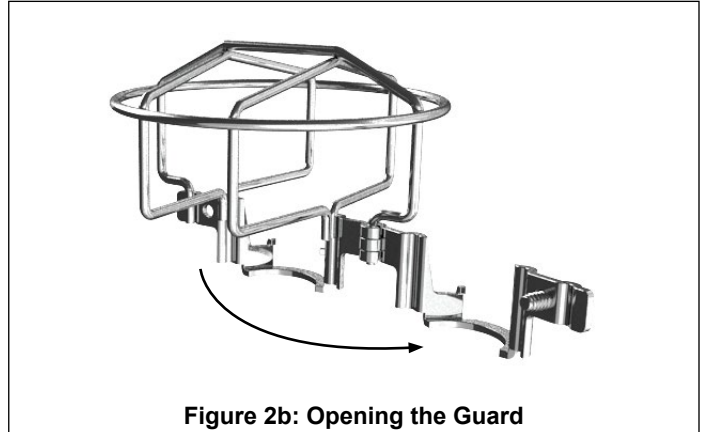


Figure 2b: Opening the Guard

2. With the sprinkler frame arms parallel to the vertical guard members, maneuver the sprinkler into the guard.

**NOTE: For Upright sprinklers, the sprinkler must be oriented and angled as shown (Figure 3a) in order to get the deflector inside the frame.**

3. Once the sprinkler is inside the frame and vertically oriented, rotate it 90 degrees in either direction so the activation element T-hinge is not blocked. See Figures 4 and 5.

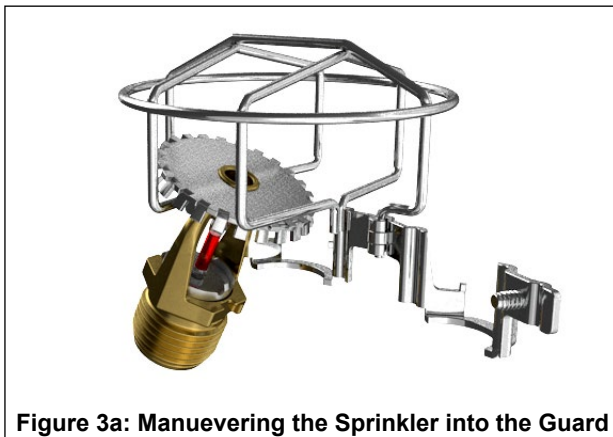


Figure 3a: Maneuvering the Sprinkler into the Guard

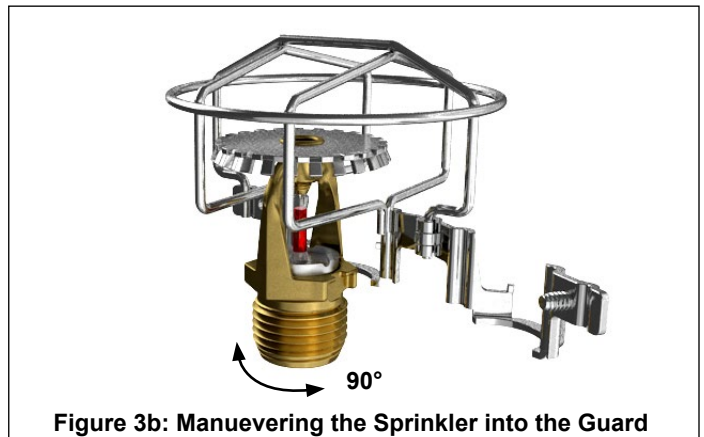
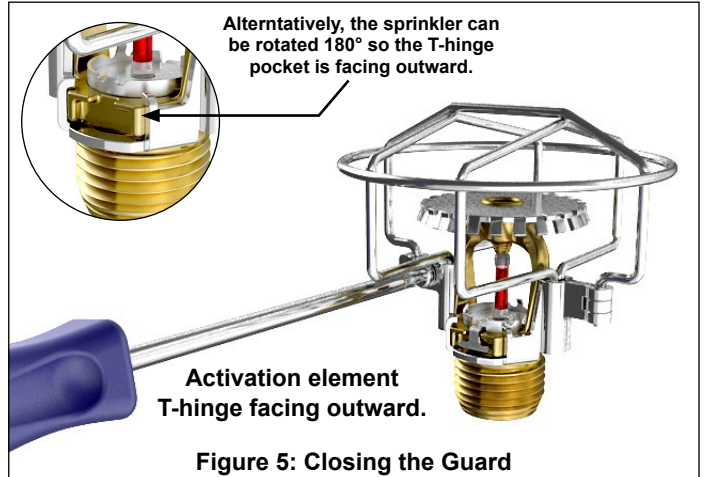
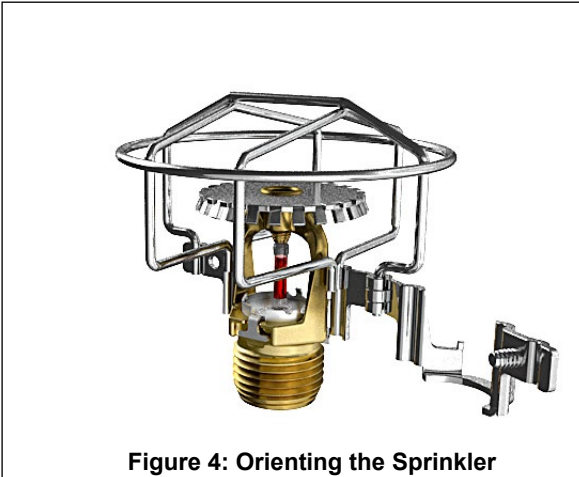
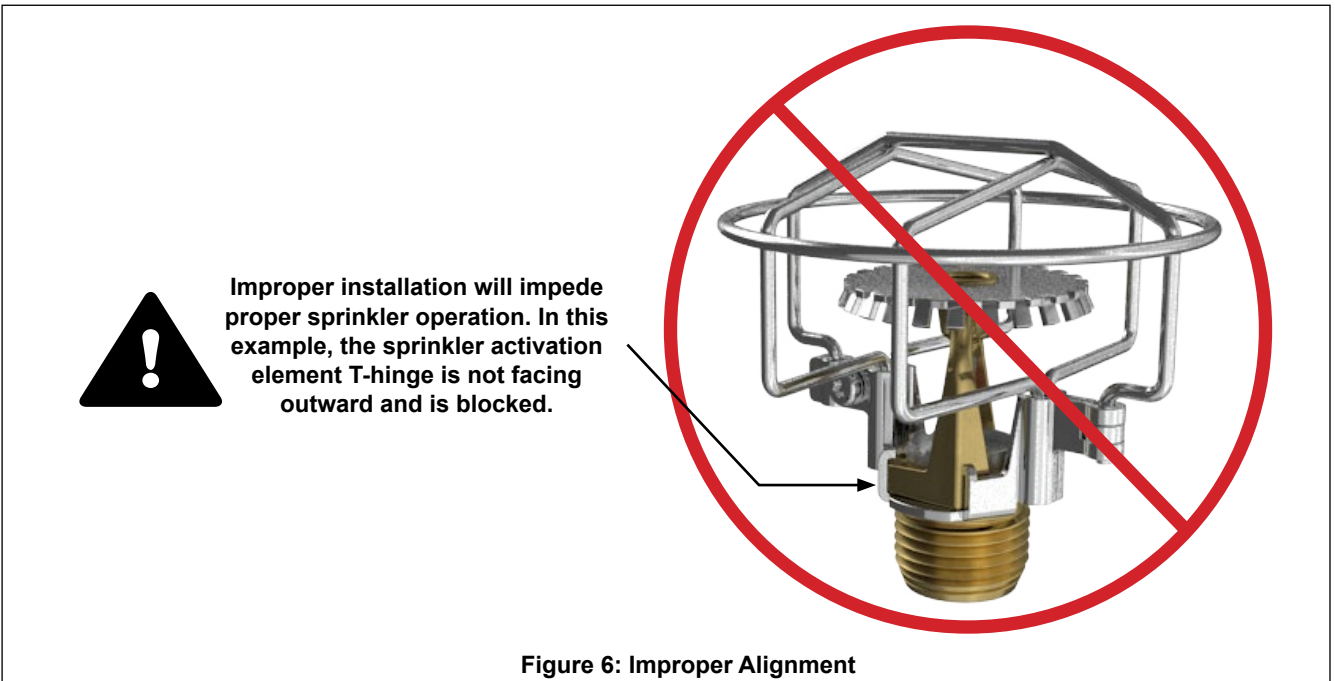


Figure 3b: Maneuvering the Sprinkler into the Guard

1. Close the guard and tighten the torx screw.



2. VERIFY THAT THE SPRINKLER IS PROPERLY ORIENTED WITHIN THE GUARD. SEE FIGURE 7 BELOW.



**B. Installing the MS-6 Water Shield onto the MG-6 Sprinkler Guard**

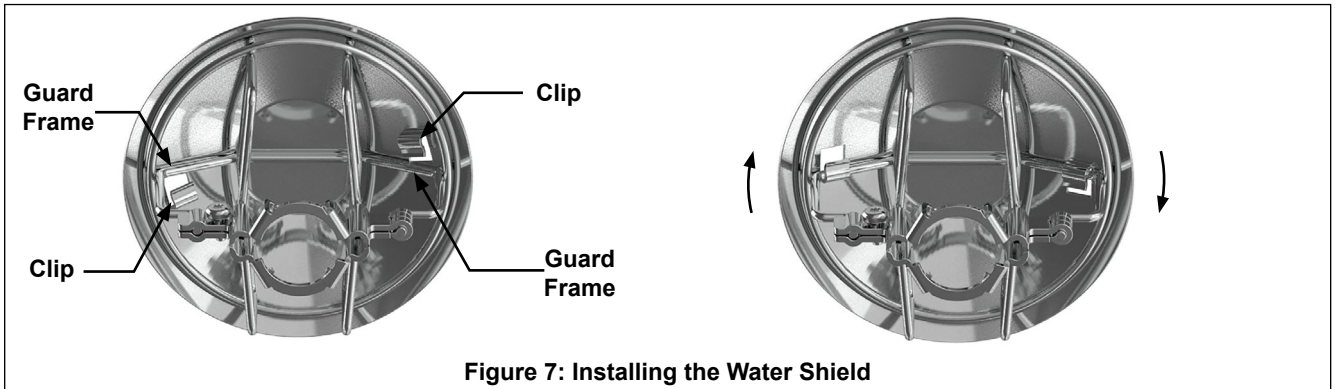
**CAUTION CUTTING HAZARD**

The outer edge of the water shield is sharp and can cause cuts.  
▶ Avoid sharp edges.

Tools needed: None

Procedure:

1. Line up the clips to be installed onto the guard frame as shown below.
2. Rotate the water shield a few degrees clockwise to snap the clips onto the guard wires as shown above.



**C. Installing a Pre-Assembled Unit (Assembled unit includes sprinkler, guard and watershield).**

**NOTICE**

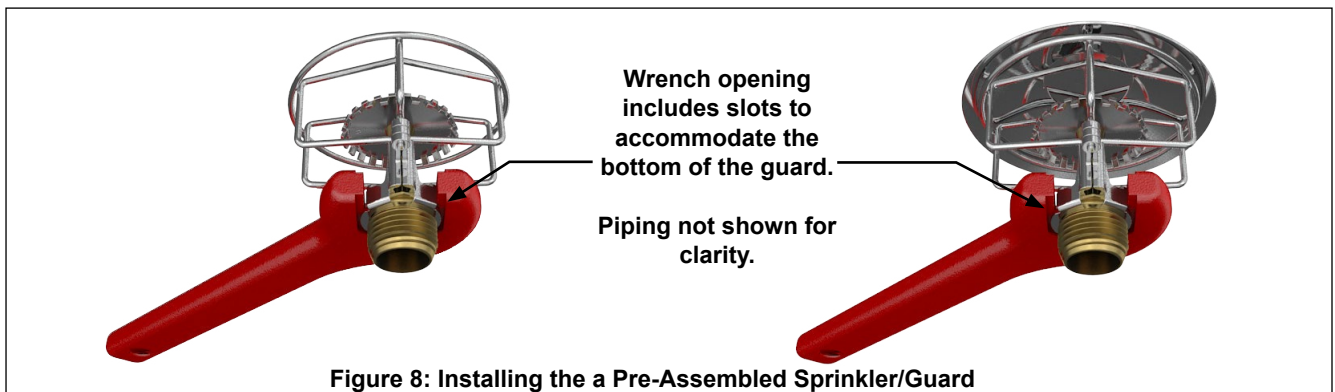
Using the wrong wrench can damage the sprinkler and/or guard.

- ▶ Use only the designated Sprinkler Wrench. DO NOT use the Sprinkler Guard Wrench with sprinklers NOT equipped with the Model MG-6 Sprinkler Guard.

Tools needed: Sprinkler Guard Wrench. Part Number: 22927MB

Procedure:

1. Install the entire assembly (sprinkler with guard and/or water shield) into the sprinkler piping by hand first.
2. Carefully slide the sprinkler guard wrench around the sprinkler/guard assembly as shown and tighten the sprinkler as necessary.



**D. Installing the MS-2 Water Shield (shown with MG-6 Sprinkler Guard-can be used without guard if desired).**

**NOTICE**

Use only the designated sprinkler wrench if the guard is not installed. Refer the appropriate sprinkler's technical data sheet.

Tools needed:

- Sprinkler wrench (see Notice above).

Procedure:

1. Install the MG-6 Sprinkler Guard onto the sprinkler as shown in this document.
2. Install the MS-2 Water Shield onto the sprinkler threads as shown.



**Figure 9: Installing an MS-2 Water Shield**

**5. OPERATION**

**NOTICE**

Always refer to Bulletin Form No. FX\_091699 - Care and Handling of Sprinklers. Also refer to the appropriate sprinkler data page. Minimax sprinklers are designed to be installed in accordance with the latest edition of Minimax technical data, the latest standards of NFPA, FM Global or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards whenever applicable. The use of certain types of sprinklers may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction prior to installation..

Refer to the sprinkler technical data page for the sprinkler model used. Water shields protect the sprinkler's heat-sensing operating element from water spray discharge from sprinklers located at a higher elevation. The Sprinkler Guard is a hard-wire cage designed to encase the sprinkler and protect it from mechanical damage.

**6. INSPECTIONS, TESTS AND MAINTENANCE**

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

**7. AVAILABILITY**

Minimax sprinkler guards and water shields are available through a network of domestic and international distributors. See The Minimax Fire Protection web site for the closest distributor or contact Minimax Fire Protection.

## Approval Chart 1

### Upright Sprinklers

The following upright sprinklers may be ordered with sprinkler guards factory-installed. See Table 1 in this document and refer to the appropriate sprinkler technical data page for available temperatures and finishes.  
For Upright Intermediate Level installation, See NOTE below.

**NOTE:** When Upright Sprinklers listed on the chart below are equipped with the MG-6 Guard and MS-6 Water Shield they can be used in intermediate level installation.

Sprinkler Base Part No. <sup>1</sup>	SIN	Sprinkler Style	Thread Size		Orifice Size	Nominal K-Factor		Maximum Pressure	Overall Length (Sprinkler)		Listings and Approvals <sup>3</sup>	
			NPT	BSPT		U.S.	metric <sup>2</sup>		Inches	mm	cULus <sup>4</sup>	FM <sup>5</sup>
<b>Standard Response, Glass Bulb Type</b>												
61984	MX7100	Upright	1/2"	--	Standard	5.6	80.6	175 psi	1-5/16	49	✓	✓
61896	MX7200	Upright	3/4"	--	Large	8.0	115.2	175 psi	2	51	✓	✓
61897 <sup>6</sup>	MX7200	Upright	1/2"	--	Large	8.0	115.2	175 psi	1-5/16	49	✓	✓
<b>Quick Response, Glass Bulb Type</b>												
61900	MX7300	Upright	1/2"	--	Standard	5.6	80.6	175 psi	1-5/16	49	✓	✓
61902	MX7350	Upright	3/4"	--	Large	8.0	115.2	175 psi	2	51	✓	✓
61903 <sup>6</sup>	MX7350	Upright	1/2"	--	Large	8.0	115.2	175 psi	1-5/16	49	✓	✓
<b>Approved Temperature Ratings and Finishes</b> Refer to the sprinkler technical data sheet.												
<b>Footnotes</b>												
<ol style="list-style-type: none"> <li>1. Base part number is shown. For complete part number, refer to the current price list.</li> <li>2. Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.</li> <li>3. This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.</li> <li>4. Listed by Underwriters Laboratories, Inc. for use in the U.S. and Canada.</li> <li>5. FM Approved for protection of occupancies described in the FM Global Loss Prevention Data Sheets (including 2-0 and 8-9) and Technical Advisory Bulletins.</li> <li>6. The 1/2" NPT Large Orifice Sprinkler is listed and approved for retrofit only when installed in accordance with NFPA 13.</li> </ol>												

## Approval Chart 2

### Pendent Intermediate Level Sprinklers

The following pendent sprinklers may be ordered with sprinkler guards factory-installed.

Pendent sprinklers (with or without the sprinkler guards) and water shields must be ordered separately. Water Shield assembly is required.  
See Table 1 in this document and refer to the appropriate sprinkler technical data page for available temperatures and finishes.

Sprinkler Base Part No. <sup>1</sup>	SIN	Sprinkler Style	Thread Size		Orifice Size	Nominal K-Factor		Maximum Pressure	Overall Length (Sprinkler)		Listings and Approvals <sup>3</sup>	
			NPT	BSPT		U.S.	metric <sup>2</sup>		Inches	mm	cULus <sup>4</sup>	FM <sup>5</sup>
<b>Standard Response, Glass Bulb Type</b>												
61895	MX7102	Pendent	1/2"	--	Standard	5.6	80.6	175 psi	1-5/16	49	✓	✓
61898	MX7202	Pendent	3/4"	--	Large	8.0	115.2	175 psi	2	51	✓	✓
61899 <sup>6</sup>	MX7202	Pendent	1/2"	--	Large	8.0	115.2	175 psi	1-5/16	49	✓	✓
<b>Quick Response, Glass Bulb Type</b>												
61901	MX7302	Pendent	1/2"	--	Standard	5.6	80.6	175 psi	1-5/16	49	✓	✓
61904	MX7352	Pendent	3/4"	--	Large	8.0	115.2	175 psi	2	51	✓	✓
61905 <sup>6</sup>	MX7352	Pendent	1/2"	--	Large	8.0	115.2	175 psi	1-5/16	49	✓	✓
<b>Approved Temperature Ratings and Finishes</b> Refer to the sprinkler technical data sheet.												
<b>Footnotes</b>												
<ol style="list-style-type: none"> <li>1. Base part number is shown. For complete part number, refer to the current price list.</li> <li>2. Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.</li> <li>3. This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.</li> <li>4. Listed by Underwriters Laboratories, Inc. for use in the U.S. and Canada.</li> <li>5. FM Approved for protection of occupancies described in the FM Global Loss Prevention Data Sheets (including 2-0 and 8-9) and Technical Advisory Bulletins.</li> <li>6. The 1/2" NPT Large Orifice Sprinkler is listed and approved for retrofit only when installed in accordance with NFPA 13.</li> </ol>												