

Technical Data Sheet: MX8481 Quick Response Concealed Horizontal Sidewall Sprinkler K5.6

1. DESCRIPTION

Minimax Quick Response Concealed Horizontal Sidewall Sprinkler MX8481 is a small solder link and lever spray sprinkler designed for installation on concealed pipe systems. The sprinkler is hidden from view by a low profile, small diameter cover plate installed flush with the wall.

The two-piece design allows installation and testing of the sprinkler prior to installation of the cover plate. The “push-on”, “pull-off” design of the concealed cover plate assembly allows easy installation of the cover plate after the system has been tested and finish has been applied to the wall, while also permitting up to 1/4” (6.4 mm) of horizontal adjustment. The cover assembly can be removed and reinstalled, allowing access behind the wall without taking the sprinkler system out of service and removing the sprinkler.



2. LISTINGS AND APPROVALS

 **cULus Listed:** Category VNIV

 **FM Approved:** Class 2015

* Refer the Approval Charts and Design Criterion for cULus Listing and FM Approval requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)
 Maximum Working Pressure: 175 psi (12 bar) wwps
 Factory tested hydrostatically to 500 psi (34.5 bar)
 Thread size: 1/2” (15 mm) NPT
 Nominal K-Factor: 5.6 U.S. (80.6 metric**)
 Overall Length (Sprinkler body): 2-1/2” (64 mm)

Available cover plate horizontal adjustment: 1/2” (6 mm)
 Covered by the following U.S. Patent numbers: 7,854,269 and 7,712,218

**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.

Sprinkler Material Standards:

Sprinkler Body: QM Brass or Brass UNS-C84400
 Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
 Seat: Brass UNS-C31400 or UNS-C31600
 Deflector Ring: Brass UNS-C23000
 Deflector Pins: Stainless Steel UNS-S30200
 Halo: Phosphor Bronze UNS-C51000
 Flow Shaper: Phosphor Bronze UNS-C51000
 Lever Bar Ring: Brass UNS-C84400
 Compression Screw: 18-8 Stainless Steel
 Fusible Link Assembly: Nickel Alloy and Eutectic Solder
 Fusible Link Levers: Stainless Steel UNS-S31600
 Guide Pin: Stainless Steel UNS-S43000
 Shipping Cap: Polyethylene

Cover Assembly Material Standards:

Cover Plate Assembly: Brass UNS-C26000 or UNS-C26800
 Spring: Nickel Alloy
 Solder: Eutectic

Available Temperature Ratings:

Temperature	165 °F (74 °C)	205 °F (96 °C)
Suffix	C	E

Ordering Information: (Refer to Table 1.)

4. INSTALLATION

Refer to appropriate NFPA Installation Standards.

5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to extinguish or control the fire.

 **WARNING:** Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

6. INSPECTIONS, TESTS, AND MAINTENANCE

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

7. AVAILABILITY

The Model MX8481 Sprinkler is available through a network of domestic and international distributors. See the web site for the closest distributor or contact us.

8. GUARANTEE

For details of warranty, refer to the current list price schedule or contact us directly.

TABLE 1: ORDERING INFORMATION THE SPRINKLER AND COVER PLATE MUST BE ORDERED SEPERATELY. Instructions: Using the sprinkler base part number, add the suffix for the desired Temperature Rating.					
Sprinkler Base Part No.	Size	Temperature Ratings			
	NPT Inch	Classification	Nominal Rating	Maximum Ambient Ceiling Temperature ²	Suffix
61296A	1/2	Ordinary	165 °F (74 °C)	100 °F (38 °C)	C
		Intermediate	205 °F (96 °C)	150 °F (65 °C)	E
Example: 61296AC = MX8481 with Brass Finish and 165 °F (74 °C) Nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C) meaning if the area will experience temperatures above the maximum ambient rating, you shall use a higher temperature-rated sprinkler.					
Accessories					
Sprinkler Wrenches: A. Standard (Heavy duty) Wrench: Part Number 16208WR ¹ . B. Head Cabinet Wrench: Part Number 16267 ¹ . Sprinkler Cabinet: Part number 61414.					
Footnotes					
1. Requires a 1/2" ratchet which is not available from Us. 2. Based on NFPA 13, NFPA 13R, and NFPA 13D. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.					

TABLE 2: COVER PLATE ORDERING INFORMATION Instructions: Using the cover plate base part number, (1) add the suffix for the desired Finish (2) add the suffix for the required Cover Plate Nominal Rating.								
Cover Plate Base Part Number ⁴	Size Inch (mm)	Style	1: Finishes		Temperature Rating Matrix ^{1,2}			
			Description	Suffix ⁶	Cover Plate Nominal Rating (Required)	Sprinkler Nominal Rating	Sprinkler Max. Ambient Ceiling Temperature ^{2,3}	Suffix
61369	3-5/16 (84)	Round	Polished Chrome	F	135 °F (57 °C)	165 °F (74 °C)	100 °F (38 °C)	A
			Brushed Chrome	F-B	135 °F (74 °C)	205 °F (96 °C)	150 °F (65 °C)	C
			Bright Brass	B	165 °F (74 °C)	205 °F (96 °C)	150 °F (65 °C)	C
			Antique Brass	B-A	Example: 61365FC = 165 °F (74 °C) Temperature Rated 2-3/4" (70 mm) Diameter Round Cover Plate with a Polished Chrome Finish.			
			Brushed Brass	B-B				
			Brushed Copper	E-B				
			Painted White	M-W				
			Painted Ivory	M-I				
			Painted Black	M-B				

Footnotes

- The sprinkler temperature rating is stamped on the deflector.
- Based on NFPA-13, NFPA 13R, and NFPA 13D. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
- Maximum ambient temperature for cover assembly is 100 °F (38 °C).
- Part number shown is the base part number. For complete part number, refer to current our price list schedule.
- The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Charts. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the ENT coating is applied to all exposed exterior surfaces, including the waterway. For ENT coated sprinklers, the Belleville spring is exposed.
- Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.

<p style="text-align: center;">APPROVAL CHART - UL Quick Response Concealed Horizontal Sidewall Sprinkler MX8481 Position with the centerline of the sprinkler located between 4-3/8" and 12-3/8" (112 mm and 314 mm) below the ceiling.</p>									
Sprinkler Base Part Number ¹	SIN	NPT Thread Size		Nominal K-Factor		Maximum Water Working Pressure	Overall Length (Sprinkler Body)		Listings and Approvals ^{3,4} (Refer also to Design Criteria.)
		Inch	mm	U.S.	metric ²		Inches	mm	cULus ⁵
61296A	MX8481	1/2"	15	5.6	80.6	175 psi (12 bar)	2"	50	AX1
Sprinkler Temperature Ratings A - 165 °F (74 °C) and 205 °F (96 °C)		Cover Plate Assembly Temp. Ratings⁷ X - 135 °F (57 °C) or 165 °F (74 °C) Cover Part No. 16207 ¹				Finishes of the Cover Plate Assembly⁸ 1 - Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, or Painted Black			
Footnotes									
¹ Part number shown is the base part number. For complete part number, refer to current our price list schedule. 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. 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. ⁴ Listed for use in Light or Ordinary Hazard Occupancies. ⁵ Listed by Underwriter's Laboratories for use in the U.S. and Canada. ⁶ The 135 °F (57 °C) cover has an orange label. The 165 °F (74 °C) cover has a white label. ⁷ Painted finish consists of Polyester Baked Enamel. Other paint colors are available on request with the same listings as the standard paint colors. Listings and approvals apply for any paint manufacturer. Contact us for additional information. NOTE: Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.									



<p style="text-align: center;">DESIGN CRITERIA - UL Also refer to the Approval Chart above.</p>
<p>cULus Listing Requirements:</p> <p>Quick Response Concealed Horizontal Sidewall Sprinkler MX8481 is cULus Listed for installation in accordance with the latest edition of NFPA 13 for standard coverage sidewall spray sprinklers as indicated below:</p> <ul style="list-style-type: none"> Designed for use in Light or Ordinary Hazard Occupancies. Position with the centerline of the sprinkler located between 4-3/8" and 12-3/8" (112 mm and 314 mm) below the ceiling. THE TOP OF THE SPRINKLER BODY AND THE TOP OF THE INSTALLATION WRENCH ARE MARKED "TOP". Orient the top of the sprinkler element parallel with the ceiling as shown in Figure 3. This sprinkler must be installed flush with the wall. Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13 for standard sidewall sprinklers. Minimum spacing allowed is 7 ft. (2.1 m). Maximum distance from end walls shall be no more than one-half of the allowable distance between sprinklers. The distance shall be measured perpendicular to the wall. Minimum distance from end walls is 4 in. (102 mm). The sprinkler installation and obstruction rules contained in NFPA 13 for standard coverage sidewall spray sprinklers must be followed. <p>NOTE: Concealed sprinklers must be installed in neutral or negative pressure plenums only.</p> <p>IMPORTANT: Always refer to Bulletin Form No. FX_091699 - Care and Handling of Sprinklers. Also refer to Form No. FX_080614 for general care, installation, and maintenance information. Minimax sprinklers are to be installed in accordance with the latest edition of Minimax technical data, the appropriate standards of NFPA or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.</p>

Form No. FX_020312 18.12.20 Rev 18.1

APPROVAL CHART - FM
Standard Response Concealed Horizontal Sidewall Sprinkler MX8481

—	Sprinkler Temperature Rating
—	Cover Plate Temperature Rating
AW1	Cover Plate Finish
KEY	

Position with the centerline of the sprinkler located between 4-3/8" and 12-3/8" (112 mm and 314 mm) below the ceiling.

Sprinkler Base Part Number ¹	SIN	Thread Size	Nominal K-Factor		Maximum Water Working Pressure	Overall Length (Sprinkler Body)		Listings and Approvals ³ (Refer also to Design Criteria.)
		NPT Inch	U.S.	metric ²		Inches	mm	FM
61296A	MX8481	1/2	5.6	80.6	175 psi (12 bar)	2"	50	AX1
Sprinkler Temperature Ratings A - 165 °F (74 °C) and 205 °F (96 °C)		Cover Plate Assembly Temp. Ratings⁴ X - 135 °F (57 °C) or 165 °F (74 °C) Cover Part No. 16207 ¹			Finishes of the Cover Plate Assembly⁵ 1 - Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, or Painted Black			

Footnotes

- ¹ Part number shown is the base part number. For complete part number, refer to current our price list schedule.
 - 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.
 - ³ This chart shows the FM approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.
 - ⁴ The 135 °F (57 °C) cover has an orange label. The 165 °F (74 °C) cover has a white label.
 - ⁵ Painted finish consists of Polyester Baked Enamel. Other paint colors are available on request with the same listings as the standard paint colors. Listings and approvals apply for any paint manufacturer. Contact Us for additional information.
- NOTE:** Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.

DESIGN CRITERIA

Also refer to the Approval Chart above.

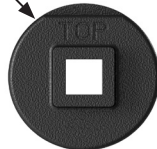
FM Approval Requirements

The Standard Response Concealed HSW Sprinkler MX8481 is FM Approved as a Non-Storage Sidewall sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

IMPORTANT: Always refer to Bulletin Form No. FX_091699 - Care and Handling of Sprinklers. Also refer to Form No. FX_080614 for general care, installation, and maintenance information. Minimax Fire Protection sprinklers are to be installed in accordance with the latest edition of Minimax Fire Protection technical data, the appropriate standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

The internal design of the sprinkler wrench is shaped to fit over the sprinkler and protective cap to ensure that the top of the wrench will be oriented in the same direction as the top of the sprinkler deflector.



Sprinkler wrench



Sprinkler body



Orient the sprinkler and wrench as shown then slide the wrench over the sprinkler body and the protective cap.

Figure 1: Sprinkler Installation and Correct Use of Wrench

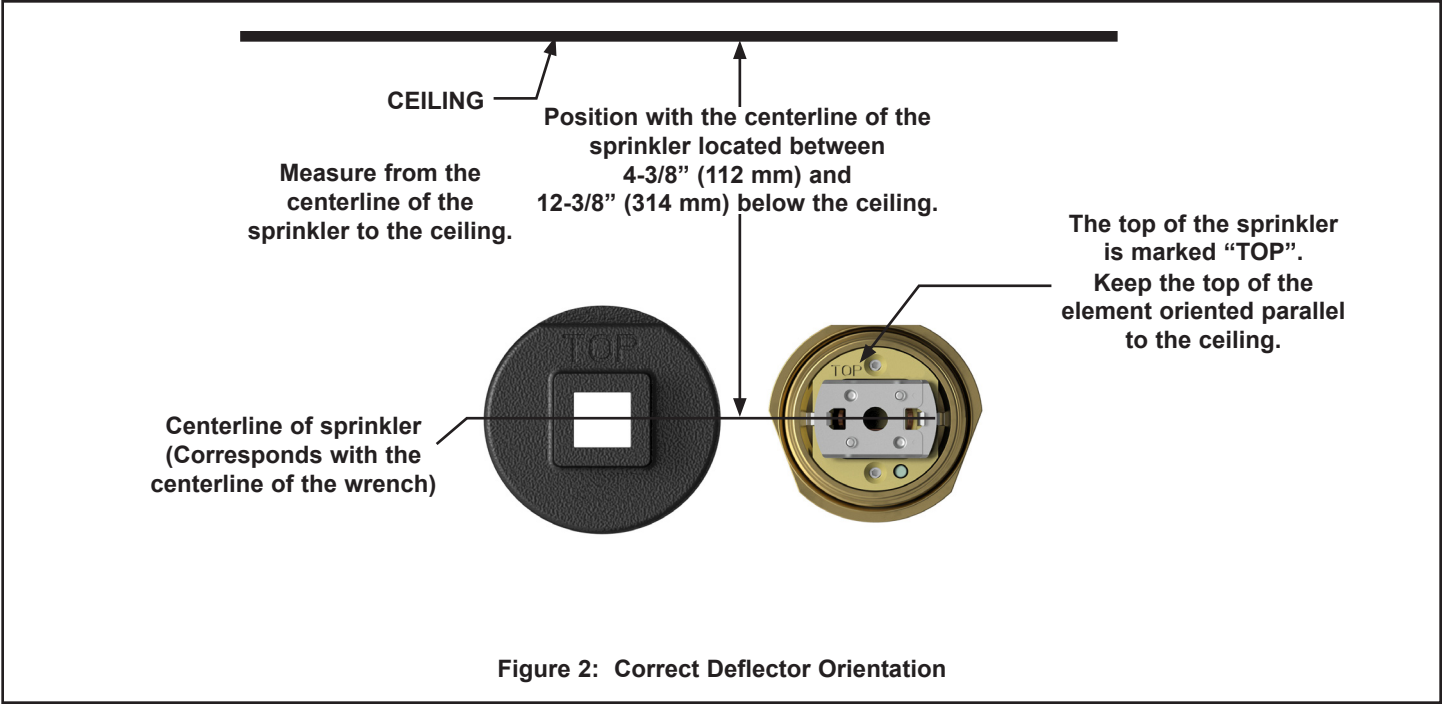


Figure 2: Correct Deflector Orientation

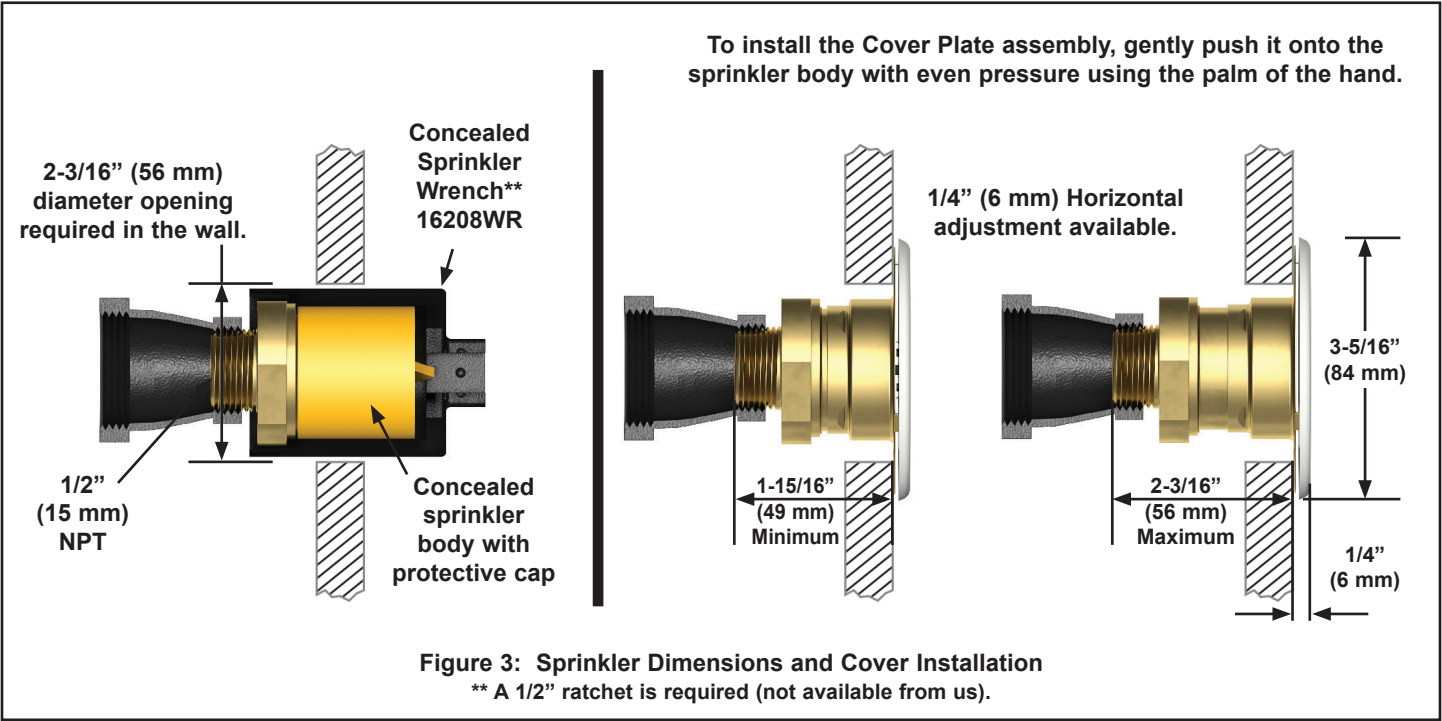


Figure 3: Sprinkler Dimensions and Cover Installation

** A 1/2" ratchet is required (not available from us).