

# Technical Data Sheet: MX8462 Quick Response Concealed Pendent Sprinkler K5.6

## 1. DESCRIPTION

Minimax Quick Response Concealed Pendent Sprinkler MX8462 is a thermosensitive glass-bulb spray sprinkler designed for installation on concealed pipe systems where the appearance of a smooth ceiling is desired.

The sprinkler is pre-assembled with a threaded adapter for installation with a low-profile cover assembly that provides up to 1/2" (12.7 mm) of vertical adjustment. The two-piece design allows installation and testing of the sprinkler prior to installation of the cover plate. The "push-on", "thread-off" design of the concealed cover plate assembly allows easy installation of the cover plate after the system has been tested and the ceiling finish has been applied. The cover assembly can be removed and reinstalled, allowing temporary removal of ceiling panels without taking the sprinkler system out of service or removing the sprinkler. The Electroless Nickel PTFE (ENT) coating has been investigated for installation in corrosive environments and is Listed and Approved as indicated in the Approval Charts. The ENT finish is only available for the sprinkler assembly, the cover plate is not plated.

## 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) wwp
- 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\*\*)
- Glass-bulb fluid temperature rated to -65 °F (-55 °C)
- Overall Length: 2-1/4" (58 mm)

\*\*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.

### Material Standards:

- Sprinkler Body: Brass UNS-C84400
- Deflector: Copper UNS-C19500
- Deflector Pins: Stainless Steel Alloy
- Bulb: Glass, nominal 3 mm diameter
- Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
- Button: Brass UNS-C36000
- Screws: 18-8 Stainless Steel
- Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
- Yoke: Phosphor Bronze UNS-C51000
- Cover Adapter: Cold Rolled Steel UNS-G10080, Finish: Clear Chromate over Zinc Plating

### Available Finishes and Temperature Ratings:

Finish	Brass	ENT	--
Suffix	A	JN	--
Temperature	155 °F (68 °C)	175 °F (79 °C)	200 °F (93 °C)
Suffix	B	D	E

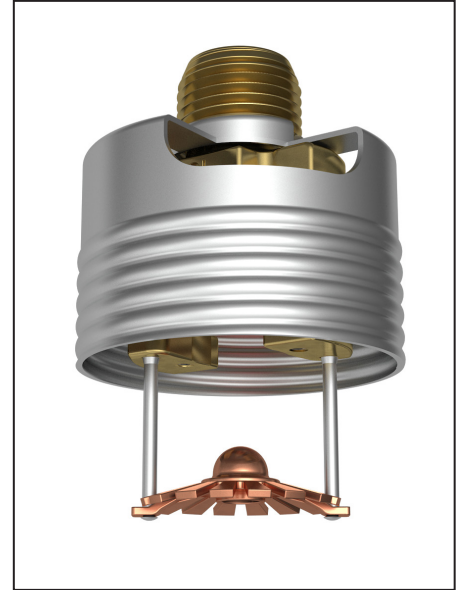
Ordering Information: (Refer to Table 1.)

## 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](http://www.P65Warnings.ca.gov)

**6. INSPECTIONS, TESTS, AND MAINTENANCE**

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

**7. AVAILABILITY**

The Model MX8462 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.

<b>TABLE 1: ORDERING INFORMATION</b> Instructions: Using the sprinkler base part number, (1) add the suffix for the desired Finish (2) add the suffix for the desired Temperature Rating.							
Sprinkler Base Part No.	Size	1: Finishes		2: Temperature Ratings			
	NPT Inch	Description	Suffix <sup>1</sup>	Nominal Rating	Bulb Color	Max. Ambient Ceiling Temperature <sup>2</sup>	Suffix
61285	1/2	Brass	A	155 °F (68 °C)	Red	100 °F (38 °C)	B
		ENT <sup>3,4</sup>	JN	175 °F (79 °C)	Yellow	150 °F (65 °C)	D
				200 °F (93 °C)	Green	150 °F (65 °C)	E
		<b>Example: 61285AE =</b> <b>200 °F (93 °C) Temperature Rated Sprinkler</b> <b>with a standard Brass finish.</b>					
Accessories							
<b>Sprinkler Wrenches:</b> A. Heavy Duty Part Number: 14047WB <sup>5</sup> B. Head Cabinet Wrench Part Number: 14031 <sup>6</sup> <b>Sprinkler Cabinet:</b> A. Up to 6 sprinklers: Part number 61398. B. 6-12 Sprinklers: Part number 61399.							
Footnotes							
1. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above. 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. 3. UL Listed as corrosion resistant. 4. The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart. 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. 5. Requires a 1/2" ratchet which is not available from us. 6. Optional for removal of the protective cap. Ideal for sprinkler cabinets.							

**TABLE 2: COVER PLATE ORDERING INFORMATION**

Instructions: Using the cover plate base part number,

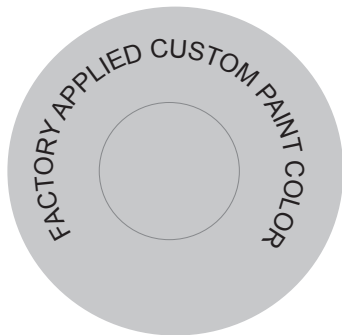
(1) add the suffix for the desired Finish

(2) add the suffix for the required Cover Plate Nominal Rating.

Cover Plate Base Part Number <sup>4</sup>	Size Inch (mm)	Style	1: Finishes		Temperature Rating Matrix <sup>1,2</sup>			
			Description	Suffix <sup>6</sup>	Cover Plate Nominal Rating (Required)	Sprinkler Nominal Rating	Sprinkler Max. Ambient Ceiling Temperature <sup>2,3</sup>	Suffix
62018	2-3/4 (70)	Round	Polished Chrome	F	135 °F (57 °C)-UL 139 °F (59 °C)-FM	155 °F (68 °C)	100 °F (38 °C)	A
62013	3-5/16 (84)	Round	Brushed Chrome	F-B				
62016	3-5/16 (84)	Square	Bright Brass	B	165 °F (74 °C)	175 °F (79 °C)	150 °F (65 °C)	C
			Antique Brass	B-A	165 °F (74 °C)	200 °F (93 °C)	150 °F (65 °C)	C
			Brushed Brass	B-B	<b>Corrosion Resistant Sprinkler Coating: ENT<sup>5</sup></b>  <b>Example: 62018MAW =</b> <b>135 °F (57 °C) Temperature Rated 2-3/4" (70 mm) Diameter</b> <b>Round Cover Plate with a Painted White finish.</b>			
			Brushed Copper	E-B				
			Painted White	M-W				
			Painted Ivory	M-I				
			Painted Black	M-B				

**Footnotes**

1. The sprinkler temperature rating is stamped on the deflector.
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.
3. Maximum ambient temperature for cover assembly is 150 °F (65 °C).
4. Part number shown is the base part number. For complete part number, refer to current our price list schedule.
5. 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.
6. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.
7. FM Approval for ordinary temperature rated sprinkler cover plate is 139 °F (59 °C).



All custom color painted cover plates will have an identifying label affixed to the inside of the cover that indicates the custom color and will have a representative sample (a paint dot) of the paint on the label.

**Figure 1: Identification of Custom Paint for Concealed Covers**



**3-5/16" (84 mm)**

**Figure 2: Square Cover Assembly 62016**

## Approval Chart 1 (UL)

Quick Response Concealed Pendent Sprinkler MX8462



Sprinkler Base Part No. <sup>1</sup>	SIN	Thread Size NPT Inch	Nominal K-Factor		Maximum Water Working Pressure	Listings and Approvals <sup>3</sup> (Refer also to Design Criteria)
			U.S.	metric <sup>2</sup>		cULus <sup>4</sup>
61285	MX8462	1/2	5.6	80.6	175 psi (12 bar)	AV1, BX1
<b>Sprinkler Temperature Ratings</b> A - 155 °F (68 °C) B - 175 °F (79 °C) and 200 °F (93 °C) C - 200 °F (93 °C)			<b>Cover Plate Assembly Temperature Ratings<sup>1</sup></b> V - 135 °F (57 °C) cULus Listed cover 62018, 62013 (large diameter), or 62016 (square cover plate) X - 165 °F (74 °C) cover 62018, or 62013 (large diameter)			<b>Cover Plate Assembly Finishes<sup>5</sup></b> 1 - Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, or Painted Black

### Footnotes

- <sup>1</sup> Part number shown is the base part number. For complete part number, refer to current price list schedule.
- <sup>2</sup> 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.
- <sup>3</sup> 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.
- <sup>4</sup> Listed by Underwriter's Laboratories for use in the U.S. and Canada.
- <sup>5</sup> 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 Minimax Fire Protection for additional information.
- NOTE:** Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.

## Design Criteria 1 (UL)

(Also refer to Approval Chart 1)

### **cULus Listing Requirements:**

Quick Response Concealed Pendent Sprinklers MX8462 is cULus Listed as quick response for installation in accordance with the latest edition of NFPA 13 for standard coverage pendent spray sprinklers as indicated below.

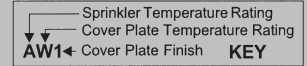
- For hazard occupancies up to and including Ordinary Hazard, Group II.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13. Maximum spacing allowed is 15 ft. (4.6 m).
- Minimum spacing allowed is 6 ft. (1.8 m) unless baffles are installed in accordance with NFPA 13.
- Minimum distance from walls is 4 in. (102 mm).
- Maximum distance from walls shall be no more than one-half of the allowable distance between sprinklers. The distance shall be measured perpendicular to the wall.
- The sprinkler obstruction rules contained in NFPA 13 for standard coverage pendent spray sprinklers must be followed.

**NOTE: Concealed sprinklers must be installed in neutral or negative pressure plenums only.**

**IMPORTANT: Always refer to 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 or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.**

## Approval Chart 2 (FM)

Standard Response Concealed Pendent Sprinkler MX8462



Sprinkler Base Part No. <sup>1</sup>	SIN	Thread Size NPT Inch	Nominal K-Factor		Maximum Water Working Pressure	FM Approvals <sup>3</sup> (Refer also to Design Criteria below.)
			U.S.	metric <sup>2</sup>		
61285	MX8462	1/2	5.6	80.6	175 psi (12 bar)	AW1, BX1
<b>Sprinkler Temperature Ratings</b> A - 155 °F (68 °C) B - 175 °F (79 °C) and 200 °F (93 °C)		<b>Cover Plate Assembly Temperature Ratings<sup>1,4</sup></b> W - 139 °F (59 °C) cover 62018, 62013 (large diameter), or 62016 (square cover plate) X - 165 °F (74 °C) cover 62018, 62013 (large diameter), or 62016 (square cover plate)			<b>Cover Plate Assembly Finishes<sup>5</sup></b> 1 - Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted White, Painted Ivory, or Painted Black	

### Footnotes

- <sup>1</sup> Part number shown is the base part number. For complete part number, refer to current price list schedule.
- <sup>2</sup> 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.
- <sup>3</sup> 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.
- <sup>4</sup> The 139 °F (59 °C) cover has an orange label. The 165 °F (74 °C) cover has a white label.
- <sup>5</sup> 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 Minimax Fire Protection for additional information.

**NOTE:** Custom colors are indicated on a label inside the cover assembly. Refer to Figure 1.

## Design Criteria 2 (FM)

(Also refer to Approval Chart 2 above.)

### FM Approval Requirements:

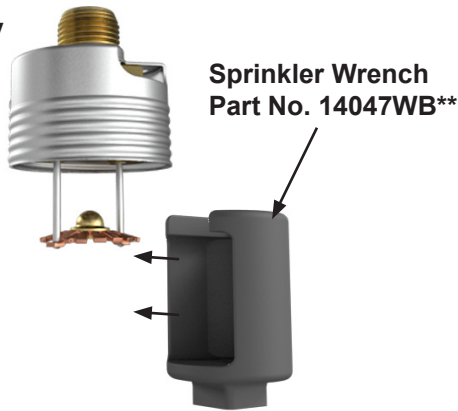
Minimax Fire Protection Concealed Pendent Sprinkler MX8462 is FM Approved as a standard response **Non-Storage** concealed pendent sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including 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.

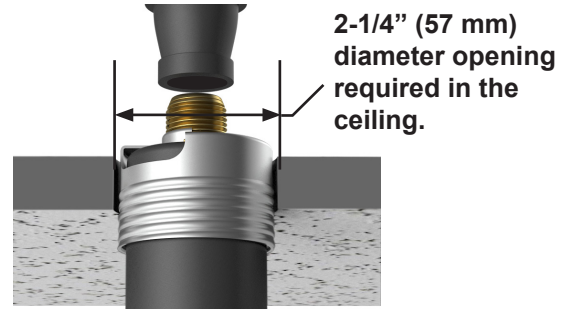
**IMPORTANT:** Always refer to Form No. FX\_091699 - Care and Handling of Sprinklers. Also refer to Form No. FX\_080614 for general care, installation, and maintenance information. Minimax Fire Protection sprinklers are to be installed in accordance with the latest edition of Minimax Fire Protection technical data, the appropriate standards of NFPA, FM Global or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

**Sprinkler and Adapter Assembly**

- Protective cap removed
- Use wrench 14047WB\*\*

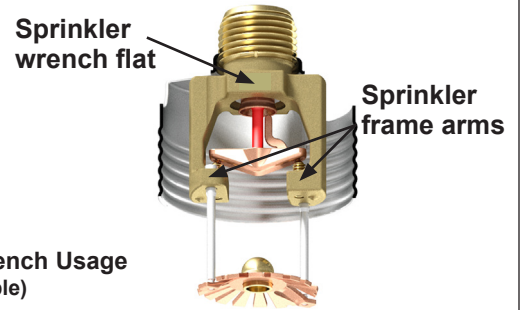


**Step 1:**  
Carefully slide the wrench sideways around the deflector and pins

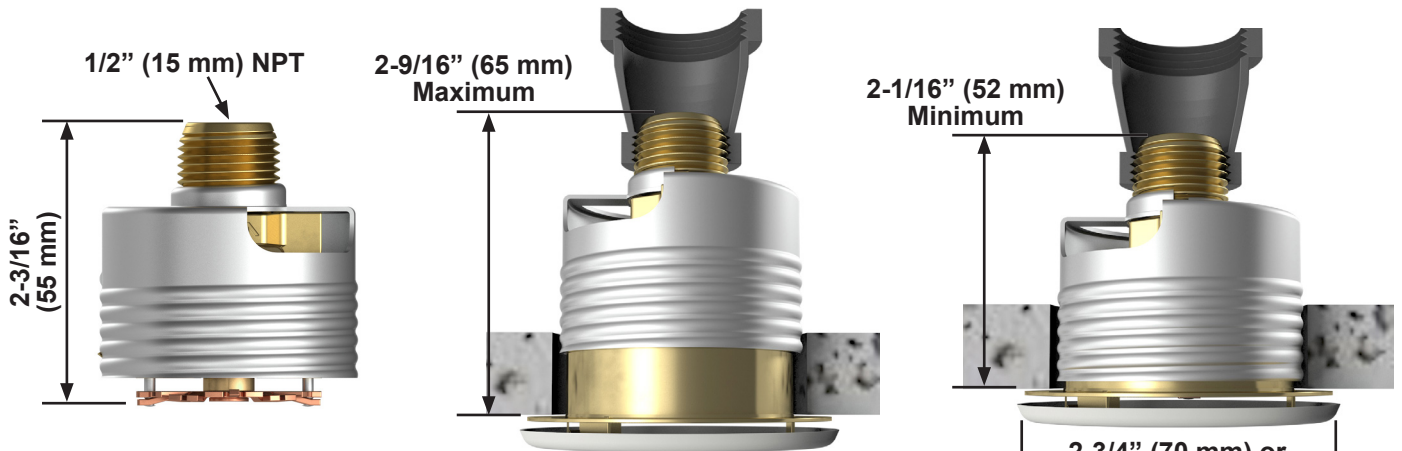


**Step 2:**  
Carefully press the wrench upward and turn slightly to ensure engagement with the sprinkler wrench flats.

**NEVER** install the sprinkler by applying the installation wrench across the frame arms. **DO NOT** overtighten. Use only the designated sprinkler wrenches, Part Numbers 14047WB\*\* or 14031\*\*. A leak tight seal should be achieved by turning the sprinkler clockwise 1 to 1-1/2 turns beyond finger tight.



**Figure 3: Sprinkler Installation and Proper Wrench Usage**  
\*\* A 1/2" ratchet is required (Not available)



**NOTE:** Upon sprinkler activation, the deflector descends to approximately 13/16" (21 mm) below the sprinkler body.

**Figure 4: Sprinkler Dimensions and Cover Installation**