

Technical Data Sheet: MX8538 Quick Response Extended Coverage Concealed Sprinkler K11.2

1. DESCRIPTION

The EC/QREC ELO Concealed Pendent Sprinkler MX8538 is a thermosensitive solder link spray sprinkler designed for installation on concealed pipe systems where the appearance of a smooth ceiling is desired. With a K-factor of 11.2, the sprinkler produces flows required to meet Ordinary Hazard density requirements at lower pressures than 5.6K or 8.0K sprinklers. The fusible operating element and special deflector characteristics meet the challenges of quick response extended coverage standards. Sprinkler MX8538 has cULus Listings as both standard and quick response.

The sprinkler is pre-assembled with a threaded adapter for installation with a low-profile cover assembly that provides up to 1/2" (13 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 as indicated in the Approval Chart. The ENT finish is only available for the sprinkler assembly, the cover plate is not plated.



WARNING: Cancer and Reproductive Harm-
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2. LISTINGS AND APPROVALS

cULus Listed: Category vNIV

* Refer the Approval Chart and Design Criteria 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).
Factory tested hydrostatically to 500 psi (34.5 bar).
Thread size: 3/4" (20 mm) NPT
Nominal K-factor: 11.2 U.S. (161.3 metric**)

**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 Frame: Brass UNS-C84400
Deflector: Brass UNS-C26000
Bulb: Glass, nominal 5 mm diameter
Pip Cap and Insert Assembly: Copper UNS-C11000 and Stainless Steel UNS-S30400
Compression Screw: Brass UNS-C36000
Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape
For PTFE Coated Sprinklers: Belleville Spring-Exposed, Screw-Nickel Plated, Pip Cap-PTFE Coated
For Polyester Coated Sprinklers: Belleville Spring-Exposed
For ENT Coated Sprinklers: Belleville Spring-Exposed, Screw and Pipcap-ENT plated

Cover Assembly Materials:

Cover: Brass UNS-C26800 or Stainless Steel UNS-S30400
Base: Cold Rolled Steel UNS-G10060 / G10080, Finish: Copper Flash
Springs: Nickel Alloy
Solder: Non-eutectic

Available Finishes and Temperature Ratings:

Finish:	Brass	ENT
Suffix:	A	JN
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.

6. INSPECTIONS, TESTS, AND MAINTENANCE

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

7. AVAILABILITY

The Model MX8538 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.

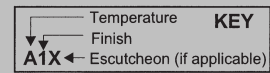
TABLE 1: ORDERING INFORMATION					
THE SPRINKLER AND COVER PLATE MUST BE ORDERED SEPERATELY.					
Instructions: Using the sprinkler base part number, add the suffix for the desired Temperature Rating.					
Sprinkler Base Part No.	Size	Temperature Ratings			
	NPT Inch	Classification	Nominal Rating	Maximum Ambient Ceiling Temperature ²	Suffix
61338	3/4	Ordinary	165 °F (74 °C)	100 °F (38 °C)	C
		Intermediate	205 °F (96 °C)	150 °F (65 °C)	E
Example: 61388AC = MX8538 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 15467WB ¹ . B. Head Cabinet Wrench: Part Number 15466 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 ³	Size Inch (mm)	Style	1: Finishes		Temperature Rating Matrix ^{1,2}			
			Description	Suffix ⁵	Cover Plate Nominal Rating (Required)	Sprinkler Nominal Rating	Sprinkler Max. Ambient Ceiling Temperature ²	Suffix
61368	3-5/16 (84)	Round	Polished Chrome	F	135 °F (57 °C)	165 °F (74 °C)	100 °F (38 °C)	A
			Painted White	M-W	165 °F (74 °C)	165 °F (74 °C)	100 °F (38 °C)	C
			Painted Ivory	M-I	165 °F (74 °C)	205 °F (96 °C)	150 °F (65 °C)	C
			Painted Black	M-B	Example: 61368FC = 165 °F (74 °C) Temperature Rated 3-5/16" (84 mm) Diameter Round Cover Plate with a Polished Chrome Finish.			
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. Part number shown is the base part number. For complete part number, refer to current our price list schedule. 4. 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. 5. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.								

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Sprinkler Base Part Number ¹	SIN	Thread Size	Nominal K-Factor		Maximum Water Working Pressure	Overall Length	
		NPT Inches	U.S.	metric ²		Inches	mm
61338	MX8538	3/4	11.2	161.3	175 psi (12 bar)	2-5/8	66.6

Approval Chart
EC/QREC Ordinary Hazard ELO Sprinklers



Max. Sprinkler Spacing (L x W ⁶)	Maximum Area per Sprinkler	Minimum Water Supply Requirements ⁵		Listings ³ (Refer also to UL Design Criteria.)
		Ordinary Hazard Group I	Ordinary Hazard Group II	
		Flow / Pressure	Flow / Pressure	cULus ⁴
Standard Response				
20 ft. x 20 ft. (6.1 m x 6.1 m)	400 ft ² (37.2 m ²)	60 gpm @ 28.7 psi (227.1 L/min @ 1.98 Bar)	80 gpm @ 51.0 psi (302.8 L/min @ 3.52 Bar)	AY1
Quick Response				
14 ft. x 14 ft. (4.3 m x 4.3 m)	196 ft ² (18.2 m ²)	30 gpm @ 7.2 psi (113.6 L/min @ .50 Bar)	39 gpm @ 12.1 psi (147.7 L/min @ .84 Bar)	AZ1, BY1
16 ft. x 16 ft. (4.9 m x 4.9 m)	256 ft ² (23.8 m ²)	38 gpm @ 11.5 psi (143.9 L/min @ .79 Bar)	51 gpm @ 20.7 psi (193.1 L/min @ 1.43 Bar)	AZ1, BY1
18 ft. x 18 ft. (5.5 m x 5.5 m)	324 ft ² (30.1 m ²)	49 gpm @ 19.1 psi (185.5 L/min @ 1.32 Bar)	65 gpm @ 33.7 psi (246.1 L/min @ 2.32 Bar)	AZ1, BY1
20 ft. x 20 ft. (6.1 m x 6.1 m)	400 ft ² (37.2 m ²)	60 gpm @ 28.7 psi (227.1 L/min @ 1.98 Bar)	80 gpm @ 51.0 psi (302.8 L/min @ 3.52 Bar)	AX1, BY1

Approved Temperature Ratings	Cover Assembly Temperature Ratings	Cover Plate Finishes ⁶
A - 165 °F (74 °C) B - 205 °F (96 °C)	X - 135 °F (57 °C) cover 61368 ¹ Y - 165 °F (74 °C) cover 61368 ¹ Z - 135 °F (57 °C) or 165 °F (74 °C) cover 61368 ¹	1 - Polished Chrome, Painted White, Painted Ivory, or Painted Black

Footnotes

- Part number shown is the base part number. For complete part number, refer to current price list schedule.
- 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.
- This chart shows listings and approvals available at time of printing. Check with the manufacturer for any additional approvals.
- cULus Listed for use in the U.S. and Canada.
- To determine "Minimum Water Supply Requirement" for areas of coverage where length and width of actual sprinkler spacing are not equal, select the "Maximum Sprinkler Spacing" from the chart that is equal to or greater than the larger of the actual spacing (length or width) dimensions used. Example: When using 10'-6" x 13'-0" sprinkler spacing, provide the "Minimum Water Supply Requirement" listed in the chart for 14'-0" x 14'-0" spacing. For areas of coverage smaller than shown, use the "Minimum Water Supply Requirement" in the appropriate hazard group for the next larger area listed. The distance from sprinklers to walls shall not exceed one-half the "Maximum Sprinkler Spacing" listed for the "Minimum Water Supply Requirement" used.
- 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 above.)

cULus Listing Requirements:

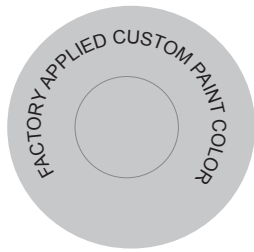
EC/QREC OH-ELO Pendent Sprinkler MX8538 is cULus Listed as indicated in the Approval Chart for installation in accordance with the latest edition of NFPA 13 for extended coverage pendent spray sprinklers as indicated below:

- The minimum water supplies and maximum areas of coverage shown in Approval Chart 1 are designed to provide the following design densities: 0.15 gpm/ft² (6.1 mm/min) for Ordinary-Hazard Group I densities; 0.2 gpm/ft² (8.1 mm/min) for Ordinary-Hazard Group II densities.
- Minimum spacing allowed is 8 ft. (2.4 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 installation rules contained in NFPA 13 for extended coverage pendent spray sprinklers must be followed.
- Limited to use with smooth, flat, horizontal ceilings only.

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 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.

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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

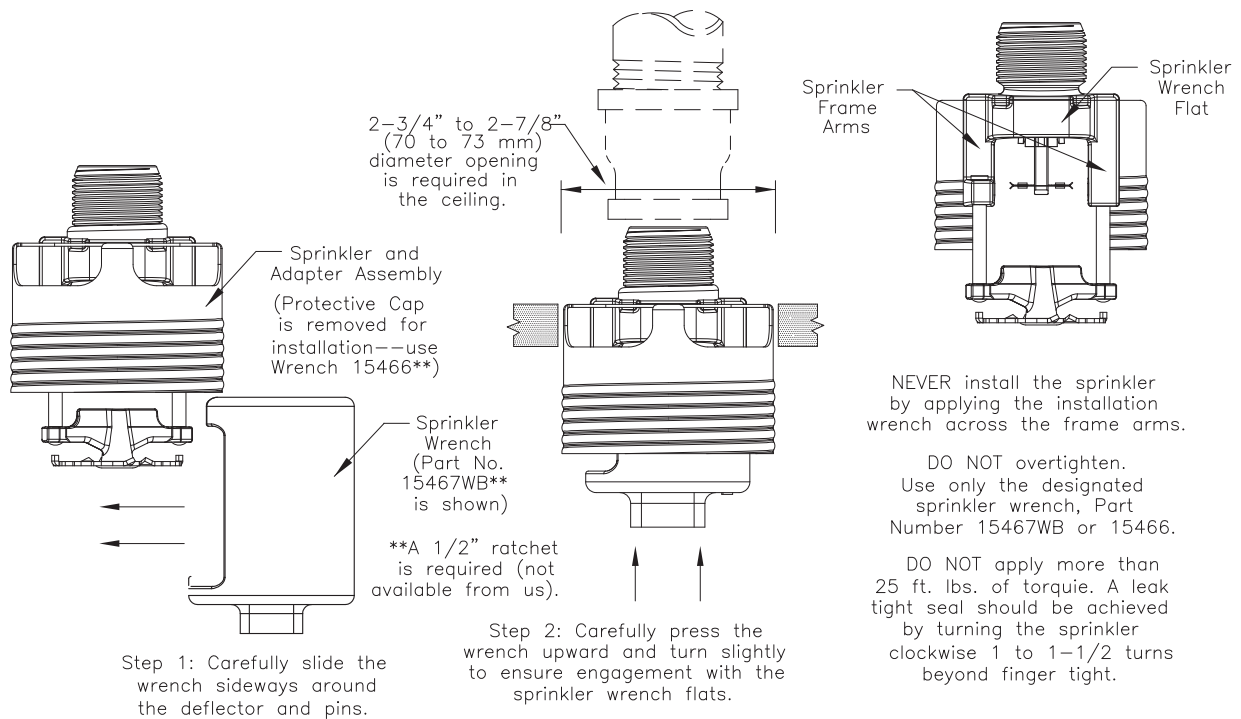


Figure 2: Sprinkler Installation and Correct Use of Wrenches

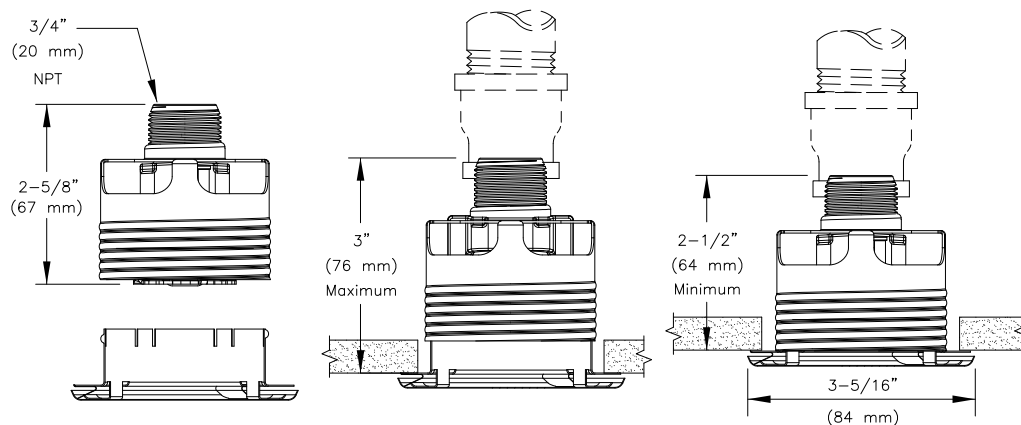


Figure 3: Sprinkler Dimensions and Cover Installation