Quick-Response for Light Hazard and Ordinary Hazard occupancies
Spacing up to 20ft x 20ft (6.1m x 6.1m)

Features
1. Extended Coverage protection to 400 ft² (37.2 m²) per sprinkler.
3. Ordinary temperature rated - 165°F (74°C).
4. Flat cover plate with ½ inch (13 mm) assembly adjustment.
5. Smooth aesthetic ceiling profile.
6. Solid or perforated cover plate available in a wide variety of colors and finishes.
7. Threaded cover plate does not require clips or springs.

Approvals
1. Listed by Underwriters Laboratories, Inc. and certified by UL for Canada (cULus).

UL Listing Category
Sprinklers, Automatic and Open Extended Coverage Sprinklers-Light Hazard and Ordinary Hazard Occupancy UL Guide Number – VNIV.

Product Description
The Reliable Model G4 XLO-QR ECLH/ECOH Concealed sprinkler is an Extended Coverage Sprinkler for use in Light Hazard and Ordinary Hazard occupancies with a coverage area of up to 400 square feet (37.2 m²) per sprinkler.

The use of extended coverage sprinklers can provide lower installation costs by requiring fewer sprinklers, less piping and reduced labor. The larger K-factor 11.2 (160 metric) provides for reduced pressures to achieve the required flow compared with smaller K-factor sprinklers.

The G4 XLO-QR ECLH/ECOH can eliminate the need for precise cutting of drop nipples. The Thread-on/Thread-off cover plate assembly provides up to 1/2" (13 mm) of adjustment to allow the cover to fit accurately against the ceiling. The fire protection system need not be shut down when adjusting or removing the Thread-on/Thread-off cover plate assembly.

Design Criteria
G4XLO-QR ECLH/ECOH sprinklers are to be installed according to the design criteria shown in this Bulletin, NFPA 13, and all other local codes and ordinances. Flows and pressures, as shown in the Flow Requirements chart on page 2 of this Bulletin, must be selected based on the spacing and hazard classifications.

The following criteria also apply:
- Minimum sprinkler spacing is 9 ft (2.75 m).
- Sprinklers have a minimum flow requirement for each spacing as shown in the Flow Requirements chart on page 2.
- Sprinklers are only to be used in systems hydraulically designed per NFPA 13.
- Deflector to commodity clearance shall be a minimum of 18 inches (457 mm).
- Sprinklers shall be installed in unobstructed construction as defined in NFPA 13.
- Sprinklers can be installed under a sloping ceiling not exceeding 2 inches (50.8 mm) of rise in 12 inches (304.5 mm).
- Maximum working pressure is 175 psi (12.1 bar) at the sprinkler.
**Technical Data**

<table>
<thead>
<tr>
<th>Sprinkler Model</th>
<th>Type</th>
<th>Nominal K-factor</th>
<th>Temperature Rating</th>
<th>Max. Ceiling Temp.</th>
<th>Maximum Sprinkler Spacing ft (m)</th>
<th>Maximum Coverage Area ft² (m²)</th>
<th>Thread Size</th>
<th>Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>G4 XLO-QR ECLH/ECOH</td>
<td>Concealed Pendent</td>
<td>11.2 (160)</td>
<td>165</td>
<td>74</td>
<td>100</td>
<td>38</td>
<td>20 (6.1)</td>
<td>400 (37.2)</td>
</tr>
</tbody>
</table>

**Flow Requirements - Quick Response**

<table>
<thead>
<tr>
<th>Spacing ft (m)</th>
<th>Coverage Area ft² (m²)</th>
<th>Flow gpm (lpm) Pressure psi (bar)</th>
<th>Flow gpm (lpm) Pressure psi (bar)</th>
<th>Flow gpm (lpm) Pressure psi (bar)</th>
<th>Flow gpm (lpm) Pressure psi (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 14 4 (3.4 x 4.3)</td>
<td>196 (18.2)</td>
<td>30 (113.6) 7.2 (0.5)</td>
<td>30 (113.6) 7.2 (0.5)</td>
<td>30 (113.6) 7.2 (0.5)</td>
<td>30 (114.7) 12.1 (0.8)</td>
</tr>
<tr>
<td>16 x 16 4 (3.4 x 4.9)</td>
<td>256 (25.8)</td>
<td>30 (113.6) 7.2 (0.5)</td>
<td>30 (114.7) 12.1 (0.8)</td>
<td>51 (193.0) 20.7 (1.4)</td>
<td>51 (193.0) 20.7 (1.4)</td>
</tr>
<tr>
<td>18 x 18 5 (5.5 x 5.5)</td>
<td>324 (30.1)</td>
<td>33 (125.0) 8.7 (0.6)</td>
<td>49 (186.5) 19.1 (1.3)</td>
<td>65 (246.0) 27.3 (2.3)</td>
<td>65 (246.0) 27.3 (2.3)</td>
</tr>
<tr>
<td>20 x 20 8 (6.1 x 6.1)</td>
<td>400 (37.2)</td>
<td>40 (151.5) 12.6 (0.9)</td>
<td>60 (227.1) 28.7 (2.0)</td>
<td>80 (302.8) 51.0 (3.5)</td>
<td>80 (302.8) 51.0 (3.5)</td>
</tr>
</tbody>
</table>

**Installation**

Do not install the MODEL G4 XLO-QR ECLH/ECOH in ceilings which have positive pressure in the space above. After installation, inspect all sprinklers to ensure that both the gap between the cover plate and ceiling and the cover plate temperature rating of 135°F (57°C). Sprinklers shall be capable of a maximum coverage area of 20 ft. x 20 ft. (6.1 m x 6.1 m), with a minimum horizontal spacing of 9 ft. (2.7 m). Rated working pressure shall be 175 psi (12.0 bar). A plastic protective cap shall be provided and factory installed onto the sprinkler to protect the sprinkler prior to installation of the cover plate. Cover plate type: [Solid] [Perforated].

Model G4XLO-QR ECLH/ECOH sprinklers should be installed only with a 135°F RATED COVER PLATE WHICH HAS BEEN LISTED WITH THE SPRINKLER.

**Model Model G4XLO-QR ECLH/ECOH Concealed Pendent Sprinkler Specification**

Sprinklers shall be a cULus listed as Quick-Response Extended Coverage sprinklers for Light Hazard, Ordinary Hazard Group 1, and Ordinary Hazard Group 2 occupancies. Sprinklers to be of bronze frame construction with brass cover plate and copper alloy retainer flange assembly. Water seal assembly shall consist of a PTFE coated Belleville spring washer and machined brass cup containing no plastic parts. Method of attaching the cover plate to the sprinkler cup shall be a Thread-on and Thread-off design allowing a 1/2” (13 mm) cover plate adjustment. Sprinklers shall have a nominal K-factor of 11.2 (160 metric), and 3/4” NPT threads. Sprinkler temperature rating shall be 165°F (74°C) with a cover plate temperature rating of 135°F (57°C). Sprinklers shall be approved for a maximum coverage area of 20 ft. x 20 ft. (6.1 m x 6.1 m), with a minimum horizontal spacing of 9 ft. (2.75 m). Rated working pressure shall be 175 psi (12.0 bar). A plastic protective cap shall be provided and factory installed onto the sprinkler to protect the sprinkler prior to installation of the cover plate. Cover plate type: [Solid] [Perforated].

Quick-Response Extended Coverage Concealed Pendent Sprinklers for Light Hazard and Ordinary Hazard Occupancies shall be Reliable Model G4XLO-QR ECLH/ECOH. SIN R7146 (Bulletin 171).

**Ordering Information**

Specify:
1. Sprinkler Model: G4XLO-QR ECLH/ECOH (SIN R7146)
2. Cover Plate Finish: [See Cover Plate Finishes chart]
3. Cover Plate Type: [Solid] [Perforated]
4. Thread Size: 3/4” NPT unless otherwise specified, ISO 7-1 R3/4 available by special order

The installation wrench is Model G4.

**Sprinkler Identification Number (SIN): R7146**

**Cover Plate Finishes**

<table>
<thead>
<tr>
<th>Standard Finishes</th>
<th>Special Application Finishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Paint</td>
<td>Off White Paint</td>
</tr>
<tr>
<td>Chrome</td>
<td>Black Paint</td>
</tr>
<tr>
<td>Satin Chrome</td>
<td>Custom Color Paint – Specify</td>
</tr>
<tr>
<td>Bright Brass</td>
<td>Raw Brass (Lacquered)</td>
</tr>
<tr>
<td>Finished Bronze</td>
<td>Stainless Steel Clad (2)</td>
</tr>
</tbody>
</table>

Cover Plate Finishes are specified for this purpose. Paint or any other coatings applied over the factory finish will void all approvals and warranties.

**Maintenance**

Sprinkler G4XLO-QR ECLH/ECOH sprinklers should be inspected and maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Replace any sprinkler or cover plate assembly, which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers or cover plates shall be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be installed in their original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation. Once operated automatic sprinklers and cover plates cannot be reassembled and reused. New sprinklers of the same size, type and temperature rating must be installed. A cabinet of replacement sprinklers should be provided for this purpose.
**Technical Data**

<table>
<thead>
<tr>
<th>Sprinkler Model</th>
<th>Type</th>
<th>Nominal K-factor</th>
<th>Temperature Rating</th>
<th>Max. Ceiling Temp.</th>
<th>Maximum Sprinkler Spacing ft (m)</th>
<th>Maximum Coverage Area ft² (m²)</th>
<th>Thread Size</th>
<th>Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>G4 XLR-QL ECLH/ECOH Concealed Pendant</td>
<td>11.2 (160)</td>
<td>165</td>
<td>74</td>
<td>100</td>
<td>38</td>
<td>20 (6.1)</td>
<td>400 (37.2)</td>
<td>% NPT or ISO 7-1 R3/4</td>
</tr>
</tbody>
</table>

**Flow Requirements - Quick Response**

<table>
<thead>
<tr>
<th>Spacing ft (m)</th>
<th>Coverage Area ft² (m²)</th>
<th>Light Hazard</th>
<th>Ordinary Hazard Group 1</th>
<th>Ordinary Hazard Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 x 14 (4.3 x 4.3)</td>
<td>196 (16.2)</td>
<td>30 (113.6)</td>
<td>7.2 (0.5)</td>
<td>30 (113.6)</td>
</tr>
<tr>
<td>16 x 16 (5.5 x 5.5)</td>
<td>324 (30.1)</td>
<td>33 (125.0)</td>
<td>8.7 (0.6)</td>
<td>49 (185.5)</td>
</tr>
<tr>
<td>20 x 20 (6.1 x 6.1)</td>
<td>450 (40.2)</td>
<td>40 (151.0)</td>
<td>12.8 (0.9)</td>
<td>60 (227.1)</td>
</tr>
</tbody>
</table>

**Installation**

Do not install the MODEL G4 XLR-QL ECLH/ECOH in ceilings which have positive pressure in the space above. After installation, inspect all sprinklers to ensure that both the gap between the cover plate and ceiling and the 4 drive slots in the cup are open and free from any air flow impediment. After a 2" (5 cm) diameter hole is cut in the ceiling, the sprinkler is to be installed with the Model G4 Wrench. When installing a sprinkler, the wrench is first positioned into the sprinkler/cup assembly until two wrench tangs fully engage drive slots in the top of the cup. The sprinkler is then tightened into the pipe fitting. When inserting or removing the wrench from the sprinkler/cup assembly, care should be taken to prevent damage to the sprinkler. Do NOT WRENCH ON ANY OTHER PART OF THE SPRINKLER/CUP ASSEMBLY.

The MODEL G4 XLR-QL ECLH/ECOH SPRINKLER MUST BE INSTALLED ONLY WITH A 135° RATED COVER PLATE WHICH HAS BEEN LISTED WITH THE SPRINKLER.

**Maintenance**

Model G4XLO-QL ECLH/ECOH sprinklers should be inspected and maintained in accordance with NFPA 25. Do not clean sprinklers with soap and water, ammonia or any other cleaning fluids. Remove dust by using a soft brush or gentle vacuuming. Replace any sprinkler or cover plate assembly, which has been painted (other than factory applied) or damaged in any way. A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers. Prior to installation, sprinklers should be maintained in their original cartons and packaging until used to minimize the potential for damage to sprinklers that would cause improper operation or non-operation. Once operated automatic sprinklers and cover plates cannot be reassembled and reused. New sprinklers of the same size, type and temperature rating must be installed. A cabinet of replacement sprinklers should be provided for this purpose.

**Model Model G4XLO-QL ECLH/ECOH Concealed Pendant Sprinkler Specification**

Sprinklers shall be ULUs listed as Quick-Response Extended Coverage sprinklers for Light Hazard, Ordinary Hazard Group 1, and Ordinary Hazard Group 2 occupancies. Sprinklers to be of bronze frame construction with brass cover plate and copper alloy retainer flange assembly. Water seal assembly shall consist of a PTFE coated Belleville spring washer and machined brass cup containing no plastic parts. Method of attaching the cover plate to the sprinkler cup shall be a Thread-on and Thread-off design allowing a 1/2" (13 mm) cover plate adjustment. Sprinklers shall have a nominal K-factor of 11.2 (160 metric), and 3/4" NPT threads. Sprinkler temperature rating shall be 165°F (74°C) with a cover plate temperature rating of 135°F (57°C). Sprinklers shall be capable of a maximum coverage area of 20 ft x 20 ft (6.1 m x 6.1 m), with a minimum horizontal spacing of 9 ft. (2.75 m). Rated working pressure shall be 175 psi (12.0 bar). A plastic protective cap shall be provided and factory-installed onto the sprinkler cup to protect the sprinkler prior to installation of the cover plate. Cover plate type: [Solid] [Perforated]. Cover plate finish: [White] [Chrome] [Custom Finish-specified]. Quick-Response Extended Coverage Concealed Pendant Sprinklers for Light Hazard and Ordinary Hazard Occupancies shall be Reliable Model G4XLO-QL ECLH/ECOH, SIN R7146 (Bulletin 171).

**Ordering Information**

Specify:
1. Sprinkler Model: G4XLO-QL ECLH/ECOH (SIN R7146)
2. Cover Plate Finish: [See Cover Plate Finishes chart]
3. Cover Plate Type: [Solid] [Perforated]
4. Thread Size: 3/4" NPT unless otherwise specified. ISO 7-1 R3/4 available by special order.

The installation wrench is Model G4.
The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for almost 100 years.

Manufactured by

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Sales Offices  Sales Fax  Corporate Offices
www.reliablesprinkler.com  Internet Address

Fig. 2 - Installation Dimensions