Product Description

Model KFR80 series sprinklers are standard spray, quick-response sprinklers with a fusible link operating element. The sprinklers are cULus Listed and FM Approved. See Table C for available finishes. All KFR80 sprinklers have a nominal K-factor of 8.0 (115 metric).

Model KFR80 series sprinklers are available in Ordinary (165°F [74°C]) or Intermediate (212°F [100°C]) temperature classification. Model KFR80 Pendent sprinklers are available with Model F1, Model F2, or Model FP recessed escutcheons.

Application

Model KFR80 series sprinklers are listed and approved for installation in accordance with NFPA 13 and FM Loss Prevention Data Sheets. Follow requirements of NFPA 13 for Quick-response Standard Spray Sprinklers when installing Model KFR80 series sprinklers. FM Approvals classifies Model KFR80 sprinklers as K8.0 QR Non-storage and K8.0 QR In-rack Storage sprinklers.

Installation

Model KFR80 series sprinklers must be installed in accordance with the requirements of NFPA 13 or FM Property Loss Prevention Data Sheets. The Model F1, F2, and FP escutcheons are the only recessed escutcheons listed and approved for use with Model KFR80 Pendent sprinklers. The use of any other recessed escutcheon will void all approvals and warranties. Do not install Model FP escutcheons in ceilings that are positively pressurized with respect to the occupied space below.

Use only the Model W2 sprinkler wrench for installing Model KFR80 series pendent and upright sprinklers, and use only the Model W1 wrench for installing Model KFR80 series recessed pendent sprinklers. Model KFR series sprinklers with F series guards or guards/water shields may be installed as an assembly using the Model J wrench. The use of wrenches other than those specified may damage these sprinklers.

Recommended installation torque is 14-20 ft-lbs (19 – 27 N-m). Do not tighten sprinklers over the maximum recommended torque. Exceeding the maximum recommended torque may cause leakage or impairment of the sprinklers.

Listings & Approvals

Listed by Underwriters Laboratories, Inc. and UL Certified for Canada (cULus)
- Sprinklers, Automatic and Open (VNIV)

FM Approved (FM)
- K8.0 QR Non-storage
- K8.0 QR In-rack Storage

Model KFR Series Sprinkler Summary

<table>
<thead>
<tr>
<th>Sprinkler Model</th>
<th>Orientation</th>
<th>Listing or Approval</th>
<th>Max. Working Pressure psi (bar)</th>
<th>Sprinkler Identification Number (SIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KFR80 Pendent</td>
<td>Pendent</td>
<td>cULus</td>
<td>250 (17.2)</td>
<td>RA5412</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FM</td>
<td>175 (12)</td>
<td></td>
</tr>
<tr>
<td>KFR80 Upright</td>
<td>Upright</td>
<td>cULus</td>
<td>250 (17.2)</td>
<td>RA5422</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FM</td>
<td>175 (12)</td>
<td></td>
</tr>
</tbody>
</table>
Model KFR80 Pendent sprinkler

**Technical Specifications**
- **Style:** Pendent or Recessed Pendent
- **Threads:** 3/4" NPT or ISO 7-1 R3/4
- **Nominal K-Factor:** 8.0 (115 metric)
- **Max. Working Pressure:**
  - cULus: 250 psi (17.2 bar)
  - FM: 175 psi (12 bar)

**Material Specifications**
- **Thermal Sensor:** Beryllium Nickel
- **Strut and Lever:** Stainless Steel
- **Roto-clip:** Stainless Steel
- **Sprinkler Frame:** Brass Alloy
- **Cap:** Bronze Alloy
- **Sealing Washer:** Nickel with PTFE
- **Load Screw:** Copper Alloy
- **Deflector:** Brass Alloy

**Sprinkler Wrenches**
- Model W2 (pendent)
- Model W1 (recessed)
- Model J (with guard installed)

**Listings and Approvals**
- cULus Listed
- FM Approved

**Sprinkler Finishes**
(See Table C)

**Sensitivity**
- Quick-response

**Temperature Ratings**
- 165°F (74°C)
- 212°F (100°C)

**Recessed Escutcheons**
- Model F1
- Model F2
- Model FP

**Guards/Water Shields**
- F-7 Guard (cULus)
- F-2 Guard (FM)
- F-8 Guard/Water Shield (cULus)
- F-6 Guard/Water Shield (FM)
- S-2 Water Shield (cULus, FM)

**Sprinkler Finishes (See Table C)**

**Sensitivity**
- Quick-response

**Temperature Ratings**
- 165°F (74°C)
- 212°F (100°C)

**Recessed Escutcheons**
- Model F1
- Model F2
- Model FP

**Guards/Water Shields**
- F-7 Guard (cULus)
- F-2 Guard (FM)
- F-8 Guard/Water Shield (cULus)
- F-6 Guard/Water Shield (FM)
- S-2 Water Shield (cULus, FM)

**Sprinkler Components and Dimensions**

![Sprinkler Components and Dimensions](image)

- Threads
- Wrench Flat
- Fusible Link
- Deflector

**Shown with optional S-2 Water Shield (ordered separately)**
**Model KFR80 Upright Sprinkler Specifications**

**Technical Specifications**
- **Style:** Upright
- **Threads:** 3/4" NPT or ISO 7-1 R3/4
- **Nominal K-Factor:** 8.0 (115 metric)
- **Max. Working Pressure:**
  - cULus: 250 psi (17.2 bar)
  - FM: 175 psi (12 bar)

**Material Specifications**
- **Thermal Sensor:** Beryllium Nickel
- **Strut and Lever:** Stainless Steel
- **Roto-clip:** Stainless Steel
- **Sprinkler Frame:** Brass Alloy
- **Cap:** Bronze Alloy
- **Sealing Washer:** Nickel with PTFE
- **Load Screw:** Copper Alloy
- **Deflector:** Brass Alloy

**Sprinkler Wrench**
- Model W2
- Model J (with guard installed)

**Listings and Approvals**
- cULus Listed
- FM Approved

**Sprinkler Finishes**
(See Table C)

**Sensitivity**
- Quick-response

**Temperature Ratings**
- 165°F (74°C)
- 212°F (100°C)

**Guards/Water Shields**
- F-1 Guard (cULus)
- F-2 Guard (FM)
- F-3 Guard/Water Shield (cULus, FM)
- Factory Installed Shield (cULus, FM)

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**Model KFR80 Upright Sprinkler Components and Dimensions**

**Figure 2**

![Diagram of Model KFR80 Upright Sprinkler Components and Dimensions]

- **Deflector**
- **Fusible Link**
- **Wrench Flat**
- **Threads**

**Dimensions:**
- 3-1/4" (83mm)
- 1-3/8" (35 mm)

Shown with optional factory installed Water Shield (KFR80 Intermediate Upright)
### Recessed Escutcheon Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>Adjustment Inch (mm)</th>
<th>Maximum Face of Fitting to Ceiling Inch (mm)</th>
<th>Minimum Face of Fitting to Ceiling Inch (mm)</th>
<th>Maximum Deflector Distance Below Ceiling Inch (mm)</th>
<th>Minimum Deflector Distance Below Ceiling Inch (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F2</td>
<td>1/2 (12)</td>
<td>7/8 (22)</td>
<td>3/8 (10)</td>
<td>1-3/4 (44)</td>
<td>1-1/4 (32)</td>
</tr>
<tr>
<td>FP</td>
<td>1/2 (12)</td>
<td>1-1/2 (38)</td>
<td>1 (25)</td>
<td>1 (25)</td>
<td>1/2 (12)</td>
</tr>
</tbody>
</table>

*Note: Face of fitting to ceiling dimensions are based on nominal thread make up. Verify dimensions based on fitting and thread sealing method prior to installation.*

### Recessed Escutcheon and Conical Concealed Cover Plate Diagrams

**Figure 3**

- **Model KFR80 Pendant Sprinkler with Model F1 Escutcheon**
  - Face of Fitting to Face of Ceiling: 1-1/6" (26 mm) at Max. Recess, 3/8" (10 mm) at Min. Recess
  - Minimum Recess: 1" (25 mm)
  - Maximum Recess: 1-3/4" (44 mm)
  - 2-1/4" (57 mm) Dia. Hole in Ceiling

- **Model KFR80 Pendant Sprinkler with Model F2 Escutcheon**
  - Face of Fitting to Face of Ceiling: 1-1/6" (26 mm) at Max. Recess, 3/8" (10 mm) at Min. Recess
  - Minimum Recess: 1-1/4" (32 mm)
  - Maximum Recess: 2-7/8" (72 mm) Dia.
  - 2-1/4" (57 mm) Dia. Hole in Ceiling

- **Model KFR80 Pendant Sprinkler with Model FP Escutcheon**
  - Face of Fitting to Face of Ceiling: 1-1/2" (38 mm) at Max. Recess, 1" (25 mm) at Min. Recess
  - Minimum Recess: 1/2" (12 mm)
  - Maximum Recess: 2-5/16" (59 mm) Dia.
### Sprinklers & Escutcheons Finishes

<table>
<thead>
<tr>
<th>Standard Finishes</th>
<th>Special Application Finishes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sprinkler</strong></td>
<td><strong>F1, F2 and FP(2)</strong></td>
</tr>
<tr>
<td>Bronze</td>
<td>Brass</td>
</tr>
<tr>
<td>Chrome Plated</td>
<td>Chrome Plated</td>
</tr>
<tr>
<td>White Polyester</td>
<td>White Polyester</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

(1) Paint or any other coating applied over the factory finish will void all approvals and warranties.

(2) The Model FP escutcheon assembly consists of an unfinished galvanized cup with a finished escutcheon ring.

### Wrench

- Model W2 (upright, pendent)
- Model J (with guard installed)
- Model W1 (recessed pendent)

### Maintenance

Reliable Model KFR80 series sprinklers should be inspected and the sprinkler system maintained in accordance with NFPA 25, as well as the requirements of any Authorities Having Jurisdiction.

Prior to installation, sprinklers should remain in the original cartons and packaging until used. This will minimize the potential for damage to sprinklers that could cause improper operation or non-operation.

Do not clean sprinklers with soap and water, ammonia liquid or any other cleaning fluids. Remove dust by gentle vacuuming without touching the sprinkler.

Replace any sprinkler which has been painted (other than factory applied). A stock of spare sprinklers should be maintained to allow quick replacement of damaged or operated sprinklers.

Failure to properly maintain sprinklers may result in inadvertent operation or non-operation during a fire event.

### Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

### Ordering Information

Specify the following when ordering.

**Sprinkler**
- Model (KFR80 Pendent, KFR80 Upright, or KFR80 Intermediate Upright)
- Temperature Rating [165°F (74°C) or 212°F (100°C)]
- Threads (¾” NPT or ISO 7-1 R¾)
- Finish (See Table C)

**Escutcheon**
- Type (None, F1, F2, or FP)
- Finish (See Table C)

**Guards/Water Shields**
- See sprinkler information pages in this bulletin

**Sprinkler Wrench**
- W2 (Pendent, Upright)
- W1 (Recessed)
- J (with guard installed)