Ref: SPINST/E

STANDARD AND QUICK RESPONSE SPRINKLERS
GENERAL CARE, INSTALLATION, AND MAINTENANCE GUIDE

1. DESCRIPTION

This document is for Model RD series Standard and Quick Response Sprinklers - Care, Installation, and Maintenance Guide

Model RD series standard and quick response sprinklers are thermo-sensitive spray sprinklers consisting of a frame and a 5mm(standard response) or 3 mm(quick response) glass bulb. Available styles include conventional, pendent, flush pendent, upright, and horizontal sidewall, depending on the particular sprinkler model selected.

Sprinklers are available with various finishes, temperature ratings, and K-factors to meet design requirements.

To get Model RD series sprinklers' technical data, refer to the appropriate sprinkler technical data pages for listing, approval and technical information on sprinkler materials and accessories.

The supplier of RD series sprinklers is:
Rapidrop Global Ltd, Peterborough
PE1 5WA, United Kingdom
Tel: +44 (0) 1733 847 510
Fax: +44 (0) 1733 343 465
Email: rapidrop@rapidrop.com
Website: www.rapidrop.com

2. SPRINKLER CARE AND HANDLING

A. Sprinklers must be handled with care. They must be stored in a cool, dry place in their original shipping container. Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed. Never install any glass-bulb sprinkler if the bulb is cracked or if there is a loss of liquid from the bulb. If a glass bulb lacks the appropriate amount of fluid, it should be set aside and returned to supplier (or an authorized distributor) for analysis as soon as possible. If the sprinkler is not returned to supplier, it should be destroyed immediately.

B. Sprinklers must be protected from mechanical damage. Sprinklers subject to mechanical damage must be protected with an approved sprinkler guard.

C. Use only sprinklers listed as corrosion resistant when subject to corrosive environments. When installing corrosion resistant sprinklers, take care not to damage the corrosion-resistant coating. Use only the special wrench designed for installing coated and recessed sprinklers (any other wrench may damage the unit).

D. Use care when locating sprinklers near fixtures that can generate heat. Do not install sprinklers where they would be exposed to temperatures exceeding the maximum recommended ambient temperature for the temperature rating used.

E. Wet-pipe systems must be provided with adequate heat. Sprinklers supplied for dry systems in areas subject to freezing must be listed dry sprinklers, or upright or horizontal sidewall sprinklers installed so that water is not trapped. For dry systems, pendent sprinklers and sidewall sprinklers installed on return bends are permitted, where the sprinkler, return bend, and branch line piping are in an area maintained at or above 40°F (4°C).

3. INSTALLATION

WARNING: *Model RD series sprinklers are manufactured and tested to meet the rigid requirements of approving agencies. The sprinklers are designed to be installed in accordance with recognized installation standards. Deviation from the standards or any alteration to sprinklers or cover plate assemblies after they leave the factory including, but not limited to: painting, plating, coating, or modification, may render them inoperative and will automatically nullify the approvals and any guarantee made by manufacturer.*

A. Sprinklers are to be installed in accordance with the latest published standards of the National Fire Protection Association, Factory Mutual, Loss Prevention Council or other similar

Rapidrop Global
Rutland Business Park, Newark Road, Peterborough, PE1 5WA, United Kingdom
Tel: +44 (0) 1733 847 520 Fax: +44 (0) 1733 553 958
e-mail: rapidrop@rapidrop.com web: www.rapidrop.com

organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable. The sprinkler technical data page may contain installation requirements specific for the sprinkler model selected.

The use of certain types of sprinklers may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction prior to installation.

B. Before installation, be sure to have the appropriate sprinkler model and style, with the correct orifice size, temperature rating, and response characteristic. Sprinklers must be installed after the piping is in place to prevent mechanical damage. Keep protective caps or bulb shields on sprinklers during installation and testing, and any time the sprinkler is shipped or handled.

C. For frame-style sprinklers, install the escutcheon (if used), which is designed to thread onto the external threads of the sprinkler. **For flush pendent and concealed style sprinklers:** Cut the sprinkler drop nipple so that the 1/2" (15 mm) pipe thread outlet of the reducing coupling is at the desired elevation, perpendicular to the ceiling, and centered in the opening in the ceiling.

D. Apply a small amount of PTFE tape to the external threads of the sprinkler only, taking care not to allow a build-up in the sprinkler inlet.

NOTE: *Sprinklers with protective caps or bulb shields must be contained within the caps or shields before applying PTFE tape.*

E. Refer to the appropriate sprinkler technical data page to determine the correct sprinkler wrench for the model of sprinkler used. DO NOT use the deflector to start or thread the sprinkler into a fitting.

① Install frame-style sprinklers onto the piping using the special sprinkler wrench only, taking care not to over-tighten or damage the sprinkler operating parts.

② For flush and recessed style sprinklers, the internal diameter of the special sprinkler installation wrench is designed for use with the sprinkler contained within the protective shell. Thread the 1/2" outlet of the coupling by turning it clockwise with the special sprinkler wrench.

F. After installation, the entire sprinkler system must be tested in accordance with recognized installation standards.

① Make sure the sprinkler has been properly tightened. If a thread leak occurs, normally the sprinkler must be removed, new PTFE tape applied, and then reinstalled.
This is due to the fact that when the joint seal is damaged, the PTFE tape in the joint is damaged.

② Air testing [do not exceed 40 psi (276 kPa)] the sprinkler piping prior to testing with water may be considered in areas where leakage during testing must be prevented. Refer to the Installation Standards and the Authority Having Jurisdiction.

G. Remove plastic protective sprinkler caps and bulb shields AFTER the wall or ceiling finish work is completed where the sprinkler is installed and there no longer is a potential for mechanical damage to sprinkler operating elements.

To remove the bulb shields, simply pull the end of the shields apart where they are snapped together. To remove caps from frame style sprinklers, turn the caps slightly and pull them off the sprinklers. **Sprinkler caps and bulb shields must be removed from sprinklers BEFORE placing the system in service**. Recommendation: retain a protective cap in the spare sprinkler cabinet.

H. For flush style sprinklers, the ceiling ring can now be installed onto the sprinkler body. Thread on or push on the ceiling ring until the flanges of the ceiling ring touch the ceiling. **DO NOT MODIFY THE UNIT.** If necessary, re-cut the sprinkler drop nipple as required.

For concealed sprinklers, the cover plate assembly can now be attached.
① Remove the cover from the protective box, taking care not to damage the cover plate assembly.
② From below the ceiling, gently place the base of the cover plate assembly over the threaded body of the sprinkler protruding through the hole in the ceiling.
③ Push the cover plate assembly onto the sprinkler until the unfinished brass flange of the cover plate base touches the ceiling. **DO NOT MODIFY THE UNIT.** If necessary, re-cut the sprinkler drop nipple.

Rapidrop Global
Rutland Business Park, Newark Road, Peterborough, PE1 5WA, United Kingdom
Tel: +44 (0) 1733 847 520 Fax: +44 (0) 1733 553 958
e-mail: rapidrop@rapidrop.com web: www.rapidrop.com

I. If it is necessary to remove the entire sprinkler unit, the system must be taken out of service. See section 4. **MAINTENANCE** and follow all warnings and instructions.

4. MAINTENANCE

NOTICE: *The owner is responsible for maintaining the fire-protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to the appropriate National Fire Protection Association standard that describes care and maintenance of sprinkler systems. In addition, the Authority Having Jurisdiction may have additional maintenance, testing, and inspection requirements that must be followed.*

A. Sprinklers must be inspected on a regular basis for corrosion, mechanical damage, obstructions, paint, etc. The frequency of inspections may vary due to corrosive atmospheres, water supplies, and activity around the device.

B. Sprinklers and cover plate assemblies that have been painted or mechanically damaged must be replaced immediately. Sprinklers showing signs of corrosion shall be tested and/or replaced immediately as required. Installation standards require sprinklers to be tested and, if necessary, replaced after a specified term of service. Refer to the installation standards (e.g., NFPA 25) and the Authority Having Jurisdiction for the specified period of time after which testing and/or replacement is required. Sprinklers and cover plate assemblies that have operated cannot be reassembled or re-used, but must be replaced. When replacing sprinklers, use only new sprinklers and cover plate assemblies.

C. The sprinkler discharge pattern is critical for proper fire protection. Therefore, nothing should be hung from, attached to, or otherwise obstruct the discharge pattern. All obstructions must be immediately removed or, if necessary, additional sprinklers installed.

D. When replacing existing sprinklers, the system must be removed from service. Refer to the appropriate system description and/or valve instructions. Prior to removing the system from service, notify all the Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

① Remove the system from service, drain all water, and relieve all pressure on the piping.

② For frame-style sprinklers, use the special sprinkler wrench to remove the old sprinkler by turning it counterclockwise to unthread it from the piping. **For flush pendent and concealed style sprinklers:** Remove the ceiling ring or cover plate assembly before unthreading the sprinkler body from the piping (From below the ceiling, grasp the ceiling ring or cover plate and gently turn it counterclockwise).

③ After the ceiling ring or cover plate assembly has been removed from the sprinkler body, place a plastic protective shell (from the spare sprinkler cabinet) over the sprinkler to be removed and then fit the wrench over the shell. Then use the wrench to unthread the sprinkler from the piping by turning it counterclockwise.

④ Install the new unit by following the instructions in section 3. INSTALLATION. Care must be taken to ensure that the replacement sprinkler is the proper model and style, with the correct orifice size, temperature rating, and response characteristics. A fully stocked spare sprinkler cabinet should be provided for this purpose. **For flush or concealed sprinklers**, stock of spare ceiling rings or cover plates should also be available in the spare sprinkler cabinet.

⑤ Place the system back in service and secure all valves. Check for and repair all leaks.

E. Sprinkler systems that have been subjected to a fire must be returned to service as soon as possible. The entire system must be inspected for damage, and repaired or replaced as necessary. Sprinklers that have been exposed to corrosive products of combustion or high ambient temperatures, but have not operated, should be replaced. Refer to the Authority Having Jurisdiction for minimum replacement requirements.

Rapidrop Global
Rutland Business Park, Newark Road, Peterborough, PE1 5WA, United Kingdom
Tel: +44 (0) 1733 847 520 Fax: +44 (0) 1733 553 958
e-mail: rapidrop@rapidrop.com web: www.rapidrop.com