



# Data Sheet 4.18 Issue E


**CHRYSsafidis**


Cert/LPCB/ ref.566d/01 (RD020) (RD022) (RD024)  
Cert/LPCB/ ref.566d/02 (RD021) (RD023) (RD025)  
Cert/LPCB/ ref.566d/03 (RD030) (RD031) (RD032)



G412043, G412042, G412041  
G412040, G412039, G412038  
G413004, G413003, G413002



## K80 (5.6), 15mm (1/2") Conventional, Pendent and Upright Sprinklers Model: RD020/ RD021/ RD022/ RD023/ RD024/ RD025/ RD030/ RD031/ RD032 Standard/Special/Quick Response, 5mm/4mm/3mm Glass Bulbs

### Product Description

RD020/RD021/RD030 Conventional, RD022/RD023/RD031 Pendent and RD024/RD025/RD032 Upright are Standard/Quick Response frangible glass bulb automatic sprinklers. CE marked, VdS and LPCB approved.

They are standard orifice fire sprinklers for installation in fire sprinkler systems designed in accordance with standard installation rules, e.g. EN12845 or the requirements of the authority having jurisdiction. Conventional sprinklers produce a spherical water discharge pattern and the Pendent/Upright produce a hemispherical water distribution pattern below the deflector. In a fire condition the heat causes the fluid in the glass bulb to expand which shatters the glass and releases the spring seal assembly. Water flows from the orifice onto the sprinkler deflector which diffuses the water into a uniform spray pattern which extinguishes or controls the fire.

### Variations

Standard Response: RD020, RD022 & RD024

Special Response: RD030, RD031 & RD032

Quick Response: RD021, RD023 & RD025

### Technical Details

K factor	K80 (K5.6)
Thread size	1/2"NPT (R1/2" - 1/2"BSPT available on special order)
Max. Working Pressure	12 bar (175 psi)
Min. Operating Pressure	0.35 bar (5psi)
Factory Pressure Test	100% at 34 bar (500 psi)
Weight	57grams (2oz.)
Fitted with Bulb Protector	Remove after installing sprinkler



RD020 CUP  
RD030 CUP



RD021 CUP QR



RD022 SSP  
RD031 SSP



RD023 SSP QR



RD024 SSU  
RD032 SSU



RD025 SSU QR

### Operating Temperatures

Nominal Operating Temperature	Bulb Colour
57°C (135°F)	Orange
68°C (155°F)	Red
79°C (175°F)	Yellow
93°C (200°F)	Green
141°C (286°F)	Blue

### Standard Finishes

Plain (Natural)  
Chrome  
Epoxy Powder Polyester - White  
(Other RAL colours available on special request)

### Accessories

Single Piece Escutcheon (Rosette)  
Adjustable Escutcheon (Rosette)  
Sprinkler Guard  
Series 20 Sprinkler Wrench



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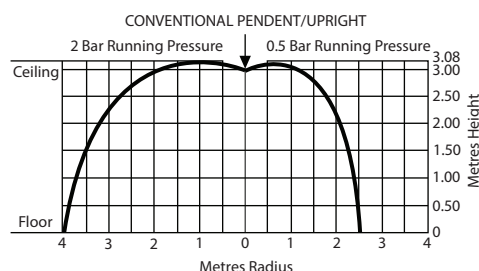
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### Design Coverage:

For sprinkler coverage area and placement refer to NFPA 13 standards or other installation rules for automatic sprinkler systems as required by the authority having jurisdiction. The following details are provided for information only.

#### RD020, RD021, RD030

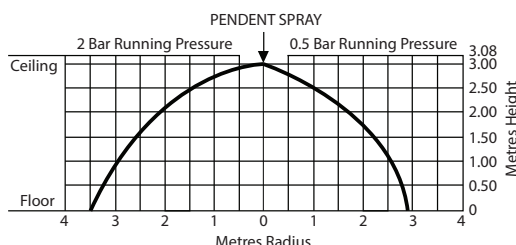
Conventional for installing in pendent or upright position giving a spherical discharge with a proportion of water being thrown upwards towards the ceiling.



Minimum Operating  
Pressure = 0.35 bar (5 psi)  
Flow Characteristics

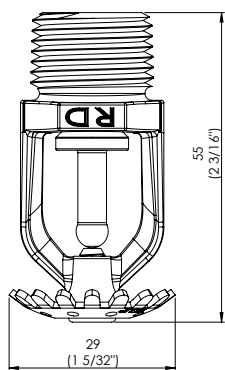
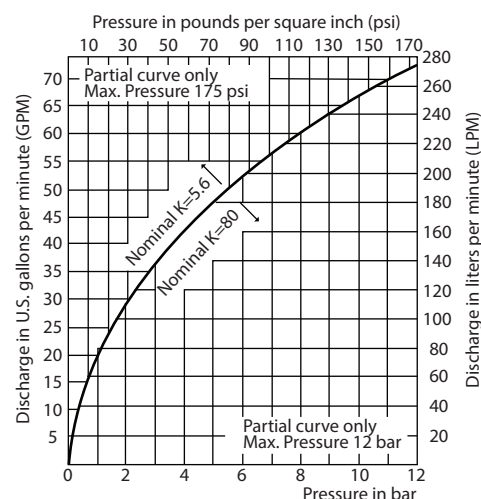
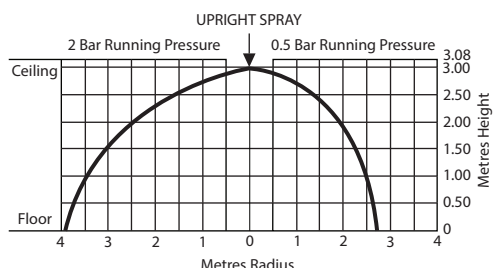
#### RD022, RD023, RD031

Spray Pendent for installing only in pendent position giving hemispherical discharge below the deflector with little or no water being discharged upwards.

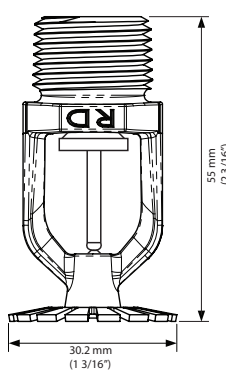


#### RD024, RD025, RD032

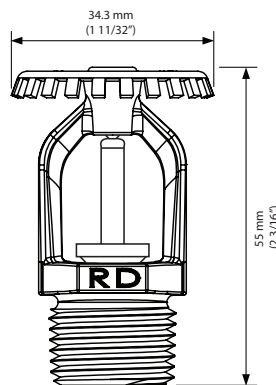
Spray Upright for installing only in upright position giving hemispherical discharge below the deflector with little or no water being discharged upwards.



RD020, RD021 & RD030  
CUP & QR CUP  
Figure A



RD022, RD023 & RD031  
SSP & QR SSP  
Figure B



RD024, RD025 & RD032  
SSU & QR SSU  
Figure C

\* Bulb sizes shown for reference only



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### Installation

1. All Rapidrop sprinklers must be installed and maintained in compliance with this document and according to the installation standards, EN 12845, or local rules and requirements which are specified by the authority having jurisdiction. It is the installer's responsibility to conform to such standards and requirements, deviations from the requirements will void any warranty.
2. To ensure that the minimum flow requirement is met, the system piping must be correctly sized.
3. To avoid mechanical damage the sprinklers must be installed after the piping is in place. Any damaged sprinklers must be replaced. If there is a leak from the sprinkler thread, remove the sprinkler, apply new pipe joint compound or tape and re-install.
4. Always check that the sprinklers are the correct model, style, orifice size, temperature and sensitivity ratings prior to commencing installation.
5. Upright sprinklers must be mounted in upright position and Pendent sprinklers must be mounted in pendent position.
6. Use only non-hardening pipe joint compound or 'Teflon' tape. Apply to external threads only.
7. Hand tighten the sprinkler into the fitting, then use the correct sprinkler wrench (Rapidrop Series 20 – See Figure D) to tighten the sprinkler into the fitting. Ensure that the sprinkler wrench stays on the wrench flats while tightening the sprinkler. A leak tight joint requires only 9.5 to 19 Nm (7 to 14 ft.lbs.) torque. i.e. A tangential force of 6.35 to 12.7kgs. (14 to 28 lbs.) delivered through a 150mm (6") handle will deliver adequate torque. Torque levels over 29Nm (21 ft.lbs.) may distort the orifice seal and result in leakage.
8. Remove sprinkler bulb protector before the sprinkler system is put into service.

### Care and Maintenance

Sprinklers must be carefully handled and stored where temperatures will not exceed 38°C/100°F and they must never be painted, plated, coated or otherwise modified after leaving the factory.

Do not install sprinklers which have been dropped or damaged in any way.

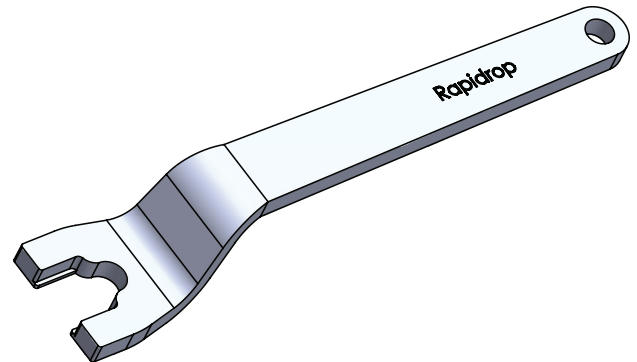
The installation rules required by the authority having jurisdiction contain guidelines on minimum inspection and maintenance requirements to assist owners fulfilling their responsibility to ensure sprinklers and sprinkler systems are maintained in proper operating condition.

### Warranty

Warranty period is one year from the date of shipment. For full details please refer to our terms and conditions of sale.

### Ordering Information

Specify: model, orifice size, style, temperature, response, finish and approval listing required. Always order and use a Series 20 Wrench for installing these sprinklers.



SERIES 20 WRENCH  
Figure D