TECHNICAL DATA SHEET

VK3101 QUICK RESPONSE CONVENTIONAL SPRINKLER (K5.6)

1. PRODUCT IDENTIFICATION

This document covers the following product, hereafter referred to as “sprinkler”:

VK3101: Quick Response, Standard Coverage, Conventional, K5.6 (80.6) Sprinkler.



2. INTENDED USE

The sprinkler is intended to be used in automatic fire sprinkler systems as allowed by applicable approval authorities. The sprinkler must be used in accordance with:

1. the sprinkler’s Listings, Approvals, and associated design requirements.
2. the recognized design and installations standards issued, for example NFPA, FM, EN, VdS, or LPCB.
3. the latest revisions of all applicable manufacturer’s documentation.

Governmental codes, ordinances, and standards may apply and may differ from one another.

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3. LISTINGS AND APPROVALS

Refer to ***section 5*** for details and requirements that must be followed.

cULus Listed

LPCB Approved

CE

UKCA Approved

4. TECHNICAL SPECIFICATIONS

4.1 Definitions

Standard Conventional Sprinkler: An “old style” sprinkler intended to be installed with the deflector in either the upright or pendent position. The deflector provides a spherical type pattern with 40 or 60 percent of the water initially directed downward and a proportion directed upward. Must be installed in accordance with installation rules for conventional or old style sprinklers. DO NOT USE AS A REPLACEMENT FOR STANDARD SPRAY SPRINKLERS. Marked “CU/P” (Conventional Upright/Pendent) on the deflector..

Corrosion Resistant Sprinkler: A special service sprinkler with non-corrosive protective coatings, or that is fabricated from non-corrosive material, for use in atmospheres that would normally corrode sprinklers. Sprinklers can be ordered as corrosion resistant sprinklers and can be used with escutcheons when allowed by the approval body.

4.2 Ratings and Physical Characteristics

Parameter	Value
Minimum operating pressure	7 psi (0.5 bar)
Maximum rated pressure	175 psi (12 bar)
Factory tested pressure	500 psi (35 bar)
Thread size	1/2" NPT or 15 mm BSPT
Nominal K–factor	5.6 U.S. (80.6)
Minimum temperature rating (glass bulb)	–65 °F (–55 °C)

4.3 Markings and Dimensions

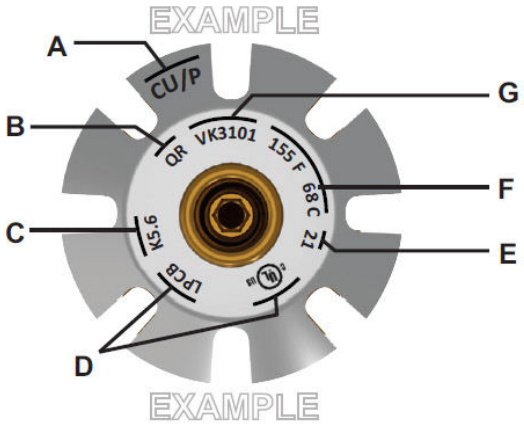


Figure 1 - Markings

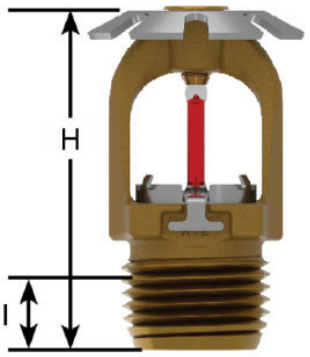


Figure 2 - Dimensions

Ref	Description	Value
A	Sprinkler type	CU/P: Conventional Upright/Pendent
B	Response type	QR: Quick Response
C	Nominal K-factor	See ***section 4.2***
D	Listings and Approvals	See ***sections 3 and 5***
E	Manufacture date (year)	See marking
F	Nominal temperature rating	See marking
G	Manufacturers Sprinkler Identification Number (SIN)	VK3101
H	Height	1-15/16" (49 mm)
I	Nominal pipe engagement	7/16” (11 mm)

4.4 Materials of Construction

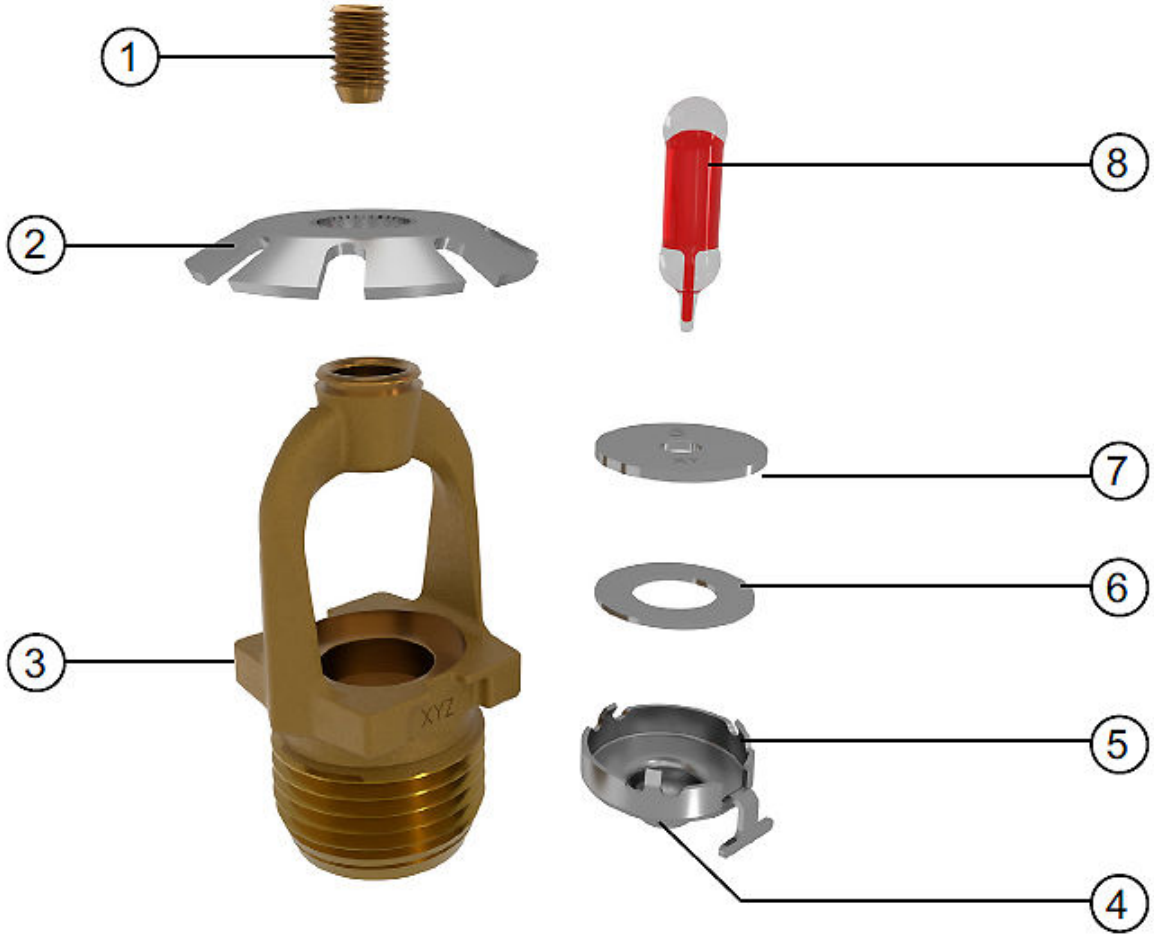


Figure – 3 Sprinkler Components

Ref	Description	Material
1	Compression screw	Brass CW612N, CW508L, UNS–C36000 or UNS–C26000
2	Deflector	Stainless steel UNS S30400
3	Sprinkler body	CW602N, UNS–C84400 or QM brass
4	Pip cap seal	Polytetrafluoroethylene (PTFE)
5	Pip cap shell	Stainless steel UNS–S44400
6	Belleville spring	Nickel alloy
7	Pip cap disc	Stainless steel UNS–S30100
8	Bulb	Glass, nominal 0.10" (3 mm) diameter

5. LISTING AND APPROVAL DESIGN REQUIREMENTS

5.1 Listing and Approval Specifications

Sprinkler Base Part Number [1]	Size		Approval Body Maximum WWP 175 psi (12 bar)			
	NPT	BSPT	cULus	CE	LPCB	UKCA
			Approval Specification			
23908	1/2"	--	A1	A1	A1	A1
23914	--	15 mm	A1	A1	A1	A1
Approval Specification (Temperature Ratings) Key: **A** = 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C) and 286 °F (141 °C)						
Approval Specification (Finishes) Key: **1** = Brass, Chrome, White Polyester [2,3], Black Polyester [2,3], and ENT [3,4]						
[1] For complete part number, refer to Viking's current price list. [2] For White Polyester and Black Polyester, other colors are available upon request and will carry the same Listings and Approvals as the standard colors. [3] cULus Listed as corrosion resistant.						

5.2 cULus Listing Requirements and Details

The sprinkler is cULus Listed as indicated in ***Table 5.1*** for installation in accordance with the latest edition of NFPA 13 for standard spray sprinklers. This sprinkler is designed for use in light and ordinary hazard occupancies.

5.3 Additional Approval Requirements and Details

Refer to ***Table 5.1*** for approved configurations allowed by each of the following approvals.

- CE CPR: Standard EN 12259-1:1999 +A3:2006; Declaration of Performance DOP_XT1B..
- LPCB: Standard EN 12259-1:1999 +A3:2006; Certificate Number 096m.
- UKCA: Standard EN12259-1:1999 +A3:2006; Declaration of Conformity UKCA DOC_S5048.

5.5 Corrosion Resistant Coatings

The corrosion resistant coatings have passed the standard corrosion tests required by the approving agencies and are listed and approved as indicated in ***Table 5.1***. These tests do not represent all possible corrosive environments. The Electro-less Nickel PTFE (ENT) finish passed the UL 199 thirty day corrosion test and is cULus listed and FM Approved as corrosion resistant. For automatic sprinklers, the ENT coating is applied to all exposed exterior surfaces, including the waterway. Prior to installation, verify that the coatings are compatible with, or suitable for, the proposed environment. The ENT finish has not been evaluated for environments containing chlorine, such as indoor swimming pools. It is not recommended for these applications.

5.6 Available Temperature Ratings

Viking sprinklers are available in several temperature ratings that relate to a specific temperature classification. Applicable installation rules mandate the use and limitations of each temperature classification. In selecting the appropriate temperature classification, the maximum expected ceiling temperature must be known. When there is doubt as to the maximum temperature at the sprinkler location, a maximum-reading thermometer should be used to determine the temperature under conditions that would show the highest readings to be expected. In addition, recognized installation rules may require a higher temperature classification, depending upon sprinkler location, occupancy classification, commodity classification, storage height, and other hazards. In all cases, the maximum expected ceiling temperature dictates the lowest allowable temperature classification. Sprinklers located immediately adjacent to a heat source may require a higher temperature rating.

6. ORDERING PROCEDURE

6.1 Sprinkler

1. Choose a sprinkler base part number with the required thread size and listing or approval (refer to ***section 5***):
2. Add the suffix for the desired finish.
3. Add the suffix for the desired temperature rating.

NOTE: For Polyester, insert the desired temperature rating suffix where the dash (–) is shown.

EXAMPLE: 23908MB/W = VK3101 with white polyester finish and 155 °F (68 °C) nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C).

1. Sprinkler Base Part Number	
See Section 5	
23908	1/2” NPT
23914	15 mm BSPT

2. Finish	
Description	Suffix
Brass	A
Chrome	F
White Polyester	M–/W
Black Polyester	M–/B
ENT	JN

3. Temperature Rating			
Nominal Temperature Rating	Bulb Color	Maximum Ambient Ceiling Temperature	Suffix
135 °F (57 °C)	Orange	100 °F (38 °C)	A
155 °F (68 °C)	Red	100 °F (38 °C)	B
175 °F (79 °C)	Yellow	150 °F (65 °C)	D
200 °F (93 °C)	Green	150 °F (65 °C)	E
286 °F (141 °C)	Blue	225 °F (107 °C)	G
OPEN	—	—	Z

6.1 Sprinkler Accessories

NOTE: Images not to scale.



Figure 4 - Sprinkler Accessories

Image Reference	Part Number	Description
1	23559MB	Straight wrench: required for proper installation
2	01724A	Sprinkler cabinet: holds up to 6 sprinklers
3	01725A	Sprinkler cabinet: holds up to 12 sprinklers

7. CONTACT

The sprinkler and accessories are available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

Americas and Asia: www.vikinggroupinc.com/locations OR Europe, Middle East, Africa (EMEA): www.viking-emea.com/contact.

Manufacturer:

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Caledonia, MI 49316
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Fax: 269–818–1680
Technical Services: 1–877–384–5464
techsvcs@vikingcorp.com

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