Storage Sprinkler U.S. Quick Reference Guide

This guide is intended for general reference only. Prior to the design, layout, and/or installation of any sprinkler system, please refer to Viking's technical documentation and always consult with the AHJ. Viking makes no representation or warranty as to whether following this guide will satisfy any rule or requirement. Please visit www.vikinggroupinc.com for the most current technical data and product specifications. All products must be installed in accordance with the manufacturer's current installation instructions. Viking reserves the right to change product specifications at any time without notice and without incurring obligation.

Early Suppression Fast Response (ESFR) Sprinklers

14.0 (202) K-factor

VK520, ESFR Upright

Base Part Number:	10625
Technical Datasheet:	F_060298
NPT Thread:	3/4 in

- Protects up to 35 ft (10,7 m) high buildings without using in-rack sprinklers
- Upright design provides more options for designing around obstructions
- Install directly onto system piping up to 3 in (75 mm) diameter pipe
- Easy to retrofit into existing upright sprinkler systems
- Can be installed on same branch line as K14 ESFR pendent sprinklers

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			32′	30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	25′	20′	20′
Class I-IV Commodity										1455	1455	1455	1302	1188	1188	1188
Cartoned Nonexpanded Plastic										1455	1455	1455	1302	1188	1188	1188
Cartoned Expanded Plastic														1188	1188	1188

[1] Required flow per sprinkler calculated using $Q=K*(\sqrt{p})$ multiplied by number of design sprinklers (12)

14.0 (202) K-factor

VK500, ESFR Pendent

Base Part Number:	10284
Technical Datasheet:	F_060198
NPT Thread:	3/4 in

- Protects up to 35 ft (10,7 m) high buildings without using in-rack sprinklers
- Sprinklers may be spaced up to 12 ft (3,7 m) for buildings up to 30 ft (9,1 m)
- Coverage area per sprinkler may not exceed 100 ft^2 (9,3 m^2)
- Available in 165° F and 205°F temperature ratings

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			32′	30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	25′	20′	20′
Class I-IV Commodity										1455	1455	1455	1302	1188	1188	1188
Cartoned Nonexpanded Plastic										1455	1455	1455	1302	1188	1188	1188
Cartoned Expanded Plastic													1302	1188	1188	1188
Exposed Nonexpanded Plastic										1455	1455	1455	1302	1188	1188	1188

[1] Required flow per sprinkler calculated using $Q=K*(\sqrt{p})$ multiplied by number of design sprinklers (12)

14.0 (202) K-factor

VK502, ESFR Dry Pendent

Threaded Part Number:*	18177
Grooved Part Number:*	18176
Technical Datasheet:	F_042012
NPT Thread:	1-1/2 in
Grooved:	2 in

- Protects up to 35 ft (10,7 m) high buildings without using in-rack sprinklers
- INSTALL ON WET SYSTEMS ONLY (not approved for dry/preaction systems)
- Uses same design criteria as standard 14.0 (202) K-factor ESFR pendent
- Includes two dry sprinkler insulation boots (p/n 22089M/W)
- Offered with either a threaded or grooved connection
- Available in 165°F temperature rating

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			32′	30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	25′	20′	20′
Class I-IV Commodity										1455	1455	1455	1302	1188	1188	1188
Cartoned Nonexpanded Plastic										1455	1455	1455	1302	1188	1188	1188
Cartoned Expanded Plastic													1302	1188	1188	1188
Exposed Nonexpanded Plastic										1455	1455	1455	1302	1188	1188	1188

*Standard length is 36-5/8". Also available in lengths of 18-5/8", 24-5/8", and 30-5/8". Refer to Viking's List Price Book for ordering information.

[1] Required flow per sprinkler calculated using $Q=K*(\sqrt{p})$ multiplied by number of design sprinklers (12)

ESFR Sprinklers continued on Page 2

ESFR Sprinklers continued from Page 1

Early Suppression Fast Response (ESFR) Sprinklers

Viking ESFR sprinklers with K-factor of 16.8 and greater successfully meet the new UL 1767 test standard and compliance program for high clearance storage arrangements.

16.8 (242) K-factor

VK503, ESFR Pendent

Base Part Number:	14073
Technical Datasheet:	F_120106
NPT Thread:	3/4 in

- Protects up to 35 ft (10,7 m) high piled storage without using in-rack sprinklers in buildings with 40 ft (12,2 m) high ceilings
- Requires lower starting pressures than VK500 K14 (202) ESFR pendent
- Approved for up to 45 ft (13,7 m) ceilings with one row of in-rack sprinklers
- Available in 165°F and 205°F temperature ratings

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			32′	30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	25′	20′	20′
Class I-IV Commodity	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193
Cartoned Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193
Cartoned Expanded Plastic													1307	1193	1193	1193
Exposed Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (12)
[2] Requires one row of in-rack sprinklers

16.8 (242) K-factor

VK504, ESFR Dry Pendent

Threaded Part Number:*	19016
Grooved Part Number:*	19015
Technical Datasheet:	F_062613
NPT Thread/Grooved:	1-1/2 in

- Protects up to 35 ft (10,7 m) high piled storage without using in-rack sprinklers in buildings with 40 ft (12,2 m) high ceilings
- Available in 165°F and 205°F temperature ratings
- Includes two dry sprinkler insulation boots (p/n 22089M/W)
- INSTALL ON WET SYSTEMS ONLY (not approved for dry/preaction systems)

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			32′	30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	25′	20′	20′
Class I-IV Commodity						1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193
Cartoned Nonexpanded Plastic						1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193
Cartoned Expanded Plastic													1307	1193	1193	1193
Exposed Nonexpanded Plastic						1454	1454	1454	1454	1454	1454	1454	1307	1193	1193	1193

*Standard length is 36-1/2" (threaded), 37-1/2" (grooved). Refer to Viking List Price Book for additional available lengths.
[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (12)

22.4 (320) K-factor

VK506, ESFR Pendent

Base Part Number:	18493
Technical Datasheet:	F_081612
NPT Thread:	1 in

- Protects up to 40 ft (12,2 m) high piled storage without using in-rack sprinklers with ceilings up to 45 ft (13,7 m)
- May reduce or eliminate the need for a fire pump
- Available in 165°F and 205°F temperature ratings

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity	1701	1701	1701	1701	1701	1701	1701	1701	1701	1591	1591	1591	1344	1344	1344
Cartoned Nonexpanded Plastic	1701	1701	1701	1701	1701		1701	1701	1701	1591	1591	1591	1344	1344	1344
Exposed Nonexpanded Plastic						1901	1901	1901		1591	1591	1591	1344	1344	1344

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (12)

25.2 (363) K-factor

VK510, ESFR Pendent

Base Part Number:	12080
Technical Datasheet:	F_100102
NPT Thread:	1 in

- Protects up to 40 ft (12,2 m) high piled storage without using in-rack sprinklers with ceilings up to 45 ft (13,7 m)
- May reduce or eliminate the need for a fire pump
- cULus Listed with deflector installed 6-18 in (102-330 mm) below ceiling for Ceiling heights up to 40 feet (6-14 in down for up to 45 ft ceiling heights)
- Available in 165°F and 205°F temperature ratings

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity	1913	1913	1913	1913	1913	1512	1512	1512	1512	1352	1352	1352	1171	1171	1171
Cartoned Nonexpanded Plastic	1913	1913	1913	1913	1913	1512	1512	1512	1512	1352	1352	1352	1171	1171	1171
Exposed Nonexpanded Plastic						2139	2139	2139							

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (12)

ESFR Sprinklers continued from Page 2

Early Suppression Fast Response (ESFR) Sprinklers

Viking ESFR sprinklers with K-factor of 16.8 and greater successfully meet the new UL 1767 test standard and compliance program for high clearance storage arrangements.

28.0 (404) K-factor

VK514, ESFR Pendent

Base Part Number - FM/UL:	22894
Base Part Number - UL Only:	19591
Technical Datasheet:	F_010715
NPT Thread:	1 in

- FM Approved to protect up to 55 ft (16,7 m) high facilities with up to 50 ft (15,2 m) high piled storage, 8 ft (2,4 m) aisle width required.
- Additional FM Approval reduces water requirements in 50 foot buildings.
- UL Listing protects up to 48 ft (14,6 m) high storage facilities with up to 43 ft (13,1 m) high-piled storage, 6 ft (1,8 m) aisle width required.
- Available in 165°F and 205°F temperature ratings.

FM - Required Minimum Flows (GPM) - Single-Row and Double-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	55′								50′						45′					40′				35′			30′		25′
storage height (ft) >	50′	50′	45′	40′	35′	30′	25′	20′	45′	40′	35′	30′	25′	20′	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity	2254	2254	2254	2254	2254	2254	2254	2254	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770
Cartoned Nonexpanded Plastic	2254	2254	2254	2254	2254	2254	2254	2254	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770	1770

F=FM - Required Minimum Flows (GPM) - Single-Row and Double-Row Rack Storage (without solid shelves)[2]

ceiling height (ft) >	50′						45′					40′				35′				30′	25′
storage height (ft) >	45′	40′	35′	30′	25′	20′	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593
Cartoned Nonexpanded Plastic	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593	1593

[1] Required flow per sprinkler calculated using Q=K(√p) multiplied by number of design sprinklers (9 sprinklers at 55′ ceiling height, 10 sprinklers at ceiling height of 50′ and below)
[2] Required flow per sprinkler calculated using Q=K(√p) multiplied by number of design sprinklers (9), provided that the water supply can also provide a design of four sprinklers in a 2x2 array at 1000 gpm

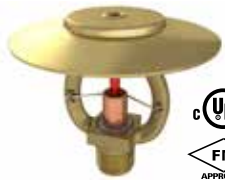
NFPA 13 - Required Minimum Flow (GPM) - Single-Row and Double-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	48′						45′					40′				35′			30′		25′
storage height (ft) >	43′	40′	35′	30′	25′	20′	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988
Cartoned Nonexpanded Plastic	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (12)

Control Mode Specific Application (CMSA) Sprinklers

11.2 (161) K-factor



VK540, Large Drop, CMSA Upright

Base Part Number:	13167
Technical Datasheet:	F_090595
Response Type:	Standard
NPT Thread:	3/4 in

- Available in 155°F, 200°F, and 286°F temperature ratings
- Provides protection from severe challenge fires by creating larger water drops that penetrate the fire plume and cool the storage commodity
- Approved for storage of class I-IV commodities, heavyweight rolled paper, and expanded and nonexpanded plastics (cartoned and exposed)
- VK540 is approved for wet, dry, and preaction systems

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-II Commodity						2990[3]				1120	840		1120	840	
Class III Commodity											840		840	840	
Class IV Commodity											1455		1188	1455	1188
Cartoned Nonexpanded Plastic											1940		1188	1940	1188
Exposed Nonexpanded Plastic											1940		1188	1940	1188

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (Refer to NFPA 13)
[2] Requires one row of in-rack sprinklers
[3] Dry systems only. Requires 30 second water delivery time. High temperature sprinklers only.
[4] Flows based upon wet systems.

19.6 (283) K-factor

VK592, CMSA Pendent

Base Part Number:	14243A
Technical Datasheet:	F_033108
Response Type:	Standard
NPT Thread:	1 in

- Available in 160°F and 205°F temperature ratings
- Requires lower overall water usage than ESFRs and other CMSA products
- Overcomes many obstruction challenges that impact ESFR sprinklers
- 12 ft (3,7 m) spacing between sprinklers provides enhanced design flexibility
- Listed and Approved for warehouses with aisles as narrow as 4 ft (1,2 m)
- UL Listed for concrete tee construction (prohibited for ESFR sprinklers)

NFPA 13 - Required Minimum Flow (GPM) - Single-Row, Double-Row, and Multi-Row Rack Storage (without solid shelves)[1]

ceiling height (ft) >	45′					40′				35′			30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Class I-IV Commodity						1610	1610	1610	1610	1470	1470	1470	1176	1176	1176
Cartoned Nonexpanded Plastic						1610	1610	1610	1610	1470	1470	1470	1176	1176	1176

[1] Required flow per sprinkler calculated using Q=K*(√*p*) multiplied by number of design sprinklers (see data page)
[2] 40 ft ceiling height is UL listed only. FM approved for up to 35 ft ceiling height (30 ft of storage)
[3] Based on UL listed design criteria. VK592 is not FM approved at 40′ ceiling heights.

Control Mode Density Area (CMDA) Sprinklers

11.2 (161) K-factor

VK530, Standard Response ELO Upright

Base Part Number:	09679
Technical Datasheet:	F_010692
Response:	Standard
Element:	Glass Bulb
NPT Thread:	3/4 in

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor

VK531, Quick Response ELO Upright

Base Part Number:	10633
Technical Datasheet:	F_120699
Response:	Quick
Element:	Glass Bulb[1]
NPT Thread:	3/4 in

[1]Also available with fusible link (VK533-p/n 13978) - UL Listed ONLY

Pre-assembled with Sprinkler Guard 10633--G

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor

VK536, Standard Response ELO Pendent

Base Part Number:	07961
Technical Datasheet:	F_072213
Response:	Standard
Element:	Glass Bulb
NPT Thread:	3/4 in

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor

VK377, Quick Response ELO Pendent

Base Part Number:	08337
Technical Datasheet:	F_030993
Response:	Quick
Element:	Glass Bulb
NPT Thread:	3/4 in

Pre-assembled with Sprinkler Guard 08337--G

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

Control Mode Density Area (CMDA) Sprinklers

16.8 (242) K-factor

VK580, Standard Response CMDA Upright

Base Part Number:	12739A
Technical Datasheet:	F_041904
Response:	Standard
Element:	Glass Bulb
NPT Thread:	3/4 in

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.45 gpm/ft²	100 ft²	45 gpm	7.2 psi	900 gpm
0.5 gpm/ft²	100 ft²	50 gpm	8.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	12.8 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	17.4 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	22.7 psi	1,600 gpm

25.2 (363) K-factor

VK598, Standard Response CMDA Upright

Base Part Number:	19522A
Technical Datasheet:	F_090414
Response:	Standard
Element:	Glass Bulb
NPT Thread:	1 in

- FM Approved Only - Design and install per FM Global Loss Prevention Data Sheet 8-9 (July 2018) only
- FM Approved for use in dry or preaction systems to protect Class I-III commodities with storage heights of up to 40 ft (12,2 m) in refrigerated areas and freezers as high as 45 ft (13,7 m), without the need for additional in-rack sprinkler protection
- VK598 design criteria requires specific water delivery times, as indicated on the product's technical data sheet. Viking's Technical Services team will assist customers with performing the required fluid delivery calculations

FM Global Loss Prevention Data Sheet 8-9 (July 2015) - Required Minimum Flow (GPM) - Open Frame Rack Storage (without need for in-rack sprinklers)

ceiling height (ft) >	45′					40′				35′			30′		25′
storage height (ft) >	40′	35′	30′	25′	20′	35′	30′	25′	20′	30′	25′	20′	25′	20′	20′
Dry/Preaction															
Class I-III Commodity	2140	2140	2140	2140	2140	2342	2342	2342	2342	2342	2342	2342	1992	1992	1333
Wet System															
Class I-III Commodity													1352	1352	1352

Intermediate Level Sprinklers (In-Rack)

Preassembled with Water Shield

5.6 (81) K-factor

VK550
SR Upright

Base Part Number:	12986––U
Technical Datasheet:	F_012498
Response:	Standard
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available with fusible link (VK552-p/n 12973––U)
- Shield protects sprinkler from water discharge above
- Use where sprinkler guards are not required

Preassembled with Water Shield

8.0 (115) K-factor

VK560
SR Upright

Base Part Number:	18263––U
Technical Datasheet:	F_012498
Response:	Standard
NPT Thread:	3/4 in
Finish:	Std. Brass

- Also available with fusible link (VK562-p/n 18253––U)
- Shield protects sprinkler from water discharge above
- Use where sprinkler guards are not required

Preassembled with Water Shield

5.6 (81) K-factor

VK556
QR Upright

Base Part Number:	12978––U
Technical Datasheet:	F_012498
Response:	Quick
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available with fusible link (VK551-p/n 12279––U)
- Shield protects sprinkler from water discharge above
- Use where sprinkler guards are not required

Preassembled with Water Shield

8.0 (115) K-factor

VK566
QR Upright

Base Part Number:	18257––U
Technical Datasheet:	F_012498
Response:	Quick
NPT Thread:	3/4 in
Finish:	Std. Brass

- Shield protects sprinkler from water discharge above
- Also available with fusible link (VK567-p/n 18275––U)
- Use where sprinkler guards are not required

Sprinkler Guards and Shields

ESFR Sprinkler Guard

VK506
VK510
VK514

Base Part Number:	23334F; M/R
Technical Datasheet:	F_061620
NPT Thread:	1 in
Finish:	Painted Red/Chrome

XG Sprinkler Guard

XT1
Sprinklers

Base Part Number:	122931
Technical Datasheet:	F_021319
NPT Thread:	1/2 or 3/4 in
Finish:	Chrome

XWU Water Shield (upright)

Shield

Part Number:	10326
Size:	1/2 in & 3/4 in

Model F-1 (pendent)

Shield

Part Number:	10323 1/2 in
Part Number:	10324 3/4 in
Size:	1/2 in & 3/4 in

ELO Dry Pendent (FM Approved Standard Spray Storage Sprinklers)

11.2 (161) K-factor

FM APPROVED

VK544/VK545/VK546, Standard Response Dry Pendent ELO

Base Part Number:	19830
Technical Datasheet:	F_040815
Response:	Standard
Element:	Fusible Link
NPT Thread:	1-1/4 in

Note: Two optional insulating boots (22089M/W) provided with every plain barrel style sprinkler; one boot shipped with each standard adjustable and recessed adjustable model. Installation of the provided boot assembly is optional.

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor

FM APPROVED

VK547/VK548/VK549, Quick Response Dry Pendent ELO

Base Part Number:	19828
Technical Datasheet:	F_ 040915
Response:	Quick
Element:	Fusible Link
NPT Thread:	1-1/4 in

Note: Two optional insulating boots (22089M/W) provided with every plain barrel style sprinkler; one boot shipped with each standard adjustable and recessed adjustable model. Installation of the provided boot assembly is optional.

Example Density	Std CMDA Spk Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	100 ft²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft²	100 ft²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft²	100 ft²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft²	100 ft²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft²	100 ft²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft²	100 ft²	80 gpm	51.0 psi	1,600 gpm

Extended Coverage Storage Sprinkler

25.2 (363) K-factor

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FM APPROVED

VK595, EC Upright (CMDA and CMSA Applications)

Base Part Number:	16859A
Technical Datasheet:	F_121610
Response:	Quick/Standard
Element:	Fusible Link
NPT Thread:	1 in

- 14 ft x 14 ft maximum coverage area (4,3 m x 4,3 m)
- Suitable for "unobstructed" and certain "non-combustible obstructed" construction
- FM Approved as a quick response, extended coverage sprinkler for both storage and non-storage applications (refer to FM Loss Prevention datasheets and Viking technical datasheet F_121610 for FM design and installation details)
- Available in 165°F and 214°F temperature ratings

Example Density	Sprinkler Spacing	(Q) Flow Rate / Sprinkler	(P) Starting Pressure	Example Water Demand (2,000 ft² design area)
0.3 gpm/ft²	196 ft²	66.7 gpm	7.0 psi	734 gpm
0.4 gpm/ft²	196 ft²	78.4 gpm	9.7 psi	863 gpm
0.5 gpm/ft²	196 ft²	98.0 gpm	15.1 psi	1,078 gpm
0.6 gpm/ft²	196 ft²	117.6 gpm	21.8 psi	1,294 gpm
0.7 gpm/ft²	100 ft²	70.0 gpm	7.7 psi	1,400 gpm
0.7 gpm/ft²	196 ft²	137.2 gpm	29.6 psi	1,509 gpm
0.8 gpm/ft²	100 ft²	80.0 gpm	10.1 psi	1,600 gpm
0.8 gpm/ft²	196 ft²	156.8 gpm	38.7 psi	1,725 gpm