



Your fire protection solutions partner



Worldwide Fire Protection

SPRINKLERS
SYSTEMS
SOLUTIONS

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Wherever

02

contents



Proven and dependable product quality, together with the outstanding customer service provided by our worldwide distribution network, are the keys to Viking's success. Viking is firmly established among the world's leading independent manufacturers and distributors of products to the fixed fire protection industry.

Viking's objective is simple - to provide quality products and professional services to protect lives and property from the danger of fire;

- quality sprinklers with proven long term performance;
- valves and systems that are easier to install and maintain;
- products that give designers, installing contractors and owners peace of mind.

Viking supplied products carry multiple international approvals where required, including Underwriters Laboratories, Factory Mutual, the Loss Prevention Council Board, Verband der Sachversicherer e.V., in Germany,

APSAD in France and others, in order to satisfy the local needs of our global customer base.

Through the Viking SupplyNet distribution and service network Viking is represented in over 70 countries worldwide providing distribution and customer support to independent contractors and complete system solutions to major engineering firms and owners.

Customer support is world class at every point in the project process. Detailed technical data, hands-on training facilities and expert technical assistance are provided in a service package you can depend on from concept to completion.

you need us to be



Approvals and Listings

All products are subject to strict quality control to ISO 9002 standards including hydrostatic testing. Where applicable Viking products have been submitted to UL, FM, LPC and VdS and received approvals listing for use in fire protection applications. For details of individual product approvals refer to the product and systems data sheet or contact your Viking Distributor.



Standard coverage sprinkler

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.



Light, Ordinary, and Extra Hazard

Standard Response

	Recessed Pendent	Domed Concealed Pendent	Upright	Conventional	Stainless Steel Upright	Stainless Steel Recessed Pendent
5.6 K	VK102 Temp Range 135-500°F  GB ★	VK102-D Temp Range 155-200°F  GB	VK100 Temp Range 135-500°F  GB ★	VK118 Temp Range 155-360°F  GB	VK130 Temp Range 155-500°F  GB	VK132 Temp Range 155-500°F  GB
8.0 K	VK202 Temp Range 135-500°F  GB ★	VK202-D Temp Range 155-200°F  GB	VK200 Temp Range 135-500°F  GB ★	VK120 Temp Range 155-360°F  GB		
11.2 K	VK536 Temp Range 155-286°F  GB		VK530 Temp Range 155-286°F  GB			

GB - Glass Bulb
FL - Fusible Link

★ - Also available in fusible link version.

(NOTE) The above photos are for illustrative purposes only and might not exactly match the sprinkler indicated. Always refer to the technical documentation on Viking's web site for product dimensions and physical characteristics.

04















sprinklers

- Viking sprinklers are available from the factory with three wraps of PTFE tape applied to the threads at an additional charge. To order, add a "T" to the end of the part number. See list price book for pricing details.
- Many Viking sprinklers are offered in a "Cocoon" option, which includes the sprinkler, protective cap or clip, and two-piece escutcheon. The escutcheon's adapter is threaded to the sprinkler and the entire unit is then protected by a plastic cap. Outer escutcheon rings are included in a separate box.
- Select 8.0 and 11.2 K factor sprinklers are available with 1/2 NPT thread size FOR REPLACEMENT ONLY.
- The maximum working pressure for high pressure sprinklers is 250 psi, unless otherwise indicated.
- Wax coatings are available on select standard response sprinklers up to and including 286°F. The standard finish is brass.
- Cover plates and escutcheons are sold separately. Sprinklers, escutcheons, and cover plates are available in custom colors at an additional charge. See pages F-8 and F-9 of Viking's list price book for details.
- Polyester and PTFE sprinklers are suitable for decorative applications and are UL Listed for corrosion resistance.
- For corrosion resistance, Viking also offers several sprinklers that are UL Listed with Electroless Nickel PTFE (ENT) coating.

Mirage® is a registered trademark of The Viking Corporation

Light and Ordinary Hazard

Quick Response

	Recessed Pendant	Domed Concealed Pendant	Flat Concealed Pendant	Upright	Horizontal Sidewall	Flat Concealed Horizontal Sidewall
5.6 K	VK302 Temp Range 135-286°F  GB ★	VK302-D Temp Range 155-200°F  GB	VK462 Temp Range 155-200°F  GB	VK300 Temp Range 135-286°F  GB ★	VK305 Temp Range 155-286°F  GB ★	VK481 Temp Range 165-220°F  FL
8.0 K	VK352 Temp Range 155-286°F  GB ★	VK352-D Temp Range 155-200°F  GB ★	VK464 Temp Range 155-200°F  GB	VK350 Temp Range 155-286°F  GB ★	VK360 Temp Range 135-200°F  GB	
11.2 K	VK377 Temp Range 155-286°F  GB		VK469 Temp Range 165-205°F  FL	VK531 Temp Range 155-286°F  GB ★		

(NOTE) The above photos are for illustrative purposes only and might not exactly match the sprinkler indicated. Always refer to the technical documentation on Viking's web site for product dimensions and physical characteristics.

Additional Sprinklers

	Conventional	Flush Style	Stainless Steel Upright/Pendent	Mirage® Concealed (non-ferrous)	Mirage® Concealed (high pressure)	Mirage® Concealed (adjustable)
5.6 K	VK310 GB ★ FL	VK402 FL	VK338 VK339 GB	VK462-MRI GB	VK463 GB	VK462-ADJ GB
8.0 K	VK354 GB ★			VK464-MRI GB		

	High Pressure Recessed Pendant	High Pressure Upright	High Pressure Horizontal Sidewall
5.6 K	VK 317 GB ★	VK315 GB ★	VK319 GB ★

GB - Glass Bulb
FL - Fusible Link
★ - Also available in fusible link version.

Light and Ordinary Hazard











Standard Response

	Flush Style ¹	High Pressure Recessed Pendant	High Pressure Upright	High Pressure Horizontal Sidewall
5.6 K	VK400 (p/n 06679B) FL	VK122 (p/n 09992) GB	VK124 (p/n 09993) GB	VK116 (p/n 09849) GB

* Please refer to the "Light, Ordinary, and Extra Hazard" table on page 4 for additional sprinkler options.

Light Hazard Only

Quick Response

	Recessed Pendant	Flat Concealed Pendant	Mirage Adjustable Concealed	Upright	Horizontal Sidewall	Vertical Sidewall
2.8 K	VK329 Temp Range 155-286°F  GB ★	VK461 Temp Range 155-200°F  GB	VK461-ADJ Temp Range 155-200°F  GB	VK325 Temp Range 155-286°F  GB ★	VK333 Temp Range 155-286°F  GB ★	
4.2 K	VK331 Temp Range 155-286°F  GB ★	VK465 Temp Range 155-200°F  GB	VK465-ADJ Temp Range 155-200°F  GB	VK327 Temp Range 155-286°F  GB ★		
5.6 K	*	*	*	*	*	VK306 Temp Range 155-286°F  GB ★

* Please refer to the "Quick Response" table on the preceding page for additional sprinkler options.

(NOTE) The above photos are for illustrative purposes only and might not exactly match the sprinkler indicated. Always refer to the technical documentation on Viking's web site for product dimensions and physical characteristics.

Additional Sprinklers

	High Pressure Recessed Pendant	High Pressure Upright	High Pressure Horizontal Sidewall
2.8 K	VK342 (p/n 12290) ★ GB	VK340 (p/n 12286) ★ GB	VK344 (p/n 12287) ★ GB

GB - Glass Bulb

FL - Fusible Link

★ - Also available in fusible link version.

Flat Cover Plate – Pendant

(VK461, VK462, VK463, VK464, VK465)
Standard diameter (2-3/4") – base part number 13504
Large diameter (3-1/4") – base part number 13642
Square cover plate – base part number 15394

Flat Cover Plate – Pendant (ELO)

(VK469, VK632 EC, VK538 EC)
Large diameter (3-1/4") – base part number 15765

Flat Cover Plate – Sidewall (VK481)

Base part number 16207

Domed Cover Plate

(VK102-D, VK202-D, VK302-D, VK352-D)
Base part number 12381

Escutcheons (recessed pendant sprinklers)

1/2" slip-on (2 piece) – base part number 06419
3/4" slip-on (2 piece) – base part number 06420

1/2" threaded (2 piece) – base part number 11038

3/4" threaded (2 piece) – base part number 11625



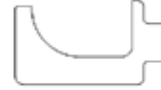



1/2" std flat escutcheon – base part number 02960

3/4" std flat escutcheon – base part number 05464

Ceiling rings for VK400/VK402 flush pendants sold separately.
See Viking list price book for details.

*See back panel for available temperature and finishes, and corresponding part number suffixes

Select Sprinkler Wrenches









	Part #	10896W/B
	Use with all frame-style sprinklers and spray nozzles	
	Part #	16036W/B
	Use with recessed pendant sprinklers with protective caps	
	Part #	13577W/B
	Use with domed concealed pendant, wax coated, and recessed pendant sprinklers with protective shields	
	Part #	13655W/B
	Use with recessed HSW sprinklers with protective shields and domed concealed HSW sprinklers	
Heavy Duty	Part #	14047W/B
	Use with Mirage commercial concealed pendant sprinklers	
Light Duty	Part #	14031
	Use with Mirage commercial concealed pendant sprinklers	

Light Hazard Only Sprinklers continued from page 6

Light Hazard Only

Standard Response

Starting with the 1996 edition of NFPA 13, quick response type sprinklers are required to be used in all Light Hazard Occupancies, with exceptions for existing systems that have standard response sprinklers.

	Recessed Pendant	Upright	Horizontal Sidewall	High Pressure Recessed Pendant	High Pressure Upright	High Pressure Horizontal Sidewall
2.8 K	VK003 Temp Range 155-360°F  GB	VK001 Temp Range 155-360°F  GB		VK023 Temp Range 155-360°F  GB	VK021 Temp Range 155-360°F  GB	VK015 Temp Range 155-360°F  GB
4.2 K	VK004 Temp Range 155-360°F  GB	VK002 Temp Range 155-360°F  GB				
5.6 K	*	*	VK104 Temp Range 155-360°F  GB	*	*	*

* Please refer to the "Quick Response" table on the preceding page for additional sprinkler options.




(NOTE) The above photos are for illustrative purposes only and might not exactly match the sprinkler indicated. Always refer to the technical documentation on Viking's web site for product dimensions and physical characteristics.

Additional Sprinklers

	Vertical Sidewall
5.6 K GB	VK106

GB - Glass Bulb
FL - Fusible Link
★ - Also available in fusible link version.

To order, add desired finish (f) and temperature (t) suffix to end of base part number.

Example 1 [base(f)(t)]	Example 2 [base(f)(t)]	Example 3 [base(f)(t)]
VK530, Chrome, 155°F	VK360, White, 175°F	VK464, Brass, 200°F
 09679FB	 15591MD/W	 13614AE

Temp Suffixes (t)		Finish Suffixes (f)	
135°F	A	Brass	A
155°F	B	Chrome	F
165°F	C	White-Poly	M-/W
175°F	D	Black Poly	M-/B
200°F / 205°F	E	Wax Coated	C
280°F / 286°F	G	Poly w/Wax	V-/W
360°F	H	ENT*	JN
500°F	L	*Electroless Nickel PTFE	
Open	Z		

Commercial Extended Coverage Sprinkler

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.



The design data presented in this document is in accordance with each sprinkler's cULus listing. Design data for other approval agencies can be found on the product's technical datasheet.

Pendent and Recessed Pendent Sprinklers

5.6 (81) K-factor



VK600, Part No. 06778B
Technical datasheet Sprinkler 81a

- Listed to 175 psi (12 bar)
- 1/2" NPT (15mm)
- Light Hazard
- Standard Response - 155°F/68°C, 175°F/79°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C
- Standard Wrench - 10896W/B, Recessed Wrench - 13577W/B

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
16 x 16 ¹ (4.9x4.9)	26 (98.4)	21.6 (1.49)
18 x 18 ¹ (5.5x5.5)	33 (124.9)	34.7 (2.39)
20 x 20 ^{2,3} (6.1x6.1)	40 (151.4)	51.0 (3.52)

¹ cULus listed for quick response only. FM approved for quick response.
² cULus quick response listing available in 135°F/57°C only. FM quick response listing includes 135°F/57°C, 155°F/68°C, and 175°F/79°C.
³ Standard response listing also available in 175°F/79°C.
 * See technical datasheet for expanded FM approval criteria.

5.6 (81) K-factor



VK604, Part No. 10335
Technical datasheet Sprinkler 90e

- Listed at 175 psi (12 bar)
- VK610 (p/n 12294) Listed for high pressure; 250 psi (17.2 bar)
- 1/2" NPT (15mm)
- Light Hazard
- Standard Response - 155°F/68°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C
- Standard Wrench - 10896W/B, Recessed Wrench - 13577W/B

16 x 16 ¹ (4.9x4.9)	26 (98.4)	21.6 (1.49)
18 x 18 (5.5x5.5)	33 (124.9)	34.7 (2.40)
20 x 20 ² (6.1x6.1)	40 (151.4)	51.0 (3.52)

¹ Available only for quick response.
² Standard response listing also available in 175°F/79°C.

8.0 (115) K-factor



VK602, Part No. 18262
Technical datasheet Sprinkler 81a

- Listed to 175 psi (12 bar)
- 3/4" NPT (20mm)
- Light Hazard
- Standard Response - 155°F/68°C, 175°F/79°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C
- Standard Wrench - 10896W/B, Recessed Wrench - 13577W/B

16 x 16 ¹ (4.9x4.9)	26 (98.4)	10.6 (0.73)
18 x 18 ¹ (5.5x5.5)	33 (124.9)	17.0 (1.17)
20 x 20 ² (6.1x6.1)	40 (151.4)	25.0 (1.72)

¹ cULus listed for quick response only. FM approved for quick response.
² cULus quick response listing available in 135°F/57°C only. FM quick response listing includes 135°F/57°C, 155°F/68°C, and 175°F/79°C.
 * See technical datasheet for expanded FM approval criteria.

11.2 (161) K-factor



VK608, Part No. 08339
Technical datasheet Sprinkler 85a

- Listed to 175 psi (12 bar)
- 3/4" NPT (20mm)
- Light Hazard
- Standard Response - 155°F/68°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C
- Standard Wrench - 05118CW/B, Recessed Wrench - 11663W/B
- Listed with concrete tees up to 30" (762mm) in depth

16 x 16 ¹ (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 ¹ (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 ² (6.1x6.1)	40 (151.4)	12.8 (0.88)

¹ Available only for quick response.
² cULus quick response listing in 135°F/57°C and 175°F/79°C only. FM quick response listing also includes 155°F/68°C.
 * See technical datasheet for expanded FM approval criteria.

Pendent and Recessed Pendent Sprinklers continued from page 8

11.2 (161) K-factor



VK534, Part No. 08340
Technical datasheet Sprinkler 83a

- QR Listing for Light and Ordinary Hazard may allow for design area reduction.
- Listed to 175 psi (12 bar)
- 3/4" NPT (20mm)
- Light/Ordinary Hazard
- Standard Response - 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Standard Wrench - 05118CW/B, Recessed Wrench - 11663W/B
- Listed with concrete tees up to 30" (762mm) in depth
- Available with ENT coating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
LIGHT HAZARD		
16 x 16 ¹ (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 ¹ (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 ¹ (6.1x6.1)	40 (151.4)	12.8 (0.88)
ORDINARY HAZARD*		
12 x 12 ¹ (3.7x3.7)	30 (113.6)	7.2 (0.50)
14 x 14 ¹ (4.3x4.3)	30 (113.6)	7.2 (0.50)
16 x 16 ² (4.9x4.9)	38 (143.9)	11.5 (0.79)
18 x 18 ² (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 ² (6.1x6.1)	60 (227.1)	28.7 (1.98)

¹ Available only for quick response.
² Available only for standard response.
 * Design data listed above is for OH Group 1. See technical datasheet for OH Group 2 data.

14.0 (202) K-factor



VK572, Part No. 13722
Technical datasheet Sprinkler 83q

- QR Listing for Ordinary Hazard may allow for design area reduction
- Listed to 175 psi (12 bar)
- 3/4" NPT (20mm)
- Ordinary Hazard
- Standard/Quick Response - 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Standard Wrench - 07297W/B, Recessed Wrench - 13032W/B
- FM Approved for HC1, HC2, and HC3 occupancies
- Listed with concrete tees up to 30" (762mm) in depth
- Available with ENT coating (Nickel PTFE) for corrosion resistance

ORDINARY HAZARD*		
12 x 12 ¹ (3.7x3.7)	39 (147.6)	7.8 (0.54)
14 x 14 ¹ (4.3x4.3)	39 (147.6)	7.8 (0.54)
16 x 16 ² (4.9x4.9)	39 (147.6)	7.8 (0.54)
18 x 18 ² (5.5x5.5)	49 (185.5)	12.3 (0.85)
20 x 20 ² (6.1x6.1)	60 (227.1)	18.4 (1.27)

¹ Available only for quick response.
² Available only for standard response.
 * See technical datasheet for FM approval criteria.
 ** Design data listed above is for OH Group 1. See technical datasheet for OH Group 2 data.

Upright Sprinkler

11.2 (161) K-factor



VK532, Part No. 08687
Technical datasheet Sprinkler 83a

- QR Listing for Light and Ordinary Hazard may allow for design area reduction
- 3/4" NPT (20mm)
- Light/Ordinary Hazard
- Standard Response - 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Standard Wrench - 05118CW/B
- FM approved for HC1, HC2, and HC3 occupancies
- Listed with concrete tees up to 30" (762mm) in depth
- Available with ENT coating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
LIGHT HAZARD		
16 x 16 ¹ (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 ¹ (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 ¹ (6.1x6.1)	40 (151.4)	12.8 (0.88)
ORDINARY HAZARD*		
12 x 12 ¹ (3.7x3.7)	30 (113.6)	7.2 (0.50)
14 x 14 ¹ (4.3x4.3)	30 (113.6)	7.2 (0.50)
16 x 16 ² (4.9x4.9)	38 (143.9)	11.5 (0.79)
18 x 18 ² (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 ² (6.1x6.1)	60 (227.1)	28.7 (1.98)

¹ Available only for quick response.
² Available only for standard response.
 * See datasheet for FM approval criteria
 ** Design data listed above is for OH Group 1. See technical datasheet for Group 2 data.

14.0 (202) K-factor



VK570, Part No. 13840
Technical datasheet Sprinkler 83h

- QR Listing for Ordinary Hazard may allow for design area reduction
- Listed at 175 psi (12 bar)
- 3/4" NPT (20mm)
- Ordinary Hazard
- Standard/Quick Response - 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
- Standard Wrench - 07297W/B
- Listed with concrete tees up to 30" (762mm) in depth
- Available with ENT coating (Nickel PTFE) for corrosion resistance

ORDINARY HAZARD*		
12 x 12 ¹ (3.7x3.7)	39 (147.6)	7.8 (0.54)
14 x 14 ¹ (4.3x4.3)	39 (147.6)	7.8 (0.54)
16 x 16 ² (4.9x4.9)	39 (147.6)	7.8 (0.54)
18 x 18 ² (5.5x5.5)	49 (185.5)	12.3 (0.85)
20 x 20 ² (6.1x6.1)	60 (227.1)	18.4 (1.27)

¹ Available only for quick response.
² Available only for standard response.
 * Design data listed above is for OH Group 1. See technical datasheet for Group 2 data.

Additional Design and Application Information
 For systems designed to NFPA 13, water supplies are determined by applying the requirements from Chapter 11, Design Approaches (2013 Edition). Refer to sprinkler data pages on Viking's web site at www.vikinggroupinc.com for current technical data, design criteria, and listing/approval information. In some cases, Sprinkler Identification Numbers (SIN) may apply to more than one sprinkler. Please use part numbers when placing orders. *NOTE: The A₂ = S x L method must be used to determine the sprinkler protection area of coverage. (8.5.2.1)*

Cover Plate Information
 Flat covers are available in white, ivory, black, bright brass, brushed brass, antique brass, polished chrome, brushed chrome and brushed copper standard finishes. Domed covers are available in white, ivory, black and polished chrome. Flat covers are 3-5/16" (84mm) and 2-3/4" (69.8mm) in diameter and the domed covers are 3-1/8" (80mm) in diameter. Square cover plates measure (LxW) 3-5/16" (84mm).

Special Painted Cover Plates
 In addition to standard finishes, cover plates can be special ordered in over 800 custom colors. Additional charges will apply. Orders covering special painted products are not subject to cancellation except by written permission and then only upon agreement to make payment for work already performed. Viking reserves the right to over ship special painted products produced in excess of order quantity at no charge. No return of these products is allowed.

Horizontal Sidewall Sprinklers

Standard Response available in 155°F/68°C; Quick Response available in 135°F/57°C, 155°F/68°C and 175°F/79°C

5.6 (81) K-factor



VK605, Part No. 12120
Technical datasheet Sprinkler 91a

- 1/2" NPT (15mm)
- Light Hazard
- Standard/Quick Response
- 6-12" (152-305mm) deflector distance to ceiling for horizontal ceilings. 4-6" (102-152mm) for ceilings up to 4/12 (18.4°) pitch
- Standard Wrench - 10896W/B, Recessed Wrench - 13655W/B
- Listed for high pressure; 250 psi (17.2 bar) as VK612 (p/n 12295)

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
16 x 16 ¹ (4.9x4.9)	26 (98.4)	21.6 (1.49)
16 x 18 ¹ (4.9x5.5)	29 (109.8)	26.8 (1.85)
16 x 20 ¹ (4.9x6.2)	32 (121.1)	32.7 (2.25)

¹ Also available for sloped ceilings up to 4/12 (18°) pitch with same flows and pressures, installed 4-6" below ceiling.

8.0 (115) K-factor



VK606, Part No. 13005
Technical datasheet Sprinkler 82a

- 3/4" NPT (20mm)
- Light Hazard
- Quick Response
- Approved for 4-12" (102-305mm) down from ceiling
- Standard Wrench - 10896W/B, Recessed Wrench - 13655W/B
- FM approved up to 16 x 24 (4.9 x 7.3)

16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
16 x 18 (4.9x5.5)	29 (109.8)	13.1 (0.91)
16 x 20 (4.9x6.2)	32 (121.1)	16.0 (1.10)
16 x 22 ¹ (4.9x6.7)	36 (136.3)	20.3 (1.40)
16 x 22 ² (4.9x6.7)	38 (143.8)	22.6 (1.56)

¹ 4-6" (102-152mm) down from ceiling.

² 6-12" (152-305mm) down from ceiling.

* Flows and pressures listed above are based on UL Listings only. See technical datasheet for FM approval criteria.

8.0 (115) K-factor



VK630, Part No. 13500
Technical datasheet Sprinkler 80a

- 3/4" NPT (20mm)
- Light Hazard
- Quick Response
- Approved for 4-12" (102-305mm) down from ceiling
- Standard Wrench - 10896W/B, Recessed Wrench - 13655W/B
- Also available in a domed concealed (model p/n 13500A-X)
- Available with ENT coating (Nickel PTFE) for corrosion resistance.

14 x 24 ¹ (4.3x7.3)	34 (128.7)	18.1 (1.25)
14 x 24 ² (4.3x7.3)	36 (136.3)	20.3 (1.40)
14 x 26 ¹ (4.3x7.9)	38 (144.0)	22.6 (1.56)
14 x 26 ² (4.3x7.9)	46 (174.1)	33.1 (2.28)
16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
16 x 18 (4.9x5.5)	29 (109.8)	13.1 (0.91)
16 x 20 (4.9x6.2)	32 (121.1)	16.0 (1.10)
16 x 22 (4.9x6.7)	36 (136.3)	20.3 (1.40)
16 x 24 (4.9x7.3)	39 (147.6)	23.8 (1.64)
18 x 18 (5.5x5.5)	33 (124.9)	17.0 (1.17)
18 x 20 (5.5x6.2)	36 (136.3)	20.3 (1.40)
18 x 22 (5.5x6.7)	40 (151.4)	25.0 (1.72)

¹ 4-6" (102-152mm) down from ceiling.

² 6-12" (152-305mm) down from ceiling.

* Flows and pressures listed above are based on UL Listings only. See datasheet for FM approval criteria.

8.0 (115) K-factor



VK638, Part No. 17375 (Corridor Sprinkler)
Technical datasheet Sprinkler 84n

- 3/4" NPT (20mm)
- Light Hazard
- Quick Response
- Standard Wrench - 10896W/B, Recessed Wrench - 13655W/B
- Well suited for hallways, corridors, breeze ways, and other applications requiring a wide spray pattern
- Also available in a domed concealed model (p/n 17375A-X)

28 x 12 ¹ (8.5x3.7)	34 (128.7)	18.1 (1.24)
28 x 14 ¹ (8.5x4.3)	40 (151.4)	25.0 (1.73)

¹ 4-12" (102-305mm) down from ceiling.

10

sprinklers

Flat Plate Concealed Horizontal Sidewall Sprinkler

Cover Plate 3-5/16" (84mm) diameter; Adjustment up to 1/4" (6mm)

8.0 (115) K-factor



VK680, Part No. 17114AC
Technical datasheet Sprinkler 87n

- 3/4" NPT (20mm)
- Light Hazard
- Quick Response
- Listed for installation 4-3/8 to 12-3/8" (112-314mm) down from ceiling (measured to the center line of sprinkler)
- Wrench - 16208W/R
- Sprinkler 165°F/74°C; Cover 135°F/57°C
- Use cover plate 16207 (sold separately)

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
14 x 22 (4.3x6.7)	31 (117.3)	15.0 (1.04)
16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
16 x 18 (4.9x5.5)	29 (109.8)	13.1 (0.91)
16 x 20 (4.9x6.2)	32 (121.1)	16.0 (1.10)
16 x 22 (4.9x6.7)	36 (136.3)	20.3 (1.40)
18 x 18 (5.5x5.5)	33 (124.9)	17.0 (1.20)
18 x 20 (5.5x6.2)	36 (136.3)	20.3 (1.40)
18 x 22 (5.5x6.7)	40 (151.4)	25.0 (1.72)

Mirage® Flat Plate Concealed Pendent Sprinklers

5.6 (81) K-factor



VK632, Part No. 14613A
Technical datasheet Sprinkler 92a

- 1/2" NPT (15mm)
- Light Hazard
- Wrench: Heavy Duty (14047W/B); Light Duty (14031)
- Quick Response - Sprinkler 135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C; Cover 135°F/57°C, 165°F/74°C

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
16 x 16 (4.9x4.9)	26 (98.4)	21.6 (1.49)
18 x 18 (5.5x5.5)	33 (124.9)	34.7 (2.39)
20 x 20 ¹ (6.1x6.1)	40 (151.4)	51.0 (3.52)

¹ Available only for 135°F/57°C and 175°F/79°C.

8.0 (115) K-factor



VK634, Part No. 14535A
Technical datasheet Sprinkler 92a

- 3/4" NPT (20mm)
- Light Hazard
- Wrench: Heavy Duty (14047W/B); Light Duty (14031)
- Quick Response - Sprinkler 135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C; Cover 135°F/57°C, 165°F/74°C

16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
18 x 18 (5.5x5.5)	33 (124.9)	17.0 (1.17)
20 x 20 ¹ (6.1x6.1)	40 (151.4)	25.0 (1.72)

¹ Available only for 135°F/57°C and 175°F/79°C.

11.2 (161) K-factor



VK636, Part No. 16102A
Technical datasheet Sprinkler 89a

- 3/4" NPT (20mm)
- Light Hazard
- Wrench: Heavy Duty (15467W/B); Light Duty (15466)
- Quick Response - Sprinkler 165°F/74°C, 205°F/96°C; Cover 135°F/57°C, 165°F/74°C
- Use ELO cover plate 15765_ (3-5/16" diameter)

16 x 16 (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 ¹ (6.1x6.1)	40 (151.4)	12.8 (0.88)

11.2 (161) K-factor



VK538, Part No. 17115A
Technical datasheet Sprinkler 89h

- 3/4" NPT (20mm)
- Ordinary Hazard
- QR Listing for Ordinary Hazard may allow for design area reduction
- Wrench: Heavy Duty (15467W/B); Light Duty (15466)
- Quick Response - Sprinkler 165°F/74°C, 205°F/96°C; Cover 135°F/57°C, 165°F/74°C
- Use ELO cover plate 15765_ (3-5/16" diameter)

ORDINARY HAZARD*		
14 x 14 (4.3x4.3)	30 (113.6)	7.2 (0.50)
16 x 16 (4.9x4.9)	38 (143.9)	11.5 (0.79)
18 x 18 (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 ¹ (6.1x6.1)	60 (227.1)	28.7 (1.98)

¹ Also listed as standard response.

* Design data listed above is for OH Group 1. See technical datasheet for Group 2 data.

Note: Base part numbers for cover plates are 13504 for standard diameter, 13642 for large diameter, 15394 for square, and 15765 for ELO. (Sold Separately)
When ordering, please add appropriate finish and temperature suffix (135°F/57°C = "A"; 165°F/74°C = "C") to base part number. Refer to Viking's list price book for ordering details.

Domed Concealed Pendent Sprinklers

5.6 (81) K-factor



VK614-D, Part No. 06778BA-X
Technical datasheet Sprinkler 88a

- 1/2" NPT (15mm)
- Light Hazard
- Standard Wrench - 13577W/B
- Standard Response - Sprinkler 155°F/68°C; Cover 135°F/57°C
- Quick Response - Sprinkler 135°F/57°C, 155°F/68°C, 175°F/79°C; Cover 135°F/57°C, 165°F/74°C

Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
16 x 16 ¹ (4.9x4.9)	26 (98.4)	21.6 (1.49)
18 x 18 (5.5x5.5)	33 (124.9)	34.7 (2.39)
20 x 20 (6.1x6.1)	40 (151.4)	51.0 (3.52)

¹ Available only for quick response.

8.0 (115) K-factor



VK616-D, Part No. 07077A-X
Technical datasheet Sprinkler 88a

- 3/4" NPT (20mm)
- Light Hazard
- Standard Wrench - 13577W/B
- Standard Response - Sprinkler 155°F/68°C; Cover 135°F/57°C
- Quick Response - Sprinkler 135°F/57°C, 155°F/68°C, 175°F/79°C; Cover 135°F/57°C, 165°F/74°C

16 x 16 ¹ (4.9x4.9)	26 (98.4)	10.6 (0.73)
18 x 18 (5.5x5.5)	33 (124.9)	17.0 (1.17)
20 x 20 (6.1x6.1)	40 (151.4)	25.0 (1.72)

¹ Available only for quick response.

11.2 (161) K-factor



VK618-D, Part No. 08339A-X
Technical datasheet Sprinkler 86a

- 3/4" NPT (20mm)
- Light Hazard
- Standard Wrench - 11663W/B
- Standard Response - Sprinkler 155°F/68°C; Cover 135°F/57°C
- Quick Response - Sprinkler 135°F/57°C, 155°F/68°C, 175°F/79°C; Cover 135°F/57°C, 165°F/74°C

16 x 16 ¹ (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 (6.1x6.1)	40 (151.4)	12.8 (0.88)

¹ Available only for quick response.

Note: Base part number for cover plates is 12381. (Sold Separately)
When ordering, please add appropriate finish and temperature suffix (135°F/57°C = "A"; 165°F/74°C = "C") to base part number. Refer to Viking's list price book for ordering details.

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
Tech Data Number:	121a-f
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
Tech Data Number:	120a-f
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 ft² (9,3 m²)
- 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
Tech Data Number:	122j-s
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 19330M/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 part numbers.

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

ESFR Sprinklers continued from Page 12

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
Tech Data Number:	123a-f
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'	20'	20'
Class I-HV Commodity	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193
Cartoned Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193
Cartoned Expanded Plastic													1307	1193	1193
Exposed Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193

¹ Required flow per sprinkler calculated using $Q=K^i(v/p)$ 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
Tech Data Number:	129a-h
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 19330M/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'	20'	20'
Class I-HV Commodity	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193
Cartoned Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193
Cartoned Expanded Plastic													1307	1193	1193
Exposed Nonexpanded Plastic	1600	1600	1600	1600	1600	1454	1454	1454	1454	1454	1454	1454	1307	1193	1193

*Standard length is 36-1/2". Also available in lengths of 18-1/2", 24-1/2", and 30-1/2". Refer to Viking's List Price Book for part numbers.

¹ Required flow per sprinkler calculated using $Q=K^i(v/p)$ multiplied by number of design sprinklers (12)

22.4 (320) K-factor



VK506, ESFR Pendent

Base Part Number:	18493
Tech Data Number:	128a-f
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-HV 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	1701	1591	1591	1591	1344	1344	1344

¹ Required flow per sprinkler calculated using $Q=K^i(v/p)$ multiplied by number of design sprinklers (12)

25.2 (363) K-factor



VK510, ESFR Pendent

Base Part Number:	12080
Tech Data Number:	124a-f
NPT Thread:	1 in

- Protects up to 45 ft (13, 7 m) high buildings without using in-rack sprinklers
- 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 up to 45 foot 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-HV 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 $Q=K^i(v/p)$ multiplied by number of design sprinklers (12)

Control Mode Specific Application (CMSA) Sprinklers

19.6 (283) K-factor



VK592, CMSA Pendent

Base Part Number:	14243A
Tech Data Number:	114I-s
Response Type:	Standard
NPT Thread:	1 in

- Available in 160°F and 205°F temperature ratings
- Protects up to 40 ft (12,2 m) high buildings without using in-rack sprinklers
- Requires lower overall water usage than ESRs and other CMSA products
- Overcomes many obstruction challenges that impact ESRF 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 ESRF 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 Unless otherwise indicated, the above data is based on FM approval guidelines
² Required flow per sprinkler calculated using $Q=K^{0.5}(v/p)$ multiplied by number of design sprinklers (see data page)
³ 40 ft ceiling height is UL listed only. FM approved for up to 35 ft ceiling height (30 ft of storage)
⁴ Based on UL listed design criteria. VK592 is not FM approved at 40' ceiling heights.

11.2 (161) K-factor



VK540 - Large Drop, CMSA Upright

Base Part Number:	13167
Tech Data Number:	113a-f
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
- Eliminates the need for in-rack sprinklers in certain storage scenarios

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'	
Class I-II Commodity						2990 ²				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 Plastic										1940			1188	1940	1188

¹ Required flow per sprinkler calculated using $Q=K^{0.5}(v/p)$ multiplied by number of design sprinklers (Refer to NFPA 13)
² Requires one row of in-rack sprinklers
³ Dry systems only
⁴ Flows based upon wet systems.

Extended Coverage Storage Sprinkler

25.2 (363) K-factor



VK595, EC Upright (CMDA and CMSA Applications)

Base Part Number:	16859A
Tech Data Number:	124j-m
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 page 124j-m 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 ft ² design area)
0.3 gpm/ft ²	196 ft ²	66.7 gpm	7.0 psi	734 gpm
0.4 gpm/ft ²	196 ft ²	78.4 gpm	9.7 psi	863 gpm
0.5 gpm/ft ²	196 ft ²	98.0 gpm	15.1 psi	1,078 gpm
0.6 gpm/ft ²	196 ft ²	117.6 gpm	21.8 psi	1,294 gpm
0.7 gpm/ft ²	100 ft ²	70.0 gpm	7.7 psi	1,400 gpm
0.7 gpm/ft ²	196 ft ²	137.2 gpm	29.6 psi	1,509 gpm
0.8 gpm/ft ²	100 ft ²	80.0 gpm	10.1 psi	1,600 gpm
0.8 gpm/ft ²	196 ft ²	156.8 gpm	38.7 psi	1,725 gpm

Control Mode Density Area (CMDA) Sprinklers

11.2 (161) K-factor



VK530, Standard Response ELO Upright

Base Part Number:	09679
Tech Data Number:	13e-i
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 ft ² design area)
0.3 gpm/ft ²	100 ft ²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft ²	100 ft ²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft ²	100 ft ²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft ²	100 ft ²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft ²	100 ft ²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft ²	100 ft ²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor



VK531, Quick Response ELO Upright

Base Part Number:	10633
Tech Data Number:	70h-k
Response:	Quick
Element:	Glass Bulb ¹
NPT Thread:	3/4 in

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

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

11.2 (161) K-factor



VK536, Standard Response ELO Pendant

Base Part Number:	07961
Tech Data Number:	13m-r
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 ft ² design area)
0.3 gpm/ft ²	100 ft ²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft ²	100 ft ²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft ²	100 ft ²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft ²	100 ft ²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft ²	100 ft ²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft ²	100 ft ²	80 gpm	51.0 psi	1,600 gpm

11.2 (161) K-factor



VK377, Quick Response ELO Pendant

Base Part Number:	08337
Tech Data Number:	70a-e
Response:	Quick
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 ft ² design area)
0.3 gpm/ft ²	100 ft ²	30 gpm	7.2 psi	600 gpm
0.4 gpm/ft ²	100 ft ²	40 gpm	12.8 psi	800 gpm
0.5 gpm/ft ²	100 ft ²	50 gpm	19.9 psi	1,000 gpm
0.6 gpm/ft ²	100 ft ²	60 gpm	28.7 psi	1,200 gpm
0.7 gpm/ft ²	100 ft ²	70 gpm	39.1 psi	1,400 gpm
0.8 gpm/ft ²	100 ft ²	80 gpm	51.0 psi	1,600 gpm

16.8 (242) K-factor



VK580, Standard Response CMDA Upright

Base Part Number:	12739A
Tech Data Number:	13a-d
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 ft ² design area)
0.45 gpm/ft ²	100 ft ²	45 gpm	7.2 psi	900 gpm
0.5 gpm/ft ²	100 ft ²	50 gpm	8.9 psi	1,000 gpm
0.6 gpm/ft ²	100 ft ²	60 gpm	12.8 psi	1,200 gpm
0.7 gpm/ft ²	100 ft ²	70 gpm	17.4 psi	1,400 gpm
0.8 gpm/ft ²	100 ft ²	80 gpm	22.7 psi	1,600 gpm

Intermediate Level Sprinklers (In-Rack)

Preassembled with Water Shield

5.6 (81) K-factor VK550
SR Upright



Base Part Number:	12986—U
Tech Data Number:	131a-e
Response:	Standard
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available with fusible link (VK552-p/n 05557—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:	10141—U
Tech Data Number:	131a-e
Response:	Standard
NPT Thread:	3/4 in
Finish:	Std. Brass

- Also available with fusible link (VK562-p/n 05514—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
Tech Data Number:	131a-e
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:	06665B—U
Tech Data Number:	131a-e
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 13976—U)
- Use where sprinkler guards are not required

Preassembled with Sprinkler Guard

5.6 (81) K-factor VK100
SR Upright



Base Part Number:	12986—G
Tech Data Number:	11q-v
Response:	Standard
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available with fusible link (VK108-p/n 12973—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

8.0 (115) K-factor VK200
SR Upright



Base Part Number:	10141—G
Tech Data Number:	11q-v
Response:	Standard
NPT Thread:	3/4 in
Finish:	Std. Brass

- Also available with fusible link (VK204-p/n 05514—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

5.6 (81) K-factor VK102
SR Pendent



Base Part Number:	12987—G
Tech Data Number:	131a-e
Response:	Standard
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available with fusible link (VK110-p/n 12972—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

8.0 (115) K-factor VK202
SR Pendent



Base Part Number:	10142—G
Tech Data Number:	131a-e
Response:	Standard
NPT Thread:	3/4 in
Finish:	Std. Brass

- Also available with fusible link (VK206-p/n 05516—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

5.6 (81) K-factor VK300
QR Upright



Base Part Number:	12978—G
Tech Data Number:	51a-e
Response:	Quick
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available in high pressure (250 PSI)-VK315
- Also available with fusible link (VK301-p/n 17535—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

8.0 (115) K-factor VK350
QR Upright



Base Part Number:	06665B—G
Tech Data Number:	51a-e
Response:	Quick
NPT Thread:	3/4 in
Finish:	Std. Brass

- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

5.6 (81) K-factor VK302
QR Pendent



Base Part Number:	12979—G
Tech Data Number:	131a-e
Response:	Quick
NPT Thread:	1/2 in
Finish:	Std. Brass

- Also available in high pressure (250 PSI)-VK317
- Also available with fusible link (VK303-p/n 17536—G)
- Preassembled guard protects sprinkler from damage

Preassembled with Sprinkler Guard

8.0 (115) K-factor VK352
QR Pendent



Base Part Number:	06666B—G
Tech Data Number:	131a-e
Response:	Quick
NPT Thread:	3/4 in
Finish:	Std. Brass

- Preassembled guard protects sprinkler from damage

Optional Water Shields

Model E-1 (upright)



Shield



Field-installed

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

Model F-1 (pendent)



Shield



Field-installed

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

For intermediate level sprinklers preassembled with guard, the Model F-1 water shield may be ordered separately, and field installed (not available preassembled).

1. DESCRIPTION

Viking Specific Application Early Suppression Fast Response (ESFR) Pendent Sprinkler VK514 incorporates the capability to suppress specific high-challenge fires. The addition of a larger K-Factor allows protection of higher hazard commodities at greater ceiling heights with lower end-head pressures. K28.0 ESFR sprinklers can:

- Eliminate the use of in-rack sprinklers when protecting high-piled storage of certain specified materials up to 43 ft. (13.1 m) with ceilings up to 48 ft. (14.6 m)*
- Reduce or eliminate the need for a system fire pump.
- Provide flexibility when sizing system piping.

Viking VK514 ESFR Pendent Sprinklers are primarily intended to protect the following types of storage, which tend to produce severe-challenge fires: palletized and solid pile storage and single, double, and portable open rack storage (no open-top containers or solid shelves). The VK514 is listed to utilize a minimum aisle width of 6'-0".

Viking ESFR Pendent VK514 Sprinklers provide protection of most common storage materials, including:

- Encapsulated or unencapsulated Class I, II, III, and IV commodities*.
- UL Listed for protection of cartoned non-expanded plastic commodities*.

*Refer the Approval Charts and Design Criteria for UL Listing requirements that must be followed.



Up to Ceiling Height	Pressure	Flow
48 ft (14.6 m)	35 psi (2.4 bar)	166 gpm (628 lpm)

2. LISTINGS AND APPROVALS



UL Listed: Category VNWH (Listed as a Specific Application ESFR Sprinkler)

Refer to Approval Chart 1 and Design Criteria for UL Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Maximum Working Pressure: 175 psi (12 bar). Factory tested hydrostatically to 500 psi (34.5 bar).

Thread size: 1" NPT for Sprinkler 19591, 25 mm BSP for Sprinkler 19592

Nominal K-Factor: 28.0 U.S. (404 metric*)

* Metric K-factor measurement shown is in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.

Overall Length: 3-3/16" (81 mm)

Deflector Diameter: 1-3/4" (45 mm)

Covered by one or more of the following patents: US5,829,532; US6,059,044; US6,336,509; US6,502,643; US6,868,917; AU722593; GB2336777

Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Phosphor Bronze UNS-C51000

Seat: Copper UNS-C11000 and Stainless Steel UNS-S30400

Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape

Compression Screw: Stainless Steel UNS-S31603

Trigger and Support: Stainless Steel UNS-S31600

Fusible Element Assembly: Beryllium Nickel, coated with black acrylic paint.

Dry Sprinkler

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.



Light Hazard (Only)

VK186-Recessed Pendent Part#10541U(f,t,l)	VK196-Concealed Pendent ¹ Part#12423U(f,t,l)	VK188-Recessed Horiz Sidewall Part#10542U(f,t,l)
		

* See back panel for ordering instructions (f=finish, t=temperature, l=length)
¹ Domed cover plate ordered separately (p/n 12381)

Extended Coverage – Standard / Quick Response 5.6 (81) K Factor – Pendent, Domed Concealed Pendent, Horizontal Sidewall

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester, nickel PTFE; brass (VK196 only)
 - VK196 cover plates available in chrome, white, ivory, and black
 - Temperature (t): 155°F (68°C), 175°F (79°C)—VK196 is also available in 135°F (57°C)
 - Length (l): Order in 1/4" increments.
- See technical datasheets 108a-f, 108j-o, and 109a-f for design and installation data.

VK152-Plain Barrel Part#07858U(f,t,l)	VK156-Standard Adjustable Part#07857U(f,t,l)	VK162-Recessed Adjustable Part#07856U(f,t,l)
		

* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Standard Response 5.6 (81) K Factor – Horizontal Sidewall

- cULus listed and FM approved
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester, nickel PTFE; brass (VK152 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK162 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK156 & VK152. VK162 available in 1/4" increments.
- See technical datasheet 102a-i for complete design and installation specifications.

VK174-Plain Barrel Part#08388U(f,t,l)	VK178-Standard Adjustable Part#08384U(f,t,l)	VK182-Recessed Adjustable Part#08386U(f,t,l)
		

* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 5.6 (81) K Factor – Horizontal Sidewall

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester; brass (VK174 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK182 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK174 & VK178. VK182 available in 1/4" increments.
- See technical datasheet 106a-h for complete design and installation specifications.

VK153-Plain Barrel Part#09125U(f,t,l)	VK157-Standard Adjustable Part#09123U(f,t,l)	VK161-Recessed Adjustable Part#09124U(f,t,l)
		

* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Standard Response 5.6 (81) K Factor – Vertical Sidewall

- These products are NOT listed or approved.
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester; brass (VK153 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK161 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK153 & VK157. VK161 available in 1/4" increments.
- See technical datasheet 103a-f for complete design and installation specifications.



Light and Ordinary Hazard

VK184-Plain Barrel
Part#08417U(f,t,l)



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 5.6 (81) K Factor – Upright

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): white-polyester, brass
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)
 - Length (l): Order in 1/2" increments.
 - Standard length is 4-1/2 to 48-1/2 in.
- See technical datasheet 107a-e for complete design and installation data.

VK172-Plain Barrel
Part#08387U(f,t,l)



VK176-Standard Adjustable
Part#08383U(f,t,l)



VK180-Recessed Adjustable
Part#08385U(f,t,l)



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 5.6 (81) K Factor – Pendent

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester; brass (VK172 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK180 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK172 & VK176. VK180 available in 1/4" increments.
- See technical datasheet 105a-f for complete design and installation specifications.

VK482-Recessed Flush Style
Part#18385(f,t,l)



VK194-Concealed
Part#12422U(f,t,l)



Domed Cover Plate
Part#12381U(f,t,l)
(order separately)



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 5.6 (81) K Factor – Recessed Flush and Domed Concealed Pendants

- cULus Listed
 - 1 inch NPT (25 mm BSP)
 - VK482 Available Finishes: white
 - VK194 Cover Plate Finishes: white, chrome, ivory, black
 - VK482 Temperature Ratings: 165°F (74°C), 205°F (96°C)
 - VK194 Temperature Ratings: 155°F (68°C), 175°F (79°C), 200°F (93°C)
 - Length (l): Order in 1/4 inch increments (standard length is 4" to 48-1/4" for VK194 and 4-1/2" to 48" for VK482).
- See technical datasheets 111a-g (VK482) and 104j-n (VK194) for complete specifications.

VK173-Plain Barrel
Part#13248(f,t,l)



VK177-Standard Adjustable
Part#13249(f,t,l)



VK181-Recessed Adjustable
Part#13250(f,t,l)



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 8.0 (115) K Factor – Pendent

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester; brass (VK173 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK181 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK173 & VK177. VK181 available in 1/4" increments.
- See technical datasheet 105h-n for complete design and installation specifications.

VK282-Plain Barrel
Part#13254(f,t,l)



VK286-Standard Adjustable
Part#13255(f,t,l)



VK290-Recessed Adjustable
Part#13256(f,t,l)



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

Standard Coverage – Quick Response 8.0 (115) K Factor – Pendent (Fusible Link)

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester (VK286, VK290); chrome, brass (VK282)
 - Temperature (t): 165°F (74°C), 205°F (96°C), 280°F (138°C)—VK290 NOT available in 280°F (138°C)
 - Length (l): Order in 1/2" increments for VK282 & VK286. VK290 available in 1/4" increments.
- See technical datasheet 105p-u for complete design and installation specifications.

Light and Ordinary Hazard Sprinklers continued from page 19

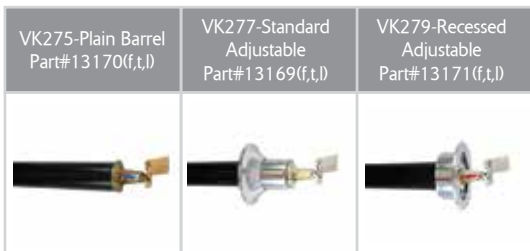


* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
8.0 (115) K Factor – Horizontal Sidewall**

- cULus listed
- 1 inch NPT (25 mm BSP)
- Finish (f): chrome, white-polyester, nickel PTFE; brass (VK250 only)
- Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK254 NOT available in 286°F (141°C)
- Length (l): Order in 1/2" increments for VK250 & VK252. VK254 available in 1/4" increments.

See technical datasheet 102j-q for complete design and installation data.

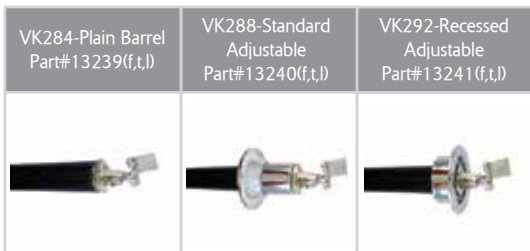


* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Quick Response
8.0 (115) K Factor – Horizontal Sidewall**

- cULus listed
- 1 inch NPT (25 mm BSP)
- Finish (f): chrome, white-polyester; brass (VK275 only), nickel PTFE (VK277 only)
- Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK279 NOT available in 286°F (141°C)
- Length (l): Order in 1/2" increments for VK275 & VK277. VK279 available in 1/4" increments.

See technical datasheet 1065-z for complete design and installation specifications.



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Quick Response
8.0 (115) K Factor – Horizontal Sidewall (Fusible Link)**

- cULus listed
- 1 inch NPT (25 mm BSP)
- Finish (f): chrome, white-polyester (VK288, VK292); chrome, brass (VK284)
- Temperature (t): 15°F (74°C), 205°F (96°C), 280°F (138°C)—VK292 is NOT available in 280°F (138°C)
- Length (l): Order in 1/2" increments for VK284 & VK288. VK292 available in 1/4" increments.

See technical datasheet 107h-o for complete design and installation specifications.

Light, Ordinary, and Extra Hazard



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
5.6 (81) K Factor – Upright**

- cULus listed and FM approved
- 1 inch NPT (25 mm BSP)
- Finish (f): white-polyester, brass
- Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)
- Length (l): Order in 1/2" increments.
- Standard length is 4-1/2 to 48-1/2 in.

See technical datasheet 101j-n for complete design and installation specifications.



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
5.6 (81) K Factor – Pendent**

- cULus listed and FM approved
- 1 inch NPT (25 mm BSP)
- Finish (f): chrome, white-polyester, nickel PTFE; brass (VK150 only)
- Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK158 NOT available in 286°F (141°C)
- Length (l): Order in 1/2" increments for VK150 & VK154. VK158 available in 1/4" increments.

See technical datasheet 101a-g for complete design and installation specifications.

Light, Ordinary Hazard, and Extra Hazard Sprinklers continued from page 20



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
8.0 (115) K Factor – Pendent**

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): chrome, white-polyester, nickel PTFE; brass (VK163 only)
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK164 NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK166 & VK163. VK164 available in 1/4" increments.
- See technical datasheet 101o-t for complete design and installation data.



* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
5.6 (81) and 8.0 (115) K Factor – Domed Concealed Pendent**

- cULus listed
 - 1 inch NPT (25 mm BSP)
 - Finish (f): brass (cover plates available in chrome, white, ivory, black)
 - Temperature (t): 155°F (68°C), 175°F (79°C), and 200°F (93°C)—cover plate available in 135°F (57°C) and 165°F (74°C)
 - Length (l): Order in 1/4" increments. Standard length is 4" to 48-1/4".
- See technical datasheets 104a-e and 104q-v for complete design and installation specifications.



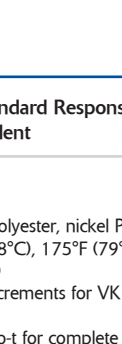
* See back panel for ordering instructions (f=finish, t=temperature, l=length)

**Standard Coverage – Standard Response
5.6 (81) K Factor – Pendent (Stainless Steel)**

- These products are NOT listed or approved.
 - 1 inch NPT (25 mm BSP)
 - Finish (f): stainless steel
 - Temperature (t): 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)—VK169 is NOT available in 286°F (141°C)
 - Length (l): Order in 1/2" increments for VK168 and 1/4" increments for VK169.
- See technical datasheet 101u-x for complete design and installation specifications.

Example [base(f)(t)(l)]
VK150, Chrome, 155°F, 10" long

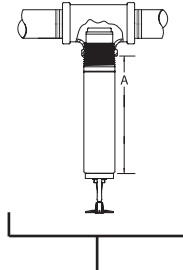
07852UFB10



To order add desired Finish (f), Temperature (t), and Length (l)
Finish (f) and Temperature (t) codes are available in Viking's List Price Book.
For Length (l) please see A or B Dimension diagrams below.

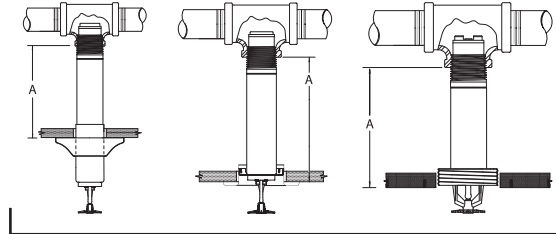
* Dry sprinklers are customer specific products and are NOT RETURNABLE. Any changes made after order submission are subject to charges for manufacturing processes completed at the time of change or cancellation. These charges could be equal to the value of the original order. Please check the information carefully before ordering. Refer to Viking Technical Data for detailed product information.

Finish Suffixes (f)	
Brass	A
Chrome	F
White-Poly	M-/W
Temp Suffixes (t)	
135°F	A
155°F	B
165°F	C
175°F	D
200°F / 205°F	E
280°F / 286°F	G



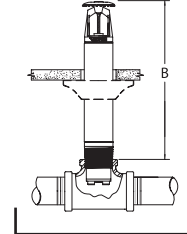
Plain Barrel Pendent and HSW

- For "A" Dimension:
1. Determine distance from face of the tee to the base of the sprinkler.
 2. Round up to next highest 1/2" (13 mm) increment between 3" (76 mm) and 47" (1194 mm).



Standard Adjustable, Recessed Adjustable, Domed Concealed Pendent and HSW

- For "A" Dimension:
1. Determine the distance from the face of tee to the surface of finished ceiling or wall.
 2. - For Standard Adjustable round to the nearest 1/2" (13 mm) between 1-1/2" and 45-1/2" (38 mm and 1156 mm).
- For Recessed Adjustable round to the nearest 1/4" (6 mm) between 3-1/4" and 47-1/2" (83 mm and 1207 mm).
- For Domed Concealed round to the nearest 1/4" (6 mm) between 4" and 48-1/4" (102 mm and 1226 mm).



Plain Barrel Upright

- For "B" Dimension:
1. Determine the distance from the face of the tee to the top of the sprinkler deflector.
 2. Round to the nearest 1/2" (13 mm) increment between 4-1/2" and 48-1/2" (114 mm and 1232 mm).

Continuous research and development, often in cooperation with leading industrial organizations and end-users, ensures Viking's position at the forefront of sprinkler technology.

As a result, the Viking range includes a variety of sprinklers designed to provide fire protection solutions for specialized applications and installation environments.



Specialty sprinklers

Special sprinklers for special applications.

Corrosion Resistant Sprinklers.

Stainless steel sprinklers are available in upright or pendent configurations in a wide range of fusing temperatures or open. Teflon® and polyester finishes are available in most configurations and for severe corrosive environments, selected Viking sprinklers are also available wax-coated.

Ultra-High Temperature Sprinklers.

The stainless steel sprinklers are the only corrosion resistant sprinklers approved by FM up to 500°F/260°C.

Micromatic® standard response sprinklers are also rated to 500°F/260°C, providing an effective lower-cost alternative when higher temperatures are required.

VK130
Stainless Steel Upright



VK132
Stainless Steel Pendent



VK100 Corrosion Resistant
(Wax coated)
also available in 212°F



VK100 Ultra-High
Temperature Sprinklers



Institutional Sprinklers

Viking's Institutional sidewall and extended coverage quick response pendent sprinklers are designed for occupancies demanding a tamper resistant unit. These small flush, solder-link and lever spray sprinklers provide a low breakaway weight and an optional retaining flange to prevent sprinkler movement for maximum security.

Open Sprinklers and Nozzles.

For Deluge applications, Viking offers Teflon® coated open frame style sprinklers. C-1 Window sprinklers, designed to protect against exposure fires, are available in brass or nickel-plated finishes. Solid Cone Spray

Nozzles are open, directional-discharge nozzles for use in medium or high-velocity water spray systems.

Spray Nozzles

Spray Nozzles are external-deflector type nozzles that produce a directional, cone-shaped spray and are available in both brass or Teflon® coated, open and with a choice of fusing temperatures.

Model M Spray Nozzle



Specialty sprinkler selection key

A K-Factor	1.2/1.7	1.4/2.0	1.5/2.1	1.9/2.7	2.0/2.9	2.1/3.0	2.2/3.2	2.8/4.0	3.0/4.3	3.3/4.8	3.4/4.9	3.8/5.5	3.9/5.6	4.2/6.0	4.3/6.2	4.7/6.8	5.0/7.2	5.2/7.5	5.6/8.1	5.8/8.4	6.9/9.9	7.7/11.1	8.0/11.5	
A																								
B																								
C																								
D																								
E																								

A Temp °F/°C	135/57	155/68	165/74	175/79	200/93	220/104	286/141	360/182	500/260	Open
A										
B										
C										
D										
E										
F										

A Finishes	Brass	PCH	Teflon	Wax	Poly/Wax	Nickel	Stainless Steel
A							
B							
C							
D							
E							
F							

Spray Nozzles	30°	60°	90°	120°	140°	150°
Model M						
Model A-D						

VK410 Pendent (Institutional)



VK412 Horizontal Sidewall (Institutional)



Model C-1 Window Sprinklers



Spray Nozzles Models - A2, A2X, B2, C2, D2



Model E Spray Nozzle





While life-safety is the primary reason for installing sprinklers in a residence, aesthetics are also important to homeowners. Contractors and designers demand versatility and a choice of design options to make installation easy and affordable. Viking residential sprinklers offer all this and more – consistent quality unmatched in the industry. The Viking range of residential sprinklers can be installed in NFPA standards 13, 13R and 13D occupancies. Viking is committed to providing residential products that are state of the art and consistent with current testing and installation standards.

The new Mirage® Concealed residential sprinkler combines ultimate aesthetics with performance to meet the demands of single and multiple family residences.

This low-profile sprinkler has a push-on/pull-off, or friction fit, cover plate and, as with all of the Viking residential range, is UL and cUL listed.

Residential sprinklers

Aesthetics to match any lifestyle.

The Microfast® sprinkler range when used with Viking's Model E recessed escutcheons, provides a low-profile, unobtrusive installation. A variety of finishes to blend with any décor are available.

The Microfast® Pendant and Horizontal Sidewall both have sloped-ceiling listings for pitches up to 6 in 12 (26.6°) eliminating the need to calculate for an additional sprinkler.

A wide range of K factors accommodate the requirements of any jurisdiction.

The "Wide-Throw" Microfast® Horizontal Sidewall sprinkler can be installed as much as 10 inches below the ceiling. It covers areas up to 18 feet by 18 feet.

Viking's Model H-3 Horizon small orifice Residential Pendant Sprinkler is the only flush sprinkler listed for use on sloped ceilings with pitches up to 6 in 12 (26.6°), and it has the distinction of being the first and only residential sprinkler approved by FM!

Our residential sprinklers are also available in a Cocoon option.

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sprinklers

VK319 Horizontal Sidewall



VK420 Flush



VK425 Concealed
Cover temp: 135°F/57°C



VK434 Pendant Recessed





Residential sprinkler selection key

A K-Factor	3.1/4,5	3.7/5,3	3.8/5,5	4.1/5,9	4.3/6,2	5.5/8,1
A						
B						
C						
D						

A Temp °F/°C	135/57	140/60	155/68	165/74	175/79	200/93	286/141
A							
B							
C							

A Finishes	Brass	PCH	BRF	White	Black	Navajo	BBR	Ivory	Color Match
A									
B									
C									



Architectural

The finishing touch, now available in a vast range of colors to compliment any interior.

Viking provides the ultimate solution to architects, installers and owners that combines the confidence of Viking product performance with a choice of high quality aesthetic finishes. Viking offers a choice of nine popular standard cover plate finishes including several attractive new décor finishes.

Standard Brushed Finishes



Antique Brass (BRF)



Brushed Chrome (BRF)



Brushed Copper (BRF)



Brushed Brass (BRF)

Standard Finishes



Polished Chrome (PCH)



Bright Brass (BBR)



Ivory



Black



White

finishes from Viking

The ground breaking design of Viking's Mirage® concealed sprinklers combined with a practical push on - screw off or friction fit cover plate will ensure a flush fit, By using Viking's extended range of standard finishes or our colormatch service you can make them virtually undetectable once installed.

For Architects and designers looking for the perfect match Viking also provides a customized service to perfectly compliment any décor and color scheme. Choose from over 800 industrial standard color shades or send a paint sample or chip and Viking will provide cover plates to match.



Wet pipe systems

Easy to install – Easy to maintain.

The wet pipe system is the simplest and most widely used fire sprinkler system. Wet systems are frequently installed in factories, warehouses and office buildings where the risk of freezing ambient temperatures is negligible.



The Mass Transit System, Bangkok



Multiple Wet Pipe Risers, MTS, Bangkok

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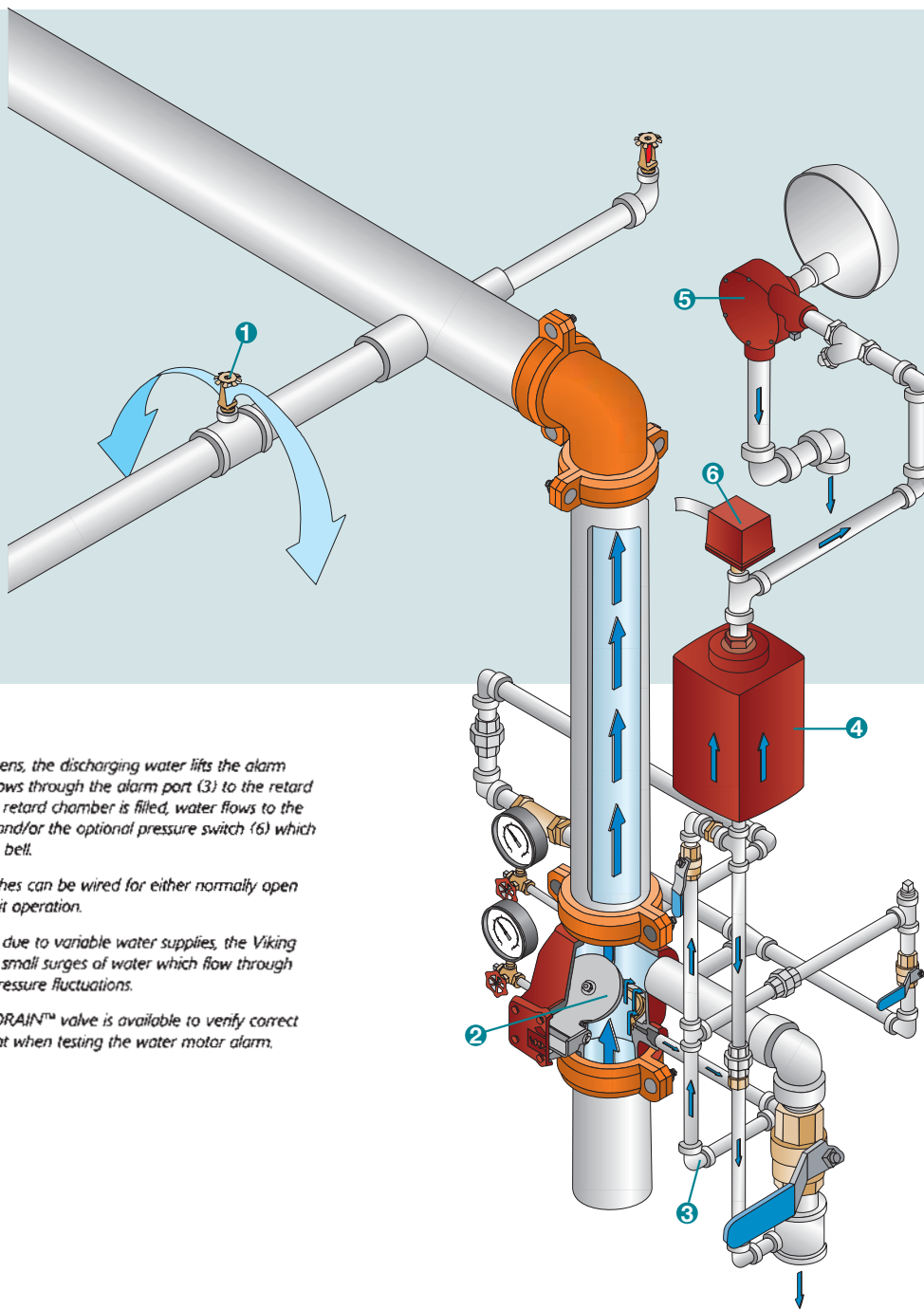
systems

A **Viking Wet Pipe System** riser can employ a check valve along with an electric waterflow indicator and electric alarm. For installations requiring a mechanical alarm, an alarm check valve and water motor alarm is used. UL and cUL listed and FM approved up to 250 psi working pressure can allow a reduction in the number of pressure reducing valves or an increase in the high-rise zone size.

Whichever Wet Pipe system configuration you choose, the Viking Model J Alarm, Easy Riser and Swing Check

valves feature a Clapper Assembly that can be removed, without disturbing the riser, for time saving, low cost maintenance.

The Viking Model J Alarm Check Valve is made of ductile iron – providing higher thermal shock resistance and almost twice the strength-to-weight ratio of cast or gray iron. The versatile Model J can be mounted horizontally or vertically.



When a sprinkler (1) opens, the discharging water lifts the alarm valve clapper (2) and flows through the alarm port (3) to the retard chamber (4). When the retard chamber is filled, water flows to the water motor alarm (5) and/or the optional pressure switch (6) which signals an electric alarm bell.

Pressure-activated switches can be wired for either normally open or normally closed circuit operation.

To prevent false alarms due to variable water supplies, the Viking retard chamber collects small surges of water which flow through the alarm port during pressure fluctuations.

Viking's alarm TESTanDRAIN™ valve is available to verify correct valve clapper movement when testing the water motor alarm.

Viking's ductile iron **Easy Riser® Check Valve** can be used with a waterflow indicator and electric alarm in systems that don't require a mechanical alarm.

Both Viking Model J and Easy Riser Check valves are available in flange/flange, flange/groove and groove/groove patterns in 2½" to 8" sizes.

Viking Swing Check Valves are stronger, yet smaller and lighter than conventional check valves. Designed for use in fire department pumper connections, fire pump discharge and bypass connections, public water supply, gravity and pressure tank connections they come in grooved sizes from 2½" to 8" and flanged from 3" to 8"

Dry pipe systems

Labor-saving features mean low-cost installations.

Viking dry pipe systems are most frequently installed in areas subject to freezing temperatures, such as unheated storage areas, loading docks and outdoor arenas.



Dry D2 Accelerator

Washington Redskins Stadium

Jack Kent Cooke Stadium, Ashburn, VA

System Used: Dry Systems/Wet Systems and Dry Sprinkler Heads

Background

The Jack Kent Cooke Stadium was completed in time for the 1997 season. The 78,600 seat modern, outdoor natural grass stadium included over 280 executive suites, as well as 15,000 club seats. The state-of-the-art Redskin Park includes three grass and one Astroturf practice field, spacious weight room, locker room, training and equipment facilities along with large team meeting rooms and office space. It is regarded as the finest training facility in the professional game.

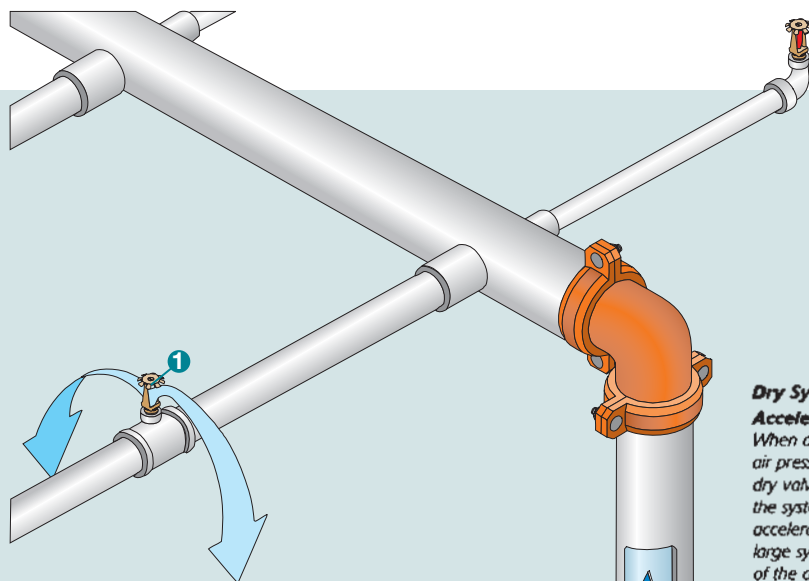
Once completed, the stadium became the fastest built structure of its kind in the history of the National Football League with a total construction time of only 17 months.

Products Used

Due to the open atmosphere and ambient temperatures below freezing during winter conditions, 15 Viking Dry Pipe Systems and 400 Dry Sprinklers were chosen to sprinckler the stadium. These Dry Pipe systems are designed to prevent water from entering the supply piping prior to sprinkler activation to guarantee correct operation in freeze situations.

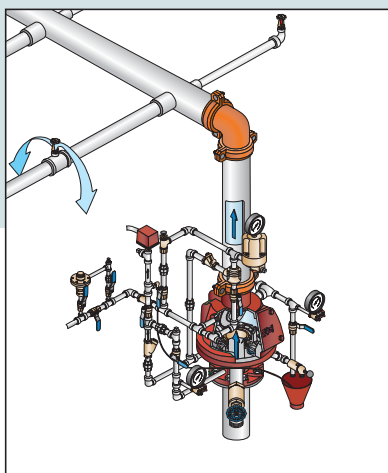
Benefits

- Proven trouble free design.
- Resistant to false tripping.
- Fast acting for best possible trip times.
- Low friction loss while providing secure clapper seal.
- Requires no priming water.
- Easy to service and inspect.

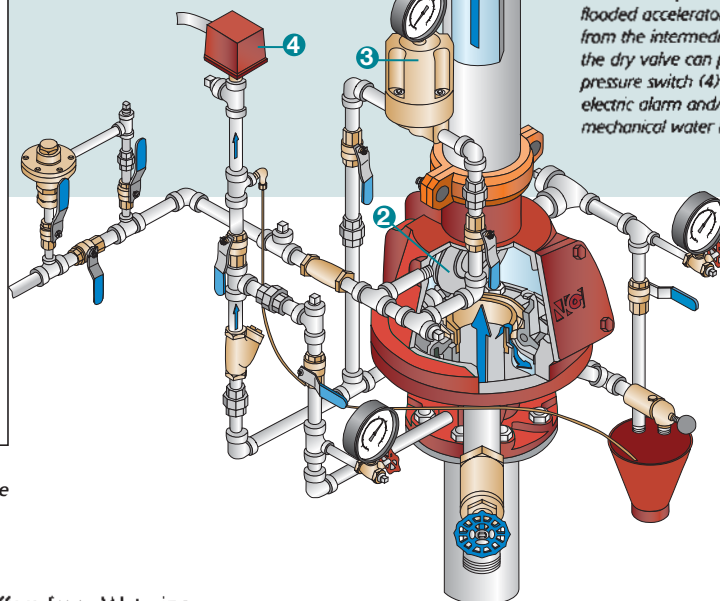


Dry System with Model D2 Accelerator

When a sprinkler (1) opens, loss of air pressure in the system allows the dry valve clapper (2) to open, filling the system with water. An accelerator (3) can be added to large systems to speed the opening of the dry valve. An integral anti-flood device protects against a flooded accelerator. Water flow from the intermediate chamber of the dry valve can pressurize a pressure switch (4) to activate an electric alarm and/or operate a mechanical water motor alarm.



Dry System with E1 Accelerator/B1 Anti-Flood Device



A **Dry Pipe System** operation differs from Wet pipe systems, in that the system piping is charged with compressed air or nitrogen instead of water. With decades of trouble free performance, the proven design prevents false tripping from pressure surges. Because of its unique design problems with leakage from a priming chamber to areas above the clapper are eliminated.

The **F-1 Dry Pipe Valve** has a ductile iron body designed with all the labor-saving features expected of a Viking product. The 3 inch, 4 inch and 6 inch valves have only 4 bolts on the cover plate, so accessing the clapper takes very little time. And when it comes to resetting the system, the Viking time tested latching mechanism ensures a positive set. In addition, no priming water is needed.

When assembled with the standard trim package, Viking F-1 Valves have one of the smallest dimensional footprints of any dry valve available, using less space and saving time and labor on every installation.

Accelerator Options

Viking gives you a choice of accelerators. The **Model E-1 Accelerator** with the **Model B-1 Anti-Flood Device** virtually eliminates the possibility of accelerator flooding. The redesigned accelerator/anti-flood device trim separates the accelerator from any trim piping that could otherwise flood it, thus reducing the possibility of corrosion and debris build-up in the small screens and orifices. For those who prefer the "system-side" accelerator, the enhanced **Model D-2** accelerator can be installed on the Model F-1 Dry Pipe Valve to ensure rapid response in case of fire. The Model D-2 includes an internal anti-flood device to eliminate flooding problems. Both the E-1 and the D-2 models are reset externally – so there is no need to dismantle these devices to drain.

Deluge and preaction

Simply the best. The Viking Deluge and Preaction Systems are unique in their simplicity. The valves, basic trim and releasing devices are the same for both types of systems. With more releasing options than any other brand, they are a preferred choice throughout the world.



And to make life even easier, Viking Deluge and Preaction Systems can be supplied as modular packages. Just provide the size and release type required, and we will supply the whole system, including preassembled trim (minus the air supply).

The **Viking Deluge Valve** in sizes 1½" through 8" is a quick-opening valve with only one moving part making it more resistant to false tripping than latch-type valves. They also reset automatically without opening the valve, making the Viking Deluge valve a favorite among installers and maintenance personnel.

The Viking Flow Control Valve, allows smooth opening and closing minimizing water hammer. It may be used to facilitate manual or automatic on/off control. All valves in the range are UL Listed and FM Approved to 250 psi water working pressure.

The latest additions to the range are **Viking's 8" Model F-1 Deluge and 8" Model J-1 Flow Control valves**. The straight through grooved/grooved configuration incorporates Viking's proven valve operating design while optimizing flow and friction losses. Available with conventional trim or Viking's new EZ Trim configuration each can be provided as optional "modular" trim packages for easy installation. They are listed and approved for activation hydraulically, pneumatically and electrically and may be installed vertically or horizontally.

Viking's unique **Speed Control** is a further option on Viking deluge valves. The Speed Control allows the opening and/or closing of the clapper to be controlled over a few seconds to minimize the effect of water hammer.

Viking Deluge and Flow Control Valves are also available with an inside and outside coating of Halar®, electroless nickel-plated devices and galvanized, black or brass trim plus stainless steel trim for use in corrosive environments.

The **Viking EZ Trim** is a UL listed/FM approved alternative to our conventional deluge trim. It introduces a prime shut-off valve (PSOV) that achieves the same function as the conventional trim with the major advantages of simplifying the operation, reducing component parts and lowering the cost. EZ Trim's trouble-free design is also easier to maintain.



*Deluge preaction
PORV*

Because there are no moving parts or restrictions, EZ Trim offers trouble-free operation in non potable water applications and allows Viking to offer an FM approved corrosion resistant trim package.

Releasing Devices

In addition to standard industry methods of electric and pilot operated releases, Viking offers 2 unique releasing devices - the Fixed Temperature Release and Thermostatic Release.

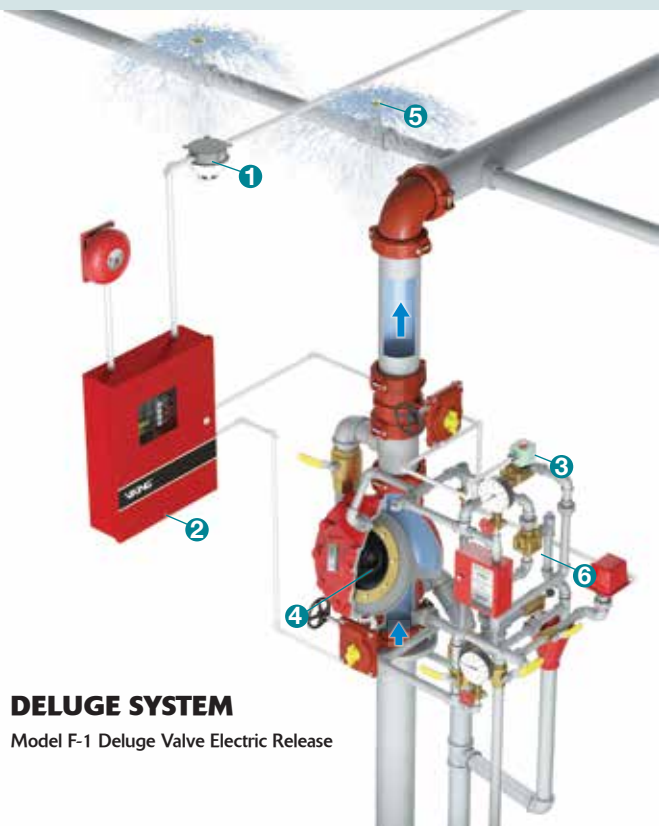
systems

The Micromatic Fixed Temperature Release is a modified quick response sprinkler listed as a wide-area fixed temperature release, for coverage up to 40 ft by 40 ft.

The Model C-1 Thermostatic Release is a rate-of-rise device that reduces the reaction time of hydraulic or pneumatic release systems. It is listed for spacing up to 50 ft by 50 ft and may be equipped with a fixed temperature release. In outdoor or corrosive environments such as seawater, the Model C-2 is available. Both can be tested for use in nitrogen systems.

Pressure Regulation

The unique design of the Viking Flow Control Valve allows preaction and deluge systems to be trimmed for downstream control of the system water pressure. The regulator is adjustable and will throttle the flow of water pressure being relieved when the preset pressure is reached. The pressure regulator can be used to control both water and foam/water systems. Exact application of water and foam can keep discharge and foam usage to an absolute minimum.

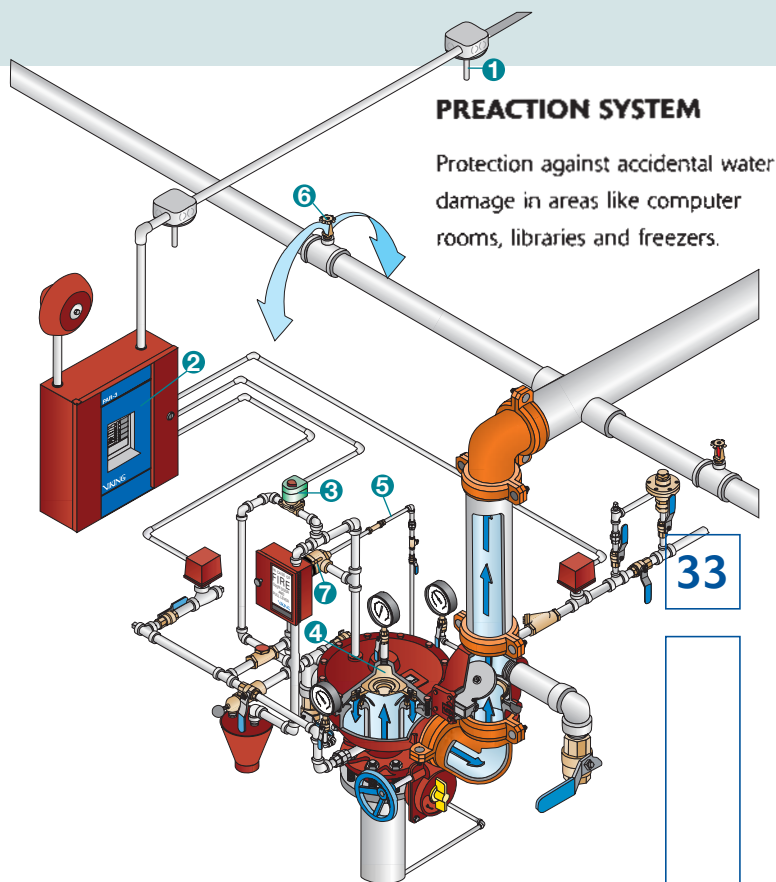


DELUGE SYSTEM

Model F-1 Deluge Valve Electric Release

Deluge System

When the detector (1) is activated, a signal is sent to the VFR-400 release control panel (2). The panel sends appropriate alarm signals and, at the same time, energizes the normally closed (NC) solenoid (3) open. The deluge valve priming chamber (4) is then vented faster than water is supplied through the restricted orifice, allowing the deluge valve to open. The water enters the system piping. Water flows from all open sprinklers or nozzles (5). When the deluge valve operates, pressure opens the pressure operated relief valve (PORV) (6) continuously venting the water supply to the priming chamber, ensuring the deluge valve remains in the open position.



PREACTION SYSTEM

Protection against accidental water damage in areas like computer rooms, libraries and freezers.

Praction System - Single Interlock Electric Release

When the detector (1) is activated by fire, a signal is sent to the Par 3 Release Control Panel (2). The panel sends appropriate alarm and trouble signals and, at the same time, signals the solenoid valve (3) to release. The priming chamber (4) of the deluge valve is then vented faster than water is supplied through the restricted orifice (5), allowing the deluge valve to open. The water enters the system piping, but no water is discharged until a sprinkler (6) activates. When the deluge valve operates, the PSOV (7) is pressurized closed, closing the supply of water to the priming chamber latching the deluge valve in the open position. Viking Praction Systems can be interfaced with electric (as shown) or pneumatic detection systems and can be configured for single, double or non-interlocked preaction.

Firecycle systems

On-off cycling systems to minimize water damage.

Firecycle III is a unique fire protection system that will sense and respond to a fire condition, delivering fire suppression when needed, but sparing excess water damage to valuable assets in the event of fire.

Federal Aviation Administration (FAA)

Owner: U. S. Government

Background

The Federal Aviation Administration has made a long-term commitment to capital investment to ensure it continues to provide the best air traffic control service in the world. The largest and most crucial component of the national airspace system in the United States is its air route traffic control centers. These high technology facilities demand operational stability and minimal system disruption in any emergency. The FAA operates a national network of airport towers, air route traffic control centers, and flight service stations. It develops air traffic rules, allocates the use of airspace and provides for the security control of air traffic.

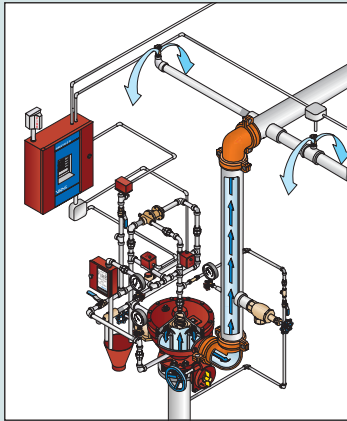
Products Used

Firecycle II and III

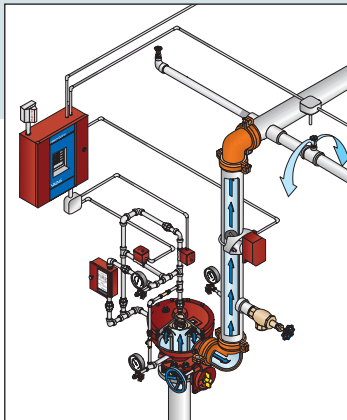
Benefits of Firecycle

- Provides protection only when needed.
- Avoids needless water damage by self regulation, turning itself on and off in response to fire conditions.
- Fail-safe detection system.
- Design guards against accidental tripping.

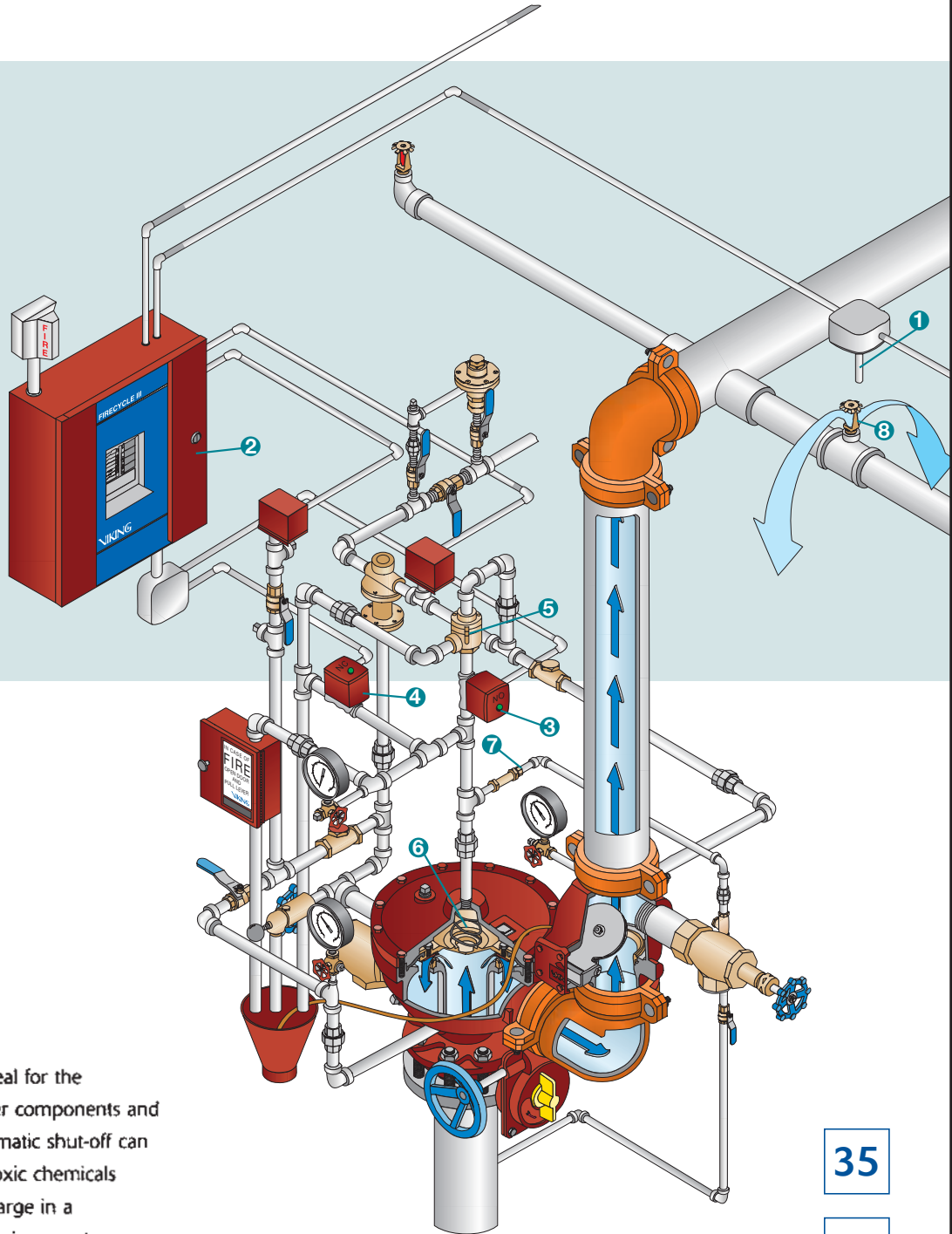




Firecycle III Cycling Deluge System



Firecycle III Cycling Wet Pipe System



Firecycle's on-off multicycle ability is ideal for the protection of fine art, artifacts, computer components and data storage. A Firecycle system's automatic shut-off can also reduce the amount of run-off of toxic chemicals caused by excess sprinkler water discharge in a manufacturing and processing plant environment.

It's detection system stops the flow of water once the fire has been contained and restarts the flow in the event that the fire re-ignites.

The unique Firecycle III is available in single and double interlock preaction, wet and deluge system options. All units have UL Listing and the Firecycle III cycling wet and single interlocked preaction units have FM Approval. The solid-state design reduces system size without compromising performance, ease of installation and maintenance.

Firecycle III System - Cycling Single Interlock

When the detector (1) is activated by fire, a signal is sent to the Firecycle III Control Panel (2). The panel sends the appropriate alarm and trouble signals and, at the same time, powers the normally open (3) and normally closed (4) solenoid valves, isolating the pneumatic actuator (5) and releasing pressure from the priming chamber (6) of the deluge valve. The priming chamber (6) of the deluge valve is then vented faster than water is supplied through the restricted orifice (7), allowing the flow control valve to open. The water enters the system piping, but no water is discharged until a sprinkler (8) activates. After the detectors cool and the timer is satisfied, the normally closed solenoid is allowed to close and reestablish prime pressure, closing the control valve and stopping the flow of water. If the detector senses a flare-up of the fire, the cycle begins again. If the detector never cools completely, or is damaged, the system will continue to discharge water.

Note: In "Double interlock" mode, operation of the detection system combined with loss of air pressure at the supervisory switch will open the normally closed solenoid valve. This then trips the automatic control valve.

HP[®] Dry systems

Proven technology for High Pressure Applications.

The introduction of the HP[®] Dry System completes the Viking line of high pressure valves, devices and sprinklers, to allow fire protection systems with operating pressures higher than 175 psi to be installed consistent with NFPA 13 requirements. Typical installations include high rise apartments and small installations in loading docks, garden retail outlets and attics.

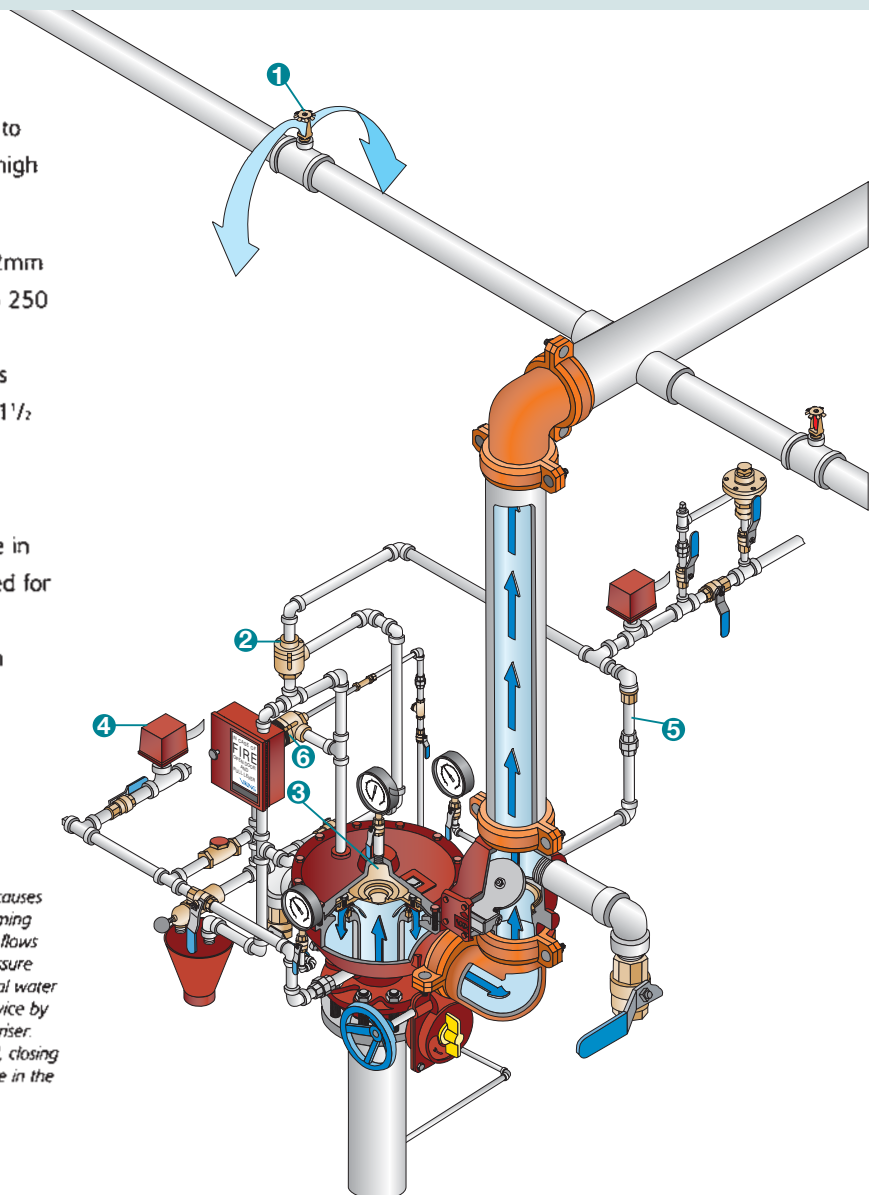
The **HP[®] Dry System** utilizes the proven market leading Viking deluge valve and related equipment to provide a dry pipe system designed specifically for high service pressures.

Systems are available in 1½, 2, 3, 4, and 6 inch (42mm – 150mm) valve sizes and rated for pressures up to 250 psi (17 bar). In high-rise applications using the HP[®] system allows you to minimize the number of zones required. Because it is available in sizes as small as 1½ inches, it can also be used for normal pressure applications where smaller systems can be used.

Viking small HP[®] Dry Systems are also cost-effective in place of antifreeze loops, and can minimize the need for reduced pressure back-flow preventors, ongoing maintenance, and expensive, hard-to-size expansion chambers. The HP[®] Dry System is UL listed.

HP Dry System

When a sprinkler (1) opens, loss of air pressure in the system piping causes the anti-flood device (2) to open. This releases pressure from the priming chamber (3) of the deluge valve, allowing the valve to open. Water flows into the system piping and to the alarm devices, pressurizing the pressure switch (4) to activate an electric alarm and/or operating a mechanical water motor alarm. Water is prevented from pressurizing the anti-flood device by the float check valve (5) installed in the air supply connection to the riser. When the deluge valve operates, the PSOV (6) is pressurized closed, closing the supply of water to the priming chamber latching the deluge valve in the open position.



TotalPac® systems

Preassembled “plug-in” Fire Protection Systems

TotalPac® is a prepackaged riser assembly available in dry, deluge, single and double interlocked preaction, and Firecycle III configurations. Every TotalPac® undergoes a hydraulic and electrical simulation to confirm correct configuration and ensure quality. TotalPac® is fire protection's version of plug-and-play and a convenient way to get your system operational in the minimum space and time.



UL, FM, c-UL and MEA approvals ensure acceptance virtually everywhere. TotalPac's market leading position is confirmed by having the most complete system configurations listed of its type in the fire protection industry.

The preassembled self-contained units are fast and simple to install and can occupy a floor area as small as 2 square feet. TotalPac® provides an excellent alternative where gas systems are typically specified, including computer rooms, telephone switching stations, hospitals and museums. A special version TotalPac® for use in elevator hoistways includes a fail safe timer that will recall the elevator to a primary floor before power shutdown and water release. By specifying TotalPac®, you can minimize installation and start-up problems, costly dedicated closets or enclosures and standardize the systems and their components for easier maintenance and increased quality control.

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systems

Foam/Water based

Special protection for high-hazard applications.

Concentrate Control Valves

Viking Concentrate Control Valves are the only valves utilized in foam systems that are listed and approved fire protection valves. They are coated with Halar®, a premium industrial coating which has been used in the petrochemical and industrial market because it is impervious to caustic and corrosive environments. AFFF and AR-AFFF foam concentrates are corrosive to the standard coating materials used in sprinkler systems and the Halar coating eliminates the probability of the valve corroding shut. The Viking Concentrate Control Valve controls the flow of the concentrate into the proportioning system and protects the stored foam concentrate from air which may otherwise cause it to solidify.



Integrated Systems

Viking offers the first truly integrated foam/water systems, ensuring the operational compatibility and consistent high quality of every component from foam concentrate to control system.

The integrated foam/water systems available include our **Low Flow Wet Riser**; the only bladder system FM approved for closed head operation with an in-line balanced proportioner (ILBP). This system is completely hydraulic and combines the dependability of a bladder system with the advantages of a conventional foam pump/ILBP system – without the added cost of wiring and maintaining a foam pump. Viking's other integrated systems are the Low Flow Preaction, Deluge, Wet, and Dry Risers.

Foam Concentrates

AFFF and AR-AFFF foams are fast-acting synthetics designed for use in systems to provide the best possible fire control over most types of flammable liquid hazards. Viking's AFFF is available in 1% and 3% concentrates and our AR-AFFF is a 3% x 3% alcohol resistant concentrate with the lowest listed application density of any AR-AFFF foam.

Proportioning Options

Viking has perfected 3 UL Listed proportioning methods, – vacuum induction, metered pressure drop, and pressure injection. All components required to complete the systems – bladder tanks, concentrate controllers, ILBPs, foam pump skids, fixed eductors, concentrate control valves and pressure regulating valves – are available from Viking and will meet your requirements for all hazard types and available water pressure.

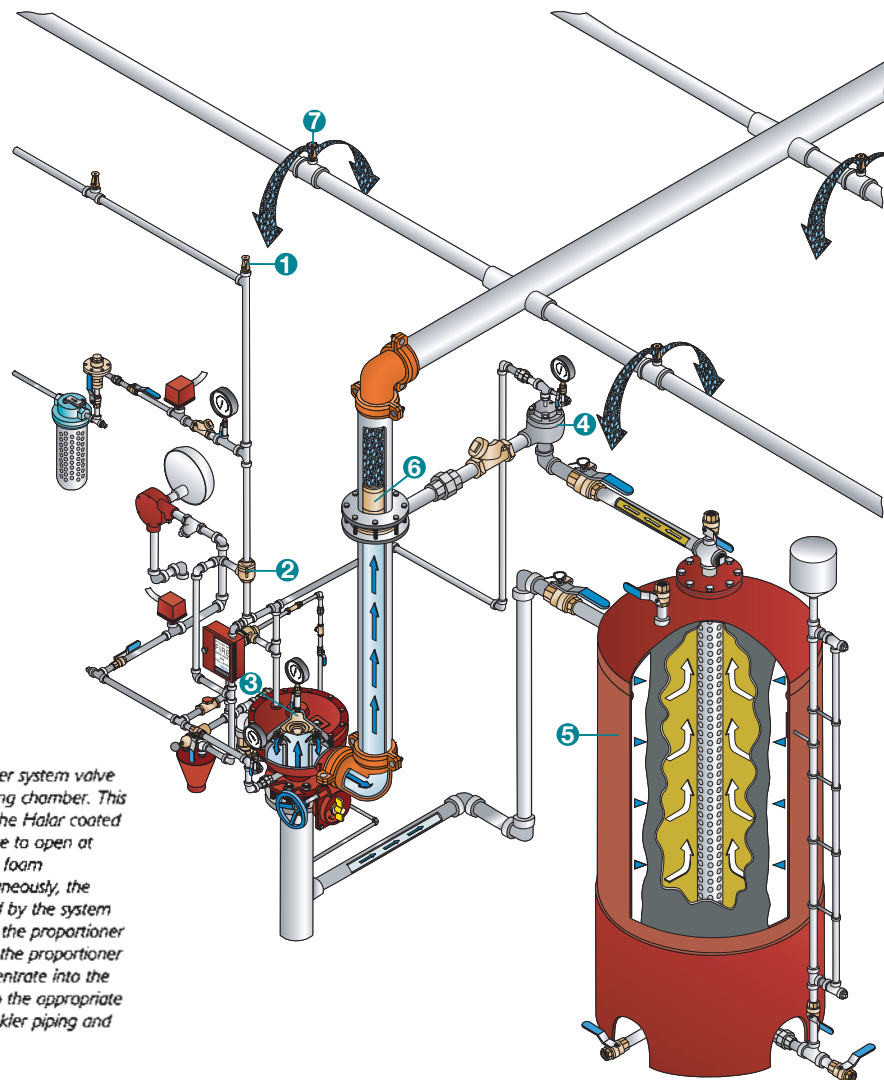
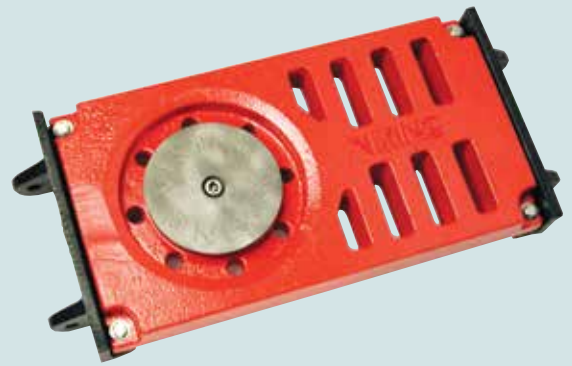
The range of **Discharge Devices** include the industries most comprehensive group of listed and approved foam/water sprinklers, foam chambers, foam makers, monitor nozzles and the new grate nozzle.



systems

Grate Nozzle

The Viking Grate Nozzle protects aircraft hangars with fast application of AFFF onto the floor surface under the aircraft. Unlike any other AFFF discharge device, the Grate Nozzle was specifically developed to overcome the obstruction problems often encountered with the use of other discharge devices. It is designed with no moving parts and constructed of 316L stainless steel to resist corrosion. The Model GN200 Grate Nozzle is installed in the drain trenching of the aircraft hangar, so valuable floor space is not compromised. Receiving grates are available in 11" x 20" or 11" x 26" to accommodate narrow and wide trench drain widths. The Grate Nozzle can also be adapted to provide wash down.



When a detector is operated by fire, the sprinkler system valve (1) is released by a loss of pressure in the priming chamber. This piping is also tied into the priming chamber of the Halar coated concentrate control valve (2) allowing that valve to open at approximately the same time, thus opening the foam concentrate line to the sprinkler system. Simultaneously, the outer shell of the bladder tank (3) is pressurized by the system water which squeezes foam concentrate out to the proportioner (4). As water flows through the venturi area of the proportioner a metered pressure drop draws the foam concentrate into the system water creating a foam solution mixed to the appropriate ratios. This solution then flows through the sprinkler piping and out of any open sprinklers or nozzles.

System components & related equipment

No matter what your fire sprinkler requirements, no matter when or where you need it, Viking SupplyNet takes the panic out of the process. We assure you easy access to the world's leading fire protection equipment.



OS & Y Gate Valve



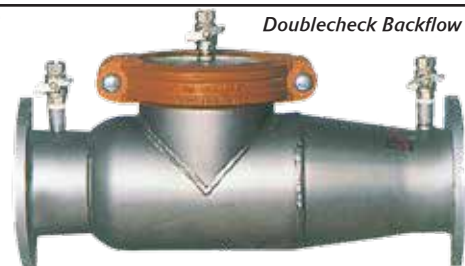
Butterfly Valve

Grooved Butterfly Valves, Gate Valves and Post Indicators are among the many quality valve products available. In order to provide a full system supply capability, Viking SupplyNet also supplies Test and Drain assemblies providing both the test function and express drain function for a wet pipe sprinkler system.



Easy-Pac Riser Manifold Assembly

For commercial and residential applications, the newly introduced Easy-Pac Riser Manifold Assembly designed to save time and labor by combining the drain outlet, flow switch, gauge and an optional relief valve in one preassembled unit.



Doublecheck Backflow Assembly

You can also choose from a wide range of detector checks and backflow preventers further underlining the whole system supply capability available from the Viking SupplyNet distribution network.



Viking SupplyNet Asia Headquarters (Singapore), one of over 50 supply locations worldwide

Alarm Bell



Tamper Switch



Water Flow Indicator



Flow switches, tamper switches, pressure switches – all selected for quality and dependable service.



Tank-Mounted Air Compressor

Other electrical products, such as air compressors, panels and a host of accessories selected to provide all your fire protection needs from a single source.



Riser-Mounted Air Compressor

System components

In addition to a full range of quality fire protection products Viking SupplyNet locations also offer an extensive line of related products, accessories and equipment, so customers can choose to purchase all their fire protection needs from a single source. Customers can also take advantage of our on-line Purchase Assistant Program to place orders using the Viking SupplyNet website.



Grooved Pipe Couplings and Fittings are available from the SupplyNet distribution network worldwide. Quality products specifically designed for fire protection they are UL listed, and FM, LPCB and VdS approved.

Grooved pipe products



Cast iron, malleable iron and ductile iron fittings are part of the comprehensive pipe connection fittings offered by Viking SupplyNet.

Cast iron pipe fittings

42

system components



For installations including residential, hotels and office buildings, CPVC pipe and fittings are an ideal solution.

Contact your local Viking SupplyNet distributor for availability.

CPVC pipe fittings



& related equipment

Viking SupplyNet supplies standard steel rolled and cut grooved pipe. Availability of pipe differs between locations worldwide so check availability with your local Viking SupplyNet distributor.



Pipe supports and hangers in a variety of patterns to cater for all installation requirements, including earthquake bracing.



Pipe with Sway Brace and Swivel Attachment

Pipe Strap

Beam Clamp

Band Hanger



Everything down to pipe sealing compounds, lubricants and a range of pipe accessories are available. Quality products, quality customer service and worldwide distribution capability. Viking SupplyNet - what you need, when and where you need it.



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