

# Commercial Extended Coverage Sprinkler Quick Reference Guide

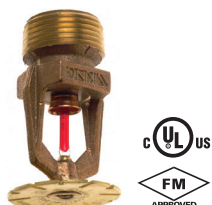
This guide is intended for general reference only. Prior to the design, layout, and/or installation of any sprinkler system, please refer to Viking's technical documentation and always consult with the AHJ. Viking makes no representation or warranty as to whether following this guide will satisfy any rule or requirement. Please visit [www.vikinggroupinc.com](http://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 F\_080988

- 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 - 21475M/B, Recessed Wrench - 13577W/B

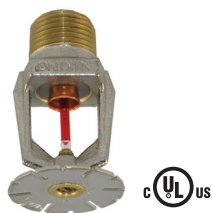
Coverage Area ft (m)	Flow gpm (lpm)	Pressure psi (bar)
16 x 16 <sup>1</sup> (4.9x4.9)	26 (98.4)	21.6 (1.49)
18 x 18 <sup>1</sup> (5.5x5.5)	33 (124.9)	34.7 (2.39)
20 x 20 <sup>1,2,3</sup> (6.1x6.1)	40 (151.4)	51.0 (3.52)

<sup>1</sup> cULus listed for quick response only. FM approved for quick response.

<sup>2</sup> 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.

<sup>3</sup> Standard response listing also available in 155°F/68°C and 175°F/79°C. See technical datasheet for expanded FM approval criteria.

### 5.6 (81) K-factor



#### VK604, Part No. 10335 Technical datasheet F\_062314

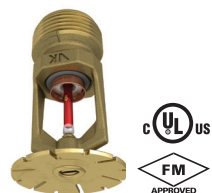
- Listed at 175 psi (12 bar)
- VK610 (p/n 12294) Listed for high pressure; 250 psi (17.2 bar)
- 1/2" NPT (15mm)
- Light Hazard
- Standard Response - 155°F/68°C, 175°F/79°C
- Quick Response - 135°F/57°C, 155°F/68°C, 175°F/79°C
- Standard Wrench - 21475M/B, Recessed Wrench - 13577W/B

16 x 16 <sup>1</sup> (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 <sup>2</sup> (6.1x6.1)	40 (151.4)	51.0 (3.52)

<sup>1</sup> Available only for quick response.

<sup>2</sup> Standard response listing also available in 175°F/79°C.

### 8.0 (115) K-factor



#### VK602, Part No. 18262 Technical datasheet F\_102412

- 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 - 21475M/B, Recessed Wrench - 13577W/B

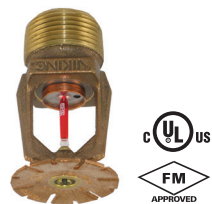
16 x 16 <sup>1</sup> (4.9x4.9)	26 (98.4)	10.6 (0.73)
18 x 18 <sup>1</sup> (5.5x5.5)	33 (124.9)	17.0 (1.17)
20 x 20 <sup>2</sup> (6.1x6.1)	40 (151.4)	25.0 (1.72)

<sup>1</sup> cULus listed for quick response only. FM approved for quick response.

<sup>2</sup> 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 F\_052793

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

<sup>1</sup> Available only for quick response.

<sup>2</sup> cULus quick response listing in 135°F/57°C and 175°F/79°C only.

FM quick response approval also includes 155°F/68°C.

See technical datasheet for expanded FM approval criteria.

Pendent and Recessed Pendent Sprinklers continued from page 1

## 11.2 (161) K-factor

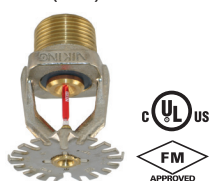
**VK534, Part No. 08340**  
**Technical datasheet F\_051393**

- 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 <sup>1</sup> (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 <sup>1</sup> (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 <sup>1</sup> (6.1x6.1)	40 (151.4)	12.8 (0.88)
ORDINARY HAZARD <sup>3</sup>		
12 x 12 <sup>1</sup> (3.7x3.7)	30 (113.6)	7.2 (0.50)
14 x 14 <sup>1</sup> (4.3x4.3)	30 (113.6)	7.2 (0.50)
16 x 16 <sup>2</sup> (4.9x4.9)	38 (143.9)	11.5 (0.79)
18 x 18 <sup>2</sup> (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 <sup>2</sup> (6.1x6.1)	60 (227.1)	28.7 (1.98)

<sup>1</sup> Available only for quick response.<sup>2</sup> Available only for standard response.<sup>3</sup> 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 F\_072313**

- 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

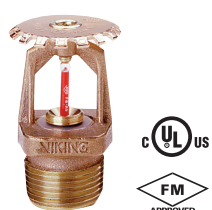
ORDINARY HAZARD <sup>3</sup>		
12 x 12 <sup>1</sup> (3.7x3.7)	39 (147.6)	7.8 (0.54)
14 x 14 <sup>1</sup> (4.3x4.3)	39 (147.6)	7.8 (0.54)
16 x 16 <sup>2</sup> (4.9x4.9)	39 (147.6)	7.8 (0.54)
18 x 18 <sup>2</sup> (5.5x5.5)	49 (185.5)	12.3 (0.85)
20 x 20 <sup>2</sup> (6.1x6.1)	60 (227.1)	18.4 (1.27)

<sup>1</sup> UL Listed only for quick response.<sup>2</sup> UL Listed only for standard response.<sup>3</sup> Design data listed above is for OH Group 1. See technical datasheet for OH Group 2 data.

\*\* FM Approved as QR for all temps and spacings shown. See technical datasheet for FM approval criteria.

## Upright Sprinkler

## 11.2 (161) K-factor

**VK532, Part No. 08687**  
**Technical datasheet F\_053114**

- 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 <sup>1</sup> (4.9x4.9)	30 (113.6)	7.2 (0.50)
18 x 18 <sup>1</sup> (5.5x5.5)	33 (124.9)	8.7 (0.60)
20 x 20 <sup>1</sup> (6.1x6.1)	40 (151.4)	12.8 (0.88)
ORDINARY HAZARD <sup>3</sup>		
12 x 12 <sup>1</sup> (3.7x3.7)	30 (113.6)	7.2 (0.50)
14 x 14 <sup>1</sup> (4.3x4.3)	30 (113.6)	7.2 (0.50)
16 x 16 <sup>2</sup> (4.9x4.9)	38 (143.9)	11.5 (0.79)
18 x 18 <sup>2</sup> (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 <sup>2</sup> (6.1x6.1)	60 (227.1)	28.7 (1.98)

<sup>1</sup> Available only for quick response.<sup>2</sup> Available only for standard response.<sup>3</sup> Design data listed above is for OH Group 1. See technical datasheet for Group 2 data.

See technical datasheet for FM approval criteria

## 14.0 (202) K-factor

**VK570, Part No. 13840**  
**Technical datasheet F\_010104**

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

<sup>1</sup> Available only for quick response.<sup>2</sup> Available only for standard response.<sup>3</sup> 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 19, Design Approaches (2019 Edition). Refer to sprinkler data pages on Viking's web site at [www.vikinggroupinc.com](http://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  $A_s = 5 \times L$  method must be used to determine the sprinkler protection area of coverage. (9.5.2.1)

## 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).

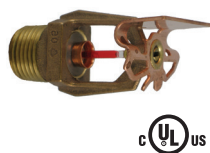
## Special Painted Cover Plates

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



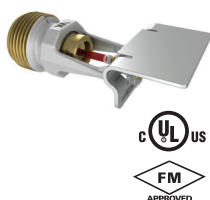
### VK605, Part No. 12120 Technical datasheet F\_072414

- 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 - 21475M/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 <sup>1</sup> (4.9x4.9)	26 (98.4)	21.6 (1.49)
16 x 18 <sup>1</sup> (4.9x5.5)	29 (109.8)	26.8 (1.85)
16 x 20 <sup>1</sup> (4.9x6.1)	32 (121.1)	32.7 (2.25)

<sup>1</sup> 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. 18271 Technical datasheet F\_102612

- 3/4" NPT (20mm)
- Light Hazard, Quick Response
- Approved for 4-12" (102-305mm) down from ceiling
- Standard Wrench - 21475M/B, Recessed Wrench - 13655W/B
- FM approved up to 16 x 24 (4.9 x 7.3)

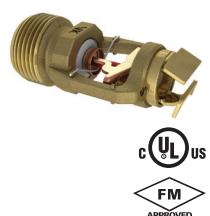
16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
16 x 18 (4.9x5.5)	29 (109.8)	13.1 (0.91)
16 x 20 (4.9x6.1)	32 (121.1)	16.0 (1.10)
16 x 22 <sup>1</sup> (4.9x6.7)	36 (136.3)	20.3 (1.40)
16 x 22 <sup>2</sup> (4.9x6.7)	38 (143.8)	22.6 (1.56)

<sup>1</sup> 4-6" (102-152mm) down from ceiling.

<sup>2</sup> 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 F\_102905

- 3/4" NPT (20mm)
- Light Hazard, Quick Response
- Approved for 4-12" (102-305mm) down from ceiling
- Standard Wrench - 21475M/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

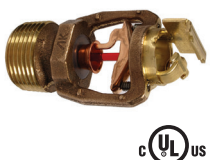
14 x 24 <sup>1</sup> (4.3x7.3)	34 (128.7)	18.1 (1.25)
14 x 24 <sup>2</sup> (4.3x7.3)	36 (136.3)	20.3 (1.40)
14 x 26 <sup>1</sup> (4.3x7.9)	38 (144.0)	22.6 (1.56)
14 x 26 <sup>2</sup> (4.3x7.9)	46 (174.1)	33.1 (2.28)
16 x 16 (4.9x4.9)	26 (98.4)	10.6 (0.73)
16 x 18 (4.9x5.5)	29 (109.8)	13.1 (0.91)
16 x 20 (4.9x6.1)	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)

<sup>1</sup> 4-6" (102-152mm) down from ceiling.

<sup>2</sup> 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 F\_081911

- 3/4" NPT (20mm)
- Light Hazard, Quick Response
- Standard Wrench - 21475M/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 <sup>1</sup> (8.5x3.7)	34 (128.7)	18.1 (1.24)
28 x 14 <sup>1</sup> (8.5x4.3)	40 (151.4)	25.0 (1.73)

<sup>1</sup> 4-12" (102-305mm) down from ceiling.

## 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 F\_050611

- 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)
14 x 24 <sup>1</sup> (4.3 x 7.3)	34 (128.7)	18.1 (1.25)
14 x 24 <sup>2</sup> (4.3 x 7.3)	35 (132.5)	19.2 (1.32)
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 (4.9x6.1)	32 (121.1)	16.0 (1.10)
16 x 22 (4.9x6.7)	36 (136.3)	20.3 (1.40)
16 x 24 <sup>1</sup> (4.9 x 7.3)	39 (147.6)	23.8 (1.64)
16 x 24 <sup>2</sup> (4.9 x 7.3)	40 (151.4)	25 (1.72)
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)

<sup>1</sup> 4-3/8" (112mm) - 6-3/8" (162mm) down from ceiling.

<sup>2</sup> 6-3/8" (162mm) - 12-3/8" (314mm) down from ceiling.

## Mirage® Flat Plate Concealed Pendent Sprinklers

5.6 (81) K-factor



### VK632, Part No. 14613A Technical datasheet F\_080107

- 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 <sup>1</sup> (6.1x6.1)	40 (151.4)	51.0 (3.52)

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

8.0 (115) K-factor



### VK634, Part No. 14535A Technical datasheet F\_080107

- 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 <sup>1</sup> (6.1x6.1)	40 (151.4)	25.0 (1.72)

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

11.2 (161) K-factor



### VK636, Part No. 16102A Technical datasheet F\_121009

- 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 (6.1x6.1)	40 (151.4)	12.8 (0.88)

11.2 (161) K-factor



### VK538, Part No. 17115A Technical datasheet F\_050511

- 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 (4.9 x 4.9)	38 (143.9)	11.5 (0.79)
18 x 18 (5.5x5.5)	49 (185.5)	19.1 (1.32)
20 x 20 <sup>1</sup> (6.1x6.1)	60 (227.1)	28.7 (1.98)

<sup>1</sup> 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.

