

# Residential 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.



## Pendent and Recessed Pendent Sprinklers

Recessed adjustment up to 5/8" (16 mm)

3.0 (43) K-factor



**VK470, Part No. 17147**  
**Technical datasheet F\_061011**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Enables two-head design with flows less than 20 gpm (75,7 lpm)
- Can optimize NFPA 13 residential designs when combined with larger K-factor residential sprinklers
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	Horizontal Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	8 (30)	7.1 (49)
14 x 14 (4,3x4,3)	10 (38)	11.1 (77)
15 x 15 (4,6x4,6)	12 (45)	16 (110)
16 x 16 (4,9x4,9)	13 (49)	18.8 (129)

4.3 (62) K-factor



**VK430, Part No. 09530**  
**Technical datasheet F\_082095**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Continually listed by UL since 1995
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	12 (45)	7.8 (54)
14 x 14 (4,3x4,3)	13 (49)	9.1 (63)
16 x 16 (4,9x4,9)	13 (49)	9.1 (63)
18 x 18 (5,5x5,5)	17 (64)	15.6 (108)
20 x 20 (6,1x6,1)	21 (80)	23.9 (164)

4.9 (71) K-factor



**VK468, Part No. 13637**  
**Technical datasheet F\_012706**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	13 (49)	7.0 (48)
14 x 14 (4,3x4,3)	13 (49)	7.0 (48)
16 x 16 (4,9x4,9)	13 (49)	7.0 (48)
18 x 18 (5,5x5,5)	17 (64)	12.0 (83)
20 x 20 (6,1x6,1)	20 (76)	16.7 (115)

5.2 (75) K-factor



**VK466, Part No. 13781**  
**Technical datasheet F\_019406**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	14 (53)	7.2 (50)
14 x 14 (4,3x4,3)	14 (53)	7.2 (50)
16 x 16 (4,9x4,9)	14 (53)	7.2 (50)
18 x 18 (5,5x5,5)	17 (64)	10.7 (74)
20 x 20 (6,1x6,1)	20 (76)	14.8 (1.02)

5.8 (84) K-factor



**VK472, Part No. 16130**  
**Technical datasheet F\_121409**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup> density)
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	16 (61)	7.6 (52)
14 x 14 (4,3x4,3)	16 (61)	7.6 (52)
16 x 16 (4,9x4,9)	16 (61)	7.6 (52)
18 x 18 (5,5x5,5)	17 (64)	8.6 (59)
20 x 20 (6,1x6,1)	21 (80)	13.1 (90)

7.4 (107) K-factor



**VK458, Part No. 13230**  
**Technical datasheet F\_042005**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup> density)
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	20 (76)	7.3 (50)
14 x 14 (4,3x4,3)	20 (76)	7.3 (50)
16 x 16 (4,9x4,9)	20 (76)	7.3 (50)
18 x 18 (5,5x5,5)	22 (83)	8.8 (61)
20 x 20 (6,1x6,1)	24 (91)	10.5 (73)

\*Flows shown for 155°F/68°C; see technical datasheet for flows at 175°F/79°C.

All application data is for smooth, flat, horizontal ceilings unless otherwise noted, and is per each sprinkler's cULus Listing for systems designed to NFPA 13D or NFPA 13R requiring a 0.05 gpm/ft<sup>2</sup> density.

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## Flat Plate Concealed Pendent Sprinklers

Cover Plate Temp = 135°F/57°C; Adjustment up to 1/2" (13 mm)

3.0 (43) K-factor



**VK488, Part No. 18325AC**  
**Technical datasheet F\_073012**

- Sprinkler temp = 165°F/74°C and 205°F/96°C\*
- Enables two-head design with flows less than 20 gpm (76 lpm)
- Can optimize NFPA 13 residential designs when combined with larger K-factor residential sprinklers

Coverage Area ft (m)	Horizontal Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	8 (30)	7.1 (49)
14 x 14 (4,3x4,3)	11 (42)	13.4 (92)
16 x 16 (6,1x6,1)	13 (49)	18.8 (130)

\*UL Listed flow rates are identical for both temperature ratings.

4.9 (71) K-factor



**VK494, Part No. 20759**  
**Technical datasheet F\_012116**

- Sprinkler temp = 155°F/68°C and 200°F/93°C\*
- Intermediate temperature models provide greater installation flexibility
- Available with either standard, large, or square cover plate
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	13 (49)	7.0 (48)
14 x 14 (4,3x4,3)	13 (49)	7.0 (48)
16 x 16 (4,9x4,9)	13 (49)	7.0 (48)
18 x 18 (5,5x5,5)	17 (64)	12.0 (83)
20 x 20 (6,1x6,1)	20 (76)	16.7 (115)

\*UL Listed flow rates are identical for both temperature ratings.

5.8 (84) K-factor



**VK474, Part No. 15790AC**  
**Technical datasheet F\_012109**

- Sprinkler temp = 165°F/74°C and 205°F/96°C\*
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup> density)
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	16 (61)	7.6 (52)
14 x 14 (4,3x4,3)	16 (61)	7.6 (52)
16 x 16 (4,9x4,9)	16 (61)	7.6 (52)
18 x 18 (5,5x5,5)	19 (72)	10.7 (74)
20 x 20 (6,1x6,1)	23 (87)	15.7 (110)

\*UL Listed flow rates are identical for both temperature ratings.

## Flat Plate Concealed Sidewall Sprinklers

Cover plate temp = 135°F/57°C

4.0 (58) K-factor



**VK480, Part No. 16116AC**  
**Technical datasheet F\_121609**

- Sprinkler temp = 165°F/74°C and 205°F/96°C
- Use cover plate 16207MA/W
- White cover plate is standard; can be custom painted to match any decor
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	4-6" (102mm-152mm) From Ceiling		6-12" (152mm-305mm) From Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	11 (42)*	7.6 (52)	12 (46)**	9.0 (62)
14 x 14 (4,3x4,3)	13 (49)*	10.6 (73)	14 (53)**	12.3 (84)
16 x 16 (4,9x4,9)	16 (61)*	16.0 (110)	16 (61)**	16.0 (110)
16 x 18 (4,9x5,5)	17 (64)*	18.1 (125)	18 (68)**	20.3 (140)

\*Centerline of the sprinkler located 4-3/8" (111mm) to 6-3/8" (162mm) below the ceiling.  
 \*\*Centerline of the sprinkler located 6-3/8" (162mm) to 12-3/8" (314mm) below the ceiling.

5.8 (84) K-factor



**VK490, Part No. 20409**  
**Technical datasheet F\_032116**

- Sprinkler temp = 165°F/74°C and 205°F/96°C
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup>)

Coverage Area ft (m)	4-6" (102mm-152mm) From Ceiling		6-12" (152mm-305mm) From Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3.7 x 3.7)	16 (70)*	7.6 (52)	17 (64)**	8.6 (59)
14 x 14 (4.3 x 4.3)	17 (64)*	8.6 (59)	17 (64)**	8.6 (59)
16 x 16 (4.9 x 4.9)	18 (68)*	9.6 (66)	19 (72)**	10.7 (74)
16 x 18 (4.9 x 5.5)	21 (80)*	13.1 (90)	21 (80)**	13.1 (90)
16 x 20 (4.9 x 6.1)	23 (87)*	15.7 (108)	26 (98)**	20.1 (139)
16 x 22 (4.9 x 6.7)	31 (117)*	28.6 (197)	31 (117)**	28.6 (197)
18 x 20 (5.5 x 6.1)	28 (106)*	23.3 (161)	28 (106)**	23.3 (161)

\*Centerline of the sprinkler located 4-3/8" (111mm) to 6-3/8" (162mm) below the ceiling.  
 \*\*Centerline of the sprinkler located 6-3/8" (162mm) to 12-3/8" (314mm) below the ceiling.

## Domed Concealed Pendent Sprinklers

Cover Plate Temp = 135°F / 57°C; Adjustment up to 1/2" (13 mm)

4.9 (71) K-factor



**VK468-D, Part No. 13637A-X**  
**Technical datasheet F\_020206**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	Horizontal Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	13 (49)	7.0 (48)
14 x 14 (4,3x4,3)	13 (49)	7.0 (48)
16 x 16 (4,9x4,9)	13 (49)	7.0 (48)
18 x 18 (5,5x5,5)	17 (64)	12.0 (83)
20 x 20 (6,1x6,1)	20 (76)	16.7 (115)

5.2 (75) K-factor



**VK466-D, Part No. 13781A-X**  
**Technical datasheet F\_091606**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	14 (53)	7.2 (50)
14 x 14 (4,3x4,3)	14 (53)	7.2 (50)
16 x 16 (4,9x4,9)	14 (53)	7.2 (50)
18 x 18 (5,5x5,5)	17 (64)	10.7 (74)
20 x 20 (6,1x6,1)	20 (76)	14.8 (102)

7.4 (107) K-factor



**VK458-D, Part No. 13230ABX**  
**Technical datasheet F\_092305**

- Sprinkler temp = 155°F/68°C
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup> density)
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	20 (76)	7.3 (50)
14 x 14 (4,3x4,3)	20 (76)	7.3 (50)
16 x 16 (4,9x4,9)	20 (76)	7.3 (50)
18 x 18 (5,5x5,5)	23 (87)	9.7 (67)
20 x 20 (6,1x6,1)	28 (106)	14.3 (99)

## Flush Concealed Pendent Sprinklers

Adjustment up to 5/8" (16mm) with ceiling ring (Part No. 15618)

4.9 (71) K-factor



**VK476, Part No. 15630**  
**Technical datasheet F\_120608**

- Sprinkler temp = 165°F/74°C
- Sprinkler and escutcheon sold together

Coverage Area ft (m)	Horizontal Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	13 (49)	7.0 (48)
14 x 14 (4,3x4,3)	13 (49)	7.0 (48)
16 x 16 (4,9x4,9)	13 (49)	7.0 (48)
18 x 18 (5,5x5,5)	17 (64)	12.0 (83)
20 x 20 (6,1x6,1)	21 (80)	18.4 (127)

## Upright Sprinklers

Available in 155°F/68°C and 175°F/79°C

4.9 (71) K-factor



**VK467, Part No. 19154**  
**Technical datasheet F\_090413**

- The industry's first and only residential upright sprinkler
- May provide significant design advantages in loft-type residential structures
- Listed with beam ceilings up to 14" (356 mm); deflector should be installed 1" - 3" below 14" beams
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	Flow gpm (lpm)	Horizontal Ceiling	
		Pressure psi (kPa)	Deflector to Ceiling
12 x 12 (3,7x3,7)	14 (53)	8.2 (56)	3-5" (76mm- 127mm)
14 x 14 (4,3x4,3)	14 (53)	8.2 (56)	
16 x 16 (4,9x4,9)	16 (61)	10.7 (73)	
12 x 12 (3,7x3,7)	15 (57)	9.4 (65)	*5-10" (152mm- 254mm)
12 x 12 (3,7x3,7)	15 (57)	9.4 (65)	
16 x 16 (4,9x4,9)	18 (68)	13.5 (93)	

\*Note: Also applies to installations 1-3" below 14" beams at 155°F/68°C temperature rating only.

Viking offers lead-free versions of several Freedom® residential sprinklers. Please refer to Viking's technical datasheets for complete design and installation data. Lead content complies with the definition of 'Lead Free' established in the Reduction of Lead in Drinking Water Act (5.3874) endorsed by AWWA's Water Utility Council, and California Assembly Bill #1953.

## Horizontal Sidewall Sprinklers

Available in 155°F/68°C and 175°F/79°C; Recessed adjustment up to 5/8" (16mm)

### 3.0 (43) K-factor



**VK479, Part No. 19707**  
**Technical datasheet F\_012915**

- Sprinkler temp = 155°F/68°C
- Patented "flow shaper" design provides the ultimate combination of low flows and starting pressures
- Can optimize NFPA 13 residential designs when combined with larger K-factor residential sprinklers
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	4-12" (102mm-305mm) From Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	11 (42)	13.4 (92)
14 x 14 (4,3x4,3)	13 (49)	18.8 (129)
16 x 16 (4,9x4,9)	13 (49)	18.8 (129)

### 4.0 (58) K-factor



**VK486, Part No. 17315**  
**Technical datasheet F\_082411**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Patented "flow shaper" design provides the ultimate combination of low flows and starting pressures
- Lowest flow rate in the industry
- Available with ENT plating (Nickel PTFE) for corrosion resistance

Coverage Area ft (m)	4-6" (102mm-152mm) From Ceiling		6-12" (152mm-305mm) From Ceiling	
	Flow gpm (lpm)	Pressure psi (kPa)	Flow gpm (lpm)	Pressure psi (kPa)
12 x 12 (3,7x3,7)	11 (42)	7.6 (52)	12 (46)	9.0 (62)
14 x 14 (4,3x4,3)	12 (46)	9.0 (62)	12 (46)	9.0 (62)
16 x 16 (4,9x4,9)	13 (49)	10.6 (73)	14 (53)	12.3 (85)
16 x 18 (4,9x5,5)	16 (61)	16.0 (110)	16 (61)	16 (110)
16 x 20 (4,9x6,1)	22 (83)	30.3 (209)	23 (87)	33.1 (228)
16 x 22 (4,9x6,7)	24 (91)	36.0 (248)	26 (98)	42.3 (291)
18 x 18 (5,5x5,5)	18 (68)	20.3 (140)	18 (68)	20.3 (140)
18 x 20 (5,5x6,1)	22 (83)	30.3 (209)	23 (87)	33.1 (228)
20 x 20 (6,1x6,1)	22 (83)	30.3 (209)	24 (91)	36.0 (248)

\*Flows shown for 155°F/68°C; see technical datasheet for flows at 175°F/79°C.

### 4.2 (60) K-factor



**VK484, Part No. 16240**  
**Technical datasheet F\_050310**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	13 (49)	9.6 (66)	14 (53)	11.1 (77)
14 x 14 (4,3x4,3)	14 (53)	11.1 (77)	16 (61)	14.5 (100)
16 x 16 (4,9x4,9)	16 (61)	14.5 (100)	18 (68)	18.4 (127)
16 x 18 (4,9x5,5)	19 (72)	20.5 (141)	20 (76)	22.7 (156)
16 x 20 (4,9x6,1)	22 (83)	27.4 (189)	25 (95)	35.4 (244)

\*Flows shown for 155°F/68°C; see technical datasheet for flows at 175°F/79°C.

### 5.8 (84) K-factor



**VK460, Part No. 13933**  
**Technical datasheet F\_110205**

- Sprinkler temp = 155°F/68°C and 175°F/79°C
- Patented "flow shaper" design provides the ultimate combination of low flows and starting pressures
- Larger K-factor provides lower starting pressure in NFPA 13 applications (0.1 gpm/ft<sup>2</sup> density)
- Available with ENT plating (Nickel PTFE) for corrosion resistance

12 x 12 (3,7x3,7)	16 (61)	7.6 (52)	16 (61)	7.6 (52)
14 x 14 (4,3x4,3)	16 (61)	7.6 (52)	18 (68)	9.7 (67)
14 x 26 (4,3x7,9)	42 (159)	52.4 (362)	46 (174)	62.9 (434)
16 x 16 (4,9x4,9)	20 (76)	11.9 (82)	24 (91)	17.1 (120)
16 x 18 (4,9x5,5)	22 (83)	14.4 (99)	27 (102)	21.7 (149)
16 x 20 (4,9x6,1)	26 (98)	20.1 (139)	32 (121)	30.4 (210)
16 x 22 (4,9x6,7)	31 (117)	28.6 (197)	37 (140)	40.7(281)
16 x 24 (4,9x7,3)	38 (144)	42.9 (296)	42 (159)	52.4 (362)
18 x 18 (5,5x5,5)	23 (87)	15.7 (110)	29 (110)	25.0 (170)
18 x 20 (5,5x6,1)	29 (110)	25.0 (170)	35 (133)	36.4 (251)
20 x 20 (6,1x6,1)	30 (114)	26.8 (180)	36 (136)	38.5 (266)

\*Flows shown for 155°F/68°C; see technical datasheet for flows at 175°F/79°C.

## Flat Cover Plate Finishes

Freedom offers the smallest available cover plates and low-profile recessed sprinkler models, providing optimum protection while blending with décor. A choice of nine standard finishes and unlimited custom colors make Freedom almost undetectable once installed.

Viking concealed cover plates are UL Listed to accept any type and manufacturer of paint within the constraints of Viking's quality control requirements. All custom color painted cover plates have a label affixed to the inside of the cover that identifies the color by name, and that also carries a representative paint dot.

To order custom cover plate painting, contact your Viking SupplyNet customer service representative.



Our exclusive Colormatch® service can duplicate any paint sample or color chip, providing endless options for a beautiful, finished look.

## Standard Finishes



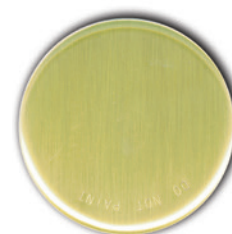
White



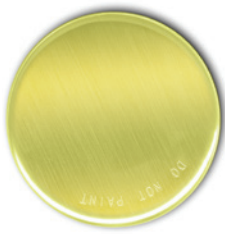
Ivory



Black



Antique Brass



Brushed Brass



Brushed Chrome



Bright Brass



Polished Chrome



Brushed Copper

## Cover Plates

Technical datasheet Sprinkler F\_040600



**Standard, Part No. 13504**  
2-3/4" (70mm) diameter



**Square, Part No. 15394**  
3-5/16" (84mm) L x W



**Domed, Part No. 12207**  
3-1/8" (80mm) diameter



**Large, Part No. 13642**  
3-5/16" (84mm) diameter  
(Part No. 16207 for VK480 and VK490)

## Recessed and Sloped Ceiling Escutcheons

Technical datasheet Sprinkler F\_122698



- E-1 – Push-on, Part No. 11123-3/8", 06419-1/2", 20369-3/4"
- E-2 – Threaded, Part No. 11038-1/2", 20130-3/4"
- E-3 – Threaded, Part No. 18347-1/2", 18348-3/4"
- F-1 – Adjustable, Part No. 06911A-1/2", 20371-3/4"



- G-1 – Sloped, Part No. 14315-1/2"  
Part No. 20133-3/4"  
Push-on

## Tools

Technical datasheet Sprinkler F\_122598



**Cabinet Wrench & Sprinkler Cap Removal Tool,**  
Part No. 13619

(See Part No. 16267 for Models VK480 and VK490 and Part No. 14047 for Model VK494)



**Concealed Cover Installer Tool,**  
Standard Diameter, Part No. 14412

**Concealed Cover Installer Tool,**  
Large Diameter, Part No. 14867



**Escutcheon Installer Tool,**  
Part No. 15915 (Technical datasheet F\_051808)



Individual tools and length of pipe all sold separately.

## Viking SupplyNet Regional Headquarters

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### Viking SupplyNet - U.S. East

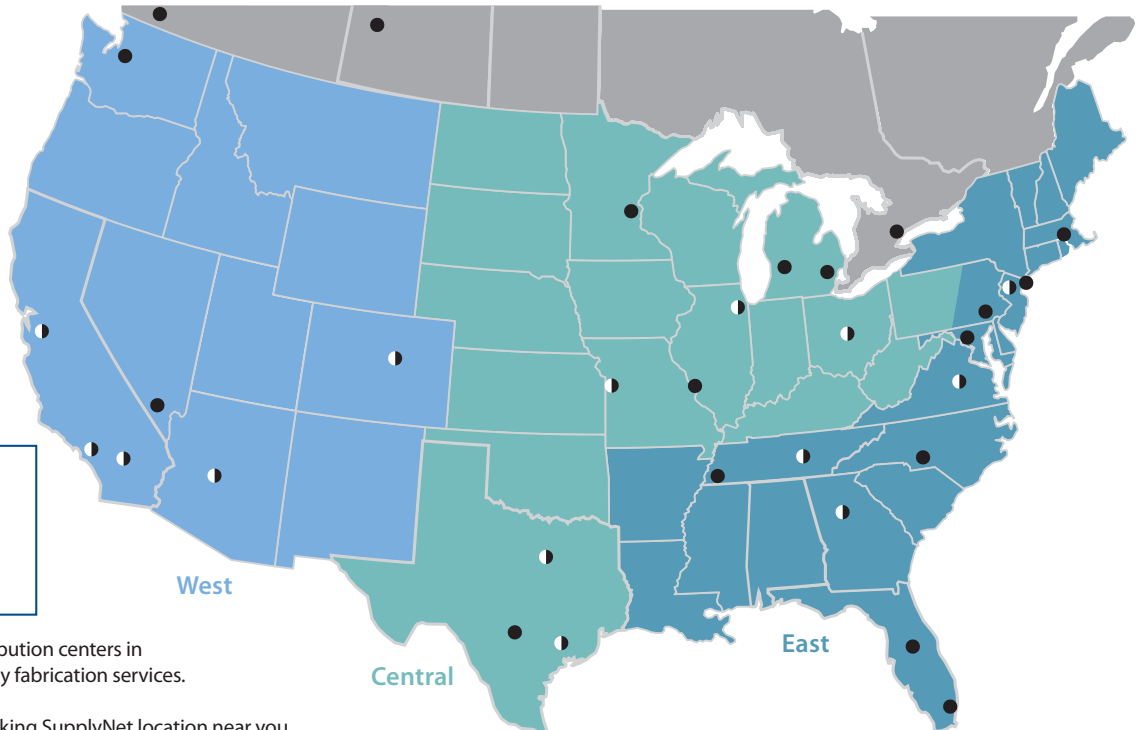
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### U.S. and Canada Locations

- Distribution Center
- ⦿ Distribution + Fabrication

Viking SupplyNet has thirty-two distribution centers in North America - fourteen with turn-key fabrication services.

Visit [www.vikinggroupinc.com](http://www.vikinggroupinc.com) for a Viking SupplyNet location near you.