



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

1. DESCRIPTION

Viking Standard and Quick Response Concealed Pendent Sprinkler VK4621 is a small thermosensitive, glass-bulb sprinkler designed for installation on concealed pipe systems where the appearance of a smooth ceiling is desired. The low-profile cover assemblies provide up to ½" (13 mm) of vertical adjustment.

Features:

- K5.6 (80.6 metric).
- Quick response glass bulb operating element.
- Integral threaded adapter cup accepts push-on or thread-on cover plates.
- Low-profile, small diameter, removeable cover plates offer almost flush appearance upon installation and allow ease of maintenance.
- Protective cap prevents damage during installation and finishing and keeps errant overspray from coating internal parts.
- Various finishes available to meet design requirements.
- Optional Electroless Nickel PTFE (ENT) coating provides corrosion resistance (see Approval Chart).

2. LISTINGS AND APPROVALS



cULus Listed: Category VNIV



FM Approved: Class 2015

Also approved for use in FM Approved vacuum dry sprinkler systems with a maximum supervisory vacuum pressure of -3 psi (-207mbar)



VdS Approved: Standard EN 12259-1:199 + A3:2006; Certificate Number G 422002



LPCB Approved: Standard EN 12259-1:199 + A3:2006; Certificate Number 096e



CE: Standard EN 12259-1:1999 + A3:2006, Sprinkler, DOP_VK4621, 2831, 2023



MED Approved: Standard EN 12259-1:1999 + A3:2006, DOC_MED_VK4621, 2831.



UKCA Approved: Standard EN 12259-1:1999 + A3:2006, DOC_UKCA_VK4621, 0832, 2023.

China Approval: Approved according to China GB standard.



WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

Refer to the Approval Charts and Design Criteria on for cULus Listing requirements that must be followed.

3. TECHNICAL DATA

Specifications:

Minimum Operating Pressure: 7 psi (0.5 bar)

Maximum Working Pressure: FM - 175 psi (12 bar). UL - 250 psi (17.2 bar)

Factory tested hydrostatically to 500 psi (34.5 bar).

Thread size: 1/2" NPT or 15 mm BSPT

Nominal K-Factor: 5.6 U.S. (80.6 metric*)

Glass-bulb fluid temperature rated to -65 °F (-55 °C)

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



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

Material Standards:

Sprinkler body: QM Brass or DZR Brass

Deflector: Phosphor Bronze UNS-C51000

Deflector pins: Stainless steel UNS-S43000

Pip cap: Copper UNS-C11000

Pip cap insert: stainless steel UNS-S30400

Pip cap T-hinge ring: Stainless steel UNS-S31600

Compression screw: UNS-C36000

Belleville spring sealing assembly: Nickel alloy, coated on both sides with PTFE tape

Cover adapter: Cold rolled steel JIS G3141 and carbon steel UNS-G10100 (per JIS G3141)

Shipping cap: High density polyethylene

Cover Plate Materials:

Cover plate assembly: Copper UNS-C11000 and brass UNS-C26800 or stainless steel UNS-S30400

Spring: Beryllium nickel

Solder: Eutectic

Ordering Information: Refer to Tables 1 and 2.

4. INSTALLATION

Refer to appropriate NFPA Installation Standards and installation instructions in this document.

5. OPERATION

During fire conditions, when the temperature around the sprinkler approaches its operating temperature, the cover plate detaches, releasing the deflector. Continued heating of the exposed sprinkler causes the heat-sensitive liquid in the glass bulb to expand, causing the glass to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the sprinkler orifice strikes the deflector, forming a uniform spray pattern over a specific area of coverage determined by the water supply pressure at the sprinkler to extinguish or control the fire.

6. INSPECTIONS, TESTS AND MAINTENANCE

Refer to NFPA 25 for Inspection, Testing and Maintenance requirements.

7. AVAILABILITY

Viking Sprinklers are available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor contact The Viking Corporation.

8. GUARANTEE

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

Ordering Instructions - Sprinkler Base

1. Choose a sprinkler base part number with the required thread size and listing or approval (refer to the approval chart).
2. Add the suffix for the desired finish.
3. Add the suffix for the desired temperature rating.
4. Order a cover plate (refer to Ordering Instructions - Cover Plate).

EXAMPLE: **24682AB** = VK4621 with brass finish and 155 °F (68 °C) nominal temperature rating. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C).

1. Sprinkler Base Part Numbers	
Part Number	Thread Size
24682	½" NPT
22962	15 mm BSPT
26548 ⁷	15 mm BSPT

2. Available Finishes	
Description	Suffix
Brass	A
ENT ^{2,3,5}	JN

3. Temperature Ratings				
Sprinkler Temperature Classification	Temperature Rating	Bulb Color	Maximum Ambient Ceiling Temperature ¹	Suffix
Ordinary	155 °F (68 °C)	Red	100 °F (38 °C)	B
Intermediate	175 °F (79 °C)	Yellow	150 °F (66 °C)	D
Intermediate	200 °F (93 °C)	Green	150 °F (66 °C)	E

Accessories	
Part Number	Description
23143	Installation wrench ^{4,6}
14412	Concealed cover plate installer tool, for use with push-on cover plates only (available since 2007)
14867	Large concealed cover plate installer tool, for use with push-on cover plates only (available since 2007)
01731A	Sprinkler cabinet; holds up to 6 sprinklers (available since 1971)

FOOTNOTES

1. Based on NFPA 13, NFPA 13R, and NFPA 13D. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
2. UL Listed as corrosion resistant.
3. The corrosion resistant coatings have passed the standard corrosion test required by the approving agencies indicated in the Approval Chart. These tests cannot and do not represent all possible corrosive environments. Prior to installation, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. For automatic sprinklers, the ENT coating is applied to all exposed exterior surfaces, including the waterway.
4. Requires a 1/2" ratchet which is not available from Viking.
5. FM Approved as a decorative finish.
6. The installation wrench is intended to be used for a maximum of 500 sprinkler installations at a maximum torque of 14 ft-lbs (19 Nm).
7. See Approval Chart for approval information.



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

Ordering Instructions - Cover Plate

1. Choose a cover plate base part number with the desired shape and style (refer to the approval chart).
2. Add the suffix for the desired finish.
3. Add the suffix for the required temperature rating.

Note: for stainless steel versions, skip steps 2 and 3 (finishes and paint are not available).

Example:

23190MC/W = Thread-On style, 165 °F (74 °C) Temperature Rated, 2¾" (70 mm) diameter Round Cover Plate with a Painted White finish.

1. Cover Plate Base Part Numbers ^{3, 6}			
Style	Base Part Number ⁵	Size Inches (mm)	Shape (type)
Thread-On Style	23190	2 ¾ (70) diameter	Round
	23174	3 ⅝ (84) diameter	Round
	23179	3 ⅝ (84)	Square
	23174-/CR	3 ⅝ (84) diameter	Round (clean room)
	▼ Stainless Steel material ⁴		
	23193	2 ¾ (70) diameter	Round
	23183	3 ⅝ (84) diameter	Round
	23183-/CR	3 ⅝ (84) diameter	Round (clean room)
Push-On Style	23447	2 ¾ (70) diameter	Round
	23463	3 ⅝ (84) diameter	Round
	23482	3 ⅝ (84)	Square
	23463-/CR	3 ⅝ (84) diameter	Round (clean room)
	▼ Stainless Steel material ⁴		
	23455	2 ¾ (70) diameter	Round
	23473	3 ⅝ (84) diameter	Round
	23473-/CR	3 ⅝ (84) diameter	Round (clean room)

2. Available Finishes ⁵	
Description	Suffix
Polished Chrome	F
Brushed Chrome	F_/B
Bright Brass	B
Antique Brass	B_/A
Brushed Brass	B_/A
Brushed Copper	B_/A
Painted White	M_/W
Painted Ivory	M_/I
Painted Black	M_/B

3. Temperature Rating Matrix

IMPORTANT: The required cover plate temperature rating is determined by the sprinkler's temperature rating.

Sprinkler Temperature Classification ¹	Required Cover Plate Temperature Rating	Corresponding Sprinkler Nominal Temperature Rating	Maximum Ambient Ceiling Temperature ²	Suffix
Ordinary	139 °F (59 °C)	155 °F (68 °C)	100 °F (38 °C)	A
Intermediate	165 °F (74 °C)	200 °F (93 °C)	150 °F (66 °C)	C

FOOTNOTES

1. The sprinkler temperature rating is stamped on the deflector.
2. Based on NFPA-13. Other limits may apply, depending on fire loading, sprinkler location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.
3. Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
4. Stainless Steel versions are not available with any finishes or paint.
5. Where a dash (-) is shown in the Finish suffix designation, insert the desired Temperature Rating suffix. See example above.
6. For use with gasketed cover plates has been evaluated as part of the UL Listing.

	<h2 style="margin: 0;">TECHNICAL DATA</h2>	<h3 style="margin: 0;">STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)</h3>
---	--	---

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

<h3 style="margin: 0;">Approval Chart</h3> <h4 style="margin: 0;">Concealed Pendent Sprinkler VK4621</h4> <p style="margin: 0;">1/2" NPT or 15 mm BSPT, Nominal K-factor 5.6 U.S. (80.6 metric²)</p>	<table border="1" style="border-collapse: collapse; width: 100%;"> <tr> <td style="font-size: 8px;"> Sprinkler Temperature Rating Cover Plate Temperature Rating AW1 ← Cover Plate Finish KEY </td> </tr> </table>	Sprinkler Temperature Rating Cover Plate Temperature Rating AW1 ← Cover Plate Finish KEY
Sprinkler Temperature Rating Cover Plate Temperature Rating AW1 ← Cover Plate Finish KEY		

Listings and Approvals³ (Refer also to Design Criteria)

Sprinkler Base Part No. ¹	cULus ^{4,9}	China Approval	FM	VdS	LPCB	CE	MED	UKCA
	Maximum Water Working Pressure 250 psi (17.2 bar)				Maximum Water Working Pressure 175 psi (12 bar)			

Standard Response Applications

24682A	--	--	AV1, BX1, AS2, BT2, BW1, CX1, CT2, CX1	AV1, CX1	AV1, CX1	AV1, CX1	AV1, CX1	AV1, CX1
24682JN ^{7,8}	--	--	AV1, BX1, AS2, BT2, BW1, CX1, CT2, CX1	--	--	--	--	--
22962A	--	--	AV1, BX1, AS2, BT2, BW1, CX1, CT2, CX1	AV1, CX1	AV1, CX1	AV1, CX1	AV1, CX1	AV1, CX1
22962JN ^{7,8}	--	--	AV1, BX1, AS2, BT2, BW1, CX1, CT2, CX1	--	--	--	--	--

Quick Response Applications

24682A	AV1, BX1, AS2, BT2, CX1, CT2	--	--	--	--	--	--	--
24682JN ^{7,8}	AV1, BX1, AS2, BT2, CX1, CT2	--	--	--	--	--	--	--
22962A	AV1, BX1, AS2, BT2, CX1, CT2	--	--	--	--	--	--	--
22962JN ^{7,8}	AV1, BX1, AS2, BT2, CX1, CT2	--	--	--	--	--	--	--
26548	AV1, BX1, AS2, BT2, CX1, CT2	AV1, CX1, AS2, CT2	--	--	--	--	--	--

Approved Sprinkler Temperature Rating Key	Approved Cover Plate Assembly Finishes Key ⁵	Approved Cover Plate Finishes Key
A = 155 °F (68 °C) B = 175 °F (79 °C) C = 200 °F (93 °C)	S = 139 °F (59 °C) Stainless steel covers (23193, 23455, 23183, and 23473) T = 165 °F (74 °C) Stainless steel covers (23193, 23455, 23183, and 23473) V = 139 °F (59 °C) covers (23190, 23447, 23174, 23463, 23179, and 23482) W = 165 °F (59 °C) square covers (23179 and 23482) X = 165 °F (74 °C) covers (23190, 23447, 23174, and 23463)	1 = Polished Chrome, Brushed Chrome, Bright Brass, Antique Brass, Brushed Brass, Brushed Copper, Painted⁶ White, Painted⁶ Ivory, or Painted⁶ Black 2 = Stainless Steel

Footnotes

1. Part number shown is the base part number. For complete part number, refer to current Viking price list schedule.
 2. Metric K-factor measurement shown is when pressure is measured in Bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0.
 3. This chart shows the listings and approvals available at the time of printing. Other approvals may be in process. Check with the manufacturer for any additional approvals.
 4. Listed by Underwriter's Laboratories for use in the U.S. and Canada.
 5. The 139 °F (59 °C) covers have an orange label. The 165 °F (74 °C) covers have a white label.
 6. Other paint colors are available on request with the same listings as the standard paint colors. Listings and approvals apply for any paint manufacturer. Contact Viking for additional information.
 7. cULus Listed as corrosion-resistant.
 8. FM Approved as a decorative finish.
 9. Refer to the Cleanroom Sprinkler Cover Assembly technical data sheet for Viking's UL Listed cover plates with built-in gaskets.
- NOTE: Custom colors are indicated on a label inside the cover assembly. Refer to Figure 2.**



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
 Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

DESIGN CRITERIA - UL

(Also refer to Approval Chart)

cULus Listing Requirements:

Concealed Pendent Sprinkler VK4621 is cULus Listed as quick response for installation in accordance with the latest edition of NFPA 13 for standard coverage pendent spray sprinklers as indicated below.

- For hazard occupancies up to and including Ordinary Hazard, Group II.
- Protection areas and maximum spacing shall be in accordance with the tables provided in NFPA 13. Maximum spacing allowed is 15 ft. (4.6 m).
- Minimum spacing allowed is 6 ft. (1.8 m) unless baffles are installed in accordance with NFPA 13.
- Minimum distance from walls is 4 in. (102 mm).
- Maximum distance from walls shall be no more than one-half of the allowable distance between sprinklers. The distance shall be measured perpendicular to the wall.
- The sprinkler obstruction rules contained in NFPA 13 for standard coverage pendent spray sprinklers must be followed.

NOTE: Concealed sprinklers must be installed in neutral or negative pressure plenums only.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.

DESIGN CRITERIA - FM

(Also refer to Approval Chart)

FM Approval Requirements:

Viking Concealed Pendent Sprinkler VK4621 is FM Approved as a standard response **Non-Storage** concealed pendent sprinkler as indicated in the FM Approval Guide. For specific application and installation requirements, reference the latest applicable FM Loss Prevention Data Sheets (including Data Sheet 2-0). FM Global Loss Prevention Data Sheets contain guidelines relating to, but not limited to: minimum water supply requirements, hydraulic design, ceiling slope and obstructions, minimum and maximum allowable spacing, and deflector distance below the ceiling.

NOTE: The FM installation guidelines may differ from cULus and/or NFPA criteria.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to Form No. F_080614 for general care, installation, and maintenance information. Viking sprinklers are to be installed in accordance with the latest edition of Viking technical data, the appropriate standards of NFPA, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards, whenever applicable.



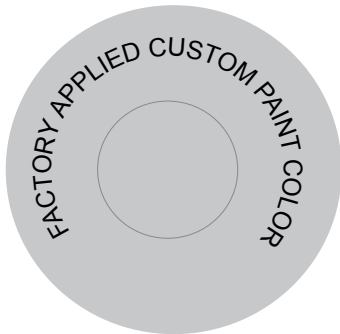
TECHNICAL DATA

**STANDARD AND
QUICK RESPONSE
CONCEALED PENDENT
SPRINKLER VK4621 (K5.6)**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com



Figure 1: Installation Wrench



All custom color painted cover plates will have an identifying label affixed to the inside of the cover that indicates the custom color and will have a representative sample (a paint dot) of the paint on the label.

Figure 2: Identification of Custom Paint



3-5/16" (84 mm)

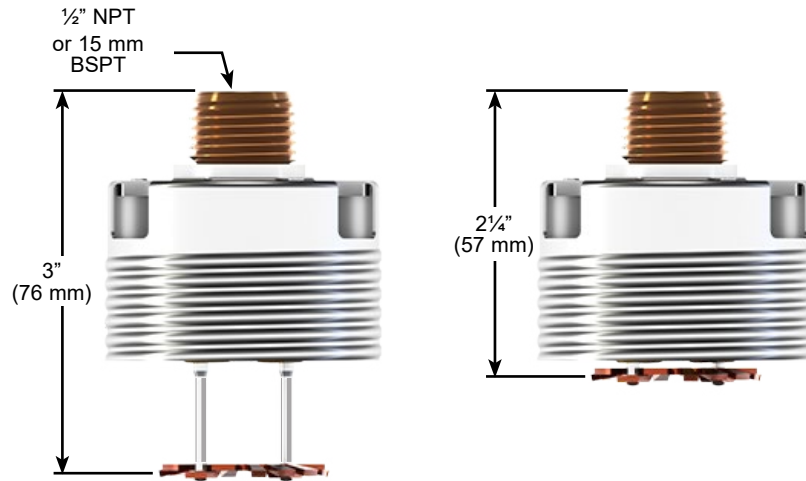
Figure 3: Square Cover Assembly



TECHNICAL DATA

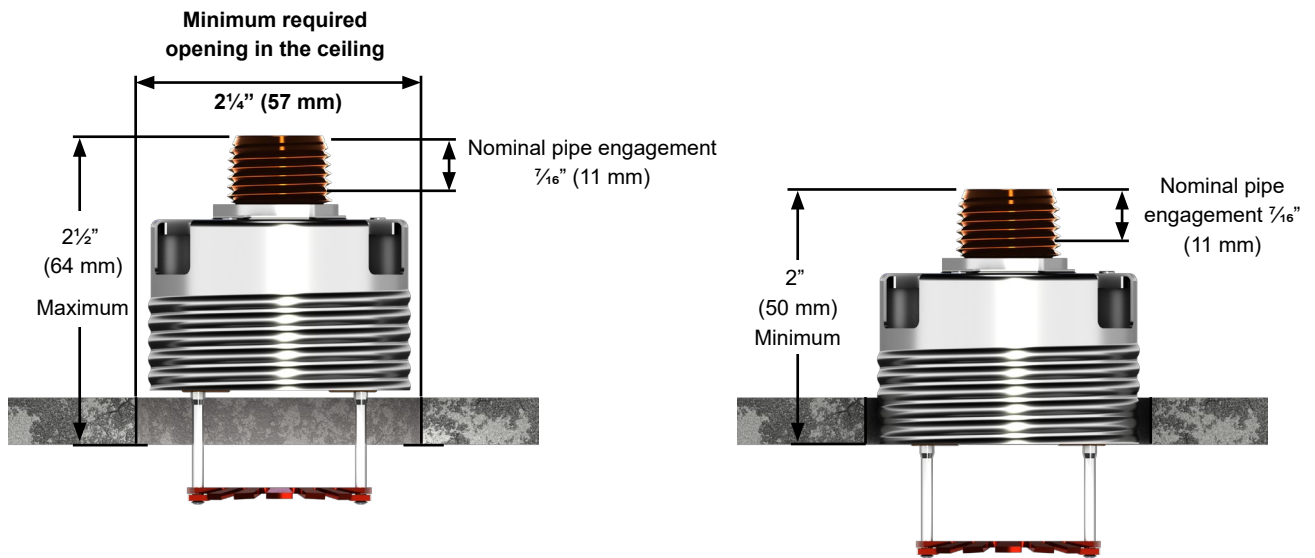
STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
 Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com



NOTE: Image is representative only. Actual product may vary.

Figure 4: Sprinkler Dimensions



NOTE: Image is representative only. Actual product may vary.

Figure 5: Sprinkler Installation Dimensions



TECHNICAL DATA

STANDARD AND QUICK RESPONSE CONCEALED PENDENT SPRINKLER VK4621 (K5.6)

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
 Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com
 Visit the Viking website for the latest edition of this technical data page www.vikinggroupinc.com

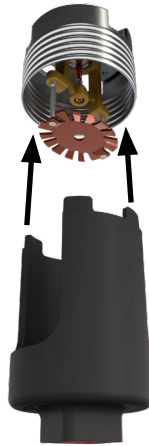


NOTICE: USE ONLY the designated sprinkler wrenches shown in this document. Permanent damage to the sprinkler assembly can occur if the proper wrench is not used. Other sprinkler wrenches available from Viking may fit into the sprinkler adapter cup; however, only the wrenches shown here are designed to properly install this sprinkler.

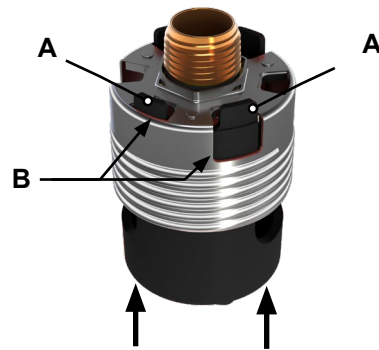
Step 1:
Remove the protective cap.



Step 2:
Insert the wrench into the sprinkler adapter.



Step 3:
Rotate the wrench slightly in either direction until the tines on the wrench (A) line up with the vent openings (B) on the adapter cup and lock into place. NOTE: A leak tight seal must be achieved. Turn the sprinkler clockwise 1 to 1-½ turns past finger-tight.



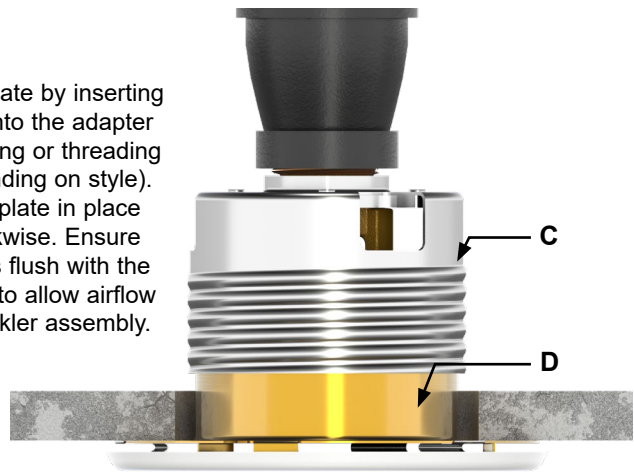
NOTE: Image is representative only. Actual product may vary.

Figure 6: Using the Sprinkler Wrench



Minimum

Install the cover plate by inserting the adapter (D) into the adapter cup (C) and pushing or threading into place (depending on style). Snug the cover plate in place by rotating clockwise. Ensure the cover plate is flush with the ceiling as shown to allow airflow through the sprinkler assembly.



Maximum

NOTE: Image is representative only. Actual product may vary.

Figure 7: Installing the Cover Plate