



## TECHNICAL DATA SHEET

### VK971 QR CONCEALED SPRINKLER FLEXIBLE HOSE ASSEMBLY

#### 1. PRODUCT IDENTIFICATION

This document covers the following product(s), hereafter referred to as “VK971”:

Model VK971 Concealed Quick Response Sprinkler and Flexible Hose Assembly

#### 2. INTENDED USE

The VK971 is a listed concealed quick response sprinkler and flexible hose assembly that has been calibrated to have a K-factor of 5.6 (80.6 metric). It does not require additional calculations or the use of equivalent length values when calculating hydraulic requirements for sprinkler systems. The VK971 must be used with a Listed or Approved bracket in accordance with:

1. the Listings, Approvals, and associated design requirements.
2. the recognized design and installations standards issued, for example NFPA, FM, EN, VdS, or LPCB.
3. the Handling and Installation Instructions. Refer to F\_121623.



### NOTICE

The sprinkler is permanently installed onto the flexible hose and must not be removed. If the sprinkler is removed, the product will not perform as intended and must be replaced.

Governmental codes, ordinances, and standards may apply and may differ from one another.

### ⚠ WARNING

Cancer and Reproductive Harm [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

#### 3. LISTING AND APPROVALS



#### 4. TECHNICAL SPECIFICATIONS

##### 4.1 Ratings and Physical Characteristics

Parameter	Value
Minimum operating pressure	7 PSI (0.5 bar)
Maximum rated pressure	175 PSI (12 bar)
Inlet connection size	1" NPT
Nominal K-factor*	5.6 (80.6 metric)
Minimum temperature rating (glass bulb)	-65°F (-55°C)

\*The entire sprinkler/hose assembly is calibrated to have this K-Factor.

## 4.2 Sprinkler and Cover Plate Markings

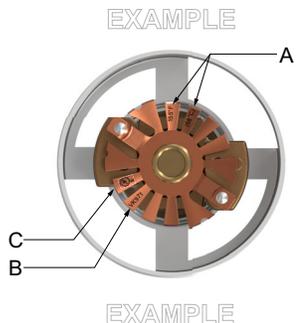


Figure – 1: Deflector Markings

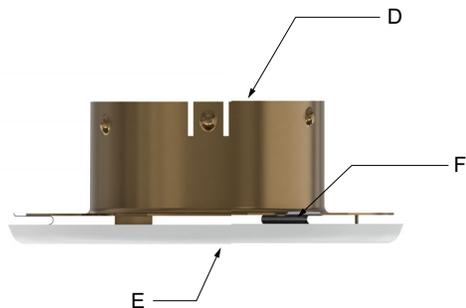


Figure – 2: Cover Plate Assembly Dimensions

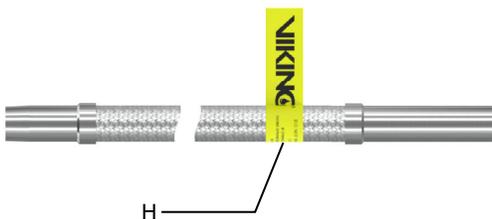


Figure – 3: Sprinkler Assembly Label

Ref	Description	Value
A	Nominal temperature rating	See section 5
B	Sprinkler Identification Number (SIN)	VK971
C	Listings and Approvals	See sections 3 and 5
D	Base	Brass UNS-C26000
E	Cover	Varies
F	Spring	Beryllium nickel
G	Solder (not shown)	Eutectic
H	Sprinkler and flexible hose assembly label	See marking

### 4.3 Assembly Dimensions

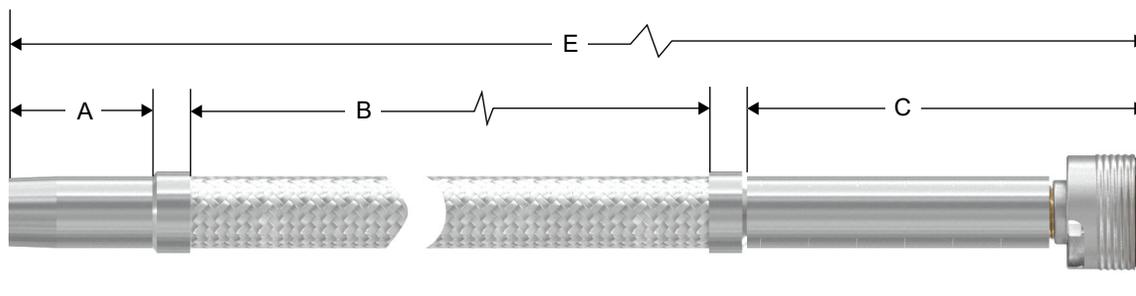


Figure – 4: Assembly Dimensions

Hose Assembly Length	Inlet Nipple Length (A)	Braid Length (B)	Outlet Drop Length (C)	Overall Length (E)
48"	3.0" (76.2 mm)	38.7" (983 mm)	6.3" (160 mm)	50"
60"	3.0" (76.2 mm)	50.7" (1,288 mm)	6.3" (160 mm)	62"

### 4.4 Materials of Construction

**NOTICE: Do not disassemble the sprinkler and hose assembly**

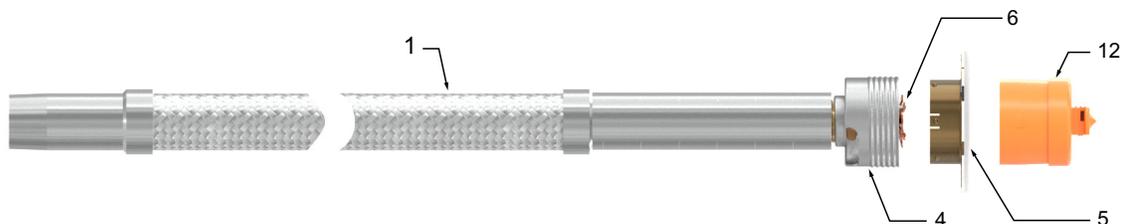


Figure – 5: Sprinkler Hose Assembly Components

Ref.	Description (Sprinkler Assembly)	Material
1	Hose, braided	304 Stainless steel
2	Compression screw (not shown)	18-8 Stainless steel
3	Sprinkler body (not shown)	UNS-C84400
4	Sprinkler adapter	UNS-G10080 or JIS G3141 Steel
5	Cover plate assembly	Varies
6	Deflector	Phosphor bronze UNS-C51000
7	Pip cap seal (not shown)	Polytetrafluoroethylene (PTFE)
8	Pip cap shell (not shown)	UNS-C11000
9	Belleville spring (not shown)	Nickel alloy
10	Pip cap disc (not shown)	UNS-S30400 Stainless steel
11	Bulb (not shown)	Glass, nominal 0.10" (3 mm) diameter
12	Sprinkler protective cap	HDPE

**5. LISTING AND APPROVAL DESIGN REQUIREMENTS**

**5.1 cULus Design Criteria**

The VK971 Quick Response Concealed Sprinkler Flexible Hose Assembly is cULus Listed, as indicated in the Listing Specifications table shown below for installation in accordance with the latest editions of NFPA 13, 13R, or 13D.

Additionally, the following design criterion must be met:

- The sprinkler and flexible hose assembly must be secured using an approved bracket attached to the building.
- The sprinkler and flexible hose assembly may be used in either wet or dry systems.
- The sprinkler and flexible hose assembly has Limited Flexibility (as defined by UL 2443).
- For a UL Listed installation, the sprinkler and hose assembly shall have a minimum of one 90° bend and a maximum of four bends. Each 90° bend may consist of up to three bends that total 90°. The minimum bend radius is 2" (51mm).
- The sprinkler and flexible hose assembly has a friction loss of zero (0) for all available hose sizes.
- The maximum span between end brackets where the span is not fixed shall be 24" (0.61 m).
- Venting is required. Concealed sprinklers must be installed in neutral or negative pressure plenums only.

**5.2 Listing and Approval Specifications**

The following table indicates the cULus Listing specifications for the sprinkler. Refer to the key for code descriptions and to the listing specification keys for code definitions.

**cULus Listing Specifications**

**VK971 Quick Response Concealed  
Sprinkler Flexible Hose Assembly K5.6 (80.6 metric)**



Base Part Number <sup>1</sup>	Thread Size	Rated Pressure	cULus Listing Code	Hose Assembly Length	Maximum Number of 90° Bends <sup>2</sup>	Minimum Bend Radius
	NPT	PSI (bar)		Inches		Inches (mm)
27535	1"	175 (12.1)	AY1, BZ1, AV2, BX2	48 and 60	4	2 (51)

**Listing Specification (Temperature Ratings) Key:**  
**A** = 155 °F (68 °C) | **B** = 175 °F (79 °C), 200 °F (93 °C)

**Listing Specification (Finishes) Key:**  
**1** = Brass | **2** = ENT

**Listing Specification (Cover Plate) Key:**  
**V** = 139°F (59°C) cover 23193, 23445 or 23183, 23473 (large diameter)  
**X** = 165°F (74°C) cover 23193, 23445 or 23183, 24473 (large diameter)  
**Y** = 139°F (59°C) cover 23190, 23447, 23174, 23463 (large diameter), or 23179, 23482 (square cover plate)  
**Z** = 165°F (74°C) cover 23190, 23447, or 23174, 23463 (large diameter)

**Footnotes:**  
 1. For complete part number, refer to Viking's current price list.  
 2. The sprinkler hose assembly shall have a minimum of one 90° bend. Each 90° bend may consist of up to three bends that total 90°.


**TECHNICAL DATA SHEET**
**VK971 QR CONCEALED  
SPRINKLER FLEXIBLE  
HOSE ASSEMBLY**
**6. ORDERING PROCEDURE**
**6.1 Sprinkler and Flexible Hose Assembly**

**NOTE: One package contains five (5) sprinkler and flexible hose assemblies.**

Follow the ordering procedure below.

1. Using the base part number, (refer to section 5), add the suffix for the desired finish.
2. Add the suffix for the desired temperature rating.
3. Add the suffix for the desired hose length.
4. Choose a bracket that is listed or approved for installation with the hose. Refer to "Accessories" on page 7.
5. Order a cover plate. Refer to "Cover Plates" on page 6.

**EXAMPLE: 27535AB-48** = VK971 with brass finish (A), a 155 °F (68 °C) nominal temperature rating (B), a 48" hose length. This sprinkler is to be installed into an area with a maximum ambient temperature of 100 °F (38 °C).

1. Finish		2. Sprinkler Temperature Rating				3. Available Lengths
Description	Suffix	Nominal Temperature Rating	Glass Bulb Color	Maximum Ambient Ceiling Temperature	Suffix	
Brass	A	155 °F (68 °C)	Red	100 °F (38 °C)	B	48"
ENT	JN	175 °F (79 °C)	Yellow	150 °F (65 °C)	D	60"
		200 °F (93 °C)	Green	150 °F (65 °C)	E	


**TECHNICAL DATA SHEET**
**VK971 QR CONCEALED  
SPRINKLER FLEXIBLE  
HOSE ASSEMBLY**
**6.2 Cover Plates**

Follow the ordering procedure below.

1. Select a base cover plate part number for the desired style (Refer to “cULus Design Criteria” on page 4)
2. Add the suffix for the desired finish.
3. Add the suffix for the desired temperature rating.

**EXAMPLE: 23174FA** = Thread-on round cover plate with a polished chrome finish (F) and a 139°F (58°C) temperature rating (A). The maximum ambient ceiling temperature is 100°F (38°C)

1. Cover Plate Base Part Number		
Base Part Number	Size: Inch (mm)	Type
<b>Thread-on style</b>		
23174	3-5/16 (84)	Round
23179	3-5/16 (84)	Square
23183	3-5/16 (84)	Stainless steel round
23190	2-3/4 (70)	Round
23193	2-3/4 (70)	Stainless steel round
<b>Push-on style</b>		
23463	3-5/16 (84)	Round
23482	3-5/16 (84)	Square
23473	3-5/16 (84)	Stainless steel round
23447	2-3/4 (70)	Round
23455	2-3/4 (70)	Stainless steel round

2. Cover Plate Finish	
Description	Suffix
Polished chrome	F
Brushed chrome	F-/B
Bright brass	B
Antique brass	B-/A
Brushed brass	B-/B
Brushed copper	E-/B
Painted white	M-/W
Painted ivory	M-/I
Painted black	M-/B

3. Cover Plate Temperature Rating Matrix			
Cover Plate Nominal Temperature Rating	Temperature Classification	Maximum Ambient Ceiling Temperature	Suffix
139 °F (59 °C)	Ordinary	100 °F (38 °C)	A
165 °F (74 °C)	Intermediate	150 °F (65 °C)	C

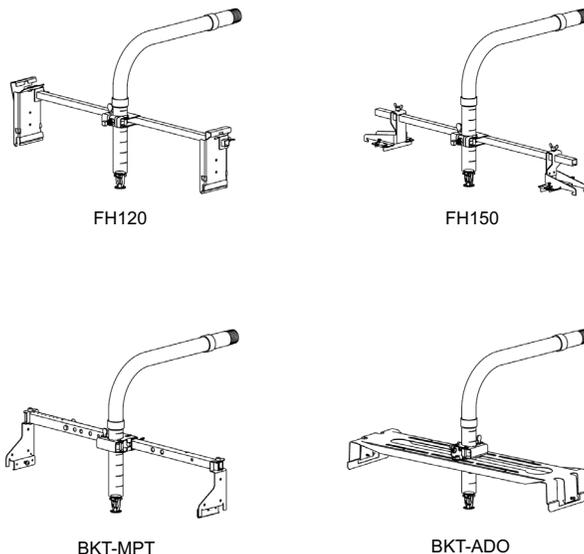


## TECHNICAL DATA SHEET

## VK971 QR CONCEALED SPRINKLER FLEXIBLE HOSE ASSEMBLY

### 6.3 Accessories

**NOTE:** The brackets shown below can be ordered from Viking SupplyNet ([www.supplynet.com](http://www.supplynet.com)) under the manufacturer's model number and size.



**Figure – 6: Sprinkler Hose Assembly Brackets**

Bracket Models*	Size	Installation instructions
FH120	24"	Refer to form number <a href="#">F_022125</a>
FH150	24" bracket	Refer to form number <a href="#">F_022025</a>
BKT-MPT	24" bracket	Refer to form number <a href="#">F_021925</a>
BKT-ADO	16" or 24" bracket	Refer to form number <a href="#">F_021825</a>

\*For model details and compatibility, refer to the manufacturer's documentation for more information.

## 7. CONTACT

The sprinkler assembly and accessories are available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

Americas and Asia: [www.vikinggroupinc.com/locations](http://www.vikinggroupinc.com/locations) OR Europe, Middle East, Africa (EMEA): [www.viking-emea.com/contact](http://www.viking-emea.com/contact)

### Manufacturer:

The Viking Corporation  
5150 Beltway SE  
Caledonia, MI 49316  
Tel.: (800) 968-9501  
Fax: 269-818-1680  
Technical Services: 1-877-384-5464  
[techsvcs@vikingcorp.com](mailto:techsvcs@vikingcorp.com)

### Importer EU:

Viking S.A.  
21, Z.I. Haneboesch  
L-4562 Differdange / Niederkorn  
Tel.: +352 58 37 37 - 1  
Fax: +352 58 37 36  
[vikinglux@viking-emea.com](mailto:vikinglux@viking-emea.com)

### Asia Pacific (APAC) Main Office:

The Viking Corporation (Far East) Pte. Ltd.  
69 Tuas View Square  
Westlink Techpark, Singapore 637621  
Tel: (+65) 6 278 4061  
Fax: (+65) 6 278 4609  
[vikingAPAC@vikingcorp.com](mailto:vikingAPAC@vikingcorp.com)



## HANDLING AND INSTALLATION INSTRUCTIONS

## SPRINKLER AND FLEXIBLE HOSE ASSEMBLY

	bg	Инсталирайте и пуснете продукта в експлоатация само ако следната инструкция е ясно разбрана.	lv	Produkta iemontēšanu un ekspluatācijas sākšanau veikt tikai tad, ja dotā instrukcija ir pilnībā saprasta.
	cs	Namontujte a spust'te do provozu produkt pouze tehdy, když jste jasně pochopili tento návod.	lt	Produktą montuokite ir pradėkite eksploatuoti tik tuomet, jei aiškiai suprantate šią instrukciją.
	de	Du må kun montere og idriftsætte produktet, hvis du har forstået følgende vejledning til fulde.	mt	Installa u faddem il-prodott biss jekk l-istruzzjonijiet li ġejjin jinftiehm b'mod ċar.
	de	Produkt nur einbauen und in Betrieb nehmen, wenn die nachfolgende Anleitung klar verstanden wird.	nl	Product alleen installeren en in gebruik nemen, als de volgende instructies begrepen zijn.
	el	Η εγκατάσταση και θέση σε λειτουργία του προϊόντος επιτρέπονται μόνο εάν οι ακόλουθες οδηγίες έχουν γίνει κατανοητές.	no	Ikke installer og ta i bruk produktet uten at følgende anvisninger er tydelig forstått.
	en	Do not install and commission the product unless you have clearly understood the instructions below.	pl	Produkt należy montować i uruchamiać tylko wtedy, gdy poniższe instrukcje są w pełni zrozumiałe.
	es	Instalar el producto y ponerlo en funcionamiento solo cuando se hayan comprendido claramente las siguientes instrucciones.	pt	Instalar e colocar o produto em funcionamento somente se as instruções a seguir forem claramente compreendidas.
	et	Paigaldage toode ja kasutage seda ainult siis, kui saate alljärgnevast juhendist selgelt aru.	ro	Montați produsul și puneți-l în funcțiune numai dacă instrucțiunea următoare este înțeleasă clar.
	fi	Tuotteen saa asentaa ja ottaa käyttöön vain, jos jäljempänä oleva ohje ymmärretään selvästi.	ru	Не устанавливайте и не принимайте оборудование в эксплуатацию, если вы четко не поняли инструкции ниже
	fr	N'installez et ne mettez en service le produit que si les instructions suivantes ont été clairement comprises.	sk	Namontujte a spustite do prevádzky výrobok iba vtedy, pokiaľ ste jasne pochopili tento návod.
	ga	Ná déan an táirge a shuiteail agus a choimisiunu mura dtuigeann tu na treoracha thíos go soileir.	sl	Izdelek vgradite in zaženite samo, če ste dobro razumeli navodila v nadaljevanju.
	hr	Ne instalirajte i ne puštajte proizvod u rad ako niste jasno razumjeli donje upute.	sr	Не инсталирајте и не пуштајте производ у рад ако нисте јасно разумели упутства у наставку.
	hu	Csak akkor építse be a terméket és helyezze üzembe, ha a következő útmutatót egyértelműen megértette.	sv	Montera och driftsätt produkten endast om du förstår den efterföljande instruktionen.
	is	Settu ekki upp eða taktu vöruna í notkun nema þú hafir skilið greinilega leiðbeiningarnar hér að neðan.	tr	Aşağıdaki talimatları açıkça anlamadan ürünü kurmayın ve devreye almayın.
	it	Montare il prodotto e metterlo in funzione solo se si sono comprese appieno le seguenti istruzioni.		



## HANDLING AND INSTALLATION INSTRUCTIONS

## SPRINKLER AND FLEXIBLE HOSE ASSEMBLY

### 1. PRODUCT IDENTIFICATION

This document covers the following products, hereafter referred to as “sprinkler”:

- Sprinkler and Hose Assembly VK970
- Concealed Sprinkler and Hose Assembly VK971
- Concealed Sprinkler and Hose Assembly VK972

### 2. OTHER APPLICABLE DOCUMENTS

For intended use and relevant conditions for the safe use of the specific sprinkler refer to the appropriate technical data sheet.

### 3. TRANSPORT, HANDLING, AND LABEL

#### 3.1 Transport and Handling

#### **WARNING**

A damaged or compromised sprinkler poses the risk of fatal consequences. Damaged or compromised sprinklers will not operate properly, which could lead to loss of life.

- NEVER use a sprinkler that has been exposed to temperatures exceeding the maximum allowed ambient temperature.
- NEVER use a sprinkler with a loss of liquid from the glass bulb or damage to the fusible element. A small bubble should be visible within the glass bulb; rotate the sprinkler to a horizontal position while observing the bulb to see the bubble.
- NEVER use a sprinkler that has been dropped or damaged.

**NOTE: ALWAYS protect the sprinkler from mechanical damage during storage, transport, and handling.**

- NEVER use sprinklers that have been painted by anyone other than the manufacturer.
- ALWAYS protect sprinklers from being painted during installation or replacement in accordance with the installation standards.
- NEVER clean sprinklers with anything other than 7 PSI or lower compressed air.
- NEVER apply soap, water, ammonia, adhesives, solvents or any other fluids on sprinklers.
- Destroy every damaged or compromised sprinkler.

#### **NOTICE**

Protect sprinklers during transport and handling.

- ALWAYS handle the sprinkler with care.
- ALWAYS keep the protective cap on the sprinkler during transport and handling.
- NEVER remove the protective cap until the fire sprinkler system is placed in service and the potential for mechanical damage no longer exists.
- ALWAYS protect the sprinkler from direct sunlight during transport and handling.
- ALWAYS store sprinkler in a cool, dry, protected area.
- ALWAYS use original manufacturer’s shipping containers.
- NEVER store a sprinkler loose in a box, bin, bucket, or other type of container.
- ALWAYS keep the sprinkler separated from other sprinklers.
- NEVER allow metal parts to contact the sprinkler operating elements.

**NOTE: If the glass bulb included on the sprinkler has been exposed to ultraviolet light or extremely cold temperatures, the color inside the bulb may fade. This color change does not affect the operation of the sprinkler.**



## HANDLING AND INSTALLATION INSTRUCTIONS

## SPRINKLER AND FLEXIBLE HOSE ASSEMBLY

### 3.2 Label

The entire sprinkler/hose assembly is calibrated to have a K-Factor of 5.6, as indicated on the assembly label. This calibration is only applicable when the entire assembly is intact.

#### NOTICE

The sprinkler is permanently installed onto the flexible hose and must not be removed. If the sprinkler is removed, the product will not perform as intended and must be replaced. The label below is attached to the sprinkler hose assembly **AND MUST NOT BE REMOVED**.



## 4. INSTALLATION

### 4.1 Safety

#### ⚠ WARNING

Installation by insufficiently qualified personnel poses the risk of fatal consequences.

- This sprinkler must be installed properly by qualified personnel familiar with safe practices and applicable and recognized design and installation standards issued, for example, by NFPA, UL, FM, VdS, or LPCB, and trained how to properly perform the installation procedures.

#### ⚠ WARNING

Incorrect recessed installation poses the risk of fatal consequences.

- For recessed applications, this sprinkler must be installed according to the dimensions shown in Figure 1.

#### ⚠ CAUTION

Cutting Hazard.

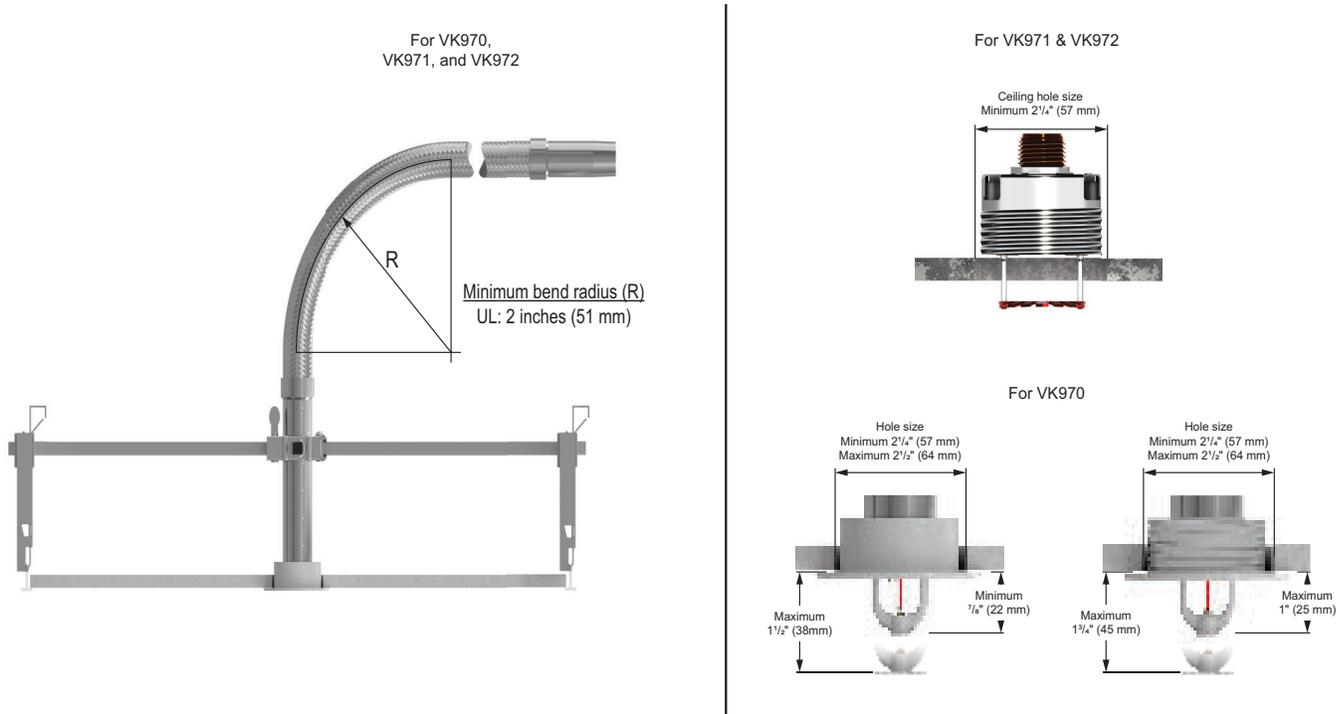
Sprinklers, accessories, cabinets, and packaging can have sharp edges that can cause cuts.

- Wear appropriate personal protective equipment (gloves) while handling product.

#### NOTICE

The protective caps must remain in place prior to and during installation and shall be removed from the sprinkler prior to the time when the sprinkler system is placed in to service. **PROTECTION SHALL NOT BE REMOVED** until construction activities or other events have progressed to the point where the sprinkler will not be subjected to conditions which may cause it to be damaged.

**4.2 Installation Clearances and Dimensions**



**Figure – 1: Installation Clearances and Dimensions**

**4.3 Hose Bend Specifications per UL2443**

For a UL Listed installation, the sprinkler and hose assembly shall have a minimum of one 90° bend and a maximum of four bends. Each 90° bend may consist of up to three bends that total 90°. The minimum bend radius is 2" (51mm).

#### 4.4 Installation Procedure - Sprinkler and Flexible Hose Assembly

### NOTICE

- Never apply a wrench to the hose's braided section.
- Over-tightening the sprinkler can cause permanent damage.
- The hose inlet may be installed in any direction from the branch.

1. Remove the sprinkler(s) from the packaging.



Figure – 2: Opening the Assembly Package

2. Remove the plastic thread protector from the threaded connection.

**NOTE: The bracket shall be listed or approved for use with the SuperFlex<sup>®</sup> hose. For listed brackets, refer to the manufacturer's documentation.**

#### Connection to the threaded branch:

3. Inspect both the male and female threads prior to assembly for potential damage, dirt, chips, and excess cutting oil.  
**NOTE: If the threads are damaged or chipped, do not assemble. If the threads are dirty or oily, clean them prior to assembly.**
4. Apply pipe dope, sealant, or tape to the male NPT thread on the hose.



## HANDLING AND INSTALLATION INSTRUCTIONS

## SPRINKLER AND FLEXIBLE HOSE ASSEMBLY

5. Thread into the branch outlet. Ensure the assembly is wrench-tight by placing the pipe wrench **ONLY** on the pipe nipple section.

**NOTE:** “Wrench-tight” is typically 3 full turns past hand-tight. “Hand-tight” is typically between 4-1/2 to 5 turns.

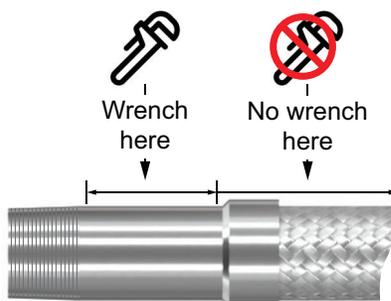


Figure – 3: Wrench Placement

### Connection to the Bracket:

1. To install the hose to the bracket, refer to the bracket’s installation instructions.

Bracket Models*	Size	Installation instructions
FH120	24"	Refer to form number <a href="#">F_022125</a>
FH150	24" bracket	Refer to form number <a href="#">F_022025</a>
BKT-MPT	24" bracket	Refer to form number <a href="#">F_021925</a>
BKT-ADO	16" or 24" bracket	Refer to form number <a href="#">F_021825</a>
*For model details and compatibility, refer to the manufacturer’s documentation for more information.		

### 4.5 Bending the Hose

- The hose may be bent to ensure the inlet nipple and outlet drop are in the desired locations.
- The hose should never be bent to a radius less than the minimum listed bend radius.
- The hose must have at least one 90° bend. A 90° bend can be achieved with two 45° bends or three 30° bends.
- For best performance, the bends in the hose should be as large and smooth as possible.
- If desired, secure the assembly using the included zip ties until work has been completed.

2. **For the VK971 or VK972 only**, when all finish work has been completed, and the sprinkler and flexible hose assembly is connected to the a bracket, install the preferred cover plate.

NOTE: Ceiling structures and brackets are not shown here for illustration purposes.



Figure – 4: Cover Plate Installation for VK971 or VK972

## 5. CONTACT

The sprinkler and accessories are available through Viking distributors only. Contact your local Viking sales office which can be found on our website:

Americas and Asia: [www.vikinggroupinc.com/locations](http://www.vikinggroupinc.com/locations) OR Europe, Middle East, Africa (EMEA): [www.viking-emea.com/contact](http://www.viking-emea.com/contact)

### Manufacturer:

The Viking Corporation  
5150 Beltway SE  
Caledonia, MI 49316  
Tel.: (800) 968-9501  
Fax: 269-818-1680  
Technical Services: 1-877-384-5464  
[techsvcs@vikingcorp.com](mailto:techsvcs@vikingcorp.com)

### Importer EU:

Viking S.A.  
21, Z.I. Haneboesch  
L-4562 Differdange / Niederkorn  
Tel.: +352 58 37 37 – 1  
Fax: +352 58 37 36  
[vikinglux@viking-emea.com](mailto:vikinglux@viking-emea.com)

### Asia Pacific (APAC) Main Office:

The Viking Corporation (Far East) Pte.  
Ltd.  
69 Tuas View Square  
Westlink Techpark, Singapore 637621  
Tel: (+65) 6 278 4061  
Fax: (+65) 6 278 4609  
[vikingAPAC@vikingcorp.com](mailto:vikingAPAC@vikingcorp.com)



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-ADO

### NOTICE

This document shall be used for installation guidance only. The manufacturer's documentation supersedes any documentation provided by Viking in reference to the product identified herein. Refer to the manufacturer's original instructions identified below.

#### 1. MANUFACTURER INFORMATION

FlexHead®

Manufacturer's installation document: FP-SUB-BKT-ADO-v01 20220418

#### 2. APPLICATIONS

- Suspended ceilings per ASTM C635 and C636

#### 3. INTENDED USE

This document is intended to be used with the Viking flexible sprinkler hose assemblies. For more information concerning a specific sprinkler assembly, refer to the appropriate technical data sheet.

#### 4. REQUIRED EQUIPMENT

### ⚠ CAUTION

**Risk of personal injury.** Installing the bracket involves circumstances that could cause personal injury from sharp edges, falling objects, or flying objects (such as metal shavings or sawdust).

- Wear personal protective equipment during installation, as outlined below.

##### 4.1 Personal Protective Equipment

Before installing the flexible sprinkler hose assembly bracket, wear the following protective equipment:

- Head protection
- Gloves
- Foot protection
- Eye protection

##### 4.2 Installation Equipment

The following is required for proper bracket installation:

- Tamper-resistant drive
- Adjustable wrench
- Self-drilling mounting screws
- 1/4-20 Self-tapping screws
- Drill (optional)

#### 5. INSTALLATION

##### 5.1 Pre-Installation Instructions

The BKT-ADO bracket should be installed prior to the ceiling tile installation. For installation ease, cut out the manufacturer's largest recommended hole that the sprinkler escutcheon can still cover. Then, angle the ceiling tile 45° and push it through the hole and above the ceiling T-bar. Adjust the tile placement as needed.

##### 5.2 Bracket Adjustment Procedure

To adjust the bracket hub, loosen the self-drilling mounting screws, then slide the hub along the bracket body to the preferred position.



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-ADO

### 5.3 When Connecting the Bracket to a Suspended Ceiling

1. Locate the flexible hose sprinkler assembly above the suspended ceiling, then position the bracket legs and the hub in the preferred area on the suspended ceiling T-bar.

**NOTE: Both the hub and self-drilling mounting screws are in the center of the bracket.**

2. Apply downward pressure on the bracket leg and T-bar. Install one bracket leg at a time.

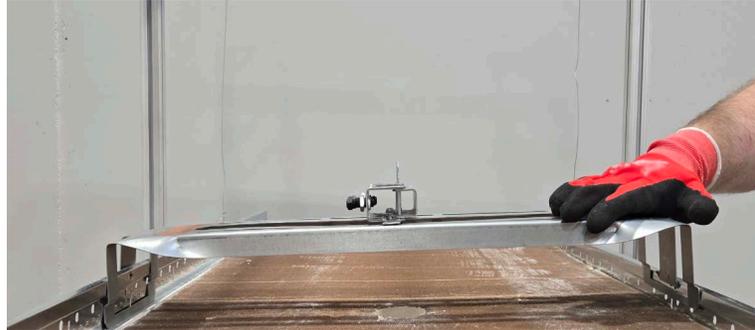


Figure – 1: Downward Pressure on Bracket Leg

3. Install the 1/4-20 self-tapping screws into the suspended ceiling T-bar using a tamper-resistant head drive. Repeat on both sides of the bracket.



Figure – 2: Fasten Bracket onto T-Bar



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-ADO

### 5.4 When Connecting the Bracket to the Flexible Sprinkler Hose Assembly

1. Open the bracket hub's hinge door by rotating the locking shaft 90 degrees (1/4 turn).
2. Slide the flexible hose drop into the hub.

**NOTE: The larger outer protective cap may need to be removed in order to slide the flexible hose into the bracket. DO NOT REMOVE THE SPRINKLER'S PROTECTIVE CAP.**

3. Close the hinge door by rotating the locking shaft back 90 degrees (1/4 turn).

### NOTICE

The flexible sprinkler hose assembly must be straight and held in place. Movement on the bracket may cause sprinkler misalignment.

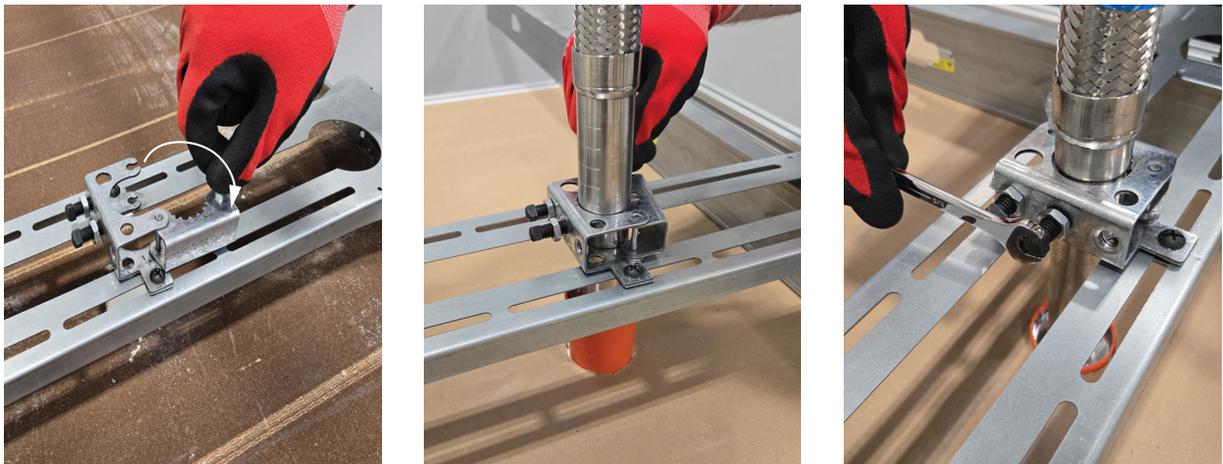


Figure – 3: Connecting the Flexible Sprinkler and Hose Assembly

4. Adjust the flexible sprinkler hose assembly to the preferred height and tighten the screws.

**NOTE: The screws must be hand-tight, plus 270 degrees (3/4 turn), or 130 in-lbs, while using an adjustable wrench.**



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-MPT

### NOTICE

This document shall be used for installation guidance only. The manufacturer's documentation supersedes any documentation provided by Viking in reference to the product identified herein. Refer to the manufacturer's original instructions identified below.

#### 1. MANUFACTURER INFORMATION

FlexHead®

Manufacturer's installation document: FP-SUB-BKT-MPT-v01 20220418

#### 2. APPLICATIONS

- Suspended ceilings per ASTM C635 and C636

#### 3. INTENDED USE

This document is intended to be used with the Viking flexible sprinkler hose assemblies. For more information concerning a specific sprinkler assembly, refer to the appropriate technical data sheet.

#### 4. REQUIRED EQUIPMENT

### ⚠ CAUTION

**Risk of personal injury.** Installing the bracket involves circumstances that could cause personal injury from sharp edges, falling objects, or flying objects (such as metal shavings or sawdust).

- Wear personal protective equipment during installation, as outlined below.

##### 4.1 Personal Protective Equipment

Before installing the flexible sprinkler hose assembly bracket, wear the following protective equipment:

- Head protection
- Gloves
- Foot protection
- Eye protection

##### 4.2 Installation Equipment

The following is required for proper bracket installation:

- #2 Square head drive
- Adjustable wrench
- 1/4-20 Self-tapping screws
- Wing bolts and wing nuts (two each)
- Drill (optional)

#### 5. INSTALLATION

##### 5.1 Pre-Installation Instructions

The BKT-MPT bracket may be installed prior to the ceiling tile installation. For installation ease, cut out the manufacturer's largest recommended hole that the sprinkler escutcheon can still cover. Then, angle the ceiling tile 45° and push it through the hole and above the ceiling T-bar. Adjust the tile placement as needed.

##### 5.2 Bracket Adjustment Procedure

To adjust the bracket hub:

- Remove the set screws and wing bolts.
- Slide the hub along the bracket body to the preferred position.
- Re-install the set screws and wing bolts until they are hand-tight, plus 180 degrees (1/2-turn) while using an adjustable wrench.



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-MPT

### 5.3 When Connecting the Bracket to a Suspended Ceiling (24" & 16" Bracket Position)

1. Locate the flexible hose sprinkler assembly above the suspended ceiling, then position the bracket legs and the hub in the preferred area on the suspended ceiling T-bar.

**NOTE: Both the hub and self-drilling mounting screws are in the center of the bracket.**

2. Apply downward pressure on the bracket leg and T-bar. Install one bracket at a time.



Figure – 1: Apply Pressure on Bracket Legs

3. Install the 1/4-20 self-tapping screws into the suspended ceiling T-bar using a #2 square head drive. Repeat on both sides of the bracket.



Figure – 2: Install Mounting Screws into T-Bar



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET BKT-MPT

### 5.4 When Connecting the Bracket to the Flexible Sprinkler Hose Assembly

1. Open the bracket hub's hinge door by rotating the locking shaft 90 degrees (1/4-turn).
2. Slide the flexible hose drop into the hub.
3. Close the hinge door by rotating the locking shaft back 90 degrees (1/4 turn).

### NOTICE

The flexible sprinkler hose assembly must be straight and held in place. Movement on the bracket may cause sprinkler misalignment.



Figure – 3: Close Door Hinge

4. Adjust the flexible sprinkler hose assembly to the preferred height and tighten the screw.

**NOTE: The screw must be hand-tight, plus two full 360-degree rotations (2 turns), or 130 in-lbs, while using an adjustable wrench.**

**BRACKET INSTALLATION  
INSTRUCTIONS****FLEXIBLE HOSE ASSEMBLY  
BRACKET FH150****NOTICE**

This document shall be used for installation guidance only. The manufacturer's documentation supersedes any documentation provided by Viking in reference to the product identified herein. Refer to the manufacturer's original instructions identified below.

**1. MANUFACTURER INFORMATION**

FlexHead®

Manufacturer's installation document: FP-SUB-BKT-FH150-v04 20240813

**2. APPLICATION**

- Hat channel (furring channel)

**3. INTENDED USE**

This document is intended to be used with the Viking flexible sprinkler hose assemblies. For more information concerning a specific sprinkler assembly, refer to the appropriate technical data sheet.

**4. REQUIRED EQUIPMENT****⚠ CAUTION**

**Risk of personal injury. Installing the bracket involves circumstances that could cause personal injury from sharp edges, falling objects, or flying objects (such as metal shavings or sawdust).**

- **Wear personal protective equipment during installation, as outlined below.**

**4.1 Personal Protective Equipment**

Before installing the flexible sprinkler hose assembly bracket, wear the following protective equipment:

- Head protection
- Gloves
- Foot protection
- Eye protection

**4.2 Installation Equipment**

The following is required for proper bracket installation:

- 7/16" 12-point socket
- Wing bolts and wing nuts (two each)
- Adjustable wrench
- Drill (optional)



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET FH150

### 5. INSTALLATION

#### 5.1 Pre-Installation Instructions

To adjust the bracket leg positions:

- Move the bracket legs along the bracket cross bar until they are in the preferred location.
- Loosen the wing bolt to slide the bracket clamping leg assembly to the preferred location. Then, ensure the wing bolt is hand-tight, plus 180 degrees (1/2 turn) while using an adjustable wrench.
- The bracket legs may face either direction.

The flexible sprinkler hose assembly bracket hub may move along the bracket cross bar until the preferred position has been reached.

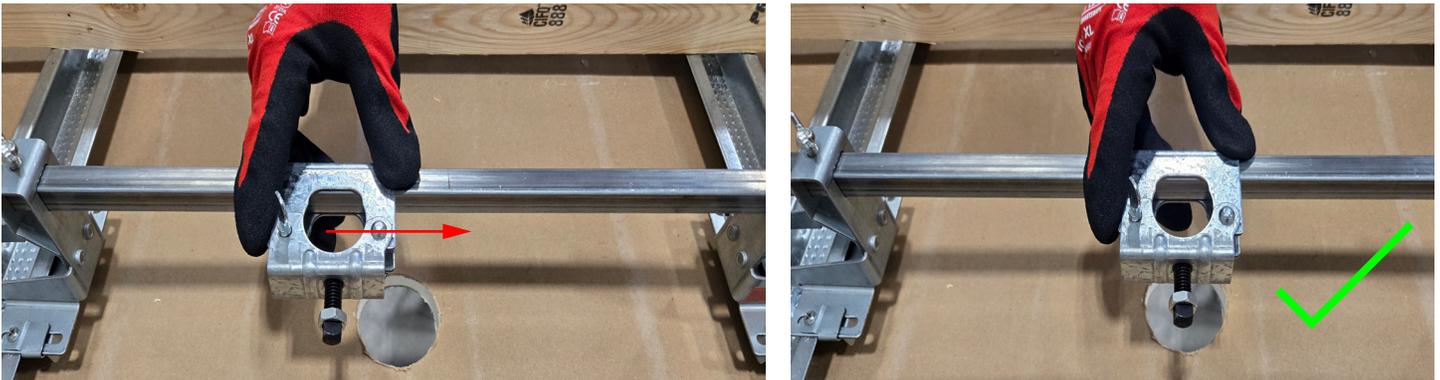


Figure – 1: Move Bracket Hub in Preferred Position

#### 5.2 When Connecting the Bracket to the Hat Channel

1. Locate the flexible hose sprinkler assembly in the ceiling framing, then position the bracket legs in the preferred position on the hat channel.
2. Clip the bracket legs' end hooks onto the edge of the two hat channels.



Figure – 2: Bracket Leg End Hook on Channel Edge

3. Slide the screw clips to the other side of the hat channels so that the bottom of the clips will be under the edge. Drill the screws perpendicular to the hat channel so that they align with the bottom tab holes.
4. Tighten the wing bolts until they are hand-tight, plus 180 degrees (a 1/2 turn), or 30 to 40 in-lbs, while using an adjustable wrench.



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET FH150

### 5.3 When Connecting the Bracket to the Flexible Sprinkler Hose Assembly

1. Open the bracket hub's hinge door by rotating the locking shaft 90 degrees (1/4 turn).
2. Place the flexible sprinkler hose assembly into the hub.

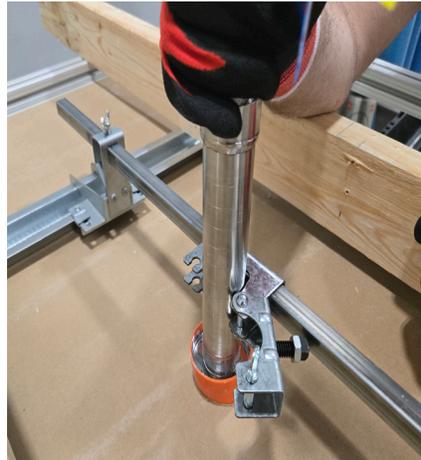


Figure – 3: Place Assembly into the Hub

3. Adjust the flexible sprinkler hose assembly to the preferred height and tighten the screw.

**NOTE: The screw must be hand-tight, plus 270 degrees (3/4 turn), or 130 in-lbs. The jam nut must be hand-tight, plus 180 degrees (1/2 turn). Use a 7/16" 12-point socket to finish tightening.**

### NOTICE

The flexible sprinkler hose assembly must be straight and held in place. Movement on the bracket may cause sprinkler misalignment.

4. Close the hinge door by rotating the locking shaft back 90 degrees (1/4 turn).

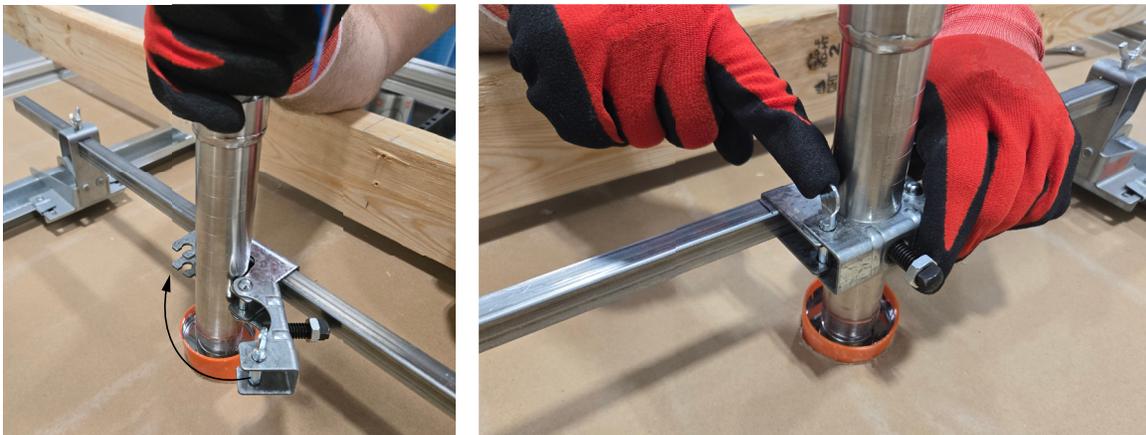


Figure – 4: Close Hinge Door and Locking Shaft



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET FH120

### NOTICE

This document shall be used for installation guidance only. The manufacturer's documentation supersedes any documentation provided by Viking in reference to the product identified herein. Refer to the manufacturer's original instructions identified below.

#### 1. MANUFACTURER INFORMATION

FlexHead®

Manufacturer's installation document: FP-SUB-BKT-FH120-v05 20240813

#### 2. APPLICATIONS

- Suspended ceilings per ASTM C635 and C636

#### 3. INTENDED USE

This document is intended to be used with the Viking flexible sprinkler hose assemblies. For more information concerning a specific sprinkler assembly, refer to the appropriate technical data sheet.

#### 4. REQUIRED AND RECOMMENDED EQUIPMENT

### ⚠ CAUTION

**Risk of personal injury. Installing the bracket involves circumstances that could cause personal injury from sharp edges, falling objects, or flying objects (such as metal shavings or sawdust).**

- Wear personal protective equipment during installation, as outlined below.

##### 4.1 Required Personal Protective Equipment

Before installing the flexible sprinkler hose assembly bracket, wear the following protective equipment:

- Head protection
- Gloves
- Foot protection
- Eye protection

##### 4.2 Installation Equipment

Use the following equipment for proper bracket installation:

- 3/8" or 7/16" wrench
- Adjustable wrench (recommended)
- 7/16" 12-point socket
- Wing bolts and wing nuts (two each)
- Tamper-resistant zip-ties (optional)
- Drill (optional)

#### 5. INSTALLATION

##### 5.1 Pre-Installation Instructions

To adjust the bracket leg positions:

- Move the bracket legs along the bracket cross bar until they are in the preferred location.
- Loosen the wing bolts to slide the bracket clamping leg assembly to the preferred location. Then, ensure the wing bolts are hand-tight, then tighten an additional 180 degrees (1/2 turn) using an adjustable wrench.

The flexible sprinkler hose assembly bracket hub may move along the bracket cross bar until the preferred position has been reached.



## BRACKET INSTALLATION INSTRUCTIONS

## FLEXIBLE HOSE ASSEMBLY BRACKET FH120

### 5.2 When Connecting the Bracket to a Suspended Ceiling T-Bar

1. Locate the flexible hose sprinkler assembly above the suspended ceiling tile, then position the bracket legs and the hub in the preferred area on the suspended ceiling T-bar.

**NOTE: The hub is aligned with the center hole in the bracket legs.**

2. With the clamping leg assemblies in the open position, install them by applying downward pressure on the bracket leg and T-bar until the T-bar is fully inserted between the clamps on both sides.

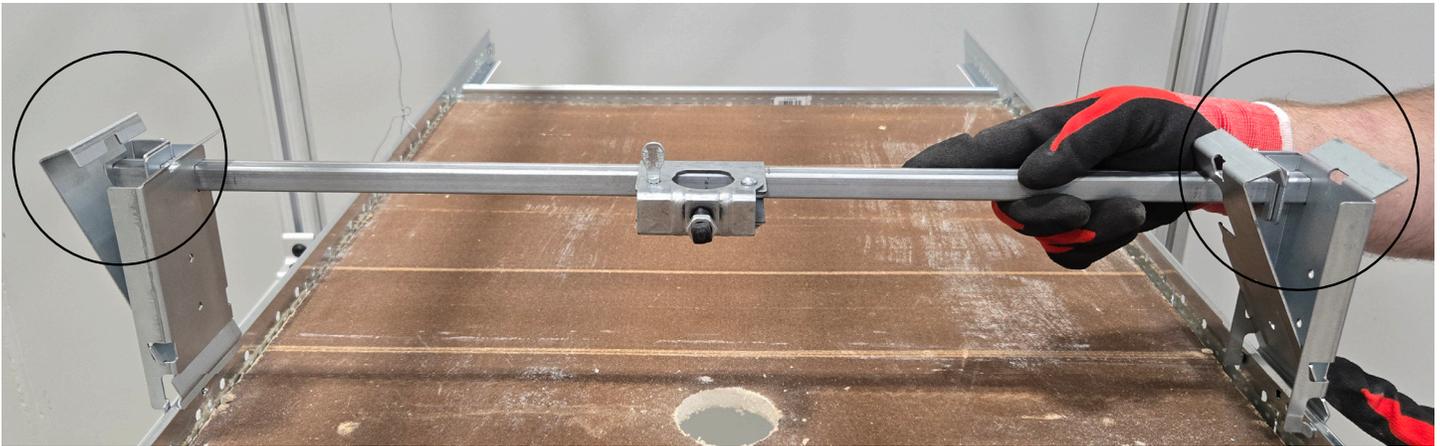


Figure – 1: Clamping Leg Assemblies in Open Position

3. Close clamping leg assemblies by
  - applying pressure at the top of the assemblies until they overlap.
  - using a 3/8" or 7/16" wrench to close the clamping legs and lock them in place.
4. **Optional:** Use a tamper-resistant zip-tie on each clamp for additional security.

### 5.3 When Connecting the Bracket to the Flexible Sprinkler Hose Assembly

1. Open the bracket hub's hinge door by rotating the locking shaft 90 degrees (1/4 turn).
2. Place the flexible sprinkler hose assembly into the hub.



Figure – 2: Place Flexible Sprinkler Hose Assembly into Hub

**BRACKET INSTALLATION  
INSTRUCTIONS****FLEXIBLE HOSE ASSEMBLY  
BRACKET FH120**

3. Close the hinge door by rotating the locking shaft back 90 degrees (1/4 turn).

**NOTICE**

**The flexible sprinkler hose assembly must be straight and held in place. Movement on the bracket may cause sprinkler misalignment.**

4. Adjust the flexible sprinkler hose assembly to the preferred height and tighten the screws.

***NOTE: The screw must be hand-tight, plus 270 degrees (3/4 turn), or 130 in-lbs. The jam nut must be hand-tight, plus 180 degrees (a 1/2-turn). Use a 7/16" 12-point socket to finish tightening.***

**5.4 Removing the Bracket from the Suspended Ceiling T-Bar**

1. Using a 3/8" or 7/16" wrench, pry open the clamping leg assemblies through the locking slot.
2. Inspect the clamping leg assemblies for damage prior to re-installation.



## OPERATION AND MAINTENANCE INSTRUCTIONS

## FLEXIBLE HOSE SPRINKLER ASSEMBLY

### 1. PRODUCT IDENTIFICATION

This document covers the following product, hereafter referred to as “sprinkler and hose assembly.”

**Quick Response Sprinkler and Hose Assembly VK970**

**Concealed Sprinkler and Hose Assembly VK971**

**Concealed Sprinkler and Hose Assembly VK972**

### **WARNING**

Cancer and Reproductive Harm [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### 2. OTHER APPLICABLE DOCUMENTS

For intended use and relevant conditions for the safe use of the specific sprinkler, refer to the appropriate Technical Data Sheet. In case an installed sprinkler needs to be replaced, refer to the appropriate Handling and Installation Instructions for the new sprinkler installation.

### 3. MAINTAINING OPERATIONAL READINESS

#### Functionality

During fire conditions, the operating element fuses or shatters (depending on the type of sprinkler), releasing the pip cap and sealing assembly. Water flowing through the sprinkler orifice strikes the sprinkler deflector, forming a uniform spray pattern to control or extinguish the fire.

### **WARNING**

**This section contains important safety information. Read and follow all information.**

#### Damaged or Compromised Sprinklers

Damaged or compromised sprinklers will not operate properly which could lead to loss of life.

- NEVER clean, paint, or caulk sprinklers.
- NEVER apply soap, water, ammonia, adhesives, solvents, or any other fluids on sprinklers.
- NEVER expose sprinklers to temperatures exceeding the maximum allowed ambient ceiling temperature. See the Technical Data Sheet.
- ALWAYS replace a compromised or damaged sprinkler and hose assembly.
- NEVER attempt to repair or reassemble a sprinkler.
- ALWAYS replace operated sprinkler and hose assemblies and cover assemblies, as well as sprinkler and hose assemblies exposed to corrosive products of combustion.
- Sprinkler and hose assembly replacement must only be performed following the instructions in section 4.

The following are examples in which sprinkler and hose assemblies are considered damaged or compromised. Replace the assemblies in the following cases:

- Sprinkler with a loss of fluid from the glass bulb or damage to the fusible element.
- Sprinkler or cover plate assemblies that have been field painted, caulked, or mechanically damaged.
- Sprinklers showing signs of extraordinary corrosion.

#### Obstructions and obstacles

Obstructions and obstacles may compromise sprinkler discharge patterns, which are critical for proper fire protection.

- NEVER attach items to a sprinkler and hose assembly or hang items from the ceiling in an area protected with them.
- NEVER install walls in areas protected with sprinklers and hose assemblies without having a specialized company verifying the design of the sprinkler system.
- ALWAYS remove obstructions and obstacles to sprinkler spray patterns.



## OPERATION AND MAINTENANCE INSTRUCTIONS

## FLEXIBLE HOSE SPRINKLER ASSEMBLY

- Sprinkler systems that have been subjected to a fire.
- Sprinkler systems that have been subjected to a fire must be returned to service as soon as possible.
- After an event of fire, the entire sprinkler system must be inspected for damage and repaired as necessary.
- Refer to the minimum requirements of the Authority Having Jurisdiction (AHJ) for replacement of sprinklers.
- Consider the employment of a fire patrol as long as the sprinkler system is out of service.

### Inspections and testing

The owner is responsible for having the sprinklers and hose assembly inspected and tested according to standards of the applicable approval body and to the requirements of the AHJ to maintain proper operating condition of the system.

- Sprinklers must be inspected on a regular basis for corrosion, mechanical damage, obstructions, paint, etc. Frequency of inspections may vary due to corrosive atmospheres, water supplies, and activity around the sprinkler.

The applicable approval body or AHJ may require sprinklers to be replaced after a specified term of service.

- Refer to the standards of the applicable approval body, such as NFPA, FM, VdS, or LPCB, and the requirements of the AHJ for detailed inspection, testing and replacements requirements.

Sprinklers removed from the system for testing or for any other purpose must be replaced according to section 4.

## 4. REMOVAL AND REPLACEMENT

### WARNING

Removal and replacement of sprinklers by insufficiently qualified personnel poses the risk of fatal consequences in case of fire.

- Removal or replacement of sprinklers must be performed by qualified personnel familiar with safe practices and applicable and recognized design and installation standards issued, for example, by NFPA, FM, VdS, or LPCB, and trained how to properly perform the installation procedures.

### WARNING

Removal and replacement of sprinklers will temporarily eliminate the fire protection capabilities of the sprinkler system.

- Consider the employment of a fire patrol in the affected area.
- Prior to proceeding, notify all AHJs.

### WARNING

Re-installation of a removed sprinkler and hose assembly may compromise the operational safety of the sprinkler system.

- NEVER reinstall a removed sprinklers and hose assembly.
  - ALWAYS use a new sprinkler and hose assembly for replacement.
1. Select new sprinklers and hose assemblies with identical performance characteristics, as well as respective accessories, such as escutcheons, cover plates, and protective caps. A stocked spare sprinkler cabinet may be provided for this purpose on-site.
  2. According to appropriate system description and/or valve instructions, remove the system from service, drain all water, and relieve all pressure on the piping.
  3. Only for flush and concealed style sprinklers: Remove the cover plate assembly of the old sprinkler by gently unthreading or pulling it off the sprinkler body (depends on the sprinkler model used).
  4. Install the new sprinkler by following its Handling and Installation Instructions.



**OPERATION  
AND MAINTENANCE  
INSTRUCTIONS**

**FLEXIBLE HOSE SPRINKLER  
ASSEMBLY**

5. Place the system back in service and secure all valves.
6. Check for and repair all leaks.

## 5. DISPOSAL

At end of use the product described here should be disposed of via the national recycling system.

## 6. CONTACT

The sprinklers and hose assembly are available through Viking distributors only. Contact your local Viking sales office, which can be found on our website:

Americas and Asia: [www.vikinggroupinc.com/locations](http://www.vikinggroupinc.com/locations) OR Europe, Middle East, Africa (EMEA): [www.viking-emea.com/contact](http://www.viking-emea.com/contact)

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