



TECHNICAL DATA SHEET AND INSTALLATION INSTRUCTIONS

GUARDS AND WATER SHIELDS FOR ELO SPRINKLERS

1. PRODUCT IDENTIFICATION

This document covers the following products, hereafter referred to as “sprinkler guard” and “water shield”:

Model ELO-G Sprinkler Guard, ELO-GW sprinkler guard/water shield (combination), and F-1 Water Shield.

2. INTENDED USE

The sprinkler guard and water shields are intended to be used in conjunction with specific automatic fire sprinklers as allowed by applicable approval authorities. The sprinkler guard and water shields must be used in accordance with:

1. the sprinkler's Listings, Approvals, and associated design requirements.
2. the recognized design and installations standards issued, for example NFPA, FM, EN, VdS, or LPCB.
3. the latest revisions of all applicable manufacturer's documentation.

NOTE: The guards and water shields are not intended to be used on sprinklers installed in recessed escutcheons.



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

WARNING

Cancer and Reproductive Harm www.P65Warnings.ca.gov

3. LISTINGS AND APPROVALS

NOTICE

Refer to section 5 for specific Listing and Approval information.



cULus Listed: Category VNIV



FM Approved

3.1 Sprinkler Compatibility

SIN	Sprinkler Type	Guard	Guard and Water Shield
VK530	Upright	ELO-G	ELO-GW*
VK531	Upright	ELO-G	ELO-GW*
VK533	Upright	ELO-G	ELO-GW*
VK377	Pendent	ELO-G	ELO-G and F-1
VK536	Pendent	ELO-G	ELO-G and F-1
*The guard and shield are pre-assembled and welded together.			

4. TECHNICAL SPECIFICATIONS

4.1 Definitions

Viking Sprinkler Guard: A sprinkler guard is a hard-wire cage designed to encase the sprinklers and protect them from mechanical damage. Sprinkler guards are recommended for areas where sprinklers are installed at a low elevation and/or near a high degree of human or mechanical activity.

Viking Water Shield: A water shield protects the sprinkler’s heat-sensing element from water discharging at a higher elevation.

4.2 Model ELO-G Sprinkler Guard Dimensions

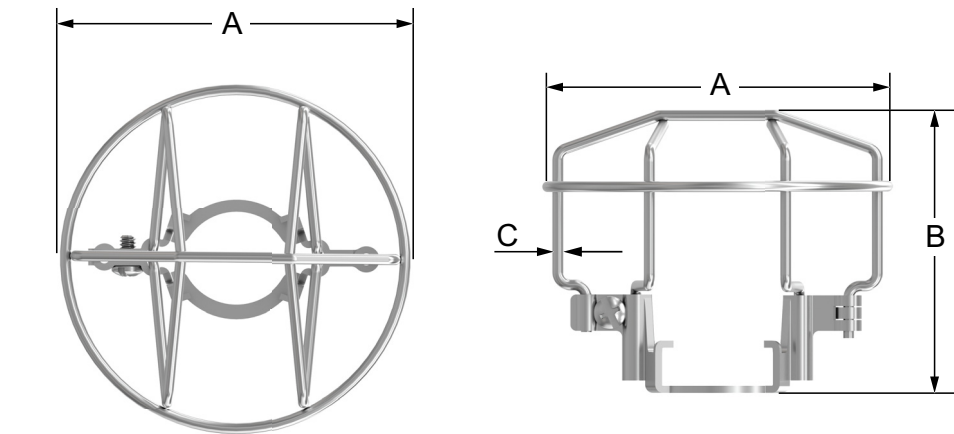


Figure – 1: Sprinkler Guard Dimensions

Description	Dimensions		
	A	B	C
ELO-G Sprinkler Guard	2-15/16" (75 mm)	2-3/8" (60 mm)	3/32" (2.3 mm)



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4.3 Dimensions for ELO-GW Guard/Water Shield and F-1 Water Shield

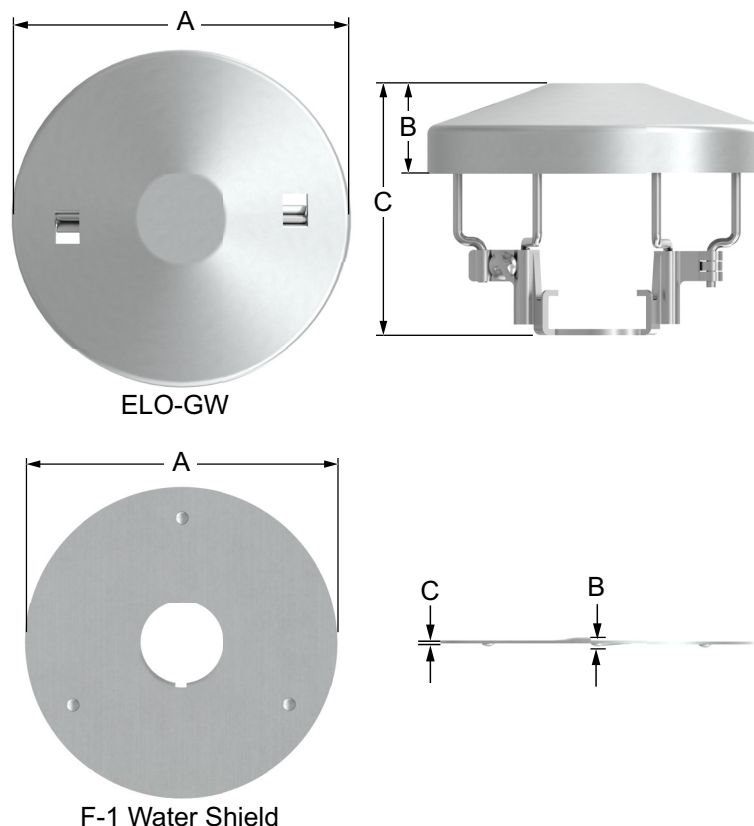


Figure – 2: ELO-GW Guard/Water Shield and F-1 Water Shield Dimensions

Description	Dimensions		
	A	B	C
ELO-GW Guard and Water Shield	3-1/4" (86 mm)	7/8"	2-1/2"
F-1 Pendent Water Shield	3" (75 mm)	0.08" (2 mm)	0.036" (0.9 mm)

4.4 Materials of Construction

Component		Material
Guard	Wire	UNS-G10100 bright basic steel wire
	Screw	6-32 x 1/4 (R.H. Phillips-slotted combination drive); steel; zinc-plated
	Clamp	UNS-G10100 Thick bright basic steel or JIS G3141 SPCC
Water Shield (for ELO-GW combination)		UNS-G10080 Thick cold-rolled steel or JIS G3141 SPCC
F-1 Water Shield		UNS-G10080 Thick cold-rolled steel
Wrench		65-45-12 ductile iron or QT 450-12



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5. LISTING AND APPROVAL DESIGN REQUIREMENTS

5.1 Listing and Approval Specifications - ELO Sprinklers

PENDENTS

The pendent sprinklers shown in the Approval Chart below may be ordered with sprinkler guards factory-installed. See Ordering Table in this document and refer to the appropriate sprinkler technical data page for available temperatures and finishes. Pendent Sprinklers (with or without the sprinkler guards) and water shields must be ordered separately. Water Shield installation is required, as shown in Figure 8.

UPRIGHTS

The upright sprinklers shown in the Approval Chart below may be ordered with sprinkler guards or the guard/water shield combination factory-installed. See Ordering Table in this document and refer to the appropriate sprinkler technical data page for available temperatures and finishes.

NOTE: Viking ELO sprinklers with a guard and water shield are converted to intermediate level/in-rack storage sprinklers. They may be used in any application where a water shield is required.

Table 5.1: Approval Chart for ELO Sprinklers with Guards and Water Shields

Approval Chart for ELO Sprinklers with Guards and Water Shields										
For Listed and Approved finishes and temperature variations, refer to the approval chart on the relevant sprinkler's technical data sheet.										
Sprinkler Base Part Number ¹	SIN	Sprinkler Type	Thread Size		Orifice Size	Nominal K-Factor		Maximum Pressure	Listings and Approvals	
			NPT	BSPT		U.S.	Metric		cULus ²	FM ³
Quick Response, Glass Bulb										
08337	VK377	Pendent	3/4"	—	Extra Large	11.2	161.3	175 PSI	✓	✓
10633	VK531	Upright	3/4"	—	Extra Large	11.2	161.3	175 PSI	✓	✓
Quick Response, Fusible Link										
13978	VK533	Upright	3/4"	—	Extra Large	11.2	161.3	175 PSI	✓	✓
Standard Response, Glass Bulb										
07961	VK536	Pendent	3/4"	—	Extra Large	11.2	161.3	175 PSI	✓	✓
14820	VK536	Pendent	—	20 mm	Extra Large	11.2	161.3	175 PSI	✓	✓
09679	VK530	Upright	3/4"	—	Extra Large	11.2	161.3	175 PSI	✓	✓
14819	VK530	Upright	—	20 mm	Extra Large	11.2	161.3	175 PSI	✓	✓
Approved Temperature Ratings and Finishes										
Refer to the sprinkler technical data sheet.										
Footnotes										
1. For complete part number, refer to Viking's current price list.										
2. Listed by Underwriter's Laboratories, Inc. for use in the U.S. and Canada.										
3. FM Approved for protection of occupancies described in the FM Global Loss Prevention Data Sheets (including 2-0 and 8-9) and Technical Advisory Bulletins.										

**TECHNICAL DATA SHEET
AND INSTALLATION
INSTRUCTIONS****GUARDS AND WATER
SHIELDS FOR ELO
SPRINKLERS****6. ORDERING PROCEDURES**** DANGER**

FIRE HAZARD; RISK OF SERIOUS INJURY OR DEATH.

Improper installation can damage the sprinkler's operating parts or impede proper operation of the sprinkler, which eliminates the sprinkler's fire suppression capabilities. This situation can lead to serious injury or death due to fire.

- Use only the ELO Sprinkler Guard Wrench to install pre-assembled units. Refer to the "Individual Ordering Procedure" section below for the correct wrench part number.
- Follow the procedures in Section 7 to properly install the sprinkler guard or guard and water shield combination onto the sprinkler.

The ELO sprinkler guards and shields are available in the following ordering options:

- Factory-assembled guard/shield on a sprinkler (See Section 6.1: "Factory-Assembled Guards and Guards/Shields on Sprinklers")
- Factory-assembled guard on a sprinkler (See Section 6.1: "Factory-Assembled Guards and Guards/Shields on Sprinklers")
- Individual guard and/or water shield on a sprinkler (See Section 6.2: "Individual Ordering Procedure")

NOTE: To help prevent potential installation issues with pre-installed sprinklers that require a guard or water shield, Viking Corp recommends using the pre-assembled units.



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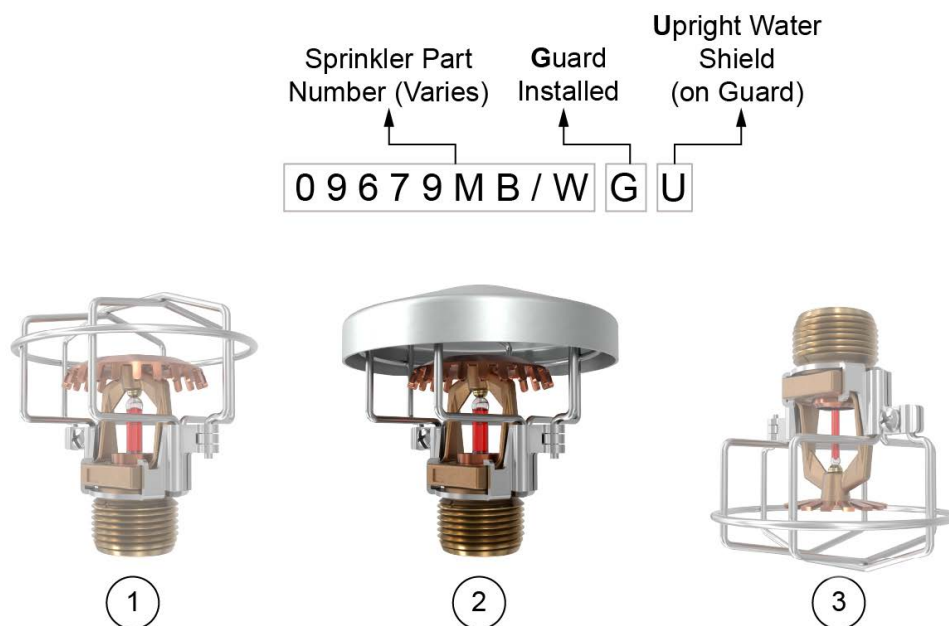
6.1 Factory-Assembled Guards and Guards/Shields on Sprinklers

To order either the guard or the guard and water shield combination factory-assembled on the sprinkler:

1. Choose a sprinkler base part number with the required thread size and a listing or approval (refer to section 5).
2. Add the suffix "G" to the part number from step 1 to include a guard pre-assembled on the sprinkler. (See references 1 and 3 in Figure 3.)
3. (Optional for upright sprinklers): Add the suffix "U" to the part number from step 2 to include a water shield pre-assembled on the sprinkler/guard combination. (See reference 2 in Figure 3.)

NOTE: The Model F-1 Water Shield must be ordered and installed separately. To order the F-1 Water Shield, refer to "Individual Ordering Procedure".

EXAMPLE: 09679MB/WGU = VK530 with 3/4" NPT threads, a white polyester finish, a 155 °F (68 °C) nominal temperature rating, that includes a factory-installed sprinkler guard and water shield combination.



Sprinkler Accessory



Figure – 3: Factory-Assembled Options

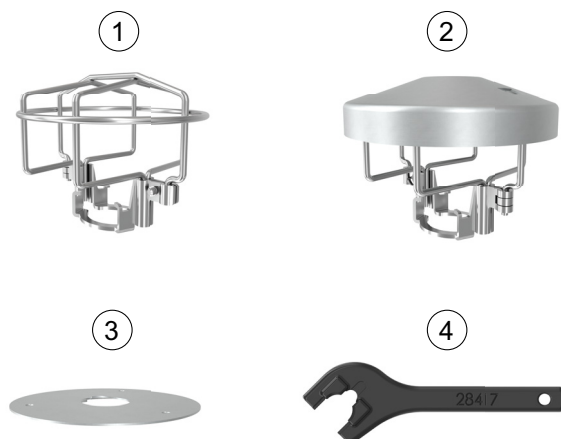


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6.2 Individual Ordering Procedure

1. Determine the sprinkler model on which the accessory will be installed. Refer to section 5 and the sprinkler's technical data sheet.
2. Choose an accessory.



Sprinkler Accessories

Ref	Part Number	Description	Size	
			NPT	BSPT
1	27856	Model ELO-G Sprinkler Guard ¹	3/4"	20 mm
2	27858	Model ELO-GW Upright Guard and Water Shield combination (Water shield can not be ordered separately) ¹	3/4"	20 mm
3	10324	Model F-1 Pendent Water Shield	3/4"	20 mm
4	28417M/B ²	ELO Sprinkler Guard Wrench	3/4"	20 mm

1. Can be ordered as factory-assembled sprinkler guard/shield.
2. Required for installation of ELO sprinklers with a guard or guard/water shield combination.



TECHNICAL DATA SHEET AND INSTALLATION INSTRUCTIONS

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7. INSTALLATION PROCEDURES

DANGER

FIRE HAZARD; RISK OF SERIOUS INJURY OR DEATH.

Improper installation can damage the sprinkler's operating parts or impede proper operation of the sprinkler, which eliminates the fire suppression capabilities of the sprinkler. This situation can lead to serious injury or death due to fire.

- Use only the ELO Sprinkler Guard Wrench to install pre-assembled units. Refer to the "Individual Ordering Procedure" section below for the correct wrench part number.
- Follow the procedures in Section 7 to properly install the sprinkler guard or guard and water shield combination onto the sprinkler.

7.1 Upright and Pendent Sprinkler Installation Methods

For both upright and pendent sprinklers, the installation method to install the sprinkler guard is the same.

- For **upright sprinklers**, only the sprinkler guard or a sprinkler guard and water shield combination may be used. The water shield is permanently attached to the sprinkler guard.
- For **pendent sprinklers**, if a water shield is desired, the model F-1 water shield must be installed prior to installing the sprinkler or sprinkler and guard combination.

7.2 Installing the Sprinkler Guard

1. If not completed already, install the sprinkler in the piping, according to the sprinkler's installation instructions.
2. Open the guard.
3. With the sprinkler frame arms parallel to the vertical guard members, angle and maneuver the sprinkler guard over the sprinkler's deflector, as shown in Figure 4 (for sprinklers with a glass bulb) or Figure 5 (for sprinklers with a fusible link).

Open the guard and angle it
when installing on the sprinkler



Maneuver the guard
over the deflector



Figure – 4: Angling Guard onto Sprinkler with Glass Bulb



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NOTICE

Installing a sprinkler guard on a sprinkler with a fusible link (Figure 5) can cause permanent sprinkler damage if the metal wire on the guard contacts the fusible link. Orient the guard so that the sprinkler's fusible link is facing away from the guard wire, as shown before attempting to maneuver the guard over the sprinkler's deflector.

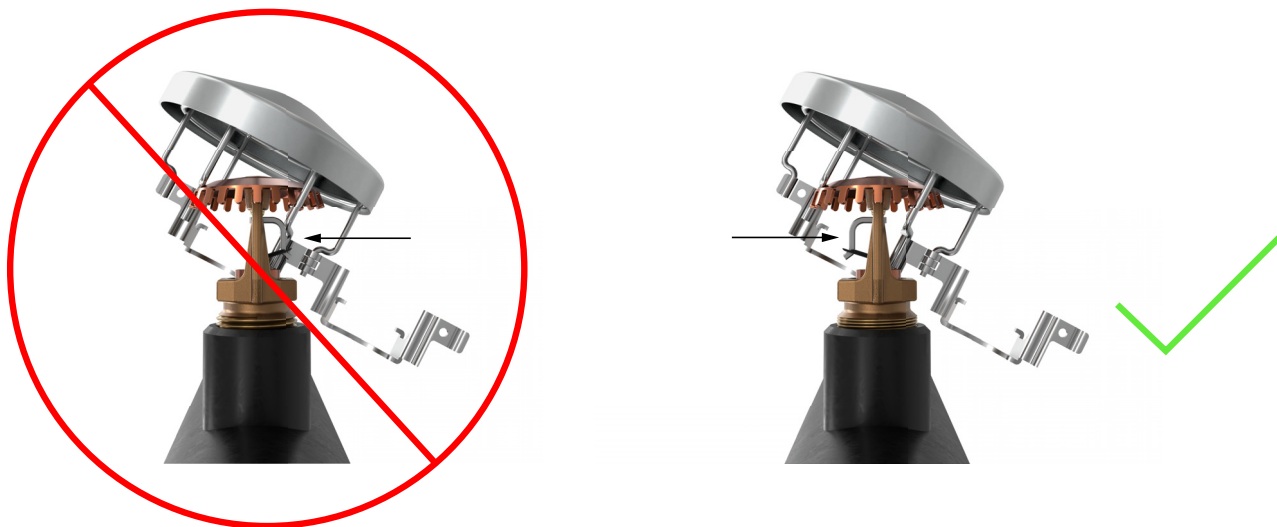


Figure – 5: Angling Guard onto Sprinkler with Fusible Link

4. Using a screwdriver, gently tighten the guard screw.

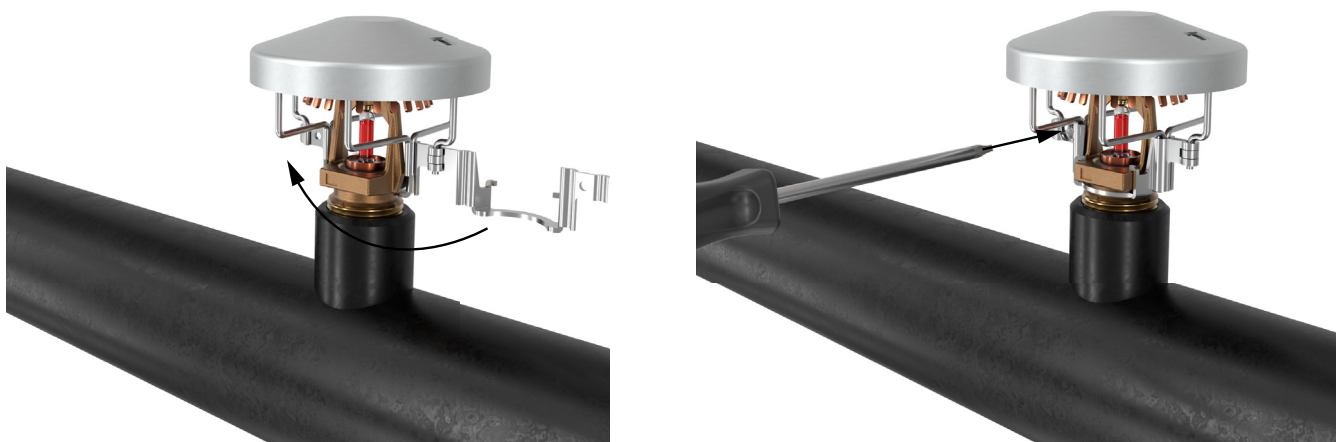


Figure – 6: Tighten the Guard Screw



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7.3 Installing an assembled unit (sprinkler and guard or the sprinkler and guard/water shield combination).

1. Install the entire assembly (sprinkler with guard and/or water shield) into the sprinkler piping by hand first.
2. Carefully slide the sprinkler guard wrench around the sprinkler wrench flats and tighten the sprinkler as necessary.

NOTE: The sprinkler guard wrench should NOT make contact with the guard wires or the guard clamp.

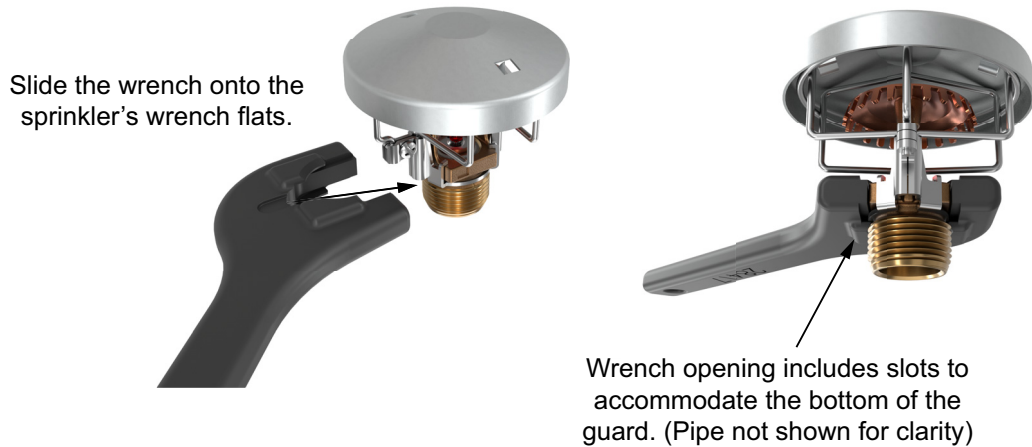


Figure – 7: Sprinkler Guard Wrench Placement

7.4 Installing the F-1 Water Shield

1. Install the F-1 Water Shield onto the sprinkler threads, as shown below.

NOTE: The sprinkler may have a pre-assembled guard.

2. Install the assembly into the sprinkler piping by hand first.
3. Carefully slide the sprinkler guard wrench around the sprinkler's wrench flats and tighten as necessary.

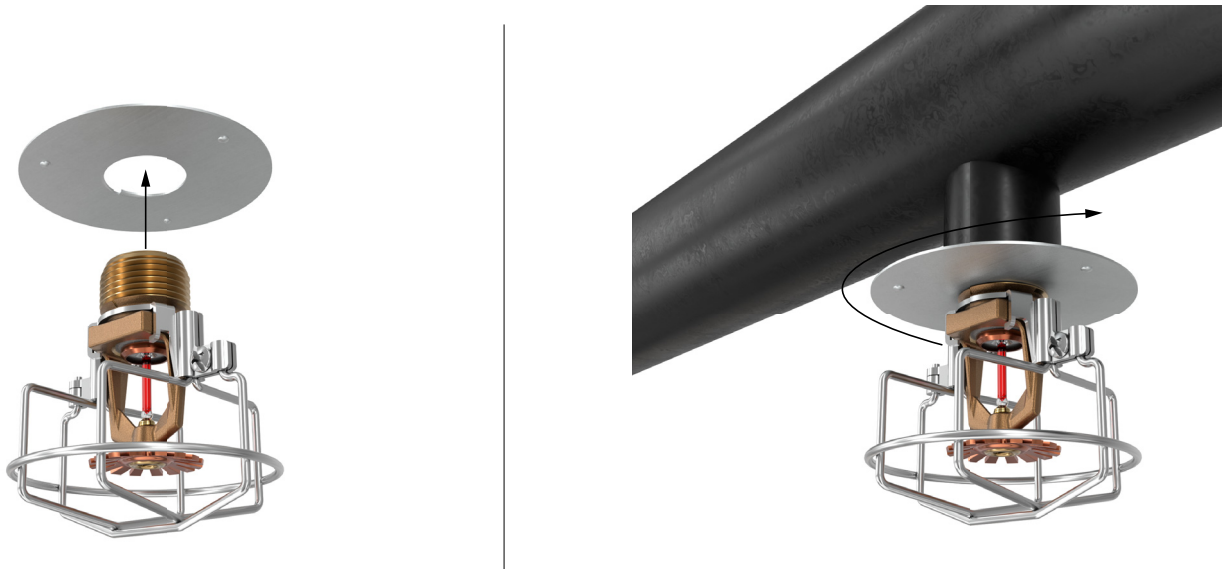


Figure – 8: Installing the F-1 Water Shield



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8. 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 OR Europe, Middle East, Africa (EMEA): www.viking-emea.com/contact

Manufacturer:	Importer EU:	Asia Pacific (APAC) Main Office:
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	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	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