



TECHNICAL DATA

SPRINKLER WATER SHIELDS AND GUARDS

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

1. DESCRIPTION

Viking Model A-1, B-1, and C-1 Sprinkler Water Shields and Guards are used in conjunction with Viking frame style 1/2" or 3/4" NPT (15 mm or 20 mm BSP) upright or pendent sprinklers where allowed by the approvals. (Refer to the Approval Chart on page 130g.) The guards are hard-wire cages designed to encase the sprinklers and protect them from mechanical damage. They are recommended for areas where sprinklers are installed at a low elevation and/or near a high degree of human or mechanical activity.

Water shields protect the sprinklers' heat-sensing operating element from water spray discharge from sprinklers located at a higher elevation. Viking frame style sprinklers with Model B-1 or C-1 Water Shields are converted to intermediate level/rack storage sprinklers. They may be used in any application where water shielding is required, such as in-rack sprinkler systems, under grating, on pilot sprinklers for deluge systems, and outdoors as a weather shield.

2. LISTINGS AND APPROVALS

FM Approved: Class 2091

NYC Approved: MEA 89-92-E, Volume 12 and Calendar Number 219-76-SA, Bulletin No. 26, Vol. LXIX

VdS Approved: Certificate G4920022

Warning: Products represented on this page and manufactured after 1998 have no UL Listing.

See the Approval Chart on page 130g for FM, NYC, and VdS Approvals.

3. TECHNICAL DATA

Specifications:

Model A-1, B-1, and C-1 Sprinkler Guards: Dimensions: 2-5/16" (58.7 mm) diameter, 2-1/4" (57.2 mm) high. Available since 1982.

Model B-1 Sprinkler Water Shield: Dimensions: 4-3/8" (111.1 mm) diameter, 0.0359" (0.91 mm) thick. Available since 1984.

Model C-1 Sprinkler Water Shield: Dimensions: 3-1/2" (88.9 mm) diameter, 0.0359" (0.91 mm) thick. Available since 1986.

Material Standards:

Sprinkler Guards: UNS-G10100 Bright Basic Steel Wire

Water Shields: UNS-G10080 Cold Rolled Steel

Ordering Information: (Also refer to the current Viking price list.)

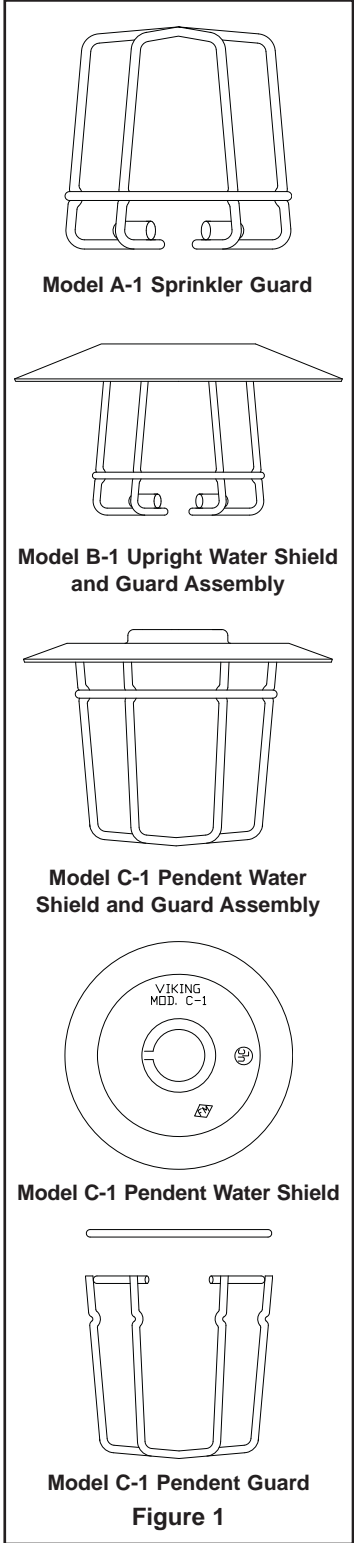
Order water shields and guards using the appropriate part number for the thread size required.

1. To order the Model A-1 Sprinkler Guard, specify Part No. 05446A, for either 1/2" or 3/4" (15 mm or 20 mm).
2. To order the Model B-1 Upright Water Shield and Guard Assembly, specify: Part No. 05866A, for either 1/2" or 3/4" (15 mm or 20 mm).

Viking Model C-1 Pendent Sprinkler Water Shields and Guard may be ordered separately or as a package. However, the Model C-1 Guard cannot be used without Model C-1 Water Shield.

3. To order the Model C-1 Pendent Sprinkler Water Shield and Guard package, specify:
 - A. Part No. 06509A, 1/2" (15 mm), or
 - B. Part No. 06682A, 3/4" (20 mm).
4. To order the Model C-1 Pendent Water Shield only, specify:
 - A. Part No. 06467B, 1/2" (15 mm), or
 - B. Part No. 06656B, 3/4" (20 mm).

Viking Technical Data may be found on The Viking Corporation's Web site at <http://www.vikinggroupinc.com>. The Web site may include a more recent edition of this Technical Data Page.





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5. To order the Model C-1 Pendent Guard only (for use with the Model C-1 Water Shield), specify Part No. 06471A.

NOTE: Model A-1, B-1, and C-1 Sprinkler Water Shields and Guards are NOT designed to be used on sprinklers installed in recessed escutcheons.

Sprinklers must be ordered separately. Refer to the appropriate sprinkler Technical Data Page.

Accessories: (Also refer to the "Sprinkler Accessories" section of the Viking data book.)

Sprinkler Wrenches: Part No. 10896W/B (available since 2000) or 05000CW/B (no longer available).

4. INSTALLATION

NOTE: Viking Model A-1, B-1, and C-1 Sprinkler Water Shields and Guards are not available factory pre-assembled with the sprinklers. They must be ordered separately and then field installed onto the Viking frame style sprinklers.

Refer to the appropriate Viking sprinkler Technical Data Page for warnings and additional installation instructions. Then install units according to the following steps:

A. MODEL A-1 SPRINKLER GUARD

Viking frame style sprinklers must be installed on the system prior to adding the Model A-1 Sprinkler Guards onto the sprinklers. After the sprinklers are installed:

1. Remove the retaining ring from the Model A-1 Sprinkler Guard.
2. Spread and hold the two bracket halves at the base of the guard just enough to place the guard over the deflector and wrench boss of the sprinkler.

CAUTION: Excessive spreading of the guard may break the weld.

3. With the sprinkler inside the sprinkler guard, orient the guard with the heavy wire base parallel to the sprinkler wrench boss. The two halves of the bracket should grip the sprinkler in the slot between the wrench boss and the threads.
4. Press the retaining ring over the guard and toward the base of the sprinkler until the ring snaps firmly into the depressions provided on each of the six wire members of the guard.
 - a. To remove, reverse the instructions. If the sprinkler must also be removed, follow the system instructions and notify appropriate personnel.

B. MODEL B-1 UPRIGHT SPRINKLER WATER SHIELD AND GUARD ASSEMBLY

The Model B-1 Upright Water Shield and Guard are available as a welded assembly only. Viking frame style upright sprinklers must be installed on the system prior to installing the Model B-1 Upright Water Shield and Guard Assembly onto the sprinklers. After the sprinklers are installed:

1. Position the retaining ring against the water shield.
2. Spread and hold the two bracket halves at the base of the guard just enough to place the guard over the deflector and wrench boss of the sprinkler.

CAUTION: Excessive spreading of the guard may break the weld.

3. With the sprinkler inside the sprinkler guard, orient the guard with the heavy wire base parallel to the sprinkler wrench boss. The two halves of the bracket should grip the sprinkler in the slot just below the wrench boss, and above the threads.
4. Press the retaining ring down until it slides into the notches in the six wire members of the guard.

To remove, reverse the instructions. If the sprinkler must also be removed, follow the system instructions and notify appropriate personnel.

C. MODEL C-1 PENDENT SPRINKLER WATER SHIELDS AND GUARDS


The Model C-1 Pendent Water Shields can be installed with or without the Model C-1 Guard. However, the Model C-1 Guard cannot be installed without the Model C-1 Water Shield. To install Model C-1 Pendent Water Shields:

1. Thread the Viking frame style pendent sprinkler into the shield. The concave surface of the shield should face the sprinkler deflector.
2. Apply a small amount of pipe-joint compound or tape to the external threads of the sprinkler only, taking care not to allow a build-up of compound in the sprinkler inlet.
3. Install the sprinkler unit on the piping using the standard sprinkler wrench. DO NOT use the shield to start or thread the sprinkler into the fitting.

Viking frame style pendent sprinklers and Model C-1 Water Shields must be installed on the system prior to installing the Model C-1 Guard onto the sprinkler. If the Model C-1 Guard is used:

1. Remove the retaining ring from the guard.
2. Place the Model C-1 Guard over the sprinkler.
3. Spread each half of the cage slightly and gently push the cage onto the shield retainer until it snaps into place.

CAUTION: Excessive spreading of the cage may break the weld.

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Approval Chart Model A-1 Sprinkler Guard, and Upright Intermediate Level/Rack Storage Sprinklers with Model B-1 Water Shield and Guard Assembly	KEY Temperature Finish A1X ← Escutcheon (if applicable)
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Base Part Number ¹	SIN	Sprinkler Style	Maximum Pressure	Thread Size		Nominal K-Factor		Overall Length		Listings and Approvals ³ (Refer also to Design Criteria on pg 130h.)		
				NPT	BSP	U.S.	metric ²	Inches	mm	FM ⁴	NYC ⁵	VdS ⁶
Standard Response Standard Orifice												
10138	VK100	Upright	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	B1	--	--
10233	VK145	Upright	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	B1	--	A2
Standard Response Large Orifice												
10141	VK200	Upright	175 psi	3/4"	20 mm	8.0	115.2	2-5/16	59	B1	--	--
Standard Response Fusible Link												
05557	VK108	Upright	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	C1	D1	--
05514	VK204	Upright	175 psi	3/4"	20 mm	8.0	115.2	2-5/16	59	C1	D1	--
Quick Response Glass Bulb												
06661B	VK300	Upright	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	B2	B1	--
06665B	VK350	Upright	175 psi	3/4"	20 mm	8.0	115.2	2-5/16	59	B2	B1	--
Conventional												
10227	VK118	Conventional	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	--	--	A2
Model A-1 Sprinkler Guard, and Pendent Intermediate Level/Rack Storage Sprinklers with Model C-1 Water Shield and Guard⁷												
Standard Response Standard Orifice										Models A-1 and C-1		Model C-1 only
10139	VK102	Pendent	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	B1	--	A2
Standard Response Large Orifice												
10142	VK202	Pendent	175 psi	3/4"	20 mm	8.0	115.2	2-5/16	59	B1	--	--
Standard Response Fusible Link												
05508	VK110	Pendent	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	C1	D1	--
05516	VK206	Pendent	175 psi	3/4"	20 mm	8.0	115.2	2-5/16	59	--	D1	--
Quick Response Glass Bulb												
06662B	VK302	Pendent	175 psi	1/2"	15 mm	5.6	80.6	2-1/4	58	B2	B1	--
06666B	VK352	Pendent	175 psi	3/4"	20 mm	8.0	115.2	2-3/8	60	B2	B1	--
Conventional												
10227	VK118	Conventional	175 psi	1/2"	15 mm	5.6	80.6	2-3/16	56	--	--	A2

<p style="text-align: center;">Approved Temperature Ratings</p> A - 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), 286 °F (141 °C), and 360 °F (182 °C) B - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C) C - 165 °F (74 °C) and 286 °F (141 °C) D - 165 °F (74 °C), 220 °F (104 °C), 286 °F (141 °C), and 360 °F (182 °C) E - 155 °F (68 °C)	<p>Approved Finishes</p> 1 - Brass 2 - Brass and Chrome-Enloy®
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Footnotes

¹ Base part number shown. For complete part number, refer to Viking's current price 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 table shows the listings and approvals available at the time of printing. Other approvals may be in process.

⁴ FM Approved for protection of occupancies described in the FM Global Loss Prevention Data Sheets and Technical Advisory Bulletins.

⁵ Model A-1 Sprinkler Guard and Model B-1 Water Shield and Guard Assembly are accepted for use, New York City Board of Standards and Appeals, Calendar Number 219-76-SA. Model B-1 and Model C-1 Sprinkler Water Shields and Guards are accepted for use, City of New York Department of Buildings, MEA 89-92-E, Vol. 12, with temperature ratings of 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C).

⁶ The Model A-1 Sprinkler Guard has no VdS Approval.

⁷ Model C-1 Intermediate Level/Rack Storage Sprinklers with the Model C-1 Sprinkler Guard have the same FM Approvals and acceptance for use by New York City Department of Buildings as those without the Model C-1 Sprinkler Guard.



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IMPORTANT NOTES

Viking Model A-1, B-1, and C-1 Sprinkler Water Shields and Guards are used in conjunction with Viking frame style ½" or ¾" NPT (15 mm or 20 mm BSP) upright or pendent sprinklers where allowed by the approvals. (Refer to the Approval Chart on page 130g.)

Products represented on this page and manufactured after 1998 have no UL Listing.

Model A-1, B-1 and C-1 Sprinkler Water Shields and Guards are NOT designed to be used on sprinklers installed in recessed escutcheons.

WARNING: Viking products are manufactured and tested to meet the rigid requirements of the approving agency. The sprinklers are designed to be installed in accordance with recognized installation standards. Deviation from the standards or any alteration to the sprinkler after it leaves the factory including, but not limited to: painting, plating, coating, or modification, may render the sprinkler inoperative and will nullify the approval and any guarantee made by The Viking Corporation.

IMPORTANT: Always refer to Bulletin Form No. F_091699 - Care and Handling of Sprinklers. Also refer to the appropriate sprinkler data page. Viking sprinklers are designed to be installed in accordance with the latest edition of Viking technical data, the latest standards of NFPA, FM Global, LPCB, APSAD, VdS or other similar organizations, and also with the provisions of governmental codes, ordinances, and standards whenever applicable. The use of certain types of sprinklers may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction prior to installation.

4. Slide the retaining ring onto the cage by pressing up until it locks into the notches on each of the six wire cage members.

To remove, reverse these instructions. Before removing the sprinkler and water shield, follow the system instructions and remove the system from service. Notify appropriate personnel prior to removing the system from service.

5. OPERATION

Refer to the sprinkler technical data page for the sprinkler model used. Water shields protect the sprinklers' heat-sensing operating element from water spray discharge from sprinklers located at a higher elevation. The Sprinkler Guard is a hard-wire cage designed to encase the sprinkler and protect it from mechanical damage.

6. INSPECTIONS, TESTS AND MAINTENANCE

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

7. AVAILABILITY

Viking sprinkler water shields and guards are available through a network of domestic and international distributors. See The Viking Corporation web site for the closest distributor or contact The Viking Corporation.

8. GUARANTEE

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