



## TECHNICAL DATA

## MODEL M FRAME STYLE SPRAY NOZZLES

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

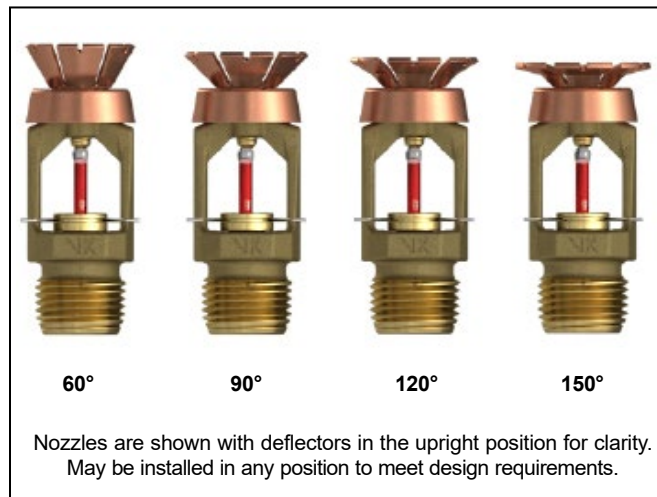
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### 1. DESCRIPTION

Viking Frame Style Spray Nozzles are small, directional spray nozzles for use on water spray systems. They are thermosensitive glass bulb style nozzles, however they may be ordered OPEN (glass bulb and pip cap assembly removed) for use on deluge systems.

These Frame Style Spray Nozzles are available in various finishes, temperature ratings, orifice sizes, and spray pattern discharge angles to meet design requirements. When spraying, the nozzles discharge a cone-shaped spray pattern. The deflector determines the included angle of spray pattern discharge. A special ring provides uniform distribution throughout the spray pattern.

Other features include the small frame, which allows proper nozzle positioning even in congested areas, and the nominal 3 mm glass bulb contained entirely inside the frame for protection from most mechanical damage. The glass bulb operating elements are resistant to more corrosive atmospheres than metal elements. The special PTFE coating has been investigated for installation in corrosive atmospheres and is cULus listed as corrosion resistant as indicated in the Approval Chart.



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

### 2. LISTINGS AND APPROVALS

**cULus Listed:** Category VGYZ

**NYC Approved:** MEA 89-92-E, Volume 29

**NOTE:** International approval certificates are available upon request. Refer to the Approval Chart and Design Criteria for cULus listing requirements that must be followed.

### 3. TECHNICAL DATA

#### Specifications:

Minimum Operating Pressure: 7 PSI (0.5 bar)

Rated to 175 PSI (12 bar) water working pressure.

Factory tested hydrostatically to 500 PSI (34.5 bar)

Frame Style Spray Nozzles are available in various orifice sizes. Refer to the Approval Chart for more information.

The spray nozzle deflector is identified with the U.S. K-Factor, spray angle, and temperature rating.

Thread size: 1/2" (15 mm) NPT

Nominal K-Factors: Refer to the Approval Chart

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

Overall Length: Refer to the Approval Chart

#### Spray Nozzle Material Standards:

Frame Casting: Brass UNS-C84400

Deflector: Copper UNS-C23000 or UNS-C51000

Ring: Phosphor Bronze UNS-C51000

Bulb: Glass, nominal 3 mm diameter

Belleville Spring Sealing Assembly: Nickel Alloy, coated on both sides with PTFE Tape

Screw: Brass UNS-C36000

Bushing (Small Orifice Nozzles): Brass UNS-C36000

Pip Cap: Brass UNS-C31600

For PTFE Coated Nozzles: Belleville Spring-Exposed, Screw-Nickel Plated (painted black for appearance only), Pip Cap-PTFE Coated

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



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Order Frame Style Spray Nozzles by selecting the appropriate part number from the Approval Chart. Add the appropriate suffix for the nozzle finish and then the appropriate suffix for the temperature rating to the spray nozzle base part number.

Finish Suffix: Brass = A, Black PTFE = N

Temperature Suffix (°F/°C): 135°/57° = A, 155°/68° = B, 175°/79° = D, 200°/93° = E, 286°/141° = G, OPEN = Z.

For example, a 60° Spray Nozzle, 5.6 K-Factor with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 21365AB

### Available Finishes And Temperature Ratings:

Refer to Table 1.

**Accessories:** (Also refer to the Viking website.)

### Spray Nozzles Wrenches:

A. Standard Wrench: Part No. 21475MB (available since 2000).

B. Wrench for coated spray nozzles: Part No. 13577W/B\*\* (available since 2006)

\*\*A ½" ratchet is required (not available from Viking).

### Sprinkler Cabinets:

A. Six-head capacity: Part No. 01724A (available since 1971)

B. Twelve-head capacity: Part No. 01725A (available since 1971)

## 4. INSTALLATION

### ▲ WARNING

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

**TABLE 1: AVAILABLE SPRINKLER TEMPERATURE RATINGS AND FINISHES**

Sprinkler Temperature Classification	Sprinkler Nominal Temperature Rating <sup>1</sup>	Maximum Ambient Ceiling Temperature <sup>2</sup>	Bulb Color
Ordinary	135 °F (57 °C)	100 °F (38 °C)	Orange
Ordinary	155 °F (68 °C)	100 °F (38 °C)	Red
Intermediate	175 °F (79 °C)	150 °F (65 °C)	Yellow
Intermediate	200 °F (93 °C)	150 °F (65 °C)	Green
High	286 °F (141 °C)	225 °F (107 °C)	Blue

**Sprinkler Finishes:** Brass and Black PTFE

**Corrosion-Resistant Coatings<sup>3</sup>:** Black PTFE

### Footnotes

<sup>1</sup> The sprinkler temperature rating is stamped on the deflector.

<sup>2</sup> 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.

<sup>3</sup> The corrosion-resistant coating has 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 coating is compatible with or suitable for the proposed environment. For automatic spray nozzles, the coating is applied to the exposed exterior surfaces only. Note that the spring is exposed on sprinklers with PTFE coatings. For PTFE coated open spray nozzles only, the waterway is coated.



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Approval Chart											
Frame Style Spray Nozzles <sup>2</sup>											
Open or Automatic											
Base Part Number <sup>1</sup> (Specify Open or Automatic)	Pattern	Thread Size		Nominal Orifice		Nominal K-Factor		Overall Length		Listings and Approvals <sup>4</sup> (Refer also to Design Criteria on page 4.)	
		NPT	BSP	Inches	mm	U.S.	metric <sup>3</sup>	Inches	mm	cULus <sup>5</sup>	NYC <sup>6</sup>
<b>1/2" (13 mm) Orifice</b>											
21365	60°	1/2"	15 mm	1/2"	13 mm	5.6	80	2-11/16	68.3	A1, B1	A1, B1
21366	90°	1/2"	15 mm	1/2"	13 mm	5.6	80	2-9/16	65.1	A1, B1	A1, B1
21367	120°	1/2"	15 mm	1/2"	13 mm	5.6	80	2-17/32	64.3	A1, B1	A1, B1
21368	150°	1/2"	15 mm	1/2"	13 mm	5.6	80	2-1/2	63.5	A1, B1	A1, B1
<b>7/16" Orifice</b>											
21369	60°	1/2"	15 mm	7/16"	--	4.2	60	2-11/16	68.3	A1, B1	A1, B1
21370	90°	1/2"	15 mm	7/16"	--	4.2	60	2-9/16	65.1	A1, B1	A1, B1
21371	120°	1/2"	15 mm	7/16"	--	4.2	60	2-17/32	64.3	A1, B1	A1, B1
21372	150°	1/2"	15 mm	7/16"	--	4.2	60	2-1/2	63.5	A1, B1	A1, B1
<b>3/8" (10 mm) Orifice</b>											
21373	60°	1/2"	15 mm	3/8"	10 mm	2.8	40	2-11/16	68.3	A1, B1	A1, B1
21374	90°	1/2"	15 mm	3/8"	10 mm	2.8	40	2-9/16	65.1	A1, B1	A1, B1
21375	120°	1/2"	15 mm	3/8"	10 mm	2.8	40	2-17/32	64.3	A1, B1	A1, B1
21376	150°	1/2"	15 mm	3/8"	10 mm	2.8	40	2-1/2	63.5	A1, B1	A1, B1
<b>5/16" Orifice<sup>7</sup></b>											
21377	60°	1/2"	15 mm	5/16"	--	1.9	27	2-11/16	68.3	A1, B1	A1, B1
21378	90°	1/2"	15 mm	5/16"	--	1.9	27	2-9/16	65.1	A1, B1	A1, B1
21379	120°	1/2"	15 mm	5/16"	--	1.9	27	2-17/32	64.3	A1, B1	A1, B1
21380	150°	1/2"	15 mm	5/16"	--	1.9	27	2-1/2	63.5	A1, B1	A1, B1
<b>1/4" Orifice<sup>7</sup></b>											
21381	60°	1/2"	15 mm	1/4"	--	1.4	20	2-11/16	68.3	A1, B1	A1, B1
21382	90°	1/2"	15 mm	1/4"	--	1.4	20	2-9/16	65.1	A1, B1	A1, B1
21383	120°	1/2"	15 mm	1/4"	--	1.4	20	2-17/32	64.3	A1, B1	A1, B1
21384	150°	1/2"	15 mm	1/4"	--	1.4	20	2-1/2	63.5	A1, B1	A1, B1
<b>Approved Temperature Ratings</b>						<b>Approved Finishes</b>					
A - 135 °F (57 °C), 155 °F (68 °C), 175 °F (79 °C), 200 °F (93 °C), and 286 °F (141 °C)						1 - Brass and Black PTFE for use on water-based deluge and water spray systems.					
B - Open (glass bulb and pip cap removed)											
<b>Footnotes</b>											
<sup>1</sup> Base part number is shown. When ordering, specify either open or automatic. For complete part number, see current Viking price schedule. <sup>2</sup> The spray nozzle deflector is identified with the U.S. K-Factor, spray angle, and temperature rating. <sup>3</sup> Metric K-factor shown is for use when pressure is measured in bar. When pressure is measured in kPa, divide the metric K-factor shown by 10.0. <sup>4</sup> 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. <sup>5</sup> Listed by Underwriters Laboratories Inc. for use in the U.S. and Canada. <sup>6</sup> Accepted for use, City of New York Department of Buildings, MEA 89-92-E, Vol. 29. <sup>7</sup> The orifice is bushed.											



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### DESIGN CRITERIA

(Also refer to the Approval Chart on page 3.)

#### cULus Listing Requirements:

Frame Style Spray Nozzles are small, directional spray nozzles for use on water spray systems. Refer to the installation standards, such as NFPA 13, for minimum water supply requirements, nozzle pressure, and installation guidelines.

**IMPORTANT: Always refer to Bulletin Form No. F\_091699 - Care and Handling of Sprinklers. Viking frame style spray nozzles are to be installed in accordance with the latest edition of Viking technical data, the appropriate 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 Approval Chart on page 3 shows listings and approvals of Frame Style Spray Nozzles for use on water spray systems and water based deluge systems. The chart shows listings and approvals available at the time of printing. Other approvals are in process. Check with the manufacturer for any additional approvals.

- A. **Spray nozzles are to be installed in accordance with the latest edition of Viking technical data, the latest published 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 Frame Style Spray Nozzles may be limited due to occupancy and hazard. Refer to the Authority Having Jurisdiction prior to installation.**
- B. Frame Style Spray Nozzles are installed on fixed fire protection systems, such as deluge systems, where total flooding is required.
- C. Handle sprinklers and spray nozzles with care. They must be stored in a cool, dry place in their original shipping container. Never install a sprinkler or spray nozzle that has been dropped, damaged, or exposed to temperatures exceeding the maximum ambient temperature allowed (refer to Table 1 on page 2).
- D. Never install any glass-bulb sprinkler if the bulb is cracked or if there is a loss of liquid from the bulb. A small air bubble should be present in the glass bulb. Any sprinkler with a loss of liquid from the glass bulb or damage to the fusible element should be destroyed immediately.
- E. Corrosion-resistant sprinklers and spray nozzles must be installed when subject to corrosive atmospheres. When installing corrosion resistant nozzles, take care not to damage the corrosion resistant coating.
- F. Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- G. Sprinklers and spray nozzles must be protected from mechanical damage. Where open sprinklers are used, care must be taken to prevent foreign materials from entering the orifice. Foreign materials may accumulate and restrict or plug the waterway and may prevent proper operation of the spray nozzle.
- H. Before installing, be sure to have the appropriate sprinkler model and style, with the correct K-Factor, temperature rating, and response characteristics. When installing automatic (closed) Frame Style Spray Nozzles, proceed to paragraphs I, J, and K below.
  1. **When installing open Frame Style Spray Nozzles:** Hydrostatic testing must be completed prior to spray nozzle installation. Install plugs in place of spray nozzles for test purposes only. In areas where leakage during testing must be prevented, system piping may be air tested prior to testing with water. Refer to the appropriate installation standard and the Authority Having Jurisdiction. When hydrostatic testing is complete, verify that all test plugs have been removed. Proceed to paragraphs I and K below. Omit paragraph J.
- I. **For Automatic (closed) and Open Frame Style Spray Nozzles:** Before installing, be sure to have the appropriate model and style, with the correct orifice size, temperature rating, and response characteristics. Frame Style Spray Nozzle deflectors are identified with the U.S. K-Factor, spray angle, and temperature rating.
  1. Apply a small amount of pipe-joint compound or tape to the external threads of the spray nozzle only, taking care not to allow a build-up of compound inside the inlet.
  2. Install the nozzle on the fixed piping, using the special sprinkler/spray nozzle wrench only. Take care not to over-tighten or damage the spray nozzle operating parts. DO NOT use the deflector to start or thread the unit into a fitting.
- J. **For automatic (closed) spray nozzle installations:** After installation, the entire fixed pipe system must be tested. The test must be conducted to comply with the installation standards. Make sure the spray nozzle has been properly tightened. If a thread leak occurs, normally the unit must be removed, new pipe-joint compound or tape applied, and then reinstalled. This is due to the fact that when the joint seal is damaged, the sealing compound or tape is washed out of the joint. In areas where leakage during testing must be prevented, system piping may be air tested prior to testing with water. Refer to the appropriate installation standard and the Authority Having Jurisdiction.



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**K. For Automatic (closed) and Open Frame Style Spray Nozzles:** Spray nozzles must be protected from mechanical damage. Where open spray nozzles are used, care must be taken to prevent foreign materials from entering the orifice. Foreign materials may accumulate and restrict or plug the waterway and may prevent proper operation of the spray nozzle. Wet pipe systems must be provided with adequate heat. When installing Frame Style Spray Nozzles on dry systems, refer to the Installation Guides and the Authority Having Jurisdiction.

### 5. OPERATION

During fire conditions, the heat-sensitive liquid in the glass bulb expands, causing the bulb to shatter, releasing the pip cap and sealing spring assembly. Water flowing through the orifice strikes the special deflector to direct a specific spray pattern toward the surface covered.

### 6. INSPECTIONS, TESTS AND MAINTENANCE

#### NOTICE

**Refer to NFPA 25 for Inspection, Testing, and Maintenance requirements. The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS which describe care and maintenance of sprinkler systems. In addition, the Authority Having Jurisdiction may have additional maintenance, testing and inspection requirements which must be followed.**

- A. Sprinklers and spray nozzles must be inspected on a regular basis for corrosion, mechanical damage, obstructions, paint, etc. Where open spray nozzles are installed, verify that foreign materials (such as dust, dirt, etc.) do not restrict or plug the waterway. Frequency of inspections may vary due to corrosive atmospheres, water supplies, and activity around the device.
- B. Sprinklers or spray nozzles that have been filed painted, caulked, or mechanically damaged must be replaced immediately. Sprinklers showing signs of corrosion shall be tested and/or replaced immediately as required. Installation standards require sprinklers to be tested and, if necessary, replaced after a specified term of service. Refer to NFPA 25 and the Authority Having Jurisdiction for the specified period of time after which testing and/or replacement is required. Never attempt to repair or reassemble a sprinkler. Sprinklers that have operated cannot be reassembled or re-used, but must be replaced. When replacement is necessary, use only new sprinklers with identical performance characteristics.
- C. The sprinkler discharge pattern is critical for proper fire protection. Therefore, nothing should be hung from, attached to, or otherwise obstruct the discharge pattern. All obstructions must be immediately removed or, if necessary, additional sprinklers installed.
- D. When replacing existing sprinklers, the system must be removed from service. Refer to the appropriate system description and/or valve instructions. Prior to removing the system from service, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.
  1. Remove the system from service, drain all water, and relieve all pressure on the piping.
  2. Use the special sprinkler wrench to remove the old sprinkler by turning it counterclockwise to unthread it from the piping.
  3. Install the new sprinkler unit by following the instructions in section 4. INSTALLATION. Care must be taken to ensure that the replacement sprinkler is the proper model and style, with the correct K-Factor, temperature rating, and response characteristics. A fully stocked spare sprinkler cabinet should be provided for this purpose.
- E. Place the system back in service and secure all valves. Check for and repair all leaks. Sprinkler systems that have been subjected to a fire must be returned to service as soon as possible. The entire system must be inspected for damage, and repaired or replaced as necessary. Sprinklers that have been exposed to corrosive products of combustion or high ambient temperatures, but have not operated, should be replaced. Refer to the Authority Having Jurisdiction for minimum replacement requirements.

### 7. AVAILABILITY

The Viking Frame Style Spray Nozzles 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.





## BULLETIN

CARE AND HANDLING  
OF SPRINKLERS

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## SPRINKLERS ARE FRAGILE - HANDLE WITH CARE!

### General Handling and Storage:

- Store sprinklers in a cool, dry place.
- Protect sprinklers during storage, transport, handling, and after installation.
- Use the original shipping containers. DO NOT place sprinklers loose in boxes, bins, or buckets.
- Keep sprinklers separated at all times. DO NOT allow metal parts to contact sprinkler operating elements.

### For Pre-Assembled Drops:

- Protect sprinklers during handling and after installation.
- For recessed assemblies, use the protective sprinkler cap (Viking Part Number 10364).

### Sprinklers with Protective Shields or Caps:

- DO NOT remove shields or caps until after sprinkler installation and there no longer is potential for mechanical damage to the sprinkler operating elements.
- **Sprinkler shields or caps MUST be removed BEFORE placing the system in service!**
- Remove the sprinkler shield by carefully pulling it apart where it is snapped together.
- Remove the cap by turning it slightly and pulling it off the sprinkler.

### Sprinkler Installation:

- DO NOT use the sprinkler deflector or operating element to start or thread the sprinkler into a fitting.
- **Use only the designated sprinkler head wrench!** Refer to the current sprinkler technical data page to determine the correct wrench for the model of sprinkler used.
- DO NOT install sprinklers onto piping at the floor level.
- Install sprinklers after the piping is in place to prevent mechanical damage.
- DO NOT allow impacts such as hammer blows directly to sprinklers or to fittings, pipe, or couplings in close proximity to sprinklers. Sprinklers can be damaged from direct or indirect impacts.
- DO NOT attempt to remove drywall, paint, etc., from sprinklers.
- **Take care not to over-tighten the sprinkler and/or damage its operating parts!**

#### Maximum Torque:

1/2" NPT: 14 ft-lbs. (19.0 N-m)

3/4" NPT: 20 ft-lbs. (27.1 N-m)

1" NPT: 30 ft-lbs. (40.7 N-m)



**CORRECT**  
(Original container used)

**INCORRECT**  
(Placed loose in box)



**CORRECT**  
(Protected with caps)

**INCORRECT**  
(Protective caps not used)



**CORRECT**  
(Piping is in place at the ceiling)

**INCORRECT**  
(Sprinkler at floor level)



**CORRECT**  
(Special installation wrenches)

**INCORRECT**  
(Designated wrench not used)



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

### **! WARNING**

Any sprinkler with a loss of liquid from the glass bulb or damage to the fusible element should be destroyed. Never install sprinklers that have been dropped, damaged, or exposed to temperatures exceeding the maximum ambient temperature allowed. Sprinklers that have been painted in the field must be replaced per NFPA 13. Protect sprinklers from paint and paint overspray in accordance with the installation standards. Do not clean sprinklers with soap and water, ammonia, or any other cleaning fluid. Do not use adhesives or solvents on sprinklers or their operating elements.

**Refer to the appropriate technical data page and NFPA standards for complete care, handling, installation, and maintenance instructions. For additional product and system information Viking data pages and installation instructions are available on the Viking Web site at [www.vikinggroupinc.com](http://www.vikinggroupinc.com).**



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## PROTECTIVE SPRINKLER SHIELDS AND CAPS

### General Handling and Storage:

Many Viking sprinklers are available with a plastic protective cap or shield temporarily covering the operating elements. The snap-on shields and caps are factory installed and are intended to help protect the operating elements from mechanical damage during shipping, storage, and installation. NOTE: It is still necessary to follow the care and handling instructions on the appropriate sprinkler technical data sheets\* when installing sprinklers with bulb shields or caps.

### WHEN TO REMOVE THE SHIELDS AND CAPS:

NOTE: SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!

Remove the shield or cap from the sprinkler only after checking all of the following:

- The sprinkler has been installed\*.
- The wall or ceiling finish work is completed where the sprinkler is installed and there no longer is a potential for mechanical damage to the sprinkler operating elements.

**SHIELDS AND CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!**



Figure 1: Sprinkler shield being removed from a pendent sprinkler.



Figure 2: Sprinkler cap being removed from a pendent sprinkler.



Figure 3: Sprinkler cap being removed from an upright sprinkler.

## HOW TO REMOVE SHIELDS AND CAPS:

No tools are necessary to remove the shields or caps from sprinklers. DO NOT use any sharp objects to remove them! **Take care not to cause mechanical damage to sprinklers when removing the shields or caps.** When removing caps from fusible element sprinklers, use care to prevent dislodging ejector springs or damaging fusible elements. NOTE: Squeezing the sprinkler cap excessively could damage sprinkler fusible elements.

- To remove the shield, simply pull the ends of the shield apart where it is snapped together. Refer to Figure 1.
- To remove the cap, turn it slightly and pull it off the sprinkler. Refer to Figures 2 and 3.

### NOTICE

Refer to the current sprinkler technical data page to determine the correct sprinkler wrench for the model of sprinkler used.

### WARNING

Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

\* Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at [www.vikinggroupinc.com](http://www.vikinggroupinc.com).



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**CONCEALED COVER ASSEMBLIES ARE FRAGILE!**  
**TO ASSURE SATISFACTORY PERFORMANCE OF THE PRODUCT, HANDLE WITH CARE.**



Concealed Sprinkler and Adapter  
 Assembly with Protective Cap

Concealed Sprinkler and Adapter  
 Assembly (Protective Cap Removed)



Cover Plate Assembly  
 (Pendent Cover 12381 shown)



#### GENERAL HANDLING AND STORAGE INSTRUCTIONS:

- Do not store in temperatures exceeding 100 °F (38 °C). Avoid direct sunlight and confined areas subject to heat.
- Protect sprinklers and cover assemblies during storage, transport, handling, and after installation.
  - Use original shipping containers.
  - Do not place sprinklers or cover assemblies loose in boxes, bins, or buckets.
- Keep the sprinkler bodies covered with the protective sprinkler cap any time the sprinklers are shipped or handled, during testing of the system, and while ceiling finish work is being completed.
- Use only the designated Viking recessed sprinkler wrench (refer to the appropriate sprinkler data page) to install these sprinklers. **NOTE:** The protective cap is temporarily removed during installation and then placed back on the sprinkler for protection until finish work is completed.
- Do not over-tighten the sprinklers into fittings during installation.
- Do not use the sprinkler deflector to start or thread the sprinklers into fittings during installation.
- Do not attempt to remove drywall, paint, etc., from the sprinklers.
- Remove the plastic protective cap from the sprinkler before attaching the cover plate assembly. **PROTECTIVE CAPS MUST BE REMOVED FROM SPRINKLERS BEFORE PLACING THE SYSTEM IN SERVICE!**

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at [www.vikinggroupinc.com](http://www.vikinggroupinc.com).





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OF SPRINKLERS

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

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## USE THE FOLLOWING PRECAUTIONS WHEN HANDLING WAX-COATED SPRINKLERS

Many of Viking's sprinklers are available with factory-applied wax coating for corrosion resistance. These sprinklers MUST receive appropriate care and handling to avoid damaging the wax coating and to assure satisfactory performance of the product.

### General Handling and Storage of Wax-Coated Sprinklers:

- Store the sprinklers in a cool, dry place (in temperatures below the maximum ambient temperature allowed for the sprinkler temperature rating. Refer to Table 1 below.)
- Store containers of wax-coated sprinklers separate from other sprinklers.
- Protect the sprinklers during storage, transport, handling, and after installation.
- Use original shipping containers.
- Do not place sprinklers in loose boxes, bins, or buckets.

### Installation of Wax-Coated Sprinklers:

Use only the special sprinkler head wrench designed for installing wax-coated Viking sprinklers (any other wrench may damage the unit).

- Take care not to crack the wax coating on the units.
- For touching up the wax coating after installation, wax is available from Viking in bar form. Refer to Table 1 below. The coating MUST be repaired after sprinkler installation to protect the corrosion-resistant properties of the sprinkler.
- Use care when locating sprinklers near fixtures that can generate heat. Do not install sprinklers where they would be exposed to temperatures exceeding the maximum recommended ambient temperature for the temperature rating used.
- Inspect the coated sprinklers frequently soon after installation to verify the integrity of the corrosion resistant coating. Thereafter, inspect representative samples of the coated sprinklers in accordance with NFPA 25. Close up visual inspections are necessary to determine whether the sprinklers are being affected by corrosive conditions.

TABLE 1

Sprinkler Temperature Rating (Fusing Point)	Wax Part Number	Wax Melting Point	Maximum Ambient Ceiling Temperature <sup>1</sup>	Wax Color
155 °F (68 °C) / 165 °F (74 °C)	02568A	148 °F (64 °C)	100 °F (38 °C)	Light Brown
175 °F (79 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
200 °F (93 °C)	04146A	161 °F (71 °C)	150 °F (65 °C)	Brown
220 °F (104 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown
286 °F (141 °C)	02569A	170 °F (76 °C)	150 °F (65 °C)	Dark Brown

<sup>1</sup> 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.



Never install sprinklers that have been dropped, damaged, or exposed to temperatures in excess of the maximum ambient temperature allowed.

Refer to the appropriate current technical data pages for complete care, handling, and installation instructions. Data pages are included with each shipment from Viking or Viking distributors. They can also be found on the Web site at [www.vikinggroupinc.com](http://www.vikinggroupinc.com).

**BULLETIN****REGULATORY AND HEALTH  
WARNINGS**

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Visit the Viking website for the latest edition of this technical data page [www.vikinggroupinc.com](http://www.vikinggroupinc.com)

**1. DESCRIPTION**

Regulatory and Health Warnings applying to materials used in the manufacture and construction of fire protection products are provided herein as they relate to legally mandated jurisdictional regions.

**⚠ WARNING****STATE OF CALIFORNIA, USA**

Installing or servicing fire protection products such as sprinklers, valves, piping etc. can expose you to chemicals including, but not limited to, lead, nickel, butadiene, titanium dioxide, chromium, carbon black, and acrylonitrile which are known to the State of California to cause cancer or birth defects or other reproductive harm.

For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**2. WARRANTY TERMS AND CONDITIONS**

For details of warranty, refer to Viking's current list price schedule at [www.vikinggroupinc.com](http://www.vikinggroupinc.com) or contact Viking directly.