



TECHNICAL DATA

MICROFAST HP FIXED TEMPERATURE RELEASE VK800

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

The Viking MicrofastHP® Fixed Temperature Release is a fixed-temperature, heat-responsive device. It is designed for use on pilot line release systems to activate deluge and preaction systems. The fixed temperature release is equipped with a 3 mm glass bulb and is available in several finishes and temperature ratings to meet design requirements. The special Polyester and Teflon® coatings can be used in decorative applications where colors are desired. In addition, these two finishes are listed as corrosion-resistant finishes and provide protection against many corrosive environments. The fixed temperature release design closely resembles the Model M frame-style sprinkler design, but is easily identified by its special listing information plate. This is important when fixed-temperature releases are installed along with sprinklers below ceilings on concealed systems.



2. LISTINGS AND APPROVALS

UL listed Guide No. VLTR for use under smooth, flat, horizontal ceilings. Meets FM requirements when spaced according to NFPA 13 and FM Global recommendations. See Design Guidelines.

3. TECHNICAL DATA

Specifications:

Thread Size: ½" (15 mm) NPT

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

Rated to 250 PSI (1 724 kPa) water working pressure.

Factory tested hydrostatically to 500 PSI (3 448 kPa).

Testing: USA Patent No. 4,831,870

Material Standards:

Frame: Brass Castings UNS-C84400

Bulb: Glass, nominal 3 mm diameter

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

Screw: Brass UNS-36000

Pip Cap: Copper UNS-C11000 and Stainless Steel UNS-S30400

Polyester-Coated Releases:

Spring: exposed

Teflon®-Coated Releases:

Spring: exposed

Screw: Brass UNS-C36000, nickel plated

Pip Cap: Copper UNS-C11000 and Stainless Steel UNS-S30400, Teflon® coated

Refer to the "Sprinkler Accessories" section for wrench, escutcheons, and other accessories.

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

Order MicrofastHP® Fixed Temperature Release by first adding the appropriate suffix for the sprinkler finish and then the appropriate suffix for the temperature rating to the sprinkler base part number.

Finish Suffix: Brass = A, Chrome-Enloy® = F, White Polyester = M-/W and Black Teflon = N

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

For example, Fixed Temperature Release VK800 with a Brass finish and a 155 °F/68 °C temperature rating = Part No. 07848AB

Available Finishes And Temperature Ratings: Refer to Table 1

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

Sprinkler Wrench - Part No. 10896W/B

4. DESIGN AND INSTALLATION

I. Design Guidelines

Viking Fixed Temperature Releases are intended for use on hydraulic or pneumatic pilot line release systems in deluge or preaction sprinkler systems. Consult required installation standards, approving agencies, and the Authorities Having Jurisdiction requirements when designing pilot line release systems. Do not exceed the minimum manufacturer's recommendations listed below.

A. Temperature Rating:

1. The temperature rating of the fixed temperature release should be as close as possible to a temperature that is at least 20 °F higher than the highest ambient ceiling temperature. Refer to the Approval Chart.
2. For localized high ambient temperatures such as those caused by unit heaters and skylights, substitute higher temperature-rated

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TABLE 1: AVAILABLE TEMPERATURE RATINGS, FINISHES AND APPROVALS

Temperature Classification	Nominal Temperature Rating	Maximum Ambient Ceiling Temperature ¹	Bulb Color	Temperature Rating Color Code	Listed Spacing ³
Ordinary	135° F (57° C)	100 °F (38 °C)	Orange	None	40' x 40' (12m x 12m)
Ordinary	155° F (68° C)	100 °F (38 °C)	Red	None	20' x 20' (6,1m x 6,1m)
Intermediate	175° F (79° C)	150 °F (65 °C)	Yellow	White	40' x 40' (12m x 12m)
Intermediate	200° F (93° C)	150 °F (65 °C)	Green	White	20' x 20' (6,1m x 6,1m)
High	286° F (141° C)	225° F (107° C)	Blue	Blue	20' x 20' (6,1m x 6,1m)

Finishes: Brass, Chrome-Enloy®, White Polyester and black Teflon®²

Footnotes

¹ Based on NFPA-13. Other limits may apply, depending on fire loading, release location, and other requirements of the Authority Having Jurisdiction. Refer to specific installation standards.

² The corrosion-resistant coatings have passed the standard corrosion test required by the listed approving agencies. These tests cannot and do not represent all possible corrosive environments. Prior to installing, verify through the end-user that the coatings are compatible with or suitable for the proposed environment. The coatings indicated are applied to the exposed exterior surfaces only and, therefore, cannot be used as open releases. Note that the spring is exposed on the Teflon® and Polyester-coated releases.

³ Listed spacings are for smooth, flat, horizontal ceilings. Installation must comply with NFPA 13.

fixed temperature releases as directed by installation standards.

3. Select the proper temperature-rated fixed temperature releases and sprinklers for the hazard and ambient temperatures involved. NFPA 13 requires the activating temperature of the release system to be lower than the activating temperature of the sprinkler system.
 - a. Normally, it is advisable to use the lowest temperature combinations approved for the hazard and ambient temperature involved, as this permits early detection and more rapid attack.

B. Spacing:

1. Refer to the Approval Chart on this page (except for deluge systems) for listed spacing of fixed temperature releases below 15 ft. smooth, flat, horizontal ceilings. Reduced spacing may be required for other ceiling configurations.
2. For spacing of fixed temperature releases on deluge systems, comply with spacing guidelines set forth in NFPA 72.
3. To meet FM requirements, space fixed temperature releases according to guidelines set forth in NFPA 13 and FM recommendations.
4. The distance between adjacent fixed temperature releases is not to exceed the listed spacing.
5. The distance between a fixed temperature release and any wall or partition that extends to within 18" (457 mm) of the ceiling is not to exceed ½ the listed spacing.
6. The distance from the fixed temperature release to all points in the area of coverage (corners) is not to exceed 70 percent of the listed spacing.

C. Location:

1. When applying NFPA 72, Viking MicrofastHP® Fixed Temperature Releases are treated as spot-type heat detectors. Locate fixed temperature releases between 4" and 12" (100 mm and 300 mm) below the ceiling, and no closer than 4" (100 mm) from any wall or partition that extends to within 18" (457 mm) of the ceiling.
 - a. In the case of solid joist construction, fixed temperature releases shall be mounted at the bottom of joists.
 - b. In the case of beam construction where beams are less than 12" (300 mm) in depth and less than 8 ft. (2,4 m) on center, fixed temperature releases may be installed on the bottom of beams.
2. Fixed temperature releases are listed for installation in any position. When installing fixed temperature releases on release piping subject to freezing, install them in the upright position only.

II. Installation

WARNING: The Viking MicrofastHP® Fixed Temperature Release is manufactured and tested to meet the rigid requirements of approving agencies. The fixed temperature release is designed to be installed in accordance with recognized installation standards. Deviation from the standards or any alteration to the fixed-temperature release after it leaves the factory including, but not limited to: painting, plating, coating, or modification, may render the device inoperative and would automatically nullify the approval and any guarantee made by The Viking Corporation.



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1. The Viking MicrofastHP® Fixed Temperature Release is to be installed in accordance with the latest edition of Viking technical data, and the applicable installation standards such as the National Fire Protection Association 13, Factory Mutual Loss Prevention Guides, Loss Prevention Council or Assemblée Pleniére, Verband der Sachversicherer or other similar organizations, and also with provisions of governmental codes and ordinances. Fixed temperature releases are often used on systems in special applications. It is usually necessary to obtain specific approval on each individual installation.
2. The Viking MicrofastHP® Fixed Temperature Release must be installed after the piping is in place to prevent mechanical damage. Before installation, be sure the release has the appropriate temperature rating. Keep releases with glass bulbs contained within the protective shields during installation and testing, and any time the release is shipped or handled. Apply a small amount of pipe-joint compound to the male threads only, taking care not to allow a build-up of compound inside the orifice. NOTE: Releases with glass bulbs must be contained within the protective shields when applying pipe-joint compound or tape. Install the fixed temperature release on the piping using the special wrench (Part No. 10896), while taking care not to damage the operating parts of the fixed temperature release. DO NOT use the identification plate to start or thread the fixed temperature release into a fitting.
3. Fixed temperature releases must be handled with care. They must be stored in a cool, dry place in their original container. Never install fixed temperature releases that have been dropped or damaged in any way. Never install any glass-bulb style fixed temperature release if the bulb is cracked or if there is a loss of liquid from the bulb. If a glass bulb lacks the appropriate amount of fluid, it should be set aside and returned to Viking (or an authorized Viking distributor) for analysis as soon as possible. If the fixed temperature release is not returned to Viking, it should be destroyed immediately. Never install fixed temperature releases that have been exposed to temperatures in excess of the maximum ambient temperature allowed. Such devices should be destroyed immediately.
4. Corrosion-resistant fixed temperature releases must be installed when subject to corrosive atmospheres. Use only fixed temperature releases with finishes listed for corrosive environments when subject to corrosive atmospheres. When installing corrosion-resistant fixed temperature releases, care must be taken not to damage the corrosion-resistant coating. Use only the special wrench (Part No. 10896) designed for installing coated Viking sprinklers and Viking fixed temperature releases. (Any other wrench may damage the unit).
5. Viking MicrofastHP® Fixed Temperature Releases are listed for installation in any position. However, when installing them on release piping subject to freezing, install them in the upright position only. Hydraulic release lines must be installed in heated

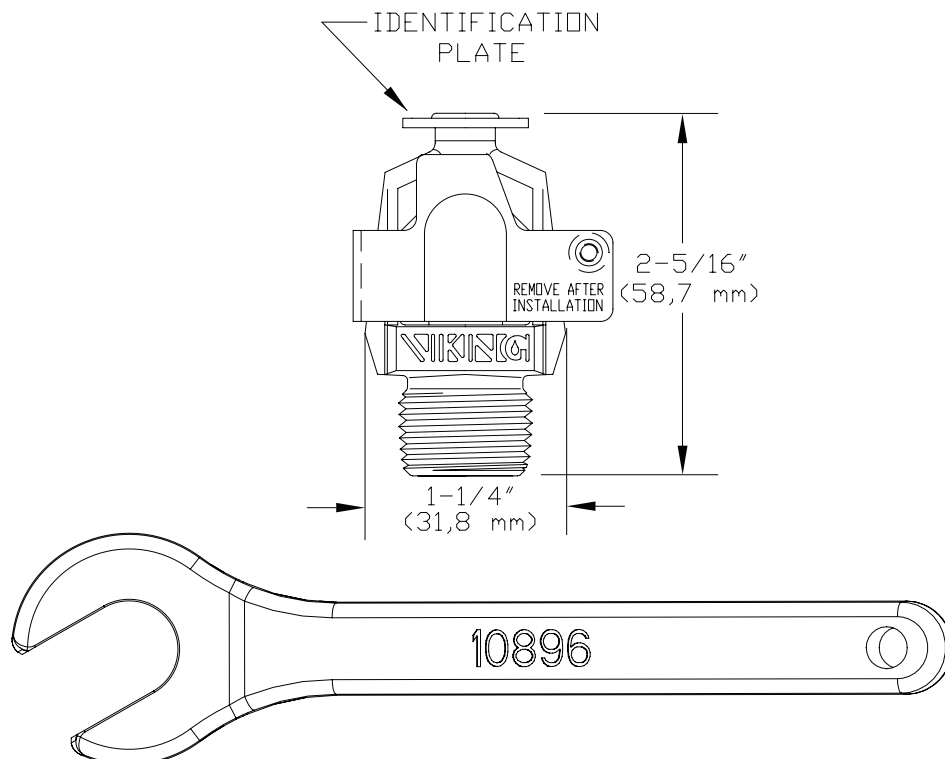


Figure 1 - Standard Sprinkler Wrench



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areas only, never in areas subject to freezing. Use a dehydrator of adequate volume capacity when fixed temperature releases are installed on pneumatic release lines with pressurized air. Fixed temperature releases subject to mechanical damage must be protected with a sprinkler guard.

6. After installation, the entire release system must be tested. The test must be conducted to comply with the installation standards. Make sure the release has been properly tightened. If a thread leak occurs, normally the release 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. Remove plastic protective bulb shields AFTER there no longer is a potential for mechanical damage to the operating elements of the fixed temperature release. To remove the bulb shields, simply pull the ends of the shields apart where they are snapped together. **THE BULB SHIELDS MUST BE REMOVED FROM THE FIXED TEMPERATURE RELEASES BEFORE PLACING THE SYSTEM IN SERVICE!**

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. This causes an opening in the pilot line and releases the pressure (air, nitrogen, or water), allowing the deluge system or preaction system to operate.

6. INSPECTION, TEST AND MAINTENANCE

NOTICE: THE OWNER IS RESPONSIBLE FOR MAINTAINING THE FIRE-PROTECTION SYSTEM AND DEVICES IN PROPER OPERATING CONDITION. FOR MINIMUM MAINTENANCE AND INSPECTION REQUIREMENTS, REFER TO NFPA 25 STANDARD THAT DESCRIBES CARE AND MAINTENANCE OF SPRINKLER SYSTEMS. IN ADDITION, THE AUTHORITY HAVING JURISDICTION MAY HAVE ADDITIONAL MAINTENANCE, TESTING, AND INSPECTION REQUIREMENTS THAT MUST BE FOLLOWED.

1. Fixed temperature releases must be inspected on a regular basis for corrosion, mechanical damage, obstructions, paint, etc. The frequency of inspections may vary due to corrosive atmospheres, water supplies, and activity around the device. Adequate heat must be maintained around the fixed temperature release and release piping system.
2. Fixed temperature releases that have been field painted, caulked, or mechanically damaged must be replaced immediately. Any fixed temperature release showing signs of corrosion shall be tested and/or replaced immediately as required. Fixed temperature releases that are 20 years old shall be tested and/or replaced immediately as required. Consult accepted installation standards (e.g., NFPA 25), approving agencies, and Authorities Having Jurisdiction, as different minimum testing periods may be required. Fixed temperature releases that have operated cannot be reassembled or re-used, but must be replaced. When replacing fixed temperature releases, always use new units.
3. Nothing should be hung from, attached to, or otherwise obstruct the travel of heat to the fixed temperature release from any point within its listed area of coverage. Immediately remove all obstructions or, if necessary, install additional fixed temperature releases.
4. When replacing existing fixed temperature releases, 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 effected area.
 - a. Remove the system from service, relieving all pressure (air, nitrogen, or water) on the release line piping.
 - b. Drain water from hydraulic release lines and remove any moisture present in pneumatic release lines.
 - c. Using the special wrench (Part No. 10896), remove the old fixed temperature release, and install the new unit. Care must be taken to ensure that the replacement unit has the proper temperature rating. A fully stocked sprinkler equipment cabinet should be provided for this purpose.
 - d. Place the system back in service and secure all valves. Check for and repair all leaks.
5. Sprinkler systems that have been subject to 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 and fixed temperature releases 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

Viking products are available through a network of domestic, Canadian, and international distributors. See the Viking Corp. Web site for your closest distributor or contact The Viking Corporation. Viking Technical Data may be found on The Viking Corporation's Web site, located at <http://www.vikinggroupinc.com>. The Web site may include a more recent edition of this Technical Data page.

8. GUARANTEE

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