



# Your fire protection solutions partner



Worldwide Fire Protection

SPRINKLERS  
SYSTEMS  
SOLUTIONS

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# Wherever

02

contents



Proven and dependable product quality, together with the outstanding customer service provided by our worldwide distribution network, are the keys to Viking's success. Viking is firmly established among the world's leading independent manufacturers and distributors of products to the fixed fire protection industry.

Viking's objective is simple - to provide quality products and professional services to protect lives and property from the danger of fire;

- quality sprinklers with proven long term performance;
- valves and systems that are easier to install and maintain;
- products that give designers, installing contractors and owners peace of mind.

Viking supplied products carry multiple international approvals where required, including Underwriters Laboratories, Factory Mutual, the Loss Prevention Council Board, Verband der Sachversicherer e.V., in Germany,

APSAD in France and others, in order to satisfy the local needs of our global customer base.

Through the Viking SupplyNet distribution and service network Viking is represented in over 70 countries worldwide providing distribution and customer support to independent contractors and complete system solutions to major engineering firms and owners.

Customer support is world class at every point in the project process. Detailed technical data, hands-on training facilities and expert technical assistance are provided in a service package you can depend on from concept to completion.

# you need us to be



## Approvals and Listings

*All products are subject to strict quality control to ISO 9002 standards including hydrostatic testing. Where applicable Viking products have been submitted to UL, FM, LPC and VdS and received approvals listing for use in fire protection applications. For details of individual product approvals refer to the product and systems data sheet or contact your Viking Distributor.*



03

introduction



Designed and manufactured to exacting quality standards for long term performance, Viking standard response sprinklers set the industry benchmark for appearance and proven durability.

### The Palace Hotel, Madrid, Mirage Concealed Sprinklers

The Palace Hotel is one of the most renowned & historic hotels in Madrid. The hotel has recently completed a program of total refurbishment, during which careful attention has been paid to the retention of the original features and character of the building. Viking fire protection systems were chosen to protect the public rooms and guest accommodations.

3,500 Viking Mirage Concealed sprinklers were used throughout to provide effective but unobtrusive protection. The Mirage blends perfectly with the interior decoration thanks to the wide choice of cover plate finishes available.



# Standard response sprinklers

Setting the standard for appearance and performance.

The Micromatic® range includes the Micromatic® HP glass bulb version with an operating pressure of 250 psi offering a cost-saving choice for applications otherwise needing pressure reducing valves. The range also includes 175 psi glass bulb and solder link versions.

Viking's Extra Large Orifice sprinklers are very compact providing good looks and cost saving performance. They also offer the possibility of downsizing or eliminating the need for a fire pump. Like most Viking sprinklers they are listed and approved with both the standard threaded and friction fit Model E recessed escutcheons.

The Mirage® Concealed sprinkler is almost invisible once installed. With nine standard coverplate finishes and 800 custom colors you can match any decor. A durable, easy to clean, baked-enamel finish ensures they will keep their good looks year after year.

The Mirage has the smallest cover plate and the lowest profile of any concealed sprinkler available. It offers a full 1/2 inch of vertical adjustment providing flexibility during installation. A unique push-on/thread-off cover plate incorporates a positive latch to retain the cover plate in place.

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sprinklers

10138AB Upright



10139FB Pendent



10226FB Vertical Sidewall



10227FB Conventional







Viking Horizon™ flush sprinklers combine design excellence and style to offer a wealth of choice to system designers. Rugged construction and high quality materials ensure these sprinklers will give decades of dependable performance. A plastic cap protects the sprinkler during the shipping and installation process.

Designed for use with concealed piping, the Horizon unit is mounted flush with the ceiling, with the fusible link exposed.

The decorative ceiling ring is supplied separate to the sprinkler and allows for up to  $\frac{5}{16}$ " adjustment while the two piece design permits testing prior to final installation on the ceiling.

**10139MB/W, 06419AM/W**  
Pendent (Recessed)



**10224FB, 11038F**  
Horizontal Sidewall (Recessed)



**06697BFC, 07027F**  
Pendent Flush



**09804MC/SW1004, 09782AC** Pendent Concealed



### Standard response sprinkler selection key

<b>A K-Factor</b>	2.8/4,0	4.2/6,0	5.6/8,1	8.0/11,5	11.2/16,1
A					
B					
C					
D					
E					

<b>A Temp °F/°C</b>	135/57	155/68	165/74	175/79	200/93	212/100	220/104	286/141	360/182	500/260	Open
A											
B											
C											
D											
E											

<b>A Finishes</b>	Brass	PCH	BRF	White	Black	Navajo	Teflon	BBR	Wax	Poly/Wax	Ivory	Col Match
A												
B												
C												
D												
E												

**05559FC**  
Horizontal Sidewall



**10224MB/W**  
Horizontal Sidewall



**07961AG ELO**



**05557AC Upright**



**05508FC Pendent**



**06347FF Vertical Sidewall**





Assembled with fast response 3mm glass bulbs or fusible elements, quick response sprinklers have far greater sensitivity than standard response sprinklers. And when using these sprinklers, it may be possible to take advantage of a reduction in the design area. Quick response sprinklers can be used in light and ordinary hazard applications including hotels, hospitals, computer rooms, industrial applications and high-rise occupancies.

Viking Microfast®, MicrofastHP® and ELO quick response sprinklers are listed and approved with the Model E1 & E2 recessed escutcheons for a low-profile installation.

The new Quick Response Flush Horizontal Sidewall is designed for light hazard applications including student dormitories and office

occupancies, combining the best in value, performance and safety.

A UL listed Quick Response Mirage® Concealed rated to a water working pressure of 250 psi, offers cost savings when working with pressures above the standard 175 psi.

# Quick response sprinklers

Rapid response, good looks.

Viking's latest introduction to the Mirage® line is a Quick Response Concealed Horizontal Sidewall. With an extremely low profile and a cover plate with up to 1/2" adjustment, this sprinkler is ideal for retrofit jobs and any application that requires an unobtrusive finish.

Viking Microfast HP® quick response sprinklers are ideally suited for high-rise applications because the 250 psi working pressure can allow for up to 65% larger zones, and may eliminate the need for pressure reducing valves, reducing installation cost.

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sprinklers

## High Pressure QR Sprinklers to 250psi

**06661BAB** Upright  
(high pressure)



**06662BFB** Pendent  
(high pressure)



**09533FB** Horizontal Sidewall  
(high pressure)



**06727BFB**  
Vertical Sidewall  
(high pressure)



Viking also offers the Cocoon sprinkler, a convenient preassembled unit including your choice of sprinkler, matching E-1 recessed escutcheon adaptor threaded onto the sprinkler, with three wraps of Teflon tape, all protected during shipping, installation, dry-walling and painting with a plastic cap. The escutcheon cup and instructions complete the package. The Cocoon option is available with a wide range of frame-style sprinklers.

Cocoon Sprinkler



**06702BMC/W, 07027M/W** Pendent Horizon Flush



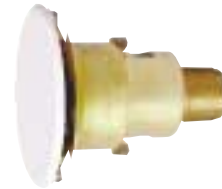
**10741MC/W, 09390M/W** Horizontal Sidewall Horizon Flush



**09804MC/SW1004, 09783AC** Pendent Concealed



**11262AC, 11451M/W** Horizontal Sidewall Concealed



### Quick response sprinkler selection key

K-Factor	2.8/4,0	4.2/6,0	5.6/8,1	8.0/11,5	11.2/16,1
A					
B					
C					
D					
E					

Temp °F/°C	135/57	155/68	165/74	175/79	200/93	220/104	286/141
A							
B							
C							
D							

Finishes	Brass	PCH	BRF	White	Black	Navajo	Teflon	BBR	Ivory	Col Match
A										
B										
C										
D										
E										
F										

**08338AB** ELO Upright (high pressure)



**08337FB** ELO Pendent (high pressure)



**06766BMB/W** Conventional (high pressure)



**11038M/W, 06662BMB/W** Recessed



## Extended coverage technology enables you to cover larger areas with fewer sprinklers, saving money on your installations.

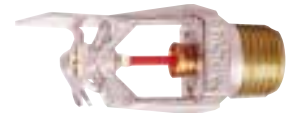
Microfast® and Microfast HP® extended coverage sprinklers are available in pendent and horizontal sidewall configurations in standard or quick response versions. The Extended Coverage Sidewall is UL Listed as a Specific Application Sprinkler for sloped ceilings up to 4 in 12 pitch (18.4°).

The MicrofastHP® extended coverage sprinkler is designed for light hazard occupancies and offers a water working pressure range from a minimum 7 psi up to 250 psi for high pressure systems.

The Extra Large Orifice extended coverage sprinklers are available in upright and pendent versions for ordinary hazard occupancies and in a pendent version for light hazard. These versatile sprinklers can be used for spacings up to 20 feet by 20 feet using surface mounted or recessed escutcheons.

The breakthrough technology of the Mirage® Concealed sprinkler led Underwriters Laboratories to award Extended Coverage and Extended Coverage Quick Response listings, so center-of-tile requirements can be achieved without sacrificing the area of coverage. A Large Orifice Extended Coverage option allows extended coverage spacing with lower head pressures which can impact hydraulic calculations and allow for smaller pipe sizes.

**09533FB**  
Horizontal Sidewall



# Extended coverage

Performance, without sacrificing aesthetics.

### Extended coverage sprinkler selection key

K-Factor	5.6/8,1	8.0/11,5	11.2/16,1
A			
B			

Temp °F/°C	135/57	155/68	165/74	175/79	200/93	220/104	286/141
A							
B							
C							

Finish	Brass	PCH	BRF	White	Black	Navajo	Teflon	BBR	Ivory	Color Match
A										
B										
C										
D										

**10335FB** Pendent  
also available in black



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sprinklers

**08339FB** Pendent E LO LH



**08687AB** Upright E LO OH



**08340FB** Pendent E LO OH



**10680AC, 09804F**  
Concealed





**07852AB** Pendent  
(Plain barrel)



## Viking offers the most problem free line of dry sprinklers on the market.

In freezer/cooler applications, you can count on Viking's attention to detail to provide products that provide consistent long-term performance. Belleville spring sealing mechanisms and consistent quality waterside joints minimize the potential for ice plugs.

These versatile sprinklers are available in recessed adjustable, standard adjustable and plain barrel styles and in several finishes with matching escutcheons to blend with any decor. Whichever option you choose, you'll get the added durability of a fusion-bonded epoxy coating and the proven dependability of glass bulb technology. Viking dry sprinklers are UL listed and FM approved in pendent and upright versions in lengths up to 48 inches with minimum starting pressures of just 7 psi.

The range includes standard response models in both 1/2" orifice and large orifice pendent style and a 1/2" orifice in pendent, upright and horizontal orientations in standard and quick response models. Extended coverage models are also available.

Other recent additions are plain barrel and recessed adjustable styles in stainless steel for use in potentially corrosive environments such as food processing plants.

**06530B/W, 06530B/W**  
Pendent  
(Recessed adjustable)\*



\*Extended coverage option available



# Dry sprinklers

Dependable and problem free options for virtually any application.

<b>K-Factor</b>	5.6/8,1	6.9-7.9/9,9-11,5			
A					
B					
<b>Temp °F/°C</b>	135/57	155/68	175/79	200/93	286/141
A					
<b>Finish</b>	Brass	PCH	White		
A					
B					
C					
D					

**07740FB** Pendent  
(Standard adjustable)



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**07857FB** Horizontal Sidewall  
(Standard adjustable)



**07856MB/W**  
Horizontal Sidewall  
(Recessed adjustable)\*



\*Extended coverage option available

**07858FB** Horizontal Sidewall  
(Plain barrel)



**08050AB** Upright  
(Plain barrel)



sprinklers

For traditional sprinkler systems in occupancies with high-piled rack storage, Viking offers a full array of sprinklers and accessories. The range features the intermediate level sprinklers, new sprinkler guards and water shields, all FM Approved and complying with UL testing requirements.

### Daimler Chrysler, Dubai

**Owner:** Caterpillar Logistic Services

**System Used:** Viking Alarm Valves and ESFR Pendent Sprinklers

#### Background

With a car-making lineage that began 112 years ago and the launch of the world's very first automobile, Daimler Chrysler is a leading

automotive, transportation and services company. Its car, truck, train, aerospace and financial services businesses are all ranked at or near the top of their respective industries.

This building in Dubai is a newly constructed steel frame building, containing rack storage of spare vehicle parts. The building measures 569.5' x 433', the racks are 24.5' high with a ceiling height of 37'.

# Storage sprinklers

Multiple solutions for high-piled and rack storage occupancies.

Early Suppression/Fast Response (ESFR) pendent and ground breaking K14 ESFR Upright, the High Challenge® Large Drop and ELO upright sprinklers all provide specific solutions to minimize or eliminate the use of intermediate-level sprinklers.

With the introduction of the ESFR Upright sprinkler Viking has also solved many of the obstruction problems associated with Pendent ESFR sprinklers.

The Viking High Challenge® sprinkler set the benchmark

as the first specialized storage sprinkler - the Large Drop - and is UL Listed as an extra large orifice sprinkler and FM Approved as a large drop sprinkler.

Viking's Extra Large Orifice upright storage sprinkler in standard and quick response is UL Listed and the standard response is FM Approved for use in high-piled and rack storage occupancies. Its large K-Factor allows required densities to be delivered at lower starting pressures. Specific application listings minimize the water needed to protect qualified storage installations.

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sprinklers

10625AC ESFR Upright



10284AC ESFR Pendent



09672AG High Challenge Large Drop



10138ABU Upright w/shield (Intermediate level sprinklers)



## Products Used

There are 6 sprinkler zones containing ESFR heads, workshop areas with Micromatic® and Microfast® sprinklers and a 3 story office block fitted with Viking Mirage® Concealed sprinklers.

Viking Pendent ESFR Sprinklers are used to protect storage areas with ceilings up to 40' and rack storage up to 35'. Commodities may be piled or in rack to various heights.

## Benefits of ESFR Technology

- Produces large, high-momentum droplets.
- Suppresses fire quickly minimizing fire and water damage.
- Designed for palletized and solid pile storage.
- Approved for use with most common storage materials.



## Storage sprinkler selection key

K-Factor	5.6/8,1	8.0/11,5	11.2/16,1	14.0/20,2
A				
B				
C				

Temp °F/°C	135/57	155/68	165/74	175/79	200/93	205/96	220/104	286/141
A								
B								
C								
D								

Finishes	Brass	PCH	White	Teflon	Wax
A					
B					

**10141AGG, 10326**  
Upright w/guard and shield  
(Intermediate level sprinklers)



**06662BABG, 10323**  
Pendent w/guard and shield  
(Intermediate level sprinklers)



Also available with shield only

**09679AG** Standard response  
(For use in NFPA 231 applications)



**10633AG** Quick response  
(For use in NFPA 231 applications)





Continuous research and development, often in cooperation with leading industrial organizations and end-users, ensures Viking's position at the forefront of sprinkler technology.

As a result, the Viking range includes a variety of sprinklers designed to provide fire protection solutions for specialized applications and installation environments.

# Specialty sprinklers

Special sprinklers for special applications.

## Corrosion Resistant Sprinklers.

Stainless steel sprinklers are available in upright or pendent configurations in a wide range of fusing temperatures or open. Teflon® and polyester finishes are available in most configurations and for severe corrosive environments, selected Viking sprinklers are also available wax-coated.

## Ultra-High Temperature Sprinklers.

The stainless steel sprinklers are the only corrosion resistant sprinklers approved by FM up to 500°F/260°C.

Micromatic® standard response sprinklers are also rated to 500°F/260°C, providing an effective lower-cost alternative when higher temperatures are required.

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sprinklers

**05012BB**  
Stainless Steel Upright



**06483BB**  
Stainless Steel Pendent



**10138CB** Corrosion Resistant  
(Wax coated)  
also available in 212°F



**10138AL** Ultra-High  
Temperature Sprinklers



## Institutional Sprinklers

Viking's Institutional sidewall and extended coverage quick response pendent sprinklers are designed for occupancies demanding a tamper resistant unit. These small flush, solder-link and lever spray sprinklers provide a low breakaway weight and an optional retaining flange to prevent sprinkler movement for maximum security.

## Open Sprinklers and Nozzles.

For Deluge applications, Viking offers Teflon® coated open frame style sprinklers. C-1 Window sprinklers, designed to protect against exposure fires, are available in brass or nickel-plated finishes. Solid Cone Spray

Nozzles are open, directional-discharge nozzles for use in medium or high-velocity water spray systems.

## Spray Nozzles

Spray Nozzles are external-deflector type nozzles that produce a directional, cone-shaped spray and are available in both brass or Teflon® coated, open and with a choice of fusing temperatures.

**08602AB**  
Model M Spray Nozzle



## Specialty sprinkler selection key

<b>K-Factor</b>	1.2/1.7	1.4/2.0	1.5/2.1	1.9/2.7	2.0/2.9	2.1/3.0	2.2/3.2	2.8/4.0	3.0/4.3	3.3/4.8	3.4/4.9	3.8/5.3	3.9/5.6	4.2/6.0	4.3/6.2	4.7/6.8	5.0/7.2	5.2/7.5	5.6/8.1	5.8/8.4	6.9/9.9	7.7/11	11.1	8.0/11.5
A																								
B																								
C																								
D																								
E																								

<b>Temp °F/°C</b>	135/57	155/68	165/74	175/79	200/93	220/104	286/141	360/182	500/260	Open
A										
B										
C										
D										
E										
F										

<b>Finishes</b>	Brass	PCH	Teflon	Wax	Poly/Wax	Nickel	Stainless Steel
A							
B							
C							
D							
E							
F							

<b>Spray Nozzles</b>	30°	60°	90°	120°	140°	150°
Model M						
Model A-D						

**10554FC, 10627F** Pendent  
(Institutional)



**10579FC, 10627F**  
Horizontal Sidewall  
(Institutional)



**01322BA**  
Window Sprinklers



**05133AAJ** Spray Nozzles  
Models - A2, A2X, B2, C2, D2







While life-safety is the primary reason for installing sprinklers in a residence, aesthetics are also important to homeowners. Contractors and designers demand versatility and a choice of design options to make installation easy and affordable. Viking residential sprinklers offer all this and more – consistent quality unmatched in the industry. The Viking range of residential sprinklers can be installed in NFPA standards 13, 13R and 13D occupancies. Viking is committed to providing residential products that are state of the art and consistent with current testing and installation standards.

The new Mirage® Concealed residential sprinkler combines ultimate aesthetics with performance to meet the demands of single and multiple family residences.

This low-profile sprinkler has a push-on/pull-off, or friction fit, cover plate and, as with all of the Viking residential range, is UL and cUL listed.

# Residential sprinklers

## Aesthetics to match any lifestyle.

The Microfast® sprinkler range when used with Viking's Model E recessed escutcheons, provides a low-profile, unobtrusive installation. A variety of finishes to blend with any décor are available.

The Microfast® Pendent and Horizontal Sidewall both have sloped-ceiling listings for pitches up to 6 in 12 (26.6°) eliminating the need to calculate for an additional sprinkler.

A wide range of K factors accommodate the requirements of any jurisdiction.

The "Wide-Throw" Microfast® Horizontal Sidewall sprinkler can be installed as much as 10 inches below the ceiling. It covers areas up to 18 feet by 18 feet.

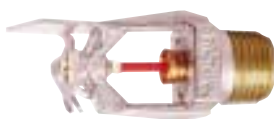
Viking's Model H-3 Horizon small orifice Residential Pendent Sprinkler is the only flush sprinkler listed for use on sloped ceilings with pitches up to 6 in 12 (26.6°), and it has the distinction of being the first and only residential sprinkler approved by FM!

Our residential sprinklers are also available in a Cocoon option.

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sprinklers

**09533FB** Horizontal Sidewall



**09458MC/W, 10741M/W**  
Flush



**10784AJ, 10786MA/SW1004**  
Concealed  
Cover temp: 135°F/57°C



**10149MB/W, 06419AM/W**  
Pendent Recessed





Residential sprinkler selection key

<b>K-Factor</b>	3.1/4,5	3.7/5,3	3.8/5,5	4.1/5,9	4.3/6,2	5.5/8,1
A						
B						
C						
D						

<b>Temp °F/°C</b>	135/57	140/60	155/68	165/74	175/79	200/93	286/141
A							
B							
C							

<b>Finishes</b>	Brass	PCH	BRF	White	Black	Navajo	BBR	Ivory	Color Match
A									
B									
C									



# Architectural

The finishing touch, now available in a vast range of colors to compliment any interior.

Viking provides the ultimate solution to architects, installers and owners that combines the confidence of Viking product performance with a choice of high quality aesthetic finishes. Viking offers a choice of nine popular standard cover plate finishes including several attractive new décor finishes.

## Standard Brushed Finishes



Antique Brass (BRF)



Brushed Chrome (BRF)



Brushed Copper (BRF)



Brushed Brass (BRF)

## Standard Finishes



Polished Chrome (PCH)



Bright Brass (BBR)



Ivory



Black



White

# finishes from Viking

The ground breaking design of Viking's Mirage® concealed sprinklers combined with a practical push on - screw off or friction fit cover plate will ensure a flush fit. By using Viking's extended range of standard finishes or our colormatch service you can make them virtually undetectable once installed.

For Architects and designers looking for the perfect match Viking also provides a customized service to perfectly compliment any décor and color scheme. Choose from over 800 industrial standard color shades or send a paint sample or chip and Viking will provide cover plates to match.





# Wet pipe systems

Easy to install – Easy to maintain.

The wet pipe system is the simplest and most widely used fire sprinkler system. Wet systems are frequently installed in factories, warehouses and office buildings where the risk of freezing ambient temperatures is negligible.



*The Mass Transit System, Bangkok*



*Multiple Wet Pipe Risers, MTS, Bangkok*

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systems

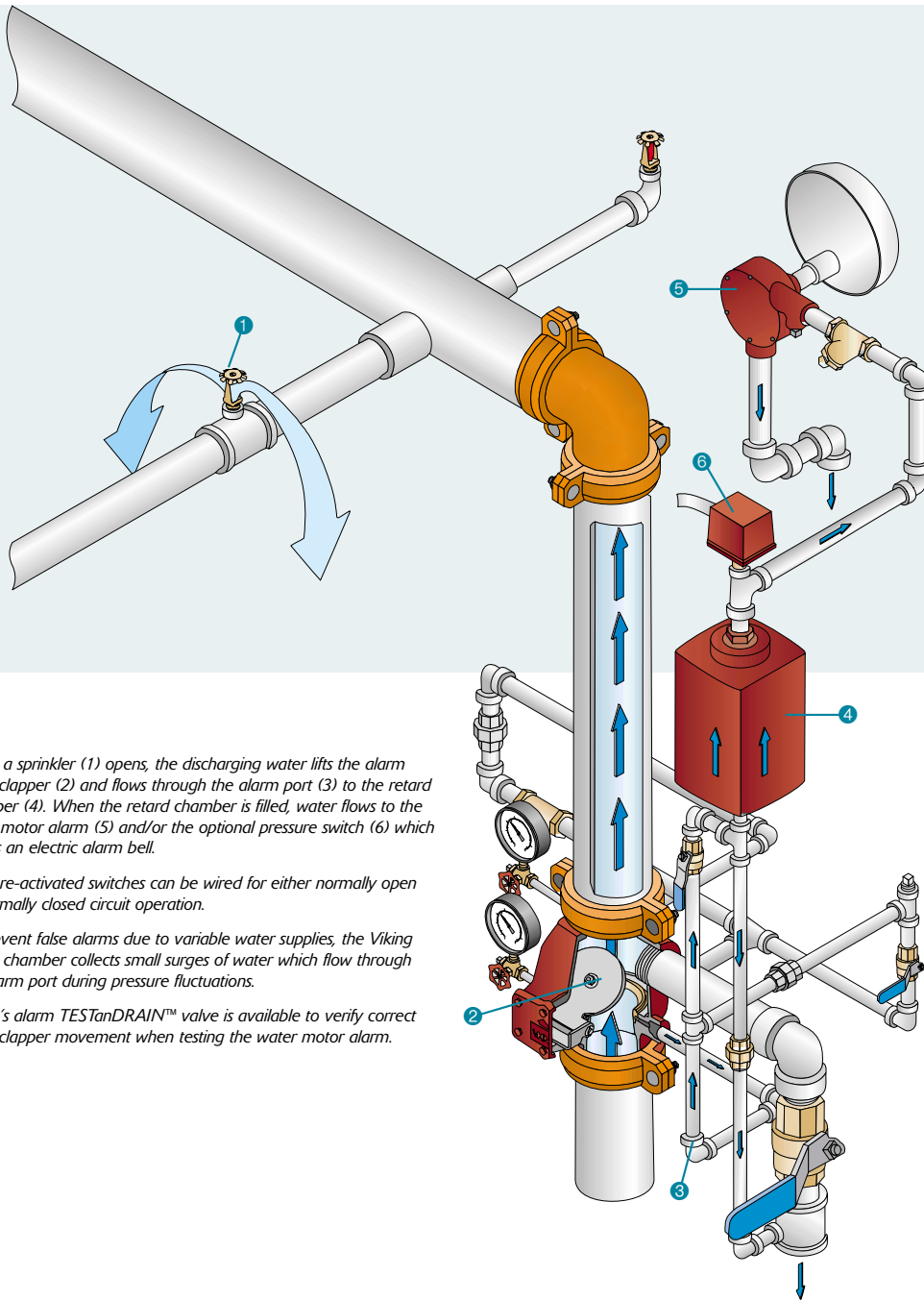
A **Viking Wet Pipe System** riser can employ a check valve along with an electric waterflow indicator and electric alarm. For installations requiring a mechanical alarm, an alarm check valve and water motor alarm is used. UL and cUL listed and FM approved up to 250 psi working pressure can allow a reduction in the number of pressure reducing valves or an increase in the high-rise zone size.

Whichever Wet Pipe system configuration you choose, the Viking Model J Alarm, Easy Riser and Swing Check

valves feature a Clapper Assembly that can be removed, without disturbing the riser, for time saving, low cost maintenance.

**The Viking Model J Alarm Check Valve** is made of ductile iron – providing higher thermal shock resistance and almost twice the strength-to-weight ratio of cast or gray iron. The versatile Model J can be mounted horizontally or vertically.





When a sprinkler (1) opens, the discharging water lifts the alarm valve clapper (2) and flows through the alarm port (3) to the retard chamber (4). When the retard chamber is filled, water flows to the water motor alarm (5) and/or the optional pressure switch (6) which signals an electric alarm bell.

Pressure-activated switches can be wired for either normally open or normally closed circuit operation.

To prevent false alarms due to variable water supplies, the Viking retard chamber collects small surges of water which flow through the alarm port during pressure fluctuations.

Viking's alarm TESTanDRAIN™ valve is available to verify correct valve clapper movement when testing the water motor alarm.

Viking's ductile iron **Easy Riser® Check Valve** can be used with a waterflow indicator and electric alarm in systems that don't require a mechanical alarm.

Both Viking Model J and Easy Riser Check valves are available in flange/flange, flange/groove and groove/groove patterns in 2½" to 8" sizes.

**Viking Swing Check Valves** are stronger, yet smaller and lighter than conventional check valves. Designed for use in fire department pumper connections, fire pump discharge and bypass connections, public water supply, gravity and pressure tank connections they come in grooved sizes from 2½" to 8" and flanged from 3" to 8"

# Dry pipe systems

Labor-saving features mean low-cost installations.

Viking dry pipe systems are most frequently installed in areas subject to freezing temperatures, such as unheated storage areas, loading docks and outdoor arenas.



*Dry D2 Accelerator*

## Washington Redskins Stadium

Jack Kent Cooke Stadium, Ashburn, VA

**System Used:** Dry Systems/Wet Systems and Dry Sprinkler Heads

### Background

The Jack Kent Cooke Stadium was completed in time for the 1997 season. The 78,600 seat modern, outdoor natural grass stadium included over 280 executive suites, as well as 15,000 club seats. The state-of-the-art Redskin Park includes three grass and one Astroturf practice field, spacious weight room, locker room, training and equipment facilities along with large team meeting rooms and office space. It is regarded as the finest training facility in the professional game.

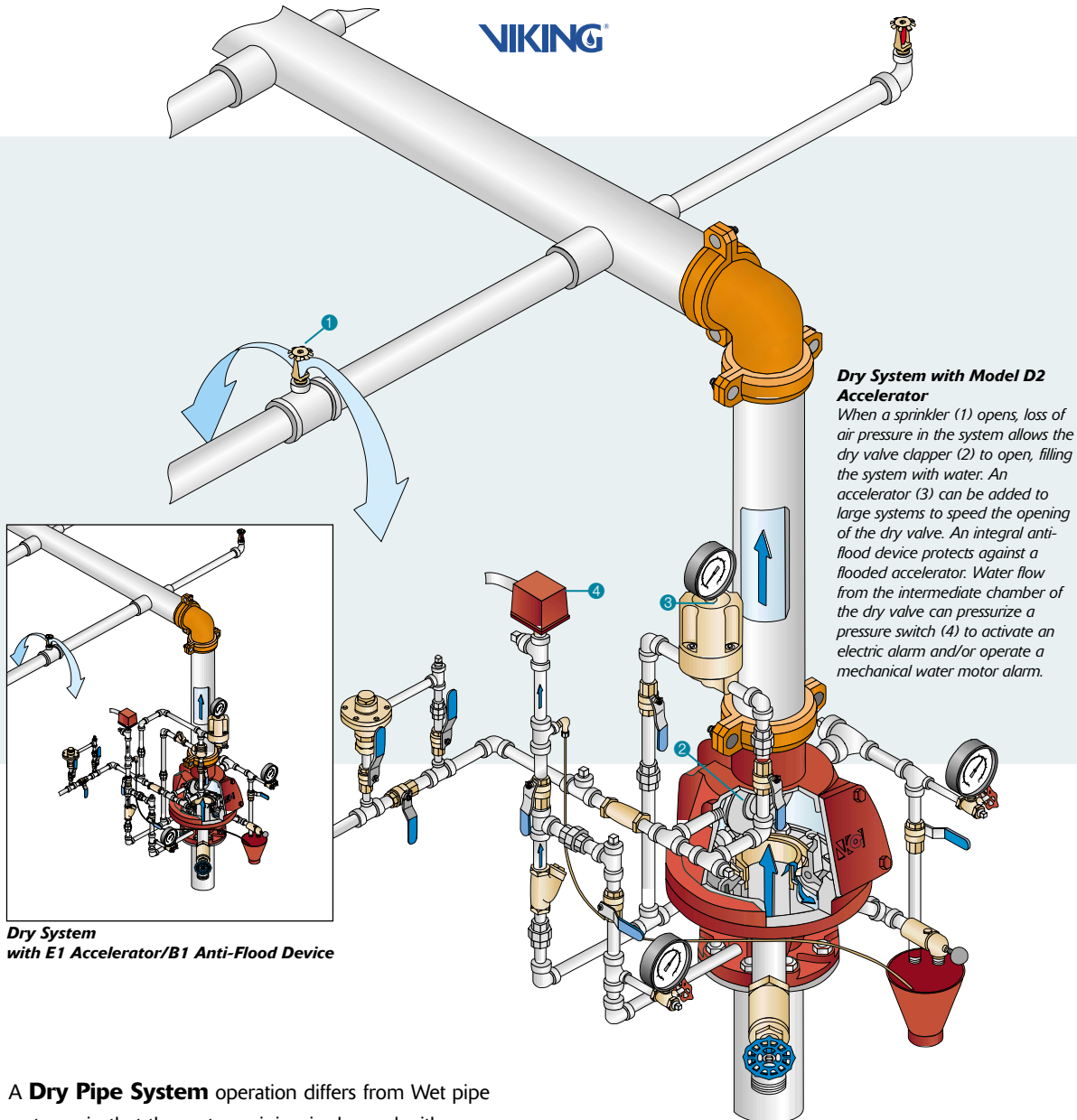
Once completed, the stadium became the fastest built structure of its kind in the history of the National Football League with a total construction time of only 17 months.

### Products Used

Due to the open atmosphere and ambient temperatures below freezing during winter conditions, 15 Viking Dry Pipe Systems and 400 Dry Sprinklers were chosen to sprinkle the stadium. These Dry Pipe systems are designed to prevent water from entering the supply piping prior to sprinkler activation to guarantee correct operation in freeze situations.

### Benefits

- Proven trouble free design.
- Resistant to false tripping.
- Fast acting for best possible trip times.
- Low friction loss while providing secure clapper seal.
- Requires no priming water.
- Easy to service and inspect.



#### Dry System with Model D2 Accelerator

When a sprinkler (1) opens, loss of air pressure in the system allows the dry valve clapper (2) to open, filling the system with water. An accelerator (3) can be added to large systems to speed the opening of the dry valve. An integral anti-flood device protects against a flooded accelerator. Water flow from the intermediate chamber of the dry valve can pressurize a pressure switch (4) to activate an electric alarm and/or operate a mechanical water motor alarm.

**Dry System with E1 Accelerator/B1 Anti-Flood Device**

A **Dry Pipe System** operation differs from Wet pipe systems, in that the system piping is charged with compressed air or nitrogen instead of water. With decades of trouble free performance, the proven design prevents false tripping from pressure surges. Because of its unique design problems with leakage from a priming chamber to areas above the clapper are eliminated.

The **F-1 Dry Pipe Valve** has a ductile iron body designed with all the labor-saving features expected of a Viking product. The 3 inch, 4 inch and 6 inch valves have only 4 bolts on the cover plate, so accessing the clapper takes very little time. And when it comes to resetting the system, the Viking time tested latching mechanism ensures a positive set. In addition, no priming water is needed.

When assembled with the standard trim package, Viking F-1 Valves have one of the smallest dimensional footprints of any dry valve available, using less space and saving time and labor on every installation.

#### Accelerator Options

Viking gives you a choice of accelerators. The **Model E-1 Accelerator** with the **Model B-1 Anti-Flood Device** virtually eliminates the possibility of accelerator flooding. The redesigned accelerator/anti-flood device trim separates the accelerator from any trim piping that could otherwise flood it, thus reducing the possibility of corrosion and debris build-up in the small screens and orifices. For those who prefer the "system-side" accelerator, the enhanced **Model D-2** accelerator can be installed on the Model F-1 Dry Pipe Valve to ensure rapid response in case of fire. The Model D-2 includes an internal anti-flood device to eliminate flooding problems. Both the E-1 and the D-2 models are reset externally — so there is no need to dismantle these devices to drain.

# Deluge and preaction

Simply the best. The Viking Deluge and Preaction Systems are unique in their simplicity. The valves, basic trim and releasing devices are the same for both types of systems. With more releasing options than any other brand, they are a preferred choice throughout the world.



And to make life even easier, Viking Deluge and Preaction Systems can be supplied as modular packages. Just provide the size and release type required, and we will supply the whole system, including preassembled trim (minus the air supply).

The **Viking Deluge Valve** in sizes 1 1/2" through 8" is a quick-opening valve with only one moving part making it more resistant to false tripping than latch-type valves. They also reset automatically without opening the valve, making the Viking Deluge valve a favorite among installers and maintenance personnel.

The Viking Flow Control Valve, allows smooth opening and closing minimizing water hammer. It may be used to facilitate manual or automatic on/off control. All valves in the range are UL Listed and FM Approved to 250 psi water working pressure.

The latest additions to the range are **Viking's 8" Model F-1 Deluge and 8" Model J-1 Flow Control valves**. The straight through grooved/grooved configuration incorporates Viking's proven valve operating design while optimizing flow and friction losses. Available with conventional trim or Viking's new EZ Trim configuration each can be provided as optional "modular" trim packages for easy installation. They are listed and approved for activation hydraulically, pneumatically and electrically and may be installed vertically or horizontally.

Viking's unique **Speed Control** is a further option on Viking deluge valves. The Speed Control allows the opening and/or closing of the clapper to be controlled over a few seconds to minimize the effect of water hammer.

Viking Deluge and Flow Control Valves are also available with an inside and outside coating of Halar®, electroless nickel-plated devices and galvanized, black or brass trim plus stainless steel trim for use in corrosive environments.

The **Viking EZ Trim** is a UL listed/FM approved alternative to our conventional deluge trim. It introduces a prime shut-off valve (PSOV) that achieves the same function as the conventional trim with the major advantages of simplifying the operation, reducing component parts and lowering the cost. EZ Trim's trouble-free design is also easier to maintain.



*Deluge preaction  
PSOV*

Because there are no moving parts or restrictions, EZ Trim offers trouble-free operation in non potable water applications and allows Viking to offer an FM approved corrosion resistant trim package.

## Releasing Devices

In addition to standard industry methods of electric and pilot operated releases, Viking offers 2 unique releasing devices - the Fixed Temperature Release and Thermostatic Release.

# systems

The Micromatic Fixed Temperature Release is a modified quick response sprinkler listed as a wide-area fixed temperature release, for coverage up to 40 ft by 40 ft.

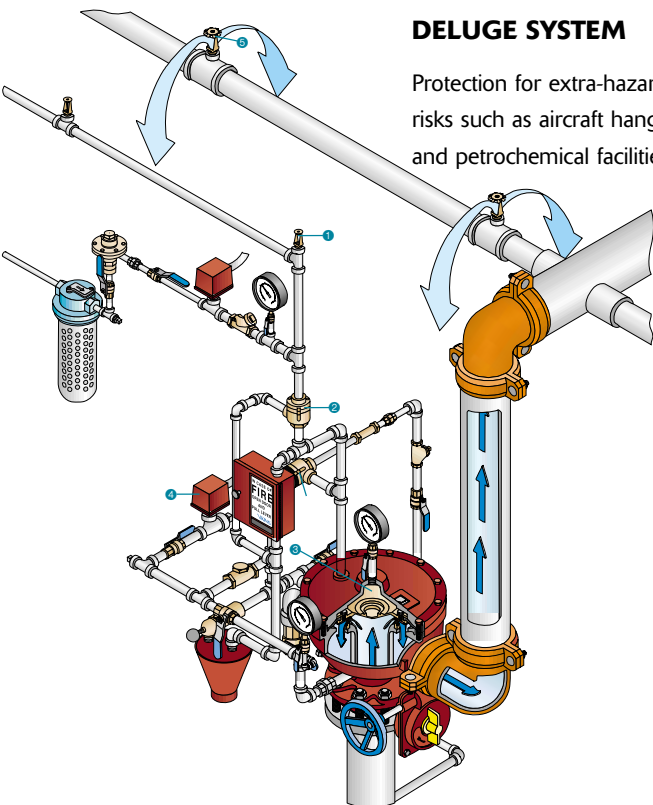
The Model C-1 Thermostatic Release is a rate-of-rise device that reduces the reaction time of hydraulic or pneumatic release systems. It is listed for spacing up to 50 ft by 50 ft and may be equipped with a fixed temperature release. In outdoor or corrosive environments such as seawater, the Model C-2 is available. Both can be tested for use in nitrogen systems.

## Pressure Regulation

The unique design of the Viking Flow Control Valve allows preaction and deluge systems to be trimmed for downstream control of the system water pressure. The regulator is adjustable and will throttle the flow of water pressure being relieved when the preset pressure is reached. The pressure regulator can be used to control both water and foam/water systems. Exact application of water and foam can keep discharge and foam usage to an absolute minimum.

### DELUGE SYSTEM

Protection for extra-hazard risks such as aircraft hangers and petrochemical facilities.

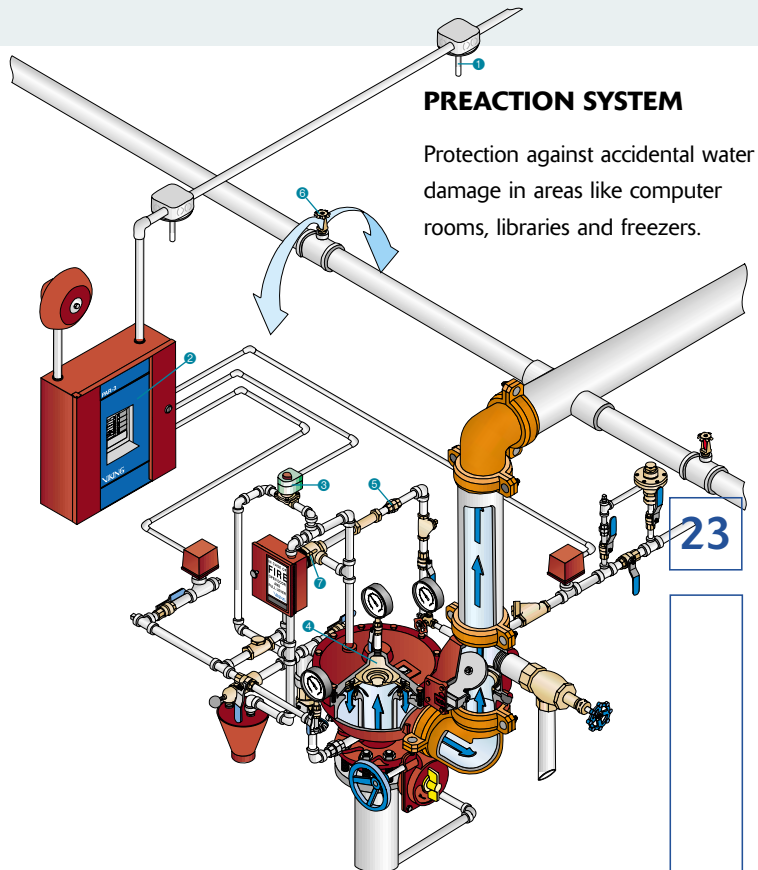


#### Deluge System - Pneumatic Release

When the fixed temperature release (1) is activated by fire, pressure in the release system escapes from the open device, allowing the pneumatic actuator (2) to open. This releases pressure from the priming chamber (3) of the deluge valve, allowing the valve to open. Water flows into the system piping and to the alarm devices, pressurizing the pressure switch (4) to activate an electric alarm and/or operating a mechanical water motor alarm. Water flows from all open sprinklers or nozzles (5). When the deluge valve operates, the PSOV (6) is pressurized closed, closing the supply of water to the priming chamber, latching the deluge valve in the open position.

### PREACTION SYSTEM

Protection against accidental water damage in areas like computer rooms, libraries and freezers.



#### Praction System - Single Interlock Electric Release

When the detector (1) is activated by fire, a signal is sent to the Par 3 Release Control Panel (2). The panel sends appropriate alarm and trouble signals and, at the same time, signals the solenoid valve (3) to release. The priming chamber (4) of the deluge valve is then vented faster than water is supplied through the restricted orifice (5), allowing the deluge valve to open. The water enters the system piping, but no water is discharged until a sprinkler (6) activates. When the deluge valve operates, the PSOV (7) is pressurized closed, closing the supply of water to the priming chamber, latching the deluge valve in the open position. Viking Praction Systems can be interfaced with electric (as shown) or pneumatic detection systems and can be configured for single, double or non-interlocked preaction.



# Firecycle systems

On-off cycling systems to minimize water damage.

Firecycle III is a unique fire protection system that will sense and respond to a fire condition, delivering fire suppression when needed, but sparing excess water damage to valuable assets in the event of fire.

## Federal Aviation Administration (FAA)

**Owner:** U. S. Government

### Background

The Federal Aviation Administration has made a long-term commitment to capital investment to ensure it continues to provide the best air traffic control service in the world. The largest and most crucial component of the national airspace system in the United States is its air route traffic control centers. These high technology facilities demand operational stability and minimal system disruption in any emergency. The FAA operates a national network of airport towers, air route traffic control centers, and flight service stations. It develops air traffic rules, allocates the use of airspace and provides for the security control of air traffic.

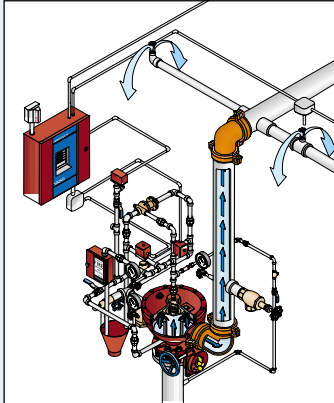
### Products Used

Firecycle II and III

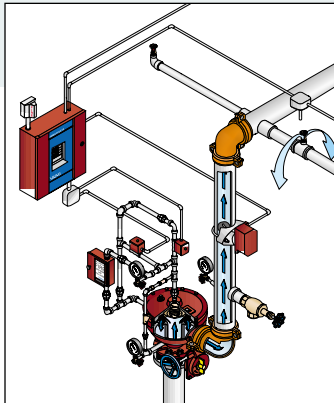
### Benefits of Firecycle

- Provides protection only when needed.
- Avoids needless water damage by self regulation, turning itself on and off in response to fire conditions.
- Fail-safe detection system.
- Design guards against accidental tripping.

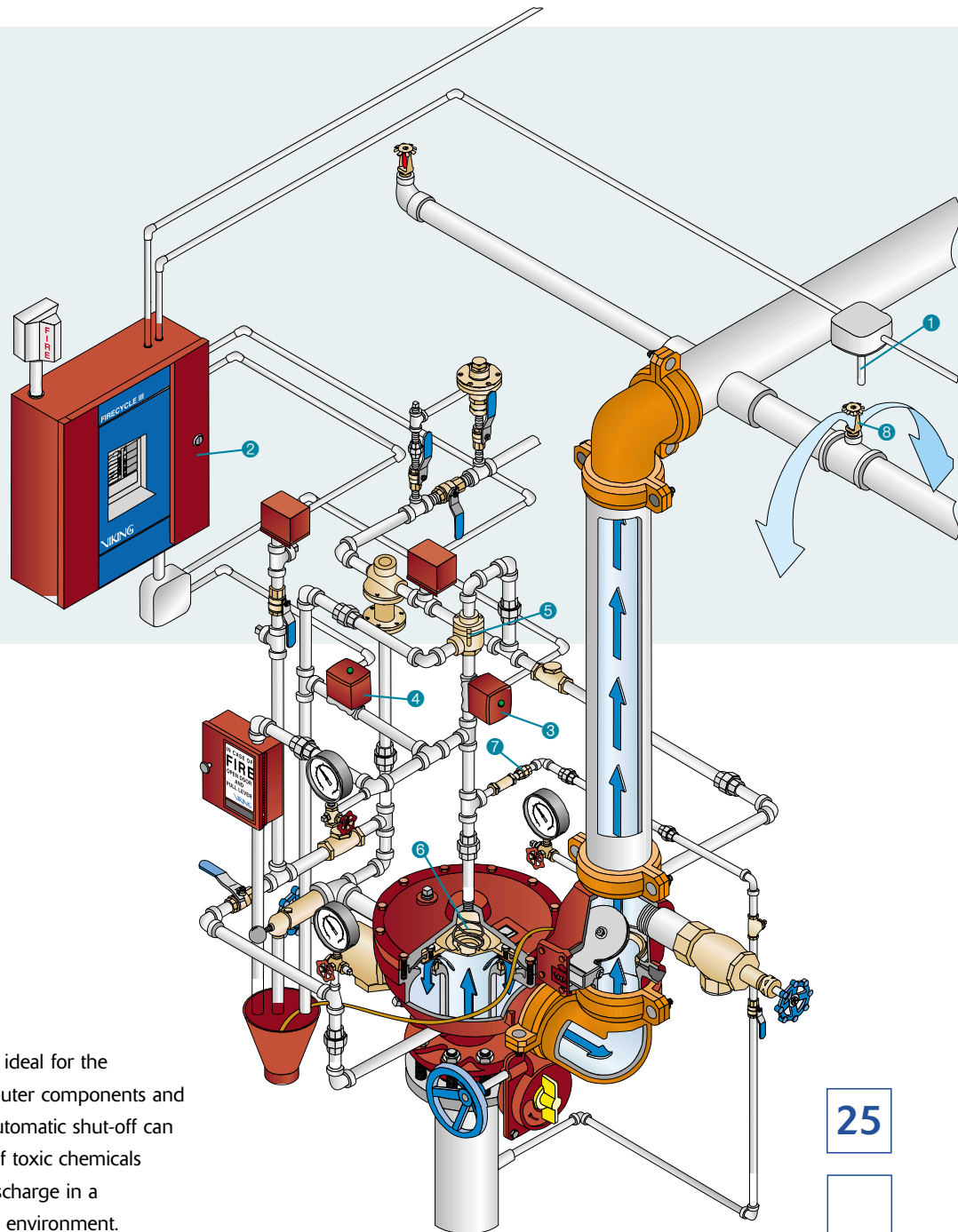




**Firecycle III Cycling Deluge System**



**Firecycle III Cycling Wet Pipe System**



Firecycle's on-off multicyle ability is ideal for the protection of fine art, artifacts, computer components and data storage. A Firecycle system's automatic shut-off can also reduce the amount of run-off of toxic chemicals caused by excess sprinkler water discharge in a manufacturing and processing plant environment.

It's detection system stops the flow of water once the fire has been contained and restarts the flow in the event that the fire re-ignites.

The unique Firecycle III is available in single and double interlock preaction, wet and deluge system options. All units have UL Listing and the Firecycle III cycling wet and single interlocked preaction units have FM Approval. The solid-state design reduces system size without compromising performance, ease of installation and maintenance.

#### **Firecycle III System - Cycling Single Interlock**

When the detector (1) is activated by fire, a signal is sent to the Firecycle III Control Panel (2). The panel sends the appropriate alarm and trouble signals and, at the same time, powers the normally open (3) and normally closed (4) solenoid valves, isolating the pneumatic actuator (5) and releasing pressure from the priming chamber. The priming chamber (6) of the deluge valve is then vented faster than water is supplied through the restricted orifice (7), allowing the flow control valve to open. The water enters the system piping, but no water is discharged until a sprinkler (8) activates. After the detectors cool and the timer is satisfied, the normally closed solenoid is allowed to close and reestablish prime pressure, closing the control valve and stopping the flow of water. If the detector senses a flare-up of the fire, the cycle begins again. If the detector never cools completely, or is damaged, the system will continue to discharge water.

*Note: In "Double Interlock" mode, operation of the detection system combined with loss of air pressure at the supervisory switch will open the normally closed solenoid valve. This then trips the automatic control valve.*

# HP® Dry systems

Proven technology for High Pressure Applications.

The introduction of the HP® Dry System completes the Viking line of high pressure valves, devices and sprinklers, to allow fire protection systems with operating pressures higher than 175 psi to be installed consistent with NFPA 13 requirements. Typical installations include high rise apartments and small installations in loading docks, garden retail outlets and attics.

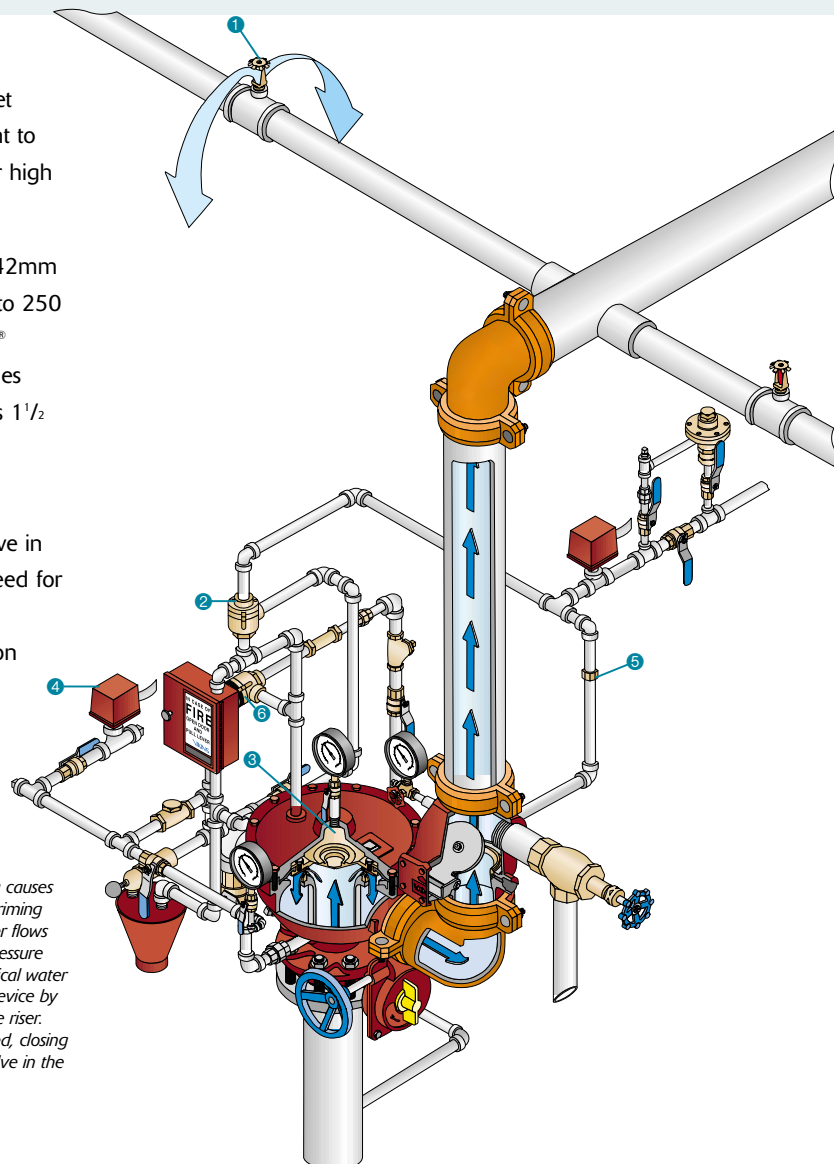
The **HP® Dry System** utilizes the proven market leading Viking deluge valve and related equipment to provide a dry pipe system designed specifically for high service pressures.

Systems are available in 1½, 2, 3, 4, and 6 inch (42mm – 150mm) valve sizes and rated for pressures up to 250 psi (17 bar). In high-rise applications using the HP® system allows you to minimize the number of zones required. Because it is available in sizes as small as 1½ inches, it can also be used for normal pressure applications where smaller systems can be used.

Viking small HP® Dry Systems are also cost-effective in place of antifreeze loops, and can minimize the need for reduced pressure back-flow preventors, ongoing maintenance, and expensive, hard-to-size expansion chambers. The HP® Dry System is UL listed.

## HP Dry System

When a sprinkler (1) opens, loss of air pressure in the system piping causes the anti-flood device (2) to open. This releases pressure from the priming chamber (3) of the deluge valve, allowing the valve to open. Water flows into the system piping and to the alarm devices, pressurizing the pressure switch (4) to activate an electric alarm and/or operating a mechanical water motor alarm. Water is prevented from pressurizing the anti-flood device by the float check valve (5) installed in the air supply connection to the riser. When the deluge valve operates, the PSOV (6) is pressurized closed, closing the supply of water to the priming chamber latching the deluge valve in the open position.



# TotalPac® systems

## Preassembled “plug-in” Fire Protection Systems

TotalPac® is a prepackaged riser assembly available in dry, deluge, single and double interlocked preaction, and Firecycle III configurations. Every TotalPac® undergoes a hydraulic and electrical simulation to confirm correct configuration and ensure quality. TotalPac® is fire protection's version of plug-and-play and a convenient way to get your system operational in the minimum space and time.



UL, FM, c-UL and MEA approvals ensure acceptance virtually everywhere. TotalPac's market leading position is confirmed by having the most complete system configurations listed of its type in the fire protection industry.

The preassembled self-contained units are fast and simple to install and can occupy a floor area as small as 2 square feet. TotalPac® provides an excellent alternative where gas systems are typically specified, including computer rooms, telephone switching stations, hospitals and museums. A special version TotalPac® for use in elevator hoistways includes a fail safe timer that will recall the elevator to a primary floor before power shutdown and water release. By specifying TotalPac®, you can minimize installation and start-up problems, costly dedicated closets or enclosures and standardize the systems and their components for easier maintenance and increased quality control.





# Viking systems at work

Viking products and systems are known and used throughout the world providing tailored solutions to protect every type of installation from palaces to process plants. On these pages and throughout this catalogue are a small selection of the many examples of Viking's products at work.

## Bulong Nickel, Australia

**Owner:** Preston Resources

**System Used:** Viking Deluge Foam/Water System

### Background

Bulong is the first operating base metals project of Preston Resources. The Bulong Nickel/Cobalt Project is located 30 kilometers East of Kalgoorlie, a major Australian center for gold and base metals mining. Bulong comprises a world class nickel and cobalt resource and adjacent processing plant to produce up to 9,600 tons of nickel and 1,000 tons of cobalt metal per annum. Metals are recovered by a process called high pressure acid leach (HPAL). Bulong Nickel and Cobalt products are transported by road from the plant to the Port of Fremantle and shipped to markets worldwide.

### Products Used

9 Viking Model E Halar Coated Deluge Valves with stainless steel trim were used to operate horizontal bladder tanks to feed foam through concentrate controllers into proportioners. 300 Viking 10mm brass open pendent sprinklers were used.

### Benefits of Foam/Water System

- Controls and extinguishes special hazard fires that water alone cannot.
- Uses less water for the same hazard.
- Provides vapor suppression to eliminate re-ignition.
- Corrosion resistant Halar coating and Stainless Steel trim.





## The Pentagon, Washington DC

**Owner:** U. S. Government

**System Used:** Viking Alarm, Dry and Deluge Systems and quick response sprinklers.

### Background

Headquarters of the United States national defense establishment and the nerve center for command and control, the Pentagon is virtually a city within itself. The Pentagon presently houses approximately 26,000 military and civilian employees and about 3,000 non-defense support personnel.

The Pentagon is currently undergoing a major transformation into a modern office environment. This process started in 1996 and is projected to take 12 years. The renovation program includes improvements in fire and life safety systems, along with many other areas of improvements. The plan for renovation is being completed in phases, of which the first 2 phases are completed.

### Products Used

Model J-1 Alarm Valves were used in part of the installation. This valve serves as a check valve by trapping pressurized water above the clapper and preventing reverse flow from sprinkler piping. The sprinkler system uses Viking chrome quick response Model M pendent heads with two piece E-1 escutcheons. When the project is complete some 50,000 heads will have been installed. Viking Dry and Deluge valves have also been used to protect the facility as part of a whole system package.

### Benefits of Model J-1 Alarm Valve

- Provides a proven and dependable hydraulic alarm.
- Approved and listed way to prevent reverse flow.
- Designed for ease of maintenance and servicing.



## Shanghai Grand Theater



**System Used:** Viking Wet & Deluge Systems

### Background

Located in the People's Square of Shanghai, the Grand Theater is designed for staging all kinds of musical and performance arts including ballet, symphony orchestra, opera and drama. The facilities include three separate theatres, the largest has 1,800 seats, another holds 580 seats, and the smaller one seats 200. The multi-story building has a total floor area of 650,000 ft<sup>2</sup> (62,000 m<sup>2</sup>) with a main ground floor area of 210,000 ft<sup>2</sup> (22,000 m<sup>2</sup>).

### Products Used

- 4 sets of DN200 Wet Alarm Check Valves
- 6 sets of DN150 Wet Alarm Check Valves
- 8 sets of DN150 Deluge Valves
- 2 sets of DN100 Deluge Valves
- 2 sets of DN 80 Deluge Valves

Plus more than 10,000 Viking sprinkler heads including pendent, upright, open type, sidewall, and concealed configurations.

Fire curtains employing open type sprinkler heads and deluge valves were used for the first time in Shanghai in lieu of the standard fire doors to provide effective zone control.

### Benefits of Deluge System

- Simple and easy to install.
- Easy to maintain.
- design eliminates false trip and allows external reset.
- Proven performance and dependability.

# Foam/Water based

Special protection for high-hazard applications.

## Concentrate Control Valves

Viking Concentrate Control Valves are the only valves utilized in foam systems that are listed and approved fire protection valves. They are coated with Halar®, a premium industrial coating which has been used in the petrochemical and industrial market because it is impervious to caustic and corrosive environments. AFFF and AR-AFFF foam concentrates are corrosive to the standard coating materials used in sprinkler systems and the Halar coating eliminates the probability of the valve corroding shut. The Viking Concentrate Control Valve controls the flow of the concentrate into the proportioning system and protects the stored foam concentrate from air which may otherwise cause it to solidify.



## Integrated Systems

Viking offers the first truly integrated foam/water systems, ensuring the operational compatibility and consistent high quality of every component from foam concentrate to control system.

The integrated foam/water systems available include our **Low Flow Wet Riser**; the only bladder system FM approved for closed head operation with an in-line balanced proportioner (ILBP). This system is completely hydraulic and combines the dependability of a bladder system with the advantages of a conventional foam pump/ILBP system – without the added cost of wiring and maintaining a foam pump. Viking's other integrated systems are the Low Flow Preaction, Deluge, Wet, and Dry Risers.

## Foam Concentrates

AFFF and AR-AFFF foams are fast-acting synthetics designed for use in systems to provide the best possible fire control over most types of flammable liquid hazards. Viking's AFFF is available in 1% and 3% concentrates and our AR-AFFF is a 3% x 3% alcohol resistant concentrate with the lowest listed application density of any AR-AFFF foam.

## Proportioning Options

Viking has perfected 3 UL Listed proportioning methods, – vacuum induction, metered pressure drop, and pressure injection. All components required to complete the systems – bladder tanks, concentrate controllers, ILBPs, foam pump skids, fixed eductors, concentrate control valves and pressure regulating valves – are available from Viking and will meet your requirements for all hazard types and available water pressure.

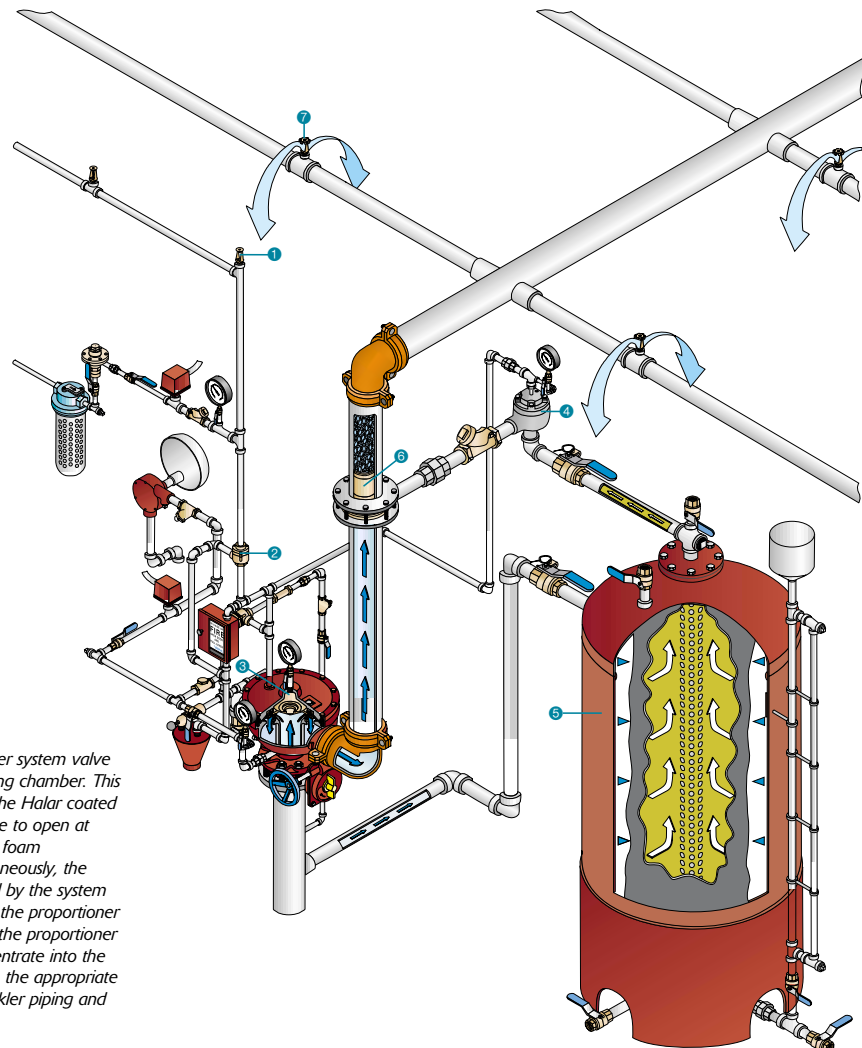
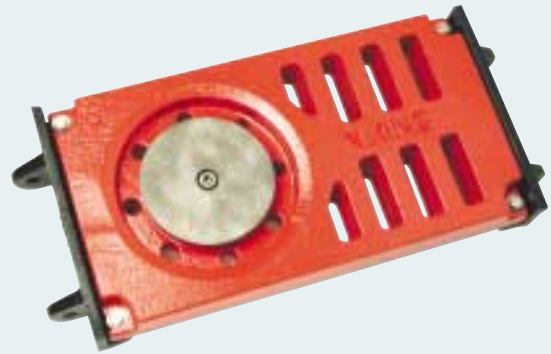
The range of **Discharge Devices** include the industries most comprehensive group of listed and approved foam/water sprinklers, foam chambers, foam makers, monitor nozzles and the new grate nozzle.



# systems

## Grate Nozzle

The Viking Grate Nozzle protects aircraft hangars with fast application of AFFF onto the floor surface under the aircraft. Unlike any other AFFF discharge device, the Grate Nozzle was specifically developed to overcome the obstruction problems often encountered with the use of other discharge devices. It is designed with no moving parts and constructed of 316L stainless steel to resist corrosion. The Model GN200 Grate Nozzle is installed in the drain trenching of the aircraft hangar, so valuable floor space is not compromised. Receiving grates are available in 11" x 20" or 11" x 26" to accommodate narrow and wide trench drain widths. The Grate Nozzle can also be adapted to provide wash down.



When a detector is operated by fire, the sprinkler system valve (1) is released by a loss of pressure in the priming chamber. This piping is also tied into the priming chamber of the Halar coated concentrate control valve (2) allowing that valve to open at approximately the same time, thus opening the foam concentrate line to the sprinkler system. Simultaneously, the outer shell of the bladder tank (3) is pressurized by the system water which squeezes foam concentrate out to the proportioner (4). As water flows through the venturi area of the proportioner a metered pressure drop draws the foam concentrate into the system water creating a foam solution mixed to the appropriate ratios. This solution then flows through the sprinkler piping and out of any open sprinklers or nozzles.

# System components & related equipment

No matter what your fire sprinkler requirements, no matter when or where you need it, Viking SupplyNet takes the panic out of the process. We assure you easy access to the world's leading fire protection equipment.

*OS & Y Gate Valve*



*Butterfly Valve*



Grooved Butterfly Valves, Gate Valves and Post Indicators are among the many quality valve products available. In order to provide a full system supply capability, Viking SupplyNet also supplies Test and Drain assemblies providing both the test function and express drain function for a wet pipe sprinkler system.

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system components



*Easy-Pac Riser  
Manifold Assembly*

For commercial and residential applications, the newly introduced Easy-Pac Riser Manifold Assembly designed to save time and labor by combining the drain outlet, flow switch, gauge and an optional relief valve in one preassembled unit.

You can also choose from a wide range of detector checks and backflow preventers further underlining the whole system supply capability available from the Viking SupplyNet distribution network.



*Doublecheck Backflow Assembly*



*Viking SupplyNet Asia Headquarters (Singapore), one of over 50 supply locations worldwide*

**Alarm Bell**



**Tamper Switch**



**Water Flow Indicator**



Flow switches, tamper switches, pressure switches – all selected for quality and dependable service.



**Tank-Mounted Air Compressor**



**Riser-Mounted Air Compressor**

Other electrical products, such as air compressors, panels and a host of accessories selected to provide all your fire protection needs from a single source.



# System components

In addition to a full range of quality fire protection products Viking SupplyNet locations also offer an extensive line of related products, accessories and equipment, so customers can choose to purchase all their fire protection needs from a single source. Customers can also take advantage of our on-line Purchase Assistant Program to place orders using the Viking SupplyNet web site.

Grooved Pipe Couplings and Fittings are available from the SupplyNet distribution network worldwide. Quality products specifically designed for fire protection they are UL listed, and FM, LPCB and VdS approved.

*Grooved pipe products*



*Cast iron pipe fittings*

Cast iron, malleable iron and ductile iron fittings are part of the comprehensive pipe connection fittings offered by Viking SupplyNet.



*CPVC pipe fittings*

For installations including residential, hotels and office buildings, CPVC pipe and fittings are an ideal solution.

Contact your local Viking SupplyNet distributor for availability.



# & related equipment

Viking SupplyNet supplies standard steel rolled and cut grooved pipe. Availability of pipe differs between locations worldwide so check availability with your local Viking SupplyNet distributor.

Pipe supports and hangers in a variety of patterns to cater for all installation requirements, including earthquake bracing.



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system components



Everything down to pipe sealing compounds, lubricants and a range of pipe accessories are available. Quality products, quality customer service and worldwide distribution capability. Viking SupplyNet - what you need, when and where you need it.



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