FIRE PROTECTION

General Products Catalog

tyco

Fire & Building Products

FIRE PROTECTION
General Products Catalog

Tyco Fire & Building Products is a leading manufacturer and distributor of water-based fire suppression systems and components, offering one of the broadest lines of fire protection system equipment worldwide.

Continually expanding its capabilities through aggressive research and product development, it provides its customers effective fire protection and construction solutions for residential, commercial, industrial, and institutional buildings. Tyco Fire & Building Products serves a diverse group of specifiers, including architects, engineers, contractors, and associated industries with a nationwide network of distribution and manufacturing facilities. Tyco takes pride in the introduction of new and innovative products, technologies and product application extensions.

With over 150 years in the industry, Tyco Fire & Building Products is uniquely qualified to provide and develop cost effective solutions customized to any building configuration and fire protection application. Our patented solutions provide significant performance advantages with lower installation and maintenance costs.

Tyco Fire & Building Products also offers the industry's most complete fire protection design software package through its SprinkCAD® programs.

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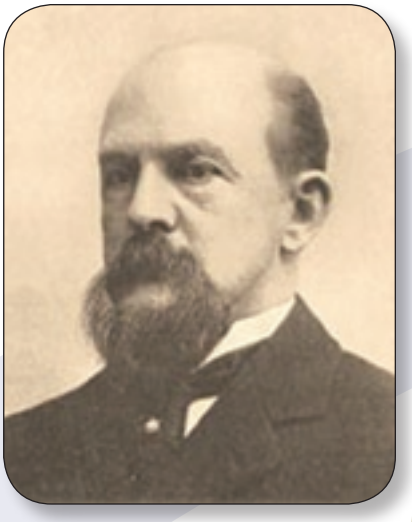
Fire & Building Products

TYCO FIRE & BUILDING PRODUCTS

LEADING THE WAY FOR MORE THAN 150 YEARS

In 1881, industry pioneer Frederick Grinnell patented the first "sensitive" automatic fire sprinkler incorporating a number of features still found in modern day units. Since that time, many of the major advancements in fire sprinkler technology can be attributed to Grinnell and other leading names in the industry that are now part of Tyco Fire & Building Products.



The history of our company is one of tremendous growth through organic development and acquisition with over 150 years in the industry, to create a single powerful global resource for owners, and those to whom they turn for engineering advice and support. Today our company is proud to be associated with our corporate and legacy brands that continue to operate on the cutting edge of fire protection innovation, mechanical applications and product performance.

tyco 10 YEAR LIMITED WARRANTY

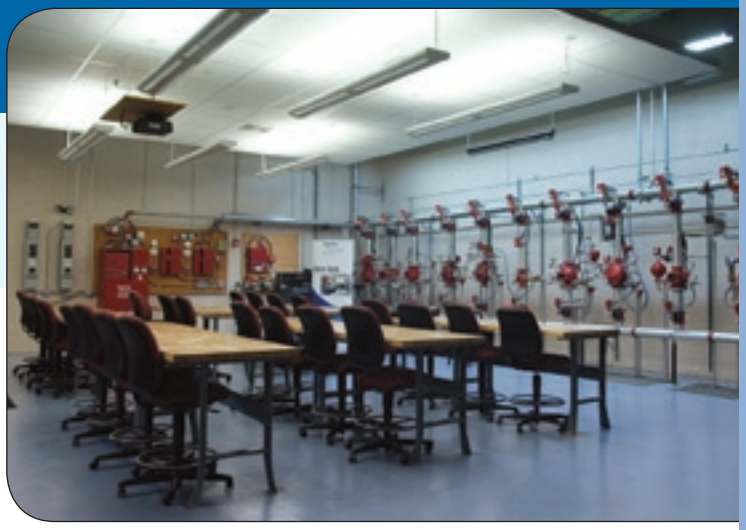
We stand behind every product we manufacture by offering the industry's only 10-year limited warranty*, that's up to ten times longer than our competitors' warranties.

(Full warranty details can be found on all of our current product technical data sheets, or at our website at www.tyco-fire.com.)

All metric measurements throughout this catalog are based on U.S. standard-to-metric conversions. Metric specifications may vary from country to country.

DESIGN SOLUTIONS SprinkCAD SINCE 1986
CENTRAL
STAR
Gem
Grinnell FIRE PROTECTION PRODUCTS
ILLUSION We Cover All The Action
rapidresponse HOME FIRE SPRINKLER SYSTEM
aquamist FIRE PROTECTION TECHNOLOGY
CENTRAL SPRAYSAFE
PEAK PERFORMANCE ATTIC PROTECTION SPRINKLER SYSTEM
BlazeMaster FIRE SPRINKLER SYSTEMS
ANSUL

THE INDUSTRY LEADER



Best-in-class solutions start with best-in-class technology, and only Tyco Fire & Building Products offers more of both. That's how we are able to simplify installation and improve the performance of fire protection and mechanical systems, providing the owner with the lowest installed cost. Here are just some of the industry-leading technologies we have developed:

- Storage Fire Protection Solutions such as K-14, K-25 and K-17 ESFR Technology. It was the first of the ESFR technology, and we pioneered it.
- Extended Coverage Ordinary and Light Hazard Fire Sprinkler Technology
- The First Residential Sprinklers for Life Safety Purposes
- Electronic Quick Opening Accelerator for Dry Sprinkler Systems
- Back-to-Back CPVC Fittings for Residential Fire Protection
- Sprinkler System Design Software (SprinkCAD) and Fluid Delivery Time Calculation Software

In addition, Tyco Fire & Building Products provides turnkey Engineered Systems' a choice of fully integrated solutions focused on specialty applications in Europe, the Middle East, the Americas, and Asia/Pacific, including:

- Pump/Valve Skid Packages
- Water Mist Systems for Fire Protection
- Valve Packages for Seawater and Harsh Environments

Tyco Fire & Building Products has made a commitment to the world-class performance of its products and, as a result, has received independent approvals and certifications from industry agencies globally.

Our state-of-the-art international manufacturing facilities have all been granted ISO 9000 approvals, and are routinely audited by independent testing agencies for quality and conformance. We also participate in more than 70 National Fire Protection Association committees and a number of international standards and code-making bodies.

Underwriters Laboratories Inc.

Underwriters Laboratories Inc. for use in Canada

Scientific Services Laboratory

Verband der Schadenversicherer

Factory Mutual Research Corporation

Loss Prevention Certification Board
in association with AB & Lloyds

TYCO FIRE & BUILDING PRODUCTS


DEAD IN HUB
CLUB FIRE

STANDARD SPRAY SPRINKLERS

Standard Spray Sprinklers are comprised of two responses: standard and quick. Together they offer a wide range of sprinklers from which to choose when designing a standard coverage fire sprinkler system.

APPLICATIONS:

- *Office Buildings*
- *Banks*
- *Factories*
- *Libraries*
- *Theaters*
- *Light & Ordinary Hazard Occupancies*
- *Schools*

Standard Response Sprinklers are intended for use in fire sprinkler systems designed in accordance with the installation rules recognized by the applicable Listing or Approval agency. There are two types or response elements: bulb and solder.

Series TY-B bulb type sprinklers are available in a variety of attractive finishes that blend well with their surroundings. When in service, a small bubble in the fluid contained in the bulb compensates for normal temperature changes. When heated, the fluid in the bulb expands and shatters the bulb, allowing water to be discharged.

Series TY-L solder type sprinklers employ a link whose two sections are joined by solder with a predetermined temperature rating. Heat absorbed by the link is conducted directly to the soldered joint. When the solder melts, the link springs apart, releasing water that strikes the sprinkler deflector.

Quick Response Sprinklers are designed with a 3mm bulb or small nickel link to react more quickly at the specified temperature. They are available in pendent, upright, recessed, concealed, vertical sidewall, and horizontal sidewall styles.

The narrow profile bulbs and attractive finishes of the Series TY-FRB provide specifiers with a wide variety of sprinklers for use in quick response applications. The versatile Quick Response TY-FRL Series provides the specifier with a solder type sprinkler for most commercial and industrial applications.

STANDARD SPRAY SPRINKLERS

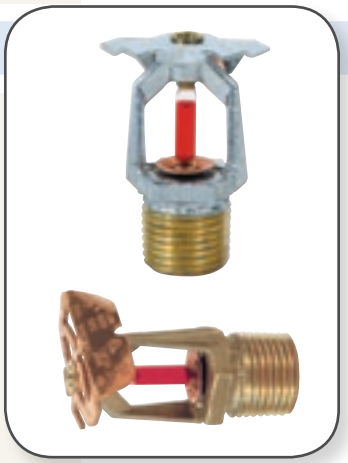
TY-B

Upright, Pendent & Recessed Pendent

- All hazard
- 5 mm bulb
- Discharges a hemispherical water spray pattern in the area beneath the sprinkler
- Small frame, narrow profile bulb

K FACTOR	K=5.6 (80,6), K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON	Style 10 • Style 40
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3151, TY3251, TY4151, TY4251, TY4851, TY4951
TECH DATA	TFP151

Horizontal, Recessed Horizontal & Vertical Sidewall



- Light hazard/Ordinary hazard
- 5 mm bulb
- Small frame
- Unique deflector design of the horizontal sidewall sprinkler results in smaller profile
- Designed for installation along a wall or on the side of a beam just beneath a smooth ceiling
- Water discharge is directed primarily outward and downward in a quarter spherical pattern
- Special deflector on the vertical sidewall sprinkler allows it to be installed in either a pendent or upright position

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 10
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3351, TY3451
TECH DATA	TFP161

- Sidewall sprinklers are often used in lieu of standard pendent or upright sprinklers due to building construction, economic considerations, or aesthetics

TY-FRB

Upright, Pendent & Recessed Pendent

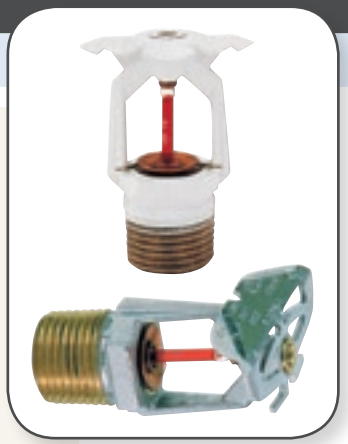
- Light hazard/Ordinary hazard
  light hazard K=2.8 (40,3)
- 3 mm bulb
- Hemispherical water spray pattern in the area beneath the sprinkler
- Small frame and narrow profile bulb enhance appearance

K FACTOR	K=2.8 (40,3) • K=4.2 (60,5) K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON	Style 10 • Style 20 Style 30 • Style 40
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester, Lead Coated
SIN	TY1131, TY1231, TY2131, TY2231, TY3131, TY3231, TY4131, TY4231, TY4831, TY4931
TECH DATA	TFP171

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

TY-FRB

Horizontal, Recessed Horizontal Sidewall & Vertical Sidewall



- Light hazard/Ordinary hazard
- 3 mm bulb
- Designed for use in applications where aesthetics must be considered or where building construction makes the installation of standard pendent or upright sprinklers impractical
- Vertical sidewall sprinkler can be installed in either the pendent or upright position along a wall or the side of a beam and just below a smooth ceiling

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 10 • Style 20
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester, Lead Coated
SIN	TY3331, TY3431
TECH DATA	TFP176

RFII "ROYAL FLUSH II"

Pendent Concealed

- Light hazard/Ordinary hazard
- 5 mm bulb (standard)
  3 mm bulb (quick)
- Concealed in an enclosed escutcheon plate with flat cover for use in those applications where aesthetics is a primary consideration
- Separable, two-piece design of the mounting cup and cover plate allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2"
SPRINKLER FINISH	Cover Plate: Chrome Plated, Natural Brass Plated, White Polyester Painted, Custom
SIN	TY3551, TY3531
TECH DATA	TFP181

- Internally threaded closure with 1/2" (12,7 mm) of adjustment
- Available with optional dust and air seal

TY-L

Upright, Pendent & Recessed Pendent

- All hazards
- Solder type
- Discharges a hemispherical water spray pattern in the area beneath the sprinkler

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON	Style 20 • Style 30
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3111, TY3211, TY4111 TY4211, TY4811, TY4911
TECH DATA	TFP110

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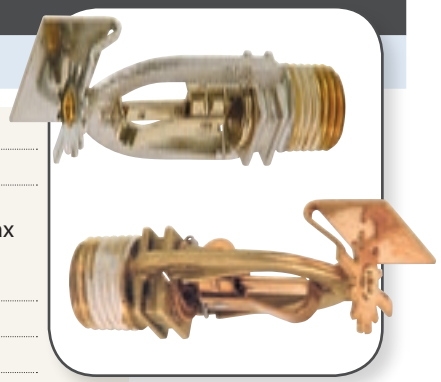
STANDARD SPRAY SPRINKLERS

TY-L

Horizontal Sidewall

- Light hazard / Ordinary hazard
- Solder type
- Suited for hotels, nursing homes and hospitals
- Design allows piping to be confined to corridors, closets or service areas

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3311
TECH DATA	TFP120



TY-FRL

Upright, Pendent & Recessed Pendent

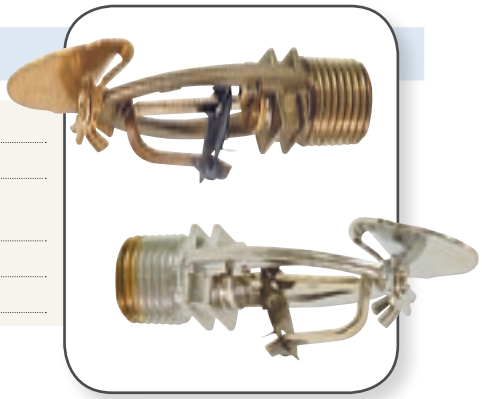
- Light hazard/Ordinary hazard
  light hazard K=2.8 (40,3)
- Solder type
- Typically used in hotels, motels, office buildings and other commercial and industrial applications

K FACTOR	K=2.8 (40,3) • K=5.6 (80,6) K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON	Style 20
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated
SIN	TY1121, TY1221, TY3121 TY3221, TY4121, TY4221
TECH DATA	TFP130

Horizontal Sidewall

- Solder type
- Light hazard/Ordinary hazard
- Designed for compact installation along a wall or on the side of a beam just beneath a smooth ceiling
- Generally used in lieu of pendent or upright sprinklers because of aesthetics, building construction or economic considerations

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated
SIN	TY3321
TECH DATA	TFP140



TY-QRF

Flush Pendent

- Solder type
- Light hazard/Ordinary hazard
- Features separable escutcheon with 3/8" vertical adjustment

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON FINISH	Chrome Plated, White Polyester, Black
SPRINKLER FINISH	Chrome Plated, White Polyester, Black
SIN	TY3261
TECH DATA	TFP190

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EXTENDED COVERAGE SPRINKLERS

APPLICATIONS:

- *Office Buildings*
- *Hotels*
- *Hospitals*
- *Libraries*
- *High-Piled Storage*
- *"Big-Box" Retailing*

Extended Coverage Sprinklers are intended for the protection of areas larger than those specified in standard installation rules and for specific light, ordinary, or extra hazard occupancies. Extended coverage sprinklers are available in both standard response (EC) and quick response (QR-EC). They are available in upright, pendent, horizontal sidewall and recessed horizontal sidewall. These sprinklers are typically used in hotels, restaurants, office buildings, warehouses, and other areas where it is desirable to reduce the overall number of required sprinklers.

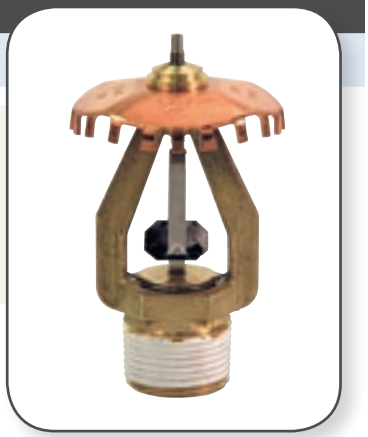
EXTENDED COVERAGE SPRINKLERS

EC-25

Upright

- All hazard
- Solder type
- Extended coverage area/density
- Deflector design allows maximum coverage area of 14' X 14' (4,3m X 4,3m)
- For use in high density applications such as "big box" retailing, extra hazard, and high-piled storage occupancies
- Minimum operating pressure of 7 psi (0,48 bar)

K FACTOR	K=25.2 (362,9)
THREAD SIZE	1" NPT or ISO 7-R1
SPRINKLER FINISH	Natural Brass
SIN	TY9128
TECH DATA	TFP213



EC-17

Pendent & Recessed Pendent

- Solder type
- Extended coverage for higher density applications
- Recessed configuration is ideal for retail applications
- Maximum 196 sq. ft./sprinkler spacing (14 ft. x 14 ft. spacing)
- Can reduce the number of installed sprinklers by nearly 50%
- Hydraulic calculations based on actual spacing (sxl rule)
- Intended for area/density applications of 0.25 gpm/sq. ft. and higher

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass, White Polyester, Chrome Plated
SIN	TY7228
TECH DATA	TFP215

EC-11 & EC-14

Upright, Pendent & Recessed Pendent

- Light hazard/Ordinary hazard
- 3 mm bulb
- Nominal K=11.2 designed for coverage applications of 14' x 14' (4,3 m x 4,3 m) up to 20' x 20' (6,1 m x 6,1 m)
- Nominal K=14.0 designed for coverage applications of 16' x 16' (4,9 m x 4,9 m) up to 20' x 20' (6,1 m x 6,1 m)
- Low profile glass bulb spray sprinklers

K FACTOR	K=11.2 (161,3), K=14.0 (201,6)
THREAD SIZE	3/4" NPT
ESCUTCHEON	Style 30 • Style 40 • Style 60
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester, Lead Coated
SIN	TY5137, TY5237, TY6137, TY6237
TECH DATA	TFP220

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

EC-8

Pendent & Recessed Pendent

- Light hazard
- 3 mm bulb
- Covers areas as large as 20' x 20' (6,1 m x 6,1 m)

K FACTOR	K=8.0 (115,2)
THREAD SIZE	3/4" NPT
ESCUTCHEON	Style 30 • Style 40
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY4232
TECH DATA	TFP223

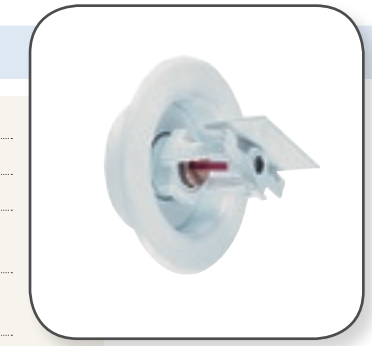
EC-5

Pendent & Recessed Pendent

- Light hazard
- 3 mm bulb
- Coverage up to 20' x 20' (6,1 m x 6,1 m)

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 50
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3232
TECH DATA	TFP228

Horizontal Sidewall & Recessed Horizontal Sidewall



- Light hazard
- 3 mm bulb
- Coverage up to 16' x 24' (4,9 m x 7,3 m)

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 50
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3302
TECH DATA	TFP298

EXTENDED COVERAGE SPRINKLERS

TY-FRB

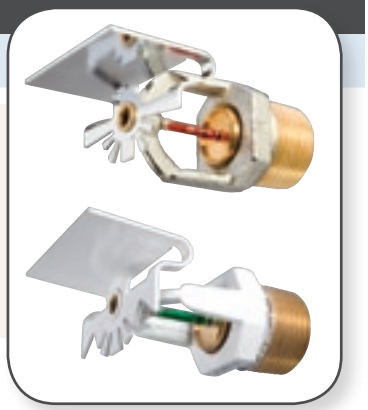
Horizontal & Recessed Horizontal Sidewall

- Light hazard
- 3 mm bulb
- Two-piece escutcheon converts sidewall sprinklers into low profile sprinkler assemblies with coverage areas up to 16' x 22' (4,9 m x 6,7 m) for K=5.6 and 16' x 24' (4,9 m x 7,3 m) for K=8.0
- Provides 3/4" NPT (19,1 mm) of horizontal adjustment from the flush sidewall position

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON	Style 10 • Style 20 Style 30 • Style 40
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, White Polyester, Chrome Plated
SIN	TY3332, TY4332
TECH DATA	TFP296

ELO SW-20/SW-24

Horizontal Sidewall



- Ordinary hazard
- 3 mm bulb
- Utilizes an Extra Large Orifice (ELO) that allows low water pressure requirements, while providing the flow required for extended coverage
- SW-20 Listed to a 16'-0" (4,9 m) wide and a 20'-0" (6,1 m) throw maximum coverage area
- SW-24 Listed to a 16'-0" (4,9 m) wide and a 24'-0" (7,3 m) throw maximum coverage area

K FACTOR	K=11.2 (161,3)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY5332, TY5337
TECH DATA	TFP230

TY-FRL

Horizontal Sidewall

- Light hazard
- Solder type
- K=5.6 for QR-EC coverage areas up to 16' x 20' (4,9 m x 6,1 m) and 18' x 16' (5,5 m x 4,9 m)
- K=8.0 for EC and QR-EC coverage areas up to 16' x 24' (4,9 m x 7,3 m)
- QR-EC coverage areas up to 20' x 16' (6,1 m x 4,9 m)

K FACTOR	K=5.6 (80,6) •K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated
SIN	TY3322, TY4322
TECH DATA	TFP280

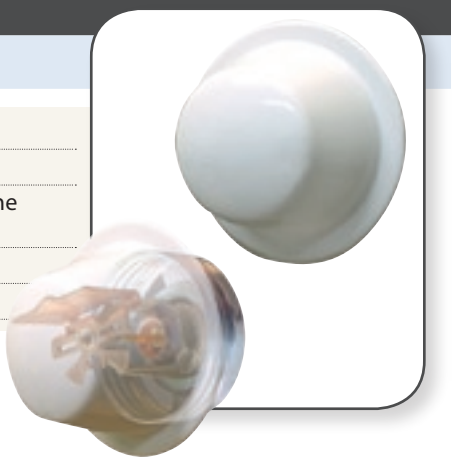
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

CHEC

Concealed Horizontal Extended Coverage Sidewall

- Light hazard
- 3 mm bulb
- Attractive concealed contour
- Coverage up to 16' x 22' (4,9 m x 6,7 m)
- Lowest flows & pressures allowed by NFPA 13
- 1/2" adjustment
- Push on / thread off option
- 12" maximum deflector distance from ceiling
- No "Slots" in cover plate

K FACTOR	K=8.0 (115,2)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Bright White, Chrome Plated, Custom
SIN	TY4332
TECH DATA	TFP265

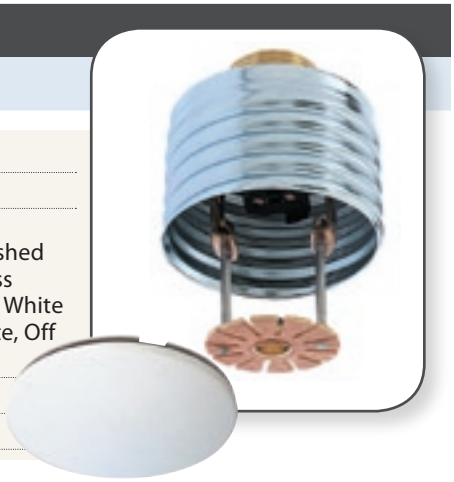


ELOC

Concealed Pendent

- Light hazard
- Covers 400 sq. ft. (37,2 m^2) using less pressure than a standard 1/2" (12,7 mm) sprinkler at 225 sq. ft. (20,3 mm)
- Available with optional dust and air seal
- Concealed in an enclosed escutcheon plate with flat cover for use in those applications where aesthetics is a primary consideration

K FACTOR	K=11.2 (161,3)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Cover Plate: Chrome Plated, Brushed Chrome Plated, Brass Plated, Bright Brass, White Painted, Bright White, Off White, Custom
SIN	TY5522
TECH DATA	TFP250



RFII (ROYAL FLUSH II)

Concealed Pendent

- Light hazard
- 3 mm bulb
- Maximum 18' x 18' (5,5 m x 5,5 m) QR Listing
- Concealed in an enclosed escutcheon plate with flat cover for use in those applications where aesthetics is a primary consideration
- Separable, two-piece design of the mounting cup and cover allows installation of the sprinklers and pressure testing of the fire protection system prior to installation of a suspended ceiling or application of the finish coating to a fixed ceiling

K FACTOR	K=5.6 (80.6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Cover Plate: Chrome Plated, Brass Plated, White Painted, Custom
SIN	TY3532
TECH DATA	TFP260

- Internally threaded closure with 1/2" (12,7 mm) of adjustment

THE EC-17 CAN HELP REDUCE YOUR COSTS:

- Reduces Number Of Sprinkler "Heads" Installed
- Extended Coverage – Maximum 196 sq. ft. (14′ x 14′) Spacing
- Designed For Area/Density Applications Of 0.25 GPM/Sq. Ft. Or Higher
- Hydraulic Calculations Based On Actual Spacing – Can Be Spaced At 15′ x 9′7″ (144 ft² Max Per NFPA 13)
- Pendent Design Is Ideal For Retail Applications

tyco
Fire & Building Products

STORAGE SPRINKLERS

APPLICATIONS:

- ***High-Piled Storage***
- ***In-Rack Storage***
- ***Warehouse***
- ***High Challenge Occupancies***

Storage Sprinklers are intended for use in specific applications, including the protection of high-piled and rack storage of a variety of finished goods. These sprinklers can provide more water at lower pressures or more water over a greater area of coverage. In many instances, use of the storage sprinklers can eliminate the need for additional in-rack sprinklers.

Intermediate level (in-rack) sprinklers are designed for use in rack storage sprinkler systems, where their thermally sensitive elements must be shielded from the water spray of higher elevation sprinklers that could operate during a fire. Intermediate Level Sprinklers are also used in applications such as beneath open gridded catwalks. These sprinklers are intended for use in fire sprinkler systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., FM approval and UL Listing is based on NFPA requirements).

STORAGE SPRINKLERS

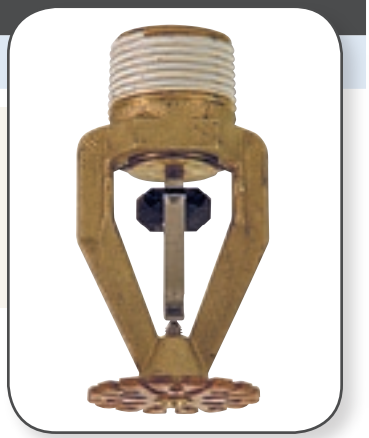
ESFR-25™

Pendent

- Early Suppression, Fast Response (ESFR)
- Solder type
- Designed for the protection of rack storage
- Eliminates many of the requirements for in-rack sprinklers
- Materials may be stored up to 40' (12,2 m) high, in buildings up to 45' (13,7 m)
- Direct attack on burning fuel by improved heavy sprinkler discharge
- Patented frame design substantially reduces the frame shadow effects that often produce non-uniformity in spray pattern

K FACTOR	K=25.2 (362,9)
THREAD SIZE	1" NPT or ISO 7-R1
SPRINKLER FINISH	Natural Brass
SIN	TY9226
TECH DATA	TFP312

- Novel orifice seal and unique fast response link design are the very latest in sprinkler technology



ESFR-17

Pendent

- Early Suppression, Fast Response (ESFR)
- Solder type
- Primarily designed for use in ceiling only sprinkler systems
- Use of this sprinkler is especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting rack storage arrangements
- Operates at lower pressure than ESFR-1

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY7226
TECH DATA	TFP315

Upright

- Early Suppression, Fast Response (ESFR)
- Solder type
- Primarily designed for use in ceiling only sprinkler systems
- Use of this sprinkler is especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting rack storage arrangements
- Unique, upright design and large K Factor overcome many pendent obstruction problems

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY7126
TECH DATA	TFP316

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

ESFR-1

Pendent

- Early Suppression, Fast Response (ESFR)
- Solder type
- Designed for the protection of rack storage
- Eliminates many of the requirements for in-rack sprinklers
- Direct attack on burning fuel by improved heavy sprinkler discharge

K FACTOR	K=14.0 (201,6)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY6226
TECH DATA	TFP318

- Patented frame design substantially reduces the frame shadow effects that often produce non-uniformity in spray pattern

ULTRA K-17

Upright, Specific Application Control Mode

- 5 mm bulb
- Control mode sprinkler
- 155°F/68°C & 200°F/93°C
- Full-scale fire testing has shown that the Ultra K17 can control fires with commodities up to Group A plastics, and eliminate the need for in-rack sprinklers
- Reduced end head pressures often eliminate the need for a fire pump

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY7153
TECH DATA	TFP330

- Approved for storage heights of 25' (7,6 m) and building heights to 30' (9,1 m)

Upright, Specific Application Control Mode, 286° F

- 5 mm bulb
- Control mode sprinkler
- 286°F/141°C

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
TECH DATA	Contact TFBP for details

K17-231

Pendent & Upright

- 5 mm bulb
- Very large orifice sprinkler for use in high challenge storage occupancies
- Low-pressure requirement can save cost by reducing branch line size, taking advantage of maximized spacing, and upgrading existing densities
- Can operate at pressures as low as 7 psi (0,48 bar)

K FACTOR	K=16.8 (241,9)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY7151, TY7251
TECH DATA	TFP332

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

STORAGE SPRINKLERS

ELO-231B

Pendent & Upright

- 5 mm bulb
- Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing
- Designed to control high challenge fires with relatively low required pressures

K FACTOR	K=11.2 (161,3)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY5151, TY5251, TY5851
TECH DATA	TFP342

ELO-231 FRB

Pendent & Upright

- 3 mm bulb
- Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing
- Designed to control high challenge fires with relatively low required pressures

K FACTOR	K=11.2 (161,3)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated
SIN	TY5131, TY5231
TECH DATA	TFP344

ELO-231

Pendent & Upright

- Solder type
- Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing
- Designed to control high challenge fires with relatively low required pressures

K FACTOR	K=11.2 (161,3)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY5111, TY5211, TY5811
TECH DATA	TFP340

LD *"LARGE DROP"*

Upright

- 5 mm bulb
- Control mode sprinkler
- Designed for the protection of high-piled storage
- Can provide a higher level of protection than standard spray sprinklers
- Can provide an advantage by eliminating in-rack sprinklers

K FACTOR	K=11.2 (161,3)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY5153
TECH DATA	TFP335

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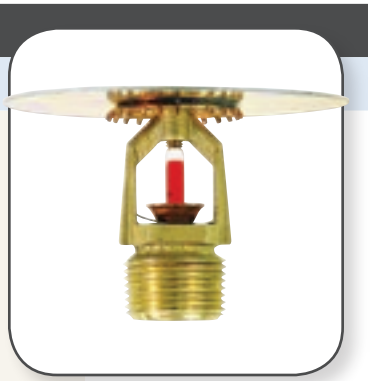
TY-B

Pendent & Upright, Intermediate Level



- 5 mm bulb
- Intermediate level (in-rack) with shield
- Factory assembled unit having an integral water shield
- Used where sprinkler guards are not required

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3153, TY3251, TY4153, TY4251
TECH DATA	TFP351

TY-FRB

Pendent & Upright, Intermediate Level

- 3 mm bulb
- Intermediate level with shield
- Factory assembled unit having an integral water shield
- Used where sprinkler guards are not required

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Lead Coated
SIN	TY3133, TY3231, TY4133, TY4231
TECH DATA	TFP356

TY-L

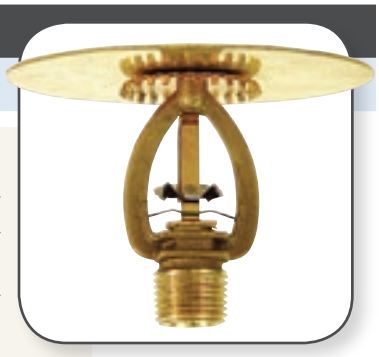
Pendent & Upright, Intermediate Level

- Solder type
- Intermediate level with shield
- Factory assembled unit having an integral water shield
- Used where sprinkler guards are not required

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY3113, TY3211, TY4113, TY4211
TECH DATA	TFP350

TY-FRL

Pendent & Upright, Intermediate Level



- Solder type
- Intermediate level with shield
- Factory assembled unit having an integral water shield.
- Used where sprinkler guards are not required

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated
SIN	TY3123, TY3221, TY4123, TY4221
TECH DATA	TFP355

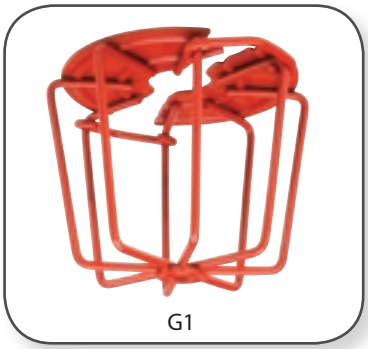
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

SPRINKLER GUARDS

Model G1 & G4 Sprinkler Guards
Model G1/S1 & G4/S3 Guards with Shields

- Designed for use with specific types of Series TY-B, TYFRB, TY-L, and TY-FRL Sprinklers that may be located in areas that make them susceptible to mechanical or physical damage
- Rugged guard design to minimize possible damage to sprinklers
- Shields are for use in storage racks or beneath grated mezzanine, or other areas requiring the sprinklers to be shielded from possible discharge from sprinklers above
- Can be used with either 1/2" or 3/4" NPT sprinklers

FINISHES	Red Painted, Chrome
TECH DATA	TFP780


G1


G4/S3 with Shield


S1


G4

Model G2 Sprinkler Guard, Model WS-2 Shield, and Model WSG-2 Sprinkler Guard with Shield

- Designed for use with Series ELO-231, ELO-231B, or ELO-231FRB Sprinklers that may be located in areas that make them susceptible to mechanical or physical damage
- Rugged guard design to minimize possible damage to sprinklers
- Shields are for use in storage racks or beneath grated mezzanine, or other areas requiring the sprinklers to be shielded from possible discharge from sprinklers above
- Can be used with either 1/2" or 3/4" NPT sprinklers

FINISHES	Red Painted, Chrome
TECH DATA	TFP782


WSG-2 with Shield


G2


WS-2 Shield

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

RAPID RESPONSE™ SPRINKLERS

APPLICATIONS:

- *Single Family Homes*
- *Apartments*
- *Student Housing*
- *Hotels*
- *Beamed Ceilings*
- *Sloped Ceilings*

rapid response® HOME FIRE SPRINKLER SYSTEM

Rapid Response™ Home Fire Sprinkler Systems

- Developed specifically for residential occupancies
- The most complete system on the market today from a single manufacturer
- Features BlazeMaster® CPVC pipe and fittings, making installation quick, easy, flexible, and affordable
- Tyco's exclusive ten-year limited warranty lets you install with confidence
- Product line meets all NFPA standards
- Components are all UL listed for residential installations

Residential Sprinklers offer the optimum design and flow characteristics for all residential applications. With k-factors as low as 4.2, the flow requirements are the lowest in the industry. Other advantages are listings for beam ceilings and for sloped ceilings to an 8:12 pitch. These unique features avoid obstruction to the sprinkler's discharge pattern without adding additional sprinklers.

We can match any Sherwin Williams color for sprinklers with this icon.

rapid response® HOME FIRE SPRINKLER SYSTEM

LFII

Pendent & Recessed Pendent

- 3 mm bulb type
- Approved for special applications with beamed ceilings
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, wet pipe residential occupancies up to and including four stories in height per NFPA 13R and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=4.9 (70,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	White Polyester, Chrome Plated, Natural Brass
SIN	TY2234
TECH DATA	TFP400

Pendent & Recessed Pendent

- 3 mm bulb type
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, in wet pipe residential occupancies up to and including four stories in height per NFPA 13R and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=3.0 (43,2)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	White Polyester, Chrome Plated, Natural Brass
SIN	TY1234
TECH DATA	TFP402

Horizontal & Recessed Horizontal Sidewall

- 3 mm bulb type
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, wet pipe residential occupancies up to and including four stories in height per NFPA 13R and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=4.4 (63,4)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	White Polyester, Chrome Plated, Natural Brass
SIN	TY2334
TECH DATA	TFP412

Horizontal & Recessed Horizontal Sidewall

- 3 mm bulb type
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, wet pipe residential occupancies up to and including four stories in height per NFPA 13R and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=4.2 (60,5)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	White Polyester, Chrome Plated, Natural Brass
SIN	TY1334
TECH DATA	TFP410

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

rapid response® HOME FIRE SPRINKLER SYSTEM

LFII

Flat Plate Concealed Pendent

- Solder type
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, in wet pipe residential occupancies up to and including four stories in height per NFPA 13R, and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13
- Cover plate conceals sprinkler components above the ceiling

K FACTOR	K=4.9 (70,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Cover Plate: Flat White, Bright White, Chrome, Custom
SIN	TY3596
TECH DATA	TFP442

Flat Plate Concealed Pendent

- Solder type
- Can be used for horizontal and sloped ceilings
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D and in wet pipe residential sprinkler systems for residential occupancies up to and including four stories in height per NFPA 13R
- Cover plate conceals sprinkler components above the ceiling

K FACTOR	K=4.2 (60,5)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Cover Plate: Flat White, Bright White, Chrome, Custom
SIN	TY2596
TECH DATA	TFP440

Domed Plate Concealed Pendent

- 3 mm bulb type
- Can be used for horizontal and sloped ceilings
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, in wet pipe residential occupancies up to and including four stories in height per NFPA 13R and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13
- Cover plate conceals sprinkler components above the ceiling

K FACTOR	K=4.9 (70,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	Cover Plate: Flat White, Bright White, Chrome, Custom
SIN	TY2234
TECH DATA	TFP450

Flush Pendent and Horizontal Sidewall

- Solder type
- Pendent model is approved for special applications with beamed ceilings
- Used in wet pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D, in wet pipe residential occupancies up to and including four stories in height per NFPA 13R, and in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=4.2 (60,5)
THREAD SIZE	1/2" NPT
ESCUTCHEON FINISH	White, Chrome, Black, Antique Brass
SPRINKLER FINISH	White, Chrome, Black, Antique Brass
SIN	TY2284, TY2384
TECH DATA	TFP420, TFP425

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

rapid response® HOME FIRE SPRINKLER SYSTEM

LFII • NFPA 13 OPTIMIZED SPRINKLERS

The large orifice 6.9 K, 5.8 K and 5.6 K sprinklers are primarily intended for residential use where there is a 0.1 gpm/sq. ft. density NFPA 13 design requirement, and are generally used for installations in excess of four stories. They are optimized for residential applications where this higher water-flow demand is required, and can meet those requirements with less pressure and smaller pipe sizes.

Pendent, Recessed Pendent & Domed Concealed

- 3 mm bulb type
- Used in wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

K FACTOR	K=6.9 (99,4)
THREAD SIZE	3/4" NPT
ESCUTCHEON	Style 30
ESCUTCHEON FINISH	White, Chrome, Brass
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
COVER PLATE FINISH	Flat White, Bright White, Chrome, Custom
SIN	TY4234
TECH DATA	TFP408

Horizontal & Recessed Horizontal Sidewall Sprinklers

- 3 mm bulb type
- Can be used for horizontal and sloped ceilings

K FACTOR	K=5.8 (83,5)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	White Polyester, Chrome Plated, Natural Brass
SIN	TY4334
TECH DATA	TFP417

Horizontal & Recessed Horizontal Sidewall

- 3 mm bulb type
- Can be used for horizontal and sloped ceilings

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON	Style 20
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3334
TECH DATA	TFP415

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

DRY SPRINKLERS

APPLICATIONS:

- *Unheated Warehouses*
- *Freezing Conditions*
- *Loading Docks*
- *Covered Exterior Platforms*

Dry Sprinklers have been specifically designed for areas in which the sprinkler may be subjected to freezing conditions. These sprinklers have been developed for use in all standard applications, as well as multiple unique scenarios. TFBP Dry Sprinklers are available in both quick and standard response, and come in a variety of finishes. These features, and the advanced engineering in the development of these sprinklers, offer the industry the most complete line of dry sprinklers available. Most models are listed in lengths up to 4'-0". The extended escutcheon option has up to 3" of adjustment.

DRY SPRINKLERS

DS-1

Pendent, Upright & Horizontal Sidewall

- Standard coverage
- All hazards (light hazards, horizontal sidewall)
- 5 mm bulb
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained
- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3255, TY3155, TY3355
TECH DATA	TFP500

- Designed for use in applications requiring dry sprinklers, or where building construction or aesthetic considerations make the installation of dry horizontal sidewall sprinklers more desirable than the dry pendent type

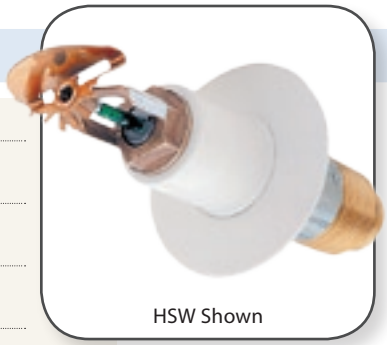
Pendent Shown

Pendent, Upright & Horizontal Sidewall

- Standard coverage
- Light hazard/Ordinary hazard
- 3 mm bulb
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained
- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates
- Designed for use in applications requiring dry sprinklers, or where building

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3235, TY3135, TY3335
TECH DATA	TFP510

construction or aesthetic considerations make the installation of dry horizontal sidewall sprinklers more desirable than the dry pendent type



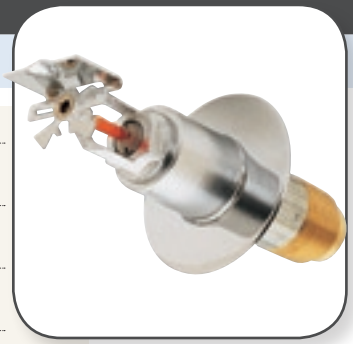
HSW Shown

DS-1

Extended Coverage Horizontal Sidewall

- EC light hazard
- 3 mm bulb
- Lengths up to 48" (1220 mm)
- Designed for use in light hazard occupancy applications requiring a dry sprinkler to cover areas up to
  16′ x 20′ (4,9 m x 6,1 m) or
  18′ x 16′ (5,5 m x 4,9 m)
- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY3338, TY3358
TECH DATA	TFP520



DS-C

Concealed Pendent

- Standard coverage
- All hazard (standard response)
- Light hazard/ordinary hazard (quick response)
- 3 mm and 5 mm bulb
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
SPRINKLER FINISH	Cover Plate: Chrome Plated, Brass Plated, White Painted, Custom
SIN	TY3535, TY3555
TECH DATA	TFP515

- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

DS-ECC

Extended Coverage Concealed Pendent

- EC light hazard/EC ordinary hazard
- 3 mm bulb
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained
- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
SPRINKLER FINISH	Cover Plate: Chrome Plated, Brass Plated, White Painted, Custom
SIN	TY3539
TECH DATA	TFP518

DS-2

Pendent

- Standard coverage
- All hazard (standard response)
- Light hazard/Ordinary hazard (quick response)
- 3 mm and 5 mm bulb
- Extra large orifice
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained

K FACTOR	K=11.2 (161,3)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY5255, TY5235
TECH DATA	TFP530

- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

DRY SPRINKLERS

DS-2

Extended Coverage Pendent

- EC light hazard/EC ordinary hazard
- 3 mm bulb
- Extra large orifice
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained
- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

K FACTOR	K=11.2 (161,3)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY5238
TECH DATA	TFP540

DS-3

Extended Coverage Horizontal Sidewall

- EC ordinary hazard
- 3 mm bulb
- Lengths to 48" (1220 mm)
- Designed for use in applications where sprinklers and/or connecting piping may be exposed to freezing conditions, or the sprinkler system is seasonally drained
- Ideal for Exterior Loading Docks and Covered Areas and can eliminate the need for dry or anti-freeze systems

K FACTOR	K=11.2 (161,3)
INLET THREAD CONNECTION	1" NPT (Standard Order) ISO 7-R1
ESCUTCHEON FINISH	White Coated, Chrome Plated, Brass Plated
SPRINKLER FINISH	Natural Brass, Chrome Plated, White Polyester
SIN	TY5339
TECH DATA	TFP550

- Special assembly provides a seal at the main pipe to prevent water from entering the sprinkler assembly until the sprinkler operates

DSB-2

Dry Sprinkler Boot *(For Use With TFP Dry Type Sprinklers)*

- Helps to close the air gap created by the clearance hole through a wall or ceiling through which the dry type sprinkler has penetrated
- Intended for use with clearance holes through freezer ceiling structures
- Helps to stop the air exchange between the inside and outside of the freezer (or any other type of similar construction) to help prevent transfer of moist air into the freezer space
- Provides the added feature of eliminating the occurrence of cracking of some commonly used sealants, where the cracking of these sealants subsequently allows the passage of moist air

INCLUDES	1 Boot, 2 Strap Ties, and 1/3 oz. of Adhesive *(quantity of adhesive is sufficient for installing 1 Boot)*
TECH DATA	TFP591

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

SPECIAL PURPOSE SPRINKLERS

The Tyco® ILLUSION™ 11.2 K-factor sprinkler is designed specifically for Las Vegas' standards. A fast response, extra large orifice concealed pendant sprinkler, the ILLUSION™ is perfect for casino atriums, exhibit halls and retail areas with over 25' ceilings heights; blending in so well they give the illusion they aren't even there.

ILLUSION
We Cover All The Action

Special Purpose Sprinklers are intended for use in specific applications, including the protection of combustible concealed spaces and areas subject to corrosion. Also, these installations may need consideration for more water at lower pressures, or more water over a greater area.

APPLICATIONS:

- *Attic Spaces*
- *Retail Windows*
- *High Security Institutions*
- *Minimal Water Damage Conditions*
- *High Temperature Conditions*
- *Corrosive Conditions*

SPECIAL PURPOSE SPRINKLERS

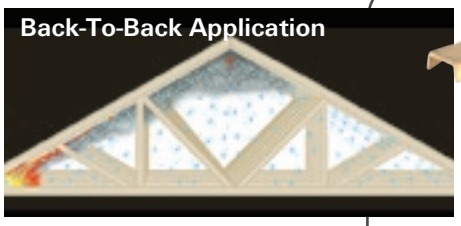
ATTIC

BB (Back-to-Back), SD (Single Directional), HIP, & AP (Attic Plus)

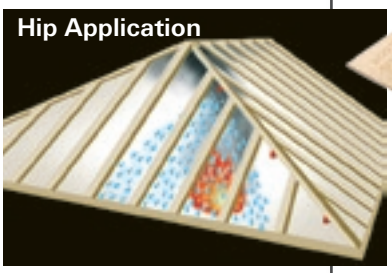
PEAK™ PERFORMANCE
ATTIC PROTECTION SPRINKLER SYSTEM

- "Specific Application Sprinklers for Protecting Attics"
- 3 mm bulb or solder type
- Provides a tested method of protecting an attic
- Provides a specific cost advantage by reducing the amount of piping required
- Cover attics to 60'-0" wide with a single line of piping, eliminating the need for as many as five branch lines
- Saves up to 80% of the piping that would be required with standard sprinklers while providing a higher level of protection

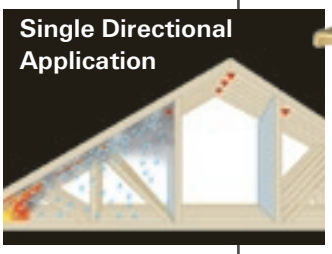
K FACTOR	K=4.2 (60,5), K=5.6 (80,60), K=8.0 (115,2)
THREAD SIZE	1/2" NPT 3/4" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY4180, TY4181, TY4182 TY3180, TY3181, TY3182 TY2180, TY2181, TY2182 TY3183, TY3184, TY3185 TY3187, TY3190, TY2190
TECH DATA	TFP610



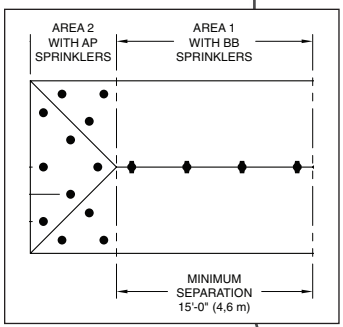
Back-To-Back



Hip



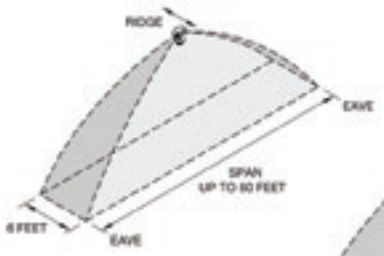
Single Directional



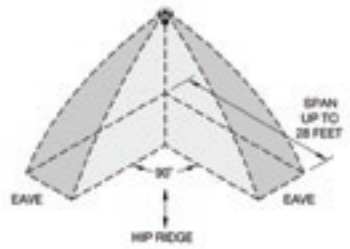
Attic Plus

Spray Patterns

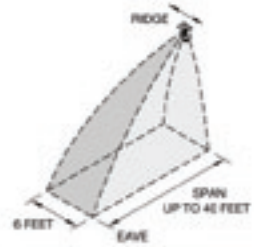
BB



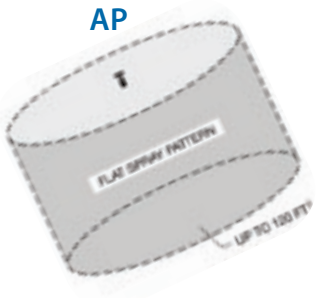
HIP



SD



AP



SPECIAL PURPOSE SPRINKLERS

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CC1

Combustible Concealed Space Sprinklers™, Upright

- 3 mm bulb
- Specific application sprinklers
- Provides protection of light hazard combustible, as well as non-combustible, concealed spaces requiring sprinkler protection
- Meets NFPA® Requirements for Specialty Listed Sprinklers in Combustible Concealed Spaces
- Allows the use of BlazeMaster® CPVC pipe in combustible concealed areas with the benefit of superior sprinkler protection for Wood truss spaces

K FACTOR	K=2.8 (40,3)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY1189
TECH DATA	TFP630

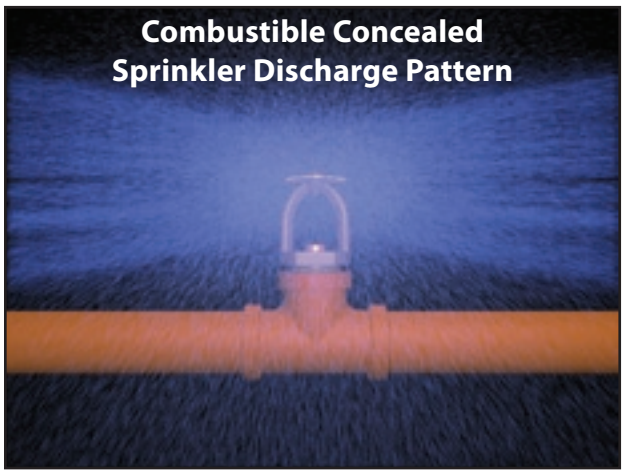
CC2

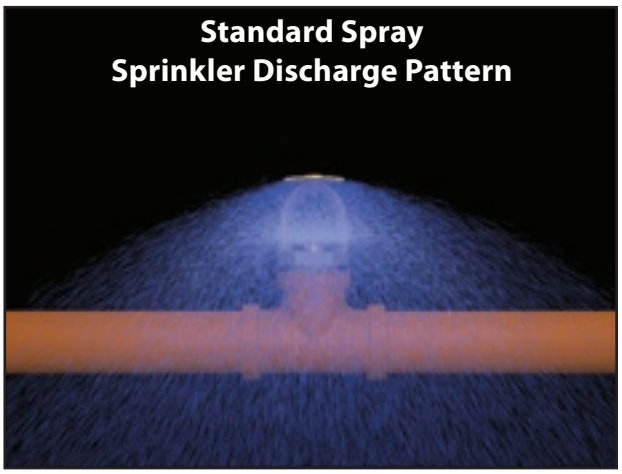
Combustible Concealed Space Sprinklers™, Upright

- 3 mm bulb
- Specific application sprinklers
- Provides protection of specific light hazard combustible, as well as non-combustible, concealed spaces requiring sprinkler protection
- Meets NFPA® Requirements for Specialty Listed Sprinklers in Combustible Concealed Spaces
- Allows the use of BlazeMaster® CPVC pipe in combustible concealed areas with the benefit of superior sprinkler protection for Wood truss spaces

K FACTOR	K=4.2 (60,5) • K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Natural Brass
SIN	TY2189, TY3189
TECH DATA	TFP632

- Can be used on steel dry pipe sprinkler systems
- Increased spacing from 10 ft. (3,1 m) to 12 ft. (3,7 m)
- Increased coverage area from 100 ft^2 (9,3 m^2) to 144 ft^2 (13,4 m^2)

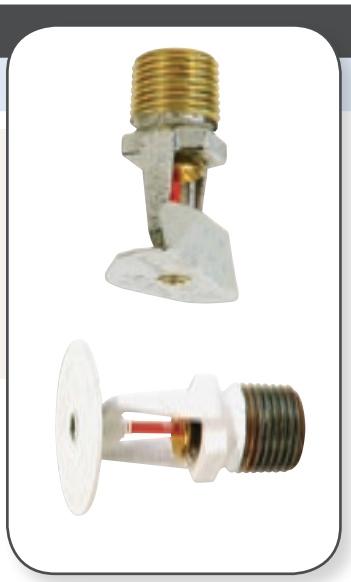




SPECIAL PURPOSE SPRINKLERS

WS™

Window Sprinklers, Horizontal & Pendent Vertical Sidewall



- 3 mm bulb
- Specific application sprinklers
- Only UL tested sprinklers that can protect glazing in a wall or window and allow it to maintain its mechanical equivalent rating up to two hours
- First sprinklers to be UL/C-UL Listed, ICC-ES, and ULC Listed & Approved for maintaining a rated assembly
- Pendent allows installation farther away from the glass than the sidewall
- Sidewall permits the window mullion to act as a baffle, allowing the sprinklers to be spaced closely together, if necessary

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	White Polyester Coated, Chrome Plated, Natural Brass
SIN	TY3388, TY3488
TECH DATA	TFP620

- Provides the only UL tested option when seeking wall fire ratings when using tempered or heat strengthened glass

TFP MAX

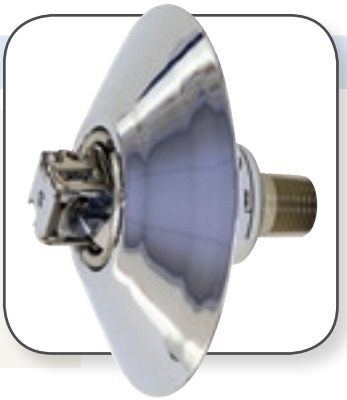
Institutional Pendent

- Light hazard/Ordinary hazard
- 2.5 mm bulb
- Designed to provide maximum solutions to the unique fire protection needs of institutional facilities
- For use in correctional, detention, and mental health care facilities
- Vandalizing, moving, or disassembling the sprinkler results in activation and a water flow alarm
- Low breakaway weight

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1/2" NPT
ESCUTCHEON FINISH	Chrome Plated
SPRINKLER FINISH	Chrome Plated
SIN	TY3291
TECH DATA	TFP652

- Flush mount escutcheons
- 175 psi (12,1 bar)

Institutional Horizontal Sidewall



- Light hazard/Ordinary hazard
- 2.5 mm bulb
- Designed to provide maximum solutions to the unique fire protection needs of institutional facilities
- For use in correctional, detention, and mental health care facilities
- Vandalizing, moving, or disassembling the sprinkler results in activation and a water flow alarm

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1/2" NPT
ESCUTCHEON FINISH	Chrome Plated
SPRINKLER FINISH	Chrome Plated
SIN	TY3391
TECH DATA	TFP656

- Low breakaway weight
- Flush mount escutcheons
- 175 psi (12,1 bar)

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TFP PH2

Institutional Pendent

- All hazard
- Solder type
- Low breakaway weight
- Flush mount escutcheons
- 175 psi (12,1 bar)

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1/2" NPT
ESCUTCHEON FINISH	Chrome Plated
SPRINKLER FINISH	Chrome Plated
SIN	TY3290
TECH DATA	TFP650

TFP PH5

Institutional Horizontal Sidewall

- Light hazard/Ordinary hazard
- Solder type
- Low breakaway weight
- Flush mount escutcheons
- 175 psi (12,1 bar)

K FACTOR	K=5.6 (80,6)
INLET THREAD CONNECTION	1/2" NPT
ESCUTCHEON FINISH	Chrome Plated
SPRINKLER FINISH	Chrome Plated
SIN	TY3390
TECH DATA	TFP654

ISSUE D QUARTZOID®

High Temperature, Upright & Pendent

- Standard coverage
- All hazard
- 11 mm bulb
- Extra-high and ultra-high temperature ratings and corrosion resistant coatings
- Temperature Ratings to 650°F (343°C) available

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
SPRINKLER FINISH	Natural Brass, Chrome Plated, Lead Coated
SIN	TY3191, TY3296, TY4191 , TY4292
TECH DATA	TFP690

FTR-1

Fixed Temperature Release

- 3 mm bulb
- Fixed-temperature, heat detector intended for wet or dry pilot release service
- Can be used for pilot line service, instead of standard sprinklers, to activate deluge and preaction systems equipped with either wet or dry pilot line detection
- Corrosion resistant assembly option for outdoor applications (Teflon® coated)
- Maximum 40 ft. x 40 ft. spacing

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Natural Brass, White Polyester Coated, Gray Teflon® Coated
SIN	TY3030
TECH DATA	TFP1388

SPECIAL PURPOSE SPRINKLERS

TY-B & TY-FRB *(ALTERNATE MATERIALS OF CONSTRUCTION)*

Upright & Pendent Sprinklers

- TY-B: 5 mm diameter heat sensitive glass bulb, standard response
- TY-FRB: 3 mm diameter heat sensitive glass bulb, quick response
- Corrosion resistant, standard coverage spray sprinklers designed for use in commercial occupancies where corrosive atmospheres may exist
- Alternate materials of construction (Stainless Steel, SMO, or Titanium) are utilized to extend the life of a sprinkler beyond that which might be expected of copper alloy sprinklers exposed to corrosive atmospheres

K FACTOR	K=5.6 (80,6) • K=8.0 (115,2)
THREAD SIZE	1/2" NPT • 3/4" NPT
ESCUTCHEON STYLE	Style 10 • Style 40
SPRINKLER FINISH	Stainless Steel, SMO, Titanium
SIN	TY8191, TY8291, TY9191 TY9291, TY8181, TY8281 TY9181, TY9281, TY8192 TY8292, TY8182, TY8282 TY8193, TY8293, TY8183 TY8283
TECH DATA	TFP680

3mm bulb shown

Vertical, Horizontal & Recessed Horizontal Sidewall Sprinklers

- TY-B: 5 mm diameter heat sensitive glass bulb, standard response
- TY-FRB: 3 mm diameter heat sensitive glass bulb, quick response
- Corrosion resistant, standard coverage spray sprinklers designed for use in commercial occupancies where corrosive atmospheres may exist
- Alternate materials of construction (Stainless Steel, SMO, or Titanium) are utilized to extend the life of a sprinkler beyond that which might be expected of copper alloy sprinklers exposed to corrosive atmospheres

K FACTOR	K=5.6 (80,6)
THREAD SIZE	1/2" NPT
ESCUTCHEON STYLE	Style 10
SPRINKLER FINISH	Stainless Steel, SMO, Titanium
SIN	TY8391, TY8491, TY8381, TY8481, TY8382, TY8482, TY8393, TY8493, TY8383, TY8483
TECH DATA	TFP680

3mm bulb shown

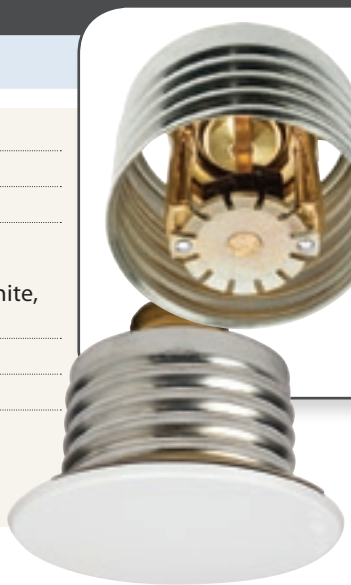
ILLUSION™

Concealed Standard Coverage Pendent Sprinklers

- Extra large orifice/Special hazard
- Coverage per NFPA 13
- Available with optional dust and air seal
- The ILLUSION is concealed in an enclosed escutcheon plate with flat cover for use in those applications where architecturally sensitive areas such as casinos, hotel lobbies, office buildings, churches and restaurants

ILLUSION
We Cover All The Action

K FACTOR	K=11.2 (161,3)
THREAD SIZE	3/4" NPT
ESCUTCHEON STYLE	Style 10 • Style 40
SPRINKLER FINISH	Cover Plate: Chrome, Brass, Signal White, Grey White, Pure White, Custom
SIN	TY5521
TECH DATA	TFP184



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SPRINKLER ACCESSORIES

Sprinkler Accessories are for use with the sprinklers and nozzles described in this catalog. Escutcheons are referenced by a style number and are available in brass, chrome or white finish. Please refer to the technical data sheet for additional information and a listing of what finishes are available.

APPLICATIONS:

- *Improve Appearance*
- *Conceal Clearance Holes*
- *Onsite Emergency Storage Supply*
- *Protection from Mechanical or Physical Damage*

SPRINKLER ACCESSORIES

ESCUTCHEON PLATES

Pendent & Sidewall Recessed Escutcheons

- Styles 10, 20, 30, 40 & 50
- Consists of a mounting plate and closure for finished appearance in ceilings or soffits
- Maximum 1/2" to 3/4" NPT adjustment
- Intended for use in areas with finished ceilings or walls, and the adjustment provided by these escutcheons reduces the accuracy to which fixed piping to the sprinklers must be cut, while providing a decorative recessed sprinkler installation
- Primarily designed for use with standard spray, quick response sprinklers and the Designer residential sidewall sprinklers
- Available for use with 1/2" or 3/4" NPT sprinkler heads

FINISHES	Carbon steel chrome plated, white coated, or brass plated. Series 300 stainless steel white coated or plain unpolished. *(Other colors available on request.)*
TECH DATA	TFP770

Style 65, One-Piece Flat Escutcheon
Style 401, Two-Piece Adjustable Escutcheon

- Used to improve the overall appearance of the sprinkler installation by concealing the clearance holes required for wall or ceiling installation
- Deep, two-piece, adjustable
- Available for 1/2" and 3/4" NPT

FINISHES	Chrome, White, Brass
TECH DATA	TFP777

Style 65

Style 401

Style 60, Two-Piece Flush Escutcheon

- Used to improve the overall appearance of the sprinkler installation by concealing the clearance holes required for wall or ceiling installation
- Deep, two-piece, adjustable
- Available for 3/4" NPT

FINISHES	Chrome, White, Brass
TECH DATA	TFP778

Style 60

SPRINKLER HEAD CABINET

3, 6 or 12 Capacity

- Provides storage for spare sprinklers and sprinkler wrench
- Spare sprinklers facilitate the prompt replacement of operated or damaged sprinklers and return of fire protection system to service as soon as possible

TECH DATA	TFP785

NOZZLES & ACCESSORIES

APPLICATIONS:

- *Flammable Liquid Tanks & Operations*
- *Equipment or Processes that Require Special Designs*
- *Cable Trays*
- *Clean Rooms*
- *Computer Rooms*
- *Conveyors*
- *Cut-Off Rooms*
- *Engine Test Cells*
- *Flammable Liquid Storage*
- *Food Processing*
- *Fuel Storage*
- *Gas Turbines*
- *Historic Sites & Museums*
- *Industrial Process Equipment*
- *Machining Centers*
- *Ferries*
- *Offshore Platforms*
- *Telecom*
- *Transformers*
- *Vapor Suppression*

Nozzles & Nozzle Accessories are designed for use in a variety of special hazard applications. Their uses include, but are not limited to, exposure protection, fire control, fire extinguishment, and explosion prevention. Many types of nozzles may be required to provide a properly designed special hazard fire protection system.

D3

Protectospray® Nozzle

- Designed for use in water spray fixed systems for fire protection applications
- Open orifice design type for use in deluge systems
- Nozzles are external deflector types that discharge a filled cone of water droplets at relatively low velocity
- Spray angles available: 65°, 80°, 95°, 110°, 125°, 140°, 160°, and 180°

K FACTOR	K=1.2 (17,3) • K=1.8 (25,9) K=2.3 (33,1) • K=3.0 (43,2) K=4.1 (59,0) • K=5.6 (80,6) K=7.2 (108,7)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Bronze: Natural Finish, Teflon Coated, Lead Coated, Chrome Plated, or Natural Finish Stainless Steel
TECH DATA	TFP802

EA-1

Automatic Protectospray® Nozzle

- Bulb type frangible element for use in closed head systems
- Discharges a filled cone of water droplets at relatively low velocity
- Spray angles available: 65°, 80°, 95°, 110°, 125°, 140°, 160°, and 180°

K FACTOR	K=1.4 (20,2), K=2.8 (40,3) K=5.6 (80,6)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Bronze: Natural Finish, Lead Coated, Chrome Plated, Corrosion proof Wax Coated
TECH DATA	TFP800

B-1

Foam-Water Sprinkler

- Air aspirating foam-water nozzles
- Pendent & upright styles
- Open nozzle for use in NFPA 16 foam sprinkler system

K FACTOR	K=3.0 (43,2)
THREAD SIZE	1/2"
SPRINKLER FINISH	Natural Bronze
TECH DATA	TFP840

HV "HIGH VELOCITY"

Spray Nozzle

- Open, directional spray nozzles
- Designed for use in fixed water spray fire protection systems where a high velocity water application is needed, such as the protection of flammable liquids, electrical transformers, circuit breakers, oil-fired boilers and lube oil systems
- Available in six different orifice sizes
- Produces a solid conical spray pattern
- Available in six angle spray patterns

K FACTOR	K=1.6 (23,0) • K=1.8 (26,0) K=2.8 (40,3) • K=4.6 (66,2) K=5.5 (79,2) • K=6.0 (86,4)
THREAD SIZE	1" 1 1/4" (only K=6.4)
SPRINKLER FINISH	Natural Brass or Stainless Steel
TECH DATA	TFP815

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AM4 AQUAMIST®

Open Type

- Open, directional mist nozzles
- Listed and Approved for the protection of flammable liquid hazards (UL/FM)
- Approved for protection of gas turbines (FM)
- Maximum ceiling height, 26' 3" (8 m)
- Compartment volume –
  - UL - 56,500 ft^3 (1,600 m^3)
  - FM - 45,203 ft^3 (1,280 m^3)
- Maximum utilization of water for flammable liquid fire protection
- Nozzle coverage: maximum 172 ft^2 (16 m^2)
- Nozzle pressure: 185 to 250 psi (12,8 to 17,2 bar)

K FACTOR	K=0.24 (3,5)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Stainless Steel
TECH DATA	TD1173

AM10 AQUAMIST®

Open Type

- Open mist nozzles
- Designed for use in water mist protection systems protecting flammable liquids and turbine bearings
- Minimal water demand, approximately 3.1 GPM/nozzle at 170psi (11,73 LPM at 11,6 bar)
- Mist represents latest in fire protection technology
- For use in "low pressure" mist applications
- Minimum operating pressure is 170 psi (11,6 bar)

K FACTOR	K=0.24 (3,5)
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Stainless Steel
TECH DATA	TD1174

AM24 AQUAMIST®

Open Type

- Listed and Approved for Marine Type Approved by Lloyds, USCG, DNV, American Bureau of Shipping, MCA, Germanischer Lloyd, Bureau Veritas
- Intended Applications – IMO Mandated Local Application System for Protection of Class A Machinery Spaces
- Maximum Distance between nozzles (to plane of protection) - Vertical Clearance Nozzle Spacing
  –1 m to 3.5 m nozzles - 4.0 meter spacing
  –3.5 m to 5.0 m nozzles - 3.5 meter spacing
  –5.0 m to 10.0 m nozzles - 3.0 meter spacing
- Nozzle pressure: 175-250 psi (12,1 to 17,2 bar)

K FACTOR	4.7 lpm/bar 1/2, 0.33 gpm/psi 0.5
THREAD SIZE	1/2" NPT
SPRINKLER FINISH	Brass, Chrome Plated, White Polyester
TECH DATA	TD1172

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F822 THRU F834 MULSIFYRE®

Directional Spray Nozzles, Open, High Velocity

- Two configurations: basic Mulsifyre Nozzle and Mulsifyre Nozzle with Model F880 Dust Cap
- Available in six different models provide a wide range of orifice sizes and water distribution characteristics
- Air aspirating foam-water nozzles, for use with all types of foam (required for Non-AFFF type foams)
- Designed for use in water spray fixed systems for fire protection applications where a high velocity water application may be required
- Pendent & upright designs
- Open nozzle for use on deluge systems

K FACTOR	K=2.0(28,8) • K=2.3(33,1) K=2.7(38,9) • K=2.6(37,4) K=4.6(66,2) • K=5.1(73,4)
THREAD SIZE	3/4"
SPRINKLER FINISH	Brass
TECH DATA	TFP810

COOLING TOWER NOZZLE

Type 1 and 2

- Intended for use in fire protection systems for cross flow cooling towers with combustible fill sections
- Open nozzle design for use in water spray deluge system
- Installed under the distribution basin, they discharge water in a relatively narrow, elongated spray pattern
- Type 1 has a waterway designed for use in towers with diffusion decks, Type 2 for those without diffusion decks

K FACTOR	K=2.9 (41,76)
THREAD SIZE	3/4" NPT
SPRINKLER FINISH	Stainless Steel
TECH DATA	TFP830

BLOW-OFF PLUGS

Plugs for Protectospray® Nozzles or Open Sprinklers

- Intended for use in applications where protection is required against infestation or accumulation of debris within the orifice of an open Protectospray Nozzle or open sprinkler
- Blow-Off Plugs are designed for both indoor or outdoor use

K FACTOR	K=5.6 (80) • K=8.0 (115)
TECH DATA	TFP890

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WET SYSTEM VALVES & DEVICES

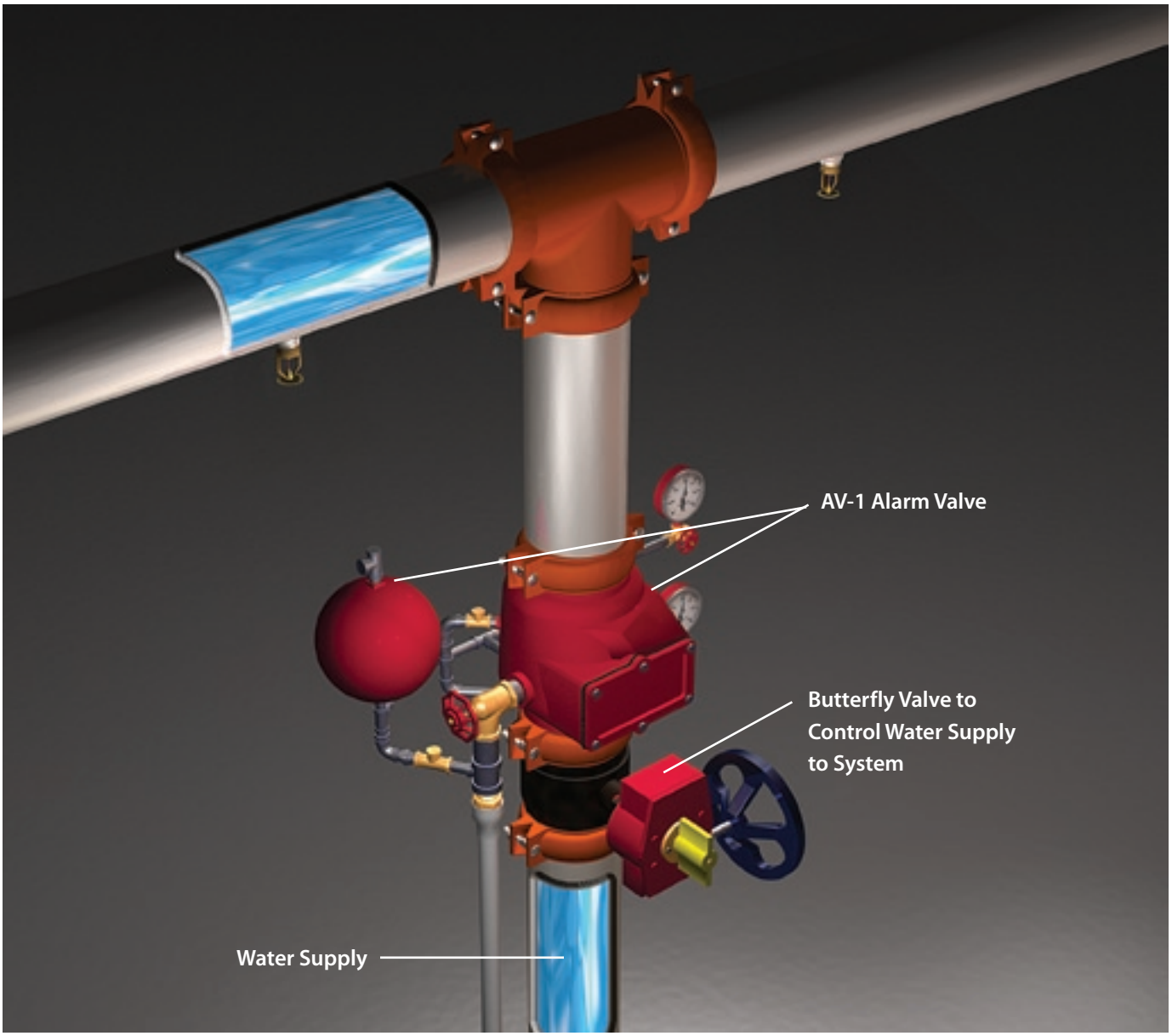
APPLICATIONS:

- *Heated Warehouses*
- *Factories*
- *Hospitals*
- *Stores*
- *Shopping Centers*
- *Apartment or Condominium Complexes*
- *Single Family Residences*

Wet Pipe Sprinkler Systems are designed for use in applications where the temperature is maintained above freezing. In such systems, the entire piping network is fully pressurized so that water is discharged from a sprinkler head immediately after actuation.

Alarm check valves or water flow detectors are used to actuate local and remote alarms. Applications include heated warehouses, factories, hospitals, stores, shopping centers and residential settings such as apartment or condominium complexes, and single family residences.

WET SYSTEM VALVES & DEVICES



AV-1

Alarm Valve

- 2 1/2" (DN65) Alarm Valves may be installed vertically
- 4", 6", and 8" (DN100, DN150, and DN200) Alarm Valves may be installed vertically or horizontally
- Groove x Groove, Flange x Flange, Flange x Groove Alarm Valves are divided seat ring, rubber-faced clapper, check type, water flow alarm valves
- For use in wet pipe (automatic sprinkler) fire protection systems
- Automatically actuates electrically and/or hydraulically operated alarms when there is a steady flow equivalent to the discharge rate for one or more sprinklers
- Optional Retard Chamber used in installations subject to variable pressure (generally associated with public water supplies) to help prevent false alarms
- Available pre-assembled with modular trim to provide a quick and convenient method for trimming valve risers. Contact TFBP for details
- Maximum rated working pressure is 300 psi (20,7 bar)

TECH DATA TFP910

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

CV-1FR

Riser Check Valve

- Sizes 2" (DN50) through 8" (DN200)
- Intended for use in a wet type automatic sprinkler system riser
- Furnished with grooved ends that are compatible with grooved pipe and couplings
- Can be installed with ANSI class 150 or 300 Flanges utilizing flange adapters

TECH DATA TFP950

- Designed with a removable cover for ease of field maintenance
- Standard seal is grade "E" EPDM
- Maximum rated working pressure is 300 psi (20,7 bar)

RSV-1

Residential Domestic Shutoff Valve

- 1" (DN25) size is designed for single family demand (NFPA 13D)
- During the design of a residential sprinkler system, domestic water use should be taken into consideration unless the domestic supply can be stopped when a sprinkler operates
- When a sprinkler operates, water supply is automatically diverted from the domestic system to the sprinkler system
- Eliminates the need for pumps, pressurized storage tanks, or electrically operated domestic shutoff valves

TECH DATA TFP980

- Valve automatically resets after the fire protection system is returned to normal service
- Maximum rated working pressure is 175 psi (12,1 bar)

RISER MANIFOLDS

513D (13D), 513D/R (13D/R) and 513 (13)

- 513D (13D) and 513D/R (13D/R):
  - Available sizes: 1", 1-$^1/_2$", and 2" (DN25, DN40, and DN50)
  - Provides the necessary water flow alarm, pressure gauge, and drain equipment in a single assembly for use in NFPA 13D or 13R residential sprinkler systems
- 513 (13):
  - Available sizes: 1-$^1/_2$" thru 6" (DN40 thru DN150)
  - Provides the necessary water flow alarm, pressure gauge, alarm test orifice, drain, and sight glass equipment in a single assembly for use in NFPA 13 sprinkler systems

TECH DATA TFP960 & TFP962

- Available in different configurations and variety of sizes allowing a cost effective and easy transition to check valves, control valves, and system piping
- May be installed either horizontally (flow switch on top) or vertically (flow going up)
- Maximum rated working pressure is 175 psi (12,1 bar)

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

WET SYSTEM VALVES & DEVICES

RESI-RISER

Residential

- Sizes 1"- 2" (25-50 mm)
- Compact, pre-assembled, ready to install sprinkler riser
- Brass construction for use in potable water supply
- Integral test and drain assembly, flow switch with retard mechanism, 300 psi gauge, and check valve
- Compact size allows for easy installation between 2" x 4" (50-100 mm) studs

TECH DATA Contact TFBP for details

- Molded mounting points allow for fast and easy left or right hand installation
- Available with or without pressure relief valve or flow switch retard mechanism features
- Maximum rated working pressure is 175 psi (12,1 bar)

WMA-1

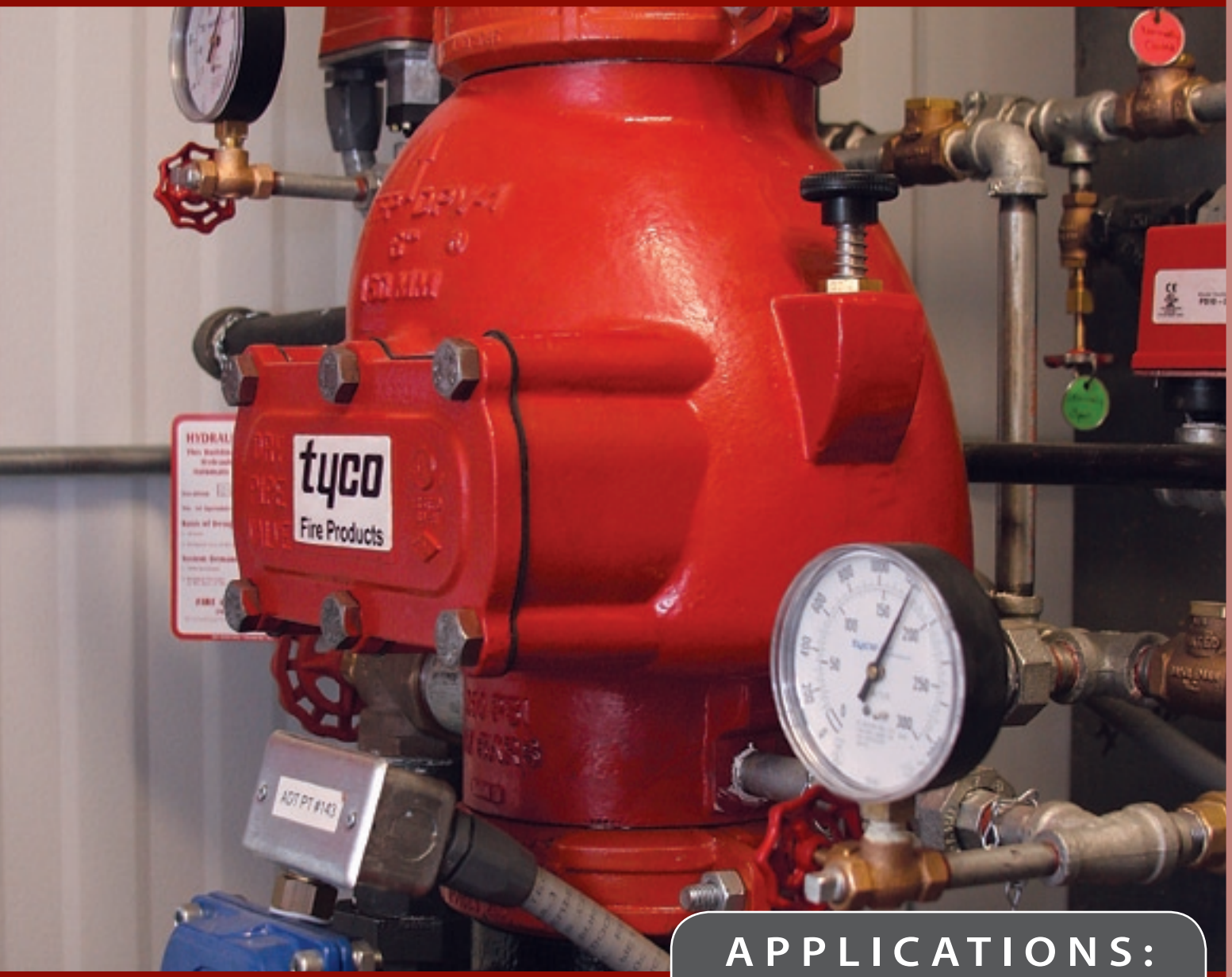
Water Motor Alarm

- Hydraulically operated outdoor alarm for use with appropriate fire protection system valves (alarm, dry, deluge)
- Supplied by dedicated outlet in valve trim line or retard chamber
- Uses energy-efficient lightweight impeller design capable of producing very high sound level
- Corrosion-resistant aluminum alloy gong, gong-mount, and water motor housing
- Delrin bearings - do not require lubrication - for long life
- May be mounted on any type of wall

TECH DATA TFP921

- Can accommodate range of wall thicknesses from 2" to 18" (50 to 450 mm)
- Furnished with approved $^{3}/_{4}$" (20 mm) Y-strainer for use in alarm line
- Maximum rated working pressure is 300 psi (20,7 bar)

DRY SYSTEM VALVES & DEVICES



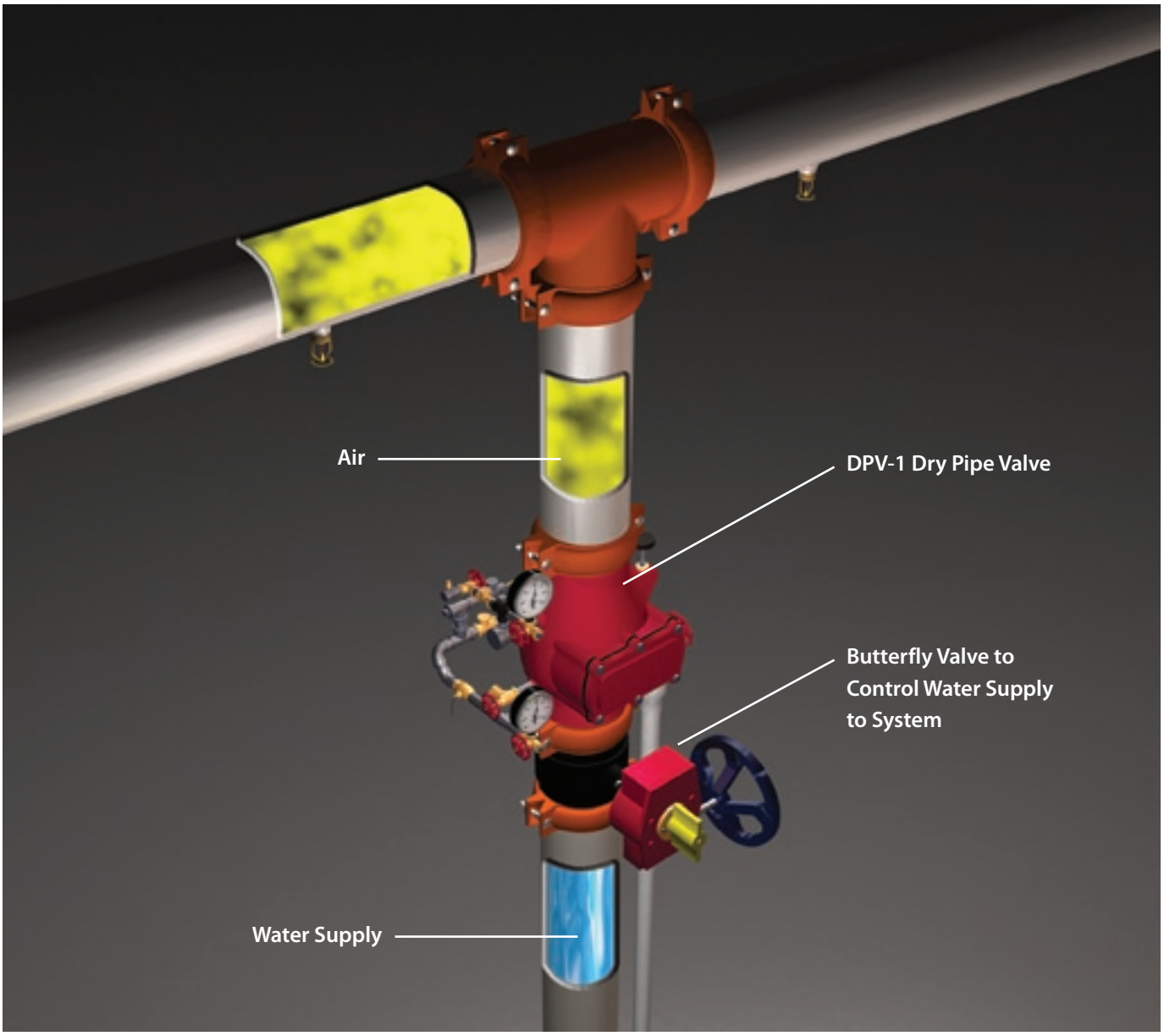
APPLICATIONS:

- *Unheated Warehouses*
- *Parking Garages*
- *Store Windows*
- *Attic Spaces*
- *Loading Docks, & Other Areas Exposed To Freezing Temperatures*

Dry Pipe Sprinkler Systems are designed for applications where piping and sprinklers are subjected to freezing temperatures, such as unheated warehouses, parking garages, store windows, attic spaces, or loading docks. Valves for the system, however, must be installed in areas not subject to freezing, as this portion of the system does contain water. Pipe lines to the sprinklers are usually pressurized with air, but nitrogen can be used. When pressure in the system is lost by actuation of a sprinkler head, the dry pipe valve trips, activates alarms, and releases water into the system. The system may be equipped with automatic or manual air supply controls and air supervisory devices with appropriate trouble alarms.

Accessory items, such as dry pipe valve accelerators that increase the speed of system operation, and pressure switches used to activate electric alarms, may be used to enhance the system.

DRY SYSTEM VALVES & DEVICES



DPV-1

Dry Pipe Valve – 2½" thru 6"

- Available sizes: 2½" (DN65), 3" (DN80), 4" (DN100) and 6" (DN150)
- External reset differential dry pipe valves
- Available as Flange x Flange, Flange x Groove, or Groove x Groove
- Unique, offset clapper design minimizes valve size and weight
- Used to supply sprinkler installations in which sprinklers are subjected to freezing conditions (40˚F / 4˚C or less)

TECH DATA TFP1020

- Rated for use at a maximum service pressure of 250 psi (17.2 bar)
- Listings and Approvals: UL, C-UL, and FM

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

ACC-1

Dry Pipe Valve Accelerator

- Designed for use with Model DPV-1 dry pipe valves
- Speeds operation of the dry pipe valve upon loss of air pressure
- Automatically adjusts to small or slow changes in system pressure but trips upon a rapid and steady drop in pressure
- Designed to trip when system air pressure drops at a rate exceeding approximately 1 psi/minute (0.07 bar/min)
- Upon tripping, it transmits system air pressure to the intermediate chamber of the dry pipe valve, which neutralizes the differential pressure holding the valve closed and opens the waterway clapper

TECH DATA TFP1112

- Rated for use at a maximum water supply pressure of 250 psi (17,2 bar) and a maximum system air (or nitrogen) pressure of 70 psi (4,8 bar)
- Listings and Approvals: UL, ULC, FM, LPC, SSL, and VdS

QRS

Electronic Accelerator

- Maximum working air pressure 70 psi (4,8 bar)
- Quick opening device intended to reduce the time for dry pipe valve operation following the operation of one or more automatic sprinklers
- Automatically adjusts to both small and slow changes in system pressure, but trips with a steady drop in pressure (as in the case of sprinkler operation)
- Can be used to retro-fit existing mechanical accelerators
- Fully assembled package includes switch, solenoid, control panel, and accelerator trim pipe and fittings
- Built-in low and high pressure alarm supervision

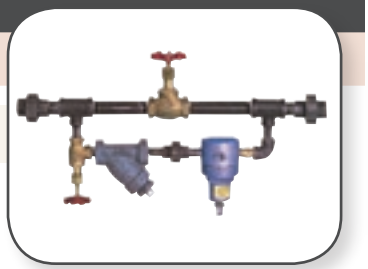
TECH DATA TFP1100

- Operation of the dry pipe valve within four seconds -independent of various combinations of system initial air pressures, system volumes, or sprinkler K Factors
- Proven electronic release technology as used for electrically operated deluge and preaction systems
- Battery back-up in the event of primary power failure
- Eliminates re-setting problems often incurred with traditional mechanical accelerators
- Listings and Approvals: UL, FM

DRY SYSTEM VALVES & DEVICES

AMD-1

Air Maintenance Device, Pressure Reducing Type



- Field adjustable
- Used in systems where compressed air source is available
- Used in systems in which the air supply is at a higher pressure than is desired for a sprinkler system or dry pilot line system
- Listings and Approvals: UL, ULC, and FM

TECH DATA TFP1221

AMD-2

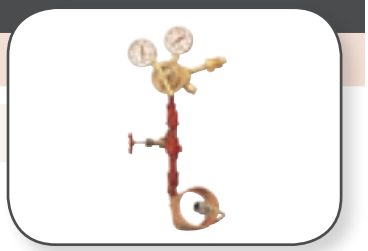
Air Maintenance Device, Compressor (small w/o tank) Control Type

- Field adjustable
- Used in conjunction with a small, non-tank-mounted air compressor
- Monitors sprinkler system or dry pilot line detection for deluge system air pressure and automatically cycles the compressor to maintain system pressure within preset limits
- Listings and Approvals: UL, ULC, and FM

TECH DATA TFP1231

AMD-3

Nitrogen Maintenance Device, High Pressure (Cylinder) Reducing Type



- Field adjustable
- Used in conjunction with a cylinder of high pressure nitrogen to control the nitrogen pressure in a sprinkler system or a dry pilot line detection for deluge systems
- Listings and Approvals: UL, ULC, and FM

TECH DATA TFP1241

DELUGE & PREACTION SYSTEMS

Deluge Systems are normally used in special hazard installations where water must be applied to an entire area for protection. They use open sprinklers or spray nozzles attached to a piping system connected to a water supply through the deluge valve. The deluge valve is used to control water flow into deluge, preaction, and special types of fire protection systems in response to a fire. This valve is opened by a fire detection system installed in the same areas.

Preaction Systems are used to protect areas where water damage from damaged sprinklers or piping must be avoided. A prealarm of a possible fire allows time for alternate fire extinguishment prior to a sprinkler discharge. They are designed for applications such as refrigerated areas that require maximum protection against inadvertent operation of the sprinkler system.

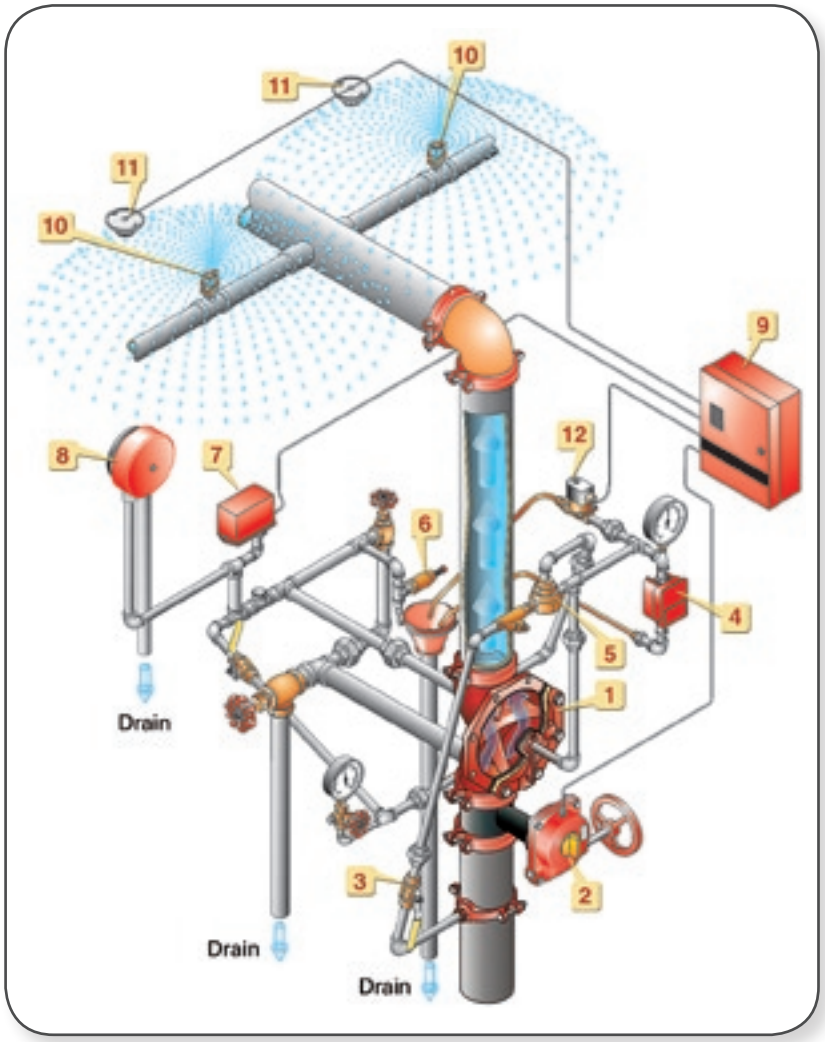
APPLICATIONS:

- ***Flammable Liquid Handling***
- ***Storage Areas for Valuable Artifacts***
- ***Aircraft Hangars***
- ***High-Hazard Installations***
- ***Using Water as Extinguishing Agent***
- ***Computer Rooms***
- ***Libraries***
- ***Archives***
- ***Refrigerated Areas***

DELUGE SYSTEMS

Electric Actuation

Deluge fire protection systems are normally used in special hazard installations where an entire area application of water or foam is required for protection. Applications may include flammable liquid handling and storage areas, aircraft hangars, and other high-hazard installations where water is the most effective extinguishing agent. Deluge systems employ open sprinklers or spray nozzles attached to a piping system. The system is connected to a water supply through the deluge valve. This valve is opened by the operation of a fire detection system installed in the same areas as the open sprinklers or nozzles. Deluge systems may be activated by wet or dry pilot sprinklers, or electric detectors. When the deluge valve opens, water flows into the piping system and discharges from all open sprinklers and nozzles.



Legend:

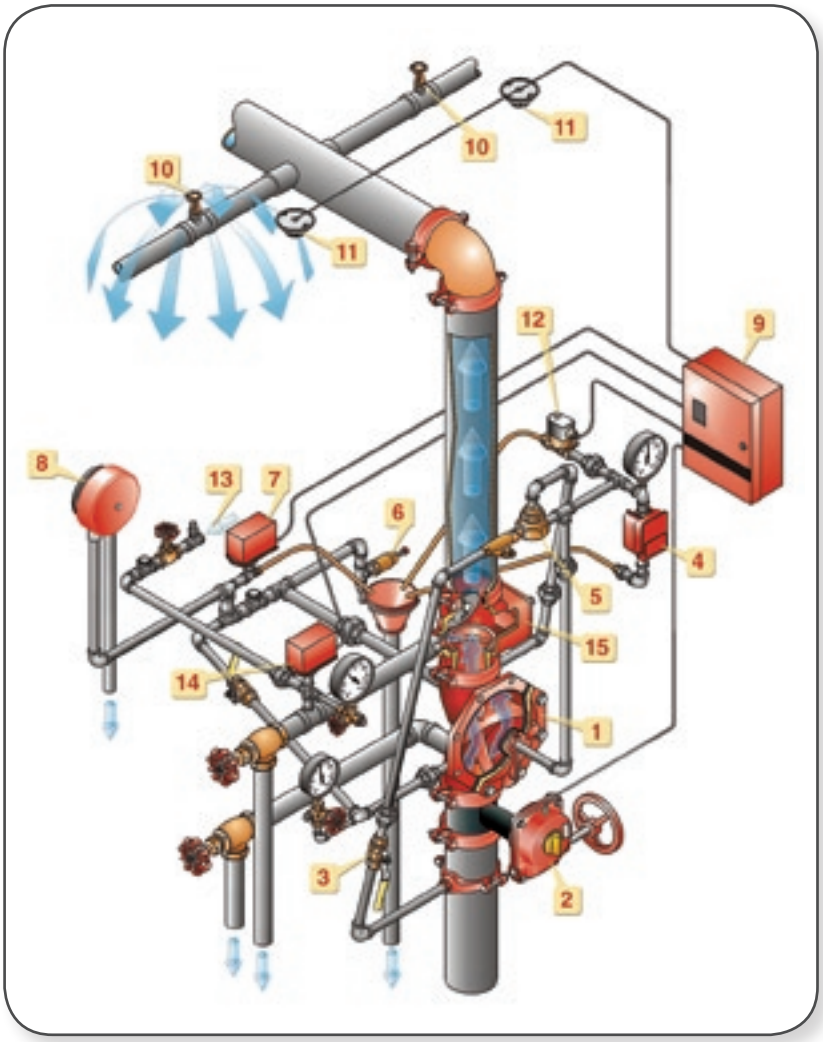
1	Deluge Valve (DV-5)	**7**	Pressure Switch
2	Isolation Valve	**8**	Water Motor Gong
3	Diaphragm Supply Valve	**9**	Releasing Panel
4	Manual Control Station	**10**	Spray Nozzle
5	Automatic Shut-off Valve	**11**	Smoke/Heat Detector
6	Automatic Drain Valve	**12**	Solenoid Valve

SINGLE INTERLOCK PREACTION SYSTEMS

Electric/Electric Actuation

Single interlock preaction systems are used to protect areas where there is danger of serious water damage that might result from damaged automatic sprinklers or piping. Typically, such areas include computer rooms, storage areas for valuable artifacts, libraries and archives. Also, preaction systems are effectively used to protect properties where a prealarm of a possible fire condition may allow time for fire extinguishment by alternate suppression means, prior to a sprinkler discharge. In the event the fire cannot otherwise be extinguished, the preaction sprinkler system will then perform as the primary fire protection system.

Single interlock preaction systems employ automatic sprinklers attached to a piping system containing 10 psi (0,7 bar) supervisory pressure, with a supplemental electric fire detection system installed in the same area as the sprinklers. Preaction systems with 10 psi (0,7 bar) supervisory pressure may also be activated by either wet or dry pilot sprinklers instead of electric detectors. Actuation of the fire detection system from a fire opens the deluge valve, allowing water to flow into the sprinkler piping system and to be discharged only from those sprinklers that have been operated by heat over the fire. Loss of supervisory pressure from the system piping as a result of damaged sprinklers or broken piping will activate a trouble alarm to indicate impairment of the system. The deluge valve will not open due to loss of supervisory pressure.



Legend:

1	Deluge Valve (DV-5)	**9**	Releasing Panel
2	Isolation Valve	**10**	Sprinkler
3	Diaphragm Supply Valve	**11**	Smoke/Heat Detector
4	Manual Control Station	**12**	Solenoid Valve
5	Automatic Shut-off Valve	**13**	Air Supply Inlet
6	Automatic Drain Valve	**14**	Pressure Switch (Air)
7	Pressure Switch Water	**15**	Check Valve
8	Water Motor Gong		

DOUBLE INTERLOCK PREACTION SYSTEMS

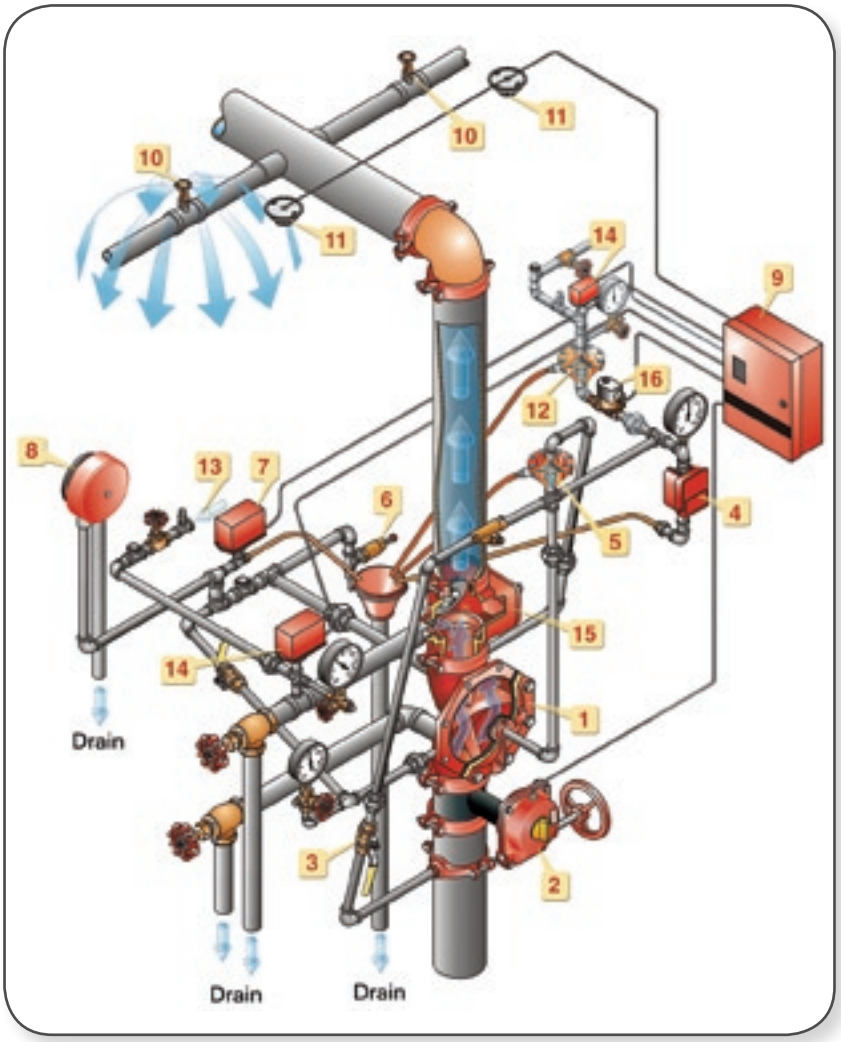
Pneumatic/Electric Actuation

Double interlock preaction systems are designed for applications such as refrigerated areas that require the maximum degree of protection against an inadvertent operation that could result in unnecessary flooding of the sprinkler system piping.

The double interlock system consists of a deluge valve and swing check valve with releasing trim featuring both a solenoid valve and a dry pilot actuator in a series configuration. The swing check valve isolates the body of the deluge valve from the system air or nitrogen pressure that holds the dry pilot actuator closed. The solenoid valve remains closed until it is electrically energized by a deluge releasing panel that responds to the operation of a fire detection device.

In order to actuate the double interlock preaction system, two independent events, caused by a fire condition, must occur. The sprinkler system piping must lose air or nitrogen pressure due to the operation of one or more sprinklers, and the deluge releasing panel must energize and open the solenoid valve upon the operation of a fire detection device.

The double interlock system will operate only when both the dry pilot actuator and the solenoid valve are open at the same time. Opening of the dry pilot actuator only (for example: a forklift truck accidentally dislodges a sprinkler) or of the solenoid valve only (for example: accidental operation of an electric manual pull station) will cause an alarm, and will not trip the system or flood the sprinkler system piping.



Legend:

1	Deluge Valve (DV-5)	**9**	Releasing Panel
2	Isolation Valve	**10**	Sprinkler
3	Diaphragm Supply Valve	**11**	Smoke/Heat Detector
4	Manual Control Station	**12**	Pneumatic Actuator
5	FSV (Fail-Safe Valve)	**13**	Air Supply Inlet
6	Automatic Drain Valve	**14**	Pressure Switch (Air)
7	Pressure Switch Water	**15**	Check Valve
8	Water Motor Gong	**16**	Solenoid Valve

DV-5

Deluge Valve, External Resetting Diaphragm Style – 1 1/2" thru 8"

Model DV-5 Deluge Valves are diaphragm type valves designed for vertical or horizontal installation for fire protection system service. They are used as "automatic water control valves" in deluge, preaction, and special types of fire protection systems such as foam-water systems. When properly trimmed, the DV-5 Valves provide actuation of fire alarms upon system operation.

The unique diaphragm style design of the DV-5 Valve allows external resetting. Deluge or preaction systems can be reset without having to open a valve handhole cover and manually reposition a clapper or latch mechanism. Simply repressurizing the diaphragm chamber resets the valve.

The one-piece, diaphragm style design of the DV-5 allows standard internal and external coating of the valve to provide corrosion resistance. The internal corrosion resistance offered by the Rilsan coating makes the DV-5 suitable for most seawater and brackish water supplies when utilized in deluge systems. The external corrosion resistance of the Rilsan coating permits the use of the DV-5 in corrosive atmospheres associated with many types of industrial processing plants and outdoor installations.

- Available sizes:
  1 1/2" (DN40), 2" (DN50), 3" (DN80), 4" (DN100), 6" (DN150), and 8" (DN200)
- Vertical or horizontal installation
- One internal working part
- No linkage or clapper assembly
- Light weight ductile iron body
- Available with deluge and single & double interlock preaction trim
- Internally & externally coated
- Features external resetting
- Diaphragm operation
- For most seawater & brackish water supplies
- For deluge, preaction & foam systems
- Available as Flange x Flange, Flange x Groove, or Groove x Groove body styles
- Rated for 250 psi service
- Listings and Approvals: UL, C-UL, FM, VdS

TECH DATA TFP1305

RED-E-CABINET®

Integrated Fire Protection Packages

The Red-E-Cabinet is a pre-assembled fire protection valve package enclosed within a free-standing cabinet designed to occupy minimal floor space and to provide an aesthetically pleasing enclosure for a fire protection valve riser. The entire package is pre-wired and the water inlet and outlets to the valve riser are grooved to ease installation. The valve package includes the system (manual) shut-off control valve, automatic water control valve, as well as water flow and supervisory switches where system air pressure is required for either supervision or automatic water control valve actuation. An air compressor and associated controls are also provided.

Integral to the Red-E-Cabinet door is a control panel and back-up batteries for providing electrical alarm, supervisory, and trouble functions. All switches within the cabinet are pre-wired to the control panel, making the electrical connections for power, detection circuits, and alarms the only remaining electrical connections to complete the system.

In addition to the integral control panel, windows have been provided in the Red-E-Cabinet door for viewing the releasing panel functions and essential system pressure gauges. A lock for the control panel access door is standard, and a lock for the cabinet door is optional.

- The Red-E-Cabinet has been designed to readily incorporate $1^{1}/_{2}$" (DN40), 2" (DN50), 3" (DN80), 4" (DN100) & 6" (DN200) valve risers for the following types of systems:
  - Deluge System – Electric Actuation
  - Single Interlock Preaction System
  - Double Interlock Preaction System
- Aesthetically pleasing appearance
- Professionally assembled
- Minimal installation time
- Internally pre-wired
- UL/ULC/FM components
- Custom manufactured
- Model DV-5 deluge valve (standard)
- All gauges and panel display are visible externally
- UL, C-UL Listed, FM Approved
- The Red-E-Cabinet is constructed of 14 gauge steel, and is free-standing. The standard paint finish is bright red

All Four Side Panels Easily Removed For Ease of Maintenance

TECH DATA TFP1300

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

GENERAL PURPOSE VALVES

APPLICATIONS:

- *Prevention of Reverse Flow*
- *System Shut-Off or Sectional Control*
- *Closure of Fire Protection After Operation*
- *Facilitation of Testing*

General Purpose Valves are for use in fire protection service applications where it is necessary to prevent reverse flow, or where system shut-off or sectional control is desired for closing a fire protection system after operation, or to facilitate testing.

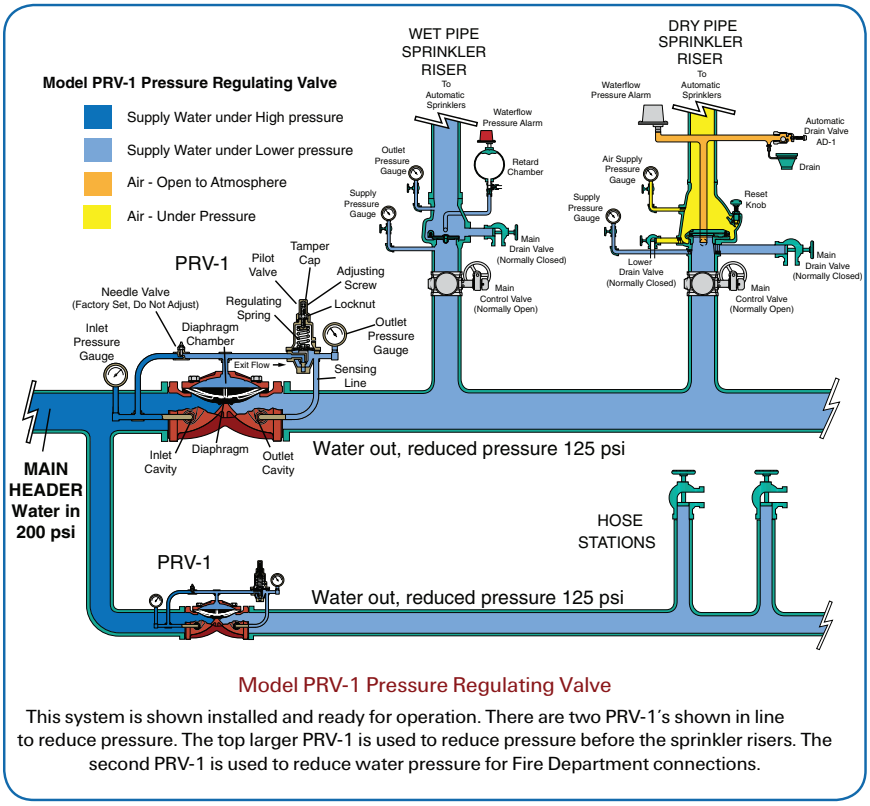
GENERAL PURPOSE VALVES

PRV-1

Pressure Regulating Valve – 2" thru 8" (DN50 thru DN200)

- Can be installed either vertically or horizontally
- Available with threaded, flanged, and cut groove inlet and outlet connections
- Grooved connections are suitable for use with grooved pipe couplings that are listed or approved for fire protection service
- One piece, one moving part diaphragm
- In-line service (for maintenance)
- Pilot valve provides for any outlet "set pressure", i.e., 80 to 150 psi (5,5 to 10,3 bar)
- Rated for use at a maximum pressure of 125 psi (8,6 bar)
- Factory outlet "set pressure" of 250 psi (17,2 bar)
- Field outlet "set pressure" range of 80 to 150 psi (5,5 to 10,3 bar)
- Listings and Approvals: UL, & FM

TECH DATA TFP1580



Model PRV-1 Pressure Regulating Valve

This system is shown installed and ready for operation. There are two PRV-1's shown in line to reduce pressure. The top larger PRV-1 is used to reduce pressure before the sprinkler risers. The second PRV-1 is used to reduce water pressure for Fire Department connections.

CV-1F

Grooved Check Valve – 2" thru 10" (DN50 thru DN250)

- Can be installed either vertically or horizontally
- Cut groove inlet and outlet connections
- Suitable for use with grooved pipe couplings that are listed or approved for fire protection service
- Rated for use at a maximum pressure of 300 psi (20,7 bar)
- Listings and Approvals: UL, ULC, FM

TECH DATA TFP1550

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

BFV-N

Grooved Butterfly Valve – 2½" thru 10" (DN65 thru DN250)

- Indicating type valves provide visual indication of whether the valve is open or closed
- Cut groove inlet and outlet connections
- Suitable for use with grooved pipe couplings that are listed or approved for fire protection service

TECH DATA TFP1510

- Rated for use at a maximum pressure of 300 psi (20,7 bar), or 175 psi (12,0 bar) for the 10" model
- Listings and Approvals: UL, ULC, FM, Calif. State Fire Marshall

Wafer Butterfly Valve – 2" thru 12" (DN50 thru DN300)

- Indicating type valves provide visual indication of whether the valve is open or closed
- Wafer connections
- Suitable for use installation between ANSI Class 125 or 150 flanges without the need for flange gaskets

TECH DATA TFP1515

- Rated for use at a maximum pressure of 250 psi (17,2 bar)
- Listings and Approvals: UL, ULC, FM, Calif. State Fire Marshall

Lug Butterfly Valve – 2" thru 12" (DN50 thru DN300))

- Indicating type valves provide visual indication of whether the valve is open or closed
- Lug connections
- Suitable for use installation between ANSI Class 125 or 150 flanges without the need for flange gaskets

TECH DATA TFP1520

- Rated for use at a maximum pressure of 250 psi (17,2 bar), or for dead end service the maximum pressure is 200 psi (13,8 bar)
- Listings and Approvals: UL, ULC, FM, Calif. State Fire Marshall

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

GENERAL PURPOSE VALVES

TRIM VALVES

- Designed for general service such as shut-off, throttling, or drain valves
- Provide positive shut-off under normal operating conditions

TECH DATA Contact TFBP for details

BUTTERFLY VALVES "BUTTERBALL"

- Bronze body butterfly valves are designed specifically for fire protection applications
- Models are available in 2" and $2^{1}/_{2}$" NPT
- Feature slow closure that substantially minimizes water hammer
- May be used as sectional or small system control valves where a distinct visual indication of the valve status is required

TECH DATA Contact TFBP for details

- BB-SCS01 has built in tamper resistant SPDT switch for use where proprietary or central station supervision of open position of valve is required
- Rated for use at a maximum service pressure of 175 psi (12,1 bar)
- Listings and Approvals: UL, ULC, and FM

DP-1

Dry Pilot Actuator

- Dry Pilot Actuator is an auxiliary releasing device
- Designed for Preaction Valves having double interlock electric/pneumatic release
- Rated for use at a maximum water supply pressure of 250 psi (17,2 bar) and a maximum system air (or nitrogen) pressure of 50 psi (12,1 bar)

TECH DATA TFP1380

- Listings and Approvals: UL, ULC, FM, and LPCB

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

SPECIALTY ITEMS

Specialty Items complement the components used in fire protection systems. These special items help create the ideal configuration for any protection usage.

FEATURES:

- ***Automatic Quarterly Flow Switch Tests Per NFPA 25***
- ***Automatic Actuation of Electric &/or Hydraulic Alarms***
- ***Reduce Accidental Manual Shut-Off & Unnecessary Fire Dept. Dispatch***
- ***Eliminate Expelled Water***

SPECIALTY ITEMS

DD-1 (DRUM DRIP)

Wiliag™ Condensate Drain

- Ready to install
- No power machine for repair
- No power machine required for cutting pipe and making fittings
- Eliminates potential leaks
- Eliminates labor of fabrication
- Classic look of a professional job

TECH DATA Contact TFBP for details

- Net weight only 6.25 lbs.
- Overall length 24" (615 mm)
- Turning radius 2.5" (64 mm)

MODEL FL-1

Fusible Links – 50 lb.

- Heat-activated releasing device designed for installation in mechanically operated systems requiring a positive acting release mechanism
- Used extensively as releasing devices in restaurants and industrial fire protection systems, as well as in heat-activated counterbalanced systems such as fire doors, dampers and kitchen chemical systems
- Consists of fusible alloy sealed in the center of a bronze tube by a stainless steel ball

TECH DATA TFP1610

- When the alloy melts, the fusible assembly compresses, allowing it to eject from between the two-piece strut, strut assembly separates, activating the intended fire protection system or device
- Releasing mechanism rated for 5-lbs. to 50-lbs. loads
- Listings and Approvals: UL and FM

MODEL A & B-1

Pipe Line Strainers

- Model A available sizes:
  - 3" (DN80), 4" (DN100), 6" (DN150), 8" (DN200) and 10" (DN250)
- Model B-1 available sizes:
  - 3" (DN80), 4" (DN100), 6" (DN150), and 8" (DN200)
- Available sizes:
  - 6" x 6" (150 mm x 150 mm)
  - 8" x 8" (200 mm x 200 mm)
  - 8" with 2 - 6" outlets (200 mm with 2 - 150 mm outlets)
  - 10" x 8" with 2 - 8" outlets (250 mm with 2 - 200 mm outlets)

TECH DATA TFP1640 & TFP1642

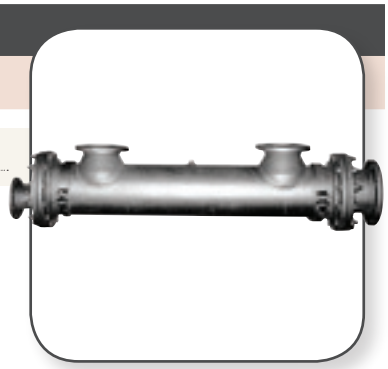
- Compact, lightweight, welded assembly with flanged inlet, outlet and flushing connection
- Corrosion resistant Type 304 stainless steel screen especially designed for low pressure loss
- Rated for use in services up to 175 psi (12,1 bar)
- Listings and Approvals: UL, C-UL and FM

Model B shown

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

MODEL C

Pipe Line Strainer



- Available sizes:
  - 6" x 6" (DN150 x DN150)
  - 8" x 8" (DN200 x DN200)
  - 8" (DN200) with 2 - 6" outlets (2 - 150 mm)
  - 10" (DN250) x 8" (DN200) with 2 - 8" outlets (2 - 200 mm)
- Compact lightweight welded hot dipped galvanized assembly with flanged inlet, outlet and flushing connection

TECH DATA TFP1644

- Corrosion resistant Type 304 stainless steel screen especially designed for low pressure loss
- Rated for use in services up to 250 psi (17.2 bar)
- Listings and Approvals: UL, C-UL and FM

MODEL MC-1

Manual Control Station

- Provides a tamper resistant means for emergency release
- Interconnection with the valves may be direct via hydraulic (wet) pilot line or indirect via pneumatic (dry) pilot line to a Model DP-1 Dry Pilot Actuator
- Rated for use in services up to 250 psi (17.2 bar)

TECH DATA TFP1382

- Listings and Approvals: UL, C-UL and FM

SIGNS

Identification Signs

- Designed to provide information to the end user about the sprinkler system and its components
- Available with a variety of wording combinations to meet the signage requirements of NFPA 13

TECH DATA TFP1615

FIRE DEPARTMENT CONNECTIONS

Straight & 90° Fire Department Connections

- Designed for fire department use to increase water pressure and volume to automatic sprinkler system or standard-pipe system
- Available in both 90° side outlet pattern and the straight through siamese pattern

TECH DATA Contact TFBP for details

HANGERS

Pipe Hangers

- A full-line of pipe hangers for every fire protection need
- Manufactured to meet the quality standards that the industry demands
- Meet the requirements of NFPA 13

TECH DATA Contact TFBP for details

GROOVED PIPING PRODUCTS

Grooved Piping Products are designed for use in fire protection systems and eliminate the need for screwed, welded, or flanged connections. They provide several economic advantages for connecting pipe and fittings when compared to welded or flanged systems. Grooved Piping Products also make field modifications easy, as couplings and fittings can be rotated, added, changed, or eliminated as necessary. Available in a wide range of sizes and configurations. TFBP makes a full line of grooved domestic and import products for fire protection.

FEATURES:

- ***Easy Field Modifications***
- ***Quickly Joining Steel Pipe without Welding***
- ***Rigid Connections for Long Runs & Risers***
- ***Retro-fitting & System Repair***
- ***Dampening Noise & Vibration Transmission***

GROOVED PIPING PRODUCTS

FIGURE 772

Rigid Coupling - Patented

- Available sizes: 1 1/4" (DN32) through 12" (DN300)
- Specifically designed to provide rigidity in grooved piping systems
- Recommended for dry pipe and freezer applications
- Capable of pressures up to 500 psig (3447 kPa) depending on pipe size and wall thickness

TECH DATA TFP1850

- Standard Grade A pre-lubricated gasket
- Also available with tri-seal Grade "E" gasket for dry pipe fire protection systems, vacuum systems, and freezer applications

FIGURE 577

Rigid Coupling - Patented

- Available sizes: 1 1/4" (DN32) through 8" (DN200)
- Specifically designed to provide rigidity in grooved piping systems
- Capable of pressures up to 300 psig (2069 kPa) depending on pipe size and wall thickness
- Standard Grade A pre-lubricated gasket

TECH DATA TFP1854

FIGURE 705

Flexible Coupling

- Available sizes: 1 1/4" (DN32) through 12" (DN300)
- Provides the needed flexibility to accommodate differential movement
- Capable of pressures up to 300 psig (2068 kPa) depending on pipe size and wall thickness
- Standard Grade A pre-lubed gasket

TECH DATA TFP1820

- Also available with tri-seal Grade E gasket for dry pipe fire protection systems, vacuum systems, and freezer applications

FIGURE 716

Flexible Reducing Coupling

- Available sizes: 2" x 1 1/2" (DN50 x DN40) through 8" x 6" (DN200 x DN150)
- Allows easy transition between two different pipe sizes and replaces two couplings and a reducing fitting
- Faster and easier than threading, welding or using flanges

TECH DATA TFP1830

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

FIGURE 71

Flange Adapter

- Available sizes: 2" (DN50) through 12" (DN300)
- Allows a direct transition from flanged components to a grooved piping system
- Bolt patterns conform to ANSI Class 125 and 150 standards

TECH DATA TFP1880

FIGURE 730

Mechanical Tees & Crosses

- Threaded or grooved outlet
- May be used for any tee connection where a threaded or grooved outlet is needed
- Can be configured as a cross when necessary

TECH DATA TFP1860

GROOVED FITTINGS

Elbows, Tees, Caps & Crosses

- Provide an economical and efficient method of changing direction, adding an outlet, reducing or capping grooved piping systems
- Cast grooved fittings provide full flow characteristics
- Full back stop behind the groove to ensure proper coupling engagement and rigidity
- Wide range of grooved fabricated fittings also available

TECH DATA TFP1810

- Full flow standard end-to-end dimensions
- Fully listed and approved for fire protection use
- 300 psi pressure rated
- 90° elbows and tees are also available in the "short pattern" style

GROOVED PIPING PRODUCTS

ADACAP®

- Used to install the last sprinkler on grooved branch line piping or as a drain fitting
- End-of-the-line sprinkler fittings eliminate the need for an end cap and female outlet
- Can be turned down for end of line drain

- Available in $^{1}/_{2}$", $^{3}/_{4}$" and 1" outlets

GALVANIZED PRODUCTS

- Galvanized grooved piping products are also available

TECH DATA Contact TFBP for details

ROLL GROOVERS

- Large assortment of roll groovers available
- Automatic and portable roll groovers for 1" through 24" pipe

TECH DATA Contact TFBP for details

CPVC PIPE & FITTINGS

APPLICATIONS:

- ***Light Hazard & Residential Occupancies***
- ***Unfinished Basements***
- ***Underground Water Pressure Service***
- ***Connections to Copper & Steel Piping***
- ***Resistance of Sweating, Condensation & MIC***

BlazeMaster® FIRE SPRINKLER SYSTEMS

TFBP CPVC Pipe & Fittings manufactured with Lubrizol's BlazeMaster® compound are listed by Underwriters Laboratories, Inc. for use in:

- Light hazard occupancies as defined in the Standard for Installation of Fire Sprinkler Systems, NFPA 13
- Residential occupancies as defined in the Standard for Installation of Fire Sprinkler Systems in Residential Occupancies to Four Stories in Height, NFPA 13R
- Residential occupancies as defined in the Standard for Fire Sprinkler Systems In One and Two Family Dwellings and Manufactured Homes, NFPA 13D
- Blazemaster Pipe and Fittings are listed and approved for use in the widest range of applications for any CPVC fire sprinkler systems

- CPVC pipe and fittings
- Pipe available in sizes ¾" through 3" in 10' and 15' lengths (Tech Data: IH-1900)
- Fittings available in a wide range of designs, in sizes ¾" through 3"
- Elbows, tees, crosses, couplings, sprinkler head adapters (SHA's), reducing tees, reducing bushings, CPVC to grooved couplings

CPVC PIPE & THREADED FITTINGS

BlazeMaster® FIRE SPRINKLER SYSTEMS

CPVC PIPE & FITTINGS

- Pipe available in sizes 3/4" through 3" in 10' and 15' lengths
- Manufactured with Lubrizol's BLAZEMASTER® compound
- Fittings available in a wide range of designs and sizes 3/4" through 3"

TECH DATA IH-1900

BACK-TO-BACK FITTINGS

- Included in the TFBP line of BLAZEMASTER® CPVC products
- Allows two sidewall sprinklers to be piped from one fitting
- Ideal when the CPVC piping is located in a 3 1/2" (2" x 4") vertical wall, eliminating the need for extra nipples, fittings and sprinkler head adapters typically associated with supplying two rooms with the same pipe

TECH DATA IH-1900

- Specially designed and dimensioned to enable the sidewall sprinklers to be recessed with 1/2" or 5/8" sheet-rock wall covering

CPVC TO COPPER FITTING

- Available sizes: 3/4" through 2"
- Transition to BLAZEMASTER pipe from traditional copper tube for plumbing services
- Transition to steel or BLAZEMASTER CPVC Fire Sprinkler System piping from traditional copper tube for plumbing services is fast, easy, and readily available in the most complete fire sprinkler package in the industry

TECH DATA IH-1900

CPVC HANGERS & SUPPLIES

- "No Block Hanger" is a two hole strap that eliminates blocking to the beam when hanging CPVC pipe
- Positions the face of the pipe 1 1/2" off the face of the joist
- Headset hanger is designed to hang CPVC pipe and for the proper placement of the sprinkler before the ceiling is installed
- Provides vertical restraint, eliminating need for additional hangers
- BLAZEMASTER Caulk and Walk® Firestop

TECH DATA IH-1900

- One-Step CPVC Cement specifically formulated for use with BlazeMaster pipe and fittings

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

ELECTRICAL DEVICES

FEATURES:

- *Easier to Install, Set & Maintain than Mechanical Accelerators*
- *Operation of the Dry Pipe Valve within Four Seconds*
- *Proven Electric Release Technology*
- *Built-in High & Low Pressure Alarm Supervision*
- *Battery Back-up in the Event of Primary Power Failure*

Electrical Devices (alarm and supervisory) allow sprinkler and other fire protection systems to be interfaced with hydraulic or electronic alarm systems so that upon activation of the system, an electrical or mechanical signal activates an audible or visible alarm or computerized notification device.

ELECTRICAL DEVICES

VSR WATERFLOW ALARM SWITCH

Flow & Pressure Switch

- Available sizes:
  2" (DN50) through 8" (DN200)
- Vane type waterflow switch for use on wet sprinkler systems
- Actuated with a minimum flow of 10 gallons per minute

TECH DATA Contact TFBP for details

- Retard delay is an adjustable feature that can be set from 0 to 90 seconds
- Flow condition must exist for the period of time necessary to overcome the selected delay period

VSR WATERFLOW ALARM SWITCH FOR SMALL PIPE

Flow & Pressure Switch

- Available pipe sizes:
  1" (DN25), $1\frac{1}{4}$" (DN32), $1\frac{1}{2}$" (DN40) or 2" (DN50)
- Vane type waterflow switch for use on wet sprinkler systems
- May also be used as a sectional water flow detector on large systems
- Installs directly into a threaded tee

TECH DATA Contact TFBP for details

MODEL PS10/PS40 PRESSURE ALARM SWITCH

Flow & Pressure Switch

- Designed to detect a pressure increase or decrease in fire sprinkler systems
- PS40 switches are primarily used to monitor low air pressure conditions in dry systems
- PS10 switch is appropriate for water flow detection

TECH DATA Contact TFBP for details

BALL VALVE WITH SUPERVISORY SWITCH

Ball Valve with Tamper & Alarm Switch

- Utilizes a $\frac{1}{2}$" ball valve in combination with a switch assembly
- Switch assembly enclosed in a tamper resistant NEMA 4 (water resistant) enclosure

TECH DATA Contact TFBP for details

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

PCVS CONTROL VALVE SUPERVISORY SWITCH

Tamper & Alarm Switch

- Weather proof and tamper resistant switch for monitoring the open position of post indicator, butterfly and other types of fire sprinkler/control valves

TECH DATA Contact TFBP for details

SOLENOID VALVE

For Releasing Service – ½" (DN15)

- Used in conjunction with an electric releasing panel that is listed or approved (as appropriate) for fire protection releasing service, and where the releasing panel is operated by listed or approved (as appropriate) electric fire detectors
- Available in a variety of voltages for both normal and hazardous locations

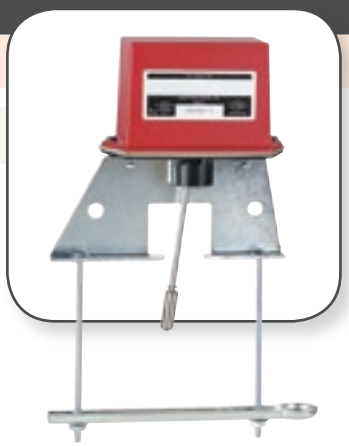
TECH DATA TFP2180

OSY-SU

Tamper & Alarm Switch

- Used to monitor the open position of an OS&Y (outside screw and yoke) type gate valve
- Mounts conveniently to most OS&Y valves ranging in size from 2" (DN50) to 12" (DN300)
- Can be used on some valves as small as $^1/_2$"
- Circulates single sprinkler flow and allows testing of flow switch without external discharge of water - replaces traditional Inspector's test procedure

TECH DATA Contact TFBP for details



4410-RC

Releasing Panel

- Provides the interface between detection system, deluge or single or double interlocked preaction valve, and signaling circuit and devices in electrically actuated fire protection systems
- Separate supervisory zone provided for electronic supervision of valve position, low pressure, and other critical fire protection functions

TECH DATA Contact TFBP for details

- Can be used in single zone, cross zone, sequential or cross/sequential electric deduction systems
- Has programming capability
- Listings and Approvals: UL and FM

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

ELECTRICAL DEVICES

TANK MOUNTED AIR COMPRESSOR

For Dry Pipe Sprinkler Systems

- Designed for the same high-performance as base mounted units
- Compressor is mounted on an air tank to offer further ease of installation and availability
- Automatic and safety features are built into the unit, reducing installation costs

TECH DATA Contact TFBP for details

- Multiple dry systems may be supplied from a single compressor tank that is a constant source of air
- This is the recommended air supply method for all dry pipe sprinkler systems

BASE MOUNTED AIR COMPRESSOR

For Dry Pipe Sprinkler Systems

- Designed for high volume (cubic feet of air per minute) at the moderate pressures required for the system
- Sized properly, these will fill the system to 40 PSIG of air pressure in approximately 30 minutes as required in NFPA 13

TECH DATA Contact TFBP for details

RISER MOUNTED AIR COMPRESSOR

Fully Automatic

- Fully automatic and are designed for easy installation
- Special mounting kits with U-bolts are available to facilitate riser mounting
- Sized properly, these compressors will fill a system to 40 PSIG within 30 minutes as required in NFPA 13

TECH DATA Contact TFBP for details

MODEL G16AC812

Automatic Supervisory Air Supply

- Supplies and maintains air in single interlock preaction fire protection systems having a nominal supervisory air pressure of 10 psi (0.7 bar)
- Can be mounted on the floor, on a wall, or to the system riser using optional brackets
- Listings and Approvals: UL

TECH DATA TFP1620

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

DAP SERIES

Dry Air Pac™

General's DAP Series Dry Air Pac™ is an FM Approved, twin tower regenerative dryer / compressor package. This turnkey system is designed to provide the sprinkler system with moisture free air to a -40°F Dew Point. The air compressor is designed to fill the sprinkler system in accordance with NFPA 13 standards, as well as provide the higher pressure needed to allow the twin tower regenerative dryer to function properly.

Prior to entering the regenerative air dryer, an air cooled aftercooler cools the compressor's hot discharge air to a maximum 100°F. A coalescing prefilter with differential pressure gauge removes oil vapor and other contaminants that can destroy the desiccant in the dryer towers. A combination particulate filter and regulator prevents downstream migration of desiccant dust while regulating air pressure to the sprinkler system.

The Dry Air Pac™ is controlled by one integrated control panel complete with flow diagram display, 120 volt control circuit with indicating lights for tower drying, drain valve activation and compressor operation, along with panel mounted hour meter, separate drain valve duration and interval controls, drain valve on/off switch and panel control on/off switch. Four panel-mounted pressure gauges are provided for receiver, outlet and drying tower pressures. Purge set pressure gauge is separately mounted and conveniently located at the purge valve for ease of setting the purge flow.

All components are pre-piped, pre-tested, and pre-wired for ease of mechanical and electrical installation on site. Each unit includes a UL Listed, FM Approved Air Maintenance Device. -100°F dew point is achievable - consult factory for details.

Applications for the Dry Air Pac™ include, but are not limited to Freezer Rooms, Cold Storage Warehouses, Attic Spaces and Parking Garages.

- Combination after filter and regulator
- A separate port is provided for attachment of a dewpoint-monitoring device
- Oversized mufflers
- Fully integrated control panel
- Compact air cooled after cooler
- Prefilter with differential pressure
- Vibration pads
- The Dry Air Pac™ comes fully charged with desiccant so that no on-site desiccant installation is required at startup
- Separate desiccant fill and drain ports are provided to allow re-charging of the dryer tanks without disassembly of the dryer component piping
- A coalescing filter, with integral differential pressure gauge, removes oil and water droplets prior to entry to into the desiccant dryer
- The single stage compressor allows for maximum efficiency. Standard equipment includes intercooler, oil fill/breather, oil sight glass and easily removable drain plug
- UL, C-UL Listed, FM Approved

TECH DATA Contact TFBP for details

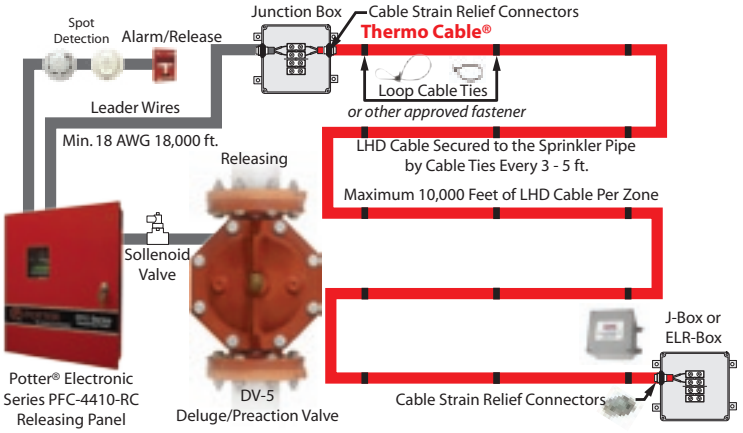
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

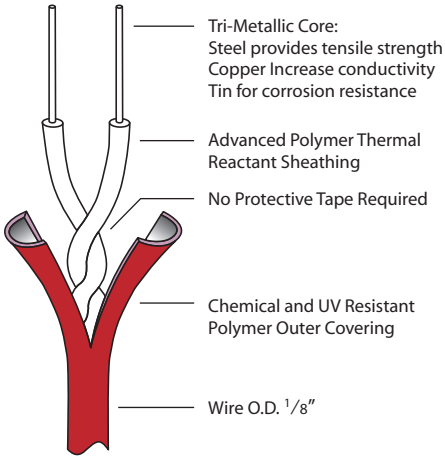
LHD

Linear Heat Detection Cable

The Linear Heat Detection (LHD) cable is a combination of advanced polymer and digital technologies which can be used on any panel, and can detect heat anywhere along its entire length.

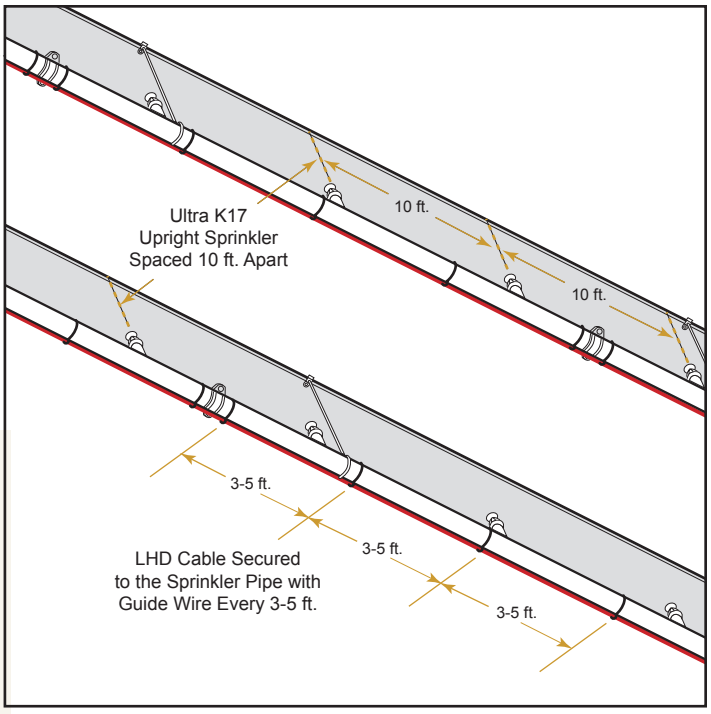
At the core of the LHD cable is a twisted pair of extremely low resistance, tri-metallic conductors, sheathed in new advanced thermal polymers. These polymers are chemically engineered to break down at specific fixed temperatures allowing the twisted conductors to make contact and initiate an alarm. The polymer used for the protective outer coating of LHD cable is chemical resistant and UV protected. This allows the LHD cable be used in a wide variety of installations and special hazard applications.





Linear Heat Detection Cable allows a Quell designed fire sprinkler system to be more efficient by quickly recognizing the fire, and conveying the information back to the fire alarm panel.

- Ideal for double interlock preaction detection
- Install up to 10,000 linear feet per zone
- Compatible with any conventional releasing panel listed for fire
- Can detect heat anywhere along the entire length of cable
- Multiple alarm temperatures can be incorporated in the same zone
- Easy to add a module
- Lower material & installation cost
- UL, C-UL Listed, FM Approved



TEMPERATURE RANGE	155° F (68°C) (typical temperature) 172° F (78°C), 190° F (88°C) 220° F (105°C)
AVAILABLE JACKET MATERIAL	Polyproplene, PVC, Nylon
RESISTANCE	.05 ohms/ft resistance per twisted pair
RF TESTED	Up to 10,000 linear ft.
TECH DATA	Contact TFBP for details

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

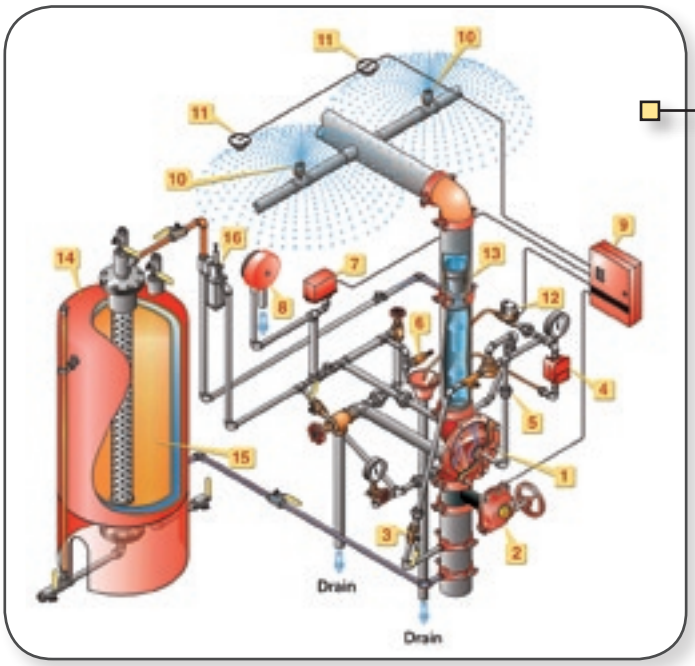
FOAM SYSTEMS

Foam-Water Systems most commonly use the balanced pressure proportioning method for flammable liquid fire protection applications. They are designed to accurately control the flow of a foam liquid concentrate into a water stream over a wide range of flow rates and pressures. Two basic types, bladder tanks and pump systems, require the foam concentrate pressure to be balanced with the water pressure at the proportioner which meters the proper amount of foam concentrate into the water stream. The resulting foam solution is piped to discharge devices protecting the hazard area.

APPLICATIONS:

- *Class B Hydrocarbon Fuel Fires Such as Crude Oils, Gasoline, Diesel Fuels & Aviation Fuels*
- *Class B Polar Solvent Fuel fires such as Methyl Alcohol, Acetone & Ethyl Alcohol*
- *Loading Racks*
- *Aircraft Hangars*
- *Refineries*
- *Marine Vessels*
- *Warehouses*
- *Special Class A Foam Concentrates for Use with Municipal and Forest Firefighting Hardware & Apparatus*

FOAM SYSTEMS



Legend:

1 Deluge Valve (DV-5)
2 Isolation Valve
3 Diaphragm Supply Valve
4 Manual Control Station
5 Automatic Shut-off Valve
6 Automatic Drain Valve
7 Pressure Switch
8 Water Motor Gong
9 Releasing Panel
10 Spray Nozzle
11 Smoke/Heat Detector
12 Solenoid Valve
13 Foam Proportioner
14 Foam Bladder Tank
15 Foam Concentrate
16 Hydraulic Ball Valve

BLADDER TANKS

Foam Bladder Tanks

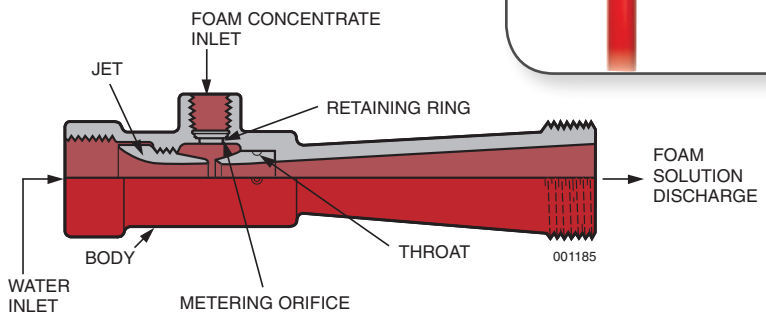
- Elastomeric bladder stores foam liquid concentrate discharged by incoming water applying pressure to the bladder
- Both vertical and horizontal models are available
- Internal tank perforated center tube provides improved agent discharge
- Foam concentrate capacities from 50 to 1500 gal (190 to 5678 L)
- Red standard system paint or coated with an epoxy "CR" red finish for use in marine or corrosive environments
- Standard or pre-piped tanks with proportioner for ease of installation

300 gal (1136 L) Horizontal Tank Shown

PROPORTIONER

2" and 2½" In-Line Proportioner

- Each proportioner consists of a body, inlet nozzle, and metering orifice, all of which are corrosion-resistant brass
- The proportioner body is designed with a female NPT threaded inlet and a male NPT threaded outlet in sizes of 2" or 2½"
- Clearly marked on the proportioner body are the flow direction arrow, as well as the type and percentage of concentrate for which the proportioner was designed
- The inlet nozzle is secured by a stainless steel retaining ring
- The metering orifice is sized according to the type and percentage of concentrate used and is also secured with a stainless steel retaining ring)



Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

IN-LINE PROPORTIONER

In-Line Proportioner Pump System

- Maintains an equal pressure in the foam concentrate and water inlets to the proportioner. This allows the proportioner to be used over a wide range of flows and pressures. It responds quickly and accurately to changes in the water inlet pressures and flow rates
- Spool valve design ensures accurate pressure regulation and rapid response to changes in flow demand
- Six standard sizes
- Brass foam concentrate piping with stainless steel trim accessories
- Standard for use in marine applications and other corrosive environments
- Nameplates for valve identification
- Choice of unpainted brass or standard red paint finish
- Used with an atmospheric foam concentrate tank and a positive displacement foam concentrate pump

FOAM AGENTS

ANSULITE® 1% AFFF Concentrate

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 1% solution in fresh, salt or hard water. 1% premix in fresh or potable water. UL Listed.

ANSULITE® 1% Freeze-Protected AFFF Concentrate

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 1% solution in fresh, salt or hard water. 1% premix in fresh or potable water. Concentrate is freeze protected to –20 °F (–29 °C). UL Listed.

ANSULITE® 3% AFFF Concentrate (AFC-3-A)

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels, and aviation fuels. Aspirated or nonaspirated discharge devices. 3% solution in fresh, salt or hard water. 3% premix in fresh or potable water. UL Listed.

ANSULITE® PREMIUM 3% AFFF Concentrate MIL SPEC (AFC-5-A)

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 3% solution in fresh, salt or hard water. 3% premix in fresh or potable water. UL Listed. On QPL under U.S. Military Specification MILF- 24385F.

ANSULITE® 3% Freeze-Protected AFFF Concentrate

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 3% solution in fresh, salt or hard water. 3% premix in fresh or potable water. Concentrate is freeze protected to –20 °F (–29 °C). UL Listed.

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

FOAM AGENTS (CONT.)

ANSULITE® 6% AFFF Concentrate (AFC-3)

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 6% solution in fresh, salt or hard water. 6% premix in fresh or potable water. UL Listed.

ANSULITE® PREMIUM 6% AFFF Concentrate MIL SPEC (AFC-5)

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Aspirated or nonaspirated discharge devices. 6% solution in fresh, salt or hard water. 6% premix in fresh or potable water. UL Listed. On QPL under U.S. Military Specification MILF- 24385F.

ANSULITE® 3X3 Low Viscosity Alcohol-Resistant AFFF Concentrate

- Superior firefighting performance on Class B fuel fires. Used as 3% concentrate on BOTH hydrocarbon fuels such as gasoline, fuel oil, etc., and polar solvent (water miscible) fuels such as methyl alcohol, acetone, MTBE, etc. Low viscosity formula enhances performance with in-line eductors, balanced pressure systems and built-in systems on firefighting vehicles. Aspirated or nonaspirated discharge devices. 3% solution in fresh, salt or hard water. 3% premix in fresh water. UL Listed, FM and USCG Approved.

ANSULITE® ARC Alcohol-Resistant 3%/6% AFFF Concentrate

- For use on Class B fuel fires: 3% concentrate on hydrocarbon fuels such as gasoline, fuel oil, etc. and 6% on polar solvent (water miscible) fuels such as methyl alcohol, acetone, MTBE, etc. Aspirated or nonaspirated discharge devices. 3%/6% solution in fresh, salt or hard water. 3%/6% premix in fresh or potable water. UL Listed and FM Approved.

ANSULITE® ARC 3 or 6 Freeze Protected

- Freeze Protected ANSULITE® ARC is intended for use as a 3% or 6% proportioned solution, depending on the type of fuel hazad. Fresh or salt water can be used to create the foam water solution. The foam concentrate may be stored at temperatures down to 0 °F (–18 °C) without freezing. If stored below the minimum use temperature, freezing may occur. If freezing does occur, thaw and remix the concentrate prior to use.

3% Regular Protein Foam Concentrate

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Must be used with air aspirating type discharge devices. 3% solution in fresh, salt or hard water. UL Listed.

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

FOAM AGENTS (CONT.)

3% Fluoroprotein Foam Concentrate

- For use on Class B hydrocarbon fuel fires such as crude oils, gasoline, diesel fuels and aviation fuels. Must be used with air aspirating type discharge devices. 3% solution in fresh, salt or hard water. UL Listed.

SILV-EX® "Class A" Fire Control Concentrate

- Makes water at least five times more effective on many Class A deep-seated applications including wild fires and fires found in structures, paper, tires, and coal. Proportioned from 0.1% to 1% in fresh brackish or sea water; as a premix in fresh or potable water for long-term storage. Delivered using aspirating and nonaspirating discharge devices, compressed air foam systems or dropped from fixed or rotary wing aircraft. Approved by U.S. Forest Service.

ANSUL-A™ Municipal "Class A" Fire Control Concentrate

- ANSUL-A foam concentrate is formulated using fluorine-free surfactants to perform on Class A combustible materials. ANSUL-A is compatible for use in compressed air foam systems (CAFS) over the use range of 0.1% to 1.0%. The minimum storage temperature for this concentrate is 20 °F (–6.7 °C).

TARGET-7™ Vapor Mitigation & Neutralizing Agent

- For use on highly toxic chemicals like chlorine dioxide and titanium tetrachloride. Mitigates dangerous vapor releases and simultaneously neutralizes (with the addition of an acidic or caustic agent, depending on the application) the spilled material without causing additional vapor release.

HIGH-EXPANSION FOAM PRODUCTS

JET-X® High-Expansion Foam Generators

- Water-powered. Designed to deliver JET-X® high expansion foam with a maximum output capacity of 24,000 cfm (680 cu. m/min.) The generators are of steel construction with a water powered motor and stainless steel foam screen
- No electrical power is required
- The generators come in various sizes and are used for both portable and fixed-system applications

JET-X® 2 ¾% High-Expansion Foam Concentrate

- For use on Class A, B and LNG fires. Capable of total flooding large rooms and enclosures when used with JET-X high expansion generators at 200:1 to 1000:1 expansion ratios (2 3/4% concentration). Also used with medium-expansion equipment at 50:1 to 200:1 expansion ratios (2% concentration). Used only with air aspirating foam discharge devices. UL Listed and FM Approved.

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

APPROVED DISCHARGE DEVICES FOR USE WITH FOAM CONCENTRATES

Foam liquid concentrates are suitable for use on fires involving ordinary hydrocarbon petroleum products, and some foam liquid concentrates may also be suitable for use on fires involving polar solvent fuels. The fire protection system designer first identifies the fuel load and selects the foam liquid concentrate according to its ability to be used for a given fuel load. Upon selecting the foam liquid concentrate, the designer then selects equipment, including discharge devices, based on listing/approval compatibility of the equipment with the concentrate.

TECH DATA	TFP2005

Discharge devices fall into one of four categories:

- Foam-water sprinklers
- Foam-water spray nozzles
- Non-aspirating spray nozzles
- Standard sprinklers

D3

Protectospray™ Nozzle

TECH DATA	TFP802
ADDITIONAL INFO	Page 40

B-1

½" Foam-Water Sprinkler

TECH DATA	TFP840
ADDITIONAL INFO	Page 40

EA-1

Automatic Protectospray™ Nozzle

TECH DATA	TFP800
ADDITIONAL INFO	Page 40

TY-B

Upright & Pendent

TECH DATA	TFP151
ADDITIONAL INFO	Page 8

TY-FRB

Upright & Pendent

TECH DATA	TFP171
ADDITIONAL INFO	Page 8

ELO-231B

Pendent & Upright

TECH DATA	TFP342
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ELO-231 FRB

Pendent & Upright

TECH DATA	TFP344
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ELO-231

Pendent & Upright

TECH DATA	TFP340
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TY-FRL

Upright & Pendent

TECH DATA	TFP130
ADDITIONAL INFO	Page 10

AQUAMIST® SYSTEMS

APPLICATIONS:

- *Cable Trays*
- *Clean Rooms*
- *Computer Rooms*
- *Conveyors*
- *Cut-Off Rooms*
- *Engine Test Cells*
- *Flammable Liquid Storage*
- *Food Processing*
- *Fuel Storage*
- *Gas Turbines*
- *Historic Sites & Museums*
- *Industrial Process Equipment*
- *Machining Centers*
- *Ferries*
- *Offshore Platforms*
- *Telecommunications*
- *Transformers*
- *Vapor Suppression*

aquamist™ FIRE PROTECTION TECHNOLOGY

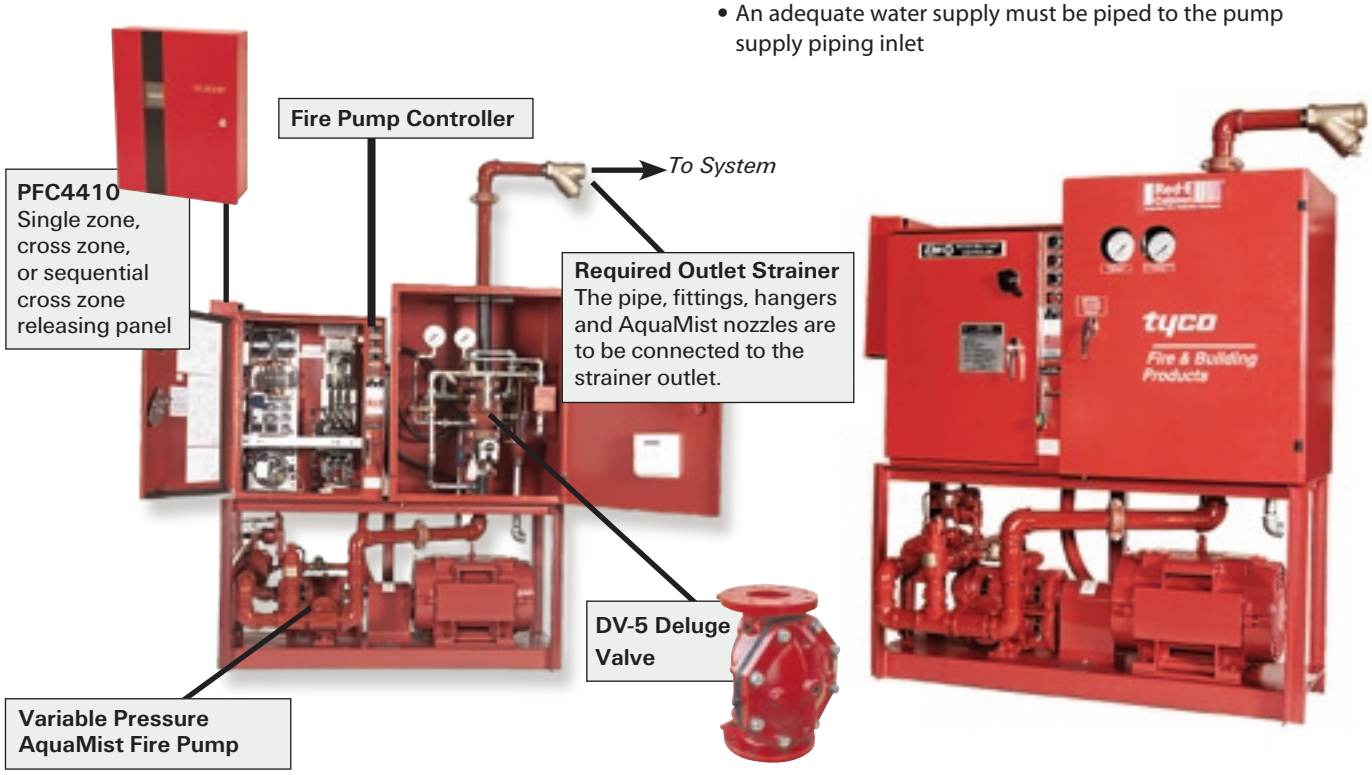
AQUAMIST® Systems utilize the newest and most unique nozzles developed and approved for fire protection. They offer an alternative to gaseous, foam, and heavy density sprinkler systems. By utilizing a higher pressure than a normal sprinkler system, but a 50-80% lower water flow, the AquaMist Systems use less water more effectively, reduce pipe sizes and labor costs, and minimize cleanup and water damage.

"MCC" MIST CONTROL CENTER WITH RED-E CABINET®

Pre-Assembled Fire Pump, Controller, Deluge Valve Cabinet & Releasing Panel

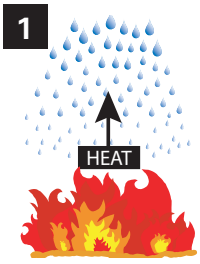
The "MCC" Pump Skid Package is the self-contained control center of the AquaMist® System. The compact skid unit has been professionally designed and assembled to ease system installation and to meet the most stringent project requirements.

- Power must be provided for the control cabinet and pump controller
- Detection circuits must be installed and wired to the control cabinet
- An adequate water supply must be piped to the pump supply piping inlet



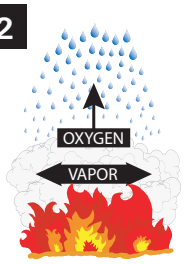
How the AquaMist System Works

1



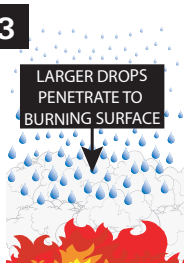
- Evaporation (heat extraction) is a function of surface area of droplets
- Reducing droplet size increases surface area
- Increase in surface area allows for larger cooling effect for a given flow

2



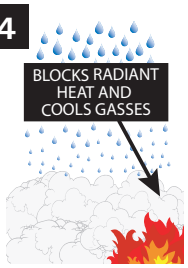
- Water converts to vapor expanding by a factor of 1650 times
- Oxygen is displaced and diluted, thereby blocking it from the fuel source
- Higher heat level causes a faster vaporization

3



- Fire extinguishment is improved with direct contact of water droplets
- This type of extinguishment is normally associated with standard sprinklers
- Important part of operation if ventilation is a factor and Class A combustibles are present

4



- Small water droplets tend to remain suspended
- The expanding mist will expand and cool the gases and other fuels in the area
- Blocks the transfer of radiant heat to the adjacent combustibles and pre-wets them

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

AM10 AQUAMIST®

Open Type Mist Nozzle

- Open spray nozzles
- Designed for use in water mist protection systems protecting flammable liquids and turbine bearings
- Minimal water demand, approximately 3.1 GPM/nozzle at 170 psi (11,73 lpm at 11,6 bar)
- Mist represents latest in fire protection technology
- For use in "low pressure" mist applications
- Minimum operating pressure is 170 psi (11,6 bar)

K FACTOR	K=0.24 (3,5)
THREAD SIZE	1/2" NPT
FINISH	Stainless Steel
TECH DATA	TD1174

- Pendent & upright designs
- Open nozzle for use on deluge systems

AM4 AQUAMIST®

Open Type Mist Nozzle

- Open spray nozzles
- Listed and Approved for the protection of flammable liquid hazards (UL/FM)
- Approved for protection of gas turbines (FM)
- Maximum ceiling height, 26' 3" (8 m)
- Compartment volume:
  – UL - 56,500 ft^3 (1,600 m^3)
  – FM - 45,203 ft^3 (1,280 m^3)
- Maximum utilization of water for flammable liquid fire protection
- Nozzle coverage: maximum 172 ft^2 (16 m^2)
- Nozzle pressure: 185 to 250 psi (12,8 to 17,2 bar)

K FACTOR	K=0.24 (3,5)
THREAD SIZE	1/2" NPT
FINISH	Stainless Steel
TECH DATA	TD1173

AM24 AQUAMIST®

Automatic Type Mist Nozzle

- Listed and Approved for marine type approved by Lloyds, USCG, DNV, American Bureau of Shipping, MCA, Germanischer Lloyd, Bureau Veritas
- Intended applications – IMO mandated local application system for protection of class a machinery spaces
- Maximum distance between nozzles (to plane of protection) - vertical clearance nozzle spacing
  – 1m to 3.5m nozzles - 13.1' (4,0 m) spacing
  – 3.5m to 5.0m nozzles - 11.5' (3,5 m) spacing
  – 5.0 m to 10.0 m nozzles - 9.8' (3,0 m) spacing

K FACTOR	0.33 Gpm/psi 0.5, (4,71 Lpm/bar 1/2)
THREAD SIZE	1/2" NPT
FINISH	Stainless Steel
TECH DATA	TD1172

- Nozzle pressure: 175-250 psi (12,07 - 17,24 bar)

Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

INDEX

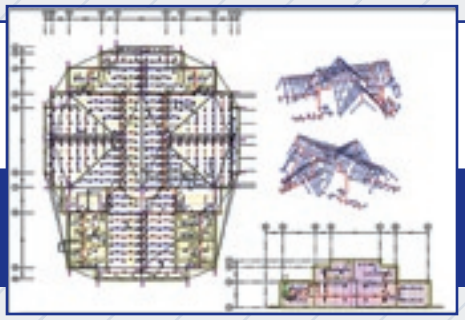
SprinkCAD®

Fire Protection Software for the Design Professional

SprinkCAD®

The Next Generation of SprinkCAD Design Software

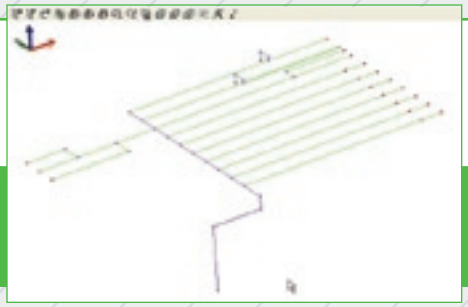
Complete Fire Sprinkler System Design Programs Built Upon the Industry-Leading CAD Graphics Program



SprinkCALC™

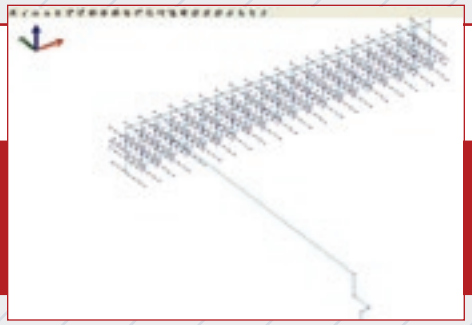
Advanced Hydraulic Calculations

Welcome to the newest and most advanced hydraulic calculation program available today... SprinkCALC



SprinkFDT™

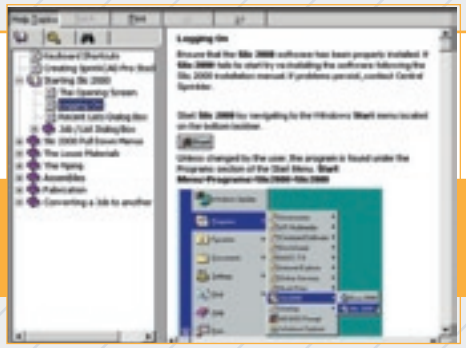
The first program to be listed by Underwriters Laboratories and Factory Mutual specification tested for the calculation of dry type systems per NFPA® requirements



SprinkSLIC™

Complete Fire Sprinkler Stock Listing

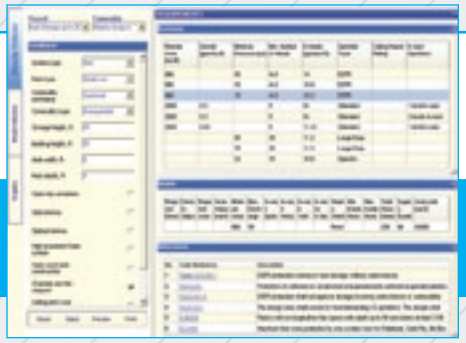
The name of the game is "PIPE ON THE JOB" and Stocklisting is the bridge between design and installation



SprinkCODE™

Interactive NFPA 13® Code Selector

Whether it's an estimate or the final design, this Code Expert is an essential member of your staff



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NORTH AMERICAN & WORLDWIDE HEADQUARTERS
Tyco Fire & Building Products
451 N. Cannon Avenue
Lansdale, PA 19446
Tel: 215-362-0700, 800-523-6512
Fax: 215-362-5385

LATIN AMERICA
Regional Headquarters
South America, Central America & Caribbean
1802 S.W. 2nd Street
Pompano Beach, FL 33069
Tel: 954-781-0866
Fax: 954-781-9330

EUROPE & MIDDLE EAST
Regional Headquarters
Kopersteden 1, NL-7547 TJ
Enschede
P.O. Box 198, 7500 AD
Enschede, The Netherlands
Tel: 31-53-428-4444
Fax: 31-53-428-3377

ASIA
Regional Headquarters
No. 45 Tuas Avenue 9
Singapore 639189
Tel: 65-6861-1655
Fax: 65-6861-1312

AUSTRALIA
Regional Headquarters
567 Somerville Road
Sunshine, VIC 3020
Tel: 13-00-725-688
Fax: (61) 3-9933-6204

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