Fire Suppression
General Products Catalog

Automatic Sprinklers

System Valves & Devices

Piping & Electrical Products

Johnson Controls

FIRE SUPPRESSION
General Products Catalog

Johnson Controls leads the industry in water-based fire suppression products, offering one of the broadest product lines globally. Through ongoing, world-class research and development, we're continually expanding our capabilities. Our solutions include brands that have led the fire protection industry for decades – with over 150 years in the industry, we are uniquely qualified to deliver cost-effective solutions customized to any building configuration and fire protection application.

The Johnson Controls team is committed to delivering products with dependable performance that have 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 (NFPA) committees and several international standards and code-making bodies.

Johnson Controls fire suppression offering includes leading brands from across the fire protection industry with decades of industry knowledge and expertise. The brands leverage the global reach of Johnson Controls to bring customers effective solutions for a variety of applications.

TechXchange Academy

The state-of-the-art TechXchange academy offers on-site and online training courses to equip students with work-relevant training and on-the-job performance. These solutions, when applied in the workplace, increase the ability of our graduates to better create value for their organization and their customers.

It offers various training courses such as Sprinkler Systems, WaterMist System and SprinkCAD Software.

To learn more, please visit www.onlinetechxchange.com

10 Year Limited Warranty

We have the unique distinction of standing behind the fire suppression products we manufacture by offering a 10 year limited warranty. This exhibits our commitment to product quality worldwide. Please see the General Terms and Conditions of Sale at www.tyco-fire.com.

Click on the brands to find out more.

tyco® rapidresponse Grinnell® sprinkCAD

TABLE OF CONTENTS

AUTOMATIC SPRINKLERS

SYSTEM VALVES & DEVICES

PIPING & ELECTRICAL PRODUCTS

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

Standard Spray Sprinklers

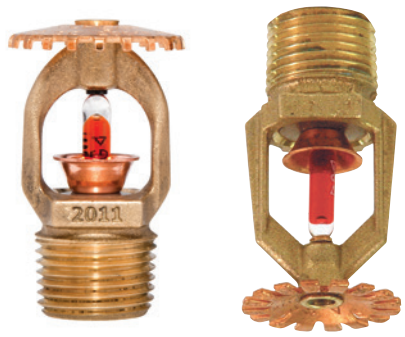
Offered in a wide range of standard and quick response options for light and ordinary hazard occupancies.

- Airports
- Assembly Spaces
- Banks
- Colleges/Universities
- Hospitals/Clinics
- Hotels
- Libraries
- Museums
- Prisons
- Retail
- Schools
- Theaters
- Transportation Terminals

Standard Spray Sprinklers

TY-B

Upright, Pendent, & Recessed Pendent



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
Approvals	K=2.8 – UL, C-UL, FM, NYC K=5.6 – UL, C-UL, FM, CE, VdS K=8.0 – UL, C-UL, FM, NYC, LPCB, VdS
Temperature	135°F (57°C), 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C), 360°F (182°C), Open (TY4151 & TY4251)
Escutcheon	K=5.6 – Style 15, Style 20 K=8.0 – Style 10, Style 40
Escutcheon Finish	Signal White, Pure White, Jet Black, Chrome Plated, Natural Brass
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Jet Black, Poly-Stainless, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY1151, TY1251, TY315, TY325, TY4151, TY4251, TY4851, TY4951
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	K=2.8 & K=8.0 – **TFP151** / K=5.6 – **TFP152**

All hazard ■ 5 mm bulb ■ Small frame, narrow profile bulb ■ Discharges a hemispherical water spray pattern in the area beneath the sprinkler ■ Designed for use in light, ordinary, or extra hazard, commercial occupancies such as banks, hotels, shopping malls, factories, refineries, chemical plants, etc.

Horizontal, Recessed Horizontal Sidewall & Vertical Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NYC, LPCB
Temperature	135°F (57°C), 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C), 360°F (182°C), Open (HSW TY3351)
Escutcheon	Style 10
Escutcheon Finish	Signal White, Pure White, Jet Black, Chrome Plated, Natural Brass
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Jet Black, Poly-Stainless, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3351, TY3451
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP161**

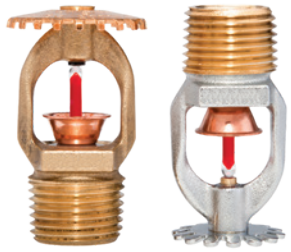
Light hazard/Ordinary hazard ■ 5 mm bulb ■ Small frame ■ Unique deflector design of the horizontal sidewall sprinkler results in smaller profile ■ Designed for installation along a wall or the side of a beam just beneath a smooth ceiling ■ Water discharge is directed primarily outward and downward in a quarter spherical pattern ■ Sidewall sprinklers are often used in lieu of standard pendent or upright sprinklers due to building construction, economic considerations, or aesthetics ■ Special deflector on the vertical sidewall sprinkler allows it to be installed in either a pendent or upright position

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.

Standard Spray Sprinklers

TY-FRB

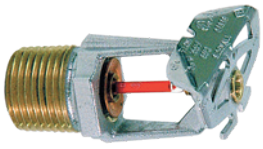
Upright, Pendent, & Recessed Pendent



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
Approvals	K=2.8 – UL, C-UL, FM, NYC K=4.2 – UL, C-UL K=5.6 – UL, C-UL, FM, CE, VdS K=8.0 – UL, C-UL, FM, NYC, LPCB, VdS
Temperature	135°F (57°C), 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)
Escutcheon	K=2.8, K=4.2 & K=8.0 – Style 10 • Style 20 • Style 30 • Style 40 K=5.6 – Style 15 • Style 20
Escutcheon Finish	Signal White, Pure White, Jet Black, Chrome Plated, Natural Brass
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Jet Black, Poly-Stainless, Lead Coated
SIN	TY313, TY323, TY1131, TY1231, TY2131, TY2231, TY3131, TY3231, TY4131, TY4231, TY4831, TY4931
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	K=2.8 thru K=8.0 – **TFP171**, K=5.6 – **TFP172**

Light hazard/Ordinary hazard ■ 3 mm bulb ■ Small frame and narrow profile bulb enhance appearance ■ Hemispherical water spray pattern in the area beneath the sprinkler ■ Designed for use in commercial occupancies such as banks, hotels, and shopping malls.

Horizontal, Recessed Horizontal Sidewall & Vertical Sidewall



K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NYC, LPCB
Temperature	135°F (57°C), 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)
Escutcheon	Style 10 • Style 20
Escutcheon Finish	Signal White, Pure White, Jet Black, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Jet Black, Poly-Stainless, Lead Coated
SIN	TY3331, TY3431
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP176**

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

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.

Standard Spray Sprinklers

RFII

Concealed Pendent

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	3mm= UL, C-UL, NYC, VdS 5mm = UL, C-UL, FM, NYC, LPCB
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate 200°F/93°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Chrome, Brushed Chrome, Brass, Brushed Brass, Signal White, Grey White, Pure White, Jet Black, Custom
SIN	SR-TY3551, QR-TY3531
Wrench Type	RFII
Tech Data Sheet	**TFP181**

Light hazard/Ordinary hazard ■ 5 mm bulb (standard) 3 mm bulb (quick) ■ Internally threaded closure with ½" (12,7 mm) of adjustment ■ 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 ■ Available with optional dust and air seal

RFII-MRI

Concealed Pendent

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	3mm= UL, C-UL, FM (SR) 5mm = UL, C-UL, FM
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate 200°F/93°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Brass, Signal White, Grey White, Jet Black, Custom
SIN	SR-TY3550, QR-TY3530
Wrench Type	RFII
Tech Data Sheet	**TFP182**

Light hazard/Ordinary hazard ■ 5 mm bulb (standard) 3 mm bulb (quick) ■ Internally threaded closure with ½" (12,7 mm) of adjustment ■ 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 ■ Available with optional dust and air seal ■ Non-Magnetic Model Concealed Pendent Sprinkler Quick & Standard Response, Standard Coverage

Standard Spray Sprinklers

RFII-HSW

Concealed Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL
Temperature	160°F/71°C - Sprinkler, 139°F/59°C - Cover Plate 212°F/100°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Ivory, Beige, Pure White, Signal White, Grey White, Brown, Black, Brushed Chrome, Brushed Brass, Custom Paint
SIN	TY3521
Wrench Type	W-TYPE 37
Tech Data Sheet	**TFP185**

Light hazard/Ordinary hazard ■ Solder Type ■ Internally threaded closure with 1/2" (12,7 mm) of adjustment ■ 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 ■ Available with optional dust and air seal

ILLUSION™

Concealed Standard Coverage Pendent Sprinklers

K Factor	K=11.2 (161,3)
Thread Size	3/4" NPT
Approvals	UL, C-UL
Temperature	160°F/71°C, - Sprinkler - 139°F/59°C - Cover Plate, 212°F/100°C - Sprinkler - 165°F/74°C - Cover Plate
Cover Plate Finish	Chrome , Brush Chrome, Brass, Signal White, Grey White, Pure White, Custom
SIN	TY5521
Wrench Type	W-TYPE 18
Tech Data Sheet	**TFP184**

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

Standard Spray Sprinklers

TY-L

Upright, Pendent, & Recessed Pendent

K Factor	K=5.6 (80,6) · K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	UL, C-UL, FM, LPCB
Temperature	165°F/74°C, 212°F/100°C, 280°F/138°C
Escutcheon	Style 20 · Style 30
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Lead Coated, Wax over Lead Coated, Wax Coated
SIN	TY3111, TY3211, TY4111, TY4211, TY4811, TY4911
Wrench Type	W-TYPE 9 / W-TYPE 10 (for recessed escutcheons)
Tech Data Sheet	**TFP110**

All hazard ■ Solder type ■ Discharges a hemispherical water spray pattern in the area beneath the sprinkler ■ Designed for use in light, ordinary, and extra hazard, commercial occupancies such as banks, hotels, shopping malls, factories, refineries, chemical plants, etc.

Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM
Temperature	165°F/74°C, 212°F/100°C, 280°F/138°C
Sprinkler Finish	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3311
Wrench Type	W-TYPE 9
Tech Data Sheet	**TFP120**

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 ■ They are designed for installation along a wall or the side of a beam and just beneath a smooth ceiling.

Standard Spray Sprinklers

TY-FRL

Upright, Pendent, & Recessed Pendent

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
Approvals	2.8 =UL, C-UL, NYC 5.6 =UL, C-UL, FM, NYC, LPCB 8.0 = UL, C-UL, FM, NYC
Temperature	165°F/74°C, 212°F/100°C
Escutcheon	1/2" NPT - Style 20 3/4" NPT - Style 30
Escutcheon Finish	White Coated, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated
SIN	TY1121, TY1221, TY3121 TY3221, TY4121, TY4221
Wrench Type	W-TYPE 9 / W-TYPE 12 (for recessed escutcheons)
Tech Data Sheet	**TFP130**

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

Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass, Chrome Plated
SIN	TY3321
Wrench Type	W-TYPE 9
Tech Data Sheet	**TFP140**

Light hazard/Ordinary hazard ■ Solder type ■ 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, where piping across the ceiling is not desirable.

Extended Coverage Sprinklers

Intended for protection of areas larger than those specified in standard installation rules and specific light, ordinary and extra hazard occupancies.

- Airports
- Assembly Spaces
- "Big Box" Retailing
- Colleges/Universities
- Hotels
- Hospitals
- Libraries
- Loading Docks
- Parking Garages
- Schools
- Transportation Terminals

Extended Coverage Sprinklers

EC-25

Upright

K Factor	K=25.2 (362,9)
Thread Size	1" NPT or ISO 7-R1
Approvals	UL, C-UL, FM, NYC
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY9128
Wrench Type	W-TYPE 1
Tech Data Sheet	**TFP213**

For use in high density applications such as "big box" retailing, extra hazard, and high-piled storage occupancies ■ Solder type ■ CMDA and CMSA Applications and FM Approved for storage and non-storage applications ■ Minimum operating pressure of 7 psi (0,48 bar) ■ The maximum coverage area per sprinkler is 196 ft.² (18,2 m²), which is almost double the area offered by standard coverage sprinklers used for similar applications.

EC-11 & EC-14

Upright, Pendent & Recessed Pendent

K Factor	K=11.2 (161,3) · K=14.0 (201,6)
Thread Size	3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, Open
Escutcheon	Style 30 · Style 40 · Style 60
Escutcheon Finish	White Coated, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White, Jet Black, Lead Coated
SIN	TY5137, TY5237, TY6137, TY6237
Wrench Type	W-TYPE 3 / W-TYPE 22 (for recessed escutcheons)
Tech Data Sheet	**TFP220**

Light hazard/Ordinary hazard ■ 3 mm bulb ■ Designed for maximum coverage applications of 400 ft² - 14' x 14' (37,2m² - 4,3m x 4,3m) up to 20' x 20' (6,1m x 6,1m) ■ Low profile decorative glass bulb spray sprinklers ■ Series EC-11 and EC-14 Sprinklers feature a UL and C-UL Listing that permits their use with unobstructed or non-combustible obstructed ceiling construction as defined and permitted by NFPA 13, as well as a specific application listing for use under concrete tees.

Extended Coverage Sprinklers

EC-8

Pendent & Recessed Pendent

K Factor	K=8.0 (115,2)
Thread Size	3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C
Escutcheon	Style 30 · Style 40
Escutcheon Finish	Natural Brass, Signal White, Chrome Plated
Sprinkler Finish	Natural Brass, Signal White Polyester, Chrome Plated
SIN	TY4232
Wrench Type	W-TYPE 3 / W-TYPE 23 (for recessed escutcheons)
Tech Data Sheet	**TFP223**

Light hazard ■ 3 mm bulb ■ Covers areas as large as 20' x 20' (6,1 m x 6,1 m) ■ The recessed version of the EC-8, intended for use in areas with a finished ceiling, uses either the two-piece Recessed Escutcheon ■ The Series EC-8 Extended Coverage Pendent Sprinklers are decorative glass bulb sprinklers designed for use in light hazard occupancies.

EC-8C

Pendent & Recessed Pendent

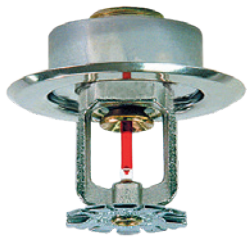
K Factor	K=8.0 (115,2)
Thread Size	3/4" NPT
Approvals	UL
Temperature	155°F/68°C, 200°F/93°C
Escutcheon	Style 30 · Style 40
Escutcheon Finish	Natural Brass, Signal White, Pure White, Jet Black, Chrome Plated
Sprinkler Finish	Natural Brass, Signal White, Pure White, Jet Black, Chrome Plated
SIN	TY4282
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP226**

Light hazard ■ 3 mm bulb ■ Specifically designed for use in long, narrow spaces such as corridors or hallways with a maximum coverage area of 28' by 10' (8,5 m x 3,1 m) ■ The recessed version of the EC-8C, intended for use in areas with a finished ceiling, uses either the two-piece Recessed Escutcheon ■ The Series EC-8C Extended Coverage Pendent Sprinklers are decorative glass bulb sprinklers designed for use in light hazard occupancies.

Extended Coverage Sprinklers

EC-5

Pendent & Recessed Pendent



K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C
Escutcheon	Style 50
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White Polyester
SIN	TY3232
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP228**

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

EC-5

Horizontal Sidewall & Recessed Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 200°F/93°C
Escutcheon	Style 50
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Signal White, Pure White, Natural Brass, Chrome Plated
SIN	TY3302
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP298**

Light hazard ■ 3 mm bulb ■ Coverage up to 16' x 24' (4,9 m x 7,3 m) ■ Designed for use in hydraulically calculated sprinkler systems in commercial occupancies such as churches, restaurant seating areas, hotels, educational facilities, offices, etc.

Extended Coverage Sprinklers

TY-FRB

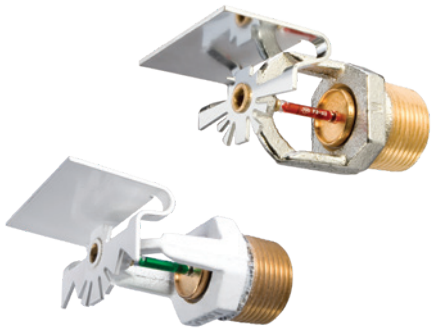
Horizontal Sidewall & Recessed Horizontal Sidewall

K Factor	K=5.6 (80,6) · K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C
Escutcheon	Style 10 · Style 20 · Style 30 · Style 40
Escutcheon Finish	White Coated, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Pure White, Signal White, Jet Black, Chrome Plated
SIN	TY3332, TY4332
Wrench Type	W-TYPE 6 / W-TYPE 7 (for recessed escutcheons)
Tech Data Sheet	**TFP296**

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 recessed sidewall position ■ Quick & Standard Response (see tech data sheet) ■ Decorative sprinklers designed for use in hydraulically calculated sprinkler systems in light hazard, commercial occupancies such as churches, restaurant seating areas, hotels, educational facilities, offices, etc.

ELO SW-20/SW-24

Horizontal Sidewall



K Factor	K=11.2 (161,3)
Thread Size	3/4" NPT
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C, 200°F/93°C
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY5332, TY5337
Wrench Type	W-TYPE 3
Tech Data Sheet	**TFP230**

Extended Coverage Ordinary Hazard (ECOH) ■ 3 mm bulb ■ 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 ■ Standard Response, Extended Coverage Ordinary Hazard (ECOH) Horizontal Sidewall Sprinklers are decorative glass bulb sprinklers designed for use in ordinary hazard occupancies per NFPA 13

Extended Coverage Sprinklers

TY-FRL

Horizontal Sidewall

K Factor	K=5.6 (80,6) • K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	165°F/74°C
Sprinkler Finish	Natural Brass, Chrome Plated
SIN	TY3322, TY4322
Wrench Type	W-TYPE 9
Tech Data Sheet	**TFP280**

Light hazard ■ Solder type ■ Coverage up to 16 feet (4,9 m) wide by 24 feet (7,3 m) long, they are designed for installation along a wall or the side of a beam and just beneath a smooth, flat, horizontal ceiling ■ Designed for use in commercial occupancies such as churches, restaurant seating areas, hotels, educational facilities, offices, etc.

CHEC

Concealed Horizontal Extended Coverage Sidewall

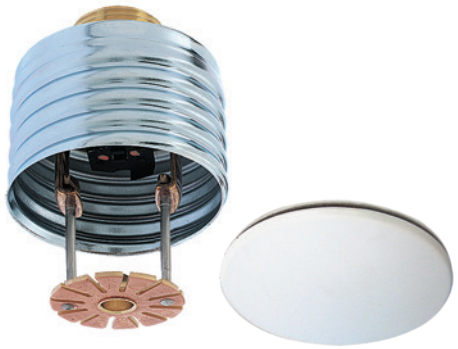
K Factor	K=8.0 (115,2)
Thread Size	3/4" NPT
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate
Cover Plate Finish	Signal White, Pure White, Chrome, Custom
SIN	TY4332
Wrench Type	W-TYPE 7
Tech Data Sheet	**TFP265**

Light hazard ■ 3 mm bulb ■ Coverage up to 16' x 16' (4,9 m x 4,9 m) ■ Lowest flows & pressures allowed by NFPA 13 ■ ½" adjustment ■ 12" maximum deflector distance from ceiling ■ No "Slots" in cover plate ■ It is the best choice for architecturally sensitive areas such as dormitories, hotel rooms, reception areas, office buildings, banquet facilities, conference rooms, and hospitals.

Extended Coverage Sprinklers

ELOC

Extra Large Orifice Concealed Pendent



K Factor	K=11.2 (161,3)
Thread Size	3/4" NPT
Approvals	UL, C-UL, NYC
Temperature	160°F/71°C – Sprinkler - 139°F/59°C – Cover Plate, 212°F/100°C – Sprinkler - 165°F/74°C – Cover Plate
Cover Plate Finish	Chrome Plated, Brass Plated, Signal White, Grey White, Custom
SIN	TY5522
Wrench Type	W-TYPE 18
Tech Data Sheet	**TFP250**

Light hazard ■ Extra Large Orifice Concealed (ELOC) Pendent Sprinklers are decorative, fast response solder type sprinklers featuring a flat cover plate designed to conceal the sprinkler ■ Covers 400 sq. ft. (37,2 m^2) using less pressure than a standard ½" (12,7 mm) sprinkler at 225 sq. ft. (20,3 m^2) ■ 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.

RFII

Concealed Pendent

K Factor	K=5.6 (80.6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C - Sprinkler 139°F/59°C - Cover Plate, 200°F/93°C - Sprinkler 165°F/74°C - Cover Plate
Cover Plate Finish	Chrome, Brass, Pure White, Signal White, Grey White, Jet Black, Custom
SIN	TY3532
Wrench Type	RFII
Tech Data Sheet	**TFP260**

Light hazard ■ 3 mm bulb ■ Maximum 20' x 20' (6,1 m x 6,1 m) QR Listing ■ Internally threaded closure with ½" (12,7 mm) of adjustment ■ 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 ■ Concealed in an enclosed escutcheon plate with flat cover for use in those applications where aesthetics is a primary consideration.

Extended Coverage Sprinklers

RFII-MRI

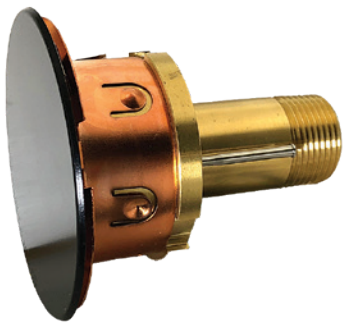
Concealed Pendent

K Factor	K=5.6 (80.6)
Thread Size	1/2" NPT
Approvals	UL, & C-UL
Temperature	155°F/68°C - Sprinkler 139°F/59°C - Cover Plate, 200°F/93°C - Sprinkler 165°F/74°C - Cover Plate
Cover Plate Finish	Chrome, Brass, Pure White, Signal White, Grey White, Jet Black, Custom
SIN	TY3537
Wrench Type	RFII
Tech Data Sheet	**TFP262**

Light hazard ■ 3 mm bulb ■ Maximum 20' x 20' (6,1 m x 6,1 m) QR Listing ■ Internally threaded closure with ½" (12,7 mm) of adjustment ■ 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 ■ Concealed in an enclosed escutcheon plate with flat cover for use in those applications where aesthetics is a primary consideration. ■ RFII-MRI Non-Magnetic Model Concealed Pendent Sprinkler for MRI room applications, Extended Coverage, Quick Response

RFIII

Flat Plate Concealed Horizontal Extended Coverage Sidewall



K Factor	K=8.0 (115,2)
Thread Size	3/4" NPT
Approvals	UL, C-UL
Temperature	160°F/71°C - Sprinkler 139°F/59°C - Cover Plate
Cover Plate Finish	Ivory, Beige, Pure White, Signal White, Grey White, Brown, Black, Brushed Chrome, Brushed Brass, Custom Paint
SIN	TY4522
Wrench Type	W-Type 37
Tech Data Sheet	**TFP270**

Light hazard ■ Decorative, link type, sprinkler featuring a unique flat cover designed to conceal the sprinkler within a wall ■ The sprinkler is the best choice for architecturally sensitive areas such as dormitories, hotel rooms, reception areas, office buildings, banquet facilities, conference rooms, and hospitals ■ The Model RFIII ECLH Concealed HSW Sprinklers are designed for installation along a wall or the side of a beam, and beneath a smooth level ceiling.

Storage Sprinklers

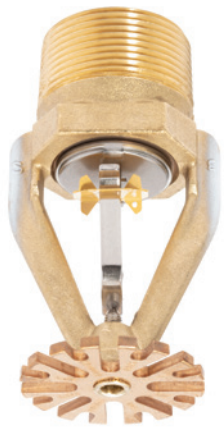
Intended for use in specific storage applications and include a broad offering of early suppression fast response (ESFR) sprinklers.

- High-Piled Storage
- Warehouse
- Box-In-Box Cold Storage
- High Challenge Occupancies
- In-Rack Storage
- Beneath Open Gridded Catwalks

Storage Sprinklers

ESFR-34

Pendent

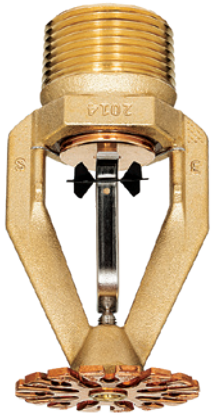


K Factor	K=33.6 (480)
Thread Size	1-1/4" NPT or ISO 7-R1-1/4
Approvals	FM
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY9286
Wrench Type	W-TYPE 26
Tech Data Sheet	**TFP338**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ Direct attack on burning fuel by improved heavy sprinkler discharge ■ Suppression-mode sprinklers that are especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting high-piled storage.

ESFR-25

Pendent



K Factor	K=25.2 (362,9)
Thread Size	1" NPT or ISO 7-R1
Approvals	UL, C-UL, FM, NYC, LPCB, VdS
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY9226
Wrench Type	W-TYPE 1
Tech Data Sheet	**TFP312**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ The TYCO Model ESFR-25 Pendent Sprinklers are listed by UL for Specific Applications with a ceiling height greater than 45 ft. (13,7 m) up to and including 48 ft. (14,6 m), and a storage arrangement up to and including 43 ft. (13,1 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, Novel orifice seal and unique fast response link design are the very latest in sprinkler technology ■ Suppression-mode sprinklers that are especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting high-piled storage.

ESFR-22

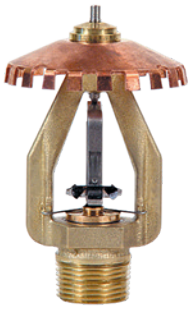
Pendent

K Factor	K=22.4 (320)
Thread Size	1" NPT or ISO 7-R1
Approvals	UL, C-UL, FM, VdS, LPCB
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY8223
Wrench Type	W-TYPE 1
Tech Data Sheet	**TFP321**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ Suppression-mode sprinklers that are especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting high-piled storage ■ Direct attack on burning fuel by improved heavy sprinkler discharge ■ The TYCO Model ESFR-22 Pendent Sprinklers are listed by UL and C-UL for Specific Applications with a ceiling height of 45 ft. (13,7 m) and a storage arrangement up to and including 40 ft. (12,2 m)

ESFR-17

Upright



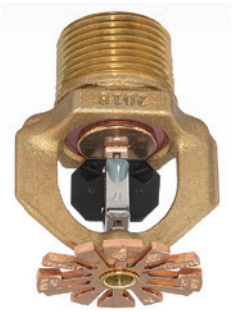
K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT
Approvals	FM
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY7126
Wrench Type	W-TYPE 21
Tech Data Sheet	**TFP316**

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

Storage Sprinklers

ESFR-17

Pendent



K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT
Approvals	UL, C-UL, FM
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY7223
Wrench Type	W-TYPE 35
Tech Data Sheet	**TFP317**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ Primarily designed for use in ceiling only sprinkler systems ■ Model ESFR-17 Pendent Sprinklers are designed to operate at substantially lower-end head pressures, as compared to ESFR Sprinklers having a nominal K-factor of 14.0 ■ They are suppression mode sprinklers that are especially advantageous as a means of eliminating in-rack sprinklers when protecting high-piled storage.

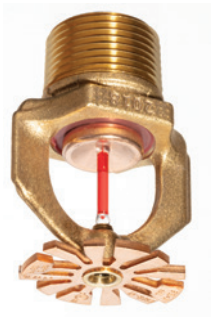
Pendent

K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT or ISO 7-R 3/4
Approvals	UL, C-UL, FM, VdS, LPCB, NYC
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY7226
Wrench Type	W-TYPE 21
Tech Data Sheet	**TFP315**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ Primarily designed for use in ceiling only sprinkler systems ■ Model ESFR-17 Pendent Sprinklers are designed to operate at substantially lower-end head pressures, as compared to ESFR Sprinklers having a nominal K-factor of 14.0 ■ They are suppression mode sprinklers that are especially advantageous as a means of eliminating in-rack sprinklers when protecting high-piled storage.

ESFR-17

Pendent



K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT or ISO 7-R 3/4
Approvals	UL, C-UL, FM
Temperature	155°F/68°C, 200°F/93°C
Sprinkler Finish	Natural Brass
SIN	TY7236
Wrench Type	W-TYPE 35
Tech Data Sheet	**TFP322**

Early Suppression, Fast Response (ESFR) ■ 3mm bulb 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 ■ Available in two temperature ratings and Listed or Approved accordingly; 155°F (68°C) is UL and C-UL Listed and FM Approval; and 200°F (93°C) is UL and C-UL Listing only.

ESFR-17

Dry-Type Pendent

K Factor	K=16.8 (241,9)
Thread Size	1-1/4" NPT or ISO 7-R 1-1/4
Grooved End	2" Standard Cut Grooved per Tech Data Sheet TFP1898
Approvals	UL, FM
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Natural Brass
SIN	TY7229
Wrench Type	W-TYPE 26
Tech Data Sheet	**TFP320**

Early Suppression, Fast Response (ESFR) ■ Solder type ■ Eliminates in-rack sprinklers for box-in-box applications ■ Suppression mode sprinklers that are especially advantageous as a means of eliminating in-rack sprinklers when protecting high-piled box-in-box refrigerated storage areas ■ The drop between the inlet and sprinkler remains dry until the sprinkler operates, allowing for a pendent sprinkler installation on a wet pipe sprinkler system where the dry drop and sprinkler are located in an area subjected to freezing temperatures ■ Less costly to install and maintain than pre-action or antifreeze systems ■ The Model ESFR-17 Dry Type Pendent Sprinkler is FM Approved and has successfully undergone full-scale fire testing at FM Global, when used in conformance with applicable FM Global Property Loss Prevention Data Sheets ■ The Model ESFR-17 Dry Type Sprinklers are primarily used for ceiling only sprinkler protection and used to protect solid piled, palletized, and rack storage that is subject to freezing temperatures

Storage Sprinklers

ESFR-14

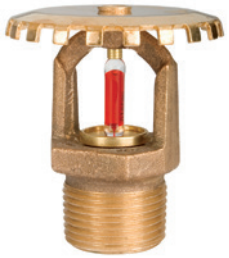
Pendent

K Factor	K=14.0 (201,6)
Thread Size	3/4" NPT or ISO 7-1
Approvals	UL, C-UL, FM
Temperature	155°F/68°C, 200°F/93°C
Sprinkler Finish	Natural Brass
SIN	TY6236
Wrench Type	W-TYPE 34
Tech Data Sheet	**TFP319**

Early Suppression, Fast Response (ESFR) ■ 3mm bulb type ■ Designed for the protection of rack storage ■ Direct attack on burning fuel by improved heavy sprinkler discharge ■ They are suppression-mode sprinklers that are especially advantageous as a means of eliminating the use of in-rack sprinklers when protecting high-piled storage.

LD "Large Drop"

Upright, Control Mode Specific Application



K Factor	K=11.2 (161,3)
Thread Size	3/4" NPT
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass
SIN	TY5153
Wrench Type	W-TYPE 3
Tech Data Sheet	**TFP335**

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

ULTRA K-17

Upright, Control Mode Specific Application, 286° F

K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT
Temperature	286°F/141°C
Sprinkler Finish	Natural Brass
Wrench Type	W-TYPE 8
Tech Data Sheet	**Contact Tyco for Details**

5 mm bulb ■ Control mode sprinkler

K17-231

Pendent & Upright

K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT
Approvals	Upright= UL, C-UL, FM, NYC Pendent= UL, C-UL, NYC
Temperature	155°F/68°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass
SIN	TY7151, TY7251
Wrench Type	W-TYPE 8
Tech Data Sheet	**TFP332**

5 mm bulb ■ They are "standard response spray sprinklers" which produce a hemispherical water distribution pattern below the deflector ■ Low-pressure requirement (as low as 7 psi) can save cost by reducing branch line size, taking advantage of maximized spacing, and upgrading existing densities ■ Very large orifice sprinkler for use in high challenge storage occupancies.

Storage Sprinklers

ELO-231B

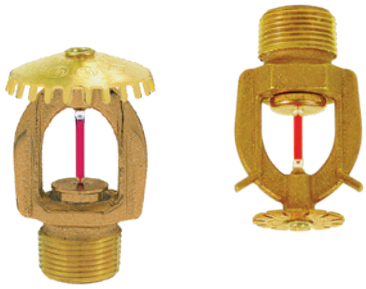
Pendent & Upright

K Factor	K=11.2 (161,3)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	155°F/68°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY5151, TY5251, TY5851
Wrench Type	W-TYPE 3
Tech Data Sheet	**TFP342**

5 mm bulb ■ Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing ■ Can be used as intermediate level version by adding a guard and shield ■ Designed to control high challenge fires with relatively low required pressures

ELO-231 FRB

Pendent & Upright



K Factor	K=11.2 (161,3)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC, VdS,LPCB
Temperature	155°F/68°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass, Chrome Plated
SIN	TY5131, TY5231, TY5831
Wrench Type	W-TYPE 3
Tech Data Sheet	**TFP344**

3 mm bulb ■ Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing ■ Can be used as intermediate level version by adding a guard and shield ■ Designed to control high challenge fires with relatively low required pressures

ELO-231

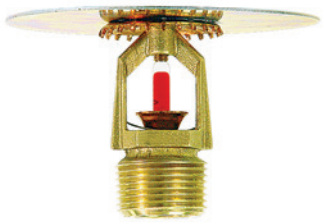
Pendent & Upright

K Factor	K=11.2 (161,3)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	165°F/74°C, 212°F/100°C, 286°F/141°C
Sprinkler Finish	Natural Brass, Chrome Plated, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY5111, TY5211, TY5811
Wrench Type	W-TYPE 3
Tech Data Sheet	**TFP340**

Solder type ■ Extra large orifice sprinklers proven for storage occupancies through full-scale fire testing ■ Can be used as intermediate level version by adding a guard and shield ■ Designed to control high challenge fires with relatively low required pressures

TY-B

Pendent & Upright, Intermediate Level



K Factor	K=5.6 (80,6) • K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Sprinkler Finish	Natural Brass, Lead Coated, Wax Coated, Wax over Lead Coated
SIN	TY3153, TY3251, TY4153, TY4251
Wrench Type	W-TYPE 6
Tech Data Sheet	**TFP351**

5 mm bulb ■ Intermediate level (in-rack) with shield ■ Used where sprinkler guards are not required ■ Factory assembled unit having an integral water shield ■ Both the Pendent and Upright Sprinklers produce a hemispherical water distribution pattern below the deflector.

Storage Sprinklers

TY-B

Pendent & Upright, Intermediate Level

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Sprinkler Finish	Natural Brass
Guard Finish	Red or Zinc
SIN	TY315, TY325
Wrench Type	W-TYPE 6
Tech Data Sheet	**TFP352**

5 mm bulb ■ Factory assembled unit having an integral water shield ■ Intermediate Level Sprinklers are primarily 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 earlier during a fire ■ May also used in other applications such as beneath open gridded catwalks.

TY-FRB

Pendent & Upright, Intermediate Level

K Factor	K=5.6 (80,6) • K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Sprinkler Finish	Natural Brass, Lead Coated
SIN	TY3133, TY3231, TY4133, TY4231
Wrench Type	W-TYPE 6
Tech Data Sheet	**TFP356**

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

TY-FRB

Pendent & Upright, Intermediate Level

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass
Guard Finish	Red or Zinc
SIN	TY313, TY323
Wrench Type	W-TYPE 6
Tech Data Sheet	**TFP357**

3 mm bulb ■ Factory assembled unit having an integral water shield ■ Intermediate Level Sprinklers are primarily 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 earlier during a fire ■ May also used in other applications such as beneath open gridded catwalks

TY-L

Pendent & Upright, Intermediate Level

K Factor	K=5.6 (80,6) • K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM
Temperature	165°F/74°C, 212°F/100°C, 280°F/138°C
Sprinkler Finish	Natural Brass
SIN	TY3113, TY3211, TY4113, TY4211
Wrench Type	W-TYPE 9
Tech Data Sheet	**TFP350**

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

Storage Sprinklers

TY-FRL

Pendent & Upright, Intermediate Level

K Factor	K=5.6 (80,6) • K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, FM, NYC
Temperature	165°F/74°C
Sprinkler Finish	Natural Brass, Chrome Plated
SIN	TY3123, TY3221, TY4123, TY4221
Wrench Type	W-TYPE 9
Tech Data Sheet	**TFP355**

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

Sprinkler Guards

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

G1

Approvals	UL, C-UL, FM
Guard Finishes	Plain Brass, Red Painted, Chrome Plated, Zinc Coated, Zinc Chromate
Tech Data Sheet	**TFP780**

Designed for use with specific types of Series TY-B, TY-FRB, 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

S1

G4/S3 with Shield

G4

G4

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

WSG-2 with Shield

Approvals	UL, C-UL, FM
Guard Finishes	Red Painted, Zinc Coated
Tech Data Sheet	**TFP782**

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

G2

WS-2 Shield

Model EG-25 Sprinkler Guard for Model ESFR-25 Pendent Sprinkler

Approvals	FM
Guard Finishes	Red Painted, Zinc Chromate
Tech Data Sheet	**TFP784**

Designed for use with the TYCO Model ESFR-25 Pendent Sprinkler and may be located in areas that make it susceptible to mechanical or physical damage ■ Provides protection from mechanical and/or physical damage, for example, rack storage sprinkler installations ■ Welded assembly fabricated from carbon steel

RAPID RESPONSE® Residential Sprinkler Systems

Offer optimum design and flow characteristics for all residential applications.

- Townhomes
- Multi-family
- Single-family
- Hotel / motel
- Assisted Living
- Student Housing
- Beam and sloped ceilings

Custom paint options available

We offer custom paint cover plates for sprinklers with this icon.
Learn more at www.tyco-fire.com/custompaint.

rapid response

LFII

Pendent & Recessed Pendent

K Factor	K=4.9 (70,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Pure White, Signal White, Jet Black, Chrome Plated, Natural Brass
SIN	TY2236
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP403**

3 mm bulb type ■ Approved for special applications with beamed ceilings

Intended for use in wet & dry pipe scenarios:
- residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- sprinkler systems for the residential portions of any occupancy per NFPA 13

Pendent & Recessed Pendent

K Factor	K=5.8 (83,5)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass, Jet Black
SIN	TY3934
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP401**

3 mm bulb type

Intended for use in these wet pipe scenarios:
- residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- sprinkler systems for the residential portions of any occupancy per NFPA 13

Rapid Response® Sprinklers

LFII

Pendent & Recessed Pendent

K Factor	K=3.0 (43,2)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass
SIN	TY1234
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP402**

3 mm bulb type ■ Decorative, fast response, frangible bulb sprinklers designed for use in residential occupancies such as homes, apartments, dormitories, and hotels.

Intended for use in these wet pipe scenarios:
- residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- sprinkler systems for the residential portions of any occupancy per NFPA 13

Horizontal & Recessed Horizontal Sidewall

K Factor	K=4.4 (63,4)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass
SIN	TY2334
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP412**

3 mm bulb type

Intended for use in these wet pipe scenarios:
- residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- sprinkler systems for the residential portions of any occupancy per NFPA 13

LFII

Horizontal & Recessed Horizontal Sidewall

K Factor	K=4.2 (60,5)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC, NSF/ANSI 61, Australian WaterMark Certified
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Pure White, Signal White, Chrome Plated, Natural Brass
SIN	TY1334
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP410**

3 mm bulb type ■ Approved for special applications with beamed ceilings

Intended for use in the following scenarios:
- wet and dry pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- wet and dry pipe residential occupancies up to and including four stories in height per NFPA 13R
- wet and dry pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

Flat Plate Concealed Pendent

K Factor	K=4.9 (70,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC, NSF/ANSI 61
Temperature	160°F/71°C - Sprinkler, 139°F/59°C - Cover Plate 212°F/100°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Ivory, Bright Chrome, Beige, Pure White, Signal White, Grey White, Brown, Black, Brushed Brass, Brushed Chrome, Custom Paint
SIN	TY3596
Wrench Type	W-TYPE 18
Tech Data Sheet	**TFP442**

Solder type ■ Provides 1/2" inch (12,7 mm) vertical adjustment. This adjustment provides flexibility when cutting fixed sprinkler drops ■ Cover plate conceals sprinkler components above the ceiling

Intended for use in the following scenarios:
- wet and dry pipe residential sprinkler systems for one/two-family dwellings and mobile homes per NFPA 13D
- wet and dry pipe residential occupancies up to and including four stories in height per NFPA 13R
- wet and dry pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

Rapid Response® Sprinklers

LFII

Domed Plate Concealed Pendent

K Factor	K=4.9 (70,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate
Cover Plate Finish	Pure White, Signal White, Chrome, Custom
SIN	TY2234
Wrench Type	W-TYPE 7
Tech Data Sheet	**TFP450**

3 mm bulb type ■ Can be used for horizontal and sloped ceilings ■ Cover plate conceals sprinkler components above the ceiling

Intended for use in the following scenarios:

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

Concealed Horizontal Sidewall

K Factor	K=4.2 (60,5)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	160°F/71°C - Sprinkler, 139°F/59°C - Cover Plate
Cover Plate Finish	Ivory, Beige, Pure White, Signal White, Grey White, Brown, Black, Brushed Brass, Brushed Chrome, Custom
SIN	TY2324
Wrench Type	W-TYPE 37
Tech Data Sheet	**TFP445**

Solder type ■ Can be used for horizontal and sloped ceilings ■ Cover plate conceals sprinkler components above the ceiling

Intended for use in the following scenarios:

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

Cover Plate & Protective Cap Utility Tool for Concealed Sprinklers

Used with the following Sprinklers	TY2524, TY3531, TY3532, TY3551, TY3596
Tech Data Sheet	**Tyco for details**

Install and remove cover plates for LFII, RFII, and RFIII concealed sprinklers ■ Also used for removing protective caps before cover plate installation

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.

LFII

Dry Type Recessed Pendent

K Factor	K=4.9 (70,6)
Thread Size	1" NPT or ISO 7-R1
Approvals	UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C (wet pipe only)
Escutcheon Finish	Signal White, Chrome Plated, Natural Brass
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass
SIN	TY2235
Wrench Type	W-TYPE 7
Tech Data Sheet	**TFP460**

3 mm bulb type ■ Where sprinklers are required on dry pipe systems that are exposed to freezing temperatures, or where sprinklers are seasonally drained to avoid freezing ■ Offer the features of non-water filled pipe in addition to not having to increase the number of design sprinklers (hydraulic design area) for systems designed to NFPA 13, 13D, or 13R

Intended for use in the following residential sprinkler systems scenarios:
- one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- the residential portions of any occupancy per NFPA 13

Dry Type Recessed Horizontal Sidewall

K Factor	K=4.4 (63,4)
Thread Size	1" NPT or ISO 7-R1
Approvals	UL, NSF/ANSI 61
Temperature	155°F/68°C
Escutcheon Finish	Signal White, Chrome Plated, Natural Brass
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass
SIN	TY2335
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP461**

3 mm bulb type ■ The Series LFII Dry Type Residential Horizontal Sidewall Sprinklers are typically used where sprinklers and/ or a portion of the connecting piping are exposed to freezing temperatures ■ Offer the features of non-water filled pipe in addition to not having to increase the number of design sprinklers (hydraulic design area) for systems designed to NFPA 13, 13D, or 13R

Intended for use in the following residential sprinkler systems scenarios:
- one/two-family dwellings and mobile homes per NFPA 13D
- residential occupancies up to and including four stories in height per NFPA 13R
- the residential portions of any occupancy per NFPA 13

Rapid Response® Sprinklers

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

K Factor	K=6.9 (99,4)
Thread Size	3/4" NPT
Approvals	UL, C-UL, FM, NYC, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C, 139°F/59°C - Cover Plate
Escutcheon	Style 30
Escutcheon & Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White
Cover Plate Finish	Pure White, Signal White, Chrome, Custom
SIN	TY4234
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP408**

3 mm bulb type

Intended for use in the following scenarios:
- 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
- wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

Horizontal & Recessed Horizontal Sidewall Sprinklers

K Factor	K=5.8 (83,5)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Signal White, Chrome Plated, Natural Brass
SIN	TY4334
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP417**

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

Intended for use in the following scenarios:
- 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
- wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

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.

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.

Horizontal & Recessed Horizontal Sidewall Sprinklers

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NSF/ANSI 61
Temperature	155°F/68°C, 175°F/79°C
Escutcheon	Style 20
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White
SIN	TY3334
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP415**

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

Intended for use in the following scenarios:

- 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
- wet pipe sprinkler systems for the residential portions of any occupancy per NFPA 13

Dry Sprinklers

Specifically designed for areas where sprinklers may be subjected to freezing conditions.

- Covered Exterior Platforms
- Loading Docks
- Parking Garages
- Unheated Warehouses

DS-1

Pendent, Upright & Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	Upright=UL, C-UL, FM, NYC, CE Pendent & HSW= UL, C-UL,CE, FM, NYC, LPCB, VdS
Temperature	135°F/57°C, 155°F/68°C,175°F/79°C, 200°F/93°C,286°F/141°C, 360°F/182°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY3255, TY3155, TY3355
Wrench Type	W-Type 7
Tech Data Sheet	**TFP500**

Standard coverage ■ All hazards (light hazards, horizontal sidewall) ■ 5 mm bulb ■ Lengths up 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 assembly until the sprinkler operates ■ 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, Upright & Horizontal Sidewall

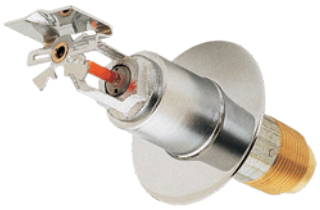
K Factor	K=5.6 (80,6)
Thread Size	3/4" or 1" NPT (Std. Order) ISO 7-R1
Approvals	3/4"= UL, C-UL 1"= UL, C-UL, FM, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY3235, TY3135, TY3335 TY3935, TY3735
Wrench Type	W-Type 7
Tech Data Sheet	**TFP510**

Light hazard/Ordinary hazard ■ 3 mm bulb ■ 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 assembly until the sprinkler operates ■ 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

Dry Sprinklers

DS-1

Extended Coverage Horizontal Sidewall



K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	135°F/57°C, 155°F/68°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY3338, TY3358
Wrench Type	W-Type 7
Tech Data Sheet	**TFP520**

EC light hazard ■ 3mm and 5mm Glass 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 assembly until the sprinkler operates

DS-1 Stainless Steel

Pendent

K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, LPCB, CE
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Escutcheon Finish	Stainless Steel
Sprinkler Finish	Stainless Steel
SIN	TY3230, TY3250
Wrench Type	W-Type 7
Tech Data Sheet	**TFP560**

3mm and 5mm Glass Bulb ■ Quick and Standard Response ■ The stainless-steel construction of these sprinklers extends the life of a sprinkler beyond that of traditional copper alloy sprinklers exposed to corrosive atmospheres ■ Wet-pipe, dry-pipe, or preaction installations ■ 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 assembly until the sprinkler operates.

DS-1 Stainless Steel

Horizontal Sidewall, and Extended Coverage Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Escutcheon Finish	Stainless Steel
Sprinkler Finish	Stainless Steel
SIN	TY3337, TY3357, TY3339
Wrench Type	W-Type 7
Tech Data Sheet	**TFP560**

3mm and 5mm Glass Bulb ■ Quick and Standard Response ■ The stainless-steel construction of these sprinklers extends the life of a sprinkler beyond that of traditional copper alloy sprinklers exposed to corrosive atmospheres ■ Wet-pipe, dry-pipe, or preaction installations ■ Extended coverages protecting areas up to 16' x 20''(4,9 x 6,1m) ■ 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 assembly until the sprinkler operates.

DS-8

Pendent

K Factor	K=8.0 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL
Temperature	135°F/57°C, 155°F/68°C,175°F/79°C, 200°F/93°C,286°F/141°C, 360°F/182°C
Escutcheon Finish	Signal White Polyester, Chrome Plated, Brass Plated, Stainless Steel
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White Polyester
SIN	Standard Response: TY4255, (photo shown) Quick Response: TY4235
Wrench Type	W-Type 7
Tech Data Sheet	**Standard Response: TFP503** **Quick Response: TFP513**

Standard coverage ■ All hazards (light hazards, horizontal sidewall) ■ 5 mm (SR) or 3mm (QR) bulb ■ Lengths up 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 assembly until the sprinkler operates ■ 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

Dry Sprinklers

DS-2

Pendent

K Factor	K=11.2 (161,3)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY5255, TY5235
Wrench Type	W-Type 17
Tech Data Sheet	**TFP530**

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

DS-2

Extended Coverage Pendent

K Factor	K=11.2 (161,3)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY5238
Wrench Type	W-Type 17
Tech Data Sheet	**TFP540**

EC light hazard & 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 assembly until the sprinkler operates

DS-C

Concealed Pendent

K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate, 200°F/93°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Grey White, Brass, Pure White, Signal White, Jet Black, Chrome, Custom
SIN	TY3535, TY3555
Wrench Type	RFII
Tech Data Sheet	**TFP515**

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 ■ 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

K Factor	K=5.6 (80,6)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C - Sprinkler, 139°F/59°C - Cover Plate, 200°F/93°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Grey White, Brass, Pure White, Signal White, Jet Black, Chrome, Custom
SIN	TY3539
Wrench Type	RFII
Tech Data Sheet	**TFP518**

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

Dry Sprinklers

DS-3

Extended Coverage Horizontal Sidewall

K Factor	K=11.2 (161,3)
Thread Size	1" NPT (Standard Order) ISO 7-R1
Approvals	UL, C-UL, NYC
Temperature	155°F/68°C, 200°F/93°C
Escutcheon Finish	Signal White, Chrome Plated, Brass Plated
Sprinkler Finish	Natural Brass, Chrome Plated, Signal White
SIN	TY5339
Wrench Type	W-Type 8
Tech Data Sheet	**TFP550**

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.

DSB-2

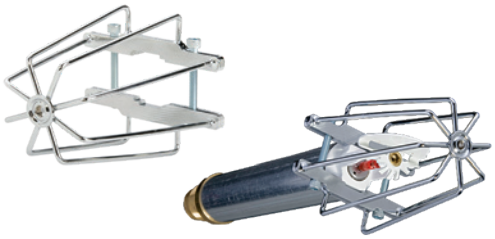
Dry Sprinkler Boot (For Use With TFP Dry Type Sprinklers)

Includes	1 Boot, 2 Strap Ties, and 1/3 oz. of Adhesive (quantity of adhesive is sufficient for installing 1 Boot)
Tech Data Sheet	**TFP591**

Helps to close the air gap created by the clearance hole through a wall or ceiling through which the dry type sprinkler has penetrated ■ 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

G5

DS-1 Dry Sprinkler Guards



Approvals	UL
Finish	Zinc Chromate
Tech Data Sheet	**TFP783**

The TYCO Model G5 Sprinkler Guards are designed to be used in areas that make the sprinklers susceptible to mechanical or physical damage ■ For use with Series DS-1 Dry Sprinklers standard, deep and no escutcheons

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 Application Sprinklers

Intended for specific applications such as combustible concealed spaces and areas subject to corrosion.

- Attic Spaces
- High Security Institutions
- Corrosive Environments
- Window Protection

Special Application Sprinklers

Attic

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

Back-To-Back

Hip

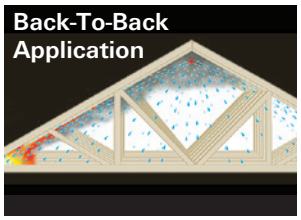
Single Directional

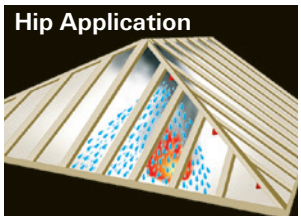
Attic Plus (AP)

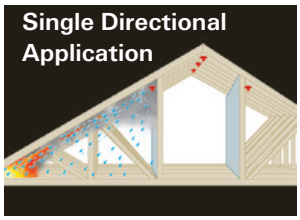
K Factor	K=4.2 (60,5), K=5.6 (80,6), K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL
Temperature	200°F/93°C for BB (K4.2 and K8.0), HIP, AP 212°F/100°C for BB (K5.6), SD
Sprinkler Finish	Natural Brass
SIN	TY4180, TY4181, TY4182 TY3180, TY3181, TY3182 TY2180, TY2181, TY2182 TY3183, TY3184, TY3185 TY3187, TY3190, TY2190
Wrench Type	W-TYPE 3, W-TYPE 6, W-TYPE 20
Tech Data Sheet	**TFP610**

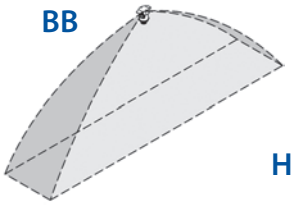
"Specific Application Sprinklers for Protecting Attics" ■ 3 mm bulb or solder type ■ Wet or dry pipe systems ■ Provides a tested method of protecting an attic ■ Provides a specific cost advantage by reducing the amount of piping required ■ Cover attics to 60'-0" wide with a single line of piping, eliminating 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.

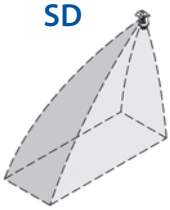
Spray Patterns

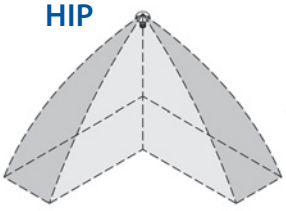


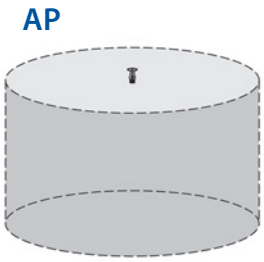


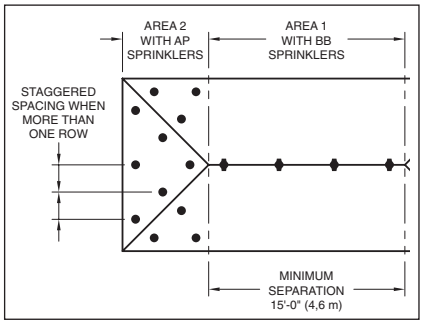












Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

RAVEN Studio Sprinkler

Pendent & Horizontal Sidewall Sprinklers

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL
Temperature	165°F/74°C
Sprinkler Finish	White, Grey, Custom
Escutcheon Finish	White, Grey, Chrome/Electropolish, Custom, Primed White or Grey (for paint-in-place)
SIN	Standard Coverage: TY1281 - Pendent, TY1381 - HSW Extended Coverage: TY1282 - Pendent, TY1382 - HSW
Wrench Type	W-Type 25
Tech Data Sheet	**TFP658**

TYCO RAVEN Studio Sprinklers 5.6K Pendent and Horizontal Sidewall (HSW) Quick Response, Standard Coverage for Light and Ordinary Hazard applications and Extended Coverage for Light Hazard applications only, are intended for use in areas as designed per NFPA 13 ■ The flush design is made aesthetically appealing by concealing the deflector and other operating parts behind the link assembly. ■ Additionally, RAVEN Studio is the only sprinkler UL Listed with a paint-in-place escutcheon. Both the sprinkler and escutcheon are also available in a range of factory-painted custom colors.

RAVEN

Institutional Pendent & Horizontal Sidewall

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL
Temperature	165°F/74°C
Escutcheon Material	Carbon Steel, or Stainless Steel
Escutcheon Finish	Grey, Chrome, White, or Electropolished (SS only)
Sprinkler Finish	Grey or White
SIN	TY3281, TY3282, TY3381, TY3382
Wrench Type	W-Type 25
Tech Data Sheet	**TFP651**

Quick Response ■ Standard and Extended Coverage ■ Designed for use in areas such as correctional, detention, and mental health care facilities as well as other commercial buildings ■ Both the pendent and horizontal sidewall styles are available for standard or extended coverage applications ■ Tamper-resistant features ■ 175 psi (12,1 bar).

Special Application Sprinklers

TFP PH2

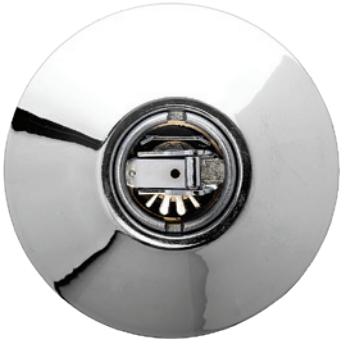
Institutional Pendent Sprinklers

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC
Temperature	165°F/74°C, 212°F/100°C
Sprinkler Finish	Chrome Plated
Escutcheon Finish	Chrome Plated
SIN	TY3290
Wrench Type	Model 1509-3
Tech Data Sheet	**TFP650**

The Tyco Model TFP PH2, 5.6 K-factor, Institutional Pendent Sprinklers are standard response standard coverage, fusible solder type spray sprinklers designed for use in areas such as correctional, detention, and mental health care facilities. ■ The unique features of the Model TFP PH2 provide a tamper resistant sprinkler design that helps eliminate the opportunity for individuals to injure themselves or others with the components of a fire sprinkler. ■ At the same time, the Model TFP PH2 optimizes an aesthetically appealing flush design that conceals most of the operating parts.

TFP PH5

Institutional Horizontal Sidewall Sprinklers



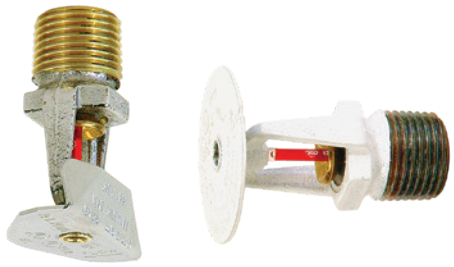
K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC
Temperature	165°F/74°C
Sprinkler Finish	Chrome Plated
Escutcheon Finish	Chrome Plated
SIN	TY3390
Wrench Type	Model 1509-3
Tech Data Sheet	**TFP650**

The Tyco Model TFP PH5, 5.6 K-factor, Institutional Horizontal Sidewall Sprinklers are standard-response, standard-coverage spray sprinklers designed for use in areas such as correctional, detention, and mental health care facilities. ■ The unique features of the Model TFP PH5 provide a tamper-resistant sprinkler design that helps eliminate the opportunity for individuals to injure themselves or others with components of a fire sprinkler. ■ The Model TFP PH5 optimizes an aesthetically appealing flush design that conceals most of the operating parts.

Special Application Sprinklers

WS™

Window Sprinklers, Horizontal & Pendent Vertical Sidewall



K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, NYC, ICC
Temperature	155°F/68°C, 200°F/93°C
Sprinkler Finish	Signal White Polyester, Chrome Plated, Natural Brass, Jet Black
SIN	TY3388, TY3488
Wrench Type	W-Type 20
Tech Data Sheet	**TFP620**

3 mm bulb ■ 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 ■ Provides the only UL tested option when seeking wall fire ratings when using heat strengthened, tempered, or ceramic glass.

CWS

Specific Application Concealed Pendent Vertical Sidewall Window Sprinkler

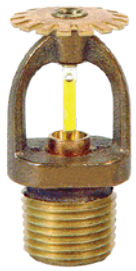
K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, ICC
Temperature	160°F/71°C - Sprinkler, 139°F/59°C - Cover Plate, 212°F/100°C - Sprinkler, 165°F/74°C - Cover Plate
Cover Plate Finish	Ivory, Bright Chrome, Beige, Pure White, Signal White, Grey White, Brown, Black, Brushed Brass, Brushed Chrome, Custom
SIN	TY3498
Wrench Type	W-Type 39
Tech Data Sheet	**TFP621**

Designed to provide a two-hour fire-resistance-rating to protect non-rated glazing ■ UL and C-UL Listed as a specific application automatic window sprinkler ■ Compliant with the International Building Code, fire-resistant rating evaluated in ICC ESR-2397 ■ Flat-plate design conceals the sprinkler above the ceiling

Special Application Sprinklers

CC1

Combustible Concealed Space Sprinklers™, Upright



K Factor	K=2.8 (40,3)
Thread Size	1/2" NPT
Approvals	UL
Temperature	175°F/79°C
Sprinkler Finish	Natural Brass
SIN	TY1189
Wrench Type	W-Type 20
Tech Data Sheet	**TFP630**

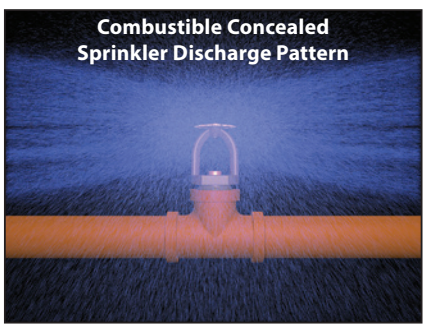
3 mm bulb ■ Sprinklers are fast response, specific application sprinklers designed to provide protection of light hazard combustible, as well as non-combustible, concealed spaces ■ Meets NFPA® Requirements for Specialty Listed Sprinklers in Combustible Concealed Spaces ■ Allows the use of BlazeMaster® CPVC pipe with the benefit of superior sprinkler protection for Wood truss spaces.

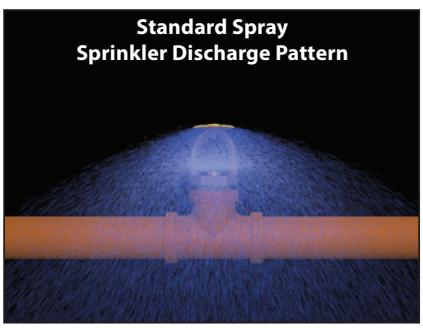
CC2

Combustible Concealed Space Sprinklers™, Upright

K Factor	K=4.2 (60,5), K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL
Temperature	175°F/79°C
Sprinkler Finish	Natural Brass
SIN	TY2189, TY3189
Wrench Type	W-Type 6
Tech Data Sheet	**TFP632**

3 mm bulb ■ Specific application sprinklers ■ Provides protection of specific light hazard combustible, as well as non-combustible, concealed spaces requiring sprinkler protection ■ The CC2 Sprinklers comply with the criterion for the protection of combustible concealed spaces as described in NFPA 13 ■ Allows the use of BlazeMaster® CPVC pipe in combustible concealed areas with the benefit of superior sprinkler protection for Wood truss spaces ■ 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 ft² (9,3 m²) to 144 ft² (13,4 m²)





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 Application Sprinklers

CC3

Combustible Concealed Space Sprinklers™, Upright

K Factor	K=4.2 (60,5), K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL
Temperature	200°F/93°C
Sprinkler Finish	Natural Brass
SIN	TY2199 - 4.2K, TY3199 - 5.6K
Wrench Type	W-Type 6
Tech Data Sheet	**TFP633**

3 mm bulb ■ The CC3 Combustible Concealed Sprinklers are quick response, upright, specific application sprinklers designed to provide protection of specific light hazard combustible, as well as non-combustible, concealed spaces requiring protection ■ The Model CC3 Sprinklers comply with the criteria for the protection of combustible concealed spaces as described in NFPA 13 ■ The Model CC3 are designed for installation on BlazeMaster CPVC wet pipe systems and steel wet pipe or dry pipe sprinkler systems.

Issue D Quartzoid®

High Temperature, Upright & Pendent

K Factor	K=5.6 (80,6), K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	UL, C-UL, FM, LPCB
Temperature	400°F/204°C, 500°F/260°C, 650°F/343°C (K=5.6 only)
Sprinkler Finish	Natural Brass, Chrome Plated, Lead Coated
SIN	TY3191, TY3296, TY4191 , TY4292
Wrench Type	W-Type 11
Tech Data Sheet	**TFP690**

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.

Special Application Sprinklers

TY-B

Conventional (Old Style)

K Factor	K=5.6 (80,6) , K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, LPCB, VdS, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C, Open (TY4651)
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Wax Coated, Lead Coated, Wax Over Lead Coated
SIN	TY3651, TY4651
Wrench Type	W-Type 6
Tech Data Sheet	**TFP661**

Ordinary and Extra High Hazard ■ 5 mm bulb ■ These sprinklers are intended to be installed either pendent or upright, and in either position, they produce a spherical water discharge pattern with approximately 50% of the discharge directed upwards and approximately 50% of the discharge directed downwards. ■ The NFPA permits the use of "Old Style Sprinklers" where special construction features require a unique water distribution.

TY-B

Conventional (Old Style)

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, VdS, LPCB (TY3650 Only)
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White
SIN	TY365, TY3650
Wrench Type	W-Type 6
Tech Data Sheet	**TFP662**

Ordinary and Extra High Hazard ■ 5 mm bulb ■ These sprinklers are intended to be installed either pendent or upright, and in either position, they produce a spherical water discharge pattern with approximately 50% of the discharge directed upwards and approximately 50% of the discharge directed downwards.

TY-FRB

Conventional (Old Style)

K Factor	K=5.6 (80,6) , K=8.0 (115,2)
Thread Size	1/2" NPT • 3/4" NPT
Approvals	UL, C-UL, LPCB, VdS, NYC
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White, Jet Black
SIN	TY3631, TY4631
Wrench Type	W-Type 6
Tech Data Sheet	**TFP666**

Ordinary and Extra High Hazard ■ 3 mm bulb ■ These sprinklers are intended to be installed either pendent or upright, and in either position, they produce a spherical water discharge pattern with approximately 50% of the discharge directed upwards and approximately 50% of the discharge directed downwards.

TY-FRB

Conventional (Old Style)

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, VdS, LPCB (TY3630 Only)
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C
Sprinkler Finish	Natural Brass, Chrome Plated, Pure White, Signal White
SIN	TY363, TY3630
Wrench Type	W-Type 6
Tech Data Sheet	**TFP667**

Ordinary and Extra High Hazard ■ The TYCO Series TY-FRB, Conventional Sprinklers, are quick response, standard coverage, decorative 3 mm glass bulb type spray sprinklers ■ These sprinklers are intended to be installed either pendent or upright, and in either position, they produce a spherical water discharge pattern with approximately 50% of the discharge directed upwards and approximately 50% of the discharge directed downwards.

Special Application Sprinklers

FTR-1

Fixed Temperature Release

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C
Sprinkler Finish	Natural Brass, White Polyester Coated, Gray Teflon® Coated
SIN	TY3030
Wrench Type	W-Type 6
Tech Data Sheet	**TFP1388**

3 mm bulb ■ Fixed-temperature, heat detector intended for wet or dry pilot release service ■ Maximum 40 ft. x 40 ft. spacing ■ 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)

TY-L

Pendent

K Factor	K=5.6 (80,6) · K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	FM, CE
Temperature	165°F/74°C, 212°F/100°C, 280°F/138°C
Escutcheon Style	Style 20 · Style 65
Sprinkler Finish	Stainless Steel
SIN	K=5.6 - TY3280, K=8.0 - TY4280
Wrench Type	W-TYPE 9, W-Type 10 (For recessed escutcheons)
Tech Data Sheet	**TFP683**

TY-L: solder type, standard response, standard coverage ■ Stainless Steel, rated for corrosion resistance ■ All metal components remove glass parts from facility ■ The properties of these sprinklers are intended to resist corrosion due to cleaning agents used in wash-down procedures required in food production environments ■ Designed for use in light, ordinary and extra-hazard commercial occupancies including food production facilities, factories, refineries and chemical plants.

TY-B & TY-FRB (Alternate Materials Of Construction)

Upright & Pendent Sprinklers

K Factor	K=5.6 (80,6) · K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	UL, C-UL, LPCB, Lloyds
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Escutcheon Style	Style 10 · Style 40
Sprinkler Finish	Stainless Steel, SMO, Titanium
SIN	Refer to Tech Data Sheet for SIN Numbers
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP680**

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, (SMO = stainless-molybdenum alloyed)

Vertical, Horizontal & Recessed Horizontal Sidewall Sprinklers

K Factor	K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, LPCB
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Escutcheon Style	Style 10
Sprinkler Finish	Stainless Steel, SMO, Titanium
SIN	Refer to Tech Data Sheet for SIN Numbers
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP680**

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 (SMO = stainless-molybdenum alloyed)

Special Application Sprinklers

TY-B & TY-FRB (Poly-Stainless)

Upright, Pendent & Horizontal Sidewall Sprinklers

K Factor	K=5.6 (80,6) · K=8.0 (115,2)
Thread Size	1/2" NPT · 3/4" NPT
Approvals	UL, C-UL, LPCB, Lloyds
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C, 286°F/141°C, 360°F/182°C
Escutcheon Style	Style 10 · Style 40
Sprinkler Finish	Poly-Stainless
SIN	Refer to Tech Data Sheet for SIN Numbers
Wrench Type	W-TYPE 6, W-Type 7 (For recessed escutcheons)
Tech Data Sheet	**TFP682**

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 ■ Corrosive environments can wreak havoc on standard sprinkler heads. The TYCO Poly-Stainless sprinklers are here to maintain the aesthetics of a sprinkler in a wide range of corrosive locations.

Sprinkler Accessories

For use with the sprinklers and nozzles described in this catalog.

- Improve Appearance
- Conceal Clearance Holes
- Protection From Damage
- Onsite Emergency Storage Supply

Sprinkler Accessories

Escutcheon Plates

Recessed Escutcheons and Protective Paint Caps

Thread Size	1/2" NPT - Styles 10, 15, 20, & 50 3/8" NPT - Styles 70 3/4" NPT - Styles 30, & 40
Escutcheon Styles	Styles 10, 15, 20, 30, 40, 50, & 70
Finishes	Pure White, Signal White, Jet Black, Chrome Plated, Brass Plated, Plain
Tech Data Sheet	**TFP770**

Consists of a mounting plate and closure for finished appearance in ceilings or soffits ■ 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 ■ Maximum 1/2" to 3/4" adjustment

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

Style 65

Style 401

Thread Size	1/2" NPT • 3/4" NPT
Escutcheon Styles	Styles 65, 401
Finishes	Chrome, Signal White, or Brass
Tech Data Sheet	**TFP777**

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

Sprinkler Accessories

Escutcheon Plates

Style 60, Two-Piece Flush Escutcheon

Thread Size	3/4" NPT
Approvals	UL, FM
Escutcheon Styles	Styles 60
Finishes	Chrome, Signal White, or Brass
Tech Data Sheet	**TFP778**

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 ■ 3/4" total adjustment

Sprinkler Head Cabinet

3, 6 or 12 Capacity

Thread Size	1/2" NPT • 3/4" NPT • 1" NPT
Tech Data Sheet	**TFP785**

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

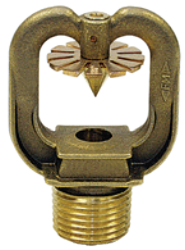
Nozzle & Nozzle Accessories

Designed for use in a variety of special hazard application – may be required to provide a properly designed special hazard fire protection system.

- Flammable Liquid Ranks & Operations
- Flammable Liquid Storage
- Offshore Platforms
- Industrial Process Equipment
- Computer Rooms
- Clean Rooms

D3

Protectospray Directional Spray Nozzle



K Factor	K=1.2 (17,3) to 7.2 (103,7)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM
Spray Angles	65°, 80°, 95°, 110°, 125°, 140°, 160°, and 180°
Nozzle Finish	Bronze: Natural Finish, Teflon Coated, Lead Coated, Chrome, or Natural Stainless Steel
Wrench Type	W-Type 11
Tech Data Sheet	**TFP802, Blow-off Plugs TFP890**

Designed for use in water spray fixed systems for fire protection applications ■ Open orifice type for use in deluge systems ■ Nozzles are external deflector types that discharge a uniformly filled cone of medium velocity water droplets ■ Blow-Off Plugs are available and designed for both indoor or outdoor use.

EA-1

Automatic Protectospray Directional Spray Nozzle

K Factor	K=1.4 (20,2), K=2.8 (40,3), K=5.6 (80,6)
Thread Size	1/2" NPT
Approvals	UL, C-UL, FM
Temperature	135°F/57°C, 175°F/79°C, 250°F/121°C, 325°F/163°C, 400°F/204°C, 500°F/260°C
Spray Angles	65°, 80°, 95°, 110°, 125°, 140°, 160°, and 180°
Sprinkler Finish	Natural Finish Bronze, Lead Coated Bronze, Chrome Plated, Wax Coated Bronze
Wrench Type	W-TYPE 11
Tech Data Sheet	**TFP800**

Medium velocity, Bulb type frangible element for use in closed head systems ■ Discharges a filled cone of water droplets at relatively low velocity ■ The Type EA-1 Nozzles are also especially effective for area coverage and are sometimes used in lieu of standard sprinklers where directional spray is considered more appropriate.

Nozzles and Accessories

HV "High Velocity"

Directional Spray Nozzle

K Factor	K=1.6 (23,0) • K=1.8 (25,9) • K=2.8 (40,3) • K=4.6 (66,2) K=5.5 (79,2) • K=6.4 (92,2)
Thread Size	1" NPT 1-1/4" (only K=6.4)
Approvals	UL, C-UL, FM
Nozzle Finish	Natural Brass or Stainless Steel
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**TFP815**

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 and six angle spray patterns ■ Produces a solid conical spray pattern

TN-25

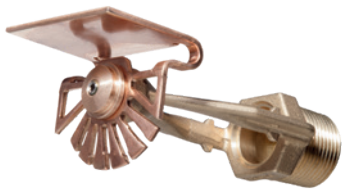
Horizontal Spray Nozzle, Open

K Factor	K=25.2 (362,9)
Thread Size	1" NPT or ISO 7-R 1
Approvals	UL, C-UL
Nozzle Finish	Natural Brass
Wrench Type	W-Type 1
Tech Data Sheet	**TFP850**

The TYCO Model TN-25 Horizontal Spray Nozzle is a specialized open nozzle for use in tunnel fire protection deluge systems, providing an improved alternative to traditional designs ■ Model TN-25 Nozzle allows for a single pipe to run the length of a tunnel, compared to traditional designs that use multiple pipes in order to provide sufficient coverage.

TN-17

Horizontal Spray Nozzle, Open



K Factor	K=16.8 (241,9)
Thread Size	3/4" NPT or ISO 7-R 3/4
Approvals	UL, C-UL
Nozzle Finish	Natural Brass
Wrench Type	W-Type 21
Tech Data Sheet	**TFP852**

The TYCO Model TN-17 Horizontal Spray Nozzle having a 16.8 (K240) K-factor is a specialized open nozzle for use in tunnel fire protection deluge systems, providing an improved alternative to traditional designs ■ With its ability to provide extended coverage, the Model TN-17 Nozzle allows for a single pipe to run the length of a tunnel, compared to traditional designs that use multiple pipes in order to provide sufficient coverage ■ The Model TN-17 Nozzle is an open nozzle designed to be integrated into a deluge fire protection system.

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.

D4a

Directional Spray Nozzles, Open, Medium Velocity

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 (103,7)
Thread Size	1/2" NPT
Approvals	UL, C-UL
Spray Angles	65°, 80°, 95°, 110°, 125°, 140°, 160°, and 180°
Nozzle Finish	Natural Finish Bronze, Teflon Coated Bronze
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**TFP806**

Nozzles are external deflector types that discharge a uniformly filled cone of medium velocity water droplets ■ The Type D4a Nozzles feature a four arm body design that helps assist against mechanical or physical damage ■ Open orifice design type for use in deluge systems

AM4 AQUAMIST

Non-Automatic Open Type

K Factor	K=0.24 (3,5)
Thread Size	1/2" NPT
Nozzle Finish	Natural Stainless Steel
Wrench Type	W-Type 6
Tech Data Sheet	**TFP2204**

Open, directional mist nozzles ■ They are intermediate pressure nozzles which utilize a single fluid jet impinging on a diffuser to produce a spray having a range of water droplet sizes suitable for the extinguishment of Class B fires, as well as incidental Class A fires ■ Maximum utilization of water for flammable liquid fire protection.

AM10 and AM10B AQUAMIST

Non-Automatic Open Type

K Factor	K=0.24 (3,5)
Thread Size	1/2" NPT
Nozzle Finish	Stainless Steel
Wrench Type	W-Type 6
Tech Data Sheet	**TFP2210**

Open mist nozzles ■ Designed for use in water "low pressure" mist protection systems protecting flammable liquids and turbine bearings ■ Minimal water demand ■ Min. operating pressure is 170 psi (11,6 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.

Nozzles and Accessories

AM24 AQUAMIST

Automatic Type Mist Nozzle

K Factor	4.7 lpm/bar 1/2, 0.33 gpm/psi 0.5
Thread Size	1/2" NPT
Approvals	UL
Temperature	135°F/57°C, 155°F/68°C, 175°F/79°C, 200°F/93°C
Sprinkler Finish	Natural Brass, Chrome Plated, White Polyester
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**Tyco for details**

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 ■ Nozzle pressure: 175-250 psi (12,1 to 17,2 bar)

F822 thru F834 Mulsifyre®

Directional Spray Nozzles, Open, High Velocity

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" NPT
Approvals	UL, ULC
Nozzle Finish	Brass
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**TFP810**

Two configurations: basic Mulsifyre Nozzle & 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.

F822S thru F834S Mulsifyre®

Directional Spray Nozzles, Open, With Strainers, High Velocity

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" NPT
Approvals	FM
Nozzle Finish	Brass
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**TFP811**

Two configurations: basic Mulsifyre Nozzle & 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.

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.

Cooling Tower Nozzle

Type 1 and 2

K Factor	K=2.9 (42,0)
Thread Size	3/4" NPT
Approvals	UL, FM
Nozzle Finish	Bronze or Stainless Steel
Wrench Type	W-Type 11
Tech Data Sheet	**TFP830**

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

B-1

Upright & Pendent Foam-Water Sprinkler

K Factor	K=3.0 (43,2)
Thread Size	1/2" NPT
Approvals	UL, C-UL, Military
Nozzle Finish	Natural Bronze
Wrench Type	Common Adjustable Wrench
Tech Data Sheet	**TFP840**

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

Nozzles and Accessories

Type DN-5

Corrosion Resistant Duct Nozzle, Open, Medium Velocity

K Factor	K=6.0 (86,5)
Thread Size	1/2" NPT
Approvals	FM
Nozzle Coating	HALAR (ECTFE)
Tech Data Sheet	**TFP808**

The TYCO Type DN-5 Corrosion Resistant Duct Nozzle is an open (non-automatic) directional spray nozzle designed for use in water spray fixed systems for fire protection applications in extremely corrosive duct environments. ■ It is an external deflector type nozzle that discharges medium velocity water droplets. ■ The Type DN-5 Corrosion Resistant Duct Nozzle is effective in discharging water to vertical, horizontal, curved, and irregular shaped surfaces within a duct to achieve fire suppression and potential extinguishment.

DDS Duct Deluge System

For The Protection of Ventilation Ductwork Handling Corrosive Gases

Approvals	FM
Corrosive Environments	- Steel Manufacturing, - Copper Mineral Processing, - Lead Mineral Processing, - Zinc Mineral Processing, - Coal Power Generation, - Semiconductor Fabrication, - Pulp & Paper Facilities
Tech Data Sheet	**TFP870**

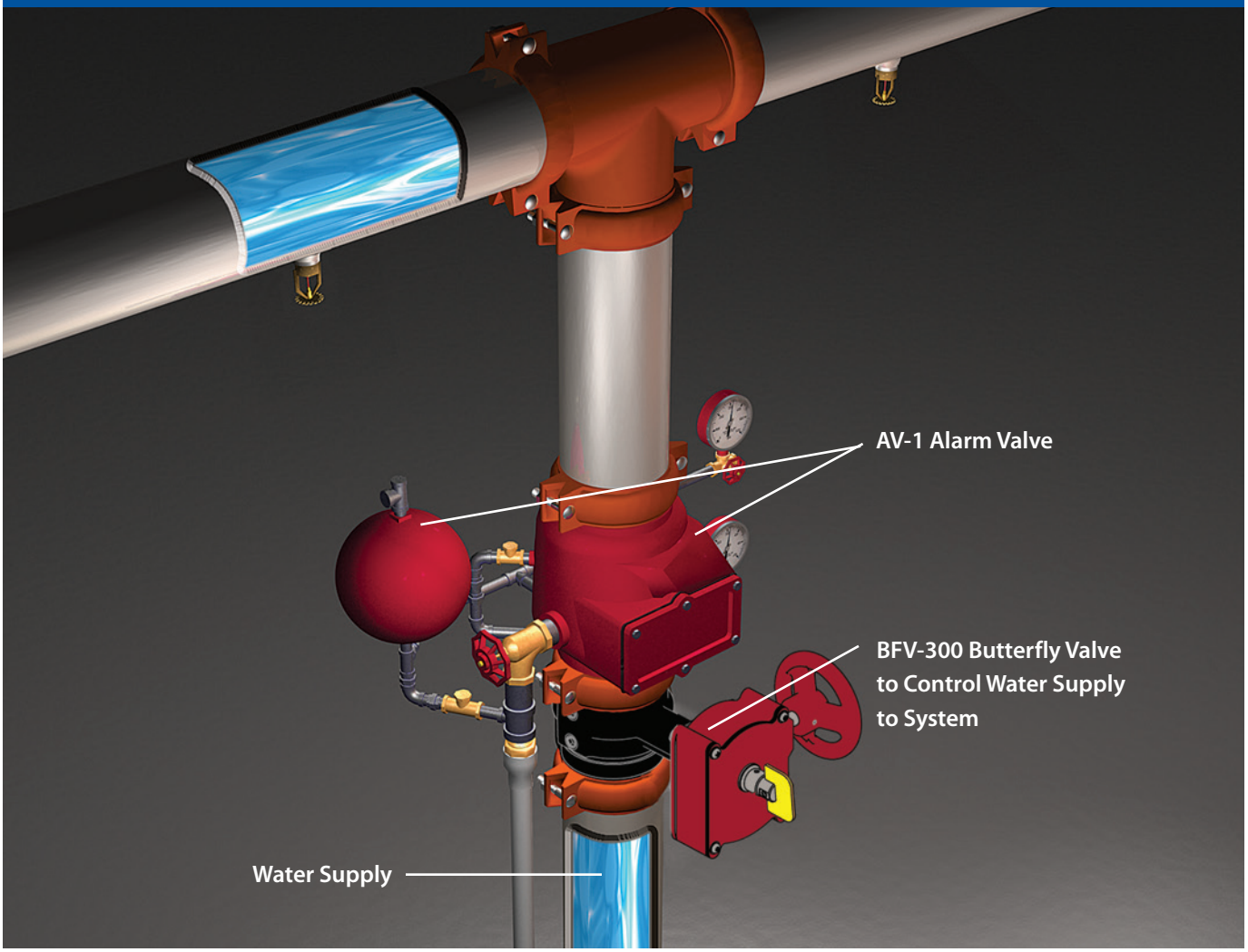
The TYCO DDS Duct Deluge System is designed specifically for the protection of ventilation ductwork handling corrosive gases, including extremely corrosive gases as defined in FM Property Loss Prevention Data Sheet 7-78. ■ The DDS System features the TYCO DN-5 Corrosion Resistant Duct Nozzle, which is an open (non automatic) directional spray nozzle, and also includes the TYCO Red-E Cabinet, Protectowire linear heat detection, and FlexHead duct mounting hardware. ■ Ventilation ductwork handling extremely corrosive environments in industrial settings.

Wet Pipe Sprinkler Systems

Designed for use in wet pipe sprinkler systems.

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

Wet System Valves & Devices



AV-1-300

Alarm Valve

Size Range	2½" thru 8" (DN65 thru DN200)
Approvals	UL, C-UL Listed & FM Approved
Working Water Pressure	20 to 300 psi (1,4 to 20,7 bar)
System	For use in wet pipe (automatic sprinkler) fire protection systems
End Connection	Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP910**

AV-1 Alarm Valves may be installed vertically or horizontally ■ Alarm Valves are divided seat ring, rubber-faced clapper, check type, water flow alarm valves ■ 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 TFP 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.

RC-1

Retard Chamber

Approvals	UL, ULC, & FM for use with: Model AV-1-300 Alarm Check Valves UL, ULC, FM, VdS, & LPCB for use with the following Alarm Check Valves: Model AV-1-175, Gem Model F20/F200/F2001, Gem Model A, Star Model S30/S300/S3001
Maximum Working Pressure	300 psi (20,7 bar)
System	For use in a wet type automatic sprinkler system riser
Tech Data Sheet	**TFP920**

The Model RC-1 Retard Chamber is required in installations that will be subject to pressure variations, as are generally associated with public water supplies, in order to help prevent false alarms

CV-1FR

Riser Check Valve

Size Range	2" thru 12" (DN50 thru DN300)
Approvals	UL, C-UL Listed & FM Approved
Maximum Working Pressure	300 psi (20,7 bar)
System	For use in a wet type automatic sprinkler system riser
End Connection	Groove x Groove
Tech Data Sheet	**TFP950**

Can be installed using GRINNELL Grooved Couplings or GRINNELL Figure 71 Flange Adapters ■ Designed with a removable cover for ease of field maintenance ■ Standard seal is grade "E" EPDM

RM-1

Riser Manifolds

Size Range	NFPA 13 - 1-1/2" thru 6" (DN40 thru DN150) NFPA 13D - 1" (DN25) NFPA 13R - 1-1/2" thru 2" (DN40 thru DN50)
Approvals	UL, C-UL Listed & FM Approved Listed by California State Fire Marshall
Maximum Working Pressure	300 psi (20,7 bar)
System	For use in commercial or residential sprinkler systems
End Connection	Thread x Thread, Groove x Groove
Tech Data Sheet	**TFP963**

Riser Manifolds may be installed either horizontally or vertically orientation, for both single sprinkler rises and floor control in high-rises. ■ Optional Pressure Relief Kits feature a 175 psi pressure relief valve and trim components for convenient integration into commercial and residential riser manifold assemblies.

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

RM-2

Riser Manifolds

Size Range	2" thru 6" (DN50 thru DN150)
Approvals	UL, C-UL Listed & FM Approved Listed by California State Fire Marshall
Maximum Working Pressure	300 psi (20,7 bar)
System	For use in commercial sprinkler systems
Test Orifice	2" to 3" (DN50 to DN80) Manifolds: 2.8K 4" to 6" (DN100 to DN150) Manifolds: 4.2K
End Connection	Groove x Groove
Tech Data Sheet	**TFP964**

The TYCO Model RM-2 Riser Manifold features the necessary waterflow alarm, pressure gauge, alarm test orifice, drain, sight glass and check valve equipment in a single assembly for use in National Fire Protection Association (NFPA) standard NFPA 13 compliant commercial sprinkler systems. ■ The riser manifold provides a cost effective and easy transition arrangement to control valves and system piping. ■ The riser manifold may be installed in either a horizontal or vertical orientation, for both single sprinkler rises and floor control in high-rises.

TD-2

Test & Drain Valve

Test Orifice	2" to 3" (DN50 to DN80) Manifolds: 2.8K 4" to 6" (DN100 to DN150) Manifolds: 4.2K
Approvals	UL, C-UL Listed & FM Approved Listed by California State Fire Marshall
Maximum Service Pressure	300 psi (20,7 bar)
Shut-Off Valve	Linear stem actuation with EPDM rubber seals
End Connection	Thread x Thread
Tech Data Sheet	**TFP965**

The TYCO Model TD-2 Test and Drain Valve with integral pressure relief provides a simplified means for testing of waterflow alarm devices and draining of feed mains. ■ The valve is typically utilized for connection to a common inside drain where it is not practical to terminate an inspector's test connection outside of a building. ■ Linear shut-off eliminates leakage due to debris in media ■ Integral pressure relief ■ Self-cleaning sight glass provides positive indication of flow

Wet System Valves & Devices

RSV-1

Residential Shutoff Valve

Size Range	NFPA 13D – 1" (DN25) NFPA 13R or NFPA 12D – 2" (DN50)
Approvals	UL, C-UL, & NSF-61
Maximum Working Pressure	175 psi (12,1 bar)
System	For use in residential sprinkler systems
End Connection	Thread x Thread
Tech Data Sheet	**TFP980**

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 ■ Valve automatically resets after the fire protection system is returned to normal service

Resi-Riser

Residential

Size Range	1" thru 2" (DN25 thru DN50)
Maximum Working Pressure	175 psi (12,1 bar)
System	For use in residential sprinkler systems
End Connection	Thread x Thread
Tech Data Sheet	**Contact Tyco for details**

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 ■ 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

WMA-1

Water Motor Alarm

Size Range	NFPA 13D – 1" (DN25) NFPA 13R or NFPA 12D – 2" (DN50)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	300 psi (20,7 bar)
System	For use in a wet type automatic sprinkler system riser
Tech Data Sheet	**TFP921**

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 ■ Furnished with approved ¾" (20 mm) Y-strainer for use in alarm line

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.

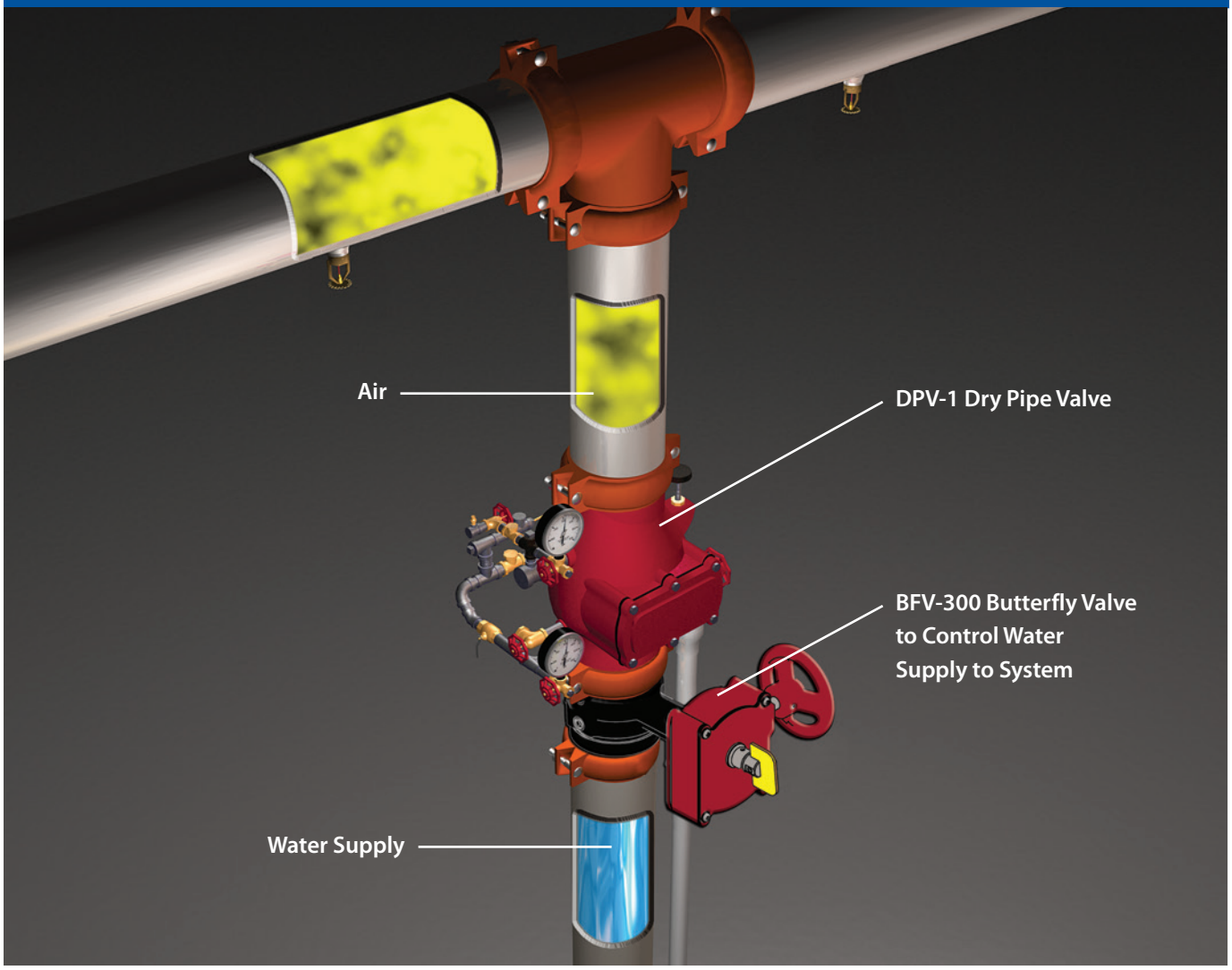
Dry Pipe Sprinkler Systems

Designed for use in dry pipe sprinkler systems where piping and sprinklers are subjected to freezing temperatures.

- Unheated Warehouses
- Parking Garages
- Store Windows
- Attic Spaces
- Loading Docks

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 System Valves & Devices



DPV-1

Dry Pipe Valve

Size Range	2½" thru 6" (DN65 thru DN150)
Approvals	UL, C-UL Listed & FM Approved
Maximum Service Pressure	250 psi (17,2 bar)
System	For use in dry pipe fire protection systems
End Connection	Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP1020**

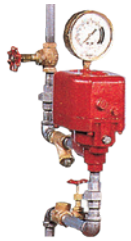
External reset differential dry pipe valves ■ Unique offset single clapper design enabling a simple compact valve to minimize installation labor ■ Used to supply sprinkler installations in which sprinklers are subjected to freezing conditions (40˚F / 4˚C or less) ■ Ductile iron construction to ensure a lightweight valve to minimize shipping cost. ■ Compact, Pre-Trimmed, and Semi-Assembled, easy to operate valve trim. ■ Simple reset procedure through the elimination of priming water.

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 System Valves & Devices

ACC-1

Dry Pipe Valve Accelerator



Approvals	UL, C-UL Listed & FM, LPCB Approved
Maximum Working Air Pressure	70 psi (4,8 bar)
System	For use in dry pipe fire protection systems
End Connection	Threaded
Tech Data Sheet	**TFP1112**

Model ACC-1 Accelerator reduces the time for valve operation following the operation of one or more automatic sprinklers. ■ 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 ■ 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)

QRS

Electronic Accelerator

Approvals	UL Listed & FM Approved
Maximum Working Air Pressure	70 psi (4,8 bar)
System	For use in dry pipe fire protection systems
End Connection	Threaded
Tech Data Sheet	**TFP1100**

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 ■ 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

VIZOR

Electronic Dry Pipe Accelerator

Approvals	UL, C-UL Listed & FM Approved
Max. Water Pressure	300 psi (20,7 bar)
Air Pressure	10 psi (0,7 bar) to 65 psi (4,5 bar)
System	For use in dry pipe fire protection systems
End Connection	Threaded
Tech Data Sheet	**TFP1105**

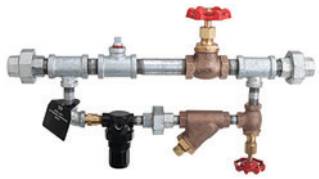
Direct mounting to the riser ■ Installation consistent with the installation of mechanical devices ■ Easy test-and-reset function, as compared to mechanical accelerators ■ Battery back-up in the event of primary power failure ■ Electronically self-supervising technology, similar to that used in typical alarm panels for alarm and detection systems ■ Built-in low-pressure and high pressure alarm supervision

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 System Valves & Devices

AMD-1

Air Maintenance Device, Pressure Reducing Type



Approvals	UL, C-UL Listed & FM Approved & NYC Approved under MEA 206-02-E
Field-Adjustable Outlet Pressure Range	5 to 70 psi (0,4 to 4,8 bar)
Maximum Inlet Air Supply Pressure	200 psi (13,8 bar)
System	For use in dry pipe fire protection systems
Tech Data Sheet	**TFP1221**

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

AMD-2

Air Maintenance Device, Compressor Control Type

Approvals	UL, C-UL Listed & FM Approved & NYC Approved under MEA 206-02-E
Field-Adjustable Pressures	Minimum Cut-In (On) 14 psi (1,0 bar) Maximum Cut-Out (Off) 60 psi (4,1 bar)
NEMA Rating	The housing of the Pressure Switch meets NEMA 1 requirements.
System	For use in dry pipe fire protection systems
Tech Data Sheet	**TFP1231**

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

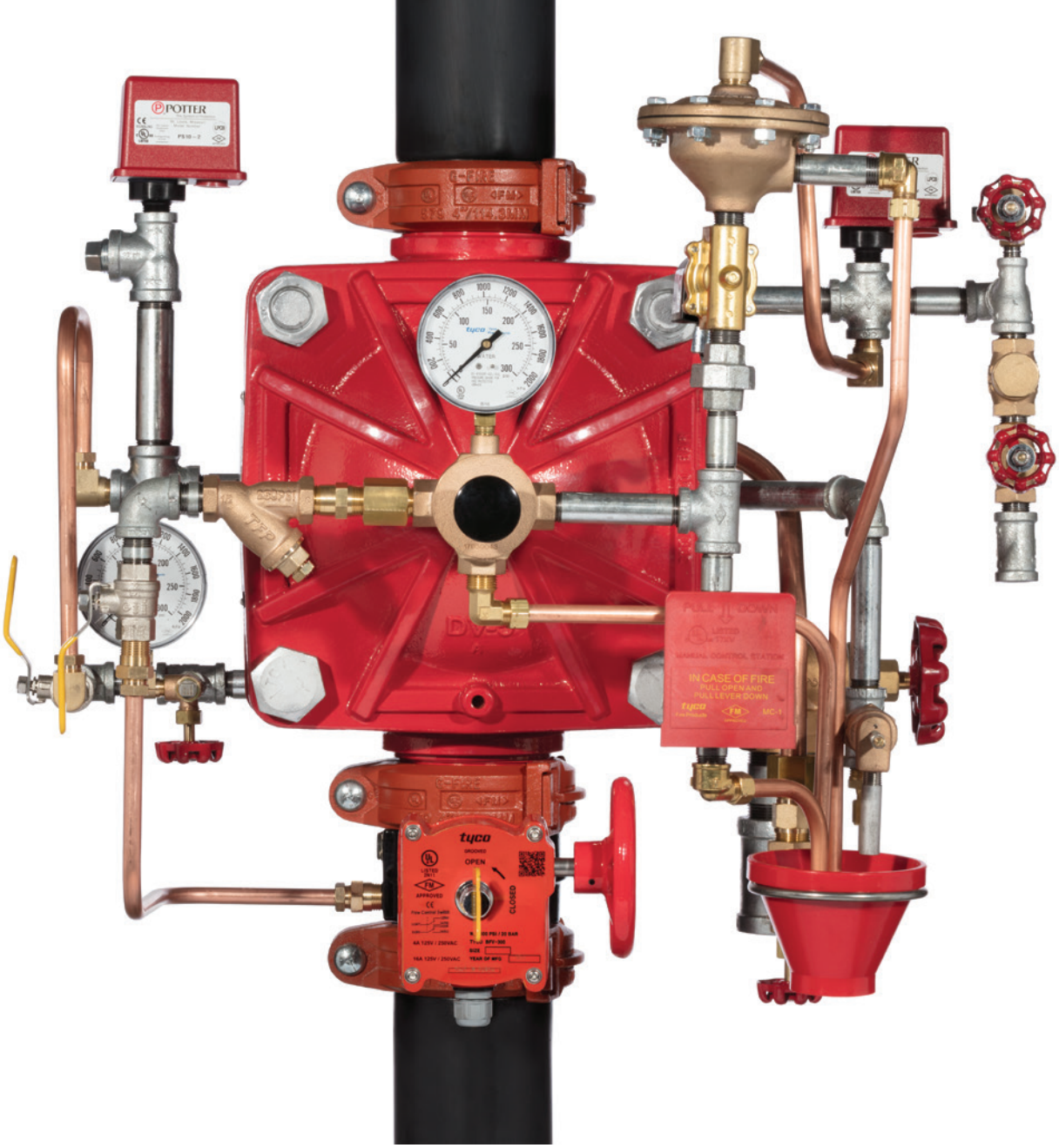
AMD-3

Nitrogen Maintenance Device, High Pressure (Cylinder) Reducing Type

Approvals	UL, C-UL Listed & FM Approved & NYC Approved under MEA 206-02-E
Field-Adjustable Outlet Pressures Range	4 to 60 psi (0,4 to 4,1 bar)
Maximum Inlet Nitrogen Supply Pressure	3000 psi (200 bar)
System	For use in dry pipe fire protection systems
Tech Data Sheet	**TFP1241**

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

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.



Deluge & Preaction Systems

For use in deluge and preaction fire sprinkler systems.

- Aircraft Hangars
- Refrigerated Areas
- Flammable Liquid Handling
- High-Hazard Installations Using Water as Extinguishing Agent
- Archives
- Libraries

DV-5A

Deluge Valve, External Resetting Diaphragm Style – 1½" thru 8"

The TYCO DV-5A Automatic Water Control Valves are diaphragm type valves that can be used in deluge fire protection systems. When properly trimmed, the double seat design of the DV-5A Valve also provides actuation of fire alarms upon system operation.

The diaphragm style design of the DV-5A Valve allows external resetting, providing for easy resetting of a deluge system without having to open a valve handhole cover to manually reposition a clapper and/or latch mechanism. Simply re-pressurizing the diaphragm chamber resets the valve.

The DV-5A features internal and external coating of the valve to provide corrosion resistance. The external corrosion resistance of the epoxy coating permits the use of the DV-5A in corrosive atmospheres associated with many types of industrial processing plants and outdoor installations.

Size Range	1½" thru 8" (DN40 thru DN200)
Approvals	UL, C-UL Listed & FM, VdS & LPCB Approved
Maximum Service Pressure	20 psi (1,4 bar) to 300 psi (20,7 bar)
Types of System	**Deluge Systems: (TFP1306 & TFP1325)** - Wet Pilot Actuation - Dry Pilot Actuation - Electric Actuation **Single Interlock Preaction Systems: (TFP1425)** - Wet Pilot Actuation - Dry Pilot Actuation - Electric Actuation **Double Interlock Preaction Systems: (TFP1450)** - Electric/Pneumatic Actuation - Electric/Electric Actuation
End Connection	Thread x Thread, Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP1306**

Vertical installation ■ One internal working part, Diaphragm operation ■ 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 ■ For deluge, preaction & foam systems

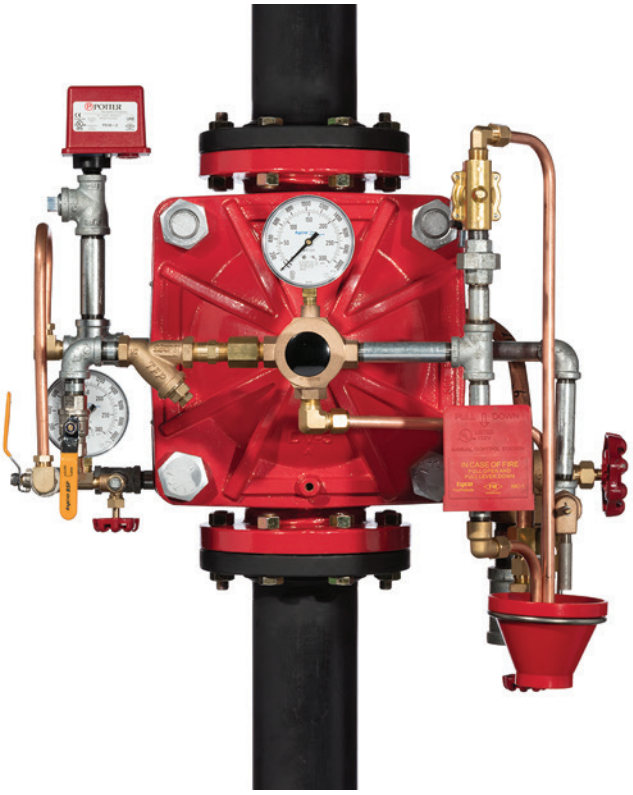
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

Deluge & Preaction Systems

Deluge Systems

Wet Pilot, Dry Pilot, or Electric Actuation, Remote Resetting, or Remote Resetting Pressure Reducing

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.



(Electric Actuation Trim Shown)

(Remote Resetting Trim Shown)

DV-5A Size Range	1½" thru 8" (DN40 thru DN200)
Approvals	UL, C-UL Listed & FM, VdS & LPCB Approved
Maximum Service Pressure	Wet Pilot Actuation: 300 psi (20,7 bar) Dry Pilot Actuation: 250 psi (17,2 bar) Electric Actuation: Per Solenoid, see TFP2180
End Connection	Thread x Thread, Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP1306 -** DV-5A **TFP1325 -** DV-5A Remote Resetting **TFP1326 -** DV-5A Remote Resetting, Pressure Reducing

Vertical installation ■ One internal working part, Diaphragm operation ■ 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 ■ For deluge, preaction & foam systems

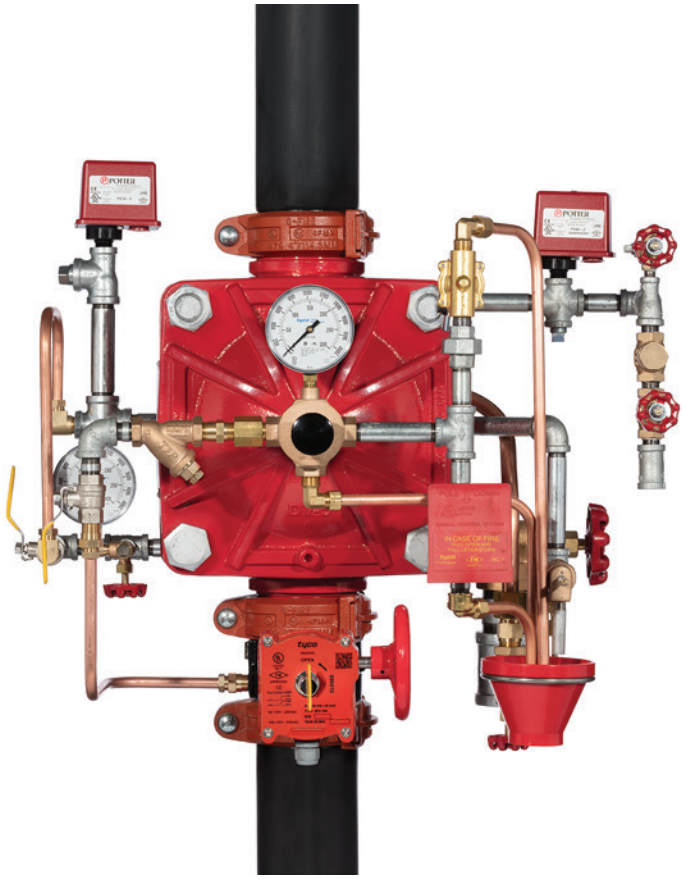
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

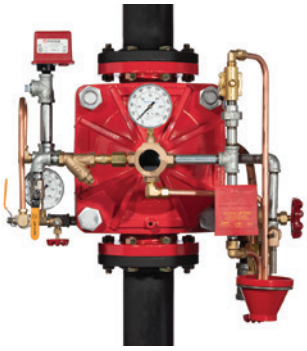
Single Interlock Preaction Systems

Wet Pilot, Dry Pilot, or Electric Actuation

The DV-5A Supervised 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, prio to a sprinkler discharge. In the event the fire cannot 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 sprinkle 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.





DV-5A Size Range	1½" thru 8" (DN40 thru DN200)
Approvals	UL, C-UL Listed & FM Approved
Maximum Service Pressure Preaction Single Interlock Trim	Wet Pilot Actuation: 300 psi (20,7 bar) Dry Pilot Actuation: 250 psi (17,2 bar) Electric Actuation: Per Solenoid, see TFP2180
End Connection	Thread x Thread, Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP1425**

Vertical installation ■ One internal working part, Diaphragm operation ■ No linkage or clapper assembly ■ Light weight ductile iron body ■ Internally & externally coated ■ Features external resetting ■ For deluge, preaction & foam systems

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.

Deluge & Preaction Systems

Double Interlock Preaction Systems

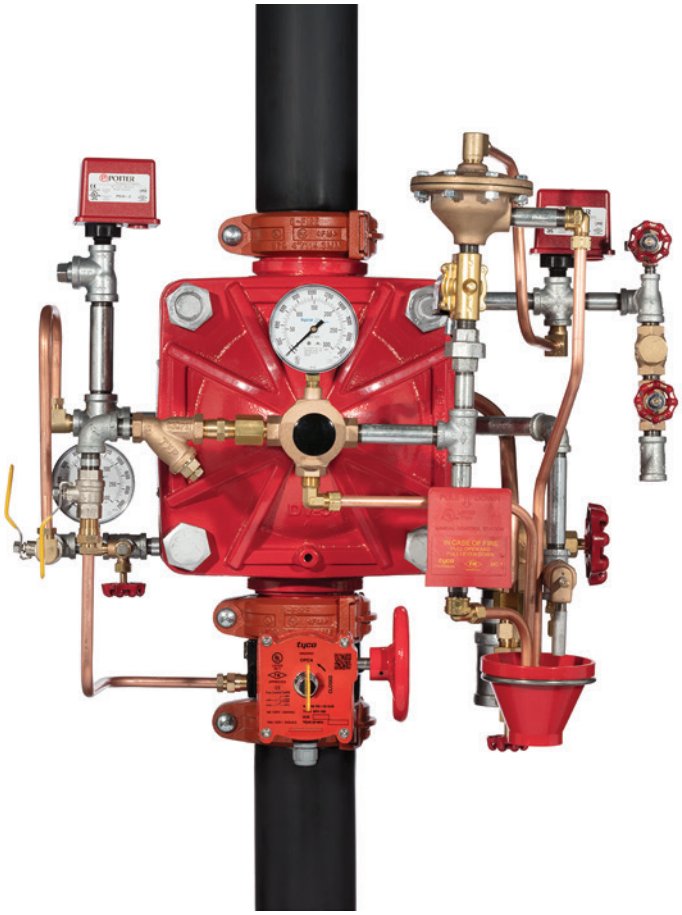
Electric/Electric or Electric/Pneumatic Actuation

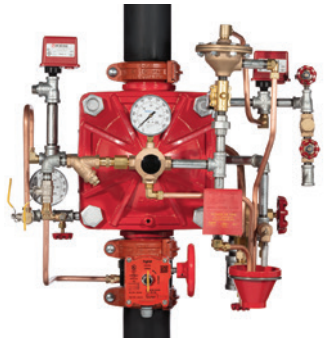
The DV-5A Double Interlock Preaction Systems are designed for applications such as refrigerated areas that require the maximum degree of protection against inadvertent flooding of the sprinkler system piping.

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.





DV-5A Size Range	1 1/2" thru 8" (DN40 thru DN200)
Approvals	UL, C-UL Listed & FM Approved
Preaction Double Interlock Trim	Electric/Electric Actuation, Electric/Pneumatic Actuation
End Connection	Thread x Thread, Groove x Groove, Flange x Flange, Flange x Groove
Flange Drilling	ANSI, ISO, AS, & JIS
Tech Data Sheet	**TFP1450**

Vertical installation ■ One internal working part, Diaphragm operation ■ No linkage or clapper assembly ■ Light weight ductile iron body ■ Internally & externally coated ■ Features external resetting ■ For deluge, preaction & foam systems

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.

RED-E-Cabinet®

Integrated Fire Protection Packages

The TYCO DV-5A 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 provide minimal installation time. The valve package includes the system (manual) shut-off control valve, automatic water control valve, and waterflow/supervisory switches. When dry pilot actuation is utilized, a built-in air compressor with associated controls provides an automatic air supply for the dry pilot lines.

Integral to the DV-5A Red-E Cabinet 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 (as applicable), and alarms the only remaining connections to complete the system.

In addition to the control panel being integral to the DV-5A Red-E Cabinet, windows have been provided in the 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.

Size Range	1½" thru 8" (DN40 thru DN200) valve risers
Approvals	UL, C-UL Listed & FM Approved
Maximum Service Pressure	300 psi (20.7 bar)
Types of System	**Deluge Systems: TFP1301** - Wet Pilot Actuation - Dry Pilot Actuation - Electric Actuation - Remote Reset - Remote Reset Pressure Reducing **Single Interlock Preaction Systems: TFP1401** - Wet Pilot Actuation - Dry Pilot Actuation - Electric Actuation **Double Interlock Preaction Systems: TFP1401** - Electric/Pneumatic Actuation - Electric/Electric Actuation
End Connection	Groove x Groove
Tech Data Sheet	**TFP1301** – Deluge Systems Cabinet **TFP1401** – Preaction Systems Cabinet **DV-5A Deluge Valve Tech Data Sheets** Deluge Wet / Dry /Electric - TFP1306 Remote Reset - TFP1325 Remote Reset Pressure Reducing - TFP1326 Single Interlock Wet / Dry / Electric - TFP1425 Double Interlock E/E E/P - TFP1450 Type A - TFP1485

Aesthetically pleasing appearance ■ Professionally assembled ■ Minimal installation time ■ Internally wired ■ Custom manufactured ■ Model DV-5A deluge valve (standard) ■ All gauges and panel display are externally visible

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

Designed for use in wet pipe sprinkler systems.

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

PRV-1A

Pressure Reducing Valve Pilot Operated

Sizes	2" thru 8" (DN50 thru DN200)
Approvals	UL, C-UL Listed & FM Approved
Maximum Inlet Pressure	300 psi (17,2 bar)
Factory Outlet "Set Pressure"	125 psi (8,6 bar)
Field Outlet "Set Pressure" Range	90 to 175 psi (6,2 to 12 bar)* * = Sizes 2, 3, 6 and 8 in. are rated to a set pressure of 80 to 175 psi (5,5 to 12 bar)
End Connection	Groove x Groove, Flange x Flange
Tech Data Sheet	**TFP1581**

Reduces a higher inlet pressure to a lower outlet delivery pressure in water-filled pipes ■ One pilot valve provides for any outlet "set pressure" thanks to sub-assembly ■ Uses the DV-5A valve body, incorporating the simple diaphragm design ■ Factory assembled and fully trimmed ■ In-line service

RV-1A

Pressure Relief Valve Pilot-Operated

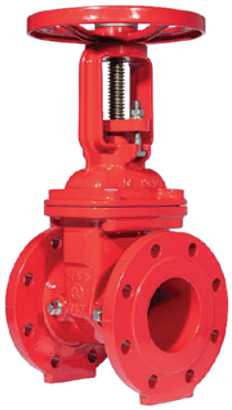
Sizes	2" thru 8" (DN50 thru DN200)
Approvals	UL, C-UL Listed & FM Approved
Maximum System Pressure	300 psi (20,6 bar)
Field Relief "Set Pressure" Range	30 to 250 psi (2,1 to 17,2 bar)
Temperature Range	50°F to 175°F (10°C to 80°C)
End Connection	Groove x Groove or Flange x Flange
Flange Drilling	ANSI & ISO
Tech Data Sheet	**TFP1586**

Automatically relieves excess pressure in a fire protection system to maintain a relatively constant system pressure as flow demands change ■ Uses the DV-5A valve body, incorporating the simple diaphragm design ■ One pilot valve provides for any outlet "set pressure" thanks to sub-assembly ■ No need to bleed trapped air from the diaphragm chamber ■ Simple trim configuration ■ Factory assembled and fully trimmed ■ In-line service

General Purpose Valves

Model TJR Series Resilient-Seated Gate Valves

Outside Screw and Yoke



Sizes	2" thru 16" (DN50 thru DN400)
Approvals	UL & C-UL Listed & FM Approved
Maximum Working Pressure	UL - 300 psi (20,7 bar) up to 12" (DN300) FM - 232 psi (16,0 bar) up to 12" (DN300)
End Connection	Flange x Flange, Flange x Groove, Groove x Groove
Flange Drilling	ANSI, PN, AS
Tech Data Sheet	**TFP1541**

TYCO TJ Series Resilient-Seated Gate Valves are offered in multiple end connection configurations including: Flange by Flange, Flange by Groove, and Groove by Groove ■ Tapping bossed for up and downstream connection to valve trims ■ Ductile iron wedge gate, fully encapsulated with EPDM rubber ■ Corrosion-resistant components

Model TJP Series Resilient-Seated Gate Valves

Non-Rising Stem, Cross Wall Indicator Post, Vertical Indicator Post

Sizes	Valves: 2" thru 24" (DN50 thru DN600) Wall Post: 2" thru 12" (DN50 thru DN300) Vertical Post: 2" thru 16" (DN50 thru DN400)
Approvals	UL & C-UL Listed & FM Approved
Maximum Working Pressure	UL - 300 psi (20,7 bar) FM - 232 psi (16,0 bar)
End Connection	Flange x Flange, Flange x Groove, Groove x Groove
Flange Drilling	ANSI & ISO
Tech Data Sheet	**TFP1546**

TYCO TJ Series Resilient-Seated Gate Valves are offered in multiple end connection configurations including: Flange by Flange, Flange by Groove, and Groove by Groove ■ Ductile iron wedge gate, fully encapsulated with EPDM rubber ■ Corrosion-resistant components ■ Indicators provide external visual indication of the open or shut valve condition as well as a locking mechanism to secure a particular wedge position.

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-300

Grooved Butterfly Valve

Sizes	2" thru 12" (DN50 thru DN300)
Approvals	UL Listed, FM Approved, CE Certified VdS Approved, Russian Fire Certificate CNPP R1 Listed – APSAD Listed by California State Fire Marshall
Maximum Working Pressure	**UL/FM Maximum Working Pressure** 2 – 8 Inch (DN50 – DN200) 300 psi (20,7 bar) 10 – 12 Inch (DN250 – DN300) 175 psi (12,1 bar) **VdS Maximum Working Pressure** 2 – 8 Inch (DN50 – DN200) 300 psi (20,7 bar) 10 Inch (DN250) 232 psi (16,0 bar) 12 Inch (DN300) 175 psi (12,1 bar)
Maximum Working Temperature	212°F (100°C) in accordance with UL 1091
End Connection	Groove x Groove
Tech Data Sheet	**TFP1511**

BFV-300 (Normally Open) and BFV-300C (Normally Closed) ■ Indicating type valves provide visual indication of whether the valve is open or closed ■ Suitable for use with grooved pipe couplings that are listed or approved for fire protection service

Wafer Style Butterfly Valve

Sizes	2" thru 12" (DN50 thru DN300)
Approvals	UL Listed, FM Approved, CE Certified VdS Approved, Russian Fire Certificate CNPP R1 Listed – APSAD Listed by California State Fire Marshall
Maximum Working Pressure	**UL/FM Maximum Working Pressure** 2 – 8 Inch (DN50 – DN200) 300 psi (20,7 bar) 10 – 12 Inch (DN250 – DN300) 175 psi (12,1 bar) **VdS Maximum Working Pressure** 2 – 8 Inch (DN50 – DN200) 300 psi (20,7 bar) 10 Inch (DN250) 232 psi (16,0 bar) 12 Inch (DN300) 175 psi (12,1 bar)
Maximum Working Temperature	212°F (100°C) in accordance with UL 1091
End Connection	Wafer
Tech Data Sheet	**TFP1516**

Suitable for use installation between ANSI Class 125 or 150 flanges or PN10/16 flanges without the need for flange gaskets ■ Indicating type valves provide visual indication of whether the valve is open or closed

General Purpose Valves

CV-1F

Grooved Check Valve

Sizes	2" thru 10" (DN50 thru DN250)
Approvals	UL, C-UL Listed & FM & VdS Approved Compliance with CE Pressure Equipment Directive (PED) and Standards of Engineering Practice
Maximum Working Pressure	UL/FM - 300 psi (20,7 bar) VdS - 16 bar
End Connection	Groove x Groove, Flange x Flange, Flange x Groove
Tech Data Sheet	**TFP1550**

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

CV-300B

Grooved End Swing Check Valve

Sizes	4" (DN100)
Approvals	UL, C-UL Listed & FM Approved
Maximum Working Pressure	300 psi (20,7 bar)
End Connection	Groove x Groove
Tech Data Sheet	**TFP1552**

The TYCO Model CV-300B Grooved End Swing Check Valves are compact and rugged swing-type units that allow water flow in one direction and prevent flow in the opposite direction ■ The Model CV-300B Check Valves are designed to minimize water hammer caused by flow reversal ■ A resilient elastomer seal facing on the spring-loaded clapper ensures a leaktight seal and non-sticking operation.

Lansdale Powerball 300

Bronze Butterfly Valve

Sizes	1" - 2-1/2" NPT 1-1/4" - 2-1/2" Grooved
Approvals	UL Listed & FM Approved
Maximum Service Pressure	300psi (20.7bar)
Tech Data Sheet	**Contact Tyco for details**

Bronze body butterfly valves are designed specifically for fire protection applications ■ 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 ■ Complete with Position Indicator and Integral Tamper Switch

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

Tech Data Sheet	**Contact Tyco for details**

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

DP-1

Dry Pilot Actuator

Approvals	UL, C-UL Listed & FM, LPCB Approved
Maximum Water Supply Pressure	250 psi (17,2 bar)
Maximum System Air (Nitrogen) Pressure	50 psi (3,4 bar)
Tech Data Sheet	**TFP1380**

Dry Pilot Actuator is an auxiliary releasing device ■ When the Model DP-1 actuates, it permits water pressure to be released from the deluge or preaction valve differential chamber, thereby allowing the deluge or preaction valve to open ■ Designed for Preaction Valves having double interlock electric/pneumatic release

ASV-1

Automatic Shut-Off Valve, Trim Component

Approvals	UL, C-UL Listed & FM Approved
Maximum Working Water Pressure	250 psi (17,2 bar)
Tech Data Sheet	**TFP1384**

Intended for use with the DV-5 Deluge Valve in deluge and preaction systems ■ Prevents inadvertent resetting of the DV-5 Valve after the DV-5 Valve initial operation ■ Provided as part of the DV-5 Valve trim arrangements, it is installed in the diaphragm chamber supply connections

FSV-1

Fail-Safe Valve, Trim Component

Approvals	UL, C-UL Listed & FM Approved
Maximum Working Water Pressure	250 psi (17,2 bar)
Tech Data Sheet	**TFP1386**

Intended for use with the Model DV-5 Deluge Valve in certain types of trim arrangements for deluge and preaction systems ■ Prevents inadvertent resetting of the DV-5 after initial operation of the DV-5 Valve

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

Complement the system components used in fire protection systems.

- Automatic Quarterly Flow Switch Tests
- Automatic Actuation of Electric &/or Hydraulic Alarms
- Eliminate Expelled Water
- Reduce Accidental Manual Shut-Off

DD-1 (Drum Drip)

Wiliag™ Condensate Drain

Overall Length	24" (615 mm)
Turning radius	2.5" (64 mm)
Tech Data Sheet	**Contact Tyco for details**

Ready to install ■ No power machine required for cutting pipe and making fittings ■ No power machine for repair ■ Eliminates potential leaks ■ Eliminates labor of fabrication ■ Classic look of a professional job ■ Net weight only 6.25 lbs.

FL-1

Fusible Links

Approvals	UL, C-UL Listed & FM Approved
Load Rating	5 to 50 lbs (2,3 to 22,7kg). Continuous Load
Temperature Rating	165°F (74°C), 212°F (100°C), 286°F (141°C), 360°F (162°C), 500°F (260°C)
Tech Data Sheet	**TFP1610**

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 ■ 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

MC-1

Manual Control Station

Approvals	UL, C-UL Listed & FM Approved
Working Water Pressure	20 to 300 psi (1,4 to 20,7 bar)
Minimum Ambient Temperature	Dry Pilot Lines: -50°F (-46°C) Wet Pilot Lines: 40°F (4°C)
Tech Data Sheet	**TFP1382**

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

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

Model A

Pipe Line Strainers

Sizes	3" thru 10" (DN80 thru DN250)
Approvals	UL, C-UL Listed & FM Approved
Maximum Working Pressure	175 psi (12,1 bar)
Strainer Basket Screen	1/8 inch (3,2 mm) diameter holes spaced to provide 40 percent open area.
Tech Data Sheet	**TFP1640**

Model A Pipe Line Strainers are designed for installation in the water supply connection to automatic sprinkler, water spray deluge, foam-water deluge, or standpipe fire protection systems.

Model B-1

Pipe Line Strainers

Sizes	3" thru 6" (DN80 thru DN150)
Approvals	UL, C-UL Listed & FM Approved
Maximum Working Pressure	175 psi (12,1 bar)
Strainer Basket Screen	1/8 inch (3,2 mm) diameter holes spaced to provide 40 percent open area.
Tech Data Sheet	**TFP1642**

The Model B-1 Pipe Line Strainers are designed for installation in the water supply connection to automatic sprinkler, water spray deluge, foam-water deluge, or standpipe fire protection systems.

Model C

Pipe Line Strainers

Sizes	6" x 6" (DN150 x DN150), 8" x 8" (DN200 x DN200)
Approvals	UL, C-UL Listed & FM Approved
Maximum Working Pressure	250 psi (7,2 bar)
Strainer Basket Screen	1/8 inch (3,2 mm) diameter holes spaced to provide 40 percent open area.
Tech Data Sheet	**TFP1644**

Compact lightweight welded hot dipped galvanized assembly with flanged inlet, outlet and flushing connection ■ Corrosion resistant Type 304 stainless steel screen especially designed for low pressure loss

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.

Signs

Identification Signs

Sizes	9" x 7" (229 x 178mm), 6" x 2" (152 x 51mm), 5" x 7" (127 x 178mm), Round: 7-1/4" Dia. (184mm Dia.)
Signs	AIR CONTROL AIR LINE ALARM TEST ANTIFREEZE SYSTEM AUXILIARY DRAIN CONTROL VALVE DRAIN DRAIN VALVE FIRE ALARM HYDRAULIC CALCULATION INSPECTORS TEST MAIN CONTROL MAIN DRAIN
Tech Data Sheet	**TFP1615**

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

SF-1

Sight Flow Connection

Sizes	1" and 2" (DN25 and DN50)
Approvals	UL Listed & FM Approved
Maximum Working Pressure	175 psi (12,1) bar
Tech Data Sheet	**TFP1635**

Designed for use in fire protection systems as a means for visibly checking that water is flowing and filling the pipe at that point ■ May be installed vertically or horizontally

Fire Department Connections

Straight & 90° Fire Department Connections

Pattern	90° Side Outlet Pattern Straight -Through Siamese Pattern
Tech Data Sheet	Contact Tyco for details

Designed for fire department use to increase water pressure and volume to automatic sprinkler system or standard-pipe system

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

AD-1

Automatic Drain Valve

Approvals	The Model AD-1 Automatic Drain Valve forms a part of the overall approvals given in the applicable technical data sheets for the TYCO Dry Pipe, Deluge, or Preaction Valves.
Maximum Working Pressure	250 psi (17,2 bar)
Tech Data Sheet	**TFP1630**

Designed for use with Tyco Dry Pipe, Deluge, and Preaction Valves ■ Provided as a trim component for these valves, the Model AD-1 Automatic Drain Valve is used to automatically drain the normally dry alarm lines

AD-2

Automatic Drain Valve

Approvals	UL Listed & FM Approved
Maximum Working Pressure	175 psi (12,1 bar)
Tech Data Sheet	**TFP1632**

Designed to automatically drain water from fire protection equipment supply connections that are to be maintained normally dry ■ Installed vertically and utilized with an open drain

Hangers

Pipe Hangers

Tech Data Sheet	Contact Tyco for details

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

Antifreeze

TYCO® LFP® antifreeze solutions are the first UL Listed antifreeze solutions for fire sprinkler systems. The solution is formulated to help ensure fire sprinkler systems operate as intended by allowing flow in temperatures as low as -25°F (-32°C). It is compatible with most sprinkler system materials, including CPVC, and can be more cost-effective, as well as easier to install and maintain, than alternate freeze protection methods, such as heat tracing or dry systems.

Specialty Items

LFP® Antifreeze+

Agency Listed Solution for Fire Sprinkler Systems

Approvals	UL and cUL Listed, FBC™ System Compatible
Minimum Use Temperature	-25°F (-32°C)
Maximum Use Temperature	150°F (66°C)
Freeze Point	-28.5°F (-33,6°C)
pH	7 - 8
Density at 77°F (25°C)	9.55 lb/gal (1144,2 kg/m3)
Conductivity	1200–1600 µS/cm
Compatible Materials	Steel piping (not galvanized), Brass materials, Stainless steel piping, Black steel, Copper, Bronze, Cast iron, CPVC, PEX, EPDM, Natural rubber, Nitrile rubber (BUNA-N), Styrene-butadiene rubber (SBR), Fusion bonded epoxy coated ductile iron, Butyl rubber
Tech Data Sheet	**TFP1682**

LFP® Antifreeze+ is a pre-mixed freeze protection solution designed and listed for use in wet sprinkler systems. ■ The solution is designed for systems subject to freezing temperatures that can cause damage to equipment or impede the proper function of the system ■ The solution is developed to meet the requirements of UL 2901 for compliance to the 2019 editions of NFPA 13, 13R, 13D, and the 2020 edition of NFPA 25. ■ Listed for use in residential, commercial and some storage applications ■ Compatible with all sprinkler system materials, including CPVC ■ Non-toxic* ■ Pre-mixed solution ■ LFP® Antifreeze+ is tested for exposure to fire and fire fighting effectiveness.

LFP® Antifreeze

Agency Listed Solution for Fire Sprinkler Systems

Approvals	UL and cUL Listed
Minimum Use Temperature	-10°F (-23,3°C)
Maximum Use Temperature	150°F (65°C)
pH	7 - 8
Density at 77°F (25°C)	9.4 lb/gal (1129 kg/m3)
Conductivity	1000–1400 µS/cm
Compatible Materials	Brass materials, Stainless steel piping, Black steel, Copper, Bronze, Cast iron, CPVC, PEX, EPDM, Natural rubber, Nitrile rubber (BUNA-N), Styrene-butadiene rubber (SBR), Fusion bonded epoxy coated ductile iron
Tech Data Sheet	**TFP1680**

FBC Compatible ■ Helps meet NFPA 13, 13R, 13D and 25 requirements ■ Freeze point -13°F (-25°C) ■ Listed for use in residential, commercial and some storage applications ■ Compatible with all sprinkler system materials, including CPVC ■ Non-toxic* ■ Pre-mixed solution

*For the purpose of this product, non-toxic means acute exposure to ingredients in LFP® Antifreeze+ do not pose a risk of adverse effects in humans or the environment following short-term exposure in scenarios related to fire sprinkler system installation, maintenance, and discharge.

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.

Grooved Piping Products

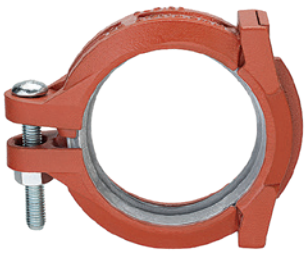
Designed for use in fire protection systems.

- Easy One-Bolt Coupling for Fast Install
- Rigid Connections for Long Runs & Risers
- Quickly Join Steel Pipe without Welding
- Dampening Noise & Vibration Transmission

Grooved Piping Products

Figure 579

One-Bolt Rigid Coupling

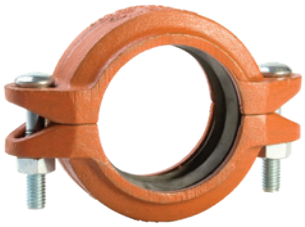


Sizes	1-1/4" thru 8" (DN32 thru DN200)
Approvals	UL, ULC Listed, FM, VdS Approved, and LPCB Certified
Maximum Working Pressure	Up to 365 psi (25,2 bar)
Grade "A" EPDM Pre-Lubricate Gasket Temperature	-30°F to 150°F (-34°C to 66°C)
Tech Data Sheet	**TFP1856**

For use in fire protection systems, the GRINNELL G-Fire Figure 579 Grooved Rigid Coupling is designed to make joining pipe faster and easier than ever before. ■ Arriving pre-assembled and pre-lubricated, this One-Bolt Coupling is ready to install right out of the box. ■ The unique design consists of a three-piece housing, a center-stop gasket, and just one bolt to tighten. ■ The center-stop gasket ensures proper positioning on the pipe and enables easy push-on installation in both horizontal and vertical applications across wet, dry and freezer systems. ■ The unique, one-bolt design eliminates alternate tightening for a faster, more efficient installation. ■ It is capable of pressures up to 365 psi (25,2 bar) depending on pipe size and wall thickness when used in fire protection services.

Figure 577

Rigid Coupling



Sizes	1" thru 12" (DN25 thru DN300)
Approvals	UL, ULC Listed, FM, VdS Approved, and LPCB Certified
Maximum Working Pressure	350 psi (24, 1 bar)
Grade "A" EPDM Pre-Lubricate Gasket Temperature	-30°F to 150°F (-34°C to 66°C)
Tech Data Sheet	**TFP1854**

For use in fire protection systems, the GRINNELL G-FIRE Figure 577 Grooved Rigid Coupling provides a rigid joint by firmly gripping along the full circumference of the pipe grooves. Figure 577 Grooved Rigid Couplings are a proven dependable method of joining pipe and are an economical alternative to welding, threading, or using flanges. ■ It is capable of pressures up to 350 psi (24, 1 bar) depending on pipe size and wall thickness when used in fire protection services ■ Also available with tri-seal Grade "E" EPDM gasket for dry pipe fire protection systems, vacuum systems, and freezer applications

Figure 705

Grooved Flexible Coupling

Sizes	1" thru 12" (DN25 thru DN300)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	300 psi (20,7 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Tech Data Sheet	**TFP1820**

The GRINNELL G-FIRE Figure 705 Flexible Coupling is capable of pressures up to 300 psi (20,7 bar) depending on pipe size and wall thickness when used in fire protection services. It provides a dependable method of joining pipe and is suitable for use in a variety of applications. ■ Provides the needed flexibility to accommodate differential movement ■ Also available with tri-seal Grade E EPDM gasket for dry pipe fire protection systems, vacuum systems, and freezer applications

Figure 707

Flexible Coupling

Sizes	1-1/4" x 12" (DN32 x DN300)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	500 psi (34,5 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Tech Data Sheet	**TFP1840**

The GRINNELL 707 Flexible Coupling provides a dependable method of joining pipe and is suitable for use in a variety of applications ■ Capable of pressures up to 500 psi (34,5 bar) depending on pipe size and wall thickness ■ Also available with tri-seal Grade "E" EPDM gasket for dry pipe fire protection systems, vacuum systems, and freezer applications

Figure 716

Flexible Reducing Coupling

Sizes	2" x 1-1/2" (DN50 x DN40) through 8" x 6" (DN200 x DN150)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	350 psi (24,1 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Tech Data Sheet	**TFP1830**

The GRINNELL G-FIRE 716 Reducing Coupling allows easy transition between two different pipe sizes and replaces two couplings and a reducing fitting ■ It is capable of pressures up to 350 psi (24,1 bar) depending on pipe size and wall thickness. A flexible reducing coupling is not recommended for low-temperature applications. ■ Faster and easier than threading, welding or using flanges

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.

Grooved Piping Products

Figure 71

Flange Adapter

Sizes	2" x 12" (DN50 x DN300)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	250 psi (17,2 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Flange Drilling	ANSI Class 125 and 150, or PN16 standards
Tech Data Sheet	**TFP1880**

The GRINNELL 71 Flange Adapter allows for a direct transition from flanged components to a grooved piping system ■ Capable of pressures up to 250 psi (17,2 bar) depending on pipe size and wall thickness

Figure 730

Mechanical Tees & Crosses

Run Sizes	2" x 8" (DN50 x DN200)
Branch Sizes	½" to 4" outlets (DN15 to DN100)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	300 psi (20,7 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Tech Data Sheet	**TFP1860**

The GRINNELL 730 Mechanical Tees & Crosses come with threaded or grooved outlets and can be used for any tee connection where a threaded or grooved outlet is needed. ■ It can be used in place of a tee, a cross connection, or a welded outlet where a threaded or grooved outlet is needed. ■ The Mechanical Tee is ideal for use in retrofit or equipment hookup installations as it can be positioned along the pipe at the proper location in the field, ensuring exact lineup of the branch outlet connection.

Grooved Fittings

Elbows, Tees, Reducers, Caps, Crosses and Flange Adapters

Sizes Range	1" x 12" (DN25 x DN300)
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Maximum Working Pressure	300 psi (20,7 bar)
Tech Data Sheet	**TFP1815**

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 ■ 90° elbows and tees are also available in the "short pattern" style ■ Available painted or galvanized finish

Figure 510S
Short Pattern 90° Cast Elbows
Sizes 2" thru 8" (DN50 – DN200)

Figure 510
90° Cast Elbows
Sizes 1" thru 12" (DN25 – DN300)

Figure 510DE
90° Drain Elbows
Sizes 2" thru 8" (DN50 – DN200)

Figure 501
45° Cast Elbows
Sizes 1" thru 12" (DN25 – DN300)

Figures 512 & 312
22-1/2° Elbows
Sizes 1-1/4" thru 12" (DN32 – DN300)

Figures 511 & 311
11-1/4° Elbows
Sizes 1-1/4" thru 12" (DN32 – DN300)

Figure 519S
Short Pattern Tee
Sizes 2" thru 8" (DN50 – DN200)

Figure 519
Tees
Sizes 1" thru 12" (DN25 – DN300)

Figure 320
Groove x Groove x Male Thread
Reducing Tees
Sizes 1" thru 12" (DN25 – DN300)

Figures 221 & 321
Reducing Tees
Sizes 1-1/4" x 1-1/4" x 1" thru 12" x 12" x 10"
(DN32 x DN32 x DN25 thru
DN300 x DN300 x DN250)

Figure 323
Groove x Groove x Male Thread
Reducing Tees
Sizes 2" x 2" x 3/4" thru 12" x 12" x 10"
(DN50 x DN50 x DN20 thru
DN300 x DN300 x DN250)

Figures 391, 392, & 393
Adaptor Nipples
Sizes 1-1/4" thru 12" (DN32 – DN300)

Figure 372
Reducers, Small End Threaded (Male)
Sizes 1-1/2" x 1" thru 6" x 5"
(DN40 x DN25 thru DN150 x DN125)

Figures 250, 550 & 350
Concentric Reducers
Sizes 1-1/4" x 1" thru 12" x 10"
(DN32 x DN25 thru DN300 x DN250)

Figures 327 Fabricated
Crosses
Sizes 1" thru 12" (DN25 – DN300)

Figures 260 & 360
End Caps
Sizes 1" thru 12" (DN25 – DN300)

Figure 341 & 342
Flange Adapters
Sizes 1" thru 12" (DN25 – DN300)

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.

Grooved Piping Products

40-5

Strap Outlets

Pipe Run Sizes	1-1/4" to 2-1/2" Outlets (DN32 to DN65)
Outlet Thread Sizes	1/2" to 1" NPT Outlet
Approvals	UL, ULC Listed & FM Approved
Maximum Working Pressure	175 psi (12,1 bar)
Grade "E" EPDM Gasket Temperature	-30°F to 230°F (-34°C to 110°C)
Tech Data Sheet	**TFP1720**

The Figure 40-5 Strap is an economical alternative to welded pipe outlets on steel pipe. ■ Can be used with full lengths of pipe and eliminates threading and welding, decreasing waste and installation time. ■ Can be used in wet, dry pipe, and deluge systems

ADACAP®

End of Line Sprinkler Fitting

Pipe Run Sizes	1-1/2" to 2-1/2" Outlets (DN40 to DN65)
Outlet Thread Sizes	1/2" to 1" NPT Outlet
Approvals	UL, ULC Listed & FM, VdS, & LPCB Approved
Rated Pressure	300 psi (20,7 bar)
Tech Data Sheet	**TFP1815**

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

Tyco CPVC Pipe & Fittings

Manufactured with BlazeMaster® compound.

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

BlazeMaster®
FIRE PROTECTION SYSTEMS

CPVC Pipe & Threaded Fittings

CPVC Pipe

Sprinkler Pipe

Sizes	3/4" thru 3" (DN20 thru DN80)
Pipe Length	10' and 15' Lengths
Approvals	UL, C-UL Listed & FM,MEA, NSF, & LPCB Approved
Rated Pressure	175 psi (12,1 bar)
Maximum Temperature Rating	150°F (65°C).
Tech Data Sheet	**TFP1915 and Installation Handbook - IH-1900**

Manufactured with Lubrizol's BLAZEMASTER® compound ■ Produced from BlazeMaster® thermoplastic compound, RAPID RESPONSE CPVC pipe is designed exclusively for use in wet and dry pipe automatic fire sprinkler systems. ■ Our CPVC pipe is easier to install than traditional steel components, while providing superior heat resistance and strength compared to traditional CPVC and PVC piping materials. ■ TYCO CPVC sprinkler pipe conforms to the requirements of ASTM F442 and is produced to SDR 13.5. SDR (Standard Dimension Ratio) is the ratio of the outside pipe diameter to the wall thickness of the pipe.

Fittings

Sizes	3/4" thru 3" (DN20 thru DN80)
Approvals	UL, C-UL Listed & FM,MEA, NSF, & LPCB Approved
Rated Pressure	175 psi (12,1 bar)
Maximum Temperature Rating	150°F (65°C).
Tech Data Sheet	**TFP1915 and Installation Handbook - IH-1900**

Manufactured with Lubrizol's BLAZEMASTER® compound ■ Produced from BlazeMaster® thermoplastic compound, RAPID RESPONSE CPVC fittings are designed exclusively for use in wet and dry pipe automatic fire sprinkler systems. ■ Our CPVC is easier to install than traditional steel components, while providing superior heat resistance and strength compared to traditional CPVC and PVC fitting materials. ■ Tees, Crosses, Reducing Tees & Crosses, 90° Elbows, 45° Elbows, Couplings, Bushings, Caps, Sprinkler Head Adapters, Grooved Coupling Adapters, Female and Male Adapters, Sprinkler Adapter Tees, etc...

Rapid Seal Adapter (RSA) Fittings

Sizes	1/2" thru 1" (DN15 thru DN25)
Pipe Thread Connection	1/2" NPS
Approvals	UL, C-UL Listed, FM Approved, & LPCB Certified NSF-pw Certified
Rated Pressure	175 psi (12,1 bar)
Maximum Temperature Rating	150°F (65°C).
Tech Data Sheet	**TFP1925 and Installation Handbook - IH-1900**

Enhanced product line expanded to include 11 expertly designed models ■ All-CPVC sprinkler head adapter manufactured with Lubrizol BlazeMaster® CPVC compound. ■ Fast and easy installation with no need for thread tape or sealant ■ No brass means no dezincification and no lead complies with growing state and federal low-lead requirements ■ 90° Elbow, Straight Adapter, Spigot, Tee, Back to Back Tee, Back to Back Cross

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.

CPVC Pipe & Threaded Fittings

CPVC

Back-to-Back Fittings

Sizes	3/4" thru 3" (DN20 thru DN80)
Approvals	UL, C-UL Listed & FM,MEA, NSF, & LPCB Approved
Rated Pressure	175 psi (12,1 bar)
Maximum Temperature Rating	150°F (65°C).
Tech Data Sheet	**TFP1915 and Installation Handbook - IH-1900**

Included in the Tyco 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 ■ 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

Sizes	3/4" thru 2" (DN20 thru DN50)
Approvals	UL, C-UL Listed & FM,MEA, NSF, & LPCB Approved
Rated Pressure	175 psi (12,1 bar)
Maximum Temperature Rating	150°F (65°C).
Tech Data Sheet	**TFP1915 and Installation Handbook - IH-1900**

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

CPVC Hangers & SHB1 Head Set

Sizes	3/4" thru 1" NPT
Approvals	UL Listed
Material	Galvanized aluminum, 20 gauge
Tech Data Sheet	**TFP1920 and Installation Handbook - IH-1900**

"No Block Hanger" is a two hole strap that eliminates blocking to the beam when hanging CPVC pipe ■ The TYCO CPVC Hanger Head Set Model SHB1 offers a time saving installation method for proper placement of an automatic sprinkler before the ceiling is installed. ■ Positions the face of the pipe 1-1/2" off the face of the joist ■ Provides vertical restraint, eliminating need for additional hangers

CPVC Supplies

Tech Data Sheet	**TFP-600 One Step Solvent Cement (TFP1994) and CPVC Installation Handbook (IH-1900)**

One-Step CPVC Cement specifically formulated for use with BlazeMaster® pipe and fittings ■ BLAZEMASTER Caulk and Walk® Firestop

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

Allow fire protection systems to be interfaced with alarm systems.

- Improved system monitoring capabilities
- Able to send an electrical or mechanical signal for alarm/ notification purposes
- Programmable options for specific system requirements
- EInstallation options for both new and existing systems

VSR Waterflow Alarm Switch

Flow & Pressure Switch

Sizes	2" thru 8" (DN50 thru DN200)
Tech Data Sheet	Contact Tyco for details

Vane type waterflow switch for use on wet sprinkler systems ■ Actuated with a minimum flow of 10 gallons per minute ■ 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

Flow & Pressure Switch for Small Pipe

Sizes	1" thru 2" (DN25 thru DN50)
Tech Data Sheet	Contact Tyco for details

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

Model PS10/PS40 Pressure Alarm Switch

Flow & Pressure Switch

Tech Data Sheet	Contact Tyco for details

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

PCVS Control Valve Supervisory Switch

Tamper & Alarm Switch

Tech Data Sheet	Contact Tyco for details

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

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

OSY-SU

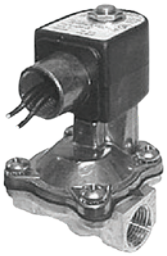
Tamper & Alarm Switch

Tech Data Sheet	Contact Tyco for details

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 1½" ■ Models include options for one or two sets of SPDT (Form C) contacts.

Solenoid Valve

For Releasing Service



Sizes	½" (DN15)
Approvals	UL Listed, FM Approved & CE Certified
Working Pressure	20 thru 250 psi (1,4 – 17,2 bar)
Tech Data Sheet	**TFP2180**

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

4410-RC

Releasing Panel

Approvals	UL Listed & FM Approved
Tech Data Sheet	Contact Tyco for details

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 ■ Can be used in single zone, cross zone, sequential or cross/sequential electric deduction systems ■ Has programming capability

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.

Tank Mounted Air Compressor

For Dry Pipe Sprinkler Systems

Tech Data Sheet	Contact Tyco for details

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 ■ 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

Sizes	1" thru 2" (DN25 thru DN50)
Tech Data Sheet	Contact Tyco for details

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 Psi of air pressure in approximately 30 minutes as required in NFPA 13

Riser Mounted Air Compressor

Fully Automatic

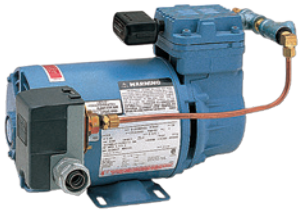
Tech Data Sheet	Contact Tyco for details

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

Electrical Devices

Model G16AC812

Automatic Supervisory Air Supply



Approvals	UL Listed & CSA Certified
Nominal Supervisory Air Pressure	10 psi (0,7 bar)
Tech Data Sheet	**TFP1620**

Supplies and maintains air in single interlock preaction fire protection systems ■ Can be mounted on the floor, on a wall, or to the system riser using optional brackets

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.

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.

Approvals	FM Approved
Tech Data Sheet	Contact Tyco for details

Combination afterfilter 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

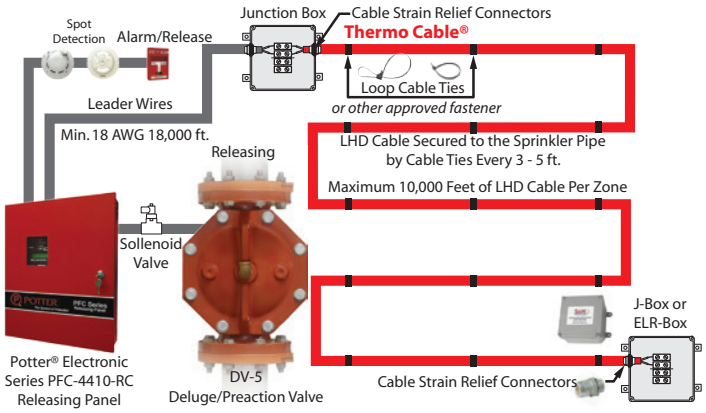
Always refer to the product's Technical Data Sheet for a complete description of all Listing and Approval criteria, design parameters, installation instructions, care and maintenance guidelines, and our limited warranty.

LHD

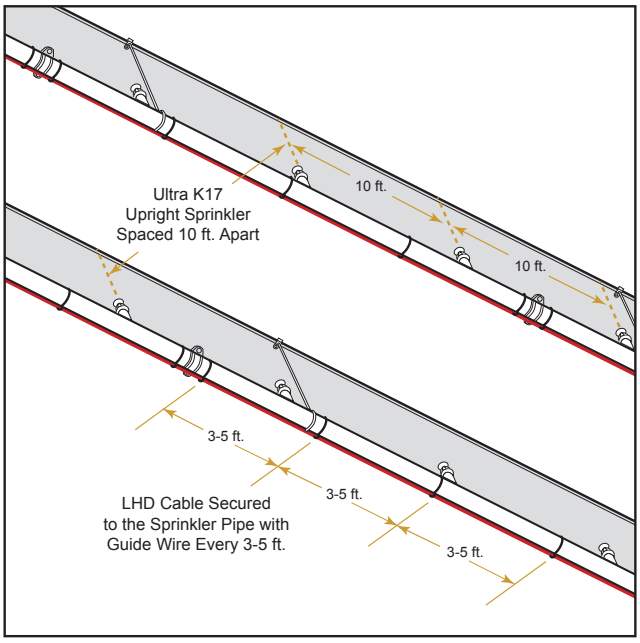
Linear Heat Detection Cable

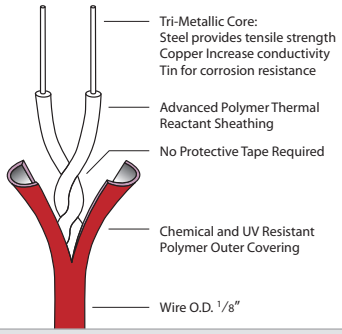
The Linear Heat Detection (LHD) cable is a combination of advanced polymer and digital technologies which can be used on any panel, and can detect heat anywhere along its entire length.

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.





Approvals	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	0.05 ohms/ft Resistance per Twisted Pair
RF Tested	Up to 10,000 linear ft.
Tech Data Sheet	Contact Tyco for details

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

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.

Corrosion Solutions

Corrosion in fire sprinkler systems leads to plugging problems, diminished sprinkler performance, water leak damage and reduced service life. The Model NG-1 nitrogen generator is at the heart of the Tyco corrosion solutions portfolio.

Return on Investment (ROI) for Tyco Corrosion Solutions

- Greatly reduces corrosion risks
- Extends the useful life of a water-based fire sprinkler system
- Minimizes risk of business interruption due to leaks

Model NG-1 100, NG-1 250, and NG-1 500

Wall-Mounted Nitrogen Generator

Air Compressor	Integral
Approvals	CE and FM Approved UL508A Listed Industrial Control Panel
Total System Capacity	NG-1 100 - 675 Gal (2555 L) NG-1 250 - 950 Gal (3596 L) NG-1 100 - 2000 Gal (7571 L)
Nitrogen Membrane	Capable of 98%+ Nitrogen Purity
Temperature Rating	40°F (5°C) to 105°F (40°C)
Power Supply	120 VAC/1phase/60Hz (230 VAC/1 phase/50Hz)
Tech Data Sheet	**TFP1251**

Mitigating Fire Sprinkler System Corrosion ■ **Compatible with both new and existing fire sprinkler systems** ■ Integral oil-less compressor ■ Fill-and-purge breathing method allows vent to be installed on riser ■ No nitrogen tank or refrigerated dryers required ■ Minimal footprint allowing for easy installation in riser room ■ Replacing oxygen in the system with nitrogen can stop the corrosion process and extend the service life of a sprinkler system

Model NG-1 1000

Skid-Mounted Nitrogen Generator

Air Compressor	Integral
Approvals	CE and FM Approved UL508A Listed Industrial Control Panel
Total System Capacity	NG-1 1000 - 3200 Gal (12113 L)
Nitrogen Membrane	Capable of 98%+ Nitrogen Purity
Temperature Rating	40°F (5°C) to 105°F (40°C)
Power Supply	120 VAC/1phase/60Hz (230 VAC/1 phase/50Hz)
Tech Data Sheet	**TFP1252**

Mitigating Fire Sprinkler System Corrosion ■ **Compatible with both new and existing fire sprinkler systems** ■ Integral oil-less compressor ■ Fill-and-purge breathing method allows vent to be installed on riser ■ No nitrogen tank or refrigerated dryers required ■ Designed on single skid for easy installation ■ Replacing oxygen in the system with nitrogen can stop the corrosion process and extend the service life of a sprinkler system

Corrosion Solutions

Model NG-1 1150, NG-1 1500, NG-1 2000, and NG-1 3000

Stand-Alone Nitrogen Generator

Air Compressor	Separate
Approvals	CE and FM Approved UL508A Listed Industrial Control Panel
Total System Capacity	NG-1 1150 - 6500 Gal (24605 L) NG-1 1500 - 11000 Gal (41640 L) NG-1 2000 - 18500 Gal (70030 L) NG-1 3000 - 22500 Gal (85172 L)
Nitrogen Membrane	Capable of 98%+ Nitrogen Purity
Temperature Rating	40°F (5°C) to 105°F (40°C)
Power Supply	120 VAC/1phase/60Hz (230 VAC/1 phase/50Hz)
Tech Data Sheet	**TFP1253**

Mitigating Fire Sprinkler System Corrosion ■ Designed to support projects with larger system capacities ■ **Compatible with both new and existing fire sprinkler systems** ■ Paired with oil-lubricated oil compressor ■ Fill-and-purge breathing method allows vent to be installed on riser ■ No nitrogen tank or refrigerated dryers required ■ Designed on single skid for easy installation ■ Replacing oxygen in the system with nitrogen can stop the corrosion process and extend the service life of a sprinkler system

Model TILD

In-Line Corrosion Detector

Sizes	1-1/4" thru 8" (DN32 thru DN200)
Approvals	UL Listed
Pipe Schedule	Schedule 10 or 40
Temperature Rating	-40°F (-40°C) to 120°F (49°C)
Service Pressure	175 psi (12 bar)
Tech Data Sheet	**TFP1261**

Mitigating Fire Sprinkler System Corrosion ■ **Corrosion Detector - Installed In-Line for Real-Time Monitoring** ■ Monitor locally with included Remote Test Station or remotely via the building monitoring system ■ Available in galvanized or black steel; schedule 10 or 40 ■ Roll-grooved ends for easy installation

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 TAV-D

Manual Air Vent - Dry Systems

System Connection	1" NPT Male
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1262**

Oxygen Removal Vent for Dry/Preaction Systems - Manual Shut-off ■ **Designed for use with the NG-1 Nitrogen Generators** ■ Can be installed directly on system riser ■ Nitrogen gas sampling port for use with THGA or TSGA Gas Analyzers ■ Includes failsafe back-pressure regulator ■ Automatic float shut-off in event of a system trip

Model TSV-D

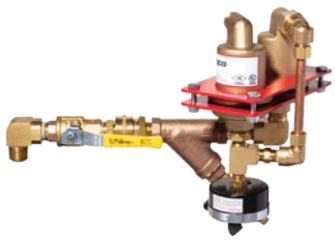
SMART Air Vent - Dry Systems

System Connection	1" NPT Male
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Electrical Connection	120 VAC/60Hz (230 VAC/50Hz); <2 Amps
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1263**

Oxygen Removal Vent for Dry/Preaction Systems - Electronic Shut-off ■ **Designed for use with the NG-1 Nitrogen Generators** ■ Can be installed directly on system riser ■ Will automatically shut off after 14-day nitrogen fill-and-purge process ■ Includes failsafe back-pressure regulator ■ Automatic float shut-off in event of a system trip

Model TAV-W

Automatic Air Vent - Wet Systems



System Connection	1/2" NPT Male
Approvals	UL Listed and FM Approved
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1264**

Oxygen Removal Vent for Wet Systems ■ **Remove trapped air from wet fire sprinkler systems** ■ Redundant float valve design to eliminate risk of leaks - no need to plumb to drain ■ High-visibility pressure gauge easily seen from floor to confirm functionality ■ Can be upgraded for Wet Pipe Nitrogen Inerting

Corrosion Solutions

Model TAV-WN

Air Vent, Wet - Nitrogen

System Connection	1/2" NPT Male
Approvals	UL Listed and FM Approved
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1265**

Oxygen Removal Vent for Wet Systems - Wet Pipe Nitrogen Inerting ■ **Remove trapped air from wet fire sprinkler systems** ■ Includes TNIP Nitrogen Inerting Port for Wet Pipe Nitrogen Inerting process ■ Redundant float valve design to eliminate risk of leaks - no need to plumb to drain ■ High-visibility pressure gauge easily seen from floor to confirm functionality ■ Can be used with TRIS Remote Inerting Station (sold separately) during WPNI process

Model TNIP

Nitrogen Injection Port

System Connection	1/2" NPT Male (vent.) 1" NPT Male (Port)
Approvals	UL Listed and FM Approved
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1265**

Nitrogen Injection Port for use during Wet Pipe Nitrogen Inerting Process ■ **For use during the Wet Pipe Nitrogen Inerting Process** ■ Installed on riser on the system side of the main control valve ■ Also available with TAV-WN Automatic Air Vent

Model TRIS

Remote Inerting Station

Approvals	UL Listed and FM Approved
Temperature Rating	40°F (4.5°C) to 120°F (49°C)
Service Pressure	Up to 175 psi (12 bar)
Tech Data Sheet	**TFP1265**

Control Station for Remote Monitoring of TAV-WN Air Vent ■ **For use during the Wet Pipe Nitrogen Inerting Process** ■ Provides remote monitoring and control options for the TAV-WN Automatic Air Vent

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Model TNIK

Nitrogen Inerting Kit

Size	3/8" x 25 foot (9,5mm x 7,6m)
Hose Pressure Rating	Up to 300 psi (21 bar)
Regulator Max. Inlet Pressure	3000 psi (207 bar)
Tech Data Sheet	**TFP1266**

Start-up Kit for Using Nitrogen Cylinders during Wet Pipe Nitrogen Inerting Process ■ **For use with pressurized nitrogen gas cylinders as part of Wet Pipe Nitrogen Inerting process** ■ Includes 3/8" rubber hose, nitrogen cylinder regulator, and industrial brass couplers

Model THGA

Handheld Gas Analyzer

Sensor Type	Galvanic Cell with temperature compensation
Operating Pressure Rating	Atmospheric pressure to 3 psig (0,2 bar)
Operating Temperature	59°F to 104°F (15°C to 40°C)
Measured Range	0.0% to 99.9% nitrogen
Response Time	<15 seconds for 90% step change
Tech Data Sheet	**TFP1267**

Handheld Gas Analyzer for use with Dry or Wet Pipe Nitrogen Inerting ■ **Displays nitrogen purity of the gas stream being sampled** ■ Lithium battery powered ■ One-touch calibration ■ Includes tubing and quick connect fitting compatible with TYCO Nitrogen products ■ Also available as part of TGSK Gas Sampling Kit

Model TGSP

Gas Sampling Port

Material	All industrial brass components
Tech Data Sheet	**TFP1267**

Gas Sampling Port for Dry Pipe Nitrogen Inerting Monitoring ■ **For use with THGA Handheld Gas Analyzer** ■ Equipped with 1/2" isolation valve ■ 1/4" quick connect socket ■ Also available as part of TGSK Gas Sampling Kit

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Corrosion Solutions

Model TGSK

Gas Sampling Kit

Sensor Type	Galvanic Cell with temperature compensation
Operating Pressure Rating	Atmospheric pressure to 3 psig (0,2 bar)
Operating Temperature	59°F to 104°F (15°C to 40°C)
Measured Range	0.0% to 99.9% nitrogen
Response Time	<15 seconds for 90% step change
Tech Data Sheet	**TFP1267**

Gas Sampling Components to monitor Dry Pipe Nitrogen Inerting ■ **Monitor the nitrogen concentration in a sprinkler system equipped with a TYCO Nitrogen Generator** ■ Includes the THGA Handheld Gas Analyzer and TGSP Gas Sampling Port

Model TNIM

Nitrogen Inerting Manifold

Hose Size	3/8" x 25 foot (9,5mm x 7,6m)
Hose Pressure Rating	Up to 300 psi (21 bar)
Nitrogen/Air Connection	Inlet: 1/2" NPT Female Outlet: 1/4" Quick Disconnect
Tech Data Sheet	**TFP1268**

Inerting Manifold for the Wet Pipe Nitrogen Inerting Process ■ **For use with TNIP Nitrogen Inerting Port** ■ Includes gas sampling port to verify nitrogen concentration at the inlet supply ■ Single pressure regulator to regulate nitrogen delivery pressure to the discharge connection

Model TNIC

Nitrogen Interface Controller

Power Supply	120 VAC/Single Phase/60 Hz -Dedicated Circuit (230 VAC/Single Phase/50 Hz - Dedicated Circuit)
Nitrogen/Air Connection	Inlet: 1/2" NPT Female Outlet: 1/2" NPT Female
Tech Data Sheet	**TFP1269**

Interface Controller for Dry Pipe Inerting Process ■ **Use with house/plant nitrogen source for controlling oxygen corrosion in dry/preaction systems** ■ Can be used with TYCO NG-1 Nitrogen Generators to control multiple systems operating at different pressures

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Model TSGA

SMART Gas Analyzer

Sensor Type	Zirconium Dioxide
Electrical Connections	120 VAC, 60 Hz/0.5 A 230 VAC, 50 Hz/0.5 A 24 VDC/2 A
Temperature Range	40°F to 105°F (5°C to 40°C)
Output Display	$\%O_2$ or $\%N_2$
Signal Output	0 VDC to 5 VDC linear output, 4 mA to 20 mA linear output
Percentage of O_2 Contact Closure Level	1%, 3%, or 5%
Tech Data Sheet	**TFP1270**

Electronic Gas Analyzer for use with Dry or Preaction Systems ■ **Continuous real-time monitoring of Nitrogen/Oxygen concentration levels** ■ Can be monitored by building information management or fire alarm systems ■ Pair with either TAV-D Manual Air Vent or TSV-D Smart Air Vent

Model TNST-200

Nitrogen Storage Tank

Capacity	203 gal (768 L)
Working Pressure	200 psi (13.8 bar)
Temperature Range	-20°F to 450°F (-29°C to 232°C)
Standards	ASME Boiler and Pressure Vessel Code Section VIII, Div. 1* *Applies to Tank and Pressure Relief Valve
Tech Data Sheet	**TFP1272**

Nitrogen Storage Tank for Wet Pipe Nitrogen Inerting Process ■ **Designed for use with TYCO NG-1 Nitrogen Generators during the Wet Pipe Nitrogen Inerting process** ■ Install in-line between the Nitrogen Generator and the wet pipe sprinkler system riser

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