

Water-based Fire Suppression Products



APAC Quick Reference Guide

The power behind **your mission**



Innovation and leadership in fire suppression

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, and 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.

Leverage on our APAC technical support

Our APAC technical support is ready and waiting to offer critical support when you need it. We're part of a world-class, highly trained technical support team who understand what it means to do what you do, day-in and day-out. The team is committed to working with you to find solutions that fit your needs and to resolve any technical issues to ensure your project objectives are met.



Industry expertise

We are recognized leaders in fire suppression with unmatched skills and capabilities.



Solution-based advice

From pre-sales to post-sales, we're with you every step of the way.



Rapid response

Our responsive team offers fast and reliable solutions.

Contact APAC Technical Support

Tel.: +65 6577 4360

techserv-asia-watermech@tycofp.com

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 on topics such as sprinkler systems, water mist system and SprinkCAD software.

To learn more, please visit www.onlinetechxchange.com

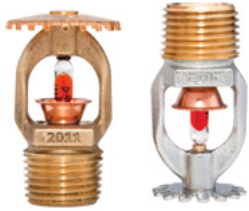
10-year limited warranty



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



Standard / Extended Coverage Sprinklers



TY-B / TY-FRB



RF-II Concealed HSW



RFII & RFII-MRI



TY-L / TY-FRL



RFIII



ELO Concealed Pendent



Extended Coverage



ELO SW-20/SW-24

- Wide range of bulb, cover plate and fusible link sprinklers

- **K-factor range:**
K-2.8 (40.3), K-4.2 (60.5) K-5.6 (80.6), K-8.0 (115.2), K-11.2 (161.3)

Extended coverage: K-5.6 (80.6), K-8.0 (115.2), K-11.2 (161.3), K-14 (201.6), K-25.2 (362.9)

- **Temperature range:**
Bulb: 57°C, 68°C, 79°C, 93°C, 141°C, 182°C

Cover Plate: 59°C and 74°C

Fusible Link: 74°C, 100°C, 138°C, 141°C

- **Thread size:**
1/2" NPT, 3/4" NPT and 1" NPT (for EC-25)

- Available in quick and standard response, and standard coverage



Storage Sprinklers



Rapid Install
Sprinkler (RIS)



ESFR-34 Pendent



ESFR-25 Pendent



ESFR-22 Pendent

- UL Listed and FM-Approved Rapid Install Sprinklers can be installed with simple tool-free hand tightening, requiring less time working overhead

- ESFR-34 sprinklers can protect a storage arrangement of 15.2m with a ceiling height of 16.8m without requiring in-rack sprinklers. In addition, it can be installed with a maximum centerline of a thermal sensing element-to-ceiling distance of 432mm

- Suitable for high-pile storage, traditional warehouse layouts, box-in-box cold storage, high hazard commodity coverage, in-rack storage, beneath open gridded catwalk and more.

- K-factor range: K-5.6 (80.6), K-8.0 (115.2), K-11.2 (161.3), K-14.0 (201.6), K-16.8 (241.9), K-22.4 (320), K-25.2 (362.9) and K-33.6 (480)

- Maximum coverage area of 18.2 m² (EC-25), which is almost double the area offered by standard coverage sprinklers

- Approved for storage heights of 7.6m and building heights of 9.1m (Ultra K-17)

- Extra-large orifice sprinklers proven for storage occupancies through full-scale fire testing (ELO-231 series)

- UL and FM-approved Sprinkler Guards designed for use with specific types of Series TY-B, TY-FRB, TY-L, and TY-FRL Sprinklers

- Eliminates the use of in-rack sprinklers when protecting high-piled storage



ESFR-17 Upright / ESFR-17
(bulb type sprinkler) Pendent



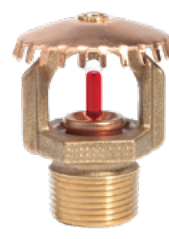
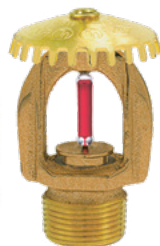
ESFR-17 Dry-Type
Pendent



ESFR-14 Pendent



Extra Large Orifice Sprinklers
ELO-231 Series



Ultra K-17



UL & FM Approved
Sprinkler Guards



Residential Sprinklers and Dry Sprinklers



LFII



LFII - Domed Plate
Concealed Pendant



LFII - Concealed Pendant



LFII Horizontal
& Recessed Horizontal
Sidewall Sprinklers



Lead-free LFII Residential
Concealed Pendant Sprinkler



LFII Horizontal Recessed Side
Wall Sprinkler



LFII Dry Type Residential
Pendant Sprinkler



LFII Residential Concealed
Horizontal Sidewall Sprinkler



WaterMark

WMK26392
WMTS 486:2016
Sprinklers for
home applications

WaterMark certification applies to selected models only. Please contact your local sales or customer service for more information

Residential Sprinklers

- Offer optimum design and flow characteristics for all residential applications
- Cover plate custom paint options available. Learn more at www.tyco-fire.com/custompaint
- KK-factor range: K-3.0 (43.2), K-4.2 (60.5), K-4.4 (63.4), K-4.9 (70.6), K-5.6 (80.6), K-5.8 (83.5), K-6.9 (99.4), K-8.0 (115)



Special Application Sprinklers



Attic Sprinklers

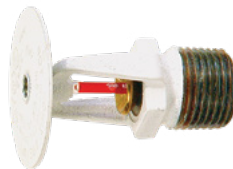


RAVEN Studio Sprinkler



RAVEN Institutional
Pendent & Horizontal
Sidewall

- Intended for specific applications such as combustible concealed spaces and areas subject to corrosion
- For areas such as attic spaces, high security institutions, corrosive environments and window protection
- Attic Sprinklers offer spray patterns such as back-to-back, hip and single directional applications
- Tyco® RAVEN Studio Sprinklers flush design is made aesthetically appealing by concealing the deflector and other operating parts behind the link assembly
- RAVEN Institutional Sprinklers are designed for use in areas such as correctional, detention and mental health care facilities as well as other commercial buildings
- WST[™] and CWS Window Sprinklers are UL Listed and offer performance equivalent to two-hour, fire-resistant rated glass when paired with non-rated glazing
- Combustible Concealed are quick response, upright sprinklers designed to provide protection of specific light hazard combustible, as well as non-combustible concealed spaces requiring protection



WST[™] Window Sprinklers



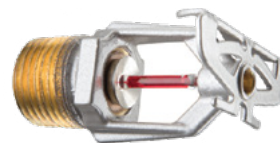
Combustible Concealed



Ultra-high
temperature ratings



Concealed Window Sprinklers
(CWS)



Poly-Stainless Sprinklers



Sprinkler Accessories



Sprinkler Cabinets



Escutcheon Plates



Flexible Hose



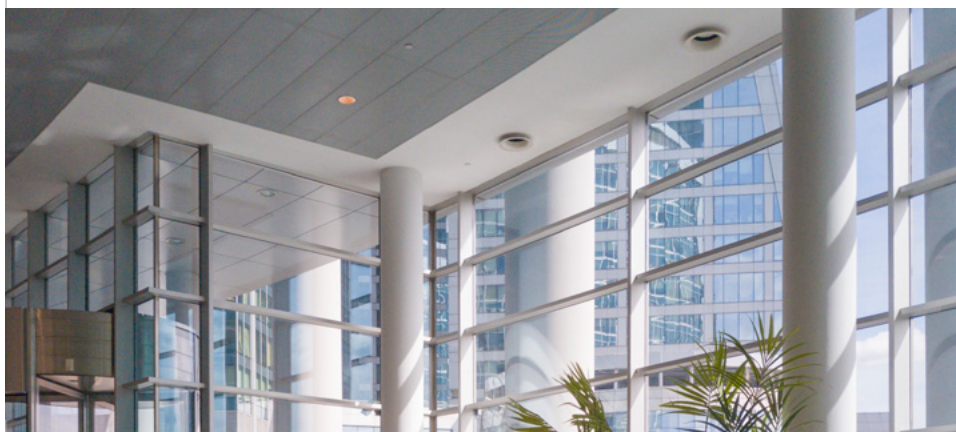
Style 65, One-Piece Flat Escutcheon



Style 401, Two-Piece Adjustable Escutcheon



- For use with the sprinklers and nozzles described in this brochure to enhance product performance such as improving appearance, concealing clearance holes, protection from damage, onsite emergency storage supply
- Sprinkler head cabinets provide storage for spare sprinklers and sprinkler wrenches
- Tyco Model FH-1 Flexible Hose can be used in wet sprinkler systems between the branchline and sprinkler when installed in accordance with NFPA 13, 13D, and 13R



Nozzle and Nozzle Accessories



Medium Velocity



HV "High Velocity"



EA-1 Automatic Protectospray

- Designed for use in a variety of special hazard applications – may be required to provide a properly designed special hazard fire protection system
- D3 nozzles use external deflector types that discharge a uniformly filled cone of medium velocity water droplets
- HV (High Velocity) directional spray nozzles are designed for use in fixed water spray fire protection systems where a high velocity water application is needed
- Tyco TN-17 and TN-25 are specialized open nozzles for use in tunnel fire protection

Dry Sprinklers

- Dry Sprinklers are specifically designed for areas where sprinklers may be subjected to freezing conditions in cold climates such as unheated warehouses, loading docks, and covered exterior platforms
- Available in various orientations: Pendant, Upright and Horizontal Sidewall, Standard and Quick Response, Standard Coverage



Tunnel Nozzles



Directional Spray Nozzles



Foam-Water Nozzles



DS-1



DS-2 Standard and Extended Coverage



DS-8 Series, available in Standard and Quick Response



Wet and Dry Pipe Sprinkler Systems



AV-1-300 Alarm Check Valve



RM-2 Riser Manifold



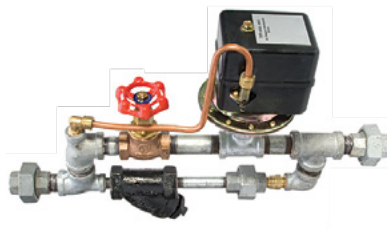
ACC-1 Dry Pipe Accelerator



Dry Pipe Valve



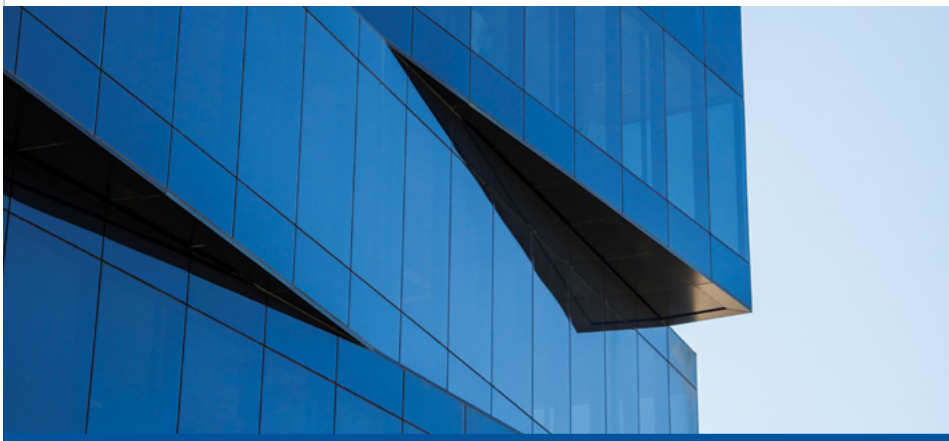
Quick Release Switch (QRS)
Electronic Dry Pipe Accelerator



Air Maintenance Device



- Wet Pipe: UL and FM approved Tyco AV-1 Alarm Valves provide a working range of 20 to 300 psi ~ and size range between 2½" to 8"
- Wet Pipe: Tyco CV-1F Riser Check Valve can be installed using GRINNELL® Grooved Couplings or GRINNELL Figure 71 Flange Adapters
- The Tyco Model RM-2 riser manifold is an integrated solution that includes a TD-2 test and drain valve, CV-1 check valve, flow switch and BFV-300 butterfly valve
- Dry Pipe sprinkler systems are designed for use where piping and sprinklers are subjected to freezing temperatures
- Dry Pipe: Tyco DPV-1 Dry Pipe Valve is UL Listed and FM approved and has a maximum working pressure of 250psi



Deluge and Preaction Systems



DV-5A



Deluge Systems



Single Interlock Preaction Systems

- The Tyco DV-5A Valves are diaphragm type valves that can be used in deluge fire protection systems. They offer external resetting and size range between 1½" to 8" and a solid max. service pressure between 20 psi to 300 psi

- Comes with Wet Pilot, Dry Pilot, or Electric Actuation, Remote Resetting, or Remote Resetting Pressure Reducing systems

- The Tyco DV-5A Single Interlock Preaction Systems offers Wet Pilot, Dry Pilot, or Electric Actuation. It also offers Double Interlock Preaction Systems that come with Electric/ Pneumatic Actuation

- The UL and FM-approved 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



Double Interlock Preaction Systems



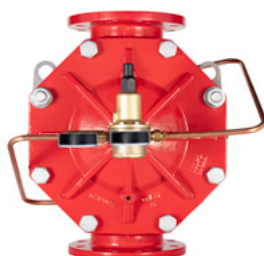
RED-E Cabinet - Integrated deluge and preaction fire protection package



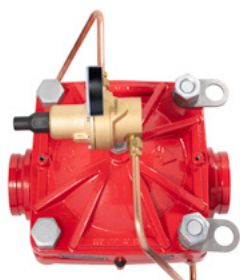
General Purpose Valves



Resilient-seated Gate Valve



Pressure Regulating Valve



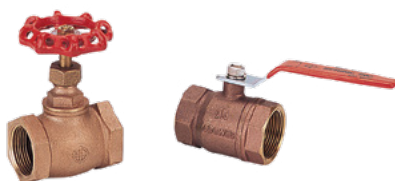
Pressure Relief Valve



Butterfly Valve



Grooved Check Valve



Trim Valve

- General Purpose Valves are designed for prevention of reverse flow, system shut-off, closure of the fire protection after operation, sectional control or facilitation of system testing
- The PRV-1A is intended to automatically maintain the outlet "set pressure" (static and residual) within a close range, regardless of fluctuations in the higher pressure inlet line or varying flow rates
- The RV-1A Pressure Relief Valve offers a max. inlet pressure of 250 psi and can be installed in any orientation. The UL and FM-approved RV-1A comes in one-piece, one-moving-part diaphragm
- 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
- The next-generation BFV-300 provides a 50% smaller gearbox and 40% lighter valve. It has a unique tapping boss for quicker upstream connection to prime line of deluge valve to pressure/flow switches or drain port



CPVC Pipe and Fittings



Sprinkler Pipe



Fittings



Rapid Seal Adapter (RSA)
Fittings

CPVC

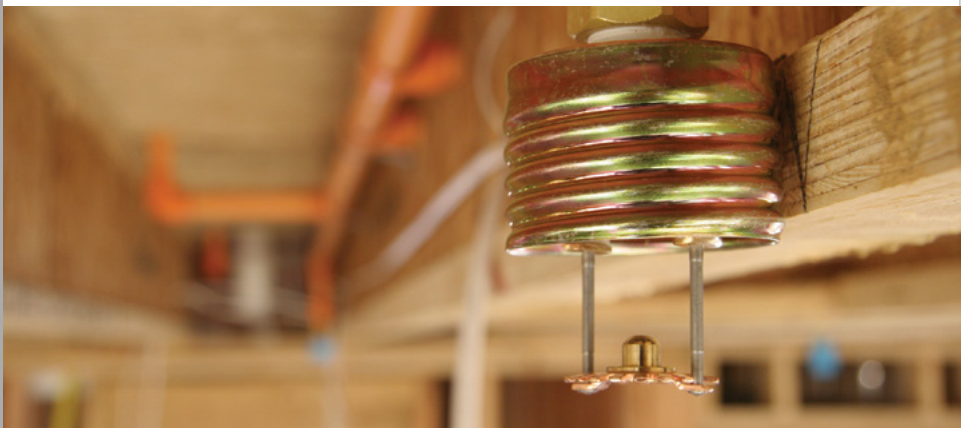
- Manufactured with Lubrizol's BLAZEMASTER® compound
- CPVC pipe is designed exclusively for use in wet and dry pipe automatic fire sprinkler systems

Rapid Seal Adapter

- Rapid Seal Adapter is a CPVC sprinkler head adapter for use in fire sprinkler systems to connect sprinkler heads to the piping system.
- No need for thread tape or sealant
- No brass, no lead, no dezincification



Supplies



Corrosion Solutions / Electrical Devices



Nitrogen Generators



NG-1 250 Cabinet Interior



Releasing Panel



Air Compressor



TF Vane Type Waterflow Switch



TIP Indicator Post Supervisory Switch

Nitrogen Generator

- The Model NG-1 nitrogen generator is at the heart of the Tyco corrosion solutions portfolio. It is designed to facilitate the Dry Pipe Nitrogen Inerting (DPNI) process for controlling oxygen corrosion in dry and pre-action fire sprinkler systems

"Fill & Purge" Breathing Method

- Removes corrosive oxygen - 98% purity nitrogen throughout entire fire sprinkler system
- Allows vent installation directly on riser for faster, easier installation - no vents needed at far points of system
- Eliminates need for nitrogen tank - reduces equipment footprint
- Nitrogen membrane technology eliminates refrigerated air dryers
- Can support multiple systems at the same time
- Pre-engineered units available to minimize installation time

Electrical Devices

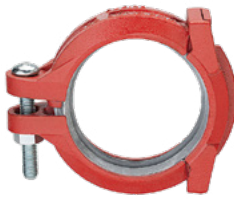
- Allows fire protection systems to interface with alarm systems
- For battery back-up in the event of power failure
- Built-in high and low pressure alarm supervision
- Electric release technology
- Easier to install, set and maintain than mechanical accessories



G-Fire Couplings and Fittings



Grinnell G-Fire Grooved Piping products are designed for use in fire protection systems. For couplings, it offers easy one-bolt (Fire 579) coupling for fast installation, quicker joining of steep pipes without welding, rigid connections for long runs and risers, dampening noise and vibration transmission



Couplings



Fittings



Flange Adaptor



Tees and Crosses



End Caps



Comprehensive fire sprinkler design software suite

SprinkCAD 3D

Users can design in full-3D using fast, accurate drawing and editing tools.

SprinkCALC

Perform hydraulic calculations and easily share them with an approving authority.

SprinkFDT Fluid

This tool is the only UL Listed software for calculating fluid delivery time to optimize dry system design.

SprinkSLIC

Generate detailed materials stock lists to facilitate project bidding and ordering.

Tools for Revit®

SprinkCAD now offers a set of tools for use in a Revit platform.

AquaMist Water Mist Fire Protection Systems



AquaMist ULF



AquaMist Fog



AquaMist Sonic



AquaMist Mist Control Centre (MCC)
Pump Skid Unit

AquaMist® portfolio of products allows you to select the most suitable solution for your needs and requirements without compromising on performance or protection.

The AquaMist system benefits include a reduction of up to five times the water required (when compared to standard sprinkler systems), while providing a superior firefighting capability on applicable Class A, B and F fires.

AquaMist ULF

- Equally as effective as high pressure solutions
- Lower electrical requirements
- No high pressure piping and fittings
- Suitable for stand-alone solutions and installations with limited electricity supply

AquaMist FOG

- Ideal when piping dimensions are a problem
- Ideal when pressure losses are critical
- Quick discharge of water mist on combustible areas

AquaMist Sonic

- Provides a solution to ventilation
- Facilitates protection of higher height risks
- Can protect highly obstructed areas
- Protects volumes without the need for power or pump arrangement



About Johnson Controls

At Johnson Controls (NYSE:JCI), we transform the environments where people live, work, learn and play. As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

Building on a proud history of nearly 140 years of innovation, we deliver the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering.

Today, with a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world's largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry.

Visit www.johnsoncontrols.com for more information and follow @JohnsonControls on social platforms.

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