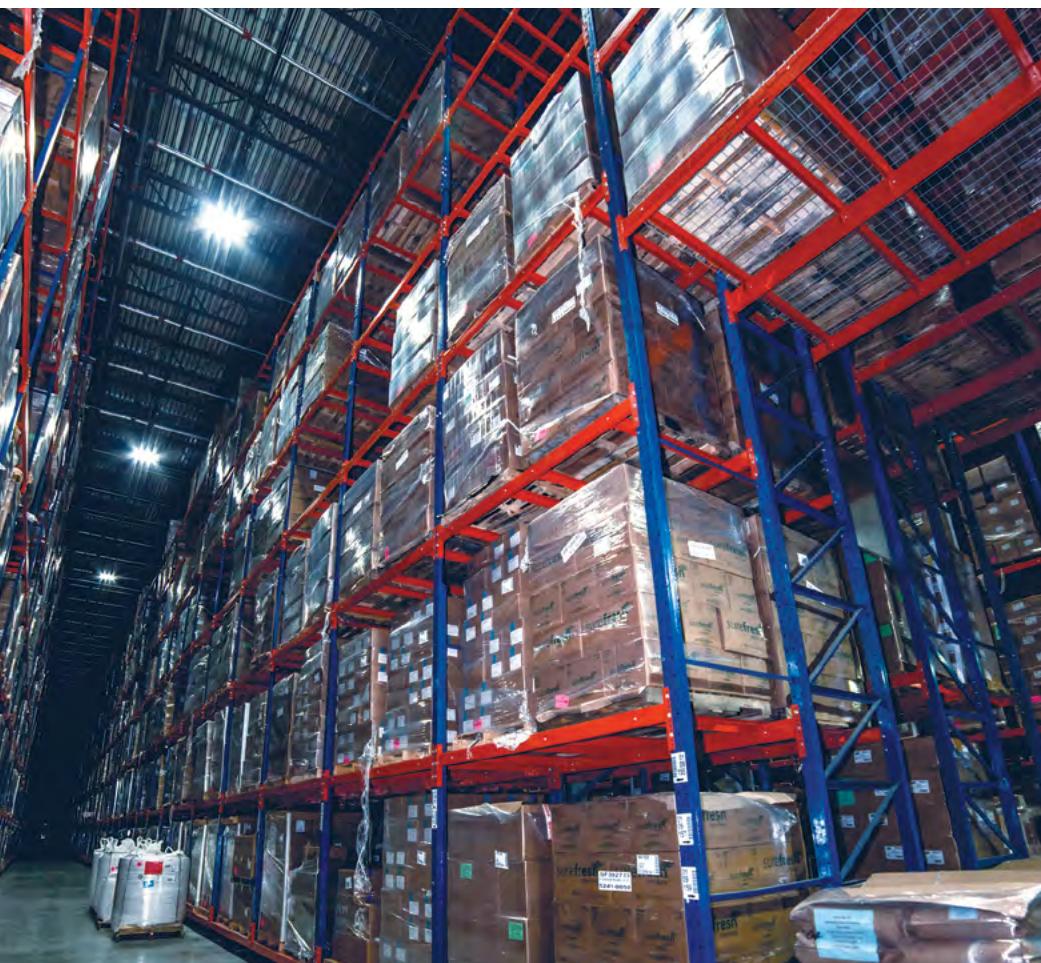


**tyco**<sup>®</sup>

# Fire Sprinkler Solutions for Storage Applications



The Whole Spectrum of Fire Suppression

**Johnson  
Controls**



## Have It All From One Trusted Partner

Coverage for the tallest ceilings and narrowest aisles. Compliance with the highest safety standards and regulations. Designs that consider the future requirements of your facility. Meet your fire suppression needs with comprehensive storage solutions from the Tyco® brand by Johnson Controls.

As e-commerce has drastically changed the face of warehousing and logistics in recent years, modern warehousing and logistics have been pressured to keep pace with the rapidly evolving expectations of their customers. At the same time, a shift toward different packaging materials can create increased challenges that require forward-thinking protection solutions.



## Ceiling-only Protection

Tyco® sprinklers are designed and tested to provide complete ceiling-only protection, meaning they can be used in system designs that eliminate in-rack sprinklers. This reduces risk of damaged sprinkler heads and accidental activations that can lead to damaged commodities and costly downtime.

With the highest coverage available, Tyco® sprinklers can help maximize vertical storage with ceiling heights up to 48 feet (14,6m) for conditioned spaces and up to 55 feet (16,8m) for cold storage applications.

Johnson Controls has expertise in helping protect the unique needs of various facility types, including:

- Warehouses
- Box-in-box cold storage
- Distribution and fulfillment centers
- Fully refrigerated warehouses
- Automated facilities

## What about In-rack Sprinklers?

Tyco® fire sprinklers can also be used for in-rack protection. For designs using the Model ESFR-25, the Tyco® EG-25 Sprinkler Guard is the first FM Approved guard for in-rack applications and for use with the FM Alternative In-Rack scheme.





## A Broad Fire Sprinkler Portfolio

### ESFR Sprinklers

Early Suppression, Fast Response (ESFR) sprinklers provide protection for a wide range of commodities and storage arrangements, making them a versatile, long-term choice to meet changing needs over the lifetime of a space.

*Options include: ESFR-14, ESFR-17 pendent and upright, ESFR-17 dry type, ESFR-22, and ESFR-25*



### Extended Coverage Sprinklers

Increase the maximum coverage area per sprinkler with extended coverage sprinklers, allowing a reduction in the overall number of required sprinklers in a system design.

*Options include: EC-25*



## ELO Sprinklers

Extra Large Orifice (ELO) sprinklers are designed to control high challenge fires with relatively low required pressures. These sprinklers have proven performance in storage applications backed by full-scale fire testing.

*Options include: ELO-231, ELO-231B, and ELO-231FRB*



## Specialty Systems

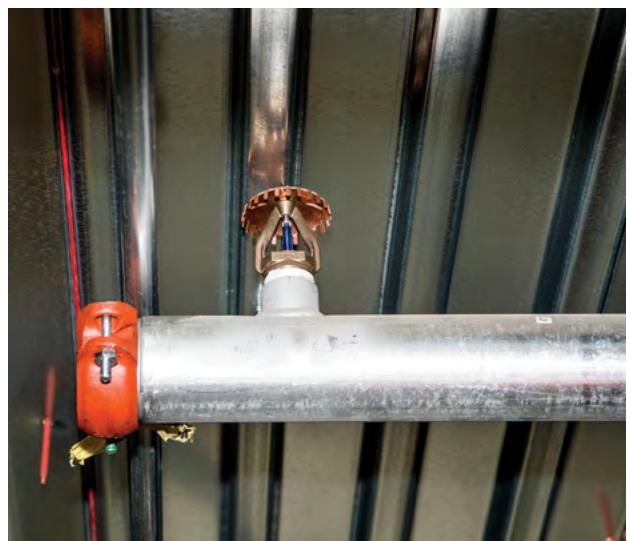
### EAS-1 Electronically Activated Sprinkler System

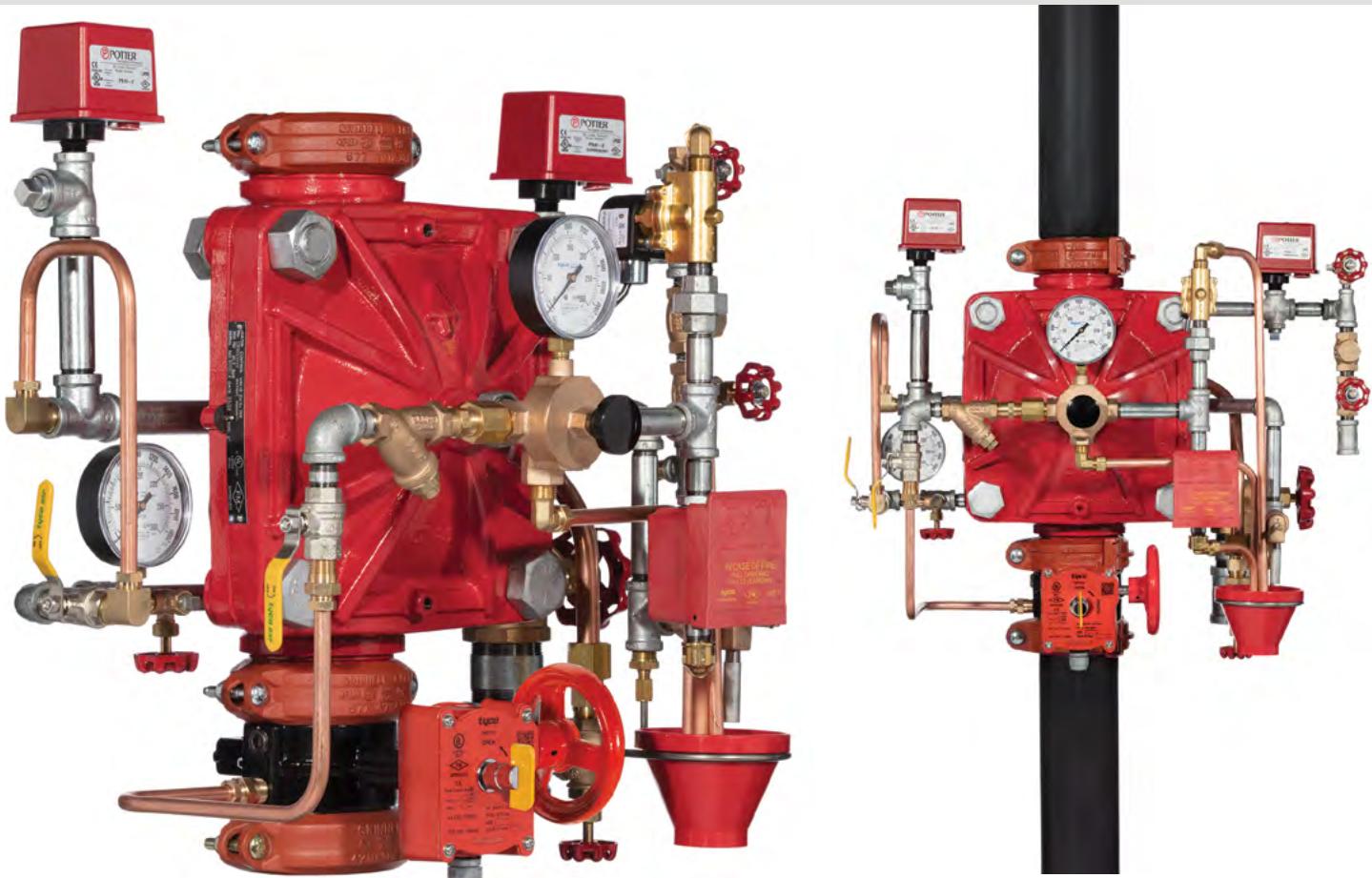
The Tyco® EAS-1 System features electronically activated sprinklers designed to be the most efficient and effective storage fire protection available today. The EAS-1 system detects and begins suppressing the source of a fire sooner than traditional sprinklers, resulting in reduced commodity damage and down time.



### QUELL Cold Storage Fire Protection System

QUELL systems help maximize storage within an existing footprint, while also providing greater flexibility and dependable performance. With ceiling-only protection up to 55 feet (16,8m) using the Ultra K-34 sprinkler, QUELL protection reaches seven feet higher than any other ceiling-only protection solution available today.





## Completing Your Fire Sprinkler System

### Fire Protection Valves

Tyco® offers a range of dependable and trusted valves designed for easy installation, testing and maintenance.

*Options include: DPV-1, PRV-1, CV-1, DV-5, and DV-5A*



### Electronic Dry Pipe Accelerators

With electronic quick-opening devices, Tyco® provides a solution for reducing the operating time of dry pipe valves with improved performance over mechanical alternatives.

*Options include: QRS and VIZOR  
VIZOR is available in the US and Canada*





## Couplings

The GRINNELL® G-FIRE One-Bolt Coupling makes joining grooved pipe faster and easier than ever before.

*Available in the Americas*



# Global Strength. Local Expertise. At Your Service.

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## About Johnson Controls' Building Technologies and Solutions

Johnson Controls' Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire suppression or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as TYCO®, YORK®, METASYS®, RUSKIN®, FRICK®, PENN®, SABROE®, SIMPLEX® and GRINNELL®.

For more information, visit [www.johnsoncontrols.com](http://www.johnsoncontrols.com) or follow @JCI\_Buildings on Twitter.

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