

CASE STUDY:

Custom fire protection solutions provide significant economic and operational benefits



Profile

As one of the world's largest general merchandise retailers, the customer employs millions of people and operates thousands of stores across the world. Considered a leader in the industry, the retailer continues to expand its global footprint.

Challenge

The customer's existing fire sprinkler systems required updates to address higher hazard commodity classifications. The customer needed a repeatable fire protection solution to upgrade existing stores and provide operational flexibility for future stores.

The installation of fire sprinkler systems using prescriptive requirements required an increase in water discharge and, in some cases, the addition of costly fire pumps to adequately address the higher hazard challenge. In addition to the significant capital expense of updating an entire fire sprinkler system, the process is time and labor intensive, often requiring retail locations to close during the renovation periods. The customer couldn't afford lost time in store operations; however, proactively addressing current and future fire protection challenges would help ensure the safety of employees, customers and inventory.

With thousands of locations across the world, the retailer needed a cost-effective retrofit solution economically deployed across its varied facility sizes and layouts. The solution also required flexibility to address complex storage/shelving/rack arrangements. At the same time, some of the design challenges required solutions that could be installed into existing fire sprinkler system infrastructure and water pressure levels. All of this needed to be achieved with minimal impact to store operations and with very little downtime.

Customer:
Multinational retailer

Region:
Global

Product Solutions:
**TYCO® fire sprinklers
(off-the-shelf and custom)**

"The retailer needed a cost-effective retrofit solution economically deployed across its varied facility sizes and layouts"

Johnson Controls solutions saved significant time and cost



Custom sprinkler designed for the project.

Solution

The retailer turned to Johnson Controls. With a track record of innovation and a full line of class-leading fire protection products, Johnson Controls was perfectly suited to provide economical and effective options that addressed the retailer's challenges.

By gathering existing facility information such as pipe sizes, fire sprinkler spacing, ceiling heights, clearance to storage and water pressure available at each location, Johnson Controls evaluated and developed multiple solutions that fit within existing water supply parameters. Due to the store layouts of this retailer's facilities, three separate fire sprinkler protection solutions – and in some cases an additional fourth solution – were required per location. In certain situations, a fourth solution was also necessary.

A significant number of fire tests were required to determine variables. Once those variables were known, Johnson Controls identified that two of its existing fire sprinklers would work for two of the store areas. For the remaining areas, Johnson Controls relied on its depth of knowledge in fire sprinkler design and innovation to deliver two new UL verified fire sprinklers

in less than three months, a process which can often take much longer. The new fire sprinklers, each with unique spray patterns, are custom designed for each hazard area they are designed to protect, resulting in effective fire protection using available system water pressure.

The sprinklers had to be delivered and installed as part of a five-year facility upgrade plan. In addition to its engineering expertise, the Johnson Controls position as an operationally disciplined global manufacturer allowed it to adhere to a time-sensitive delivery schedule to provide the fire sprinklers necessary to upgrade the fire protection systems.

Results

Working with the customer's fire protection consultants, Johnson Controls successfully, evaluated, developed, and implemented multiple fire protection solutions to meet customer requirements, saving significant time and cost. With several hundred thousand fire sprinklers already installed and more on the way, each of the customers' facilities will be upgraded with location-specific fire sprinklers and systems specific to each location while minimizing impact to its operations.

Johnson Controls is a global diversified technology and multi-industrial leader serving a wide range of customers in more than 150 countries. Our 117,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next-generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities.

Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. We are committed to helping our customers win and creating greater value for all of our stakeholders through a strategic focus on our buildings and energy growth platforms.

For additional information, please visit www.johnsoncontrols.com or follow us @johnsoncontrols on Twitter.