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AMERICAN GAS

FUELING THE ECONOMY

FOUR KEY INDUSTRIES THAT DRIVE OUR NATION'S GROWTH AND PROSPERITY UNEQUIVOCALLY CHOOSE NATURAL GAS



FUELING INNOVATION 5

MAKING A DIFFERENCE: BGE 20

Thermally activated shutoff valves are widely used on gas service piping internationally, and now, North American gas utilities are rapidly adopting these devices—also known as emergency isolation valves.

BY WALLY ARMSTRONG AND DOUG STAEBLER, TECO AMERICAS

TECO Americas is a privately held company that sells innovative fire safety products to gas utilities, commercial kitchens, original equipment manufacturers (e.g., furnace makers) and residential end users.

ENHANCING GAS SAFETY

Thermally activated shutoff valves have been used on residential gas systems throughout Europe for decades. Likewise, the Commonwealth of Massachusetts took a pioneering step in 1974 by mandating thermal shutoffs at all inside gas meter installations. Now, U.S. gas utilities such as Washington Gas and Con Edison are expanding their safety protocols by requiring the installation of thermally activated gas shutoffs as a component in their meter buildups, prior to the service regulator and meter. These installations are intended to prevent high-pressure gas from contributing as a primary or secondary source of a fire, thereby preventing a fire from elevating from Class A to Class B.¹ By automatically shutting off the gas supply when exposed to elevated temperatures, thermal shutoff valves can help reduce the intensity of a fire—protecting life, property and first responders.

SINGLE- AND MULTIPLE-METER APPLICATIONS

Thermal gas shutoffs are available in multiple sizes and thread configurations. As such, they can be used in both single- and multiple-meter applications. As gas regulators may fail and vent when exposed to extreme heat, the optimal placement of a thermal shutoff is just upstream of the regulator. However, thermally activated shutoffs can also be installed upstream of the meter or in-line with the meter swivels and nuts.

For multiple-meter buildups, the thermal shutoff can be installed either in-line with the manifold or at each individual meter. Multifamily buildings are typically served by higher-capacity regulators, utilizing larger-diameter piping for meter sets, and in many cases the regulators and meter sets are located inside the structure.

SHUTOFFS AVAILABLE IN NORTH AMERICA

Several thermal shutoff manufacturers have long produced these safety devices for international markets. One of the thermal shutoffs manufactured under the DIN 3586 Standard is now configured specifically to meet the needs of the North American market. The thermally activated shutoff DIN 3586 Standard includes the following performance specifications:

- Activates at 212 degrees Fahrenheit.
- Remains active to 1,697 degrees for a minimum of one hour.
- Provides a positive shutoff after thermal cooling.
- Is tested and approved to 100 psi maximum allowable operating pressure.
- Can be used for both indoor and outdoor applications.
- Does not require external power or detectors to activate.
- Is maintenance free.

NORTH AMERICAN CASE STUDIES

Several testing bodies in North America have tested thermally activated shutoff valves, including the Gas Technology Institute Operations Technology Development.² GTI's OTD analysis and report conclude:

- Thermal shutoff devices do serve a need within the natural gas distribution industry.
- Industry stakeholders should identify the applications that make the most sense for installing these safety shutoff devices within their community and gas distribution systems.
- U.S. and Canadian standard(s) for governing the installation and operation of thermally activated shutoff devices should be created.

Aegis Insurance also included Teco Americas' presentation on *Thermal-Activated Shutoff*

Valves for Natural Gas, Propane & Butane as part of its Loss Control Webinar Series.³

Thermally activated gas shutoff valves represent a critical innovation in safety technology. As pipeline safety management systems and regulations continue to prioritize safety and communities strive to enhance resilience, thermally activated shutoffs may be considered where operationally feasible and conditions merit.

REFERENCES

1. Class A fires are fires in ordinary combustible materials, such as wood, cloth, paper, rubber and many plastics. Class B fires are fires in flammable liquids, gases and greases.
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