Temperature Control Keeps Your Facility Clean And Safe

As those who operate food manufacturing and distribution plants know, there are a multitude of regulations from both the FDA and OSHA that are intended to help keep them safe and clean. What most do not realize is how important water temperature is in the right place at the right time for complying with those regulations. It can make all the difference as to whether a facility or equipment is truly considered clean or sterile, whether employees can avoid permanent injury in the case of an accident and whether outdoor processing facilities can avoid expensive freezing problems. All of these issues are critical to operating a safe, clean and compliant plant that runs efficiently and smoothly.

Keeping Clean

FDA regulations are strict when it comes to cleaning facilities and equipment in food manufacturing plants. Depending on what is being made or processed in a plant, whether meat, vegetables, alcohol or non-perishable goods, regulations require different kinds of cleaning. In most plants, there are hose or wash down stations throughout. They can be stand-alone or they can be part of a clean-in-place system built into processing equipment. Wherever they are, there should be tight guidelines on the temperature of the water they disperse to truly clean or sanitize the space.

Typically, hosedown stations in plants work by combining water with steam to get

to a specific temperature. This can either be very effective or very dangerous, depending on how the hosedown station is made and maintained. For instance, some hosedown stations take time to reach an accurate and consistent water temperature – meaning the water can be too hot and thus dangerous for the employees operating them when first turned on or too cold and a waste of water otherwise. Some make it possible for the operator to accidentally only turn on just the steam, thereby causing a potential hazard for him or herself and others in the area. And some hosedown stations require significant maintenance downtime, putting them out of service for many hours.

New technology in hosedown stations has helped to overcome many of these problems. Highly engineered self-actuating valves in hosedown stations mean instant water within 1-2 degrees of the intended temperature. Safety valves now make it impossible to just turn on steam, and new designs mean hosedown stations can be cleaned in a matter of minutes.

Being Safe

In food manufacturing plants, just like many other manufacturing or processing facilities, there is always danger of employee accidents that result in harmful contamination. OSHA requires that safety showers and eye washes are placed every 100 feet or so throughout the plant for immediate response to injury or contamination. Once again, the temperature of the water produced by these devices is critical. Imagine accidentally getting a chemical in your eye and running to a nearby eye wash station only to have 180 degree water squirted into your eye. The pain would be unbearable. Even worse, it could cause more harm than the initial injury.

Safety showers and eye washes need to operate perfectly every time – employee lives and well-being depend on it. Test all devices regularly to ensure they instantly produce comfortable, temperature appropriate water when and where necessary. Make sure they are in appropriate places and maintained regularly.

In addition to hosedown and safety showers, another safety precaution required by many municipalities is the temperature limits at which waste water can be sent to drain. To be environmentally conscious, the International Plumbing Code, paragraph 701.7 reads, “Wastewater when discharged into the building drainage system shall be at a temperature not higher than 140°F (60°C). When higher temperatures exist, approved cooling methods shall be provided.” Again, the best technology involves drain tempering valves which are self-operating – the most reliable and cost effective option available.

Preventing Freezing

This past winter was one of the most difficult yet. Snow, frost, and freezing temperatures hit even the most southern states. Plants in Texas and Florida had freezing problems that they had never even considered. All outdoor processing plants need to plan and prepare for the dangers of cold.

Anywhere a food processing plant uses water, there is a danger of freezing. When liquid freezes, it can burst pipes creating flooding, ceasing operations and causing a nightmare for the plant operator. It also means an expensive clean-up, cost of pipe repair, loss of revenue, wasted product and a whole variety of other financial ramifications.

The good news is that the solution is easy and inexpensive. There are a whole variety of self-actuating valves that are specifically designed to solve this problem. As the temperature of the water drops in response to the weather, the valve reacts, bleeding or draining the water and preventing it from freezing. In this way, the availability of the system is maintained and expensive freeze damage and downtime are avoided.

Conclusion

Water, which is everywhere in most plants, can be the most dangerous or expensive liability in a plant, but it is often overlooked. Accurate and consistent temperature control can make all the difference in whether a plant is safe, clean and profitable. Luckily, new technology and advanced engineering is available to today's plant managers.

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