

LIQUID CAUSTIC SODA TEMPERATURE MAINTENANCE

Prevent solidification and increase efficiency of liquid caustic soda in tanks and pipes

Application

Liquid caustic soda, also called sodium hydroxide or lye, is a highly corrosive material used as a catalyst or cleaner in many industries such as petroleum refining, textiles, pulp and paper, and chemical processing. A 50% concentration by weight is the most commonly used and to prevent solidification, this material must be maintained at a temperature above 70°F (21°C). Failure to properly maintain temperature leads to decreased efficiency, clogging, and production downtime.

Solution

Caustic soda is often stored in tanks and vessels. To maintain temperatures above 70°F (21°C), BriskHeat SRM-ADJ silicone rubber heating blankets with mid-temperature controls are used. Their plug-and-play designs feature built-in controllers with a maximum adjustable temperature up to 160°F (71°C), designed specifically for maintaining mid-level temperatures such as those needed for caustic soda. Additionally, they have peel-and-stick adhesive for easy installation, industrial strength silicone construction for maximum durability, 2.5 W/in² (0.39 W/cm²) power density for rapid thermal response and are grounded for safety. These heating blankets come in a variety of sizes to properly fit around tanks and vessels even if they contain obstructions. To maximize thermal efficiency, custom cloth removable and reusable insulators are used. BriskHeat can manufacture almost any insulator size and configuration, and the durable construction and moisture-resistant PTFE (Teflon) cloth allows them to last for years.

For caustic soda pipelines, BriskHeat KE-series constant-wattage heating cable installed along the pipe will keep the solution at the desired temperature. The KE series has a FEP extruded outer jacket that protects the cable from the corrosive nature of sodium hydroxide. To insulate, BriskHeat's Insul-Lock pipe installation is essential. It featured double-seal technology for maximum thermal efficiency, easy-to-handle 6 ft (1.8 m) lengths, internal (pipe) diameters between 0.5 and 4 in (1.3 and 10 cm), and a temperature tolerance of 220°F (104°C). Additionally, external aluminum tape is an available accessory to guard against corrosion. To control the cable temperature, BriskHeat offers a wide range of temperature control options. A good all-purpose choice is the TC4X digital temperature controller with NEMA 4X enclosure. The TC4X is inexpensive, has a digital display, and is suitable for wet and corrosive environments.



Industries

Chemical Processing/ Extractions Gas & Oil	Manufacturing Paper & Pulp Water/Wastewater Treatment
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Types of Users

Facilities Maintenance Personnel	Process Engineers Production Managers
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Additional Uses

BriskHeat's SRM-ADJ silicone heating blankets can be used on most tanks or vessel applications requiring heat up to 160°F (71°C). Similarly, constant wattage heating cable can be used on most long-run pipe heating applications that require temperatures up to several hundred degrees.