

FRACKING SYSTEM LIQUID FREEZE PROTECTION

A safe way to reduce freeze offs by protecting systems from freezing conditions

Application

Natural gas fracking is a drilling process that injects millions of gallons of fracking fluid (a mixture of water, sand, and chemicals) deep into horizontal wells at high pressure to break-up shale and rock to release natural gas. In 2017 the U.S. produced over 30 trillion cubic feet of natural gas. Once the fracking process is completed, the internal pressure of the rock formation causes the fluid to return to the surface through the well. This fluid is known as "flowback" or "produced water" and contains fracking fluid plus other naturally occurring brines, metals, radionuclides, and hydrocarbons. The produced water must then be transported through a "dump line" to on-site storage in tanks or pits before being processed for treatment, disposal, or recycling. Dump lines along with related components like freshwater lines, slug-catcher separators, and blow-down, pressure-release valves must often be protected from freezing conditions to avoid freeze offs and loss of production.

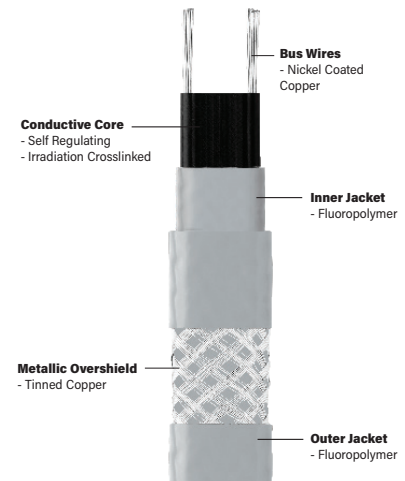
Freeze offs occur when production is halted at the well because water and other liquids contained within the natural gas mixture freeze. At the peak of 2017/2018 cold season, freeze offs reduced production by as much 7%, or 4.9 billion ft³ in a single day. Due to the explosion risk of natural gas, well pad locations are often classified as Class I, Division 1 hazardous area locations. Special considerations and precautions must be taken to ensure a safe heating source is used to prevent freeze offs.



Solution

BriskHeat's SLCAB self-regulating heating cable is a safe and efficient heat source used to prevent freezing conditions on and around natural gas well pads. FM and CSA agency approvals for Class I, Division 1 locations ensure SLCAB heating cable is safe for use in the industry's stringent explosion-proof environments. The unique construction of the heating cable self-regulates its heat output to provide an energy-efficient heater that delivers heat only when and where it is needed. By heat-tracing critical systems, the occurrence of freeze offs is greatly reduced, ensuring a reliable supply of natural gas through the production process. SLCAB self-regulating heating cable can safely be spiral wrapped, loosely fit, or even crossed over itself without risk of failure or overheating, making it an easy-to-install and safe-to-use heater. Because of the rugged environment, an extremely durable fluoropolymer cover protects the heating cable for long life and reliable performance.

Insulation is required to maximize thermal efficiency and performance. BriskHeat's Silver-Series 2 cloth insulators are a configurable system of insulators that feature durable high-temperature cloth with fiberglass insulation and a hook & loop closures for easy installation and removal. Additionally, they are suitable for outdoor use, and can be custom made to fit tanks and large vessels. End of circuit LED monitor light kits are a popular accessory. Viewed from a distance, the bright LED provides peace of mind the system is operating as intended.



Industries

Energy/Power Generation	Gas & Oil Gas Handling
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Types of Users

Automation Foremen Automation Technicians	Drilling Managers Fracking Technicians
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