BETE®
PERFORMANCE SPRAY ENGINEERING

Application Solution

RETRACTABLE SPRAY LANCE
COOLING SOLUTION FOR REFINERIES

PETROCHEMICAL INDUSTRY

REGENERATOR SHELL COOLING SOLUTION

▶ PROBLEM: HOT SPOTS DAMAGING REFRACTORY SHELLS

A refinery needed a solution for cooling a gas stream to prevent hot spots within its regenerator vessel. Hot spots can damage refractory walls, and overspray will also damage refractory if not adequately designed. Due to the harsh environment and conditions, the solution for this application needed to be constructed from high-temperature-resistant materials. Additionally, the refinery sought the ability to retract the lance out of the gas flow when not in use, aiming to reduce nozzle wear and improve airflow through the vessel.

▶ SOLUTION: RECTRACTABLE SPRAY LANCE WITH SPIRALAIR® ATOMIZING NOZZLE

BETE engineers designed a custom retractable lance with a SpiralAir (SA) air atomizing nozzle. The fine droplets of the SA ensure rapid cooling and prevent wetting issues. The serviceable wear parts of the assembly, made of nickel alloy Inconel 625, meet the needs of the customer's harsh process and provide excellent corrosion and erosion resistance at their elevated temperatures of 380 °F (193 °C).

With the ability to retract the nozzle out of service, the solution reduces nozzle wear, improves airflow through the vessel, and allows for servicing without interrupting operations — all contributing to significant cost savings.

BETE APP#050116

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SPRAY NOZZLES & SPRAY SYSTEMS SOLUTIONS

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