Half POx Depressurization Time

with FlexStream® unprecedented rangeability

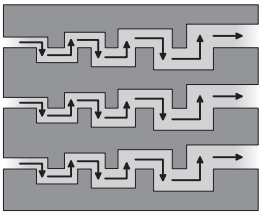
Working together in partnership with an EPCM company that was constructing a new autoclave site in the Caribbean, we applied our expertise from the oil and gas industry, where it has long been the practice to let pressure down across a multiple number of stages.

Challenge

Traditionally, brick-lined autoclaves in both HPAL and POx leaching processes have a requirement to be depressurized or "blown down" due to process upsets, emergency situations, or to allow access for essential maintenance, equipment replacement or failure. Typical control valves used in this application are limited by rangeability and capacity, therefore, it takes longer to completely depressurize the autoclave—up to 24 hours plus—negatively impacting the profitability and efficiency of the plant.

Solution

By adding an 8-inch MOGAS rotary control valve with FlexStream technology to the existing configuration on one unit, we were able to customize a solution



that specifically addresses this unique process and problem. Using tortuous path technology combined with a typical hydraulic diameter opening, FlexStream technology provides multi-stage letdown with an unprecedented rangeability in excess 300:1, while still limiting the rate of temperature drop to protect the brick lining from thermal shock.

Results

Initial operation data from the autoclave site shows that FlexStream technology has reduced depressurization time by as much as 50% as compared to the typical linear control valve used in this application.

Due to the valve's performance during start-up, commissioning and operational use, the site has added MOGAS valves with Flexstream rotary control technology in all four units, which has resulted in impactful savings to the operator in reduced downtime and increased product output, as well as the environmental benefits.

Conditions	
Service:	Autoclave (POx Gold)
Flow Rate:	3.573 kg/s max
Temperature:	>450 F (230 C)
Pressure:	>522 psi (3600 kPa-g)
Valve Model:	C-Series with FlexStream technology
Valve Size:	4- to 8-inch

A MOGAS customized control valve with FlexStream technology cut depressurization time in half compared to its linear predecessor—all while staying well within strict noise, velocity and thermal-shock limits.

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