

Conval Valves Excel in High Pressure at Ethylene Plant

A Canadian ethylene plant, originally built in the 1980s, underwent several expansions as market demand for ethylene grew in the plastics industry. Valves from a variety of manufacturers, often purchased on a best price basis, were installed in the heater feed water and boiling piping systems.

Over time, significant numbers of valves were cut out of piping and replaced due to seal injection or seat disc leakage. During startup, feed water isolation valves were being throttled, causing rapid wear and leading to frequent replacement.



Fig. 2. Conval Clampseal Globe Valve

Maintenance personnel noted that the Conval Clampseal™ demonstrated fewer issues involving packaging or seat leakage than the other installed valves. A mechanical engineer assigned to the ethylene heaters decided

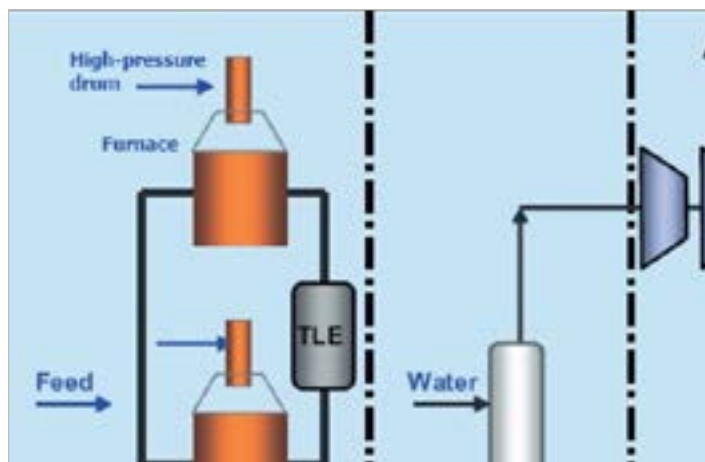


Fig. 1. Feedwater is fed to the furnace in precision amounts to be converted to steam

to perform a controlled test by installing a complement of Conval Clampseal™ valves on one of the heaters. The valves included 1" to 3" Class 1500, Y-globes and a 1 1/2" Conval angle pattern throttling valve for metering flow during heater startup.

The test period lasted three years, during which periodic inspections were conducted with no reported issues. Conval Clampseal™ valves exceeded expectations and, during the next shut down, were installed on the remaining ethylene heaters at the plant.

Armour Valve has since worked with the plant to develop procedures for heater startup to ensure proper operation of the valves and has provided on-site training for operations and maintenance staff. The Conval Clampseal™ valves became the standard for high-pressure feed water, condensate and steam applications at the plant.