



TechTip #4

Pressurizing the Gate Shroud for the Unheading Valves

To avoid a possible pressure overage on the internal gate shroud while when the coke drum is full of water, modify the control specifications to reduce the body steam purge pressure to 20 PSI prior to opening the unheading valve.

Pressure Guidelines

DeltaValve specifications require body purge steam pressure to be maintained at a constant 20 PSI above drum pressure. At the initial opening of a full coke drum the pressure tap will measure the drum water head — normally 22-44 PSI. In a properly configured system the pressure controller will adjust the body steam pressure to 20 PSI above the drum water head resulting in a body steam pressure of 42-64 PSI.

Since the internal gate shroud is designed to optimally operate at pressures of ≤ 25 PSI the body steam pressure will need to be reduced to 20 PSI prior to unheading.

Measuring Drum Pressure

Recording measurements from the proper location on the drum will ensure the drum water head is correctly included when calculating the required amount of body steam pressure.

Procedure:

- Measure the drum vapor pressure at the top of the drum
- Measuring drum pressure at the feed-line
- Estimate the water head pressure then add to the drum vapor pressure