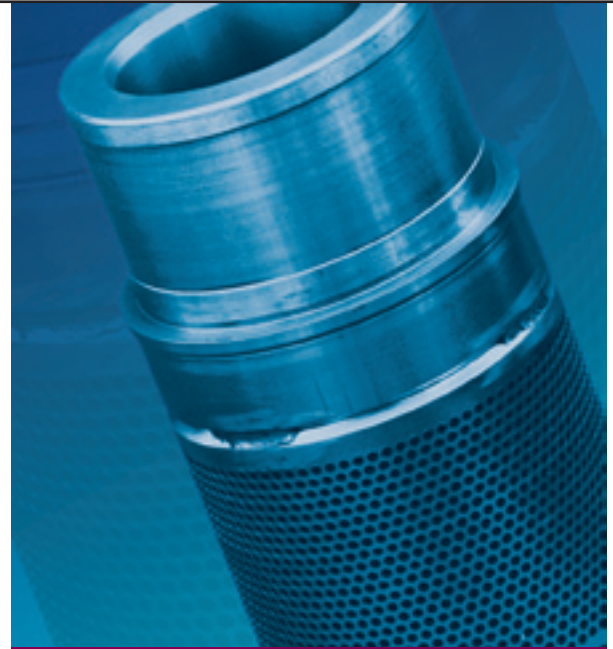


Fisher® Valves Chosen by LNG Plant to Solve Valve Failure in Acid Gas Removal Application

RESULTS

- Excessive vibration caused by out-gassing of entrained gases in competitor's valves was successfully eliminated with Fisher® EWT valve and Whisper Trim™ III.
- Fisher EWT valve addressed trim erosion and corrosion problems, which caused frequent disruption to plant operation.
- Fisher FIELDVUE™ DVC6200 linkage-less, non-contact travel feedback technology enhanced valve reliability and life cycle.



APPLICATION

Rich Amine Letdown Valve

CUSTOMER

Liquefied Natural Gas plant in Malaysia

CHALLENGE

The removal of acid gases in gas processing plants is usually achieved by feeding the natural gas containing hydrogen sulfide into the bottom of an absorption tower. The gases come in contact with a lean solvent such as a Solfinol solution, which is fed from the top of the tower. After the amine contacts the gas stream and absorbs the acid gases, it leaves the absorption tower through a level control valve before going to the flash tank.

This is a severe application because a great portion of the physically absorbed gases separate from the amine solution via out-gassing when pressure differential occurs across the valve. The turbulent two-phase flow system resulted in severe vibration and erosion due to the high velocity impingement of the liquid phase on the valve and trim.

Seeking a solution to the problem, the customer contacted Transwater, the Emerson Process Management local business partner in Malaysia.

Whisper Trim™ III



SOLUTION

Engineers at Transwater and Emerson Process Management evaluated the application and studied the root cause of the valve failure. An improvement valve solution was recommended with a Fisher 8"x6" EWT body with Whisper Trim III to replace two existing problematic competitor's valves. Whisper Trim III with specifically designed drilled-hole passages was selected to control the rapid fluid expansion experienced in this type of service. Potential vibration is further controlled by a valve body designed to limit high velocity flow at the valve outlet. Carefully selected trim material combination provides necessary corrosion resistance and protection in the presence of corrosive entrained gases.

These specific trim and valve body technologies together allow the valve to control the level in the amine contactor, without the system vibration and valve erosion damage typically generated by a standard valve.

Fisher FIELDVUE™ DVC6200 digital valve controller utilizing high performance linkage-less, non-contact valve travel feedback technology further enhances valve reliability and extends service life. The performance diagnostics capabilities of the DVC6200 were also included to enable condition and performance monitoring of the entire valve assembly to improve asset management decision making.

RESULT

The newly installed Fisher EWT globe valves with Whisper Trim III successfully solved the vibration and valve damage problem that the LNG plant was previously experiencing in the acid gas removal unit. As a result, frequent valve maintenance and plant operation disruptions were eliminated due to the enhanced performance.



*Fisher EWT Valve
with Whisper Trim III Cage*

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