Control Valve Case History

Industry: Gas Processing
Application: Separator Water Dump

Overview:

A new plant expansion required a liquid level control valve for water service. The process pressures resulted in a cavitating application with a small Cv value for the control valve. Standard valve internals would not provide a long lasting solution.

Process Conditions:

Fluid	Water
P1	5771 kPag
P2	540 kPag
T	-17 C
Q	4.4 USGPM
Cv	0.215

Solution:

The customer asked Spartan Controls to review the service conditions and specifications and to select an appropriate valve. In cavitating applications with larger Cv values, special trims that break up the pressure drop into stages can be used to eliminate its damaging effects. However, such trims are uncommon for flow coefficients this small and they are not practical as the amount of energy with potential to damage the valve is also much less. Therefore, choosing a valve with hardened trim materials for this application will provide adequate service life. The valve chosen was the Fisher Controls D4 control valve with tungsten carbide trim.

Customer Benefits:

This selection provides adequate level control for the application and increases valve life expectancy and time between maintenance intervals.