



For *Severe Service* Control Solutions, Turn to Fisher Technology & Innovation

## Control Valve Case History

Industry: Oilsands and Refining  
Application: Wash Water Pump Bypass Flow Control

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### Overview:

The customer uses underground sand caverns to store liquid hydrocarbon products prior to sale. As part of the process design, wash water is injected via a high-pressure pump into the process. Since the pump produces a constant flow rate, flow control is attained by recirculating wash water back to the suction side of the pump via a flow control valve.

### Process Conditions:

The flow stream is water with entrained particulate.

P1	6201 kPag
P2	106 kPag
T	38 C
Flow	115 m <sup>3</sup> /hr

### Solution:

The customer asked Spartan Controls for a flow control valve solution to handle this application. Cavitation, vibration, noise, erosion and plugging of the trim were concerns. Spartan recommended a 4" 900RF Fisher HPT control valve with dirty service trim (DST). The trim includes 3 stages of pressure drop, which effectively eliminates cavitation, noise and vibration. Due to its balanced design the trim provides maximum stability throughout the flow range. The DST can also pass entrained particles in the flow stream due to the design of the flow passages. Additional benefits include hardened trim to resist erosion and a protected shut-off seat separate from the throttling areas of the trim.

### Customer Benefits:

The valve was installed and has been performing flawlessly since start-up. All of the potential problems due to the high pressure drop, erosion and plugging were solved with the use of the DST design.



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CH1 Wash Water Pump bypass Flow Control DST.doc

