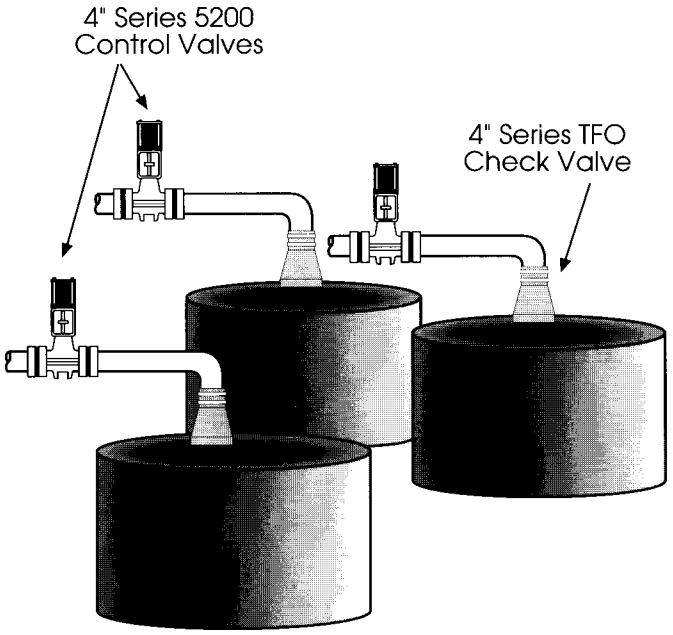
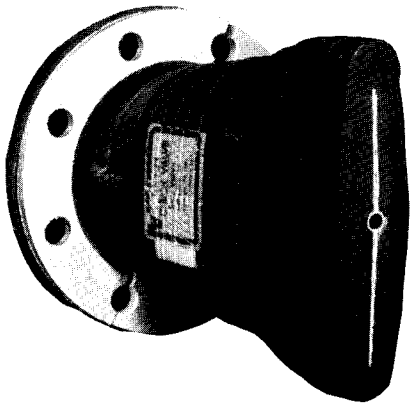
Application Data

Aluminum Industry ♦ TFO Flow Restrictor

Red Valve® Company, Inc.

SERIES TFO BACK PRESSURE RESTRICTOR VALVES USED TO CONTROL FLOW OF FILTRATE LIQUOR PREVENT CAVITATION OF CONTROL VALVE





SERIES TFO Patented

Three (3) 4" Red Valve Series TFO Flow Restrictor Valves were furnished to an aluminum company in Australia for their Liquor Density Control System. The operating conditions are as follows:

Liquid – Filtrate Liquor
Density – s.g. 1.1
Vapor Pressure – 4.2 psi
Temperature – 70°C
Caustic Concentrate - 75 gm/litre
Pressure – 62 psi
Flow Range – 132 to 330 U.S. gpm

The Control Valve on this application cavitated, since the "Filtrate Liquor" was discharging into an open tank at atmospheric pressure.

Red Valve Series TFO Flow Restrictor Valves eliminated cavitation by maintaining a 22 psi back pressure on the downstream side of the control valves.

Due to the abrasive nature of this slurry, a 5/16" orifice hole is provided in the center of the TFO. Providing the 5/16" orifice prevents excess wear in the TFO valve. Since the process requires a minimum flow, the 5/16" orifice hole allows this minimum flow with no wear.

Two additional 4" TFO Flow Restrictor Valves with a 3/8" orifice hole were also furnished to this customer. They were built slightly lighter so as to maintain slightly lower pressure. The operating conditions for these valves are as follows:

Liquid – Hydrate Slurry
Density – s.g. 1.7
Solids – 50%
Vapor Presure – 10 MPAS
Caustic Concentration – 135 gm/litre
Temperature – 63°C
Pressure – 40 psi
Flow Range – 40 to 132 U.S. gpm

The Red Valve Series TFO extends the life of the control valve, since it eliminates cavitation.

Red Valve's complete product line of Control Valves is designed to meet our customer's exact flow requirements and specific applications.

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