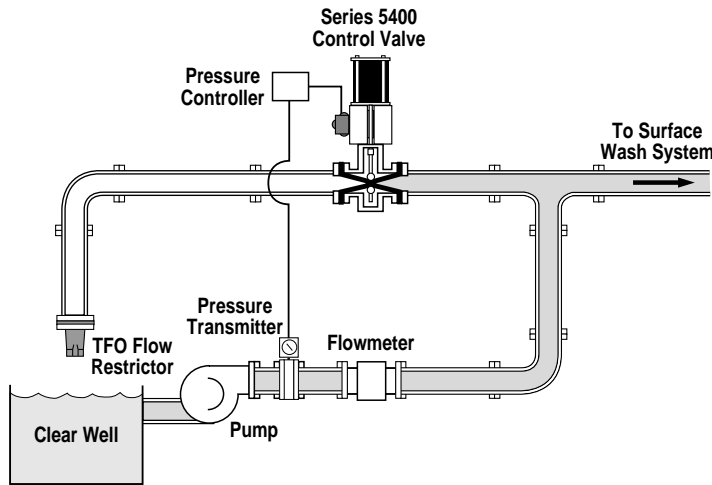


# Application Data

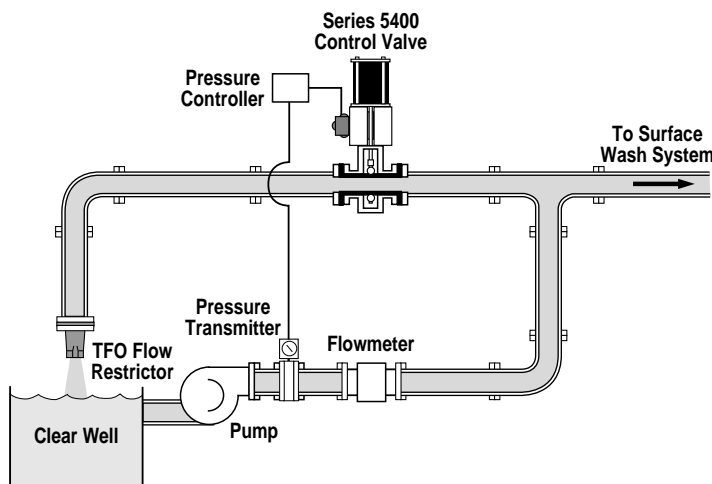
Carbon ♦ Manganate Eductor Water ♦ Control Valves



## RED VALVE SERIES 5400 CONTROL PINCH VALVES USED FOR PRESSURE CONTROL OF SURFACE WASH SYSTEM



System pressure begins to increase after surface wash shuts down. Pressure transmitter and controller signal Control Valve to open.



With the Control Valve open, flow is permitted to drain to the clear well, thus relieving system pressure.

Red Valve Series 5400 Control Valves are used to control Manganate Eductor water in a northern Texas municipal district. Using Red Valve Control Valves assures accurate and repeatable control, saving the plant downtime and realizing cost savings in maintenance.

The 6" Series 5400s serve as pressure control valves, and are installed on the discharge return line of the plant water pumps, located at the Washwater Pumping Station. These pumps send water to the surface wash system. The surface wash is intermittent, and when it shuts off, the flow demand in the discharge line decreases. This causes an increase in the system pressure, which must be regulated to insure the proper operation of the pump.

In this application, The Series 5400 Control Valves are linked to pressure controllers. The Control Valves are normally closed at maximum flow conditions, when the surface wash is operating. When the system pressure exceeds the set pressure, the pressure controller sends a signal to the Control Valve to open. As the valve opens, flow is permitted to return to the clear well that the pumps draw water from, thus creating a loop system.

The return lines over the clear well discharge to atmosphere, creating a pressure drop. This pressure drop can cause damaging cavitation in the Control Valves upstream. To prevent this, Red Valve Series TFO Flow Restrictors are included as part of the control package and are installed on the discharge ends over the clear wells. TFO Flow Restrictors act as variable orifices to induce back pressure; as the flow rate increases, the TFOs will automatically open so that the back pressure remains virtually constant.

Red Valve Company manufactures a complete line of control valves to meet our customers' exact flow conditions for specific applications.

