

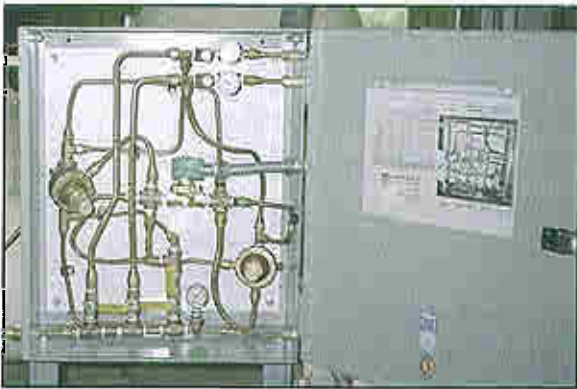
Typical applications of Hartman Sleeve Valves



These Model 410 Angle Pattern Sleeve Valves have 54 inch inlets, 64 inch sleeves, and 66 inch outlets. A SCADA system controls the valves which regulate 400 mgd each, with a 22 ft. differential head.



Water treatment plant flow control is provided by the three Hartman Model 410 Angle Pattern Sleeve Valves, above. The valves provide precise effluent rate control for the plant, replacing an energy dissipation structure and needle valve combination that entrained air in the outfall pipe and contributed to a premature piping failure.



A Lindsey Fabricators Pilot Control System for the Model 711 turbine by-pass valve to the right



Model 711 with 10 inch flanges and 10 inch sleeve



Model 712 Axial Flow Sleeve Valve with Conical Velocity Diffuser

Turbine by-pass operation is provided by both Hartman Sleeve Valves shown above. The valve in the center slowly opens when the turbine ramps down and slowly closes when the turbine ramps up, minimizing upstream and downstream pressure surges. This valve also automatically maintains downstream pressure when the turbine drops off line. The Hartman Model 712 Axial Flow Sleeve Valve with Conical Velocity Diffuser on the right has an atmospheric discharge into the turbine forebay, dissipating approximately 4,000 horsepower, without the need for a submerged discharge. This valve is controlled from a remote location.



A Model 410 Angle Pattern Sleeve Valve with custom epoxy coating and a motor operator. The valve has a 20 inch inlet and outlet with a 16 inch sleeve.

Precision flow control into a fish hatchery is provided by the Hartman Model 410 Angle Pattern Sleeve Valve, left. The Hartman Sleeve Valve was selected because of its inherent stability and precision control characteristics since proper flow control was critical in this application. The white extension section to the left of the valve body is submerged at the inlet to the hatchery and is designed to evenly distribute the flow over a large area at low velocity.

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This Model 711 Axial Flow Valve has a 36 inch inlet and outlet with a 24 inch sleeve. The valve is actuated with an oil hydraulic cylinder powered from a common supply for the entire vault.



Reservoir discharge is provided by the Hartman Model 711 Axial Flow Sleeve Valve, above. It is used to control flow and dissipate excess head energy from a reservoir outlet in the Rocky Mountains. After the flow exits the valve it can be discharged to atmosphere or to a submerged outlet in the downstream creek, preventing ice build-up during winter operation.



Model 711 Axial Flow Sleeve Valve



This valve has a 36 inch inlet and outlet with a 24 inch sleeve.



Oil hydraulic power package with back-up nitrogen accumulators.

Tank level control is provided by the Hartman Model 711 Axial Flow Sleeve Valve, above. This valve is used to control the water level in a distribution system storage tank. This valve provides a good example of the short face to face dimensions attainable with the unique Hartman design while still providing better control than longer valves because of the proprietary nozzle pattern found only in Hartman Model valves. Control is provided by a dedicated oil hydraulic power supply with nitrogen accumulators used to power the valve in case of an electrical power outage.



This Model 711 Axial Flow Sleeve Valve has a 24 inch inlet and outlet with a 20 inch sleeve.



Pump control is provided by the Hartman Sleeve Valve, above. Hartman Sleeve Valves can be designed to have lower pressure drops than the same size globe type valves, minimizing energy loss and providing significant cost savings over the life of the valve. A sleeve valve can be controlled with pilot valves, like a globe valve, but the sleeve valve will cycle less often because of its superior flow control characteristics. Hartman Sleeve Valves can also offer lower initial costs than ball and check valve combinations or variable frequency drive systems used for pump control.

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This Model 712 Sleeve Valve with Conical Velocity Diffuser has a 48 inch inlet, a 30 inch sleeve and a 54 inch outlet. The valve gently discharges it's effluent 30 feet downstream, as shown to the right.



Ground water recharge is provided by the Hartman Model 712 Axial Flow Sleeve Valve, above. This valve discharges 150 cfs to a dry river bed from a pipeline pressurized at 260 psi, dissipating approximately 8,000 horsepower. The combination of a very large hydraulic pressure drop with a large flow rate made selection of the Model 712 the perfect choice for this application. In order to provide reliable operation in the event of a power failure the oil hydraulic operator has a back-up nitrogen accumulator system.



Model 711 Axial Flow Sleeve Valve with 36 inch flanges and sleeve

Model 610 Upflow Outboard Discharging Sleeve Valve



Pressure regulation is provided by the Hartman Model 711 Axial Flow Sleeve Valve, left. The valve is used to regulate the pressure from a high pressure supply to a lower pressure distribution zone. A SCADA system controls the valve position. **Sump level control** is provided by the Hartman Model 610 Upflow Outboard Discharging Sleeve Valve, right. This valve controls the flow into a distribution sump, dissipating the excess head from the high pressure feed line. Energy is dissipated by turbulence generated in the sump because the nozzles on this valve discharge outward instead of inward as on the Model 410 and Model 711.



Model 711 Axial Flow Sleeve Valve with pilot control



Model 711 Axial Flow Sleeve Valve with davited access covers



Model 911 Multijet Blowoff Valve

Pressure relief is provided by the Hartman Model 711 Axial Flow Sleeve Valve on the left. A water operated pilot actuator system is used so there is no concern for power loss. **Aqueduct energy dissipation** is also provided by the Hartman Model 711 Sleeve Valve in the center. The valve breaks 250 ft of head while controlling 200 cfs at the low point in a pressurized aqueduct. **Blowoff** functions are provided by the Hartman Model 911 Multijet Blowoff Valve shown on the right. The valve is discharging 145 psi water to atmosphere at a flow rate of 1260 gpm through an aeration section which disperses the flow, providing a safe effluent. This Model 911 valve is provided with a SO₂ injection port for dechlorination before discharging the water.