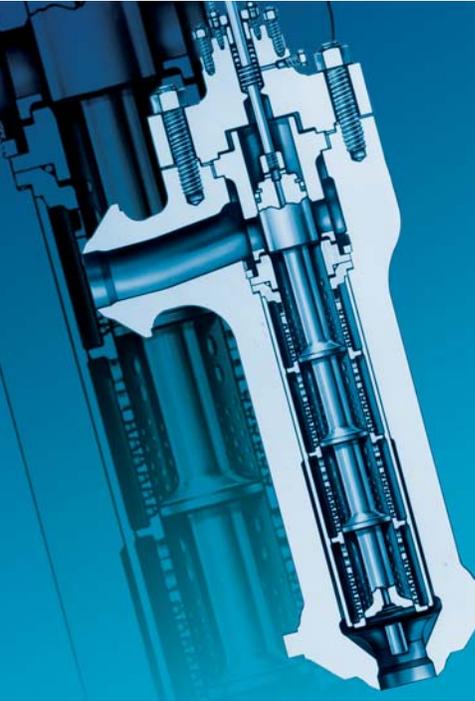


For more Severe Service solutions see us at www.fishersevereservice.com.



Design CAV4 control valve with Cavitrol® IV trim is designed specifically for liquid applications, such as boiler feedwater recirculation, where pressure drops are above 3000 psi and cavitation is a problem.

Features:

- **Controls or Eliminates Cavitation Damage** - A properly sized Design CAV4 valve with Cavitrol IV trim decreases cavitation and its resultant damage and noise.
- **Longer Trim Life** - Patented pressure-staging design and separation of shutoff and throttling locations decrease clearance-flow erosion. Hardened trim materials result in improved wear resistance.
- **Tight Shutoff** - Soft metal-to-metal seat provides tight shutoff without the need for periodic lapping. Hard metal-to-metal seating is also available. An anti-extrusion ring provides an enhanced valve plug seal.
- **Efficient Operation** - Expanding flow area design takes advantage of the ability of the liquid to undergo a greater pressure drop in initial stages without

cavitating. This results in a much lower inlet pressure to the final stage.

- **Characterization** - Special characterized cages are available to provide customer specified rangeability for specific system requirements.
- **Easy Maintenance** - Design reduces maintenance downtime by permitting quick disassembly with easy access to valve trim and valve plug seat. Separable seat ring for low temperature applications (at or below 232°C [450°F]) makes maintenance easier.

Operational Overview:

A properly sized CAV4 with Cavitrol IV trim will eliminate damaging cavitation and the resultant noise and vibration. This is accomplished through a unique expanding flow area design. Each of the Cavitrol IV trim stages has successively larger flow area. The result is very efficient operation since more than 90 percent of the overall drop is taken in the first three stages where there is little danger of bubble formation. This allows a relatively low inlet pressure into the final stage.

The pressure staging design and separation of shutoff and throttling locations prevent clearance-flow erosion. This is accomplished by a trim design that does not allow any significant pressure drop to be taken until the fluid is downstream of the seating surface. With this trim design, all clearance flow is subjected to a staged pressure drop. Unlike the linear cage-style anti-cavitation trim sets, there are no flowing conditions where pressure can go directly from P1 to P2.

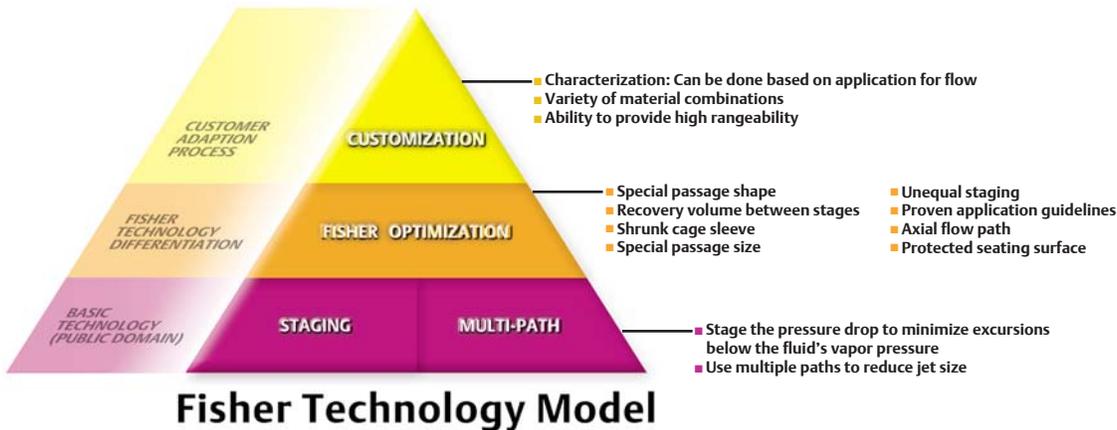
The CAV4 Control Valve can also use special characterized cages that are available to provide excellent rangeability for specific system requirements.

Typical Applications:

Power: Boiler Feedwater Startup, Boiler Feedwater Pump Recirculation

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Optimization Details:

- **Special passage shape** - Eliminates flow separation which is key in reduction of trim area, reduction in fluid pressure and elimination of localized cavitation formation.
- **Recovery volume between stages** - Key for pressure and flow stabilization between stages.
- **Shrunk cage sleeve** - Eliminates potential for short circuiting of flow.
- **Special passage size** - Provides benefits to minimize vibration.

- **Unequal staging** - Ensures majority of drop is taken in the initial stages to ensure lowest pressure drop across last stage.
- **Proven application guidelines** - Fisher's proven experience extends to common process fluids.
- **Axial flow path** - Provides further recovery volume to gain additional staging benefits.
- **Protected seating surface** - Ensures pressure drop is not taken across seating surface.

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