



NotchFlo™ DST Trim

Introducing a Trim Design that Tames Tough Liquid Flow Conditions

Prevents Cavitation Damage and Noise

NotchFlo DST trim is aptly named since it utilizes notches in the valve plug and cage to control pressure as flow passes along the trim's longitudinal axis. The notches stage the pressure drop to prevent the effects of cavitation and to avoid trim damage.

Eliminates Clearance Flow Erosion

The NotchFlo DST trim's seat line is located upstream of the pressure-staging notches within an area where pressure drop is limited. Since both valve plug and cage seating surfaces are utilized for shutoff only, not for pressure control, they're protected against high-pressure drop damage.

Avoids Plugging by Entrained Solids

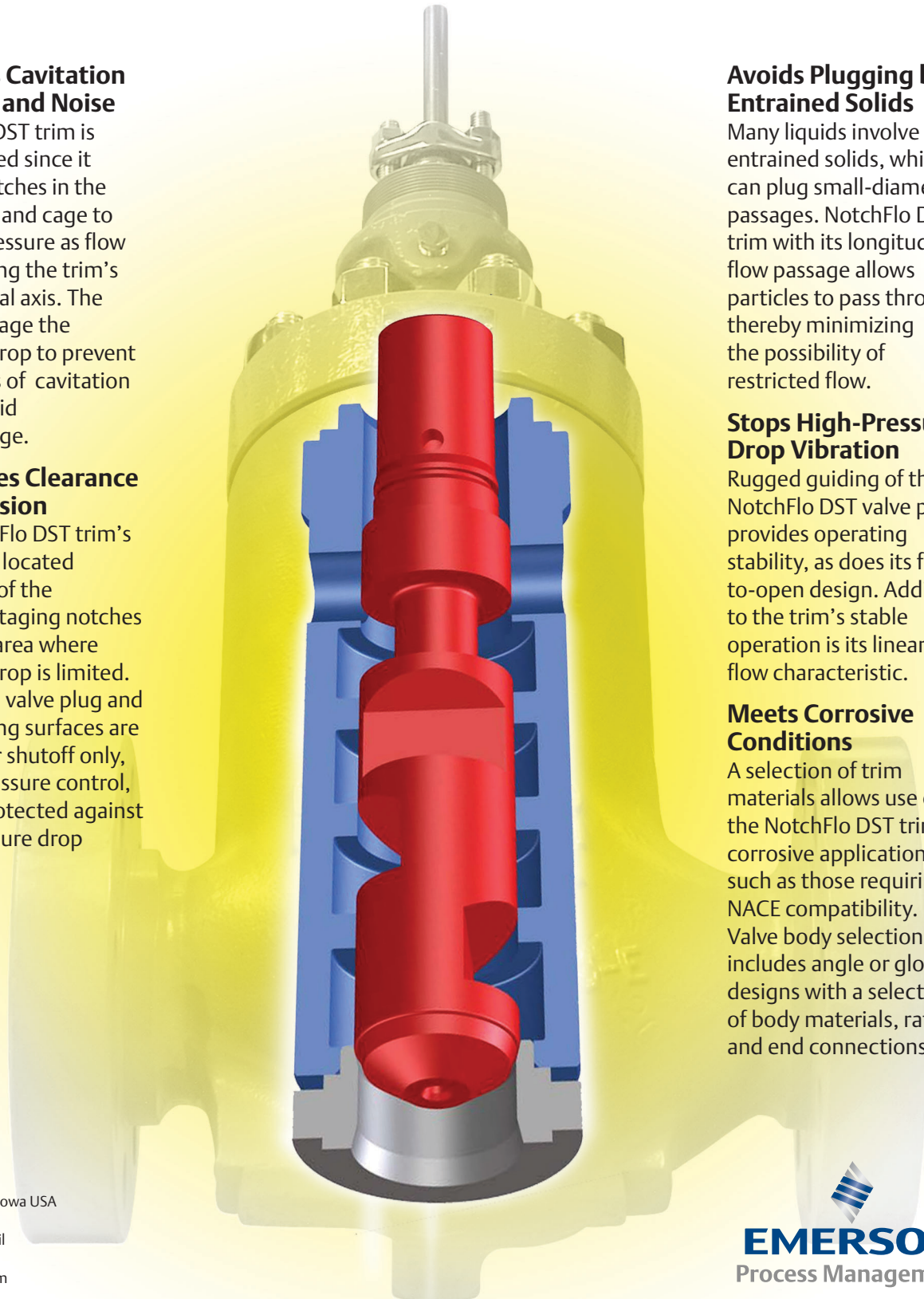
Many liquids involve entrained solids, which can plug small-diameter passages. NotchFlo DST trim with its longitudinal flow passage allows particles to pass through, thereby minimizing the possibility of restricted flow.

Stops High-Pressure-Drop Vibration

Rugged guiding of the NotchFlo DST valve plug provides operating stability, as does its flow-to-open design. Adding to the trim's stable operation is its linear flow characteristic.

Meets Corrosive Conditions

A selection of trim materials allows use of the NotchFlo DST trim in corrosive applications, such as those requiring NACE compatibility. Valve body selection includes angle or globe designs with a selection of body materials, ratings and end connections.



Specifications

Available Valves

Four-stage: Design HP and HPA valves

End Connection Styles

Class 900 and 1500

Shutoff Classification

Class V: $[5 \times 10^{-12} \text{ m}^3 / \text{sec} / \text{bar} / \text{mm}$ of port diameter (0.0005 mL/min/psid/in) of water at service pressure drop] per ANSI/FCI 70-2 and IEC 60534-4

Maximum Inlet Pressures and Temperatures⁽¹⁾

Consistent with applicable Class 1500 pressure/temperature ratings according to ASME B16.34 unless limited by temperature limits for individual valve components other than valve body and trim

Maximum Pressure Drop⁽¹⁾

Upon application. Consult with your local Fisher representative.

Construction Materials

Valve Body and Bonnet: WCC steel, WC9 Cr-Mo steel, CF8M stainless steel, and LCC for low temperature service

Valve Plug: S44004 stainless steel (440C SST) or S41000 stainless steel (NACE) (410 SST)

Seat Ring: S44004 stainless steel (440C SST) or S31600 stainless steel with hardface (NACE) (316 SST)

Liner/Cage: S17400 stainless steel with H900 heat-treated condition or S17400 H1150 DBL (NACE)

Other Parts: Product data available from your local Fisher representative

Temperature Capabilities⁽¹⁾

Four-stage: -29 to 316°C (-20 to 600°F) for PTFE carbon-filled seal ring used with PEEK anti-extrusion ring. -29 to 93°C (-20 to 200°F) for UHMWPE seal ring used with PEEK anti-extrusion ring.

Flow Characteristic

Linear

Flow Direction

Flow up

Noise Level

Use liquid noise prediction methods available in the Fisher sizing program

Minimum Seating Force

Use Class V seat load requirements

Note 1. The pressure/temperature limits in this bulletin and any applicable standard or code limitation for valves should not be exceeded.

Port Diameter, Travel, Valve Plug Stem, Yoke Boss Diameter, Valve Plug Unbalance Area, and Flow Coefficients

VALVE SIZE	PORT DIAMETER	TRAVEL	VALVE PLUG STEM DIAMETER	YOKE BOSS DIAMETER	VALVE PLUG UNBALANCE AREA	FLOW COEFFICIENTS					
						A		B		C	
Inch	Inch	Inch	Inch	Inch	Inch ²	C _V	F _L	C _V	F _L	C _V	F _L
1	0.7	0.25	1/2	2-13/16	0.39 ⁽¹⁾	1.0	0.996	1.4	0.994	1.7	0.991
1-1/2	1.0	0.25	1/2	2-13/16	0.02 ⁽²⁾	1.9	0.996	2.5	0.994	3.2	0.991
2	1.5	0.38	3/4	3-9/16	0.05 ⁽²⁾	4.6	0.985	6.6	0.975	8.9	0.985
3	2.19	0.62	3/4	3-9/16	0.07 ⁽²⁾	8.9	0.985	14.6	0.975	16.8	0.985
4	2.88	0.75	3/4	3-9/16	0.06 ⁽²⁾	16.5	0.996	22.0	0.994	28.0	0.991
			1 (optional)	5 (optional)							

1. Unbalanced trim.
2. Balanced trim.

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Get the NotchFlo Advantage

Take advantage of NotchFlo DST trim's problem-solving capabilities. Contact your Emerson Process Management sales representative for complete product details and for product selection and application assistance.