

Fisher™ Whisper Trim™ III Cages

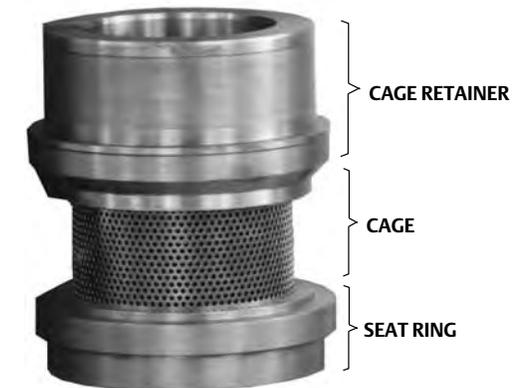
Whisper Trim III cages provide effective attenuation of aerodynamic noise in vapor, gas, or steam applications involving high pressure drops or high pressure drop ratios. Using a Whisper Trim III cage in conjunction with a properly-sized valve body can substantially reduce the noise level of the control application.

Aerodynamic noise is generated by the turbulence created in the flow of vapor, gas, or steam as the fluid passes through a control valve. To achieve effective noise attenuation, a Whisper Trim III cage utilizes multiple orifices of a special shape, size, and spacing. These orifices break up turbulent fluid streams, reducing noise-producing interactions.

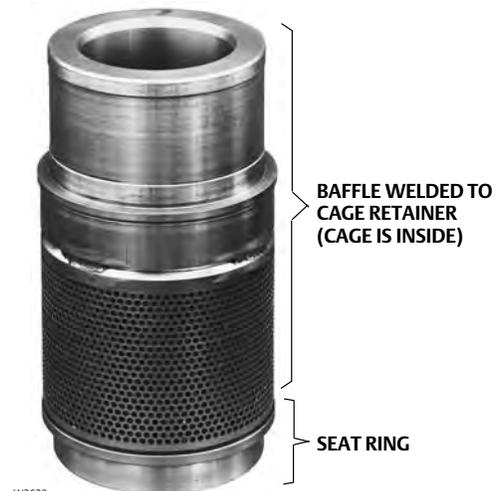
Whisper Trim III cages are available for a variety of valve body types (see table 1). Please refer to the appropriate valve body bulletin for additional construction details.

Features

- **Outstanding Noise Control**—Use of a Whisper Trim III cage in a properly sized valve can result in a noise reduction up to 30 dBA compared to the same valve with standard trim. Such a reduction would be similar to the reduction in noise level noticed when moving away from the noise source 94m (308 feet).
- **Optimum Performance**—Use of a Whisper Trim III cage provides excellent noise reduction and high flow capacity with the proven control and durability offered by standard Fisher valve trims. The result: optimum overall performance at a minimum investment.
- **Easy Maintenance**—Quick change trim allows fast and easy inspection of the cage without taking the valve body out of the pipeline. Whisper Trim III is interchangeable with standard control valve trim.
- **Long Trim Life**—Hardened materials of construction are standard to provide exceptional wear resistance. For more information about trim materials, see the appropriate valve body bulletin.



LEVELS A1 THROUGH C3



LEVEL D1 OR D3

Specifications

Availability

See table 1

Trim Material and Selection

See appropriate valve body bulletin

Pressure/Temperature Capability

See appropriate valve body bulletin

Maximum Pressure Drops

As shown in appropriate valve body bulletin

Flow Characteristic⁽¹⁾

Linear (restricted linear cages, modified parabolic cages, and special, characterized cages are available--consult your [Emerson sales office](#))

Flow Direction

Up--through the seat ring and out through the cage orifices

Noise Attenuation

See Catalog 12, section 3 for calculation procedure

Sizing Coefficients⁽¹⁾

See Catalog 12, section 1 for actual values

Shutoff Classification

See appropriate valve body bulletin

1. For additional sizing information, contact your Emerson sales office.

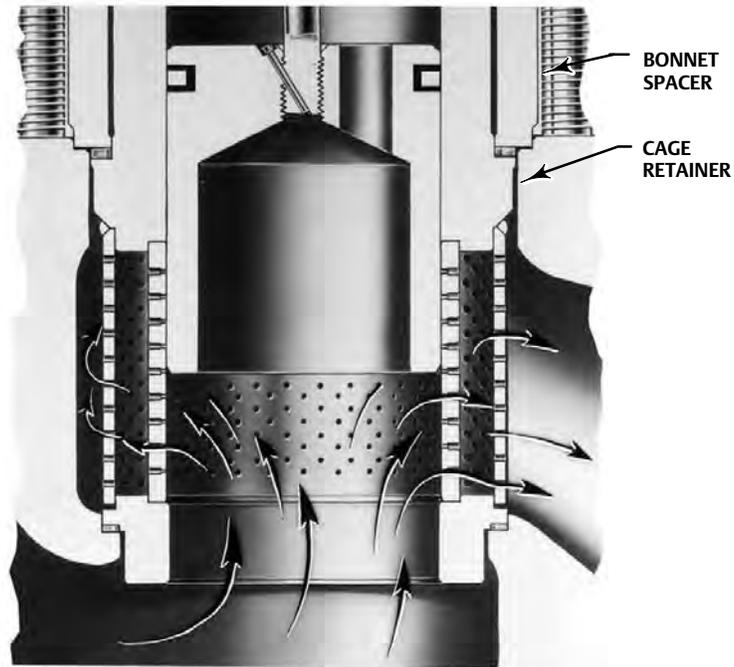
Installation

In any installation, the valve must be oriented so the flow complies with the arrow on the side of the valve body. Flow is always up through the seat ring.

Because the Whisper Trim III cage design utilizes a multiple-orifice design, a strainer should be installed upstream of any Whisper Trim III application.

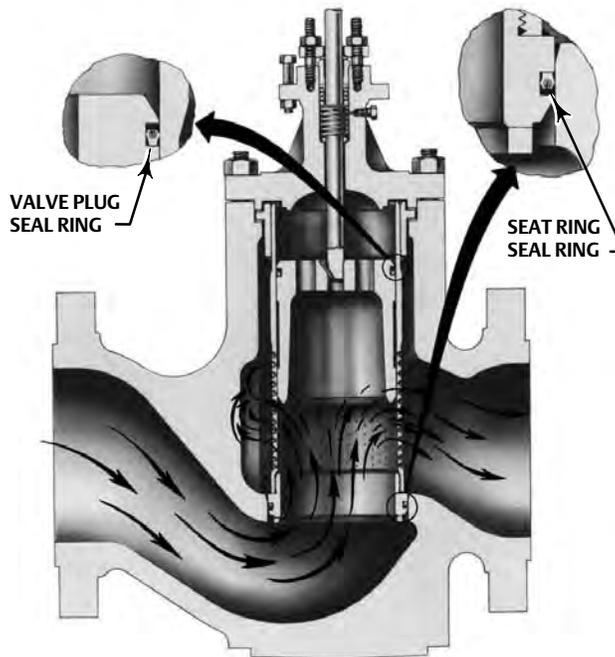
The level A1 through D1 cages have 3.2 mm (0.125 inch) diameter orifices. The level A3 through D3 have 1.6 mm (0.0625 inch) diameter orifices.

Figure 1. Whisper Trim III Cage in Fisher ED Valve



W3332-2

Figure 2. Whisper Trim III Cage in NPS 12 x 8 Fisher EWNT-2 Valve with Seat Ring Threaded Into the Cage



W3290*

Table 1. Valve Body Constructions with Whisper Trim III Cages

VALVE DESIGN	VALVE SIZE, NPS ⁽³⁾	PRESSURE RATING	PORT DIAMETER		VALVE PLUG, TRAVEL		PERFORMANCE LEVEL, MAX 0.999 Δ P/P ₁ ⁽⁴⁾								
			mm	Inch	mm	Inch	A1	A3	B1	B3	C1	C3	D1	D3	
GX	DN 80 (NPS 3)	PN 10 - PN 40 (CL150, 300)	70	---	40	---	X								
	DN 100 (NPS 4)		90		40		X								
			70 ⁽⁵⁾		40		X								
			136		60		X								
	DN 150 (NPS 6)		90 ⁽⁵⁾		40		X								
ED, ES, ET, ET-C(6)	1	CL150, CL300, CL600	33.3	1 5/16	19	3/4	X								
	1 1/2		47.6	1 7/8	19	3/4	X								
			33.3	1 5/16	19	3/4		X	X	X					
	2		19.1	3/4 ⁽⁷⁾	29	1 1/8					X	X	X	X	
			58.7	2 5/16	35	1 3/8	X								
	2 1/2		33.3	1 5/16	29	1 1/8		X	X	X	X	X	X	X	X
			73.0	2 7/8	38	1 1/2	X								
	47.6		1 7/8				X	X	X	X	X	X	X	X	X
	3		87.3	3 7/16	38	1 1/2	X								
			58.7	2 5/16				X	X	X	X	X	X	X	X
	4		111.1	4 3/8	51	2	X								
			87.3	3 7/16				X	X	X	X	X	X	X	X
	6 ⁽¹⁾		177.8	7	51	2	X								
			136.5	5 3/8	76	3	X	X	X	X	X	X	X	X	X
	8 ⁽¹⁾			203.2	8	76	3	X							
95		3-3/4				X	X	X	X	X	X				
102		4				X	X	X	X	X	X				
12 and larger	Consult Fisher bulletin 51.1:ET/ED Large (D103554X012)														
EAD, EAS, EAT	1	CL150, CL300, CL600	33.3	1 5/16	19	3/4	X								
	2		47.6	1 7/8	19	3/4	X								
			33.3	1 5/16	19	1		X	X	X					
	3		19.1	3/4	29	1 1/8					X	X	X	X	
			73.0	2 7/8	38	1 1/2	X								
	47.6		1 7/8				X	X	X	X	X	X	X	X	
	4		87.3	3 7/16	38	1 1/2	X								
			58.7	2 5/16				X	X	X	X	X	X	X	X
6	111.1	4 3/8	51	2	X										
	87.3	3 7/16				X	X	X	X	X	X	X	X		

-continued-

Table 1. Valve Body Constructions with Whisper Trim III Cages (continued)

VALVE DESIGN	VALVE SIZE, NPS ⁽³⁾	PRESSURE RATING	PORT DIAMETER		VALVE PLUG, TRAVEL		PERFORMANCE LEVEL, MAX 0.999 Δ P/P ₁ ⁽⁴⁾								
							A1	A3	B1	B3	C1	C3	D1	D3	
EHD, EHS, EHT	2, 3 x2 3, 4x3 6, 6x4 6, 8x6	CL2500	38.1	1.5	38	1.5	X								
			58.7	2.3125	38	1.5	X		X						
			73	2.875	51	2	X		X	X					
			111.1	4.375	76	3	X			X		X		X	
	8,10 12,14	CL1500	178	7	178	7									
			CL2500	136	5.375	146	5.75	X	X	X	X	X	X	X	
		CL1500	254	10	184	7.25									
			CL2500	178	7	178	7								
EWD, EWS, EWT, EWT-C(6)	4X2	CL150, CL300, CL600	58.7	2.3125	34.9	1.375	X								
			33.3	1.3125	31.8	1.25		X	X	X	X		X		
					28.6	1.125							X		X
	6X4 ⁽¹⁾		CL150, CL300, CL600	111.1	4.375	50.8	2	X	X	X	X				
				87.3	3.4375	50.8	2					X	X		
	76.2		3										X	X	
	8X4	CL150, CL300, CL600	111.1	4.375	50.8	2	X		X						
			87.3	3.4375	50.8	2		X		X	X	X	X	X	
	76.2				3								X	X	
	8X6, 10X6 ⁽¹⁾		CL150, CL300, CL600	177.8	7	76.2	3	X							
				136.5	5.375	101.6 ⁽⁸⁾	4 ⁽⁸⁾	X	X						
						127.0	5		X	X	X	X	X	X	X
		136.5		5.375	165.1	6.5	X	X	X	X	X	X	X	X	
	12X6 ⁽¹⁾	CL150, CL300, CL600		203.2	8	152.4	6	X	X	X	X	X	X		
				177.8	7	152.4	6							X	X
	12X8		CL150, CL300, CL600, CL900	203.2	8	152.4	6	X	X	X	X	X	X		
177.8				7	152.4	6							X	X	
12 and larger	CL150, CL300, CL600		Consult Fisher bulletin 51.1:ET/ED Large (D103554X012)												
EWD-1, EWT-1	12 x 8		CL900	197	7.75	146	5.75	X	X	X	X	X	X		
		172		6.75	146	5.75							X	X	
EWND-1, EWNT-1	8 x 6	CL900	136	5.375	127	5	X	X		X		X			
	12 x 8	CL900	197	7.75	203	8	X	X	X	X	X	X			
172			6.75	203	8							X	X		
EWND-1, EWNT-2	12 x 8	CL300, 600	197	7.75	203	8	X	X	X	X	X	X			
			172	6.75	203	8							X	X	
FBD, FBT	8 x 12 thru 24 x 24	Consult Fisher bulletin 51.1:FB (D100195X012)					X	X	X	X	X	X	X		
	16 x 30 thru 36 x 36	Consult Fisher bulletin 51.1:FB (D100195X012)					X		X	X	X	X	X		

-continued-

Table 1. Valve Body Constructions with Whisper Trim III Cages (continued)

VALVE DESIGN	VALVE SIZE, NPS ⁽³⁾	PRESSURE RATING	PORT DIAMETER		VALVE PLUG, TRAVEL		PERFORMANCE LEVEL, MAX 0.999 Δ P/P ₁ ⁽⁴⁾								
							A1	A3	B1	B3	C1	C3	D1	D3	
HPD, HPS, HPT	1	CL1500, 2500	19	0.75	29	1.125	X								
			25	1	19	0.75	X								
	2		19	0.75	29	1.125	X					X			
			25	1	19	0.75	X								
			48	1.875	51	2	X			X		X			
	3		CL1500	48	1.875	51	2	X					X		X
				73	2.875	51	2	X		X					
	4			73	2.875	51	2								X
				92	3.625	51	2	X		X	X	X	X		
	6			111	4.375	76	3								
136		5.375		76	3	X	X		X		X				
HPAD, HPAS, HPAT	2	CL1500, 2500		48	1.875	38	1.5	X							
	3	CL1500		48	1.875	38	1.5	X							
	4			73	2.875	51	2	X		X					
	6			73	2.875	51	2							X	
			92	3.625	51	2	X			X		X			
	8		111	4.375	76	3								X	
136			5.375	76	3	X			X		X				

1. Please note that the body/bonnet height may be greater after installing a Whisper Trim III cage. A spacer is required for ED, ET, ET-C, EWD, EWT, and EWT-C configurations.
 2. Other sizes may be available—consult your [Emerson sales office](#).
 3. Two-number valve body size designation for EH, EW, and EWN Series valves indicates end connection size by trim size, but for FB Series valves, it indicates inlet size by outlet size.
 4. The X indicates performance level available for given body-trim configuration. Other cage/body configurations available to meet specific applications.
 5. GX unbalanced, restricted trim.
 6. ET-C available for sizes NPS 3-8 and EWT-C available for sizes NPS 6x4 - NPS 12x8.
 7. Available only with ES construction.
 8. Travel limited to 3.75" for EWD valves with Class IV multiple piston rings and EWT with PEEK anti-extrusion seal ring.

Ordering Information

When ordering, please specify:

1. Required C_v
2. Trim material
3. Valve body design
4. Valve body size
5. Valve materials of construction
6. Service conditions and all other information requested in the valve body bulletin

Product Bulletin

80.1:010
January 2021

Whisper Trim III
D100191X012

Neither Emerson, Emerson Automation Solutions, nor any of their affiliated entities assumes responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use, and maintenance of any product remains solely with the purchaser and end user.

Fisher and Whisper Trim are marks owned by one of the companies in the Emerson Automation Solutions business unit of Emerson Electric Co. Emerson Automation Solutions, Emerson, and the Emerson logo are trademarks and service marks of Emerson Electric Co. All other marks are the property of their respective owners.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Automation Solutions
Marshalltown, Iowa 50158 USA
Sorocaba, 18087 Brazil
Cernay, 68700 France
Dubai, United Arab Emirates
Singapore 128461 Singapore

www.Fisher.com

