

VSI



SERIES 7300

3-Way Divert Valve Assembly, 2-inch to 4-inch

Electric DC Motor is rated for 100% duty cycle and never requires maintenance

Electrical housings are fully explosion-proof rated:
Ex II 2 G ExdellCT4 Gb

Fully mechanical spring provides fail-safe function with no risk of hydraulic leaks. Bypass function is guaranteed on loss of power, regardless of actuator state.



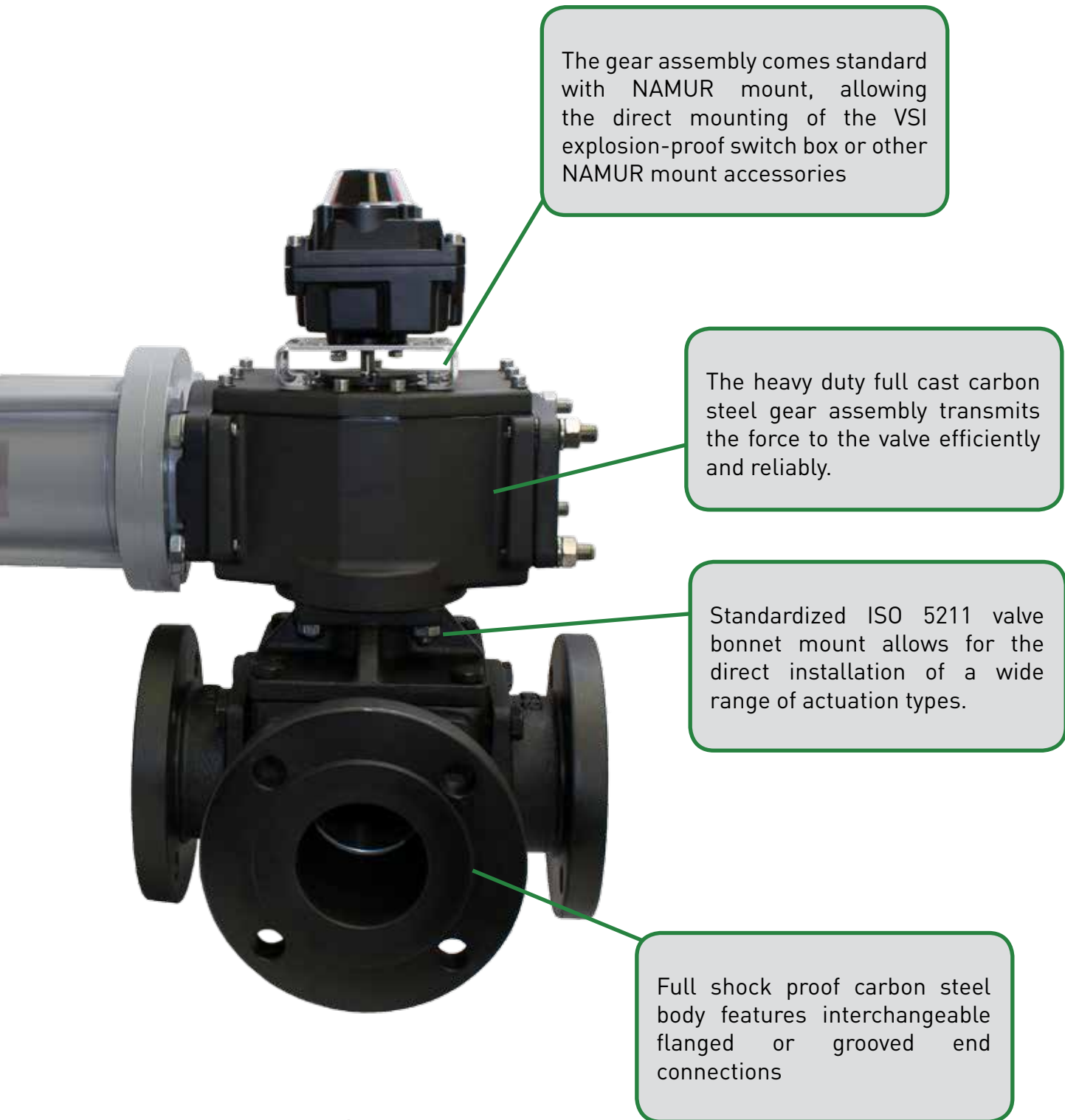


Figure 1
4" S7315 with EXCM03 and ALS500

Overview

The Series 7300 offers 3-way flow control in either L or T port configurations. The interchangeable end connections allow the use of many different end configurations, even allowing the use of mixed connections on a single valve. The use of a standardized main body means many of the parts are fully interchangeable between models, reducing downtime and eliminating excessive spares inventory. The cost effective Series 7300 offers multidirectional flow control and zero leak shutoff capacity in one valve - effectively eliminating the need for separate shutoff valve.

ALL SERIES 7300 VALVES:

- Tested in accordance with ASME B16.34
- Blow-out proof 1-piece ball/stem for maximum safety
- Trunnion mounted ball for low torque and reduced actuation costs

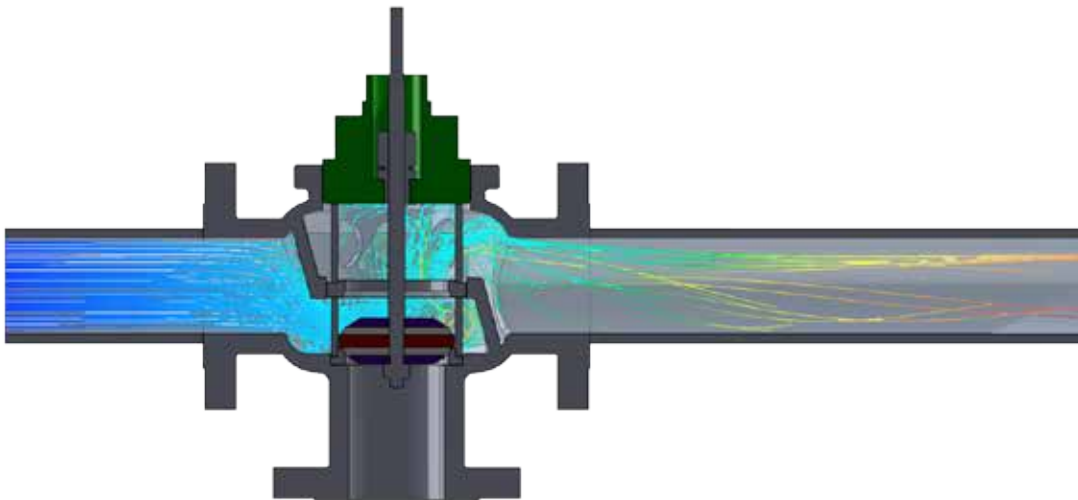


Figure 2
Competition's Typical Globe Valve Flow Turbulence

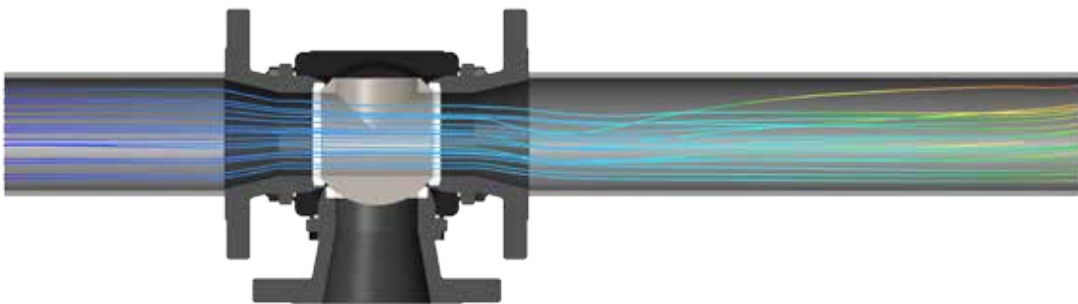


Figure 3
Series 7300 Ball Valve Flow Streamlines

Advantages

STEM SEALS

All Series 7300 3-way ball valves feature a live-loaded stem packing assembly for positive stem sealing. The belleville washers automatically adjust to packing wear and compensate for changes in temperature. All valves feature the primary packing stem seal as well as a secondary o-ring stem seal between the stem and body to guarantee no external leakage.

TRUNNION BALL

The ball of the Series 7300 is integrally cast with the stem as one single piece with a lower stub shaft. The assembly is machined as a single whole concentric and polished to a mirror finish. The ball/stem is then supported centrally in the body by large bushings. Compared to floating ball designs, this reduces operating torque and seat wear to ensure bidirectional bubble-tight sealing throughout the entire life of the valve.

LOW FLOW RESTRICTION

Compared to functionally similar globe valves, the characteristics of the Series 7300 creates an exceptionally low turbulence design flow path as shown in Figure 2 and 3 on Page 4. There are no tortuous flow paths or sharp edges to create turbulence. By nature the design of the valve has a minimal pressure drop to increase system efficiency.

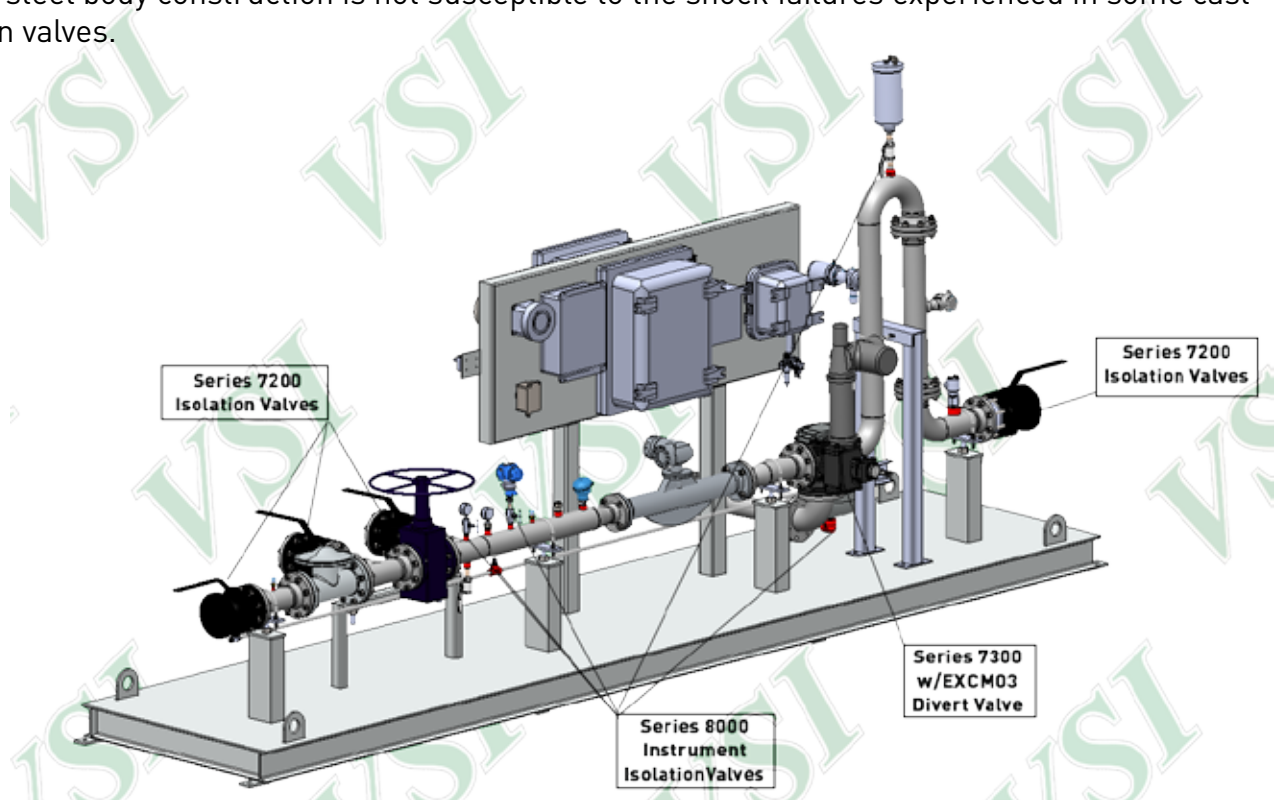


Figure 4
One-piece Ball and Stem

LACT Skid Package

The Series 7300 Divert Valve assembly is the cornerstone of VSI's entire product offering for LACT Skid processes. From the Series 7300 Divert Valve to the Series 7200 process isolation valves and the Series 8000 instrument isolation valves - skid manufacturers know the highly competitive market requires affordable reliable solutions that VSI delivers.

- Full two year warranty on all products
- Zero leakage valves for both isolation and flow control, including divert valve in straight through and bypass flow positions
- Fast action fail-safe electric actuator ensures the divert valve bypasses in less than 2 seconds for reliable process control
- Mechanical spring fail safe unit has no hydraulic unit to leak or fail
- Face to face lengths are identical to most major 3-way LACT globe valves, allowing for direct drop in replacement of leaky, slow, and outdated globe valves.
- All steel body construction is not susceptible to the shock failures experienced in some cast iron valves.



Design provided by S&S Technical, <https://www.skidsolutions.com>

Figure 5
Typical LACT Skid Installation

Specifications

Size Range:	2"-4" Flanged 2" Grooved
Body Material:	Carbon Steel or Stainless Steel
Pressure Ratings:	275 psi WOG
End Connections:	ASME B16.5 CL150 Victaulic™ Groove
Port Configuration:	L or T Port
Port Size:	Standard: 4" Full Port: 2" and 3"
Testing:	ASME B16.34, 100% units tested

Cv - Flow Characteristics

Size	90°	180°
2"	324	454
3"	465	658
4"	572	798

Cv - Valve flow Coefficient, calculated using SCH 40 pipe
with water at 60F

Q - Flow in GPM

SG - Specific Gravity (Water=1)

P2 - Downstream Pressure

$$Cv = Q \sqrt{\frac{SG}{P_2 - P_1}}$$

Pressure/Temperature Chart

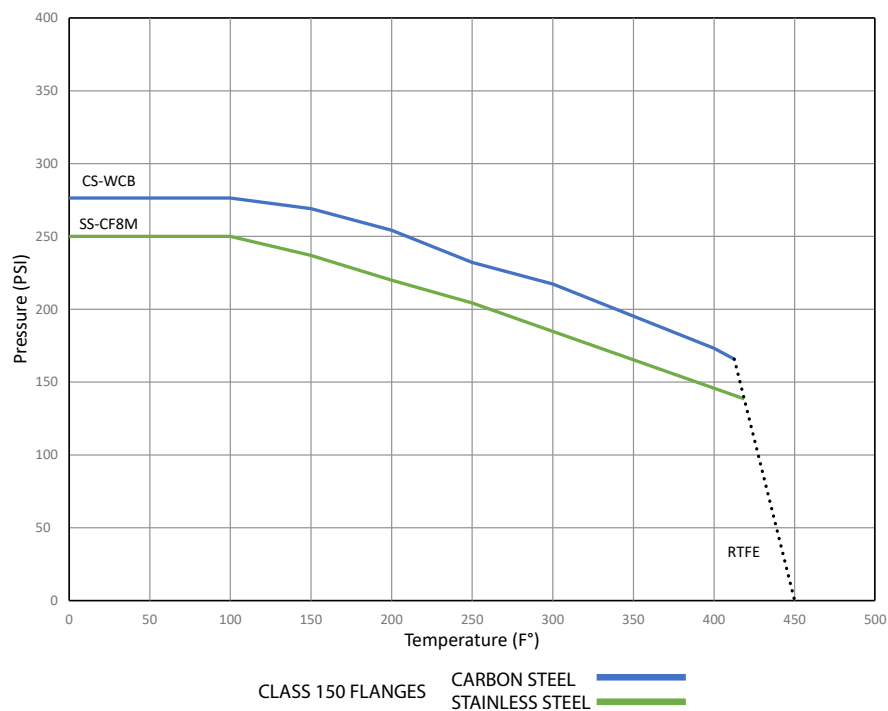
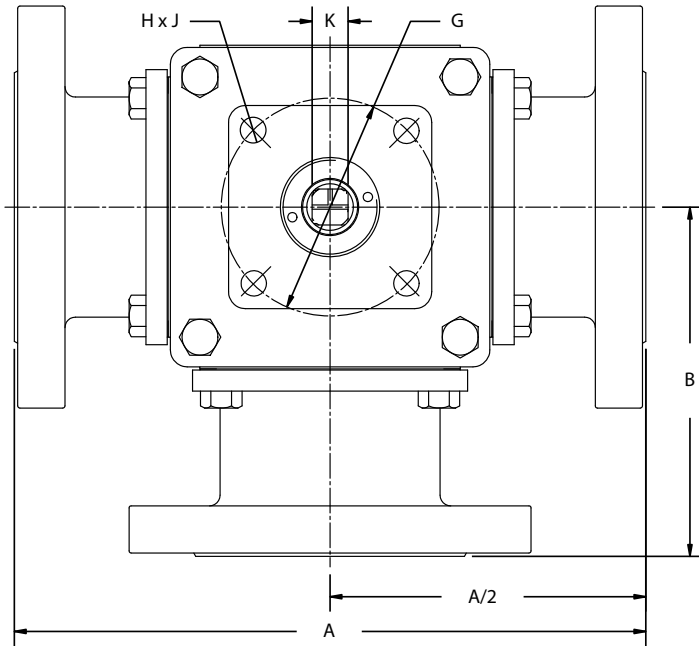


Figure 6
Pressure/Temperature Chart

VALVE DIMENSIONS



DIM	2" FL	2" Gr.	3"	4"
A	9.00	7.58	11.75	11.00
B	4.50	3.79	6.50	6.13
C	4.08	4.08	4.92	4.92
Ø D	4.75	-	6.00	7.50
# E	4	-	4	8
Ø F	0.75	-	0.75	0.75
Ø G	4.02	4.02	4.02	4.02
# H	4	4	4	4
Ø J	0.47	0.47	0.47	0.47
□ K	0.669	0.669	0.669	0.669

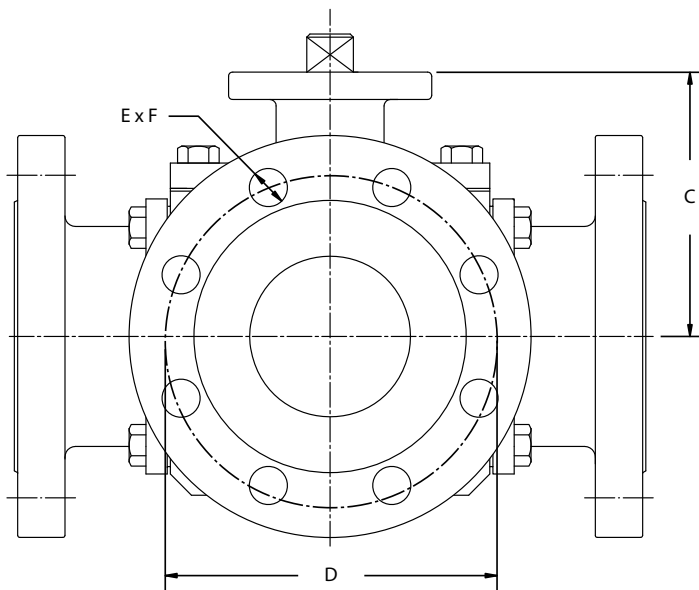


Figure 7
Flanged Valve Dimensions

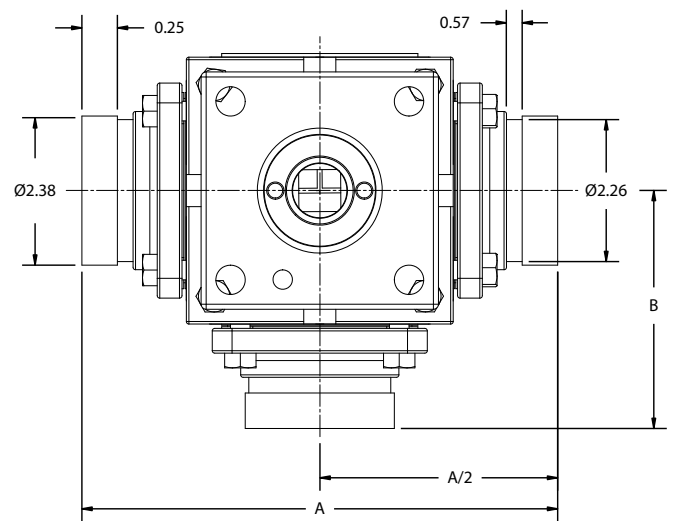
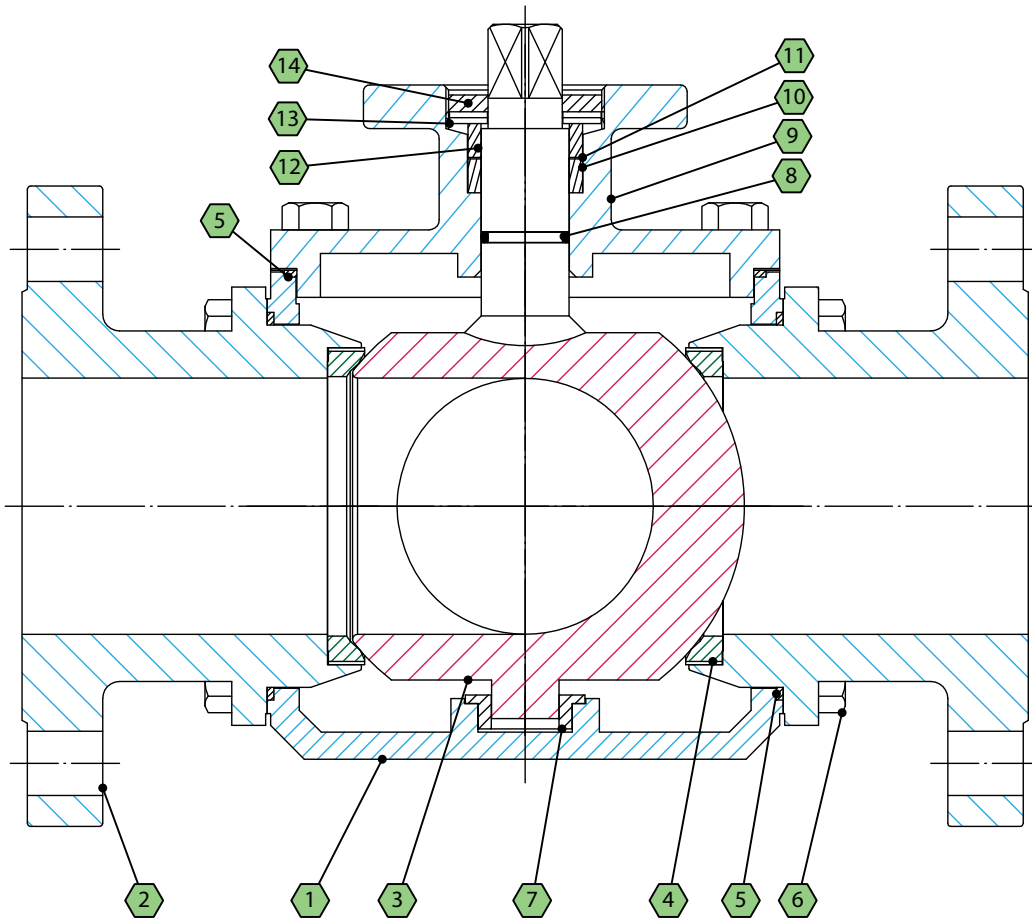


Figure 8
Grooved Valve Dimensions

VALVE MATERIAL LIST

Figure 9
Valve Cross Section

NO.	PART	MATERIAL		QTY.
		STAINLESS STEEL	CARBON STEEL	
1	BODY	A351-CF8	A216-WCB	1
2	END SEGMENTS	A351-CF8	A216-WCB	3
3	BALL/STEM	A351-CF8		1
4	BALL SEAT	PTFE		3
5	BODY SEALS	PTFE		4
6	BOLTS	CARBON STEEL		16
7	STEM BUSHING	50%PTFE-50%SS316		1
8	O-RING	VITON		1
9	COVER	A531-CF8	A216-WCB	1
10	STEM PACKING	PTFE		1 SET
11	PACKING PROTECTOR	50%PTFE-50%SS316		1
12	GLAND RING	SS304		1
13	SPRING WASHERS	SS304		2
14	GLAND NUT	SS304		1

Explosion Proof Spring Return Electric Actuator

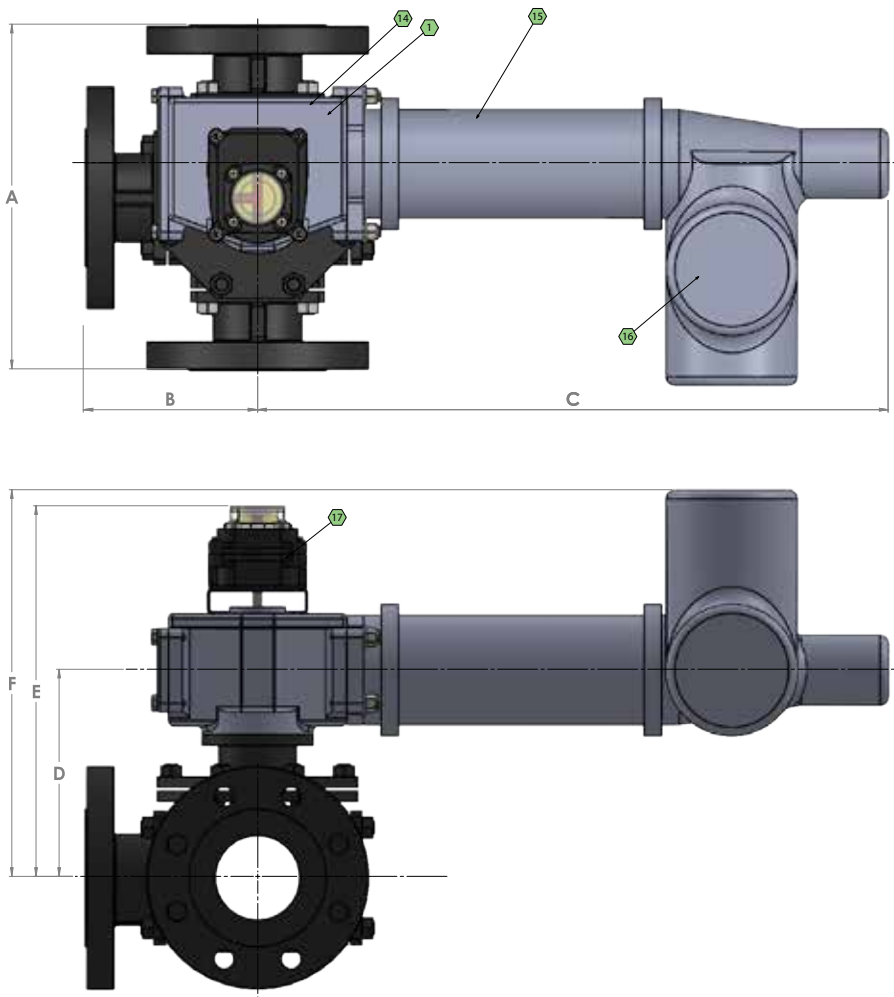


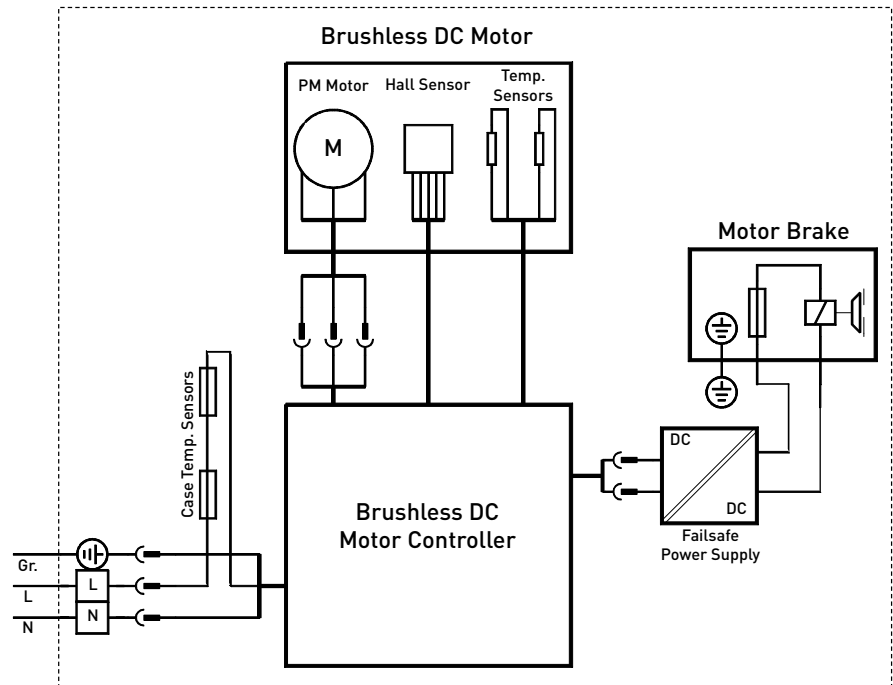
Figure 10
EXCM03 Actuator Assembly

DIMENSIONS						
SIZE	A	B	C	D	E	F
2"	9.00	4.50	28.3	7.8	11.0	12.5
3"	11.75	6.50				
4"	11.00	6.13				

COMPONENTS	
NO.	PART
14	GEAR UNIT, CARBON STEEL A216 WCB
15	SPRING RETURN UNIT
16	ELECTRIC MOTOR UNIT
17	ALS SWITCH BOX, OPTIONAL

Explosion Proof Spring Return Electric Actuator Wiring

EXCM03 CHARACTERISTICS	
Protection Class	Ex II 2 G ExdellCT4 Gb Explosion-Proof
Power Supply Range	115-240VAC +/-10% 60Hz
Duty	S2 - 15 min
Power	250W
Run Current	2.25A
Max Torque	2,023 inlbs
Run Time	Adjustable 13-384 sec.*
Spring Return Time	1-2 sec.

Figure 11
EXCM03 Wiring Diagram

Apply single phase AC power to power valve to run, remove power to divert to bypass.

MODEL NUMBER BUILDER

S73 - - / /

1 **2** **3** **4** **5** **6** **7** **8** **9**

1. Size
2"
3"
4"

2. Body Rating	Code
ASME Class 150	15
Victaulic™ Groove	GR

5. Seat	Code
TFM	1
PTFE*	2

8. EMO ^T	Code
120V ExP. Spring Return	EXCM03
120V NEMA 4	1000-X

3. Port Size	Code
Full Port	F
Standard Port	S

6. Operator	Code
Barestem*	B
Handle	H

9. Options ^T	Code
NEMA 4 Limit Switch Box	ALS100
ExP. Limit Switch Box	ALS500

4. Body Mtrl.	Code
Stainless Steel CF8	S
Carbon Steel WCB-A216*	C

7. Flow Path	Code
T-Port*	T
L-Port	L

* - Standard Selection

^T - If Equipped

Other materials available via special order.

Please contact VSI for more information on other available options.



VSI Limited Product Warranty

This limited warranty applies in the United States to products manufactured by VSI, LLC. VSI, LLC. warrants the product purchased from it or its authorized reseller to be free from defects in material and workmanship under normal use during the one year warranty period from the date of its purchase. Other products not manufactured by VSI, LLC. which are provided as part of an assembly may carry additional warranties from that manufacturer or supplier.

During the warranty period, VSI, LLC. will repair or replace defective parts of the product, or, at VSI, LLC. sole option, issue a credit for the original purchase price of the product. Repaired or replaced product will be warranted hereunder only for the remaining portion of the original warranty period. All exchanged products under this Limited Warranty will become the property of VSI, LLC. A proper Return Material Authorization (RMA) number will have to be obtained for all products to be returned under this Limited Warranty. Any claim under this Limited Warranty must include a description of the problem encountered and any relevant information that may assist VSI, LLC. in the replication or resolution of the problem.

This Limited Warranty is transferable during its term to the end user of the product. Any transfer shall not extend or alter the terms of this Limited Warranty.

This Limited Warranty extends only to products purchased from VSI, LLC. or its authorized reseller and does not extend to any product that has been damaged or rendered defective as a result of (a) modification, repair, alteration or improper installation by any person other than VSI, LLC. or its authorized representative; (b) unreasonable or improper use or storage, use beyond rated conditions, operation other than per VSI, LLC. or the manufacturer's instructions, or being otherwise subjected to improper maintenance, negligence or accident; or (c) any use of the product after purchaser has knowledge of any defect in the product.

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The VSI logo is displayed in a large, stylized, green font with a white outline. The letters are bold and italicized, giving it a dynamic appearance.

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