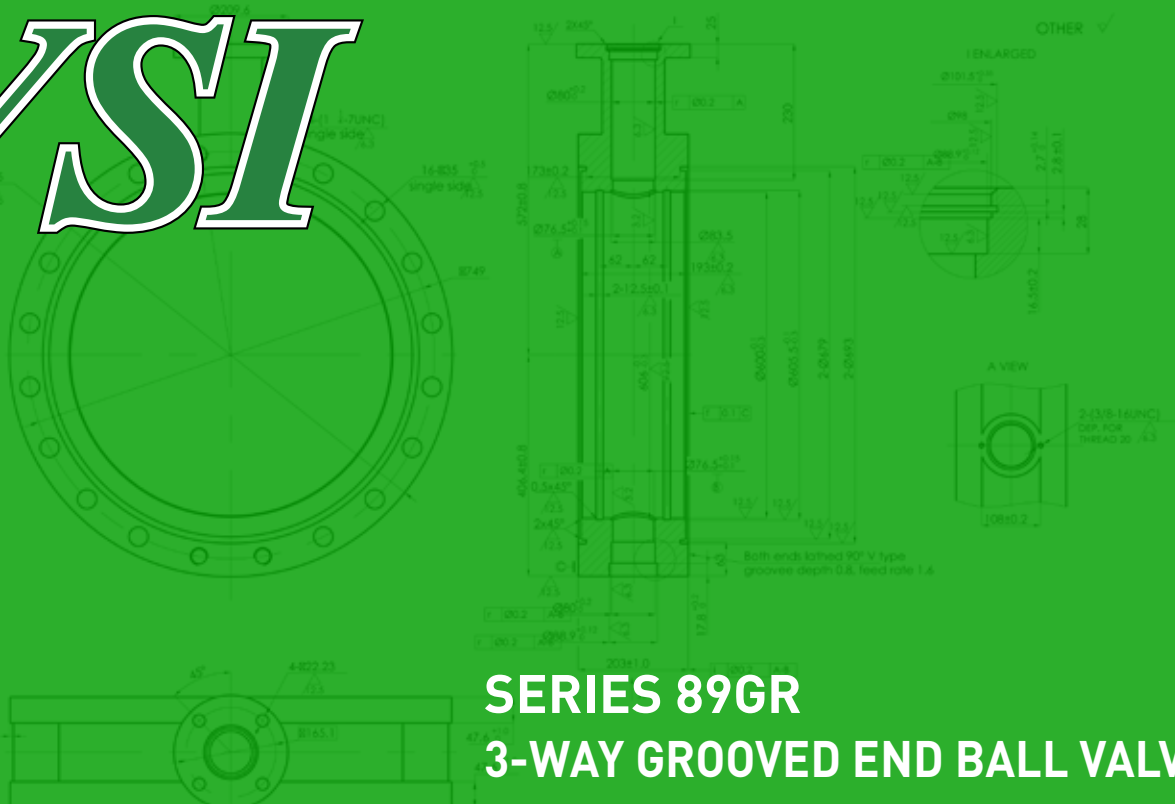


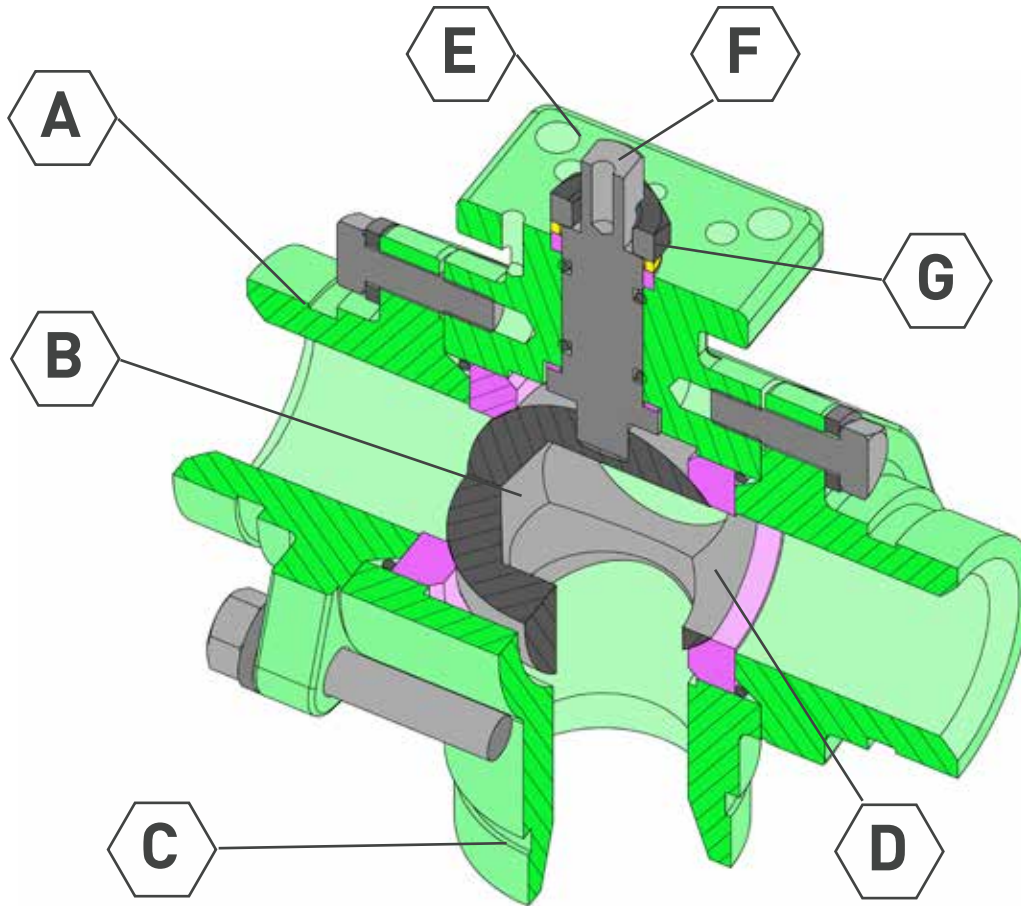
VSI



SERIES 89GR 3-WAY GROOVED END BALL VALVES 2"



DESIGN FEATURES



[A] BODY

- Stainless Steel (A351-CF8M)
- Carbon Steel (A216-WCB)

The three piece body allows the valve to be easily disassembled. Designed for 1500 PSI WOG

[B] T-PORT OR L-PORT TYPES

The Series 89GR is available with either T-Port or L-Port balls for mixing or diverting applications.

[C] GROOVED END CONNECTION

Grooved end connections are compatible with Victaulic™ type connections and fittings.

[D] BALL

- 316 Stainless Steel

Each investment cast Stainless Steel 316 ball is precision machined before being mirror polished to lower operating torque and extend seat life. Port size is full nominal size

[E] ISO 511 MOUNTING PLATE

The integrally cast mounting plate is designed to the ISO 5211 standard for the direct mounting of actuators, most gear operators and accessories.

[F] BLOWOUT PROOF STEM

[G] ADJUSTABLE STEM PACKING

DESIGN STANDARDS

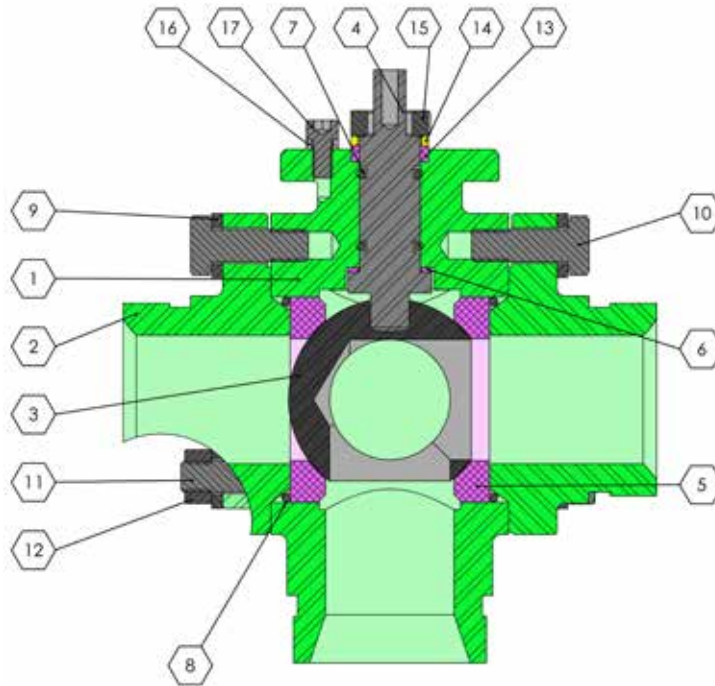
Size Range	2"
Connections	Grooved, ASTM F1476, Victaulic™ Compatible
Testing	API 598 MSS SP-72
Leakage	ANSI FCI 70-2 Class VI
Shutoff	1500 PSI CWP
Temperature	See Pressure/Temperature Table
Mounting	ISO 5221

PRESSURE/TEMPERATURE RATINGS CHART





MATERIALS OF CONSTRUCTION



Item	Description	Materials Available	Standard	QTY
1	Body	Stainless Steel 316	ASTM A351 CF8M	1
		Carbon Steel	ASTM A216 WCB ⁽¹⁾	
2	End Cap	Same as Body		2
3	Ball	Stainless Steel 316	ASTM A351 CF8M	1
4	Stem	Stainless Steel 316	ASTM A276 316	1
5	Seat	RPTFE	Commercial	2
6	Thrust Washer	PTFE	Commercial	1
7	O-Ring	Viton	Commercial	2
8	O-Ring	Viton	Commercial	3
9	Lock Washer	Stainless Steel 304	Commercial	6
10	Short Body Bolt	Carbon Steel ⁽²⁾	ASTM A193 B7	2
		Stainless Steel 304 ⁽³⁾	ASTM A193 B8	
11	Long Body Bolt	Same as Short Body Bolt		2
12	Hex Nut	Same As Short Body Bolt		2
13	Packing	RPTFE		1
14	Ring	Stainless Steel 304	ASTM A276 304	1
15	Packing Nut	Stainless Steel 304	ASTM A194M 304	1
16	Stopper Spacer	Stainless Steel 304	ASTM A276 304	2
17	Stop Screw	Stainless Steel 304	ASTM F879M 304	2
NS	Tag	Aluminum	UV Screen Printed	1

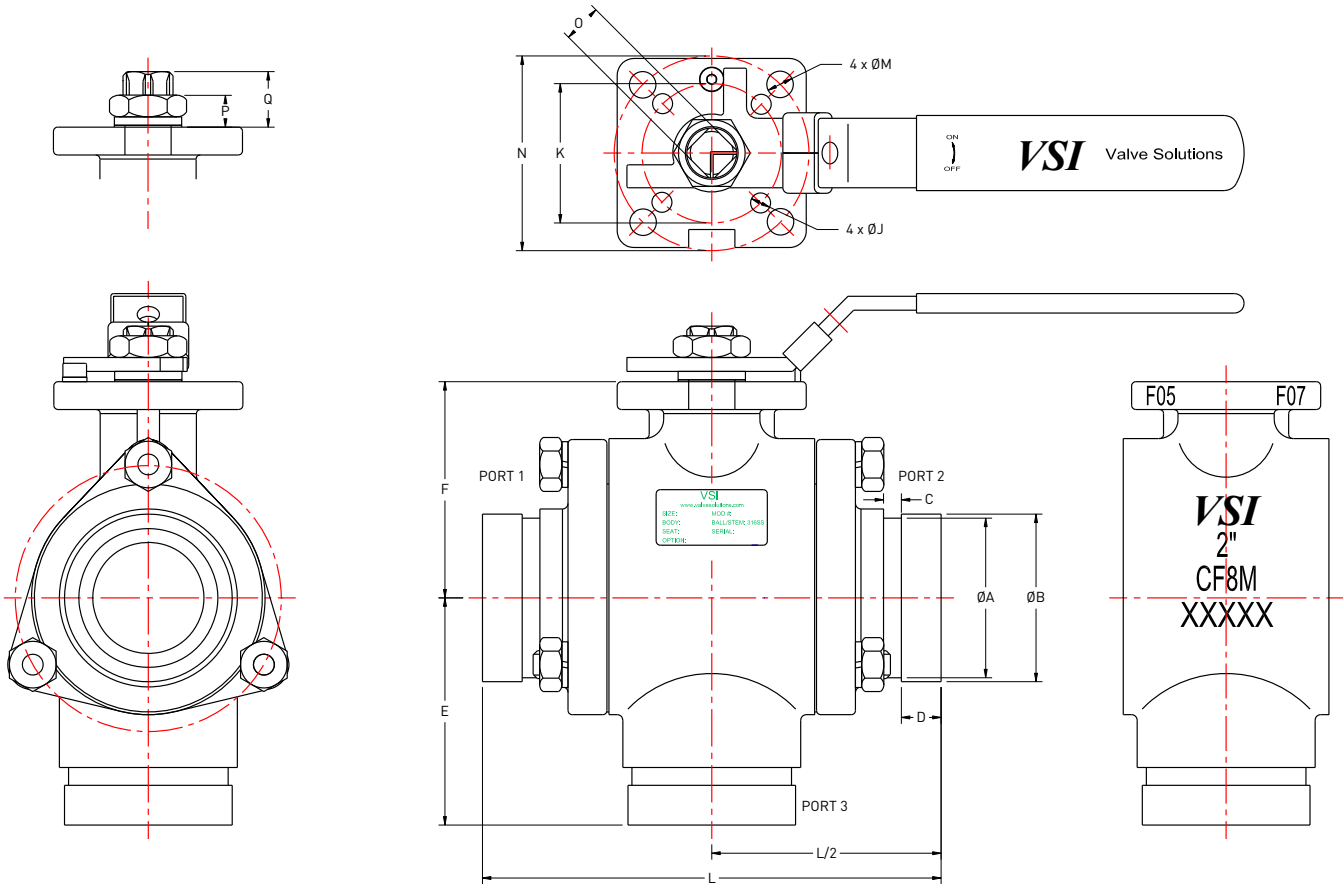
1. Phosphate Coated

2. Standard material option for Carbon Steel Body valves

3. Standard material option for Stainless Steel Body valves

Additional material options available as special order

VALVE DIMENSIONS

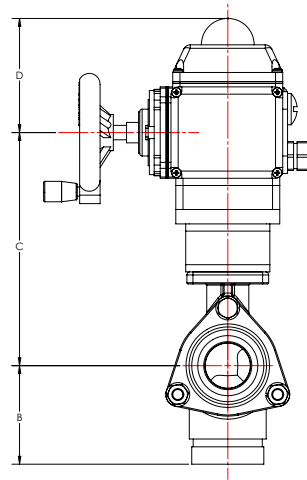
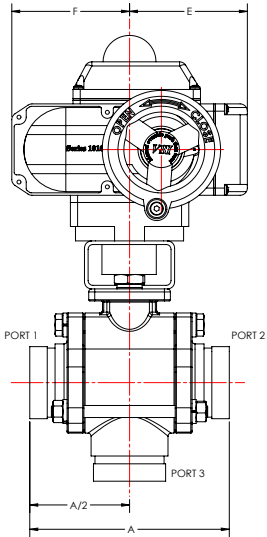
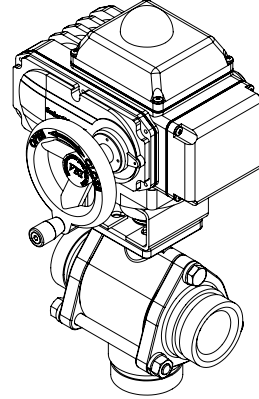
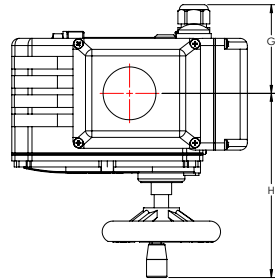


SIZE	A	B	C	D	E	F	J
2"	2.26	2.375	0.25	0.563	3.22	3.07	0.28

SIZE	ISO	K	L	M	N	O	P	Q
2"	F05/F07	1.97	6.785	0.35	2.76	0.551	0.47	Q



DIMENSIONS WITH SERIES 1000-X



PAGE 6

SIZE	2-POS ACTUATOR	MODULATING ACTUATOR
2"	1010-X	1010/S-X

SIZE	A	B	C	D	E	F	G	H
2"	6.785	3.22	7.6	3.7	3.9	3.9	2.9	6.0

T-PORT CONFIGURATIONS FOR 90 DEGREE ROTATION

Configuration	Start 0° and/or Fail-to	End 90° and/or Powered
Configuration T1		
Configuration T2		

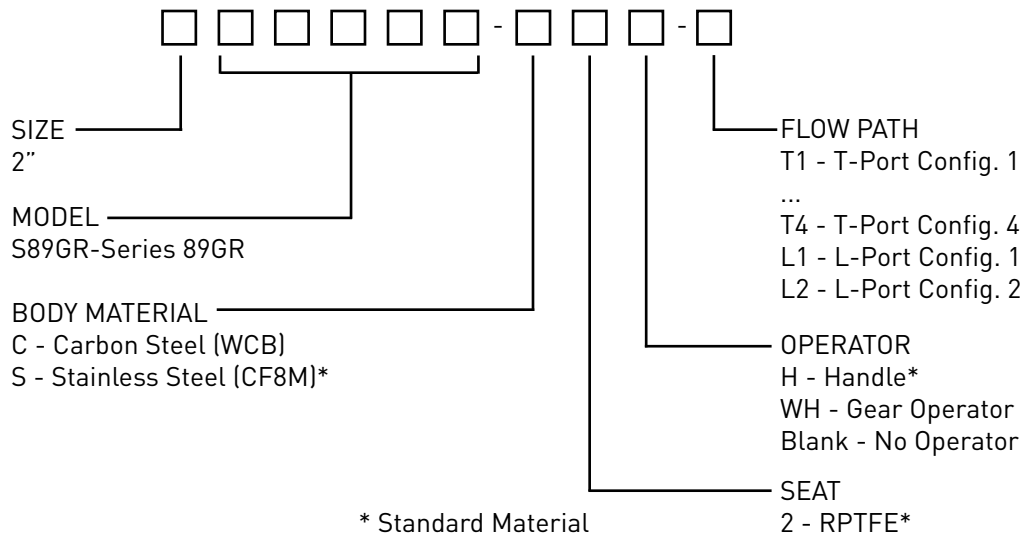
L-PORT CONFIGURATIONS FOR 90 DEGREE ROTATION

Configuration	Start 0° and/or Fail-to	End 90° and/or Powered
Configuration L1		
Configuration L2		

Above illustrations represents the utilization of a 90-degree rotation actuator. Additional flow paths can be achieved with 180-degree rotation actuators and other considerations. Consult VSI for additional options.



PART NUMBER MATRIX



EXAMPLE:

2"S89GR-S2H-L

A 2" Series 89GR, SS316 body, RPTFE seat, Handle operator

ASSEMBLIES

The part numbers above represent only the part number for the valve without any actuator or accessories. When purchased with an actuator as part of an assembly the entire part number will be formatted as the valve part number, forward slash, then the actuator and accessory part numbers.

Example: 2"S89GR-S2H-L/1010-X-HW

The above valve is a 2" valve model S89GR with a 1010-X 2-position electric actuator and handwheel override.

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 two 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.

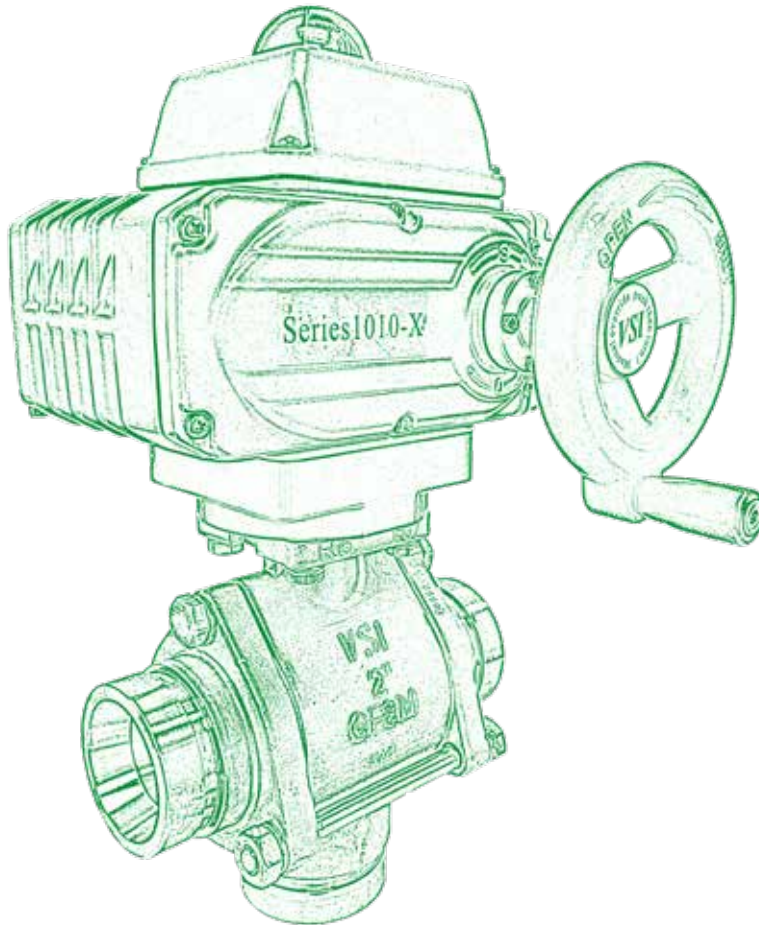
During the warranty period, VSI, LLC. will repair or replace defective parts of the product, or, at VSI, LLC. sole option, issue a credit for the original purchase price of the product. Repaired or replaced product will be warranted hereunder only for the remaining portion of the original warranty period. 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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