

# Series D8/T7 Ball Valve

Three-Piece Diverter Ball Valve

Sizes 1/4" ~ 2"



The SVF Series D8/T7, three piece diverter valve represents the next generation in design and performance. These valves exceed the pressure & temperature ratings of traditional, general purpose ball valves.

## SERIES D8/T7 DESIGN FEATURES

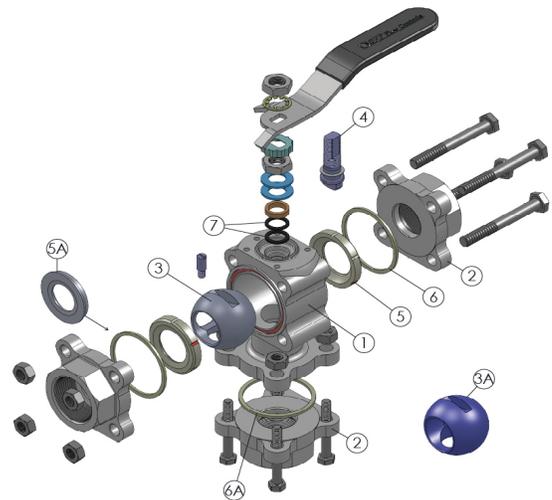
- ✓ High performance design for process-quality applications
- ✓ Encapsulated body seals to facilitate welding without disassembly (D8 only)
- ✓ Live-loaded stem seal ensures seal-tight pressure containment even under thermal cycling
- ✓ Three-piece "swing out" design offers easy access for in-line maintenance
- ✓ ISO 5211 mounting pad for easy actuation
- ✓ Standard seat material is TFM1600™ (D8)
- ✓ Blowout proof stem adds safety & reliability
- ✓ Full range of options to suit specific requirements
- ✓ Available in a variety of flow patterns



The Series D8/T7 Ball Valve is available with additional options. Contact SVF for more information.

## MATERIALS OF CONSTRUCTION

ITEM	DESCRIPTION	MATERIALS SPECIFICATIONS
1	Body	316 Stainless Steel (ASTM A351 CF8M) Carbon Steel (ASTM A216 WCB)
2	End Connector	316L Stainless Steel (ASTM A351 CF3M) Carbon Steel (ASTM A216 WCB)
3	Ball	316 Stainless Steel (ASTM A351 CF8M)
4	Stem	316 Stainless Steel (ASTM A276 316) 17-4 pH Stainless Steel (ASTM A564 630)
5	Seat (D8)	TFM1600™, Delrin®, SupraLon™, UHMWPE, PEEK
5A	Seat (T7)	TFM1600™, SupraLon™ (1-piece Seat/Seal)
6	Body Seal (D8)	PTFE, Buna "N", GRAFOIL®, SupraLon™, UHMWPE, Viton®, EPDM
6A	Body Seal (T7)	PTFE, GRAFOIL®, SupraLon™



## SPECIFICATION STANDARDS OF COMPLIANCE

SVF Series D8-T7 Ball Valves are available in designs that meet the following Industry Standards:

- ANSI
- ASME
- API
- DIN
- ISO
- MSS
- ASTM
- NACE

Contact SVF for specific applications

*What do you need today?™*



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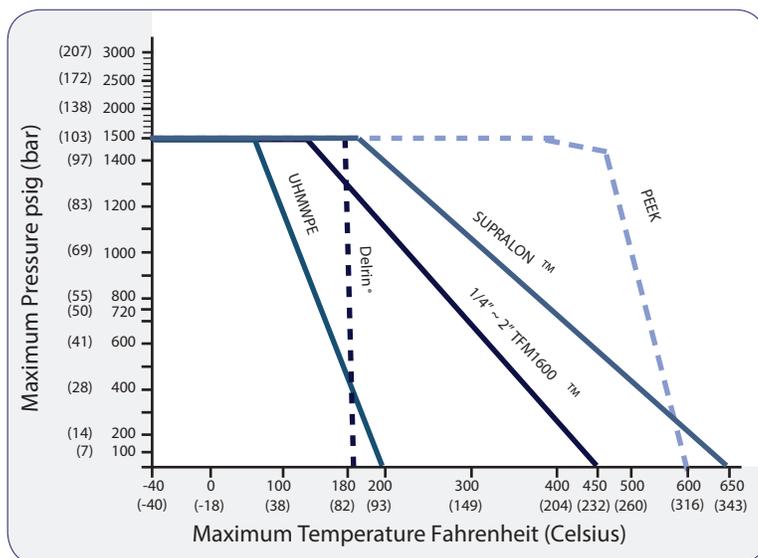
Sizes 1/4" ~ 2"



## DIMENSIONS, WEIGHT, C v, TORQUE

Size	A		B		B-2		D		L		L-2		Weight		Cv	Torque** TFM1600™		Torque** SupraLon™		Torque** Delrin		Torque** UHMWPE		Torque** PEEK	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kg		in-lbf	Nm	in-lbf	Nm	in-lbf	Nm	in-lbf	Nm	in-lbf	Nm
	1/4" *	2.60	66	0.44	11	0.38	10	5	127	1.8	46	2.75	70	2		0.9	3	45	5	50	6	50	6	50	6
3/8" *	2.60	66	0.44	11	0.38	10	5	127	1.8	46	2.75	70	2	0.9	5	45	5	50	6	50	6	50	6	61	7
1/2"	2.60	66	0.44	11	0.38	10	5	127	1.8	46	2.75	70	2	0.9	8	45	5	50	6	50	6	50	6	61	7
3/4"	2.81	71	0.56	14	0.47	12	5	127	1.9	48	2.75	70	2	0.9	12	45	5	50	6	60	7	75	8	130	15
1"	3.70	94	0.81	21	0.63	16	6	152	2.4	61	3.45	88	4	1.8	32	100	11	150	17	90	10	100	11	250	28
1-1/2"	4.57	116	1.25	32	1.05	27	7	178	3.2	81	4.27	109	7	3.2	80	280	32	450	51	375	42	175	20	450	51
2"	5.04	128	1.50	38	1.38	35	7	178	3.3	84	4.50	114	11	5.0	104	360	41	600	68	675	76	275	31	650	73

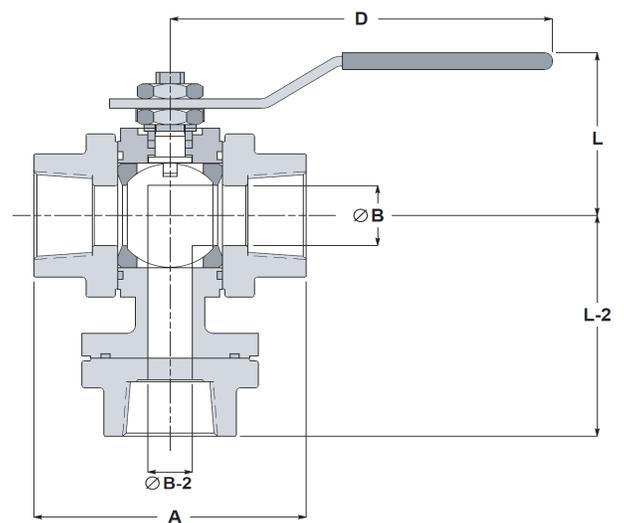
## D8/T7 - PRESSURE/TEMPERATURE CHART



Class 600

Note: Maximum pressure & temperature is limited to the seat material rating

\* 1/4" and 3/8" End Connections are Full Port  
 \*\* At full differential pressure for clean fluids



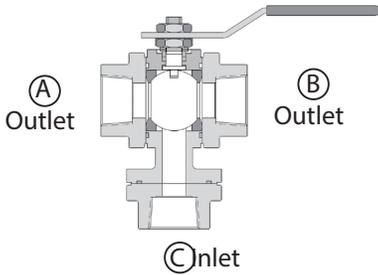
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Sizes 1/4" ~ 2"



## D8 DIVERTER VALVE FLOW PATHS

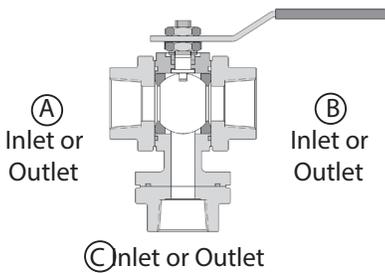


The D8 Diverter Valve consists of a two-piece seat and body seal with the inlet at Port C.

Flow Paths are:

- Inlet Port C  Outlet Port A
- Inlet Port C  Outlet Port B

## T7 THREE-WAY VALVE FLOW PATHS



The T7 Three-Way Valve consists of a one-piece seat and body seal, allowing the inlet to be at any one of the ports A, B, or C.

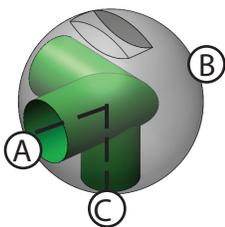
Flow Paths are:

- Inlet Port C  Outlet Port A
- Inlet Port C  Outlet Port B
- Inlet Port A  Outlet Port C
- Inlet Port B  Outlet Port C

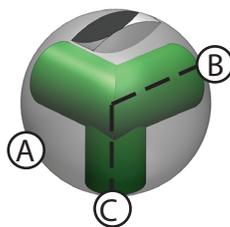
## OPERATION

The D8 Diverter Valve or T7 Three-Way Valve can be supplied with either 90 ° operation (S1 ball) or 180 ° operation (S2 ball).

### S1 (90 ° Operation)

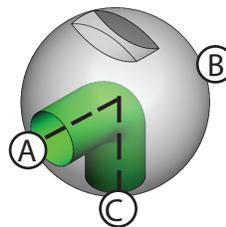


Ports C and A  
Open (0 °)

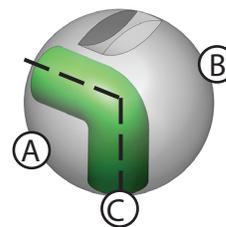


Ports C and B  
Open (90 °)

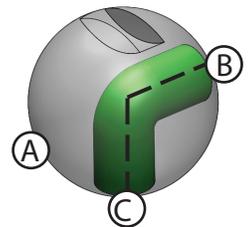
### S2 (180 ° Operation)



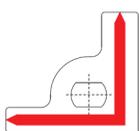
Ports C and A  
Open (0 °)



Ports A and B  
Closed (90 °)

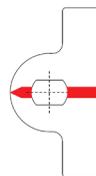


Ports C and B  
Open (180 °)



For S1 (90 ° Operation), the Stop Plate is an integral part of the handle.

NOTE: It is normal that media will flow from Port "C" to both Ports "A" & "B" while the ball is being rotated from one flow path to the other.



For S2 (180 ° Operation), the Stop Plate is a separate part (Refer to #20 on the Materials of Construction).

NOTE: Media flow will not occur when the handle is in-line (parallel) with the body of the valve. This is the CLOSED/SHUT-OFF position (Refer to D8/T7 IOM).

Contact SVF for additional flow paths

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How To Order Guide (Columns 1 thru 11)

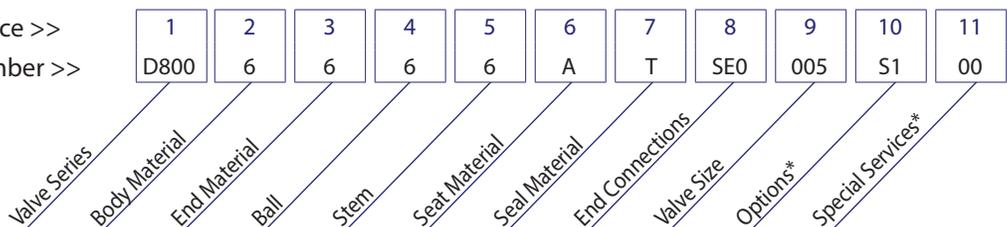
1 SERIES	2 BODY	3 ENDS	4 BALL	5 STEM	6 SEAT MATERIAL
D800	4 = Carbon Steel ASTM A216 WCB  6 = 316 Stainless Steel ASTM A351 CF8M	4 = Carbon Steel ASTM A216 WCB  6 = 316L Stainless Steel ASTM A351 CF3M	6 = 316 Stainless Steel ASTM A351 CF8M	6 = 316 Stainless Steel ASTM A276 316  M = 17-4pH Stainless Steel ASTM A564 630  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">NOTE: Size 2-1/2" R8 Valve requires 17-4 pH Stem (Code M)</div>	A = TFM1600™ D = Delrin** (1/4" - 2") S = SupraLon™ U = UHMWPE K = PEEK (1/4" - 2") (Requires 17-4 Stem - Code M)

7 BODY SEAL	8 END CONNECTIONS	9 VALVE SIZE	10 OPTIONS*	11 SPECIAL SERVICES*
T = PTFE  B = Buna "N"  G = GRAFOIL  U = UHMWPE  V = Viton  E = EPDM  S = SupraLon™	SE0 = Threaded Ends (FNPT)  SW0 = Socket Weld Ends  BW0 = Butt Weld Ends Schedule 40 wall (Standard)  Butt Weld Ends: BWA = Schedule 5 BWB = Schedule 10 BWC = Schedule 80	002 = 1/4" (Full Port)  003 = 3/8" (Full Port)  005 = 1/2"  007 = 3/4"  010 = 1"  012 = 1-1/4"  015 = 1-1/2"  020 = 2"	00 = None S1 = 3-Way Ball, 90° "LL" Port S2 = 3-Way Ball, 180° "L" Port AU = S1 Ball & Locking Device AV = S1 Ball & Oval Handle AW = S1 Ball & ISO Cast Stem Extension AZ = S2 Ball & Locking Device A3 = S1 Ball & Oval Handle A4 = S2 Ball & ISO Cast Stem Extension JZ = S1 Ball, Locking Device & ISO Cast Stem Extension J8 = S1 Ball, Locking Device & Oval Handle KA = S2 Ball, Locking Device & ISO Cast Stem Extension KF = S2 Ball, Locking Device & Oval Handle	00 = None XC = Oxygen Cleaned SF = Degreased (Silicone Free) HC = High Cycle Stem Kit

Order Example: (D8006666ATSE0005S100) The Part Number will contain 20 digits.

Ordering Code Sequence >>

Sample Part Number >>



<sup>1</sup> Vent Hole is on the Upstream Side

\*Not all Options or Special Services available on all ball valves. Consult SVF for additional information.

\*\*Delrin Seats cannot be used for Oxygen Service

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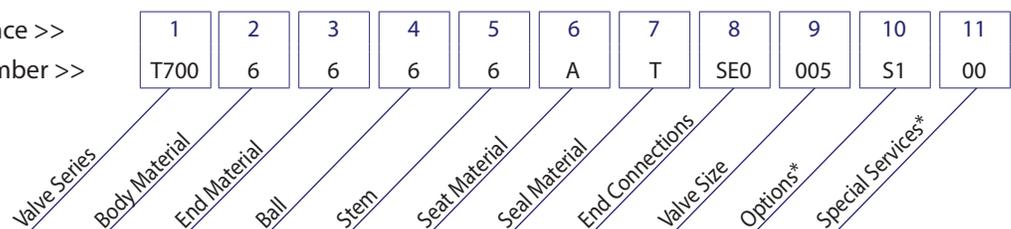
How To Order Guide (Columns 1 thru 11)

1 SERIES	2 BODY	3 ENDS	4 BALL	5 STEM	6 SEAT MATERIAL	7 BODY SEAL	8 END CONNECTIONS	9 VALVE SIZE	10 OPTIONS*	11 SPECIAL SERVICES*
T700	4 = Carbon Steel ASTM A216 WCB  6 = 316 Stainless Steel ASTM A351 CF8M	4 = Carbon Steel ASTM A216 WCB  6 = 316L Stainless Steel ASTM A351 CF3M	6 = 316 Stainless Steel ASTM A351 CF8M	6 = 316 Stainless Steel ASTM A276 316	A = TFM1600™ S = SupraLon™	T = PTFE  G = GRAFOIL  S = SupraLon™	SE0 = Threaded Ends (FNPT)  SW0 = Socket Weld Ends  BW0 = Butt Weld Ends Schedule 40 wall (Standard)  Butt Weld Ends: BWA = Schedule 5 BWB = Schedule 10 BWC = Schedule 80	002 = 1/4" (Full Port)  003 = 3/8" (Full Port)  005 = 1/2"  007 = 3/4"  010 = 1"  012 = 1-1/4"  015 = 1-1/2"  020 = 2"	00 = None S1 = 3-Way Ball, 90° "LL" Port S2 = 3-Way Ball, 180° "L" Port AU = S1 Ball & Locking Device AV = S1 Ball & Oval Handle AW = S1 Ball & ISO Cast Stem Extension AZ = S2 Ball & Locking Device A3 = S1 Ball & Oval Handle A4 = S2 Ball & ISO Cast Stem Extension JZ = S1 Ball, Locking Device & ISO Cast Stem Extension J8 = S1 Ball, Locking Device & Oval Handle J9 = S2 Ball, Locking Device & ISO Cast Stem Extension KE = S2 Ball, Locking Device & Oval Handle	00 = None XC = Oxygen Cleaned SF = Degreased (Silicone Free) HC = High Cycle Stem Kit

Order Example: (T7006666ATSE0005S100) The Part Number will contain 20 digits.

Ordering Code Sequence >>

Sample Part Number >>



<sup>1</sup> Vent Hole is on the Upstream Side

\*Not all Options or Special Services available on all ball valves. Consult SVF for additional information.