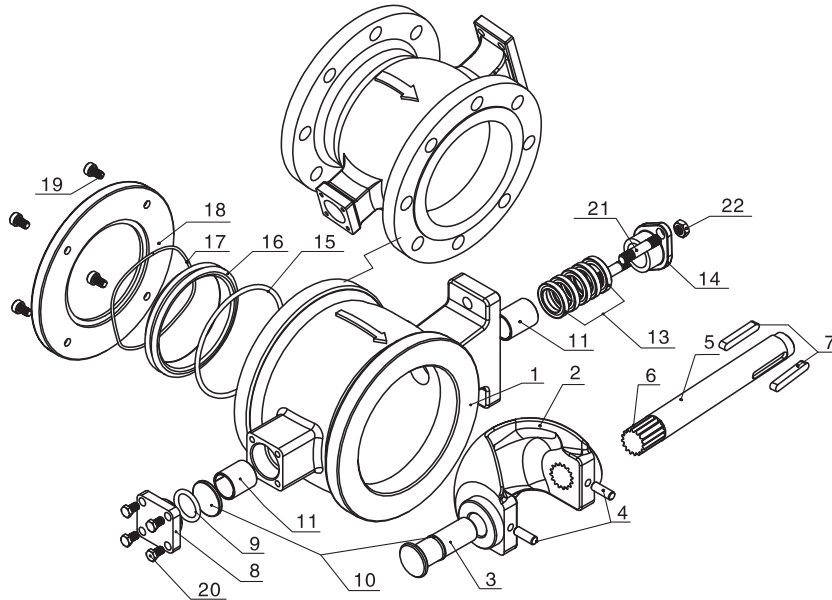


MATERIAL LIST
SEGMENTED V FLOW VALVE
 SERIES 90SV/93SV/96SV (1" ~ 16")



ITEM	DESCRIPTION	MATERIAL	NO. PCS
1	BODY	WCB, CF8M	1
2	BALL	CF8, CF8M, HARD CHROM PLATING OR STELLITE SURFACING	1
3	LOWER SHAFT	17-4PH, SS316	1
4	CYLINDRICAL PIN	SS304, SS316	2
5	UPPER SHAFT	17-4PH, SS316	1
6	SPLINE	17-4PH, SS316	1
7	FLAT KEY	SS304, 45#	2
8	BLIND FLANGE	CF8, CF8M	1
9	O-RING	Viton, Graphite	1
10	GASKET	PTFE, Graphite	1 EA.
11	SELF LUBRICATING BEARING	Composite	2
12	PACKING	PTFE, Graphite	1 SET
13	GLAND	CF8	1
14	O-RING	Viton, Graphite	1
15	SEAT	PTFE, SS304, SS316, Hard Chrome Plating or Stellite Surfacing	1
16	WAVE SPRING	SS316	1
17	RETAINER	Carbon Steel, SS304, SS316	1
18	SOCKET HEAD SCREW	A193 B7, A193 B8	4
19	HEXAGON SCREW	A193 B7, A193 B8	4
20	STUD	A193 B7, A193 B8	2
21	HEXAGON NUT	A194 2H, A194 8	2

TECHNICAL DATA
SEGMENTED V FLOW VALVE
 SERIES 90SV/93SV/96SV (1" ~ 16")

SPECIFICATIONS

End Connection:
 Flanged 1" through 16" (standard) *20" ~ 28" POA*
 Wafer 1" through 10" (optional)

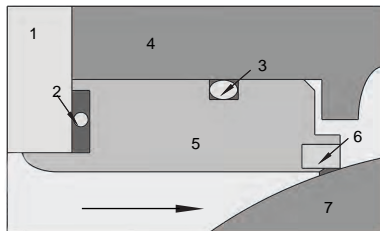
Nominal Pressure Rating:
 ANSI 150, ANSI 300, ANSI 600

Working Temperature:
 -20°F ~ 320°F (PTFE seats)
 -20°F ~ 400°F (Metal seats)
 -20°F ~ 750°F (Hi Temp Metal seats)

Pressure Test:
 Each valve undergoes hydraulic testing with 1.5 x pressure rating as shell test pressure and 0.6 Mpa x pressure rating as seat tightness test pressure. Testing medium is water.

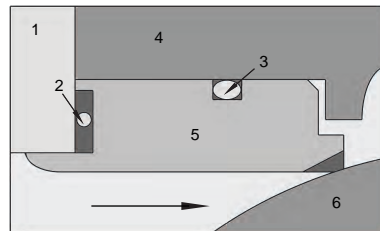
Seat Shutoff:
 Soft Seat: Class VI
 Metal Seat: Class IV
 0.0001% Maximum seat leakage of rated valve capacity.
 (1/100 of the leakage rate allowed per ANSI Class IV)

Optional Seats



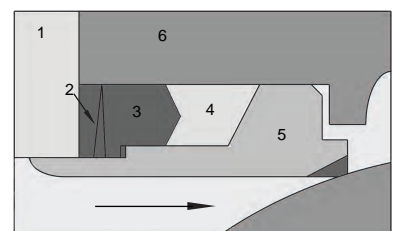
PTFE SEAT
 TEMP. RANGE: -20°F TO 320°F

ITEM	DESCRIPTION	MATERIAL
1	RETAINER	SS316
2	SPRING	SS316/X750
3	O RING	VITON
4	VALVE BODY	CS OR SS
5	SEAT	SS316
6	SEAT SEAL	PTFE
7	BALL	CF8Mw/CHROME



METAL SEAT
 TEMP. RANGE: -20°F TO 400°F

ITEM	DESCRIPTION	MATERIAL
1	RETAINER	SS316
2	SPRING	SS316 / X750
3	O RING	VITON / PFA
4	VALVE BODY	CS OR SS
5	SEAT	SS316 w/STELLITE 6
6	BALL	CF8M w/CHROME



METAL SEAT (HI TEMP. APPLICATION)
 TEMP. RANGE: -20°F TO 750°F

ITEM	DESCRIPTION	MATERIAL
1	RETAINER	SS316
2	BELLEVILLE SPRING	17-7PH / X750
3	GLAND RING	SS316
4	GRAPHITE RING	GRAPHITE
5	METAL SEAT	SS316 w/STELLITE 6
6	VALVE BODY	CS OR SS
7	BALL	CF8Mw/CHROME



FLOW CHARACTERISTICS SEGMENTED V FLOW VALVE SERIES 90SV/93SV/96SV (1" ~ 16")

Cv vs. Valve Rotation (in degrees)

SIZE	10	20	30	40	50	60	70	80	90
1"	0.11	0.84	2	4	7	11	16	21	27
1-1/4"	0.19	1.47	4	7	12	19	27	37	47
1-1/2"	0.28	2.18	6	11	19	28	40	55	70
2"	0.44	3.43	9	17	29	45	64	87	110
2-1/2"	0.68	5.30	14	27	45	69	98	134	170
3"	1	9	23	44	74	114	162	221	280
4"	2	13	34	64	109	166	237	324	410
5"	3	23	62	117	199	305	434	593	750
6"	4	31	81	153	260	398	566	774	980
8"	7	54	143	268	456	698	994	1,359	1,720
10"	12	90	241	452	769	1,177	1,676	2,291	2,900
12"	15	119	315	593	1,007	1,543	2,196	3,002	3,800
14"	28	218	581	1,092	1,855	2,842	4,046	5,530	7,000
16"	39	306	813	1,529	2,597	3,979	5,664	7,742	9,800

Rate of Flow Calculations

For Liquids:

To determine the flow rate of a liquid passing through a valve use the following formula:

$$QL = Cv \times \sqrt{\frac{\Delta P}{SL}}$$

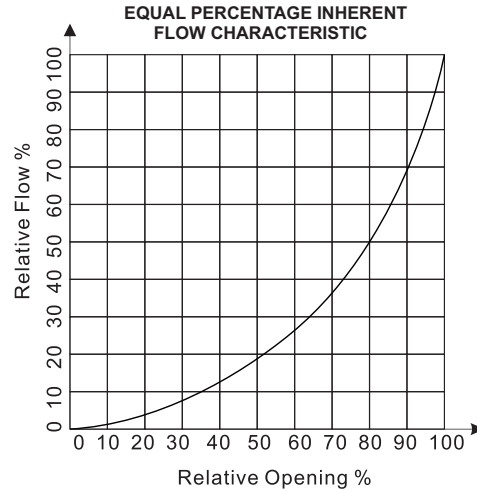
Where: QL = Flow of liquid in GPM
Cv = Flow Coefficient
ΔP = Pressure drop (psi)
SL = Specific gravity of liquid

For Gases:

For gases the relationship between flow in standard cubic feet per hour Qg and pressure drop is described by the following formula:

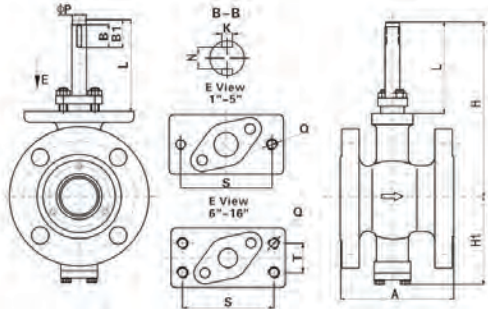
$$Qg = 1360 \times Cv \times \sqrt{\frac{\Delta P}{SgT}} \times \sqrt{\frac{P1 + P2}{2}}$$

Where: Qg = Volumetric flow of gas (SCFH)
Sg = Specific gravity of gas (air @ 14.7PSIA and 60° F = 1)
T = Absolute temperature of flowing medium (° F + 460)
P1 = Inlet pressure (PSIA)
P2 = Outlet pressure (PSIA)
ΔP = (P1 - P2) Pressure drop (PSIA)
Cv = Flow in GPM of water @ 1PSI pressure drop. Flow coefficient.

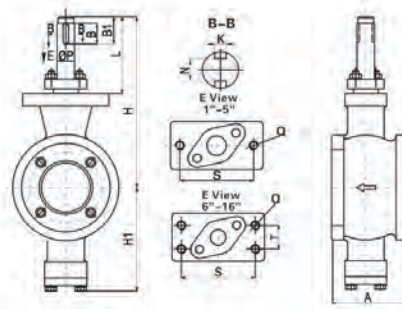




DIMENSIONS SEGMENTED V FLOW VALVE SERIES 90SV/93SV (1" ~ 16") CLASS 150 & 300



FLANGED STYLE - ISA Face to Face



WAFER STYLE - ISA Face to Face

Dimensions, Bare Stem Valve, Flanged or Wafer Class 150 - ISA Face to Face

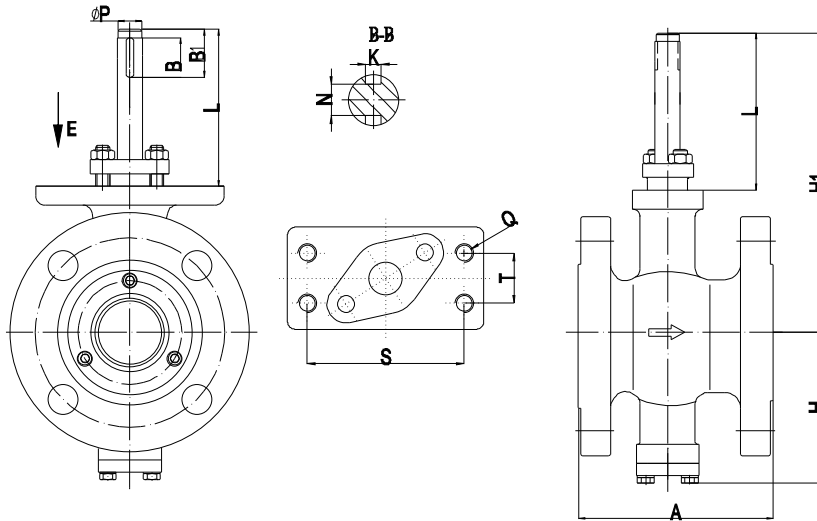
SIZE	Outline Dimensions			Mounting Dimensions									Weight (lbs.)	
	A	H	H1	L	P	B1	B	K	N	S	Q	T	FLANGED	WAFER
1"	4.00	7.40	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	9	7
1-1/4"	4.10	7.70	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	12	9
1-1/2"	4.50	7.70	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	13	9
2"	4.90	8.00	3.80	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	17	12
2-1/2"	5.70	8.70	4.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	19	14
3"	6.50	9.40	4.40	4.72	0.79	1.57	1.38	0.24	0.51	3.54	M12	-	31	24
4"	7.60	9.80	4.80	4.72	0.79	1.57	1.38	0.24	0.51	3.54	M12	-	47	35
5"	8.40	10.60	5.60	4.72	0.98	1.57	1.38	0.31	0.67	3.94	M12	-	50	37
6"	9.00	12.20	6.50	5.24	1.18	1.77	1.57	0.39	0.79	4.33	M12	1.57	81	66
8"	9.60	13.30	7.70	5.24	1.18	1.77	1.57	0.39	0.79	4.33	M12	1.57	128	101
10"	11.70	15.20	9.30	5.71	1.57	2.17	1.97	0.47	1.18	5.12	M12	1.77	187	150
12"	13.30	16.30	11.10	5.71	1.57	2.17	1.97	0.47	1.18	5.12	M12	1.77	295	-
14"	15.70	20.00	13.30	7.09	1.97	2.68	2.36	0.63	1.50	5.28	M16	2.52	431	-
16"	15.70	23.40	15.40	8.43	2.36	3.46	3.15	0.71	1.81	6.89	M24	2.76	759	-

Dimensions, Bare Stem Valve, Flanged or Wafer Class 300 - ISA Face to Face

SIZE	Outline Dimensions			Mounting Dimensions									Weight (lbs.)	
	A	H	H1	L	P	B1	B	K	N	S	Q	T	FLANGED	WAFER
1"	4.00	7.40	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	12	-
1-1/4"	4.10	7.70	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	14	-
1-1/2"	4.50	7.70	3.40	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M10	-	18	-
2"	4.90	8.30	4.10	4.33	0.63	1.57	1.38	0.20	0.39	3.15	M12	-	24	-
2-1/2"	5.70	9.10	5.00	4.72	0.79	1.57	1.38	0.24	0.51	3.54	M12	-	28	-
3"	6.50	10.00	5.40	4.72	0.98	1.57	1.38	0.31	0.67	3.94	M12	1.26	51	-
4"	7.60	10.30	5.70	4.72	0.98	1.57	1.38	0.31	0.67	3.94	M12	1.26	73	-
5"	8.40	11.10	7.20	5.24	1.18	1.77	1.57	0.39	0.79	4.33	M12	1.57	81	-
6"	9.00	13.60	8.00	5.71	1.57	2.17	1.97	0.47	1.18	5.12	M16	1.77	143	-
8"	9.60	14.30	8.70	5.71	1.57	2.17	1.97	0.47	1.18	5.12	M16	1.77	198	-
10"	11.70	18.40	10.60	7.60	1.97	2.68	2.36	0.63	1.50	6.89	M20	2.76	342	-
12"	13.30	18.90	11.30	7.60	1.97	2.68	2.36	0.63	1.50	6.89	M24	2.76	485	-
14"	15.70	22.20	13.90	8.27	2.36	3.46	3.15	0.71	1.81	6.89	M24	2.76	684	-
16"	18.90	25.90	16.10	9.76	2.76	3.46	3.15	0.79	2.17	8.46	M27	3.78	1,045	-

*NOTE: Stem heights may vary. Please contact Triad for exact dimensions for your order.

DIMENSIONS
SEGMENTED V FLOW VALVE
 SERIES 90SV/93SV (6" ~ 16")
 CLASS 600



Dimensions, Bare Stem Valve, Flanged
 Class 600 - ISA Face to Face

SIZE	Outline Dimensions			Mounting Dimensions									Weight (lbs.)
	A	H	H1	L	P	B1	B	K	N	S	Q	T	FLANGED
6"	12.60	8.66	17.05	7.99	1.97	3.27	2.95	0.63	1.50	6.69	M20	2.56	265
8"	14.57	11.02	21.65	9.17	2.36	3.54	3.15	0.71	1.81	9.06	M24	3.54	463
12"	20.00	14.37	24.02	9.45	2.76	3.94	3.54	0.79	2.17	8.66	M27	3.94	816
16"	23.62	17.72	27.56	9.45	3.94	3.94	3.54	1.10	3.15	10.63	M27	5.12	1,389