

BALL VALVES

2-WAY V-BALL VALVE

SERVICE

1C series is quarter turn control valve mainly recommended for throttle service, segment ball valve combines globe valve control with the efficiency of a rotary ball valve. Segment Ball is in V-notch design with strong cutting force and self-cleanness, especially suitable for control of medium containing fiber and tiny solids. Segment ball valve was from pulp and paper industry, By research and development, segment ball valve is extend to other industrial such as petrochemical, petroleum, chemical fiber, power, metallurgy, pharmacy, etc.

FEATURES

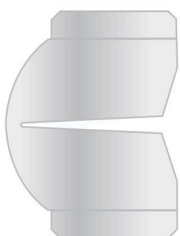
- Precise contouring of the V- notch provides excellent control characteristics for an extensive variety of flow application.
- Splined connection between the shaft and ball ensures precise control and low hysteresis.
- Seat Retainer by side mounted, easy to change seats, means low cost for valve repairs.
- Superior trunnion bearing technology is engineered for excellent abrasion resistance.
- Rugged self-adjusting metal seated option is ideally suited for high temperature applications or slurries, spring load seat maintains constant contact with the ball, giving enhanced sealing performance.
- Shearing action between ball and seal promotes smooth, non-clogging operation-perfect for fiber or slurry application.



TECHNICAL DATA

End Connection: Wafer DN25 through DN250/1" through 10", MFR standard.
 Flanged DN25 through DN700 / 1" through 28", IEC/DIN 534-3-2 or ISA S75.04
 Nominal Pressure Rating: 1.0, 1.6, 2.5, 4.0, 6.4(MPa), ANSI 150, ANSI 300
 Working Temperature: -20~160°C / -20 ~320°F,
 Optional-20~230°C / -20 ~446°F, -20~425 °C / -20 ~797°F
 Pressure Test: Each Linuo valve undergoes hydraulic test with 1.5 X pressure rating as shell test,
 and seat tightness test according the ANSI/FCI 70.2.
 Leakage: Soft Seat: ANSI/FCI Class VI.
 Metal Seat: Maximum allowable leakage equal to 1% of maximum leakage of ANSI/FCI 70.2 Class IV.

DIFFERENT BALL FOR APPLICATION



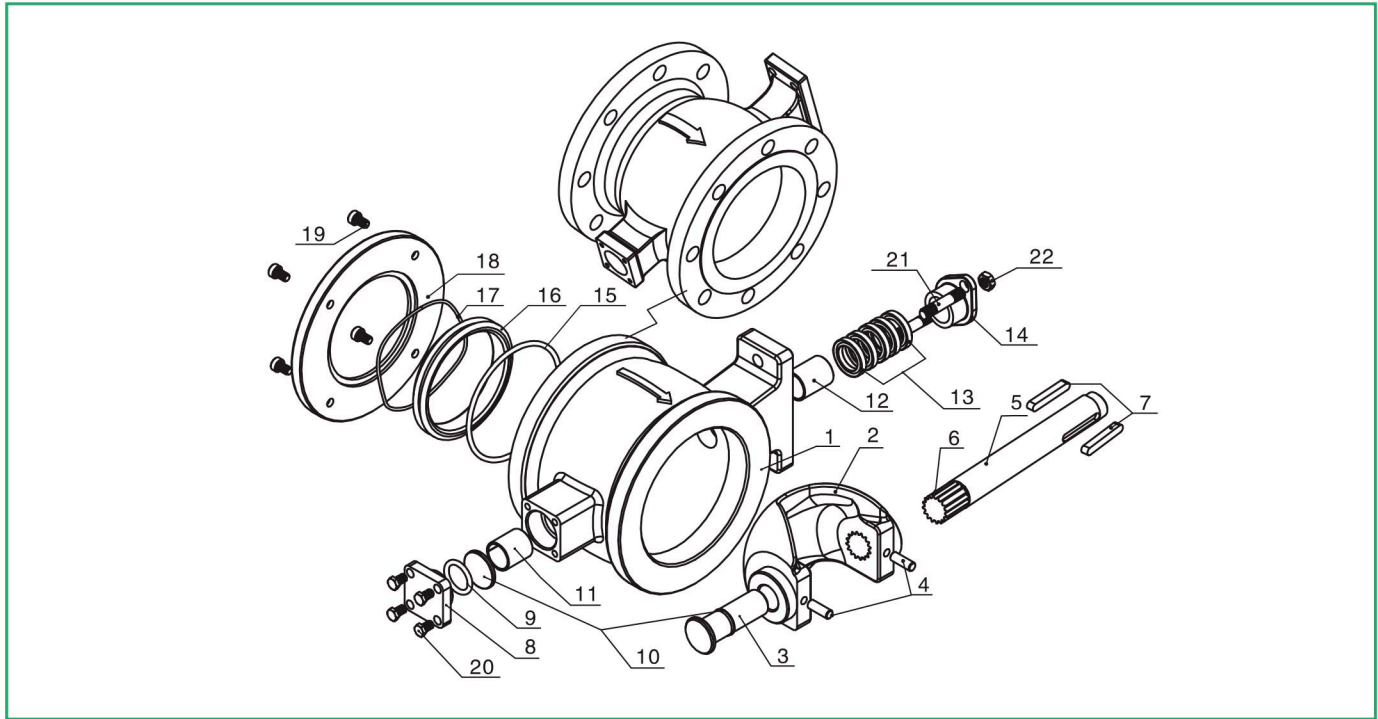
Rated CV on small flow Segment Ball Valve of DN20 and DN25 offers various kinds of small CVs to reach precisely control within low flow rate, which makes it highly suitable for additive and painting modulating in pulp and paper making sector.



Noise reduction trim construction It's common to see maximum limitation of noise in control valve application. Especially in gas and steam process, valve without special design will definitely cause exceeding of noise. When under high pressure differential water, large gas etching will damage pipeline system, and make bad influence on valve service life and precision. Fortunately, noise reduction trim construction has solutions for such hidden danger.

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PARTS LIST / MATERIALS OF CONSTRUCTION

Table 1

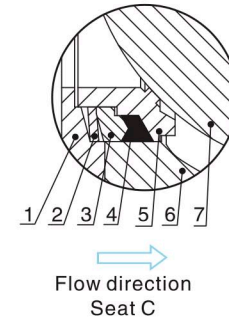
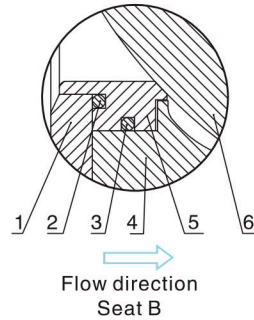
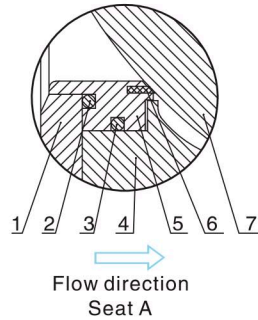
No.	Name	Quantity	Material
1	Body	1	WCB, CF8, CF8M
2	Ball	1	CF8, CF8M, Hard Chromium Plating or Stellite Surfacing
3	Lower shaft	1	17-4PH, SS316
4	Cylindrical pin	2	SS304, SS316
5	Upper shaft	1	17-4PH, SS316
6	Spline	1	17-4PH, SS316
7	Flat key	2	SS304, 45#
8	Blind flange	1	CF8, CF8M
9	O-ring	1	Viton, Graphite
10	Gasket	1 each	PTFE, Graphite
11	Self-lubricating bearing	1	Composite material
12	Self-lubricating bearing	1	Composite material
13	Packing	1 Set	PTFE, Graphite
14	Gland	1	CF8
15	O-ring	1	Viton, Graphite
16	Seat	1	PTFE, SS304, SS316, Hard Chrome Plating or Stellite Surfacing
17	Wavy spring	1	SS316
18	Retainer	1	Carbon Steel, SS304, SS316
19	Socketed head screw	4	A193 B7, A193 B8
20	Hexagon screw	4	A193 B7, A193 B8
21	Stud	2	A193 B7, A193 B8
22	Hexagon nut	2	A194 2H, A194 8



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THREE DIFFERENT SEATS FOR APPLICATION.



PTFE Seat

Metal Seat

Metal Seat for high temp

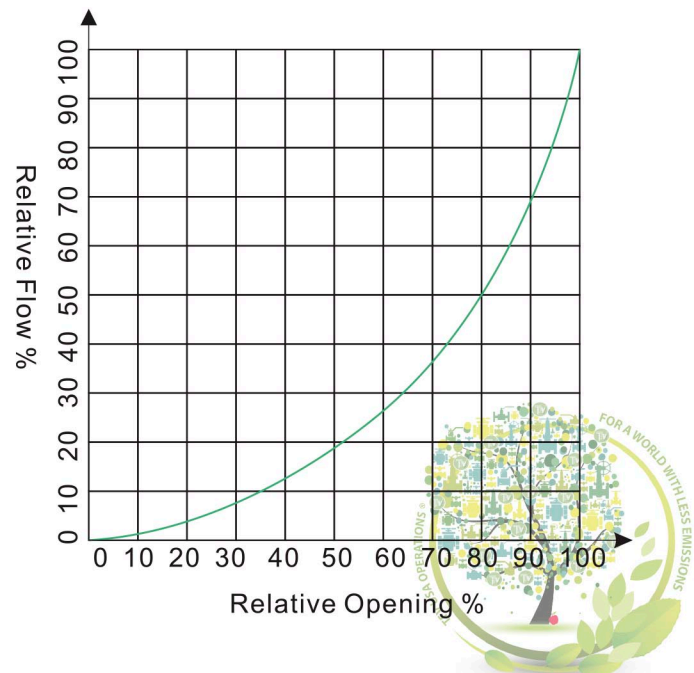
No.	Parts	Temp. Range	No.	Parts	Temp. Range	No.	Parts	Temp. Range
1	Retainer		1	Retainer		1	Retainer	
2	Spring		2	Spring		2	Belville Spring	
3	O ring		3	O ring		3	Plunge Ring	
4	Valve Body	-20~160°C	4	Valve Body	-20~160°C	4	Graphite ring	-20~450°C
5	Seat Body		5	Seat	/-20~230°C	5	Metal Seat	
6	Seat Seal		6	Ball		6	Valve Body	
7	Ball					7	Ball	

MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE AND RATED CV

Table 2

DN	Max. shut off dp.	Max. control dp.	Rated CV
25	50	35	27
32	50	35	47
40	50	35	70
50	50	35	135
65	50	35	210
80	50	35	390
100	40	25	560
125	40	25	790
150	40	25	1130
200	35	25	1860
250	35	20	2900
300	30	10	4320
350	30	10	6640
400	30	10	8000

EQUAL PERCENTAGE INHERENT FLOW CHARACTERISTIC





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ACTUATOR SIZING

Operation		Z Series Actuator		Air Supply
DN	Torque (N.m) 1.6MPa	Double Acting	Single Acting	Pressure (MPa)
Table 3				
25	25	ZSQ32-63	ZDQ41-100	0.5~0.7
32	25	ZSQ32-63	ZDQ41-100	
40	30	ZSQ32-63	ZDQ41-100	
50	35	ZSQ41-80	ZDQ41-100	
65	60	ZSQ41-80	ZDQ41-125	
80	80	ZSQ41-100	ZDQ50-125	
100	125	ZSQ50-100	ZDQ50-160	
125	160	ZSQ50-100	ZDQ50-160	
150	220	ZSQ50-125	ZDQ60-160	
200	350	ZSQ60-125	ZDQ60-200	
250	660	ZSQ60-160	ZDQ80-200	
300	1200	ZSQ80-200	ZDQ100-300	
350	1700	ZSQ80-250	ZDQ130-350	
400	2600	ZSQ130-300	ZDQ130-400	
450	3200	ZSQ130-300	ZDQ160-400	
500	4000	ZSQ130-350	ZDQ160-400	

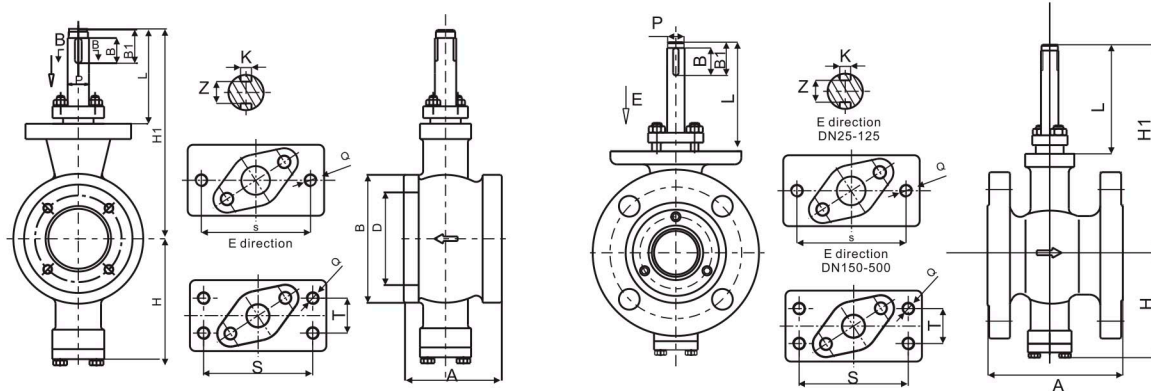
Note:

ZSQ and ZDQ series piston actuators are manufactured by Linuo. The actuators above are recommended for valves of pressure PN10, PN16, ANSI 150Lb and temp. -20~230℃, with minimum air supply pressure of 5 bar.



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DIMENSION OF WAFER TYPE

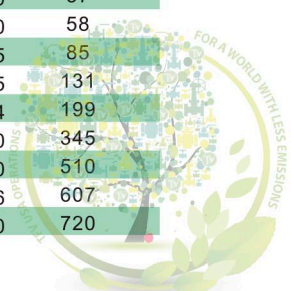
Table 4

DN mm	A	H1	H2	ΦD	ΦB	L	ΦP	B1	B	K	N	S	Q	T	KG
20	62	75	188	33	56	116	14	30	25	5	11	65	M10	/	2.7
25	62	87	190	38	68	115	16	30	25	5	13	80	M10	/	2.7
32	62	87	193	42	78	112	16	30	25	5	13	80	M10	/	3
40	62	87	195	50	85	110	16	30	25	5	13	80	M10	/	3.5
50	75	97	198	60	100	107	16	30	25	5	13	80	M10	/	4.2
65	90	112	218	75	120	108	16	30	25	5	13	80	M10	/	6
80	100	112	240	94	130	122	20	30	25	6	16.5	90	M12	/	7.5
100	115	122	250	110	158	118	20	30	25	6	16.5	90	M12	/	11
125	129	142	270	135	184	120	25	40	35	8	21	100	M12	/	15.5
150	160	165	308	165	216	133	30	45	40	10	25	110	M12	40	25
200	200	195	328	210	268	123	30	45	40	10	25	110	M12	40	39
250	240	237	380	260	322	138	40	55	50	12	35	110	M12	45	64

DIMENSION OF FLANGED TYPE

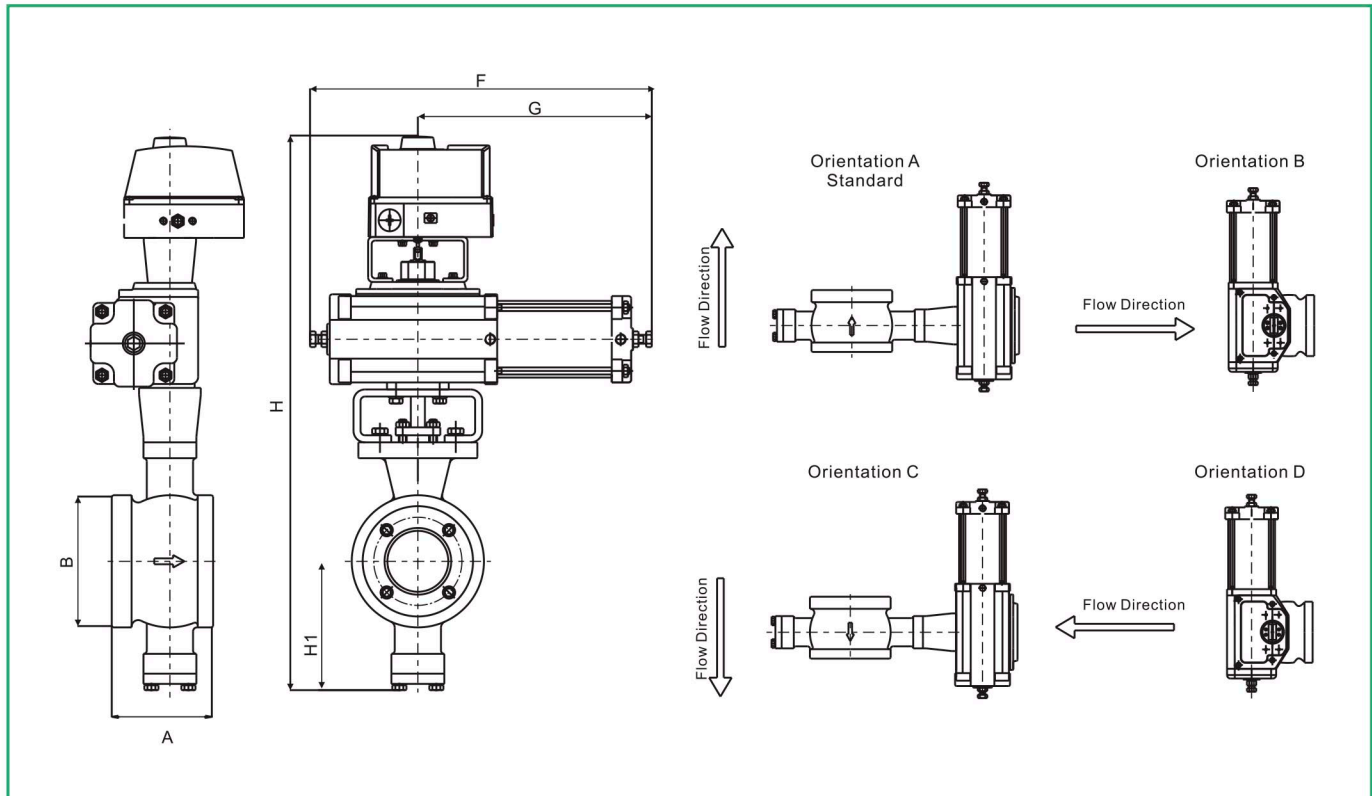
Table 5

DN mm	A	H1	H2	L	ΦP	B1	B	K	N	S	Q	T	KG
25	102	87	190	112	16	30	25	5	13	80	M10	/	4
32	105	87	193	108	16	30	25	5	13	80	M10	/	5.5
40	114	87	195	110	16	30	25	5	13	80	M10	/	6
50	124	97	198	105	16	30	25	5	13	80	M10	/	7.5
65	145	112	218	106	16	30	25	5	13	80	M10	/	9.5
80	165	112	240	122	20	30	25	6	16.5	90	M12	/	14
100	194	122	250	118	20	30	25	6	16.5	90	M12	/	21.5
125	213	142	270	120	25	40	35	8	21	100	M12	/	23
150	229	165	308	133	30	45	40	10	25	110	M12	40	37
200	243	195	328	123	30	45	40	10	25	110	M12	40	58
250	297	237	380	138	40	55	50	12	35	110	M12	45	85
300	338	281	415	146	40	55	50	12	35	130	M12	45	131
350	400	338	509	180	50	68	60	16	44	134	M16	64	199
400	400	390	595	214	60	88	80	18	53	175	M20	70	345
450	520	422	642	214	70	88	80	20	62.5	190	M20	90	510
500	600	510	720	230	80	88	80	22	71	215	M20	96	607
600	680	550	845	285	85	115	100	22	75	230	M20	90	720



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DIMENSION OF PNEUMATIC WAFER TYPE

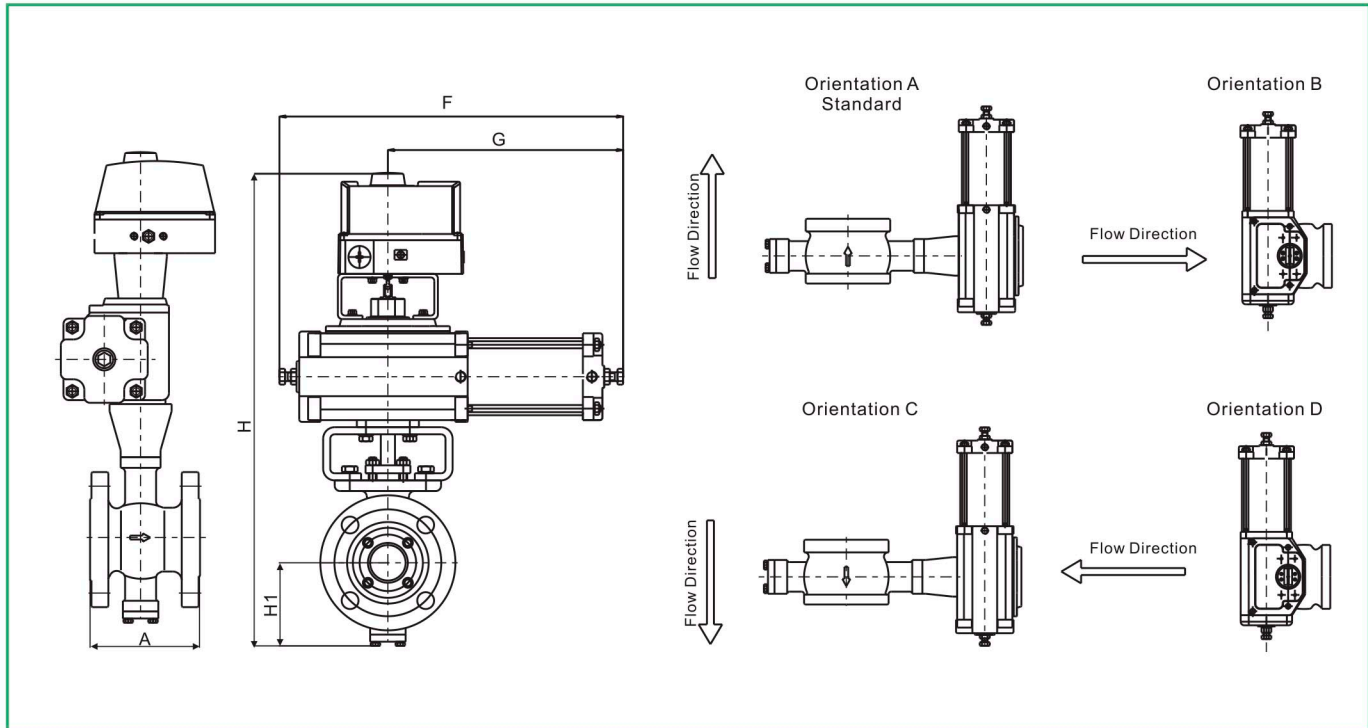
Table 6

DN	Double Acting							DN	Single Acting						
	A	B	H1	H	G	F	Actuator		A	B	H1	H	G	F	Actuator
20	62	56	75	518	235	345	ZSQ32-63	20	62	56	75	555	480	635	ZDQ41-100
25	62	68	87	525	235	345	ZSQ32-63	25	62	68	87	555	480	635	ZDQ41-100
32	62	78	87	525	235	345	ZSQ32-63	32	62	78	87	555	480	635	ZDQ41-100
40	62	85	87	525	235	345	ZSQ32-63	40	62	85	87	555	480	635	ZDQ41-100
50	75	100	97	565	300	422	ZSQ41-80	50	75	100	97	605	480	635	ZDQ41-100
65	90	120	112	585	300	422	ZSQ41-80	65	90	120	112	625	550	720	ZDQ41-125
80	100	130	112	600	315	440	ZSQ41-100	80	100	130	112	640	620	770	ZDQ50-125
100	115	158	122	625	328	474	ZSQ50-100	100	115	158	122	645	660	810	ZDQ50-160
125	129	184	142	650	328	474	ZSQ50-100	125	129	184	142	700	660	810	ZDQ50-160
150	160	216	165	720	328	474	ZSQ50-125	150	160	216	165	770	640	830	ZDQ60-200
200	200	268	195	810	356	530	ZSQ60-125	200	200	268	195	870	680	870	ZDQ80-200
250	240	322	237	900	396	570	ZSQ60-160	250	240	322	237	980	875	1170	ZDQ80-250



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DIMENSION OF PNEUMATIC FLANGED TYPE

Table 7

DN	Double Acting						Actuator	DN	Single Acting						Actuator
	A	B	H1	H	G	A			H1	H	G	F			
25	102	87	525	235	345	ZSQ32-63	25	102	87	555	480	635	ZDQ41-100		
32	105	87	525	235	345	ZSQ32-63	32	105	87	555	480	635	ZDQ41-100		
40	114	87	525	235	345	ZSQ32-63	40	114	87	555	480	635	ZDQ41-100		
50	124	97	565	300	422	ZSQ41-80	50	124	97	605	480	635	ZDQ41-100		
65	145	112	585	300	422	ZSQ41-80	65	145	112	625	550	720	ZDQ41-125		
80	165	112	600	315	440	ZSQ41-100	80	165	112	640	620	770	ZDQ50-125		
100	194	122	625	328	474	ZSQ50-100	100	194	122	645	660	810	ZDQ50-160		
125	213	142	650	328	474	ZSQ50-100	125	213	142	700	660	810	ZDQ50-160		
150	229	165	720	328	474	ZSQ50-125	150	229	165	770	640	830	ZDQ60-200		
200	243	195	810	356	530	ZSQ60-125	200	243	195	870	680	870	ZDQ80-200		
250	297	237	900	396	570	ZSQ60-160	250	297	237	980	875	1170	ZSQ80-250		
300	338	287	1025	500	700	ZSQ80-200	300	338	287	1725	970	1260	ZDQ100-300		
350	400	338	1150	500	700	ZSQ80-250	350	400	338	1250	1200	1600	ZDQ130-350		
400	400	390	1350	750	1050	ZSQ130-300	400	400	390	1450	1215	1615	ZDQ160-400		
450	520	422	1450	750	1050	ZSQ130-300	450	520	422	1550	1270	1660	ZDQ160-450		
500	600	510	1550	750	1050	ZSQ130-350	500	600	510	1650	1285	1680	ZDQ160-450		
600	680	550	1695	750	1050	ZSQ160-400	600	680	550	1795	1285	1680	ZDQ160-500		





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HOW TO ORDER

VALVE BODY DESIGN (SERIES)	FEATURES		MATERIAL						ENDS	CLASS	SIZE	OPERATION		
			BODY		TRIM		SEAT							
1C Full Port 1 Pc Ball Valve 2 Ways V-Port	NONE	NONE Oxygen Service	2	WCB	3	316SS	P	PTFE	F Flanged	0	ANSI 150#	0.5	1/2"	L Manual Lever Operator C Manual Lever Operator w/Locking Device S Spring Return Safety Handle L Spring Return Sliding Lock O Oval Handle X Economical Stem Extention B Bare Shaft P Peumatic Actuator E Electric Actuator
			3	CF8M	5	316L SS	R	R-PTFE		3	ANSI 300#	0.75	3/4"	
			5	CF3M	8	ALLOY 20	U	UHMWPE				01	1"	
			8	ALLOY 20	9	HASTELLOY	S	50/50 SS Filled PTFE				01.25	1 1/4"	
			9	HASTELLOY	0	MONEL	C	Carbon Filled PTFE				01.5	1 1/2"	
			0	MONEL	T	TITANIUM	M	MG1241				02	2"	
			T	TITANIUM			D	DELTRIN				02.5	2 1/2"	
							K	PEEK				03	3"	
												04	4"	
												06	6"	

Example

Full Port Ball Valve C-Type, Body & Trim 316 SS, Seats: PTFE, nds Flanged ANSI Class150# Size 1/2" with Lever.

1C-33P-F00.5L

