



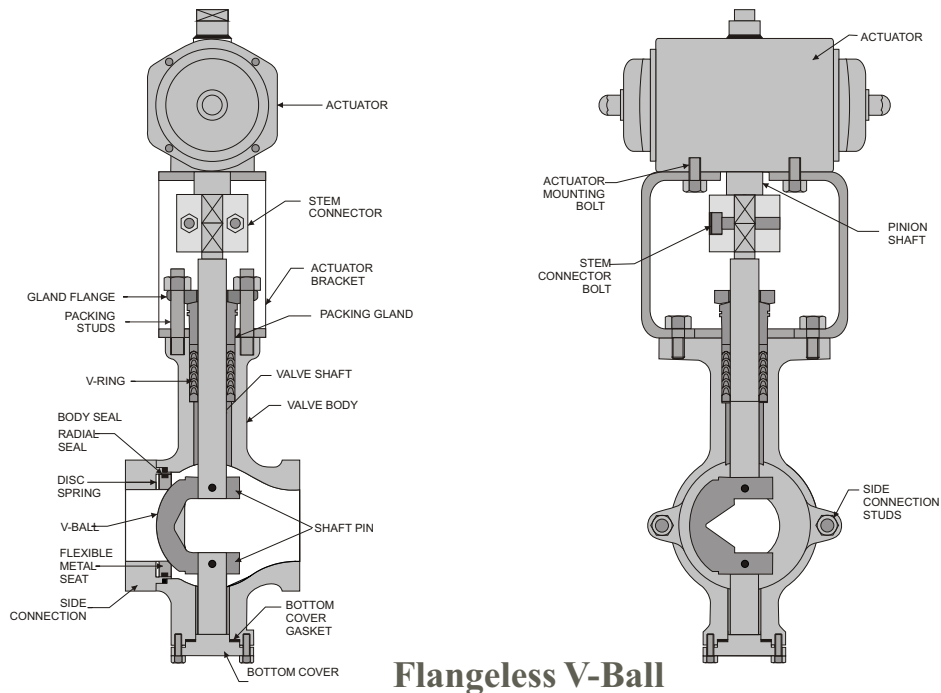
## V-BALL VALVES

### SERIES 8200FV



## Design and Construction

Series 8200FV V-Ball Valves are Quarter Turn Valves with a segment Ball. Its V-notch Ball design provides accurate and reliable control in a wide range of applications. It is ideal for Throttling Control of pulp and paper stock, slurries and fluids containing suspended solids or fibrous materials. In operation, the V-Ball creates a wedging and shearing effect, prevents the dragging of stock or slurry between the ball and its seal. The straight through flow path provides high capacity for gases, liquids and fibrous materials.



**Flangeless V-Ball**

## Specifications

Valve Sizes	:	25mm thru 600mm / 1" thru 24"
End Connections	:	Flangeless Body with Face to Face as per ISA 75.04 Flanged Body with Face to Face as per ANSI B 16.10 (Short)
Face Finish	:	AARH (125-250), Smooth finish available on Request
Ratings	:	Flanged - ANSI 150#, 300# & 600# Flangeless - ANSI 150#, 300# & 600#
Maximum Pressure - Temperature Ratings	:	Bodies conform to Pressure-Temperature ratings as shown in ANSI B16.34 for applicable materials for ANSI 150#, 300#, 600#.
Shut Off Classification	:	As per Pressure Ratings Graphs for Seats
Flow Direction	:	Standard 'Flow Direction' of all the valves is flow from Convex side of Ball
Flow Characteristics	:	Modified Equal Percentage

## Temperature Capabilities

### Gland Packings

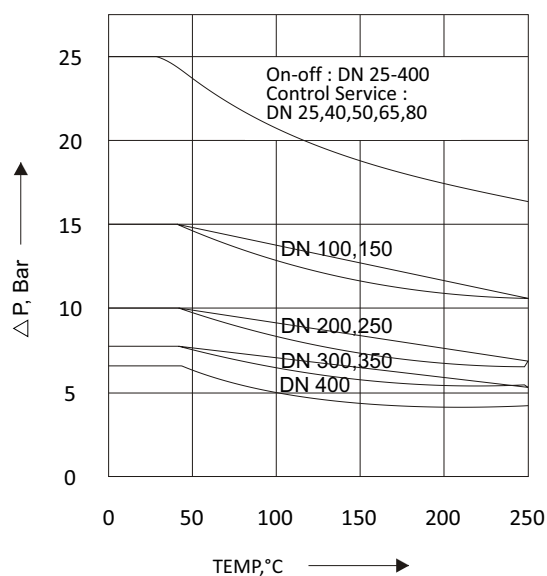
PTFE V-Rings : -50<sup>o</sup>C to +200<sup>o</sup>C  
 Moulded Graphite Rings : +200<sup>o</sup>C to +600<sup>o</sup>C

### Seat Ring

Flexible Metal Seat : -50<sup>o</sup>C to +250<sup>o</sup>C  
 Rigid Metal Seat : -50<sup>o</sup>C to +600<sup>o</sup>C  
 PTFE Seat : -500<sup>o</sup>C to +180<sup>o</sup>C

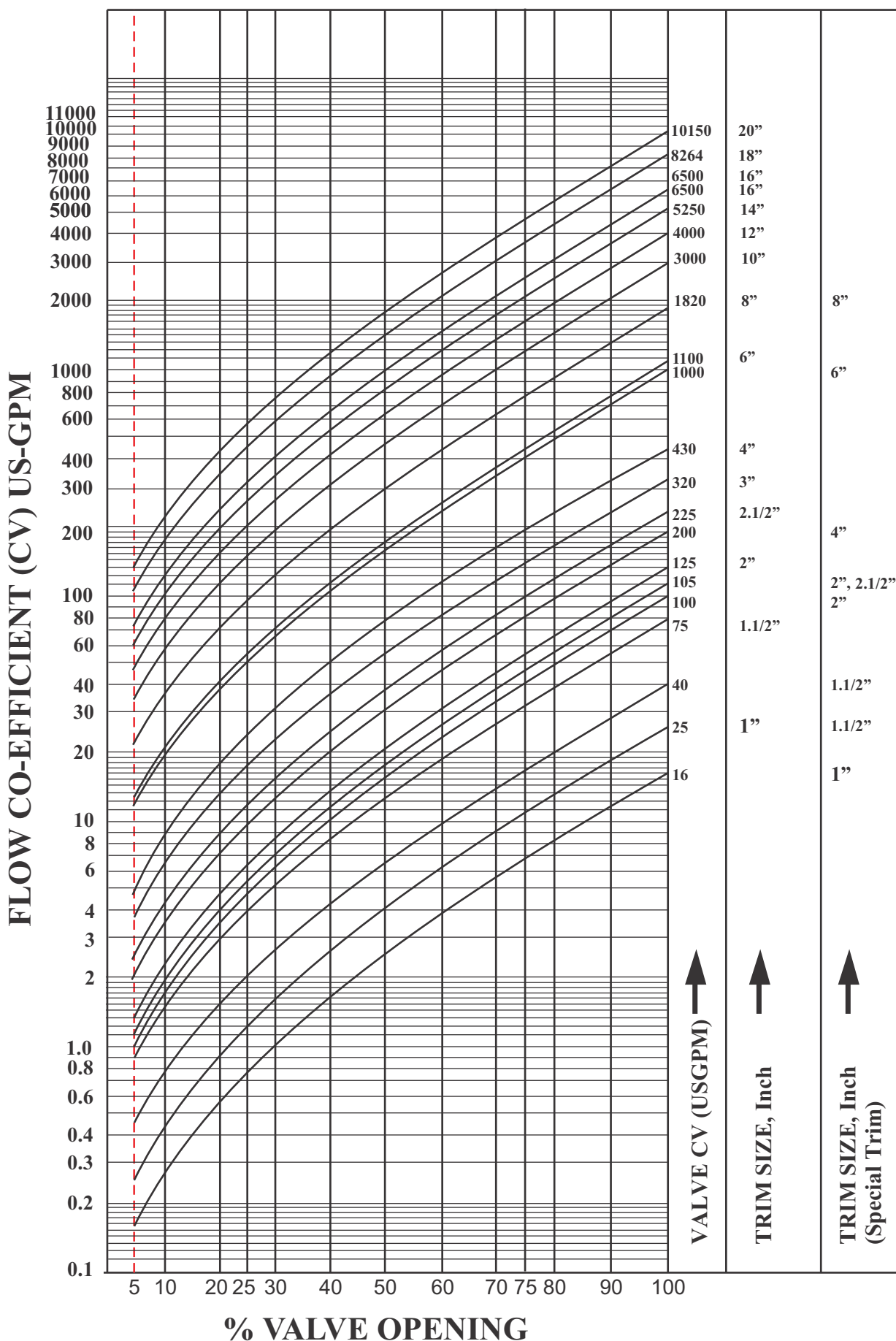
## Pressure Temperature Ratings for Bodies

Temperature		STEEL		SS 316, SS 317		HAST 'C'	
		A 216 Gr. WCB	300#	A351 Gr. CF8M, A 351 Gr. CG8M	300#	A 494 Gr. CW2M	300#
0 F	°C	150#	300#	150#	300#	150#	300#
-20 to 100	-28 to 37	285	740	275	720	290	750
200	93	200	675	235	620	260	750
300	149	230	655	215	560	230	730
400	204	200	635	195	515	200	705
500	260	170	600	170	480	170	665
600	316	140	550	140	450	140	605
650	343	125	535	125	445	125	590
700	371	110	535	110	430	110	570
750	399	95	505	95	425	95	530
800	427	80	410	80	420	80	510



BODY SIZE		TRIM SIZE		V-BALL
Inch	MM	Inch	MM	
1	25	1	25	25
1.1/2	40	1.1/2	40	75
2	50	2	50	125
2.1/2	65	2.1/2	65	225
3	80	3	80	320
4	100	4	100	430
6	150	6	150	1100
8	200	8	200	1820
10	250	10	250	3000
12	300	12	300	4000
14	350	14	350	5250
16	400	16	400	6500
18	450	18	450	8910
20	500	20	500	11000
24	600	24	600	15850

# Flow Characteristics Curves

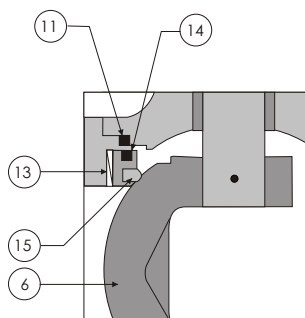
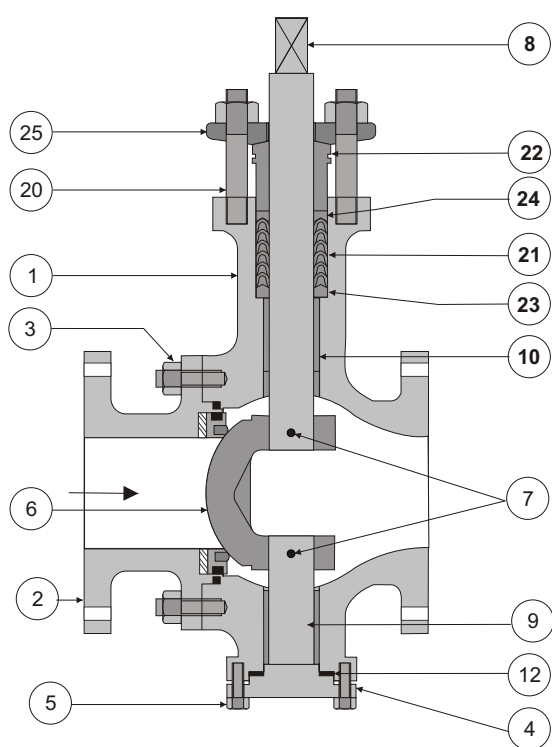


## Material of Construction

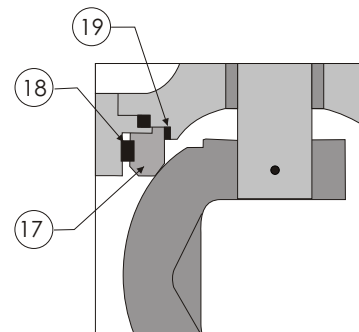
The materials of construction given below are generally in use on V-Ball Valves.  
Other materials are available on request.

Part No.	PART DESCRIPTION	BODY STEEL	BODY SS 316	BODY SS 317
1	Valve Body	A 216 Gr. WCB	A 351 Gr. CF8M	A 351 Gr. CG8M
2	Side Connection	A 216 Gr. WCB	A 351 Gr. CF8M	A 351 Gr. CG8M
3	Body Stud	ASTM A193 Gr. B7	ASTM A320 Gr. B8	ASTM A320 Gr. B8
4	Bottom Cover	Carbon Steel	A 479 Type 316	A 479 Type 317
5	Bottom Cover Bolts	SS 316	SS 316	SS 316
6	V-Ball	A 351Gr. CF8M	Hard Chrome Overlay Hard Faced Stellite F12	
		A 351Gr. CG8M	Chrome Nitride Overlay	
7	Shaft Pin	SS316	SS 316	SS316
8	Valve shaft (Front)	SS 316	SS 316	SS 316
9	Valve shaft (Rear)	S 17400 (17-4 PH)	(ASTM A 276 H900)	
10	Guide Bush	S 20910 X M-19 PTFE on Carbon Steel Backup PTFE ASTM A 276 440C SS 316 Stellite Faced F12 Hast 'C'	PTFE  SS 316 Stellite Faced F12	
11	Body Seal	PTFE Graphite INCONEL		
12	Gasket for Bottom Cover	PTFE Graphite		
13	Disc Spring	SS 316 17-4 PH (ASTM A 313)	Inconel x 750 - N 07750 (ASTM B 637)	
14	Radial Seal	Viton Graphite Filled		
15	PTFE Inserted Seat	PTFE PTFE		
16	Metal Seat	SS 316 / SS 317 + Hard Faced Stellite F12		
17	Rigid Metal Seat	SS 316 / SS 317 + Chrome Nitride Overlay		
18	Gasket for Rigid Metal Seat	Graphite		
19	Shims for Rigid Metal Seat	Inconel	Inconel	Inconel
20	Packing Studs/ Nuts	ASTMA 193 Gr. B8M		
21	Packing Rings	PTFE V-Rings Moulded Graphite Rings		
22	Packing Gland	SS 316	SS 317	
23	Packing Spreader	PTFE SS 316		
24	Packing Washer	SS 316	SS 317	
25	Gland Flange	Carbon Steel SS 316	SS 316 SS 317	

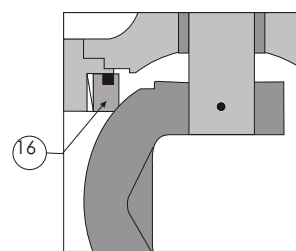
# Body Seat



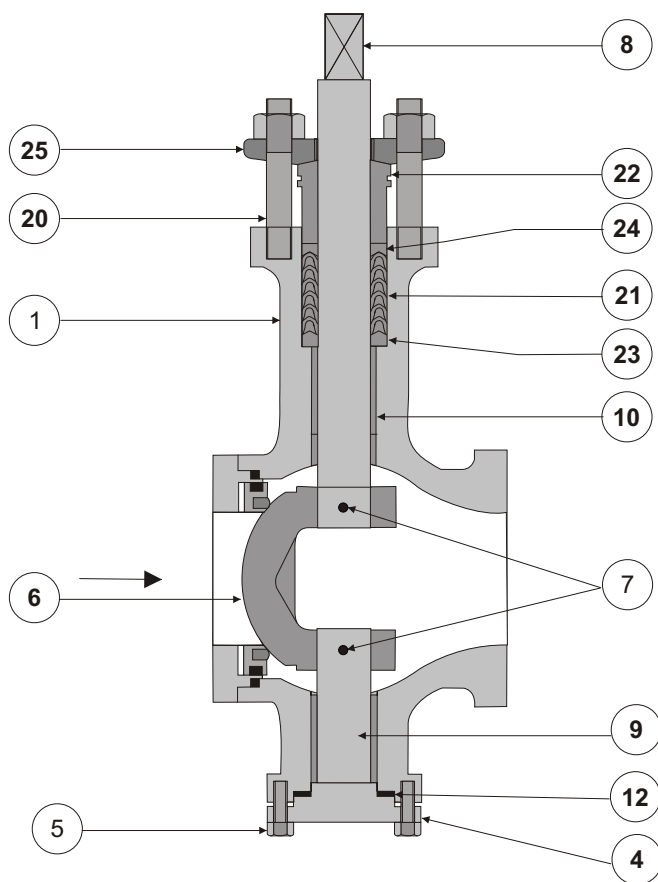
Flexible Seat



Rigid Metal Seat



Flexible Metal Seat



SR. No.	PART
1	Valve Body
2	Side Connection
3	Body Stud
4	Bottom Cover
5	Bottom Cover Bolts
6	V-ball
7	Shaft Pin
8	Valve Shaft-front
9	Valve Shaft-rear
10	Guide Bush
11	Body Seal
12	Gasket For Bottom Cover
13	Disc Spring
14	Radial Seal
15	Ptfe Inserted Seat
16	Metal Seat
17	Rigid Metal Seat
18	Gasket For Rigid Metal Seat
19	Shims For Rigid Metal Seat
20	Packing Studs / Nuts
21	Packing Rings
22	Packing Gland
23	Packing Spreader
24	Packing Washer
25	Gland Flange

## Valve Torques

### Soft Seated

Valve Size		Differential Pressure Bar				
Inch	mm	3	10	15	20	25
1"	25	9	15	21	26	31
1.1/2"	40	10	19	26	34	40
2"	50	12	24	32	39	47
2.1/2"	65	24	44	56	75	87
3"	80	28	56	75	100	119
4"	100	37	75	106	137	169
6"	150	94	194	262	337	406
8"	200	175	381	525	669	812
10"	250	312	675	937	1187	1450
12"	300	537	1106	1512	1919	2337
14"	350	756	1656	2401	2897	3519
16"	400	1115	2287	3294	3984	4801
18"	450	1080	2527	3609	4337	5243
20"	500	1280	3285	4693	5812	7127
24"	600	1483	4435	6570	8370	11404

### Metal Seated

Valve Size		Differential Pressure Bar				
Inch	mm	3	10	15	20	25
1"	25	9	15	21	26	31
1.1/2"	40	10	19	26	34	40
2"	50	12	24	32	39	47
2.1/2"	65	24	44	56	75	87
3"	80	28	56	75	100	119
4"	100	37	75	106	137	169
6"	150	94	194	262	337	406
8"	200	175	381	525	669	812
10"	250	312	675	937	1187	1450
12"	300	537	1106	1512	1919	2337
14"	350	756	1656	2401	2897	3519
16"	400	1115	2287	3294	3984	4801

1. The Minimum Design Torque for Selecting the Actuator is that stated in the Table for a Differential Pressure of 3.0 Bar.
2. The Specified Torques are for CLEAN MEDIA. For Steam and Pulp containing suspension above 5%, increase the Torque in above Table by 20%.
3. For Flexible Metal Seat and Rigid Metal Seat, Multiply above values by 1.8.

## Actuators - Piston Rotary Actuators

### Single & Double Acting

Piston rotary actuators are powerful, compact & durable rack & pinion units, for use on quarter turn applications. The use of high-grade steel and aluminium components together with patented 3 points piston support provides a tough reliable unit for the automation of today's high performance industrial valves.

Modern synthetic bearings ensure no metallic contact between moving components. Spring return actuators incorporate the multiple spring concepts for maximum flexibility, they are also "field reversible". Safety features include an anti-blow out spindle and a spring retaining system, which ensures no

spring tension on disassembly. All actuators have mounting flanges and drives to ISO 521.



### Specifications

<b>Pressure</b>	:	<b>Upto 6 bar</b>
<b>Temperature</b>	:	<b>- 20° C to + 80° C</b>
<b>Construction</b>	:	<b>Suitable for Indoor or Outdoor Installation</b>
<b>Material</b>	:	<b>Housing - Aluminium Alloy</b>
<b>Stroke (Standard)</b>	:	<b>0° to 90°</b>

## Diaphragm Rotary Actuators

The 'LDp' Series actuators are diaphragm operated rotary actuators using linkage arrangement for motion transfer from linear to rotary. These actuators are exclusively designed for V-Ball Valves, Butterfly Valves and 'O'-Ball Valves are suitable for regulating and on-off applications. The actuators provide accurate, safe and reliable valve

operation at low supply pressures. Heavy-duty lever arrangement offers great stability under high torque and shock conditions. Low friction operation allows more accurate control, low maintenance and long service life. Various models are available covering small to large torque requirements.





## Features

- Utility** : Applicable for regulating and on-off functions.
- High power** : Variety of models provide choice for low and high torque requirements.
- Long Service Life** : Rigid construction and durable components provide a long lasting service life.
- Minimum Maintenance** : The actuators are virtually maintenance free.
- Manual Operators** : The actuators are also available incorporated with hand wheel arrangements as Top mounted or Side mounted configurations.
- Low Friction Bearings** : PTFE lined steel backed bearing offer a coefficient of friction allowing maximum torque transmission on to out shaft.
- Complete Field Reversible** : Fail Open or Fail Close can be quickly changed at site by inverting the actuator.



## Specifications

- Max. Diaphragm Pressure** : 50 PSI
- Actuator Travel** : 90°/60°
- Operating Temp. Range** : - 40 °F to + 176 °F Nitrile Elastomers
- Models** : LDp-0-58-90°/60°  
LDp-1-58-90°/60°  
LDp-2-78-90°/60°  
LDp-3-98-90°/60°
- Manual Overrides** : Manual overrides are available as Top mounted Hand Wheel. When Handwheel is turned, force is extended on the diaphragm plate, compressing the actuator spring and operating the valve in the direction of air stroke.

## Torque Values (lb-In)

### Stroke 0-90°

SUPPLY PSI		35		40		50	
Actuator Model	Spring Set	End of Air	End of Spring	End of Air	End of Spring	End of Air	End of Spring
LDp-0-58-90°	A	206.8	206.8	413.6	206.8	774.4	206.8
	B	-	-	101.2	519.2	466.4	519.2
LDp-1-58-90°	A	356.4	356.4	712.8	356.4	1337.6	356.4
	B	-	-	176.0	888.8	800.8	888.8
LDp-2-78-90°	A	827.2	827.2	1654.4	827.2	3093.2	827.2
	B	-	-	413.6	2059.2	1856.8	2059.2
LDp-3-98-90°	A	1531.2	1531.2	3062.4	1531.2	5746.4	1531.2
	B	-	-	765.6	3832.4	3449.6	3832.4

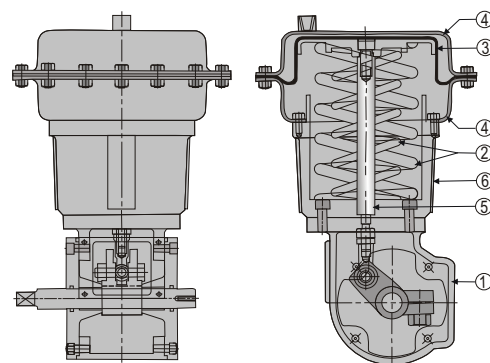
## Torque Values (lb-In)

### STROKE 0-60°

SUPPLY	PSI	35		40		50	
Actuator Model	Spring Set	End of Air	End of Spring	End of Air	End of Spring	End of Air	End of Spring
LDp-0-58-60°	A	358.2	358.2	716.41	358.2	1341.12	358.2
	B	-	-	175.3	899.27	2331.72	899.27
LDp-1-58-60°	A	617.3	617.3	1234.64	617.3	2316.76	617.3
	B	-	-	304.83	1539.47	1387.06	1539.47
LDp-2-78-60°	A	1432.73	1432.73	2865.54	1432.73	5355.86	1432.73
	B	-	-	716.41	3566.64	3216.05	3566.64
LDp-3-98-60°	A	2652.06	2652.06	5304.2	2652.06	9953.06	2652.06
	B	-	-	1325.98	6637.84	5974.85	6637.84

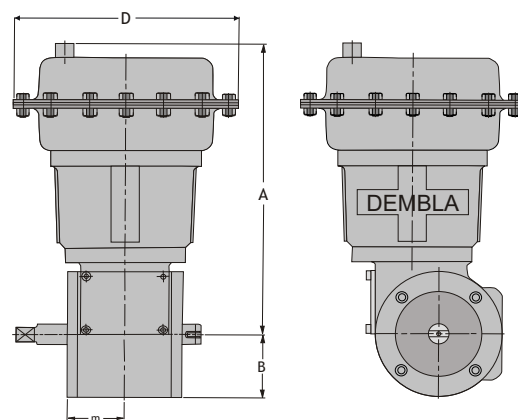
## Material of Construction

SR. No.	PART REF.	PART	M.O.C
1	501	Lever Box	S.G. Iron
2	406	Spring	Chrome Vanadium Spring
3	411	Diaphragm	Nitrile with Nylon insert
4	402	Diaphragm Casing	Steel (C.R.C. Sheet)
5	408	Actuator Stem	SS 410
6	424	Spring Housing	Steel

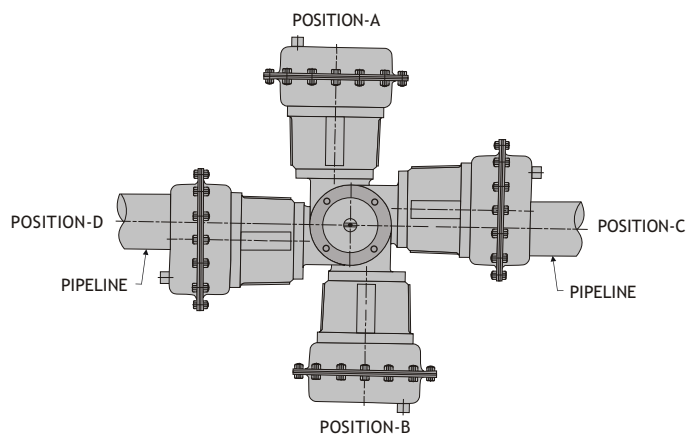


## Dimensions

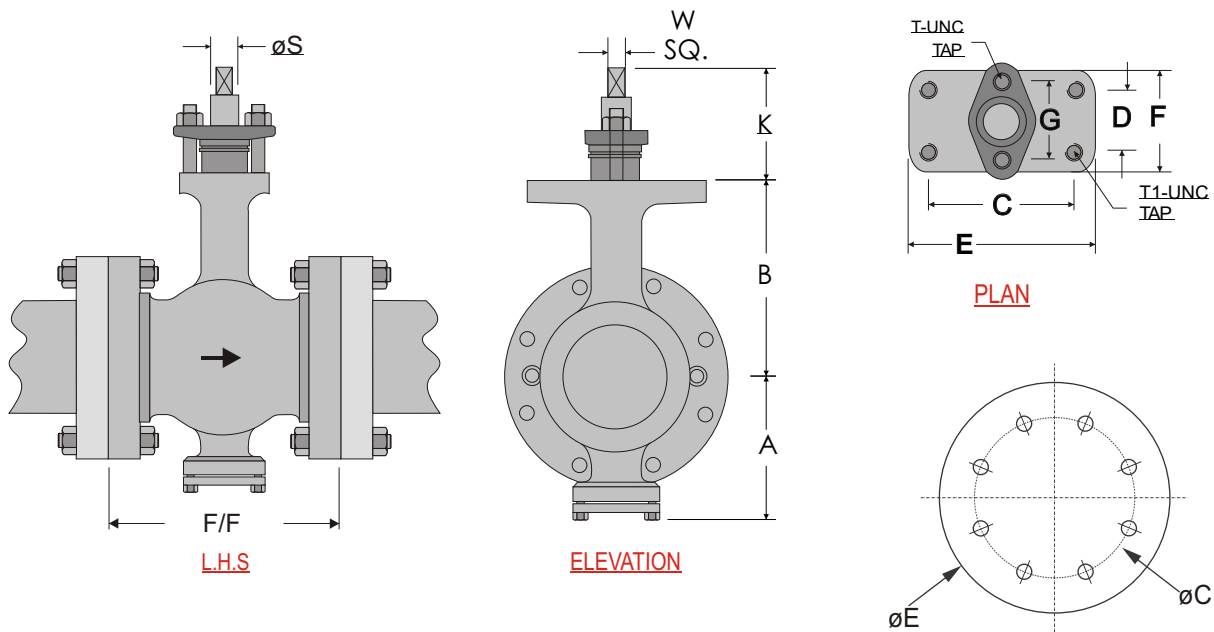
ACTUATOR MODEL	A	B	ØD	M
LDp-0-58-90°	320	68	240	61
LDp-1-58-90°	337	68	290	61
LDp-2-78-90°	442	86	380	76
LDp-3-98-90°	573	110	448	91
LDp-0-58-60°	332	85	240	61
LDp-1-58-60°	350	85	290	61
LDp-2-78-60°	460	110	380	76
LDp-3-98-60°	602	140	448	91



## Actuator Mounting Options at Various Angle



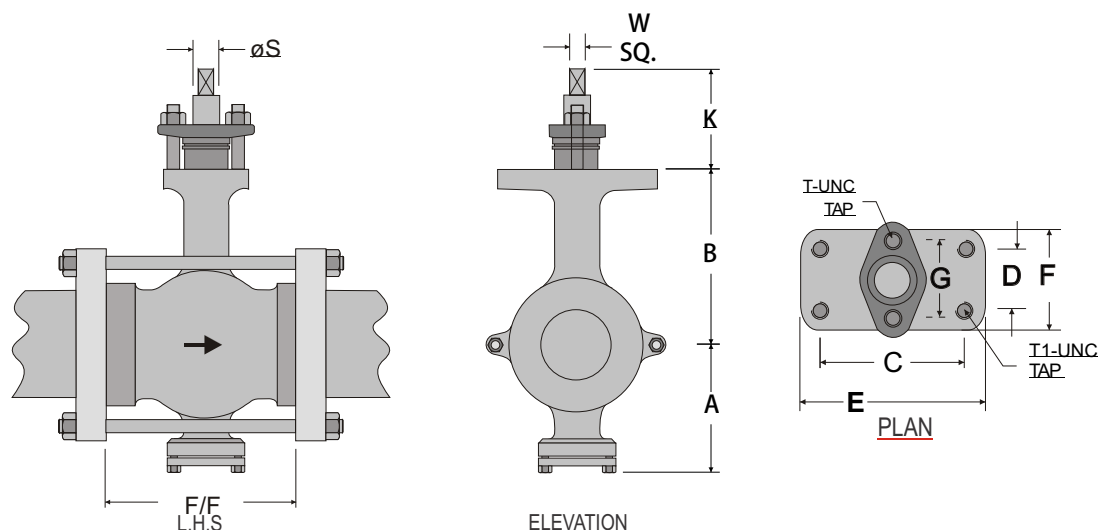
## Valve Dimensions - Flanged Body



### All Dimensions

VALVE SIZE		F/F As Per B 16.10	A	B	øC/C	D	ø E/E	F	G	K	øS	T-UNC x DEEP	T1-UNC x DEEP	W SQ.
INCH	MM													
1	25	127	73	92	90	35	110	55	39	60	14	5/16"x15	3/8"x15	11.0
1.1/2	40	165	95	123	96	32	120	60	49	80.5	20	3/8"x15	3/8"x15	14.5
2	50	178	104	132	96	32	120	60	49	80	20	3/8"x15	3/8"x15	14.5
2.1/2	65	190	110	140	96	36	120	65	49	80	20	3/8"x15	3/8"x15	14.5
3	80	203	122	160	112	45	140	75	59	89.5	25	1/2"x19	1/2"x19	19.0
4	100	229	138	174	112	45	140	75	59	91	25	1/2"x19	1/2"x19	19.0
6	150	267	188	210	157	54	200	95	69	90	32	1/2"x19	3/4"x28	24.0
8	200	292	216	275	157	54	200	95	69	90	35	1/2"x19	3/4"x28	27.0
10	250	330	248	290	157	75	200	120	69	91	35	1/2"x19	3/4"x28	27.0
12	300	335	285	343	157	75	200	120	69	90	38	1/2"x19	3/4"x28	27.0
14	350	381	307	325	198	100	245	145	110	90	60	1/2"x19	3/4"x28	46.0
16	400	406.4	400	450	198	100	245	145	110	90	60	1/2"x19	3/4"x28	46.0
18	450	863.6	475	500	220	156	275	145	110	110	70	1/2"x19	3/4"x28	55.0
20	500	914.4	544	510	298	-	350	-	125	135	80	1/2"x19	3/4"x28	55.0
24	600	1067	650	675	298	-	350	-	125	135	80	1/2"x19	3/4"x28	55.0

## Valve Dimensions - Flangeless Body



### All Dimensions

VALVE SIZE		F/F ISA 75.08.02	A	B	C	D	E	F	G	K	$\varnothing S$	T-UNC x DEEP	T1-UNC x DEEP	W SQ.
INCH	MM													
1	25	102	73	92	90	35	110	55	39	60	14	5/16" x 15	3/8" x 15	11.0
1.1/2	40	114	95	123	96	32	120	60	479	80.5	20	3/8" x 15	3/8" x 15	14.5
2	50	124	104	1232	96	32	120	60	49	80	20	3/8" x 20	3/8" x 15	14.5
2.1/2	65	146	110	140	96	36	120	65	49	80	20	3/8" x 20	3/8" x 19	14.5
3	80	165	122	160	112	45	140	75	49	89.5	25	1/2" x 19	1/2" x 19	19.0
4	100	194	138	174	112	45	140	75	59	91	25	1/2" x 19	1/2" x 19	19.0
6	150	229	188	210	157	54	200	95	59	90	32	1/2" x 19	3/4" x 28	24.0
8	200	243	216	275	157	54	200	95	69	90	35	1/2" x 19	3/4" x 28	27.0
10	250	297	248	290	157	75	200	120	69	91	35	1/2" x 19	3/4" x 28	27.0
12	300	338	285	343	157	75	200	120	69	91	38	1/2" x 19	3/4" x 28	27.0
14	350	400	307	325	198	100	245	145	110	91	38	1/2" x 19	3/4" x 28	46.0
16	400	400	400	450	198	100	245	145	110	90	60	1/2" x 19	3/4" x 28	46.0
18	450	457	475	500	220	156	275	145	110	110	70	1/2" x 19	3/4" x 28	55.0
20	500	914.4	544	510	298	-	350	-	125	135	80	1/2" x 19	3/4" x 28	55.0
24	600	1067	650	675	298	-	350	-	125	135	80	1/2" x 19	3/4" x 28	55.0



**Dembla**

**Sales Office:**

M/S. Dembla Valves Ltd.  
C-30, Jai Matadi Compound, Kalher  
Village, Thane-Bhiwandi-Agra Road -  
421302,  
Maharashtra, India.  
Tel - +91-9292234790 - 97  
E-mail - [expo@dembla.com](mailto:expo@dembla.com)  
[More info - www.dembla.com](http://www.dembla.com)

**Works:**

M/S. Dembla Valves Ltd.  
A/8, Arahm Logistic, Valshind Village,  
Mumbai -Nashik Highway  
(NH3), Bhiwandi  
Thane - 421302. Maharashtra (India)

