

GLOBE 2 WAY CONTROL VALVE SERIES-110

INTRODUCTION

This type of Valve with its classic globe body shape, which reflects its name, uses the variable area generated between the plug and seat to control fluid flow. It is very versatile offering reduced trim options as well as a variety of special trims for severe high pressure drop applications. This style of valve is easily adapted for use on cryogenic temperatures and for high temperature duties. This valve is preferred for tight shut off, positioning accuracy, high rangeability and simplified maintenance, satisfy the majority of control valve applications throughout the process and power industries in control of Air, Steam, Water, Gas, Chemicals etc.

(04/19	BUILT IN RELIABILITY	1 of 14
		Features- Top or Side Mounted handwheel, Limit Stops Removable Blind Head, Steam Jacketing, etc.	CONTROL VALVE WITH DIRECT ACTUATOR
		Proximity Switches etc.	
		Airset, Solenoid Valve, Air Lock, Volume Booster, Position Transmitter, Limit-	
		Smart Positioner. Instruments-	ENTED COOK
	ACCESSORIES	: Valve Positioner - Pneumatic , ElectroPneumatic,	
	AIR SUPPLY AIR CONNECTION	: 20 – 35 PSIG (1.4 – 2.5 Kg/cm ²) : 1/ 4" or 1/ 2" NPT	
		: $6 - 30 \text{ PSIG} (0.4 - 2.0 \text{ Kg/cm}^2)$	244
	DIAPHRAGM SPRING RANGES	: Nitrile / Neoprene. : 3 – 15 PSIG (0.2 – 1.0 Kg/cm ²)	
	ACTUATOR ACTION	: Direct / Reverse Acting.	<u>6119</u>
	ACTUATOR TYPE	Leakage) : Diaphragm, Piston or Electric.	
		Metal to Soft Seating – Bubble tight (Zero	
		(STANDARD LEAKAGE RATES) Metal to Metal Seating Class IV, Less than 0.01% of rated Cv.	
	SEAT LEAKAGE	: As per ANSI/FCI-70-2 Class III. IV, V and VI	
	CHARACTERISTICS	(Alloy 6) : Equal Percentage, Linear and Quick Opening.	
	INIM MATERIALS	Steel,13% Chrome Steel Hastelloy B/C, Stellite	
	TRIM MATERIALS	Low Noise (LN1, LN2, LN3, LN4) : Stainless Steel, Alloy20, Monel, Duplex Stainless	
		V-Ported (Balanced / Unbalanced),	
	TRIM DESIGNS	• Top Guided Contoured, Splined Micro Flow,	ACTUATUR
	GLAND PACKING	: Bellows seals. : Grafoil / PTFE V Rings, Low Emission	WITH REVERSE ACTUATOR
		: Cryogenic - 100°C to - 250°C	CONTROL VALVE
		: Extended cold service - 20°C to - 100°C	
	BONNET	 Standard upto 250°C Normalizing (Finned) between 250°C to 500°C 	
		Stainless Steel, Aluminum Bronze, PP, PTFE etc.	
	BODY MATERIALS	: Carbon Steel, Chrome-moly Steel, Stainless Steel, Monel, Alloy20, Hastelloy B/C, Duplex	
	END CONNECTION	: Flanged, Butt Weld, Screwed, Socket weld.	
		ISA S.75.16 900# and above	
	RATING FACE TO FACE	: ANSI 150 to 2500 or Equivalents to BS, DIN, etc. : ISA S.75.03 up to 600#	Standba
	VALVE SIZE	: 15 to 450 mm (1/2" to 18")	
	DESIGN	: ASME B16-34	6 <u>11</u> 5
	SPECIFICATIONS		0.0
L	etc.		

DESIGN FEATURES

- >> High flow capacity and rangeability.
- >> Large variety of Trim design.
- >> Top entry for ease of inspection and maintenance.
- >> Tight closing for reliable control even when changes in pressure / temperature are sudden and extreme.
- >> Bolts located outside of the piping stress area to eliminate gasket crush problems,
- >> Wide selection of actuators to meet most system requirement.
- >> Rigorously proven on-site performance.

QUALITY AND PERFORMANCE GUARANTEE

- >> Produced with Quality Systems accredited to ISO 9001 : 2008 by Bureau Veritas and "CE" marked in accordance to Pressure Equipments Directive and Regulations by Lloyd's Register.
- >> Full material certification available for all major component Parts.
- >> Full guarantee on design and Performance.
- >> All testing performed to the requirements of ASME B16.34.

RANGEABILITY

The Inherent rangeability of Pneucon standard trims is as given under.

		STANDARD RANGEABILITY								
TRIM	I SIZE	Spline micro	CONTOURED	LR trim	Multi Stage trim					
ins	mm	trim								
1/2 and 3/4	15 and 20	100:1	40 : 1	35:1	-					
1 to 3	25 to 80	80 : 1	50 : 1	45:1	40:1					
4 to 12	100 to 450	-	60 : 1	55 : 1	50 : 1					
14 to 24	350 to 600	-	70:1	60:1	50 : 1					

MAXIMUM RECOMMENDED VALVE BODY VELOCITY FOR LIQUID FLOWS

	VAIN	YE SIZE	VA	LVE BODY MATE	RIAL
Trim style	VALV	L SIZE	CARBON STEEL	ALLOY STEEL	Aluminium bronze
	Ins	mm	m /s	m /s	m / s
Contoured	1/2 to 2	15 to 50	12.5	14.0	8.0
Contoureu	3 to 8	80 to 200	10.5	11.0	6.5
Corro Curidad	1 to 12	25 to 300	13.1	15.8	8.0
Cage Guided	12 to 24	350 to 600	10.7	13.1	6.5

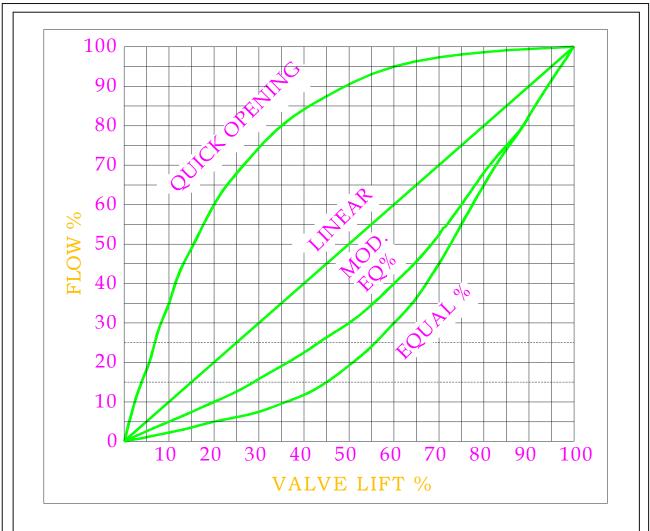
MAXIMUM RECOMMENDED VALVE BODY VELOCITY FOR GAS/VAPOUR FLOWS

VALVE SIZE No.		MAXIM	UM OUTLE	T MACH				
	Trim Style	VIII)V.		Inlet velocity	Outlet velocity	No. for predicted nois		oise level
		Ins	mm	m/s	m /s	>95db a	<95dba	<85dba
		1/2 to 2 15 to 50		105	253	0.65	0.5	0.3
	Contoured	3 and 4	80 and 100	90	253	0.65	0.5	0.3
		6 and 8	150 to 200	85	253	0.65	0.5	0.3
	Cage Guided	1 to 24	25 to 600	68	253	0.65	0.5	0.3

BUILT IN RELIABILITY

PNEUCON





The Inherent flow characteristic of a control valve is the relationship between the flow and the lift of the plug at constant pressure drop.

The following characteristics are normally available.

EQUAL% - Flow capacity increase exponentially with valve travel.

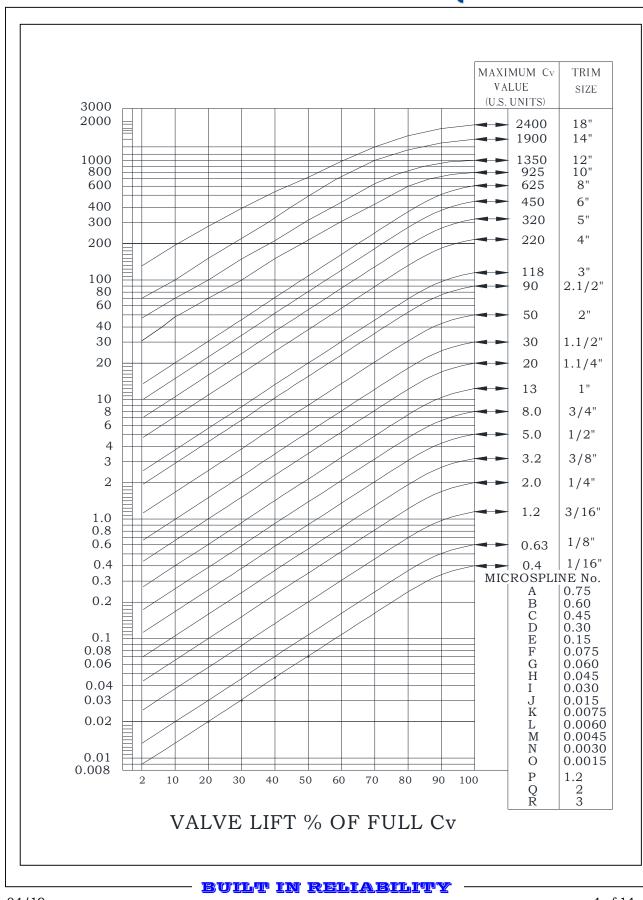
Equal increments of valve travel produce equal % changes in the existing Cv.

MODIFIED EQUAL% :- A modified characteristic is approximately midway between Linear and Equal % characteristic.

It provides fine throttling at low flow capacity and approximately linear characteristic at higher flow capacity.

LINEAR:-Flow capacity increases linearly with valve travel.

Quick Opening – The large changes in flow for very small changes in lift. It usually has too high a valve gain for use in modulating control. So it is limited to On-Off Service, such as sequential operation in either batch or semi-continuous processes.





		V	ALVI	E SIZI	NG C	O-EFI	ICIEN	T Cv I	RATIN	G - 15	0# ТС	2500)#		
VAL SIZ		TRIM	SIZE				L	OW N	OISE ′	TRIM	(GAS	5)			
					LN1			LN2			LN3			LN4	
Ins	mm	Ins	mm	ANSI 150 TO 600	ANSI 900 TO 1500	ANSI 2500	ANSI 150 TO 600	ANSI 900 TO 1500	ANSI 2500	ANSI 150 TO 600	ANSI 900 TO 1500	ANSI 2500	ANSI 150 TO 600	ANSI 900 TO 1500	ANSI 2500
1.1/2	40	1.1/2 1.1/4 3/4 1/2	40 32 19 15	28 20 8 5	26 18 8 5	 18 8 5	 16 8 5	 16 8 5	 15 7 4	 6 3	 6 3	 6 3			
2	50	2 1.1/2 1.1/4 3/4	50 40 32 19	42 28 20 8	40 26 18 8	 26 18 8	 23 16 8	 23 16 8	 22 15 7	 15 6	 15 6	 15 6	 6	 6	 6
3	80	3 2.1/2 2 1.1/2 1.1/4 1	80 65 50 40 32 25	88 65 42 28 20 15	83 58 40 26 18 13	 58 40 26 18 13	 55 40 28 20 15	 55 40 26 18 13	 50 38 26 18 13	 36 26 18 10	 36 26 18 10	 36 26 18 10	 26 18 10	 26 18 10	 26 18 10
4	100	4 3 2.1/2 2 1.1/2 1.1/4	100 80 65 50 40 32	140 100 65 42 28 20	132 95 65 42 28 20	 70 58 40 26 18	 66 55 40 28 20	 66 55 40 26 18	 65 50 38 26 18	 52 36 26 18	 52 36 26 18	 50 36 26 18	 36 26 18	 36 26 18	 36 26 18
6	150	6 5 4 3 2.1/2 2	150 125 100 80 65 50	310 240 170 125 100 70	290 230 170 125 100 65	 210 170 125 90 65	 160 120 80 60 45	 160 120 80 60 45	 150 120 80 60 45	 120 80 60 45	 120 80 60 45	 120 80 60 45	 80 60 45	 80 60 45	 80 60 45
8	200	8 6 5 4 3 2.1/2	200 150 125 100 80 65	450 310 240 170 125 100	425 290 230 170 125 100	 290 210 170 125 90	 220 160 120 80 60	 215 160 120 80 60	 210 150 120 80 60	 150 120 80 60	 150 120 80 60	 150 120 80 60	 120 80 60	 120 80 60	 120 80 60
10	250	10 8 6 5 4 3	250 200 150 125 100 80	850 660 470 330 240 170	790 630 450 325 240 150	 	 450 320 220 160 120	 440 320 220 160 120	 	 300 220 160 120	 300 220 160 120	 	 220 160 120	 220 160 120	
12	300	12 10 8 6 5 4	300 250 200 150 125 100	1060 850 660 470 330 240	990 790 630 450 290 230	 	 590 450 320 220 160	 	 	 400 300 220 160		 	 300 220 160	 300 220 160	
14	350	14 12 10 8 6 5	350 300 250 200 150 125	1390 1060 850 660 470 330		 	 780 590 450 320 220	 	 	 590 420 320 220			 420 320 220		
16	400	16 14 12 10 8 6	400 350 300 250 200 150	1680 1390 1060 850 660 470	 	 	 930 780 590 450 320	 	 	 710 590 450 320	 	 	 590 450 320	 	
18	450	18 16 14 12 10	450 400 350 300 250	2200 1680 1390 1060 850	 	 	 1300 930 780 590	 	 	 1010 870 710	 	 	 590	 	

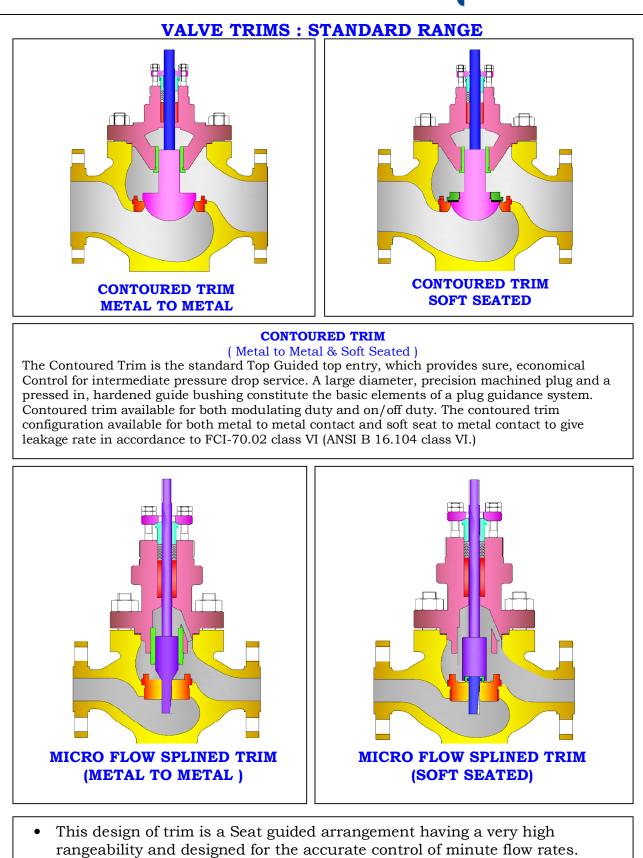
- Built in <u>Reliability</u>



VALVE SIZE	TRIM SIZE	CONTO	URED &						-			2500 ‡			
		V-POR	T TRIM				LOW	/ NOI	SE TI	RIM (LIQU	ID)			
Ins		EQUA L %	QUIC K		LN1			LN2			LN3			LN4	
mm	Ins	L % & LINEA R	OPENIN G (ON-	ANSI 150 TO	ANSI 900 TO	ANSI 2500	ANSI 150 TO	ANSI 900 TO	ANSI 2500	ANSI 150 TO	ANSI 900 TO	ANSI 2500	ANSI 150 TO	ANSI 900 TO	ANSI 250 0
1.1/2	1.1/2 1.1/4	30 20	OFF) 35 20	600 28 20	1500 26 18	 18	600 16	1500 15	 14				600 		
40	1 3/4	13 8	13 8	8	8	8	8	 6	 6	 5	 5	 5			
	1/2 2	5 50	5 55	5 42	5 40	5	5	3	3	3	3	3			
2	1.1/2 1.1/4	30 20	35 20	28 20	26 18	26 18	22 17	22 17	20 16	 15	 15	 15			
50	1 3/4	13 8	13 8	8	8	8	8	8	7	5	 5	 5	5	5	5
3	$3 \\ 2.1/2 \\ 2$	118 90 50	125 95 55	88 65 42	83 58 40	 58 40	 50 38	 50 38	 47 36	 33	 33	 33			
80	1.1/2 1.1/4 1	30 20 13	35 20 13	28 20 15	26 18 13	26 18 13	28 20 13	26 18 13	26 18 13	25 18 12	25 18 12	24 18 12	22 15 8	22 15 8	22 15 8
4	4 3	220 118	225 125	140 100	132 95	 70	 61	 60	 58						
100	2.1/2 2 1.1/2 1.1/4	90 50 30 20	95 55 35 20	65 42 28 20	58 40 26 18	58 40 26 18	50 39 28 20	50 38 26 18	47 36 26 18	45 33 25 18	44 33 25 18	43 32 24 18	 30 22 15	 30 22 15	 30 22 15
6	6 5 4	450 320 220	470 335 225	310 240 170	290 230 170	 210 170	 150 110	 150 110	 140 110	 105	 105	100			
150	3 2.1/2 2	118 90 50	125 95 55	125 100 70	125 100 65	125 90 65	80 55 39	80 55 39	80 50 38	75 45 33	75 45 33	72 43 32	65 42 30	65 42 30	65 42 30
8	8 6 5	625 450 320	700 470 335	450 310 240	425 290 230	 290 210	 200 150	 200 150	 190 145	 125	 125	 125			
200	4 3 2.1/2	220 118 90	225 125 95	170 125 100	170 125 100	170 125 90	110 80 55	110 80 55	110 80 50	105 75 45	105 75 45	105 72 43	95 65 42	95 65 42	95 65 42
10	10 8 6	925 625 450	930 550 470	850 660 470	790 630 450	 	 410 300	 410 300		 250	 250				
250	5 4 3	320 220 118	335 225 125	330 240 170	325 240 150		200 150 110	200 150 110	 	180 130 105	180 130 105		160 120 90	160 120 90	
12	12 10	1350 925	1420 990	1060 850	990 790		560								
300	8 6 5 4	625 450 320 220	700 470 335 225	660 470 330 240	630 450 290 230		410 300 200 150			350 250 180 130			 220 160 120	 220 160 120	
14	14 12 10	1900 1350 925	2250 1420 930	1390 1060 850			 720 560			520					
350	8 6 5	625 450 320	700 470 335	660 470 330		 	410 300 200			350 250 180	 		320 220 160	 	
16	16 14	2400 1900	3000 2250	1680 1390			 870								
400	12 10 8 6	1350 925 625	1420 930 700	1060 850 660	 	 	720 560 410	 	 	620 520 350	 	 	450 320	 	
18	6 18 16	450 3100 2400	470 3700 3000	470 2200 1680			300 1240			250 			220 		
450	14 12 10	1900 1350 925	2250 1420 930	1390 1060 850		 	870 720 560		 	850 650 520					

BUILT IN RELIABILITY

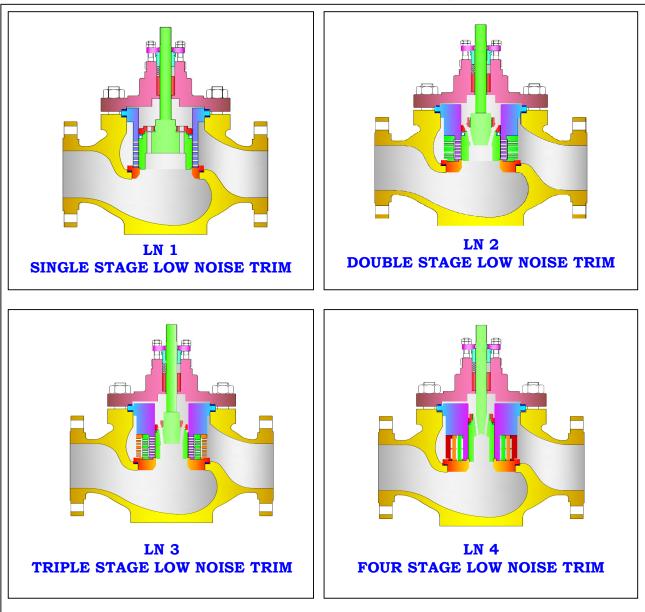




Built in <u>Reliability</u>

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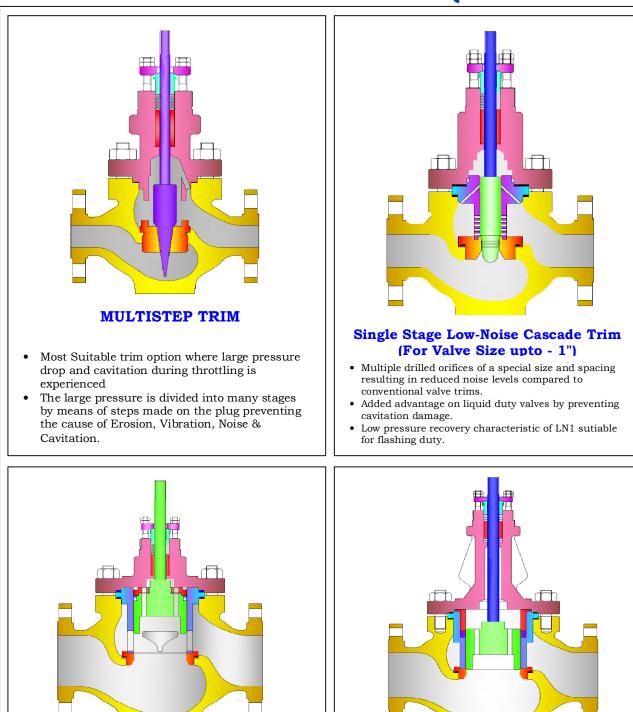


LOW NOISE TRIM

(Metal to Metal and Soft Seated)

- All the advantages of ported cage trims.
- Multiple drilled orifices of a special size and spacing resulting in reduced noise levels compared to conventional valve trims.
- Added advantage on liquid duty valves by preventing cavitation damage.
- Low pressure recovery characteristic of LN1 sutiable for flashing duty.





V – PORTED TRIM (Metal to Metal or Soft Seated)

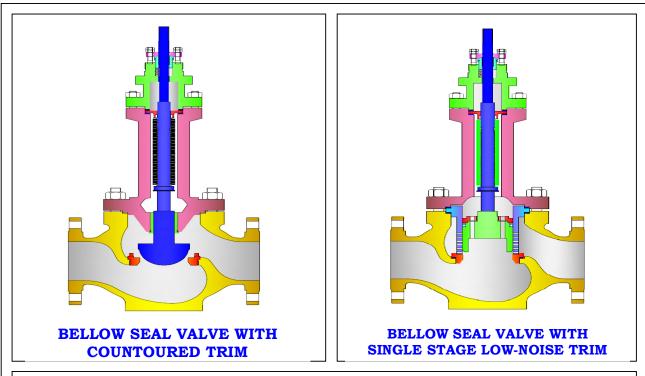
• Ported cage trim is a heavy duty cage guided design with the option of pressure balanced configuration.

• Choice of seal materials provides fluid compatibility.



• The LN Pressure Balance Seal of Grafoil used for Sustaining High Temperature.

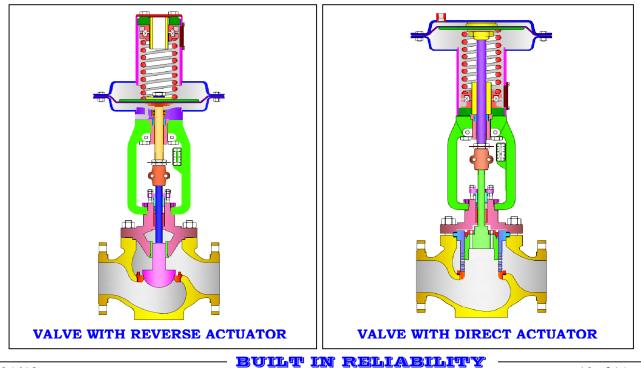




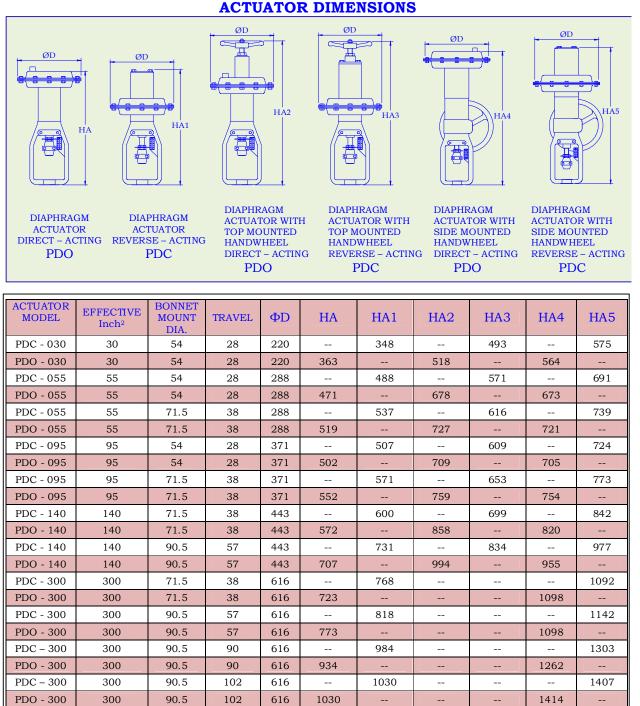
• The Seal of the operating spindle by a bellows eliminates the Leakages of conventional stuffing box seated valves.

APPLICATION AREAS :-

- Heavy duty Services for Vapours, Gases and Liquids.
- For very High or Extreme low Temperatures.
- For Toxic, Corrossive, Inflammable, Volatile & Expensive Media.
- In case of Danger of Water Hammers in systems with risk of Vibrations.







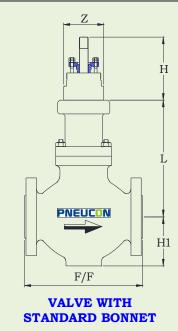
- PDO Direct Acting Actuator
- PDC Reverse Acting Actuator

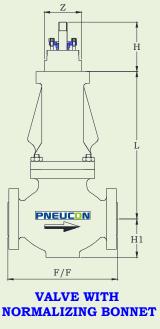
(used on supply failure Valve - Opens) (used on supply failure Valve - Closes)

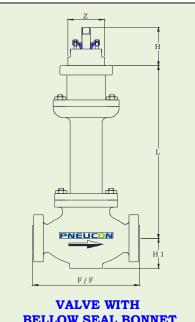
- All dimensions in mm.
- The Company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice

BUILT IN RELIABILITY

		E WIT RD BOI			NOF		E WITH ZING BON	NET			WITH L BONI	NET	
150 300 6 (NP (NP (ANSI 600 (NP	STEM IN UP	HEIGHT FROM LINE					TR LINE 1	O BASE	STEM
VALVE SIZE		10,16 25,40 64 BS-10- BS-10- BS		64,100 BS-10- K,R)	POSITIO N	MOUNT DIA		NORMALI ZING	BELLO W	ANSI 150#	ANSI 300#	ANSI 600#	TRAVEL
Inch	mm	FACE	TO FAC	E (F/F)	Н	Z		L			H1		
1/2	15	184	190	203	117	53.97	140	192	324	67	67	67	28
3/4	20	184	194	206	117	53.97	140	192	324	67	67	67	28
1	25	184	197	210	117	53.97	140	192	324	67	67	67	28
1.1/2	40	223	235	251	117	53.97	159	245	353	74	83	83	28
2	50	254	267	286	117	53.97	168	248	362	78	86	86	28
2.1/2	65	276	292	311	143	71.44	203	311	467	111	111	111	38
3	80	299	318	337	143	71.44	203	311	467	111	111	111	38
4	100	352	368	394	143	71.44	206	330	480	130	130	140	38
6	150	451	473	508	197	90.42	276	394	676	165	165	165	57
8	200	543	568	610	197	90.42	292	435	716	197	197	230	57
10	250	673	708	752	229	90.42	390	632	842	232	232	260	90
12	300	737	775	819	229	90.42	405	647		245	245	297	90
14	350	890	927	972	339	147.5	422	672		297	297	310	100
16	400	1016	1057	1108	244	147.5	543	745		343	343	353	100
18	450	1153	1194	1251	325	147.5	577	783		377	369	377	125



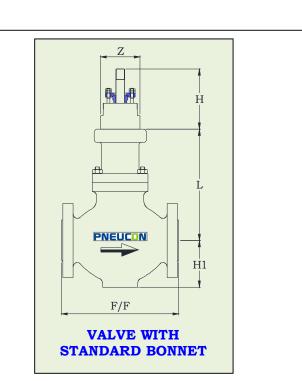


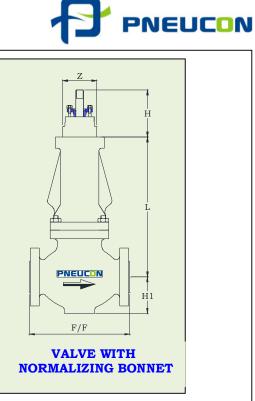




- BUILT IN RELIABILITY

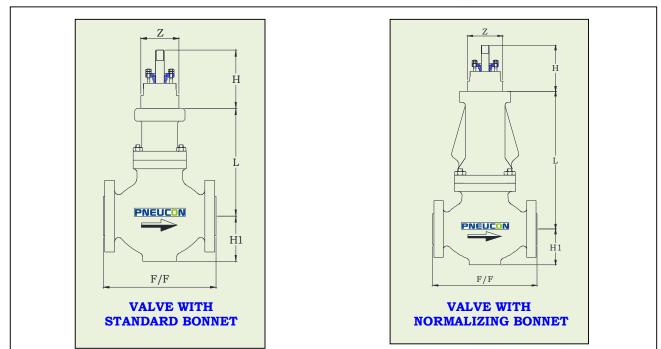
		ANSI	ANSI	ANSI	ANSI	STEM IN	BONNET		T FROM ER LINE		FR LINE BASE	STEM
VALVE	SIZE	900 (S.P)	1500 (S.P)	900 (L.P)	1500 (L.P)	POSITIO N	MOUNT DIA	STANDARD	NORMALIZING	ANSI 900#	ANSI 1500#	TRAVEL
Inch	mm	F	ACE TO I	FACE (F/	F)	Н	Z		L	H	H1	
1/2	15	273	273	292	292	117	53.97	153	229	83	83	28
3/4	20	273	273	292	292	117	53.97	153	229	83	83	28
1	25	273	273	292	292	117	53.97	153	229	83	83	28
1.1/2	40	311	311	333	333	117	53.97	179	229	94	94	28
2	50	340	340	375	375	117	53.97	201	298	115	115	28
2.1/2	65	-	-	410	410	143	71.44	211	358	134	134	38
3	80	387	406	441	460	143	71.44	211	358	134	144	38
4	100	464	483	511	530	143	71.44	243	390	161	169	38
6	150	600	692	714	768	197	90.42	337	475	205	205	57
8	200	781	838	914	972	197	90.42	400	500	259	259	57
10	250	864	991	991	1067	229	90.42	533	895	323	348	90











		ANSI 2500#	STEM IN	BONNET		T FROM ER LINE	CENTR LINE TO BASE	STEN
VALVE	SIZE	(L.P)	UP POSITION	MOUNT DIA	STANDARD	NORMALIZING	ANSI 2500#	TRAVE
Inch	mm	FACE TO FACE (F/F)	Н	Z		L	H1	
3/4	_20	308	117	53.97	174	280	93	28
1	25	308	117	53.97	174	280	93	28
1.1/2	40	381	117	71.44	211	313	112	28
2	50	400	117	71.44	269	387	126	28
3	80	660	143	90.42	305	403	171	38
4	100	737	143	90.42	345	445	203	38
6	150	864	197	90.42	412		256	57
8	8 200 1022 197 90.42 530		287	57				



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