

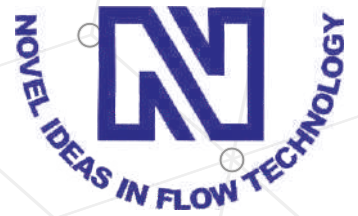


NOVEL
VALVES INDIA PVT. LTD.



www.novelvalves.com

ABOUT NOVEL



- A reputed manufacturer of Industrial Valves, founded by Mr. Pravin Nimkar who is having experience exclusively in Valve technology (Design & Production) for more than two decades driven by ability to provide innovative sustainable solutions to flow technology.
- Qualified professional & experienced Engineers are part of our team to provide the industry with HIGH QUALITY & COST EFFECTIVE products along with best suitable engineering solutions & support to our esteemed clients. We believe in continuous improvements & product innovation to keep ourselves competent.



An ISO 9001-2015 company, promoted by the technocrats having experience of over two decades in Valves technology. The company is engaged in Design, Development, Manufacturing and supply of Quality Industrial Valves. The company has the expertise and facilities to meet growing demand of process and other allied industries for standard and customized valves for wide range of applications.

The Company adheres to the applicable international standards of manufacturing and testing. We look forward to working with you / new customer to solve your unique piping needs as they fit in our range of products. We kindly request you to give us opportunity to serve you in best possible way and to prove our commitment in solving your problems and add value to your process applications.

Qualified professional & experienced Engineers are part of our team to provide the industry with HIGH QUALITY & COST EFFECTIVE products along with best suitable engineering solutions & support to our esteemed clients. We believe in continuous improvements & product innovation to keep ourselves competent.

The company through creativity & innovations is ultimately projecting itself to the forefront of today's OIL & GAS, PETROCHEMICALS, POWER, FERTILIZER, CHEMICALS & other allied industries. Extensive technical knowledge of our professionals backed by sound manufacturing capabilities enable us to provide one – stop solutions for all types of Industrial Valves.

OUR WIDE RANGE OF PRODUCTS

DUAL PLATE & SINGLE PLATE
CHECK VALVES

CAST STEEL, STAINLESS STEEL &
ALLOY STEEL BALL VALVES

GLOBE CONTROL VALVE

BUTTERFLY VALVES

DIAPHRAGM

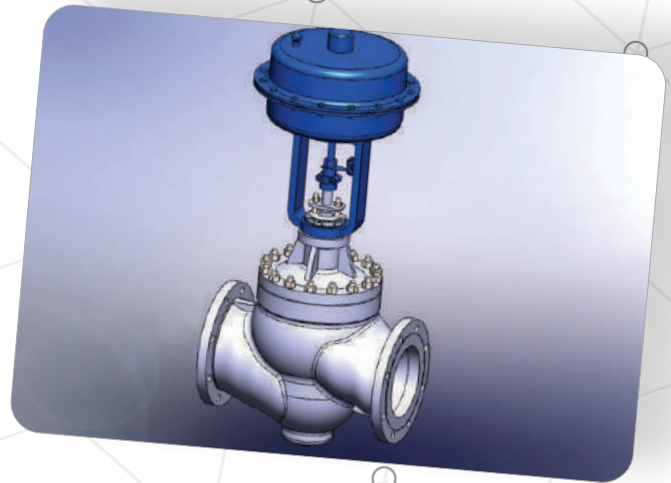
GLOBE & CHECK VALVES

DOUBLE BLOCK & BLEED
BALL VALVES

SLUICE & SAFETY VALVES

INTRODUCTION

This type of valve with its classic globe body shape, uses the variable area to control fluid flow. Several offerings in reduced trim and special trims for severe high pressure drop applications are available. This style of valve can be 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 control of Air, Steam, Water, Gas, Chemicals etc.



DESIGN FEATURES

- High flow capacity and rangeability.
- Large variety of Trim design.
- Top opening for easy trim inspection without disturbing insulation or piping connection.
- 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, reducing downtime.
- Wide selection of actuators to meet most system requirement.
- Rigorously proven on-site performance.

SPECIFICATIONS

DESIGN	ASMEB16.34
VALVE SIZE	15 TO 450 MM (1/2" TO 18")
RATING	ANS I150 TO 25000 R EQUIVALENTS TO BS, DIN, ETC.
FACE TO FACE	ISA 75.031985UPTO600# ISA 75.16FOR 900#ANDABOVE
END CONNECTION	FLANGED, SCREWED, BUTT WELD, SOCKET WELD.
BODY MATERIALS	CARBON STEEL, CHROME-MOLY STEEL, STAINLESS STEEL, MONEL, ALLOY 20, HAS TELL OY B/C ETC.
BONNET	STANDARD UP TO250°C
GLAND PACKING	GRAF OIL / PT FE V RINGS.
TRIM MATERIALS	STAINLESSSTEEL,ALLOY20, MONEL, HAS TELLOY B/C
TRIM DESIGNS	TOP GUIDED CONTOURED, SPLINED MICROFLOW, V-PORTED (BALANCED/UNBALANCED),NOISE REDUCTION TRIM
CHARACTERISTICS	EQUAL PERCENTAGE, LINEAR AND QUICK OPENING.
SEAT LEAKAGE	AS PER FCI - 70 - 2 (ANSI B16.104) CLASS III, IV, V AND VI
ACTUATOR TYPE	DIAPHRAGM, CYLINDER OR ELECTRIC.
ACTUATOR ACTION	DIRECT/REVERSE ACTING.
DIAPHRAGM	NITRILE / NEOPRENE.
SPRING RANGES	3–15PSIG (0.2–1.0KG/CM ²) ,6– 30PSIG (0.4– 2.0KG/CM ²)
AIR SUPPLY	20–35PSIG (1.4–2.5KG/CM ²)
AIR CONNECTION	¼"OR ½"NPT
HANDWHEEL	TOP OR SIDE MOUNTED HAND WHEEL
ACCESSORIES	VALVE POSITIONER - PNEUMATIC, ELECTRO PNEUMATIC
OPTIONAL	SMART POSITIONER, AIRSET, SOLE NOID VALVE, AIR LOCK, VOLUME BOOSTER, I/P CONVERTER, POSITION TRANS MITTER, LIMIT–PROXIMITY SWITCHES ETC. REMOVABLE BLIND HEAD, STEAM JACKETING, ETC.

➤ The Inherent range Range ability of our standard trims is as given under.

TRIM SIZE		STANDARD RANGEABILITY	
INCH	MM	CONTOURED TRIM	NOISE REDUCTION TRIM RANGE
1/2 and 3/4	15 and 20	40:1	35:1
1 to 3	25 to 80	55:1	50:1
4 to 18	100 to 450	70:1	70:1
Micro splines Up to 400 : 1			

➤ Maximum Recommended Valve Body Velocity for Liquid Flows (m/s)

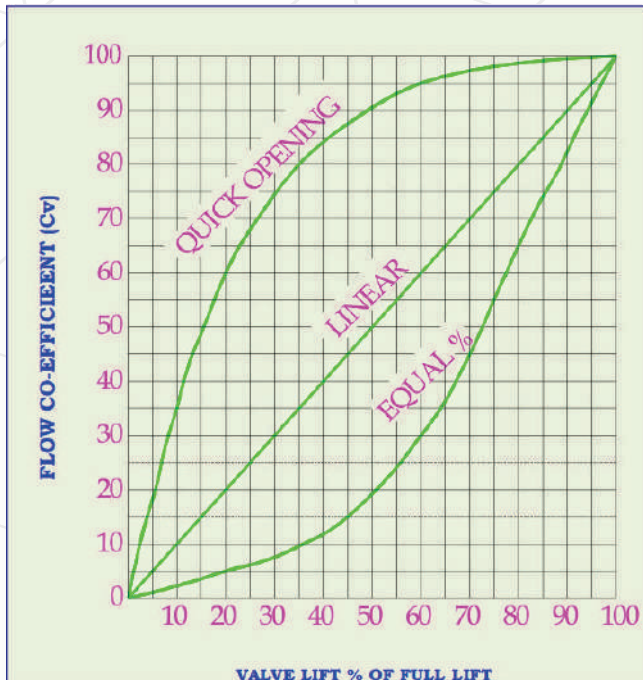
VALVE SIZE		VALVE BODY MATERIAL	
INCH	MM	CARBON STEEL	ALLOY STEEL
1/2 and 2	15 to 50	12.5	14.0
3 to 6	80 to 150	10.4	10.4
8 to 14	200 to 350	8.0	8.0
16 to 18	400 to 450	7.0	7.0

➤ Maximum Recommended Valve Body Velocity for Gas/Vapour Flows

VALVE SIZE		MAXIMUM	MAXIMUM	MAXIMUM OUTLET MACH No. FOR		
		INLET VELOCITY	OUTLET VELOCITY	PREDICTED NOISE LEVEL		
INCH	MM	m/s	m/s	N < 85dba	85dba > N < 95dba	N > 95dba
1/2 and 2	15 to 50	105	253	0.65	0.5	0.3
3 to 4	80 to 100	60	253	0.65	0.5	0.3
6 to 8	150 to 200	85	253	0.65	0.5	0.3
10 to 14	250 to 350	68	253	0.65	0.5	0.3
16 to 18	400 to 450	60	253	0.65	0.5	0.3
LN – All Ratings 1 to 18	15 to 450	144	253	0.65	0.5	0.3
N – Calculated Noise Level						

CHARACTERISTIC CURVES

➤ 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 characteristic normally available are shown as below: -

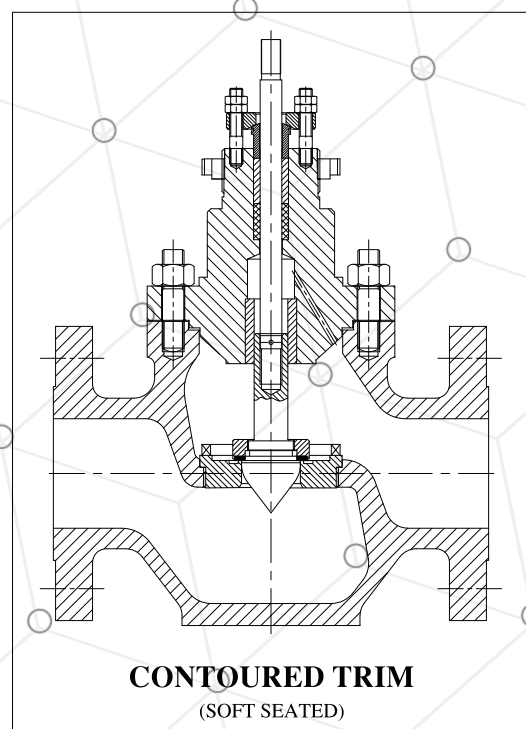
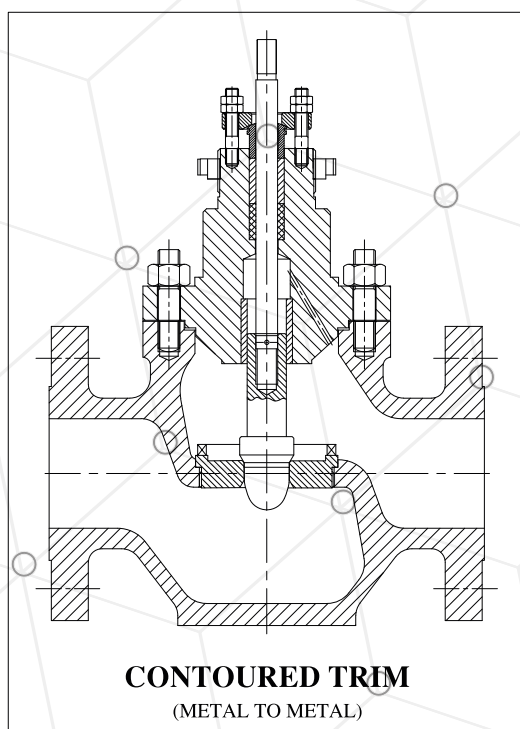


➤ **LINEAR** :- FLOW IS DIRECTLY PROPORTIONAL TO VALVE LIFT

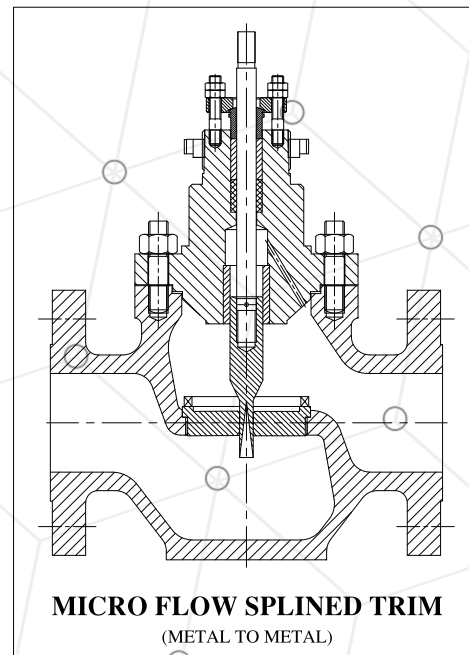
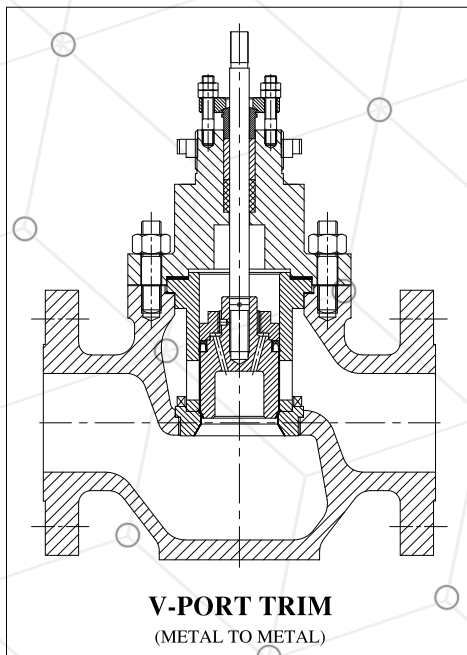
➤ **EQUAL%** :- FLOW CHANGE BY ITS INSTANTANEOUS VALUE FOR EACH UNIT OF VALVE LIFT.

➤ **QUICK OPENING** :- FLOW INCREASES RAPIDLY WITH INITIAL TRAVEL REACHING TO ITS MAXIMUM AT A LOW LIFT.

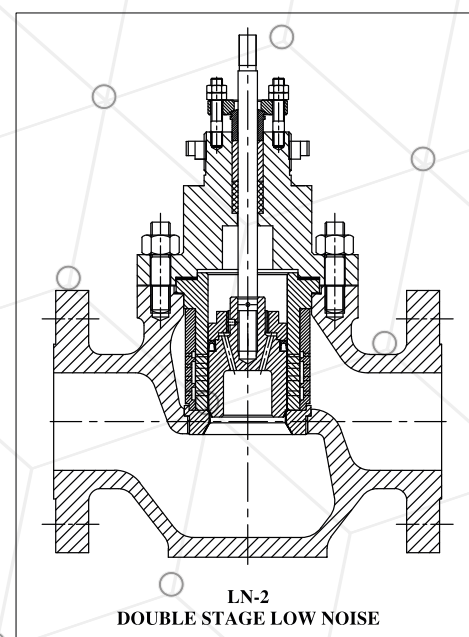
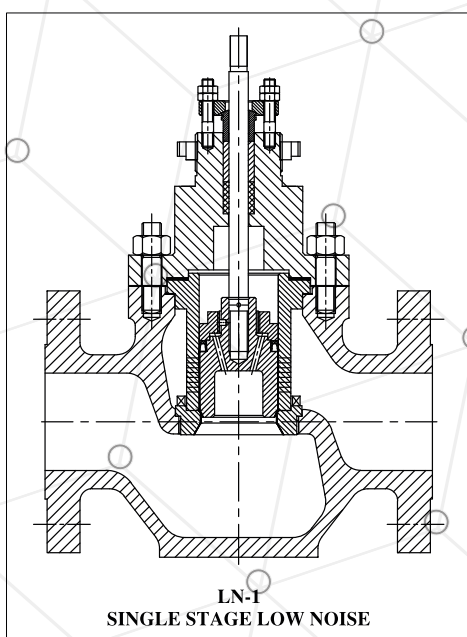
VALVE TRIMS – STANDARD RANGE

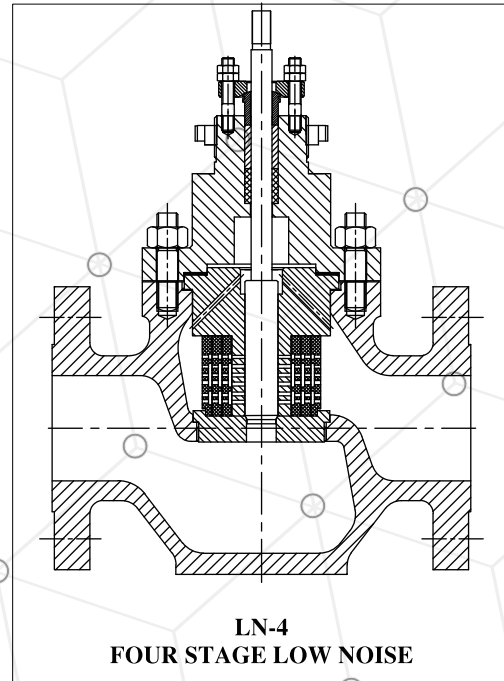
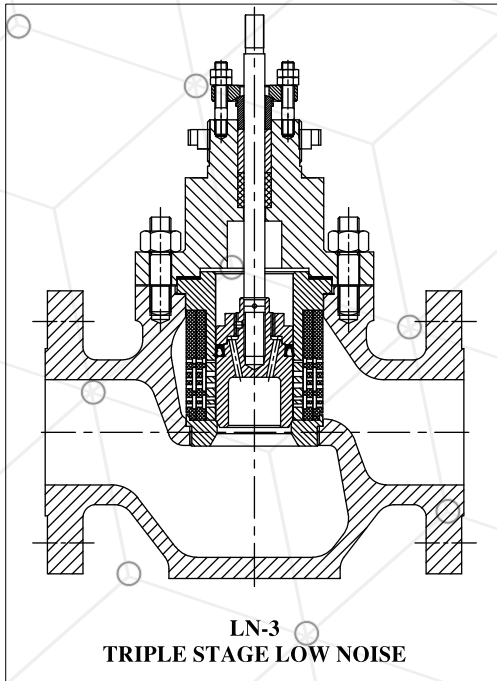


- The Contoured Trim Is The Standard Top Guided Top Entry As Shown In Above Figs, Which Provides Good Economical Control For Low & intermediate Pressure Drop Service. Contoured Trim Available For Both Modulating Duty And On/off Duty. The Contoured Trim Configuration Available For Both Metal To Metal Contact And Soft Seat To Metal Contact To Give Leakage Rate In Accordance To Fci-70.02 Class Iv & Class Vi (ansi B 16.104 Class Vi.) Respectively.

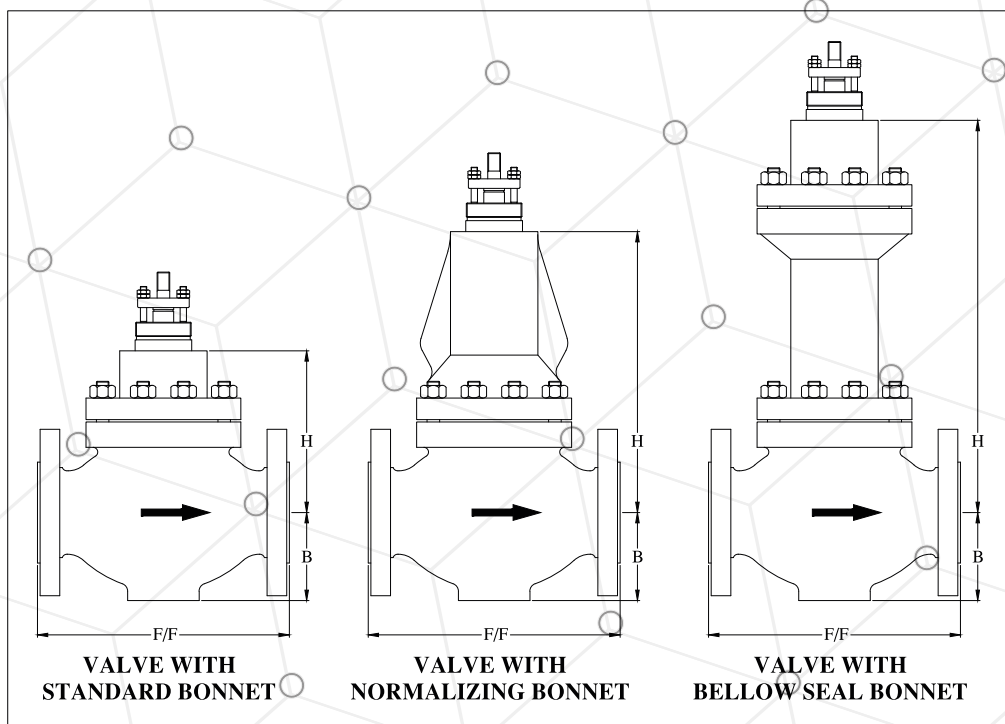


- V – Ported Trim Is A Heavy Duty Cage Guided With Pressure Balanced Operation Against High Pressure With Exceptional Shut-off. Choice Of Elastomer Seal Materials Provides Fluid Compatibility. This Design Of Trim Is A Seat Guided Having Very High Rangeability And Most Suitable For The Accurate Control Of Minute Flow Rates.
- The Micro Spline Trim Is Used Where Required Cvis 0.01 To 1.5.



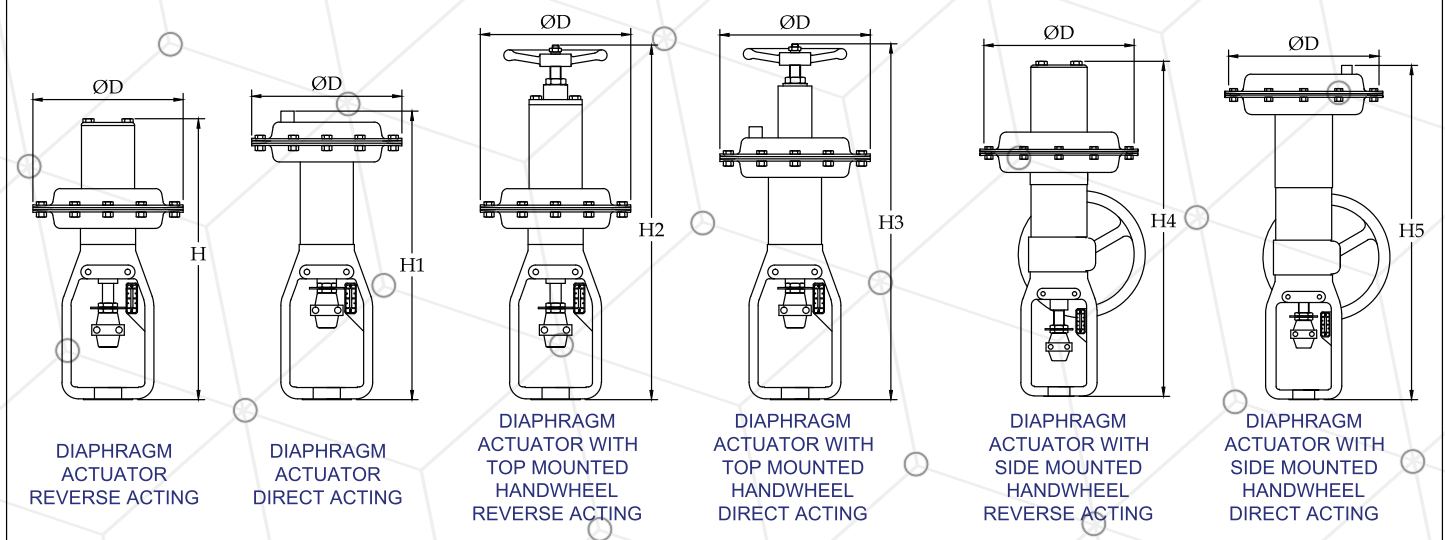


➤ Offer All The Advantages Of V-ported Trims And In Addition Features Multiple Drilled Orifices Of Special Size And Packing Resulting In Reduction Of Operating Noise Level Contrasted To That Generated By Conventional Valve Trims. The Trim Offers Added Advantage On Liquid Duty Valves By Preventing Cavitation Damages.



VALVE SIZE		ANSI 150 (NP 10, 16 BS-10D,E	ANSI 300 (NP 25,40 BS-10 F,H,J)	ANSI 600 (NP 64, 100 BS-10-K,R)	STEM IN UP POSI-TION	BONNET MOUNT DIA	HEIGHT FROM CENTER LINE			CENTRE TO BASE		STEM TRVEL	
							STAN DARD	NOR MALI ZING	BELL OW	ANSI 150#	ANSI 300#		
INCH	MM	FACE TO FACE			H	Z	L			H1			
0.5	15	184	190	203	117	53.97	140	192	324	67	67	67	28
0.75	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
1.5	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
2.5	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

DIAPHRAGM ACTUATOR



ACTUATOR MODEL	EFFECTIVE INCH2	BONNET MOUNT DIA	TRAVEL	ØD	HA	HA1	HA2	HA3	HA4	HA5
NDC - 030	30	54	28	218	-	356	-	494	-	650
NDC - 030	30	54	28	218	372	-	529	-	650	-
NDC - 055	55	54	28	286	-	494	-	566	-	697
NDC - 055	55	54	28	286	471	-	678	-	673	-
NDC - 055	55	71.5	38	286	-	542	-	615	-	746
NDC - 055	55	71.5	38	286	520	-	727	-	722	-
NDC - 095	95	54	28	371	-	513	-	588	-	730
NDC - 095	95	54	28	371	505	-	711	-	707	-
NDC - 095	95	71.5	38	371	-	577	-	651	-	779
NDC - 095	95	71.5	38	371	555	-	760	-	756	-
NDC - 140	140	71.5	38	443	-	601	-	681	-	848
NDC - 140	140	71.5	38	443	573	-	852	-	821	-
NDC - 140	140	90.5	57	443	-	736	-	816	-	983
NDC - 140	140	90.5	57	443	708	-	988	-	956	-
NDC - 300	300	71.5	38	616	-	772	-	-	-	1098
NDC - 300	300	71.5	38	616	723	-	-	-	1075	-
NDC - 300	300	90.5	57	616	-	823	-	-	-	1149
NDC - 300	300	90.5	57	616	773	-	-	-	1075	-
NDC - 300	300	90.5	90	616	-	984	-	-	-	1312
NDC - 300	300	90.5	90	616	937	-	-	-	1239	-
NDC - 300	300	90.5	102	616	-	1030	-	-	-	1426
NDC - 300	300	90.5	102	616	1030	-	-	-	1550	-

VALVE COEFFICIENT CV RATING 150# TO 2500#



VALVE SIZE		TRIM SIZE		CONTOURED & V-PORT TRIM		NOISE REDUCTION TRIM (LIQUID)											
IN	MM	IN	MM	Eq% & Linear	Quick Opening	NR1			NR2			NR3			NR4		
						150# to 600#	900# to 1500#	2500#	150# to 600#	900# to 1500#	2500#	150# to 600#	900# to 1500#	2500#	150# to 600#	900# to 1500#	2500#
1	25	1	25	15	13	14	13	13	12	10	10	8	8	8	-	-	-
		0.75	20	8	8	8	8	8	8	6	6	5	5	5	-	-	-
		0.5	15	5	5	5	5	5	5	3	3	3	3	3	-	-	-
1.5	40	1.5	40	30	35	28	26	-	-	-	-	-	-	-	-	-	-
		1.25	32	20	20	20	18	18	16	15	14	-	-	-	-	-	-
		1	25	15	13	14	13	13	12	10	10	8	8	8	-	-	-
		0.75	20	8	8	8	8	8	8	6	6	5	5	5	-	-	-
		0.5	15	5	5	5	5	5	5	3	3	3	3	3	-	-	-
2	50	2	50	50	55	42	40	-	-	-	-	-	-	-	-	-	-
		1.5	40	30	35	28	26	26	22	22	20	-	-	-	-	-	-
		1.25	32	20	20	20	18	18	17	17	16	15	15	15	-	-	-
		1	25	13	13	14	13	13	12	12	12	10	10	10	8	8	8
		0.75	20	8	8	8	8	8	8	7	5	5	5	5	5	5	5
3	80	3	80	118	125	88	83	-	-	-	-	-	-	-	-	-	-
		2.5	65	90	95	65	58	58	50	50	47	33	-	-	-	-	-
		2	50	50	55	42	40	40	38	38	36	25	33	33	-	-	-
		1.5	40	30	35	28	26	260	28	26	26	18	25	24	22	22	22
		1.25	32	20	20	20	18	18	20	18	18	12	18	18	15	15	15
		1	25	13	13	15	13	13	13	13	13	-	12	12	8	8	8
		0.75	20	8	8	140	132	-	-	-	-	-	-	-	-	-	-
4	100	4	100	220	225	140	132	-	-	-	-	-	-	-	-	-	-
		3	80	118	125	100	95	70	61	60	58	45	-	-	-	-	-
		2.5	65	90	95	65	58	58	50	50	47	33	44	43	-	-	-
		2	50	50	55	42	40	40	39	38	36	25	33	32	30	30	30
		1.5	40	30	35	28	26	26	28	26	26	18	25	24	22	22	22
		1.25	32	20	20	20	18	18	20	18	18	-	18	18	15	15	15
		1	25	13	13	15	13	13	13	13	13	-	12	12	8	8	8
6	150	6	150	450	470	310	290	-	-	-	-	-	-	-	-	-	-
		5	125	320	335	240	230	210	150	150	140	-	-	-	-	-	-
		4	100	220	225	170	170	170	110	110	110	105	105	100	-	-	-
		3	80	118	125	125	125	125	80	80	80	75	75	72	65	65	65
		2.5	65	90	95	100	100	90	55	55	50	45	45	43	42	42	42
		2	50	50	55	70	65	65	39	39	38	33	33	32	30	30	30
		1.5	40	30	35	28	26	26	28	26	26	18	25	24	22	22	22
8	200	8	200	625	700	450	425	-	-	-	-	-	-	-	-	-	-
		6	150	450	470	310	290	290	200	200	190	-	-	-	-	-	-
		5	125	320	335	240	230	210	150	150	145	125	125	125	-	-	-
		4	100	220	225	170	170	170	110	110	110	105	105	105	95	95	95
		3	80	118	125	125	125	125	80	80	80	75	75	72	65	65	65
		2.5	65	90	95	100	100	90	55	55	50	45	45	43	42	42	42
		2	50	50	55	70	65	65	39	39	38	33	33	32	30	30	30
10	250	10	250	925	930	850	790	-	-	-	-	-	-	-	-	-	-
		8	200	625	550	660	630	-	410	410	-	-	-	-	-	-	-
		6	150	450	470	470	450	-	300	300	-	250	250	-	-	-	-
		5	125	320	335	330	325	-	200	200	-	180	180	-	160	160	160
		4	100	220	225	240	240	-	150	150	-	130	130	-	120	120	120
		3	80	118	125	170	150	-	110	110	-	105	105	-	90	90	90
		2.5	65	90	95	100	100	90	55	55	50	45	45	43	42	42	42
12	300	12	300	1350	1420	1060	990	-	-	-	-	-	-	-	-	-	-
		10	250	925	990	850	790	-	560	-	-	-	-	-	-	-	-
		8	200	625	700	660	630	-	410	-	-	350	-	-	-	-	-
		6	150	450	470	470	450	-	300	-	-	250	-	-	220	220	220
		5	125	320	335	330	290	-	200	-	-	180	-	-	160	160	160
		4	100	220	225	240	230	-	150	-	-	130	-	-	120	120	120
		3	80	118	125	170	150	-	110	110	-	105	105	-	90	90	90
14	350	14	350	1900	2250	1390	-	-	-	-	-	-	-	-	-	-	-
		12	300	1350	1420	1060	-	-	720	-	-	-	-	-	-	-	-
		10	250	925	930	850	-	-	560	-	-	520	-	-	-	-	-
		8	200	625	700	660	-	-	410	-	-	350	-	-	320	-	-
		6	150	450	470	470	-	-	300	-	-	250	-	-	220	-	-
		5	125	320	335	330	-	-	200	-	-	180	-	-	160	-	-
		4	100	220	225	240	230	-	150	-	-	130	-	-	120	120	120
16	400	16	400	2400	3000	1680	-	-	-	-	-	-	-	-	-	-	-
		14	350	1900	2250	1390	-	-	870	-	-	-	-	-	-	-	-
		12	300	1350	1420	1060	-	-	720	-	-	620	-	-	-	-	-
		10	250	925	930	850	-	-	560	-	-	520	-	-	450	-	-
		8	200	625	700	660	-	-	410	-	-	350	-	-	320	-	-
		6	150	450	470	470	-	-	300	-	-	250	-	-	220	-	-
		5	125	320	335	330	-	-	200	-	-	180	-	-	160	-	-
18	450	18	450	3100	3700	2200	-	-	-	-	-	-	-	-	-	-	-
		16	400	2400	3000	1680	-	-	1240	-	-	-	-	-	-	-	-
		14	350	1900	2250	1390	-	-	870	-	-	850	-	-	-	-	-
		12	300	1350	1420	1060	-	-	720	-	-	650	-	-	-	-	-
		10	250	925	930	850	-	-	560	-	-	520	-	-	-	-	-



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