



CRESCENT VALVES

Safety Relief Valve



COMPANY OVERVIEW

The word Crescent Originates from the Latin equivalent 'Crescent', which means 'to grow'.

At Crescent Valves, growth has been the story during every moment of its 60 year existence. A growth that has been nurtured by a strong commitment to quality.

A far-sighted management professing to this creed of quality, has steered Crescent to a pinnacle position in Flow Control Industry.

The Crescent story is one of humble beginnings. Today, it possesses one manufacturing unit in Sanand and two manufacturing units in Ahmedabad, With it's head office in Mumbai. With its arsenal of sophisticated equipment and experienced personnel, Crescent has earned and successfully executed prestigious Power, Oil, Steel and Petrochemical projects in India and Abroad.

Crescent has established growing markets in the Middle East, South East Asia, Africa, the U. S. A., Europe, Russia & Kazakisthan.

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INTRODUCTION

Safety / Relief Valve Is A Special Product In 'Crescent' Range Of Pipeline Valves. The Safety Valves Are Designed By A Team Of Experienced Engineers And The Valves Are Available With Approvals From IBR, Lloyds, Bureau Veritas, Bhel, SGS Etc.

APPLICATIONS

Safety/Relief Valves Are Suitable For All Fluids And Valves Will Find Application In All Process Plants This Includes Power Plants, Refineries, Petrochemicals, Chemical Industries, Fertilizers, pharmaceuticals Food Industries Etc. In Short, Wherever A Storage/Process Equipment Requires An Automatic Protection Against Excessive Pressure, The Safety Valve Will Find The Application.

FEATURES

'Crescent' Safety Relief Valves Are Designed For Reliable Performance. The Valve Shall Provide Maximum Relieving Capacity, Proper Setting Accuracy And Tight Shut Off. Our Objective Is To Supply A Valve Which Will Ensure Positive Protection With The Lowest Possible Capital Expenditure And Maintenance Costs. The Valves Are Easy To Service And Spare Part Requirements Are Limited To The Minimum Possible. As A Special Case We Can Supply Stainless Steel Balanced Bellow Provided Safety Relief Valves For Back Pressure. Our Range Of Set Pressure Is From 0.20 Kg/Cm² (G) To 275 Kg/Cm² (G) And Temperature Up To 800F. The Higher Range Of Pressure Is Applicable To Screwed Valves Only.

MANUFACTURING STANDARD

'Crescent' Safety Relief Valves Are Manufactured As Per API 520, API 526, API 527 & ASME Section VIII. API 526 Is Applicable For Flanged Safety Relief Valves To Inlet Size 25mm. And Above. Small Valves With Screwed Ends And Special Flanged Valves Are As Per Manufacturer's Standard. The Test Procedure Adopted (Seat Tightness) Is As Per API 527 Method. All Crescent Valves Shall Give The Discharge Capacity In Accordance With ASME/API Standard. The Valves Sizing Is As Per ASME Section VIII / API 520 And IBR. We Will Also Do Sizing Calculation As Per DIN Std. We Are Manufacturing Seven Types Of Safety/Relief Valves Which Can Be Identified With The Following Manufacturer's Codes.

Type FNS 21 : Flanged Full Nozzle Conventional Type Safety Relief Valves Upto Size 65x100 mm.

Type FNR 22: Flanged Full Nozzle Conventional Type Safety Relief Valves To Size 80x100 mm. and Above

Type FNB 23: Flanged Full Nozzle Stainless Steel Balanced Bellow Type Safety Relief Valves.

Type SDH 24: screwed type relief valves upto size 25x25 mm.

Type SDH 25: Screwed Type Relief Valves From Size 25x32 mm. to 50x50 mm.

Type SDF 26: Screwed Type Relief Valves With Screwed Flanged.



Type SSD 27: A Special Modified Type Screwed Relief Valves For Smaller Sizes.

Note :The Size 80 X 100 Mm. Can Be Manufactured In Type FNS 21 Too. The Above Type Valves Can Be Specified By Model Numbering Which Is An Identification Of Material Of Construction (See Table XI)

DEFINITIONS

- A) **Safety Valve:** An Automatic Pressure Relieving Device Actuated By The Static Pressure Upstream Of The Valve, And Characterized By Rapid Full Opening Or Pop Action. It Is Used For Steam, Gas Or Vapour Service.
- B) **Relief Valve:** An Automatic Pressure Relieving Device Actuated By The Static Pressure Up Stream Of The Valve, Which Opens In Proportion To The Increase In Pressure Over The Opening Pressure. It Is Used Primarily For Liquid Service.
- C) **Safety Relief Valve:** An Automatic Pressure Actuated Relieving Device Suitable For Use As Either A Safety Or Relief Valve, Depending On Application.
- D) **Blowdown Ring:** The Crescent Full Nozzle Type Safety Relief Valve Is Designed With A Single Blowdown Ring Which Controls The Operational Performance Of The Valve.
- E) **Over Pressure:** The Pressure Increase Over The Set Pressure Of A Safety/Relief Valve Is Usually Expressed As A Percentage Of Set Pressure. Usually Over Pressure Will Be 10% But For Liquid Service 20 To 25% Is Allowed.
- F) **Popping Pressure:** The Pressure At Which The Valve Disc Moves From A Slightly Open Position To A Practically Fully Open Position. As Per ASME , 10% POP Is Permitted.
- G) **Reseating Pressure:** The Inlet Statistic Pressure At Which The Disc Re-Establishes Contact With Seat Or At Which Lift Become Zero. As Per ASME, 10% Is Permitted.
- H) **Blowdown:** Blowdown Is The Difference Between Actual Popping Pressure Of A Safety/Relief Valve And Reseating Pressure Expressed As A Percentage Of Set Pressure Or In Pressure Units. A Blowdown Of 20% Is Permitted As Per ASME Standard.
- I) **Back Pressure:** Back Pressure Is The Static Pressure Existing At The Outlet Of A Pressure Relief Device Due To Pressure In The Discharge System.
- J) **Lift:** Lift Is The Actual Travel Of The Disc Away From Closed Position When A Valve Is Relieving.
- K) **Set Pressure:** Set Pressure, In Pounds Per Square Inch Gauge, Is The Inlet Pressure At Which The Safety Relief Valve Is Adjusted To Open Under Service Conditions. In A Safety Or Safety Relief Valve In Gas, Vapour Or Steam Service, The Set Pressure Is The Inlet Pressure At Which The Valve Pops Under Service Conditions. In A Relief Or Safety Relief Valve In Liquid Service , The Set Pressure Is The Inlet Pressure At Which The Valves Starts To Discharge Under Service Conditions.

SET PRESSURE RECOMMENDATIONS

An Increase In Temperature Causes A Reduction Of Valve's Set Pressure As A Result Of The Direct Effect Of Temperature On The Spring And Expansion Of Body And Bonnet Which Reduces Spring Loading. Since Safety Relief Valves Are Invariably Tested At Atmospheric Temperature, It Is Customary To Adjust The Set Pressure At Ambient Conditions To Compensate For Higher Operating Temperature. We Recommend To Adjust The Set Pressure As Given In Table-1 Before Installing The Valve.



Releasing Temp °C	Increase In Set Pressure At ATM.
0 To 120	0%
121 To 310	1%
311 To 420	2%
421 To 548	3%

ATTENTION

Safety/Relief Valves Are High Quality Instruments Which Should Be Handled With Great Care. The Inlet And Outlet Of The Safety/Relief Valves Are Protected With Plastic Caps/Seals. These Seals Should Be Removed Only Just Before Installing The Valve. Always Take Care That The Lever Is Not Engaged With The Spindle Cap Except In Operation. Do Not Allow To Rotate The Spindle While You Are Trying To Set The Pressure As It Will Damage The Seat.

ORDERING INFORMATION

As A Customer Service We Shall Verify Your Selection/Size. So Please Indicate Calculated/Effective Orifice Area For Verification. Otherwise We Will Manufacture As Per Your Order. The Following Information Is Necessary To Calculate The Effective Orifice Area. 1) Service2) Relieving Temperature 3) Required Relieving Capacity 4) Molecular Weight 5) Compressibility Factor 6) Specific Heat Ratio (Cp/Cv) 7) Specific Weight 8) Specific gravity 9) Density In Kg/M³. We Shall Also Appreciate Your Filling Up The Specification Sheet (Table XII) To Process Your Order Properly.

F L A N G E D S A F E T Y R E L I E F V A L V E S

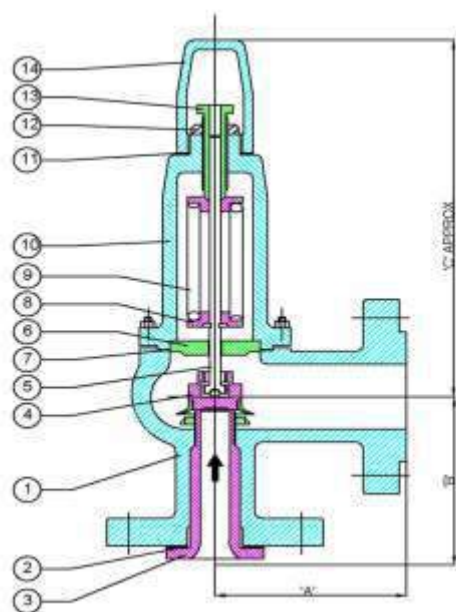


FIG : FLANGED SAFETY RELIEF VALVE

NAME OF THE COMPONENT	
1. Body	8. Spring Button
2. Gasket	9. Spring
3. Nozzle	10. Bonnet
4. Disc	11. Gasket
5. Spindle	12. Lock Nut
6. Guide	13. Adjusting Screw
7. Gasket	14. Cap



OVERALL DIMENSIONS OF FLANGED SAFETY RELIEF VALVES

TYPE : FNS21/FNR22/FNB23

SL. NO.	SIZE						CENTER TO FACE DIAMENTION		HEIGHT B + C	ORIFICE AREA			ORIFICE DSG. LETTER
	INLET			OUTLET			OUTLETA MM.	INLET-B MM.	(APPROX) MM.	SQ. IN.	SQ. CM.	SQ .MM.	
	Mm.	In.	RATING	Mm.	In.	RATING							
1	25	1	150/300	50	2	150	114	105	360	0.110	0.71	71.0	D
2	25	1	150/300	50	2	150	114	105	360	0.196	1.265	126.5	E
3	40	1.5	150/300	50	2	150	121	124	430	0.307	1.981	198.1	F
4	40	1.5	150/300	65	2.5	150	121	124	470	0.503	3.245	324.5	G
5	40	1.5	150/300	80	3	150	124	130	475	0.785	5.065	506.5	H
6	50	2	150/300	80	3	150	124	137	550	1.287	8.303	830.3	J
7	65	2.5	150/300	100	4	150	143	137	550	1.287	8.303	830.3	J
8	80	3	150/300	100	4	150	162	156	670	1.838	11.858	1185.8	K
9	80	3	150/300	100	4	150	165	156	670	2.853	18.106	1840.6	L
10	80	3	150/300	150	6	150	216	198	710	1.838	11.858	1185.8	K
11	100	4	150/300	150	6	150	210	197	845	3.60	23.226	2322.6	M
12	100	4	150/300	150	6	150	210	197	845	4.34	28.000	2800.0	N
13	100	4	150/300	150	6	150	210	197	845	6.38	41.161	4116.1	P
14	150	6	150/300	200	8	150	241	240	950	11.05	71.290	7129.0	Q
15	150	6	150/300	200	8	150	241	240	950	16.0	103.22	10322.6	R
16	150	6	150/300	250	10	150	267	240	950	16.0	103.22	10322.6	R
17	200	8	150/300	250	10	150	279	276	1320	26.0	167.74	16774.2	T

NOTES:

1. For FNB 23 Type Valves Height Will Vary From The Above Chart ,Others Remains Same .
2. Manufacturer Used C/F Dimensions For Orifice 'M/P' As 'N'.
3. Flange Rating & Pressure To Size 80 X 150 Mm. As Per Manufacturer's STD.
4. We Are Also Manufacturing The Following Sizes Flanged Valves As Per Manufacturer's Standard. 15x15, 15x20, 15x25, 20x20, 20x25, 20x32, 20x40, 25x25, 25x32, 25x40, 32x32, 32x40, 32x50, 40x40, 50x50, 50x65, 65x65, 65x80 , 80x80, 80x125, 100x100, 100x125, 125x125, 125x150, 150x150 & 200x200 .
(All Dimensions Are In mm.)

SET PRESSURE FOR FLANGED SAFETY RELIEF VALVES

TYPE : FNS21/FNR22

SL.NO.	TYPE	SIZE				SET PRESSURE		FLANGE RATING AS PER ANSI INLET X OUTLET
		INLET		OUTLET		KG/CM² (G)	PSIG	
	Mm.	In.	Mm.	In.				
1	FNS 21	25	1	50	2	40	569	150 / 300 X 150
2	FNS 21	40	1.5	50	2	40	569	150 / 300 X 150
3	FNS 21	40	1.5	65	2.5	40	569	150 / 300 X 150
4	FNS 21	40	1.5	80	3	40	569	150 / 300 X 150
5	FNS 21	50	2	80	3	35	498	150 / 300 X 150
6	FNS 21	65	2.5	100	4	35	498	150 / 300 X 150
7	FNS 22	80	3	100	4	30	427	150 / 300 X 150
8	FNS 22	80	3	150	6	30	427	150 / 300 X 150
9	FNS 22	100	4	150	6	20	284	150 / 300 X 150
10	FNS 22	150	6	200	8	10	142	150 / 300 X 150
11	FNS 22	150	6	250	10	10	142	150 / 300 X 150
12	FNS 22	200	8	250	10	6	85	150 / 300 X 150



NOTES:

1. Minimum Set Pressure Is 0.20 Kg./Cm² (G)
2. For High Pressure Flanged Valves With Lower Orifice Area Please Contact.
3. Flange Rating Shall Vary According To Pressure/ Temperature.
4. The Higher Range Of Pressure Is Applicable Only To Screwed Valves (See Table Vii).
5. The Flow Area Will Change According To Discharge Capacity.

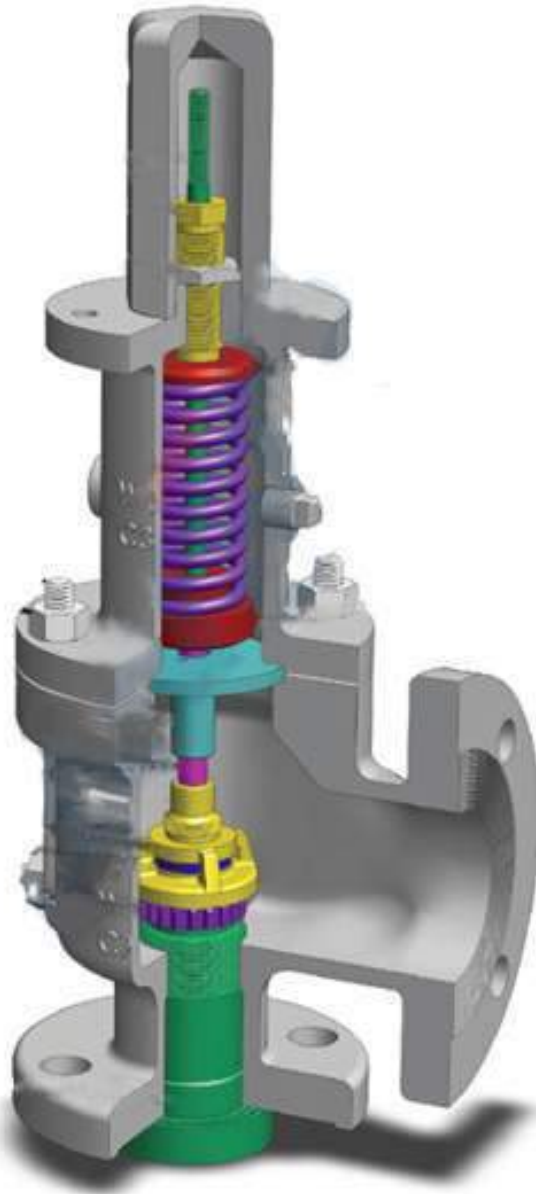
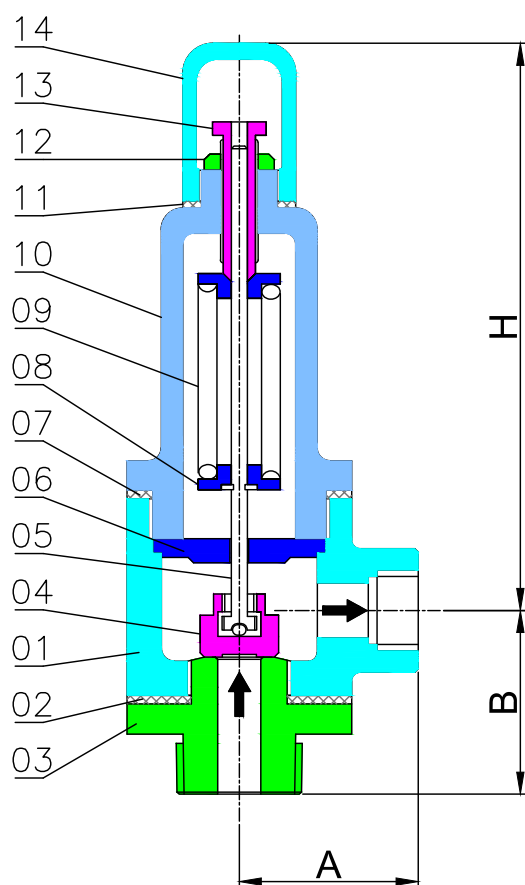


FIG : BALANCED BELLOW TYPE VALVE



DESIGN FEATURES

Manufacturing Standard API: 526/API 520

End Screwed / Socket

Set Pressure Range 1 to 100 Bar

Testing as per API 526 / 520

STANDARD MATERIALS OF PARTS

ITEM	PART NAME	MATERIAL
01	Body	ASTM A 105
02	Gasket	S.P.W. 304 + GRAPHOIL
03	Nozzle	AISI S.S. 410
04	Disc	AISI S.S. 410
05	Spindle	AISI S.S. 410
06	Guide	AISI S.S. 410
07	Gasket	S.P.W. 304 + GRAPHOIL
08	Spring Button	AISI S.S. 410
09	Spring	SPRING STEEL
10	Bonnet	ASTM A 105
11	Gasket	S.P.W. 304 + GRAPHOIL
12	Check Nut	AISI S.S. 410
13	Adjusting Bolt	AISI S.S. 410
14	Cover (threaded)	ASTM A 105

DIMENSION

CLASS 800

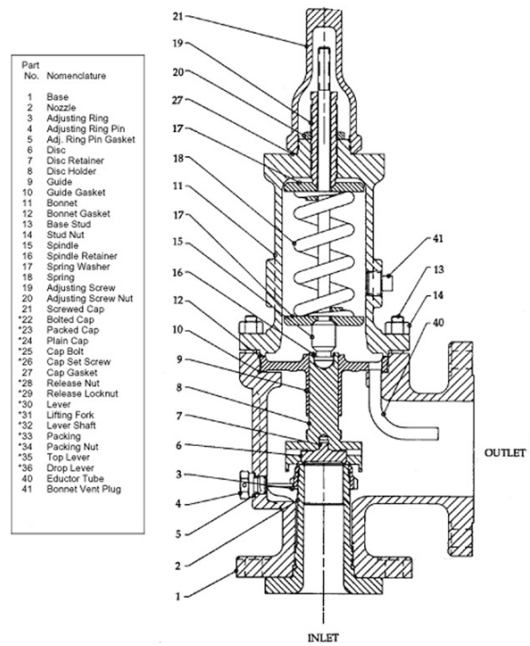
SIZE	in	1/2"x1/2"	1/2"x3/4"	1/2"x1"	3/4"x3/4"	3/4"x1"	1"x1"	1"x 1 3/4"	1"x1 1/2"	1"x2"	1 3/4"x1 3/4"	1 3/4"x1 1/2"	1 3/4"x2"	1 1/2"x1 1/2"	1 1/2"x2"	2"x2"
	mm	15x15	15x20	15x25	20x20	20x25	25x25	25x32	25x40	25x50	32x32	32x40	32x50	40x40	40x50	50x50
A	in	2.043	2.043	2.043	2.043	2.043	2.043	2.55	2.55	2.94	2.55	2.55	2.94	2.55	2.94	2.94
	mm	52	52	52	52	52	52	65	65	75	65	65	75	65	75	75
H	in	11	11	11	11	11	11	11.59	11.59	11.78	11.59	11.59	11.78	11.98	11.98	11.98
	mm	280	280	280	280	280	280	295	295	300	295	295	300	305	305	305
B	in	3.06	3.06	3.06	3.06	3.06	3.06	3.33	3.33	3.33	3.33	3.33	3.33	3.53	3.53	3.53
	mm	78	78	78	78	78	78	85	85	85	85	85	85	90	90	90

Note :- Larger sizes on request.





Pilot Operated Safety Valves



Consolidated Safety Relief Valve

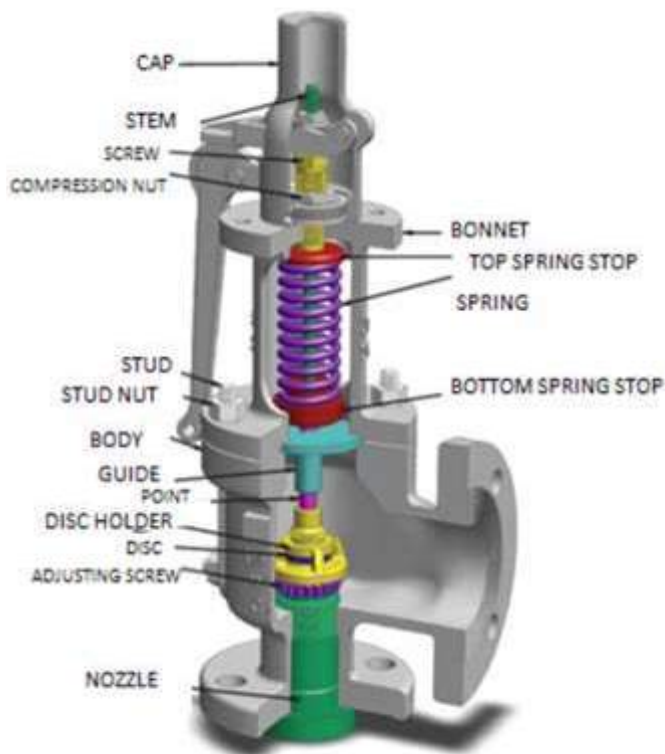


FIG: (A) CONVENTIONAL PRESSURE RELIEF VALVE

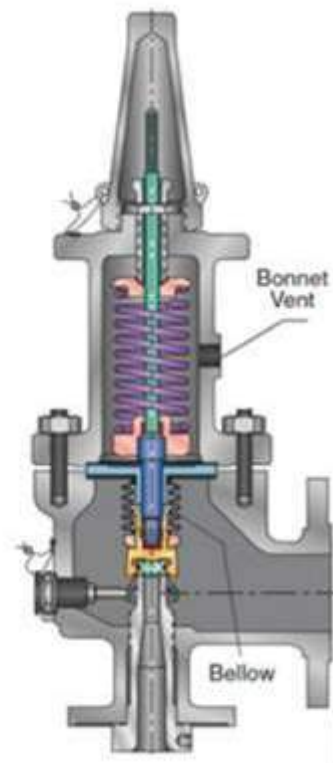


FIG: (B) BALANCED BELLOW TYPE VALVE



FIG: SCREWED SEMI NOZZLE RELIEF VALVES

OVERALL DIMENSIONS OF SCREWED VALVES

TYPE :SDH 24/ SDH 25

SL.NO.	TYPE	SIZE				CENTER TO FACE		HEIGHT	ORIFICE AREA			ORIFICE DEG. LETTER
		INLET		OUTLET		OUTLET-A	INLET-B	(APPROX) Mm.	SQUARE In.	SQUARE Cm.	SQUARE Mm.	
		Mm.	In.	Mm.	In.							
1	SDH24	15	½	15	½	52	78	280	0.04	0.258	25.81	X
2	SDH24	15	½	20	¾	52	78	280	0.04	0.258	25.81	X
3	SDH24	15	½	25	1	52	78	280	0.04	0.258	25.81	X
4	SDH24	20	¾	20	¾	52	78	280	0.05/0.06	0.323/0.39	32.3/38.7	Y/Z
5	SDH24	20	¾	25	1	52	78	280	0.05/0.06	0.323/0.39	32.3/38.7	Y/Z
6	SDH24	25	1	25	1	52	78	280	0.06/0.11	0.387/0.71	38.7/71	Z/D
7	SDH25	25	1	32	1 ¼	65	85	295	0.11/0.196	0.71/1.265	71/126.4	D/E
8	SDH25	25	1	40	1 ½	65	85	295	0.11/0.196	0.71/1.265	71/126.4	D/E
9	SDH25	25	1	50	2	75	85	300	0.11/0.196	0.71/1.265	71/126.4	D/E
10	SDH25	32	1 ¼	32	1 ¼	65	85	295	0.11/0.196	0.71/1.265	71/126.4	D/E
11	SDH25	32	1 ¼	40	1 ½	65	85	295	0.11/0.196	0.71/1.265	71/126.4	D/E
12	SDH25	32	1 ¼	50	2	75	85	300	0.11/0.196	0.71/1.265	71/126.4	D/E
13	SDH25	40	1 ½	40	1 ½	65	90	305	0.11/0.196	0.71/1.265	71/126.4	D/E
14	SDH25	40	1 ½	50	2	75	90	305	0.11/0.196	0.71/1.265	71/126.4	D/E
15	SDH25	50	2	50	2	75	90	305	0.11/0.196	0.71/1.265	71/126.4	D/E

Notes:

1. For Higher Pressure Valves Height Will Vary From The Above Chart In Case S.S. Springs Are Used.
2. For SDH 26/SSD 27 Screwed Valves Dimension Will Vary From The Above Chart.
3. SSD 27 Smaller Valves Are Applicable To Lower Orifice Area.
4. Orifice Designation Letter X, Y, Z Are Manufacturer's Code.

MAXIMUM SET PRESSURE FOR SCREWED VALVES

TYPE :SDH 24/ SDH 25

SL.NO.	TYPE	SIZE				SET PRESSURE		ORIFICE AREA	CONNECTION
		INLET		OUTLET		KG/CM ² (G)	PSIG		
		Mm.	In.	Mm.	In.				
1	SDH24	15	½	15	½	275	3911	0.04	BSP/NTP
2	SDH24	15	½	20	¾	275	3911	0.04	BSP/NTP
3	SDH24	15	½	25	1	275	3911	0.04	BSP/NTP
4	SDH24	20	¾	20	¾	140	1991	0.05	BSP/NTP
5	SDH24	20	¾	25	1	120	1706	0.06	BSP/NTP
6	SDH24	25	1	25	1	120	1706	0.06	BSP/NTP
7	SDH25	25	1	32	1 ¼	50	711	0.11/0.196	BSP/NTP
8	SDH25	25	1	40	1 ½	50	711	0.11/0.196	BSP/NTP
9	SDH25	25	1	50	2	50	711	0.11/0.196	BSP/NTP
10	SDH25	32	1 ¼	32	1 ¼	45	640	0.11/0.196	BSP/NTP
11	SDH25	32	1 ¼	40	1 ½	45	640	0.11/0.196	BSP/NTP
12	SDH25	32	1 ¼	50	2	45	640	0.11/0.196	BSP/NTP
13	SDH25	40	1 ½	40	1 ½	40	569	0.11/0.196	BSP/NTP
14	SDH25	40	1 ½	50	2	40	569	0.11/0.196	BSP/NTP
15	SDH25	50	2	50	2	40	569	0.11/0.196	BSP/NTP

Notes:

1. Minimum Set Pressure Is 0.5 Kg/Cm² (G)
2. SDH 24/25 Type Valves Can Be Manufactured With Lower Orifice Area For Higher Range Of Pressure.
3. NPT Connection Is Used ForBoth Lower&Higher Pressure. BSP Screwed Ends Applicable Only To Lower Pressure.

SATURATED STEAM CAPACITIES AT 10% ACCUMULATION

ASME BOILER AND PRESSURE VESSEL CODE

S.PR.KG/ CM ² (g)	ORIFICE DESIGNATION LETTER													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
1.0	75	135	211	346	541	886	1266	1964	2479	2989	4395	7608	11020	17910
1.5	95	169	266	435	680	1115	1593	2472	3120	3760	5530	9573	13866	22534
2.0	114	204	320	524	820	1344	1920	2979	3760	4532	6665	11537	16711	27159
2.5	134	239	375	614	960	1573	2247	3486	4400	5304	7800	13502	19557	31784
3.0	154	274	430	703	1099	1801	2574	3994	5041	6076	8935	15466	22403	36409
3.5	173	309	484	792	1239	2030	2901	4501	5681	6848	10069	17431	25248	41033
4.0	193	344	539	882	1379	2259	3228	5009	6321	7620	11204	19396	28094	45658
4.5	212	379	594	971	1519	2488	3555	5516	6961	8392	12339	21360	30940	50283
5.0	232	413	648	1060	1658	2717	3882	6023	7602	9163	13474	23025	33785	54907
5.5	252	448	703	1150	1798	2946	4209	6531	8242	9935	14609	25290	36631	59532
6.0	271	483	758	1239	1938	3175	4536	7038	8882	10707	15744	27254	39476	64157
6.5	291	518	812	1329	2077	3404	4863	7545	9523	11479	16879	29219	42322	68782
7.0	310	553	867	1418	2217	3632	5190	8053	10163	12251	18014	31183	45168	
7.5	330	588	921	1507	2357	3861	5517	8560	10803	13023	19149	33148	48013	
8.0	349	623	976	1597	2496	4090	5844	9068	11444	13794	20284	35113	50859	
8.5	369	658	1031	1686	2636	4319	6171	9575	12084	14566	21419	37077	53705	
9.0	389	692	1085	1775	2776	4548	6498	10082	12724	15338	22554	39042	56550	
9.5	408	727	1140	1865	2916	4777	6825	10590	13365	16110	23689	41007	59396	
10.0	428	762	1195	1954	3055	5006	7152	11097	14005	16882	24824	42971	62242	
11.0	467	832	1304	2133	3335	5463	7806	12112	15286	18426	27094	46900	67933	
12.0	506	902	1413	2312	3614	5921	8460	13126	16566	19969	29363	50830	73624	
13.0	545	917	1523	2490	3894	6379	9114	14141	17847	21513	31633	54759	79316	
14.0	584	1041	1632	2669	4173	6837	9768	15156	19127	23057	33903	58688	85007	
15.0	624	1111	1741	2848	4452	7294	10422	16171	20408	24600	36173	62617	90698	

NOTE: For Superheated Steam Multiply Above Capacities By Correction Factor.



WATER CAPACITIES (LIQUID) AT 10% ACCUMULATION

ASME BOILER AND PRESSURE VESSEL CODE

S.PR.KG/ CM ² (g)	ORIFICE DESIGNATION LETTER													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
1.0	46	82	129	211	330	542	774	1201	1516	1828	2687	4655	6740	10954
1.5	56	101	158	259	405	664	948	1472	1857	2239	3292	5701	8255	13415
2.0	65	116	182	299	467	766	1095	1699	2144	2585	3801	5583	8255	13415
2.5	73	130	204	335	522	857	1224	1900	2398	2891	4250	7361	10657	17319
3.0	80	142	223	367	572	939	1341	2081	2626	3166	4655	8063	11675	18973
3.5	86	154	241	396	618	1014	1448	2248	2837	3420	5028	8709	12610	20493
4.0	92	165	258	423	661	1084	1548	2403	3033	3656	5375	9311	13481	21908
4.5	98	175	274	449	701	1150	1642	2549	3217	3878	5720	9875	14299	23237
5.0	103	184	289	473	739	1212	1731	2687	3391	4088	6010	10410	15072	24494
5.5	108	193	303	496	775	1271	1816	2818	3556	4288	6303	10918	15808	25689
6.0	113	202	316	519	810	1328	1896	2944	3715	4478	6584	11403	16511	26831
6.5	118	210	329	540	843	1382	1974	3064	3866	4661	6853	11869	17185	27927
7.0	122	218	342	560	874	1434	2048	3180	4012	4837	7111	12317	17834	
7.5	126	226	354	580	905	1484	2120	3291	4153	5007	7361	12749	18460	
8.0	130	233	365	599	935	1533	2190	3399	4289	5171	7602	13167	19065	
8.5	134	240	376	617	964	1580	2257	3504	4421	5330	7836	13573	19652	
9.0	138	247	387	635	992	1626	2323	3605	4550	5485	8063	13966	20222	
9.5	142	254	398	653	1019	1671	2386	3704	4674	5635	8284	14349	20776	
10.0	146	261	408	670	1045	1714	2448	3801	4796	5782	8500	14722	21315	
11.0	153	273	428	702	1096	1798	2568	3985	5030	6064	8915	15440	22356	
12.0	160	285	447	734	1145	1878	2682	4163	5253	6333	9311	16127	23350	
13.0	166	297	465	764	1192	1955	2792	4333	5468	6592	9691	16785	24303	
14.0	173	308	483	792	1237	2028	2897	4497	5676	6841	10057	17419	25221	
15.0	179	319	500	820	1280	2100	2999	4655	5874	7081	10410	18030	26106	

Note: Where Back Pressure Exists, Use Instead Of Set Pr., The Difference Between Set Pr. And The Back Pr.

AIR CAPACITIES (GAS/VAP) AT 10% ACCUMULATION + 15.6 °C

ASME BOILER AND PRESSURE VESSEL CODE

S.PR.KG/ CM ² (G)	ORIFICE DESIGNATION LETTER													
	0.709 D	1.264 E	1.980 F	3.245 G	5.064 H	8.303 J	11.858 K	18.406 L	23.225 M	27.999 N	41.161 P	71.29 Q	103.22 R	167.79 T
1.0	1.686	3.002	4.704	7.694	12.029	19.706	28.155	43.685	55.132	66.457	97.720	169.158	245.017	398.194
1.5	2.121	3.777	5.919	9.681	15.135	24.795	35.426	54.965	69.368	83.617	122.953	212.837	308.284	501.016
2.0	2.556	4.552	7.134	11.667	18.241	29.884	42.696	66.246	83.604	100.778	148.186	256.517	371.552	603.839
2.5	2.992	5.327	8.349	13.654	21.347	34.972	49.966	77.526	97.840	117.938	173.419	300.196	434.819	706.661
3.0	3.427	6.102	9.564	15.641	24.453	40.061	57.237	88.806	112.076	135.099	198.652	343.876	498.087	809.483
3.5	3.862	6.877	10.779	17.628	27.560	45.149	64.507	100.087	126.313	152.259	223.885	387.555	561.354	912.305
4.0	4.298	7.653	11.994	19.615	30.666	50.238	71.777	111.36	140.54	169.41	249.11	431.23	624.62	1015.12
4.5	4.733	8.428	13.209	21.602	33.772	55.327	79.048	122.64	154.78	186.58	274.35	474.91	687.88	1117.94
5.0	5.168	9.203	14.424	23.588	36.878	60.415	86.318	133.92	169.02	203.74	299.58	581.59	751.15	1220.76
5.5	5.604	9.978	15.638	25.575	39.984	65.504	93.588	145.20	183.25	202.90	324.81	562.27	814.42	1323.59
6.0	6.039	10.753	16.853	27.562	43.090	70.593	100.859	156.48	197.49	238.06	350.05	605.95	877.69	1426.41
6.5	6.475	11.529	18.068	29.549	46.197	75.681	108.129	167.76	211.72	255.22	375.28	649.63	940.95	1529.23
7.0	6.910	12.304	19.283	31.536	49.303	80.770	115.399	179.04	225.96	272.38	400.51	693.31	1004.22	
7.5	7.345	13.079	20.498	33.522	52.409	85.858	122.670	190.32	240.20	289.54	425.75	736.99	1067.49	
8.0	7.781	13.854	21.713	35.509	55.515	90.947	129.940	201.60	254.43	306.70	450.96	780.67	1130.76	
8.5	8.216	14.629	22.928	37.496	58.621	96.036	137.210	212.89	268.67	323.86	476.21	824.35	1194.02	
9.0	8.651	15.404	24.143	39.483	61.727	101.124	144.481	224.17	282.91	341.02	501.44	868.02	1257.29	
9.5	9.087	16.180	25.357	41.470	64.833	106.213	151.751	235.45	297.14	358.18	526.68	911.70	1320.56	
10.0	9.522	16.955	26.572	43.456	67.940	111.302	159.021	246.73	311.038	375.34	551.91	955.38	1383.83	
11.0	10.393	18.505	29.002	47.430	74.152	121.479	173.562	269.29	339.85	409.66	602.38	1042.74	1510.36	
12.0	11.263	20.056	31.432	51.404	80.364	131.656	188.102	291.85	368.32	443.88	652.84	1130.10	1636.90	
13.0	12.134	21.606	33.862	55.377	86.577	141.833	202.643	314.41	396.79	478.80	703.31	1217.46	1763.43	
14.0	13.005	23.156	36.291	59.351	92.789	152.011	217.184	336.97	425.27	512.62	753.77	1304.82	1889.97	
15.0	13.876	24.707	38.721	63.325	99.001	162.188	231.724	359.43	453.74	546.94	804.24	1392.18	2016.05	



CRESCENT METHOD OF MODEL NUMBERING

1		2		3		4		5			6		7		8		9	
Certification		Type		Connection In X Out		Material						Cap/Lever Selection		Type Of Construction		Extra Accessories		
						External		Internal		Spring								
B	Indian Boiler Regulation (I.B.R)	1	FNS21	A	150	C	CS	3	Ss410	1	Carbon	X	Closed	C	Conventional	1	Open Bonnet	
		2	FNR22	B	300	W	WC6	4	SS304		Steel	Y	Open	B	Bellow	2	Test Gag	
		3	FNB23	C	600	B	SS304	4L	SS304L	2	Alloy	Z	Packed	O	Other To	3	'O' Ring	
		4	SDH24	D	900	BL	SS304L	6	SS316		Steel	O	other To		Specify	N	Neoprene	
		5	SDH25	E	1500	C	SS316	6L	SS316L	4	Stainless		Specify			T	Teflon	
		6	SDH26	F	2500	CL	SS316L	7	Monel		Steel-304					O	Other	
		7	SSD27	1	Pn10	A	Alloy-20	8	Hastelloy-C	6	Stainless						To Specify	
				2	Pn16	M	Monel		If		Steel-316							
				3	Pn25	H	Hastelloy-C		Stellized	0	Other							
				4	Pn40	F	Forged		Nozzle&		To							
		5	Pn64		Steel	S	Disc		Specify		Eg. (1) B1/ABW41/ZB (2) 4/ TC6S6/YC2 Note : Model Number Is An Indentification Of M.O.C.							
		6	Pn100	O	Other		'S'											
		7	Pn160		To		Followed											
		T	NPT		Specify		By Above											
		P	BSP				Figures											
		O	Other To															
			Specify															
1	B	1		AB		W		4		1		Z		B				
2		4		T		C		6S		6		Y		C			2	

CRESCENT VALVES MFG. CO. PVT. LTD.

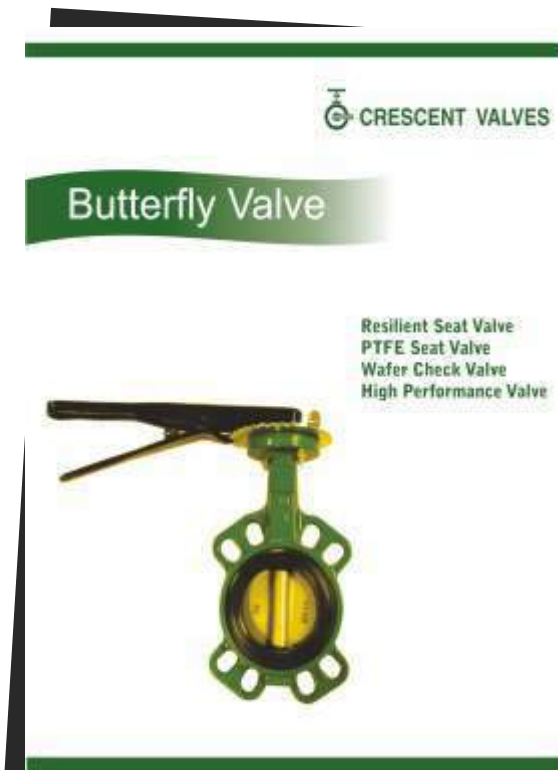
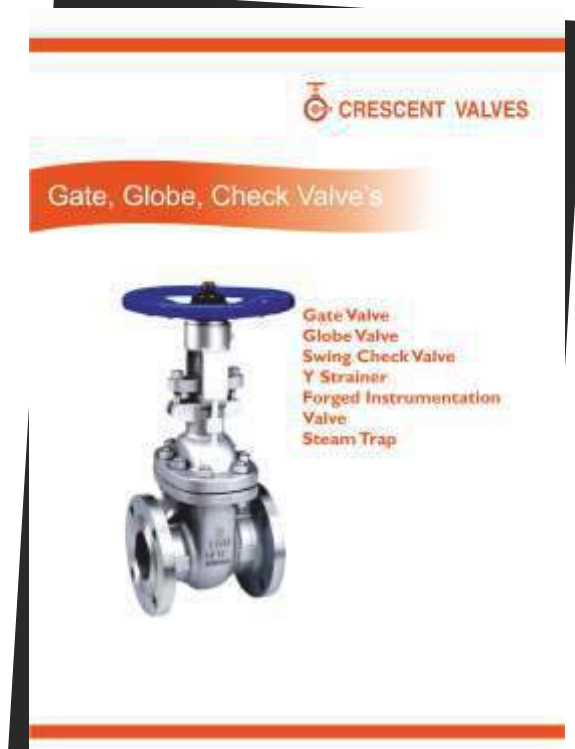
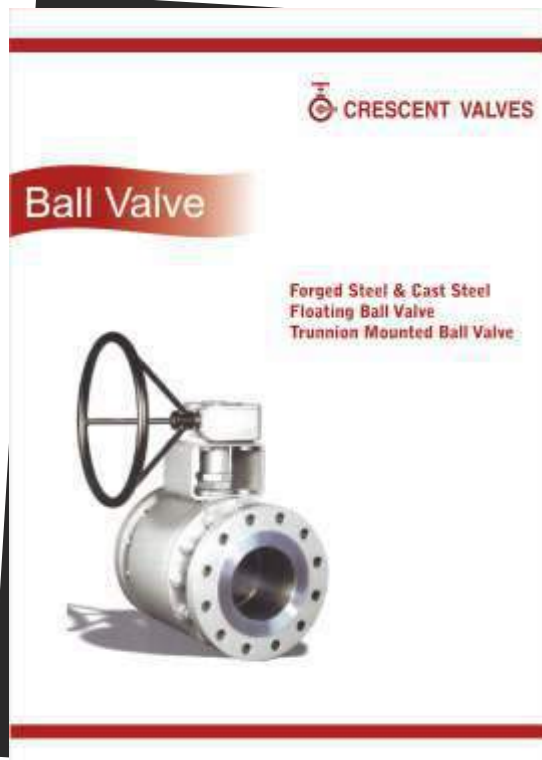
1	Size (Inlet X Outlet)	mm./ In	25	Blowdown%	
2	Connection	Flanged/Screwed/Other	26	Service	Eg: Nitrogen
3	Connection	BSP/NPT- MXM/MXF/FXF /FXM	27	Steam/Liquid/Gas/Vapour	Eg: Gas
4	Rating		28	Mol. Weight	Gas/Vap
5	Construction Type	Conventional / Bellow	29	Comp. Factor	Gas/Vap
6	Quantity		30	Sp. Heat Ratio Cp /Cv	Gas/Vap
7	Part / Tag No.		31	Sp. Gravity	
8	Body	M	32	Sp. Weight	Liquid
9	Bonnet	A	33	Density Kg/m ³	Liquid
10	Spring	T	34	Req. Rel. Capacity	
11	Nozzle	E	35	Effective Orifice Area	
12	Disc	R	36	Selected Orifice Area	
13	Trim	I	37	Inspection	Yes/No
14	"O" Ring	A	38	Inspected By	
15	Bellow	L	39	Certification	IBR
16	Cap Type	Closed/Lever	40	Temperature	
17	Extra Accessories		Unit : NM³/HR For GAS/VAPOUR KG/HR For GAS/VAPOUR Lbs/HR For LIQUID KG/HR For STEM Note : To Properly Process Your Order And Avoid Delay Please Specify As In The Data Sheet.		
18	Special Feature				
19	Model No.				
20	Valve Type				
21	Set Pressure				
22	Back Pressure				
23	Over Pressure %				
24	Reseating Pressure %				

Note:

- All The Dates Are To Be Furnished By The Client.
- Please Specify The Effective Orifice Area To Verify Selection / Sizes ,If Required.
- Sl. No. 26 to 34 is to be furnished by client only Required.
- If effective orifice area (Sl. No. 35) If given, no need to furnish Sr. No. 26 to 34.
- Sl. No.33 Is To Be Furnished If DIN Std. Only.
- Kindly Tick Mark (✓) Wherever Applicable.
- Stellated Material Is To Be Used For High Pressure.
- Extra Accessories : "O" Ring, S.S. Bellow, Test Gag ,Drain Plug.
- Special Feature : Open Bonnet, Stellated Seat (Nozzle &Disc).



Our Other Product Catalogues





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