

TechVal Control Systems

Delivering Excellence

HIGH PERFORMANCE DOUBLE OFFSET BUTTERFLY VALVE



STANDARD FEATURES



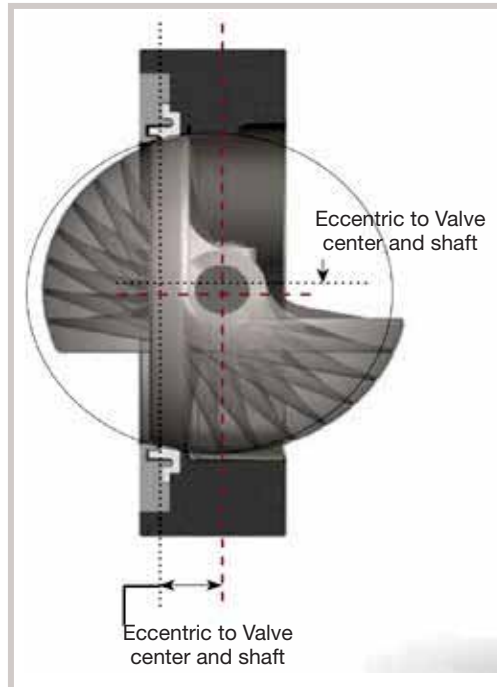
family of quarter-turn valves. This valve is designed and manufactured to meet API 609 and ASME B16.34 specifications.

DESCRIPTION OF VALVE

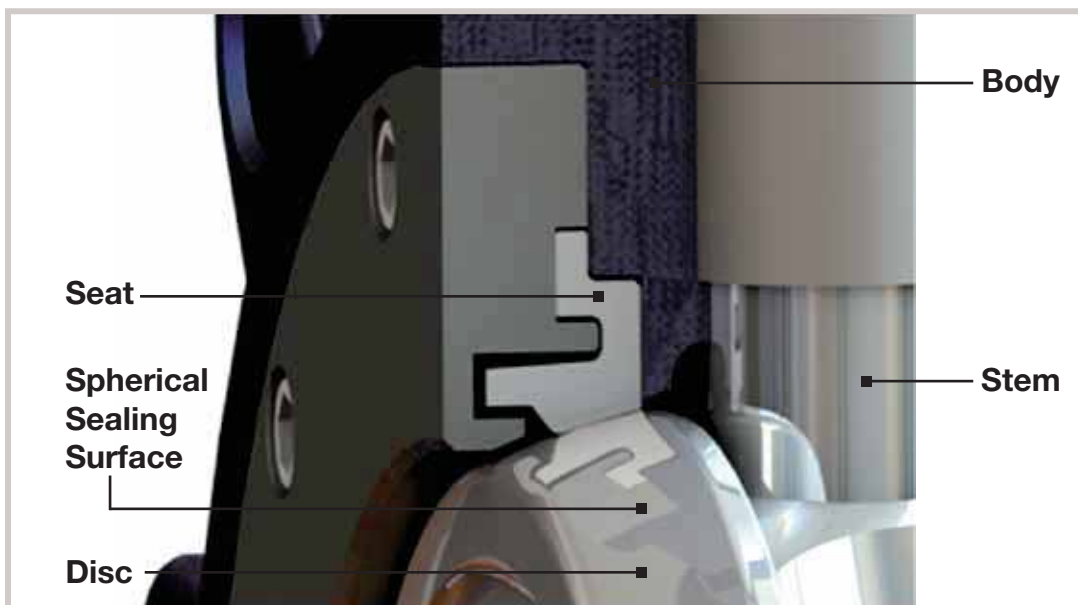
- Sizes 2" (50mm) to 24" (600mm) are standard.
- 150, 300 ASME Class ratings are standard.
- Wafer, Lug, Flanged construction are available.
- Flanged ends available from 2" .
- Pressure testing according to API 598.
- Three types of seat designs are available, Non Fire Safe Seat, Fire Safe Seat and Metal Seat. Soft seat valve designs are bidirectional.
- Metal seat and Fire Safe seat designs are fire safe certified.
- The valves have a center disc mounted to the vertical stem with disc pins.
- When the stem rotates, the disc rotates around the vertical stem axis and closes or opens the valve.
- The disc is mounted with double eccentric from the stem and valve axis.
- This arrangement increase the life of the seat.
- The stem is a blowout proof design which prevents the stem from blowing out in case of stem breakage.
- The seat has a spherical seating surface , which reduces the torque required. The seat is retained by the seat retainer, which prevents the seat from blowing out during operation.
- The seat can be changed between soft seat, metal seat and fire safe seat with same seat retainer bolted to body.
- Gear operator can be mounted on the valve with a mounting bracket.
- Tight shutoff leakage class VI possible with Soft seated(Non Fire Safe) and Fire Safe soft seated valve designs.
- Leakage class V is applicable to metal seated valve designs.

DOUBLE ECCENTRIC DISC-SHAFT

- This feature keeps the valve seat away from the disc when the disc starts rotating around the stem.
- Eliminate the wear on the seat and thus increases the life of the seat.
- Offers excellent throttling capabilities, which makes it an ideal choice for flow control applications



SPHERICAL DISC SEALING SURFACE AND BLOW-OUT PROOF SEAT



SPHERICAL DISC SEALING SURFACE

- Spherical sealing surface on Disc provides better sealing capability.
- Lowers the break away torque because of less friction between the seat and disc

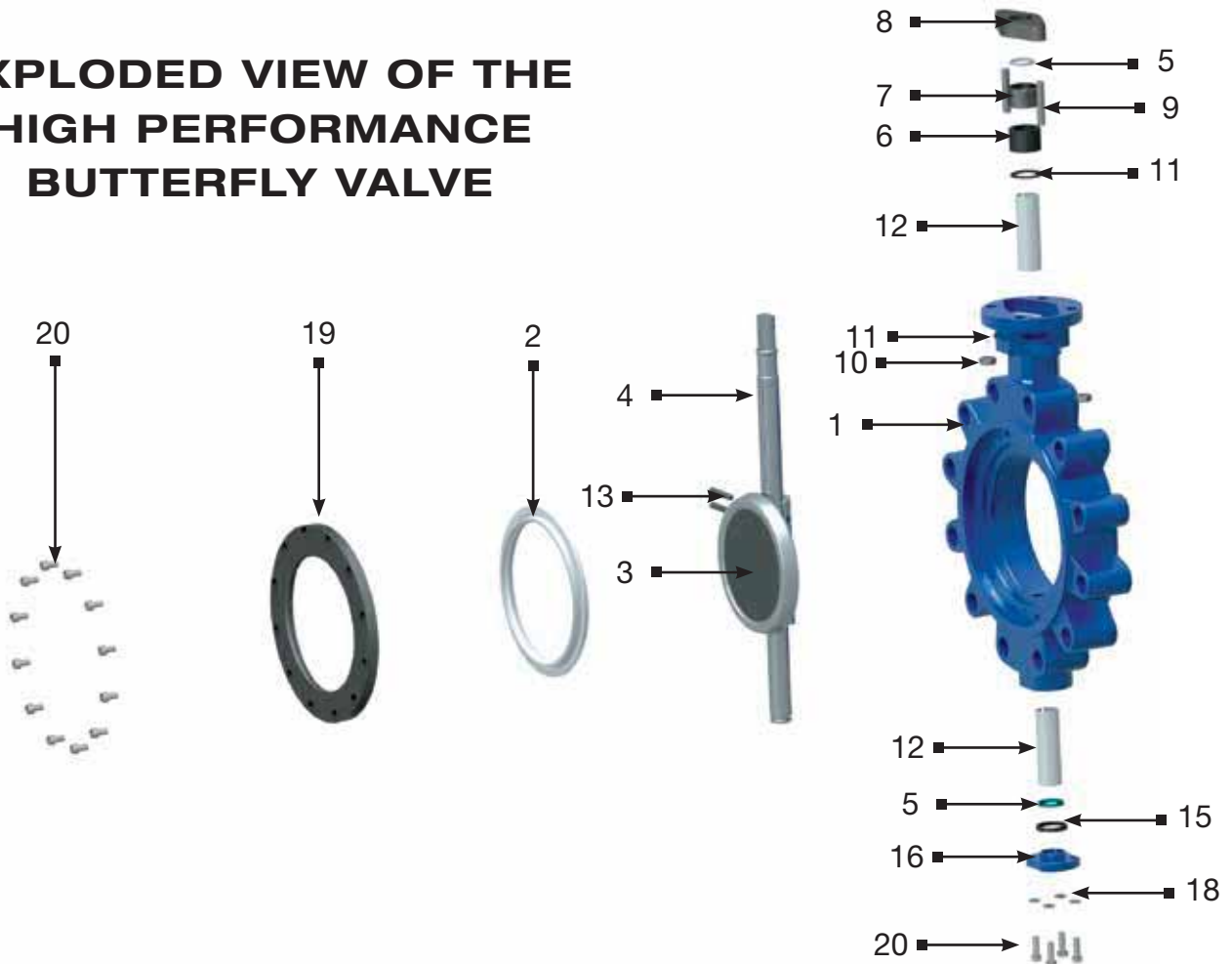
BLOW-OUT PROOF SEAT

- HP butterfly valves have a unique seat and seat retainer design to minimize the seat movement.
- The seat retainer is bolted to the body, the retainer plate holds the seat in the seat pocket and hence a seat blow-out is avoided.

STANDARD PARTS & MATERIALS

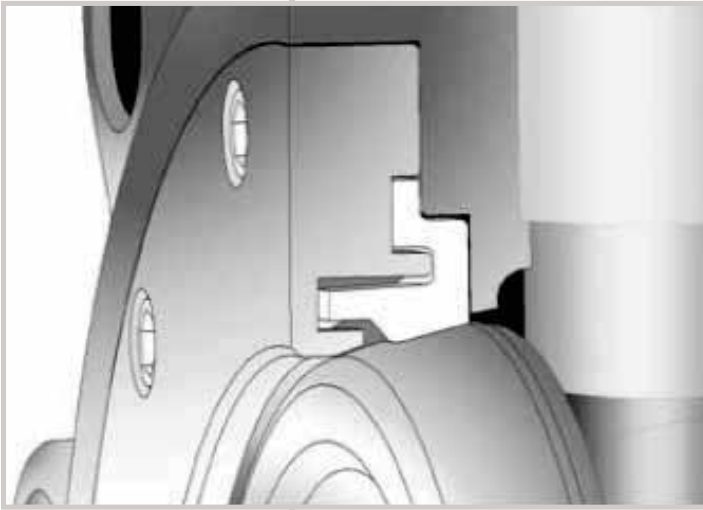
NO.	PART NAME	SOFT SEATED			METAL SEATED			FIRE SAFE		
		CS	SS	GUN METAL	CS	SS	GUN METAL	CS	SS	GUN METAL
1	BODY	WCB	CF8M	LG4C	WCB	CF8M	LG4C	WCB	CF8M	LG4C
2	SEAT	RPTFE / PTFE			SS316		LG4C	SS316+RPTFE		LG4C
3	DISC	CF8M		LG4C	CF8M		LG4C	CF8M		LG4C
4	STEM	17-4PH / SS316								
5	STEM RETAINER	SS316								
6	PACKING	PTFE			GRAPHITE					
7	PACKING GLAND	SS316								
8	GLAND FLANGE	SS304-CF8								
9	GLAND BOLT	STAINLESS STEEL								
11	WASHER	STAINLESS STEEL								
12	BEARING	SS+TEFLON			SS316					
13	DISC PIN	17-4PH / SS316								
14	PACKING RETAINER	SS316								
15	CAP PACKING	PTFE			GRAPHITE					
16	CAP	WCB	SS316/CF8M		WCB	SS316/CF8M		WCB	SS316/CF8M	
17	CAP BOLT	STAINLESS STEEL								
18	WASHER	STAINLESS STEEL								
19	SEAT RETAINER	AISI-1020	SS316		AISI-1020	SS316		AISI-1020	SS316	
20	RETAINER BOLT	STAINLESS STEEL								

EXPLODED VIEW OF THE HIGH PERFORMANCE BUTTERFLY VALVE



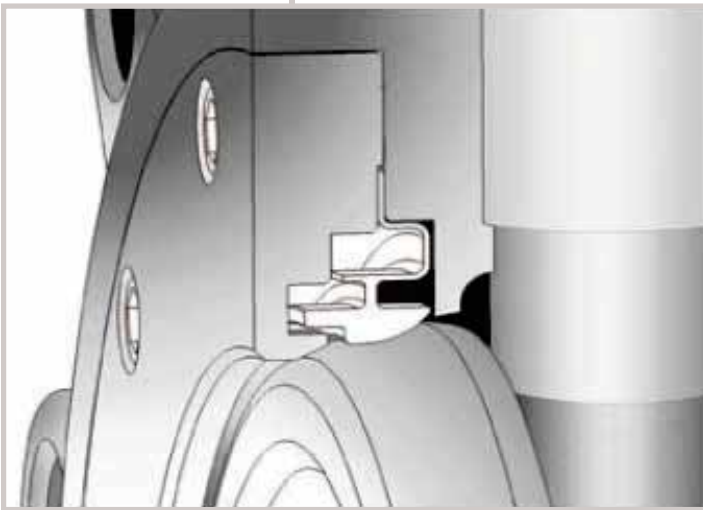
STANDARD FEATURES

SOFT SEATED BUTTERFLY VALVE



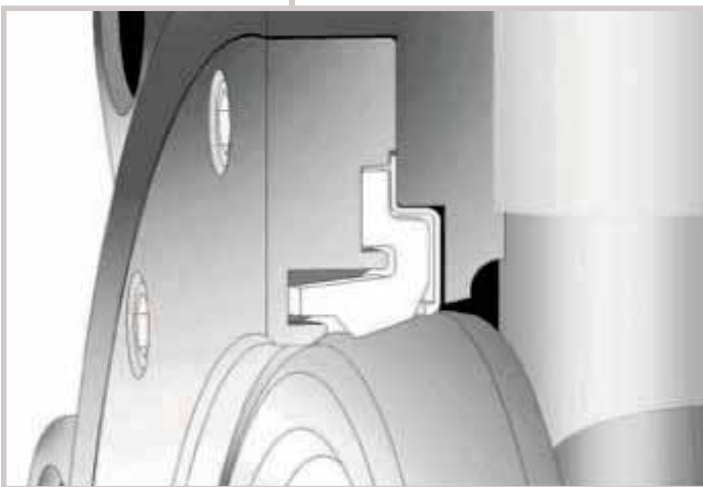
- Advanced trim structure enables bi-direction sealing.
- Designed to perform fully within designated pressure/temperature ratings.
- Anti-blowout seat and seat retainer allow full differential pressure at any disc position.
- With a wide variety of seat materials provide tight shutoff seal in applications ranging from low temperature to saturated steam.

METAL SEATED BUTTERFLY VALVE

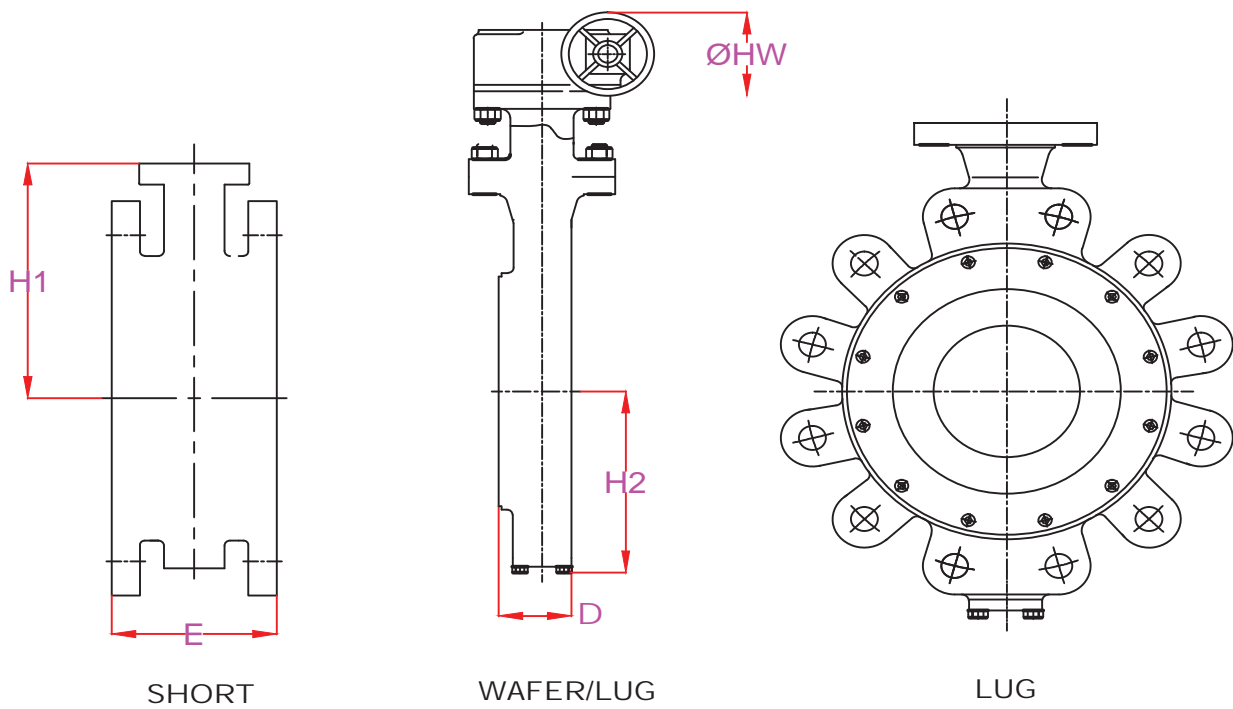


- Flexible solid metal body seat with Electroless Nickel Plated disc to enhance the strength of the sealing edge of the disc.
- Designed to reduced seat movement and retain elasticity of the metal seat to prevent loss of sealing capacity in high temperature and high pressure applications.
- Fully fire tested according to API-6FA.
- Stellite hard face available for services of 660F and higher to minimize thermal expansion of the disc.

FIRE SAFE SEATED BUTTERFLY VALVE



- Double seated design with primary soft seat backed up by the secondary metal seat and functions in both directions.
- Metal seat functions as primary seat in case of fire providing a leakage class IV
- Extended range of applications due to a wide variety of seat materials for primary and secondary seals.
- Fully fire tested according to API-607 and API-6FA.



SHORT

WAFER/LUG

LUG

ASME CLASS 150								
DN	H1	H2	ØHW	E	D	WEIGHTS IN Kg		
				SHORT	WAFER/LUG	SHORT	LUG	WAFER
50	118	70	150	108	43	11	9	7
65	125	80	150	112	46	15	13	9
80	135	85	150	114	48	18	17	11
100	150	105	150	127	54	27	24	18
125	163	120	200	140	56	34	27	21
150	181	138	200	140	57	39	30	24
200	205	165	250	152	64	61	45	40
250	245	218	250	165	71	89	70	52
300	290	241	300	178	81	136	101	83
350	315	280	300	190	92	175	129	107
400	345	320	350	216	102	227	180	142
450	390	345	350	222	114	295	265	262
500	425	370	400	229	127	363	330	313
600	520	438	400	267	154	613	525	485

ASME CLASS 300								
DN	H1	H2	ØHW	E	D	WEIGHTS IN Kg		
				SHORT	WAFER/LUG	SHORT	LUG	WAFER
50	118	70	150	108	43	22	16	7
65	125	80	150	112	46	15	22	9
80	135	85	150	114	48	21	18	14
100	150	105	150	127	54	36	25	18
125	163	120	200	140	56	45	32	26
150	200	138	200	140	59	60	40	30
200	240	200	250	152	73	95	60	48
250	270	240	250	165	83	140	105	80
300	300	280	300	178	92	186	140	125
350	340	320	300	190	117	255	215	155
400	375	350	350	216	133	340	300	200
450	420	400	350	222	149	435	392	350
500	470	430	400	229	159	550	490	380
600	550	500	400	267	181	770	730	510

HIGH PERFORMANCE - CV VALUE

CLASS 150

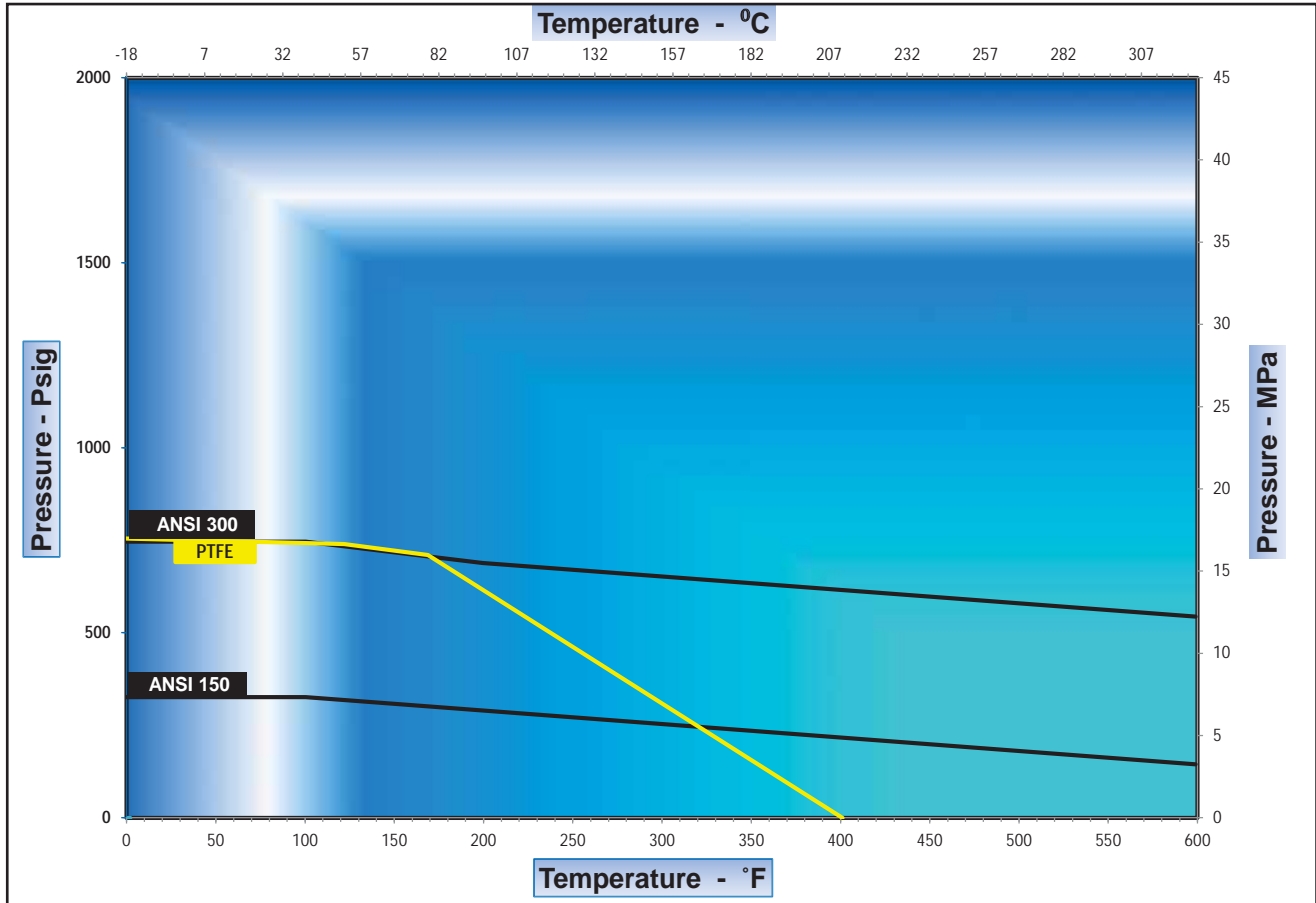
SIZE		DEGREE OF OPENING								
inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50	2	5	12	19	32	45	65	81	88
2.5	65	3	9	21	33	54	77	111	138	150
3	80	5	14	32	50	82	116	168	209	227
4	100	9	25	57	90	148	209	303	377	410
5	125	16	44	104	163	266	377	548	681	740
6	150	25	65	150	235	380	540	785	975	1060
8	200	55	130	305	480	785	1110	1615	2005	2200
10	250	85	205	475	750	1225	1735	2520	3135	3400
12	300	115	280	655	1025	1680	2380	3450	4290	4700
14	350	150	355	830	1305	2140	3030	4395	5465	5900
16	400	200	475	1115	1750	2860	4055	5880	7310	7900
18	450	265	630	1475	2315	3790	5365	7790	9680	10500
20	500	345	830	1935	3040	4975	7050	10230	12715	13800
22	550	375	975	2275	3580	5855	8295	12035	14960	16300
24	600	485	1265	2955	4640	7590	10755	15605	19405	21100

CLASS 300

SIZE		DEGREE OF OPENING								
inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50	2	5	12	19	32	45	65	81	88
2.5	65	3	9	21	33	54	77	111	138	150
3	80	5	14	32	50	82	116	168	209	227
4	100	9	25	57	90	148	209	303	377	410
5	125	16	44	104	163	266	377	548	681	740
6	150	24	60	139	218	357	506	735	914	995
8	200	45	110	260	410	670	945	1375	1710	1900
10	250	75	175	415	650	1065	1505	2185	2720	3000
12	300	105	250	580	910	1495	2115	3070	3815	4100
14	350	135	325	755	1185	1940	2750	3985	4955	5400
16	400	175	415	970	1520	2490	3525	5120	6365	6900
18	450	245	590	1375	2165	3540	5015	7275	9045	9800
20	500	315	760	1770	2780	4555	6450	9360	11635	12600
24	600	435	1135	2645	4155	6800	9635	13980	17380	18900

PRESSURE/TEMPERATURE CHART

The below chart indicates the pressure and temperature ratings for commonly used seat and seal materials in ASME Class 150 - 300 High Performance Butterfly valves. Other materials are available upon request.





TechVal
Control Systems

203/204, Aastha Seagull,
Jambhulkar Chowk,
Wanowrie, Pune - 411 040,
Maharashtra, India



+91-98230 63865
+91-97129 01301
ivalve@techval.co
www.techval.co