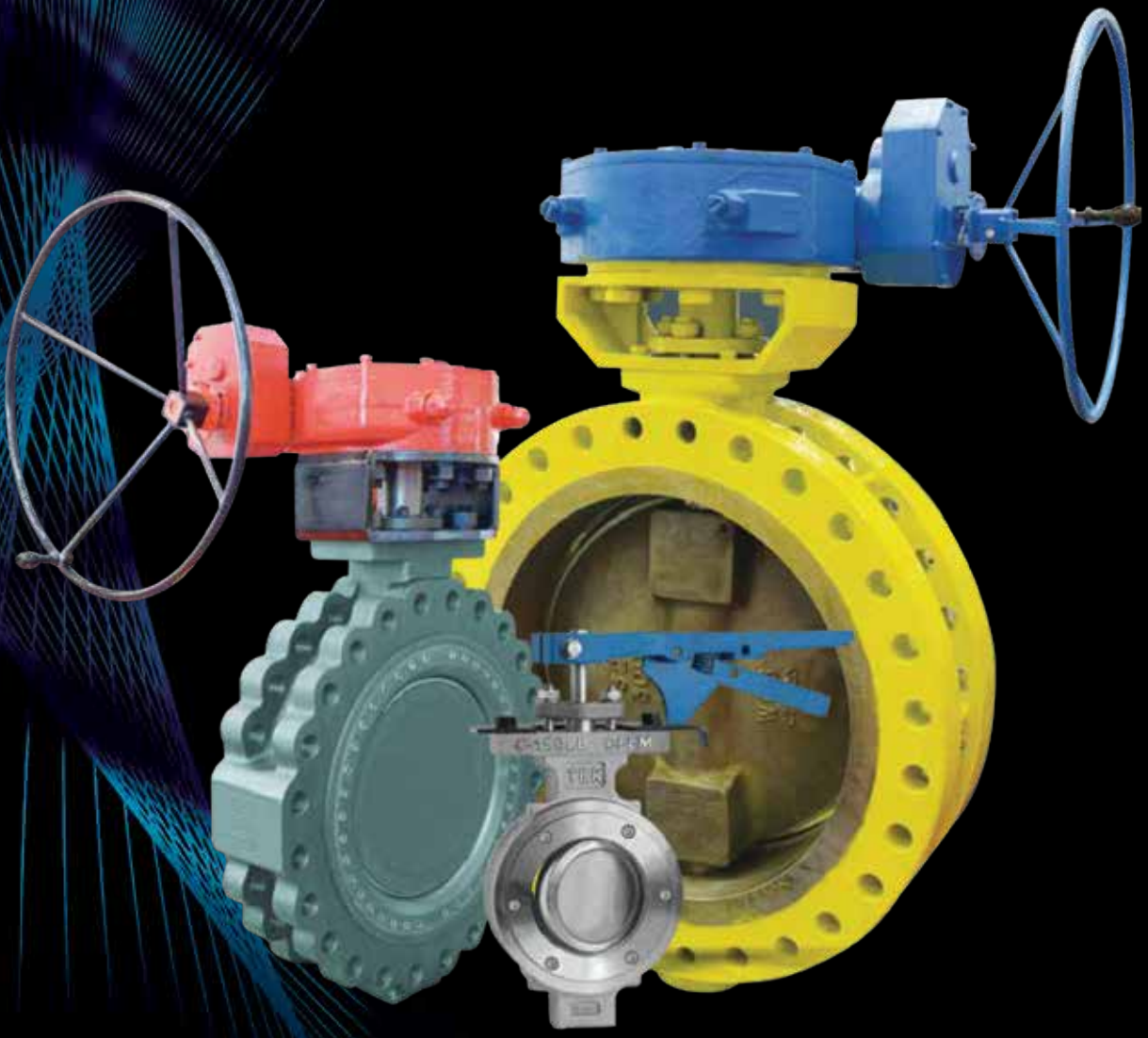
ALPINE HIGH PERFORMANCE DOUBLE ECCENTRIC BUTTERFLY VALVE

PN10, PN16, PN25, PN40



Address: 272 Bath Street Glasgow G2 4JR Cell: +44 (0) 776348 8809: Land: +44 (0) 1369 760423:
Email: john@afcvalves.co.uk: Web: www.afcvalves.co.uk

BRIEF INTRODUCTION

The Alpine HP Butterfly valve has been in production since 2003 and is based on a world renowned brand made in USA and with quality to match.
The design is Double Eccentric and available in PN10, PN16, PN25, PN40 as well as ANSI ratings up to ANSI 300 (50bar cwp).

The valve is made in accordance with ASME, API, ASTM, EN, BS, DIN JIS and successfully supplied to many worldwide projects
The valve is made to TUV, ISO9001, API600, API 607, API6D and sold in Europe, USA, South America, South East Asia, Midde East and Africa

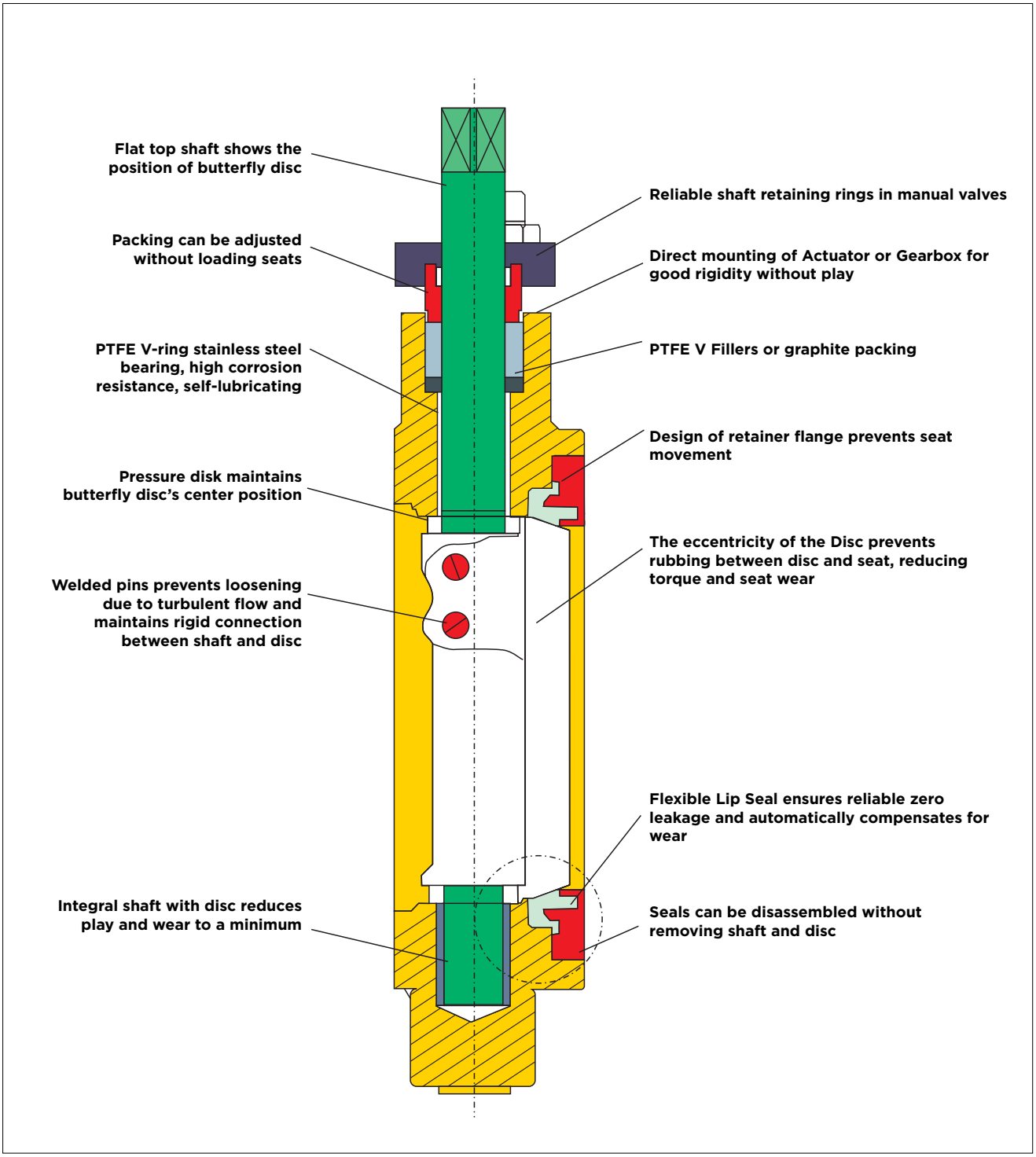
Address: 272 Bath Street Glasgow G2 4JR Cell: +44 (0) 776348 8809: Land: +44 (0) 1369 760423: Email: john@afcvalves.co.uk: Web: www.afcvalves.co.uk

PRODUCT STRUCTURE

Structural features of the product

High Performance Double Eccentric Butterfly valve. Various material and seals available to suit the application. Can be used Cryogenic, Vapor, Chlorine gas, oxygen, High Vacuum and corrosive media.

Integral structure of the valve



PRODUCT FEATURES

FIRE PROOF STRUCTURE
Fire-proof valve is tested to API 607 4th Edition and Bs 6755 Part II.

FIXED AXIS
Fire collar is installed in the top of axis, 2"~24" (DN~600), when axis breaks accident, avoid the upper part to move out of gland

CE MARKED VERSION AVAILABLE
CE marked and documented valves that conform to the European Pressure Equipment Directive (PED) 97/23/EC are available in ANSI Class 150/300.standard type or fire-proof type

EASY TO REPLACE VALVE SEALS
Replace seat by removing retainer ring without disassembling disc and shaft

EXCELLENT FOR BOTH ON-OFF AND CONTROL APPLICATION

SINGLE-SOURCE RESPONSIBILITY
1. Purchase valves, actuators and accessories, completely mounted from one source
2. Available with electric, manual gear and pneumatic double acting or spring return actuators and solenoids and positioners.

AVAILABLE IN A WIDE CHOICE OF MATERIAL FOR A BROAD RANGE OF APPLICATIONS
Standard body materials include carbon steel, stainless steel, aluminium bronze, alloy 20, monel, inconel. Users can also, according to requirements select other materials.
Other materials are also available

CLASS 150
Rated valve for class 150 **psi**

(°C) Temperature	Carbon Steel	316 Stainless Steel	20 Alloy	Monel
-20~100	285	275	230	230
200	260	235	200	200
300	230	215	180	190
400	200	195	160	185
500	170	170	150	170
Test pressure	450	425	350	250

CLASS 150
Rated valve for class 150 **bar**

(°C) Temperature	Carbon Steel	316 Stainless Steel	20 Alloy	Monel
-20~38	19.7	19.0	15.8	15.8
93	17.9	16.2	13.8	13.8
149	15.8	14.8	12.4	13.1
204	13.8	13.4	11.0	12.8
260	11.7	11.7	10.3	11.7
Test pressure	31	29	24	24

CLASS 300
Rated valve for class 300 **psi**

(°C) Temperature	Carbon Steel	316 Stainless Steel	20 Alloy	Monel
-20~100	740	720	600	600
200	680	620	520	530
300	655	560	465	495
400	635	515	420	480
500	600	480	390	475
Test pressure	1125	1100	900	900

CLASS 300
Rated valve for class 300 **bar**

(°C) Temperature	Carbon Steel	316 Stainless Steel	20 Alloy	Monel
-20~38	51	49.6	41.4	41.4
93	46.9	42.7	35.9	36.5
149	45.2	38.6	32.1	34.1
204	43.8	35.5	29.0	33.1
260	41.4	33.1	26.9	32.8
Test pressure	77	75	62	62

TECHNICAL PARAMETERS

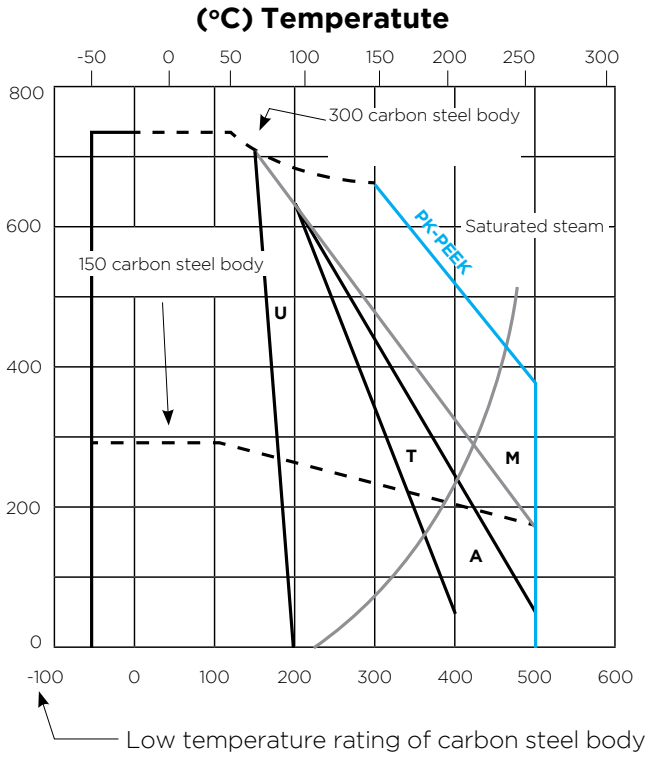
1. Valve seat ratings

Seat ratings are based on differential pressure with the disc in the fully closed position and refer to seats only. These ratings can be an operating guide in common conditions. For higher seat ratings, please contact the supplier.

2. Valve seat ratings

The tables on the left are maximum working pressure ratings of the valve body only. The seat ratings determine the practical pressure limitations according to actual service conditions. Test pressures are for hydrostatic test with butterfly disc open.

VALVE SEAT RATINGS



* Rated value is according to corresponding materials' in ASME/ANSI B 16.34-2004.

1. T-PTFE 2. M-Reinforced PTFE 3. PL-PPL 4. PK-PEEK 5. A-Fireproofing valve seat. Notes: 14"~60" (DN350-1500) Class 150 valves equipped with 316 stainless, Alloy 20 or Hastelloy C shafts are rated for maximum differential pressure is 150 psi(10.35 bar). 3"~36"(DN80-900) Class 300 valves equipped with 310 stainless, Alloy 20 or Hastelloy C shaft are rated for maximum differential pressure is 300 psi(20.7 bar)

FLOW DATA

The tables below provide flow coefficients for class 150 and class 300 Butterfly valves covered in this bulletin. The CV values represent the number of US Gallons per minute of 60Deg F (15.8deg C) water that flows through a fully open valve with 1 psi pressure drop across the valve.

CLASS 150 SERIES		
VALVE SIZE		CV
NPS	DN	
2	50	52
21-2	65	70
3	80	185
4	100	400
5	125	650
6	150	1050
8	200	2200
10	250	3300
12	300	5100
14	350	5800
16	400	8000
18	450	10500
20	500	14000
24	600	21600
30	750	34000
36	900	55500
42	1050	85650
48	1200	10830
54	1350	133500
60	1500	159000

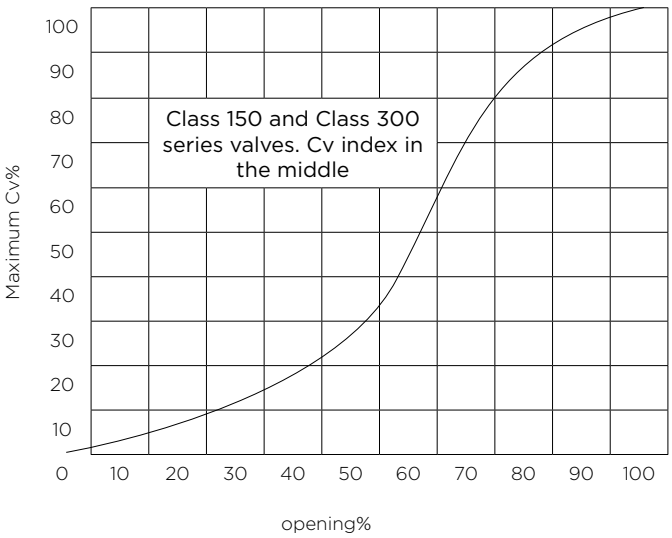
CLASS 300 SERIES		
VALVE SIZE		CV
NPS	DN	
2	50	52
21-2	65	70
3	80	185
4	100	400
5	125	650
6	150	1050
8	200	2200
10	250	3300
12	300	5100
14	350	5800
16	400	8000
18	450	10500
20	500	14000
24	600	21600
30	750	34000
36	900	55500

FLOW DATE

To determine Cv values for a value in an intermediate position:

1. Determine the percent of maximum Cv from the graph
2. Multiply the percent of maximum Cv shown on the graph by the Cv value from the flow data sheet. Example: the Cv for a 6: (DN150) 815 that is 70% open is:

1. From the graph, 6" (DN150) that is 70% open has a Cv value that is 53% of the maximum Cv
2. 53% of the maximum Cv=0,53 x 1050=560



SEAT TIGHTNESS

ANSI/FC170-2 establishes a series of leakage classes for control valves and defines the test procedure. Class VI allows the least leakage, High Performance Butterfly Valves are bubble tight MSS-SP61, which would exceed Class VI requirements.

STANDARD SEATS

The Ultra Butterfly standard seat seals are constructed of RPTFE utilises a flexible lip, which when distorted will always attempt to return to its original shape and maintain a seal against the disc regardless of flow direction.

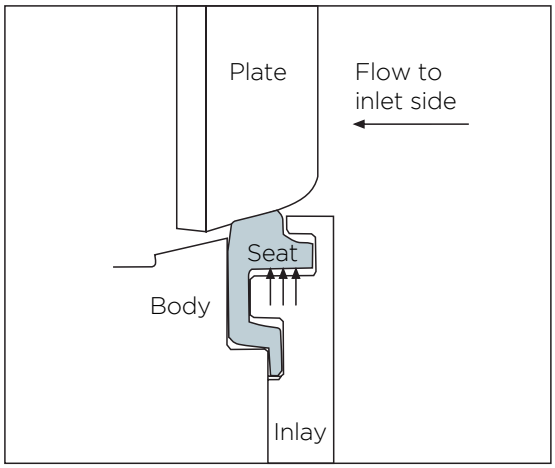
VARIOUS OPTIONAL SEATS

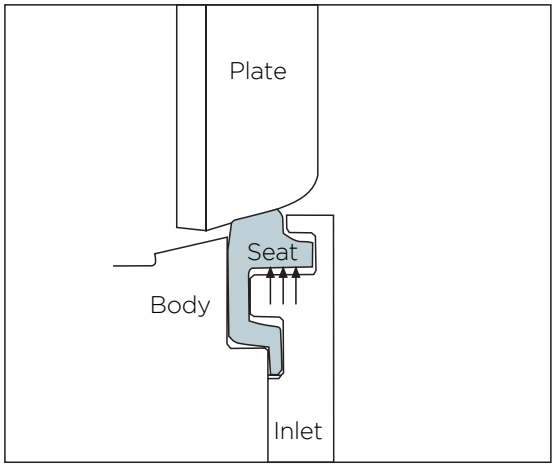
PEEK seals provide longer life with improved performance parameters.
PEEK is a unique material which is a fluoropolymer-based proprietary blend.

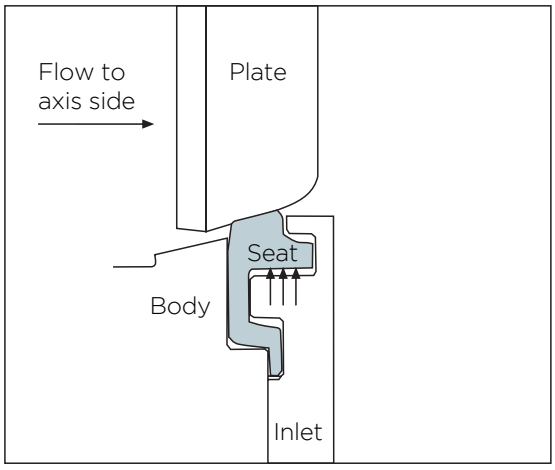
WORKING PRINCIPLE

When the valve is shut, the disc slightly deflects the seat. This slight deflection energizes the seat. While energized the sealing surface of the seat is constantly pushing against the edge of the disc.

When pressure is on the inlet side, pressure is applied under the seat lip. This further amplifies the seating force between the disc and seat







SPECIAL SERVICES

Emission-Pak-Loaded Packing

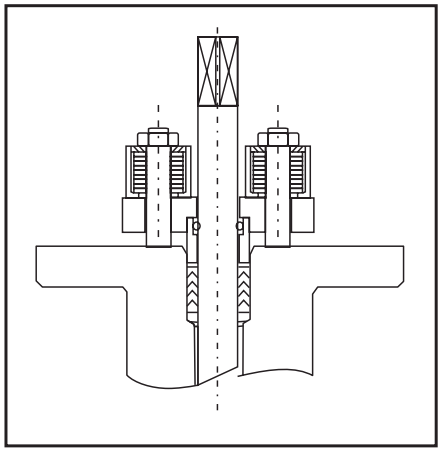
When enhanced emissions control needed to comply with evolving emissions standars.Emission-Pak live-loaded packing is available. The Emission-Pak live-loaded packing assembly includes PTFEV-ring packing live-loaded with disc spring washers for standard construction valves and graphite packing with inconel disc springs for Fire-Tight valves to maintain a constant packing force withoutover-compression. It is available with new valves or as a retrofit kit for existing valves. Additional options, available with or without the Emission-Pak live-loaded packing include double packing or double packing with monitoring port to facilitate testing of the primary seal and allow detection of a potential leak problem. Order valves for special services should be marked by order instructions. The operating torque of valves with Emission-Pak live-loaded packing increase refer to the torque data section.

STEAM SERVICES

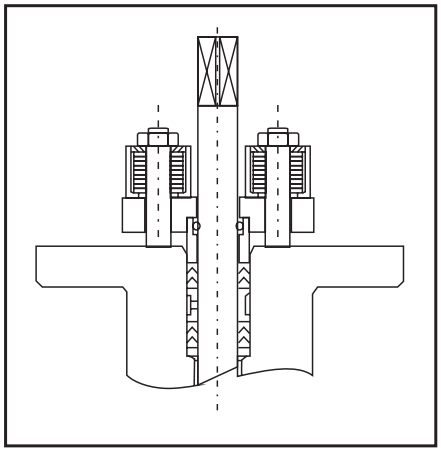
Butterfly valves are well-suited for a wide range of steam applications. These range from PTFE-seated valves capable of handling lower pressure to valves with PPL/ PEEK seats. Ratings of values in this buttering for on-off steam service are as follows: Valves may be derated based on shaft material selection.

valve type	seat material	Maximum differential pressure	
		psi	bar
Class150	PEEK	200	14
Class300	PEEK	450	31

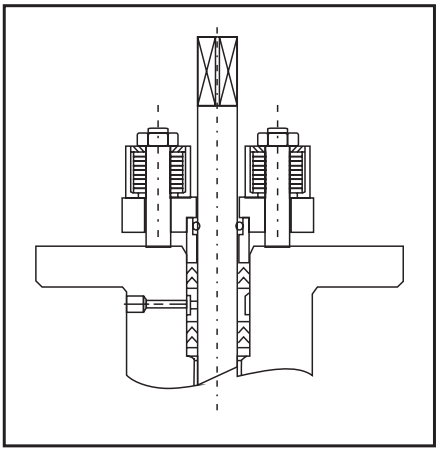
Max rating of carbon steel body per ASME/ANSIB16.34 at corresponding saturated steam temperature.



live-loaded packing seal (Emission-Pak)



live-loaded seal with double packing seal (Emission-Pak)



live-loaded seal with double packing and monitoring port

OPERATING HANDLES AND ACTUATORS

As an option, handles are available for smaller sizes of the butterfly valve. We recommend that manual-gear, pneumatic, or electric actuators be used at differential pressures higher than the values listed below. All handles have locking function

Class150									
Valve size		Maximum differential pressure				Handle length		Handle weight	
NPS	DN	RPTFE seat		Refractory seat					
		psi	bar	psi	bar	inches	mm	lb	kg
2	50	285	19.7	285	19.7	11	279	3	1.3
2-1/2	65	285	19.7	285	19.7	11	279	3	1.3
3	80	285	19.7	285	19.7	11	279	3	1.3
4	100	285	19.7	285	19.7	11	279	3	1.3
5	125	150	10.3	-	-	11	279	3	1.3
6	150	150	10.3	-	-	11	279	3	1.3
8	200	150	10.3	-	-	22	559	15	6.8
10	250	50	3.4	-	-	22	559	15	6.8
12	300	50	3.4	-	-	22	559	15	6.8

Class300									
Valve size		Maximum differential pressure				Handle length		Handle weight	
NPS	DN	RPTFE seat		Refractory seat					
		psi	bar	psi	bar	inches	mm	lb	kg
2	50	300	20.7	-	-	11	279	3	1.3
2-1/2	65	300	20.7	-	-	11	279	3	1.3
3	80	300	20.7	300	20.7	11	279	3	1.3
4	100	300	20.7	300	20.7	11	279	3	1.3
5	125	300	20.7	-	-	11	279	3	1.3
6	150	150	10.3	-	-	22	559	15	6.8
8	200	150	10.3	-	-	22	559	15	6.8
10	250	50	3.4	-	-	22	559	15	6.8

VALVE TORQUE

The torque required to open or close the Class150 and Class300 can easily calculated using the equation on the following page.
However, for your convenience, the following tables can be used as a quick guide for actuator selections.

CLASS150 TORQUE

Valve size		RPTFE Seats					
		Closing Differential					
NPS	DN	lb-ft 100 psi	Nm@ 6.9bar	lb-ft 200 psi	Nm@ 13.8bar	lb-ft 285 psi	Nm@ 19.7bar
2	50	16	23	18	24	19	26
2-1/2	65	21	29	23	31	24	33
3	80	25	34	27	37	29	39
4	100	35	47	39	39	43	58
5	125	48	65	56	56	63	86
6	150	72	97	83	113	93	126
8	200	121	164	142	193	160	217
10	250	163	222	202	274	234	318
12	300	214	290	287	390	350	475
14	350	362	491	505	684	626	849
16	400	463	628	646	876	802	1087
18	450	602	816	844	1144	1050	1423
20	500	810	1098	1140	1546	1421	1926
24	600	1234	1673	1758	2384	2200	2983
30	750	2170	2942	2940	3986	3595	4873
36	900	3530	4786	4860	6589	5990	8121
42	1050	5780	7873	8060	10928	10000	13558
48	1200	9170	12433	12840	17409	15960	21638
54	1350	12950	17558	17900	24269	22110	29977
60	1500	19020	25790	26040	35310	32000	43397

Valve size		Fire design torque for RPTFE Seats					
		Closing Differential					
NPS	DN	lb-ft 100 psi	Nm@ 6.9bar	lb-ft 200 psi	Nm@ 13.8bar	lb-ft 285 psi	Nm@ 19.7bar
2	50	33	44	35	47	37	50
2-1/2	65	42	57	45	61	47	64
3	80	53	72	57	77	59	81
4	100	67	91	74	100	80	108
5	125	97	132	114	155	128	174
6	150	131	178	152	206	170	230
8	200	218	296	256	347	288	391
10	250	333	452	406	550	468	635
12	300	508	689	636	826	745	1010
14	350	604	819	758	1028	889	205
16	400	710	963	920	1247	1099	1489
18	450	970	1315	1970	1857	1710	2318
20	500	1390	1885	1980	2685	2482	3364
24	600	2050	2779	2700	3661	3353	4410
30	750	2920	3959	3940	5342	4807	6517
36	900	3530	4786	4960	6725	6176	8673
42	1050	5620	7620	7440	10087	8987	12185
48	1200	8800	11931a	12100	16405	14905	20208

CLASS300 TORQUE

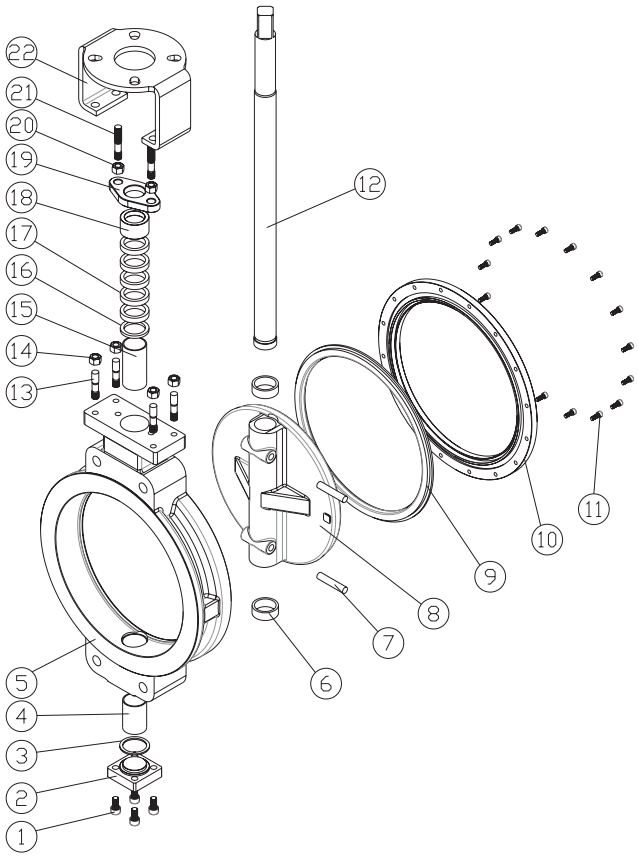
Valve size		RPTFE Seats					
		Closing Differential					
NPS	DN	Nm@ 20.7bar	Nm@ 27.6bar	Nm@ 34.5bar	Nm@ 41.4bar	Nm@ 48.3bar	Nm@ 51bar
2-1/2	65	34	37	40	44	47	49
3	80	42	46	51	55	60	62
4	100	70	79	88	97	106	110
5	125	120	135	158	175	195	193
6	150	161	188	214	241	267	278
8	200	313	368	422	477	532	554
10	250	480	572	664	756	848	885
12	300	667	790	913	1035	1158	1207
14	350	1117	1372	1627	1882	2137	2239
16	400	1340	1643	1946	2248	2550	2671
18	450	1734	2118	2520	2885	3269	3422
20	500	2314	2842	3369	3897	4424	4635
24	600	3131	3840	4549	5258	5967	6251
30	750	5708	6888	8067	9247	10426	10898
36	900	9789	11877	13965	16053	18141	18976

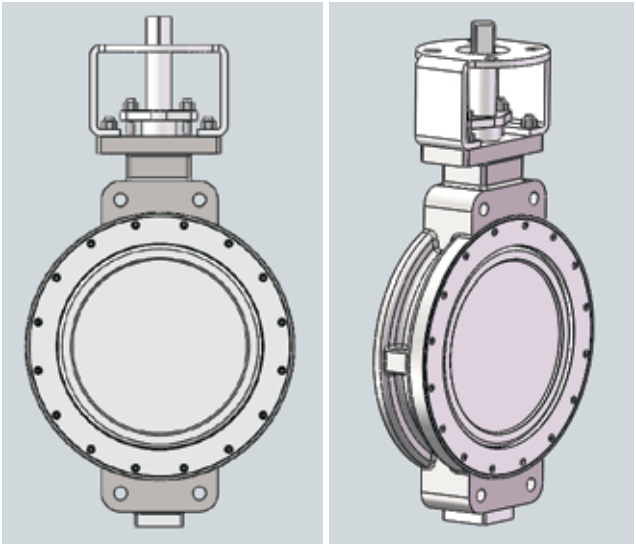
CLASS300 FIRE DESIGN TORQUE

Valve size		Fire design torque for RPTFE Seats					
		Closing Differential					
NPS	DN	Nm@ 20.7bar	Nm@ 27.6bar	Nm@ 34.5bar	Nm@ 41.4bar	Nm@ 48.3bar	Nm@ 51bar
3	80	77	79	81	83	85	86
4	100	117	127	138	149	160	164
6	150	256	287	319	350	381	394
8	200	424	480	536	591	647	669
10	250	629	708	786	865	944	975
12	300	1119	1302	1485	1668	1851	1924
14	350	1250	1459	1668	1877	2085	2169
16	400	1586	1885	2183	2481	2779	2899
18	450	2685	3308	3932	4556	5179	5429
20	500	3796	4691	5586	6481	7376	7734
24	600	5966	7321	8677	10033	11389	11931

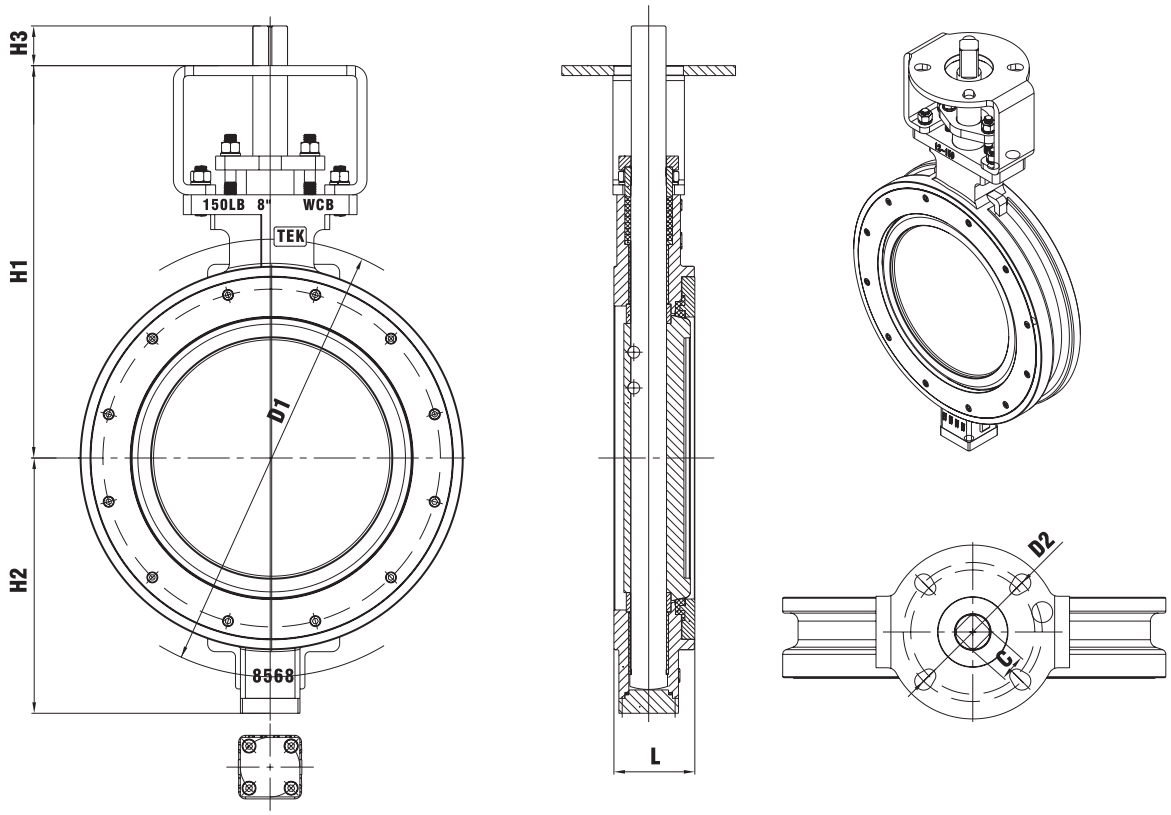
HIGH PERFORMANCE WAFER BUTTERFLY VALVE MATERIAL

NO	Name	Material
1	Screw	A193 B8, A193 B8M
2	End Housing	A105, F304, F316
3	Gasket	SS316+Graphite
4	Bushings	SS316+PTFE
5	Body	WCB, CF8, CF8M
6	Positioning set	SS316
7	Pin	SS316
8	Disc	CF8, CF8M
9	Seat	RPTFE, PPL, PEEK
10	Retainer Flange	CS, SS304, SS316
11	Screw	A193 B8M
12	Stem	17-4PH, F51
13	Bolt	A193 B8, A193 B8M
14	Nut	A193 8, A193 8M
15	Bushings	SS316+PTFE
16	Packing Gasket	SS316
17	Packing	PTFE, Graphite
18	Packing Gland	SS316
19	Packing Flange	SS304
20	Nut	A193 8, A193 8M
21	Bolt	A193 B8M A193 B8M
22	York	CS, SS304





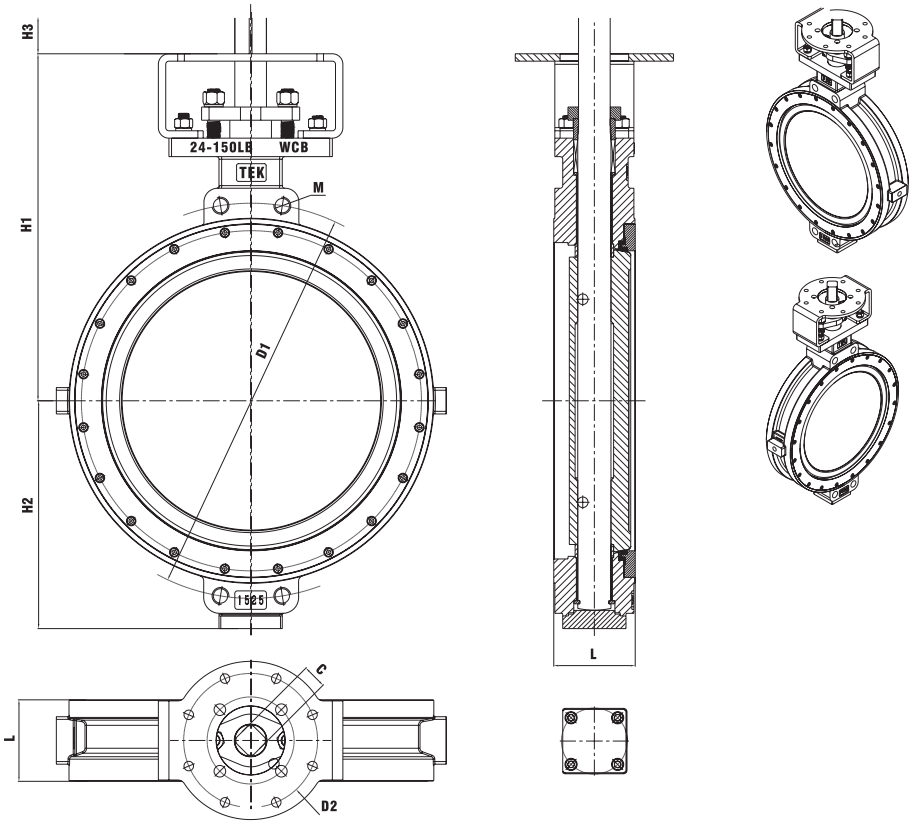
2”~8” CLASS150 WAFER BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS150LB**

NPS	DN	L	D1	D2	n-¢d	H1	H2	H3	C*C	TOP FLANGE	Torque
2	50	43	121	70	4-19	184	65	20	11*11	ISO5211 F07	26N.m
2.5	65	48	139.7	70	4-19	205	85	20	11*11	ISO5211 F07	33N.m
3	80	48	152.4	70	4-19	205	85	20	11*11	ISO5211 F07	39N.m
4	100	54	190	70	8-19	215	105	20	14*14	ISO5211 F07	58N.m
5	125	57	215.9	70	8-22	240	145	25	17*17	ISO5211 F07	86N.m
6	150	57	241	102	8-22	250	152	25	17*17	ISO5211 F10	126N.m
8	200	64	298.4	102	8-22	280	188	32	19*19	ISO5211 F10	217N.m

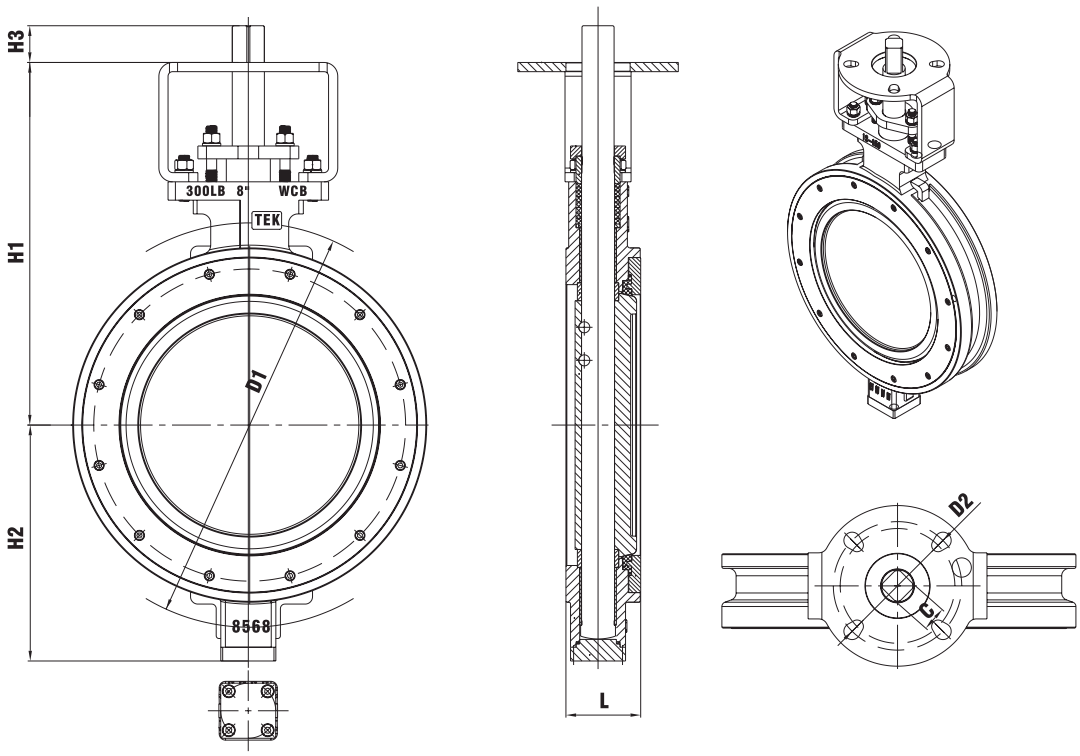
10”~36” CLASS150 WAFER BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS150LB**

NPS	DN	L	D1	D2	M	H1	H2	H3	C*C	TOP FLANGE	Torque
10	250	71	361.9	125	4-7/8”	386	219	35	22*22	ISO5211 F12	378N.m
12	300	81	431.8	140	4-7/8”	429	256	40	27*27	ISO5211 F14	475N.m
14	350	92	476.2	165	4-1”	472	282	40	27*27	ISO5211 F16	849N.m
16	400	102	539.8	165	4-1”	509	322	55	36*36	ISO5211 F16	1087N.m
18	450	114	577.9	165	4-1-1/8”	545	347	55	36*36	ISO5211 F16	1423N.m
20	500	127	635	165	4-1-1/8”	570	372	60	40*40	ISO5211 F16	1926N.m
24	600	154	749.3	254	4-1-1/4”	658	432	70	46*46	ISO5211 F25	2983N.m
28	700	165	863.6	254	4-1-1/4”	715	537	90	62*62	ISO5211 F25	4250N.m
30	750	165	914.4	254	4-1-1/4”	760	565	90	68*68	ISO5211 F25	4873N.m
32	800	190	978	254	4-1-1/2”	790	595	90	68*68	ISO5211 F25	6200N.m
36	900	200	1086	298	4-1-1/2”	910	635	100	75*75	ISO5211 F25	8121N.m

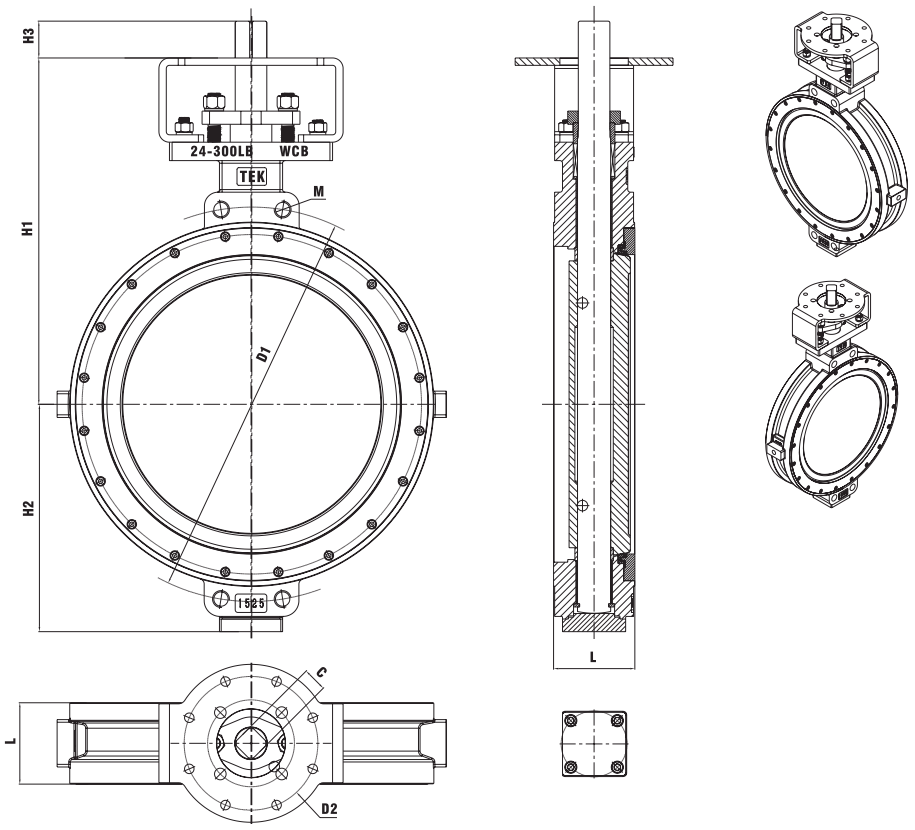
2”~8” CLASS300 WAFER BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS300LB**

NPS	DN	L	D1	D2	n-¢d	H1	H2	H3	C*C	TOP FLANGE	Torque
2	50	43	127	70	8-19	184	65	20	11*11	ISO5211 F07	39N.m
2.5	65	48	149.2	70	8-22	205	85	20	11*11	ISO5211 F07	49N.m
3	80	48	168.3	70	8-22	205	85	20	11*11	ISO5211 F07	62N.m
4	100	54	200	70	8-22	215	105	20	14*14	ISO5211 F07	110N.m
5	125	57	234.9	70	8-22	240	145	25	17*17	ISO5211 F07	193N.m
6	150	59	269.9	102	12-22	250	152	25	17*17	ISO5211 F10	278N.m
8	200	73	330.2	102	12-25	280	188	32	21*21	ISO5211 F12	554N.m

10”~36” CLASS300 WAFER BUTTERFLY VALVE SIZE

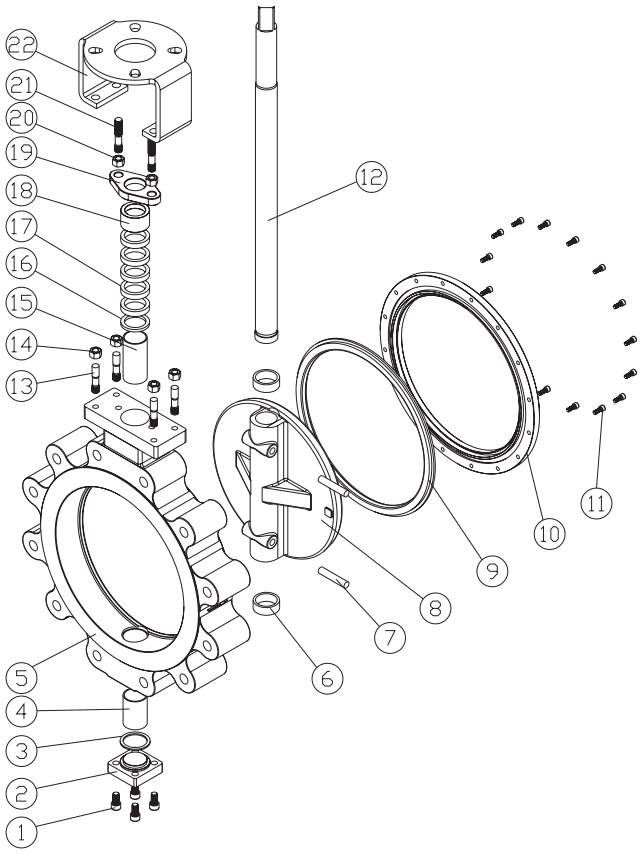


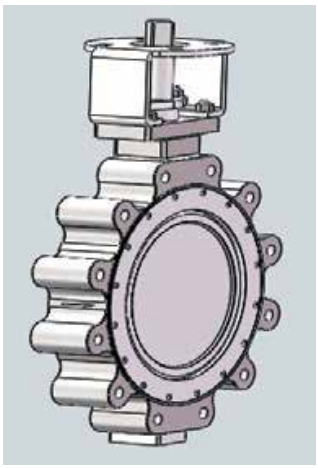
SIZE PARAMETERS **CLASS300LB**

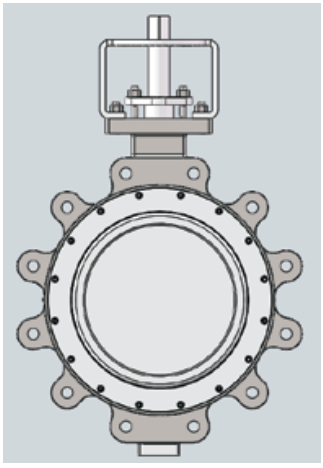
NPS	DN	L	D1	D2	M	H1	H2	H3	C*C	TOP FLANGE	Torque
10	250	83	387.4	125	4-1”	392	222	35	24*24	ISO5211 F12	885N.m
12	300	92	450.9	140	4-1-1/8”	457	270	40	29*29	ISO5211 F14	1207N.m
14	350	117	514.4	165	4-1-1/8”	480	290	40	41*41	ISO5211 F16	2239N.m
16	400	133	571.5	165	4-1-1/4”	535	335	55	41*41	ISO5211 F16	2671N.m
18	450	149	628.7	165	4-1-1/4”	595	367	55	51*51	ISO5211 F16	3422N.m
20	500	159	685.8	254	4-1-1/4”	690	435	60	51*51	ISO5211 F25	4635N.m
24	600	181	812.8	254	4-1-1/2”	758	483	70	58*58	ISO5211 F25	6251N.m
28	700	209	934	298	4-1-5/8”	791	575	90	70*70	ISO5211 F30	9350N.m
30	750	241	997	298	4-1-3/4”	852	621	90	80*80	ISO5211 F30	10898N.m
32	800	241	1054.1	298	4-1-7/8”	980	695	90	85*85	ISO5211 F30	13200N.m
36	900	260	1168.4	356	4-2”	1180	780	100	92*92	ISO5211 F35	18976N.m

CLASS150 LUG BUTTERFLY VALVE MATERIAL

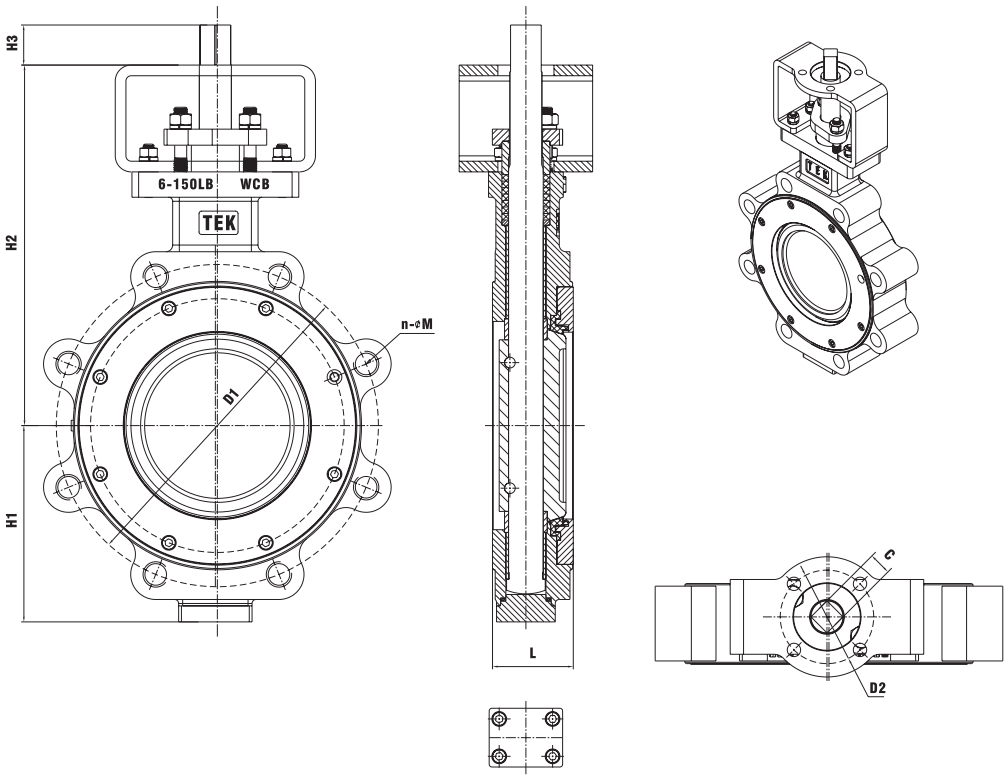
NO	Name	Material
1	Screw	A193 B8, A193 B8M
2	End Housing	A105, F304, F316
3	Gasket	SS316+Graphite
4	Bushings	SS316+PTFE
5	Body	WCB, CF8, CF8M
6	Positioning set	SS316
7	Pin	SS316
8	Disc	CF8, CF8M
9	Seat	RPTFE, PPL, PEEK
10	Retainer Flange	CS, SS304, SS316
11	Screw	A193 B8M
12	Stem	17-4PH, F51
13	Bolt	A193 B8, A193 B8M
14	Nut	A193 8, A193 8M
15	Bushings	SS316+PTFE
16	Packing Gasket	SS316
17	Packing	PTFE, Graphite
18	Packing Gland	SS316
19	Packing Flange	SS304
20	Nut	A193 8, A193 8M
21	Bolt	A193 B8M A193 B8M
22	York	CS, SS304







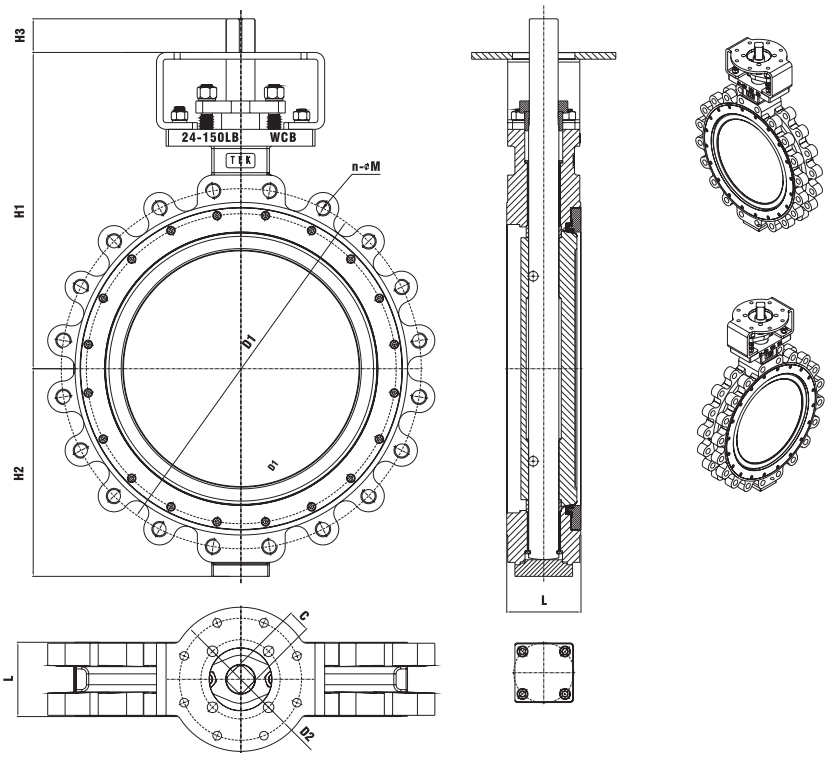
2”~16” CLASS150 LUG BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS300LB**

NPS	DN	L	D1	D2	n-M	H1	H2	H3	C*C	TOP FLANGE	Torque
2	50	43	121	70	4-5/8”	184	65	20	11*11	ISO5211 F07	26N.m
2.5	65	48	139.7	70	4-5/8”	205	85	20	11*11	ISO5211 F07	33N.m
3	80	48	152.4	70	4-5/8”	205	85	20	11*11	ISO5211 F07	39N.m
4	100	54	190	70	8-5/8”	215	105	20	14*14	ISO5211 F07	58N.m
5	125	57	215.9	70	8-3/4”	240	145	25	17*17	ISO5211 F07	86N.m
6	150	57	241	102	8-3/4”	250	152	25	17*17	ISO5211 F10	126N.m
8	200	64	298.4	102	8-3/4”	280	188	32	19*19	ISO5211 F10	217N.m
10	250	71	361.9	125	12-7/8”	386	219	35	22*22	ISO5211 F12	318N.m
12	300	81	431.8	140	12-7/8”	429	256	40	27*27	ISO5211 F14	475N.m
14	350	92	476.2	165	12-1”	472	282	40	27*27	ISO5211 F16	849N.m
16	400	102	539.8	165	16-1”	509	322	55	36*36	ISO5211 F16	1087N.m

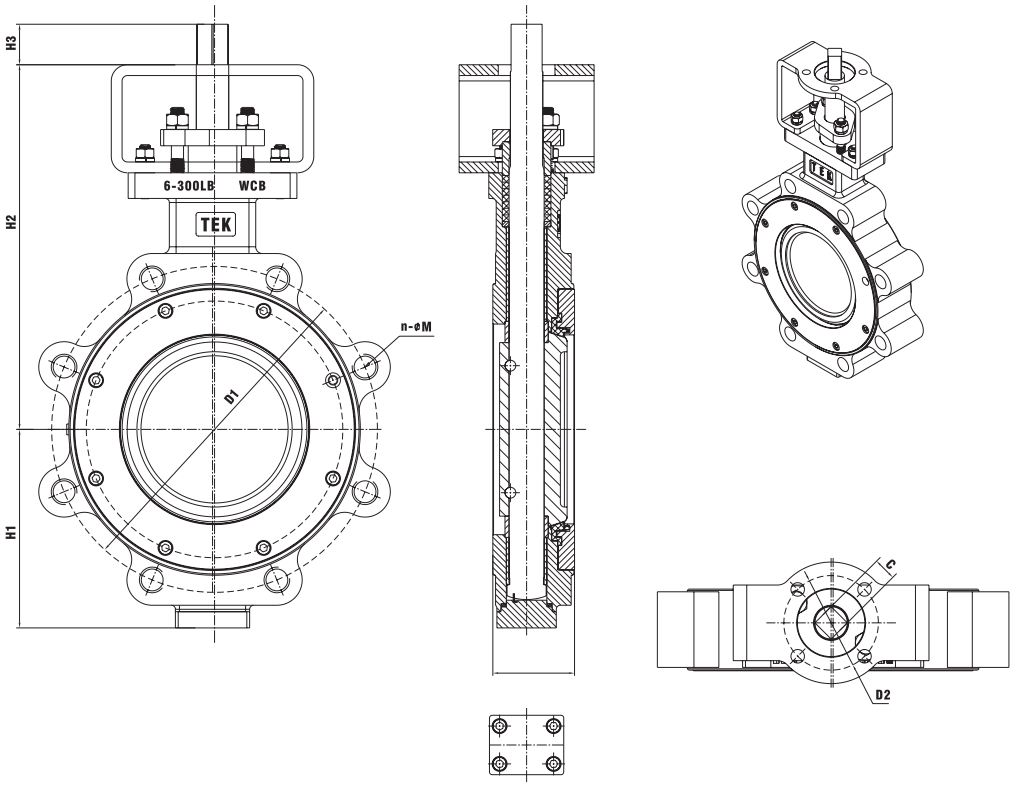
18”~36” CLASS150 LUG BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS150LB**

NPS	DN	L	D1	D2	n-M	H1	H2	H3	C*C	TOP FLANGE	Torque
18	450	114	577.9	165	16-1-1/8”	545	347	55	36*36	ISO5211 F16	1423N.m
20	500	127	635	165	20-1-1/8”	570	372	60	40*40	ISO5211 F16	1926N.m
24	600	154	749.3	254	20-1-1/4”	658	432	70	46*46	ISO5211 F25	2983N.m
28	700	165	863.6	254	28-1-1/4”	715	537	90	62*62	ISO5211 F25	4250N.m
30	750	165	914.4	254	28-1-1/4”	760	565	90	68*68	ISO5211 F25	4873N.m
32	800	190	978	254	28-1-1/2”	780	595	90	68*68	ISO5211 F25	6200N.m
36	900	200	1086	298	32-1-1/2”	910	635	100	75*75	ISO5211 F25	8121N.m

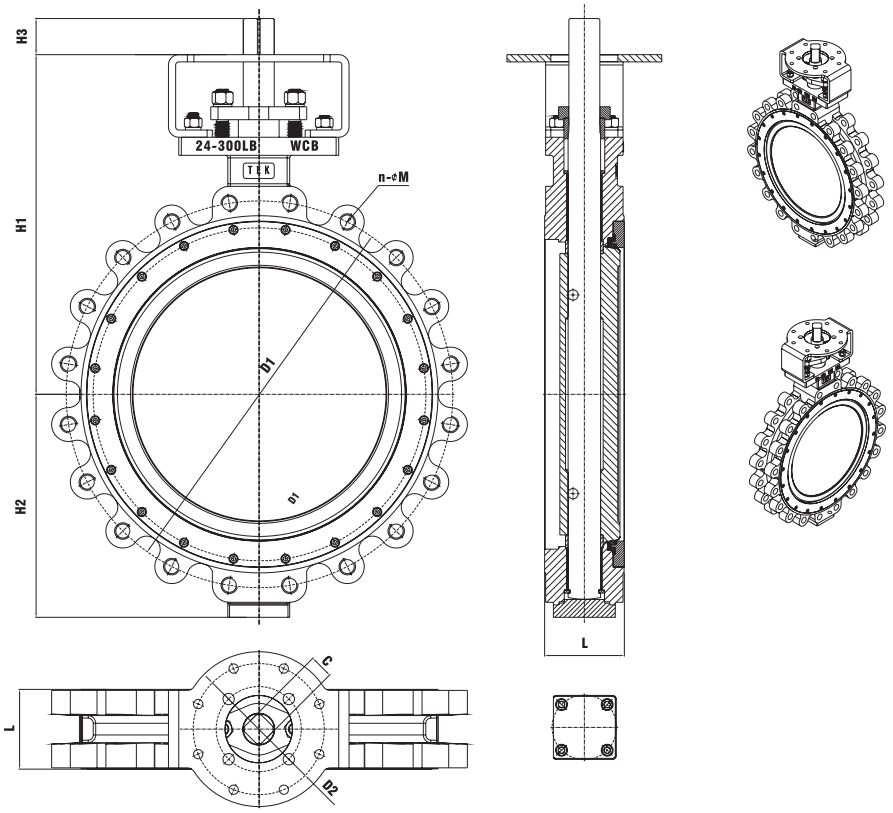
2”~16” CLASS300 LUG BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS300LB**

NPS	DN	L	D1	D2	n-M	H1	H2	H3	C*C	TOP FLANGE	Torque
2	50	43	127	70	8-5/8”	184	65	20	11*11	ISO5211 F07	39N.m
2.5	65	48	149.2	70	8-3/4”	205	85	20	11*11	ISO5211 F07	49N.m
3	80	48	168.3	70	8-3/4”	205	85	20	11*11	ISO5211 F07	62N.m
4	100	54	200	70	8-3/4”	215	105	20	14*14	ISO5211 F07	110N.m
5	125	57	234.9	70	8-3/4”	240	145	25	17*17	ISO5211 F07	193N.m
6	150	59	269.9	102	12-3/4”	250	152	25	17*17	ISO5211 F10	278N.m
8	200	73	330.2	102	12-7/8”	280	188	32	21*21	ISO5211 F12	554N.m
10	250	83	387.4	125	16-1”	392	222	35	24*24	ISO5211 F12	885N.m
12	300	92	450.9	140	16-1-1/8”	457	270	40	29*29	ISO5211 F14	1207N.m
14	350	117	514.4	165	20-1-1/8”	480	290	40	41*41	ISO5211 F16	2239N.m
16	400	133	571.5	165	20-1-1/4”	535	335	55	41*41	ISO5211 F16	2671N.m

18”~36” CLASS300 LUG BUTTERFLY VALVE SIZE

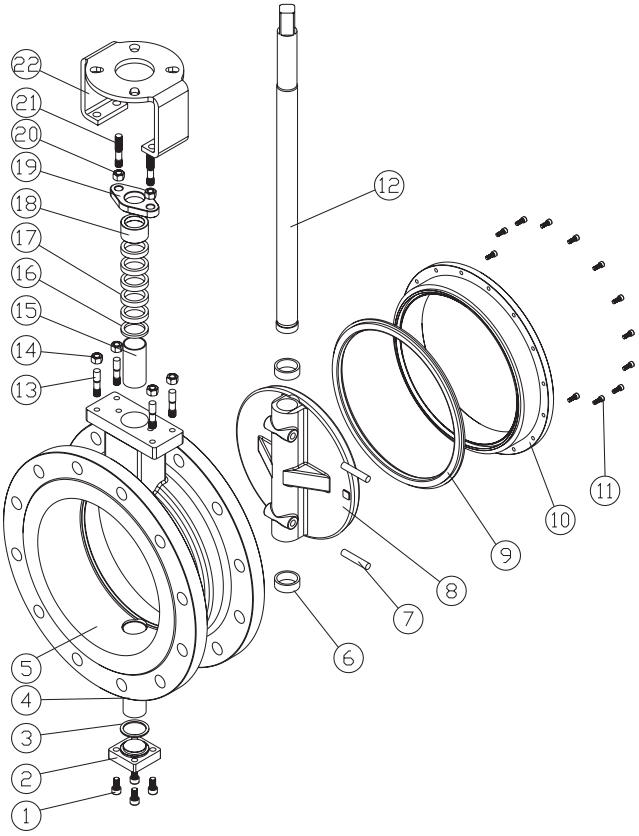


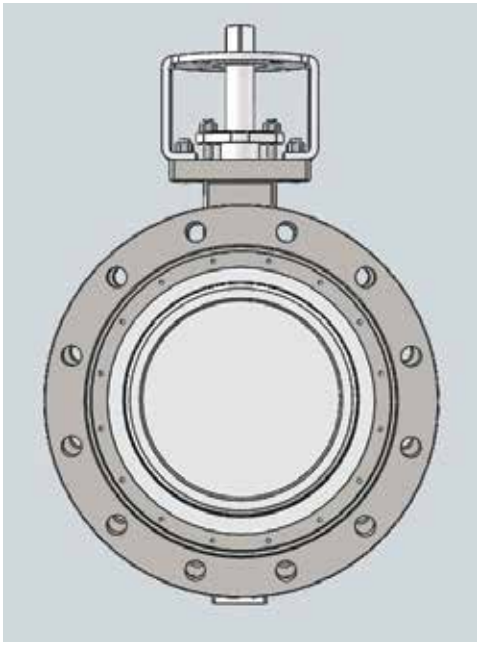
SIZE PARAMETERS **CLASS300LB**

NPS	DN	L	D1	D2	n-M	H1	H2	H3	C*C	TOP FLANGE	Torque
18	450	149	628.7	165	24-1-1/4”	595	367	55	51*51	ISO5211 F16	3422N.m
20	500	159	685.8	254	24-1-1/4”	690	435	60	51*51	ISO5211 F25	4635N.m
24	600	181	812.8	254	24-1-1/2”	758	483	70	58*58	ISO5211 F25	6251N.m
28	700	209	934	298	28-1-5/8”	791	575	90	70*70	ISO5211 F30	9350N.m
30	750	241	997	298	28-1-3/4”	852	621	90	80*80	ISO5211 F30	10898N.m
32	800	241	1054.1	298	28-1-7/8”	980	695	90	85*85	ISO5211 F30	13200N.m
36	900	260	1168.4	356	32-2”	1180	780	100	92*92	ISO5211 F35	18976N.m

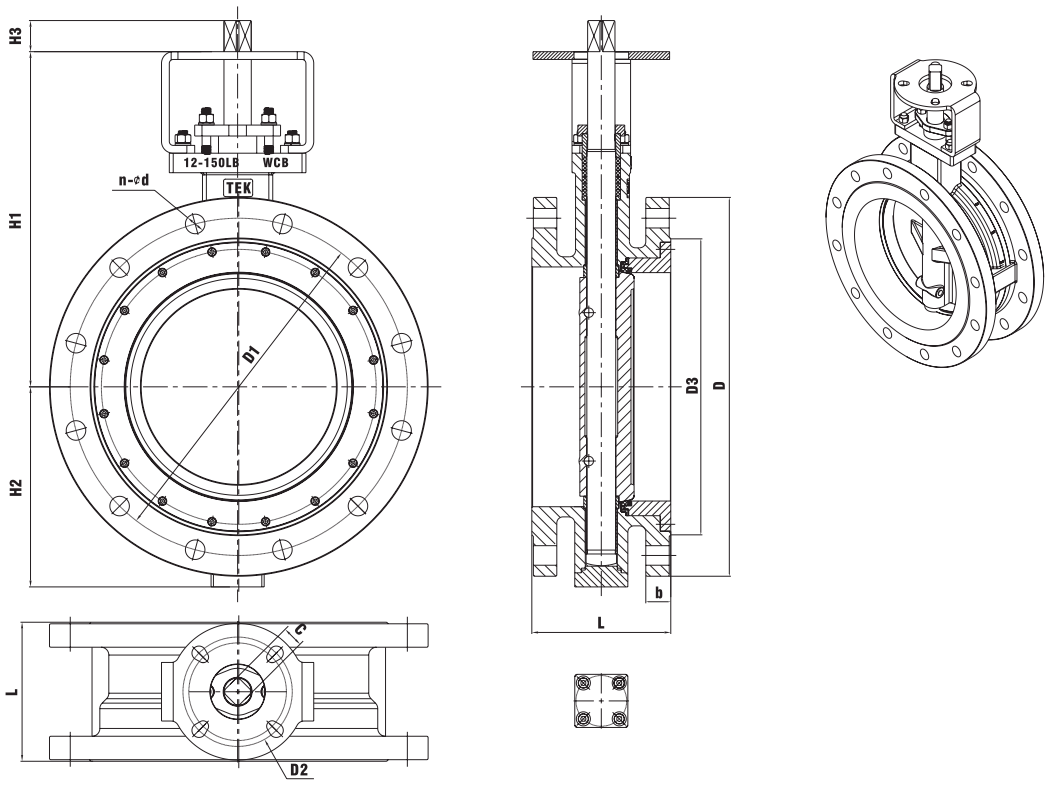
CLASS150 FLANGE BUTTERFLY VALVE MATERIAL

NO	Name	Material
1	Screw	A193 B8, A193 B8M
2	End Housing	A105, F304, F316
3	Gasket	SS316+Graphite
4	Bushings	SS316+PTFE
5	Body	WCB, CF8, CF8M
6	Positioning set	SS316
7	Pin	SS316
8	Disc	CF8, CF8M
9	Seat	RPTFE, PPL, PEEK
10	Retainer Flange	CS, SS304, SS316
11	Screw	A193 B8M
12	Stem	17-4PH, F51
13	Bolt	A193 B8, A193 B8M
14	Nut	A193 8, A193 8M
15	Bushings	SS316+PTFE
16	Packing Gasket	SS316
17	Packing	PTFE, Graphite
18	Packing Gland	SS316
19	Packing Flange	SS304
20	Nut	A193 8, A193 8M
21	Bolt	A193 B8M A193 B8M
22	York	CS, SS304





3”~36” CLASS150 FLANGE BUTTERFLY VALVE SIZE

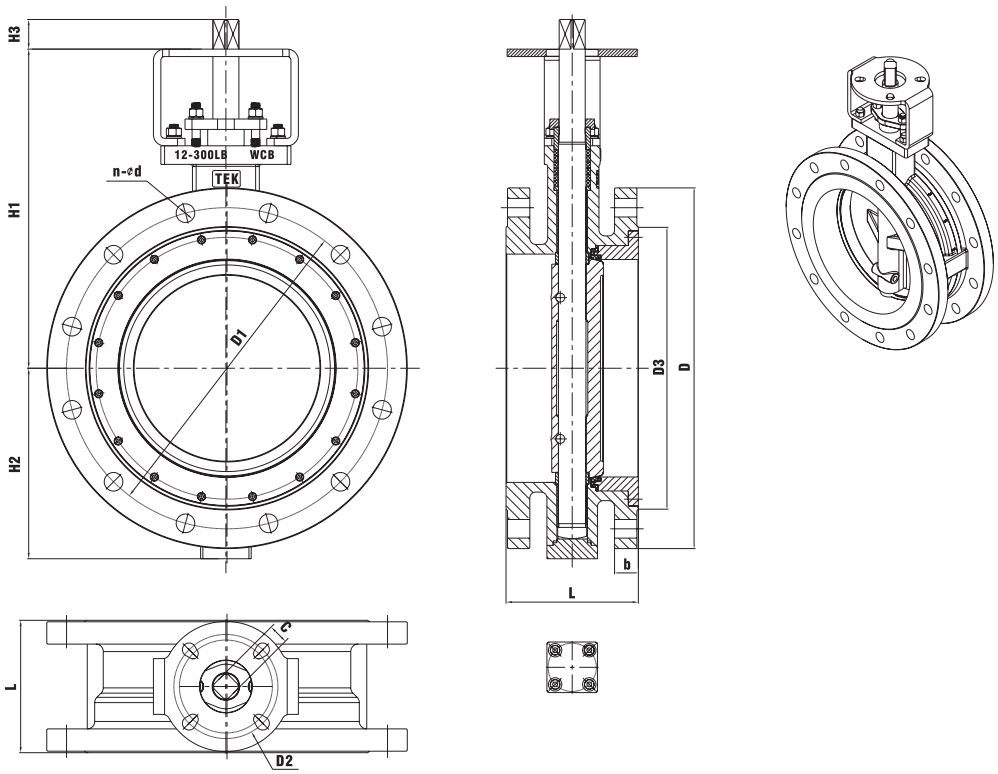


SIZE PARAMETERS

CLASS150LB

NPS	DN	L	D	D1	D2	D3	b	n-¢d	H1	H2	H3	C*C	TOP FLANGE	Torque
3	80	114	191	152.4	70	127	24	4-19	205	85	20	11*11	ISO5211 F07	39N.m
4	100	127	229	190	70	157.2	24	8-19	215	105	25	14*14	ISO5211 F07	58N.m
5	125	140	254	215.9	70	185.7	24	8-22	240	145	25	17*17	ISO5211 F07	86N.m
6	150	140	279	241	102	216	26	8-22	250	152	25	17*17	ISO5211 F10	126N.m
8	200	152	343	298.4	102	269.9	29	8-22	280	188	32	19*19	ISO5211 F10	217N.m
10	250	165	406	361.9	125	323.8	30	12-25	386	219	35	22*22	ISO5211 F12	318N.m
12	300	178	483	431.8	140	381	32	12-25	429	256	40	27*27	ISO5211 F14	475N.m
14	350	190	533	476.2	165	412.7	35	12-29	472	282	40	27*27	ISO5211 F16	849N.m
16	400	216	597	539.8	165	470	37	16-29	509	322	55	36*36	ISO5211 F16	1087N.m
18	450	222	635	577.9	165	533.4	40	16-32	545	347	55	36*36	ISO5211 F16	1423N.m
20	500	229	699	635	165	584.2	43	20-32	570	372	60	40*40	ISO5211 F16	1926N.m
24	600	267	813	749.3	254	692.2	48	20-35	658	432	70	46*46	ISO5211 F25	2983N.m
28	700	292	927	863.6	254	800	71	28-35	715	537	90	62*62	ISO5211 F25	4250N.m
30	750	318	984	914.4	254	857	75	28-35	760	565	90	68*68	ISO5211 F25	4873N.m
32	800	318	1060	978	254	914	81	28-41	790	595	90	68*68	ISO5211 F25	6200N.m
36	900	330	1168	1086	298	1022	90	32-41	910	635	100	75*75	ISO5211 F25	8121N.m

3”~36” CLASS300 FLANGE BUTTERFLY VALVE SIZE



SIZE PARAMETERS **CLASS300LB**

NPS	DN	L	D	D1	D2	D3	b	n-¢d	H1	H2	H3	C*C	TOP FLANGE	Torque
3	80	180	210	168.3	70	127	29	8-22	205	85	20	11*11	ISO5211 F07	62N.m
4	100	190	254	200	70	157.2	32	8-22	215	105	20	14*14	ISO5211 F07	110N.m
5	125	210	279	234.9	70	185.7	35	8-22	240	145	25	17*17	ISO5211 F07	193N.m
6	150	210	318	269.9	102	215.9	37	12-22	250	152	25	17*17	ISO5211 F10	278N.m
8	200	230	381	330.2	102	269.9	42	12-25	280	188	32	21*21	ISO5211 F12	554N.m
10	250	250	445	387.4	125	323.8	48	16-29	392	222	35	24*24	ISO5211 F12	885N.m
12	300	270	521	450.9	140	381	51	16-32	457	270	40	29*29	ISO5211 F14	1207N.m
14	350	290	584	514.4	165	412.7	54	20-32	480	290	40	41*41	ISO5211 F16	2239N.m
16	400	310	648	571.5	165	470	57	20-35	535	335	55	41*41	ISO5211 F16	2671N.m
18	450	330	711	628.7	165	533.4	60	24-35	595	367	55	51*51	ISO5211 F16	3422N.m
20	500	350	775	685.8	254	584.2	64	24-35	690	435	60	51*51	ISO5211 F25	4635N.m
24	600	390	914	812.8	254	692.2	70	24-41	758	483	70	58*58	ISO5211 F25	6251N.m
28	700	430	1035	934	298	800	86	28-45	791	575	90	70*70	ISO5211 F30	9350N.m
30	750	450	1092	997	298	857	92	28-48	852	621	90	80*80	ISO5211 F30	10898N.m
32	800	470	1149	1054.1	298	914	99	28-51	980	695	90	85*85	ISO5211 F30	13200N.m
36	900	510	1270	1168.4	356	1022	105	32-54	1180	780	100	92*92	ISO5211 F35	18976N.m

ALPINE HIGH PERFORMANCE BUTTERFLY VALVE

Address: 272 Bath Street Glasgow G2 4JR Cell: +44 (0) 776348 8809: Land: +44 (0) 1369 760423: Email: john@afcvalves.co.uk: Web: www.afcvalves.co.uk

Alpine Flow Control UK Limited
Address: 272 Bath Street Glasgow G2 4JR Cell: +44 (0) 776348 8809: Land: +44 (0) 1369 760423: Email: john@afcvalves.co.uk: Web: www.afcvalves.co.uk