

NEWAY

Butterfly Valves

Complete Solutions for Industrial Valves

www.jagflo.com

JAG

flocomponents

valves • vision • value

NEWAY VALVE

Cat.no.:E-BFV-2006

Figure Numbers



Newway figure numbers are designed to cover essential features. When ordering, please show figure number to avoid misunderstanding of your requirements. However a detailed description must accompany with any special orders.

① Valve Size

02 = 2" (DN50)	12 = 12" (DN300)
2.5 = 2-1/2" (DN65)	14 = 14" (DN350)
03 = 3" (DN80)	16 = 16" (DN400)
04 = 4" (DN100)	18 = 18" (DN450)
05 = 5" (DN125)	20 = 20" (DN500)
06 = 6" (DN150)	24 = 24" (DN600)
08 = 8" (DN200)	30 = 30" (DN750)
10 = 10" (DN250)	36 = 36" (DN900)

② Butterfly Valve Type

Symbol	Type
T	Soft Seated Concentric Butterfly Valve
TC	Metal Seated Triple offset Butterfly Valve

③ ANSI Class

Code	0	1	3	6	9	15
Class(LB)	125	150	300	600	900	1500

④ End Connection

Symbol	Type
R	Raise face flanged end
B	Butt-welding End
W	Wafer
L	Lug

⑦ Trim Code

First Number		Second Number			Third Number		
Stem		Code	Disc (T series)	Seat (TC series)	Code	Seat (T series)	Disc Seal (TC series)
Code	Material		Material	Material		Material	Material
1	416ss	1	A339-80-45-10		1	EPDM	
2	F304	2	CF8	F304	2	NBR	
3	F316	3	CF8M	F316	3		
4	MONEL K500	4	MONEL	B127-61	4	VITON	
5	17-4PH	5	B148 C95200	B148 C95200	5	PTFE	Stainless+PTFE
6	F6a	6	WCB		6	NEOPRENE	
7	B148 C95200	7	CA15	F6a	7	HYPALON	
8	F316L	8			8		Stainless+Graphite
		9		EDCoCr-A			

⑤ Operator

	Lever handle
G	Gear operator
M	Electric actuator
P	Pneumatic actuator

⑥ Shell Material

Material	ASTM Ref.
C.I. (Cast Iron)	A126-B
D.I. (Ductile Iron)	A339-80-45-10
WCB	A216 Grade WCB
LCB	A352 Grade LCB
LCC	A352 Grade LCC
CF8M	A351 Grade CF8M
CF8	A351 Grade CF8
CF3M	A351 Grade CF3M
CF3	A351 Grade CF3
CN7M (Alloy 20)	A351 Grade CN7M

www.jagflo.com

Series TC Butterfly Valve

Design Feature

Industrial valves normally require wider temperature and pressure ranges, which conventional resilient seated butterfly valve can not comply, this have led to development of metal seated butterfly valve. NEWAY TC series butterfly valve is triple off-set design which has a advantage of light weight, compact design and cost effective and low operation torque and can replace traditional gate, globe & ball valve in most of industries application.



Products Range:

Size:	3" ~ 48"
Rating:	ANSI 150lb ~ 600lb
Temperature Range:	-196°C ~ +550°C
Body Materials:	Cast steel, Stainless steel, Alloy steel Duplex steel.
Disc Sealing:	PTFE, Graphite laminated
End Connection:	Wafer, Lug, Double Flange

Typical application:

- Petrochemical plant
- Refinery
- Offshore platform
- Power plant
- LNG
- Steel Mills



NEWAY TC series butterfly valve is true metal to metal seated design, featured with quarter turn, bi-directional & zero leakage. Because of no Teflon, Viton or other soft seal material used, it is inherently fire safe and can completely eliminate the traditional elastomeric seating butterfly valve leakage problem due to seat aging or deformation, consequently wear. Wide range of available body material selection make this series of valve not only good for isolation service but also ideal for most of process and control application.

Series TC Butterfly Valve

Design Feature

One-Piece shaft

Anti-blowout proof design, provide positive maximum strength.

Mounting pad

designed per ISO 5211, easily installation of hand levers, gear box, pneumatic or electric actuators.

Low emission packing

Advanced braided (top and bottom) plus 3~4 dieformed graphite packing rings ensure less 20ppm on fugitive emission.

Disc seat design

Allows field replaceable without special tools.

Laminated Seal

PTFE or Graphite plus metal layers, provide an elastic tight seal. Also fire-safe is assured.

Stellited seat (optional)

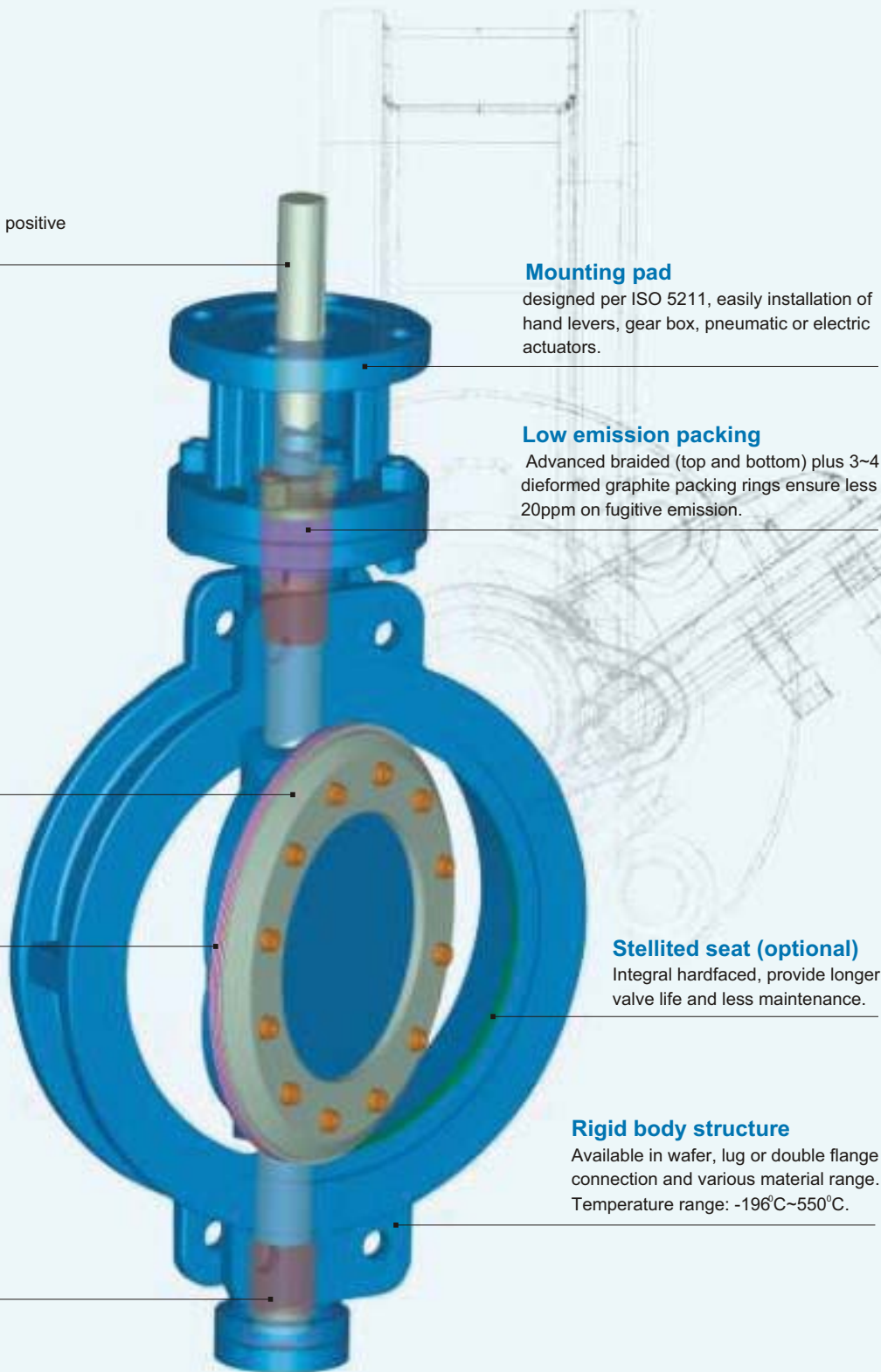
Integral hardfaced, provide longer valve life and less maintenance.

Long-length bearing

Fine-machined and hardened (Nickel-plated) to reduce the stem friction and ensure lower torque.

Rigid body structure

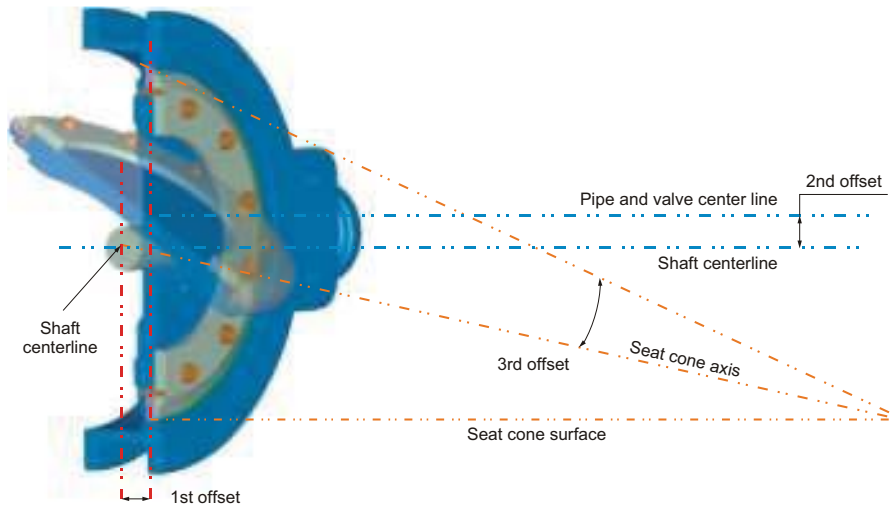
Available in wafer, lug or double flange connection and various material range. Temperature range: -196°C~550°C.



www.jagflo.com

Series TC Butterfly Valve

Design Feature

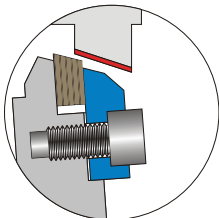


Triple Offset Frictionless Design

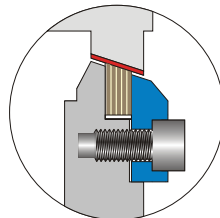
1st offset: Shaft rotation center is offset from the centerline of valve seat, provide a completed sealing contact between disc and seat.

2nd offset: Shaft rotation center is offset from centerline of valve body, greatly reduce the friction between disc and seat during valve closing and opening.

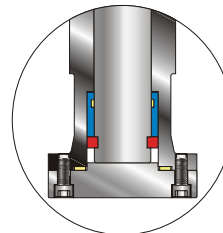
3rd offset: Seat cone center is offset from the valve centerline, completely eliminate the mechanical friction between disc and seat. It is a torque seated, process pressure aided frictionless seal valve, ideally suitable for metal seated valves on high temperature, high pressure and firesafe application.



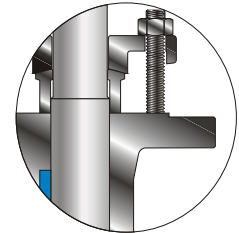
Before seating



After seating



Internally retained



Externally retained

Laminated Disc Seal

Laminated sealing is mounted in the disc, easily for maintenance and replacement. It consists of 3~5 flexible graphite or PTFE layers self adhere with fine machined stainless seal ring, no need traditional phenol resin adhere joint, There is a reasonable clearance between disc seal and disc, provide a floating resilient seal and self centering tight seal both in low & high temperature application. Conical angle & streamline profile of this laminated disc is optimized by computer finite element analysis to eliminate any potential jamming as well as give a greater Cv.

Zero Leakage

Disc-Seat sealing was achieved by torque force evenly loaded on disc laminated seal edge, which has resilient function to assure Zero Leakage in both hydrostatic or air test per API 598.

Anti-blowout shaft.

Internally & Externally retained, double times blowout proof stem design per API 609.

Internal: Lower end shaft is grooved with Hemicycle Ring, prevent stem blowout.

External: Shaft is designed with an integral collar and was blowout prevented by gland follower.

Inherent Fire Safe

Neway triple offset butterfly valves are all metal construction and sealing, it is inherently fire safe design. Fire safe tests to API 607 were successfully performed in Neway Research & Development laboratory.

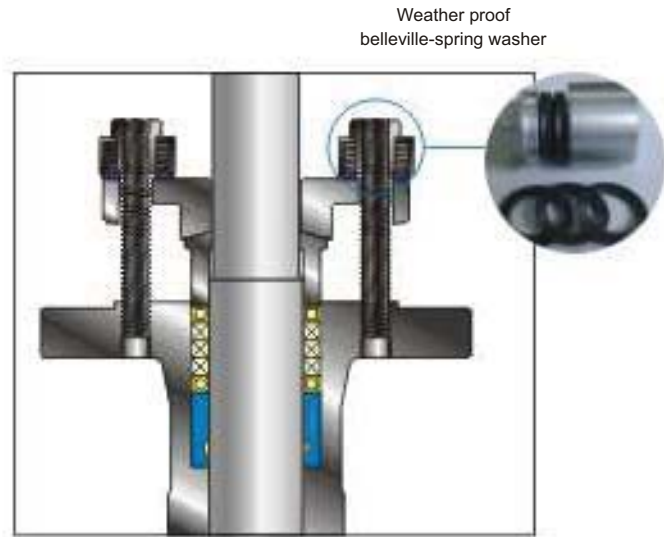
Series TC Butterfly Valve

Design Feature

Low Emission Shaft Seal

Neway standard emission control is 20 PPM

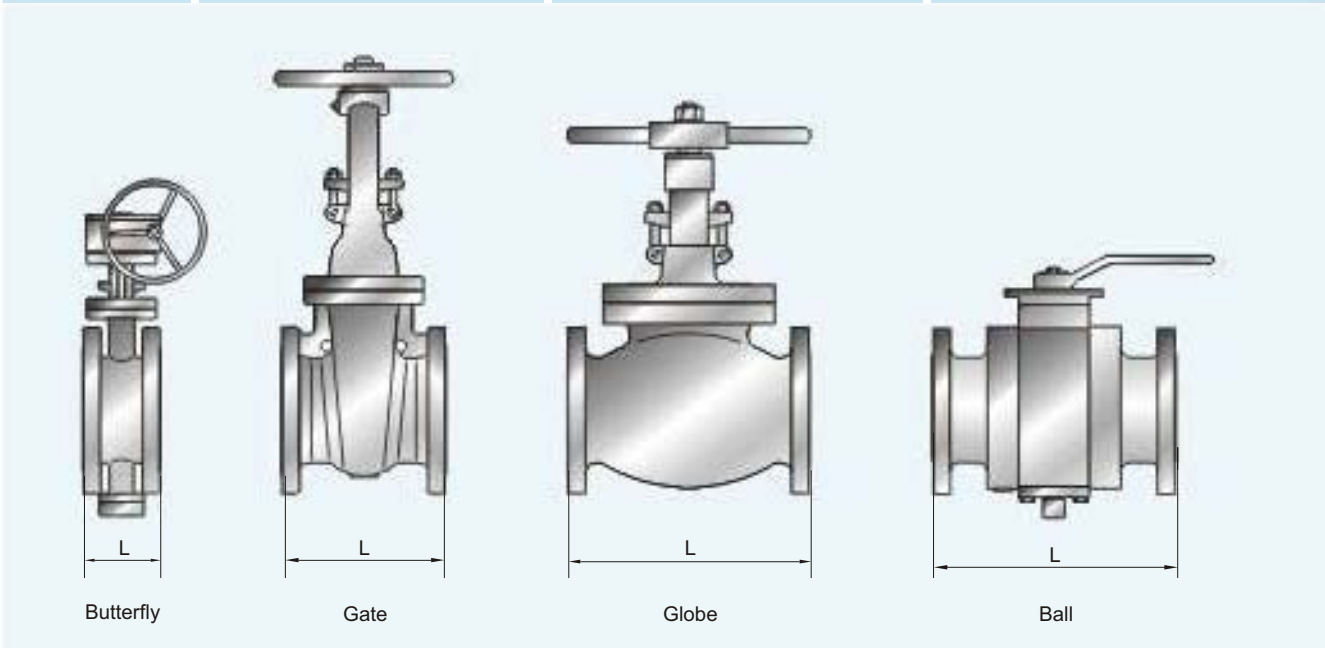
- Shaft is fully guided by shaft bearing & gland follower to avoid any side jiggle due to line pressure thrust.
- The packing set is pre-compressed and is a combination of braided graphite rings top and bottom with die formed flexible graphite rings between.
- Controlled shaft & stuffing box finish with Ra0.4~Ra0.8 on shaft and Ra3.2 on stuffing box which allow a better holding of packing ring and results in a better shaft sealing performance.
- Optional Live Loaded gland flange is available for providing constant packing compression to reduce fugitive emission from shaft seal.
- Optional shaft seal design per Shell MESC 77/312 & TA-Luft is also available upon request.



Compact & light Design

NEWAY series TC butterfly valve was designed per API 609, due to its compact & light design. It is an economical replacement for gate, globe and ball valves. Below is a comparison table based on a NEWAY design 6" valve.

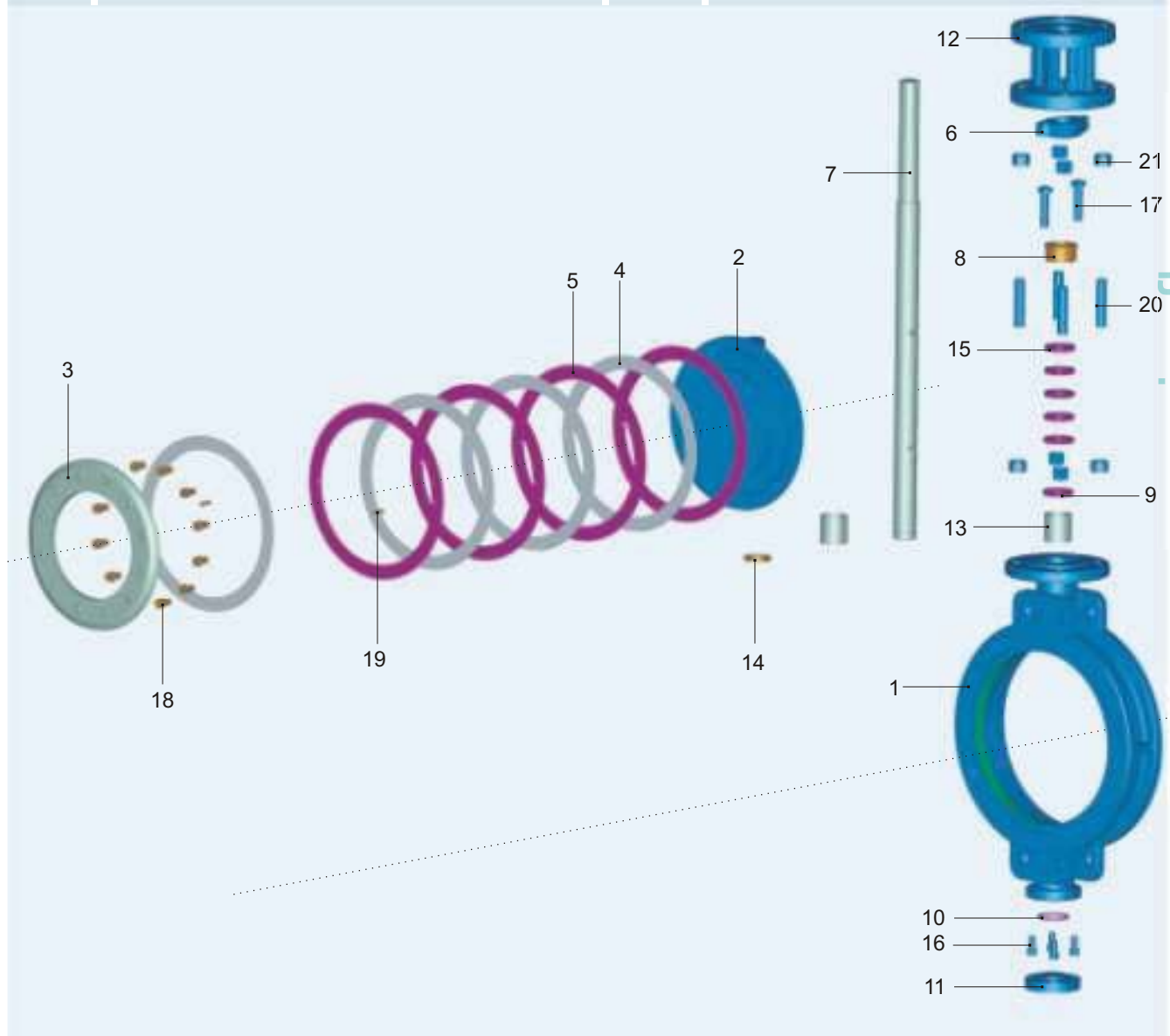
	150LB				300LB				600LB			
	Butterfly	Gate	Globe	Ball	Butterfly	Gate	Globe	Ball	Butterfly	Gate	Globe	Ball
Face to Face (mm)	140	267	406	394	140	403	445	403	210	559	559	559
Weight (kg)	68	77	100	190	118	144	168	211	201	234	284	248



Series TC Butterfly Valve

Material Specifications

No	Part	No	Part
1	Body	12	Yoke
2	Disc	13	Bearing
3	Disc Retaining Ring	14	Hemicycle Ring
4	Steel Seal Ring	15	Packing
5	Seal Ring	16	Screw
6	Gland Flange	17	Gland bolt
7	Shaft	18	Disc Screw
8	Gland	19	Disc Pin
9	Spacer Ring	20	Body Stud
10	Gasket	21	Body Nut
11	End Cover		



Series TC Butterfly Valve

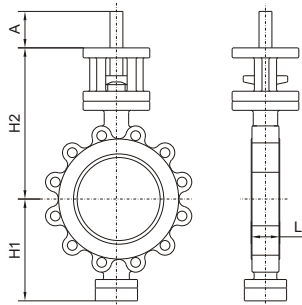
Material Specifications

No	Part	Standard	Stainless steel
1	Body	ASTM A216-WCB/316 overlay	ASTM A351-CF8M
2	Disc	ASTM A216-WCB	ASTM A351-CF8M
3	Disc Retaining Ring	ASTM A182-F316	ASTM A182-F316
4	Steel Seal Ring	ASTM A182-F316	ASTM A182-F316
5	Seal Ring	Graphite/PTFE	Graphite/PTFE
6	Gland Flange	ASTM A216-WCB	ASTM A351-CF8
7	Shaft	ASTM A182-F316	ASTM A182-F316
8	Gland	ASTM A182-F316	ASTM A182-F316
9	Spacer Ring	ASTM A182-F316	ASTM A182-F316
10	Gasket	316SS+Graphite	316SS+Graphite
11	End Cover	ASTM A105	ASTM A182-F316
12	Yoke	ASTM A216-WCB	ASTM A351-CF8M
13	Bearing	ASTM A182-F316/Cr plated	ASTM A182-F316/Cr plated
14	Hemicycle Ring	ASTM A182-F316	ASTM A182-F316
15	Packing	Graphite/PTFE	Graphite/PTFE
16	Screw	ASTM A193-B7	ASTM A193-B8
17	Gland bolt	ASTM A193-B7	ASTM A193-B8
18	Disc Screw	S.S.	S.S.
19	Disc Pin	S.S.	S.S.
20	Body Stud	ASTM A193-B7	ASTM A193-B8
21	Body Nut	ASTM A194-2H	ASTM A194-8

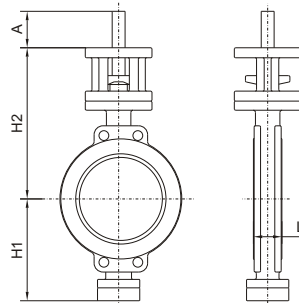
www.jagflo.com

Series TC Butterfly Valve

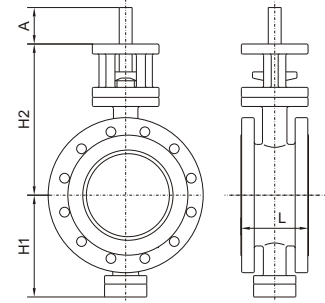
Dimensions & Weights



Lugged type



Wafer type



Double Flanged Type

Class 150LB

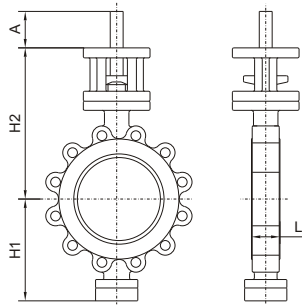
Dimensions (mm)

Valves Size					L			Weight (kg)		
inch	mm	H1	H2	A	Lug	Wafer	Flanged	Lug	Wafer	Flanged
3"	80	157	239	45	48	48	114	27	26	41
4"	100	179	280	45	54	54	127	29	27	50
6"	150	194	310	45	57	57	140	37	32	68
8"	200	230	330	75	64	64	152	63	60	112
10"	250	280	380	80	71	71	165	85	78	148
12"	300	310	450	100	81	81	178	137	123	221
14"	350	340	500	110	92	92	190	200	174	297
16"	400	365	510	110	102	102	216	276	229	370
18"	450	436	640	135	114	114	222	329	288	435
20"	500	450	660	150	127	127	229	480	410	589
24"	600	530	820	170	154	154	267	673	585	827
28"	700	600	903	170	165	165	292	1212	1098	1476
30"	750	630	930	170	190	190	318	1496	1364	1634
32"	800	696	967	175	190	190	318	1806	1640	2005
36"	900	760	1105	175	203	203	330	2116	1917	2506
40"	1000	830	1175	175	216	216	410	2681	2425	3347
42"	1050	860	1210	175	229	229	410	2811	2573	3620
48"	1200	960	1320	200	254	254	470	3940	3484	5077

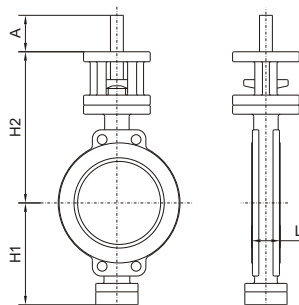
www.jagflo.com

Series TC Butterfly Valve

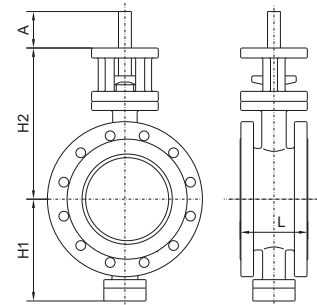
Dimensions & Weights



Lugged type



Wafer type



Double Flanged Type

Class 300LB

Dimensions (mm)

Valves Size					L			Weight (kg)		
inch	mm	H1	H2	A	Lug	Wafer	Flanged	Lug	Wafer	Flanged
3"	80	157	239	45	48	48	114	31	26	50
4"	100	179	280	45	54	54	127	35	27	67
6"	150	220	356	60	59	59	140	65	50	118
8"	200	260	420	80	73	73	152	90	81	156
10"	250	310	430	90	83	83	165	141	133	207
12"	300	345	480	100	92	92	178	206	187	337
14"	350	370	450	110	117	117	190	395	279	495
16"	400	390	550	120	133	133	216	469	368	604
18"	450	490	705	130	149	149	222	718	494	864
20"	500	520	750	140	159	159	229	825	607	971
24"	600	590	910	150	181	181	267	1271	901	1455

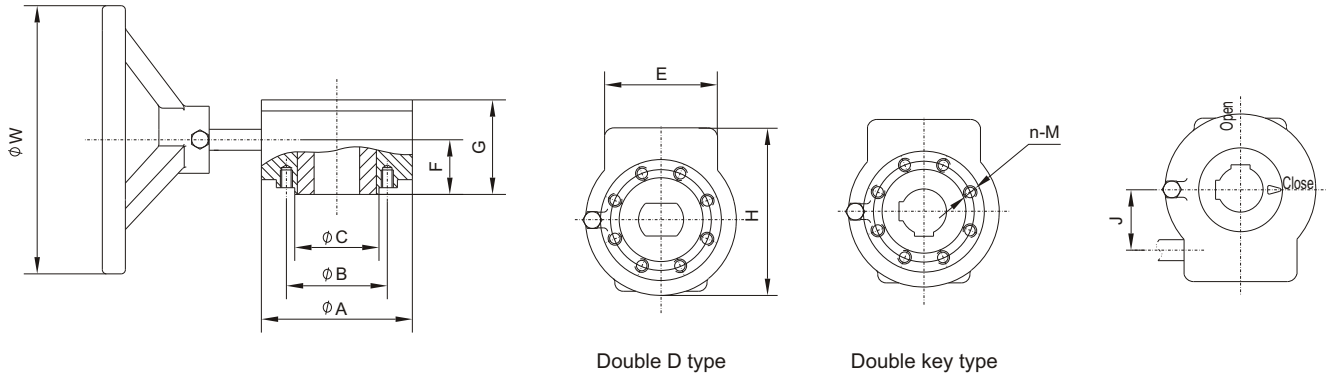
Class 600LB

Dimensions (mm)

Valves Size					L			Weight (kg)
inch	mm	H1	H2	A	Lug	Wafer	Flanged	Flanged
3"	80	184	280	65	54	54	180	57
4"	100	205	300	80	64	64	190	108
6"	150	260	415	120	78	78	210	201
8"	200	290	450	130	102	102	230	300
10"	250	360	500	140	117	117	250	463
12"	300	390	570	150	140	140	270	601
14"	350	410	590	160	155	155	290	673
16"	400	470	650	170	178	178	310	1055
18"	450	560	800	180	200	200	330	1196
20"	500	600	830	190	216	216	350	1542
24"	600	650	1050	250	232	232	390	2310

Engineering Data

Gear Operators



Main Parts Material:

Name of Part	End Cover	Housing	Worm	Worm gear	Cover	Indicator
Material	ASTM A126-A	ASTM A126-A	AISI 1045	ASTM A339-80-45-10	ASTM A126-A	ASTM A126-B
Optional Material	ASTM A216-WCB	ASTM A216-WCB			ASTM A216-WCB	1Cr18Ni9Ti

Dimensions (mm) & Weights

Gear Box Type	Ratio	Output Torque (N.M)	A	B	C	E	F	G	H	J	n-M	W	Weight (Kg)
SD30	24:1	300	90	70	55	54	38	70	127	45	4-M8	150	4.5
SD75	30:1	750	125	102	70	57	45	82	176	66	4-M10	300	12
SD120	50:1	1200	150	125	85	85	50	88	198	78	4-M12	300	14
SD250	120:1	2500	210	165	130	90	66	118	290	120	4-M20	300	35
SD300	290:1	3000	210	165	130		75	162	313	120	4-M20	300	50
SD700	320:1	7000	300	254	200		75	165	405	154	8-M16	500	65
SD900	350:1	9000	350	298	230		82	172	453	180	8-M20	600	150
SD1500	450:1	15000	350	298	230		89	195	545	225	8-M20	750	206
SD2100	618:1	21000	415	356	260		105	248	730	250	8-M30	750	280
SD2900	910:1	29000	415	356	260		116	273	860	315	8-M30	750	420
SD4000	846:1	40000	475	406	300		125	296	930	345	8-M36	750	560
SD6000	918:1	60000	475	406	300		145	326	990	390	8-M36	750	700

T Series Butterfly Valve

Valve Size		Shut Off Pressure (psi)					
inch	mm	0	50	100	150	200	285
2"	50	37	38	40	41	42	44
2-1/2"	65	45	46	47	49	50	52
3"	80	54	56	59	61	63	66
4"	100	81	85	88	92	95	99
5"	125	110	116	121	127	133	140
6"	150	152	164	175	186	198	212
8"	200	254	277	299	322	345	370
10"	250	390	424	458	492	525	551
12"	300	525	582	638	695	751	810
14"	350	729	819	910	1000	1090	1200
16"	400	932	1068	1203	1339	1475	1620
18"	450	1170	1373	1576	1780	1977	2295
20"	500	1441	1723	2006	2288	2570	2870
24"	600	1814	2189	2564	2939	3320	3700

→ TC Series Butterfly Valve

Valve Size		Class 150lb		Class 300lb		Class 600lb	
inch	mm	Opening	Closing	Opening	Closing	Opening	Closing
3"	80	90	80	152	135	272	188
4"	100	126	109	218	179	545	354
6"	150	193	164	462	354	1294	715
8"	200	387	258	1007	613	2451	1491
10"	250	675	488	1612	1035	4339	2538
12"	300	1041	738	2594	1486	6189	3308
14"	350	1465	1009	3502	1778	8262	4364
16"	400	2050	1439	5767	2958	11822	5992
18"	450	2842	1636	7703	3685	20304	9047
20"	500	3531	1945	9884	4335	25892	11778
24"	600	5996	2701	15961	6412	39902	15788
28"	700	15104	5979	24202	8046		
30"	750	21896	6939	46447	15660		
32"	800	23153	7878	51616	15078		
36"	900	31912	12206	72961	21194		
40"	1000	40362	15544	85865	28619		
42"	1050	47524	17365				
48"	1200	65334	25709				

Notes:

- 1) Torques shown are based on normal temperature with flow direction from shaft side.
- 2) Torque shown in this table is to be used as a guide for actuator selection. A safety factor of 1.2~1.4 is recommended for actuator sizing.
- 3) Torque may be changed according to different medium and trim material.
- 4) The relationship between values are liner, therefore it can be interpolated between nominated values.

Engineering Data

Flow Coefficient (Cv value)

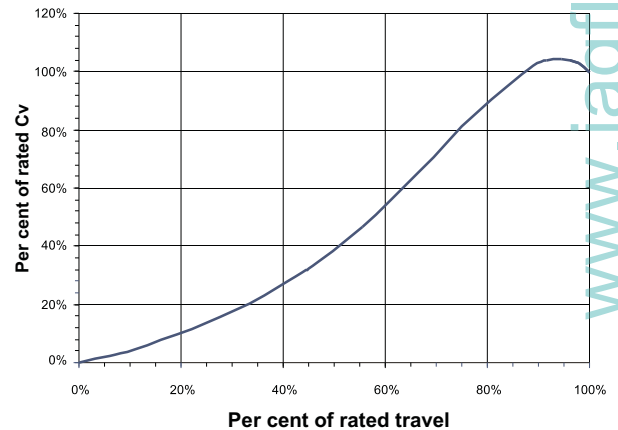
T Series Butterfly Valve

Valve Size		Disc Opening Angle								
inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	50	2	8	18	30	50	80	130	200	220
2-1/2"	65	3	11	25	44	70	110	180	290	320
3"	80	4	16	38	66	110	170	280	430	500
4"	100	6	28	63	110	180	280	460	720	820
5"	125	10	44	100	180	280	450	740	1100	1300
6"	150	17	60	140	250	400	640	1100	1600	1900
8"	200	24	110	250	440	690	1100	1800	2800	3300
10"	250	39	180	400	710	1100	1800	3000	4600	5400
12"	300	57	260	590	1000	1700	2700	4400	6800	8000
14"	350	75	340	770	1400	2200	3400	5600	9000	10000
16"	400	100	440	1000	1800	2800	4500	7400	11000	13000
18"	450	130	570	1300	2300	3600	5800	9600	15000	18000
20"	500	150	710	1600	2900	4600	7200	12000	18000	22000
24"	600	220	1000	2300	4000	6400	10000	17000	26000	30000

TC Series Butterfly Valve

Valve Size		150lb		300lb		600lb	
mm	inch	Cv	Kv	Cv	Kv	Cv	Kv
80	3	165	143	165	143	150	130
100	4	290	251	290	251	250	216
150	6	790	684	725	628	600	519
200	8	1460	1264	1330	1152	1080	935
250	10	2200	1905	2110	1827	1700	1472
300	12	3780	3273	3500	3030	2520	2182
350	14	5140	4450	4620	4000	4068	3522
400	16	6940	6009	6280	5437	5380	4658
450	18	9500	8225	8590	7437	7470	6468
500	20	13000	11255	11500	9957	9820	8502
600	24	18800	16277	16180	14009	14940	12935
700	28	27200	23550	23400	20260		
750	30	30700	26580	29000	25108		
800	32	35000	30303	32600	28225		
900	36	43000	37229	41500	35931		
1000	40	56900	49264	49900	43203		
1050	42	61700	53419	57100	49437		
1200	48	81000	70130	74000	64069		

Cv curve



Notes:

- 1) Definition:
 - Cv: The volume of water in gpm at 15°C that will pass through a valve with differential pressure of 1 PSI.
 - Kv: The volume of water in m³/hr at 15°C that will pass through a valve with differential pressure of 1 bar.
- 2) Flow direction from shaft side
- 3) Cv = 1.155 Kv

Metal Body Material

Material	ASTM Ref.	Recommended Temperature Limits		Application
		°C	F	
Cast Iron	A126-B	-15 to 200	5 to 390	Steam, water oil, oil vapour, gas and general service
Ductile Iron	A339-80-45-10	-30 to 350	-22 to 650	
WCB	A216 Grade WCB	-29 to 425	-20 to 800	Steam, water oil, oil vapour, gas and general service
LCB	A352 Grade LCB	-46 to 350	-50 to 650	
LCC	A352 Grade LCC	-46 to 350	-50 to 650	Low temperature
CF8M	A351 Grade CF8M	-196 to 537	-320 to 1000	High and low temperature corrosion resistance Cryogenic service is also available upon request
CF8	A351 Grade CF8	-196 to 537	-320 to 1000	
CF3M	A351 Grade CF3M	-196 to 537	-320 to 1000	
CF3	A351 Grade CF3	-196 to 537	-320 to 1000	
CN7M Alloy 20	A351 Grade CN7M	-196 to 425	-320 to 800	Corrosion resistance

Soft Sealing Material

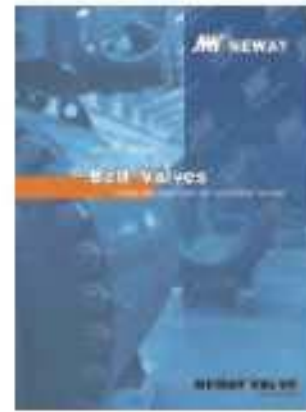
Material	Recommended Temperature Limits		Application
	°C	F	
EPDM	-35 to 135	-30 to 275	General water, oil low pressure applications but not suitable for hydrocarbon and high pressure services
NBR	-12 to 82	+10 to 180	Food, beverage and sanitary service
Viton	-12 to 200	+10 to 400	Wide range of water, oil, chemicals except Amine service
PTFE	-196 to 218	-320 to 425	Various chemical and cryogenic services
Neoprene	-7 to 93	+20 to 200	Various chemicals, intermediate oil and solvent.
Hypalon	-18 to 135	0 to 275	Wide range of aggressive chemicals, intermediate oil and solvent



Cat.no.:E-PS



Cat.no.:E-CSV



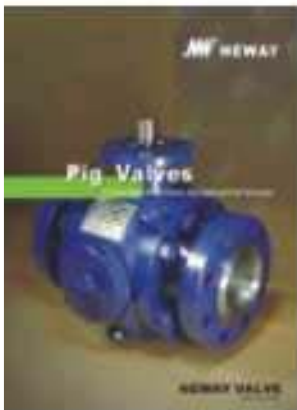
Cat.no.:E-BV



Cat.no.:E-PLV



Cat.no.:E-BFV



Cat.no.:E-PV

NEWAY
NEWAY VALVE (SUZHOU) CO., LTD.

No.999 Xiangjiang Road, Suzhou New District, P.R. China
 Post Code: 215129
 Tel: 86-512-666-51365
 Fax: 86-512-666-51360
 E-Mail: neway@neway.com.cn
<http://www.newayvalve.com>



valves • vision • value

SALES & DISTRIBUTION CTRS.

CANADA

JAG flocomponents LP
 8440 Roper Road
 Edmonton, Alberta T6E 6W4
 tel: (780) 485-2333
 fax: (780) 485-2316
info@jagflo.com

USA

JAG flocomponents USA, Inc.
 12315 Parc Crest Drive #190
 Stafford, Texas 77477
 tel: (281) 933-5775
 fax: (281) 933-5779
ussales@jagflo.com

Europe•Mideast•Africa

3000 Aviator Way
 Manchester Business Park
 Manchester M22 5TG UK
 tel: +44 (0) 161 226-2235
 fax: +44 (0) 161-2261001

www.jagflo.com

Cat.no.:E-BFV-2006