www.abcvalve.com

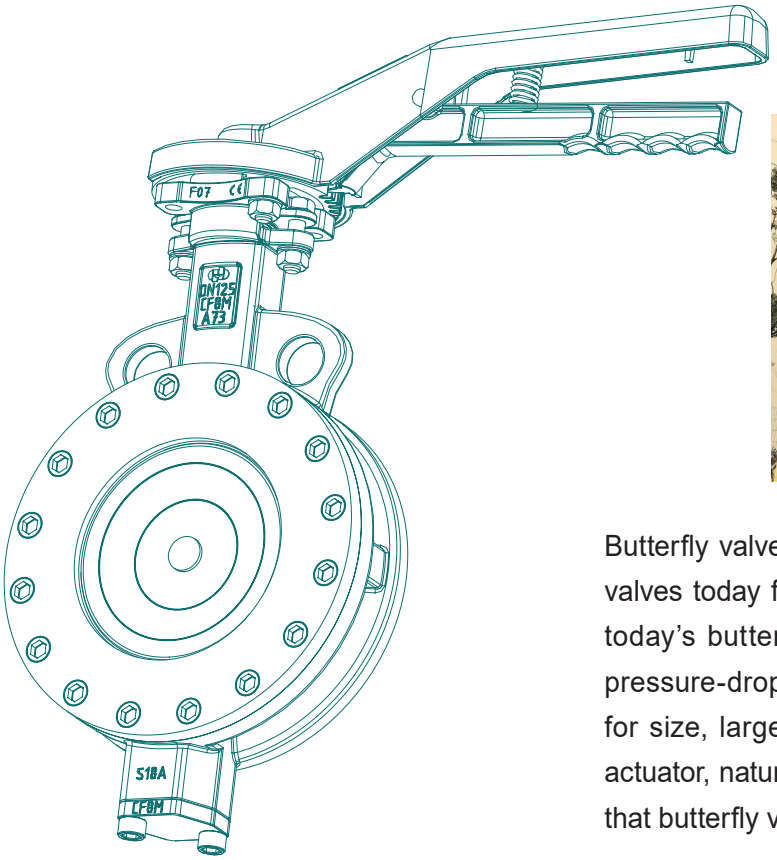
Eccentric Butterfly Valves

High Performance Butterfly Valves
Series A73 & A74 Wafer/Lug
Eccentric Butterfly
PTFE/RPTFE/Fire-Safe/Metal Seated

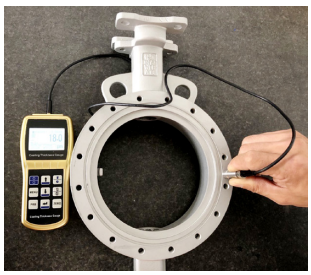
ABCvalve

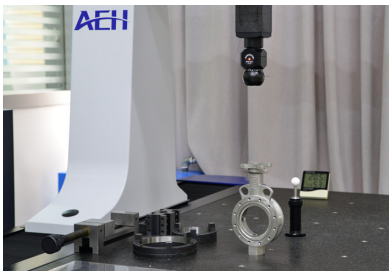
Contents

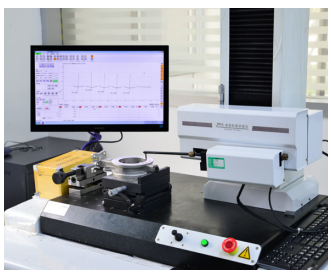
About ABC

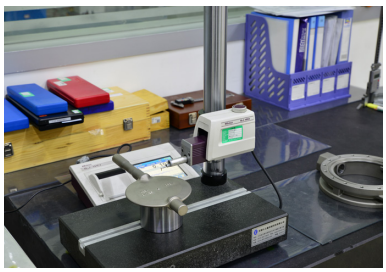


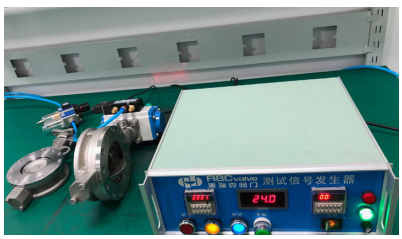
Butterfly valves are one of the fastest growing types of control valves today for a number of reasons. The control provided by today's butterfly valve is more than adequate for many low-pressure-drop applications and other standard services. Size for size, larger flow coefficient, less frictional forces, smaller actuator, naturally high pressure-recovery factor, all these mean that butterfly valves are preferred in applications.

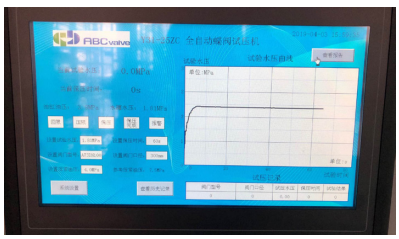












ABC valve focuses on Automatic Butterfly valve Control. Manufacturing systems and products are certified by ISO9001, BV Marine, PED CE, FDA, DVGW, WRAS, KTW, Fire Test Certification. These create good conditions for us to service customers worldwide with ABC high quality products at competitive price.

General information

Series A73 & A74 High performance butterfly valves provide cost-effective solution for a wide range of applications where bubble-tight shut-off is required. Utilizing an eccentric disc and offset shaft, the design incorporates the flexible-lip sealing system into a lightweight, compact body. The result is that **in many cases the valve can replace globe valve and gate valve yet easier operating, longer lasting and lower cost.**

Significant performance makes the valve widely used in many applications such as **Airport refueling, Hydrocarbon processing, HVAC, Air treatment, Chemical processing, Purified gas, Steam and vacuum services, Potable water, Powder and pulp processing,** etc.

Series	A73 Wafer eccentric butterfly valve	A74 Lug eccentric butterfly valve
Picture		
Connection	Wafer	Lug
Nominal diameter	DN50-DN600	
Max. working ressure	Up to 50bar (Class300)	
Standard working pressure	20bar (Class150), 50bar (Class300)	
Vacuum	Full Vacuum	
Face to face	API 609 Category B, Wafer & Lug	
Top flange	ISO 5211	
Tightness check	ISO 5208 Category 3, API 598 Table 5	
Temperature range	-40°C to + 287°C (Depending on pressure, medium and material)	
Operation	Hand level, gear box, pneumatic actuator, electric actuator	

A73 Flange accommodation			EN1092-1			ASME B16.5		AS2129		
Wafer type	Size	Pressure	PN16	PN25	PN40	Class150	Class300	Table D	Table E	Table F
A73-0	DN50-DN125	Class300	●	●	●	●	●	●	●	●
A73-1	DN150-DN250	Class150	●	●		●		●	●	
A73-2	DN150-DN250	Class300			●		●			●
A73-1	DN300-DN600	Class150	●			●		●	●	
A73-2	DN300-DN600	Class300		●	●		●			●

A73 & A74 Valve Design

Blow out proof one-piece shaft with position indication

ISO5211 top flange together with stem square suitable for direct mounting of actuators

Easy-adjust gland accessible with actuator mounted in place

Multiply V type rings of Graphite or RPTFE for safe shaft sealing

Retaining ring for both equally pressing on packing and stem blowout proof

Extended valve neck allowing insulation

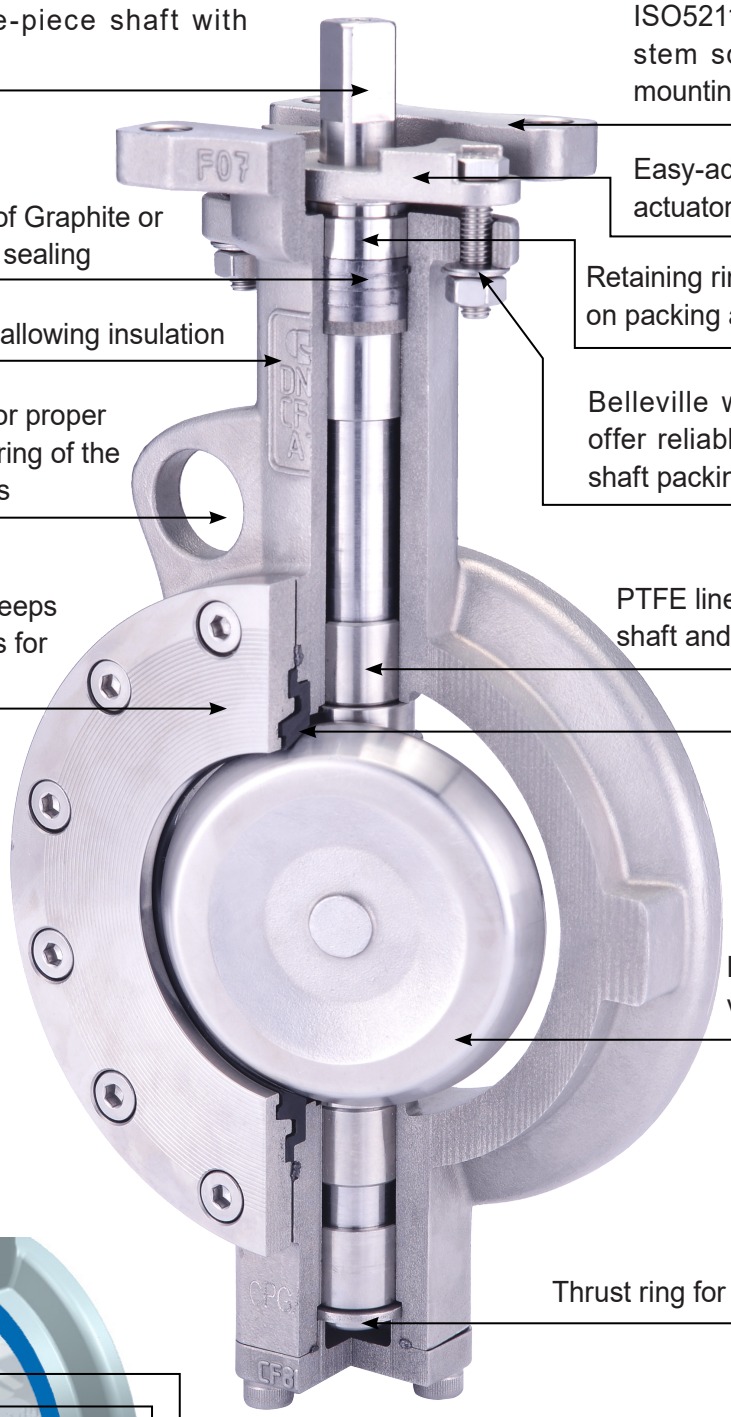
Belleville washers on the gland nut offer reliable long lasting pressing on shaft packing

Body locating holes for proper installation and centering of the valve between flanges

Bolted seat retainer keeps seat stably and allows for easy change out

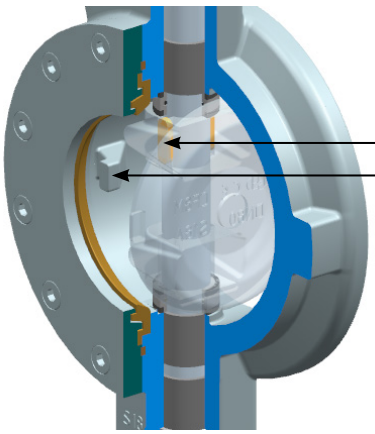
PTFE lined SS316 bearings support shaft and increase life service

Self-energized seat resulting in longer life and reduced maintenance



Double offset disc reducing valve torque and friction

Thrust ring for anti-blowout and anti-static



Pin-less shaft to disc connection makes the valve convenient for parts replacement and reliable even under corrosion

Integral disc stop prevent disc from over travel

Key Component Features

Body

- System 5 corrosion protection coating for WCB, Passivation for CF8M
- Types: Wafer, Lug
- Multi-standard alignment holes suitable for mounting flanges: EN1092 PN16, PN25, PN40; ANSI 150LB, 300LB, AS2129 Table D, Table E, Table F
- ISO 5211 top flange integral on body according to valve torque
- Extended valve neck allowing insulation
- Extra wall thickness for stability of performance

Disc

- Double offset eccentric design limits seat contact through range of motion, reducing torque and friction between disc and seat
- High strength disc design ensures the valve stand on high pressure and frequent quick opening closing movement
- Keyway connection between disc and stem allow replacement of parts easy and avoid pin which may fail because of corrosion or frequent opening closing
- Reinforced disc hub makes the rotary of disc extra strong even for over operation
- Spherically machined disc provides good sealing performance and extended life for RPTFE seat

Seat

- Easy seat replacement
- One-piece self-energized seat without secondary components such as o-rings, springs or wires, resulting in longer life and reduced maintenance
- 25% carbon fiber reinforced PTFE makes the seat long life for regulating
- Trouble-free mounting between flanges of both slip-on and plate type
- Pressure assisting sealing design gives Bi-directional bubble tight shut off at full pressure (Valve must be installed with retaining ring upstream for dead end service

Key Component Features

Shaft

- ISO 5211 driving square with arrow indicating disc position
- High-strength through shaft for stable disc support
- Keyway connection driving the disc fast and firmly
- Anti-blowout shaft and Anti-static design

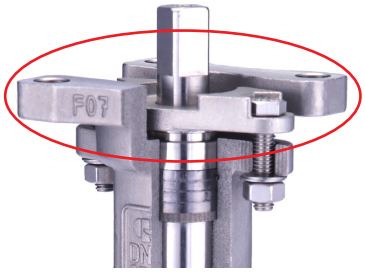
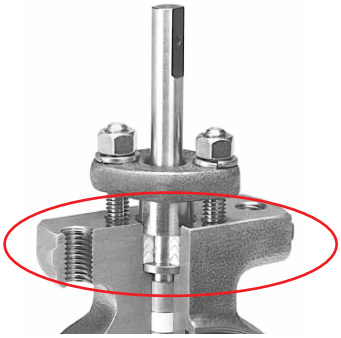
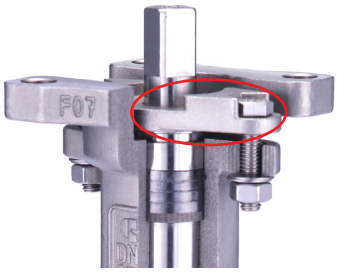
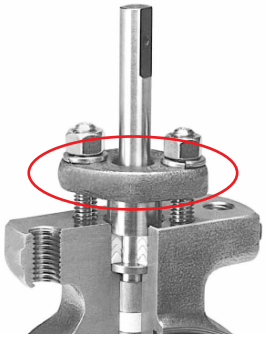
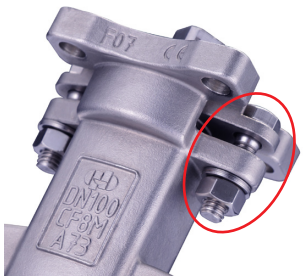
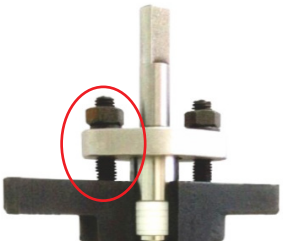
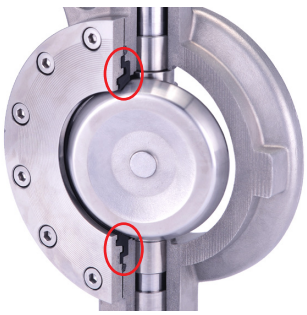
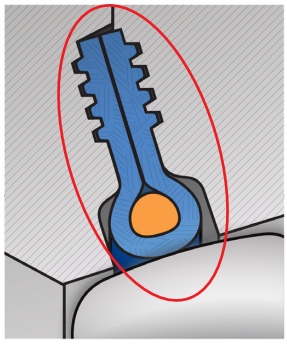
Gland and Packing

- Easy-adjust gland accessible with actuator mounted in place
- Second blowout proof on stem
- Multiply V type rings of Graphite or RPTFE for stem packing

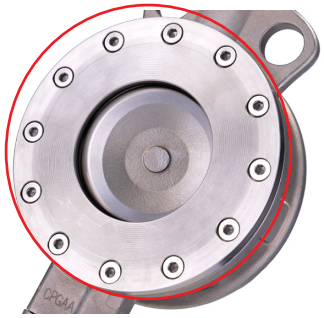
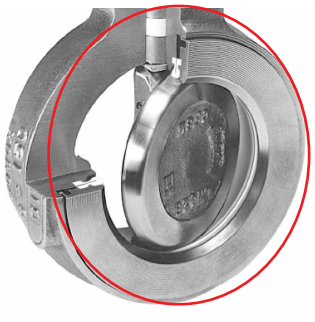
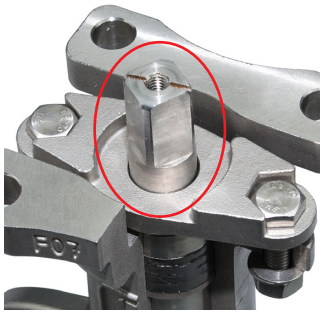
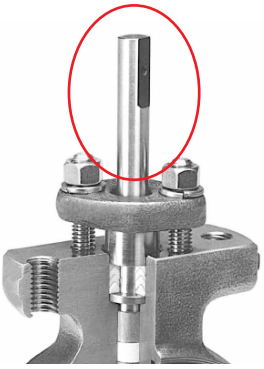
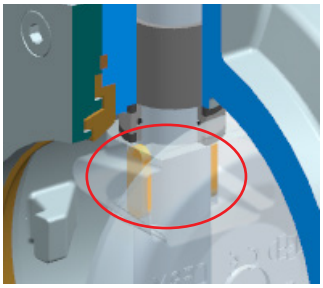
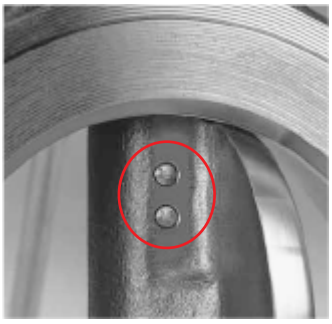
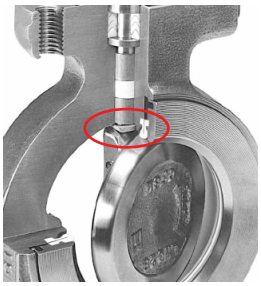
Seat Retainer

- Full-faced seat retainer is firmly attached by bolts located outside of sealing area, protecting the bolts from corrosion
- Flange face equipped with serrated spiral finish and is compatible with both flat and spiral wound gaskets
- Fully installed bolts keep sure the seat in consistent position under both factory test and user application

Design Advantages Comparing

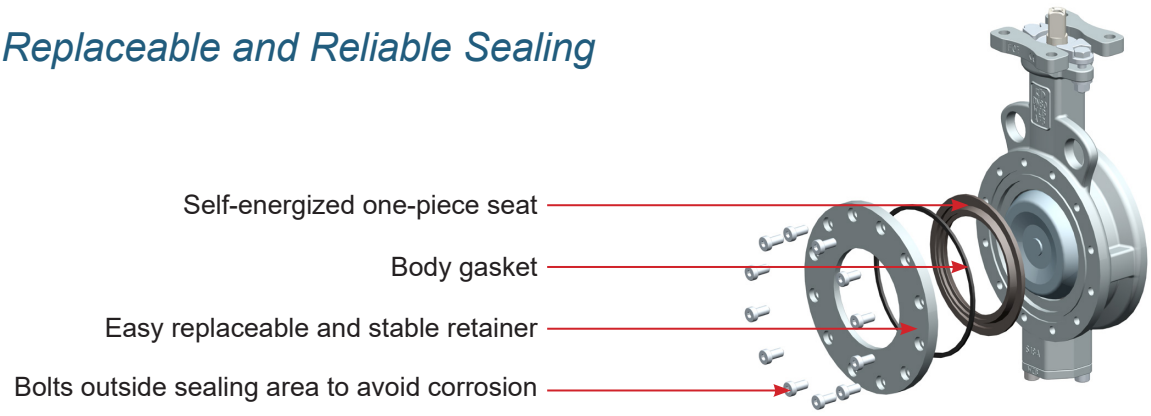
A73/A74 Eccentric butterfly design		Conventional product design	
	ISO5211 top flange integrally casted on valve body for direct mounting.		Bracket need to be used for actuating. Vibration or fail of actuating may happen.
	Easy-adjust gland bridge accessible with actuator mounted in place and incorporating a conical surface mating with spherical surface on packing press ring which compensates for uneven adjustment of gland nuts.		Difficult to adjust gland and uneven pressing of gland may happen.
	Belleville springs make the gland pressing self-adjusting.		For frequent opening and closing situations, gland nut need to be adjusted by manual quite several times, or excessive pressing on packing may happen.
	One-piece self-energized seat without secondary component resulting in longer life and reduced maintenance. Higher sealing force will be created by higher pressure itself.		Energized by O-ring inside PTFE, O-ring may fail because of temperature or pressure.

Design Advantages Comparing

A73/A74 Eccentric butterfly design		Conventional product design	
	Seat retainer with bolts in full strength assures the seat in consistent position under both factory test and user application.		Retainer position depending on pressing from clamping flange, this may cause different station because of different installation or gasket.
	ISO5211 stem square for direct standard actuating.		Special actuator or coupling needed.
	Keyway connection between disc and stem, replaceable and high strength.		Pins may fall off or break. Welded pins make stem and disc not replaceable.
	Washer seals brush away particles, avoid penetration of fluid into bushing and shaft clogging.		No seal between disc and body. Minerals, particles, corrosive scale may get into stem bushing and cause shaft clogging.

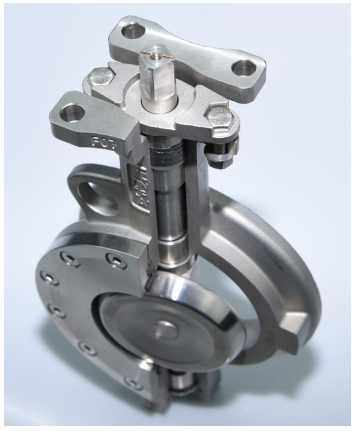
Superior A73/A74 Eccentric Butterfly Design

Easy Replaceable and Reliable Sealing



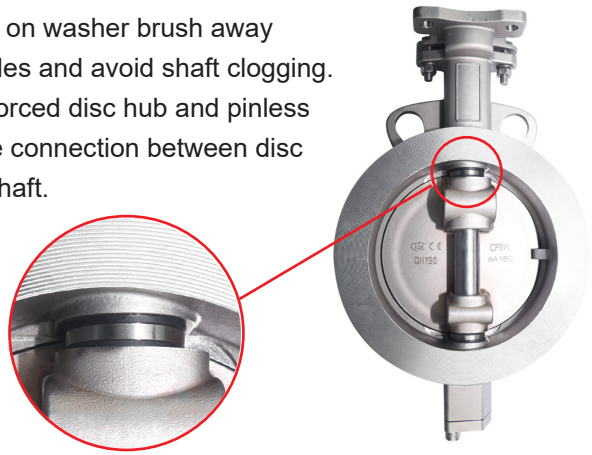
Easy and Convenient Gland Adjusting

Hexagon recess casted on gland bridge to hold the bolt head and adjusting of bolt not interfere with actuator.



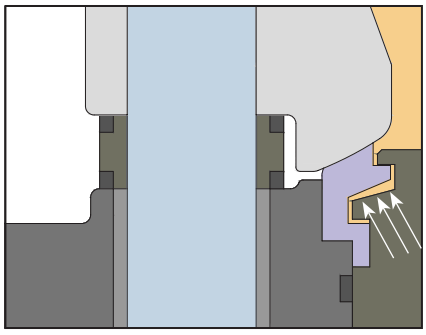
Safe Stem Driving

Seals on washer brush away particles and avoid shaft clogging. Reinforced disc hub and pinless stable connection between disc and shaft.

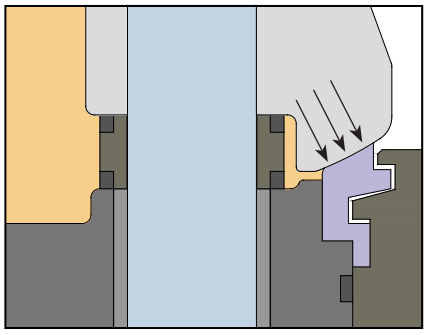


Self Bi-directional sealing

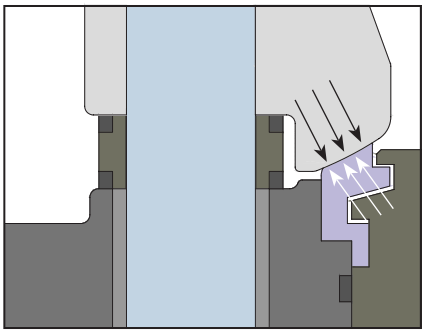
The eccentric seating motion limits sliding contact between the disc and seat, reducing wear and torque. The self-energizing seat is pressure assisted to ensure bubble tight sealing in both directions and does not rely on secondary components such as O-rings or springs. This simplifies maintenance and extends life.



Pressure on the retainer side forces the seat harder onto the disc, further improving the sealing. The higher the pressure, the tighter the sealing.



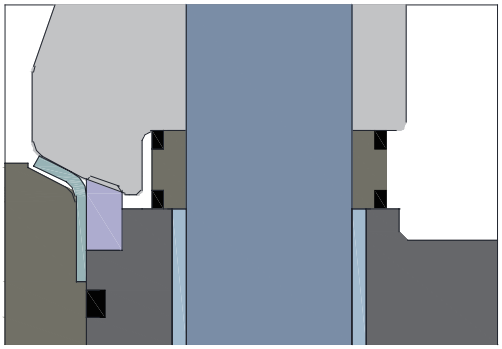
Pressure on the body side forces the disc further onto the self-energized seat, causing tighter shutoff. The seat is contained securely by the seat retainer to prevent excessive deflection.



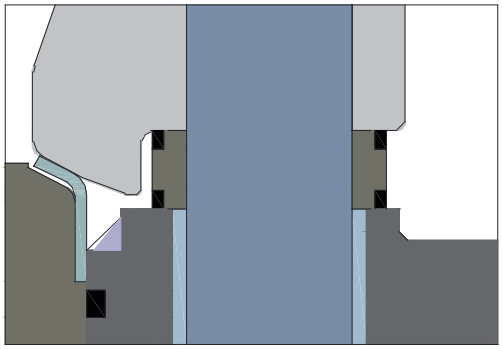
In the closed position, the self-energized seat is deflected by the disc, maintaining a positive sealing by pushing back against the disc.

Fire Safe Seat

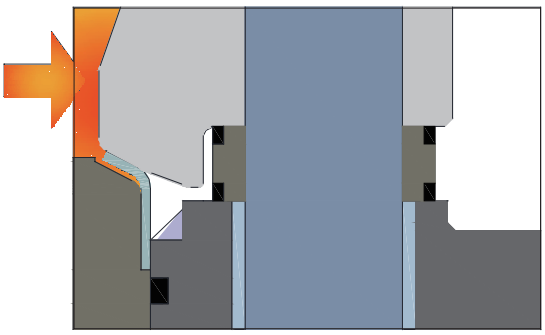
For reliable control of flammable and hazardous fluids in petroleum, petrochemical, chemical and other fire-risk applications, the fire safe design offers a safe protection in accordance with the worldwide fire test standard API 607.



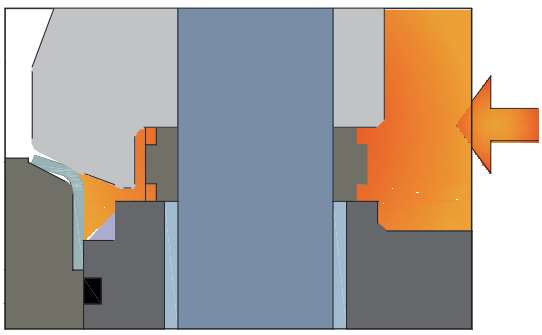
In normal service, the Fire Safe resilient/metal seat seals in both directions of line media flow through the full rated pressure and temperature rating with zero leakage. When closed, the disc remains compressed against the resilient seat, which is securely locked in place by a full-faced retainer. Line media pressure strengthens the seating.



In the event of a fire, if excessive heat destroys the resilient seat materials, either partially or completely, the seat provides a constant metal to metal backup seal because of the seat energizing design and spring mechanism Inconel seat.



When pressure from retainer side, it forces the metal seat harder onto the disc, further improving the sealing.



When pressure from body side, it forces the disc further onto the metal seat, causing tighter shutoff. The seat is supported securely by the seat retainer to prevent excessive deflection.

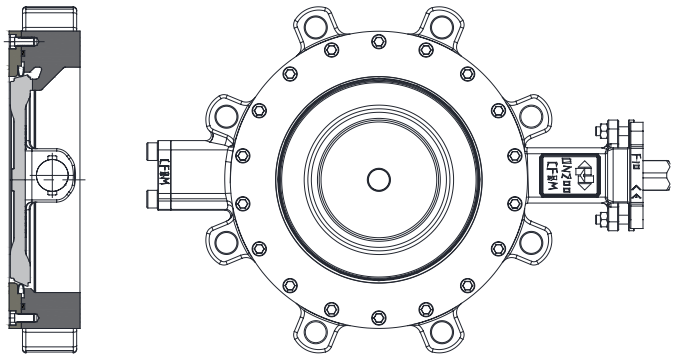
High Performance Eccentric Metal Seat

High performance eccentric metal seat butterfly valve offers a wide pressure and temperature range in both control and shut-off applications.
Due to several special constructions, the valve widely used and perform very well in applications such as liquids, gases, steam, pulp stocks.

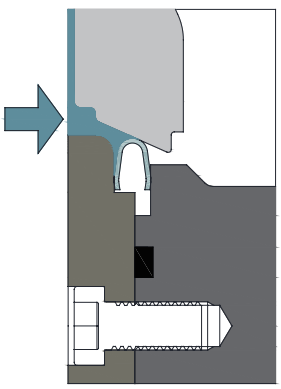
Features

- Full metal to metal
- Bidirectional long term tightness
- Low operating torque while good sealing
- Contact seating design resulting in low friction
- Excellent wear resistance
- Bidirectional long term tightness
- Long life cycle
- Minimize maintenance
- Seat totally interchangeable without disassembly of disc and shaft
- Equal percentage flow characteristics

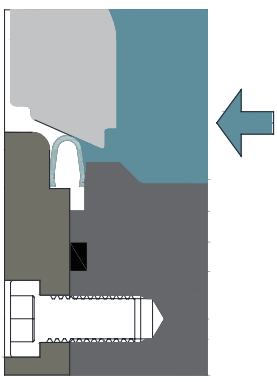
Eccentric Seating Principle



The valve disc is precision machined in eccentric to create an initial contact sealing between disc and seat

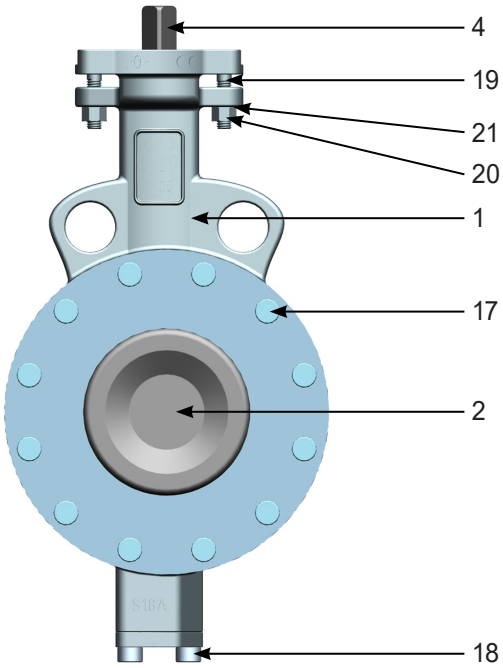


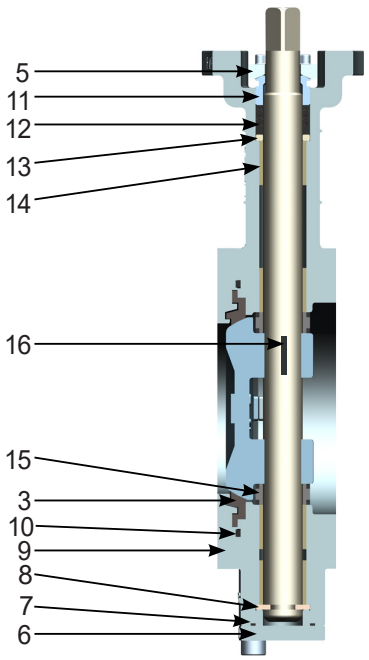
When pressure from retainer side, it forces the metal seat harder onto the disc, further improving the sealing.



When pressure from body side, it forces the disc further onto the metal seat, causing tighter shutoff.

DN50 - DN600 Structure and Material

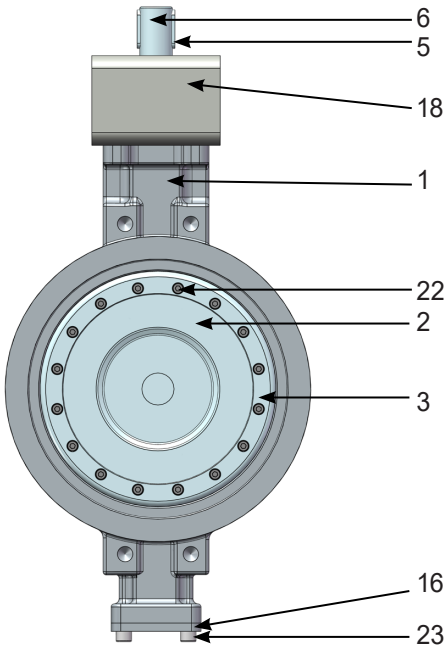


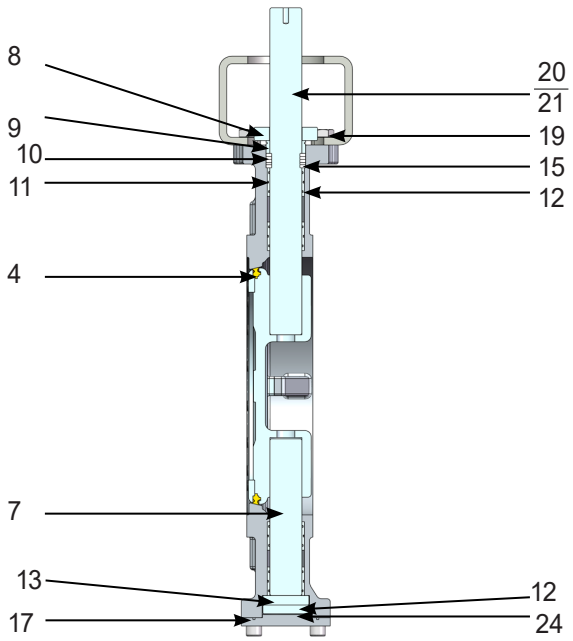


Parts list and material specification

No.	Part name	Material	Standard	Surface Treatment
1	Body	Cast Steel	ASTM A216 WCB	System 5 coating Grey
		Stainless Steel	ASTM A351 CF8	Passivation
			ASTM A351 CF8M	Passivation
2	Disc	Stainless Steel	ASTM A351 CF8	Passivation
			ASTM A351 CF8M	Passivation
3	Seat	RPTFE	PTFE with 25% Carbon fiber	
		RPTFE+SS316	Fire safe	
		Metal or Ceramic	According to working condition	
4	Shaft	Stainless Steel	17-4PHSS	
5	Packing gland	Stainless Steel	ASTM A351 CF8M	Passivation
6	Bottom cover	Stainless Steel		
7	Cover seal	Graphite		
8	Retainer ring	Stainless Steel	SS316	
9	Seat retainer	Same as body		
10	Gasket	Graphite standard, RPTFE optional		
11	Press ring	Stainless Steel	SS304	
12	Packing	Graphite standard, RPTFE optional		
13	Packing support	Stainless Steel	SS316	
14	Bearing	Stainless Steel	SS316+PTFE	
15	Thrust bearing	Stainless Steel	SS316	
16	Keys	Stainless Steel	SS316	
17	Bolts	Stainless Steel	SS304	
18	Bolts	Stainless Steel	SS304	
19	Bolts	Stainless Steel	SS304	
20	Nuts	Stainless Steel	SS304	
21	Belleville washer	Stainless Steel	SS304	

DN700 - DN1200 Structure and Material

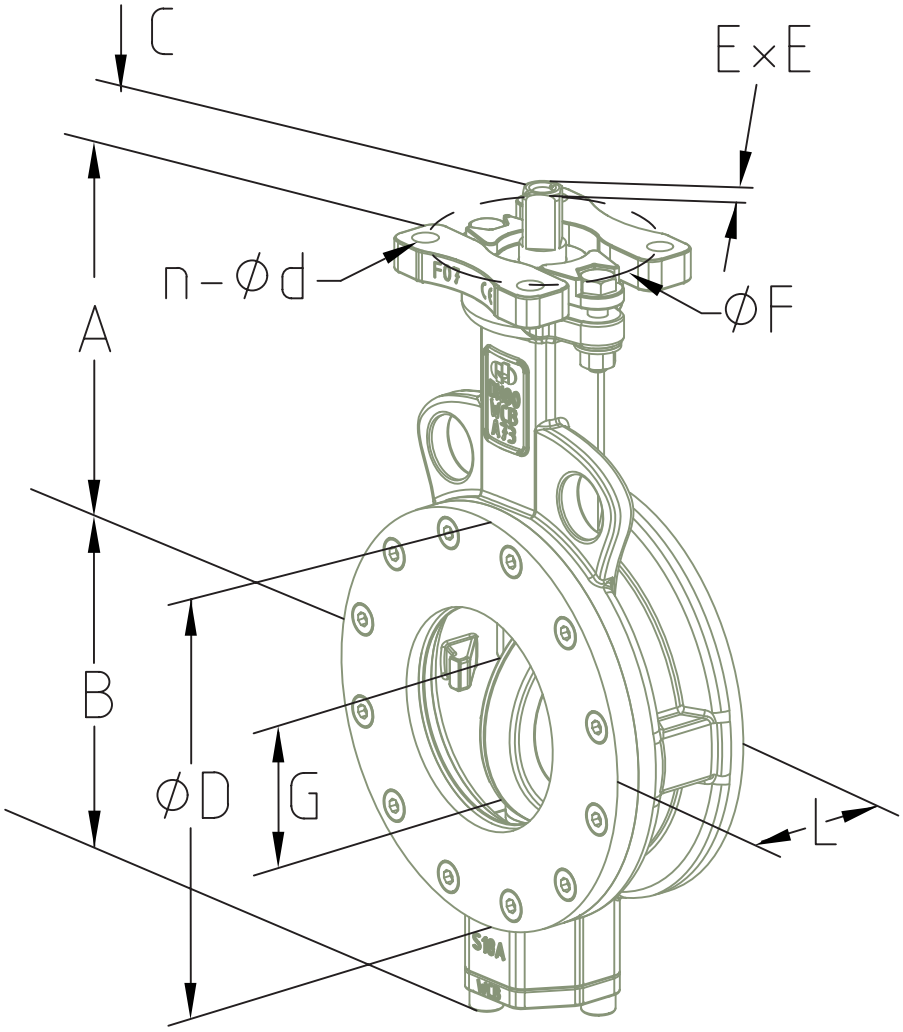




Part list and material

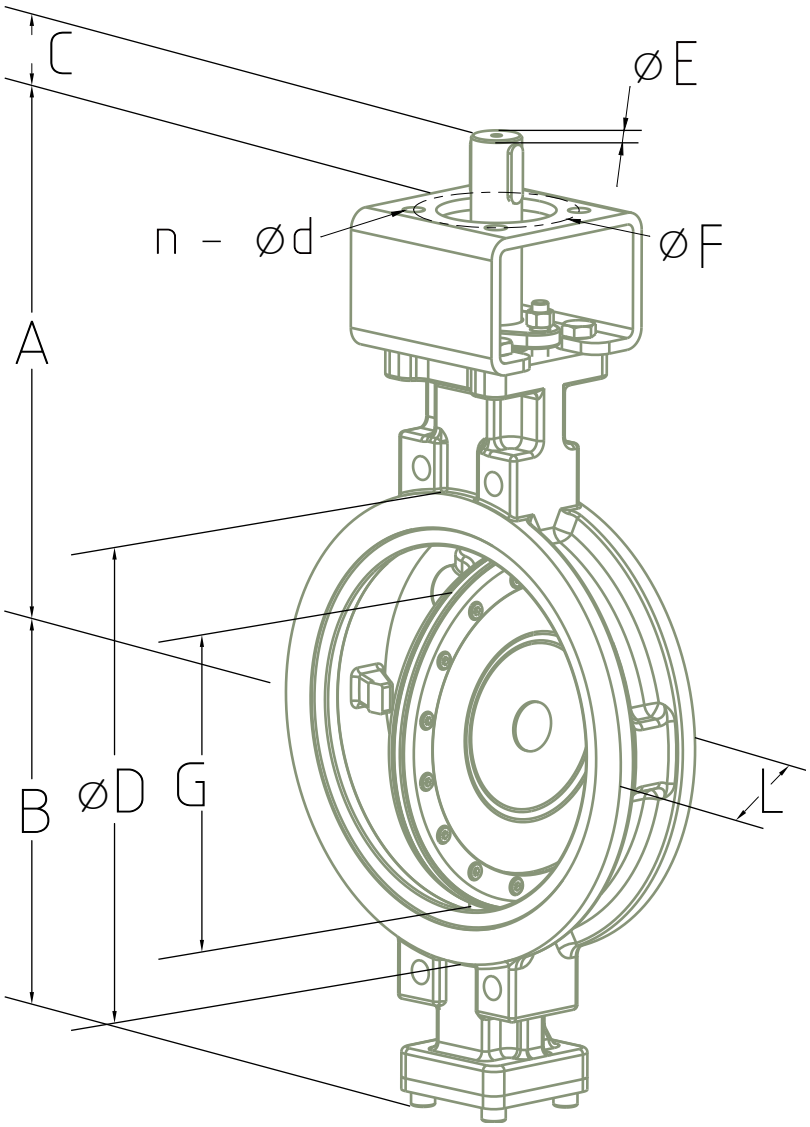
No.	Part name	material	Standard	Surface treatment
1	Body	Cast steel	ASTM A216 WCB	System 5 coating Grey
		Stainless steel	ASTM A351 CF8	passivation
			ASTM A351 CF8M	passivation
2	Disc	Stainless steel	ASTM A351 CF8	passivation
			ASTM A351 CF8M	passivation
3	seat ring	RPTFE		
4	Seat	RPTFE	PTFE with 25% Carbon fiber	
		RPTFE+SS316	Fire safe	
		According to working condition	Metal or Ceramic	
5	Flat key	Stainless steel	SS431	
6	Upper valve shaft	Stainless steel	17-4PHSS	passivation
7	Lower valve shaft	Stainless steel	17-4PHSS	
8	Packing gland	Stainless steel	ASTM A351 CF8M	
9	Packing ring	Stainless steel	ASTM A351 CF8M	
10	Filler	Graphite,RPTFE		
11	Bushing	Stainless steel	SS304	
12	O-ring	fluororubber		
13	Fixed ring	Stainless steel	SS304	
14	Fixed ring -1	Stainless steel	SS304	
15	Packing bottom ring	Stainless steel	SS304	
16	Lower cap	Same as body		
17	Bottom cover gasket	Graphite,RPTFE		
18	Support	Stainless steel	SS304	
19	Hexagon bolt	Stainless steel	SS304	
20	Hexagon nut	Stainless steel	SS304	
21	Double stud	Stainless steel	SS304	
22	Hexagon socket bolt	Stainless steel	SS304	
23	Hexagon socket bolt	Stainless steel	SS304	

A73 Dimensions DN50 - DN600(mm)



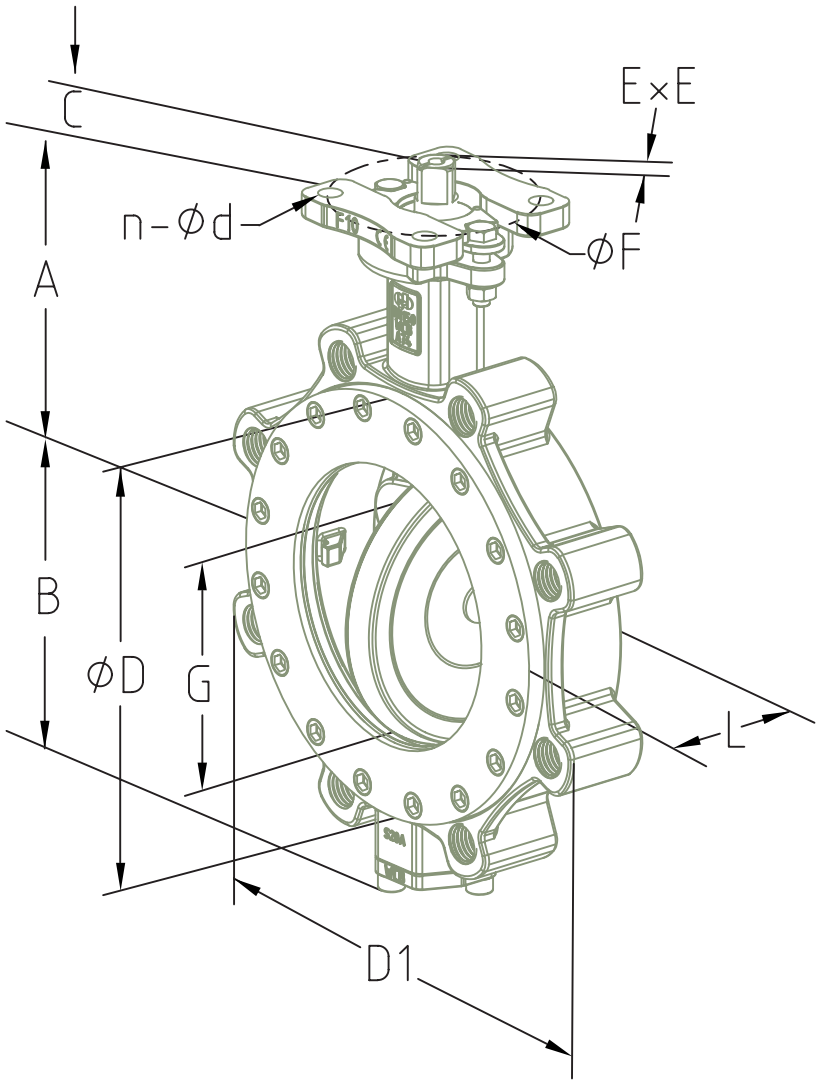
SIZE		A	B	C	D	E	Top Flange	G	L	WT (kg)	A	B	C	D	E	Top Flange	G	L	WT (kg)
DN	INCH	Class150									Class300								
DN50	2"	126	79	13.5	92	11*11	F05	45	43	3	126	79	13.5	92	11	F05	45	43	3
DN65	2 1/2"	126	87	13.5	105	11*11	F05	45	46	4	126	87	13.5	105	11	F05	45	46	4
DN80	3"	145	100	17.5	130	11*11	F07	72	48	5	145	100	17.5	130	11	F07	72	48	5
DN100	4"	170	124	17.5	157	14*14	F07	91	54	6	170	124	17.5	157	14	F07	91	54	6
DN125	5"	185	144	17.5	186	14*14	F07	114	57	9	185	144	17.5	186	14	F07	114	59	9
DN150	6"	203	150	18.5	216	17*17	F10	145	57	12	203	150	18.5	216	17	F10	145	59	12
DN200	8"	239	186	24.5	269	22*22	F10	192	64	19	257	204	24.5	269	22	F10	192	73	23
DN250	10"	275	226	24.5	324	22*22	F10	240	71	33	288	238	30	324	27	F12	240	83	39
DN300	12"	307	251	30	380	27*27	F12	285	81	42	330	268	30	380	27	F12	285	92	55
DM350	14"	337	294	30	416	27*27	F12	328	92	61	337	294	39	416	36	F14	320	117	79
DN400	16"	372	310	76	476	27*27	F14	373	102	88	402	330	76	488	∅ 57.2	F16	365	133	200
DN450	18"	402	360	86	534	∅ 57.2	F16	422	114	135	443	380	95	534	∅ 57.2	F16	390	149	270
DN500	20"	442	400	86	588	∅ 57.2	F16	470	127	173	483	429	95	593	∅ 63.3	F25	419	159	360
DN600	24"	522	480	88	692	∅ 63.3	F25	570	154	272	572	509	115	692	∅ 76.2	F25	530	181	580

A73 Dimensions DN700 - DN1200(mm)



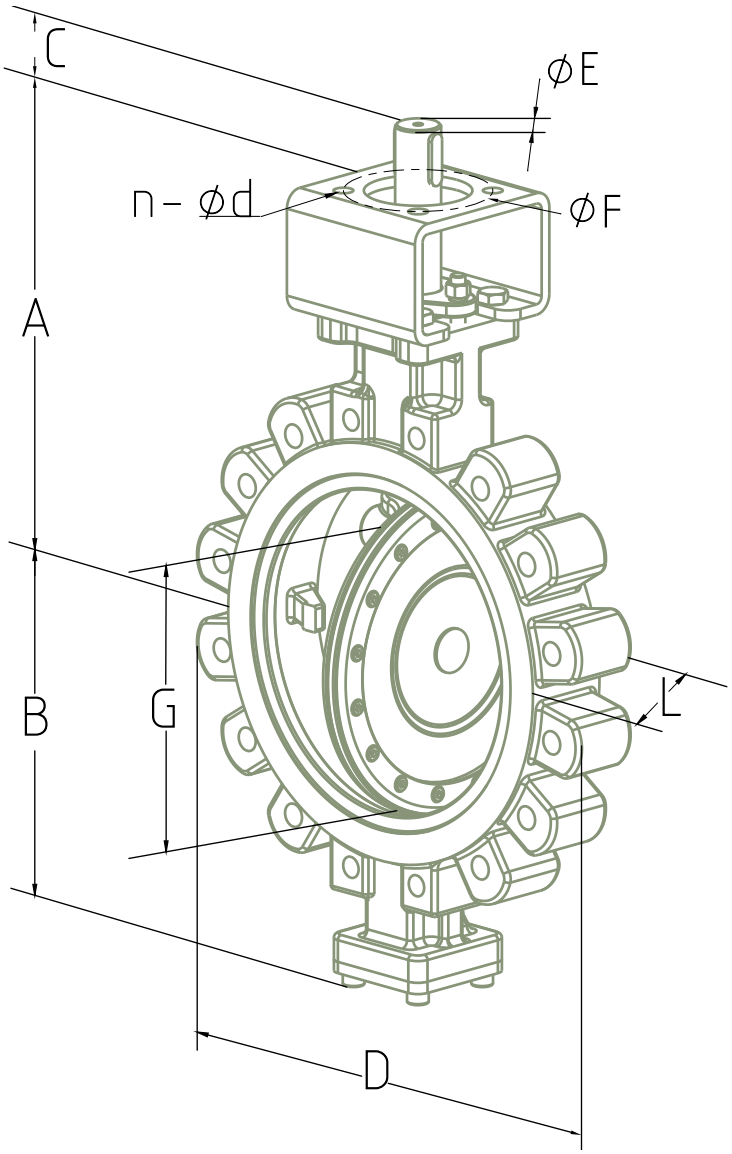
SIZE		A	B	C	D	E	F	G	L	WT (kg)	A	B	C	D	E	F	G	L	WT (kg)
DN	INCH	Class150									Class300								
750	30"	750	550	95	850	76.2	F25	718	191	660	750	550	115	850	92.1	F25	690	229	1020
900	36"	900	702	115	1000	92.1	F30	860	210	890	900	702	150	1000	111	F30	851	271	1450
1050	42"	1120	850	150	1165	111	F40	1000	241	1400	1120	850	190	1165	127	F40	990	292	2000
1200	48"	1166	943	190	1330	127	F40	1170	254	2000	1166	943	214	1330	143	F40	1162	318	2800

A74 Dimensions DN50 - DN600 (mm)



SIZE		A	B	C	D	D1	E	Top Flange	G	L	WT (kg)	A	B	C	D	D1	E	Top Flange	G	L	WT (kg)
DN		Class150										Class300									
DN50	2"	126	79	13.5	92	123	11*11	F05	45	43	5	126	79	13.5	92	155	11	F05	45	43	6
DN65	2 1/2"	126	87	13.5	105	150	11*11	F05	45	46	6	126	87	13.5	105	178	11	F05	45	46	7
DN80	3"	145	100	17.5	130	156	11*11	F07	72	48	8	145	100	17.5	130	199	11	F07	72	48	10
DN100	4"	170	124	17.5	157	218	14*14	F07	91	54	10	170	124	17.5	157	243	14	F07	91	54	12
DN125	5"	185	144	17.5	186	241	14*14	F07	114	57	15	185	144	17.5	186	265	14	F07	114	57	18
DN150	6"	203	150	18.5	216	264	17*17	F10	145	57	20	203	150	18.5	216	312	17	F10	145	57	25
DN200	8"	239	186	24.5	269	325	22*22	F10	192	64	23	257	204	24.5	269	370	22	F10	192	73	40
DN250	10"	275	226	24.5	324	394	22*22	F10	240	71	42	288	238	30	324	438	27	F12	240	83	65
DN300	12"	307	251	30	380	471	27*27	F12	285	81	60	330	268	30	380	512	27	F12	285	92	100
DM350	14"	337	294	30	416	520	27*27	F12	328	92	100	337	294	39	416	579	36	F14	320	117	200
DN400	16"	372	310	76	476	585	27*27	F14	373	102	155	402	330	76	488	650	∅ 57.2	F16	365	133	240
DN450	18"	402	360	86	534	625	∅ 57.2	F16	422	114	200	443	380	95	534	710	∅ 57.2	F16	390	149	330
DN500	20"	442	400	86	588	693	∅ 57.2	F16	470	127	270	483	429	95	593	775	∅ 63.3	F25	419	159	430
DN600	24"	522	480	88	692	807	∅ 63.3	F25	570	154	420	572	509	115	692	915	∅ 76.2	F25	530	181	700

A74 Dimensions DN700 - DN1200(mm)



SIZE		A	B	C	D	E	F	G	L	WT (kg)	A	B	C	D	E	上法兰	G	L	WT (kg)
DN	INCH	Class150									Class300								
750	30"	750	550	95	980	76.2	F25	718	191	700	750	550	115	1050	92.1	F25	690	229	1200
900	36"	900	702	115	1150	92.1	F30	860	210	1000	900	702	150	1260	111	F30	851	271	1800
1050	42"	1120	850	150	1340	111	F40	1000	241	1700	1120	850	190	1280	127	F40	990	292	2100
1200	48"	1166	943	190	1500	127	F40	1170	254	2300	1166	943	214	1455	143	F40	1162	318	2900

Cv and Valve Torque

Cv

SIZE		Class150 Cv (U.G.P.M at 1psi ΔP)									Class300 Cv (U.G.P.M at 1psi ΔP)								
DN	INCH	10°	20°	30°	40°	50°	60°	70°	80°	90°	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	2"	2	5	12	23	40	59	78	110	130	2	5	12	23	40	59	78	110	130
65	2 1/2"	3	8	16	30	50	77	100	130	160	3	8	16	30	50	77	100	130	160
80	3"	4	14	30	55	88	120	150	175	180	4	14	30	55	88	120	150	175	180
100	4"	9	25	60	115	177	255	310	365	375	9	25	60	115	177	255	310	365	375
125	5"	15	40	75	143	232	362	500	675	790	15	40	75	143	232	362	500	675	790
150	6"	30	70	140	215	330	511	750	1000	1350	30	70	140	215	330	511	750	1000	1350
200	8"	60	150	260	456	688	1062	1550	2200	2800	50	135	230	410	615	950	1395	1980	2520
250	10"	95	250	450	700	1052	1633	2450	3400	4300	65	225	400	630	940	1460	2205	3060	3870
300	12"	150	380	690	1050	1632	2532	3740	5300	6655	95	342	623	945	1450	2270	3366	4770	5980
350	14"	170	430	810	1220	1893	2900	4300	6100	7652	110	387	729	1098	1700	2610	3870	5490	6880
400	16"	222	570	1022	1510	2420	3705	5500	7890	9800	180	513	910	1359	2178	3333	4950	7101	8820
450	18"	170	610	1160	2230	3522	5100	6900	9150	10600	160	549	1045	2007	3169	4590	6210	8235	9540
500	20"	195	880	1530	2825	4508	6530	8800	11800	13400	175	792	1370	2540	4057	5877	7920	10620	12060
600	24"	238	1020	2200	3890	6645	9570	12900	17200	20000	220	918	1980	3501	5980	8613	11610	15480	18000

Note:

1. The charted values are based for water, Temp: 0˚C to 40˚C .
2. The charted values are based on the initial breakaway torque under operating pressure.
3. The torque values listed above do not include a safety factor. Recommended safety factor see Service Factor Guide Chart below.
4. The effect of dynamic torque is not considered in tabulation.

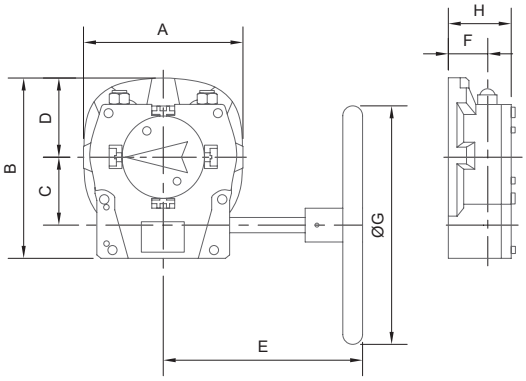
Valve Torque

SIZE		Class150 Valve torque under pressure(N*M)						Class150 Stem deform torque (N*M)	Class300 Valve torque under pressure(N*M)						Class300 Stem deform torque (N*M)
		6.9bar (100psi) differential pressure		13.8bar (200psi) differential pressure		19.7bar (285psi) differential pressure			20.7bar (300psi) differential pressure		34.5bar (500psi) differential pressure		50bar (725psi) differential pressure		
DN	INCH	PTFE/ RPTFE seat	Firesafe/ Metal seat	PTFE/ RPTFE seat	Firesafe/ Metal seat	PTFE/ RPTFE seat	Firesafe/ Metal seat		PTFE/ RPTFE seat	Firesafe/ Metal seat	PTFE/ RPTFE seat	Firesafe/ Metal seat	PTFE/ RPTFE seat	Firesafe/ Metal seat	
50	2	30	55	32	60	42	65	180	43	66	50	70	55	80	180
65	1 1/2	30	55	32	60	42	65	180	43	66	50	70	55	80	180
80	3	35	70	38	78	48	80	180	49	82	55	85	60	90	180
100	4	50	90	55	100	72	110	380	73	113	85	130	105	160	380
125	5	65	130	75	150	100	170	380	115	175	150	192	190	290	380
150	6	100	180	115	205	150	225	700	160	230	210	260	265	400	700
200	8	190	290	195	345	260	390	1200	310	419	420	600	539	850	1200
250	10	300	461	310	550	320	632	1200	460	640	660	990	870	1200	1800
300	12	390	690	410	861	470	1005	1800	660	1090	910	1296	1160	1365	1800
350	14	520	820	685	1020	850	1200	1800	1105	1350	1600	2380	2120	2530	3200
400	16	900	1060	950	1200	1120	1300	1800	1320	1510	1900	2629	2550	3259	5600
450	18	1000	1310	1145	1856	1425	2320	3200	1700	2510	2500	2970	3270	4150	5600
500	20	1200	1880	1545	2682	1923	3360	5600	2305	3620	3360	3997	4400	4925	5600
600	24	2600	2780	3200	3660	3500	4315	5600	3900	5820	4550	7100	6009	9536	12000

Service Factor Rating

Service Condition	Service Type	Media Type	Safety Factor	Multiplier
1	Ideal	Lubricating Oil	20%	1.2
2	Normal	Water	30%	1.3
3	Severe	Dry Air, Solvents	50%	1.5
4	Extreme	Abrasives	100%	2.0

Hand Operation

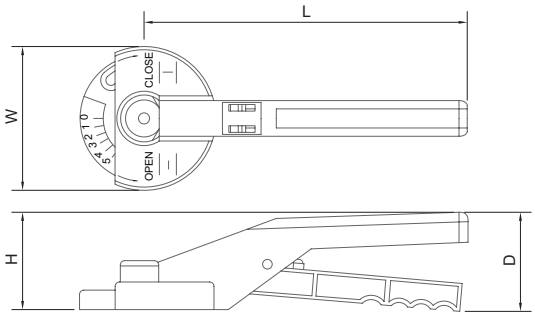


Turbine Cast Iron

SIZEclass150		SIZEclass150		Ratio	Gear torque	A	B	C	D	E	F	G	H	重量
DN	INCH	DN	INCH											
50-65	2"-2 1/2"	50-65	2"-2 1/2"	40:1	200	92	111	39	46	151	31	100	55	3
80-125	3"-5"	80-125	3"-5"	40:1	200	92	111	39	46	151	31	140	55	3
150-200	6"-8"	150-200	6"-8"	42:1	500	118	145	53	61	214	35	260	61	6
250-300	10"-12"	250	10"	42:1	1000	165	182	66	76	210	42	300	72	11
350-400	14"-16"	300-350	12"-14"	60:1	1800	200	231	89	100	277	50	400	81	14
450-500	18"-20"	400-450	16"-18"	68:1	3400	252	296	123	118	357	50	400	91	32

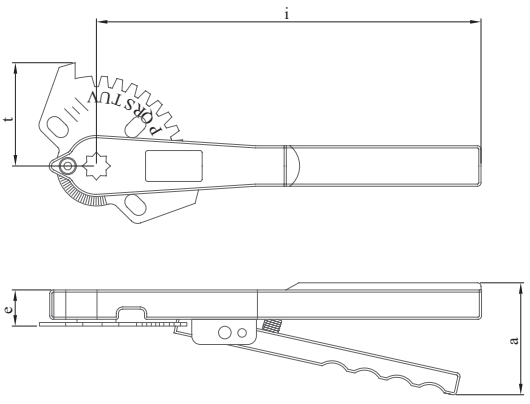
Standard Handle

SIZE		D	H	L	W	WT
DN	INCH					
50-65	2"-2 1/2"	56	65	195	74	0.3
80	3"	73	82	20 0	101	0.52
100-125	4"-5"	78	82	269	101	0.6
150-200	6"-8"	101	100	330	145	1.5

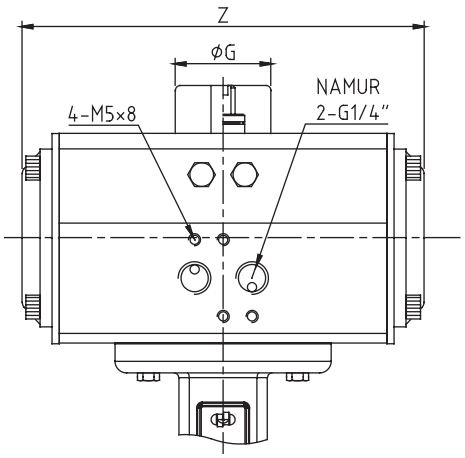


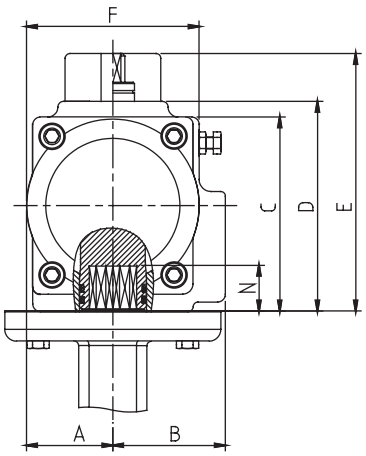
Adjustable HandleCF8

SIZE		D	H	L	W	WT
DN	INCH					
50-65	2"-2 1/2"	56	23	195	60	0.8
80-125	3"-5"	77	30	267	73	1.2
150-200	6"-8"	77	30	330	102	1.8



Double Acting Pneumatic Actuators





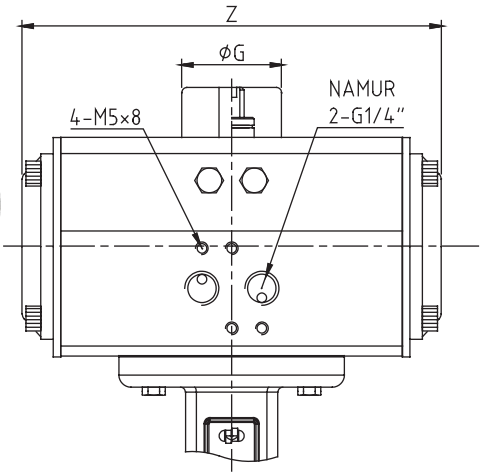
ABC P40 Double acting actuators for A73/A74 CLASS150 PTFE/RPTFE Seat

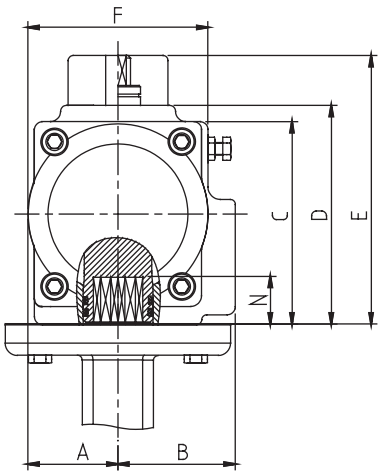
Pneumatic Actuators-Standard Conditions-4bar Air Supply

A73/A74 size	Valve rating	Actuator size	Actuator No.	Actuator output torque (NM)	Actuator ISO 5211	A	B	C	D	E	F	N	G	Z
DN50	CLASS150	83	P4010507083	63	F05+F07	46	57	98.5	108.7	128.7	92	21	40	211
DN65	CLASS150	83	P4010507083	63	F05+F07	46	57	98.5	108.7	128.7	92	21	40	211
DN80	CLASS150	83	P4010507083	63	F05+F07	46	57	98.5	108.7	128.7	92	21	40	211
DN100	CLASS150	105	P4010710105	132	F05+F07	58	64	128	133	153	110	26	40	270
DN125	CLASS150	125	P4010710125	200	F07+F10	67.5	74.5	145.5	155	175	127.5	26	55	303
DN150	CLASS150	132	P4011012132	278	F10+F12	71	73	154	164	184	133	26	55	368
DN200	CLASS150	160	P4011012160	532	F10+F12	87	87	184	197	217	158	31	55	458
DN250	CLASS150	160	P4011012160	532	F10+F12	87	87	184	197	217	158	31	55	458
DN300	CLASS150	190	P4010012190	851	F12	103	103	216	230	260	189	40	80	528
DN350	CLASS150	210	P4010014210	1064	F14	113	113	235.5	255	285	210	40	80	532
DN400	CLASS150	270	P4010014270	2339	F14	147	147	299	326	356	273	50	80	722
DN450	CLASS150	270	P4010014270	2339	F14	147	147	299	326	356	273	50	80	722
DN500	CLASS150	300	P4011625300	3052	F16+F25	165	170	324	348	378	290	60	80	758
DN600	CLASS150	350	P4011625350	4570	F16+F25	190	195	400	410	440	362	60	80	920

For size bigger than DN600, consult our technical department

Single Acting Pneumatic Actuators





ABC P41 Single acting actuators for A73/A74 CLASS150 PTFE/RPTFE Seat

Pneumatic Actuators-Standard Conditions-4bar Air Supply

A73/ A74 size	Valve rating	Actuator size	Actuator No.	Actuator torque air (NM)	Actuator Spring torque (NM)	Actuator ISO 5211	A	B	C	D	E	F	N	G	Z
DN50	CLASS150	105	P4110710105	53	50	F07+F10	58	64	128	133	153	110	26	40	270
DN65	CLASS150	105	P4110710105	53	50	F07+F10	58	64	128	133	153	110	26	40	270
DN80	CLASS150	125	P4110710125	75	84	F07+F10	67.5	74.5	145	155	175	127.5	21	55	303
DN100	CLASS150	132	P4111012132	109	97	F10+F12	71	73	154	164	184	133	26	55	368
DN125	CLASS150	160	P4111012160	199	223	F10+F12	87	87	184	197	217	158	31	55	458
DN150	CLASS150	190	P4110012190	356	320	F12	103	103	216	230	260	189	40	80	528
DN200	CLASS150	210	P4110014210	456	440	F14	113	113	235.5	255	285	210	40	80	532
DN250	CLASS150	240	P4110012240	653	656	F12	130	130	264.5	289	319	245	50	80	602
DN300	CLASS150	270	P4110012270	923	1007	F12	147	147	299	326	356	273	50	80	722
DN350	CLASS150	300	P4111614300	1166	1168	F14	203	203	324	348	378	290	60	80	758
DN400	CLASS150	350	P4111614350	1922	1640	F14	230	230	379	408	438	336	60	80	888
DN450	CLASS150	400	P4111616400	2396	2362	F16	258	258	450	480	510	360	60	80	930

For size bigger than DN450, consult our technical department

Installation, Use, Maintenance Instructions

1、Storage

1) A73/A74 eccentric butterfly valve is dispatched with the disc closed on the seat and the flange faces and valve internals protected with covers. Machined ferrous surfaces are protected with an removable rust preventative. If the valve is used for cleaning gases with a “degrease” label, it is recommended that the valve be unpacked until installation.

2) It is suggested that the valve is kept packed until it is to be installed in the pipeline.

2、Check before installation

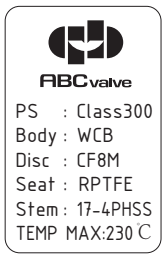
1) Open the valve package

2) Check the valve flow path to ensure that there are no debris in the flow path.

3) Make sure there are no foreign matter, welding slag, etc. in the supporting pipeline.

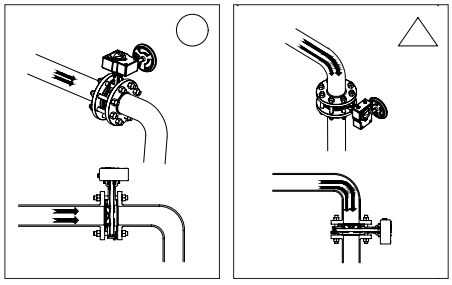
4) All operating devices, whether manual or automatic, should be installed before the valve is installed in the pipeline and ensure that it is installed correctly.

5) Check the valve plate to ensure that the valve material meets the expected operating conditions.

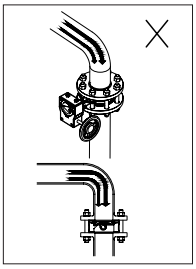


3、Installation

1) The valve is designed to seal against bidirectional flow and can therefore be installed with flow in either direction. However better sealing life will be obtained with downstream flow against the shaft side of disc. Installation location attention



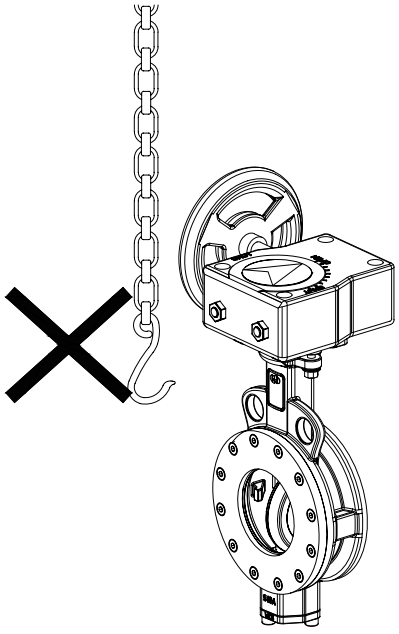
Good Inevitably acceptable



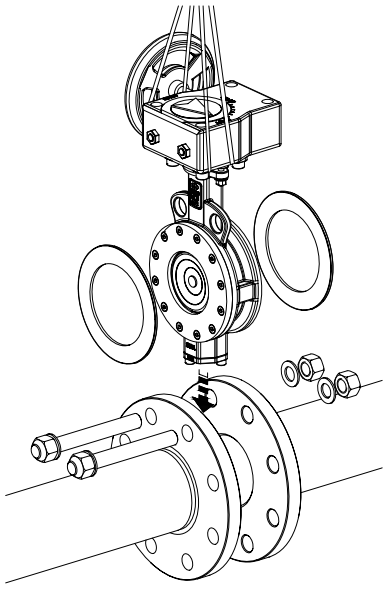
Wrong

2) Lifting attention

Valves above DN200 are not allowed to use valve flange correction holes or handwheel as hook points.



3) There should be enough space between the flanges to allow the valve easily enter between the flanges. If the flange distance is not enough for the valve, the valve seal will be damaged.



Installation, Use, Maintenance Instructions

4) Flange gaskets is necessary

Place the vlave between the flanges and gaskets as shown in Figure 1, position the valve with flange bolts.

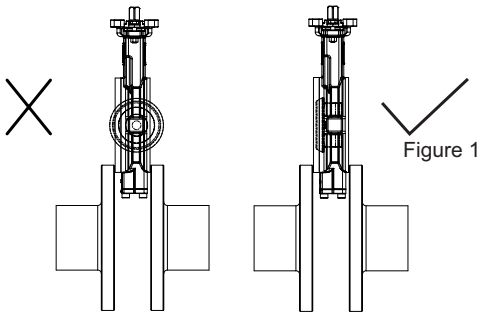


Figure 1

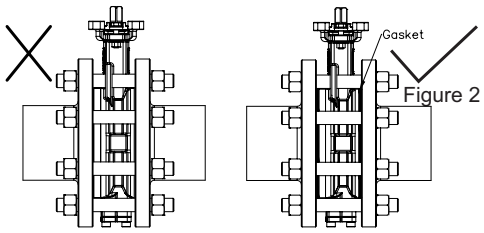


Figure 2

5) Before tightening the bolts, make sure that there is no collision during the valve plate switching process and carefully open the valve as shown in Figure 3.

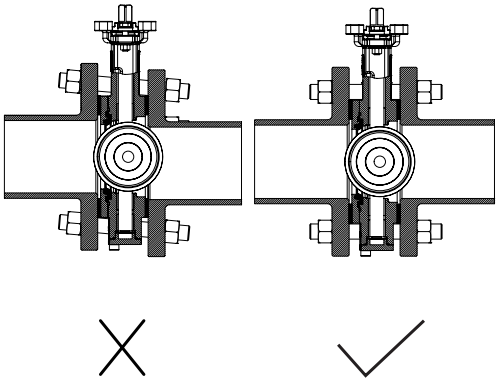


Figure 3

6) Tighten the flange bolts in the order shown in Figure 4.

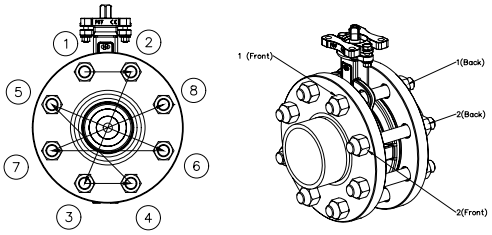


Figure 4

7) Flange bolt tightening force refers to the following table

Bolt specification	bolt tightening torque (N*M)
M16	230
M20	450
M24	780
M30	1550
M36	2700

4、Valve Maintenance

1) The valve is recommended to be fully open and closed several times every three months without special maintenance.

2) If the parts need to be replaced, please refer to the valve structure in Figure 5. In general, please contact ABC Valves before replacing parts.

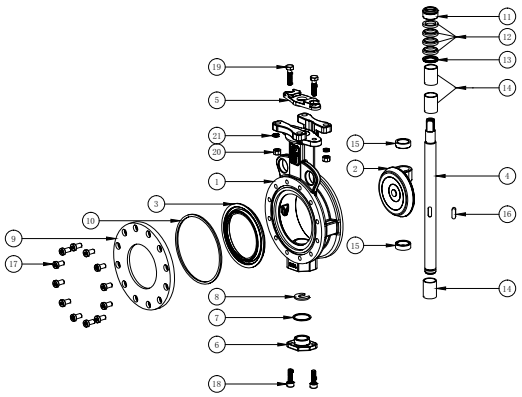
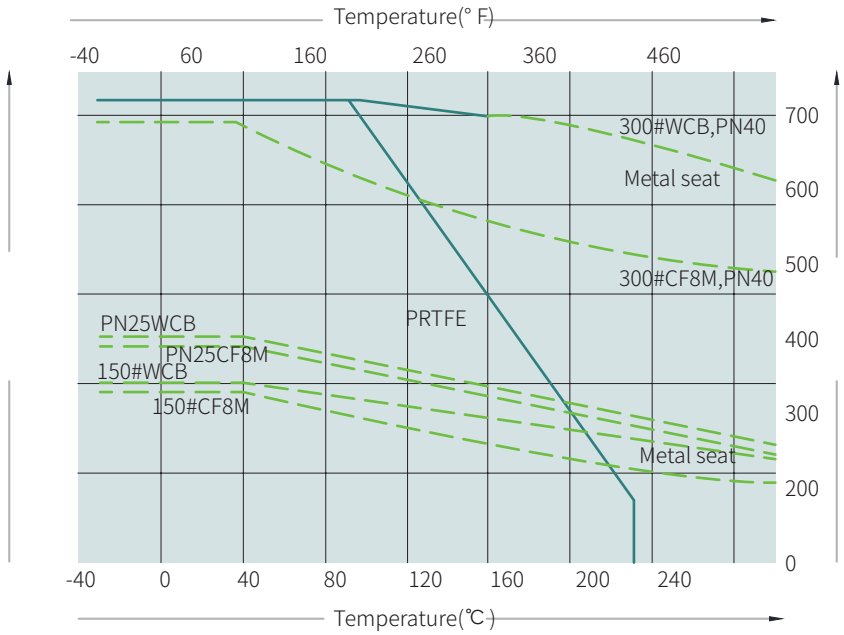


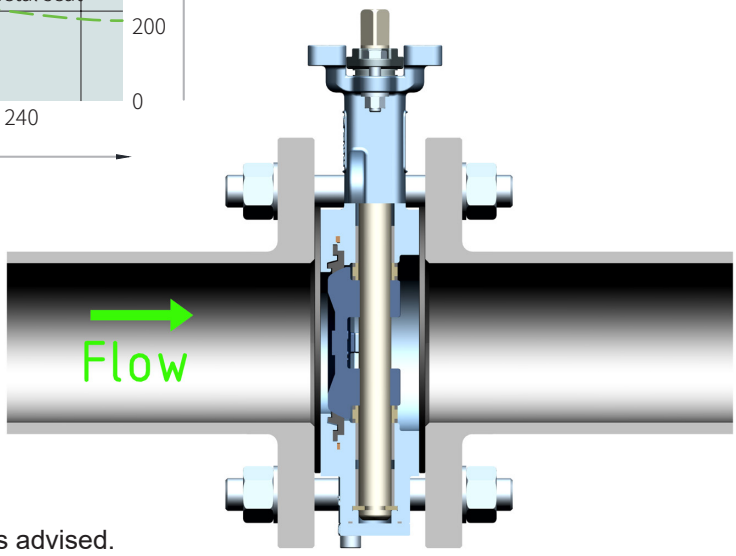
Figure 5

A73 & A74 Ordering Guidelines

Valve Series			Matching of Material (Body/Disc/Seat/Stem)		Operator Type		Nominal Size			Additional
A	7	3	0	1	1	0	0	0	5	0
A73 = Wafer			01 = WCB/CF8/RPTFE/17-4		10 = Bare Shaft		005 = DN50			0 = Standard Pressure
A74 = Lug			02 = CF8M/CF8M/RPTFE/17-4		11 = Lever Operated		006 = DN65			1 = Class150
			03 = WCB/CF8M/ RPTFE/17-4		12 = Gear Operated		008 = DN80			2 = Class300
					13 = Single Acting Pneumatic Actuator		010 = DN100			A = A74 Class150
					14 = Double Acting Pneumatic Actuator		012 = DN125			C = A74 PN16
					15 = Electric Actuator		015 = DN150			D = A74 TABLE D
					16 = Hydraulic actuator		020 = DN200			E = A74 TABLE E
					17 = Electro-hydraulic actuator		025 = DN250			F = A74 TABLE F
							030 = DN300			

Temperature-pressure Diagram





Flow can be executed in both directions and following advantages can be approached while using suggested flow direction:

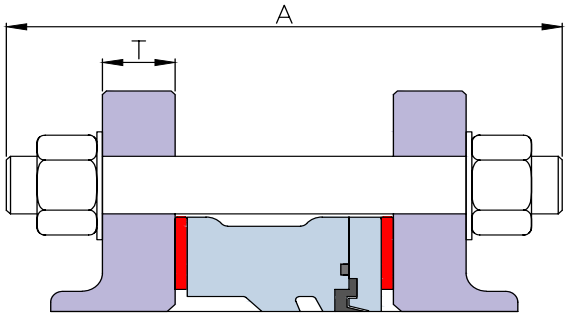
1) Minimal initial breakaway torque.

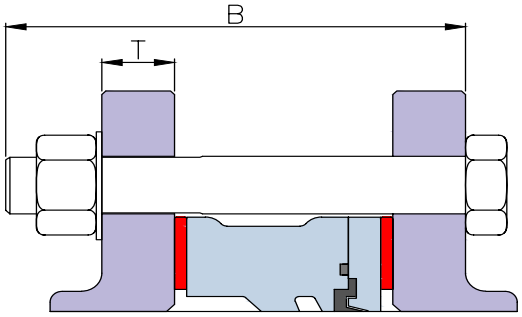
2) Reduced seat wear.

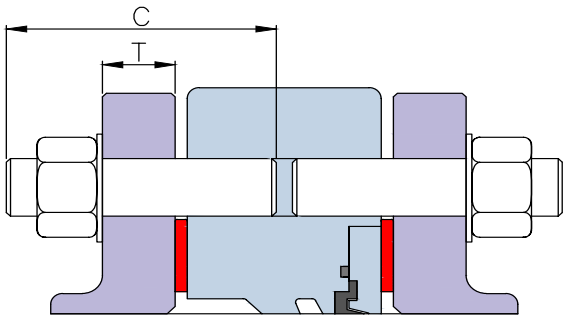
3) No wetted shaft when closing.

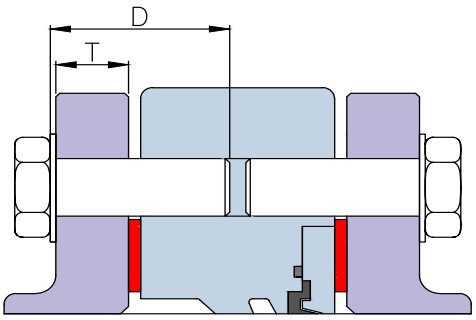
※ For metal seat full pressure,opposite flow direction is advised.

Bolting and Installation







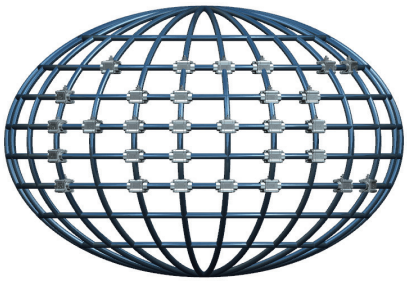


size		PN10						PN16						PN20						PN25					
mm	inch	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size
50	2	130	120	65	45	20	M16	130	120	65	45	20	M16	135	125	70	50	22.5	M16	135	125	70	50	22	M16
65	2.5	130	120	65	45	20	M16	130	120	65	45	20	M16	135	125	70	50	23	M16	135	125	70	50	22	M16
80	3	135	120	65	45	20	M16	135	120	65	45	20	M16	140	130	70	50	24	M16	140	130	70	50	24	M16
100	4	145	130	70	50	22	M16	145	130	70	50	22	M16	145	135	75	55	24	M16	155	140	80	55	24	M20
125	5	145	135	75	50	22	M16	145	135	75	50	22	M16	155	140	75	55	24	M20	175	155	85	60	26	M24
150	6	160	140	80	55	24	M20	160	140	80	55	24	M20	160	145	80	55	26	M20	175	155	90	60	28	M24
200	8	160	145	80	55	24	M20	160	145	80	55	24	M20	170	155	85	60	29	M20	185	165	90	65	30	M24
250	10	175	160	85	60	26	M20	185	165	85	60	26	M24	195	175	95	70	31	M24	200	180	100	70	32	M27
300	12	185	170	90	65	26	M20	200	180	90	70	28	M24	205	185	105	70	32	M24	215	195	110	75	34	M27
350	14	185	170	90	65	26	M20	200	185	90	70	30	M24	220	195	105	75	35	M27	230	205	115	80	38	M30
400	16	220	200	110	70	26	M24	235	215	110	80	32	M27	245	225	125	85	37	M27	265	240	130	95	40	M33
450	18	235	215	115	75	28	M24	265	240	115	90	40	M27	270	240	130	95	40	M30	290	265	145	105	48	M33
500	20	245	230	125	75	28	M24	295	270	125	100	44	M30	290	265	140	95	43	M30	305	280	155	105	48	M33
600	24	290	270	145	85	34	M27	345	320	145	110	54	M33	335	310	165	105	48	M33	360	330	180	120	58	M36

size		ANSI B 16.5 150LB						JIS10K						JIS 16K & 20K						AS2129 TABLE E					
mm	inch	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size	A	B	C	D	T	bolt size
50	2	135	125	70	50	20	5/8"	130	115	65	45	16	M16	130	115	65	45	16	M16	120	110	60	40	10	M16
65	2.5	135	125	70	50	22	5/8"	130	115	65	45	18	M16	130	115	65	45	18	M16	120	110	60	40	14	M16
80	3	140	130	70	50	24	5/8"	130	115	65	45	18	M16	140	125	70	50	20	M20	120	110	60	40	14	M16
100	4	145	135	75	55	24	5/8"	135	120	70	50	18	M16	150	135	75	55	22	M20	135	120	65	45	17	M16
125	5	160	145	80	55	24	3/4"	150	135	75	55	20	M20	160	140	80	55	22	M22	140	125	70	50	17	M16
150	6	160	145	80	55	25	3/4"	155	140	80	55	22	M20	160	145	80	55	24	M22	145	130	70	50	17	M20
200	8	170	155	85	60	28	3/4"	160	140	80	55	22	M20	170	150	85	60	26	M22	152	135	75	50	19	M20
250	10	185	170	95	65	30	7/8"	175	155	85	60	24	M22	190	170	95	65	28	M24	165	150	85	55	22	M20
300	12	200	180	100	70	32	7/8"	185	165	90	60	24	M22	200	185	100	70	30	M24	185	170	95	65	25	M24
350	14	215	195	105	75	35	1"	190	170	95	65	26	M22	220	200	110	80	34	M30	195	175	95	70	29	M24
400	16	240	220	120	80	37	1"	220	205	110	70	28	M24	255	230	130	85	38	M30	225	205	110	75	32	M24
450	18	265	240	130	90	40	1 1/8"	240	220	120	75	30	M24	270	245	135	90	40	M30	240	225	120	80	35	M24
500	20	285	260	140	90	43	1 1/8"	250	230	125	75	30	M24	290	265	145	95	42	M30	260	245	130	80	38	M24
600	24	330	305	165	100	48	1 1/4"	295	270	145	85	32	M30	335	310	170	105	46	M36	325	300	165	100	48	M30

Due to improvement, all the recorded contents in the catalogue may change without notice. Please kindly understand that the products shown may vary slightly compared with actuals in terms of color, etc. due to printing and other factors.

ABC VALVE reserves the final rights for interpretation of the catalogue.



Manufacture:

ABC VALVE WUXI CO., LTD.

Add: U Valley Industrial Park, 58 Jinghong Road, Xibei Town, Xishan District, Wuxi, Jiangsu, China

Zip Code: 214195

Tel: +86-510-88786886

Email: info@abcvalve.com

Web: www.abcvalve.com

Manufacture in Singapore:

ABC VALVE PTE. LTD.

Add: 10 ANSON ROAD
#13-15
INTERNATIONAL PLAZA
SINGAPORE (079903)

Email: sg@abcvalve.com

2019-05