

AGE

CONCENTRIC BUTTERFLY VALVES
OFF SET TYPE BUTTERFLY VALVES
3-OFF SET TYPE BUTTERFLY VALVES

Butterfly Valves



AGE hopes to lead 21C's valve mechanism based on outstanding engineering.

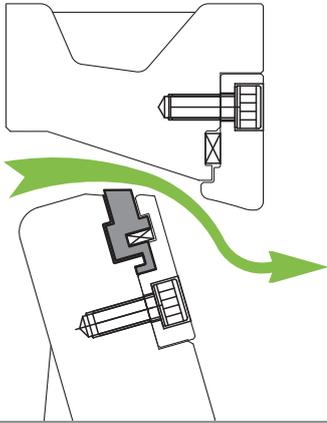


**UNREMITTEDLY DEVELOPED OUR UNIQUE PRODUCTS
WILL SATISFY THE OVERALL DEMAND OF
CUSTOMER AND SECURE THE LONG SERVICE LIFE.**

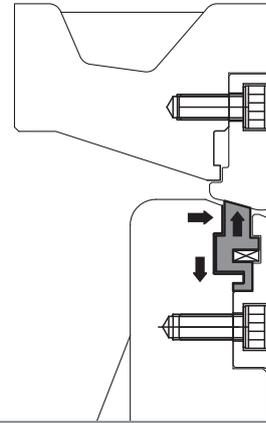
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FLOATING, DOUBLE RETAINER SEAT

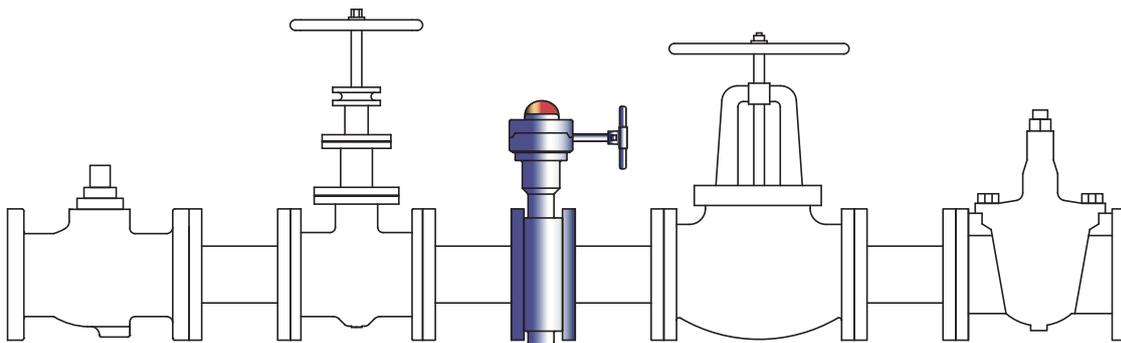


Furnishing appropriate space and retaining lug against thermal expansion of seat with unique cavity between disc and seat retainer, AGE 451 provides the excellency of anti-blowout of seat under the high velocity of the fluid at low opening position, and permits variable temperature services.



Self energized force by fluid pressure of DISC-SEAT and facing BODY-SEAT generates adequate seating force for required sealing and durability. Specific performance of the 2-fold seat is not affected by the thermal deformations of body and disc providing excellent durability in ever changing fluid temperature service.

COMPARISON with CONVENTIONAL APPLICATIONS



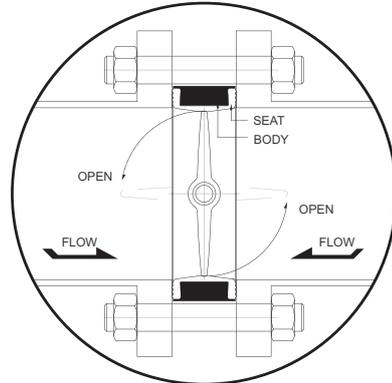
ORDERING INFORMATION

AGE 1|2|3|4

1	BODY MATERIAL	2	SEAT MATERIAL	3	END CONNECTION	4	TYPE
2	Cast Iron	3	Rubber	1	JIS/KS 10K, ANSI 150#	1	Lever Operated
3	Stainless Steel	4	Stainless Steel	2	JIS/KS 20K, ANSI 300#	2	Gear Operated
4	Ductile Iron	5	Filled TFE	3	JIS/KS 30K	C	Crescent Disc
5	Cast Steel	6	PTFE over molded	4	JIS/KS 40K, ANSI 600#	x	Bare shaft
6	ALDC	7	etc	5	etc		
7	etc						

Model No. AGE23/43/33 Series

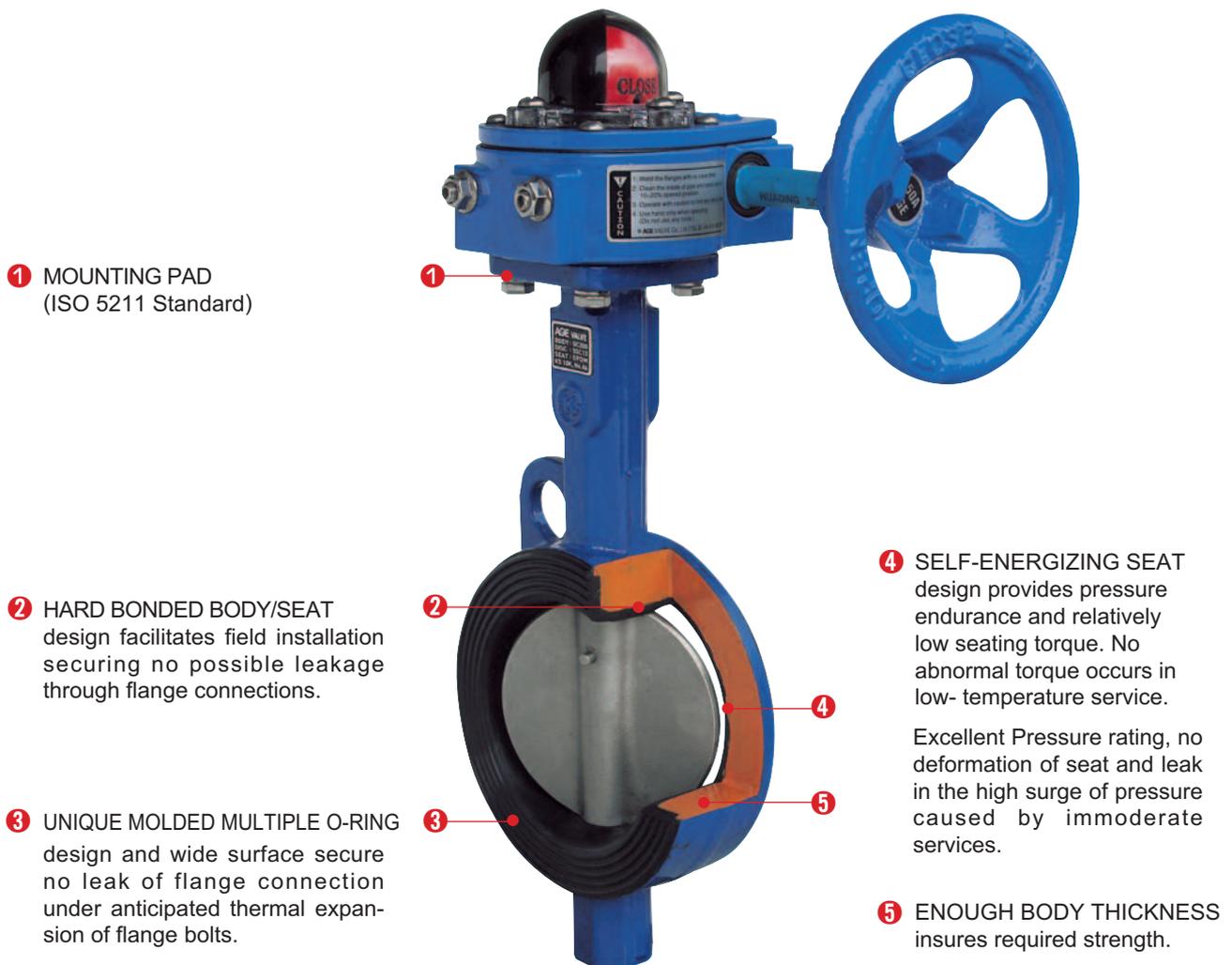
Concentric butterfly valve -the rotating center of the spherical disc and shaft which coincide with the center of the spherical seat and body interfering each other at specified position- is composed of an elastic seat, and excels in economical efficiency in large facilities, tight shut-off, low pressure drop and high recovery characteristic. Hard bonded rubber seated AGE231 Series provides various excellencies as compared others.



Hard Bonded type

APPLICATION & FEATURES

A major design advantage of the AGE231 Series meets international compatibility with the same body on world flange standards-ANSI Class 150, DIN 10/16, KS/JIS 10K in the applications in normal temperature and medium-low pressure services.



1 MOUNTING PAD
(ISO 5211 Standard)

2 HARD BONDED BODY/SEAT
design facilitates field installation
securing no possible leakage
through flange connections.

3 UNIQUE MOLDED MULTIPLE O-RING
design and wide surface secure
no leak of flange connection
under anticipated thermal expansion
of flange bolts.

4 SELF-ENERGIZING SEAT
design provides pressure
endurance and relatively
low seating torque. No
abnormal torque occurs in
low- temperature service.

Excellent Pressure rating, no
deformation of seat and leak
in the high surge of pressure
caused by immoderate
services.

5 ENOUGH BODY THICKNESS
insures required strength.

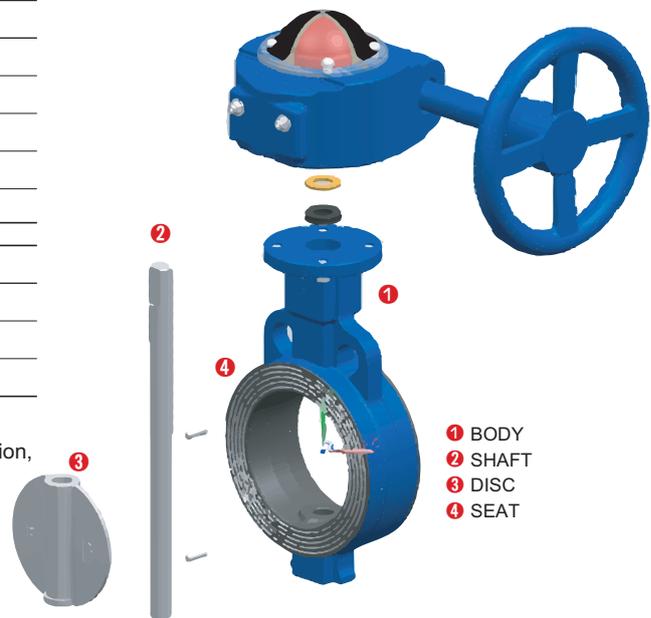
STANDARD SPECIFICATIONS

VALVE SIZE	40 ~ 1800A (1.5" ~ 72")
FLOW CHARACTERISTICS	Standard Butterfly (10:1 ~ 15:1)
SEAT LEAKAGE	ANSI Class VI
END RATING	KS/JIS 10K/16K/20K, ANSI 150#, PN10~16, etc.
FACE TO FACE DIMENSION	ISO 5752, MSS SP67, JIS B2032, and API 609, KS B 2813
END CONNECTION	WAFER, FLANGE, LUG
FLOW DIRECTION	Bi-Directional
OPERATING PRESSURE	20kg/cm ² (MAX)
OPERATING TEMPERATURE	-10°C ~ 120°C (MAX)
OPERATOR	Manual : Lever, Worm gear Actuator : Pnematic, Electric, Hydraulic(On off, Control, Step), Pressure Regulator, etc.
ACCESSORIES	Dome Indicator, Temper Switch, Chain Wheel, Lock Device, etc

BODY	DISC	SHAFT
Cast Iron	Stainless Steel	Stainless Steel
Ductile Iron	Aluminum Bronze	
Cast Steel	Cast Steel	
Stainless Steel		
Aluminum		

SEAT	TEMPERATURE RATING
EPDM	-10 ~ 90°C
Buna-N	-10 ~ 80°C
Viton	-10 ~ 120°C

- Continuous service temperature range : 0 ~ 70°C
- More detailed requisition than above described standard specification, contact us for detail.



TORQUE TABLE

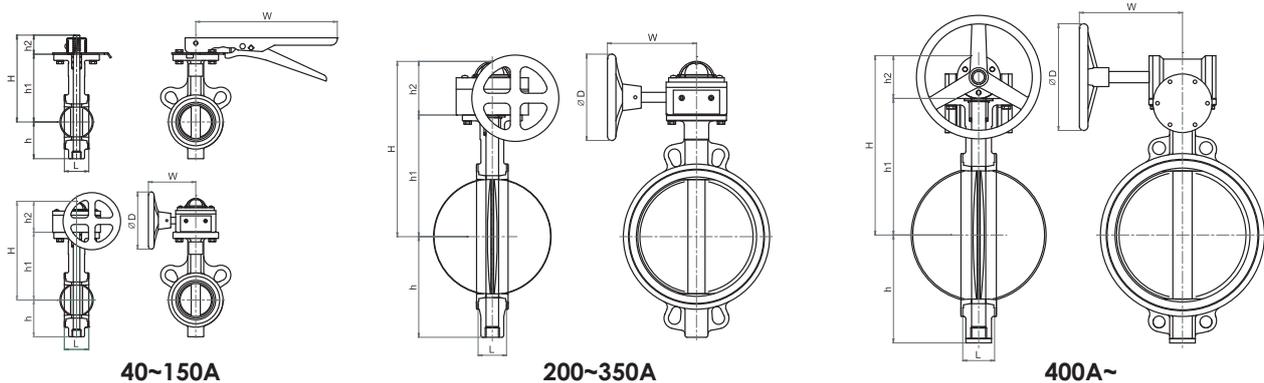
(unit:kg.m)

VALVE SIZE	Shut Off Pressure (kg/cm ²)	
	5	10
50A	2.6	2.7
65A	3.2	3.4
80A	3.8	4
100A	5.7	6.2
125A	7.9	8.8
150A	10.9	13.3
200A	18.5	21
250A	28.8	33.9
300A	39	49
350A	58.2	83.7
400A	76.6	107.1
450A	98.8	158.2
500A	125	226.5

Cv VALUE

(unit:kg.m)

VALVE SIZE	Disc Opening		
	30°	60°	90°
50A	8	47	70
65A	12	74	175
80A	20	115	265
100A	48	280	605
125A	99	410	1013
150A	745	680	1450
200A	239	1050	2680
250A	360	1683	4035
300A	509	2288	6010
350A	770	2810	7100
400A	1000	3850	9800
450A	1300	4980	12500
500A	1600	6100	15800



DIMENSION

(unit:kg,m)

VALVE SIZE		GEAR OPERATED							Weight
		L	h	h1	h2	H	W	Ø D	kg
40A	1.5"	40	60	133	102	235	160	140	5.4
50A	2"	43	60	138	102	240	160	140	5.4
65A	2.5"	46	74	142	102	244	160	140	5.8
80A	3"	46	81	150	102	252	160	140	6.3
100A	4"	52	97	170	102	272	160	140	8.2
125A	5"	56	127	218	102	320	149	140	10.8
150A	6"	56	140	226	102	328	160	140	11.8
200A	8"	60	164	252	112	364	195	280	18.8
250A	10"	68	207	293	109	402	203	280	27.0
300A	12"	78	242	337	118	455	208	280	35.0
350A	14"	78	267	338	118	456	208	280	49.0
400A	16"	102	325	405	72	477	250	280	79.2
450A	18"	114	355	420	105	525	250	280	103.0
500A	20"	127	373	480	105	585	250	280	152.3
550A	22"	154	407	542	126	668	250	370	183.5
600A	24"	154	570	570	126	696	250	370	238.1
700A	28"	165	630	630	126	756	250	370	330.5
800A	34"	189	570	860	140	1000	385	370	489.2

VALVE SIZE		LEVER OPERATED						Weight
		L	h	h1	h2	H	W	kg
40A	1.5"	40	60	133	33	166	225	2.7
50A	2"	43	60	138	33	171	225	2.8
65A	2.5"	46	74	142	33	175	225	3.2
80A	3"	46	81	150	33	183	225	3.5
100A	4"	52	97	170	33	203	225	4.7
125A	5"	56	127	218	33	251	225	7.3
150A	6"	56	140	226	33	259	225	8.1

• Dimensions and design are subject to change without notice. Request certified drawings for use in preparing piping layouts.

INSTALLATION INSTRUCTION

1. Complete welding of flanges with no valve fitted.
2. Clean the inside of pipe first, and install valves at 10~20% opened position.
3. Operate with caution to find any jam of disc.
4. Use hand only when operating. (Do not use any tools.)

Model No. AGE45/55/35 Series

Standard AGE HP Butterfly valve is designed for medium low pressure and temperature (16BarG/203°C) ratings using carbon filled TFE and flexible profile of seat. Unique construction of dual seat provides excellent endurance to the thermal deformations of the body, valve disc and seat ring. This enables AGE HP Butterfly valve to be applied to medium low pressure saturated steam, water and oil shut off service.

LOW TORQUE, VERSATILE CONTROL

Double eccentric & double seat construction minimizes seating / unseating torque and performs excellent on-off or throttling control.

TOTAL VALVE CONCEPT

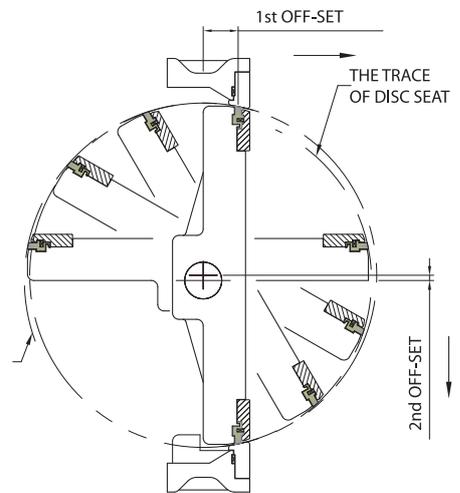
AGE HP Butterfly valve would effectively be substituted for convention ball, gate and globe valve in specific services and provides low cost in large size service.

BUBBLE-TIGHT SHUT OFF

Dual-seat ring design is not influenced by thermal deformations of valve body and disc in various temperature services.

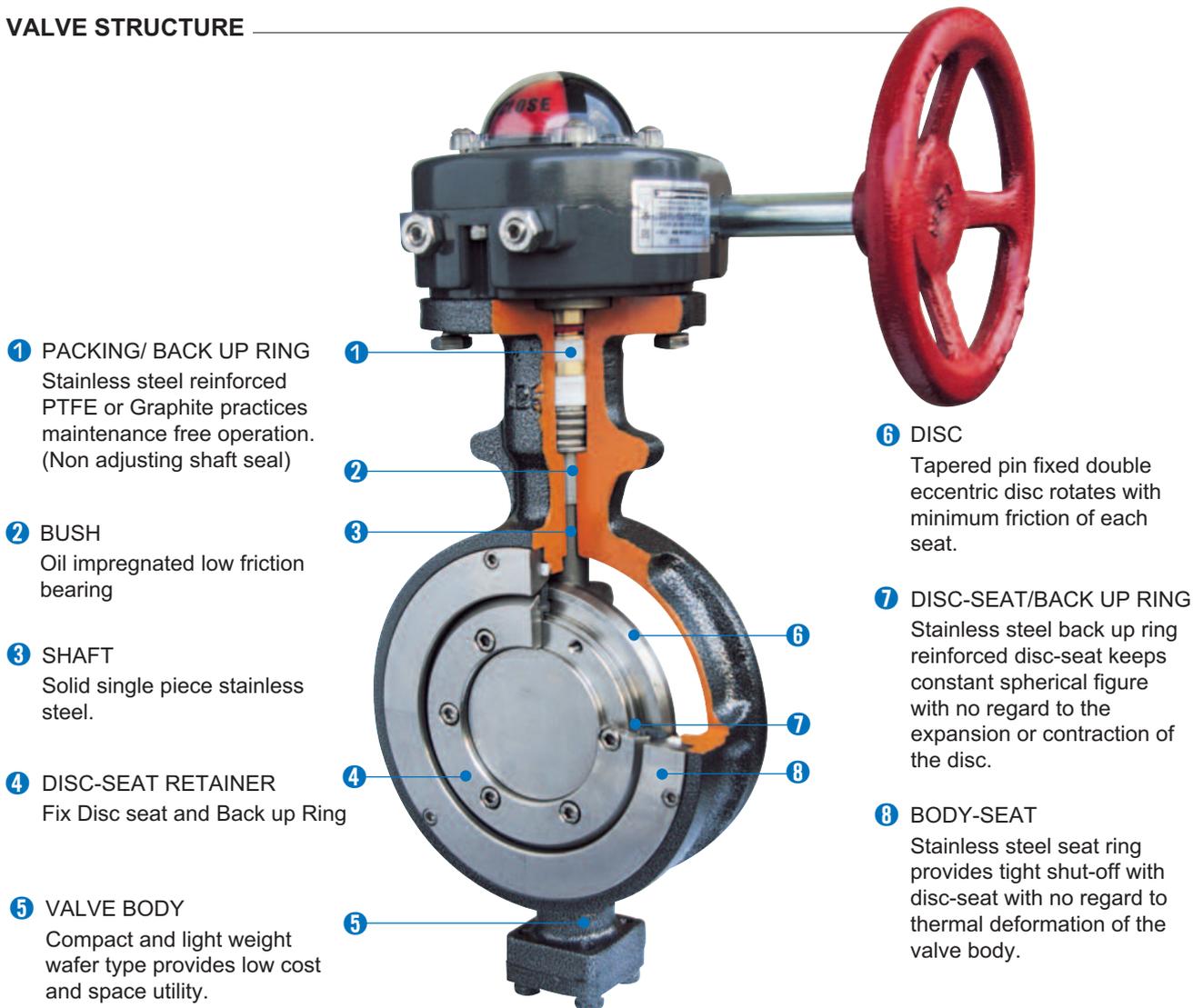
DOUBLE ECCENTRIC DISC

Rotating with least contact with body-seat provides long life time.



Double seated type

VALVE STRUCTURE



1 PACKING/ BACK UP RING
Stainless steel reinforced PTFE or Graphite practices maintenance free operation. (Non adjusting shaft seal)

2 BUSH
Oil impregnated low friction bearing

3 SHAFT
Solid single piece stainless steel.

4 DISC-SEAT RETAINER
Fix Disc seat and Back up Ring

5 VALVE BODY
Compact and light weight wafer type provides low cost and space utility.

6 DISC
Tapered pin fixed double eccentric disc rotates with minimum friction of each seat.

7 DISC-SEAT/BACK UP RING
Stainless steel back up ring reinforced disc-seat keeps constant spherical figure with no regard to the expansion or contraction of the disc.

8 BODY-SEAT
Stainless steel seat ring provides tight shut-off with disc-seat with no regard to thermal deformation of the valve body.

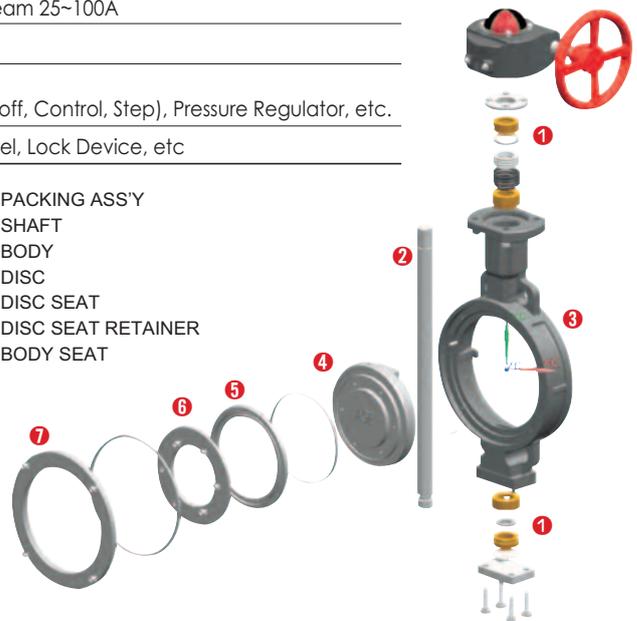
STANDARD SPECIFICATIONS

VALVE SIZE	25A ~ 1200A (1" ~ 48")
FLOW CHARACTERISTICS	Standard Butterfly (10:1 ~ 15:1)
SEAT LEAKAGE	ANSI Class VI, Zero Leakage, Tight Shut off
END RATING	JIS 10K/20/30/40K, ANSI 150#, 300#, PN10~16, etc.
END CONNECTION	WAFER, FLANGE, LUG
FLOW DIRECTION	Uni-Direction for Steam Bi-Direction for Water, Air. Bi-Direction for Steam 25~100A
OP.PRESS / TEMPERATURE	16kg/cm ² 203°C, 20kg/cm ² /AMB
OPERATOR	Manual : Lever, Worm gear Actuator : Pnematic, Electric, Hydraulic(On off, Control, Step), Pressure Regulator, etc.
ACCESSORIES	Dome Indicator, Temper Switch, Chain Wheel, Lock Device, etc

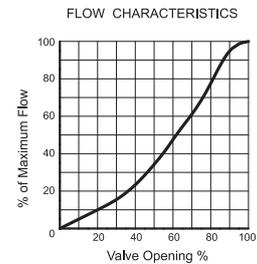
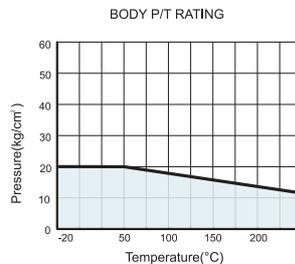
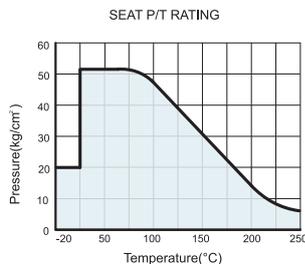
BODY	PACKING
Ductile Iron	Concave PTFE packing with back-up ring&spring
Cast Steel	Asbestos yarn with spring
Stainless Steel	Graphite with stainless steel back-up ring

DISC / SHAFT	SEAT	TEMP. RATING
Stainless Steel	Reinforced TFE	-20~200°C
	TFM	-20~230°C
	PEEK	-20~250°C

- ① PACKING ASS'Y
- ② SHAFT
- ③ BODY
- ④ DISC
- ⑤ DISC SEAT
- ⑥ DISC SEAT RETAINER
- ⑦ BODY SEAT



- Continuous service temperature range : 0 ~ 203°C
- More detailed requisition than above described standard specification, contact us for detail.



TORQUE TABLE

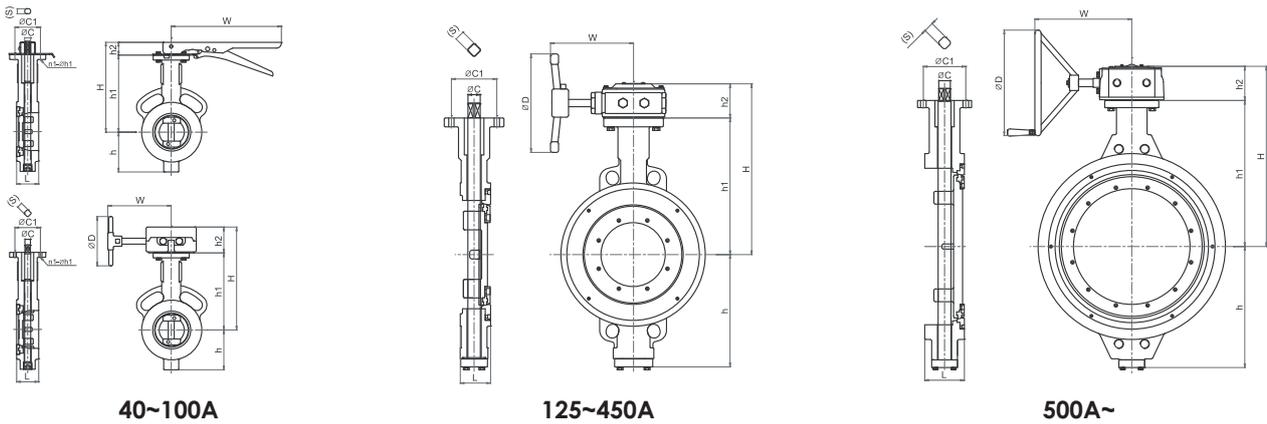
(unit:kg.m)

VALVE SIZE	Shut Off Pressure (kg/cm ²)	
	5	10
50A	2.9	3.0
65A	3.5	3.7
80A	4.2	4.4
100A	6.3	6.8
125A	8.7	9.7
150A	12.0	14.6
200A	20.4	23.1
250A	31.7	37.3
300A	42.9	53.9
350A	64.0	92.1
400A	84.3	117.8
450A	108.7	174.0
500A	137.5	249.2

Cv VALUE

VALVE SIZE	Disc Opening		
	30°	60°	90°
50A	12	41	85
65A	22	77	160
80A	36	125	260
100A	67	228	475
125A	108	370	770
150A	158	540	1125
200A	295	1012	2110
250A	470	1610	3350
300A	670	2300	4800
350A	966	3312	6900
400A	1260	4320	9000
450A	1650	5660	11800
500A	1800	5870	14600

OFF SET TYPE BUTTERFLY VALVES



DIMENSION

(unit:mm)

VALVE SIZE	GEAR OPERATED										Weight		
	L		h	h1	h2	H	W	ØC(S)	ØD	n-h(Hole)	ØPCD	kg	
	10K(FCD)	20K(SC*)											
40A	1.5"	42	42	55	110	55	165	140	12(9)	120	4-Ø9	70	4.3
50A	2"	44	44	64	145	55	200	140	12(9)	120	4-Ø9	70	5
65A	2.5"	44	44	80	155	55	210	140	12(9)	120	4-Ø9	70	5.8
80A	3"	46	46	80	169	55	224	140	12(9)	120	4-Ø9	70	6
100A	4"	52	52	95	187	55	242	140	16(11)	120	4-Ø9	70	7.5
125A	5"	62	56	140	194	70	264	180	20(14)	170	4-Ø11	102	19
150A	6"	62	56	160	207	70	277	180	20(14)	170	4-Ø11	102	20
200A	8"	84	60	211	269	70	339	180	28(22)	190	4-Ø11	102	35
250A	10"	91	68	250	309	70	379	180	28(22)	240	4-Ø11	102	57
300A	12"	101	78	269	349	105	454	250	35(27)	300	4-Ø18	140	81
350A	14"	114	78	312	366	105	471	270	40(27)	300	4-Ø18	140	98
400A	16"	114	102	350	418	105	523	270	45(36)	300	4-Ø18	140	120
450A	18"	114	114	387	430	105	535	270	45(36)	300	4-Ø18	140	150
500A	20"	127	127	417	453	130	583	340	45(36)	500	4-Ø22	165	192
550A	22"	154	154	444	515	130	645	340	45(36)	500	4-Ø22	165	230
600A	24"	154	154	464	572	130	702	340	50(36)	500	4-Ø22	165	310
650A	26"	165	165	492	580	130	710	380	50(36)	560	8-Ø18	205	560
700A	28"	165	165	492	580	130	838	380	70(K18)	560	8-Ø18	205	640
800A	32"	190	190	662	762	160	922	405	80(K22)	630	8-Ø18	254	840

VALVE SIZE	LEVER OPERATED								Weight	
	L	h	h1	h2	H	W	S	kg		
40A	1.5"	42	55	110	31	141	230	10	3.3	
50A	2"	44	64	145	31	176	230	10	4	
65A	2.5"	44	80	155	31	186	230	10	4.8	
80A	3"	46	80	169	31	200	230	10	5	
100A	4"	52	95	187	31	218	270	12	6.5	

• Dimensions and design are subject to change without notice. Request certified drawings for use in preparing piping layouts.

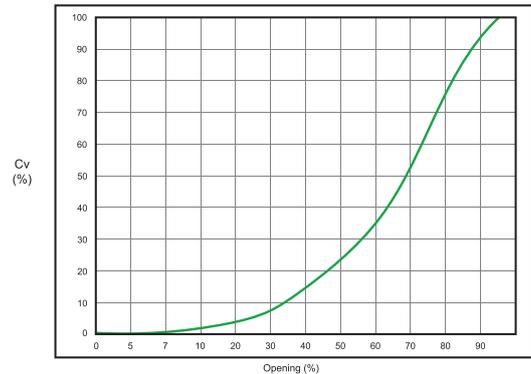
INSTALLATION INSTRUCTION

1. Remove the foreign materials prior to install the valves and use spacers of suitable sizes during the cleaning process.
2. Flange welding should be completed before the installation of the valve to avoid seat and disc damage.
3. Valve must be closed when valves are installing.
4. Valve should be fully closed prior to fastening the flange bolts and nuts.
5. Valve must be operated with hand only, Please don't use any tools.

Model No. AGE55/35**C Series

AGE "C" Series Butterfly valve is designed for soft and safe operating of manual shut-off valve of high velocity fluid service. Throttling function in low opening position (4~20% opening) provides slow and even increase of flow rate in view of the AGE crescent phase of disc.

FLOW CHARACTERISTICS



STANDARD SPECIFICATIONS

VALVE SIZE	25A ~ 1200A (1" ~ 48")
FLOW CHARACTERISTICS	Standard Butterfly (100:1)
SEAT LEAKAGE	ANSI Class VI, Zero Leakage, Tight Shut off
END RATING	JIS 10K/20/30/40K, ANSI 150#, 300#, PN10~16, etc.
END CONNECTION	WAFER, FLANGE, LUG
FLOW DIRECTION	Uni-Direction for Steam Bi-Direction for Water, Air. Bi-Direction for Steam 25~100A
OPER / PRES / TEMPE	16kg/cm ² 203°C, 20kg/cm ² /AMB
OPERATOR	Manual : Lever, Worm gear Actuator : Pneumatic, Electric, Hydraulic(On off, Control, Step), Pressure Regulator, etc.
ACCESSORIES	Dome Indicator, Temper Switch, Chain Wheel, Lock Device, etc

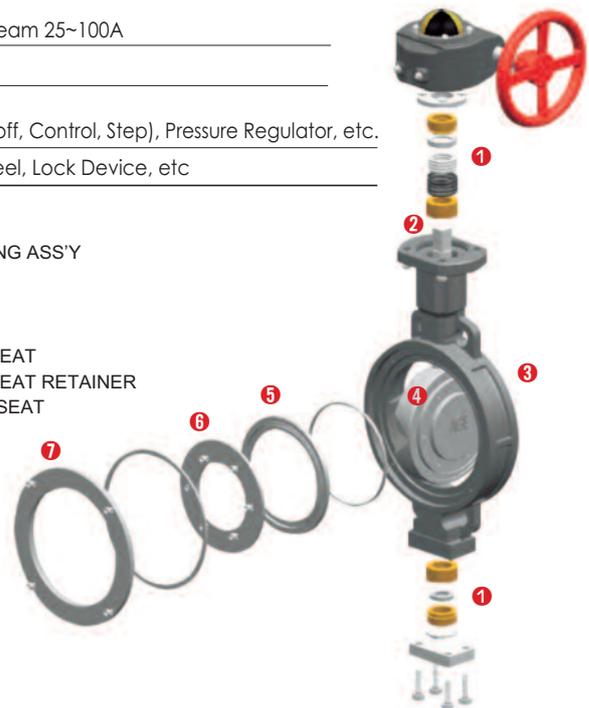
BODY	DISC	SHAFT
Ductile Iron	Stainless Steel	Stainless Steel
Cast Steel	Ni-AL Bronze	
Stainless Steel	Cast Steel	

SEAT	TEMP. RATING
Reinforced TFE	-20~200°C
TFM	-20~230°C
PEEK	-20~250°C

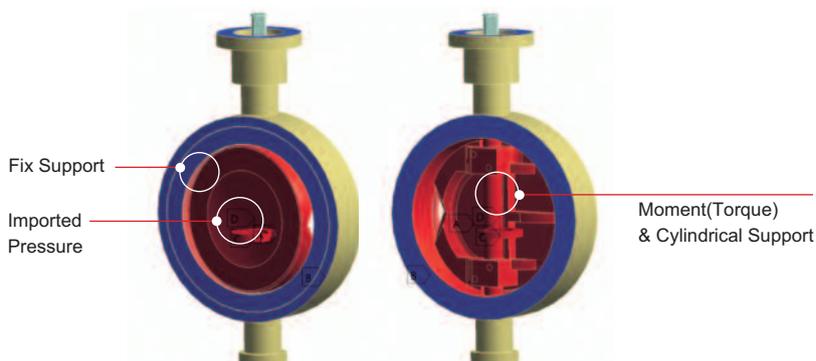
PACKING	Concave PTFE with back-up ring & spring(Non-adjusting)
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- Continuous service temperature range : 0 ~ 203°C
- More detailed requisition than above described. contact us for detail.

- 1 PACKING ASS'Y
- 2 SHAFT
- 3 BODY
- 4 DISC
- 5 DISC SEAT
- 6 DISC SEAT RETAINER
- 7 BODY SEAT



STRUCTURAL ANALYSIS



Model No. AGE54/34 Series

Standard AGE 3-Off Set butterfly valve may be substituted for the gate, globe and metal seated ball valve in service rating up to 500°C, 40BarG. (650°C, 63Bar order made)

The flexibility of laminating seat and engagement angle of triple eccentric disc assure long service life and provide tight shut-off requirement under considerable variation of service temperature.

These properties permit AGE541 series can be applied to saturated and super heated steam service with facilities of operating and economic efficiency as compared with globe and gate valve.

LOW TORQUE, VERSATILE CONTROL

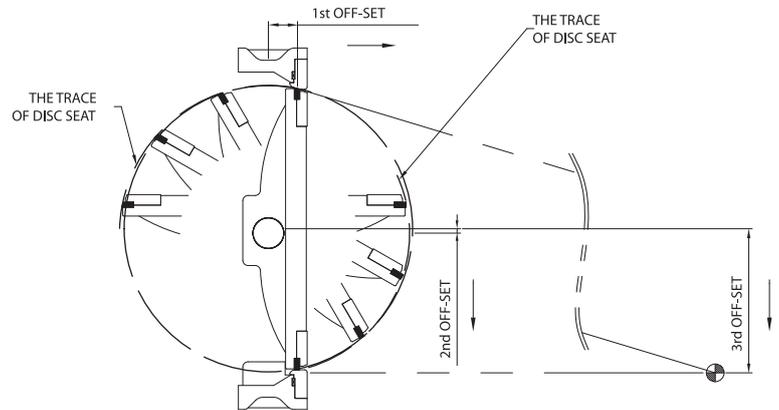
Low unseating torque originated in eccentric rotating and engagement angle of disc

TOTAL VALVE CONCEPT

Large capacity, compact and light weight

OPERATING

AGE541 series 3-Off Set type butterfly valve provides tight shut-off and prevents the jamming condition of the valve with flexible seating phenomenon of the laminate seat and solid body seat.

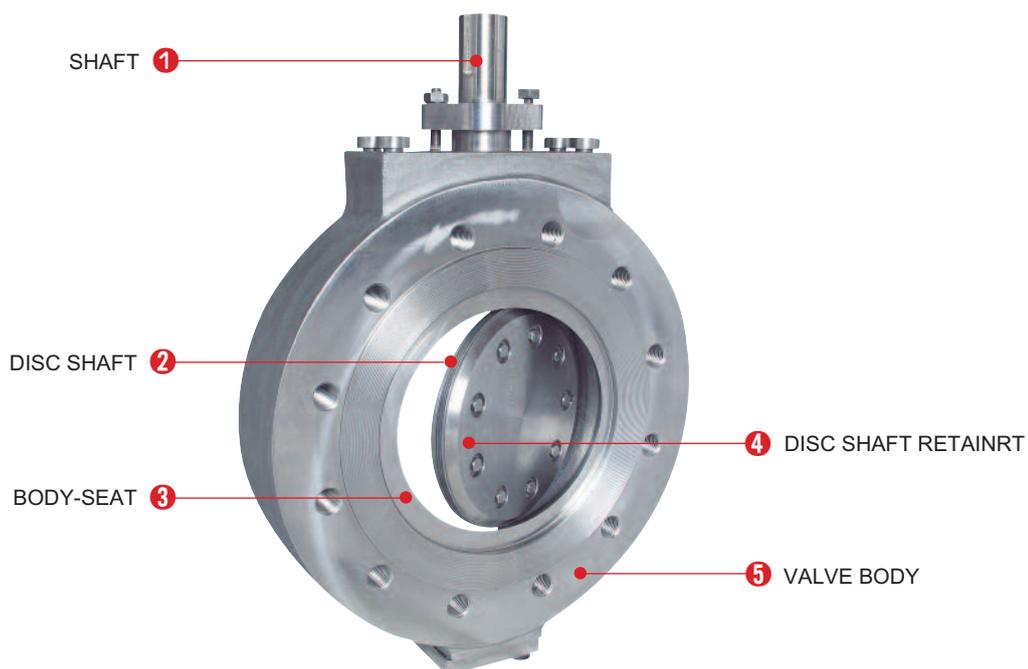


PRINCIPLES

The centerline of the disc rotates away from the valve centerline resulting in an ellipsoidal profile and providing the third offset. With this geometry, seat seal interference is completely eliminated ensuring long sealing life.

The result is a torque-seated, process pressure aided FRICTIONLESS seal. The geometry allows the body seat to be used as the closed limit stop, aiding operator adjustment. The triple offset design is ideally suited to metal seated valves providing bubble-tight performance on high temperature, high pressure and fire safe applications.

VALVE STRUCTURE



STANDARD SPECIFICATIONS

VALVE SIZE	100 ~ 1800A (1" ~ 72")
FLOW CHARACTERISTICS	Standard Butterfly (10:1 ~ 15:1)
SEAT LEAKAGE	ANSI Class VI, V
END RATING	JIS 10K/20K, ANSI 150#, 300#, #600, PN10,16, 25, 40 etc.
FACE TO FACE DIMENSION	ISO 5752, MSS SP67, JIS B2032, and API609.
END CONNECTION	WAFER, FLANGE, LUG.
FLOW DIRECTION	Uni-Direction
OPERATING TEMPERATURE	-100°C ~ 500°C (~ 650°C order made)
OPERATOR	Manual : Lever, Worm gear Actuator : Pneumatic, Electric, Hydraulic(On off, Control, Step), Pressure Regulator, etc.
ACCESSORIES	Dome Indicator, Temper Switch, Chain Wheel, Lock Device, etc

BODY	DISC	SHAFT
Cast Steel	Stainless Steel	Stainless Steel
Stainless Steel	Ni-AL Bronze	

SEAT	TEMP. RATING
Stainless Steel+Graphite	-100~500°C

PACKING

Concave PTFE packing with back-up ring&spring
Asbestos yarn with spring
Graphite with stainless steel back-up ring

- Continuous service temperature range : 0 ~ 500°C
- More detailed requisition than above described standard specification, contact us for detail.



TORQUE TABLE

(unit:kg.m)

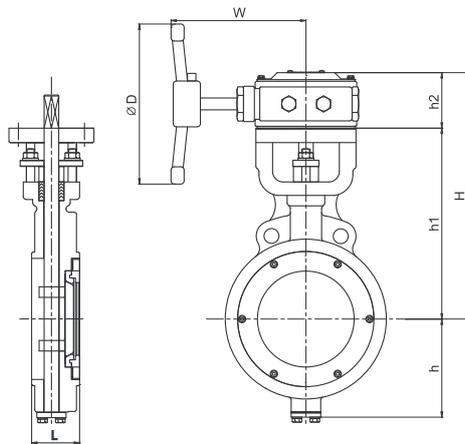
VALVE SIZE	Shut Off Pressure (kg/cm ²)	
	5	10
100A	12.1	13.3
150A	18.1	18.8
200A	27.5	29.8
250A	40.1	46.3
300A	49.5	63.8
350A	88	115.5
400A	110	154
450A	154	198
500A	201.2	264

Cv VALUE

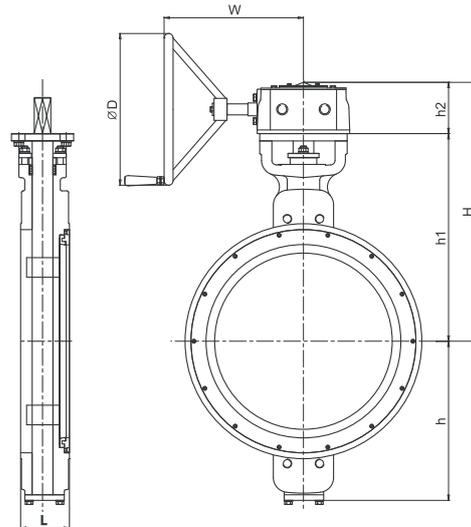
VALVE SIZE	DISC OPENING		
	30°	60°	90°
100A	72	176	302
150A	101	448	800
200A	185	821	1460
250A	320	1420	2530
300A	478	2120	3780
350A	651	2890	5140
400A	1020	4510	8020
450A	1340	5940	10600
500A	1650	7340	13000

Appendix of 20% of listed torque to be preferred for safety.
 Listed Shaft torque is conditioned on 17-4PH physical properties.
 Rotating torque may be 40% of unseating torque.
 Listed torque is specified to the service rating of 450°C, 40Barg.
 Listed rotating torque is specified to the condition of the fluid velocity of 5m/sec.

3-OFF SET TYPE BUTTERFLY VALVES



80~200A



250~600A

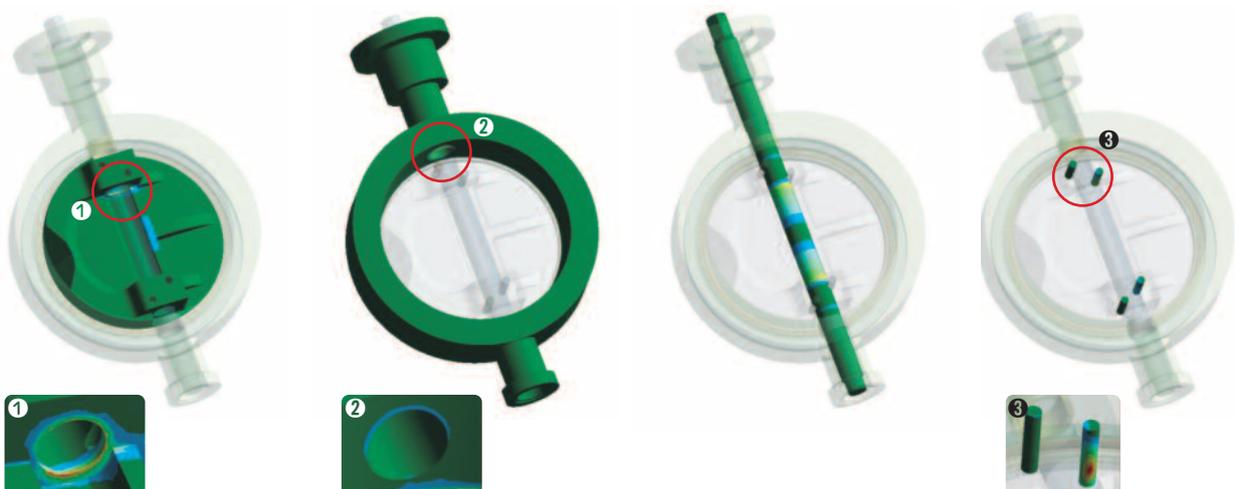
DIMENSION

(unit:mm)

VALVE SIZE	GEAR OPERATED							Weight
	L	h	h1	h2	H	W	Ø D	kg
80A 3"	48	127	165	55	220	140	120	6.9
100A 4"	54	150	200	55	255	140	120	8.63
125A 5"	57	180	245	70	315	180	170	23
150A 6"	64	195	280	70	350	180	190	40.25
200A 8"	71	225	285	70	355	180	240	65.55
250A 10"	81	265	335	105	440	250	300	93.15
300A 12"	92	290	365	105	470	270	300	112.7
350A 14"	102	340	435	105	540	270	300	138
400A 16"	114	360	452	105	557	270	300	172.5
450A 18"	127	395	500	130	630	340	500	220.8
500A 20"	154	465	570	130	770	340	500	356.5

• Dimensions and design are subject to change without notice. Request certified drawings for use in preparing piping layouts.

STRUCTURAL ANALYSIS



Model No. AGE661 Series

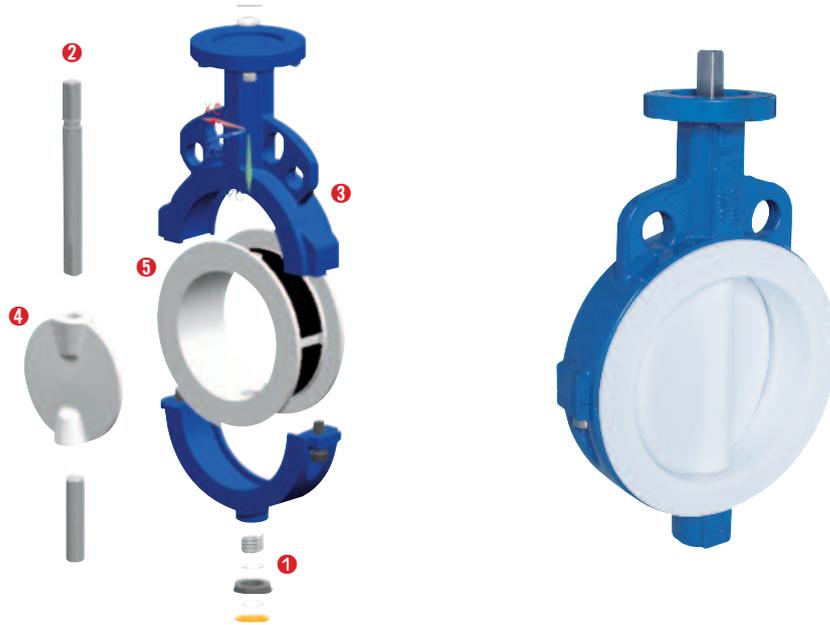
AGE661 series is designed with the rubber energized PTFE seat and PTFE molded stainless steel disc to satisfy the pressure endurance and chemical resistance.

2-piece body design for easy maintenance and prospective alignment

Tapered outlet type seat ring for triple shaft seal with combination of overmolded disc

Top & bottom extended overmolded disc for triple shaft seal

- 1 PACKING ASS'Y
- 2 SHAFT
- 3 BODY
- 4 DISC
- 5 SEAT

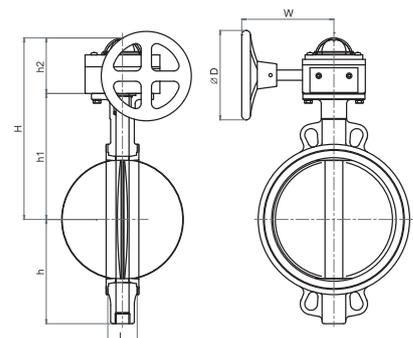


STANDARD SPECIFICATIONS

VALVE SIZE	50A ~ 300A (2" ~ 12")	
FLOW CHARACTERISTICS	Standard Butterfly (10:1 ~15:1)	
SEAT LEAKAGE	ANSI Class VI	
END RATING	JIS 10K, 20K, ANSI 150#, PN10, PN16	
END CONNECTION	WAFER, FLANGE, LUG.	
MATERIAL	BODY	Ductile Iron, Cast Aluminum, etc.
	DISC	EPDM or PTFE Overmolded Cast Iron/Stainless Steel
	SEAT	PTFE, EPDM
	SHAFT	Stainless Steel

DIMENSION

VALVE SIZE	GEAR OPERATED								(unit:mm)	
	L	h	h1	h2	H	w	Ø D	Weight		
50A	2"	43	60	138	102	240	160	140	5.4	
65A	2.5"	46	74	142	102	244	160	140	5.8	
80A	3"	46	81	150	102	252	160	140	6.3	
100A	4"	52	97	170	102	272	160	140	8.2	
125A	5"	56	127	218	102	320	149	140	10.8	
150A	6"	56	140	226	102	328	160	140	11.8	
200A	8"	60	164	252	112	364	195	280	18.8	



• Dimensions and design are subject to change without notice. Request certified drawings for use in preparing piping layouts.



CONCENTRIC BUTTERFLY VALVE

Size Range	40A~1800A (1"~72")
Material	Cast Iron, Ductile Iron, Cast steel, Stainless steel, etc.
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~25, etc.
Service	Water, Gas, Chemicals, Oil
Actuator	Lever, Worm gear, etc.



OFF SET TYPE BUTTERFLY VALVE

Size Range	25A~1200A (1"~48")
Material	Ductile Iron, Cast steel, Stainless steel, etc.
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~40, etc.
Service	Saturated Steam, Water, Vapor, Air, Gas, Chemicals, Oil, etc.
Actuator	Lever, Worm gear, etc.



PNEUMATIC ON OFF (CONCENTRIC, OFF SET, 3-OFF SET TYPE) BUTTERFLY VALVE

Size Range	25A~1200A (1"~48")
Material	Cast Iron, Ductile Iron, Cast steel, Stainless steel, etc.
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~40, etc.
Service	Saturated Steam, Water, Vapor, Air, Gas, Chemicals, Oil, etc.
Actuator	Double Rack & Pinion Gear, Scotch Yoke, Diaphragm, etc.



PNEUMATIC STEP / CONTROL (CONCENTRIC, OFF SET, 3-OFF SET TYPE) BUTTERFLY VALVE

Size Range	25A~1200A (1"~48")
Material	Cast Iron, Ductile Iron, Cast steel, Stainless steel
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~40, etc.
Service	Saturated Steam, Water, Vapor, Air, Gas, Chemicals, Oil
Actuator	Double Rack & Pinion Gear, Scotch Yoke, Diaphragm, etc.



PNEUMATIC PRESSURE REGULATING (OFF-SET, 3-OFF SET TYPE) BUTTERFLY VALVE

Size Range	25A~1200A (1"~48")
Material	Ductile Iron, Cast steel, Stainless steel, etc.
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~40, etc.
Service	Saturated Steam, Water, Vapor, Air, Gas, Chemicals, Oil
Actuator	1st Pressure regulating, 2nd Pressure reducing, etc.



ELECTRIC ON OFF / CONTROL (CONCENTRIC, OFF-SET, 3-OFF SET TYPE) BUTTERFLY VALVE

Size Range	25A~1200A (1"~48")
Material	Cast Iron, Ductile Iron, Cast steel, Stainless steel
Flange standard	JIS 10K~40K, ANSI 150~300#, PN10~40, etc.
Service	Saturated Steam, Water, Vapor, Air, Gas, Chemicals, Oil
Power supply	110VAC, 220Vac, 380Vac, 440Vac, 24Vac, 24Vdc