



K600 SERIES

Pneumatic (Electric) High-performance Butterfly Valve



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Valsev
Control valve

Instruction

Basic features of butterfly valves: small size, light weight, can be manufactured with large diameter. Recent years butterfly valve develops rapidly, for structure from center line-type butterfly valve to singly-eccentric center one, and then double-eccentric center butterfly valve, triple-eccentric one, and then rubber lined, fluorine lined, high-temperature, and high-temperature high-pressure butterfly valves. More and more kinds of butterfly valves, more and more advanced technology, larger and larger size, wider and wider usage. High sealing performance design and test gives a butterfly valve with excellent control and shutoff functions which makes the valve performs as both a control valve and a shutoff valve. It's equipped with pneumatic or electric actuator, integral assembly suitable for more applications, from vacuum to high-pressure, low to high temperatures, suitable for any severe applications, and widely used in kinds of industries.

Advantages of Butterfly Valve

- small size, light weight, large size is manufacturable
- suitable for large flow and low differential pressure control
- small flow resistance and pressure loss
- self-clean property, no buildup
- small structural length
- soft seal seat, zero leakage
- hard seal seat, very small leakage
- lined butterfly valve, resistance to acid corrosion
- hot high-temperature butterfly valve, applicable for $\leq 600^{\circ}\text{C}$
- wafer-type body, optional flange-type
- optional pneumatic and electric actuators
- optional materials of carbon steel, stainless steel, dual-phase steel and so on



K620 Double-eccentric High-performance Butterfly Valve



K620 double-eccentric high-performance butterfly valve has the advantages of butterfly valve, globe valve and eccentric rotary valve, and utilizes spherical sealing and offset axle as well as eccentric valve plate designs, making orbit of sealing surface of the valve plate cam type. When it's shut down, the valve plate and seat are non-contact, avoiding friction between the plate and seat and reducing exchanges of valve parts and leakage. Easy operation with smallest torque.

Double-eccentric high-performance butterfly valve has two structures of hard seal seat and soft seal seat, meeting with different kinds of working conditions, and featuring large flow, small pressure loss, small leakage, good shutoff and durable functions, especially suitable for fluid containing suspended particle or pasty fluid.

Main Technical Parameters

Size	mm	80	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
	in	3	4	6	8	10	12	14	16	18	20	24	28	32	36	40	48
Rated Cv		190	390	980	1700	2700	4000	6600	8200	10000	14000	20000	29000	36000	45000	61000	90000
Pressure rating		ANSI CLASS150, 300, 600 or PN1.6, 2.5, 4.0, 6.4, 10.0MPa															
Flow characteristic		Approximate equal percentage (adjustable); quick open (on-off type)															
Working temp		Reinforced PTFE seat: -20°C-150°C; metal spring seat: -40°C-560°C															
Body material		WCB, CF8, CF8M, CF3M, dual-phase steel, Monel, Hastelloy															
Plate material		WCB, CF8, CF8M, CF3M sealing surface overlaying stellite, calcium carbide															
Seat material		Reinforced PTFE, 304SS, 316SS, 316L															
Actuator		VA-type horizontal cylinder actuator, electric actuator															
Leakage	Soft Seat	No leak															
	Hard Seat	ANSI B16.104-76 CLASS V															

Valve Plate, Seat

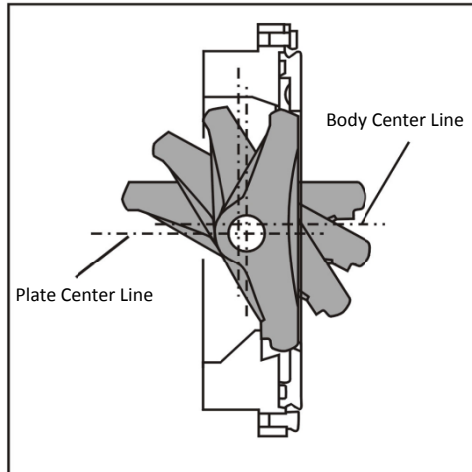


Figure 1: Cam Eccentric Rotary Valve Plate

Cam Eccentric Rotary Valve Plate

Double-eccentric makes the valve plate and the seat separate fast when the valve opens. Reduce friction and wearing between the seat and the valve plate, and leakage and exchange frequency of valve parts.

Soft Seat

Soft seat can offer shutoff effect higher than bubble class and reach zero leakage.

Metal Seat

Metal seat is mainly used in high temperature applications, employing highly flexible sloping design. When valve closes, it ensures thorough contact between the seat and the valve plate, and as the seat margin is soft, start torque is the same or smaller than the soft seat.

Double Seat

Double seat combines both soft seat and flexible metal seat to provide extra protect, double seat, double seas largely reduce leakage.

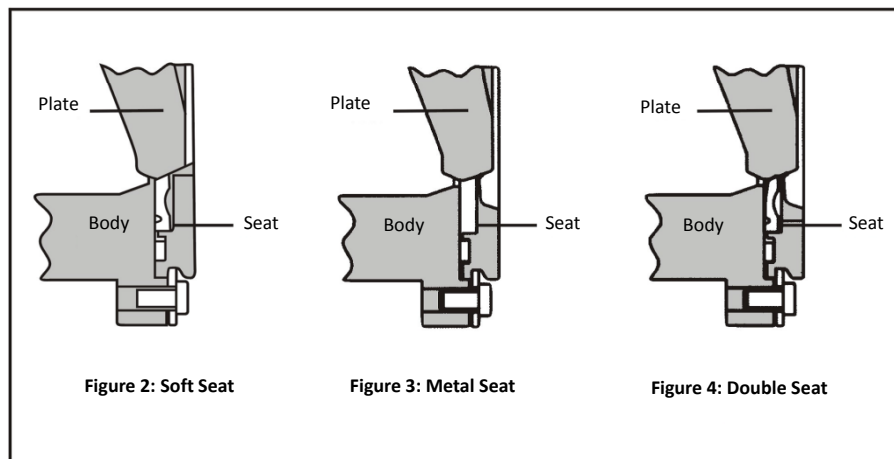


Figure 2: Soft Seat

Figure 3: Metal Seat

Figure 4: Double Seat

Double-eccentric Pneumatic Butterfly Valve Allowable Pressure Differential

Equipped with VAD type double-acting cylinder actuator (air pressure 0.5MPa) Unit: MPa

Actuator	Output Torque (N.m)	Nominal Diameter mm											
		100	100	200	250	300	350	400	450	500	600	700	800
VAD-85	75.5	0.90	0.30	0.14									
VAD-105	127.3	1.55	0.48	0.22	0.12								
VAD-125	248		0.94	0.40	0.23	0.20							
VAD-140	415			0.68	0.35	0.24	0.15						
VAD-160	633				0.54	0.33	0.20	0.15					
VAD-210	1380					0.66	0.42	0.29	0.22	0.15			
VAD-270	2317						0.70	0.48	0.35	0.28	0.16		
VAD-300	3177							0.66	0.46	0.35	0.21	0.14	
VAD-350	4756								0.68	0.51	0.30	0.19	0.14
VAD-400	6781									0.73	0.42	0.28	0.16

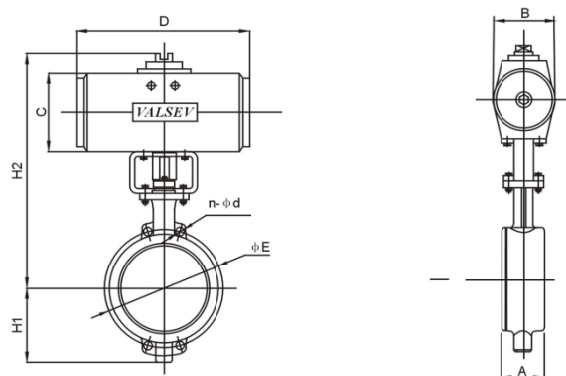
Equipped with VAR type single-acting cylinder actuator (air pressure 0.5MPa)Unit: MPa

Actuator	Output Torque (N.m)	Nominal Diameter mm											
		100	100	200	250	300	350	400	450	500	600	700	800
VAR-105	40.7	0.65	0.21	0.10									
VAR-125	76		0.38	0.18	0.10								
VAR-140	134			0.20	0.12	0.08							
VAR-160	166				0.22	0.13	0.10						
VAR-210	445					0.21	0.11	0.10					
VAR-270	586						0.25	0.19	0.14				
VAR-300	1025							0.26	0.19	0.13			
VAR-350	1492								0.21	0.18	0.12		
VAR-400	2109									0.31	0.16	0.10	0.06

Note: 1, Output torque in the table is for actuator air pressure 0.5Mpa. Output torque differs from different air pressure, lower air pressure, smaller output torque, and then equip with actuator with increased specification, vice versa.

2, Single-acting pneumatic actuator output torque is calculated according to 4+4 spring.

Dimensions of Soft Seal Float Globe Valve: (equipped with VA type cylinder actuator)



Unit: mm

Nominal Diameter mm	Actuator	Wafer	Flange	H1	H2	B	C	D	PN16		PN40		PN164	
		A							φ E	n- φ d	φ E	n- φ d	φ E	n- φ d
100	VAD-85	64	127	108	317	90	139	200	180	8-18	190	8-23	200	8-25
	VAD-105				341	115	163	290						
150	VAD-105	76	140	150	367	115	163	255	240	8-23	250	8-25	280	8-34
	VAD-125				389	139	185	390						
200	VAD-125	89	152	215	423	139	185	300	295	12-23	320	12-30	345	12-34
	VAD-160				443	149	205	490						
250	VAD-140	114	165	265	465	149	205	360	355	12-25	385	12-34	400	12-41
	VAD-160				486	178	226	560						
300	VAD-160	114	178	295	536	178	226	370	410	12-25	450	16-34	460	16-41
	VAD-210				598	240	288	720						
350	VAD-210	127	190	325	633	240	288	540	470	16-25	510	16-34	525	16-41
	VAD-270				720	300	374	790						
400	VAD-270	140	216	355	754	300	374	580	525	16-30	585	16-41	585	16-48
	VAD-300				770	340	390	850						
450	VAD-300	152	220	400	790	340	390	650	585	20-30	610	20-41	-	-
	VAD-350				870	390	470	940						
500	VAD-350	152	229	440	900	390	470	740	650	20-34	670	20-48	705	20-54
	VAD-400				940	440	510	1070						
600	VAD-400	154	267	505	1010	440	510	805	770	20-41	795	20-54	820	20-58
	VAD-400						510	1070						
700	VAD-400	165	292	540	1100	440	510	805	840	24-41	900	24-54	-	-
800	VAD-400	190	318	620	1220				950	24-41	1030	24-58	-	-

Note: flange connecting standard: JB/T79-94

K630 Triple-eccentric High-performance Butterfly Valve



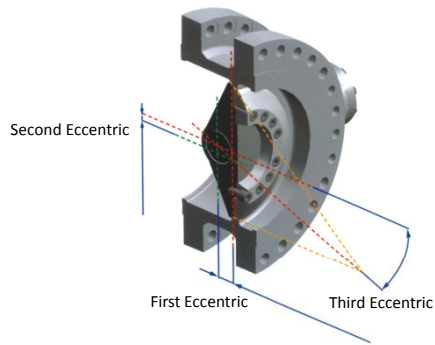
Triple-eccentric high-performance butterfly valve is added a special eccentric based on double-eccentric butterfly valve: valve plate scalene cone, which not only utilizes original cam effect, but also thoroughly eliminates friction between the valve plate and seal on the seat, avoiding possibilities of wearing and leaking. The valve is torque seal, featuring more close the tighter, more open the looser, making service life longer.

The body employs triple-eccentric structure, special design of valve plate and sealing structure, very small start torque, good sealing performance. Butterfly plate sealing surface bears stress evenly when off, high-performance of pressure bearing, good shutoff and durable performances, having both shutoff and control functions, widely used in metallurgic, chemical, oil, pyroelectricity, light industries and so on.

Main Technical Parameters

Size	mm	80	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
	in	3	4	6	8	10	12	14	16	18	20	24	28	32	36	40	48
Rated Cv		180	390	950	1700	2700	4000	5800	8000	9900	13000	19600	28000	36000	45000	60000	88000
Pressure rating		ANSI CLASS150, 300, 600, 900, 1500 or PN1.6, 2.5, 4.0, 6.4, 10.0, 16.0, 25.0MPa															
Flow characteristic		Approximate equal percentage (adjustable); quick open (on-off type)															
Working temp		-40~560℃															
Body material		WCB, CF8, CF8M, CF3M, dual-phase steel															
Plate material		CF8, CF8M, CF3M sealing surface overlaying stellite, calcium carbide															
Seat material		304SS, 316SS, 316L overlaying hard alloy															
Packing		Reinforced PTFE, flexible graphite															
Actuator		VA-type horizontal cylinder actuator, electric actuator															
Leakage		ANSI B16.104-76 CLASS VI															

Design Feature



Triple-eccentric Frictionless Design

First eccentric: stem rotary center and the seat center line are offset, ensuring tight sealing between the seat and the butterfly plate.

Second eccentric: stem rotary center and body center are offset, largely reducing friction between the butterfly plate and seals when the valve is on and off.

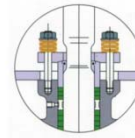
Third eccentric: sealing cone center and valve center are offset, completely eliminating mechanical friction between butterfly plate and seal, which is frictionless torque sealing design, and assist seal of fluid pressure, suitable for high temperature, high pressure, and fireproofing working conditions.



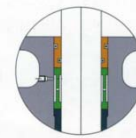
After Sealing



Before Sealing



Loaded Packing



Latent Packing

Multi-stage Butterfly Sealing Auxiliary

Multi-stage butterfly sealing auxiliary is embedded on butterfly plate, easy maintenance and disassembly. Sealing auxiliary includes 3-5 stages of flexible graphite or PTFE stage and precision-machined stainless ring foil laminated together, no need of conventional phenolic resin. Reasonable gap the butterfly plate sealing auxiliary and the butterfly plate can reach float spring seal and self-adjusting concentric seal in low or high temperature circumstances. Cone angle of multi-stage butterfly plate sealing auxiliary and section line are analyzed by computer infinite element, being the most optimizing design, and eliminating any potential sealing interference, enlarging CV value.

Small Leakage

Seal way of butterfly valve seat: torsion passes to butterfly plate multi-stage sealing auxiliary by stem, and the unique spring sealing performance ensures hydraulic pressure, air pressure reach bubble class leakage.

Small Leaking Stem Seal

- Stem is guided all the way by stem axle and packing gland, avoiding stem packing leak caused by stem lateral offset leaded by lateral pressure impact.
- Packing pre-compression treatment, upper and lower ends uses braided graphite rope, middle molding graphite cup, improving leakproofing performance.
- Roughness control of stem and stuffing box surfaces: stem is between Ra0.4-Ra0.8; stuffing box Ra3.2 and this way packing ring can be better fixed, reaching good sealing performance.
- Optional spring-loaded gland flange keeps packing in constant compression, reducing leaking at stem packing seal.

Triple-eccentric Pneumatic Butterfly Valve Allowable Pressure Differential

Equipped with VAD type double-acting cylinder actuator (air pressure 0.5MPa) Unit: MPa

Actuator	Output Torque (N.m)	Nominal Diameter mm											
		100	100	200	250	300	350	400	450	500	600	700	800
VAD-85	75.5	1.00	0.35	0.15									
VAD-105	127.3	1.70	0.55	0.25	0.14								
VAD-125	248		1.10	0.45	0.25	0.22							
VAD-140	415			0.75	0.40	0.25	0.16						
VAD-160	633				0.60	0.35	0.24	0.16					
VAD-210	1380					0.76	0.48	0.34	0.24	0.18			
VAD-270	2317						0.80	0.55	0.40	0.36	0.18		
VAD-300	3177							0.75	0.52	0.40	0.24	0.18	
VAD-350	4756								0.78	0.60	0.36	0.26	0.15
VAD-400	6781									0.80	0.50	0.35	0.22

Equipped with VAR type single-acting cylinder actuator (air pressure 0.5MPa) Unit: MPa

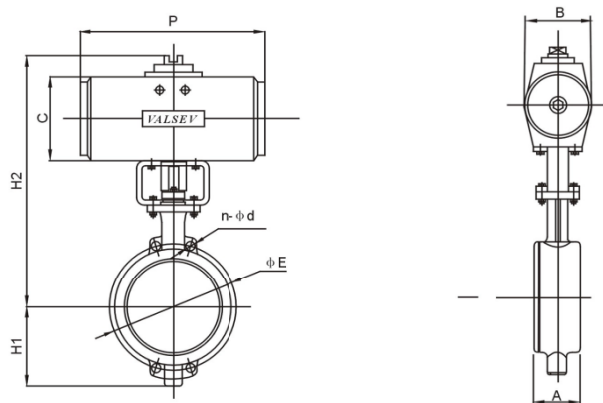
Actuator	Output Torque (N.m)	Nominal Diameter mm											
		100	100	200	250	300	350	400	450	500	600	700	800
VAR-105	40.7	0.72	0.24	0.10									
VAR-125	76		0.12	0.20	0.10								
VAR-140	134			0.25	0.16	0.10							
VAR-160	166				0.24	0.16	0.11						
VAR-210	445					0.27	0.16	0.10					
VAR-270	586						0.28	0.20	0.14	0.36			
VAR-300	1025							0.26	0.22	0.14			
VAR-350	1492								0.26	0.20	0.14	0.10	0.08
VAR-400	2109									0.30	0.18	0.16	0.14

Note: 1, Output torque in the table is for actuator air pressure 0.5Mpa. Output torque differs from different air pressure, lower air pressure, smaller output torque, and then equip with actuator with increased specification, vice versa.

2, Single-acting pneumatic actuator output torque is calculated according to 4+4 spring.

Dimensions of Triple-eccentric Pneumatic Butterfly Valve:

(equipped with VA type horizontal cylinder actuator)



Unit: mm

Nominal diameter mm	Actuator	Wafer	Flange	H1	H2	B	C	D	PN16		PN40		PN64	
		A							φ E	n- φ d	φ E	n- φ d	φ E	n- φ d
100	VAD-85	64	127	108	317	90	139	197	180	8-18	190	8-23	200	8-25
	VAD-105				341	115	163	290						
150	VAD-105	76	140	150	367	115	163	248	240	8-23	250	8-25	280	8-34
	VAD-125				389	139	185	390						
200	VAD-125	89	152	215	423	139	185	295	295	12-23	320	12-30	345	12-34
	VAD-160				443	149	205	490						
250	VAD-140	114	165	265	465	149	205	360	355	12-25	385	12-34	400	12-41
	VAD-160				486	178	226	560						
300	VAD-160	114	178	295	536	178	226	370	410	12-25	450	16-34	460	16-41
	VAD-210				598	240	288	720						
350	VAD-210	127	190	325	633	240	288	540	470	16-25	510	16-34	525	16-41
	VAD-270				720	300	374	790						
400	VAD-270	140	216	355	754	300	374	580	525	16-30	585	16-41	585	16-48
	VAD-300				770	336	390	846						
450	VAD-300	152	220	400	790	336	390	540	585	20-30	610	20-41	-	-
	VAD-350				870	390	470	932						
500	VAD-350	152	229	440	900	390	470	736	650	20-34	670	20-48	705	20-54
	VAD-400				940	440	510	1066						
600	VAD-400	154	267	505	1010	440	510	304	770	20-41	795	20-54	820	20-58
	VAD-400						510	1066						
700	VAD-400	165	292	540	1100	440	510	304	840	24-41	900	24-54	-	-
800	VAD-400	190	318	610	1220				950	24-41	1030	24-58	-	-

Note: flange connection standard in the table: JB/T79-94

K640 Hot High-temperature Butterfly Valve



Low-duty hot high-temperature butterfly valve is single-side seal structure, body and butterfly plate of which are welded of uniform steel plate, and seat consists of two semi-rings fixed in the body. Sealing surface of the valve plate is plane, good sealing performance and not affected by high temperature. It's a large size butterfly valve, light weight, simple structure.

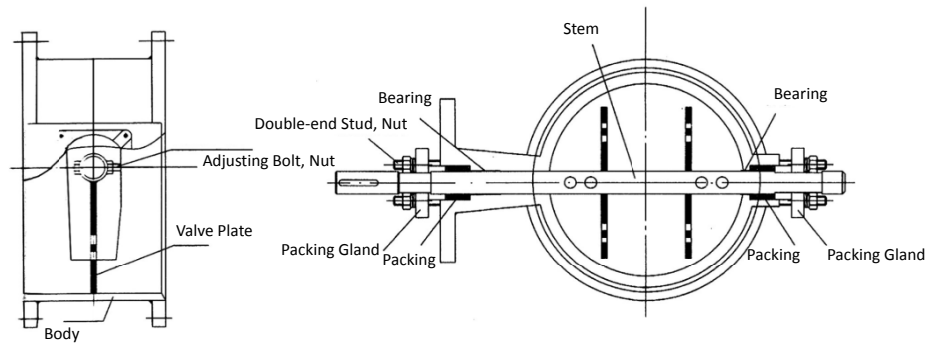
Hot high-temperature butterfly valve is applicable for flow, pressure control of air and other gas in low pressure or fluid containing seston, and especially suitable for high-temperature gas. It's an economical high-temperature control valve.

It can be pneumatic high-temperature butterfly valve and electric low-duty hot high-temperature butterfly valve when quipped with kinds of cylinder actuators, intelligent electric actuator.



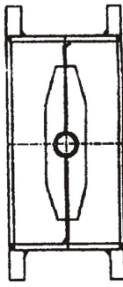
Main Technical Parameters

Size	mm	100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1300
	in	4	6	8	10	12	14	16	18	20	24	28	32	36	40	48	52
Rated Cv		450	1100	1900	2900	4400	6800	8500	11000	14000	21000	29000	36000	46000	61000	90000	95000
Pressure rating		ANSI CLASS150 or PN10.6, 1.0, 1.6MPa															
Flow characteristic		Approximate equal percentage (adjustable); quick open (on-off type)															
Working temp		-30~850℃															
Body material		20#, 304SS, 316SS, 15CrMo, OCr25Ni20															
Plate material		20#, 304SS, 316SS, 15CrMo, OCr25Ni20															
Seat material		20#, 304SS, 316SS, 15CrMo, OCr25Ni20															
Packing		Flexible graphite															
Actuator		VA-type horizontal cylinder actuator, electric actuator															
Leakage		Within 1.5%															

Part of Valve Structure Diagram



Shape of Valve Plate and Allowable Leakage When Shutoff

Shape of Valve Plate				
		Open Type	Oval Type	Plane Seal Type
Highest Allowable Fluid Temp		600°C	150°C	600°C
Seat Leakage	DN80	within 5.0%	within 0.5%	within 0.3%
	DN100 ~ 250	within 3.5%	within 0.45%	within 0.2%
	DN300 ~ 450	within 3.0%	within 0.4%	within 0.15%
	DN500 ~ 700	within 2.0%	within 0.3%	within 0.15%
	DN800 ~ 1600	within 1.5%	within 0.2%	within 0.1%
	DN1800 ~ 2000	within 1.5%	within 0.2%	within 0.1%

Allowable leakage is % Cv value when opening angle is 90°.

Hot High-temperature Butterfly Valve Allowable Pressure Differential

Equipped with VAD type double-acting cylinder actuator (air pressure 0.5MPa) Unit: MPa

Actuator	Output Torque (N.m)	Nominal Diameter mm															
		100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400
VAD-85	75.5	1.5	0.36	0.18	0.10												
VAD-105	127.3		0.58	0.27	0.15	0.10											
VAD-125	248			0.49	0.26	0.18	0.88										
VAD-140	415				0.44	0.27	0.20	0.14									
VAD-160	633					0.39	0.28	0.18	0.14								
VAD-210	180						0.54	0.38	0.30	0.22	0.14						
VAD-270	2317							0.60	0.44	0.35	0.22	0.15					
VAD-300	3177								0.58	0.44	0.28	0.19	0.16	0.12			
VAD-350	4756									0.62	0.40	0.25	0.20	0.16	0.12	0.08	
VAD-400	6781										0.54	0.34	0.26	0.20	0.16	0.09	0.08

Equipped with VAR type single-acting cylinder actuator (air pressure 0.5MPa) Unit: MPa

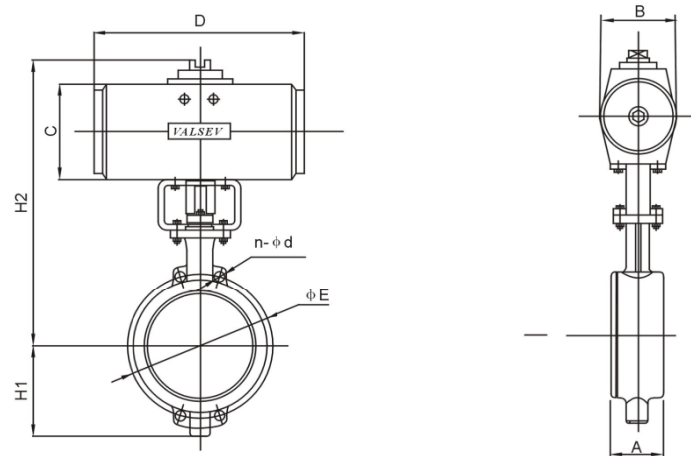
Actuator	Output Torque (N.m)	Nominal Diameter mm															
		100	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400
VAR-85	34.3	0.52	0.18	0.10	0.08												
VAR-105	40.7		0.22	0.11	0.10	0.06											
VAR-125	76			0.18	0.12	0.08	0.06										
VAR-140	134				0.16	0.10	0.09	0.06									
VAR-160	166					0.14	0.11	0.08	0.06								
VAR-210	445						0.18	0.14	0.11	0.09	0.06						
VAR-270	586							0.22	0.14	0.11	0.09	0.06					
VAR-300	1025								0.22	0.17	0.11	0.09	0.07				
VAR-350	1492									0.23	0.16	0.12	0.09	0.07	0.08	0.06	0.04
VAR-400	2109										0.22	0.16	0.12	0.10	0.10	0.08	0.06

Note: 1, Output torque in the table is for actuator air pressure 0.5Mpa. Output torque differs from different air pressure, lower air pressure, smaller output torque, and then equip with actuator with increased specification, vice versa.

2, Single-acting pneumatic actuator output torque is calculated according to 4+4 spring.

Dimensions of Hot High-temperature Butterfly Valve:

(equipped with VA type horizontal cylinder actuator)



Unit: mm

Nominal diameter mm	Actuator	Wafer	Flange	H1	H2	B	C	D		PN6		PN10		PN16	
		A								φ E	n- φ d	φ E	n- φ d	φ E	n- φ d
100	VAD-R-85	64	190	112	320	90	139	200	240	170	4-18	180	8-18	180	8-18
150	VAD-R-105	70	200	150	370	120	163	250	290	225	8-18	240	8-22	240	8-22
200	VAD-R-125	71	200	220	430	140	185	295	390	280	8-18	295	8-22	295	12-22
250	VAD-R-140	76	200	270	470	150	205	360	490	335	12-18	350	12-22	355	12-26
300	VAD-R-160	83	200	300	540	180	226	370	560	395	12-22	400	12-22	410	12-26
350	VAD-R-210	92	200	330	640	240	288	540	720	445	12-22	460	16-22	470	16-26
400	VAD-R-270	102	200	360	760	300	374	580	460	495	15-22	515	16-26	515	16-30
450	VAD-R-300	114	200	420	800	336	390	640	840	550	16-22	565	20-26	585	20-30
500	VAD-R-350	127	250	460	900	390	470	740	930	600	16-22	620	20-26	650	20-33
600	VAD-R-400	—	250	520	1010	440	510	810	1070	705	20-26	725	20-30	770	20-36
700	VAD-R-400	—	300	600	1220	440	510	810	1070	810	24-30	1050	28-33	1050	28-39
800	VAD-R-400	—	300	700	1220	440	510	810	1070	920	24-30	1050	28-33	1050	28-39
900	VAD-R-400	—	400	720	1420	440	510	810	1070	1102	28-30	1160	28-36	1170	28-42
1000	VAD-R-400	—	400	720	1420	440	510	810	1070	1120	28-30	1160	28-36	1170	28-42
1200	VAD-R-400	—	400	780	1490	440	510	810		1340	32-33	1380	32-39	1390	32-48
1400	VAD-R-400	—	500	990	1690	440	510	810		1560	36-36	1590	36-42	1590	36-54

Note: 1, Dimensions of one type of actuator is listed in the table, and other actuator should inquire corresponding dimensions.

2, Dimensions in D row: left is dimensions for VAD-type double-acting cylinder actuator; right is dimensions for VAR-type single-acting cylinder actuator.

K680 Anti-corrosion Butterfly Valve



Fluorine-lined anti-corrosion butterfly valve is to put PTFE or F46 onto inwall of steel body and outer surface of valve plate by molding, utilizing its unique property in respect of strong anti-corrosion medium to make it into anti-corrosion butterfly valve.

Rubber-lined anti-corrosion butterfly valve is to inlay molding rubber seal ring into the body, largely improving sealing and anti-corrosion properties of the butterfly valve.

This series of butterfly valves are applicable for acid-base medium or applications demanding sanitation and hygiene, featuring anti-corrosion, non-pollution, no peculiar smell, smoothness, inadhesion to fluid, steady flow, and widely used in light, petrochemical, metallurgic, electrical protection, food, medical, paper-making industries and so on.

Main Technical Parameters

Size	mm	80	100	150	200	250	300	350	400	450	500	600	700	800
	in	3	4	6	8	10	12	14	16	18	20	24	28	32
Rated Cv		250	440	1200	2100	3400	4600	6200	8050	10000	12500	18000	26000	33000
Pressure rating		ANSI CLASS150 or PN10.6, 1.0, 1.6MPa												
Flow characteristic		Approximate equal percentage (adjustable); quick open (on-off type)												
Working temp		-30~150℃												
Body material		WCB, CF8, CF8M lining PTFE (F4), FEP (F46), kinds of rubbers												
Plate material		WCB, CF8, CF8M outer-lining PTFE (F4), FEP (F46), kinds of rubbers												
Seat material		PTFE (F4), FEP (F46), kinds of rubbers												
Packing		FPM (fluororubber)												
Actuator		VA-type horizontal cylinder actuator, electric actuator												
Leakage		Within 1.5%												

Seat Material and Applicable Range

Material	NR	Applicable Temp	-10℃~85℃
Applicable medium: hydrochloric acid, 氟硅酸, formic acid, except for strong oxidant, and phenolic acid (such as nitric acid, chromic acid,), muriatic acid, 30% sulfuric acid, 50% hydrofluoric acid, 80% phosphoric acid, phenols, salts, plating solution, sodium hydroxide, potassium hydroxide, neutral salt solution, 10% sodium hypochlorite, wet chlorine gas, ammonia, most alcohols, organic acid, aldehydes and so on.			
Material	HR	Applicable Temp	-10℃~120℃
Applicable medium: anti-corrosion, resistance to most mineral acids, organic acid, bas and hydroxide, mineral salt, 无素气体, alcohols, aldehydes, ethers, ketones, lipids and so on.			
Material	CR	Applicable Temp	-10℃~105℃
Applicable medium: animal oil, plant oil and inorganic lubricating oil as well as corrosive mud with large variable range of pH value, good wear-resisting.			
Material	FER	Applicable Temp	≤150℃
	PVDF		≤100℃
	PFA		≤180℃
Applicable medium: hydrochloric acid, sulfuric acid, hydrofluoric acid in any concentration and aqua regia, kinds of organic acids, strong base, strong oxidant or alternate concentrated and dilute acid, alternate acid and base, kinds of organic solvent and other highly corrosive medium. The product swells when used in temperature ≤100℃ for concentrated nitric acid (100%), chlorosulfonic acid new ecological fluorine and in some solvents (like aromatic hydrocarbons), plastic lining, so for the above-mentioned mediums it shouldn't be used.			

Note: when sealing auxiliary material differs, the valve working temperature and applicable medium should be decided according to the range of week material.

Assembly, Maintenance and Maintaining

Lined anti-corrosive butterfly valve, its special properties exhibits following advantages in assembly and maintenance:

- 1, valve flange plate cannot be opened randomly, unless it's ready to be connected to pipeline or PTFE flange face might be collided and scratched or deformed affecting sealing. If for maintenance to remove the plate, make sure to reset it back to its place after checking to protect PTFE flange face.
- 2, when fluorine-lining valve connecting with pipelines, normally extra gasket is not needed, but when connected with flange face of different material (metal face and so on), suitable gasket is needed to protect PTFE flange face.
- 3, when it's used in system, if leakage occurs in higher temperature, first the system temperature should be cooled down to room temperature, identify root cause and repair.
- 4, high-temperature welding on the valve and pipelined is forbidden, avoiding permanent damage to lining.

Anti-corrosion Pneumatic Butterfly Valve Allowable Pressure Differential

Equipped with VAD type double-acting cylinder actuator Unit: MPa

Actuator	Output Torque (N.m)	Nominal Diameter mm													
		50	65	80	100	125	150	200	250	300	350	400	450	500	600
VAD-60	34.9	2.60	1.40	0.58	0.36	0.20									
VAD-85	75.5		2.65	1.26	0.77	0.40	0.24								
VAD-105	127.3			2.32	1.18	0.66	0.40	0.18							
VAD-125	248				2.32	1.24	0.66	0.36	0.18						
VAD-140	415					2.20	1.52	0.55	0.30	0.18					
VAD-160	633						1.86	0.83	0.45	0.26	0.18				
VAD-210	1380							1.76	0.90	0.56	0.36	0.26			
VAD-270	2317								1.50	0.91	0.60	0.40	0.30		
VAD-300	3177									1.20	0.80	0.55	0.40	0.30	
VAD-350	4756										1.20	0.84	0.56	0.42	2.4
VAD-400	6781											1.16	0.80	0.60	0.35

Equipped with VAR type single-acting cylinder actuator Unit: MPa

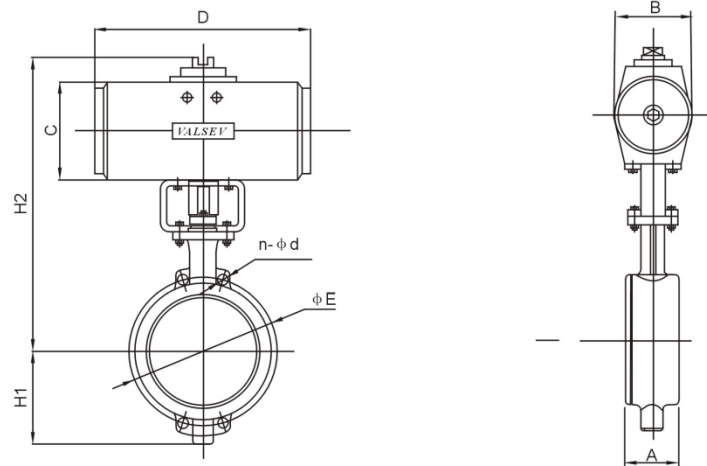
Actuator	Output Torque (N.m)	Nominal Diameter mm													
		50	65	80	100	125	150	200	250	300	350	400	450	500	600
VAR-60	14.3	1.11	0.56	0.36	0.18										
VAR-85	34.3		1.24	0.72	0.36	0.27									
VAR-105	40.7			0.83	0.44	0.30	0.22								
VAR-125	76				0.81	0.47	0.30	0.16							
VAR-140	134					0.75	0.48	0.22	0.12						
VAR-160	166						0.57	0.26	0.16	0.10					
VAR-210	445							0.60	0.35	0.22	0.14				
VAR-270	586								0.44	0.28	0.20	0.15			
VAR-300	1025									0.47	0.34	0.26	0.16		
VAR-350	1492										0.45	0.30	0.22	0.16	
VAR-400	2109											0.40	0.30	0.24	0.16

Note: 1, Output torque in the table is for actuator air pressure 0.5Mpa. Output torque differs from different air pressure, lower air pressure, smaller output torque, and then equip with actuator with increased specification, vice versa.

2, Single-acting pneumatic actuator output torque is calculated according to 4+4 spring.

Dimensions of Anti-corrosion Butterfly Valve:

(equipped with VA type horizontal cylinder actuator)



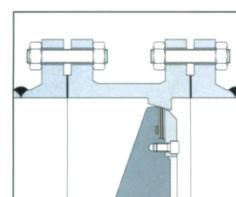
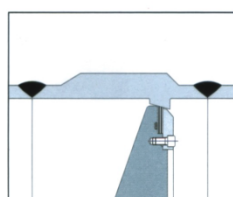
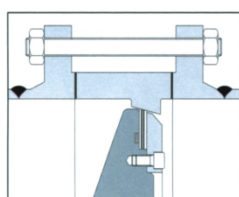
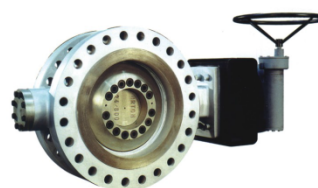
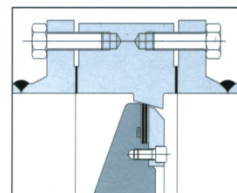
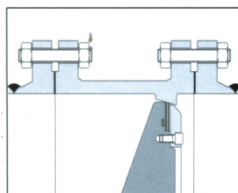
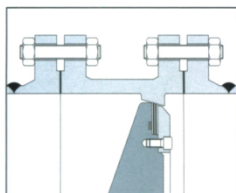
Unit: mm

Nominal Diameter mm	Actuator	Wafer	H1	H2	B	C	D	PN6		PN10		PN16	
		A						φ E	n-φ d	φ E	n-φ d	φ E	n-φ d
50	CTD-R-60	43	60	240	70	120	200	110	4-14	125	4-18	125	4-18
65	CTD-R-85	46	70	280	90	140	220	130	4-14	145	4-18	145	4-18
80	CTD-R-105	46	80	310	120	165	240	150	4-18	160	4-18	160	8-18
100	CTD-R-125	52	220	360	140	190	280	170	4-18	180	8-18	180	8-18
125	CTD-R-140	56	130	390	140	200	330	200	8-18	210	8-18	210	8-18
150	CTD-R-210	56	150	450	180	230	370	225	8-18	240	8-23	240	8-23
200	CTD-R-210	60	210	560	240	290	480	280	8-18	295	8-23	295	12-23
250	CTD-R-270	68	260	690	300	380	540	335	12-18	350	12-23	355	12-25
300	CTD-R-270	78	290	740	300	380	540	395	12-23	400	12-23	410	12-25
350	CTD-R-300	78	330	800	340	390	590	445	12-23	460	16-23	470	16-25
400	CTD-R-300	102	360	840	340	390	590	495	16-23	515	16-25	525	16-30
450	CTD-R-350	114	410	960	390	470	690	550	16-23	565	20-25	585	20-30
500	CTD-R-400	127	460	1050	440	510	750	600	16-23	620	20-25	650	20-34
600	CTD-R-400	154	510	1100	440	510	750	705	20-25	725	20-30	770	24-41

Note: 1, Dimensions of one type of actuator is listed in the table, and other actuator should inquire corresponding dimensions.

2, Dimensions in D row: left is dimensions for CTD-type double-acting cylinder actuator; right is dimensions for CTR-type single-acting cylinder actuator.

Butterfly Valve Flange Connecting Type



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◆ Please see Operation Manual of our company for reference if assembly, operation, maintenance and maintaining instructions are needed.



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