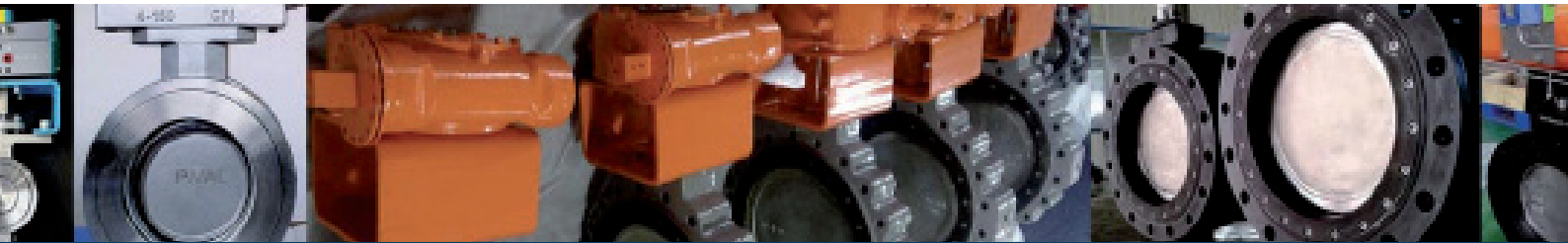
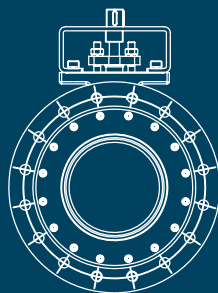
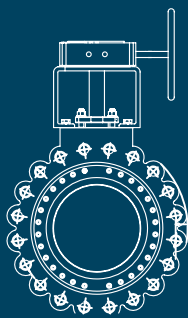


FLOW
MANAGEMENT INDUSTRIES

DOUBLE ECCENTRIC BUTTERFLY VALVE



Series a Lip-Seat Design / DA1712-02



COMPANY PROFILE

Who professionally specializes in designing and manufacturing butterfly valve, ball valve, gate valve, check valve, globe valve, plug valve etc. As one of Chinese leading valve player, more than 8% of annual avenue invested into research & development for new products and technology, with effort of several SinoPival generations, now its product range covers more than hundreds kinds of valves, overwhelming superiority in general valves (gate, check, globe valves) and the leader role in technology valves (butterfly valve, ball valve). For improving the brand awareness, the SinoPival brand registered in 2015 as a trademark for international marketing, basing on its valve manufacturing facilities initially invested and established in 1990s and tightly work together with its sister companies & production facilities FD plant, TTWS plant, NS plant and payment & shipment company Xiamen Import & Export Co., Ltd. to serve customers from all over the world. The valves widely applied in oil & gas, power plant, paper-making, metallurgy, food, civil engineerings and so on. The manufacturing facilities covering total area of more than 50,000 m² and having about 300 workers (including 15 R&D engineers). Equipped with ERP, CAD & CAM designing & manufacturing capabilities, 120 set of CNC machining center, numerical controlled machine tools, lathes, drillings, millings, borings, physical and chemical inspection-testing equipment, three-dimensional measuring instrument, spectrum analyzer etc.



- Products: butterfly valve, ball valve, gate valve, check valve, globe valve, plug valve, actuators etc.
- Size: 1/2 inch to 80 inch
- Pressure : 150LB to 2500B
- Connection: flange, wafer, lug, BW, SW, threaded etc.
- Material: Cl, DI, WCB, WCC, WC6, WC9, LCB, LCC, CF8, CF8M, CF3, CF3M, CF8C, A105, LF2, F304, F316, duplex stainless steel, al-bronze, brass, hastelloy, monel, titanium, ceramics etc.
- Operator: bare stem, lever, handwheel, pneumatic actuator, electric actuator, hydraulic-pneumatic actuator etc.

We are export-oriented and most of products are delivered to overseas market, such as North America, Europe, Australia, South-East Asia, Latin America and South Africa. Sinopival is always ready to embrace global customers to build the international valve values by endless service and perfect products.

QUALITY ASSURANCE

SinoPival regards quality as the source of its surviving footstone, reliable products and considerable service take top priority at Sinopival. To maintain the high level of excellence, every operation procedure strictly complies with rules of QMS (Quality Management System) and globally applicable guidelines.

The quality management system is made of five parts:

- Internal quality system
- HSE system
- Non-confirming management system
- Sub-contractor product quality control
- Customer complain disposition

International standards compliance: ANSI, DIN, EN, BS, JIS, GOST, AS etc.

They work together to make sure every step of production is well controlled and supervised; apart from documental quality control, we also have complete physical facilities and equipments to make the quality control fully carried out by the experienced engineers; the inspection and testing programs includes but not limited dimension inspection, 3D coordinate measurement, pressure test, magnetic power detector, supersonic flaw detector, radiographic inspection, heat-treatment furnace, cryogenic test, spectrum analyzer, impact test, penetration test and final inspection before shipment. Due to the integral quality management system and well production arrangement, enable us to ship each batch of valves to our customers timely but also safely.

SOCIAL RESPONSIBILITY

As the positive initiator and practitioner of HSE (health, safety, environment) management in company operation for the past many years, Sinopival also remains an active advocate, being a sincere follower and active supporter for the United Nations Global Compact, we are committed to endorsing and executing the ten principles of the international community in the areas of human right, labour, environment and anti-corruption. The human beings only have one earth, each of us have the duty to take all measures available to protect the plant and environment for a long-term also sustainable development. Necessary protection policies should be made for all employees, make sure they get equal payment and work in physical-mental-satisfied conditions. Sinopival devotes itself to deliver these to its partners when ship products and service to global market



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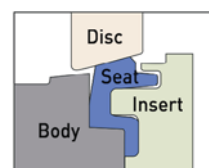
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A Series- Lip Type Seat High Performance Butterfly Valve



DESIGN FEATURES

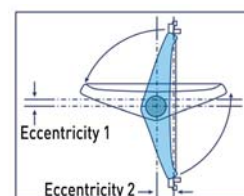
• Lip type seat structure can automatically compensate the seat deformation caused by pressure and temperature changes, and also compensate the seat deformation caused by abrasion after long-term usage.



Lip Type Seat

• Double eccentricities design:
Eccentricity 1 is between stem centerline and disc centerline, eccentricity 2 locates between stem centerline and seat centerline. When open the valve, the disc leaves seat rapidly, until 5° the disc and seat totally independent, thus greatly reduce the extrusion between disc and seat, lower open-resistance force, reduce wearing and prolong the valve service life. So such design advantages are:

1. the seat and disc don't touch with each other when disc in open position or middle position.
2. There is no wearing points in both top and bottom of seat.
3. Low torque required and lower requests for operator.



2 Eccentricity Design

• Unique dynamic-loading sealing teflon seat design, excellent elasticity and high reliability. Available seats are PTFE, RPTFE, PPL, PEEK etc.

• No need to use extra o-ring or metal part to maintain sealing. The insert can be easily disassembly to replace seat and repair sealing surface.

• Super long service life, 300,000 cycles, greatly reduce maintenance work.

• Tightly shutoff zero leakage, in accordance with ANSI/FCI 70-2 VI class.

• Both uni-directional and bi-directional sealing are available.

• Easiness in maintenance, no need to disassembly all valve parts, just remove the insert to replace the seat.

• Excellent flow characteristics, proportional change of the flow curve, can be used to realize modulating and on-off purpose.

• Blowout proof stem design, avoid the possible damage caused by the stem possible break.

BRIEF INTRODUCTION

PIVAL® High performance butterfly valve designed researched and developed at beginning of 21st century, until now there are 2 series different seat designs of high performance butterfly valves: series A (lip type seat) and series B (combined type seat), the different seat designs bring varied excellent characteristics and features to valves for better meet the different needs of different applications. Both series A and series B are double eccentric design, their available seat materials are teflon seat (PTFE, RPTFE), PPL and PEEK, fireproof sets like SS316+RPTFE and full metal seat like SS316 and inconel etc. The advantage of double-eccentric structure can make the valve close or open rapidly compared with concentric butterfly valve, the seat material can enable the valve to have characteristics like anti-corrosive, anti-abrasive, small friction and long service life.

In this catalog, it will mainly introduce the series A high performance butterfly valve.

The lip-type seat is a patented design with the unique sealing system, it has reliable sealing performance, enduring tight shutoff ability, small operating torque, super long service life, good flow characteristics and fire safe design optional. There is a broad range of materials available for valve construction parts, to make the valve suitable for many different kinds of applications, including anti-corrosive required ones, anti-abrasive required, NACE requested, chlorine, oxygen and vacuum service etc.

PRODUCT RANGE

Series A high performance butterfly max size is 60" and minimum one is 2", available connection ends are wafer, lug, flange and butt welded. The highest available pressure is 600LB for this kind of valve, which is only suitable for small valves. The common pressure range from 150LB to 300LB.

Model ⁽¹⁾	Size ⁽²⁾
DA8150(wafer, 150LB)	2"~60"(DN50~DN1500)
DA8300(wafer, 300LB)	2"~60"(DN50~DN1500)
DFA8150(wafer, 150LB)	3"~60"(DN80~DN1500)
DFA8300(wafer, 300LB)	3"~60"(DN80~DN1500)
DA5150(lug, 150LB)	2.5"~60"(DN65~DN1500)
DA5300(lug, 300LB)	2.5"~60"(DN65~DN1500)
DFA5150(lug, 150LB)	3"~60"(DN80~DN1500)
DFA5300(lug, 300LB)	3"~60"(DN80~DN1500)
DA4150(flange, 150LB)	3"~60"(DN80~DN1500)
DA4300(flange, 300LB)	3"~60"(DN80~DN1500)
DFA4150(flange, 150LB)	4"~60"(DN100~DN1500)
DFA4300(flange, 300LB)	4"~60"(DN100~DN1500)

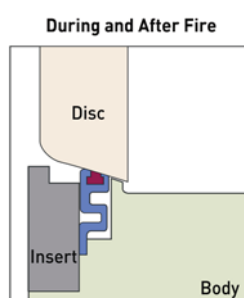
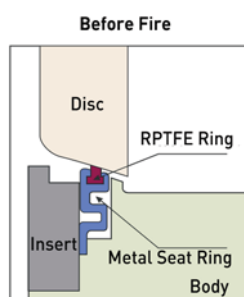
Note:

(1) The letter 'A' here listed stands for the valve connection end standard code, for example, if ASME B16.5 flange. The letter 'F' means the valve fire safe design. More details please refer to the 'How to order' page.

(2) The datasheet here listed just common sizes and customized size available upon confirmation of Sinopival technical team.

A Series- Lip Type Seat High Performance Butterfly Valve

- For size bigger than 8", bolted bottom cover design.
- Good valve appearance.
- Renewable seat.
- Fire safe design optional, complying with rules of API 607. The material of series A high performance butterfly valve is metal+RPTFE, eg SS316+RPTFE. When the RPTFE ring broken by the fire, the metal ring still keep the sealing function by inner chamber pressure to avoid medium leakage.



- Excellent follow regulating performance, both in on-off control and proportional control, size 2"-6" there are lever with position indicator, lock device available. For size 8" and above, there are gear, pneumatic actuator, electric actuators options upon customers' request.

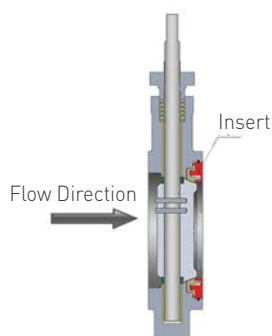


SEALING PRINCIPLE

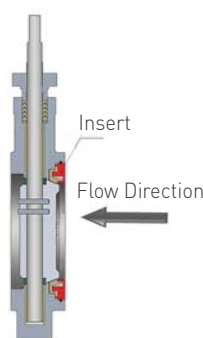
- Definition:

Stem upstream: the flow first touch with the backside of disc (stem side), then pass through the valve port to the insert side (disc upfront side).

Stem downstream: opposite with the upstream, the flow first reach the insert side (disc upfront side), then pass through valve port to the back side of disc (stem side).

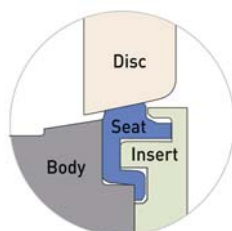


Stem Upstream (Recommended)



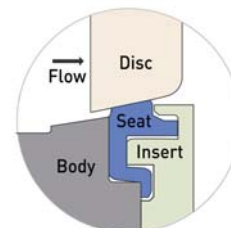
Stem Downstream

1. When close the valve, the disc slightly pressurized the seat. After the seat is pressed and instantly is energized to push the sealing surface of disc, thus the disc and seat tightly touch with each other to realize the sealing purpose.

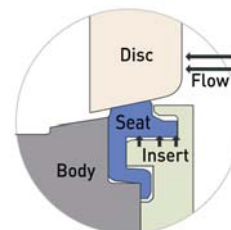


2. When in stem upstream case, that in the non-insert side, the disc is driven by flow pressure to move up for seat side, because of spherical profile of disc, the more distance the disc move to seat,

the more tight the shut-off. Because the seat is supported by the **flexible lip** which contacts with the bottom groove in insert, it gives the counterforce to seat to pressurized disc, thus the disc and seat tightly touch with each other to realize sealing purpose.



3. When in stem downstream case, that it is the pressure on the insert side, the insert is pressurized by the flow pressure, then the **insert lip** gives a up force to the seat to make it move to disc side, thus the disc and seat tightly touch with each other to realize the sealing purpose.



SUITABLE FOR SPECIAL APPLICATION

- Vacuum service:
Series A high performance butterfly are tared for tight shut-off of vacuum of 2×10^{-2} torr; professional customized can used for 1×10^{-5} torr.
- Steam service
The teflon seated butterfly valve can be suitable for steam applications.
- Oxygen service
The series A high performance butterfly valve can be used for oxygen related projects after special technology-treatment, there is strict procedure for guarantee the valve in clean condition, no reaction with grease, oil and other subjects when in parts-preparing, assembly, pressure test and packing process. Such valves and been widely used in air treatment projects eg. air separation application, air filter application.
- Long-term life service
Series A butterfly valve had been tested in empty-loading condition (no pipeline pressure) in house and the results turn out the service life of this

A Series- Lip Type Seat High Performance Butterfly Valve

VALVE SPECIFICATIONS

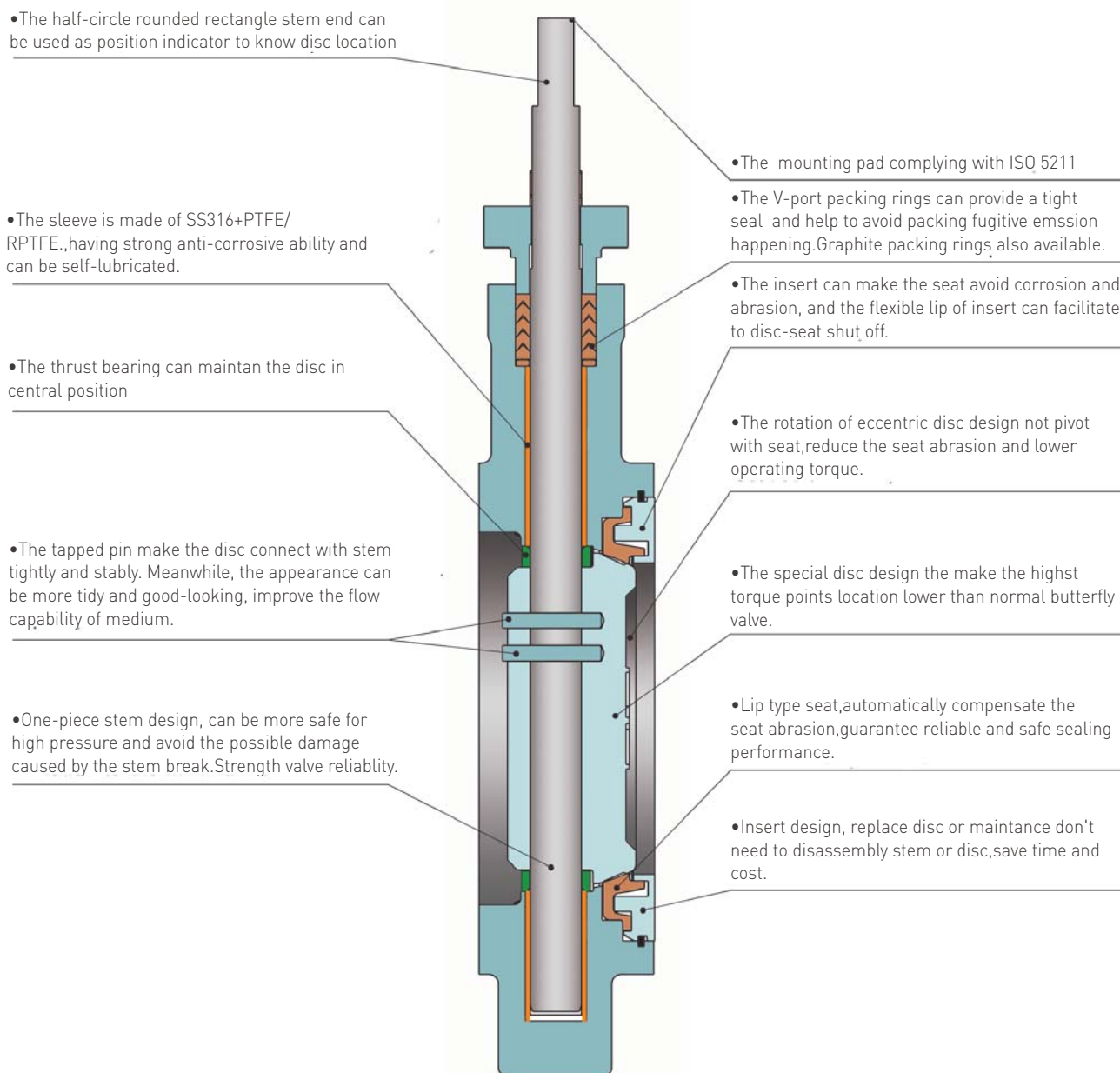
Product	High performance butterfly valve/Double eccentric butterfly valve		
	 Wafer	 Lug	 Flange
Connection End	Wafer,lug,flange,butt-welded (available)		
Size	2"-60" (DN50~DN1500), bigger size customized available		
Pressure	ANSI:150LB,300LB,600LB (Small size)	DIN:PN10,PN16,PN20,PN25,PN40	JIS:10K,16K,20K,30K,40K
Operator	Bare stem,lever,gear,electric actuator,pneumatic actuator etc.		
Main Parts Material:	WCB,CF8,CF8M,CF3,CF3M,17-4PH,F304,F316,,hastelloy,monel,inconel,titanium,al-br and other special alloys.		
Seat Type	Standard:soft seat(PTFE,RPTFE,PEEK,PPL)		Fire safe:soft+metal seat(RPTFE+SS316/Inconel)
Fire Safe	Optional		
Leakage Rate:	Bubble tight uni-directional or bi-directional class V,class VI,zero leakage		
Service Life	More than 300,000 cycles		
Strict Application	Available for oxygen,steam,corrosive,abrasive,vacuum and longer-term service life required applications.		

STANDARD CODE

Connection End	Wafer	Lug	Flange	Butt Weld
Design & Manufacture	API 609 Cat.B; ASME/ANSI B16.34; BS 5155			ASME/ANSI B16.34; ASME/ANSI B16.25
Face To Face	API 609 Cat.B;ASME/ANSI B16.10 Table B; ISO 5752 Table 1 &BS 5155; MSS-SP-68 Table 1; DIN 3202; ISO 5752; BS 5155		ASME/ANSI B16.10; ISO 5752 Table 6; BS 5155 Table 6	ISO 5752 Table4; BS 5155 Table 6
Flange Connection	ASME/ANSI B16.5 ; ASME/ANSI B16.47 Series A; EN 1092; JIS B2210; DIN2635;API 605; MSS-SP-44; DIN 02501; ISO 7005-1			BW:ASME/ANSI B16.25
Inspection& Test	API 598; ASME/ANSI B16.34; BS 5155; BS 1560; JIS B2203/B2201; DIN 3230; ISO 7005; FCI 70-2; MSS-SP 61; ASME/ANSI B16.104			API 598; ASME/ANSI B16.34; FCI 70-2; MSS-SP 61; ASME/ANSI B16.104
Pressure-Temperature	ASME/ANSI B16.34			
Marking System	MSS-SP-25			
Mounting Pad	ISO 5211			
Fire Safe	API 607			

A Series- Lip Type Seat High Performance Butterfly Valve

VALVE STRUCTURE FEATURE



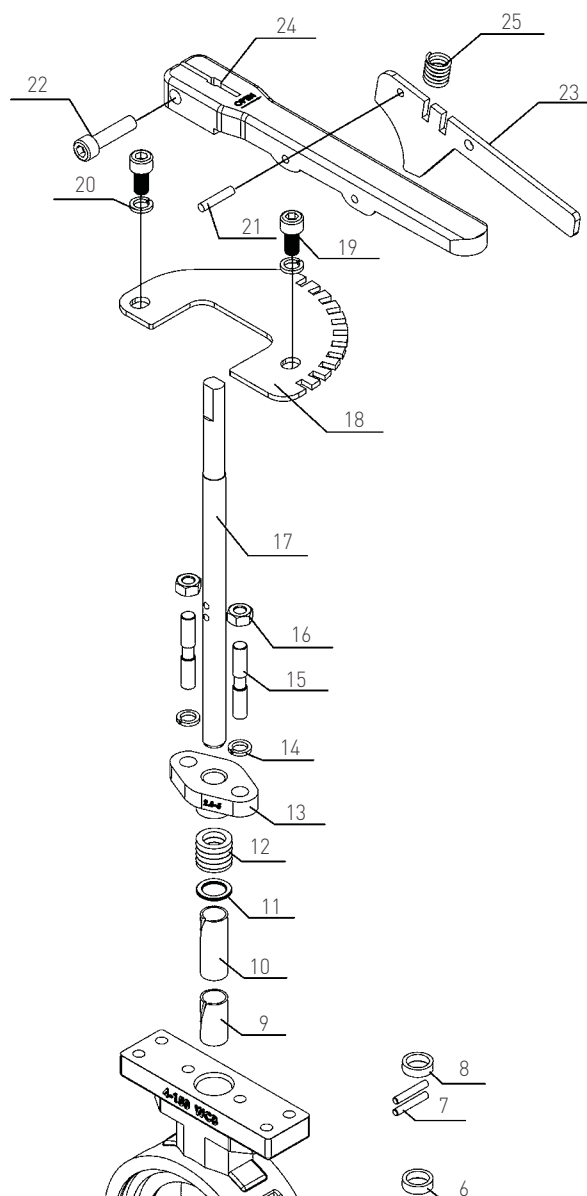
Note:

1. For size bigger than 10", there will be bolted bottom cover design which is not indicated in above drawing, for easy maintenance purpose.
2. The yoke (bracket) that dimension and material can be customized on request, for size range 2"~6", valve with no yoke (bracket) as lever operator, for size 8" and above, gear, electric actuator and pneumatic actuator will be mounted on yoke (bracket).
3. For the insert fixing method, size smaller than 8", will use clamp spring; for 8" and above, by locking bolt.

A Series- Lip Type Seat High Performance Butterfly Valve

VALVE PARTS MATERIAL ^[3]

NO.	Part Name	Material
1	Insert	A105,F304,F316
2	Seat	PTFE,RPTFE,PPL,PEEK
3	Clamp Spring/Lock Bolt ^[1]	SS304/Carbon Steel,Stainless Steel
4	Disc	WCB,CF8,CF8M,Hastelloy,Monel,Titanium etc.
5	Body	WCB,CF8,CF8M,Hastelloy,Monel,Titanium etc.
6	Lower Retainer Ring	SS316L
7	Pin	17-4PH
8	Up Retainer Ring	SS316L
9	Lower Bushing	RPTFE+SS316L
10	Upper Bushing	RPTFE+SS316L
11	Packing Gasket	SS316L
12	Packing	PTFE,RPTFE,Graphite
13	Gland	WCB,CF8,CF8M,Hastelloy,Monel,Titanium etc.
14	Washer	Carbon Steel,Stainless Steel
15	Gland Bolt	Carbon Steel,Stainless Steel
16	Gland Nut	Carbon Steel,Stainless Steel
17	Stem	17-4PH,F304,F316
18	Lever ^[2]	Indicator Plate
19		Lock Bolt
20		Lock Washer
21		Pin
22		Lateral Pin
23		Clamp Plate
24		Handle
25		Spring

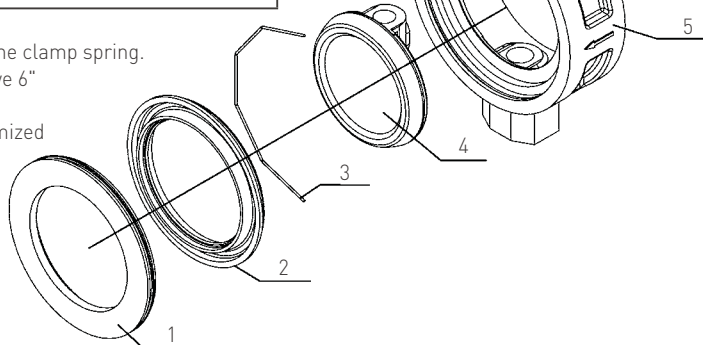


Note:

1. Valve size is 8" and above, use lock bolt to replace the clamp spring.

2. For valve size 6" and smaller, operator is lever; above 6" it's gear operator with yoke.

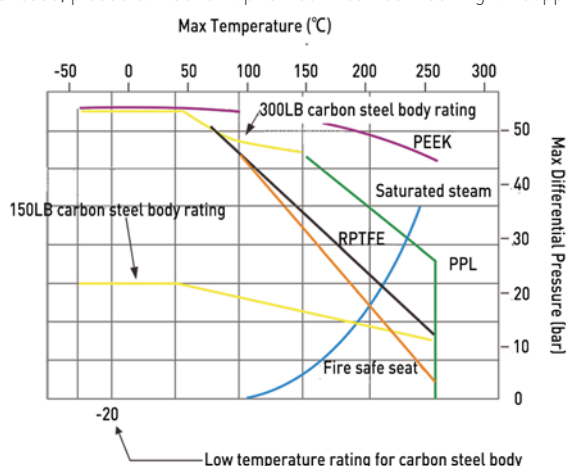
3. The materials are not limited as listed above, customized available, please contact Sinopival team to confirm.



A Series- Lip Type Seat High Performance Butterfly Valve

SEAT RATED VALUE

The seat rated value indicated on following curve are basing on the differential pressure between two ends of butterfly valve when it's in fully close position. The values here can be usage reference for general condition. According to past experience, the values can be more higher if use reinforced seat material or other kinds of seat materials. For more information or special case, please contact Sinopival technical team asking for support.



Note:

1. The maximum differential pressure of SS316 (or 20# alloy) stem is about 150 psi for 150LB 14"-60" (DN350-DN1500) valves.
2. The maximum differential pressure of SS316 (or 20# alloy) stem is about 300 psi for 300LB 3"-36" (DN80-DN900) valves.

BODY RATED VALUE

The maximum working pressure for different materials body are as indicated in below table. The actual application pressure should be in accordance with the seat rated values.

150LB Body Rated Values (bar)				
Temperature [°C]	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 ~ 38	19.7	19.0	15.8	15.8
93	17.9	16.5	13.8	13.8
149	15.8	14.8	12.4	13.1
204	13.8	13.4	11.0	12.8
260	11.7	11.7	10.3	11.7
Test Pressure	31	29.3	24.1	24.1

300LB Body Rated Values (bar)				
Temperature [°C]	Carbon Steel	Stainless Steel 316	20# Alloy	Monel
-20 ~ 38	51.0	49.6	41.4	41.1
93	46.5	42.7	35.9	36.5
149	45.2	38.6	32.1	34.1
204	43.8	35.5	29.0	33.1
260	41.4	33.1	26.9	32.8
Test Pressure	77.6	75.8	62	62

FLOW PARAMETER

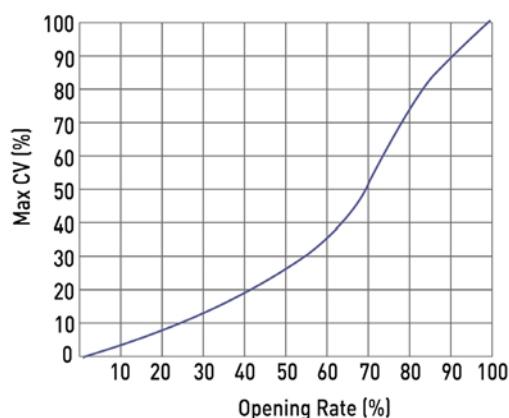
The tables below indicate 150LB and 300LB series A high performance butterfly valve flow parameters when partially open. CV is the number of gallons per minute +60 °F (15.6 °C) water that pass through a fully open valve at a pressure drop of 1 psi (0.07 bar). The metric equivalent KV, is the flow of water at 16 °C passing through the valve in cubic meters per hour at a pressure drop of 1 kg/cm². $KV = CV \times 0.8569$.

150LB			300LB		
Valve Size		CV	Valve Size		CV
Inch	DN		Inch	DN	
2 1/2	65	78	3	80	165
3	80	165	4	100	400
4	100	400	6	150	1,050
5	125	650	8	200	1,800
6	150	1,050	10	250	3,150
8	200	2,200	12	300	4,750
10	250	3,300	14	350	5,200
12	300	5,100	16	400	6,900
14	350	5,800	18	450	9,300
16	400	8,000	20	500	11,300
18	450	10,500	24	600	18,500
20	500	14,000	30	750	29,100
24	600	21,600	36	900	47,500
30	750	34,000			
36	900	55,500			
42	1050	82,650			
48	1200	108,300			
54	1350	133,500			
60	1500	159,000			

How to confirm Valve CV value when disc in a position between fully open and fully close:

1. Check the max CV rate from below curve according to the disc open rate.
2. Get the valve's CV value from the table above.
3. The valve max CV value = max CV rate X CV value.

For example, 10" (DN250), butterfly valve opening rate is 90%: from curve to know the max CV rate is 90% and from table to know CV value is 3,300; so the valve CV value = 90% X 3,300 = 2970.



A Series- Lip Type Seat High Performance Butterfly Valve

VALVE TORQUE

Valve Size		150LB - Stem Downstream - Standard Seat					
		Closing Differential Pressure					
Inch	DN	lb-ft@ 100 psi	N-m@ 6.9 bar	lb-ft@ 200 psi	N-m@ 13.8 bar	lb-ft@ 285 psi	N-m@ 19.7 bar
2 1/2	65	21	29	23	31	24	33
3	80	25	34	27	37	29	39
4	100	35	47	39	53	43	58
5	125	48	65	56	76	63	86
6	150	72	97	83	113	93	126
8	200	121	164	142	193	160	217
10	250	163	222	202	274	234	318
12	300	214	290	287	390	350	475
14	350	362	491	505	684	626	849
16	400	463	628	646	876	802	1,087
18	450	602	816	844	1,144	1,050	1,423
20	500	810	1,098	1,140	1,546	1,421	1,926
24	600	1,234	1,673	1,758	2,384	2,200	2,983
30	750	2,170	2,942	2,940	3,986	3,595	4,873
36	900	3,530	4,786	4,860	6,589	5,990	8,121
42	1,050	5,780	7,837	8,060	10,928	10,000	13,558
48	1,200	9,170	12,433	12,840	17,409	15,960	21,638
54	1,350	12,950	17,558	17,900	24,269	22,110	29,977
60	1,500	19,020	25,790	26,040	35,310	32,000	43,397

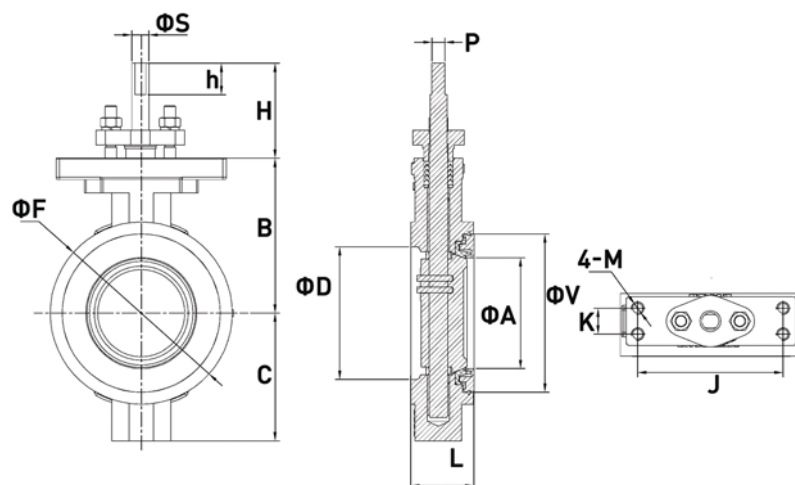
Valve Size		150LB - Stem Downstream - Fire Safe Seat					
		Closing Differential Pressure					
Inch	DN	lb-ft@ 100 psi	N-m@ 6.9 bar	lb-ft@ 200 psi	N-m@ 13.8 bar	lb-ft@ 285 psi	N-m@ 19.7 bar
2 1/2	65	42	57	45	61	47	64
3	80	53	72	57	77	59	81
4	100	67	91	74	100	80	108
5	125	97	132	114	155	128	174
6	150	131	178	152	206	170	230
8	200	218	296	256	347	288	391
10	250	333	452	406	550	468	635
12	300	508	589	636	862	745	1,010
14	350	604	819	758	1,028	889	1,205
16	400	710	963	920	1,247	1,099	1,489
18	450	970	1,315	1,370	1,857	1,710	2,318
20	500	1,390	1,885	1,980	2,685	2,482	3,364
24	600	2,050	2,779	2,700	3,661	2,200	2,983
30	750	2,920	3,959	3,940	5,342	4,807	6,517
36	900	3,530	4,786	4,960	6,725	5,990	8,121
42	1,050	5,620	7,620	7,440	10,087	10,000	13,558
48	1,200	8,800	11,931	12,100	16,405	14,905	20,208

Valve Size		300LB - Stem Downstream - Standard Seat											
		Closing Differential Pressure											
Inch	DN	lb-ft@ 300 psi	N-m@ 20.7 bar	lb-ft@ 400 psi	N-m@ 27.68 bar	lb-ft@ 500 psi	N-m@ 34.5 bar	lb-ft@ 600 psi	N-m@ 41.4 bar	lb-ft@ 700 psi	N-m@ 48.3bar	lb-ft@ 740 psi	N-m@ 51bar
3	80	31	42	34	46	38	51	41	55	44	60	45	62
4	100	52	70	58	79	65	88	72	97	78	106	81	110
6	150	119	161	138	188	158	214	178	241	197	267	205	278
8	200	231	313	271	368	312	422	352	477	392	532	408	554
10	250	354	480	422	572	490	664	557	756	625	848	652	885
12	300	492	667	582	790	673	913	764	1035	854	1158	890	1207
14	350	824	1117	1012	1372	1200	1627	1388	1882	1576	2137	1651	2239
16	400	989	1340	1212	1643	1435	1946	1658	2248	1881	2550	1970	2671
18	450	1279	1734	1562	2118	1845	2520	2128	2885	2411	3269	2524	3422
20	500	1707	2314	2096	2842	2485	3369	2874	3897	3263	4424	3419	4635
24	600	2309	3131	2832	3840	3355	4549	3878	5258	4401	5967	4610	6251
30	750	4210	5708	5080	6888	5950	8067	6820	9247	7690	10426	8038	10898
36	900	7220	9789	8760	11877	10300	13965	11840	16053	13380	18141	13996	18976

Valve Size		300LB - Stem Downstream - Fire Safe Seat											
		Closing Differential Pressure											
Inch	DN	lb-ft@ 300 psi	N-m@ 20.7 bar	lb-ft@ 400 psi	N-m@ 27.68 bar	lb-ft@ 500 psi	N-m@ 34.5 bar	lb-ft@ 600 psi	N-m@ 41.4 bar	lb-ft@ 700 psi	N-m@ 48.3bar	lb-ft@ 740 psi	N-m@ 51bar
3	80	57	77	58	79	60	81	61	83	63	85	63	86
4	100	86	117	94	127	102	138	110	149	118	160	121	164
6	150	189	256	212	287	235	319	258	350	281	381	290	394
8	200	313	424	354	480	395	536	436	591	477	647	493	669
10	250	464	629	522	708	580	786	638	865	696	944	719	975
12	300	825	1119	960	1302	1095	1485	1230	1668	1365	1851	1419	1924
14	350	922	1250	1076	1459	1230	1668	1384	1877	1538	2085	1600	2169
16	400	1170	1586	1396	1885	1610	2183	1830	2481	2050	2779	2138	2899
18	450	1980	2685	2440	3308	2900	3932	3360	4556	3820	5179	4004	5429
20	500	2800	3796	3460	4691	4120	5586	4780	6481	5400	7376	5704	7734
24	600	4400	5966	5400	7321	6400	8677	7400	10033	8400	11389	8800	11931

DA8150⁽¹⁾ 2"~ 32"[DN50~DN800]⁽²⁾ - WAFER - 150LB

DIMENSION & WEIGHT 2"~14' [DN50~DN350]



Size		Dimension (mm)							
Inch	DN	ΦA	ΦD	ΦV	B	C	ΦF	L	H
2"	50	50	63	85	81.8	70	102	43.8	42.5
2.5"	65	59	74	96	111.1	82.5	118	48.5	82
3"	80	73	88	110	120.5	93	132	49.8	82
4"	100	96	114	136	133.3	110	157	54.4	82
5"	125	111	141	165	135	120	186	56.8	82
6"	150	142	158	206	152.4	135	217	58.1	82.3
8"	200	188	210	258	187.3	172	273	64.1	81.7
10"	250	236	254	314	231.8	202	330	71.9	96.9
12"	300	282	305	364	260.3	241.3	385	81.7	97
14"	350	314	342	408	315	295	413	93	105

Size		Dimension (mm)						Weight
Inch	DN	h	P	ΦS	J	K	M	KG
2"	50	14	7	10	125.4	22.4	M10	3.2
2.5"	65	27	11.2	14.8	125.4	22.4	M10	5
3"	80	27	11.2	14.8	125.4	22.4	M10	6
4"	100	27	11.2	14.8	125.4	22.4	M10	8
5"	125	27	11.2	14.8	125.4	22.4	M10	12
6"	150	27	14	18	125.4	22.4	M10	13
8"	200	27	15.9	21.9	125.4	22.4	M10	20
10"	250	28	20.6	28	142.7	37.3	M12	35
12"	300	33	23.8	33.3	142.7	37.3	M12	51
14"	350	41	28.7	37	142.7	37.3	M12	82

Note:

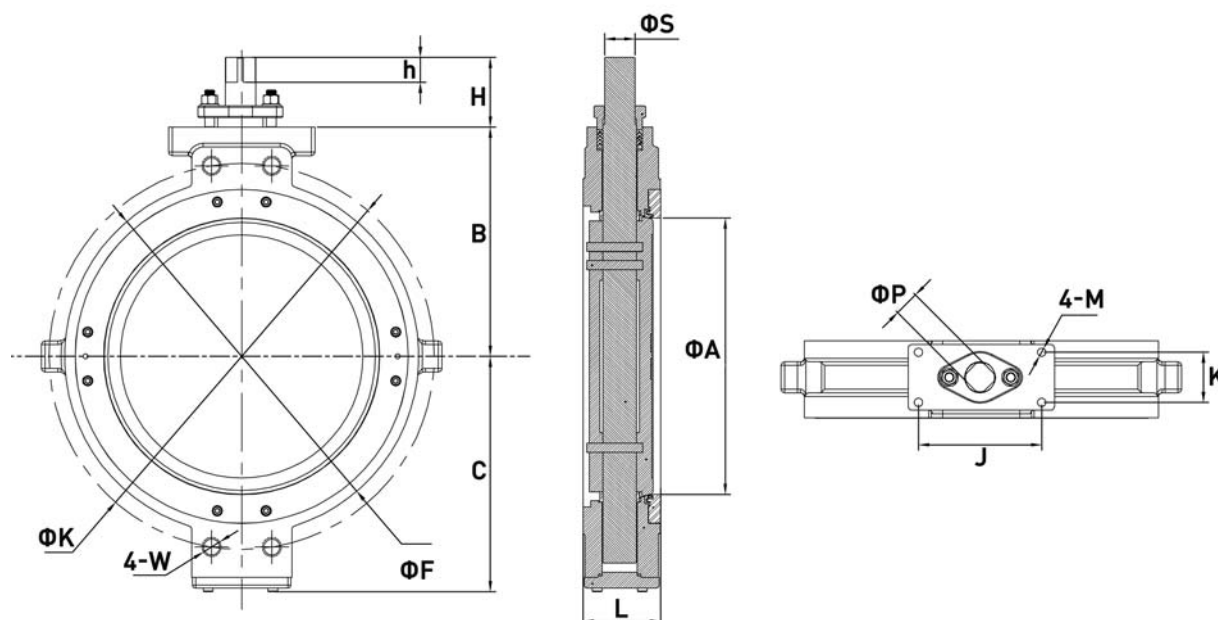
1. Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).

2. Here just list the dimension and weight of valve that size up to 32", for bigger size datasheet please contact Sinopival sales team.

3. All datasheets listed above just for client reference, any deviations of them without notice, the ordered valves' datas subject to the drawings before production.

DA8150⁽¹⁾ 16"~ 32"(DN50~DN800)⁽²⁾ - WAFER - 150LB

DIMENSION & WEIGHT 16"~32" (DN400~DN800)



Size		Dimension (mm)							
Inch	DN	ΦA	B	C	ΦF	L	H	h	P
16"	400	362	355	329	470	103	111	41	33.5
18"	450	413	356	340	533	115	111	41	35
20"	500	455	377	387	584	128	115	41	41.4
24"	600	548	490	467	692	155	130	51	51
28"	700	682	570	552	799	165.5	157	50.8	50.8
30"	750	702	570	557	863	167.7	157	50.8	50.8
32"	800	702	570	557	905	191.3	157	50.8	50.8

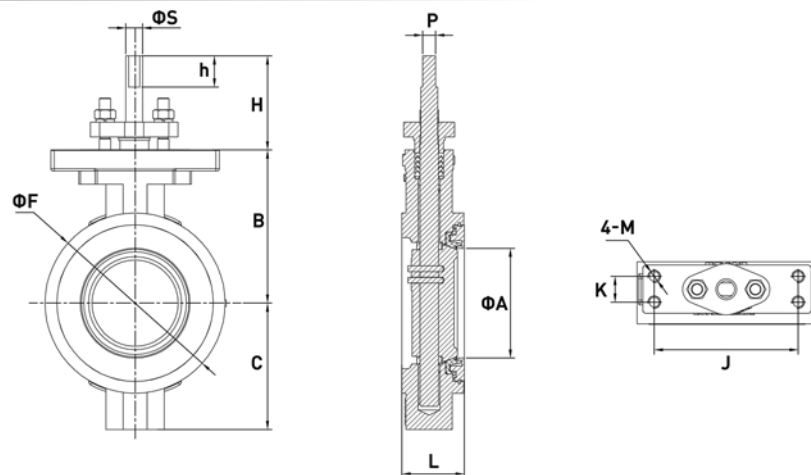
Size		Dimension (mm)						Weight
Inch	DN	ΦS	J	K	M	ΦK	W	KG
16"	400	42	203.2	539.8	M16	539.8	$\Phi 30$	115
18"	450	47	203.2	577.9	M16	577.9	1 1/8"-8UN	156
20"	500	50	203.2	635	M16	635	1 1/8"-8UN	199
24"	600	64	254	749.3	M20	749.3	1 1/4"-8UN	333
28"	700	66	254	863.6	M20	863.6	1 1/4"-8UN	594
30"	750	66	254	914.4	M20	914.4	1 1/4"-8UN	638
32"	800	66	254	997.9	M20	977.9	1 1/2"-8UN	751

Note:

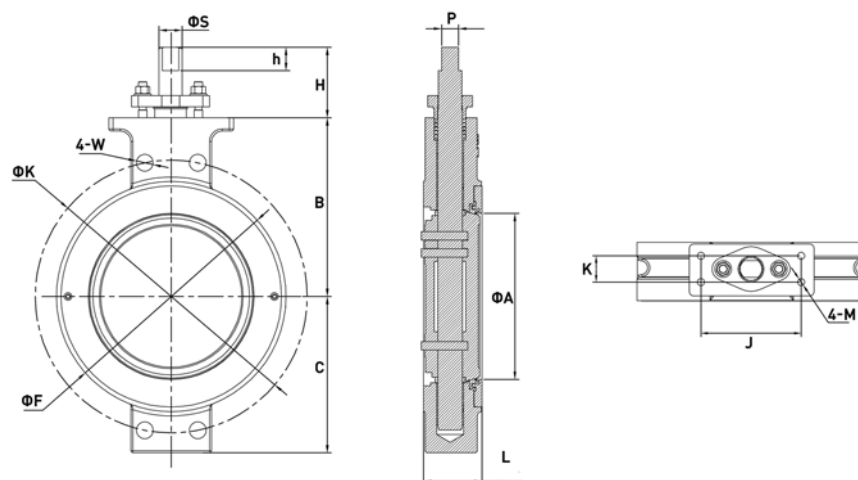
- Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- Here just list the dimension and weight of valve that size up to 32", for bigger size datasheet please contact Sinopival sales team.
- All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA8300⁽¹⁾ 2"~ 24"(DN50~DN600)⁽²⁾ - WAFER - 300LB

DIMENSION & WEIGHT 2"~12' (DN50~DN300)



Size		Dimension (mm)											Weight	
Inch	DN	ΦA	B	C	ΦF	L	H	h	P	ΦS	J	K	M	KG
2"	50	38	81.8	70	102	44	42.5	14	7	10	125.4	22.4	M10	3.2
2.5"	65	59	111.1	82.5	118	48	82	27	11.2	14.8	125.4	22.4	M10	5
3"	80	73	120.5	93	132	48	82	27	11.2	14.8	125.4	22.4	M10	6
4"	100	96	133.3	110	157	54	82	27	11.2	14.8	125.4	22.4	M10	8
5"	125	111	135	120	186	57	82	27	11.2	14.8	125.4	22.4	M10	12
6"	150	142	174	153	217	59	82	27	15.9	21.9	125.4	22.4	M10	15
8"	200	188	212	180	273	73	95	28	20.6	28	142.7	37.3	M12	27

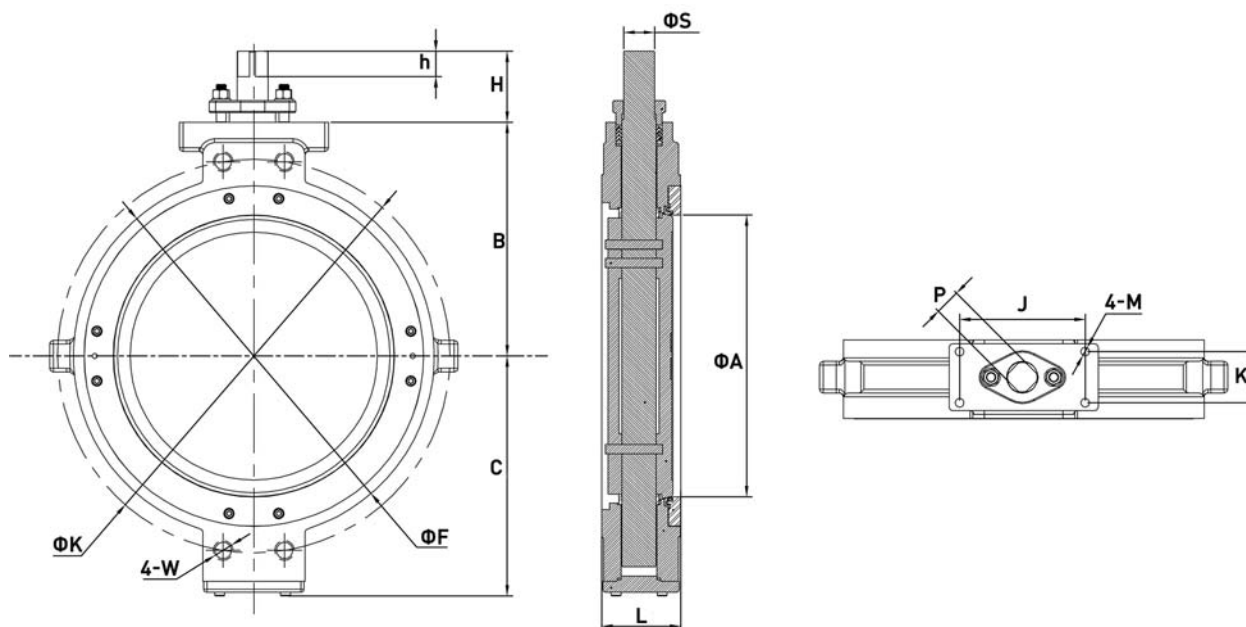


Size		Dimension (mm)													Weight	
Inch	DN	ΦA	B	C	ΦF	L	H	h	P	ΦS	J	K	M	ΦK	W	KG
10"	250	236	254	222	327	83	100	33	23.8	33.3	142.7	37.3	M12	387.4	1"-8UN	48
12"	300	282	282	284	385	92	105	41	28.7	37	142.7	37.3	M12	450.8	1 1/8"-8UN	66

- Note:**
- Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
 - Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
 - All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA8300⁽¹⁾ 2"~ 24"(DN50~DN600)⁽²⁾ - WAFER - 300LB

DIMENSION & WEIGHT 14"~24" (DN350~DN600)



Size		Dimension [mm]							
Inch	DN	ΦA	B	C	ΦF	L	H	h	P
14"	350	314	325	310	416	117	102	34.5	41.4
16"	400	362	350	338	472	133	102	34.5	41.4
18"	450	413	424	412	537	149	118	40	51
20"	500	454	446	44	588	159	130	43	51
24"	600	548	500	505	692	181	145	60	51

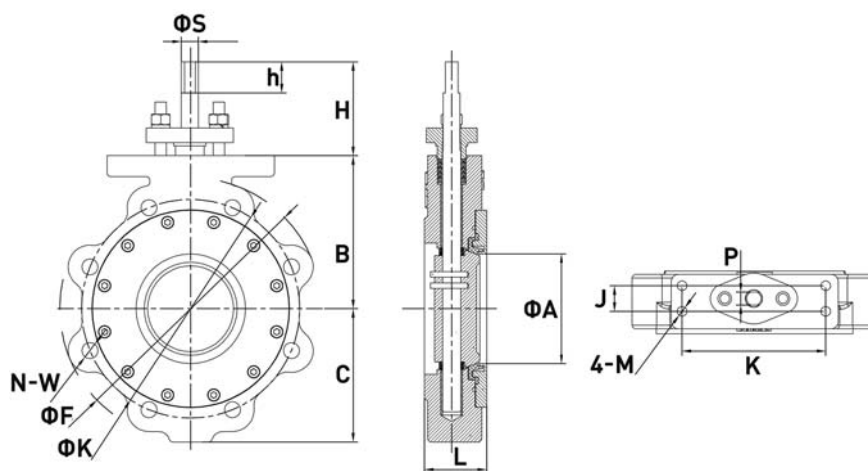
Size		Dimension [mm]						Weight
Inch	DN	ΦS	J	K	M	ΦK	W	KG
14"	350	50	203.2	82.6	M16	514.4	1 1/8"-8UN	167
16"	400	50	203.2	82.6	M16	571.5	1 1/4"-8UN	195
18"	450	64	254	107.7	M20	628.6	1 1/4"-8UN	324
20"	500	64	254	107.7	M20	658.8	1 1/4"-8UN	406
24"	600	64	254	107.7	M20	8612.8	1 1/2"-8UN	631

Note:

- 1.Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- 2.Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
- 3.All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA5150⁽¹⁾ 2 1/2"~ 24"(DN65~DN600)⁽²⁾ - LUG - 150LB

DIMENSION & WEIGHT 2.5"~14' (DN80~DN350)



Size		Dimension (mm)							
Inch	DN	ΦA	B	C	L	H	h	P	ΦS
2.5"	65	59	111.1	82.5	48.5	82	27	11.2	14.8
3"	80	73	120.5	93	49.8	82	27	11.2	14.8
4"	100	96	133.3	110	54.4	82	27	11.2	14.8
5"	125	111	135	120	56.8	82	27	11.2	14.8
6"	150	142	152.4	135	58.1	82.3	27	14	18
8"	200	188	187.3	172	64.1	81.7	27	15.9	21.9
10"	250	236	231.8	202	71.9	96.9	28	20.6	28
12"	300	282	260.3	241.3	81.7	97	33	23.8	33.3
14"	350	314	315	295	93	105	41	28.7	37

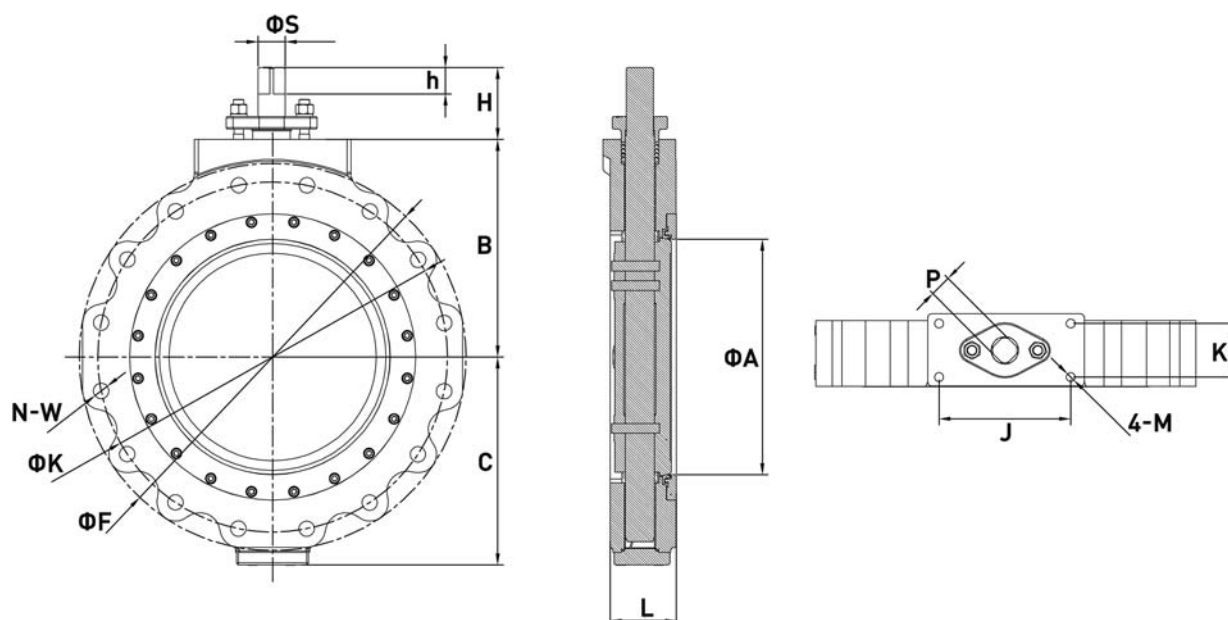
Size		Dimension (mm)						Weight
Inch	DN	J	K	M	ΦF	ΦK	N-W	KG
2.5"	65	125.4	22.4	M10	180	139.7	4 5/8"-11UN	6.4
3"	80	125.4	22.4	M10	190	152.4	4 5/8"-11UN	8
4"	100	125.4	22.4	M10	230	190.5	8 5/8"-11UN	11
5"	125	125.4	22.4	M10	255	215.9	8 3/4"-10UN	18
6"	150	125.4	22.4	M10	280	241.3	8 3/4"-10UN	16.2
8"	200	125.4	22.4	M10	345	298.5	8 3/4"-10UN	31
10"	250	142.7	37.3	M12	405	362	12 7/8"-9UN	42.2
12"	300	142.7	37.3	M12	485	431.8	12 7/8"-9UN	64.8
14"	350	142.7	37.3	M16	535	476.3	12 1"-8UN	105

Note:

- Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
- All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA5150⁽¹⁾ 2 1/2"~ 24"(DN65~DN600)⁽²⁾ - LUG - 150LB

DIMENSION & WEIGHT 16"~24" (DN400~DN600)



Size		Dimension (mm)							
Inch	DN	ΦA	B	C	L	H	h	P	ΦS
16"	400	362	355	329	103	111	41	33.5	42
18"	450	413	356	340	115	111	41	35	47
20"	500	455	377	387	128	115	51	41.4	50
24"	600	548	490	467	155	130	51	51	64

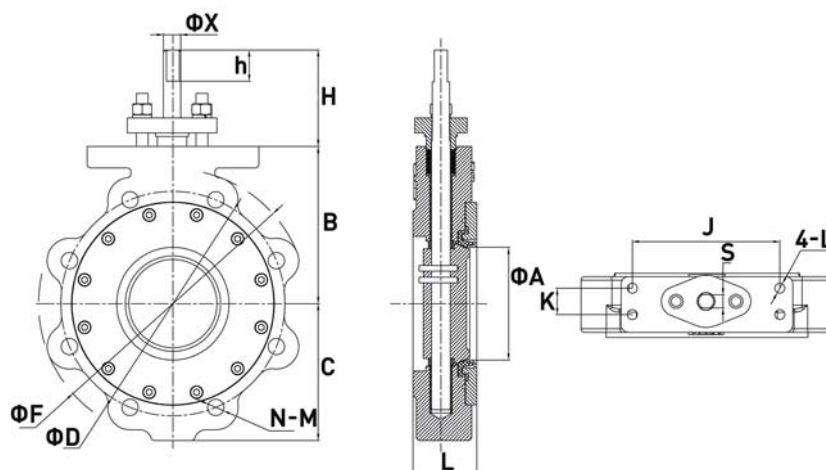
Size		Dimension (mm)						Weight
Inch	DN	J	K	M	ΦF	ΦK	N-W	KG
16"	400	203.2	82.6	M16	595	539.8	16 1"-8UN	163
18"	450	203.2	82.6	M16	635	577.9	16 1/8"-8UN	205
20"	500	203.2	82.6	M16	700	635	20 1/8"-8UN	270
24"	600	254	107.7	M20	815	749.3	20 1/4"-8UN	437

Note:

- 1.Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- 2.Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
- 3.All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA5300⁽¹⁾ 2 1/2"~ 24"(DN65~DN600)⁽²⁾ - LUG - 300LB

DIMENSION & WEIGHT 2.5"~12" (DN80~DN300)



Size		Dimension (mm)							
Inch	DN	ΦA	B	C	H	ΦF	L	ΦD	M
2.5"	65	59	111.1	82.6	82	190	50	149.2	M20
3"	80	73.1	120.7	93.7	82	210	50	168.3	M20
4"	100	95.6	133.4	110	81.8	255	54	200	M20
5"	125	111.4	134.9	126.5	82.2	280	57	235	M20
6"	150	141.7	174.6	153	82	320	59	269.9	M20
8"	200	188	212.7	180	94.8	380	73	330.2	M24
10"	250	235.9	254	222	99.7	445	83	387.4	M27
12"	300	281.5	282.6	284.4	105	520	92	450.8	M30

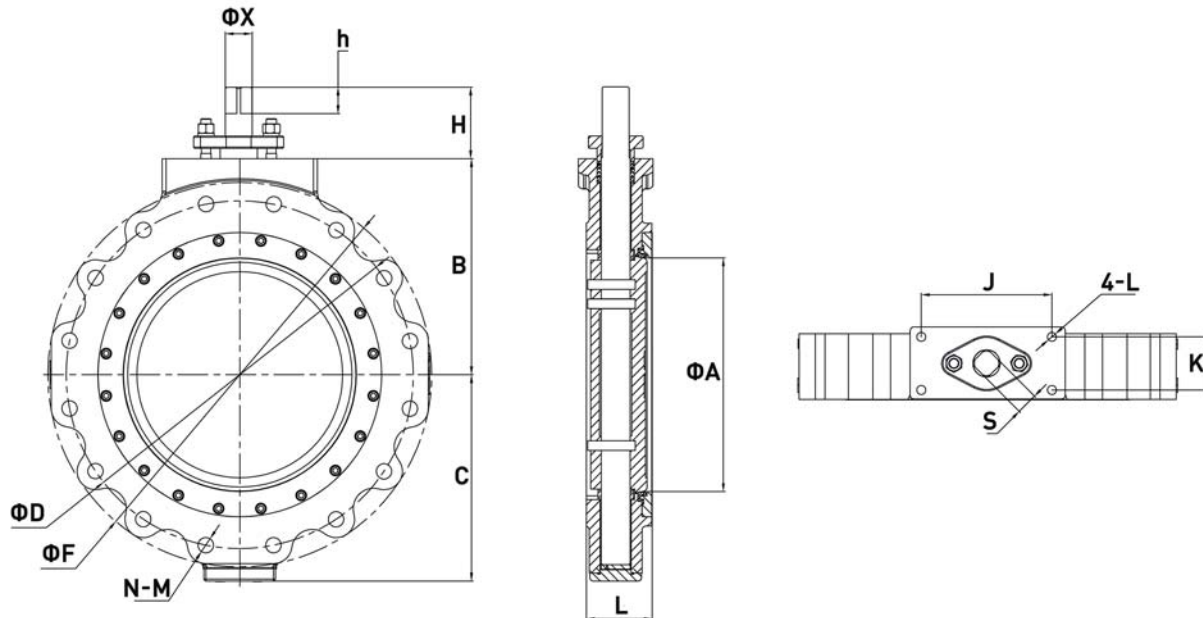
Size		Dimension (mm)							Weight
Inch	DN	N	ΦX	S	h	J	K	L	KG
2.5"	65	8	14.8	11.2	27	125.4	22.4	M10	7
3"	80	8	14.8	11.2	27	125.4	22.4	M10	9
4"	100	8	14.8	11.2	27	125.4	22.4	M10	13
5"	125	8	14.8	11.2	27	125.4	22.4	M10	19
6"	150	12	21.9	15.9	27	125.4	22.4	M10	24
8"	200	12	28	20.6	27	142.7	37.3	M12	42
10"	250	16	33.3	23.8	33	142.7	37.3	M12	73
12"	300	16	37	28.7	41	142.7	37.3	M12	100

Note:

- Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
- All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA5300⁽¹⁾ 2 1/2"~ 24"(DN65~DN600)⁽²⁾ - LUG - 300LB

DIMENSION & WEIGHT 14"~24" (DN350~DN600)



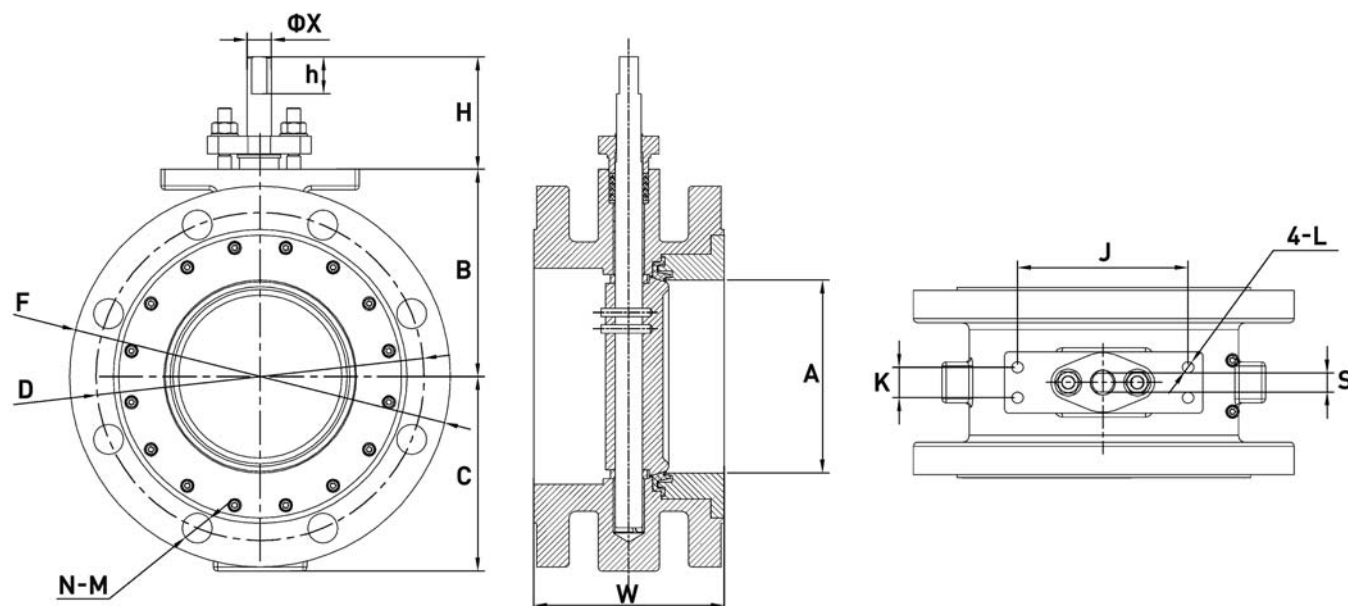
Size		Dimension (mm)							
Inch	DN	ΦA	B	C	H	ΦF	L	ΦD	M
14"	350	314.3	325.1	310.7	102	585	117	514.4	M30
16"	400	362.8	350.5	338.4	102	650	133	571.5	M33
18"	450	413.3	424.4	412.8	118	710	149	628.6	M33
20"	500	454.9	446.7	440.8	130	775	162	685.8	M33
24"	600	548.8	500.8	504.8	145	915	184	812.8	M39

Size		Dimension (mm)							Weight
Inch	DN	N	ΦX	S	h	J	K	L	KG
14"	350	20	50	41.4	34.5	203.2	82.6	M16	253
16"	400	20	55	41.4	34.5	203.2	82.6	M16	328
18"	450	24	64	51	40	254	107.7	M20	503
20"	500	24	80	51	43	254	107.7	M20	648
24"	600	24	95	51	60	254	107.7	M20	984

- Note:**
- Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
 - Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
 - All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA4150⁽¹⁾ 3"~ 24"(DN80~DN600)⁽²⁾ - Flange - 150LB

DIMENSION & WEIGHT 3"~12" (DN80~DN300)



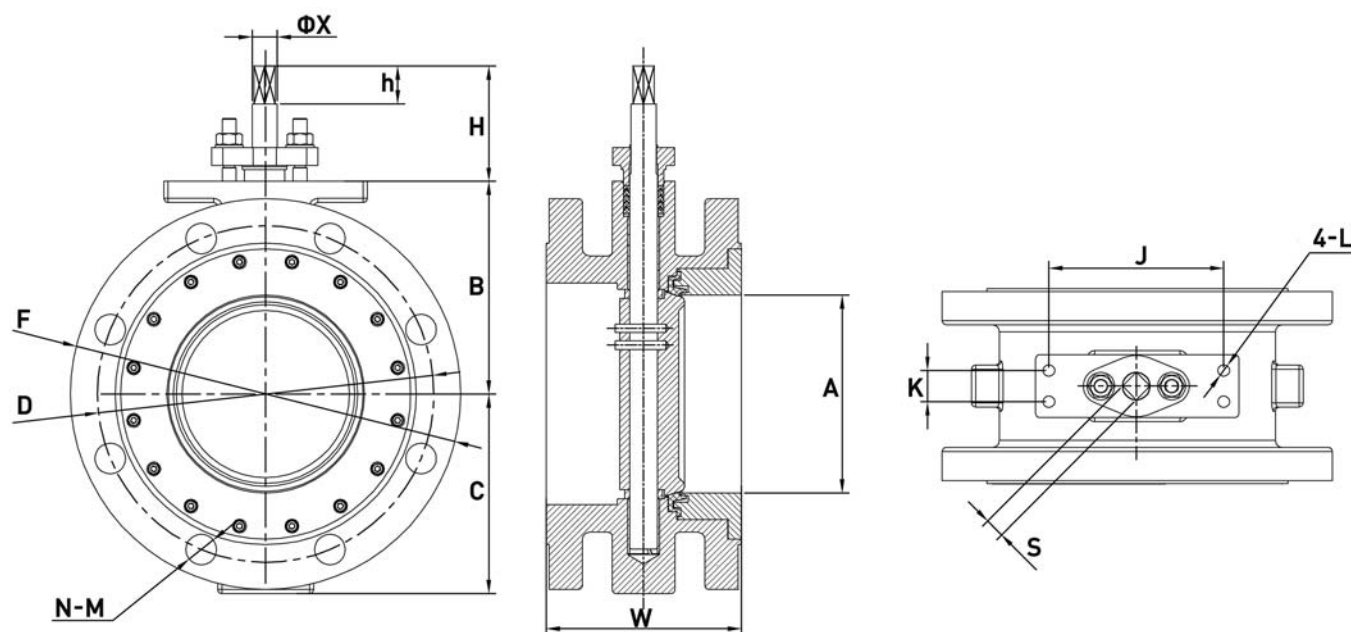
Size		Dimension (mm)						
Inch	DN	A	B	C	H	D	N-M	F
3"	80	73	121	93	82	Φ152.4	4-M19	190
4"	100	96	133.3	110	82	Φ190.5	8-M19	230
5"	125	111	135	120	82	Φ215.9	8-M22	255
6"	150	142	152.4	143	82.3	Φ241.3	8-M22	280
8"	200	188	187.3	172	81.7	Φ298.5	8-M22	345
10"	250	236	231.8	202	96.9	Φ362	12-M26	405
12"	300	282	260.3	241.2	97	Φ431.8	12-M26	485
14"	350	314	315	295	105	Φ476.3	12-M29	535

Size		Dimension (mm)								Weight
Inch	DN	F	W	X	S	h	J	K	L	KG
3"	80	190	114	14.8	11.2	27	125.4	22.4	M10	18
4"	100	230	127	14.8	11.2	27	125.4	22.4	M10	23
5"	125	255	140	14.8	11.2	27	125.4	22.4	M10	32
6"	150	280	140	28	14	27	125.4	22.4	M10	53
8"	200	345	152	21.9	15.9	27	125.4	22.4	M10	67
10"	250	405	168	28	20.6	28	142.7	37.3	M12	107
12"	300	485	178	33.3	23.8	33	142.7	37.3	M12	160

Note:
 1. Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
 2. Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
 3. All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings befoe production.

DA4150⁽¹⁾ 3"~ 24"(DN80~DN600)⁽²⁾ - Flange - 150LB

DIMENSION & WEIGHT 14"~24" (DN350~DN600)



Size		Dimension (mm)						
Inch	DN	A	B	C	H	F	D	N-M
16"	400	362	355	329	111	595	Φ539.8	16-M29
18"	450	413	356	340	111	635	Φ577.9	16-M32
20"	500	455	377	387	115	700	Φ635	20-M32
24"	600	548	490	467	130	815	Φ749.3	20-M35

Size		Dimension (mm)							Weight
Inch	DN	W	X	S	h	J	K	L	KG
16"	400	216	42	33.5	41	203.2	82.6	M16	184
18"	450	222	47	35	41	203.2	82.6	M16	275
20"	500	229	50	41.4	41	203.2	82.6	M16	285
24"	600	267	64	51	51	254	107.7	M20	429

Note:

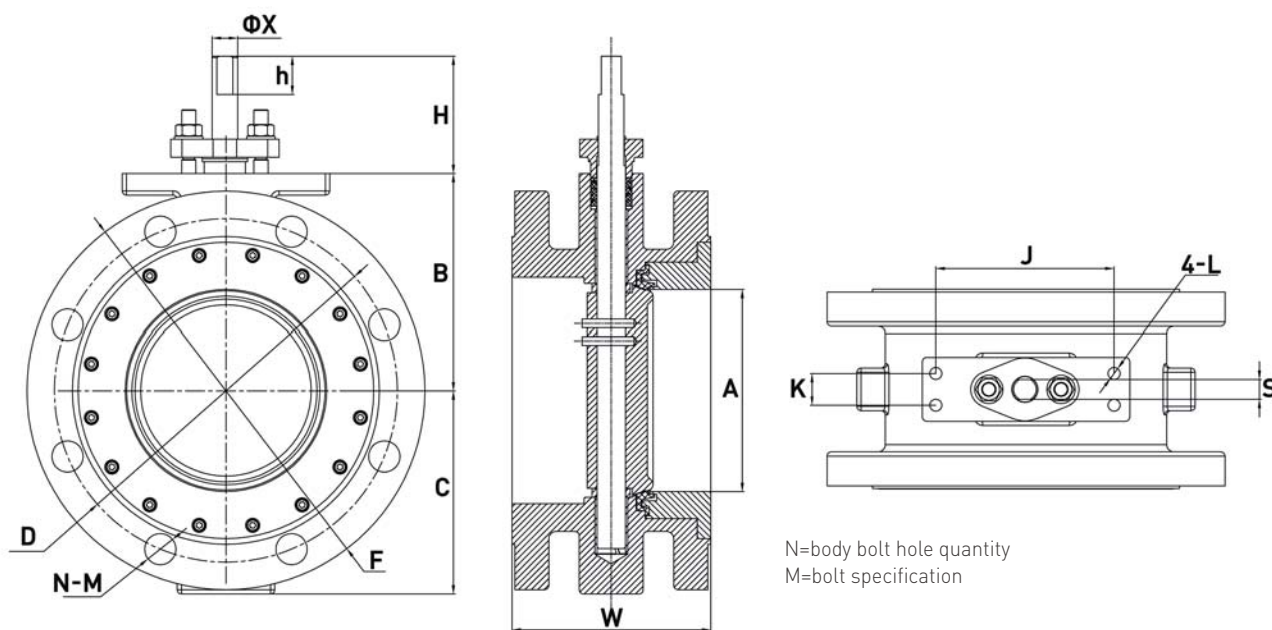
1.Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).

2.Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.

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DA4300⁽¹⁾ 4"~ 24"(DN100~DN600)⁽²⁾ - Flange - 300LB

DIMENSION & WEIGHT 4"~12" (DN100~DN300)



Size		Dimension (mm)						
Inch	DN	A	B	C	H	F	D	N-M
4"	100	95.6	27	133.4	81.8	255	Φ200	8-M22.5
5"	125	111.4	238	134.9	82.2	280	Φ235	8-M22.5
6"	150	141.7	308	174.6	82	320	Φ269.9	12-M22.5
8"	200	188	381	212.7	94.8	380	Φ330.2	12-M25.5
10"	250	235.9	445	254	99.7	445	Φ387.4	16-M28.5
12"	300	281.5	514	282.6	105	520	Φ450.8	16-M32

Size		Dimension (mm)							Weight
Inch	DN	W	X	S	h	J	K	L	KG
4"	100	190	14.8	11.2	27	125.4	22.4	M10	28
5"	125	210	14.8	11.2	27	125.4	22.4	M10	32
6"	150	210	21.9	15.9	27	125.4	22.4	M10	52
8"	200	230	28	20.6	27	142.7	37.3	M12	81
10"	250	250	33.3	23.8	33	142.7	37.3	M12	129
12"	300	270	37	28.7	41	142.7	37.3	M12	184

Note:

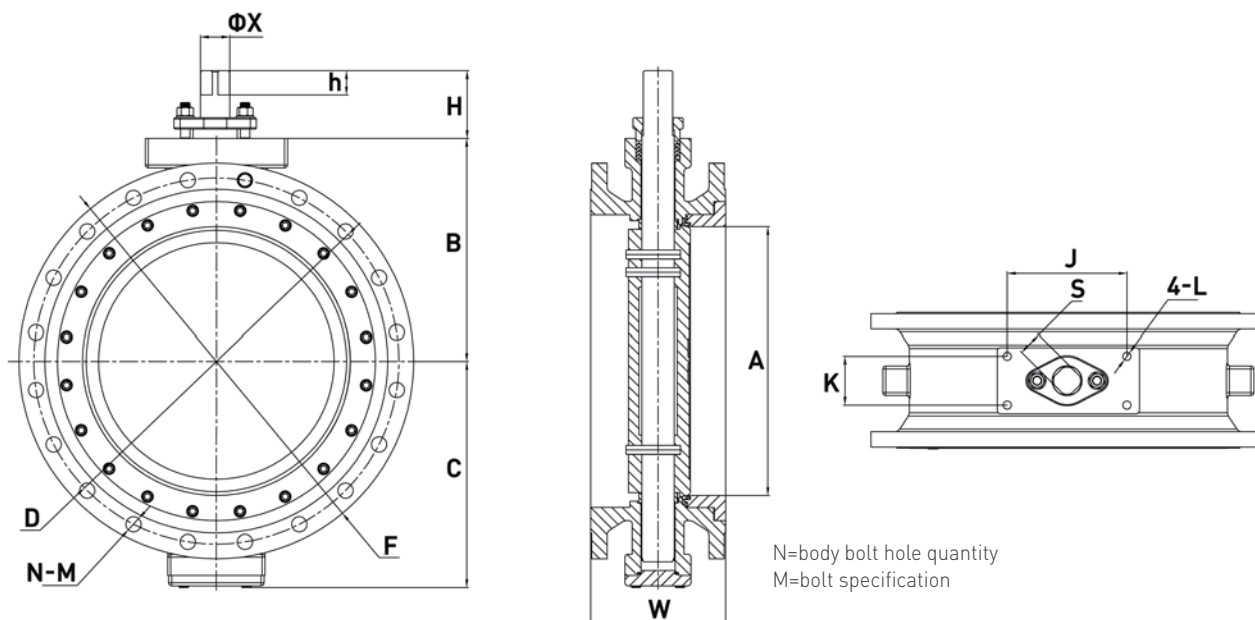
1.Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).

2.Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.

3.All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings beofe production.

DA4300⁽¹⁾ 4" ~ 24" (DN100~DN600)⁽²⁾ - Flange - 300LB

DIMENSION & WEIGHT 14"~24" (DN350~DN600)



Size		Dimension (mm)						
Inch	DN	A	B	C	H	F	D	N-M
14"	350	314.3	325.1	310.7	102	585	Φ514.4	20-M32
16"	400	362.8	350.5	338.4	102	650	Φ571.5	20-M35
18"	450	413.3	424.4	412.8	118	710	Φ628.6	24-M35
20"	500	454.9	446.7	440.8	130	775	Φ685.8	24-M35
24"	600	548.8	500.8	504.8	145	915	Φ812.8	24-M41

Size		Dimension (mm)							Weight
Inch	DN	W	X	S	h	J	K	L	KG
14"	350	290	50	41.4	34.5	203.2	82.6	M16	257
16"	400	310	55	41.4	34.5	203.2	82.6	M16	326
18"	450	330	64	51	40	254	107.7	M20	425
20"	500	350	80	51	43	254	107.7	M20	531
24"	600	390	95	51	60	254	107.7	M20	808

Note:

- 1.Letter 'A' here stands for valve connection standard, replaced by the relevant letter which is short of standard ,for example, ANSI(X=A),DIN(X=D),JIS(X=J).
- 2.Here just list the dimension and weight of valve that size up to 24", for bigger size datasheet please contact Sinopival sales team.
- 3.All datasheets listed above just for client reference,any deviations of them without notice,the ordered valves' datas subject to the drawings befoe production.

A Series- Lip Type Seat High Performance Butterfly Valve

FIGURE NUMBER CHART-HOW TO ORDER

1	2	3	4	5	6	7	8	9	10
VALVE TYPE	CONNECTION STANDARD	END TYPE	PRESSURE	BODY MATERIAL	STEM MATERIAL	DISC MATERIAL	SEAT MATERIAL	OPERATOR TYPE	SIZE IN DN
D	A	8	150	20	17	36	TT	L	150

For example, series A high performance butterfly valve, ANSI connection end, wafer, pressure 150LB, body WCB, stem 17-4PH, disc SS316 (CF8M), seat PTFE, lever operated and size is 6" (DN150), then the valve figure number is **DA8150-201736TT-L150**

1	CODE	VALVE TYPE
	D	Standard type
	DF	Fire safe type

2	CODE	CONNECTION STANDARD
	A	ANSI/ASME-American Standard
	D	DIN-Germany Standard
	B	BS-British Standard
	E	EU-European Union Standard
	J	JIS-Japanese Standard
	G	GOST-Russian
	C	GB-Chinese Standard
	O	Other Standards

3	CODE	END TYPE
	8	Wafer
	5	Lug
	4	Flanged
	6	Butt Weld

4	CODE	PRESSURE
	150	ANSI 150LB
	300	ANSI 300LB
	600	ANSI 600LB
	010	DIN PN10
	016	DIN PN16
	020	DIN PN20
	025	DIN PN25
	040	DIN PN40
	050	DIN PN50
	064	DIN PN64
	100	DIN PN100
	10K	JIS 10K
	16K	JIS 16K
	20K	JIS 20K
	30K	JIS 30K
	40K	JIS 40K

5	CODE	BODY MATERIAL
	20	WCB
	23	LCB
	24	LC2
	34	CF8(SS304)

	36	CF8M(SS316)
	41	CF3(SS304L)
	61	CF3M(SS316L)
	28	20# Alloy
	88	Hastelloy
	66	Monel
	55	Duplex Stainless Steel
	65	Inconel
	48	Aluminium Brozne Alloy
	90	Titanium

6	CODE	STEM MATERIAL
	17	17-4PH
	34	F304
	36	F316
	29	XM-19
	66	K-Monel
	88	Hastelloy
	66	Monel
	55	Duplex Stainless Steel
	65	Inconel
	48	Aluminium Brozne Alloy
	90	Titanium

7	CODE	DISC MATERIAL
	20	WCB
	23	LCB
	24	LC2
	34	CF8(SS304)
	36	CF8M(SS316)
	41	CF3(SS304L)
	61	CF3M(SS316L)
	28	20# Alloy
	88	Hastelloy
	66	Monel
	55	Duplex Stainless Steel
	65	Inconel
	48	Aluminium Brozne Alloy
	90	Titanium

8	CODE	SEAT MATERIAL
	TT	PTFE
	MT	RPTFE
	PL	PPL
	PK	PEEK

	YT	RPTFE+SS316/SS316L
	ZT	RPTFE+Inconel
	XT	PTFE+SS316/SS316L
	VT	PTFE+Inconel

9	CODE	OPERATOR TYPE
	B	Bare Stem
	L	Lever (Handle)
	G	Gear
	E	Electric Actuator
	P	Pneumatic Actuator
	Y	Hydraulic-Pneumatic Actuator

10	CODE	SIZE IN DN
	50	DN50(2")
	65	DN65(2 1/2")
	80	DN80(3")
	100	DN100(4")
	125	DN125(5")
	150	DN150(6")
	250	DN250(10")
	300	DN300(12")
	350	DN350(14")
	400	DN400(16")
	450	DN450(18")
	500	DN500(20")
	600	DN600(24")
	700	DN700(28")
	750	DN750(30")
	800	DN800(32")
	850	DN850(34")
	900	DN900(36")
	1000	DN1000(40")
	1050	DN1050(42")
	1200	DN1200(48")
	1350	DN1350(54")
	1500	DN1500(60")
	...	By The Same Rule

Note:

If the code not found in this figure number chart, please contact with Sinopival Team for asking the complete figure number table datasheet.

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