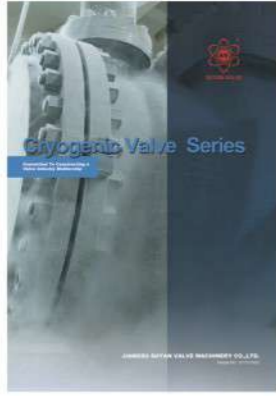
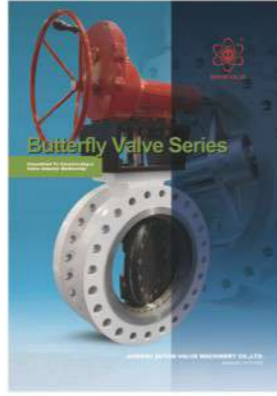


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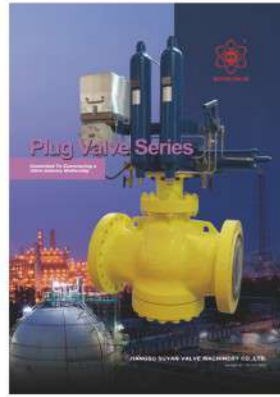
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Sample NO: SY-BV-2022



Sample NO: SY-CF-2022



Sample NO: SY-PV-2022

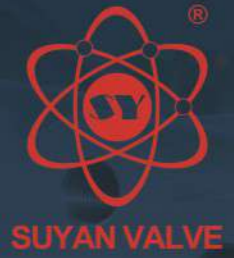


Sample NO: SY-JKZZ-2016

JIANGSU SUYAN VALVE MACHINERY CO.,LTD.

ADD: No. 28, Century Avenue, North District, Binhai County Industrial Park,
Yancheng City, Jiangsu Province
TEL: 0515-84194555 FAX: 0515-84199808 E-mail:hai977@126.com

www.suyangroup.com



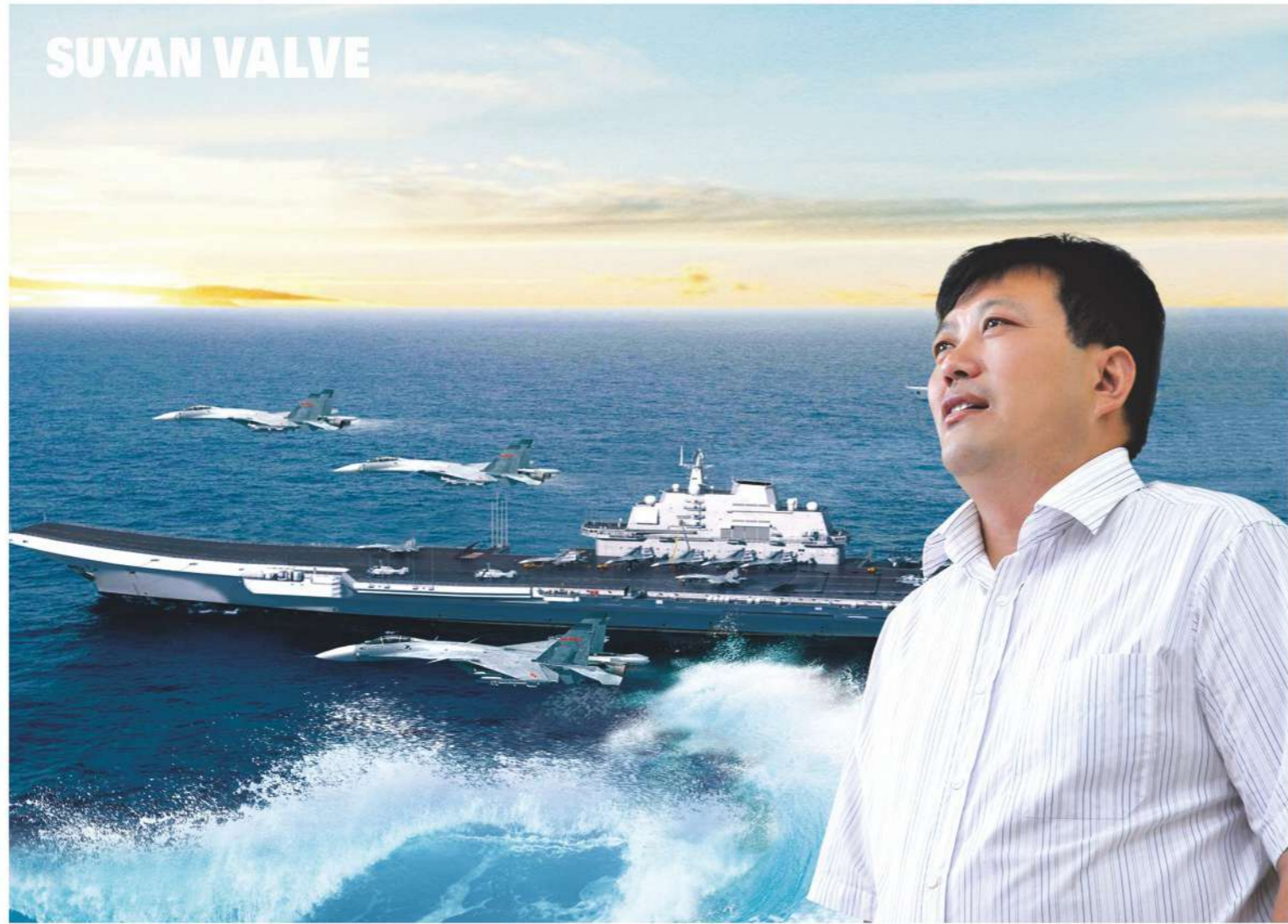
Butterfly Valve Series

*Committed To Constructing a
Valve Industry Mothership*

JIANGSU SUYAN VALVE MACHINERY CO.,LTD.

Sample NO.: SY-TY-2022

SUYAN VALVE



Chairman: Mr. ZhengHai Han

Delegates in Jiangsu Peoples Congress

Party representative in Jiangsu Province

Jiangsu Model Worker

Vice-Chairman of China General Machinery Industry Association

Executive Vice president of Jiangsu Valve Industry Association

President of Yancheng Petroleum Machinery Industry Association

Committee Member of National Valve Standardization Technical Committee

Comprehensive Fluid Control Solutions

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送审稿

Tel:400-633-5118

COMPANY PROFILE



SUYAN VALVE



The Registered Capital is 310 million RMB,
Total assets of 5 billion RMB,
Covering an area of 80 hectares,
The building area is 320,000 square meters,
Existing staff of 1300 people.



National high-tech enterprise, National special special new "little giant" enterprise
National Postdoctoral Research Station,
National intellectual property advantage enterprise
Provincial Enterprise Technology Center,
Provincial Engineering Research Center
Provincial Graduate Workstation
Jiangsu boutique enterprise
Qualified Supplier of CNNC

More than 1,000 sets of sophisticated manufacturing equipment
520 sets of testing equipment
Set up a national laboratory

Developed more than 300 new products
65 national invention patents
310 utility model patents
Participated in the drafting and revision of 43 standards

since 1991



The sales market covers China End Users PetroChina, Sinopec, CNOOC and global customers. Provide fast after-sales service, distributed all over the country and around the world.



Tel:400-633-5118

QUALITY ASSURANCE



Detection test project is complete

SUYAN sequent imported production line such as most advanced digital control workstation, touchable induction three-coordinate digital instrument (made in USA), portable spectrum analyzer, ultra-low temperature detecting system, vacuum & micro-leakage detecting system and NDT instrument including ultrasonic detector etc. the advanced equipment and professional QC inspector jointly guarantee the high quality of product.



CAST&FORGED WORKSHOP



As one of the pressure-bearing equipment for fluid control pipelines, the quality of valve body is the most important for the life and personnel environmental safety, especially in the conditions of high temperature and pressure. Therefore, valves are always critical. The customer needs to pre-quality the first certified material before approving the valve manufacturer as a cooperative supplier.



Casting production line

Coated sand production line



Tel:400-633-5118

DATA MANAGEMENT



Automatic
Production
Line



The advanced hard facilities ensure
SUYAN to be at best position during
market competition.

MES
Management
System



送审稿

Tel:400-633-5118



SUYAN is fitted with precise numerical control machine tools and processing center, advanced equipments testing instruments, superior technology, consummate quality control system, professional elite and outstanding scientific research team. We fully use wtechnology, new workmanship and new materials to ensure the dependability of products.

MACHINING CENTER



PRODUCTION EQUIPMENT



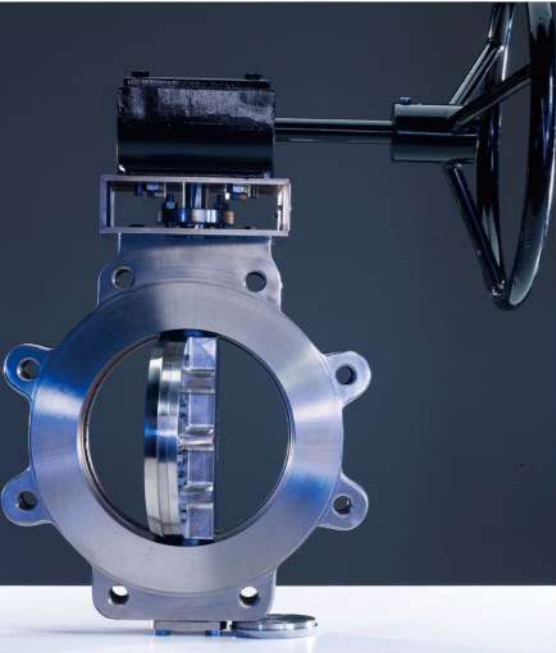
Fully CNC Automation

Fully CNC, automatic production process to bring high precision, high quality stable and reliable products High-tech equipment, professional team, to ensure excellent product quality



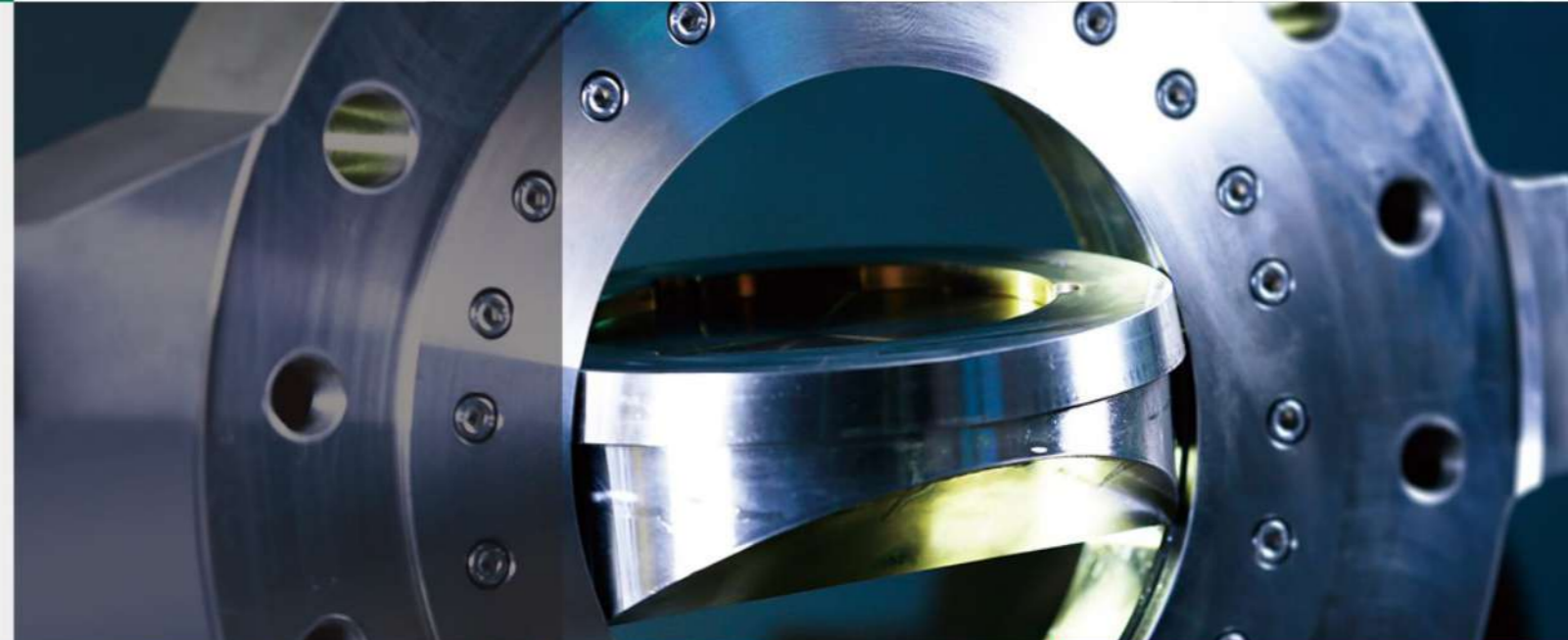
送审稿

Tel:400-633-5118



Committed to providing customers with quality products and services

SUYAN refinement of the accuracy of the pursuit of production. Constantly improve the lean production mode, including every parts, are strictly according to standard meticulously, ensure that the products of high quality.



送审稿
Tel:400-633-5118

VALUED CUSTOMERS



RESOURCES GAS	TIANLI GAS	PETROBRAS	SINIPEC ENGINEERING
WISON	ENERGAS	SHAANGU	WISON
XINHUA CHEMICAL	FURUI SE	CNMIC	HGMRI
TCC	DATANG ENERGY	CTCI	سايك سابك
BAYER	LIAHERD	CNWG	ZJ UNIVERSITY

We Have Provided Matching Service For Many National And Foreign Stress Projects



Quality engineering long-lasting quality

Under many years brand operating and aborative exercising, the strength and credit of company are increasing steadily, at present Su Yan has been China petrification group material equipment company; China petrol & natural gas group company; China Aluminum Group company and the pointing member unit of China Sea Petroleum, metallurgy and steel-making, electricity system. SuYan brand series valves are sold to such over 10 countries and areas, welcomed by vast customers.

SINOPEC	CNPC	SNPTC	CNOOC	SINOCEM	CHEMCHINA	
CSSC	CGDC	CRECG	CHALCO	CHINA XD	SHENHUA GROUP	CHINAGAS
CMCC	SINOPHARM	BAOSTEEL	BAOGANG GROUP	ANGANG STEEL	SHOUGANG STEEL	BEIJING GAS
BEIJING GAS	XINAO GAS	TOWNGAS	GUANGZHOU GAS	SHANGHAI GAS	XINJIANG GAS	SHENYANG GAS



Tel: 400-633-5118

BUTTERFLY VALVE

How to Order



SUYAN VALVE



SUYAN VALVE

Example:

12	BD	6	-	W	G	WCB	/	3214
----	----	---	---	---	---	-----	---	------

12

VALVE SIZE

in	2	2 1/2	3	3 1/2	4	5	6	8	10	12	14
mm	50	65	80	90	100	125	150	200	250	300	350
in	16	18	20	22	24	26	28	30	32	34	36
mm	400	450	500	550	600	650	700	750	800	850	900
in	38	40	42	44	48	52	54	56	60		
mm	950	1000	1050	1100	1200	1300	1350	1400	1500		

BD

VALVE TYPE

Symbol	Valve type	Symbol	Valve type	Symbol	Valve type
BR	Concentric butterfly valve	BD	Double offset butterfly valve	BT	Triple offset butterfly valve

6

VALVE CLASS

Class	150	300	600	900
Code	1	3	6	9

W

END CONNECTIONS

End	Wafer	Lug	Double Flanged	Butt-weld
Symbol	W	L	R	B

G

OPERATOR

Symbol	Description	Symbol	Description	Symbol	Description
/	Lever	M	Electric actuator	BS	Bare shaft
G	Gear operator	BP	Pneumatic actuator		

WCB

BODY MATERIALS

Body Materials	WCB	LCB	CF8M	CF8	CF3M	CF3	CN7M	4A	A126 B	ASTM A395-40-18
ASTM Ref.	A216 WCB	A352 LCB	A351 CF8M	A351 CF8	A351 CF3M	A351 CF3	A351 CN7M	A890 4A	A126 B	ASTM A395-40-18

3214

TRIM MATERIALS

Seal Ring		Stem		Disc		Seat Ring	
Code	Material	Code	Material	Code	Material	Code	Material
1	PTFE	1	F6a	1	WCB	1	F51
2	Metal+Graphite	2	17-4PH	2	CF8	2	LF2+ENP
3	RPTFE	3	F304	3	CF8M	3	LF2+HARD CR
4	NBR	4	F304L	4	C95800	4	410
5	EPDM	5	F316L	5	CA15+ENP	5	410+ENP
6	VITON	6	F51	6	4A	6	F53
7	STL	7	F53	7	5A	7	F55
8	F51	8	F55			8	Bronze
9	Bronze	9	Bronze				

SUYAN GROUP

Butterfly Valve Concentric



SuYan concentric butterfly are designed, manufactured and testing in accordance with API 609. Size range is from 2 to 60inch, pressure rating is from 125LB to 150LB. Operation temperature -20-200°C.



Concentric

Design Features

- Low Torque
- BI-Directional
- Blowout Proof Stem
- Optional Seat: EPDM, NRB, VITON, PTFE
- Double Shaft (2"-12")
- One Piece Shaft (14" and above)
- Position Indicator
- ISO 5211 Top Flange

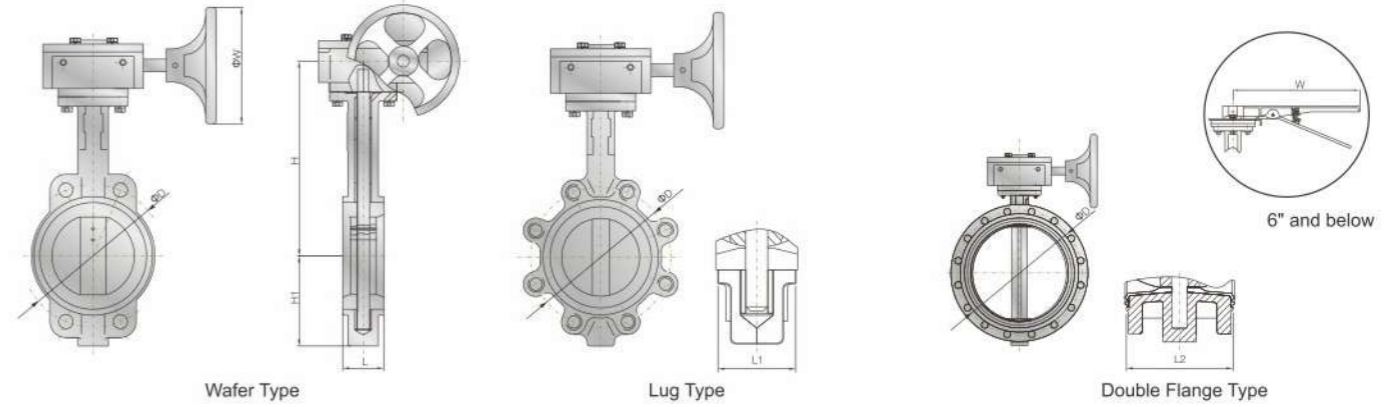


CONCENTRIC

BUTTERFLY VALVE

Material List Dimensions

No.	Part	Cast Iron	Ductile Iron	Cast Steel	Stainless Steel
1	Body	ASTM A126 B	ASTM A536 60 40 18	ASTM A216 WCB	ASTM A351 CF8M
2	Stem	ASTM A182 F6a	ASTM A182 F6a	ASTM A182 F6a	17 4PH
3	Seal Seat	EPDM	EPDM	EPDM	EPDM
4	Disc	ASTM A351 CF8/CF8M	ASTM A351 CF8/CF8M	ASTM A351 CF8/CF8M	ASTM A351 CF8/CF8M
5	Pin	SS 304	SS 304	SS 304	SS 316
6	Bearing Bushing	PTFE	PTFE	PTFE	PTFE
7	Hexagon Bolt	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B8
8	Hexagon Nut	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8
9	Gear	Assembly	Assembly	Assembly	Assembly



150LB Dimension and Weight

Size	D		H		H1		W		L/L1		L2		t (Body thickness)	Weight				
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		kg	Lug	kg		
2"	50	4.80	121	6.50	165	3.20	82	10.80	275	1.70	43	4.25	108	0.20	6	3	3	6
2 1/2"	65	5.50	140	6.90	175	3.50	88	10.80	275	1.80	46	4.41	112	0.20	6	3	4	8
3"	80	6.00	152	7.10	180	3.80	97	10.80	275	1.80	46	4.49	114	0.20	6	5	6	10
4"	100	7.50	191	7.90	200	4.50	114	11.00	280	2.00	52	5.00	127	0.30	7	6	12	20
6"	150	9.50	241	9.30	235	5.50	140	11.40	290	2.20	56	5.51	140	0.30	7	9	14	26
8"	200	11.80	299	11.00	280	6.90	174	11.81	*300	2.40	60	5.98	152	0.30	8	15	22	40
10"	250	14.30	362	10.80	275	7.90	200	11.81	*300	2.70	68	6.50	165	0.30	9	19	32	56
12"	300	17.00	432	12.60	320	8.90	225	11.81	*300	3.10	78	7.01	178	0.40	10	32	48	77
14"	350	18.80	476	14.20	360	9.40	240	13.78	*350	3.10	78	7.48	190	0.40	10	43	70	106
16"	400	21.30	540	16.10	410	11.80	300	19.68	*500	4.00	102	8.50	216	0.40	11	53	89	119
18"	450	22.80	578	17.90	455	12.80	325	19.68	*500	4.50	114	8.74	222	0.50	12	75	104	139
20"	500	25.00	635	20.10	510	14.20	360	23.62	*600	5.00	127	9.02	229	0.50	13	125	180	220
24"	600	29.50	749	21.10	535	16.90	430	23.62	*600	6.10	154	10.51	267	0.60	15	200	277	340
30"	750	36.00	914	25.40	645	20.50	520	27.56	*700	6.50	165	12.52	318	0.70	17	454	498	545
36"	900	42.70	1086	29.90	760	23.60	600	27.56	*700	7.90	200	12.99	330	0.80	19	661	705	835
42"	1050	49.50	1257	31.90	810	27.60	700	31.50	*800	9.90	251	16.14	410	0.90	22	887	940	1207
48"	1200	56.00	1422	36.60	930	31.10	790	31.50	*800	10.90	276	18.50	470	1.00	24	1160	1310	1692

* Gear box

Double Offset

Design Features

- Low Torque
- BI-Directional
- Blowout Proof Stem
- Optional Seat: EPDM, NRB, VITON, PTFE
- Double Shaft (2"-12")
- One Piece Shaft (14" and above)
- Position Indicator
- ISO 5211 Top Flange

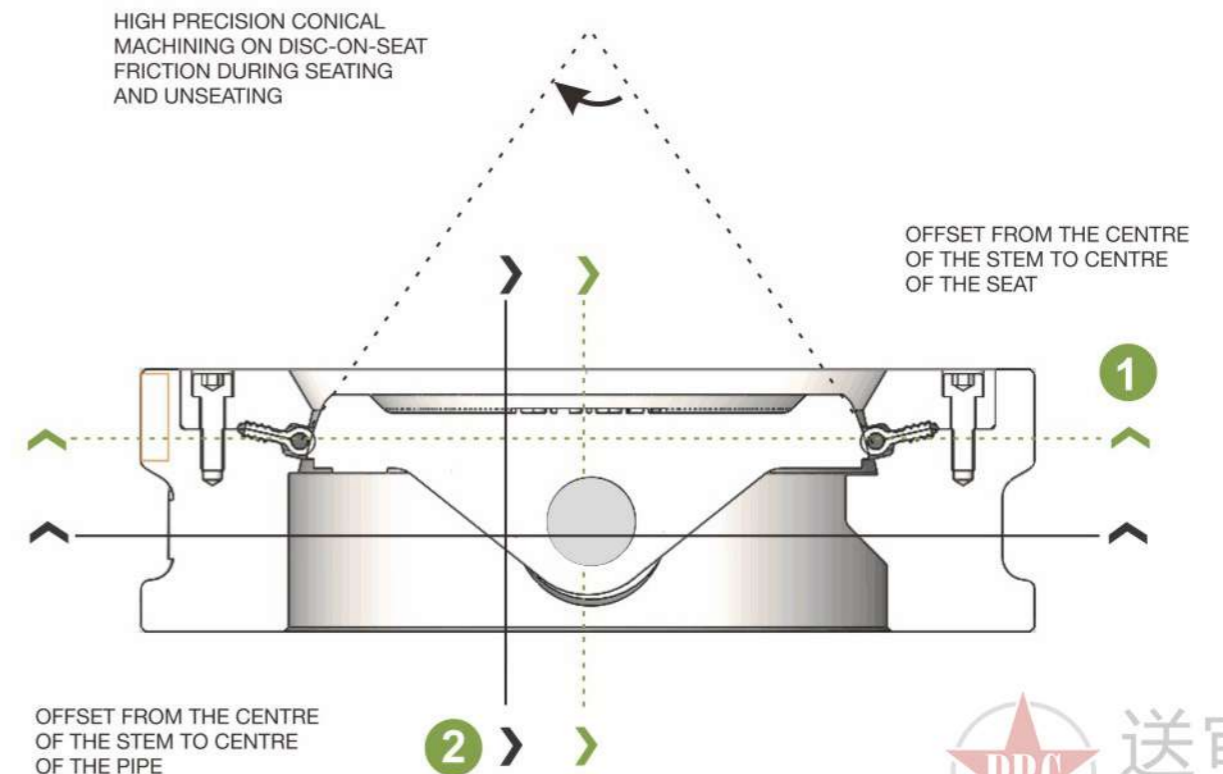


SUMMARY

- **Pressure Rating:** PN10,PN16,150-900LB
- **Size Range:** DN50-DN1200(2"-48")
- **Body Material:** Carbon Steel, Stainless Steel, Duplex S.S., Bronze and Special Alloy
- **Seat Material:** Standard with RPTFE (energized), Optional with metal seated or fire safe tested design
- **Mounting Pad & Stem :** ISO 5211
- **Standard Lockable Hand Lever**
- **Temperature Range:** -30 to 260 °C
- **Design:** API 609; ASME B16.34
- **Valve Inspection & Testing:** Standard: API 598
- **Shutoff Rating:** Bi-directional Bubble Tight
- **Blowout Proof Stem**
- **Fire Safe Tested Design (optional design)**

FEATURES

The SuYan double offset butterfly valve is a high performance valve that offers superior service life and is trouble-free to maintain. The second offset in the design of promotes effortless operation by virtually eliminating disc-on-seat friction during seating and unseating. The disc lifts quickly out of the seat in the first few degrees of travel, and does not make contact with the seat again until it is nearly closed, reducing seat wear and the overall operating torque of the valve. The integrally cast disc travel stop perfectly locates the disc and seat, preventing over-travel and consequent seat damage. This design promotes the self-alignment of the disc and seat, and therefore compensates for change in pressures and temperatures always ensuring of the disc and seat, and therefore compensates for change in pressures and temperatures always ensuring bi-directional bubble tight shutoff. Its double offset design minimize the wears points at the top and bottom seat. It has performed 100,000 mechanical cycle type testing and meet with zero leakage with high pressure air.



BUTTERFLY VALVE

Design Feature



SUYAN VALVE

ADJUSTABLE STEM PACKING

SuYan has a raised mounting pad allowing for the packing to be adjusted with the operator in place and preventing fugitive emissions into the operator in case of a leak. There utilizes a premium PTFE Chevron packing system as standard on resilient seated valves, and a graphite packing system on fire safe & metal seated valves. All packing systems have a pH range of 0-14.

BLOW-OUT PROOF STEM

In the event of a stem failure the circlip installed between the machined stem groove and gland retainer step will ensure that the stem is retained, and cannot be forced out. The stem connection is standard ISO 5211.

SPACER RING

The anti-extrusion spacer ring acts as a packing protector and allows for packing flexibility. As an option, the anti-extrusion spacer ring can be substituted for a lantern ring for leak-off testing.

BEARINGS

PTFE lined Stainless Steel top and bottom bearing simultaneously offer superior corrosion resistance and lower coefficient of friction. The bearings support and secure the stem, preventing distortion from severe forces and temperatures acting on the disc and stem. The locating rings provide further disc/stem support.

SEAT

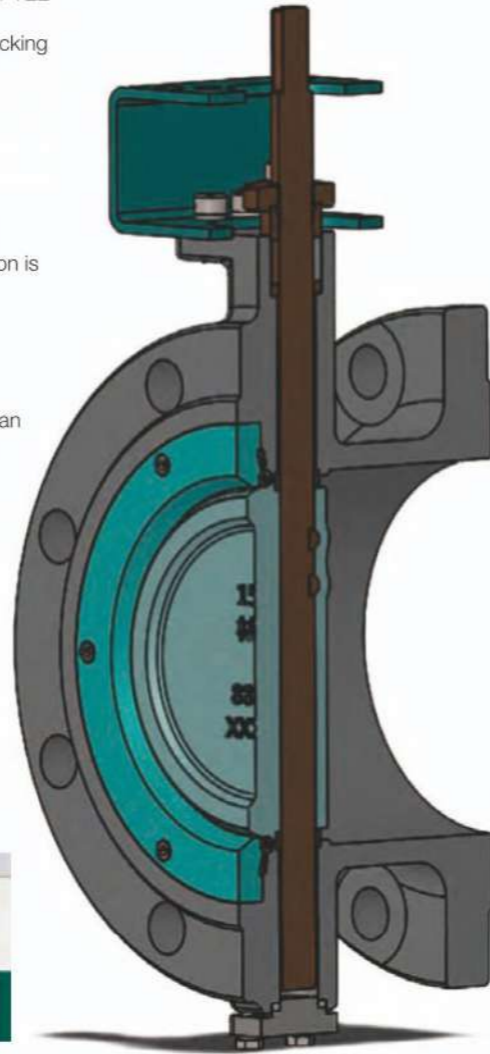
SuYan high performance butterfly valve has a silicone energised RPTFE seat as standard. The silicone provides the resiliency required for a bubble tight seal whilst the 15% glass filled PTFE offers exceptional frictional properties and corrosion resistance. Optional firesafe & Metal seats are available.



Non Fire Safe



Fire Safe



PINS

Only after valve assembly and precision alignment are the shaft fixture holes drilled, ensuring precision alignment are shaft fixture holes drilled, ensuring perfect location. The disc is fixed to the shaft using a unique tangential taper pin that transmits the load under compression, and not in shear.

DISC

A full port and optimized hydrofoil disc shape maximizes the flow efficiency of the valve. The disc edge is precision polished ensuring a zero leakage seal and minimal seat wear. Unlike centerline valves, the sealing face is not located on the disc leading edge where initial wear occurs.

RETAINER RING

The retaining ring allows for easy seat replacement and also acts as built in deflector cone to divert flow away from the seat. The body is recessed to enclose and support the retaining ring.

BUTTERFLY VALVE

Material List



SUYAN VALVE



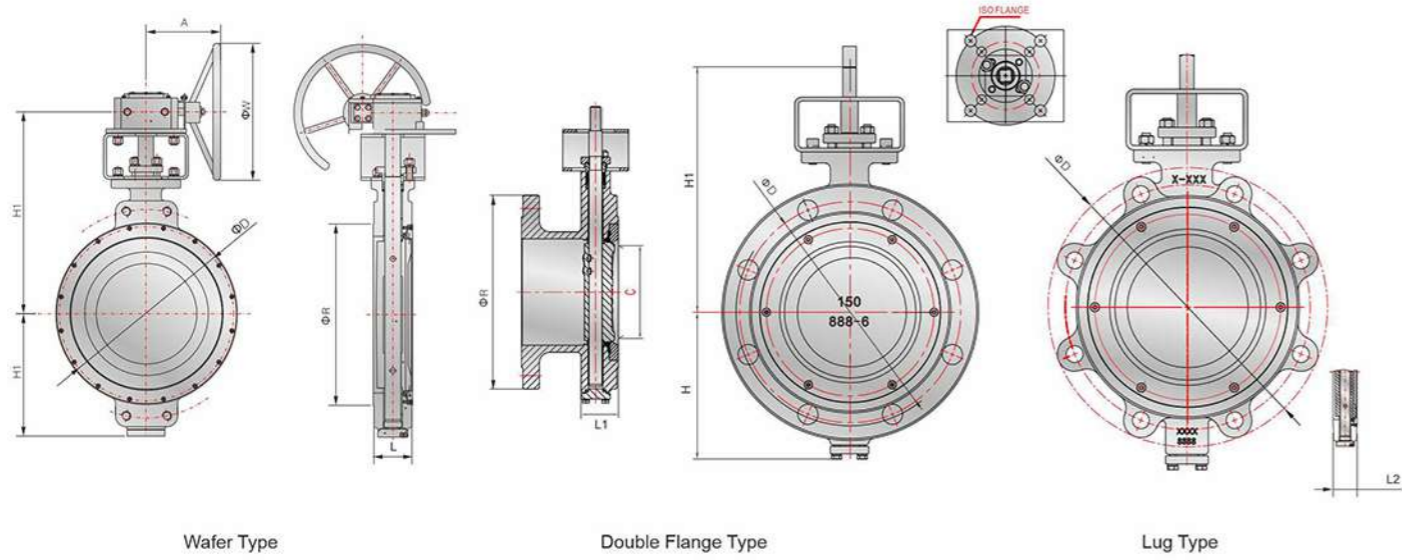
No.	Part	Standard	Low Temperature	Stainless Steel	Sour Service
1	Body	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
2	Disc	ASTM A351 CF8M	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
3	Stem	ASTM A564 630	ASTM A182 F316	ASTM A564 630	ASTM A182 F6a NC
4	Seat retainer	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A105N
5	Down Bearing Bushing	SS304+PTFE	SS316+PTFE	SS316+PTFE	SS316+PTFE
6	Seat ring	PTFE	PCTFE	PTFE	PTFE
7	Locating ring	SS304	SS316	SS316	SS316
8	Stem Packing	SS304	SS316	SS316	SS316
9	Gland Bush	PTFE	PCTFE	PTFE	PTFE
10	Bottom Cover	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A105N
11	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
12	Gasket	PTFE	PCTFE	PTFE	PTFE
13	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
14	Bevel pin	ASTM A564 630	ASTM A182 F316	ASTM A564 630	ASTM A182 F6a NC
15	Axle sleeve	SS304+PTFE	SS316+PTFE	SS316+PTFE	SS316+PTFE
16	Set pressure	SS304	SS316	SS316	SS316
17	Plate	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
18	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
19	Nut	ASTM A194 2H	ASTM A194 4	ASTM A194 8	ASTM A194 2HM
20	Bracket	AISI 1020	AISI 1020	AISI 1020	AISI 1020
21	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
22	Nut	ASTM A194 2H	ASTM A194 4	ASTM A194 8	ASTM A194 2HM

BUTTERFLY VALVE

Dimensions



SUYAN VALVE



BUTTERFLY VALVE

Dimensions



SUYAN VALVE

300LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t (Body thickness)		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	kg	kg	kg	
2"	50	3.60	92	5.00	127	8.00	203	1.70	43	4.30	108	2.50	64	7.70	195	7.10	180	0.20	6	6	10	13
3"	80	5.00	127	6.60	168	8.00	203	1.90	48	4.50	114	3.30	85	8.50	215	7.10	180	0.30	7	9	13	17
4"	100	6.20	157	7.90	200	8.00	203	2.10	54	5.00	127	3.60	92	9.50	242	7.10	180	0.30	8	11	16	21
6"	150	8.50	216	10.60	270	11.81	*300	2.30	59	5.50	140	7.00	178	12.60	320	7.30	185	0.40	9	18	24	34
8"	200	10.60	270	13.00	330	11.81	*300	2.90	73	6.00	152	8.30	210	14.40	365	7.30	185	0.40	11	33	45	63
10"	250	12.80	324	15.30	387	11.81	*300	3.30	83	6.50	165	9.30	235	16.90	430	8.50	215	0.50	13	26	49	73
12"	300	15.00	381	17.80	451	15.75	*400	3.60	92	7.00	178	11.10	282	18.50	470	8.50	215	0.60	14	40	74	108
14"	350	16.30	413	20.30	514	15.75	*400	4.60	117	7.50	190	12.30	312	21.50	545	8.50	215	0.60	16	125	194	264
16"	400	18.50	470	22.50	572	19.68	*500	5.20	133	8.50	216	13.70	349	22.80	580	9.60	245	0.70	18	139	245	335
18"	450	21.00	533	24.80	629	19.68	*500	5.90	149	8.70	222	15.20	386	24.40	620	9.60	245	0.80	19	252	393	533
20"	500	23.00	584	27.00	686	23.62	*600	6.30	159	9.00	229	16.10	410	26.40	670	9.60	245	0.80	21	284	490	674
24"	600	27.30	692	32.00	813	23.62	*600	7.10	181	10.50	267	18.90	480	28.10	715	15.40	390	1.00	24	509	834	1121

150LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t (Body thickness)		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	kg	kg	kg	
2"	50	3.60	92	4.80	121	8.00	203	1.70	43	4.30	108	2.52	64	7.70	195	7.10	180	0.20	6	4	6	8
3"	80	5.00	127	6.00	152	8.00	203	1.90	48	4.50	114	3.35	85	8.50	215	7.10	180	0.20	6	7	9	12
4"	100	6.20	157	7.50	191	8.00	203	2.10	54	5.00	127	3.62	92	9.50	242	7.10	180	0.30	7	10	12	16
6"	150	8.50	216	9.50	241	11.81	*300	2.20	57	5.50	140	5.79	147	12.00	305	7.30	185	0.30	7	11	14	21
8"	200	10.60	270	11.80	299	11.81	*300	2.50	64	6.00	152	7.28	185	13.80	350	7.30	185	0.30	8	25	32	54
10"	250	12.80	324	14.30	362	11.81	*300	2.80	71	6.50	165	7.87	200	14.60	370	8.50	215	0.30	9	39	48	82
12"	300	15.00	381	17.00	432	15.75	*400	3.20	81	7.00	178	8.74	222	16.70	425	8.50	215	0.40	10	51	70	136
14"	350	16.30	413	18.80	476	15.75	*400	3.60	92	7.50	190	9.72	247	18.10	460	8.50	215	0.40	10	80	102	151
16"	400	18.50	470	21.30	540	19.68	*500	4.00	102	8.50	216	12.44	316	20.10	510	9.60	245	0.40	11	104	144	213
18"	450	21.00	533	22.80	578	19.68	*500	4.50	114	8.70	222	13.46	342	21.50	545	9.60	245	0.50	12	153	188	313
20"	500	23.00	584	25.00	635	23.62	*600	5.00	127	9.00	229	14.65	372	22.20	565	9.60	245	0.50	13	192	244	386
24"	600	27.30	692	29.50	749	23.62	*600	6.10	154	10.50	267	17.32	440	26.60	675	15.40	390	0.60	15	288	378	552
28"	700	31.50	800	34.00	864	27.56	*700	6.50	165	11.50	292	19.88	505	30.30	770	15.40	390	0.60	16	340	486	578
32"	800	36.00	914	38.50	978	27.56	*700	7.50	190	12.50	318	23.62	600	33.30	845	16.80	427	0.70	18	595	755	929
36"	900	40.30	1022	42.80	1086	27.56	*700	8.00	203	13.00	330	25.39	645	34.40	875	16.80	427	0.80	19	680	820	1015

600LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t (Body thickness)		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	kg	kg	kg	
3"	80	5.00	127	6.60	168	8.00	203	2.10	54	7.10	180	4.10	105	10.80	275	7.10	180	0.30	8	11	14	24
4"	100	6.20	157	8.50	216	11.81	*300	2.50	64	7.50	190	5.40	138	10.80	275	7.10	180	0.40	10	20	35	49
6"	150	8.50	216	11.50	292	15.75	*400	3.10	78	8.30	210	7.90	200	15.20	385	7.30	185	0.50	13	50	70	100
8"	200	10.60	270	13.80	349	15.75	*400	4.00	102	9.10	230	9.10	232	17.10	435	7.30	185	0.60	16	70	90	126
10"	250	12.80	324	17.00	432	19.68	*500	4.60	117	9.80	250	10.90	277	20.10	510	8.50	215	0.80	20	112	162	220
12"	300	15.00	381	19.30	489	19.68	*500	5.50	140	10.60	270	11.90	302	21.10	535	8.50	215	0.90	23	163	218	305
14"	350	16.30	413	20.80	527	23.62	*600	6.10	155	11.40	290	13.00	329	24.30	617	8.50	215	1.00	26	350	543	739
16"	400	18.50	470	23.80	603	23.62	*600	7.00	178	12.20	310	17.00	432	26.20	665	9.60	245	1.20	30	389	686	938
18"	450	21.00	533	25.80	654	23.62	*600	7.90	200	13.00	330	18.20	463	28.10	715	9.60	245	1.30	33	706	900	1360
20"	500	23.00	584	28.50	724	23.62	*600	8.50	216	13.80	350	19.40	492	28.70	730	9.60	245	1.40	37	795	1372	1700
24"	600	27.30	692	33.00	838	27.56	*700	9.10	232	15.40	390	20.70	525	35.20	895	15.40	390	1.70	43	1300	2100	2700

* Gear box

Note:900 lb size data can be supplied according to customer requirements

Butterfly Valve Triple Offset



SuYan triple offset butterfly are designed, manufactured and testing in accordance with API 609, ASME B16.34. Available to offer fire sate tested design when required, which is certified to API 607. Size range is from 3 to 60inch, pressure rating is from 150LB to 900LB. Operation temperature -46-450 °C .



送审稿

Tel:400-633-5118

Triple Offset

Design Features

- Triple Offset
- Bi-Directional (Reduced Pressure at Reversed Direction)
- Low Emission
- Blowout Proof Stem
- Fire Safe Tested Design (optional design)
- ISO5211 Top Flange
- Long Life Duration
- Low Operation Torque
- Metal & Graphite Laminated Disc Sealing
- Solid Metal Disc (optional)



No.	Part	Standard	Low Temperature	Stainless Steel	Sour Service
1	Bottom Cover	ASTM A105N	ASTM A350 LF2	ASTM A182 F316	ASTM A105N
2	Hexagon Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
3	Gasket	Graphite	Graphite	Graphite	Graphite
4	Down Bearing Bushing	Self-lubricating bearing	Self-lubricating bearing	Self-lubricating bearing	Self-lubricating bearing
5	Body	ASTM A216-WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
6	Disc	ASTM A216-WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
7	Seal Ring	SS316+Graphite	SS316+Graphite	SS316+Graphite	SS316+Graphite
8	Disc Cover	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316	ASTM A182 F316
9	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
10	Stem	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a NC
11	Pin	ASTM A182 F6a	ASTM A182 F316	ASTM A182 F316	ASTM A182 F6a NC
12	Up Bearing Bushing	Self-lubricating bearing	Self-lubricating bearing	Self-lubricating bearing	Self-lubricating bearing
13	Packing	Graphite	Graphite	Graphite	Graphite
14	Packing Gland	ASTM A216 WCB	ASTM A352 LCB	ASTM A351 CF8M	ASTM A216 WCB
15	Hexagon Nut	ASTM A194 2H	ASTM A194 7	ASTM A194 8	ASTM A194 2HM
16	Spring Gasket	AISI 1566	AISI 1566	Stainless Steel	AISI 1566
17	Stud	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
18	Support	AISI 1020	AISI 1020	Stainless Steel	AISI 1020
19	Hexagon Nut	ASTM A194 2H	ASTM A194 7	ASTM A194 8	ASTM A194 2HM
20	Spring Gasket	AISI 1566	AISI 1566	Stainless Steel	AISI 1566
21	Stud	ASTM A193 B7	ASTM A320 L7	ASTM A193 B8	ASTM A193 B7M
22	Worm Gear	Assemble	Assemble	Assemble	Assemble



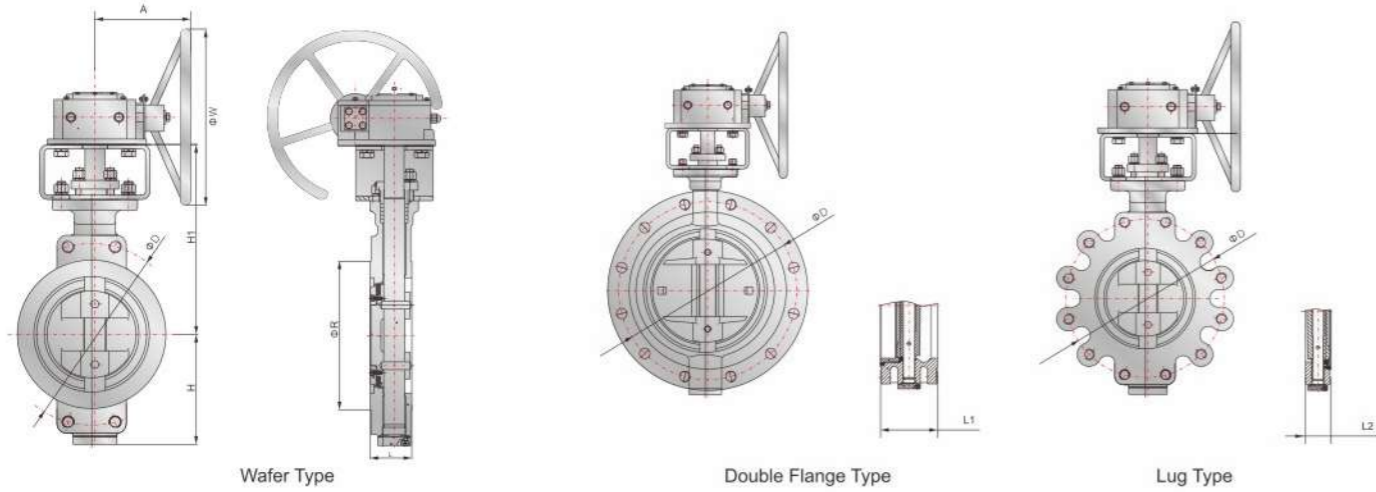
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Tel:400-633-5118

BUTTERFLY VALVE

Dimensions



SUYAN VALVE



ENGINEERING DATA

Operating Torque Flow Coefficient(Cv value)



SUYAN VALVE

Concentric Butterfly Valve

Size	125LB (1.0MPa)					150LB (2.0MPa)				
	N.M	ISO5211 Top Flange	Stem Diameter		Cv	N.M	ISO5211 Top Flange	Stem Diameter		Cv
			Wafer	RF				Wafer	RF	
2"	10	F07	43	108	130	10	F07	43	108	130
2.5"	18	F07	46	112	230	18	F07	46	112	230
3"	25	F07	46	114	340	25	F07	46	114	340
4"	30	F07	52	127	648	30	F07	52	127	648
6"	110	F10	56	140	1830	110	F10	56	140	1830
8"	190	F10	60	152	3400	190	F10	60	152	3400
10"	360	F10	68	165	5270	360	F10	68	165	5270
12"	760	F12	78	178	7590	760	F12	78	178	7590
14"	820	F12	78	190	10332	820	F12	78	190	10332
16"	1180	F14	102	216	13727	1180	F14	102	216	13727
18"	1320	F16	114	222	17372	1320	F16	114	222	17372
20"	2077	F16	127	229	21447	2077	F16	127	229	21447
24"	4200	F16	154	267	30884	4200	F16	154	267	30884
28"	4800	F25	165	292	42038	4800	F25	165	292	42038
30"	6200	F25	190	318	48258	6200	F25	190	318	48258
32"	8000	F25	190	318	54900	8000	F25	190	318	54900
36"	11000	F25	203	330	69490	11000	F25	203	330	69490
40"	13800	F25	216	410	80420	13800	F25	216	410	80420
48"	18920	F30	254	470	123600	18920	F30	254	470	123600
56"	24500	F35	279	530	202480	24500	F35	279	530	202480
60"	29360	F35	279	530	232400	29360	F35	279	530	232400

150LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Water	Lug	RF	
3"	80	5	127	6	152.4	11.81	*300	1.9	48	4.5	114	3.7	95	9.1	230	7.1	180	0.2	6	14	16	23
4"	100	6.2	157.2	7.5	190.5	11.81	*300	2.1	54	5	127	4.5	115	9.4	240	7.1	180	0.3	6.5	18	21	34
6"	150	8.5	215.9	9.5	241.3	15.75	*400	2.2	57	5.5	140	5.8	147	12.2	310	7.3	185	0.3	7.1	30	35	53
8"	200	10.6	269.7	11.8	298.5	15.75	*400	2.5	64	6	152	7.3	185	13.8	350	7.3	185	0.3	8	48	53	84
10"	250	12.8	323.9	14.3	362	15.75	*400	2.8	71	6.5	165	8.5	215	15.8	402	8.5	215	0.3	8.8	62	71	110
12"	300	15	381	17	431.8	19.68	*500	3.2	81	7	178	9.9	252	17.9	455	8.5	215	0.4	9.6	85	100	151
14"	350	16.3	412.8	18.8	476.3	19.68	*500	3.6	92	7.5	190	11.3	287	19.9	505	8.5	215	0.4	10.4	125	150	212
16"	400	18.5	469.9	21.3	539.8	23.62	*600	4	102	8.5	216	12.5	317	22	560	9.6	245	0.4	11.2	180	210	260
18"	450	21	533.4	22.8	577.9	23.62	*600	4.5	114	8.7	222	13.5	342	22.2	565	9.6	245	0.5	12	260	276	327
20"	500	23	584.2	25	635	27.56	*700	5	127	9	229	14.6	372	23.8	605	9.6	245	0.5	12.9	310	360	430
24"	600	27.3	692.2	29.5	749.3	27.56	*700	6.1	154	10.5	267	17.3	440	26.6	675	15.4	390	0.6	14.5	450	555	645

300LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Water	Lug	RF	
3"	80	5	127	6.6	168.1	11.81	*300	1.9	48	4.5	114	4.1	105	9.4	240	7.1	180	0.3	6.9	15	17	28
4"	100	6.2	157.2	7.9	200.2	11.81	*300	2.1	54	5	127	5	127.5	10	255	7.1	180	0.3	7.7	19	22	41
6"	150	8.5	215.9	10.6	269.7	15.75	*400	2.3	59	5.5	140	7	178	13.6	345	7.3	185	0.4	9.4	42	48	75
8"	200	10.6	269.7	13	330.2	19.68	*500	2.9	73	6	152	8.5	216	15.7	400	8.5	215	0.4	11	62	72	110
10"	250	12.8	323.9	15.3	387.4	19.68	*500	3.3	83	6.5	165	9.7	247	17.9	455	8.5	215	0.5	12.7	96	117	165
12"	300	15	381	17.8	450.9	23.62	*600	3.6	92	7	178	11.1	282	19.5	495	8.5	215	0.6	14.3	130	160	222
14"	350	16.3	412.8	20.3	514.4	23.62	*600	4.6	117	7.5	190	12.3	312	21.9	555	9.6	245	0.6	16	210	285	335
16"	400	18.5	469.9	22.5	571.5	27.56	*700	5.2	133	8.5	216	13.7	349	22.8	580	9.6	245	0.7	17.6	290	380	435
18"	450	21	533.4	24.8	628.7	27.56	*700	5.9	149	8.7	222	15.2	386	24.4	620	9.6	245	0.8	19.3	355	475	525
20"	500	23	584.2	27	685.8	31.50	*800	6.3	159	9	229	16.1	410	26.4	670	15.4	390	0.8	20.9	515	655	735
24"	600	27.3	692.2	32	812.8	31.50	*800	7.1	181	10.5	267	19.3	491	29.9	760	15.4	390	1	24.2	650	905	1024

600LB Dimension and Weight

Size	R		D		W		L/L2		L1		H		H1		A		t		Weight			
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Water	Lug	RF	
3"	80	5	127	6.6	168.1	11.81	*300	2.1	54	7.1	180	4.1	105	10.8	275	7.1	180	0.3	7.9	19	25	35
4"	100	6.2	157.2	8.5	215.9	11.81	*300	2.5	64	7.5	190	5.4	137.5	10.8	275	7.1	180	0.4	9.5	38	48	48
6"	150	8.5	215.9	11.5	292.1	15.75	*400	3.1	78	8.3	210	7.9	200	15.2	385	7.3	185	0.5	12.9	78	93	140
8"	200	10.6	269.7	13.8	349.3	19.68	*500	4	102	9.1	230	9.1	232	17.1	435	8.5	215	0.6	16.3	115	140	206
10"	250	12.8	323.9	17	431.8	19.68	*500	4.6	117	9.8	250	10.9	277	20.1	510	8.5	215	0.8	19.7	190	240	340
12"	300	15	381	19.3	489	23.62	*600	5.5	140	10.6	270	11.9	302	21.1	535	8.5	215	0.9	23	280	350	444
14"	350	16.3	412.8	20.8	527.1	23.62	*600	6.1	155	11.4	290	13	329	24.3	617	9.6	245	1	26.4	320	520	573
16"	400	18.5	469.9	23.8	603.3	27.56	*700	7	178	12.2	310	17	432	26.2	665	9.6	245	1.2	29.8	429	635	695
18"	450	21	533.4	25.8	654.1	27.56	*700	7.9	200	13	330	18.2	463	28.1	715	9.6	245	1.3	33.2	558	840	1060
20"	500	23	584.2	28.5	723.9	31.50	*800	8.5	216	13.8	350	19.4	492	28.7	730	15.4	390	1.4	36.5	728	1089	1265
24"	600	27.3	692.2	33	838.2	31.50	*800	9.1	232	15.4	390	20.7	525	35.2	895	15.4	390	1.7	43.3	995	1383	1643

* Gear box

Note: 1. Above Torque value are calculated based on room temperature, if other size torque required, please contact with SuYan Valves.
 2. When sizing the actuator, please consider safety factor 1.2~1.5.
 3. For more details, the valve torque will be changed under different working temperature, and the torque will be changed for different seat materials. please contact with SuYan Valves.
 4. Cv value is based on 90° disc open angle.



ENGINEERING DATA

Operating Torque Flow Coefficient(Cv value)



SUYAN VALVE

Double Offset Butterfly Valve

Size	150LB (2.0MPa)						300LB (5MPa)						600LB (10.0MPa)					
	N.m		Flange No.	Stem Diamete		Cv	N.m		Flange No.	Stem Diamete		Cv	N.m		Flange No.	Stem Diamete		Cv
	Stem Downstream	Stem Upstream		Wafer	RF		Stem Downstream	Stem Upstream		Wafer	RF		Stem Downstream	Stem Upstream		Wafer	RF	
2"	21	30	F07	43	108	65	/	/	F07	43	108	65	/	/	F07	54	150	48
2.5"	24	34	F07	46	112	113	53	76	F07	46	112	113	78	88	F07	54	170	86
3"	26	36	F07	48	114	172	55	78	F07	48	114	172	113	164	F07	54	180	132
4"	36	52	F07	54	127	385	79	113	F07	54	127	385	215	305	F07	64	190	270
6"	95	136	F07&F10	57	140	1050	237	339	F10	59	140	1050	463	655	F12	78	210	850
8"	177	237	F07&F10	64	152	2180	418	599	F12	73	152	1895	1107	1582	F14	102	230	1400
10"	324	463	F10 or F14	71	165	3280	791	1130	F14	83	165	3050	1898	2712	F16	114	250	2010
12"	514	735	F12	81	178	5100	1186	1695	F16	92	178	4800	2373	3390	F25	140	270	2980
14"	751	1074	F14	92	190	5800	1740	2486	F16	117	190	5395	3390	4858	F25	155	290	3900
16"	1187	1480	F16	102	216	9287	3005	4293	F25	133	216	7900	5141	7344	F25	178	310	5000
18"	1740	2486	F16	114	222	11400	3559	5084	F25	149	222	10086	7276	10390	F25	200	330	6000
20"	2136	3051	F16&F25	127	229	13800	4824	6892	F25	159	229	11300	9830	14010	F30	216	350	8000
24"	3480	4972	F16&F25	154	267	21600	7513	10734	F25	181	267	16980	13897	19772	F30	232	390	11000
26"	4580	5980	F25&F30	154	267	21600	/	/	F25	181	267	16980	/	/	F30	232	390	11000
28"	5029	7176	F25&F30	165	292	28080	/	/	F30	229	292	2300	/	/	F35	292	430	13000
30"	5933	8475	F25&F30	190	318	38740	16609	23727	F35	229	318	26520	24518	35025	F35	318	450	15400
32"	6644	9492	F25&F30	190	318	44070	/	/	F35	241	318	31200	/	/	F40	318	470	17500
36"	8701	12430	F25&F30	203	330	55800	22936	32766	F35	241	330	39450	/	/	F48	330	510	22360
40"	15375	16560	F30	216	410	68860	31478	44968	F40	300	410	50160	/	/	F48	410	550	27600
48"	29870	31415	F30	254	470	99200	45555	65079	F40	350	470	74500	/	/	F60	470	630	39750
56"	45767	47195	F35	318	530	138000	/	/	F40	390	530	107450	/	/	F60	530	710	57261
60"	51277	52995	F35	318	530	164300	/	/	F48	440	530	124300	/	/	F60	600	710	65800

- Note: 1. Above Torque value are calculated based on room temperature, if other size torque required, please contact with SuYan Valves.
 2. When sizing the actuator, please consider safety factor 1.2~1.5.
 3. For more details, the valve torque will be changed under different working temperature, and the torque will be changed for different seat materials. please contact with SuYan Valves.
 4. Cv value is based on 90° disc open angle.

ENGINEERING DATA

Operating Torque Flow Coefficient(Cv value)



SUYAN VALVE

Triple Offset Butterfly Valve

Size	150LB (2.0MPa)					300LB (5MPa)				
	N.m	Flange No.	Stem Diamete		Cv	N.m	Flange No.	Stem Diamete		Cv
			Wafer	RF				Wafer	RF	
2"	26	F07	43	108	58	78	F07	43	108	58
2.5"	32	F07	46	112	109	88	F07	46	112	109
3"	80	F07	48	114	165	144	F07	48	114	165
4"	142	F07	54	127	318	258	F07	54	127	318
6"	362	F10	57	140	932	798	F12	59	140	682
8"	785	F12	64	152	1970	1960	F14	73	152	1230
10"	1080	F14	71	165	2689	2270	F16	83	165	2370
12"	1510	F14	81	178	3930	2780	F16	92	178	3520
14"	2458	F16	92	190	5290	5680	F25	117	190	4782
16"	2850	F25	102	216	7726	6835	F25	133	216	6280
18"	4536	F25	114	222	9856	7358	F30	149	222	7980
20"	5474	F25	127	229	12180	10518	F30	159	229	10800
24"	8240	F25	154	267	19800	18393	F30	181	267	16180
28"	11682	F30	165	292	27600	27478	F35	229	292	22410
30"	14340	F30	190	318	33700	32971	F35	229	318	27090
32"	17856	F30	190	318	35800	41150	F40	241	318	33050
36"	23345	F30	203	330	45600	53700	F40	241	330	42090
40"	28200	F35	216	410	65320	68370	F40	300	410	48964
48"	44400	F40	254	470	96000	92970	F48	350	470	69350
56"	64240	F40	318	530	139700	141600	F48	390	530	94390
60"	73520	F40	318	530	160380	128000	F48	440	530	108400

Size	600LB(10.0MPa)					900LB(15.0MPa)				
	N.m	Flange No.	Stem Diamete		Cv	N.m	Flange No.	Stem Diamete		Cv
			Wafer	RF				Wafer	RF	
2"	162	F07	54	150	42	265	F10	56	118	95
2.5"	208	F07	54	170	72	380	F12	65	153	120
3"	340	F10	54	180	107	560	F12	71	195	150
4"	633	F12	64	190	250	836	F14	92	229	210
6"	1630	F16	78	210	600	2180	F16	102	267	500
8"	3540	F16	102	230	1079	4692	F16	140	292	923
10"	5462	F25	114	250	1708	6596	F25	155	330	1430
12"	6018	F25	140	270	2620	7955	F30	178	356	2148
14"	10913	F25	155	290	4062	17838	F30	290	381	3025
16"	15757	F30	178	310	5292	23600	F35	310	406	4230
18"	19805	F35	200	330	7395	33734	F35	330	432	5692
20"	25808	F35	216	350	9320	44707	F40	350	457	7430
24"	44799	F40	232	390	13578	67240	F40	350	508	10700
28"	66593	F40	292	430	20326	124700	F48	390	548	14165
30"	79506	F48	318	450	23400	158845	F60	410	570	19370
32"	90160	F48	318	470	26370	179855	F60	425	580	25520
36"	117500	F48	330	510	32816	214580	F60	440	615	32610
40"	155240	F60	410	550	40518	314630	F60	465	640	40105
48"	227000	F60	470	630	57460	426875				
56"	278000	F60	530	710	78210	506785				
60"	314000	F60	600	710	89786	637890				

- Note: 1. Above Torque value are calculated based on room temperature, if other size torque required, please contact with SuYan Valves.
 2. When sizing the actuator, please consider safety factor 1.2~1.5.
 3. For more details, the valve torque will be changed under different working temperature, and the torque will be changed for different seat materials. please contact with SuYan Valves.
 4. Cv value is based on 90° disc open angle.





Notes

1. All the sizes are in full port.
2. Pressure Ratings are according to B 16.34.

Method of Calculating Flow

The Flow Coefficient Cv of a valve is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the Cv, use the following formulas:

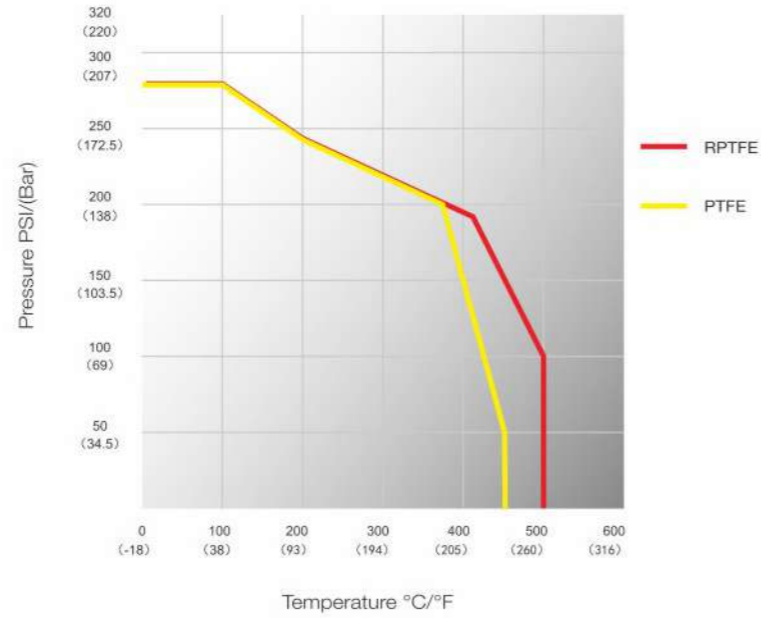
Liquid Flow:

$Q_L = C_v(P/G)^{1/2}$
 Q_L = Flow rate of liquid (gal./min)
 P = Differential pressure across the valve
 G = Specific gravity of liquid (for water, $G=1$)

Gas Flow:

$Q_g = 61 C_v (P_2/P)^{1/2}$
 (For non-critical flow, $P/P < 1.0$)
 Q_g = Flow rate of gas (CFH at STP)
 P_2 = Outlet pressure (psia)
 G = specific gravity of gas (for air, $g=1.0$)

Pressure Temperature Chart



OPERATORS

We offer the SuYan butterfly valve with standard epoxy coated WCB or ductile iron gearbox. The gearbox is available with an acid resistant or offshore coating on request.

HAND LEVERS

The SuYan butterfly valve has a standard lockable epoxy coated ductile iron hand lever. For added corrosion resistance, Stainless steel levers are also available on request.

PNEUMATIC ACTUATORS

The SuYan butterfly valve can be fitted with an SuYan rack & pinion or scotch yoke actuator. SuYan Scotch yoke actuators can deliver up to 257,281 Nm torque and the standard material offered is epoxy coated ductile iron. SuYan rack & pinion actuators are both hard anodized and epoxy coated as standard and can deliver up to 13,000 Nm torque. They can be supplied with a PTFE protective coating on request.

