TÜV Rheinland®

CE 0035

HIGH PERFORMANCE BUTTERFLY VALVE

Double Eccentric
PTFE/Metal Seated

Lever Gear Pneumatic Electric Operated.

Allowable Pressure ANSI CLASS 150 PN25 SIZE DN50(2")-600(24")

Tacwell
VALVES & CONTROLS
美 国 泰 克 韦 尔

HOW TO ORDER/如何订货

Tacwell VALVES & CONTROLS

TACWELL High Performance Butterfly Valve

蝶阀订货说明	D	91	0	E	5	5	T	100		
	OPERATOR	FIGURE	END	PRESSURE	BODY	DISK	SEAT	SIZE	OPTION	OTHER

OPERATOR/控制方式	CODE
Lever/手柄	L
Gear box/蜗动	G
Double acting actuator/双动气控	D
Spring return actuator/单动气控	S
Electrical actuator ON-OFF rotative/电动开关型	TE
Electrical actuator Modular rotative/电动调节型	TM

High Performance Butterfly Valve/高性能双偏心蝶阀	CODE
Teflon seat/特氟隆密封	91
Teflon +SS316 seat fire safe/特氟隆+SS316密封防火结构	92
Metal seat/金属密封	93

END CONNECTION/连接方式	CODE
Wafer butterfly valve/对夹式	__0
LUG butterfly valve/吊耳式	__3

PRESSURE RATING/ FLANGED ENDS/压力等级	CODE
ANSI 150	A
ANSI 300	B
PN10	C
PN16	D
PN25	E
PN50	F

BODY (ASTM)/阀体(ASTM)	CODE
OTHER	0
Carbon Steel A216 Gr.WCB	4
Stainless steel A351 Gr.CF8	5
Stainless steel A351 Gr.CF8M	6
Stainless steel A351 Gr.CF3M	7

DISK (ASTM)/阀板(ASTM)	CODE
OTHER	0
Stainless steel A351 Gr.CF8	5
Stainless steel A351 Gr.CF8M	6
Stainless steel A351 Gr.CF3M	7

SEAT/密封	CODE
PTFE	T
PTFE+15%GRAPHITE	TG
PTFE+15%GLASS FIBER	TF
PTFE+A240 316	TM
PTFE+15%GRAPHITE+A240 316	GM
PTFE+15%FIBER	TF
A240 316	M
INCONEL 718	IC

SIZE/口径	CODE
DN40 / 1-1/2"	040
DN50 / 2"	050
DN65 / 2-1/2"	065
DN80 / 3"	080
DN100 / 4"	100
DN125 / 5"	125
DN150 / 6"	150
DN200 / 8"	200
DN250 / 10"	250
DN300 / 12"	300
DN350 / 14"	350
DN400 / 16"	400
DN450 / 18"	450
DN500 / 20"	500
DN600 / 24"	600

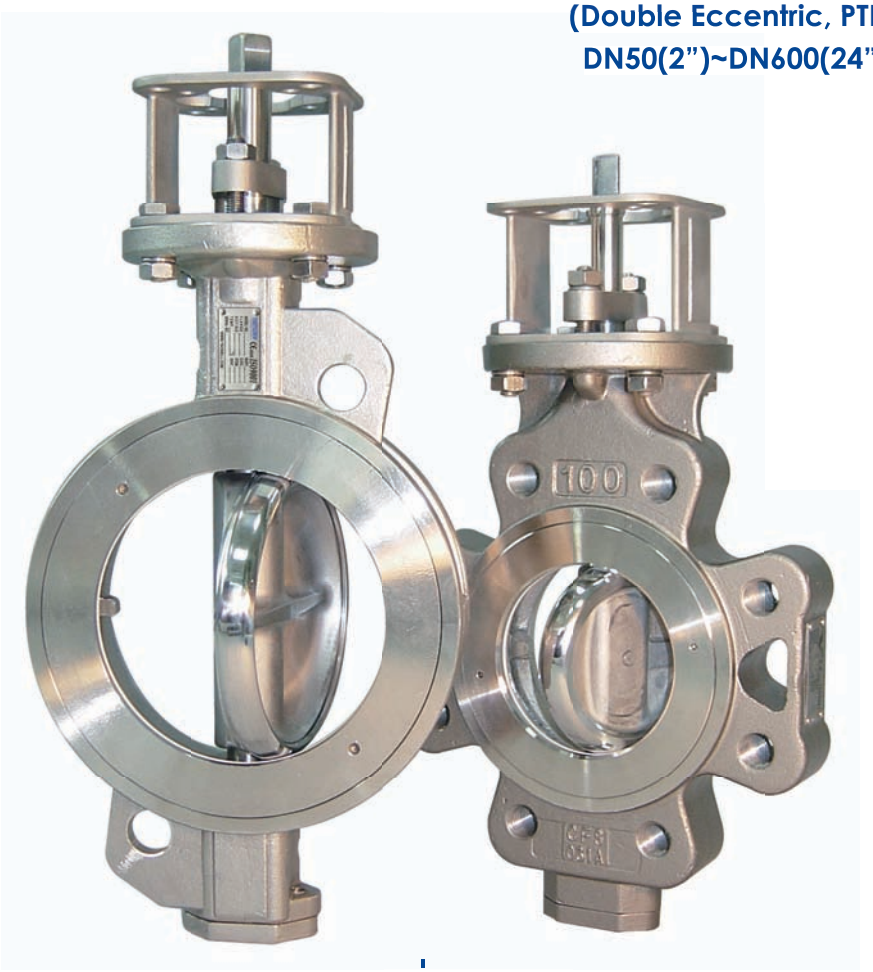
OPTION/特殊要求	CODE
NONE	
Emission Test	E
Internal Polished	P
WORK TEMP.-100~-50℃	L
WORK TEMP.210~350℃	M
WORK TEMP.350~500℃	H

OTHER/其它
On request/按要求提供

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

High Performance butterfly valve
(Double Eccentric, PTFE/METAL seated)
DN50(2")~DN600(24"), ANSI CLASS150



设计特性 Design Features

◆Double offset design to minimize seat wear and extend seal life.
双偏心设计，减少阀座磨损，延长密封件寿命
◆Valve seats are designed for full pressure, bi-directional sealing
阀座设计为全压，双向密封
◆Valve is equipped with upper and lower low friction bearings
阀门上、下安装低摩擦轴承
◆One-Piece shaft design equipped with Blow-Out Proof and Anti-Static devices
单轴设计及防止顶出和防静电装置
◆Patented Seat Retainer Ring fixed without bolts and offering complete uninterrupted seal face.
专利扣环固定阀座不需要螺栓即可提供完全密封。
◆Valve has integral body stop to prevent over travel
阀门阀体有限位，以防止过行程。
◆Built-in ISO5211 Direct Mounting Pad and Square Stem for Easy Automation
采用ISO5211直接安装执行器的平台设计
◆Options:1.Pnumatic Actuator 2. Electrical 3.Manual
选项:1.气动执行器 2.电动执行器 3.手动

标准规范Applicable Standards

◆标准(STANDARDS): ANSI B16.5, ANSI B16.34/16.47, ANSI/FCI 70-2, MSS SP-25/61/68, API 598/609/607, PED, ISO 5208/5211/5752/9001
◆结构长度(Face to face): ISO5752
◆连接标准(Connections): PN10~PN25; ANSI150/ANSI300

应用范围General Application

Chemical, petroleum refining&oilfield, gas, cda, steel mill, petrochemical...
化工，石油炼油与油田，钢厂，空分、CDA、石化...

技术参数Technical Data

Ends :Wafer、Lug
Size Range : 2"~ 48" (DN50-DN1200)
Pressure Rating: PN10/16/PN25；ANSI150/ANSI300
Body : WCB/ CF8/CF8M/CF3M
Disk : CF8/CF8M/CF3M
Seat Working Temp.:
PTFE -29℃ to +160℃
RPTFE+15%GLASS RTFE -29℃ to +180℃
RPTFE+15%GRAPHITE RTFE -29℃ to +210℃
METAL SEAT 316SS/INCONEL MAX：500℃

Tacwell VALVES & CONTROLS

Scope

The specification covers the design and testing of high performance double eccentric design butterfly valves.

Applicable Standards

The following standards shall apply

ANSI B16.5: Pipe flanges and flanged fittings(24"sizeand smaller)
ANSI B16.34: Valves-flanged and butt welding end.
ANSI/FCI 70-2: Control Valve Seat Leakage.
MSS SP-25: Standard marking system for valves, fittings, flang and unions.
MSS SP-61: Pressure testing of steel valves.
MSS SP-68: High pressure-offset seat butterfly valves.
API 598: Valve inspection and testing.
API 609: Butterfly valves,lug-type and wafer-type.
API607: Fire test for soft-seated quarter-turn vales.
PED: Pressure equipment directive module H.
ISO5208: Inspection regulation of valve.
ISO5211: Part-turn actuator attachment.
ISO5752: Face-to-face and center-to-face dimensions.
ISO9001: Quality assurance system.

Design Features

◆Valves are high performance and design with offset and double eccentric disc.
◆Valve seats are designed for full pressure,bi-directional sealing.
◆Valve is equipped with upper and lower low friction bearings.
◆One-Piece shaft design equipped with Blow-Out Proof and Anti-Static devices.
◆Patented Seat Retainer Ring fixed without bolts and offering complete uninterrupted seal face.
◆Valve has integral body stop to prevent over travel.

Inspectionand Test

◆Valves shall be hydrostatically shell tesed as per ANSI B16.34, MSS SP-61, API 598, and ISO 5208.
◆Valves shall be seat tested per MSS SP-61 or ISO 5208 No leakage is permitted for resilient seated valves.
And allowable leakage of metal seated valves are as per ANSI/FCI 70-2.
◆API 598 testing available upon request.
◆Valves with other then 17-4PH stems, tested to MSS SP-61 or ISO 5208 only.

Materials

◆Stainless steel valves shall be constructed from materials as below:
Body-ASTM A351 CF8 or CF8M
Disc-ASTM A351 CF8 or CF8M
◆Carbon steel valves shall be constructed form materials below:
Body-ASTM A105 or A216 WCB
Disc-ASTM A351 CF8 or CF8M
◆Stem material shall be one of the following ASTM A564 Type 630(17-4PH) A182 F304 or F316.

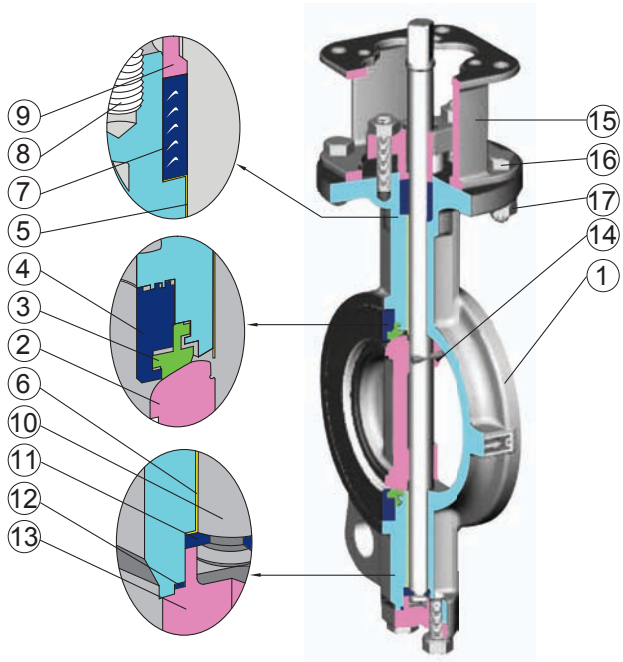
Tacwell VALVES & CONTROLS

Tacwell Series BV-910

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K 20K

Construction Details

◆**Stem(10)**-One-Piece design with ISO 5211 square drive.
◆**Packing(7)**-Multiply Rows of Teflon Cheveron.
◆**Retainer(4)**-Patented design of square thread, ensures an un-ingerupted sealing face. Flange face equipped with125-200AARH finish and is compatible with both flat and spiral wound gaskets.
◆**Integral Disc stop(1)**-To prevent disc from over travel.
◆**Teflon Seat(3)**-Pressure assisted to give Bi-directional bubble tight shut off at all pressures.(Valve must be installed with retaining ring upstream for dead end service.)
◆**Thrust Ring(11)**-Anti blow out Shaft and Anti static design.
◆**Bearings(5&6)**-Upper and Lower bearing are constructed of PTFE impregnated 316 SS.
◆**Yoke(15)**-Investment Cast, pet ISO 5211.
Fugitive Emissions Packing System is available on customer required.



No.	Name	Materials	Specification JIS	Specification ASTM	Remark
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edge has to be hard chrome plated when equipped RTFE seat
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SEAT	PTFE			-29°~160℃
		PTFE+15%GLASS	RPTFE		-29°~180℃
		PTFE+15%GRAPHITE	RPTFE		-29°~210℃
4	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
5	BUSHING	PTFE+316SS			
6	BUSHING	PTFE+316SS			
7	GLAND PACKING	PTFE			-29°~160℃
		PTFE+15%GRAPHITE	RPTFE		-29°~210℃
8	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
9	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
10	STEM	STAINLESS STEEL	SUS 410	A182 Gr. F6A	
			SUS 304	A182 Gr. F304	Stem has to be hard chrome plated when equipped with PTFE+ Graphite gland packing
			SUS 316	A182 Gr. F316	
			SUS 630	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
11	THRUST RING	STAINLESS STEEL	SUS 316	A240 Gr.316	
12	SEAL	PTFE			
13	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
14	PIN	STAINLESS STEEL	SUS 316	A182 Gr. F316	
15	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	For 24'' valve only
		CARBON STEEL	SC480	A216 Gr. WCB	Regular
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Option
16	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
17	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	

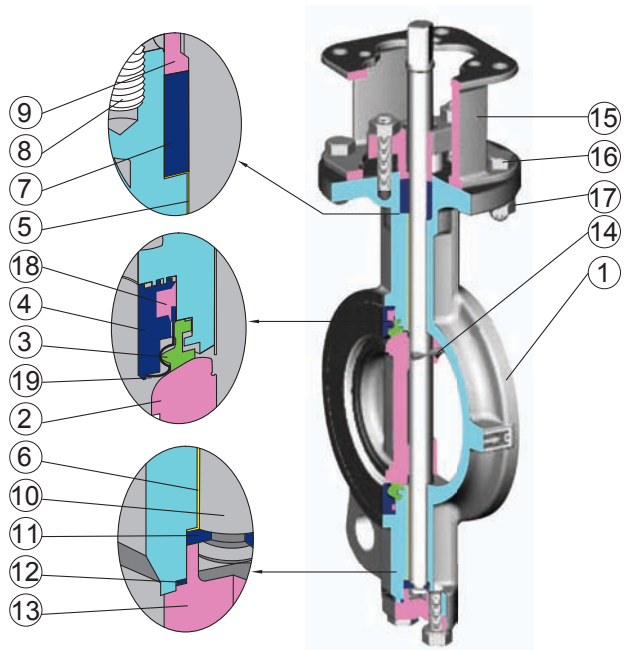
Tacwell VALVES & CONTROLS

Tacwell Series BV-920

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K

Construction Details

◆**Stem(10)**-One-Piece design with ISO 5211 square drive.
◆**Packing(7)**-Graphite packing ensures no leakage during fire.
◆**Retainer(4)**-Patented design of square thread, ensures an un-inrerupted sealing face. Flange face equipped with125-200AARH finish and is compatible with both flat and spiral wound gaskets.
◆**Integral Disc stop(1)**-To prevent disc from over travel.
◆**Firesafe Seat(3&19)**-Bi-directional soft seat(3) design for zero leakage in normal operation and a meatal-to-metal seal(19) afterfire, meets "Fire-safe" requirement. (Valve must be instalIed with retaining ring upstream for dead end service.)
◆**Thrust Ring(11)**-Anti blow out Shaft and Anti static design.
◆**Bearings(5&6)**-Upper and Lower bearing are constructed of PTFE impregnated 316 SS.
◆**Yoke(15)**-Investment Cast, pet ISO 5211.
Fugitive Emissions Packing System is available on customer required.



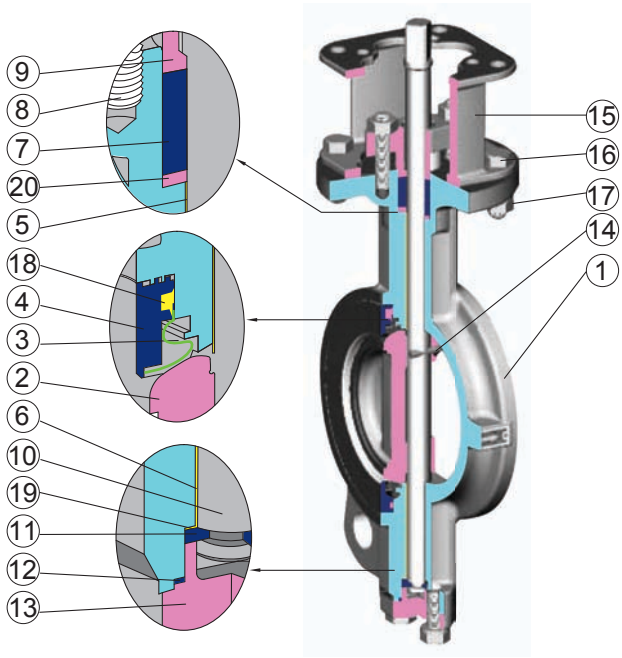
No.	Name	Materials	Specification JIS	Specification ASTM	Remark
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edgeequipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	SEAT	PTFE			-29°~160℃
		PTFE+15%GLASS FIBER			-29°~180℃
		PTFE+15%GRAPHITE			-29°~210℃
4	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
5	BUSHING	PTFE+316SS			
6	BUSHING	PTFE+316SS			
7	GLAND PACKING	GRAPHITE			
8	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
9	GLAND	STAINLESS STEEL	SCS 14A	A351 Gr. CF8	
			SCS 16A	A351 Gr. CF3M	
10	STEM	STAINLESS STEEL	SUS 410	A182 Gr. F6A	
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	Stem equipped with hard chrome plated
			SUS 630	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
11	THRUST RING	STAINLESS STEEL	SUS 316	A240 Gr.316	
12	SEAL	GRAPHITE			
13	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
14	PIN	STAINLESS STEEL	SUS 316	A182 Gr. F316	
15	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	For 24'' valve only
		CARBON STEEL	SC480	A351 Gr. WCB	Regular
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Option
16	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
17	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
18	GASKET	GRAPHITE			
19	METAL SEAT	STAINLESS STEEL	SUS 316	A240 Gr. 316	Nitrided

Tacwell Series BV-930

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K 20K

Construction Details

◆**Stem(10)**-One-Piece design with ISO 5211 square drive.
◆**Packing(7)**-Graphite packing suit for high temperatrue service.
◆**Retainer(4)**-Patented design of square thread, ensures an un-inrerupted sealing face. Flange face equipped with125-200 AARH finish and is compatible with both flat and spiral wound gaskets.
◆**Integral Disc stop(1)**-To prevent disc from over travel.
◆**Metal Seat(3&19)**, Bi-direction self sealing metal seat design for leakage rated at Class IV per ANSI FCI 70-2 or better. (Retaining ring fixed at upstream when dead end service.).
◆**Thrust Ring(11)**-Anti blow out Shaft and Anti static design.
◆**Bearings(5&6)**-Upper and Lower bearing are constructed of 316 SS Nitrided.
◆**Yoke(15)**-Investment Cast, pet ISO 5211.
Fugitive Emissions Packing System is available on customer required.

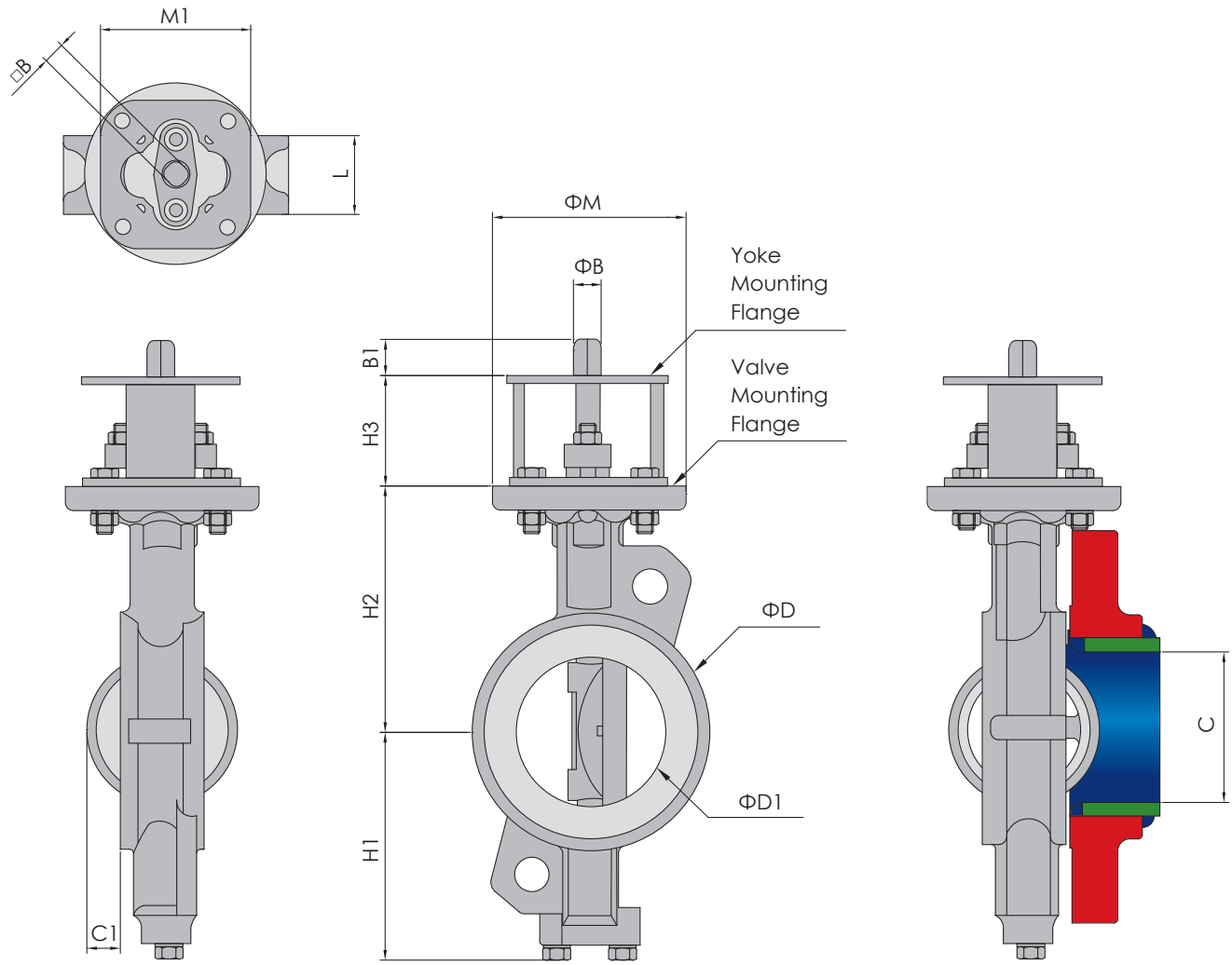


No.	Name	Materials	Specification		Remark
			JIS	ASTM	
1	BODY	CARBON STEEL	SC480	A216 Gr. WCB	
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
2	DISC	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Disc edgeequipped with hard chrome plated
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
3	METAL SEAT	STAINLESS STEEL	SUS 316	A240 Gr.316	Nitrided
4	RETAINER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
5	BUSHING	STAINLESS STEEL	SUS 316	A182 Gr. F316	Nitrided
6	BUSHING	STAINLESS STEEL	SUS 316	A182 Gr. F316	Nitrided
7	GLAND PACKING	GRAPHITE			
8	STUD	STAINLESS STEEL	SUS 304	A193 Gr. B8	
9	GLAND	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
10	STEM	STAINLESS STEEL	SUS 410	A182 Gr. F6A	
			SUS 304	A182 Gr. F304	
			SUS 316	A182 Gr. F316	Stem equipped with hard chrome plated
			SUS 630	A564 Gr. 630	
			XM-19	A479 Gr. XM-19	
11	THRUST RING	STAINLESS STEEL	SUS 316	A240 Gr.316	
12	SEAL	GRAPHITE			
13	BOTTOM COVER	STAINLESS STEEL	SCS 13A	A351 Gr. CF8	
			SCS 14A	A351 Gr. CF8M	
			SCS 16A	A351 Gr. CF3M	
		CARBON STEEL	SC480	A216 Gr. WCB	
14	PIN	STAINLESS STEEL	SUS 316	A182 Gr. F316	
15	YOKE	DUCTILE IRON	FCD 450	A536 Gr. 65-45-12	For 24'' valve only
		CARBON STEEL	SC480	A216 Gr. WCB	Regular
		STAINLESS STEEL	SCS 13A	A351 Gr. CF8	Option
16	BOLT	STAINLESS STEEL	SUS 304	A193 Gr. B8	
17	NUT	STAINLESS STEEL	SUS 304	A194 Gr. 8	
18	GASKET	GRAPHITE			
19	WASHER	STAINLESS STEEL	SUS 316	A240 Gr. 316	
20	WASHER	STAINLESS STEEL	SUS 316	A240 Gr. 316	

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

ASME CLASS 150LB ISO PN10-PN25 JIS 10K 16K



Unit: mm

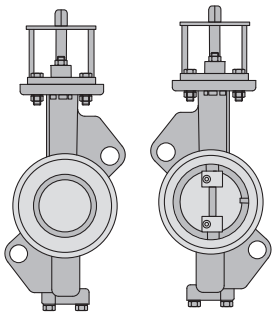
Size	Face to Face	Dimensions							Mounting flange (ISO 5211) Vale		Mounting flange (ISO 5211) Yoke			Shaft end			Suitable pipe flange	Weight
mm	L	H1	H2	H3	ΦD	ΦD1	C	C1	Type	ΦM	Type		M1	ΦB	□B	B1	★	kg
50	43	99	118	60	92	37	49.5	2	F07	90	F07	F05	70	14	11	18	ACDEFKMN	3.9
65	46	110	125	60	108	63	62.3	15	F07	90	F07	F05	70	14	11	18	ABCDEFGHKMNP	4.5
80	47	128	140	70	126	78	65.9	22	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	7
100	53	150	157	70	153	95	93	25	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	9
125	57	163	170	70	184	118	120	36	F10	125	F10	F07	102	22	17	23	ABCDEFGHKMNP	12
150	56	176	185	70	212	143	149	50	F10	125	F10	F07	102	22	17	23	ACDEFKMNP	13.5
200	62	206	220	80	268	188	196	70	F12	150	F12	F10	125	25	19	28	ACDEFKMNP	22
250	68	238	260	80	326	236	243	90	F12	150	F12	F10	125	28	22	28	ACDEFKMNP	32
300	78	269	290	100	375	282	289	106	F14	175	F14	F12	160	35	27	37	ACDEFKMNP	48
350	78/92	306	326	100	416	322	329	125	F14	175	F14	F12	160	36	27	37	ACDEFKMNP	66
400	102	342	370	120	476	371	377	140	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	107
450	114	370	395	120	534	418	423	157	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	130
500	127	399	430	120	588	466	471	177	F16	210	F16	F14	195	60	46	56	ACDEFKMNP	163
600	154	455	490	150	692	570	572	210	F25	300	F16	-	300	60	46	56	ACDEFKMN	278
600	154	455	490	150	692	570	572	210	F25	300	F25	-	300	60	46	56	ACDEFKMN	278

A:150LB B:300LB C:PN10 D:PN16 E:PN20 F:PN25 G:PN40 H:PN50 K:10K M:16K N:B.S.10 TABLEE P:20K Pipe limit size>C

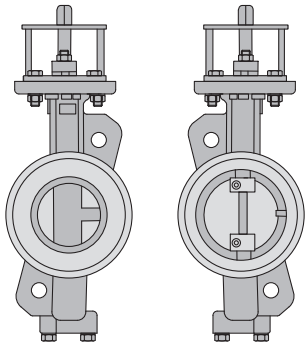
Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

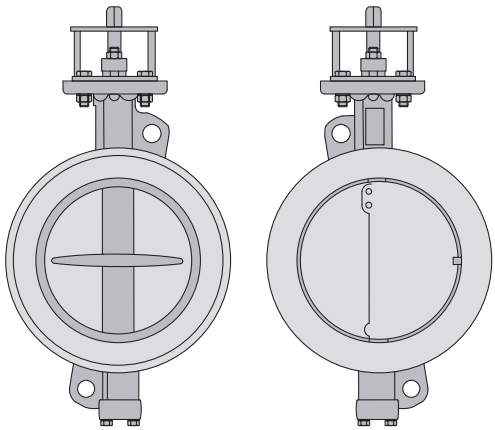
ASME CLASS 150LB ISO PN10-PN25 JIS 10K 16K



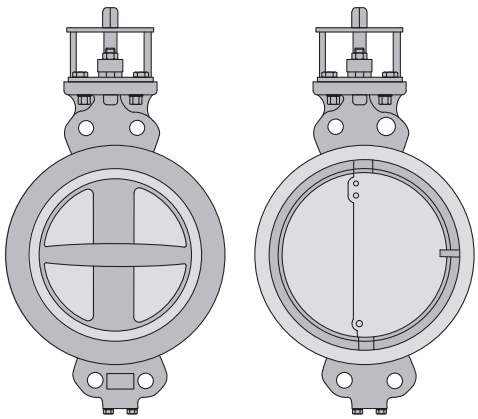
Size 50 - 80



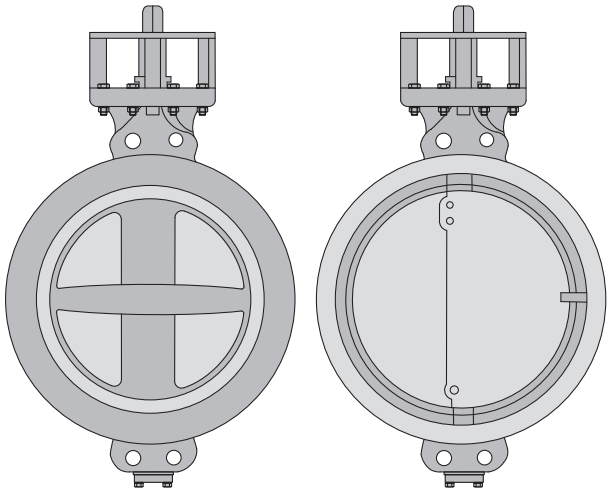
Size 100 - 125



Size 150 - 300



Size 350 - 500



Size 600

Unit: mm

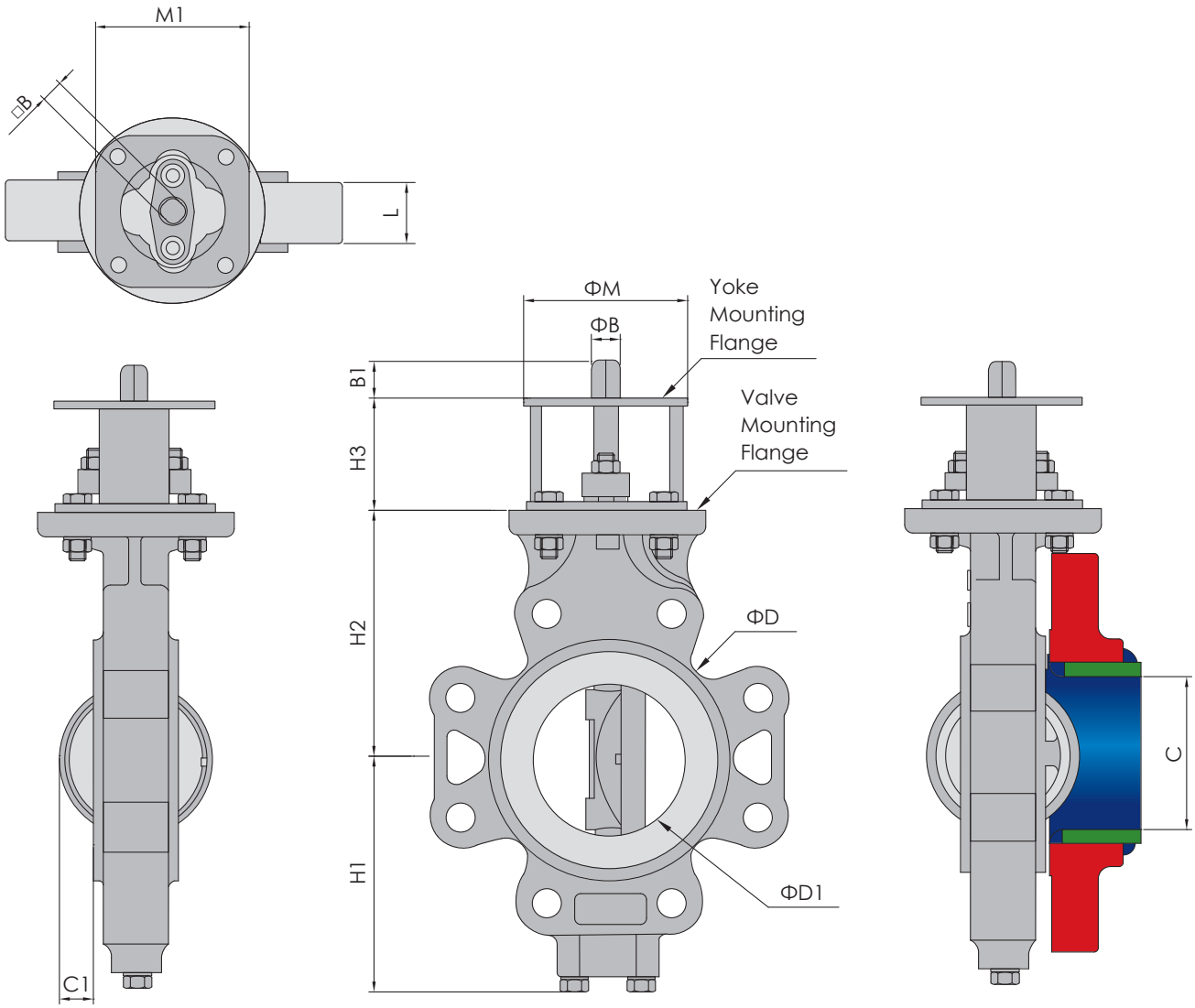
Size	Face to Face	Dimensions							Mounting flange (ISO 5211) Vale		Yoke			Shaft end			Weight
inch	L	H1	H2	H3	ΦD	ΦD1	C	C1	Type	ΦM	Type		M1	ΦB	□B	B1	LBS.
2	1.69	3.90	4.65	2.36	3.62	1.46	1.95	0.08	F07	3.54	F07	F05	2.76	0.55	0.43	0.71	9
2.5	1.81	4.33	4.92	2.36	4.25	2.48	2.45	0.59	F07	3.54	F07	F05	2.76	0.55	0.43	0.71	10
3	1.85	5.04	5.51	2.76	4.96	3.07	2.59	0.87	F10	4.92	F10	F07	4.02	0.71	0.55	0.91	15
4	2.09	5.91	6.18	2.76	6.02	3.74	3.66	0.98	F10	4.92	F10	F07	4.02	0.71	0.55	0.91	20
5	2.24	6.42	6.69	2.76	7.24	4.65	4.72	1.42	F10	4.92	F10	F07	4.02	0.87	0.67	0.91	26
6	2.20	6.93	7.28	2.76	8.35	5.63	5.87	1.97	F10	4.92	F10	F07	4.02	0.87	0.67	0.91	30
8	2.44	8.11	8.66	3.15	10.55	7.39	7.72	2.76	F12	5.91	F12	F10	4.90	0.98	0.75	1.10	48
10	2.68	9.37	10.24	3.15	12.83	9.27	9.57	3.54	F12	5.91	F12	F10	4.92	1.10	0.87	1.10	70
12	3.07	10.59	11.42	3.94	14.76	11.10	11.38	4.17	F14	6.89	F14	F12	6.30	1.38	1.06	1.46	106
14	3.07/3.62	12.05	12.83	3.94	16.38	12.68	12.95	4.92	F14	6.89	F14	F12	6.30	1.42	1.06	1.46	145
16	4.02	13.46	14.57	4.72	18.74	14.61	14.84	5.51	F16	8.27	F16	F14	7.68	1.89	1.42	1.85	236
18	4.49	14.57	15.55	4.72	21.02	16.46	16.65	6.18	F16	8.27	F16	F14	7.68	1.89	1.42	1.85	286
20	5.00	15.71	16.93	4.72	23.15	18.35	18.54	6.97	F16	8.27	F16	F14	7.68	2.36	1.81	2.20	359
24	6.06	17.91	19.29	5.91	27.24	22.44	22.52	8.27	F25	11.81	F16	-	11.81	2.36	1.81	2.20	612
24	6.06	17.91	19.29	5.91	27.24	22.44	22.52	8.27	F25	11.81	F25	-	11.81	2.36	1.81	2.20	612

Pipe limit size>C

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K



Unit: mm

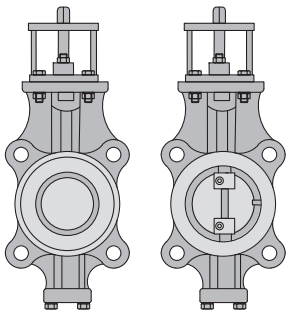
Size	Face to Face	Dimensions							Mounting flange (ISO 5211) Vale		Yoke			Shaft end			Suitable pipe flange	Weight
mm	L	H1	H2	H3	ΦD	ΦD1	C	C1	Type	ΦM	Type		M1	ΦB	□B	B1	★	kg
50	43	99	118	60	92	37	49.5	2	F07	90	F07	F05	70	14	11	18	ACDEFKMN	4.9
65	46	110	125	60	108	63	62.3	15	F07	90	F07	F05	70	14	11	18	ABCDEFGHKMNP	5.5
80	47	128	140	70	126	78	65.9	22	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	8.5
100	53	150	157	70	153	95	93	25	F10	125	F10	F07	102	18	14	23	ABCDEFGHKMNP	14
125	57	163	170	70	184	118	120	36	F10	125	F10	F07	102	22	17	23	ABCDEFGHKMNP	18
150	56	176	185	70	212	143	149	50	F10	125	F10	F07	102	22	17	23	ACDEFKMNP	19.5
200	62	206	220	80	268	188	196	70	F12	150	F12	F10	125	25	19	28	ACDEFKMNP	31
250	68	238	260	80	326	236	243	90	F12	150	F12	F10	125	28	22	28	ACDEFKMNP	47
300	78	269	290	100	375	282	289	106	F14	175	F14	F12	160	35	27	37	ACDEFKMNP	67
350	78/92	306	326	100	416	322	329	125	F14	175	F14	F12	160	36	27	37	ACDEFKMNP	81
400	102	342	370	120	476	371	377	140	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	143
450	114	370	395	120	534	418	423	157	F16	210	F16	F14	195	48	36	47	ACDEFKMNP	163
500	127	399	430	120	588	466	471	177	F16	210	F16	F14	195	60	46	56	ACDEFKMNP	230
600	154	455	490	150	692	570	572	210	F25	300	F16	-	300	60	46	56	ACDEFKMN	377
600	154	455	490	150	692	570	572	210	F25	300	F25	-	300	60	46	56	ACDEFKMN	377

A:150LB B:300LB C:PN10 D:PN16 E:PN20 F:PN25 G:PN40 H:PN50 K:10K M:16K N:B.S.10 TABLEE P:20K Pipe limit size>C

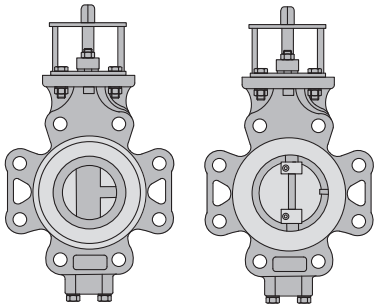
Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

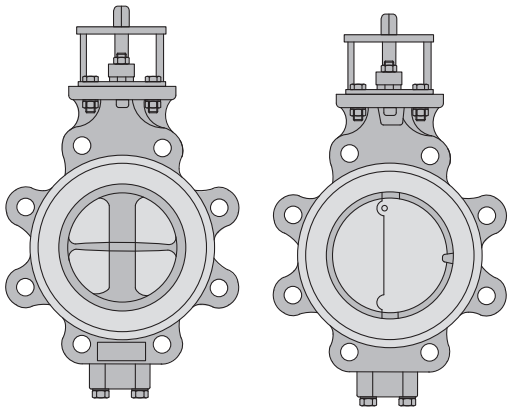
ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K



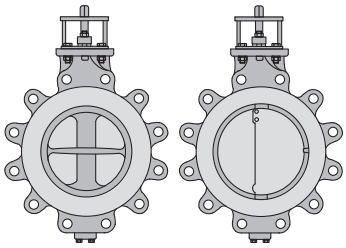
Size 50 - 80



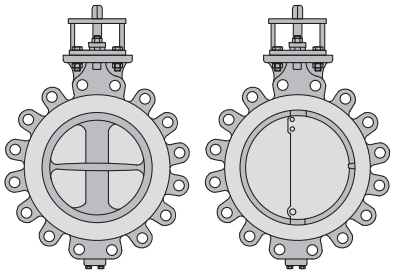
Size 100 - 125



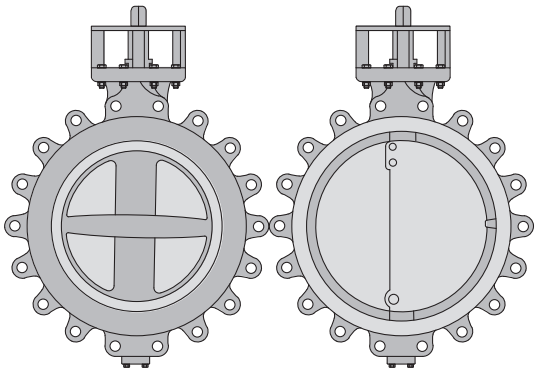
Size 150 - 200



Size 250 - 350



Size 400 - 450



Size 500 - 600

Unit: mm

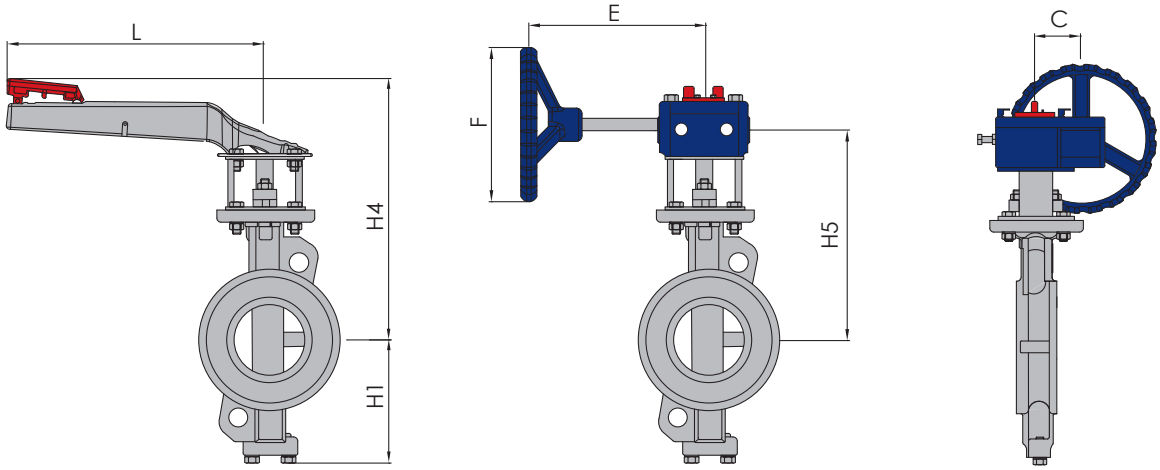
Size	Face to Face	Dimensions							Mounting flange (ISO 5211) Vale		Mounting flange (ISO 5211) Yoke			Shaft end			Weight
inch	L	H1	H2	H3	ΦD	ΦD1	C	C1	Type	ΦM	Type		M1	ΦB	□B	B1	LBS.
2	1.69	3.90	4.65	2.36	3.62	1.46	1.95	0.08	F07	3.54	F07	F05	2.76	0.55	0.43	0.71	10
2.5	1.81	4.33	4.92	2.36	4.25	2.48	2.45	0.59	F07	3.54	F07	F05	2.76	0.55	0.43	0.71	12
3	1.85	5.04	5.51	2.76	4.96	3.07	3.07	0.87	F10	4.92	F10	F07	4.02	0.71	0.55	0.91	19
4	2.09	5.91	6.18	2.76	6.02	3.74	3.66	0.98	F10	4.92	F10	F07	4.02	0.71	0.55	0.91	31
5	2.24	6.42	6.69	2.76	7.24	4.65	4.72	1.42	F10	4.92	F10	F07	4.02	0.87	0.67	0.91	40
6	2.20	6.93	7.28	2.76	8.35	5.63	5.87	1.97	F10	4.92	F10	F07	4.02	0.87	0.67	0.91	43
8	2.44	8.11	8.66	3.15	10.55	7.39	7.72	2.76	F12	5.91	F12	F10	4.90	0.98	0.75	1.10	68
10	2.68	9.37	10.24	3.15	12.83	9.27	9.57	3.54	F12	5.91	F12	F10	4.92	1.10	0.87	1.10	104
12	3.07	10.59	11.42	3.94	14.76	11.10	11.38	4.17	F14	6.89	F14	F12	6.30	1.38	1.06	1.46	148
14	3.07/3.62	12.05	12.83	3.94	16.38	12.68	12.95	4.92	F14	6.89	F14	F12	6.30	1.42	1.06	1.46	178
16	4.02	13.46	14.57	4.72	18.74	14.61	14.84	5.51	F16	8.27	F16	F14	7.68	1.89	1.42	1.85	315
18	4.49	14.57	15.55	4.72	21.02	16.46	16.65	6.18	F16	8.27	F16	F14	7.68	1.89	1.42	1.85	359
20	5.00	15.71	16.93	4.72	23.15	18.35	18.54	6.97	F16	8.27	F16	F14	7.68	2.36	1.81	2.20	507
24	6.06	17.91	19.29	5.91	27.24	22.44	22.52	8.27	F25	11.81	F16	-	11.81	2.36	1.81	2.20	830
24	6.06	17.91	19.29	5.91	27.24	22.44	22.52	8.27	F25	11.81	F25	-	11.81	2.36	1.81	2.20	830

Pipe limit size>C

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

BV-910 (WAFER TYPE) BV-913 (LUG TYPE)



Size		Operator Series no.	Lever operator				Gear operator					
			Dimensions		Weight(kg)		Dimensions				Weight (kg)	
mm	inch	Series no.	H4	L	Wafer	Lug	H5	C	E	F	Wafer	Lug
50	2	L7A	250	200	4.9	5.6	-	-	-	-	-	-
		C07	-	-	-	-	215	41	155	150	7.2	8.2
65	2.5	L7A	257	200	5.2	6.2	-	-	-	-	-	-
		C07	-	-	-	-	222	41	155	150	7.8	8.8
80	3	L7B	282	250	7.8	9.3	-	-	-	-	-	-
		C07	-	-	-	-	247	41	155	150	10.3	11.8
100	4	L7B	299	250	9.8	14.8	-	-	-	-	-	-
		C10	-	-	-	-	268.5	63	195	200	16.5	21.5
125	5	L10	318	355	13.6	19.6	-	-	-	-	-	-
		C10	-	-	-	-	281.5	63	195	200	19.5	25.5
150	6	L10	333	355	15.1	21.1	-	-	-	-	-	-
		C10	-	-	-	-	296.5	63	195	200	21	27
200	8	L10	378	355	23.6	32.6	-	-	-	-	-	-
		C12	-	-	-	-	341	61	255	310	31	40
250	10	C12	-	-	-	-	381	61	255	310	41	56
300	12	C14	-	-	-	-	443	81	340	400	70	89
350	14	C14	-	-	-	-	479	81	340	400	88	103
400	16	A2	-	-	-	-	546	123	307	400	142	178
450	18	A2	-	-	-	-	571	123	307	400	165	198
500	20	A2	-	-	-	-	606	123	307	400	198	265
600	24	A2	-	-	-	-	692	123	307	400	305	404
600	24	A3+S3	-	-	-	-	785	160	370	400	387	486

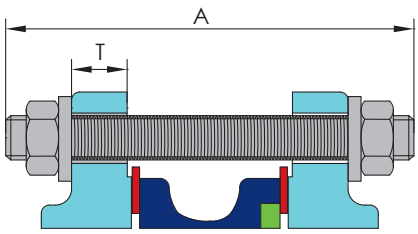
Unit: inch

Size		Operator	Lever operator				Gear operator						Handwheel turns ON/OFF	Mounting flange (ISO 5211)		
			Dimensions		Weight(lb)		Dimensions				Weight(lb)			Type	PCD	
mm	inch	Series no.	H4	L	Wafer	Lug	H5	C	E	F	Wafer	Lug	N		mm	inch
50	2	L7A	9.84	7.87	10.8	12	-	-	-	-	-	-	-	F07	70	2.76
		C07	-	-	-	-	8.46	1.61	6.10	5.91	16	18	10			
65	2.5	L7A	10.19	7.87	11	14	-	-	-	-	-	-	-	F07	70	2.76
		C07	-	-	-	-	8.74	1.61	6.10	5.91	17	19	10			
80	3	L7B	11.10	9.84	17	20	-	-	-	-	-	-	-	F07	70	2.76
		C07	-	-	-	-	9.72	1.61	6.10	5.91	23	26	10			
100	4	L7B	11.77	9.84	22	33	-	-	-	-	-	-	-	F10	102	4.02
		C10	-	-	-	-	10.57	2.48	7.68	7.87	36	47	9			
125	5	L10	12.52	13.98	30	43	-	-	-	-	-	-	-	F10	102	4.02
		C10	-	-	-	-	11.08	2.48	7.68	7.87	43	56	9			
150	6	L10	13.11	13.98	33	46	-	-	-	-	-	-	-	F10	102	4.02
		C10	-	-	-	-	11.67	2.48	7.68	7.87	46	59	9			
200	8	L10	14.88	13.98	52.03	71.87	-	-	-	-	-	-	-	F12	125	4.92
		C12	-	-	-	-	13.43	2.40	10.04	12.20	68	88	9.5			
250	10	C12	-	-	-	-	15.00	2.40	10.04	12.20	90	123	9.5	F12	125	4.92
300	12	C14	-	-	-	-	17.44	3.19	13.39	15.75	154	196	12	F14	140	5.51
350	14	C14	-	-	-	-	18.86	3.19	13.39	15.75	194	227	12	F14	140	5.51
400	16	A2	-	-	-	-	21.50	4.84	12.09	15.75	302	381	17.5	F16	165	6.50
450	18	A2	-	-	-	-	22.48	4.84	12.09	15.75	352	425	17.5	F16	165	6.50
500	20	A2	-	-	-	-	23.86	4.84	12.09	15.75	425	573	17.5	F16	165	6.50
600	24	A2	-	-	-	-	27.24	4.84	12.09	15.75	672	891	17.5	F16	165	6.50
600	24	A3+S3	-	-	-	-	30.91	6.30	14.57	15.75	760	978	52.5	F25	254	10.00

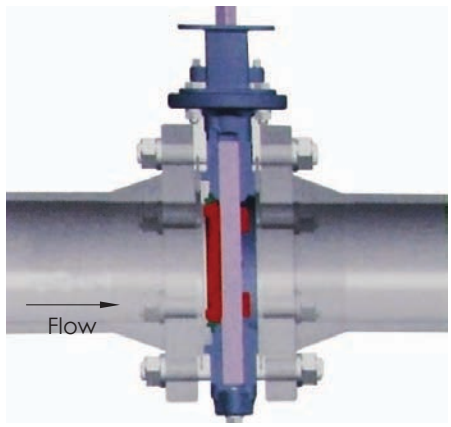
Tacwell VALVES & CONTROLS

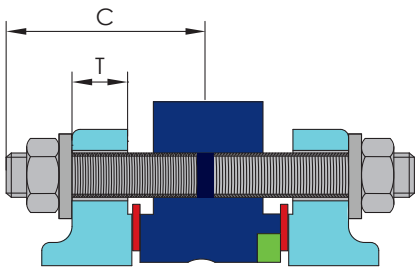
Tacwell Series BV-9_

ANSI CLASS 150 ISO PN10-PN25 JIS 10K 16K 20K



BV-910 Wafer





BV-913 Lug

The seals flow can be executed in both directions.
The following advantages can be assure while the suggested flow directions is used.◆

◆Minimal start-up torque.
◆Reduced seat wear.
◆No direct contact between the fluid and the seat.

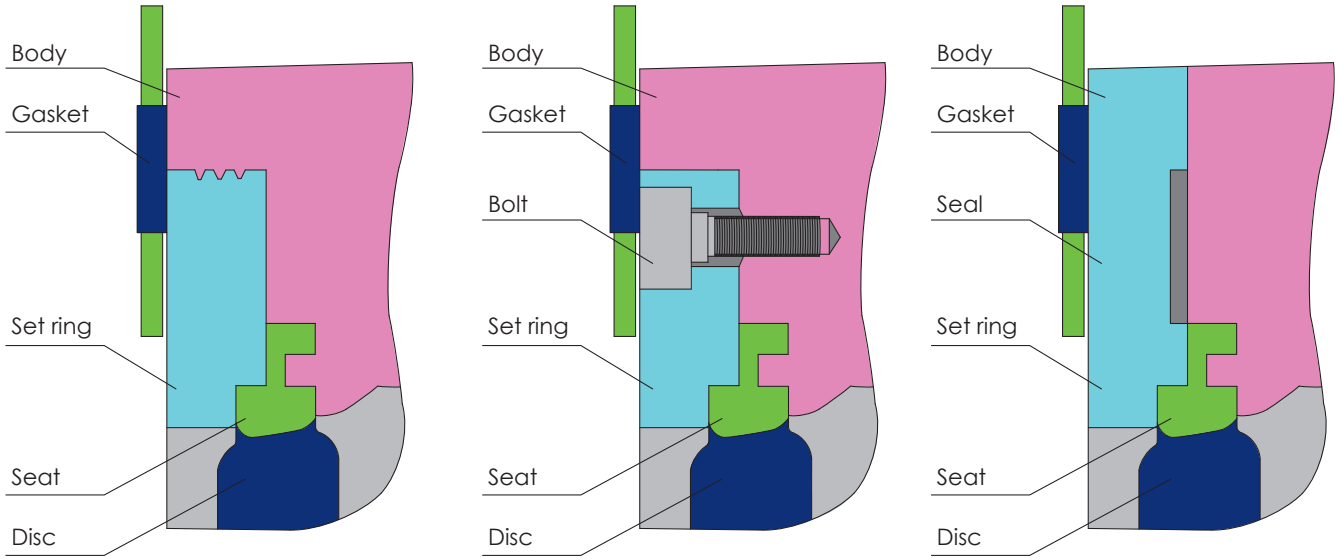
Size		PN10						PN16						PN20						PN25					
mm	inch	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T
50	2	M16	130	120	65	45	20	M16	130	120	65	45	20	M16	135	125	70	50	22.5	M16	135	125	70	50	22
65	2.5	M16	130	120	65	45	20	M16	130	120	65	45	20	M16	135	125	70	50	23	M16	135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

Size		ANSI B16.5 150LB0						JIS 10K						JIS 16K & 20K						B.S.10 TABLEE					
mm	inch	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T	Bolt Size	A	B	C	D	T
50	2	5/8''	135	125	70	50	20	M16	130	115	65	45	16	M16	130	115	65	45	16	5/8''	120	110	60	40	10
65	2.5	5/8''	135	125	70	50	22	M16	130	115	65	45	18	M16	130	115	65	45	18	5/8''	120	110	60	40	14
80	3	5/8''	140	130	70	50	24	M16	130	115	65	45	18	M20	140	125	70	50	20	5/8''	120	110	60	40	14
100	4	5/8''	145	135	75	55	24	M16	135	120	70	50	18	M20	150	135	75	55	22	5/8''	135	120	65	45	17
125	5	3/4''	160	145	80	55	24	M20	150	135	75	55	20	M22	160	140	80	55	22	5/8''	140	125	70	50	17
150	6	3/4''	160	145	80	55	25	M20	155	140	80	55	22	M22	160	145	80	55	24	3/4''	145	130	70	50	17
200	8	3/4''	170	155	85	60	28	M20	160	140	80	55	22	M22	170	150	85	60	26	3/4''	152	135	75	50	19
250	10	7/8''	185	170	95	65	30	M22	175	155	85	60	24	M24	190	170	95	65	28	3/4''	165	150	85	55	22
300	12	7/8''	200	180	100	70	32	M22	185	165	90	60	24	M24	200	185	100	70	30	7/8''	185	170	95	65	25
350	14	1''	215	195	105	75	35	M22	190	170	95	65	26	M30	220	200	110	80	34	7/8''	195	175	95	70	29
400	16	1''	240	220	120	80	37	M24	220	205	110	70	28	M30	255	230	130	85	38	7/8''	225	205	110	75	32
450	18	1 1/8''	265	240	130	90	40	M24	240	220	120	75	30	M30	270	245	135	90	40	7/8''	240	225	120	80	35
500	20	1 1/8''	285	260	140	90	43	M24	250	230	125	75	30	M30	290	265	145	95	42	7/8''	260	245	130	80	38
600	24	1 1/4''	330	305	165	100	48	M30	295	270	145	85	32	M36	335	310	170	105	46	1 1/8''	325	300	165	100	48

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K



TACWELL's Patent Design

Special sguare thread design between Body and Retainer to offer

- ◆Wider sealing face between flanges.
- ◆100% sealing between retainer and body.
- ◆When long time storage, valve was in fully closed position and the seat ring was fixed by retainer, it will not cause PTFE enlarge.
- ◆The retainer has to be at upstream when valve was installed at dead end of pipeline.

Note: Retaining ring must be upstream for dead end servic.

Conventional Design

- ◆The seat retainer of some brands extended as a flange surface, which has to be sealed by a gasket and increase a risk of leakage.
- ◆Most of the seat retainer was fixed by socket bolts, which caused reducing sealing face between flanges and increase a risk of leakage.
- ◆When long time storage, valve was in fully closed position and the seat ring was fix by retainer, it may cause PTFE enlarge and leaking when service.

CV-TACWELL

Size		Valve Open Degree								
inch	mm	10°	20°	30°	40°	50°	60°	70°	80°	90°
2''	50	0.3	2	6	12	20	32	50	62	66
2.5''	65	1	11	27	40	60	83	106	133	140
3''	80	2	20	50	73	110	154	200	250	260
4''	100	4	32	80	120	180	250	320	400	420
5''	125	7	55	140	200	300	430	550	680	720
6''	150	11	90	230	340	510	710	910	1140	1200
8''	200	20	150	390	560	850	1190	1520	1900	2000
10''	250	30	240	600	870	1310	1840	2360	2940	3100
12''	300	40	360	920	1330	2000	2800	3600	4500	4750
14''	350	55	450	1130	1640	2500	3500	4500	5500	5850
16''	400	75	650	1600	2300	3500	4900	6300	7850	8300
18''	450	95	800	2000	2900	4400	6100	7900	9900	10400
20''	500	125	1000	2700	3900	5900	8200	10500	13000	13800
24''	600	200	1700	4400	6300	9500	13300	17000	21300	22500

SEAT Rating (psig)

Temperature		Class 150	
°F	°C	PTFE	RPTFE
-20 to 100	-29 to 38	285	285
150	66	273	273
200	93	260	260
250	121	245	245
300	149	230	230
350	177	140	215
400	204	50	100
410	210	39	78

Tacwell VALVES & CONTROLS

Tacwell Series BV-9_

ANSI CLASS 150LB ISO PN10-PN25 JIS 10K 16K 20K

BV-910 Torque data (kg-m) including 30% Safety Factor

Size		Differential pressure (kg/cm²)					
		0	5	10	15	20	25
2''	50	0.3	0.5	1.0	2.0	2.0	2.5
2.5''	65	0.3	0.5	1.0	2.0	3.0	4.0
3''	80	0.5	1.0	2.0	3.0	4.5	6.0
4''	100	1.0	2.0	4.0	5.0	6.5	8.0
5''	125	2.0	4.5	6.5	9.0	11.0	13.0
6''	150	4.5	7.0	9.5	12.0	15.0	18.0
8''	200	7.0	11.0	15.0	18.5	21.5	24.0
10''	250	13.0	19.0	25.0	30.0	35.0	40.0
12''	300	20.0	30.0	40.0	50.0	58.0	65.0
14''	350	30.0	55.0	80.0	100.0	120.0	135.0
16''	400	45.0	70.0	100.0	120.0	140.0	160.0
18''	450	60.0	90.0	125.0	150.0	170.0	195.0
20''	500	85.0	120.0	150.0	175.0	210.0	240.0
24''	600	102.0	145.0	176.0	218.0	248.0	302.0

BV-920 Torque data (kg-m) including 30% Safety Factor

Size		Differential pressure (kg/cm²)					
		0	5	10	15	20	25
2''	50	3	3	4	4	5	5
2.5''	65	3	4	5	7	8	9
3''	80	4	5	7	8	9	10
4''	100	6	7	8	10	13	15
5''	125	12	14	16	17	18	20
6''	150	15	20	23	27	30	34
8''	200	18	24	30	36	43	49
10''	250	20	28	35	42	53	60
12''	300	28	40	56	70	88	103
14''	350	47	74	85	101	122	145
16''	400	67	86	105	123	140	160
18''	450	86	98	126	145	160	180
20''	500	110	120	160	200	250	290
24''	600	130	150	185	250	320	400

BV-930 Torque data (kg-m) including 30% Safety Factor

Size		Differential pressure (kg/cm²)					
		0	5	10	15	20	25
2''	50	4	5	6	6	7	7
2.5''	65	4	5	8	10	13	15
3''	80	5	7	9	12	14	17
4''	100	8	10	12	16	18	22
5''	125	10	13	14	17	20	23
6''	150	14	16	17	18	21	25
8''	200	21	26	30	34	38	42
10''	250	25	29	33	36	40	45
12''	300	26	40	51	60	69	80
14''	350	50	69	86	101	125	145
16''	400	65	84	104	127	150	175
18''	450	80	99	122	153	173	195
20''	500	110	120	160	200	250	290
24''	600	130	150	185	250	320	400

所有资料只作参考用途，请与泰克韦尔代表咨询你们所需要求，泰克韦尔公司有权更改产品设计。
TACWELL是泰克韦尔公司的注册商标。

All statements, technical information, and recommendations in this bulletin are for general use only. Consult Tacwell representatives or factory for specific requirements and material selection for you intended application. The right to change or modify product design or product without prior notice is reserved.
TACWELL is a registered trademark of TACWELL VALVES&CONTROLS, INC.

Tacwell VALVES & CONTROLS 美 国 泰 克 韦 尔

TACWELL VALVES & CONTROLS INC.
美国泰克韦尔阀门控制公司
Headquarters（公司总部）：
6050W.Eastwood Ave.#201 Chicago IL 60630 USA.

DISTRIBUTOR：
上海得为自动化设备有限公司
地址：上海市共和新路3699号共和国际A幢903-905室
邮编：200435
电话: +86 021 36360011　传真: +86 021 63800325
E-mail:sales@tacwell.com