



- * CONCENTRIC
- * ECCENTRIC
- * GROOVED ENDS
- * RESILIENT SEATED
- * WAFER / LUG
- * DOUBLE / TRIPLE OFFSET
- * DOUBLE FLANGED
- * BUNA, EPDM, PTFE, METAL

STANDARD- HIGH PERFORMANCE- AWWA

AWWA C504

Butterfly Valves



www.pascovalves.com



Production Range

Type		Wafer	Lug	Double Flanged
Fig		WBFV	LBFV	FBFV
Picture				
Dimensions		ON50 lo ON1400 2"to56"	ON50 to ON1400 2"to55"	DNS0 lo ON1400 2"lo 48"
Assembly Between Flanges	ON50(2") t.o ON300(12")	EN1092 PN10, PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 JIS B 2239 10K,16K BS 10 Table 0, Table E	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement
	ON360(14") to DN600(24')	EN1092 PN10, PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 BS 10 Table 0, Table E	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement
	DN600 (24') Above	EN1092 PN10, or PN16 ASME 816.1 CLASS125 ASME 816.5 CLASS150 Other standards depend on requirement	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement	EN1092 PN10 or PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 Other standards depend on requirement
Standard differential pressure	2"to 24'	16 Bar (230 psi)	16 Bar (230 psi)	16 Bar (230 psi)
	24" Above	10 Bar (145 psi)	10 Bar (145 psi)	10 Bar (145 psi)
Maximum differential pressure	2"to 24"	20 Bar (285 psi)	20 Bar (285 psi)	20 Bar (285 psi)
	24" Above	16 Bar (230 psi)	16 Bar (230 psi)	16 Bar (230 psi)
Working Temperature		-35°C~200°C (Dependson seal)	-35°C~200°C (Dependson seal)	-35°C~200°C (Dependson seal)



DUCTILE IRON GROOVE END BUTTERFLY VALVE

Model : Series 81-G

Design feature:

- Suitable for use in mechanical rooms, process lines, water lines, and cold/hot water pipelines.
- Available in Lever Handle and Gear Operator
- Nickel plated ductile iron disc are available as standard feature. Optional BUNA-N or EPDM encapsulated with ductile iron disc for bubble tight shutoff.
- Groove end designed to ANSI/AWWA C-606 Rigid Groove Specifications.
- Groove End compatible with IPS pipe.
- Concentric disc design
- Two piece shaft design of the disc, increasing cycle life.
- ISO 5211 mounting flange accommodates automation installations, including pneumatic and electric actuators.



Standard:

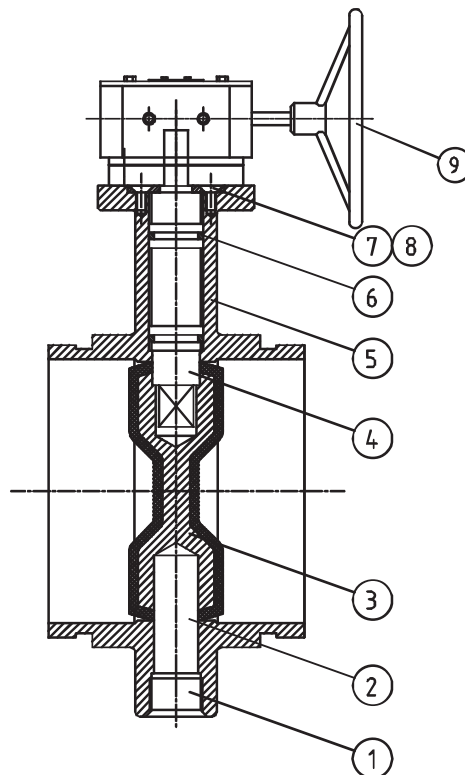
- ANSI/AWWA C-606 Specifications.
- Face to face according to MSS SP-67 Standards
- Design according to API 609
- Inspection & testing according to API 598.
- PED 97/23/EC; ISO 9001

Specifications:

- Flow bore: full port.
- Rating: Class 125
- Temperature: -20 °F to 220 °F (-29°C to 104 °C).
- Materials: Ductile Iron
- Size range: DN50 – DN300

Material List

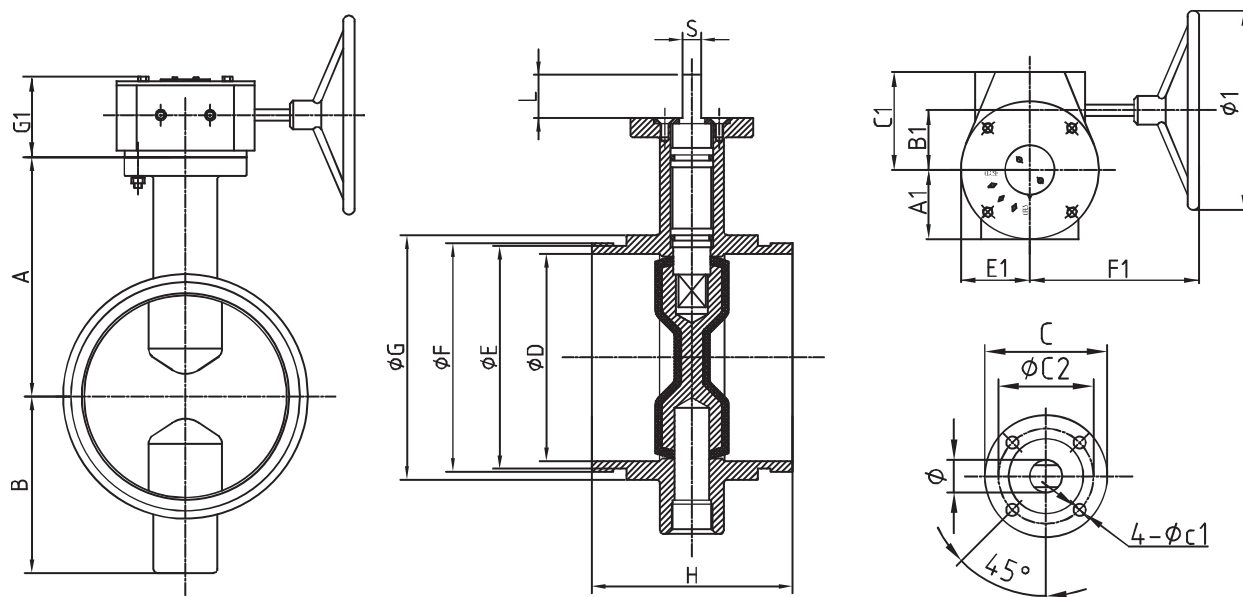
No.	Part Name	Material
1	Stub Screw	Carbon Steel
2	Bottom Shaft	SS 416
3	Disc	Ductile Iron Nickel Plated
4	Top Shaft	SS 416
5	Body	GGG50
6	O-Ring	EPDM
7	Bolt	Carbon Steel
8	Washer	Carbon Steel
9	Gearbox	Cast Iron





DUCTILE IRON GROOVE END BUTTERFLY VALVE

Model : Series 81-G



Dimensions List:

	A	B	H	D	E	F	G	Φ	L	C	C1	C2	S	Top Flange
DN50	100	70	83	51	57	60	67	12.6	32	90	10	70	10	F07
DN65	106	75	97	64	69	73	80	12.6	32	90	10	70	10	F07
DN80	113	82	97	76	85	89	97	12.6	32	90	10	70	10	F07
DN100	135	100	116	100	110	114	123	15.7	32	90	10	70	12	F07
DN125	148	119	148	128	137	141	151	19	32	90	10	70	14	F07
DN150	176	130	148	152	164	168	180	19	32	90	10	70	14	F07
DN200	204	162	134	203	214	219	231	22	45	125	12	102	17	F10
DN250	228	200	159	253	268	273	284	28.5	45	125	12	102	22	F10
DN300	266	234	164	303	318	324	335	32	45	125	12	102	24	F10

Gearbox Dimension:

Gearbox	A1	B1	C1	E1	F1	G1	Φ1
DN50-DN150	52	45	75	52	152.5	75	150
DN200-DN250	75	63	101	75	250	86	300
DN300	81	80	118	81	227	83	300

Note: due to continuous development of the products, PASCO reserves the right to change the dimension and information contained in the document as required.



WAFLER TYPE, BUTTERFLY VALVE Model : Series 81-W Butterfly Valve

WAFLER TYPE, BUTTERFLY VALVE

FLUID APPLICATION: WATER, SEAWATER, AIR,
OIL, POWDER, GAS ETC.

FACE-TO-FACE ACC. TO ISO 5752 SHORT PATTERN ACTUATOR

MOUNTING PAD FLANGE ACC. TO ISO 5211

FLANGE REQUIREMENTS:

ANSI 125/150, BS 10 TABLE E, JIS 2213 10K, DIN PN10/ PN16

RATING:

1-1/2"~ 12" (DN40~DN300): 16 BAR (228PSI)

14"~24" (DN350~DN600): 10 BAR (150PSI)

SIZE RANGE: 1-1/2"-36"



Materials List:

NO.	NAME	MATERIALS	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	Cast Iron	FC 20	A126-B	
		DUCTILE IRON	FCD 450	A-536-65-45-12	
		Stainless Steel	SCS13	A351 CF8	
			SCS14	A351 CF8M	
2	DISC	DUCTILE IRON	FCD 45	A-536-65-45-12	Nylon 11 Coating
		STAINLESS STEEL	SCS 13	A351 CF8	
			SCS 14	A351 CF8M	
		ALU-BRONZE	ALBC2	B148-954	
3	STEM	STAINLESS STEEL	SUS 410	A182 F6A	
			SUS 304	A182 F304	
			SUS 316	A182 F316	
4	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14°F ~
		EPDM			-20°C ~ 120°C (-4°F ~
		NEOPRENE (CR)			0°C ~ 80°C (32°F ~
		SILICON			-20°C ~ 180°C (-4°F ~
		HYPALON (CSM)			-20°C ~ 135°C (-4°F ~
		VITON			-18°C ~ 204°C (-4°F ~
5	STOP PIN	STAINLESS STEEL	SUS 316	A182 F316	
6	UPPER BUSH	DELIN			
7	O-RING	NBR (NITRILE)			
8	BACK-UP RING	PLASTIC			
9	BOTTOM BUSH	BRONZE	BC6	ASTM B62	
10	LEVER	DUCTILE IRON	FCD 450	A-536-65-45-12	
11	GEAR BOX	Cast Iron	FC 20	A126-B	

* NBR SEAT APPLICABLE RANGE -10°C ~ 80°C, WHILE

* EPDM SEAT IN -20°C ~ 120°C.

* UPPER BUSHING, MADE BY NON-CORRSSIVE HEAVY DUTY DELIN, STRONGE ENOUGH TO ABSORB THRUST.

* STEM, DESIGNED WITH SQUARE CONNECTION TO DRIVE DISC, ARE RETAINED IN THE BODY AND ANTI-FULL-OUT PROVED BY MEANS OF PATENT "Q" TYPE MECHANISM.WITH THE PATENT MECHANISM THE VALVE CAN BE DISASSEMBLED COMPLETELY BY USE A SIMPLE SCREW DRIVER.

* WARM GEAR, ELECTRIC ACTUATOR, PNEUMATIC ACTUATOR OPERATED BUTTERFLY VALVES ARE AVAILABLE AS REQUESTED.



We hereby reserve the rights of any alternative dimension that would help to improve our valve's quality and working efficiency



LUG TYPE, BUTTERFLY VALVE

Model : Series 81-L Butterfly Valve

LUG TYPE, BUTTERFLY VALVE

FLUID APPLICATION: WATER, SEAWATER, AIR, OIL,
POWDER, GAS ETC.

FACE-TO-FACE ACC. TO ISO 5752 SHORT PATTERN ACTUATOR

MOUNTING PAD FLANGE ACC. TO ISO 5211

FLANGE REQUIREMENTS:

ANSI 125/150, BS 10 TABLE E, JIS 2213 10K, DIN PN10/ PN16

RATING:

1-1/2"~ 12" (DN40~DN300): 16 BAR (228PSI)

14"~24" (DN350~DN600): 10 BAR (150PSI)

SIZE RANGE: 1-1/2"-36"

Materials List:

NO.	NAME	MATERIALS	SPECIFICATION		REMARK
			JIS	ASTM	
1	BODY	Cast Iron	FC 20	A126-B	
		DUCTILE IRON	FCD 450	A-536-65-45-12	
		Stainless Steel	SCS13	A351 CF8	
			SCS14	A351 CF8M	
2	DISC	DUCTILE IRON	FCD 45	A-536-65-45-12	Nylon 11 Coating
		STAINLESS STEEL	SCS 13	A351 CF8	
			SCS 14	A351 CF8M	
		ALU-BRONZE	ALBC2	B148-954	
3	STEM	STAINLESS STEEL	SUS 410	A182 F6A	
			SUS 304	A182 F304	
			SUS 316	A182 F316	
4	SEAT	NBR (NITRILE)			-10°C ~ 80°C (14°F ~
		EPDM			-20°C ~ 120°C (-4°F ~
		NEOPRENE (CR)			0°C ~ 80°C (32°F ~
		SILICON			-20°C ~ 180°C (-4°F ~
		HYPALON (CSM)			-20°C ~ 135°C (-4°F ~
		VITON			-18°C ~ 204°C (-4°F ~
5	STOP PIN	STAINLESS STEEL	SUS 316	A182 F316	
6	UPPER BUSH	DELIN			
7	O-RING	NBR (NITRILE)			
8	BACK-UP RING	PLASTIC			
9	BOTTOM BUSH	BRONZE	BC6	ASTM B62	
10	LEVER	DUCTILE IRON	FCD 450	A-536-65-45-12	
11	GEAR BOX	Cast Iron	FC 20	A126-B	

* NBR SEAT APPLICABLE RANGE -10°C ~ 80°C, WHILE

* EPDM SEAT IN -20°C ~ 120°C.

* UPPER BUSHING, MADE BY NON-CORROSIVE HEAVY DUTY DELIN, STRONG ENOUGH TO ABSORB THRUST.

* STEM, DESIGNED WITH SQUARE CONNECTION TO DRIVE DISC, ARE RETAINED IN THE BODY AND ANTI-FULL-OUT PROVED BY MEANS OF PATENT "Q" TYPE MECHANISM. WITH THE PATENT MECHANISM THE VALVE CAN BE DISASSEMBLED COMPLETELY BY USE A SIMPLE SCREW DRIVER.

* WARM GEAR, ELECTRIC ACTUATOR, PNEUMATIC ACTUATOR OPERATED BUTTERFLY VALVES ARE AVAILABLE AS REQUESTED.



Size		L	H1	H2	D	H3	□B	∅ B	L1	H4	C	E	F	H5	PCD	ISO 5211	Weight Kg
INCH	MM																
1-1/2	40	33	60	120	81	19	11	14	200	181	41	155	150	157	70	F07	2.2
2	50	43	65	143	96	19	11	14	200	204	41	155	150	180	70	F07	3.4
2-1/2	65	46	71	155	110	19	11	14	200	216	41	155	150	192	70	F07	4
3	80	46	77	162	124	19	11	14	200	223	41	155	150	199	70	F07	4.5
4	100	52	107	181	148	19	11	14	200	242	41	155	150	218	70	F07	7.6
5	125	56	122	197	180	19	14	19	250	258	41	155	150	234	70	F07	9.5
6	150	56	140	210	206	19	14	19	250	271	41	155	150	247	70	F07	10.4
8	200	60	165	240	259	24	17	22	355	308	61	195	200	281.5	102	F10	17.5
10	250	68	201	286	320	24	19	25	355	354	61	195	200	327.5	102	F10	26.5
12	300	78	234	309	370	24	22	30	355	377	61	195	200	350.5	102	F10	43.5
14	350	78	301.5	329	412	29	27	35			61	232	310	370	125	F12	58
16	400	102	333.5	361	475	29	32	42			61	232	310	402	125	F12	81
18	450	114	358.5	393	530	38	32	45			81	235	450	445	140	F14	110
20	500	127	392.5	427	585	38	36	50			81	235	450	479	140	F14	155
24	600	154	454.5	492	687	48	46	60			123	307	400	548	165	F16	259



WAFLER TYPE HIGH PRESSURE RATTING BUTTERFLY VALVE Model : Series 81-WH Butterfly Valve

WAFLER TYPE HIGH PRESSURE RATTING BUTTERFLY VALVE

FLUID APPLICATION: WATER, SEAWATER,
AIR, OIL, POWDER, GAS ETC.

FACE-TO-FACE ACC. TO ISO 5752 SHORT PATTERN

ACTUATOR MOUNTING PAD FLANGE ACC. TO ISO 5211

FLANGE REQUIREMENTS:

ANSI 150/300, JIS 10K / 16K /20K, DIN PN10 / 16 /20

RATING:

2"~ 8"(DN50~DN200): 20 BAR (300PSI)

10"~16"(DN250~DN400): 16 BAR (240PSI)

18"~24"(DN450~DN600): 14 BAR (200PSI)

SIZE RANGE: 2"-24"



Materials List:

NO.	NAME	SPECIFICATION		REMARK
		JIS	ASTM	
1	BODY	FC20	A126-B	
		FCD 45	A-536-65-45-12	
2	DISC	FCD 45	A-536-65-45-12	
		SCS 13	A351 CF8	
		SCS 14	A351 CF8M	
3	UPPER STEM	SUS 410	A182 F410	
		SUS 304	A182 F304	
		SUS 316	A182 F316	
5	SEAT	NBR (NITRILE)		-10°C ~ 80°C (14°F ~ 176°F)
		EPDM		-20°C ~ 120°C (-4°F ~ 248°F)
		NEOPRENE (CR)		0°C ~ 80°C (32°F ~ 176°F)
		SILICON		-20°C ~ 204°C (-4°F ~ 400°F)
		HYPALON (CSM)		-20°C ~ 135°C (-4°F ~ 275°F)
		VITON		-18°C ~ 204°C (-4°F ~ 400°F)
6	PLUG	SCS14	A351 CF8M	
7	RETAINING PIN	SUS304	A182 F304	
8	O-RING HOLDER	S45C		
9	O-RING	NBR (NITRILE)		-10°C ~ 80°C (14°F ~ 176°F)
10	WASHER	SS41		

* NBR SEAT APPLICABLE RANGE -10°C ~ 80°C,WHILE

* EPDM SEAT IN -20°C ~ 120°C.

* UPPER BUSHING, MADE BY NON-CORSSIVE HEAVY DUTY DELIN, STRONGE ENOUGH TO ABSORB THRUST.

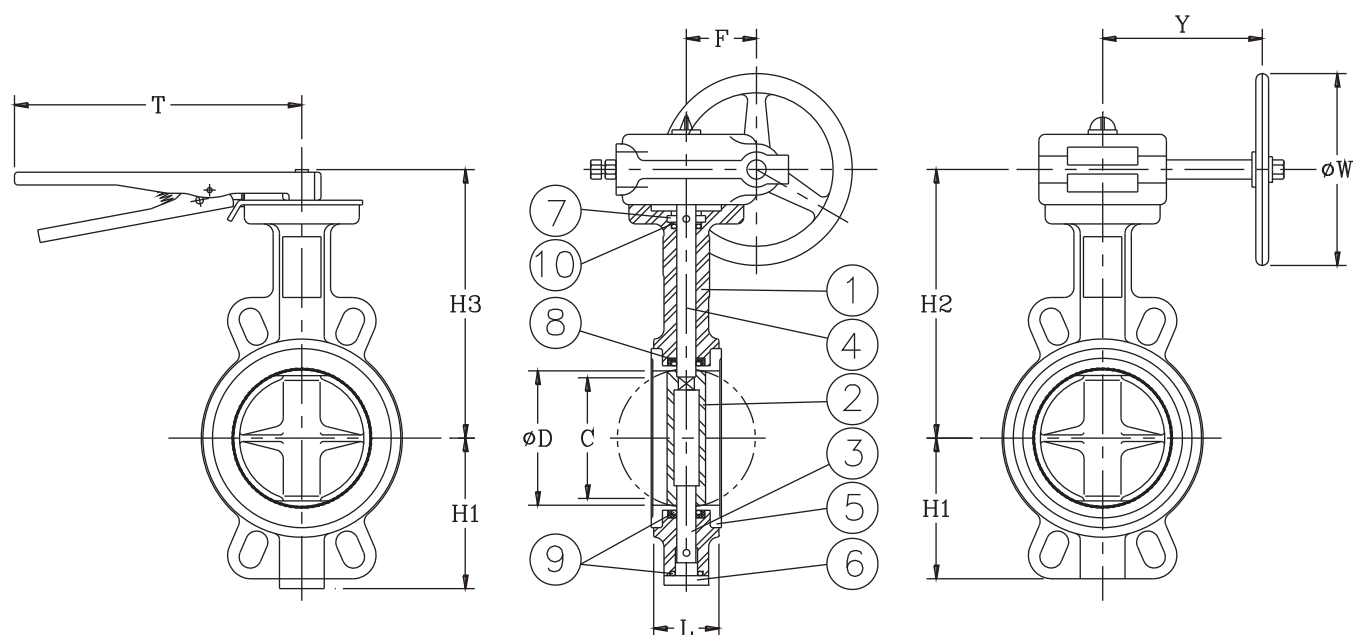
* STEM, DESIGNED WITH SQUARE CONNECTION TO DRIVE DISC, ARE RETAINED IN THE BODY AND ANTI-FULL-OUT PROVED BY MEANS OF PATENT "Q" TYPE MECHANISM.WITH THE PATENT MECHANISM THE VALVE CAN BE DISASSAMBLD COMPLETELY BY USE A SIMPLE SCREW DRIVER.

* WARM GEAR, ELECTRIC ACTUATOR, PNEUMATIC ACTUATOR OPERATED BUTTERFLY VALVES ARE AVAILABLE AS REQUESTED.



WAFER TYPE HIGH PRESSURE RATING BUTTERFLY VALVE

Model : Series 81-WH Butterfly Valve



Dimension List:

Size		L	C	D	H1	H2	H3	F	Y	W	T	Torque NM	ISO 5211
INCH	MM												
2	50	43	42	57	90	169	175	45	125	150	200	37	F07
2-1/2	65	46	54	70	95	181	187	45	125	150	200	43	F07
3	80	46	68	82	108	188	194	45	125	150	200	67	F07
4	100	52	90	104	131	207	213	45	125	150	260	90	F07
5	125	56	114	127	145	223	229	45	125	150	260	150	F07
6	150	56	139	150	165	236	242	45	125	150	260	225	F07
8	200	60	184	194	200	270	277	71	230	250		416	F10
10	250	68	230	240	228	326		95	290	350		672	F10
12	300	78	267	287	261	349		95	290	350		928	F10
14	350	78	333	342	272	340		95	290	350		1330	F14
16	400	102	368	387	310	370		95	290	350		1776	F14
18	450	114	417	436	350	410		95	290	350		1800	F14
20	500	127	471	488	380	470		115	360	350		2250	F16
24	600	154	565	581	430	560		115	360	350		2626	F16

We hereby reserve the rights of any alternative dimension that would help to improve our valve's quality and working efficiency



Double Eccentric High Performance Butterfly Valves, Wafer Type Model 82-W

• Flange requirements

- ASME Class150
- DIN PN 10/ 16/ 25
- JIS 10K/ 16K/ 20K
- Others may be available upon request

• Standard

- Basic Design to API 609
- Inspection & testing according to API 598/ISO 5208
- PED 97/23/EC; ISO 9001

• Material.

CF8M/CF8/WCB

• Body Rating

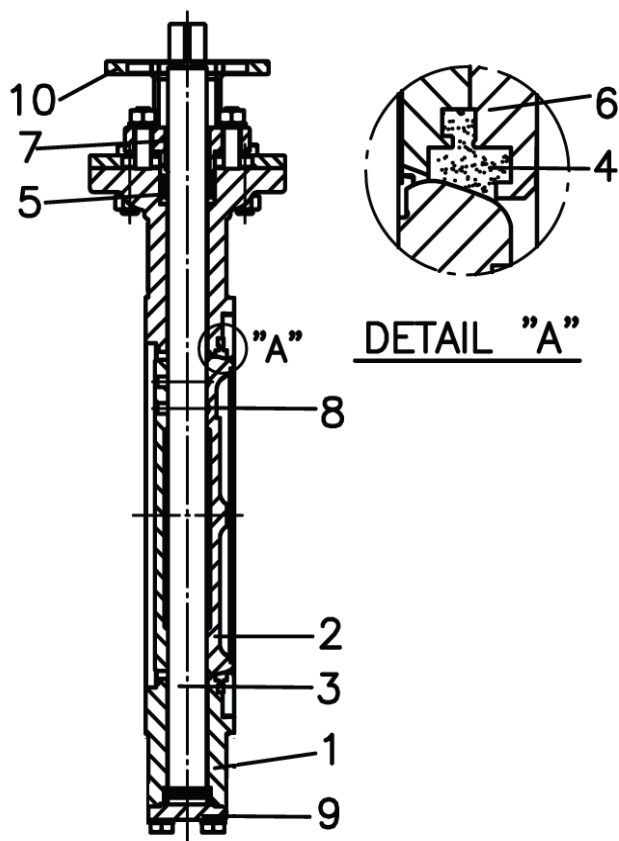
PN25

• Size

2" ~ 24"

• Temperature Range

-25°F ~ 400°F (R.PTFE)



• Design feature

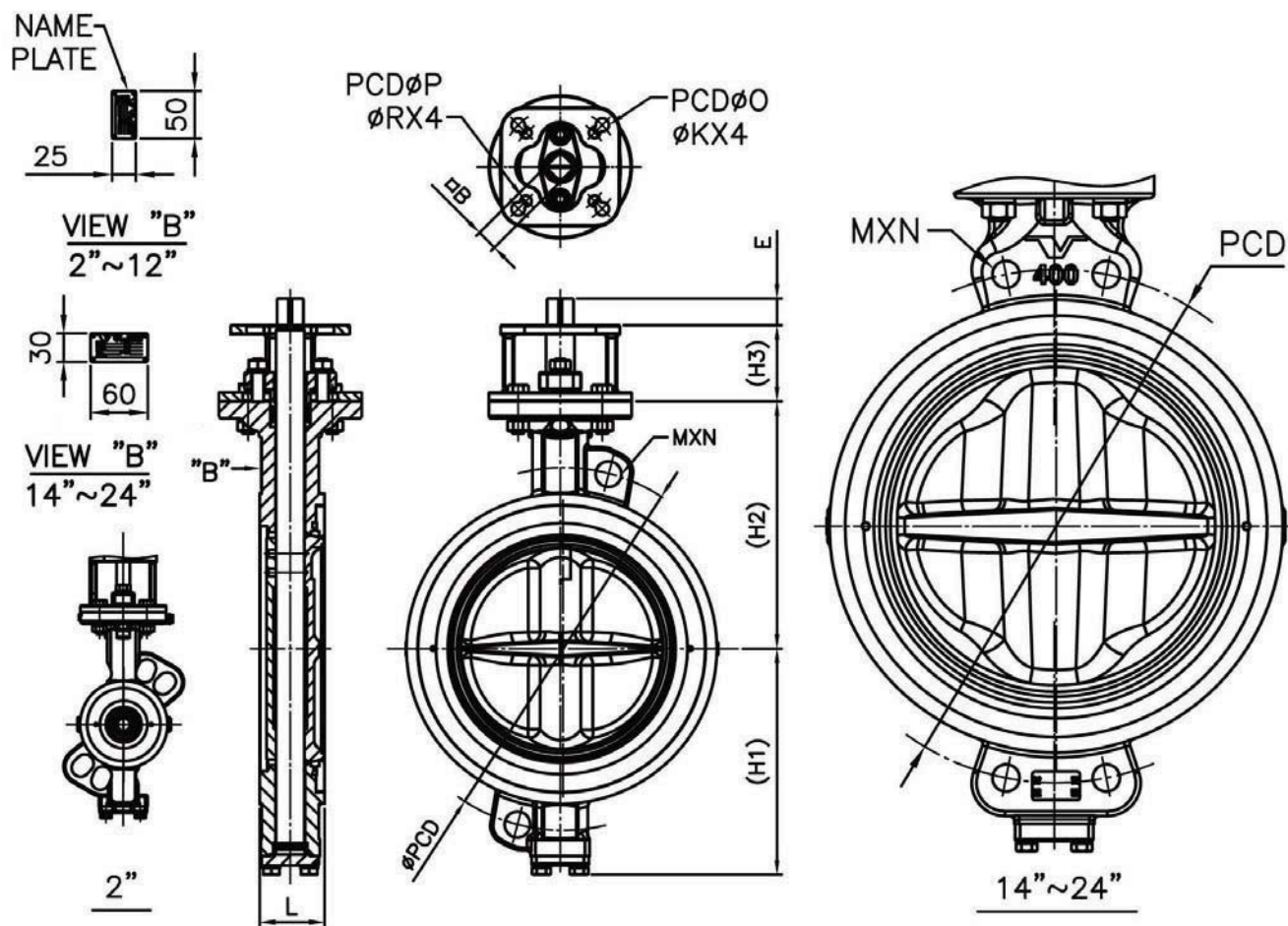
- Valves are high performance with offset seat and double eccentric disc design
- Valves seat are designed for full pressure, and bi-directional sealing
- Integral ISO 5211 mounting pad easy for automation
- One-piece shaft design equipped with blow-out proof and anti-static devices
- Patented seat retainer ring fixed without bolts and offering complete uninterrupted seal face
- Valves has integral body stop to prevent over travel
- DIN EN10204-3.1 certificate available

Materials List:

No.	Parts Name	JIS	ASTM	Remark
1	Body	SCS13	A351 CF8	
		SCS14	A351 CF8M	
		SC480	A216 WCB	
2	Disc	SCS13	A351 CF8	
		SCS14	A351 CF8M	
3	Seat	PTFE		0~160°C
		PTFE/Fiberglass Composite		0~180°C
		PTFE/Graphite Composite		0~210°C
4	Gland Packing	PTFE		0~160°C
		PTFE/Fiberglass Composite		0~180°C
5	Retainer	SCS13	A351 CF8	
		SCS14	A351 CF8M	
6	Stem	SUS13	A182 F304	
		SUS14	A182 F316	
			A479 XM-19	
			A536 630	
7	Gland	SCS14	A351 CF8M	2"~14"
8	Pin	SUS316	A182 F316	16"~24"
9	Bottom Cover	SCS14	A351 CF8M	
10	Yoke	SC480	A216 WCB	2"-20"
			A536 65-45-12	24"



Double Eccentric High Performance Butterfly Valves, Wafer Type Model 82-W



DIMENSIONS LIST:

Valve Size		L	C	H1	H2	H3	B	O	K	P	R	E	Cv	Weight kg	ASME Class 150		BS10 Table E	
NPS	MM														PCD	M x N	PCD	M x N
2"	50	43	58	99	118	60	11	70	9	50	7	18	66	4.2	-	-	-	-
2.5"	65	46	78	110	125	60	11	70	9	50	7	18	140	5.5	139.7	19x2	127	19x2
3"	80	47	92	128	140	70	14	102	11	70	9	23	260	8.5	152.4	19x2	146.1	19x2
4"	100	53	110	150	157	70	14	102	11	70	9	23	420	14	190.5	19x2	177.8	19x2
5"	125	57	135	163	170	70	17	102	11	70	9	23	720	18	215.9	23x2	209.6	19x2
6"	150	56	162	176	185	70	17	102	11	70	9	23	1200	19.5	241.3	23x2	235	23x2
8"	200	62	205	206	220	80	19	125	14	102	11	28	2000	31	298.5	23x2	292.1	23x2
10"	250	68	258	238	260	80	22	125	14	102	11	28	3100	47	362	25x2	355.6	23x2
12"	300	78	303	269	290	100	27	140	18	125	14	37	4750	67	431.8	25x2	406.4	25x2
14"	350	78	360	306	326	100	27	140	18	125	14	37	5850	103	476.3	25x4	469.9	25x4
16"	400	102	410	342	370	120	36	165	22	140	18	47	8300	178	539.8	27x4	520.7	25x4
18"	450	114	460	370	395	120	36	165	22	140	18	47	10400	198	577.9	M24x4	584.2	7/8"-9UNCx4
20"	500	127	510	399	430	120	46	165	22	140	18	56	13800	265	635	M24x4	641.4	7/8"-9UNCx4
24"	600	154	610	455	490	150	46	256	18	-	-	56	22500	486	749.3	M30x4	755.7	1-1/8"-8UNCx4



Double Eccentric High Performance Butterfly Valves, Wafer Type, Metal Seated Model 82M-W

• Flange requirements

- ASME Class150
- DIN PN 10/ 16/ 25
- JIS 10K/ 16K/ 20K
- Others may be available upon request

• Standard

- Basic Design to API 609
- Inspection & testing according to API 598/ISO 5208
- PED 97/23/EC; ISO 9001

• Material.

CF8M/CF8/WCB

• Pressure Rating

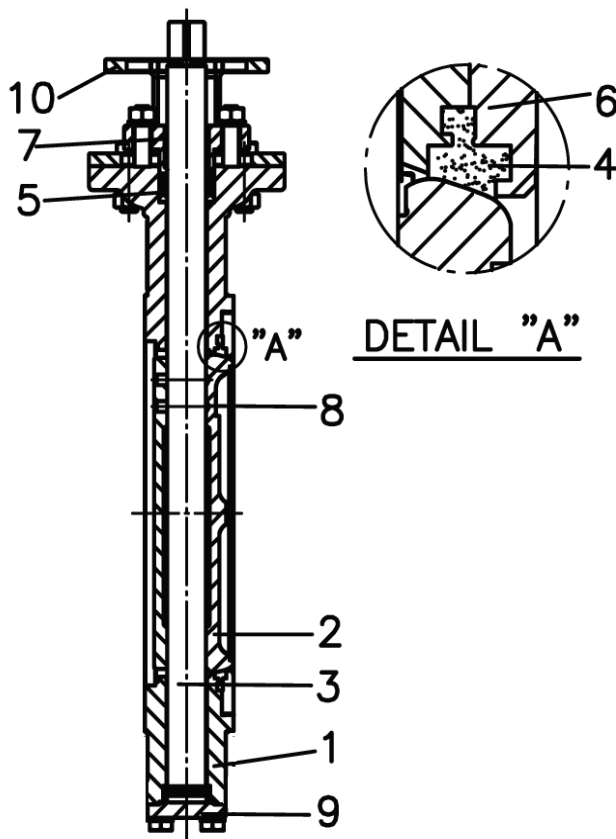
Class 150 / PN10, 16, 25

• Body Rating

PN25

• Size

2" ~ 24"



• Design feature

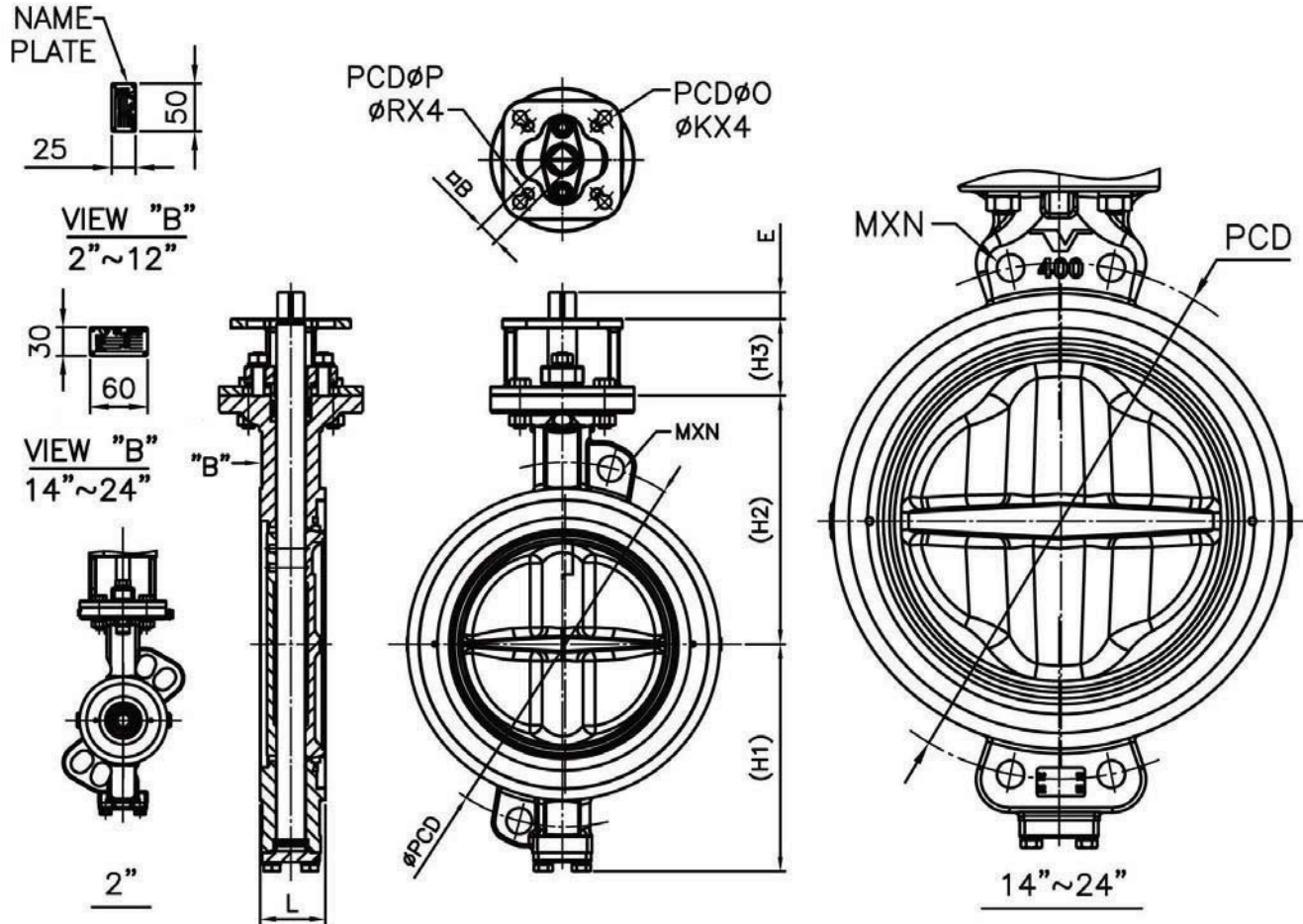
- Valves are high performance with offset seat and double eccentric disc design
- Valves seat are designed for full pressure, and bi-directional sealing
- Integral ISO 5211 mounting pad easy for automation
- One-piece shaft design equipped with blow-out proof and anti-static devices
- Patented seat retainer ring fixed without bolts and offering complete uninterrupted seal face
- Valves has integral body stop to prevent over travel
- DIN EN10204-3.1 certificate available

Materials List:

No.	Parts Name	JIS	ASTM	Remark
1	Body	SCS13	A351 CF8	
		SCS14	A351 CF8M	
		SC480	A216 WCB	
2	Disc	SCS13	A351 CF8	
		SCS14	A351 CF8M	
3	Seat	SUS316	A240 Gr.316	
4	Gland Packing	Graphite		
5	Retainer	SCS13	A351 CF8	
		SCS14	A351 CF8M	
6	Stem	SUS13 SUS14	A182 F304	
			A182 F316	
			A479 XM-19	
			A536 630	
7	Gland	SCS14	A351 CF8M	
8	Pin	SUS316	Same as body	
9	Bottom Cover	SCS14	A182 F316	
10	Yoke	SC480	A351 CF8M	
			A216 WCB A536 65-45-12	



Double Eccentric High Performance Butterfly Valves, Wafer Type, Metal Seated Model 82M-W



DIMENSIONS LIST:

Valve Size		L	C	H1	H2	H3	B	O	K	P	R	E	Cv	Weight kg	ASME Class 150		BS10 Table E	
NPS	MM														PCD	M x N	PCD	M x N
2"	50	43	58	99	118	60	11	70	9	50	7	18	66	4.2	-	-	-	-
2.5"	65	46	78	110	125	60	11	70	9	50	7	18	140	5.5	139.7	19x2	127	19x2
3"	80	47	92	128	140	70	14	102	11	70	9	23	260	8.5	152.4	19x2	146.1	19x2
4"	100	53	110	150	157	70	14	102	11	70	9	23	420	14	190.5	19x2	177.8	19x2
5"	125	57	135	163	170	70	17	102	11	70	9	23	720	18	215.9	23x2	209.6	19x2
6"	150	56	162	176	185	70	17	102	11	70	9	23	1200	19.5	241.3	23x2	235	23x2
8"	200	62	205	206	220	80	19	125	14	102	11	28	2000	31	298.5	23x2	292.1	23x2
10"	250	68	258	238	260	80	22	125	14	102	11	28	3100	47	362	25x2	355.6	23x2
12"	300	78	303	269	290	100	27	140	18	125	14	37	4750	67	431.8	25x2	406.4	25x2
14"	350	78	360	306	326	100	27	140	18	125	14	37	5850	103	476.3	25x4	469.9	25x4
16"	400	102	410	342	370	120	36	165	22	140	18	47	8300	178	539.8	27x4	520.7	25x4
18"	450	114	460	370	395	120	36	165	22	140	18	47	10400	198	577.9	M24x4	584.2	7/8"-9UNCx4
20"	500	127	510	399	430	120	46	165	22	140	18	56	13800	265	635	M24x4	641.4	7/8"-9UNCx4
24"	600	154	610	455	490	150	46	256	18	-	-	56	22500	486	749.3	M30x4	755.7	1-1/8"-8UNCx4



Double Eccentric High Performance Butterfly Valves, Lug Type Model 82-L

• Flange requirements

- ASME Class150
- DIN PN 10/ 16/ 25
- JIS 10K/ 16K/ 20K
- Others may be available upon request

• Standard

- Basic Design to API 609
- Inspection & testing according to API 598/ISO 5208
- PED 97/23/EC; ISO 9001

• Material.

CF8M/CF8/WCB

• Pressure Rating

Class 150 / PN10,16,25

• Body Rating

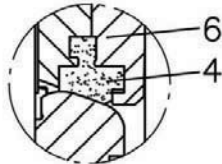
PN25

• Size

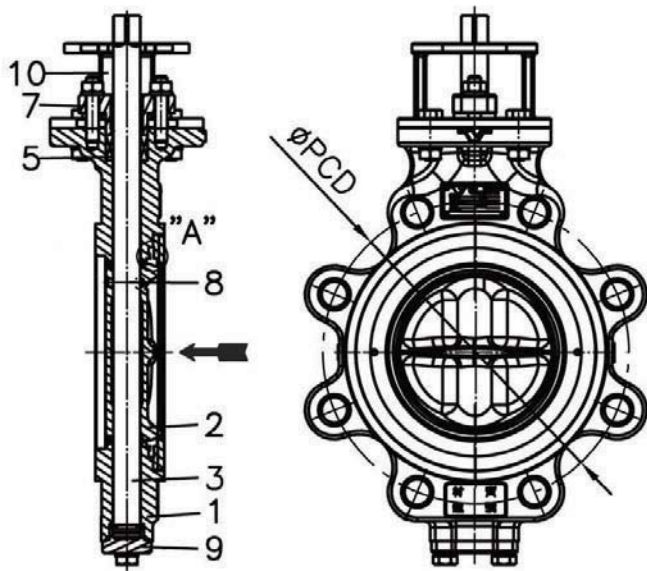
2" ~ 24"

• Temperature Range

-25°F ~ 400°F (R.PTFE)



DETAIL "A"



• Design feature

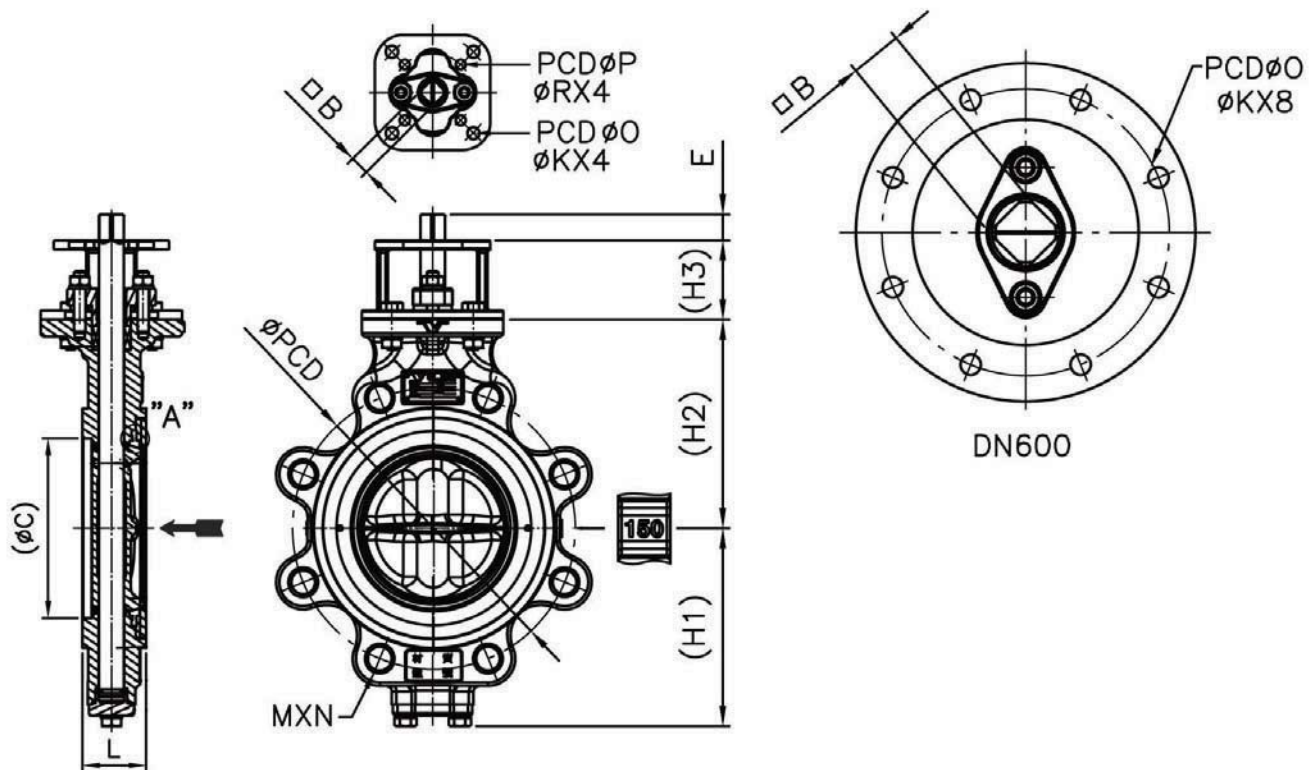
- Valves are high performance with offset seat and double eccentric disc design
- Valves seat are designed for full pressure, and bi-directional sealing
- Integral ISO 5211 mounting pad easy for automation
- One-piece shaft design equipped with blow-out proof and anti-static devices
- Patented seat retainer ring fixed without bolts and offering complete uninterrupted seal face
- Valves has integral body stop to prevent over travel
- DIN EN10204-3.1 certificate available

Materials List:

No.	Parts Name	JIS	ASTM	Remark
1	Body	SCS13	A351 CF8	
		SCS14	A351 CF8M	
		SC480	A216 WCB	
2	Disc	SCS13	A351 CF8	
		SCS14	A351 CF8M	
3	Seat	PTFE		0~160°C
		PTFE/Fiberglass Composite		0~180°C
		PTFE/Graphite Composite		0~210°C
4	Gland Packing	PTFE		0~160°C
		PTFE/Fiberglass Composite		0~180°C
5	Retainer	SCS13	A351 CF8	
		SCS14	A351 CF8M	
6	Stem		A182 F304	
			A182 F316	
			A479 XM-19	
			A536 630	
7	Gland	SCS14	A351 CF8M	2"~14"
			Same as body	16"~24"
8	Pin	SUS316	A182 F316	
9	Bottom Cover	SCS14	A351 CF8M	
10	Yoke		A216 WCB	2"~20"
			A536 65-45-12	24"



Double Eccentric High Performance Butterfly Valves, Lug Type Model 82-L



DIMENSIONS LIST:

Valve Size		L	C	H1	H2	H3	B	O	K	P	R	E	Cv	Weight kg	ASME Class 150		BS10 Table E	
NPS	MM														PCD	M x N	PCD	M x N
2"	50	43	58	98	118	60	11	70	9	50	7	18	66	4.2	120.7	5/8"-11UNCx4	114.3	5/8"-11UNCx4
2.5"	65	46	78	110	125	60	11	70	9	50	7	18	140	5.5	139.7	5/8"-11UNCx4	127	5/8"-11UNCx4
3"	80	47	92	128	140	70	14	102	11	70	9	23	260	8.5	152.4	5/8"-11UNCx4	146.1	5/8"-11UNCx4
4"	100	53	110	150	157	70	14	102	11	70	9	23	420	14	190.5	5/8"-11UNCx4	177.8	5/8"-11UNCx8
5"	125	57	135	163	170	70	17	102	11	70	9	23	720	18	215.9	3/4"-10UNCx8	209.6	5/8"-11UNCx8
6"	150	56	162	176	185	70	17	102	11	70	9	23	1200	19.5	241.3	3/4"-10UNCx8	235	3/4"-10UNCx8
8"	200	62	205	206	220	80	19	125	14	102	11	28	2000	31	298.5	3/4"-10UNCx8	292.1	3/4"-10UNCx8
10"	250	68	258	238	260	80	22	125	14	102	11	28	3100	47	362	7/8"-9UNCx12	355.6	3/4"-10UNCx12
12"	300	78	303	269	290	100	27	140	18	125	14	37	4750	67	431.8	7/8"-9UNCx12	406.4	7/8"-9UNCx12
14"	350	78	360	306	326	100	27	140	18	125	14	37	5850	103	476.3	1"-8UNCx12	469.9	7/8"-9UNCx12
16"	400	102	410	342	370	120	36	165	22	140	18	47	8300	178	539.8	1"-8UNCx16	520.7	7/8"-9UNCx12
18"	450	114	460	370	395	120	36	165	22	140	18	47	10400	198	577.9	1-1/8"-8UNCx16	584.2	7/8"-9UNCx16
20"	500	127	510	399	430	120	46	165	22	140	18	56	13800	265	635	1-1/8"-8UNCx20	641.4	7/8"-9UNCx16
24"	600	154	610	455	490	150	46	256	18			56	22500	486	749.3	1-1/4"-8UNCx20	755.7	1-1/8"-8UNCx16



Double Eccentric High Performance Butterfly Valves, Lug Type, Metal Seated Model 82M-L

• Flange requirements

- ASME Class150
- DIN PN 10/ 16/ 25
- JIS 10K/ 16K/ 20K
- Others may be available upon request

• Standard

- Basic Design to API 609
- Inspection & testing according to API 598/ISO 5208
- PED 97/23/EC; ISO 9001

• Material.

CF8M/CF8/WCB

• Pressure Rating

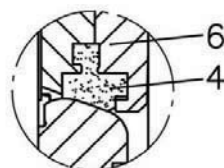
Class 150 / PN10, 16, 25

• Body Rating

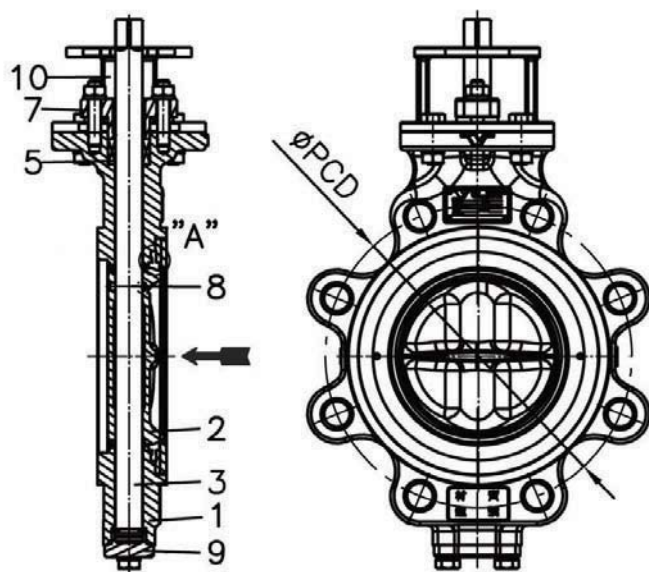
PN25

• Size

2" ~ 24"



DETAIL "A"



• Design feature

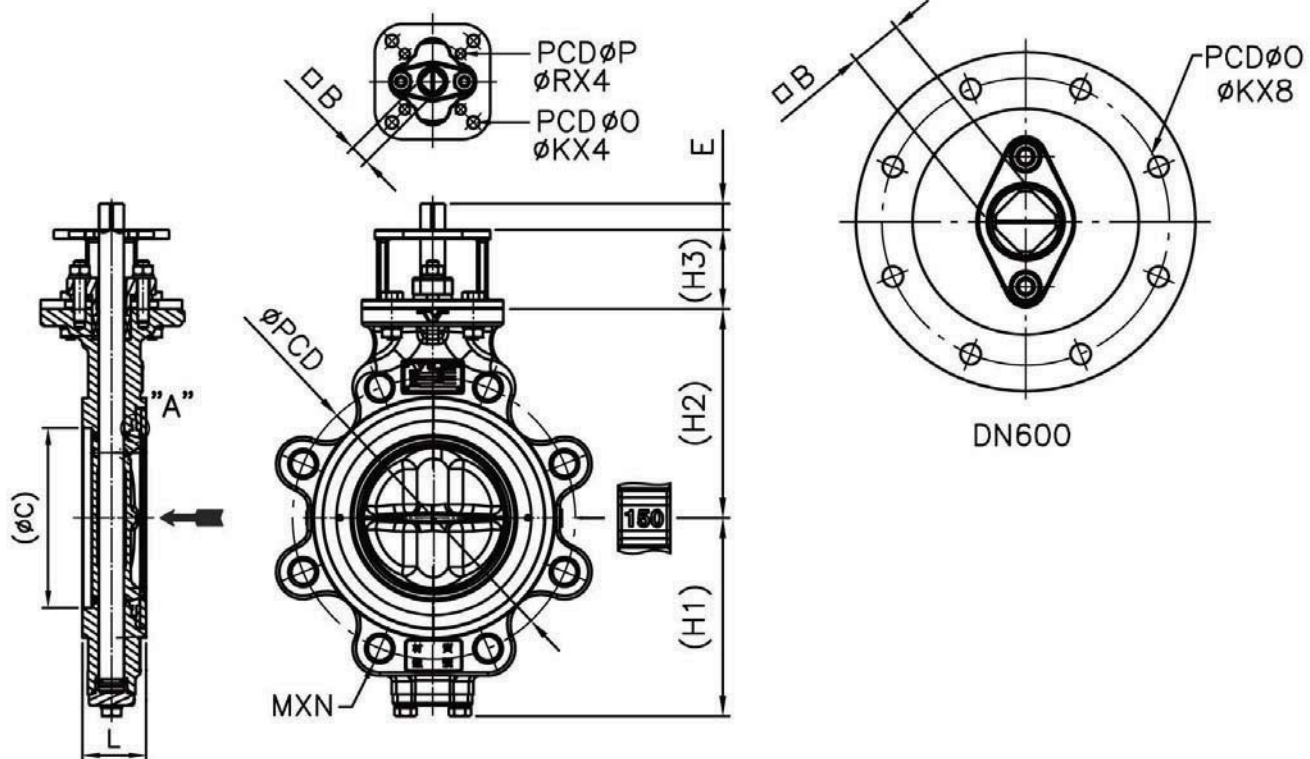
- Valves are high performance with offset seat and double eccentric disc design
- Valves seat are designed for full pressure, and bi-directional sealing
- Integral ISO 5211 mounting pad easy for automation
- One-piece shaft design equipped with blow-out proof and anti-static devices
- Patented seat retainer ring fixed without bolts and offering complete uninterrupted seal face
- Valves has integral body stop to prevent over travel
- DIN EN10204-3.1 certificate available

Materials List:

No.	Parts Name	JIS	ASTM	Remark
1	Body	SCS13	A351 CF8	
		SCS14	A351 CF8M	
		SC480	A216 WCB	
2	Disc	SCS13	A351 CF8	
		SCS14	A351 CF8M	
3	Seat	SUS316	A240 Gr.316	
4	Gland Packing	Graphite		
5	Retainer	SCS13	A351 CF8	
		SCS14	A351 CF8M	
6	Stem	SUS13 SUS14	A182 F304	
			A182 F316	
			A479 XM-19	
			A536 630	
7	Gland	SCS14	A351 CF8M	
8	Pin	SUS316	A182 F316	
9	Bottom Cover	SCS14	A351 CF8M	
10	Yoke	SC480	A216 WCB	
			A536 65-45-12	



Double Eccentric High Performance Butterfly Valves, Lug Type, Metal Seated Model 82M-L



DIMENSIONS LIST:

Valve Size		L	C	H1	H2	H3	B	O	K	P	R	E	Cv	Weight kg	ASME Class 150		BS10 Table E	
NPS	MM														PCD	M x N	PCD	M x N
2"	50	43	58	98	118	60	11	70	9	50	7	18	66	4.2	120.7	5/8"-11UNCx4	114.3	5/8"-11UNCx4
2.5"	65	46	78	110	125	60	11	70	9	50	7	18	140	5.5	139.7	5/8"-11UNCx4	127	5/8"-11UNCx4
3"	80	47	92	128	140	70	14	102	11	70	9	23	260	8.5	152.4	5/8"-11UNCx4	146.1	5/8"-11UNCx4
4"	100	53	110	150	157	70	14	102	11	70	9	23	420	14	190.5	5/8"-11UNCx4	177.8	5/8"-11UNCx8
5"	125	57	135	163	170	70	17	102	11	70	9	23	720	18	215.9	3/4"-10UNCx8	209.6	5/8"-11UNCx8
6"	150	56	162	176	185	70	17	102	11	70	9	23	1200	19.5	241.3	3/4"-10UNCx8	235	3/4"-10UNCx8
8"	200	62	205	206	220	80	19	125	14	102	11	28	2000	31	298.5	3/4"-10UNCx8	292.1	3/4"-10UNCx8
10"	250	68	258	238	260	80	22	125	14	102	11	28	3100	47	362	7/8"-9UNCx12	355.6	3/4"-10UNCx12
12"	300	78	303	269	290	100	27	140	18	125	14	37	4750	67	431.8	7/8"-9UNCx12	406.4	7/8"-9UNCx12
14"	350	78	360	306	326	100	27	140	18	125	14	37	5850	103	476.3	1"-8UNCx12	469.9	7/8"-9UNCx12
16"	400	102	410	342	370	120	36	165	22	140	18	47	8300	178	539.8	1"-8UNCx16	520.7	7/8"-9UNCx12
18"	450	114	460	370	395	120	36	165	22	140	18	47	10400	198	577.9	1-1/8"-8UNCx16	584.2	7/8"-9UNCx16
20"	500	127	510	399	430	120	46	165	22	140	18	56	13800	265	635	1-1/8"-8UNCx20	641.4	7/8"-9UNCx16
24"	600	154	610	455	490	150	46	256	18			56	22500	486	749.3	1-1/4"-8UNCx20	755.7	1-1/8"-8UNCx16



Triple Eccentric High Performance Butterfly Valves, Wafer Type Series 83W

• Size Range

DN65 to DN1800 (2½" to 72")

• Body Material

CF8M/CF8/WCB

• Pressure Rating

ANSI CLASS 150, CLASS 300

• Temperature Range

Laminated seat -103°F ~ 1022°F(-75°C~550°C)

Solid metal seat -321°F ~ 1400°F(-196°C~760°C)

• Operation

Gear box

Pneumatic actuation

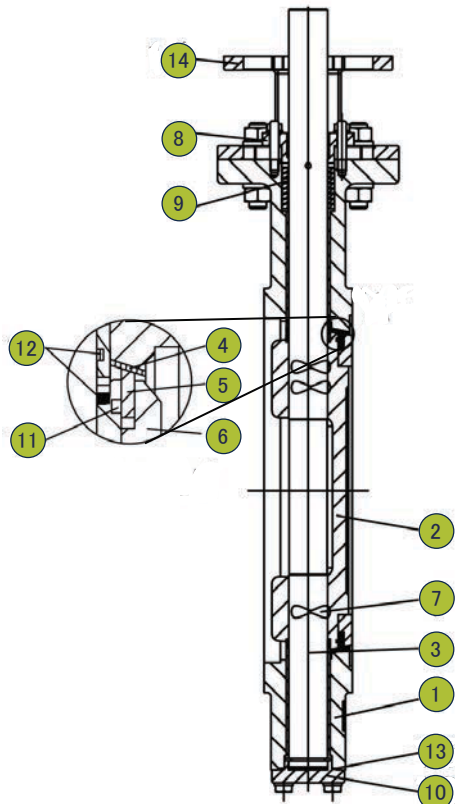
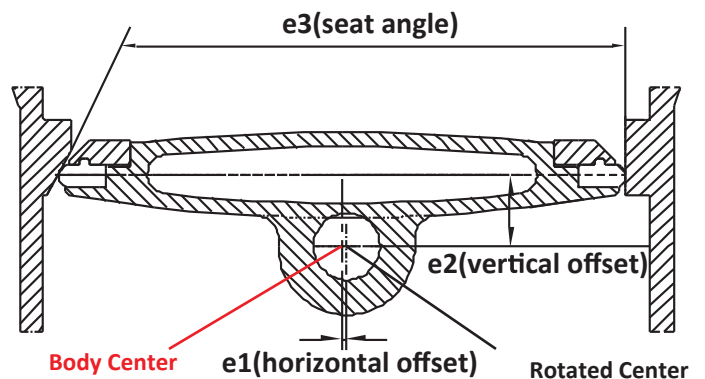
Electric actuation

• Design feature

- Virtually no rubbing from the resilient seal on the seating surface. This enhances the life and performance of the elastomeric disc seal and thereby preventing wear and consequent leakage.

- Disc seal ring designed to be flex could self-adjustment in different pressure and temperature and compress elastically on sealing surface to achieve the best sealing function.

- Body seat with satellite #21 hard face overlay provide long service life, other materials is available on customer request.

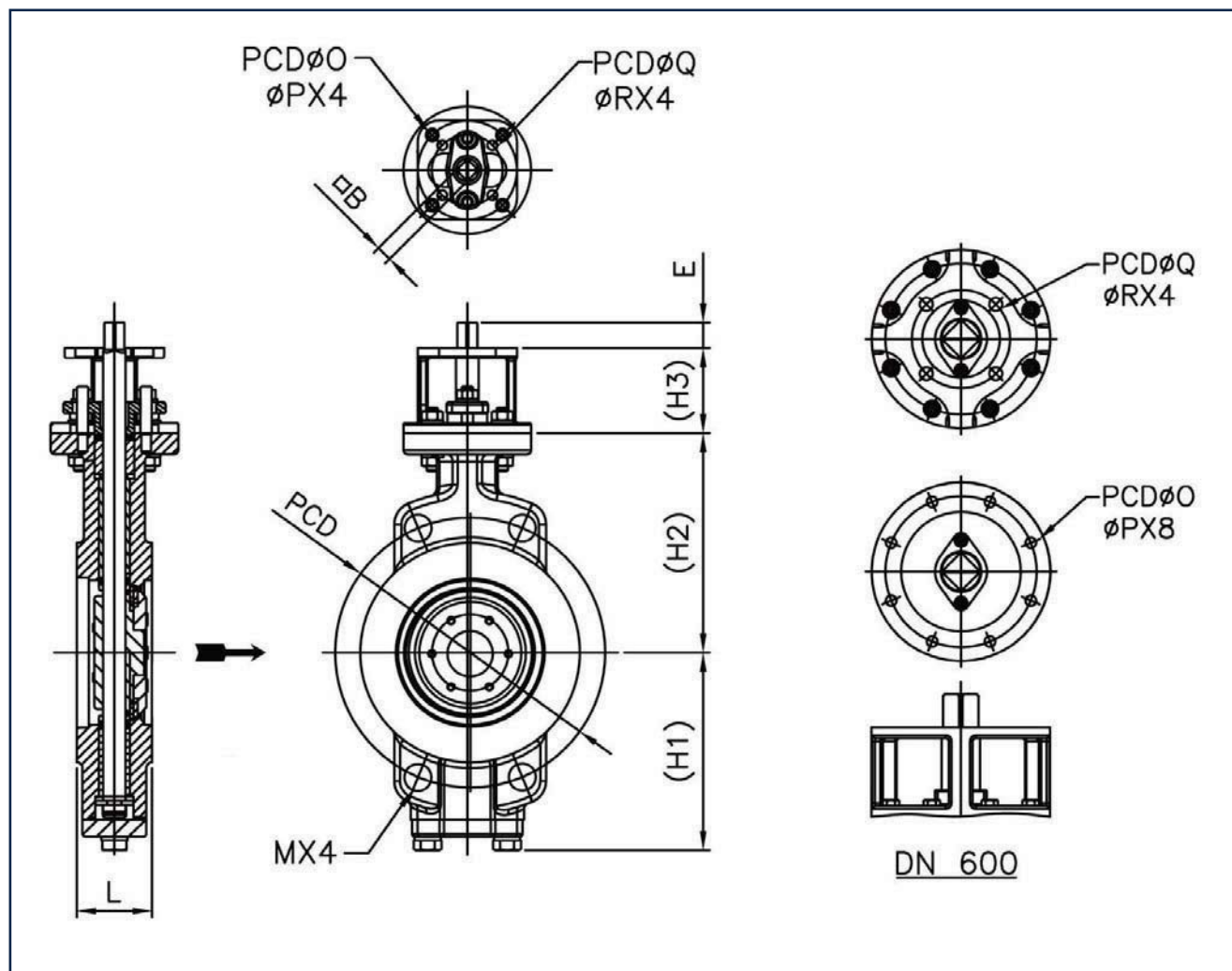


• Materials of structure

No.	Parts Name	Materials	Remark
1	Body	A351 CF8 A351 CF8M A216 WCB	
2	Disc	Same as body	
3	Stem	A564 Gr.630 A479 XM-19 A182 F6A Class 3	
4	Body Seat	Stellited	
5	Disc Seat Ring	A240 316+GRAPHITE A240 304+GRAPHITE UNS S32205+GRAPHITE	
6	Retainer	A351 CF8 A351 CF8M	
7	Pin	A182 F316	
8	Gland	A351 CF8(body WCB) Same as body	
9	Gland Packing	Graphite	
10	Bottom Cover	Same as body	
11	Gasket	Graphite	
12	Seal	Graphite	
13	Bottom Packing	Graphite	
14	Yoke	A216 WCB A536 65-45-12	Above 20"



Triple Eccentric High Performance Butterfly Valves, Wafer Type Series 83W



• Dimensions

Valve Size		L	H1	H2	H3	B	O	P	Q	R	E	Cv
NPS	MM											
3"	80	47	137	145	60	11	70	9	50	7	18	173
4"	100	53	140	155	60	11	70	9	50	7	18	355
6"	150	56	177	200	70	14	102	11	70	9	24	1040
8"	200	63	204	225	70	19	102	11	70	9	28	1980
10"	250	69	252	270	80	22	125	14	102	11	28	3150
12"	300	79	281	300	100	27	140	18	125	14	37	4680
14"	350	79/92	317	355	100	32	140	18	125	14	48	6388
16"	400	102	351	385	120	32	165	22	140	18	47	8312
18"	450	114	376	430	120	36	165	22	140	18	48	10525
20"	500	127	411	455	150	36	165	22	140	18	47	13053
24"	600	154	476	540	150	46	254	18	165	22	56	18610



Triple Eccentric High Performance Butterfly Valves, Lug Type Series 83L

• Size Range

DN65 to DN1800 (2½" to 72")

• Body Material

CF8M/CF8/WCB

• Pressure Rating

ANSI CLASS 150, CLASS 300

• Temperature Range

Laminated seat -103°F ~ 1022°F(-75°C~550°C)

Solid metal seat -321°F ~ 1400°F(-196°C~760°C)

• Operation

Gear box

Pneumatic actuation

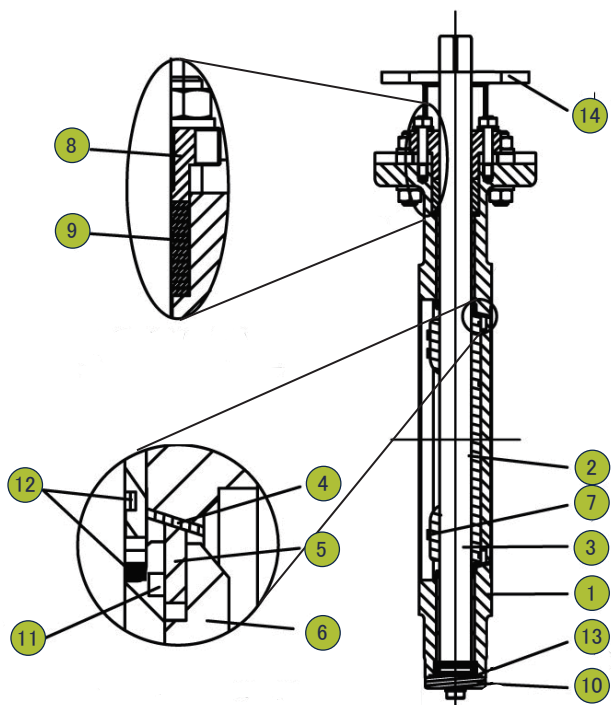
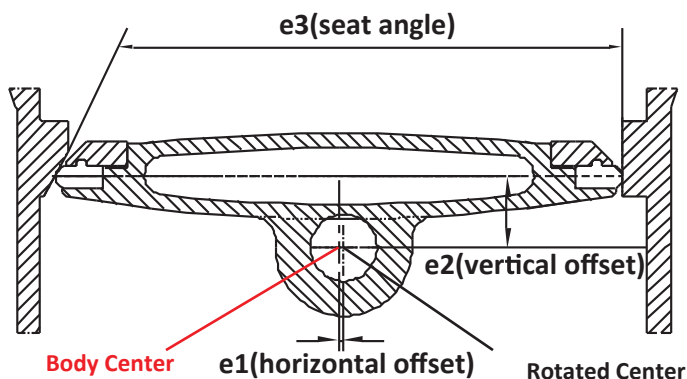
Electric actuation

• Design feature

- Virtually no rubbing from the resilient seal on the seating surface. This enhances the life and performance of the elastomeric disc seal and thereby preventing wear and consequent leakage.

- Disc seal ring designed to be flex could self-adjustment in different pressure and temperature and compress elastically on sealing surface to achieve the best sealing function.

- Body seat with satellite #21 hard face overlay provide long service life, other materials is available on customer request.

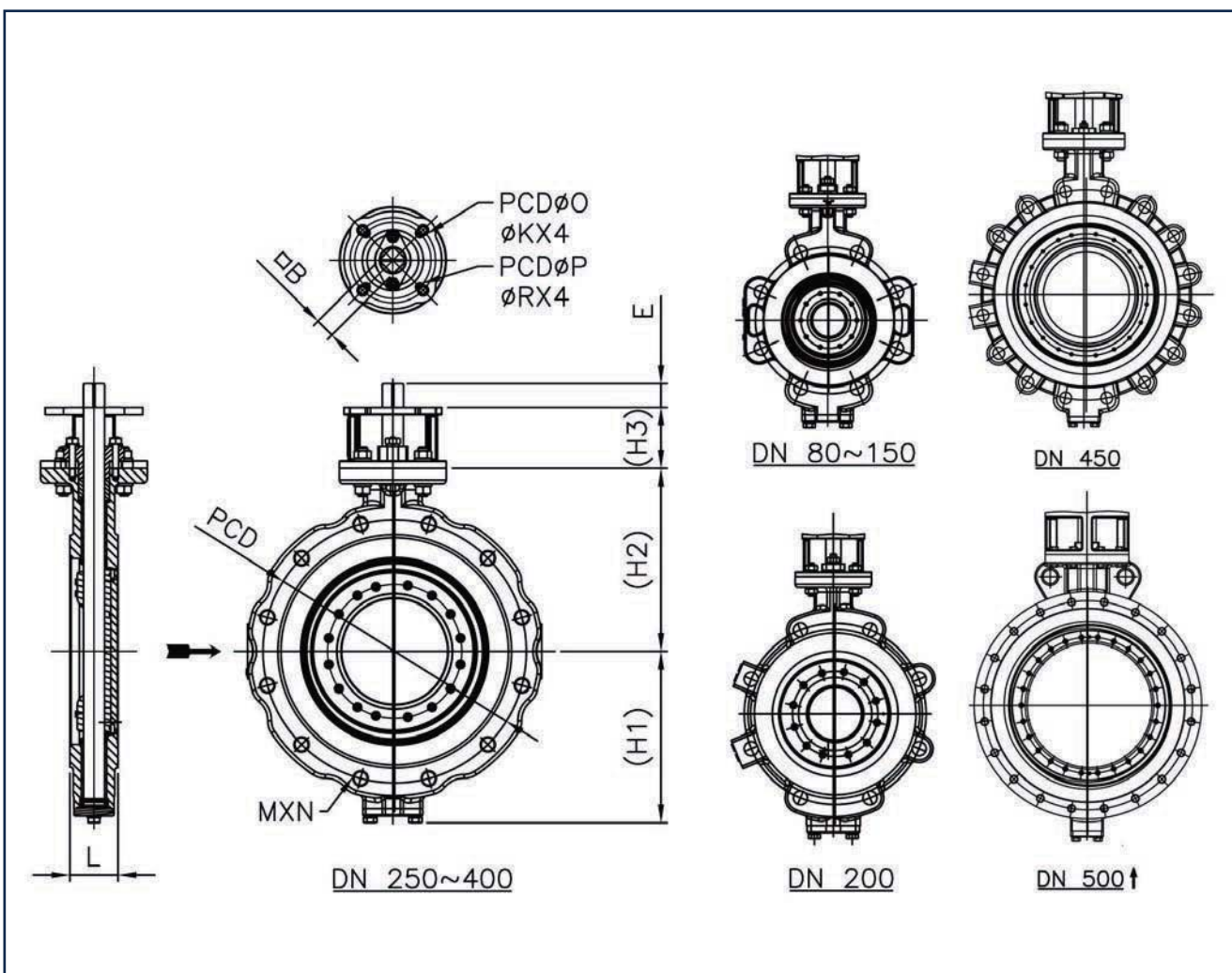


• Materials of structure

No.	Parts Name	Materials	Remark
1	Body	A351 CF8 A351 CF8M A216 WCB	
2	Disc	Same as body	
3	Stem	A564 Gr.630 A479 XM-19 A182 F6A Class 3	
4	Body Seat	Stellited	
5	Disc Seat Ring	A240 316+GRAPHITE A240 304+GRAPHITE UNS S32205+GRAPHITE	
6	Retainer	A351 CF8 A351 CF8M	
7	Pin	A182 F316	
8	Gland	A351 CF8(body WCB) Same as body	
9	Gland Packing	Graphite	
10	Bottom Cover	Same as body	
11	Gasket	Graphite	
12	Seal	Graphite	
13	Bottom Packing	Graphite	
14	Yoke	A216 WCB A536 65-45-12	Above 20"



Triple Eccentric High Performance Butterfly Valves, Lug Type Series 83L



• DIMENSIONS

Valve Size		L	H1	H2	H3	B	O	K	P	R	E	Key	Cv
NPS	MM												
3"	80	47	137	145	60	11	70	9			18		173
4"	100	53	140	155	60	11	70	9	50	7	18		355
6"	150	56	177	200	70	14	102	11	70	9	24		1040
8"	200	63	204	225	70	19	102	11	70	9	28		1980
10"	250	69	252	270	80	22	125	14	102	11	28		3150
12"	300	79	281	300	100	27	140	18	125	14	37		4680
14"	350	79/92	317	355	100	*41.7	140	18	125	14	55	12x8	6388
16"	400	102	351	385	120	*44.7	165	22	140	18	55	12x8	8312
18"	450	114	376	430	120	*49.7	165	22	140	18	65	16x10	10525
20"	500	127	411	455	120	*54.7	165	22	140	18	65	16x10	13053
24"	600	154	476	540	150	*64.7	254	18	165	22	80	18x12	18610

IEC/ATEX/FM/CSA Approved



3/2 & 5/2 way in-line & Namur Mounted Solenoid Valve.

1. Spool valve structure
 2. Static seal design
 3. Material in aluminum & **316SS**
 4. Encapsulated coil in NASS coil
 5. EExdIIBT6 coil enclosure in Aluminum & **316SS**.
- Approved by ATEX & NEPSI.

NEPSI Approved



Rotary & Linear Type E/P Positioner

1. The optional output signal: mechanical switch & 4-20mADC feedback
2. The optional accessories: air filter regulator or dome type indicator(only in IP66, rotary type)
3. Enclosure in IP66,EExdIIBT6 & EExdIIBT6(Approved by ATEX & NEPSI)

ATEX / NEPSI Approved



Position Monitoring Switchbox

1. Sensor Type:
Mechanical Type (2,3 or 4 x SPDT, DPDT)
Proximity Type (Autonis, P+F, Truck ...)
2. The optional output signal: 4-20mADC or 0-5K/10K ohm potentiometer
3. Housing material in aluminum or **316SS**
4. Enclosure in IP67,EExdIIBT6 & EExdIIBT6 (Approved by ATEX & NEPSI)
5. IP68 enclosure tested in 30M / 24Hairs



Manual Override (Declutchable Wormgear Operator)

1. Cast Iron/Aluminum Body:
The output torque: 300/ 700/ 1,200/ 2,000/ 3,100Nm
2. Ductile Iron Body:
The output torque: 12,000/ 18,000/ 25,000/ 32,000/ 70,000Nm
The actuator & valve connection complies with ISO5211 standard



Air Filter Regulator

1. 5um filtration & high flow capacity
2. Panel Mounting is optional
3. 1/4" vented spring case is optional
4. Housing material in aluminum & **316SS**

316SS

PASCO manufactures a wide range of pneumatic actuators, electric actuators and the accessories of pneumatic actuator (limit switchbox, solenoid valve, manual override ---etc.) for quarter turn valves

PASCO supply the following product range:

	NK series rack & pinion type (CE-ATEX certified and PED compliant) 14 models, the output torque from 9Nm(80in.lbs) to 3,920Nm(34,660in.lbs) at 6 bar air supply. ISO5211/DIN3337 for valve connection, VDI/VDE 3845(Namur) standard connection for solenoid valve and shaft top end(limit switchbox or E/P positioner), +/-5 degree stroke adjustment. 25~30um standard hard anodized treatment on actuator body and over 120um epoxy coated on end caps which meet ASTM B117 qualification(salt spread test over 1,000 hours and no corrosion). PTFE, Polyester, Nickel, Ceramic and Epoxy coated are available on request.
	NSF series scotch yoke type pneumatic and hydraulic actuators (CE-ATEX certified and PED compliant) The output torque from 978Nm(8,656in.lbs) to 226,200Nm (2,001,870in.lbs) at 6 bar air supply. Anti-corrosion painting on outer body and cylinder as standard. VDI/VDE 3845(Namur) standard connection for shaft top end(limit switchbox or E/P positioner), +/-10 degree stroke adjustment. ISO5211 standard for valve connection. PTFE coated on inner cylinder surface. Hydraulic manual override is available for big size actuator.
	NTE series electric actuator, CE approval 13 models and the output torque from 18Nm(159in.lbs) to 6000Nm(53,106in.lbs), compact design, die-casting aluminum alloy housing, alloy steel with heat treatment gear driving unit, integral wormgear & drive shaft, 30% duty rating, detachable crank handle, ISO5211(option), IP67 enclosure.IP68 for option.
	NTE-02L Quarter Turn Electric Actuator Output torque 25Nm(222in.lbs),operation time 10Sec;voltage 24VAC,110VAC & 220VAC for option,ABS housing, 30% duty rating,IP65 enclosure.
	NTQ electric actuator, CE approval(IP67 & EExdIIBT4 enclosure) 13 models, the output torque from 100Nm(885in.lbs) to 6,000Nm(53,106in.lbs), de-clutchable manual override, 2xSPDT each for open & close, torque switch: 1xSPDT each for open & close. space heater, self-lock, IP67 & EExdIIBT4 enclosure.
	The fully range accessories(Limit Switchbox, Solenoid Valve, De-clutchable Manual Override, Air Filter regulator, E/P Positioner ---etc).

PASCO
100 Lancing Drive, Unit# 5
Hamilton, Ontario, L8W 3L6
Ph# 289-335-0331

www.pascovalves.com