

Butterfly Valve

Manual Butterfly Valves

PRODUCT DATA



GENERAL

This V4 manual Butterfly Valve is designed for chilled & hot water applications, to be operated by lever or gear box.

Honeywell provide different End standard for V4 series butterfly valve, more detail please contact will Honeywell.

FEATURES

- Wide size range (DN 50...DN900).
- Operated by lever or gear box. (see Table 1)
- 90° opening / closing operation, 9 positions.
- Cast iron or ductile iron valve body with epoxy coating.
- Wafer or Lug end connection.

SPECIFICATIONS

Sizes	DN50...DN900 (PN16) DN50...DN300 (PN25)
Nominal pressure	PN16, PN25, ANSI 150
Medium Temperature	-10°C ~ +90°C Maximum
Body Material	GG25 (for DN50...DN150) GGG40 (for DN200...DN900)
Stem Material	SS416
Disc Material	Epoxy coated ductile iron GGG40
Liner Material	EPDM
Gear Box	Cast Iron
Lever	Cast Iron
Detent	Nylon
Leakage Rate	No visible leakage
Medium Type	Chilled and Hot water
Pipe Connection	ISO7005-2

Table (1) Valve Size

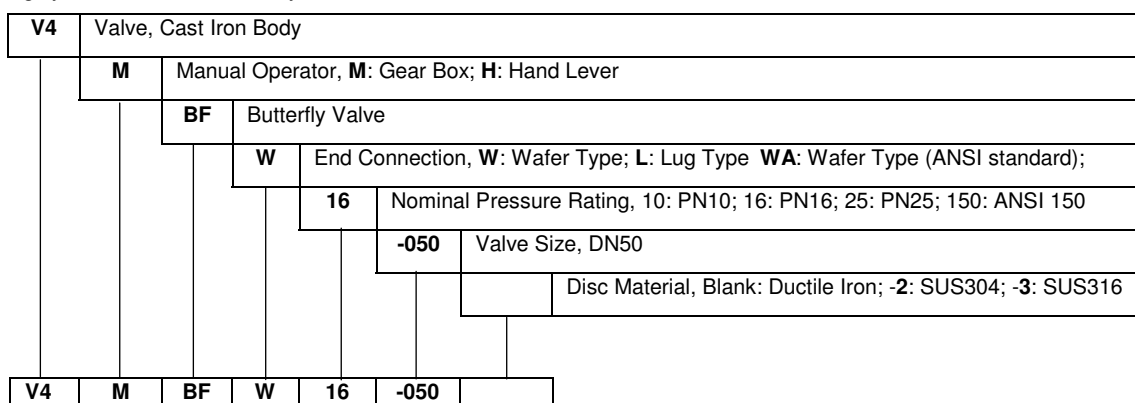
Size	OS#	Max. Kvs	Manual Operator	Operator Weight (Kg)	Total Weight (Kg)
DN50	V4MBFW16-050	109	Gear Box	5.2	7.7
DN65	V4MBFW16-065	177	Gear Box	5.2	8.4
DN80	V4MBFW16-080	243	Gear Box	5.2	8.8
DN100	V4MBFW16-100	483	Gear Box	5.2	10.1
DN125	V4MBFW16-125	822	Gear Box	5.2	12.2
DN150	V4MBFW16-150	1,270	Gear Box	5.2	13
DN200	V4MBFW16-200	2,550	Gear Box	13	25.9
DN250	V4MBFW16-250	4,342	Gear Box	13	32.2
DN300	V4MBFW16-300	6,708	Gear Box	15	47.5
DN350	V4MBFW16-350	9,793	Gear Box	15	56.3
DN400	V4MBFW16-400	13,467	Gear Box	57	118
DN450	V4MBFW16-450	17,836	Gear Box	57	136
DN500	V4MBFW16-500	22,933	Gear Box	57	185
DN600	V4MBFW16-600	35,431	Gear Box	72	260
DN700	V4MBFW16-700	45,199	Gear Box	85	361
DN800	V4MBFW16-800	59,324	Gear Box	85	445
DN900	V4MBFW16-900	81,923	Gear Box	124	830.8

DN50	V4HBFW16-050	109	Lever	0.7	3.2
DN65	V4HBFW16-065	177	Lever	0.7	4.1
DN80	V4HBFW16-080	243	Lever	0.7	4.5
DN100	V4HBFW16-100	483	Lever	0.9	5.8
DN125	V4HBFW16-125	822	Lever	0.9	7.9
DN150	V4HBFW16-150	1,270	Lever	0.9	8.7
DN200	V4HBFW16-200	2,550	Lever	2.3	14.7
DN250	V4HBFW16-250	4,342	Lever	3.2	20.7
DN300	V4HBFW16-300	6,708	Lever	3.2	30

*More OS# please refers to the labeling method in figure (1).

Figure (1) Product Identification System

The labeling system for manual butterfly valves is as follows:

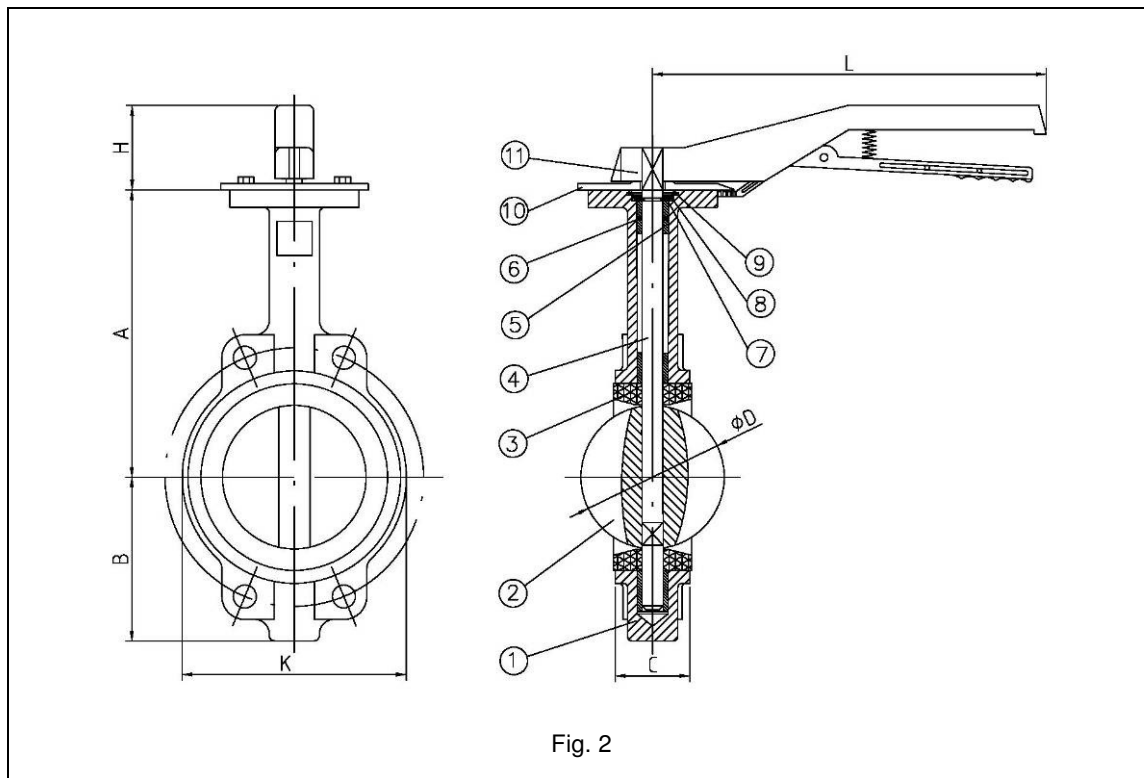


e.g. V4MBFW16-050: Manual Butterfly Valve, Cast Iron Valve Body, Gear Operator, Wafer End Connection, PN16 Nominal Pressure, DN50 Size, Ductile Iron Disc.

e.g. V4HBFL25-065-2: Manual Butterfly Valve, Cast Iron Valve Body, Hand Lever Operator, Lug End Connection, PN25 Nominal Pressure, DN65 Size, SUS304 Disc

Part Description & outside dimension (mm)

a. Valve size DN50...200 with Lever Operator (PN16)



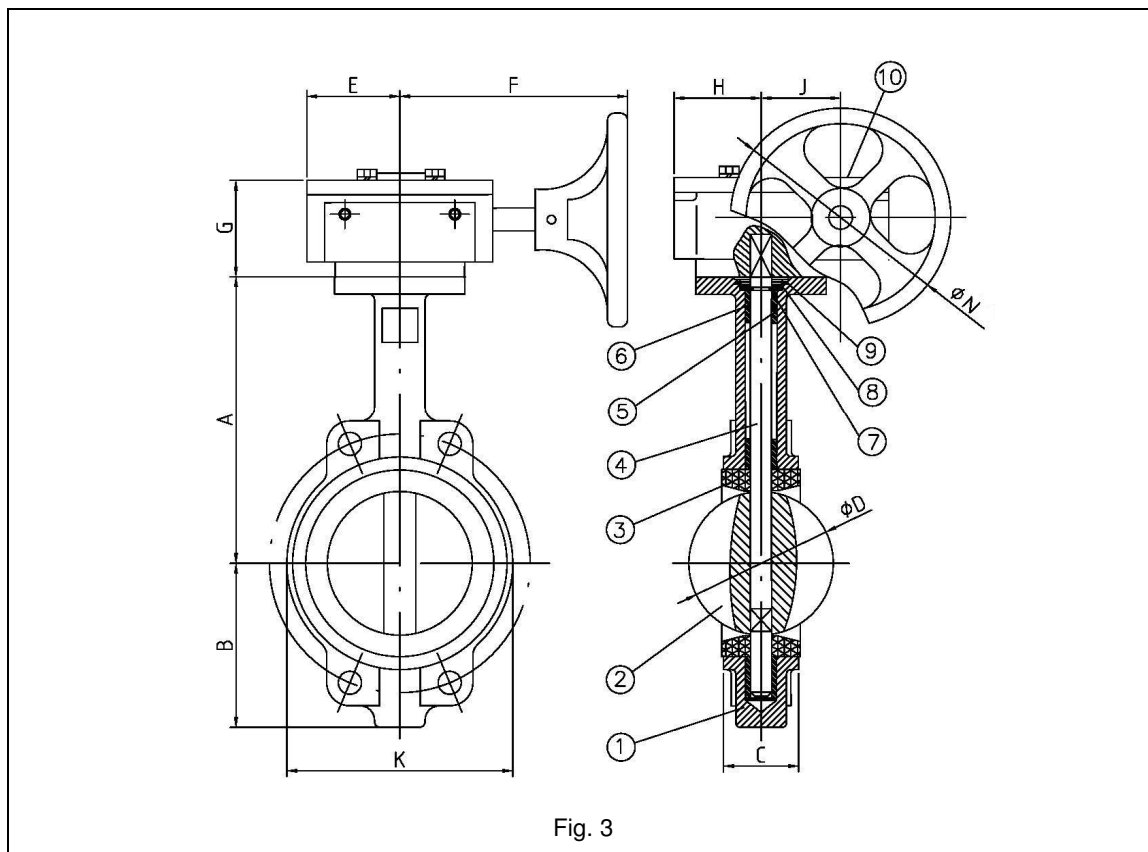
- Part Descriptions

Part No.	1	2	3	4	5	6	7	8	9	10	11
Description	Body	Disc	Liner	Stem	Bushing	O-Ring	Split Washer	Washer	Circlip	Detent	Lever
Material	GG25/40	GGG40	EPDM	SS416	PTFE	EPDM	ASTM 1020	SS304	SS304	Nylon	Cast iron

- Outside Dimension (mm)

Valve Size	A	B	C	D	H	L	K (Wafer)	K (Lug)
DN50	130.5	66.5	43	52.7	42	190	118	159
DN65	140	71	46	64.3	42	190	137	184
DN80	150	83	46	78.6	42	190	143	197
DN100	183	95	52	103.8	61	250	156	222
DN125	178	110	56	123.1	61	250	190	254
DN150	191	124	56	155.4	61	250	212	292
DN200	239	163	60	202.3	72	350	268	349
DN250	285	227	68	250.3	80	505	325	413
DN300	315	252	78	301.3	80	505	403	483

b. Valve size DN50...200 with Gear Box Operator (PN16)



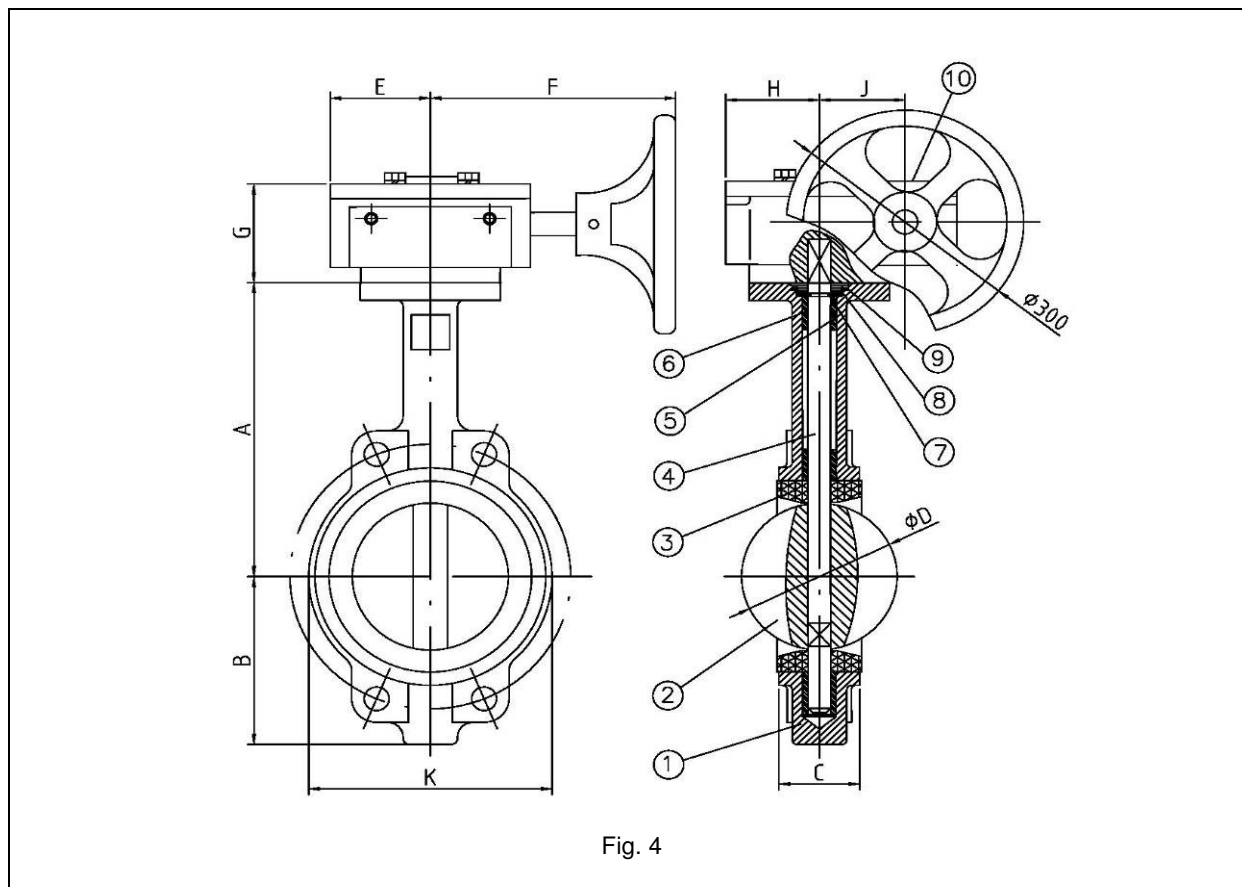
• Part Descriptions

Part No.	1	2	3	4	5	6	7	8	9	10
Description	Body	Disc	Liner	Stem	Bushing	O-ring	Split Washer	Washer	Circlip	Gear Box
Material	GG25/40	GGG40	EPDM	SS416	PTFE	EPDM	ASTM 1020	SS304	SS304	Cast Iron

• Outside Dimension (mm)

Valve Size	A	B	C	D	H	F	J	K (Wafer)	K (Lug)	G	N
DN50	130.5	66.5	43	52.7	54	147	45	118	159	68	150
DN65	140	71	46	64.3	54	147	45	137	184	68	150
DN80	150	83	46	78.6	54	147	45	143	197	68	150
DN100	183	95	52	103.8	54	147	45	156	222	68	150
DN125	178	110	56	123.1	54	147	45	190	254	68	150
DN150	191	124	56	155.4	54	147	45	212	292	68	150
DN200	239	163	60	202.3	76.5	213	66	268	349	76	300

c. Valve size DN250...350 with Gear Box Operator (PN16)



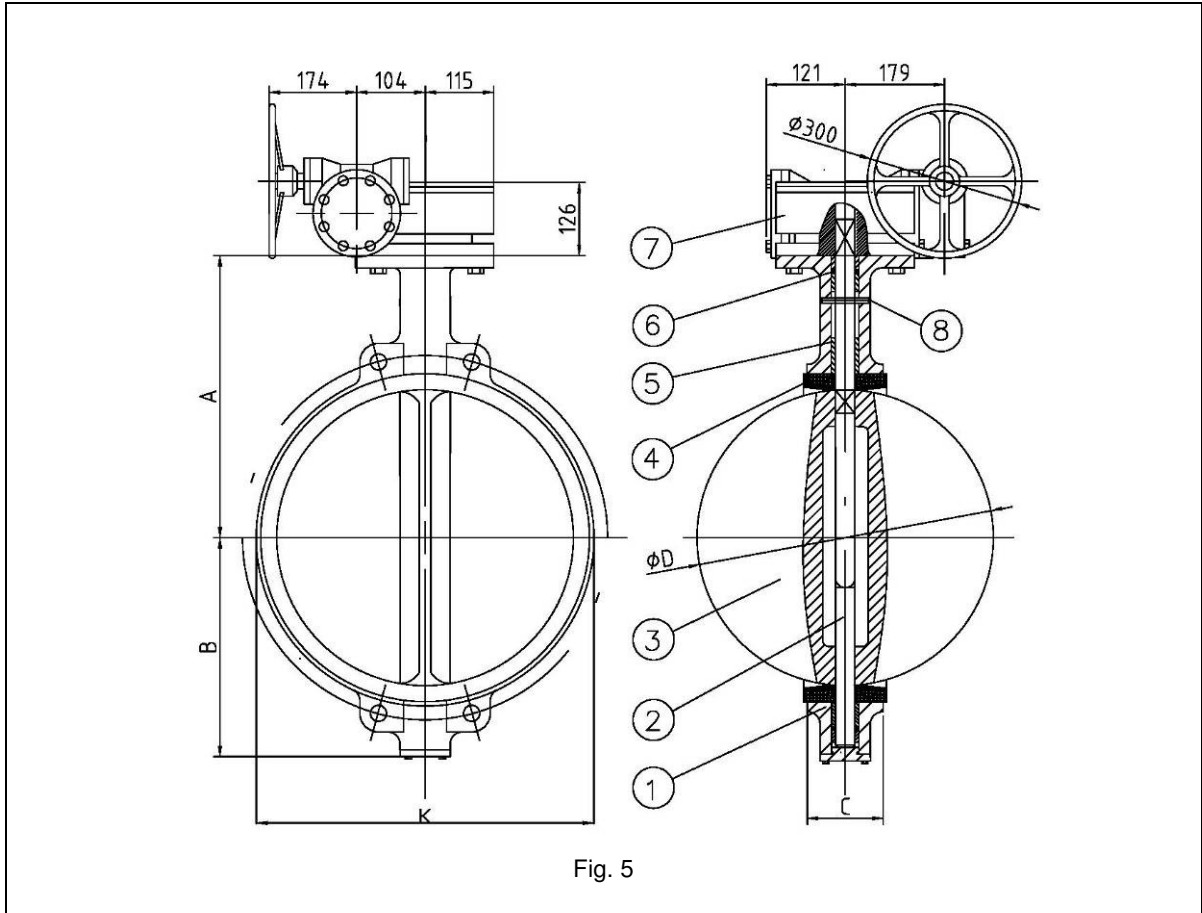
• Part Descriptions

Part No.	1	2	3	4	5	6	7	8	9	10
Description	Body	Disc	Liner	Stem	Bushing	O-ring	Split Washer	Washer	Circlip	Gear Box
Material	GGG40	GGG40	EPDM	SS416	PTFE	EPDM	ASTM 1020	SS304	SS304	Cast Iron

• Outside Dimension (mm)

Valve Size	A	B	C	D	E	F	G	H	J	K (Wafer)	K (Lug)
DN250	285	227	68	250.3	102	250	86	75	63	325	413
DN300	315	252	78	301.3	102	227	83	81	80	403	483
DN350	368	267	78	333.3	81	227	83	81	80	436	527

d. Valve size DN400...500 with Gear Box Operator (PN16)



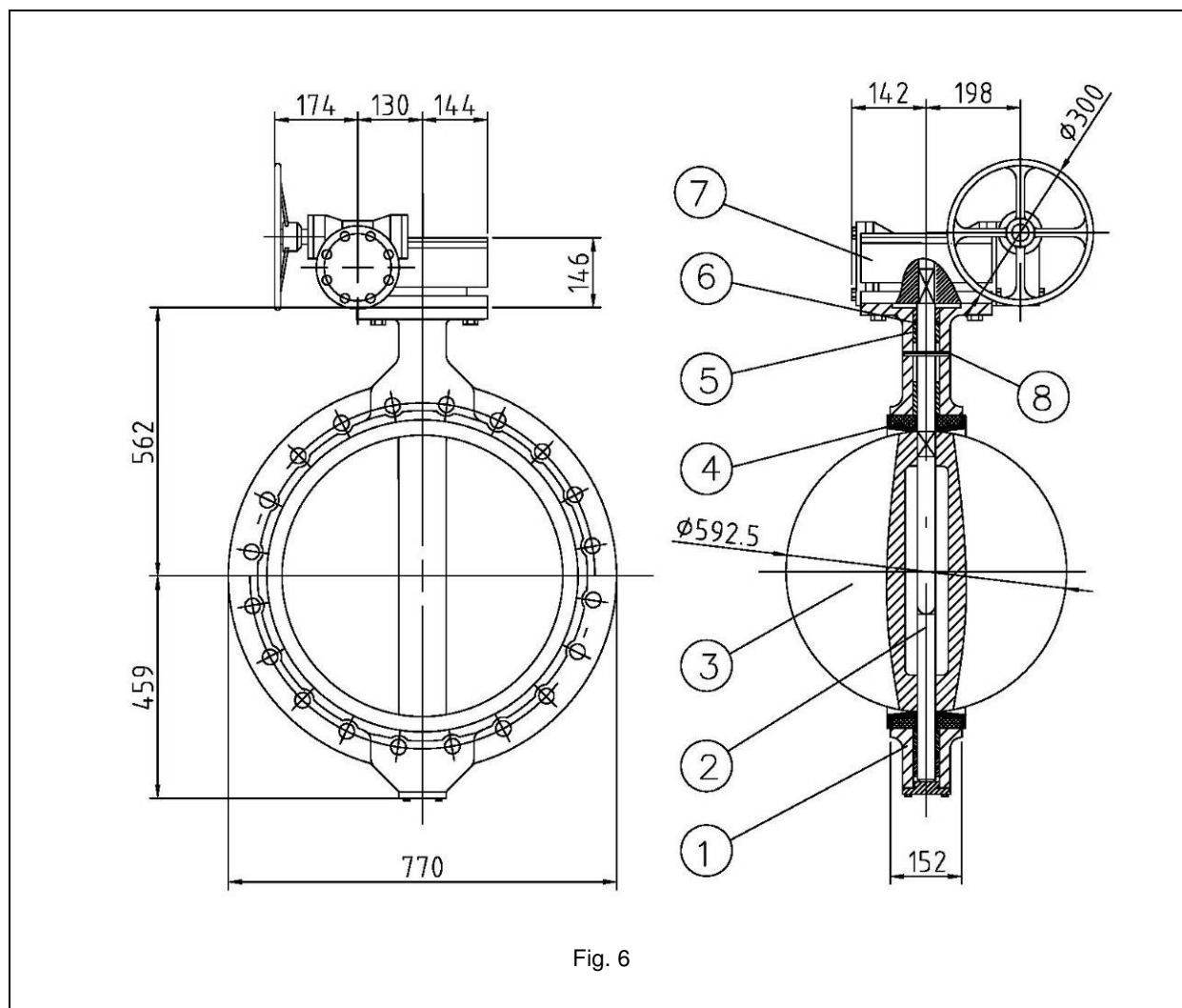
• Part Descriptions

Part No.	1	2	3	4	5	6	7	8
Description	Body	Disc	Liner	Stem	Bushing	O-ring	Gear Box	Pin
Material	GGG40	GGG40	EPDM	SS416	PTFE	EPDM	Cast Iron	SS304

• Outside Dimension (mm)

Valve Size	A	B	C	D	K (Wafer)	K (Lug)
DN400	400	309	86.5	389.6	488	584
DN450	422	321	105.6	440.5	539	635
DN500	480	368	131.8	491.6	591	705

e. Valve size DN600 with Gear Box Operator (PN16)



- Part Descriptions

Part No.	1	2	3	4	5	6	7	8
Description	Body	Disc	Liner	Stem	Bushing	O-ring	Gear Box	Pin
Material	GGG40	GGG40	EPDM	SS416	PTFE	EPDM	Cast Iron	SS304

f. Valve size DN700...900 with Gear Box Operator (PN16)

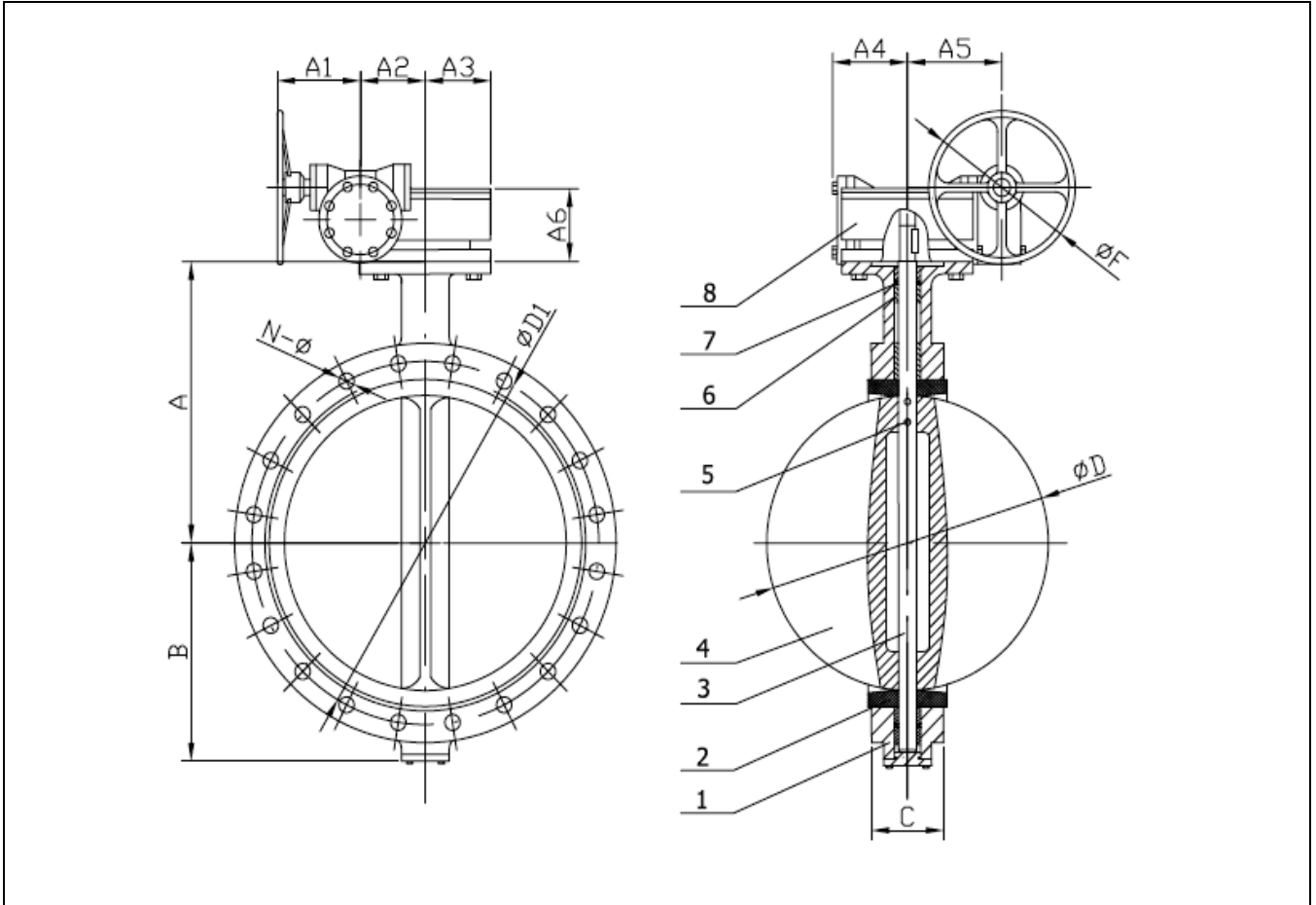


Fig. 7

• Part Descriptions

Part No.	1	2	3	4	5	6	7	8
Description	Body	Seat	Stem	Disk	PIN	Bushing	O-ring	Gear Box
Material	GGG40	EPDM	SS416	GGG40	SS416	PTFE	EPDM	Cast Iron

• Outside Dimension (mm)

Valve Size	A	B	C	ØD	ØD1	N-M (lug)	A1	A2	A3	A4	A5	A6	ØF
DN700	624	520	165	695	840	24-M33	165	162	189	244	183	157	400
DN800	672	591	190	745	950	24-M36	165	162	189	244	183	157	400
DN900	720	656	203	865	1050	28-M36	215	196	220	270	215	235	450

g. Valve size DN50...300 (PN25)

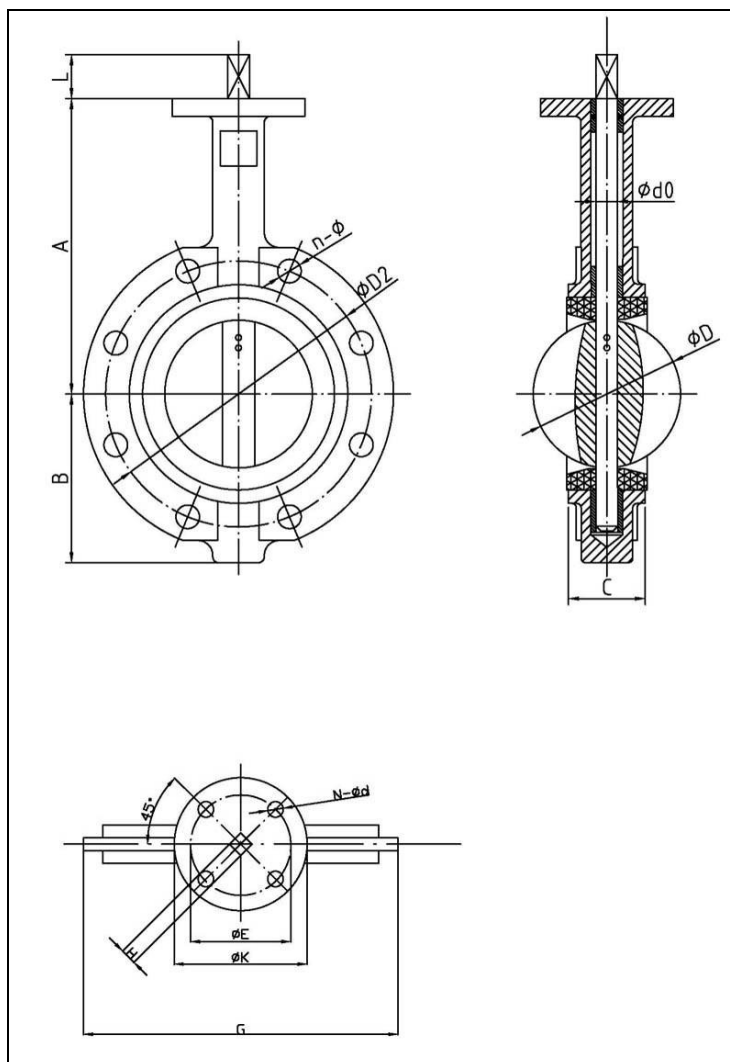


Fig. 8

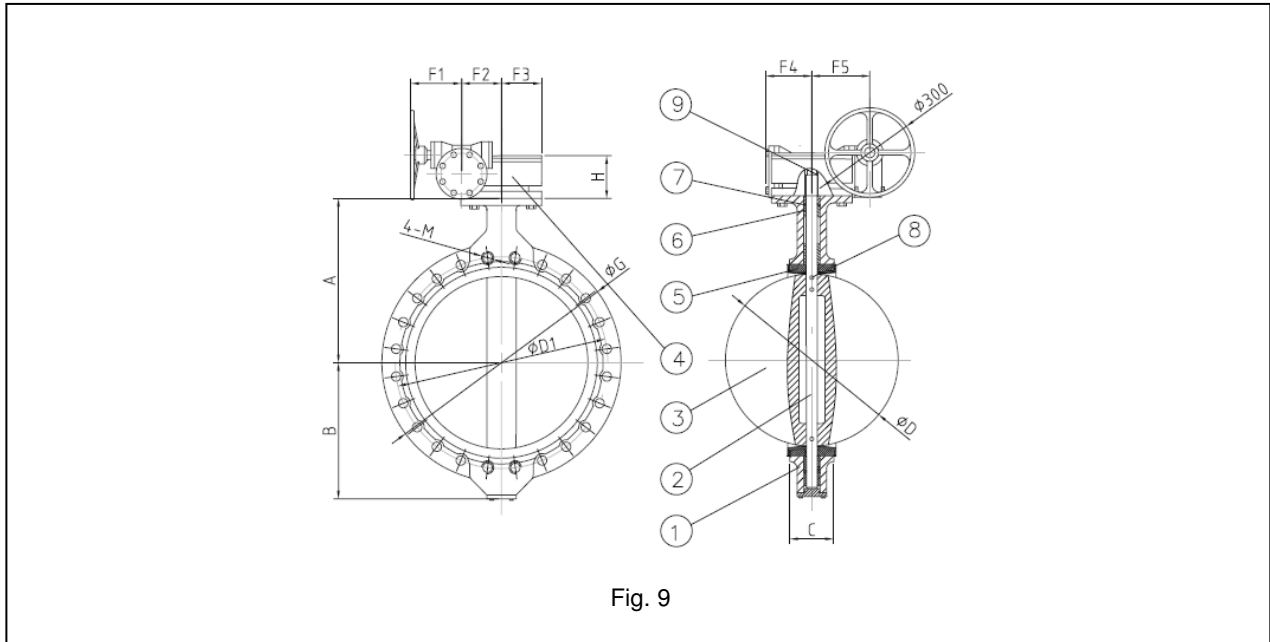
- Outside Dimension (mm)

SIZE		A	B	C	D	L	H	ØK	ØE	N-Ød	Ød0	G	ØD2	N-Ø	Weight(kg)
DN	inch														
50	2"	130.5	67	43	52.8	15	11	90	70	4-10	14.3	165	125	4-Ø18	3.5
65	2.5"	140	71	46	64.4	15	11	90	70	4-10	14.3	185	145	8-Ø18	4.5
80	3"	150	83	46	78.7	15	14	90	70	4-10	15.8	200	160	8-Ø18	5.1
100	4"	183	95	52	104.1	15	14	90	70	4-10	18.9	235	190	8-Ø23	6.8
125	5"	178	110	56	123.1	29	17	90	70	4-10	22.1	270	220	8-Ø27	9.8
150	6"	191	124	56	155.1	29	17	90	70	4-10	22.1	300	250	8-Ø27	10.9
200	8"	239	163	60	202.2	29	22	125	102	4-12	28.5	360	310	12-Ø27	18.5
250	10"	285	227	68	250.2	39	22	125	102	4-12	31.6	425	370	12-Ø30	26.9
300	12"	315	252	78	301.2	39	27	150	125	4-14	33.2	485	430	16-Ø30	45.5

*Piping connection flange meets DIN2534-2000 PN2.5MPa.

*Can be operated by lever or gear box.

h. Valve size DN700...900 with Gear Box Operator (ANSI 150, Wafer)



• Part Descriptions

Part No.	1	2	3	4	5	6	7	8	9
Description	Body	Stem	Disk	Gear Box	Seat	Bushing	O-ring	PIN	Key
Material	GGG40	SS416	GGG40	Cast Iron	EPDM	PTFE	EPDM	Stainless steel	Carbon Steel

• Outside Dimension (mm)

Valve Size	A	B	C	ØD	Ød0	ØG	ØD1	F1	F2	F3	F4	F5	H	N-Ø	J
28"	624	520	163	695	63	895	864	165	162	189	183	244	157	24-35	4-1.1/4"
30"	660	539	167	744	63	984	914	165	162	189	183	244	157	24-35	4-1.1/4"
32"	672	591	188	795	63	1015	978	165	162	189	183	244	157	24-41	4-1.1/2"
36"	720	656	203	865	75	1115	1086	215	196	220	215	270	235	28-41	4-1.1/2"

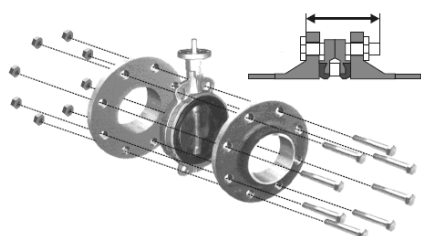
Table (2) Hydraulic Characteristics

The below table shows the Kvs at different opening angles:

Size	Kvs at Disk Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	0.08	4.0	10	19	36	51	72	101	109
65	0.16	6.4	16	30	52	79	116	164	177
80	0.24	9.7	18	31	56	93	147	221	243
100	0.40	14	29	63	112	185	293	439	483
125	0.64	23	49	107	191	315	499	748	822
150	1.6	36	76	165	294	487	771	1,156	1,270
200	2.4	72	153	332	591	977	1,547	2,321	2,550
250	3.3	123	260	564	1,006	1,664	2,634	3,951	4,342
300	4.1	190	402	872	1,554	2,571	4,070	6,104	6,708
350	4.7	278	588	1,273	2,269	3,754	5,941	8,911	9,793
400	6.2	381	808	1,750	3,120	5,162	8,170	12,255	13,467
450	8.6	505	1,070	2,319	4,132	6,837	10,821	16,231	17,836
500	11	650	1,376	2,981	5,313	8,791	13,913	20,869	22,933
600	17	1,004	2,126	4,606	8,209	13,582	21,495	32,242	35,431
700	23	1281	2712	5876	10,476	17,326	27,421	41,131	45,199
800	30	1684	3318	7711	13,749	22,741	35,990	53,985	59,324
900	41	2321	4582	10,650	18,987	31,404	49,700	74,550	81,923

Bolting

Number of bolts and nuts depends on nominal pressure PN. Please refer to Table on the right for more details.

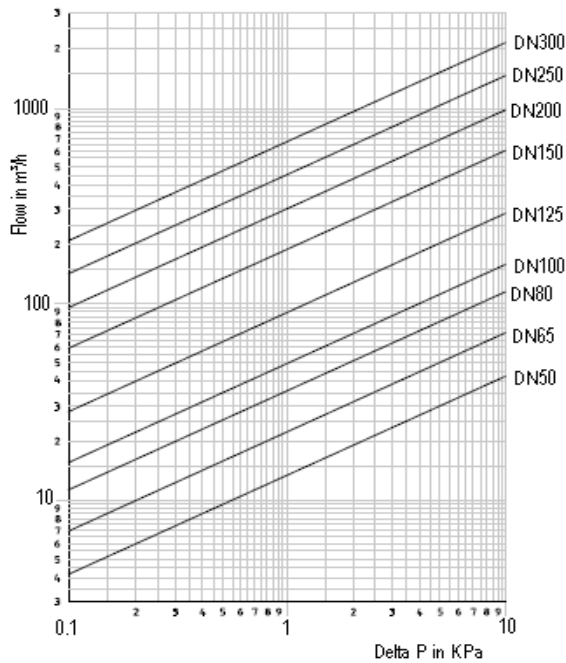


DN	PN16		PN25	
	n-wafer	n-lug	wafer	lug
DN50	4-Ø18	4-M16	4-Ø18	4-M16
DN65	4-Ø18	4-M16	8-Ø18	8-M16
DN80	8-Ø18	8-M16	8-Ø18	8-M16
DN100	8-Ø18	8-M16	8-Ø23	8-M20
DN125	8-Ø18	8-M16	8-Ø27	8-M24
DN150	8-Ø22	8-M20	8-Ø27	8-M24
DN200	12-Ø22	12-M20	12-Ø27	12-M24
DN250	12-Ø26	12-M24	12-Ø30	12-M27
DN300	12-Ø26	12-M24	16-Ø30	16-M27
DN350	12-Ø26	16-M24	-	-
DN400	16-Ø30	16-M27	-	-
DN450	20-Ø30	20-M27	-	-
DN500	20-Ø33	20-M30	-	-
DN600	20-Ø36	20-M33	-	-
DN700	20-Ø36*	24-M33	-	-
DN800	20-Ø39*	24-M36	-	-
DN900	24-Ø39*	28-M36	-	-

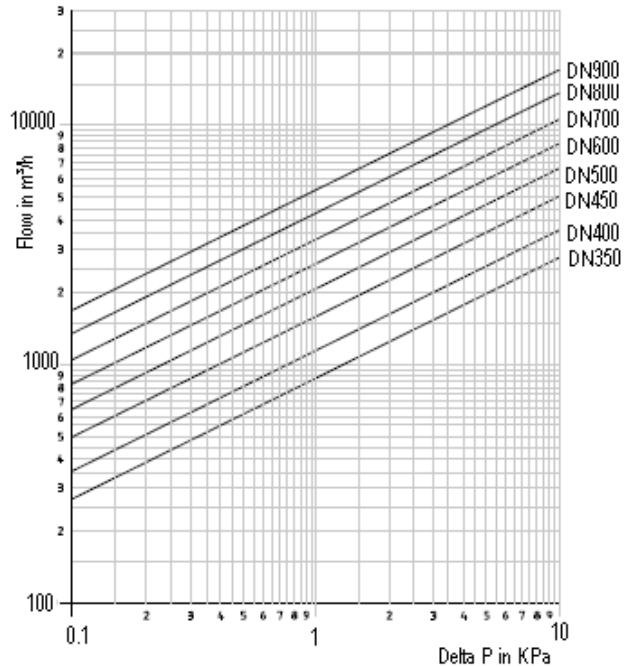
* For DN700~DN900, wafer connection, there are 4 more M33 or M36 bolts on the flange

Flow rate and pressure drop

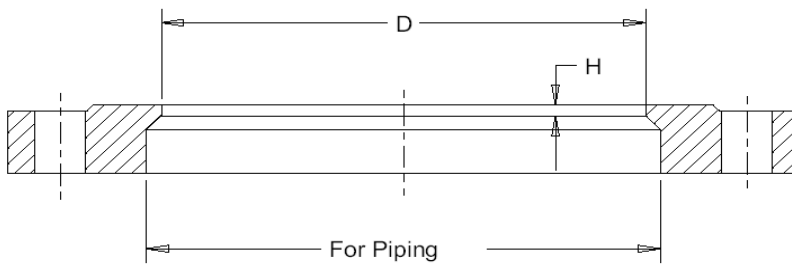
DN50~DN300



DN350~DN900



Flange Dimension Recommended for V4 Butterfly Valve



DN (mm)	D (mm)	H (mm)
50	50	4
65	65	4
80	80	4
100	100	4
125	125	4
150	150	4
200	208	5
250	255	6
300	308	6
350	340	7
400	405	7
450	455	8
500	505	8
600	605	8
700	705	9
800	810	9
900	900	9

Honeywell

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Subject to change without notice.