

LAPAR

LPB11 Series

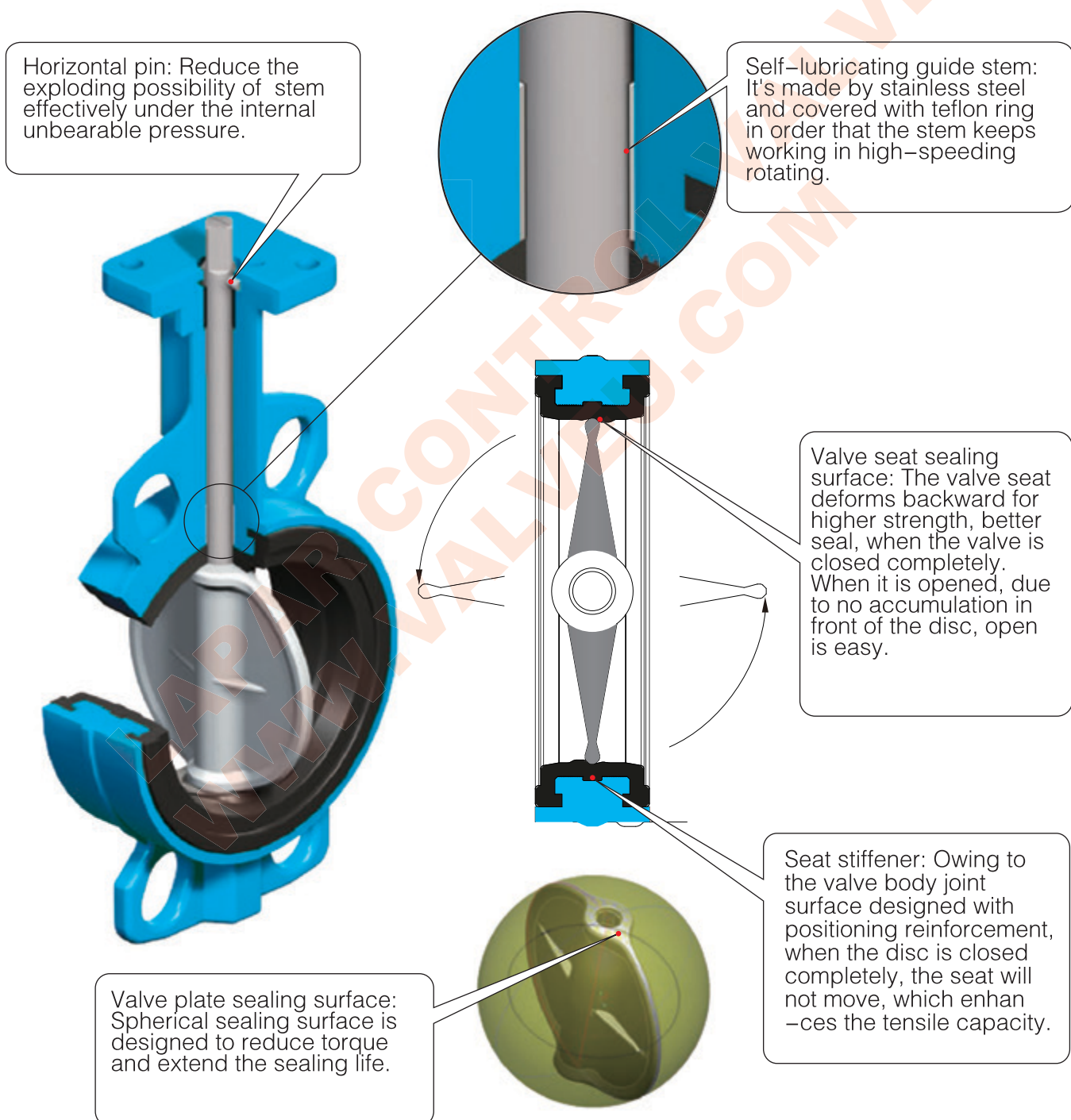
Green Butterfly Valve





LPB11 green butterfly valve, has unique shape, compact structure, high-strength disc using frame structure. It has bidirectional sealing function for installation without the interference of the medium flow direction. The surface is coated with epoxy resin, which could prevent rust effectively. A wide choice of seat material can be used in different medium, such as water, oil.

Design Feature





LPB11-

Green Butterfly Valve



Code	Actuator	Action	Air Fail Position	Control	Structure	Body	Sealing	Disc	Connection DN	PN
LPB11-	Pneumatic	Double-acting	Normally Open	On-off	A Type	316	NBR	316L	Flange	
	Pneumatic & Handwheel	Single-acting	Normally Closed	Control	LT Type	304	EPDM	316	Wafer	
	Electric DC24V	Others	Flexible	Intelligent	Others	WCB	EPT	304		
	Electric AC220V		Held	Others		QT	FPM	QT+Nickel		
	Electric AC380V		Others			HT	CR	QT+Nylon11		
	Handle					Others	SI	CE3MN		
	Turbine						Others	B148		
	Others							Others		

Parameter

Design Standard:

Valve body is designed to meet ISO 5752 .

Upper Flange Standard:

24" and below, valve mounting flange and stem shall be per ISO 5211.

28" and above, valve mounting flange shall be per ISO 5211, stem shall be round keyed.

Flange Standard:

LPB11: GB 9113.1, ANSI 150 B16.5, JIS B2211.

All wafers have locating holes for ease of installation.

Pressure Rating:

Bi-directional bubble-tight shut off to: 16 bar(230psi)-----DN40~DN600mm

10 bar(150psi)-----DN650~DN1000mm

And tested to 110% of full rating: 18 bar(260psi)-----DN40~DN600mm

11 bar(160psi)-----DN650~DN1000mm

Shell Testing:

The body strength can stand 150% of full rating: 24 bar(340psi)-----DN40~DN600mm

15 bar(220psi)-----DN650~DN1000mm

Installation Instruction:

The valve is designed for using between all types of flat or raised face flange. Do not use flange gaskets. For proper installation, the space between flanges must be sufficient to permit valve insertion without disturbing the rubber liner flange seal. Rotate the stem to position the disc within the body, place the valve between flanges and hand-tighten the bolts. Slowly open the valve counter clockwise to check for adequate disc clearance. Rotate the disc to 10% open position and cross tighten all bolts again check for adequate disc clearance.

Stem Retaining Mechanism:

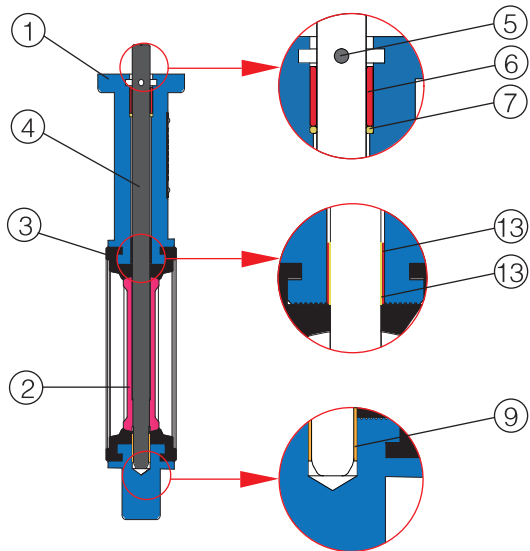
The stem is retained in the body through a special Q type design when the size is under DN350mm, so the stem can be removed from the body and disc without any special tools. Only when being disassembled, the valve disc can be positioned around 135° .

Others:

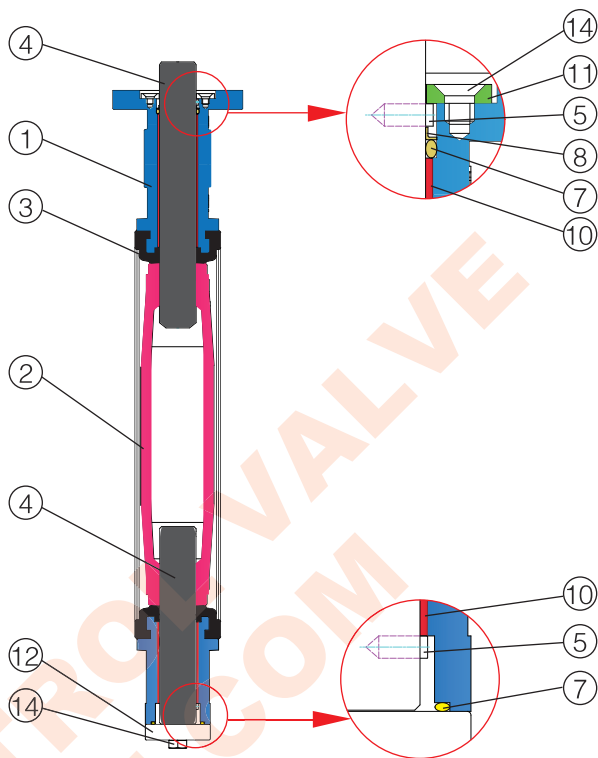
According to customer requirements.



DN40-600 Material



DN40 to 300



DN350 to 600

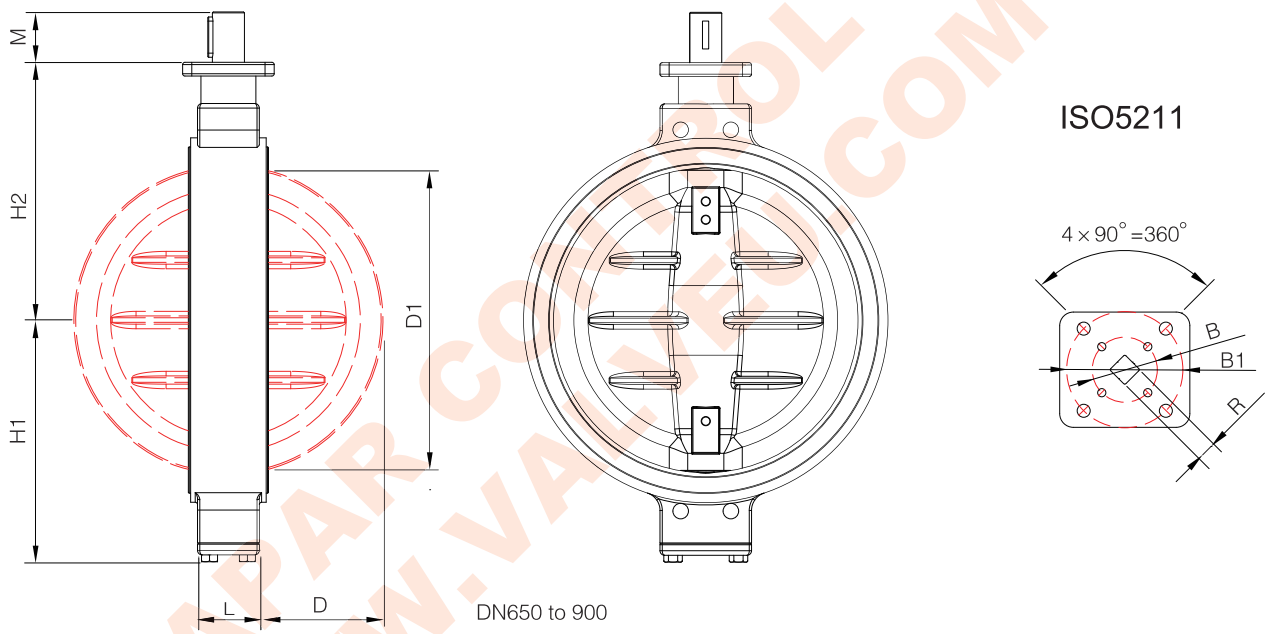
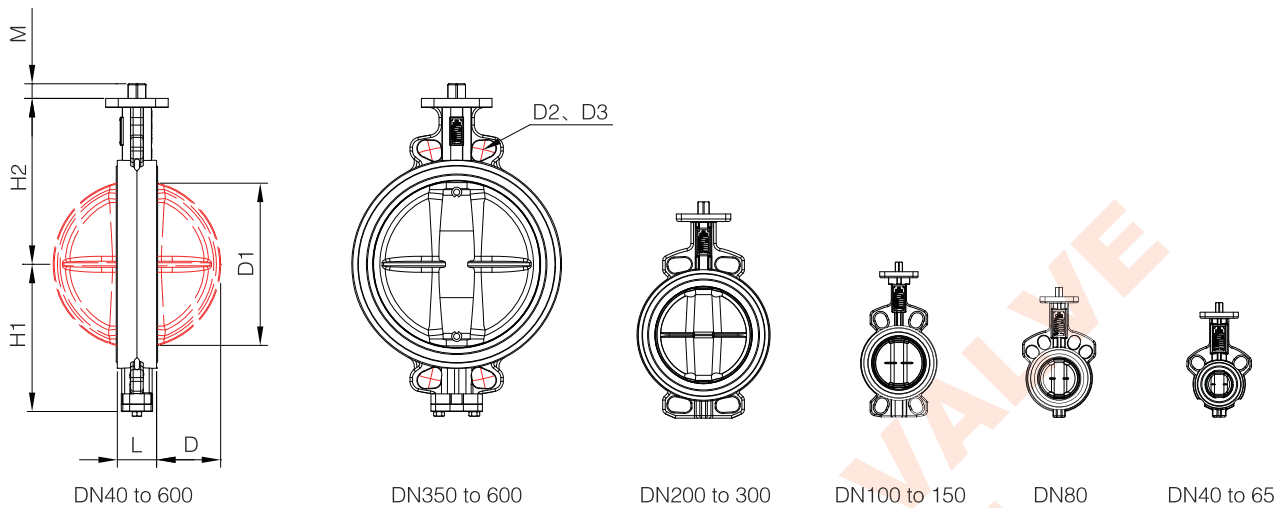
No.	Part	Material	Specification		Remarks
			JIS	ASTM	
1	Body	Cast Iron	FC 200	A126 Cl.B	DN40~600
		Ductile Iron	FCD 400	A395	
		Stainless Steel	SCS 13A	A351 Gr.CF8	
2	Disc	Ductile Iron	FCD 400	A395	Nylon 11 coated
		Stainless Steel	SCS 13A	A351 Gr.CF8	
			SCS 14A	A351 Gr.CF8M	
		Alu-Nronze	ALBC2	B148 C95400	
3	Seat	NBR(Nitrile)			-10° ~ 80°C(14° ~ 176°F)
		EPDM			-20° ~ 120°C(-4° ~ 248°F)
		EPT			-20° ~ 140°C(-4° ~ 284°F)
		Neoprene(CR)			0° ~ 80°C(32° ~ 176°F)
		Silicon(SI)			-20° ~ 180°C(-4° ~ 356°F)
		Hypalon(CSM)			-20° ~ 135°C(-4° ~ 275°F)
Viton			-18° ~ 204°C(-0.4° ~ 400°F)		
4	Stem	Stainless Steel	SUS 410	A182 Gr.F6A	
			SUS 304	A182 Gr.F304	
			SUS 316	A182 Gr.F316	
5	Pin	Stainless Steel	SUS 304	A182 Gr.F304	
6	Bush	Delrin			
7	O-ring	NBR(Nitrile)			
8	Thrust Ring	Stainless Steel	SUS 304	A240 Gr.304	
9	Bush	Bronze	BC6	B62	For cast iron and ductile iron body
10	Bush	RTFE+Stainless Steel	RTFE+ SUS 316	RTFE+ A240 Gr.316	
11	Upper Cover	Cast Iron	FC 200	A126 Cl.B	For cast iron and ductile iron body
		Stainless Steel	SUS 304	A240 304	For stainless steel body
12	Bottom Cover	Cast Iron	FC 200	A126-B	For cast iron and ductile iron body
		Stainless Steel	SCS 13A	A351 Gr.CF8	For stainless steel body
13	Bearing	PTFE+316SS			
14	Bolt	Steel			







A Type Size: DN40-900



PN10/16/ANSI 150LB

Unit:mm

SIZE	L	D	D1	D2	D3	H1	H2	M	R	B	B1	ISO5211	
DN 40	1-1/2"	33	7	34	110	98.4	60	120	12.5	11	50	70	F05-F07
DN 50	2"	43	8	39	125	120.7	65	143	12.5	11	50	70	F05-F07
DN 65	2-1/2"	46	13	55	145	139.7	71	155	15	11	50	70	F05-F07
DN 80	3"	46	19	69	160	152.4	77	162	15	11	50	70	F05-F07
DN100	4"	52	27	91	180	190.5	107	181	16	11	-	70	F07
DN125	5"	56	36	115	210	215.9	122	197	19	14	-	70	F07
DN150	6"	56	47	140	240	241.3	150	210	19	14	-	70	F07
DN200	8"	60	68	186	295	298.5	165	240	22	17	-	102	F10
DN250	10"	68	90	239	355	362.0	201	286	22	19	-	102	F10
DN300	12"	78	111	288	410	431.8	234	309	24	22	-	102	F10
DN350	14"	78	128	325	470	476.3	301	329	29	27	-	125	F12
DN400	16"	102	143	375	525	539.8	333	361	29	27	-	125	F12
DN450	18"	114	162	423	585	577.9	358	393	38	36	-	140	F14
DN500	20"	127	182	473	650	635.0	392	427	38	36	-	140	F14
DN600	24"	154	214	560	770	749.3	454	492	48	46	-	165	F16
DN700	28"	165	255	655	840	863.6	508	563	110	-	-	165	F16
DN800	32"	190	285	736	950	977.9	592	630	110	-	-	254	F25
DN900	36"	203	331	841	1050	1085.9	632	660	110	-	-	254	F25

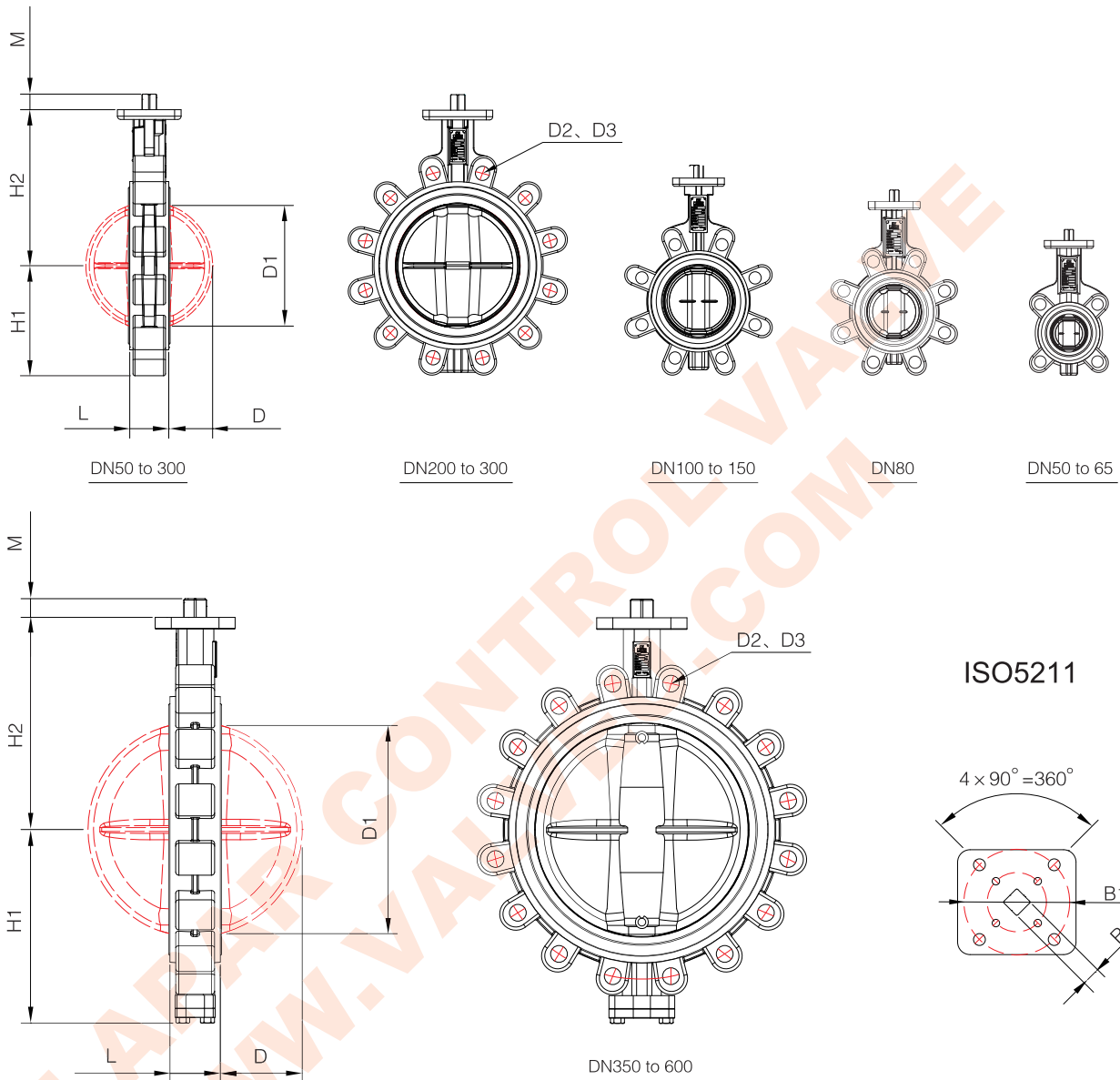
Note: D2 is designed to meet GB9113.1

D3 is designed to meet ANSI 150 B16.5





LT Type Size:DN50–600



PN10/16/ANSI 150LB

Unit:mm

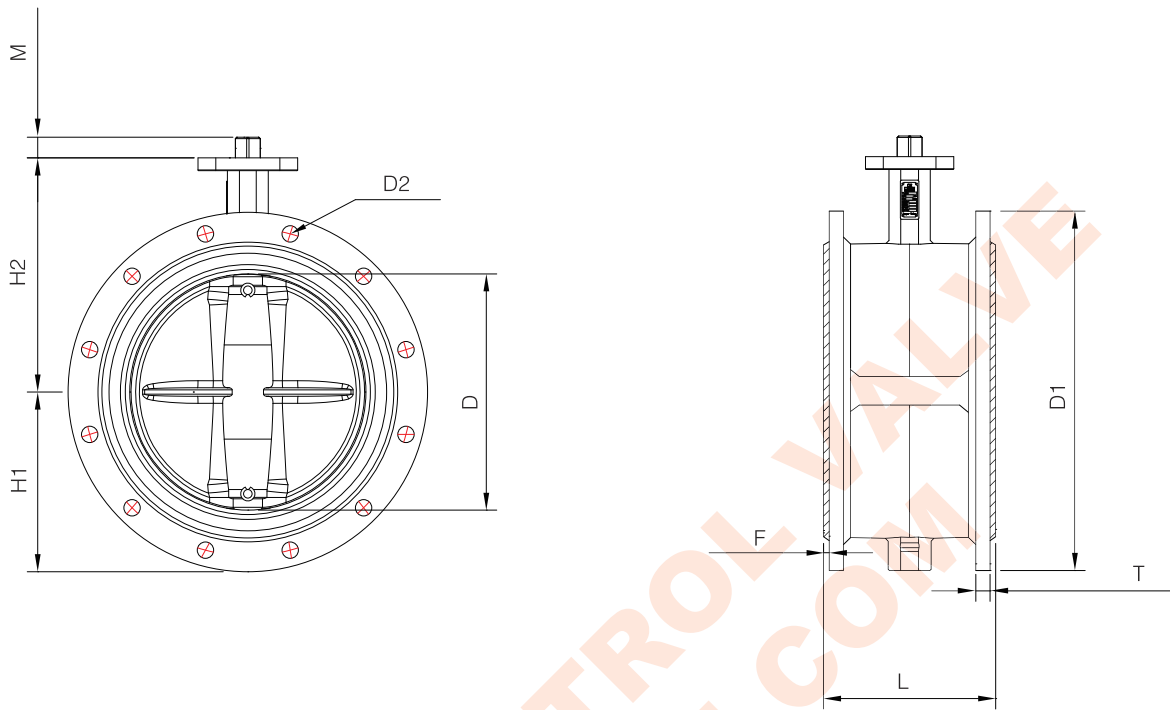
SIZE	L	D	D1	D2	D3	H1	H2	M	R	B1	ISO5211	
DN50	2"	43	8	39	125	120.7	65	143	12.5	11	50	F05
DN65	2-1/2"	46	13	55	145	139.7	71	155	15	11	50	F05
DN80	3"	46	19	69	160	152.4	77	162	15	11	50	F05
DN100	4"	52	27	91	180	190.5	107	181	16	11	70	F07
DN125	5"	56	36	115	210	215.9	122	197	19	14	70	F07
DN150	6"	56	47	140	240	241.3	150	210	19	14	70	F07
DN200	8"	60	68	186	295	298.5	165	240	22	17	102	F10
DN250	10"	68	90	239	355	362.0	201	286	22	19	102	F10
DN300	12"	78	111	288	410	431.8	234	309	24	22	125	F12
DN350	14"	78	128	325	470	476.3	301	329	29	27	125	F12
DN400	16"	102	143	375	525	539.8	333	361	29	27	140	F14
DN450	18"	114	162	423	585	577.9	358	393	38	36	140	F14
DN500	20"	127	182	473	650	635.0	392	427	38	36	165	F16
DN600	24"	154	214	560	770	749.3	454	492	48	46	254	F25

Note: D2 is designed to meet GB9113.1

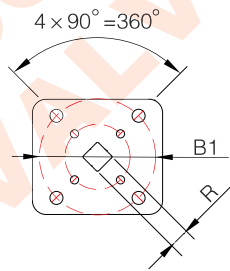
D3 is designed to meet ANSI 150 B16.5



Flange Size: DN50-600



ISO5211



PN10/16/25

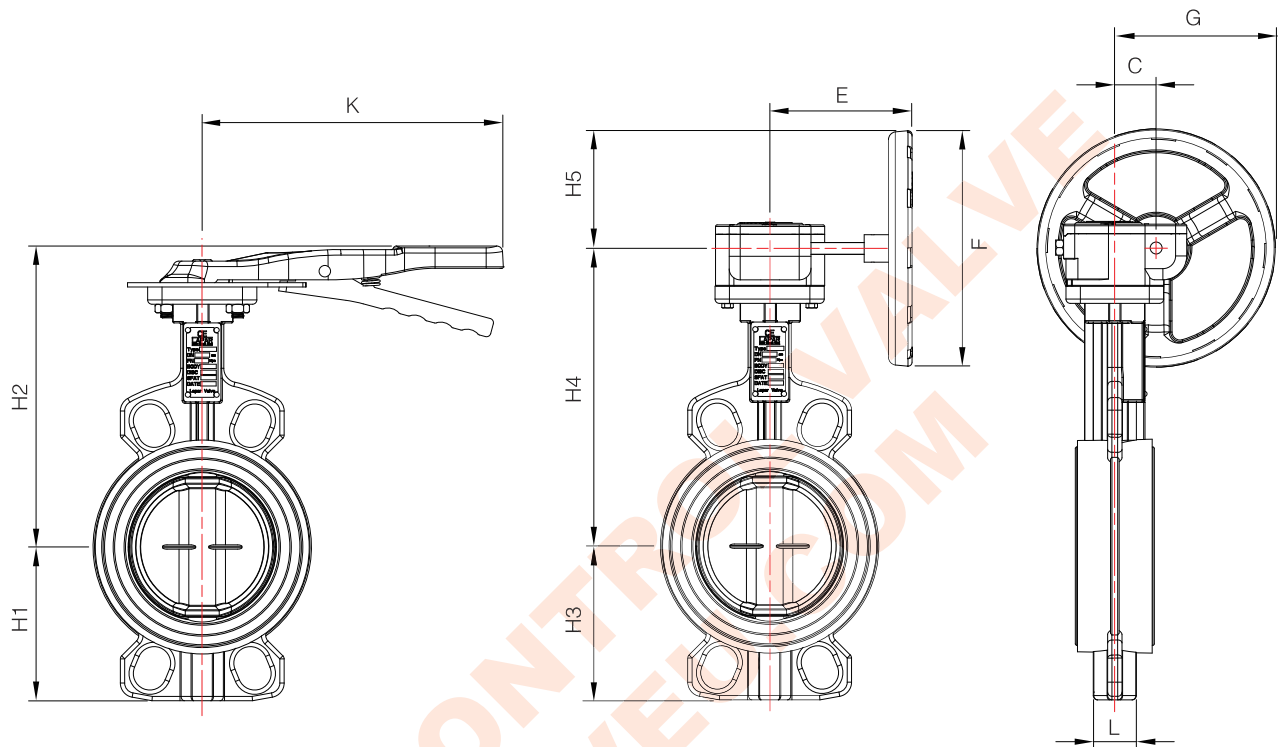
Unit:mm

SIZE	L	D	D1	D2	T	F	H1	H2	M	R	B1	ISO5211
DN50	2"	108	39	164	125	20	2	62	130	12.5	11	F05
DN65	2-1/2"	112	55	181	145	20	2	73	145	15	11	F05
DN80	3"	114	69	195	160	20	2	85	155	15	11	F05
DN100	4"	127	91	215	180	22	2	102	170	16	14	F07
DN125	5"	140	115	245	210	22	2	116	190	19	14	F07
DN150	6"	140	140	280	240	24	2	130	210	19	14	F07
DN200	8"	152	186	337	295	24	2	160	243	22	17	F10
DN250	10"	165	239	395	355	26	2	193	282	22	19	F10
DN300	12"	178	288	445	410	28	2	230	310	24	22	F12
DN350	14"	190	325	505	470	30	2	256	345	29	27	F12
DN400	16"	216	375	565	525	32	2	283	377	29	27	F14
DN450	18"	222	423	615	585	40	2	317	375	38	36	F14
DN500	20"	229	473	670	650	44	2	355	430	38	36	F16
DN600	24"	267	560	780	770	54	2	410	500	48	46	F25

Note: D2 is designed to meet GB9113.1



Handle & Turbine Size

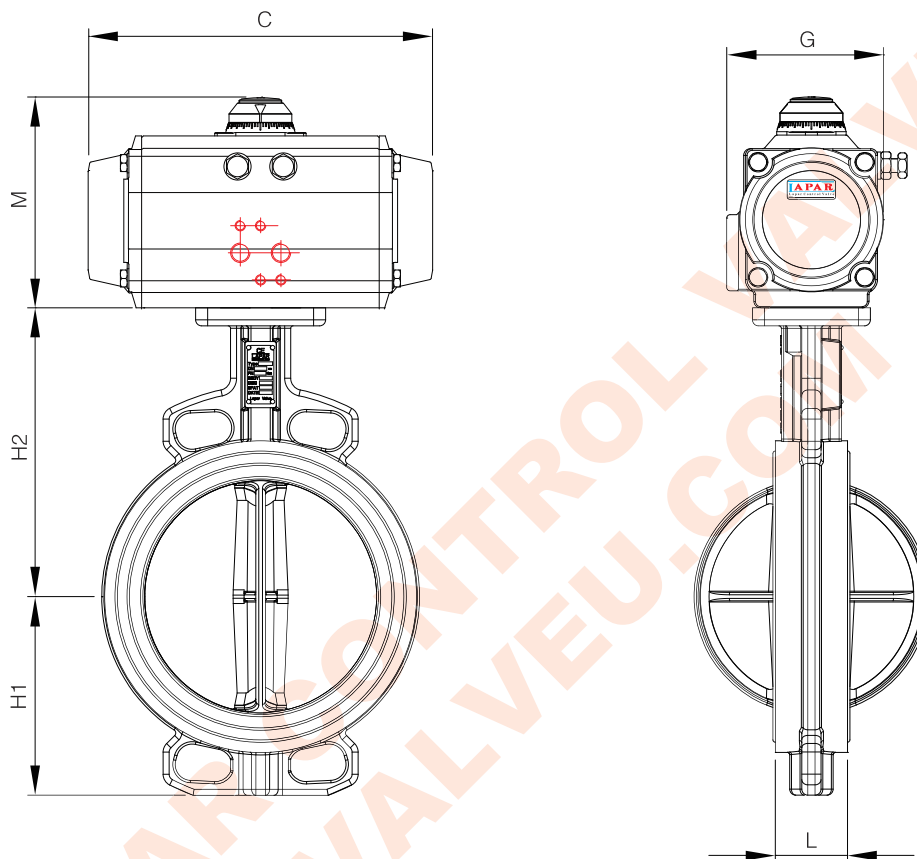


Unit:mm

SIZE	L	Handle				Turbine						
		K	H1	H2	H3	H4	H5	E	F	G	C	
DN40	1-1/2"	33	210	60	195	60	157	75	155	150	116	41
DN50	2"	43	210	65	218	65	180	75	155	150	116	41
DN65	2-1/2"	46	210	71	230	71	192	75	155	150	116	41
DN80	3"	46	210	77	237	77	199	75	155	150	116	41
DN100	4"	52	210	107	256	107	218	75	155	150	116	41
DN125	5"	56	210	122	272	122	234	75	155	150	116	41
DN150	6"	56	210	150	285	150	247	75	155	150	116	41
DN200	8"	60	-	-	-	165	281	100	195	200	163	63
DN250	10"	68	-	-	-	201	327	100	195	200	163	63
DN300	12"	78	-	-	-	234	350	100	195	200	163	63
DN350	14"	78	-	-	-	301	370	155	255	310	236	81
DN400	16"	102	-	-	-	333	402	155	255	310	236	81
DN450	18"	114	-	-	-	358	445	200	340	400	281	81
DN500	20"	127	-	-	-	392	479	200	340	400	281	81
DN600	24"	154	-	-	-	454	548	200	370	400	323	123
DN700	28"	165	-	-	-	508	619	200	370	400	360	160
DN800	32"	190	-	-	-	592	775	200	370	400	360	160
DN900	36"	203	-	-	-	632	805	200	370	400	360	160
DN950	38"	216	-	-	-	682	874	200	370	400	360	160
DN1000	40"	216	-	-	-	698	945	300	471	600	497	197
DN1050	42"	216	-	-	-	761	1009	300	471	600	497	197
DN1100	44"	216	-	-	-	768.1	1010	300	471	600	497	197
DN1200	48"	254	-	-	-	813.6	1066	300	471	600	497	197



Pneumatic Butterfly Valve Size

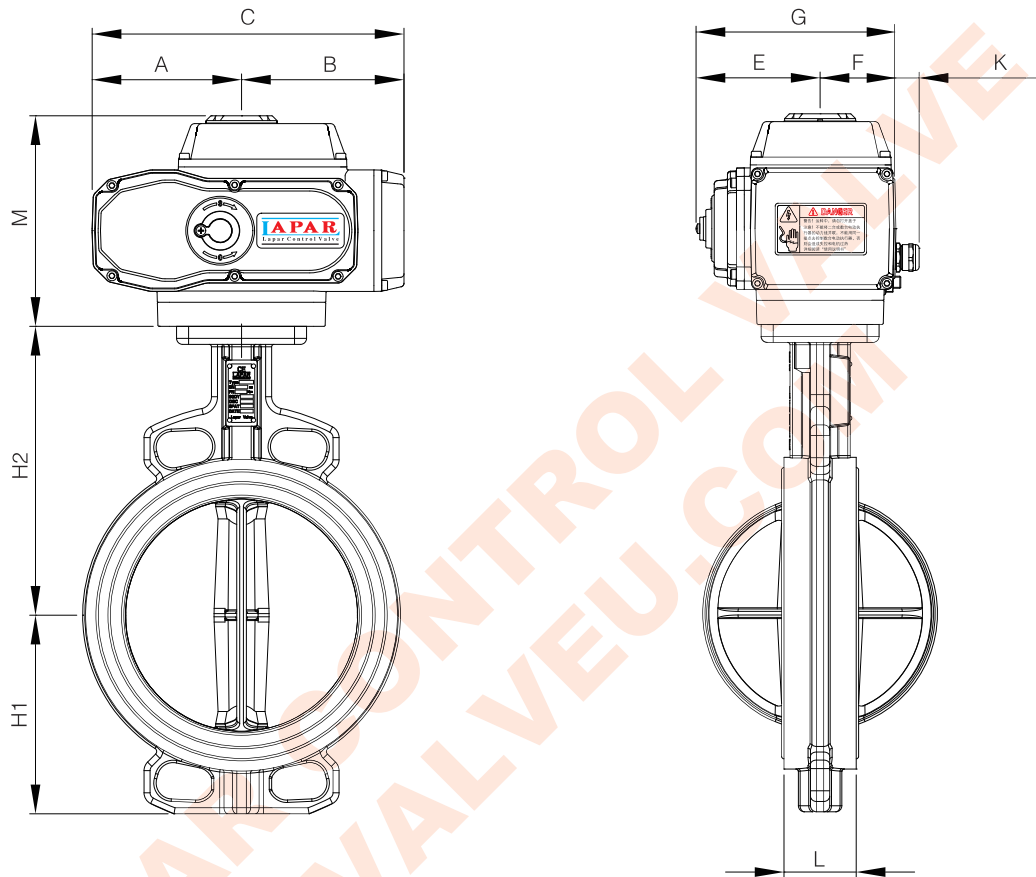


Unit:mm

SIZE		L	H1	H2	ISO5211	SIZE	Double Acting (DA)			SIZE	Spring Return (SR)		
							C	M	G		C	M	G
DN40	1-1/2"	33	60	120	F05-F07	LT 50	140.5	89	59	LT 63	158.5	105	72
DN50	2"	43	65	143	F05-F07	LT 50	140.5	89	59	LT 63	158.5	105	72
DN65	2-1/2"	46	71	155	F05-F07	LT 63	158.5	105	72	LT 75	210.5	122	84.5
DN80	3"	46	77	162	F05-F07	LT 63	158.5	105	72	LT 88	247.5	135	97.5
DN100	4"	52	107	181	F07	LT 75	210.5	122	84.5	LT 100	268.5	147	111
DN125	5"	56	122	197	F07	LT 88	247.5	135	97.5	LT 115	315	175	127
DN150	6"	56	150	210	F07	LT 115	315	175	127	LT 125	345	187	136
DN200	8"	60	165	240	F10	LT 125	345	187	136	LT 145	408.5	207	156.5
DN250	10"	68	201	286	F10	LT 145	408.5	207	156.5	LT 160	437.5	226	169
DN300	12"	78	234	309	F10	LT 160	437.5	226	169	LT 180	487	270.5	190.7
DN350	14"	78	301	329	F12	LT 180	487	270.5	190.7	LT 200	543	295	213
DN400	16"	102	333	361	F12	LT 200	543	295	213	LT 240	621	348.5	251
DN450	18"	114	358	393	F14	LT 240	621	348.5	251	LT 265	684	380	298.5
DN500	20"	127	392	427	F14	LT 240	621	348.5	251	LT 300	812	433	371
DN600	24"	154	454	492	F16	LT 265	684	380	298.5	LT 330	876	460	383
DN700	28"	165	508	563	F16	LT 300	812	433	371	LT 420	950	600	560
DN800	32"	190	592	630	F25	LT 330	876	460	383	-	-	-	-
DN900	36"	203	632	660	F25	LT 420	950	600	560	-	-	-	-



LU Electric Butterfly Valve Size

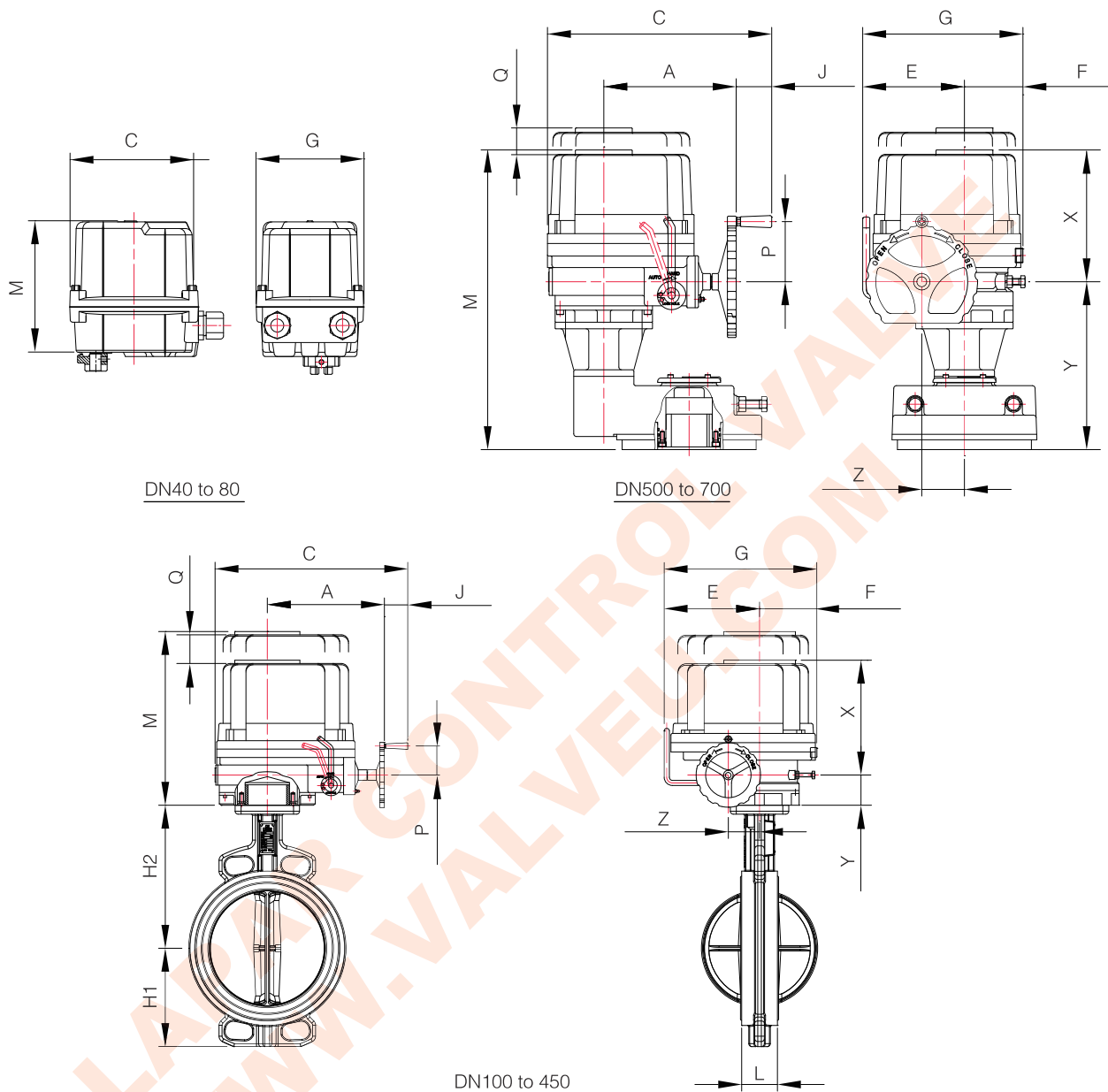


Unit:mm

SIZE	L	H1	H2	ISO5211	C	A	B	M	G	E	F	K	LU	
DN40	1-1/2"	33	60	120	F05-F07	155	86	69	113	101	56	45	20	LU 50
DN50	2"	43	65	143	F05-F07	155	86	69	113	101	56	45	20	LU 50
DN65	2-1/2"	46	71	155	F05-F07	155	86	69	113	101	56	45	20	LU 50
DN80	3"	46	77	162	F05-F07	155	86	69	113	101	56	45	20	LU 50
DN100	4"	52	107	181	F07	208	98	110	122	115	63	52	26	LU 160
DN125	5"	56	122	197	F07	208	98	110	122	115	63	52	26	LU 160
DN150	6"	56	150	210	F07	208	98	110	122	115	63	52	26	LU 160
DN200	8"	60	165	240	F10	256	123	133	122	115	63	52	26	LU 250
DN250	10"	68	201	286	F10	256	123	133	146	153	90	63	26	LU 500
DN300	12"	78	234	309	F10	256	123	133	146	153	90	63	26	LU 600
DN350	14"	78	301	329	F12	280	128	152	158	156	95	61	26	LU 1000
DN400	16"	102	333	361	F12	280	128	152	158	156	95	61	26	LU 2000
DN450	18"	114	358	393	F14	280	128	152	158	156	95	61	26	LU 2000
DN500	20"	127	392	427	F14	280	128	152	158	156	95	61	26	LU 2000
DN600	24"	154	454	492	F16	408	183	225	172	261	150	111	26	LU 4000
DN700	28"	165	508	563	F16	408	183	225	172	261	150	111	26	LU 6000
DN800	32"	190	592	630	F25	408	183	225	172	261	150	111	26	LU 6000
DN900	36"	203	632	660	F25	408	183	225	172	261	150	111	26	LU 6000



LH Electric Butterfly Valve Size

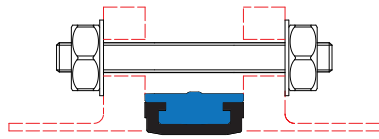


Unit:mm

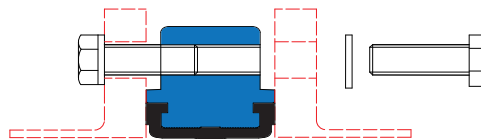
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DN40	1-1/2"	33	60	120	F05-F07	126.4	-	-	132.3	-	-	105.4	-	-	-	-	LH 006	
DN50	2"	43	65	143	F05-F07	126.4	-	-	132.3	-	-	105.4	-	-	-	-	LH 006	
DN65	2-1/2"	46	71	155	F05-F07	126.4	-	-	132.3	-	-	105.4	-	-	-	-	LH 006	
DN80	3"	46	77	162	F05-F07	126.4	-	-	132.3	-	-	105.4	-	-	-	-	LH 006	
DN100	4"	52	107	181	F07	258	157	51	235	120	60	170	100	70	182	53	40	LH 008
DN125	5"	56	122	197	F07	258	157	51	235	120	60	170	100	70	182	53	40	LH 010
DN150	6"	56	150	210	F07	338	200	65	268	160	78	229	142	87	200	68	54	LH 015
DN200	8"	60	165	240	F10	338	200	65	268	160	78	229	142	87	200	68	54	LH 020
DN250	10"	68	201	286	F10	368	221	65	304	180	78	304	160	99	235	69	65	LH 030
DN300	12"	78	234	309	F10	368	221	65	304	180	78	304	160	99	235	69	65	LH 050
DN350	14"	78	301	329	F12	410	242	65	330	210	110	330	186	111	256	74	78	LH 080
DN400	16"	102	333	361	F12	410	242	65	330	210	110	330	186	111	256	74	78	LH 120
DN450	18"	114	358	393	F14	410	242	65	330	210	110	330	186	111	256	74	78	LH 120
DN500	20"	127	392	427	F14	410	242	65	563	210	110	563	186	133	256	74	78	LH 200
DN600	24"	154	454	492	F16	410	242	65	563	210	110	563	186	133	256	74	78	LH 200
DN700	28"	165	508	563	F16	410	242	65	563	210	110	563	186	133	256	74	78	LH 300
DN800	32"	190	592	630	F16	528	259.5	65	427.5	-	-	391.5	240	151.5	300.5	127	168	LH 400
DN900	36"	203	632	630	F30	627.5	627.5	65	784.6	-	-	546	476	151.5	343.6	441	-	LH 600



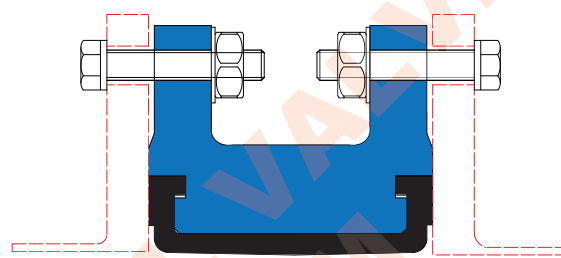
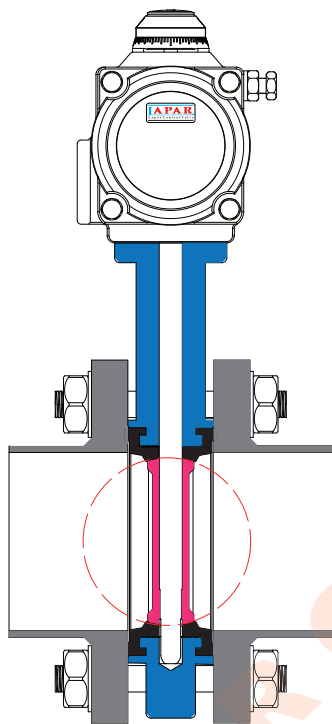
Corresponding Flange Size:PN10-16 ASME150 JIS10K



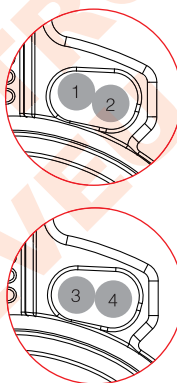
A Type: DN40-900



Lug Type: DN50-600



Flange: DN50-600



1. DIN PN16 、 PN25
2. DIN PN10
3. JIS10K JIS B2238、 2239
4. ASME150 ASME B16.5

Unit:mm

SIZE	PN10			PN16			PN25			ASME150			JIS10K			
	Hole Distance	Hole Size	Hole Number	Hole Distance	Hole Size	Hole Number	Hole Distance	Hole Size	Hole Number	Hole Distance	Hole Size	Hole Number	Hole Distance	Hole Size	Hole Number	
DN40	1-1/2"	110	18	4	110	18	4	110	18	4	98.4	15.9	4	105	19	4
DN50	2"	125	18	4	125	18	4	125	18	4	120.7	19.1	4	120	19	4
DN65	2-1/2"	145	18	4	145	18	4	145	18	8	139.7	19.1	4	140	19	4
DN80	3"	160	18	8	160	18	8	160	18	8	152.4	19.1	4	150	19	8
DN100	4"	180	18	8	180	18	8	190	22	8	190.5	19.1	8	175	19	8
DN125	5"	210	18	8	210	18	8	220	26	8	215.9	22.2	8	210	23	8
DN150	6"	240	22	8	240	22	8	250	26	8	241.3	22.2	8	240	23	8
DN200	8"	295	22	8	295	22	12	310	26	12	298.5	22.2	8	290	23	12
DN250	10"	350	22	12	355	26	12	370	30	12	362.0	25.4	12	355	25	12
DN300	12"	400	22	12	410	26	12	430	30	16	431.8	25.4	12	400	25	16
DN350	14"	460	22	16	470	26	16	490	33	16	476.3	28.6	12	445	25	16
DN400	16"	515	26	16	525	30	16	550	36	20	539.8	28.6	16	510	27	16
DN450	18"	565	26	20	585	30	20	600	36	20	577.9	31.8	16	565	27	20
DN500	20"	620	26	20	650	33	20	660	36	20	635.0	31.8	20	620	27	20
DN600	24"	725	30	20	770	36	20	770	39	20	749.3	34.9	20	730	33	24
DN700	28"	840	30	24	840	36	24	875	42	24	863.6	35.1	28	840	33	24
DN750	30"	-	-	-	-	-	-	-	-	-	914.4	35.1	28	900	33	24
DN800	32"	950	33	24	950	39	24	990	48	24	977.9	41.1	28	950	33	28
DN900	36"	1050	33	28	1050	39	28	1090	48	28	1085.9	41.1	32	1000	33	28
DN950	38"	-	-	-	-	-	-	-	-	-	1149.4	41.1	32	-	-	-
DN1000	40"	1160	36	28	1170	42	28	1210	55	28	1200.2	41.1	36	1160	39	28
DN1050	42"	-	-	-	-	-	-	-	-	-	1257.3	41.1	36	-	-	-
DN1100	44"	-	-	-	-	-	-	-	-	-	1314.5	41.1	40	1270	39	28
DN1200	48"	1380	39	32	1390	48	32	1420	55	32	1422.4	41.1	44	1380	39	32



KV

SIZE		Valve Opening								
		10°	20°	30°	40°	50°	60°	70°	80°	90°
DN40	1-1/2"	0.7	2.4	6.9	14.2	22	36	59	81	113
DN50	2"	1.1	3.8	10.2	22	38	60	100	132	193
DN65	2-1/2"	2	7.5	18.2	35	61	95	187	240	315
DN80	3"	2.5	9.8	26	48	83	126	214	338	425
DN100	4"	3.8	14.6	39	72	119	221	361	606	723
DN125	5"	6.5	24	62	118	217	394	599	1038	1243
DN150	6"	10	41	95	175	326	542	873	1260	1859
DN200	8"	19	64	165	306	573	995	1567	2310	3124
DN250	10"	28	101	245	451	836	1462	2253	3256	4757
DN300	12"	34	129	312	615	1137	2125	3248	4991	7058
DN350	14"	47	163	390	795	1498	2573	3980	5749	8319
DN400	16"	62	231	508	1077	1971	3381	5385	8099	11458
DN450	18"	75	256	621	1208	2315	3925	6331	9474	13612
DN500	20"	103	346	859	1692	3086	5348	8513	13109	18748
DN600	24"	139	494	1153	2389	4466	7561	11945	18088	25217
DN700	28"	191	659	1674	3224	5990	10659	17442	25194	36821
DN750	30"	203	700	1777	3420	6354	11307	18503	26727	39062
DN800	32"	257	973	2302	4533	8235	14123	23021	31613	45995
DN900	36"	329	1253	2950	5862	10810	18184	29756	42893	61044
DN950	38"	460	1730	4020	7180	12170	19800	32490	49320	62150
DN1000	40"	510	1919	4456	7956	13494	21939	36000	54649	68874
DN1050	42"	562	2116	4913	8771	14877	24188	39690	60251	75934
DN1100	44"	617	2322	5392	9627	16328	26546	43560	66125	83338
DN1200	48"	734	2763	6417	11457	19431	31592	51840	78695	99179

Kv value denotes the flow rate in m³/hr for water at 20°C under a pressure differential 1Kg/cm². Cv=1.17Kv

Torque(Nm)

SIZE		Lubricating (Non-corrosive) ΔP(bar)				Non-lubricating ΔP(bar)			
		3	6	10	16	3	6	10	
DN40	1-1/2"	15	17	19	23	19	21	23	
DN50	2"	15	17	19	23	19	21	23	
DN65	2-1/2"	18	20	22	26	22	24	27	
DN80	3"	28	31	34	41	34	38	42	
DN100	4"	37	41	45	54	45	50	56	
DN125	5"	61	68	76	91	76	84	93	
DN150	6"	116	127	140	154	126	138	152	
DN200	8"	171	190	211	253	211	234	260	
DN250	10"	275	306	340	408	340	378	420	
DN300	12"	381	423	470	564	470	522	580	
DN350	14"	545	605	672	-	672	747	830	
DN400	16"	728	809	899	-	899	999	1110	
DN450	18"	912	1013	1126	-	1126	1251	1390	
DN500	20"	1135	1261	1401	-	1401	1557	1730	
DN600	24"	1325	1472	1636	-	1636	1818	2020	
DN700	28"	2339	2599	2888	-	2888	3209	3566	
DN750	30"	2608	2898	3220	-	3220	3578	3975	
DN800	32"	3008	3342	3713	-	3713	4125	4583	
DN900	36"	3828	4253	4726	-	4726	5251	5834	
DN950	38"	4415	4920	6610	-	5450	6050	7100	
DN1000	40"	5090	5680	7620	-	6280	7010	9410	
DN1050	42"	5611	6262	8401	-	6924	7728	10374	
DN1100	44"	6158	6872	9262	-	7599	8481	11385	
DN1200	48"	7328	8178	11022	-	9043	10093	13548	

Including a 30% safety factor.

Do not apply a safety factor to above torque value when determining actuator.

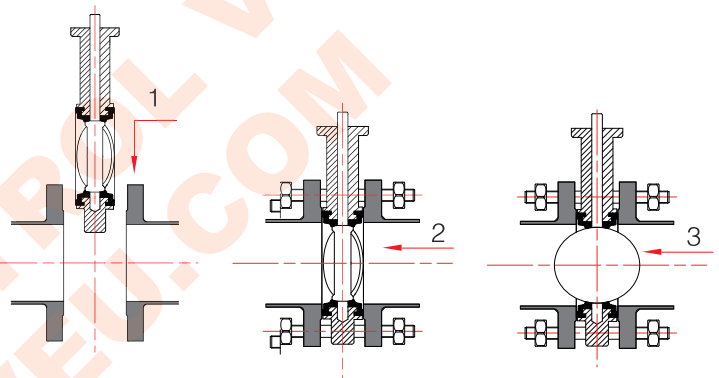


Installation

1. Recommend to use butt welding flange. Do not use flat welding flange, because steel pipe can affect disc's free opening and closing if steel pipe enter flat welding flange.
2. The inner diameter of flange can't be too small or too big and must confirm the dimension of flange so that the disc can turn free.
3. For avoiding scalding the seat. Flange is not welded after the butterfly valve was installed in pipe.

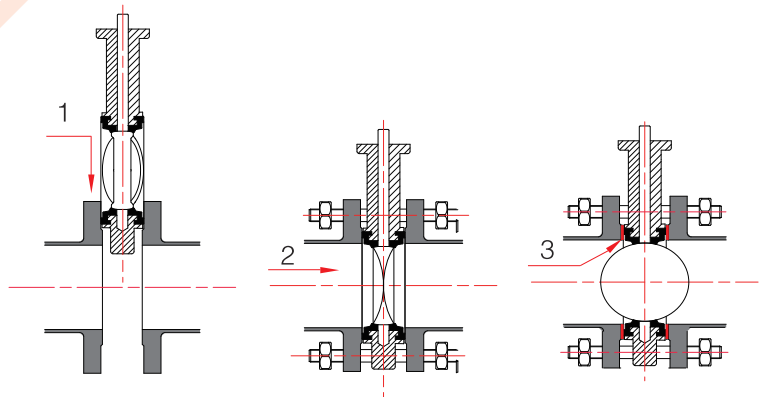
Correct Installation

1. Keeping the biggest space between two pieces of flange so that the whole valve can enter this space when opening valve a little bit. We'd better hang a bolt at the bottom of valve, then turn up and put whole valve into the space.
2. In the disc to be opened in a small angle (not completely closed) state, put all the bolts, but do not tightened.
3. Fully open the butterfly valve, confirmed butterfly valve has been in the middle of pipeline, and then tighten diagonal bolts one by one.



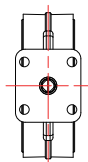
Incorrect Installation

1. If have not kept the biggest space between two pieces of flange, the seat may be damaged or rolled up by flange.
2. When the butterfly valve be closed completely, tightening the bolt would over-compress seat, then lead to excessive torque and affect the normal opening and closing and damage seat perhaps! Please pay attention to it!

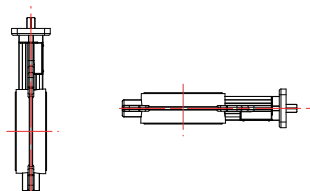


3. Do not need to use sealing gaskets and grease.

Recommended Direction



Acceptable Direction



Un-recommended Direction



Horizontal installation is recommended (the stem is in the level state)