

Your Professional Valve Solution



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Bi-directional seal butterfly valve  
Floating seat triple offset butterfly valve  
Laminated seal&all metal seal butterfly valve

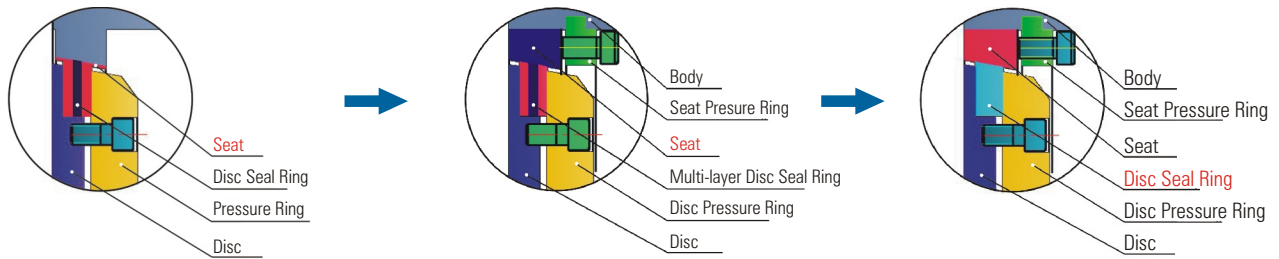


Tipvalve is specialized in industrial valves' production, research and development, sales and service.

Offer the valve solution in rigorous working condition for customers, especially in atrocious working condition, sea water and other corrosive media.

Tipvalve is widespread recognized relying on rich experiences and technical support.

**TIPVALVE INDUSTRIAL GROUP LTD.**



## PRODUCT MAIN FEATURES

### Seat/sealing ring can be replaced on field

Replaceable seat/sealing design makes valve easily maintained on field.

### Long life design

The seat/seal is completely made of metal materials and dealt with surface hardening treatment so that the valve can be under high sealing performance even open/close with high frequency. Long life design protects the multi-layer sealing structure from eroding and other shortcomings, greatly improve the service life of the valve.

### Sealing with torque

Sealing with torque keeps valve having superior two-way performance. Valve completely sealed by torque of the actuator rather than forces produced by media, which makes valve sealed under high and low pressure unfailingly. Sealing performance test results meet the requirement of the API609, ISO5208 and other Standards that concerns.

### Essence of fire protection

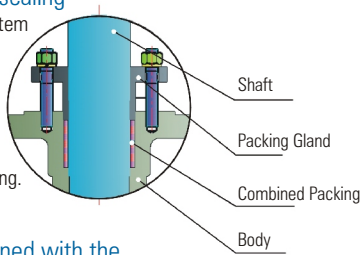
Full metal structure makes valve carry the property of fire protection and the test results comply with the provisions of the API607 Standard.

### The yoke connected to the actuator meet the requirement of the ISO5211 standard.

Yoke is designed in accordance with ISO5211 standard and connected with electrical actuator, pneumatic actuator, and hydraulic actuator and manually operated.

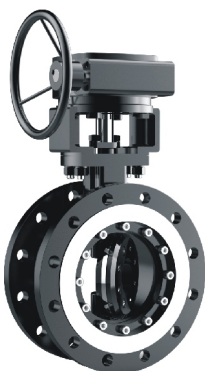
### High performance of packing sealing

Adopt packing-combined sealing system to ensure the leakage rate  $\leq 20$  PPM at maximum. The dynamic sealing structure is available if necessary, which make the packing sealing under good condition and prolong the free maintenance period of packing.



The valve stem shall be designed with the "Blow-out Structure" in accordance with API609 standard.

## PRODUCT DISPLAY



Double flanged type



Butt weld type



Wafer type

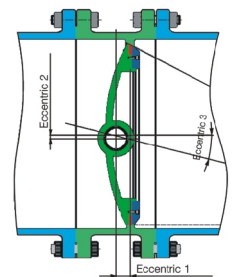


Lug type

## TRIPLE ECCENTRIC STRUCTURE

Eccentric 1: The centerline of rotation axis/stem and seat deviate from each other for a certain distance to ensure the integrity of the sealing surface;

Eccentric 2: The centerline of rotation axis/stem and body deviate from each other for a certain distance to reduce the friction between the sealing components when open and close the valve.



Eccentric 3: The centerline of valve body and conical seat sealing face deviate from each other for a certain angle to ensure the sealing ring of the disc can be separated or touched with seat rapidly so that friction and squeeze will not exist between the sealing components.

## EXECUTION STANDARD

Design and manufacturing: JB/T8527, GB/T12224, AP1609, ASME B16.34 and other non-standard

Connecting flange: GB/T9113.1~9113.4, ASME B16.5, ASME B16.47, and other non-standard

Structure length: GB/T12221, AP1609, ISO5752 and other non-standard

Inspection and test: JB/T9090, GB/T26480, AP1598, ISO5208, etc

## SCOPE OF APPLICATION

Nominal size: DN50~DN3600 2"~144"

(different valve type size range is different, the details please ask)

Nominal pressure: PN2.5~PN260 Class150~Class 1500

(different valve type pressure range is different, the details please call ask)

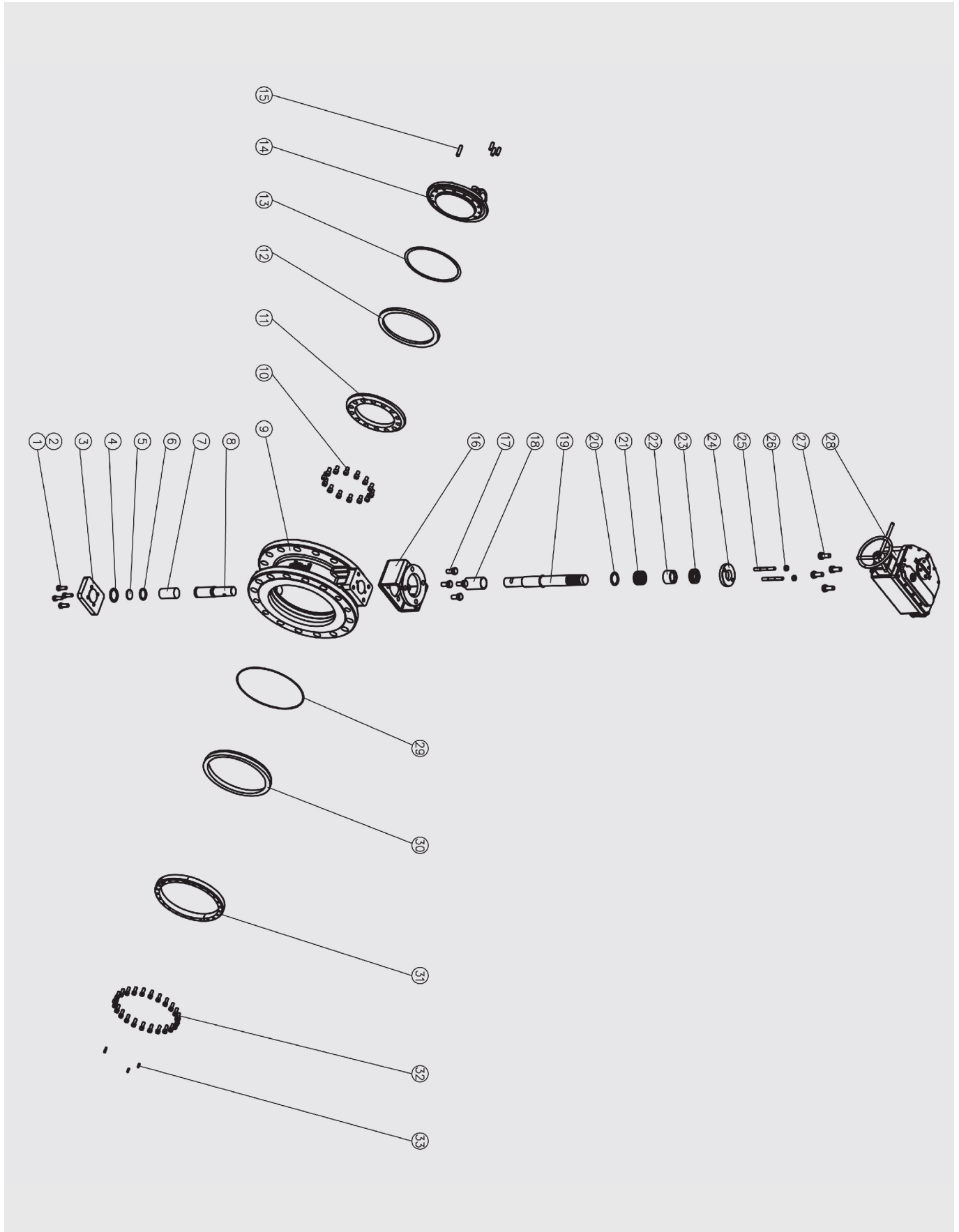
Temperature range: 196℃~600℃

Connection: flange, butt welding type, wafer, lug type, etc

Main material: carbon steel, chrome molybdenum steel, austenitic stainless steel, duplex, stainless steel, Titanium alloy, Inconel alloy, etc.



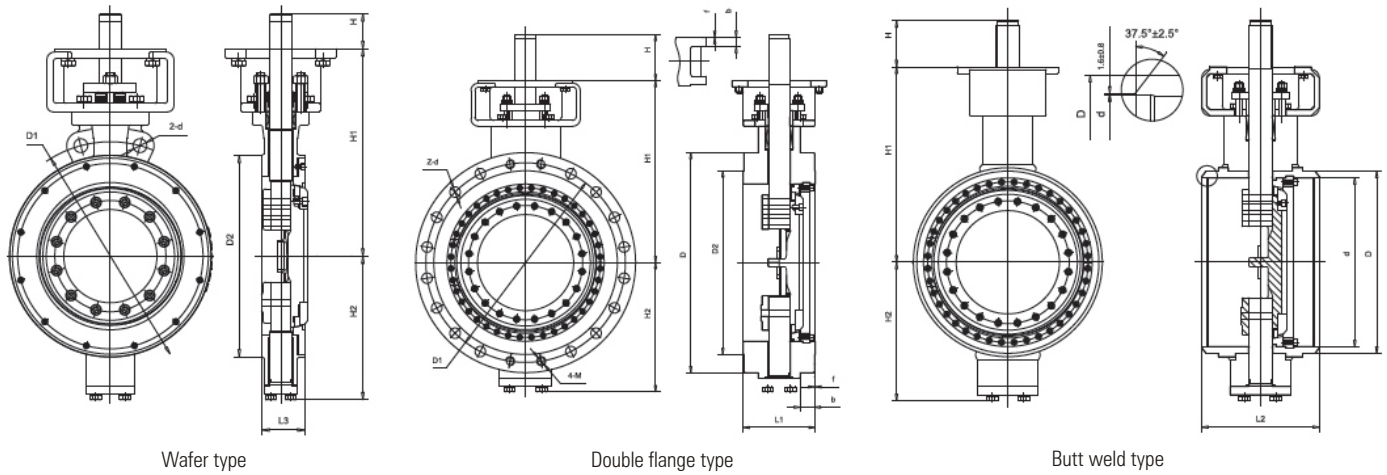
MAIN PARTS DIAGRAM





**MAIN PARTS MATERIAL TABLE**

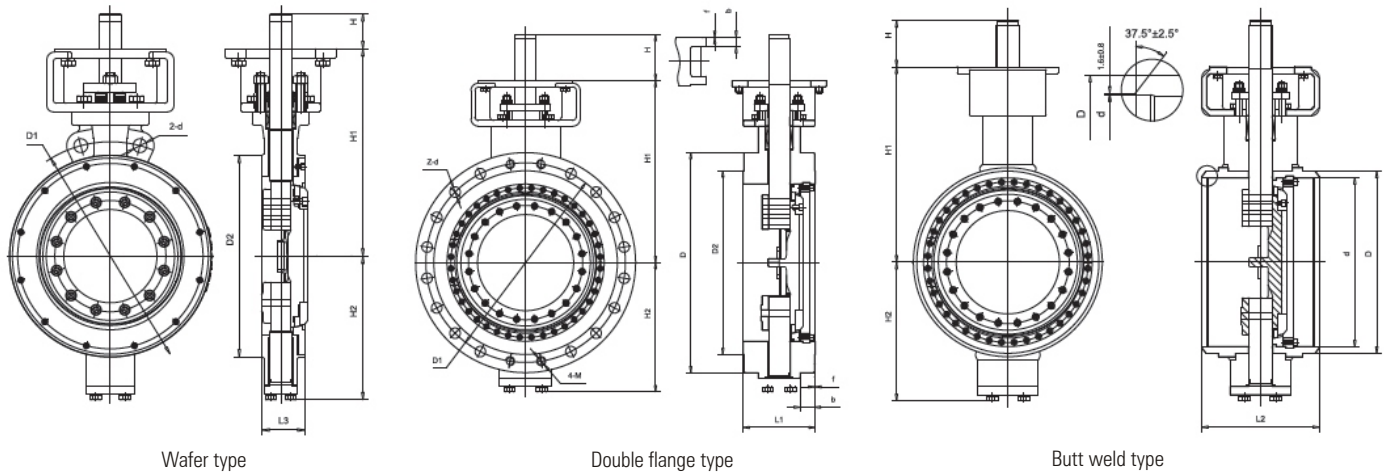
No.	Component	Carbon Steel	Carbons Teed/Stainless Steel	Stainless Steel
1	Hex Bolt	A193-B7	A193 B7	SS304
2	Washer	A29M 5140	A29M 5140	SS304
3	Botton Cover	A29M 1025	A29M 1025	SS316
4	Gasket	SS316+ Graphite	SS316+ Graphite	SS316+ Graphite
5	Flange	A29m 1025	SS316	SS316
6	Locking Ring	D-2	SS316	SS316
7	Sleeve	D-2+Ni	SS316	SS316
8	Shaft	A276 420	17-4PH	17-4PH
9	Body	A216 WCB/ASTM A105	A216 WCB/ASTM A105	A351 CF8M
10	Cap Scrw	SS304	SS316	SS316
11	Dis Pressure Ring	A276 420	SS316	SS316
12	Disc Seal Ring	F316L+STL	F316L+STL	F316L+STL
13	Gasket	SS316+ Graphite	SS316+ Graphite	SS316+ Graphite
14	Disc	A216 WCB	A351 CF8M	A351 CF8M
15	Pin	SS304	17-4PH	17-4PH
16	Yoke	A216 WCB	A216 WCB	A216 WCB
17	Hex Bolt	A193-B7	A193 B7	SS304
18	Sleeve	D-2+Ni	SS316	SS316
19	Shaft	A276 420	17-4PH	17-4PH
20	Packing Ring	D-2	SS316	SS316
21	Packing	Graphite	Graphite	Graphite
22	Packing Gland	A29M 1025	SS316	SS304
23	Butterfly Spring	Spring Steel	Spring Steel	Spring Steel
24	Packing Plate	A29M 1025	SS316	SS304
25	Gland Stud	A193-B7	SS316	SS304
26	Gland Nut	A194-2H	SS316	SS304
27	Hex Bolt	A193-B7	A193 B7	SS304
28	Operation	Worm Gear	Worm Gear	Worm Gear
29	Gasket	SS316+ Graphite	SS316+ Graphite	SS316+ Graphite
30	Body Seat	A276 420	SS316	SS316
31	Connector Ring	A276 420	SS316	SS316
32	Cap Screw	SS304	SS316	SS316
33	Grud Screw	SS304	SS316	SS316



Main connecting dimensions PN6(0.6MPa)

mm

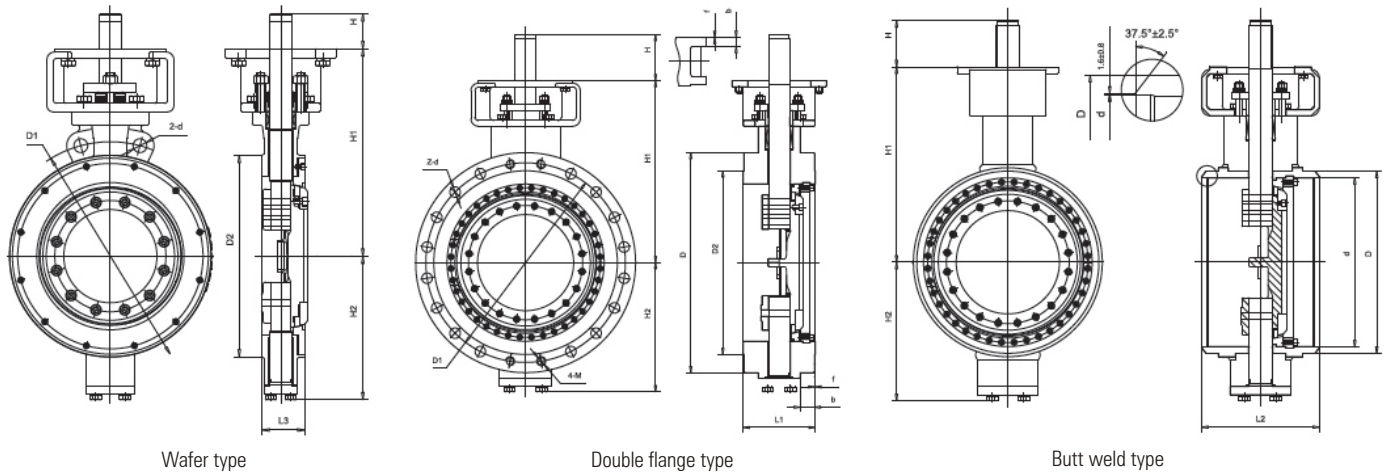
DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	108	150	43	140	110	90	16	2	4-14	12	4	47	57	193	94	20
80	114	180	49	190	150	128	18	2	4-18	16	4	78	90	221	118	25
100	127	190	56	200	170	148	18	2	4-18	16	4	96	110	243	130	30
125	140	200	64	240	200	175	18	2	4-18	16	8	121	135	261	153	35
150	140	210	70	265	225	202	20	2	4-18	16	8	146	161	273	165	40
200	152	230	71	320	280	258	22	2	4-18	16	8	202	222	309	192	45
250	165	250	76	375	335	312	24	2	4-18	16	12	245	278	337	235	50
300	178	270	83	440	395	365	24	2	8-22	20	12	303	330	382.5	274.5	67
350	190	290	92	490	445	415	24	2	8-22	20	12	351	382	435	314	81
400	216	310	102	540	495	465	24	2	12-22	20	16	398	432	457	344	87
450	222	330	114	595	550	520	24	2	12-22	20	16	450	484	510	369	98
500	229	350	127	645	600	570	26	2	16-22	20	20	501	535	579	410.5	105
600	267	390	154	788	705	670	26	2	16-26	24	20	602	636	635	472.5	117
700	292	430	165	860	810	775	26	5	20-26	24	24	692	726	671	529.5	117
800	318	470	190	975	920	880	26	5	20-30	27	24	792	826	800	648	120
900	330	510	200	1075	1020	980	26	5	20-30	27	24	892	926	862	708.2	128
1000	410	550	216	1175	1120	1080	26	5	24-30	27	28	992	1028	955	766.2	170
1200	470	630	276	1405	1340	1295	28	5	28-33	30	32	1192	1228	1088	884	182
1400	530	710	390	1630	1560	1510	32	5	32-36	33	36	1392	1428	1188	1022	202
1600	600	790	440	1830	1760	1710	34	5	40-39	33	40	1592	1628	1227	1092	245
1800	670	870	490	2045	1970	1920	36	5	44-42	36	44	1792	1828	1300	1165	245
2000	760	950	540	2265	2180	2125	38	5	48-48	39	48	1992	2028	1390	1280	245
2200	800	1000	590	2475	2390	2330	60	6	52-48	42	52	2192	2228	1504	1320	245
2400	850	1100	650	2685	2600	2540	62	6	56-48	42	56	2392	2428	1750	1425	245
2600	900	1200	700	2900	2810	2740	64	6	56-54	48	60	2592	2628	1910	1540	245
2800	950	1300	760	3110	3020	2950	68	6	60-54	48	64	2792	2828	2103	1640	245
3000	1000	1400	810	3310	3220	3150	70	6	64-54	48	68	2992	3028	2234	1740	245



Main connecting dimensions PN10(1.0MPa)

mm

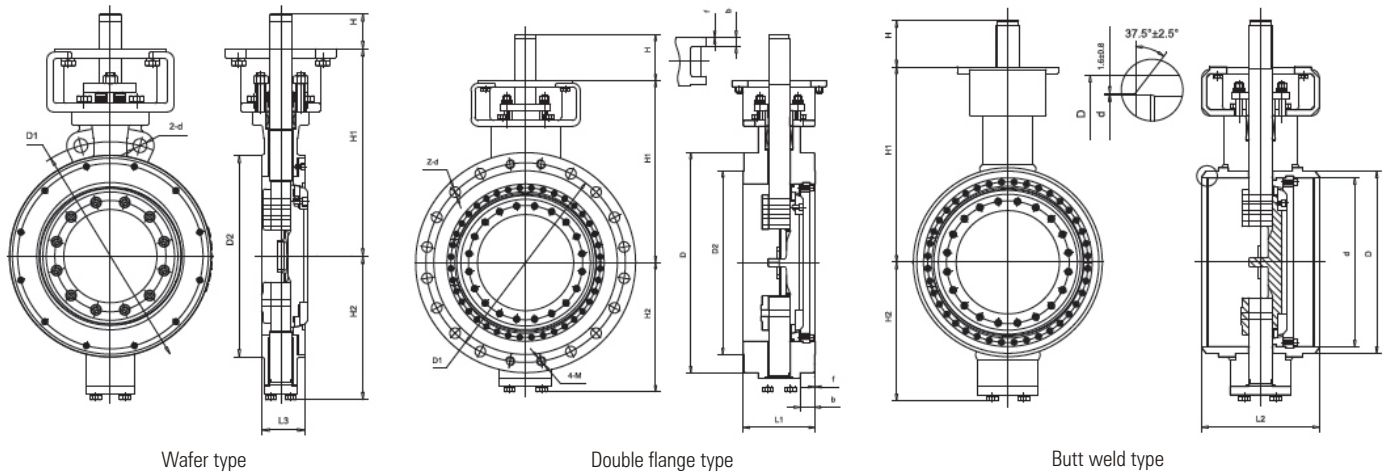
DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	108	150	43	165	125	102	20	2	4-14	16	4	47	57	193	94	20
80	114	180	49	200	160	138	20	2	4-18	16	8	78	90	221	118	25
100	127	190	56	220	180	158	22	2	4-18	16	8	96	110	243	130	30
125	140	200	64	250	210	188	22	2	4-18	16	8	121	135	261	153	35
150	140	210	70	285	240	212	24	2	4-22	20	12	146	161	273	165	40
200	152	230	71	340	295	268	24	2	4-22	20	12	202	222	309	192	45
250	165	250	76	395	350	320	26	2	8-22	20	12	245	278	337	235	50
300	178	270	83	445	400	370	26	2	8-22	20	16	303	330	382.5	274.5	67
350	190	290	92	505	460	430	26	2	12-22	20	16	351	382	435	314	81
400	216	310	102	656	515	482	26	2	12-26	24	20	398	432	457	344	87
450	222	330	114	615	565	532	28	2	16-26	24	20	450	484	510	369	98
500	229	350	127	670	620	585	28	2	16-26	24	20	501	535	579	410.5	105
600	267	390	154	780	725	685	34	2	16-30	27	20	602	636	635	472.5	117
700	292	430	165	895	840	800	34	5	20-30	27	24	692	726	671	529.5	117
800	318	470	190	1015	950	905	36	5	20-33	30	24	792	826	800	648	120
900	330	510	200	1115	1050	1005	38	5	24-33	30	28	892	926	862	708.2	128
1000	410	550	216	1230	1160	1110	38	5	24-36	33	28	992	1028	955	766.2	170
1200	470	630	276	1455	1380	1330	44	5	28-39	36	30	1192	1228	1088	884	182
1400	530	710	390	1675	1590	1535	48	5	32-42	39	36	1392	1428	1188	1022	202
1600	600	790	440	1915	1820	1765	52	5	36-48	45	40	1592	1628	1227	1092	245
1800	670	870	490	2115	2020	1960	56	5	40-48	45	44	1792	1828	1300	1165	245
2000	760	950	540	2325	2230	2170	60	5	44-48	45	48	1992	2028	1390	1280	245



Main connecting dimensions PN16(1.6MPa)

mm

DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	108	150	43	165	125	102	20	2	4-14	16	4	47	57	193	94	20
80	114	180	49	200	160	138	20	2	4-18	16	8	78	90	221	118	25
100	127	190	56	220	180	158	22	2	4-18	16	8	96	110	243	130	30
125	140	200	64	250	210	188	22	2	4-18	16	8	121	135	261	153	35
150	140	210	70	285	240	212	24	2	4-22	20	8	146	161	273	165	40
200	152	230	71	340	295	268	24	2	8-22	20	12	202	222	309	192	45
250	165	250	76	405	350	320	26	2	8-26	24	12	245	278	337	235	50
300	178	270	83	460	400	378	28	2	8-26	24	12	303	330	382.5	274.5	67
350	190	290	92	520	460	439	30	2	12-26	24	16	351	382	435	314	81
400	216	310	102	580	515	490	32	2	12-30	27	16	398	432	457	344	87
450	222	330	114	640	565	550	34	2	16-30	27	20	450	484	510	369	98
500	229	350	127	715	620	610	36	2	16-33	30	20	501	535	579	410.5	105
600	267	390	154	840	725	725	38	2	16-36	33	20	602	636	635	472.5	117
700	292	430	165	910	840	795	40	5	20-36	33	24	692	726	671	529.5	117
800	318	470	190	1025	950	900	42	5	20-39	36	24	792	826	800	648	120
900	330	510	200	1125	1050	1000	44	5	24-39	36	28	892	926	862	708.2	128
1000	410	550	216	1255	1160	1115	46	5	24-42	39	28	992	1028	955	766.2	170
1200	470	630	276	1485	1380	1330	52	5	28-48	45	32	1192	1228	1088	884	182
1400	530	710	390	1685	1590	1530	58	5	32-48	45	36	1392	1428	1188	1022	202
1600	600	790	440	1930	1820	1750	64	5	36-55	52	40	1592	1628	1227	1092	245
1800	670	870	490	2130	2020	1950	68	5	40-55	52	44	1792	1828	1300	1165	245
2000	760	950	540	2345	2230	2150	70	5	44-60	56	48	1992	2028	1390	1280	245

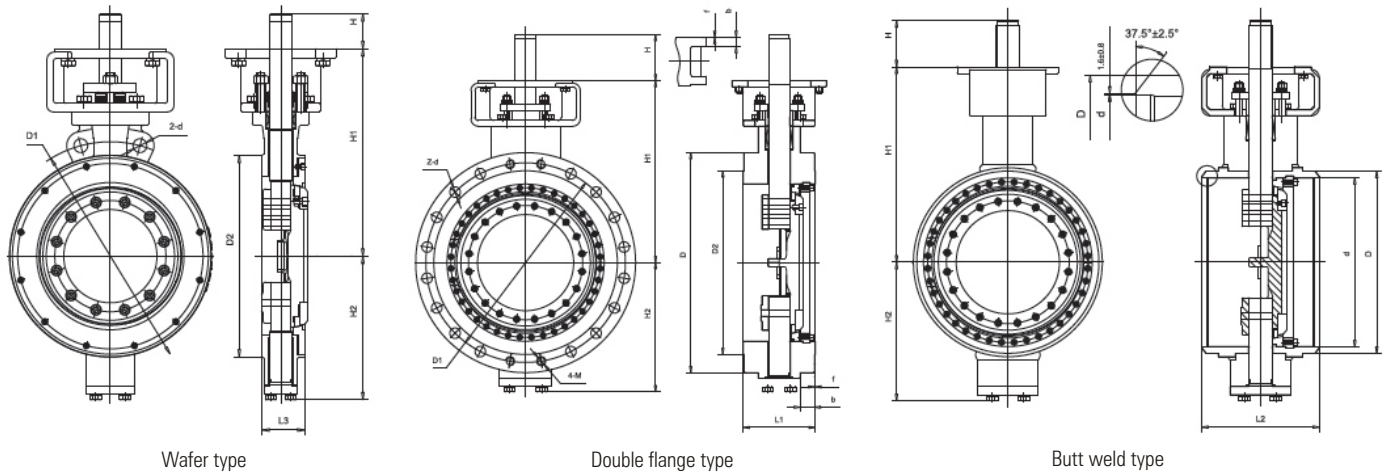


Main connecting dimensions PN25(2.5MPa)

mm

DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	108	150	43	165	125	102	20	2	4-14	16	4	47	57	193	94	20
80	114	180	49	200	160	138	24	2	4-18	16	8	78	90	221	118	25
100	127	190	56	235	190	162	24	2	4-22	16	8	96	110	243	130	30
125	140	200	64	270	220	188	26	2	4-26	16	8	121	135	261	153	35
150	140	210	70	300	250	218	28	2	4-26	20	8	146	161	273	165	40
200	152	230	71	360	310	278	30	2	8-26	20	12	202	222	309	192	45
250	165	250	76	425	370	335	32	2	8-30	24	12	245	278	337	235	50
300	178	270	83	485	430	395	34	2	12-30	24	12	303	330	382.5	274.5	67
350	190	290	92	555	490	450	38	2	12-33	24	16	351	382	435	314	81
400	216	310	102	620	550	505	40	2	12-36	27	16	398	432	457	344	87
450	222	330	114	670	600	555	46	2	16-36	27	20	450	484	510	369	98
500	229	350	127	730	660	615	48	2	16-36	30	20	501	535	579	410.5	105
600	267	390	154	845	770	720	58	2	16-39	33	20	602	636	635	472.5	117
700	292	430	165	960	875	820	50	5	20-42	33	24	692	726	671	529.5	117
800	318	470	190	1085	990	930	54	5	20-48	36	24	792	826	800	648	120
900	330	510	200	1185	1090	1030	58	5	24-48	36	28	892	926	862	708.2	128
1000	410	550	216	1320	1210	1140	62	5	24-55	39	28	992	1028	955	766.2	170
1200	470	630	276	1530	1420	1350	70	5	28-55	45	32	1192	1228	1088	884	182
1400	530	710	390	1755	1640	1560	76	5	32-60	45	36	1392	1428	1188	1022	202
1600	600	790	440	1975	1860	1780	84	5	36-60	52	40	1592	1628	1227	1092	245
1800	670	870	490	2195	2070	1985	90	5	40-68	52	44	1792	1828	1300	1165	245
2000	760	950	540	2425	2300	2210	96	5	44-68	56	48	1992	2028	1390	1280	245

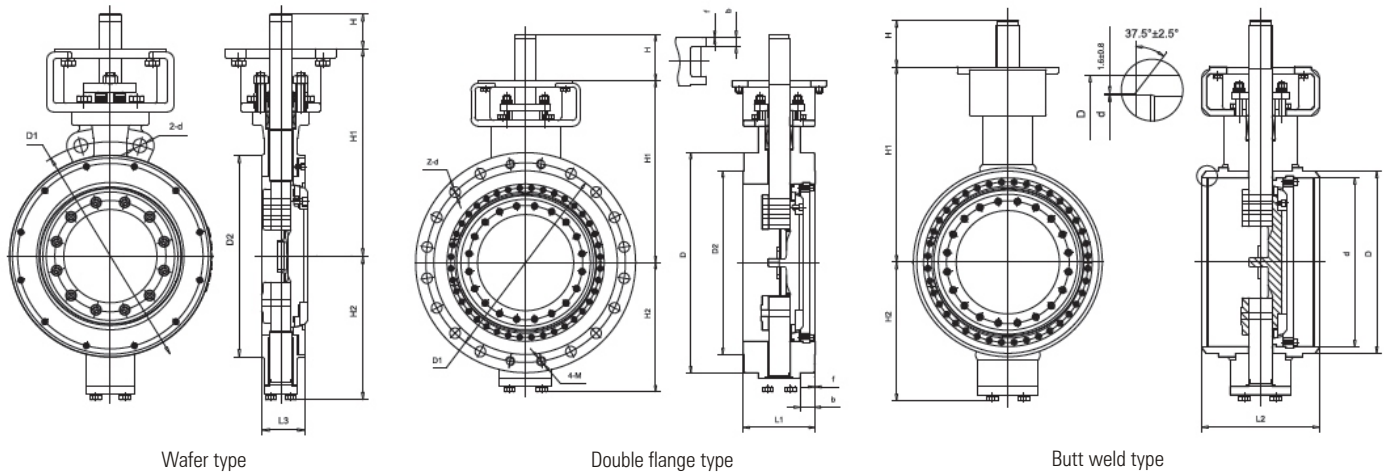




Main connecting dimensions PN40(4.0MPa)

mm

DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	150	150	43	165	125	102	20	2	4-14	16	4	47	57	135	120	30
80	180	180	49	200	160	138	24	2	4-18	16	8	78	90	165	135	34
100	190	190	56	235	190	162	24	2	4-22	20	8	96	110	204	155	34
125	200	200	64	270	220	188	26	2	4-26	24	8	120	135	230	175	34
150	210	210	70	300	250	218	28	2	4-26	24	8	145	161	270	195	64
200	230	230	71	375	320	285	34	2	8-30	27	12	200	222	304	235	64
250	250	250	76	450	385	335	38	2	8-33	30	12	252	278	319	275	79
300	270	270	83	515	450	410	42	2	12-33	30	12	301	330	409	310	79
350	290	290	127	580	510	465	46	2	12-36	33	16	351	382	499	350	109
400	310	310	140	660	585	535	50	2	12-39	36	16	398	432	515	400	109
450	330	330	160	685	610	560	57	2	16-39	36	20	448	484	486	410	109
500	350	350	170	755	670	615	57	2	16-42	39	20	495	535	531	455	129
600	390	390	200	890	795	735	72	2	16-48	45	20	595	636	629	530	129



Main connecting dimensions PN63(6.3MPa)

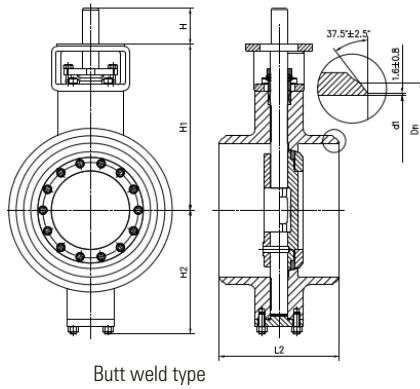
mm

DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	150	150	43	180	135	102	26	2	4-22	20	4	47	57	135	135	30
80	180	180	49	215	170	138	28	2	4-22	20	8	77	90	175	175	34
100	190	190	56	250	200	162	30	2	4-26	24	8	94	110	214	214	34
125	200	200	64	295	240	188	34	2	4-30	27	8	118	135	250	250	64
150	210	210	70	345	280	218	36	2	4-33	30	8	142	161	300	300	64
200	230	230	71	415	345	285	42	2	8-36	33	12	198	222	334	334	79
250	250	250	76	470	400	335	46	2	8-36	33	12	246	278	339	339	79
300	270	270	83	530	460	410	52	2	12-36	33	12	294	330	424	424	109
350	290	290	127	600	525	465	56	2	12-39	36	16	342	382	414	414	109
400	310	310	140	670	585	535	60	2	12-42	39	16	368	432	520	520	129
500	350	350	170	800	705	615	68	2	16-48	45	20	485	535	556	556	129
600	390	390	200	930	820	735	76	2	16-56	52	20	585	636	654	654	129

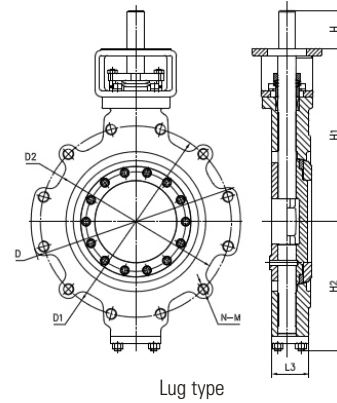
Main connecting dimensions PN100(10.0MPa)

mm

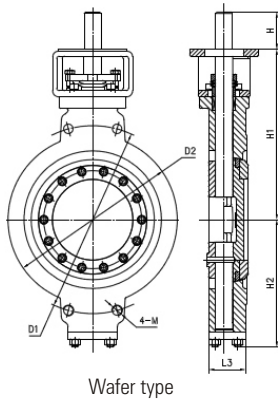
DN	L1	L2	L3	D	D1	D2	b	f	z-φd	M	N	d1	Dn	H1	H2	H
50	150	150	43	195	145	102	28	2	4-26	24	4	47	57	165	125	30
80	180	180	49	230	180	138	32	2	4-26	24	8	75	90	175	135	34
100	190	190	56	265	210	162	36	2	4-30	27	8	92	110	194	145	34
125	200	200	64	315	250	188	40	2	4-33	30	8	112	135	215	160	64
150	210	210	70	355	290	218	44	2	8-33	30	12	136	161	255	180	64
200	230	230	71	430	360	285	52	2	8-36	33	12	190	222	279	210	79
250	250	250	76	505	430	335	60	2	8-39	36	12	236	278	294	240	79
300	270	270	83	585	500	410	68	2	12-42	39	16	284	330	330	265	109
350	290	290	127	655	560	465	74	2	12-48	45	16	332	382	370	295	109
400	310	310	140	715	620	535	82	2	12-48	45	16	375	432	460	330	129
500	350	350	170	870	780	615	94	2	16-56	52	20	475	535	496	385	129
600	390	390	200	990	875	735	102	2	16-62	56	20	575	636	584	440	129



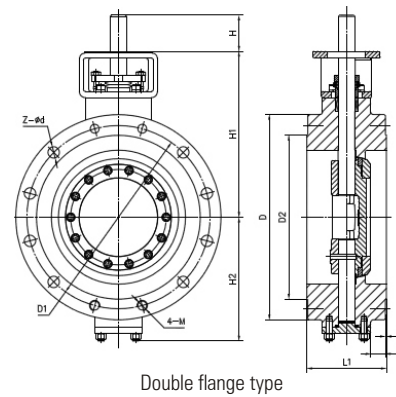
Butt weld type



Lug type



Wafer type

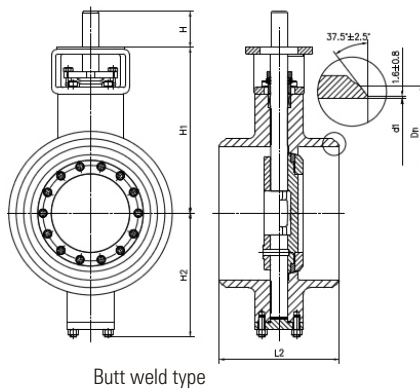


Double flange type

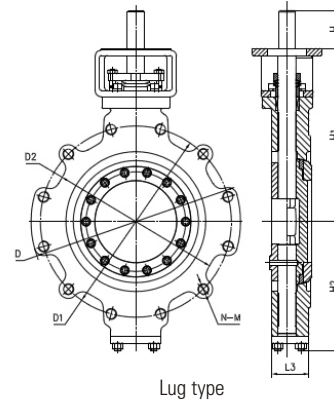
Main connecting dimensions 150Lb

mm

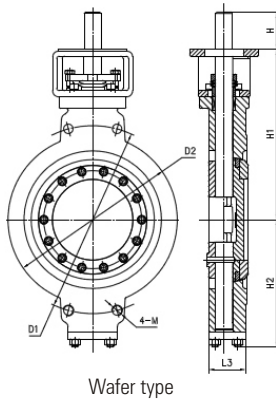
Inch	L1	L2	L3	D	D1	D2	b(Min)	f	z-φd	M	N	d1	Dn	H1	H2	H
2	108	150	43	150	120.7	92.1	17.5	2	4-19	5/8-11UNC-2B	4	52.5	60.3	193	94	20
3	114	180	48	190	152.4	127	22.3	2	4-19	5/8-11UNC-2B	4	77.9	88.9	221	118	25
4	127	190	54	230	190.5	157.2	22.3	2	4-19	5/8-11UNC-2B	8	102.3	114.3	243	130	30
5	140	200	56	255	215.9	185.7	22.3	2	4-22	3/4-10UNC-2B	8	128.2	139.7	261	153	35
6	140	210	57	280	241.3	215.9	23.9	2	4-22	3/4-10UNC-2B	8	154.1	168.3	273	165	40
8	152	230	64	345	298.5	269.9	27	2	4-22	3/4-10UNC-2B	8	202.7	219.1	309	195	45
10	165	250	71	405	362	323.8	28.3	2	8-26	7/8-9UNC-2B	12	254.5	273	337	235	50
12	178	270	81	485	431.8	381	30.2	2	8-26	7/8-9UNC-2B	12	304.8	323.9	382.5	274.5	67
14	190	290	92	535	476.3	412.8	33.4	2	8-29	1-8UNC-2B	12	336.6	355.6	435	314	81
16	216	310	102	595	539.8	469.9	35	2	12-29	1-8UNC-2B	16	387.4	406.4	457	344	87
18	222	330	114	635	577.9	533.4	38.1	2	12-32	1-1/8-8UNC-2B	16	434.9	457	510	369	98
20	229	350	127	700	635	584.2	41.3	2	16-32	1-1/8-8UNC-2B	20	482.6	508	579	410.5	105
24	267	390	154	815	749.3	692.2	46.1	2	16-35	1-1/4-8UNC-2B	20	581.1	610	635	472.5	117
28	292	430	229	925	863.6	800	69.9	2	24-35	1-1/4-8UNC-2B	28	672.7	711.2	671	529.5	117
32	318	470	241	1060	977.9	914	79.4	2	24-42	1-1/2-8UNC-2B	28	770.7	812.8	800	648	120
36	330	510	241	1170	1085.8	1022	88.9	2	24-42	1-1/2-8UNC-2B	32	869.3	914.4	862	708.2	128
40	410	550	300	1290	1200.2	1124	88.9	2	32-42	1-1/2-8UNC-2B	36	967.7	1016	955	766.2	170
48	470	630	360	1510	1422.4	1359	106.4	2	40-42	1-1/2-8UNC-2B	44	1164	1219	1088	884	182



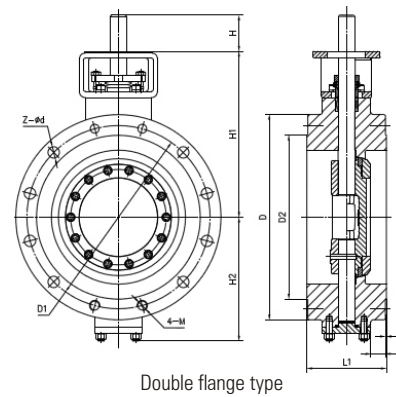
Butt weld type



Lug type



Wafer type

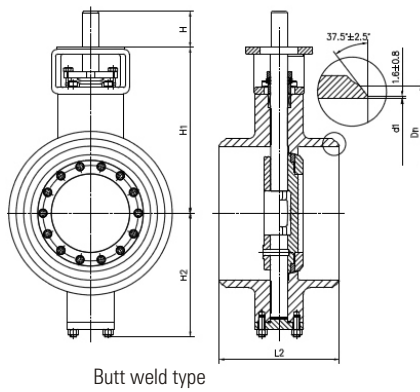


Double flange type

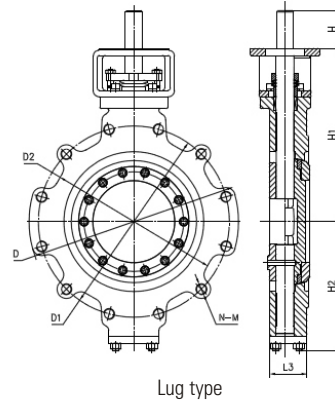
Main connecting dimensions 300Lb

mm

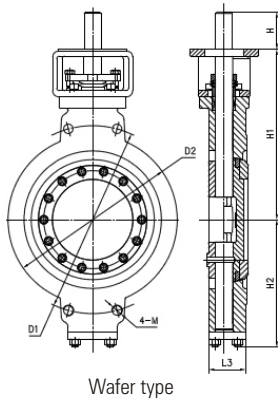
Inch	L1	L2	L3	D	D1	D2	b(Min)	f	z-φd	M	N	d1	Dn	H1	H2	H
2	150	150	43	165	127	92.1	20.7	2	4-19	5/8-11UNC-2B	8	52.5	60.3	135	120	30
3	180	180	48	210	168.3	127	27	2	4-22	3/4-10UNC-2B	8	77.9	88.9	159	145	34
4	190	190	54	255	200	157.2	30.2	2	4-22	3/4-10UNC-2B	8	102.3	114.3	194	165	64
5	200	200	56	280	235	185.7	33.4	2	4-22	3/4-10UNC-2B	8	128.2	139.7	269	200	64
6	210	210	57	320	269.9	215.9	35	2	8-22	3/4-10UNC-2B	12	154.1	168.3	269	200	64
8	230	230	64	380	330.2	269.9	39.7	2	8-26	7/8-9UNC-2B	12	202.7	219.1	285	235	79
10	250	250	71	445	387.4	323.8	46.1	2	12-29	1-8UNC-2B	16	254.5	273	325	275	79
12	270	270	81	520	450.8	381	49.3	2	12-32	1-1/8-8UNC-2B	16	304.8	323.9	384	315	79
14	290	290	92	585	514.4	412.8	52.4	2	16-32	1-1/8-8UNC-2B	20	336.6	355.6	410	350	79
16	310	310	102	650	571.5	469.9	55.6	2	16-35	1-1/4-8UNC-2B	20	387.4	406.4	465	385	109
18	330	330	114	710	628.6	533.4	58.8	2	20-35	1-1/4-8UNC-2B	24	434.9	457	528	415	109
20	350	350	127	775	685.8	584.2	62	2	20-35	1-1/4-8UNC-2B	24	482.6	508	561	450	129
24	390	390	154	915	812.8	692.2	68.3	2	40-42	1-1/2-8UNC-2B	24	581.1	610	636	530	129
28	430	430	229	1035	939.8	800	84.2	2	24-45	1-5/8-8UNC-2B	28	672.7	711.2	800	590	199
32	470	470	241	1150	1054.1	914	96.9	2	24-52	1-7/8-8UNC-2B	28	770.7	812.8	860	720	199
36	510	510	241	1270	1168.4	1022	103.2	2	28-54	2-8UNC-2B	32	869.3	914.4	940	780	199
40	550	550	300	1240	1155.7	1186	112.8	2	28-45	1-5/8-8UNC-2B	32	967.7	1016	910	750	199
48	630	630	360	1465	1371.5	1302	131.8	2	28-52	1-7/8-8UNC-2B	32	1164	1219	1000	850	249



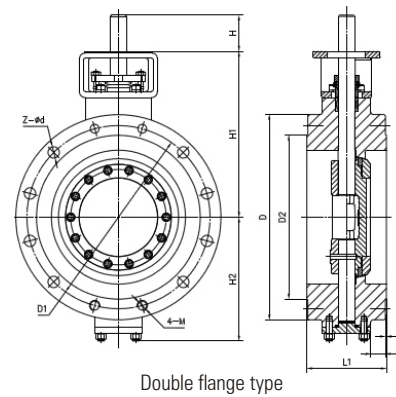
Butt weld type



Lug type



Wafer type

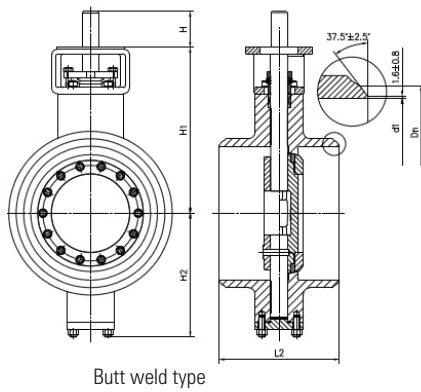


Double flange type

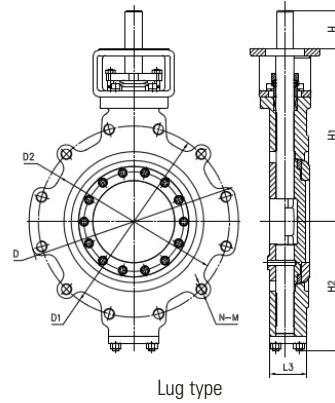
Main connecting dimensions 600Lb

mm

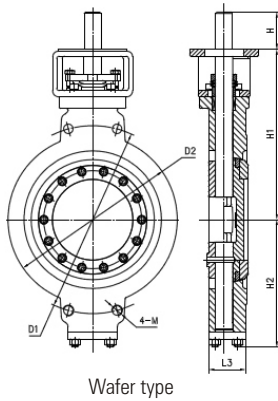
Inch	L1	L2	L3	D	D1	D2	b(Min)	f	z-φd	M	N	d1	Dn	H1	H2	H
2	150	150	43	165	127	92.1	25.4	7	4-19	5/8-11UNC-2B	8	52.5	60.3	175	125	40
3	180	180	54	210	168.3	127	31.8	7	4-22	3/4-10UNC-2B	8	77.9	88.9	202	145	44
4	190	190	64	275	215.9	157.2	38.1	7	4-26	7/8-9UNC-2B	8	102.3	114.3	208	180	44
5	200	200	70	330	266.7	185.7	44.5	7	4-29	1-8UNC-2B	8	128.2	139.7	235	210	79
6	210	210	79	355	292.1	215.9	47.7	7	8-29	1-8UNC-2B	12	154.1	168.3	302	225	79
8	230	230	102	420	349.2	269.9	55.6	7	8-32	1-1/8-8UNC-2B	12	198.5	219.1	315	265	79
10	250	250	117	510	431.8	323.8	63.5	7	12-35	1-1/4-8UNC-2B	16	247.7	273	376	310	79
12	270	270	140	560	489	381	66.7	7	16-35	1-1/4-8UNC-2B	20	295.3	323.9	442	340	109
14	290	290	155	605	527	412.8	69.9	7	16-39	1-3/8-8UNC-2B	20	325.4	355.6	457	365	109
16	310	310	178	685	603.2	469.9	76.2	7	16-42	1-1/2-8UNC-2B	20	363.5	406.4	561	410	129
18	330	330	200	745	654	533.4	82.6	7	16-45	1-5/8-8UNC-2B	20	409.5	457	610	450	129
20	350	350	216	815	723.9	584.2	88.9	7	20-45	1-5/8-8UNC-2B	24	455.6	508	645	485	129
24	390	390	232	940	838.2	692.2	101.6	7	20-52	1-7/8-8UNC-2B	24	547.7	610	730	555	178



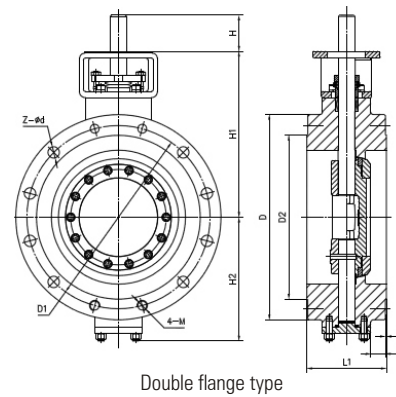
Butt weld type



Lug type



Wafer type

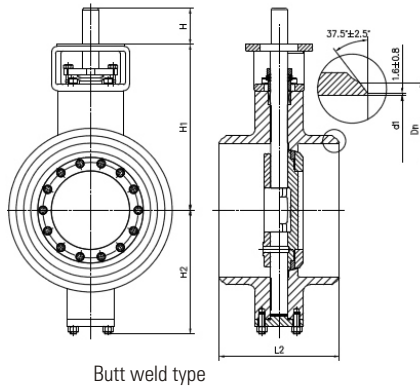


Double flange type

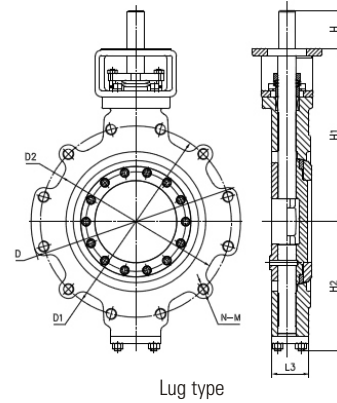
Main connecting dimensions 900Lb

mm

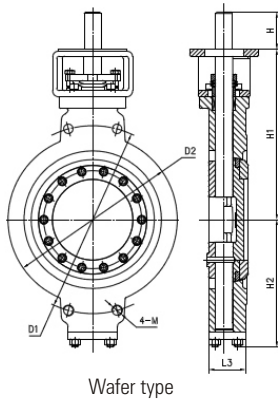
Inch	L1	L2	L3	D	D1	D2	b(Min)	f	z-φd	M	N	d1	Dn	H1	H2	H
4	235	235	80	290	235	157.2	44.5	7	4-32	1-1/8-8UNC-2B	8	77.9	88.9	240	181	64
6	250	250	104	380	317.5	215.9	55.6	7	8-32	1-1/8-8UNC-2B	12	102.3	114.3	315	238	79
8	310	310	112	470	393.7	269.9	63.5	7	8-39	1-3/8-8UNC-2B	12	128.2	139.7	360	281	79
10	350	350	135	545	469.9	323.8	69.9	7	12-39	1-3/8-8UNC-2B	16	154.1	168.3	412	358	109
12	380	380	170	610	533.4	381	79.4	7	16-39	1-3/8-8UNC-2B	20	198.5	219.1	475	383	109
14	400	400	173	640	558.8	412.8	85.8	7	16-42	1-1/2-8UNC-2B	20	247.7	273	512	419	128
16	430	430	210	705	616	469.9	88.9	7	16-45	1-5/8-8UNC-2B	20	295.3	323.9	610	455	129
18	460	460	228	785	685.8	533.4	101.6	7	16-52	1-7/8-8UNC-2B	20	325.4	355.6	660	503	178
20	490	490	250	855	749.3	584.2	108	7	16-54	2-8UNC-2B	20	363.5	406.4	685	550	178
24	530	530	275	1040	901.7	692.2	139.7	7	16-67	2-1/2-6UNC-2B	20	409.5	457	790	656	199



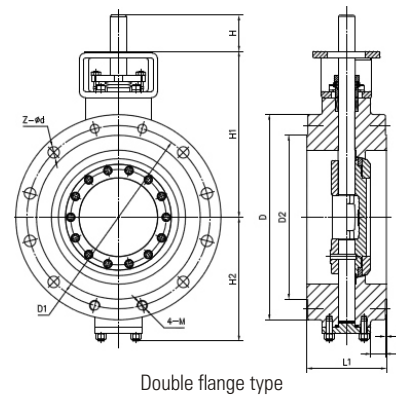
Butt weld type



Lug type



Wafer type



Double flange type

Main connecting dimensions 1500Lb

mm

Inch	L1	L2	L3	D	D1	D2	b(Min)	f	z-φd	M	N	d1	Dn	H1	H2	H
6	290	290	160	395	317.5	215.9	82.6	7	8-39	1-3/8-8UNC-2B	12	102.3	114.3	347	257	109
8	330	330	180	485	393.7	269.9	92.1	7	8-45	1-5/8-8UNC-2B	12	128.2	139.7	405	307	109
10	390	390	200	585	482.6	323.8	108	7	8-52	1-7/8-8UNC-2B	12	154.1	168.3	510	371	129
12	430	430	230	675	571.5	381	123.9	7	12-54	2-8UNC-2B	16	198.5	219.1	545	414	129
14	470	470	250	750	635	412.8	133.4	7	12-61	2-1/4-8UNC-2B	16	247.7	273	610	493	178
16	510	510	265	825	704.8	469.9	146.1	7	12-67	2-1/2-6UNC-2B	16	295.3	323.9	655	530	199
18	550	550	300	915	774.7	533.4	162	7	12-74	2-3/4-6UNC-2B	16	325.4	355.6	750	591	199
20	630	630	340	985	831.8	584.2	177.8	7	12-80	3-6UNC-2B	16	363.5	406.4	810	664	199
24	710	710	400	1170	990.6	692.2	203.2	7	12-94	3-1/2-6UNC-2B	16	409.5	457	950	780	249



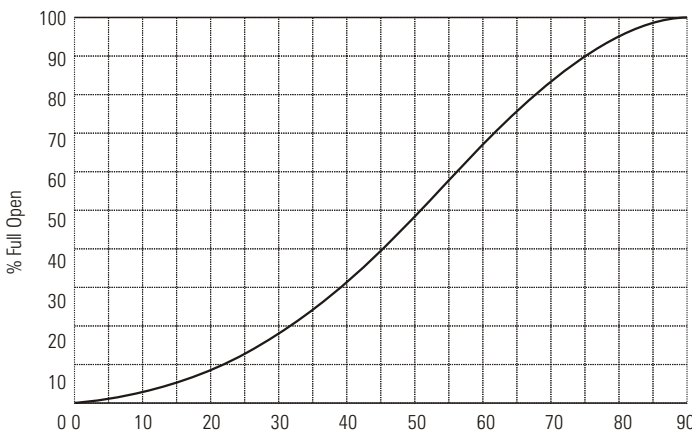
**MATERIALS LIST**

150Lb

Size		5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
mm	in																		
80	3	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	163
100	4	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
150	6	16	31	45	59	76	101	134	178	233	297	369	448	531	616	698	758	796	796
200	8	30	57	82	108	140	185	246	327	427	544	676	821	974	1130	1280	1390	1460	1460
250	10	52	99	142	187	242	320	426	566	739	942	1170	1420	1690	1960	2220	2410	2530	2530
300	12	78	147	212	279	362	478	636	846	1100	1410	1750	2120	2520	2920	3310	3600	3780	3780
350	14	106	201	289	380	493	651	866	1150	1500	1920	2380	2890	3430	3980	4510	4890	5140	5140
400	16	165	313	451	594	769	1020	1350	1800	2350	2990	3720	4510	5350	6210	7040	7640	8020	8020
450	18	217	413	594	782	1010	1340	1780	2370	3090	3940	4890	5940	7050	8180	9270	10100	10600	10600
500	20	268	509	733	965	1250	1650	2200	2920	3820	4860	6040	7340	8710	10100	11400	12400	13000	13000
600	24	386	734	1060	1390	1800	2380	3170	4210	5500	7000	8700	10600	12500	14500	16500	17900	18800	18800
700	28	559	1060	1530	2010	2610	3450	4590	6100	7960	10100	12600	15300	18200	21000	23900	25900	27200	27200
750	30	630	1200	1720	2270	2940	3880	5160	6870	8960	11400	14200	17200	20400	23700	28900	29200	30700	30700
800	32	719	1370	1970	2590	3360	4440	5900	7840	10200	13000	16200	19700	23300	27100	30700	33300	35000	35000
900	36	884	1680	2420	3180	4210	5450	7250	9630	12600	16000	19900	24200	28700	33300	37700	40900	43000	43000
1000	40	1170	2220	3190	4210	5450	7210	9580	12700	16600	21200	26300	31900	37900	44000	49800	54100	56900	56900
1050	42	1230	2340	3370	4440	5760	7610	10100	13400	17600	22400	27800	33700	40000	46500	52600	57100	60000	60000
1200	48	1640	3120	4490	5920	7670	10100	13500	17900	23400	29800	37000	45000	53400	61900	70100	76100	80000	80000

300Lb

Size		5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
mm	in																		
80	3	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	165
100	4	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
150	6	6	25	41	54	69	91	121	162	212	268	334	407	482	559	634	689	725	725
200	8	11	45	74	98	126	166	222	298	389	492	613	746	884	1030	1160	1260	1330	1330
250	10	19	82	135	178	229	301	402	540	705	891	1110	1350	1600	1860	2110	2290	2410	2410
300	12	29	122	202	266	342	450	601	807	1050	1330	1660	2020	2400	2780	3150	3420	3600	3600
350	14	39	167	274	363	466	613	818	1100	1430	1810	2260	2750	3260	3780	4290	4660	4900	4900
400	16	58	248	408	539	692	910	1220	1630	2130	2690	3360	4090	4840	5610	6370	6920	7280	7280
450	18	77	326	537	710	911	1200	1600	2150	2810	3550	4420	5380	6380	7400	8390	9110	9590	9590
500	20	95	403	663	876	1130	1480	1980	2650	3460	4380	5460	6640	7880	9130	10400	11300	11800	11800
600	24	136	580	955	1260	1620	2130	2850	3820	4990	6310	7860	9570	11300	13100	14900	16200	17100	17100
700	28	199	844	1390	1840	2360	3100	4150	5560	7260	9190	11400	13900	16500	19100	21700	23600	24800	24800
750	30	232	986	1620	2150	2750	3620	4840	6490	8480	10700	13400	16300	19300	22400	25400	27500	29000	29000
800	32	261	1110	1830	2420	3100	4080	5450	7310	9550	12100	15000	18300	21700	25200	28600	31000	32600	32600
900	36	332	1410	2320	3070	3940	5190	6930	9300	12100	15400	19100	23300	27600	32000	36300	39400	41500	41500
1000	40	399	1700	2790	3690	4740	6230	8330	11200	14600	18400	23000	28000	33200	38400	43600	47400	49900	49900
1050	42	457	1940	3200	4230	5430	7140	9540	12800	16700	21100	26300	32000	38000	44000	50000	54200	57100	57100
1200	48	480	2040	3360	4440	5700	7500	10000	13400	17500	22200	27700	33700	39900	46300	52500	57000	60000	60000



**Typical Flow Characteristics**

For control applications a wide variety of actuators and accessories can be provided. At moderate pressure drop conditions, turndown approaching 100 to 1 can be achieved because of the camming action of the disc opening. The disc lifts off the seat very quickly and an equal percentage control curve is produced between 15° to 75°





## ANALYSIS ON VALVE FAILURE

It is directly related to avoidance of any valve failure and extension of the valve life for the users to let the working conditions identical to those set in the applicable range of the valve, the operations correctly done and the maintenance carefully carried out.

See the table below for the common failures:

Failure	Cause analysis	Method of settlement
Leaking outward at The packing	<ol style="list-style-type: none"> <li>1、 The packing is in exceeded use and gets aged.</li> <li>2、 Excessive force is used in operation.</li> <li>3、 The eyelet bolt is not tightened.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Replace the aged and injured packing in time, place the connectors turn by turn and let them 300-500 presented.</li> <li>2、 Use normal even operation and do not use bushing or any other ways.</li> <li>3、 Evenly tighten the bolts used to tightly press the packing.</li> </ol>
Leaking at the sealing Surface	<ol style="list-style-type: none"> <li>1、 The valve installation direction does not conform to the medium flowing direction.</li> <li>2、 Closing is not in place.</li> <li>3、 The sealing surface of a long time closed valve gets scaled.</li> <li>4、 The sealing surface gets seriously injured.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Pay attention to the installation checkup.</li> <li>2、 Make closing in place.</li> <li>3、 Let the valve in crack to have the dirty on the seal flushed out by the high speed fluid.</li> <li>4、 Regrind and thicken the adjusting gasket compensation.</li> </ol>
Leaking at the flange Connection	<ol style="list-style-type: none"> <li>1、 The bolts are unevenly tightened.</li> <li>2、 The gasket gets aged and injured.</li> <li>3、 The gasket material does not conform to the required working condition medium.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Evenly tighten the bolts again.</li> <li>2、 Replace it in time.</li> <li>3、 Use correct gasket material and type in accordance with the working condition requirement and, when necessary, ask the manufacturer for help and note the detailed requirement at order.</li> </ol>
Damage of handle And handwheel	<ol style="list-style-type: none"> <li>1、 Incorrect use.</li> <li>2、 The fastener gets loosened.</li> <li>3、 Damaged connection between the handle, handwheel and stem.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Never use grip wrench, long lever, impacting tools.</li> <li>2、 Repair and fit it in time.</li> <li>3、 Repair it in time.</li> </ol>
Seizure between Worm and gear	<ol style="list-style-type: none"> <li>1、 Dirt gets inlaid to affect the lubrication.</li> <li>2、 Improper operation.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Keep it clean and oil it in a fixed period of time.</li> <li>2、 In case of seizure and a heavy resistance during operation, do not go on operation, or damage would get increased.</li> </ol>
Electric installation Failure	<ol style="list-style-type: none"> <li>1、 Bad lubrication Foreign matters are available inside of the valve to make the torque exceeded and injured.</li> <li>2、 Electric failure.</li> </ol>	<ol style="list-style-type: none"> <li>1、 Do oiling and keep clean to make the oil tube in good condition, let the packing properly pressed and the foreign matters inside of the valve out in time.</li> <li>2、 Do not let the motor working for over 15min and getting wetted, the power supply shall be kept normal.</li> </ol>

## Dscription of installation, use and maintenance

Prior to installation, please carefully check if the valve mark and the certificate conform to the requirements of use and clean the valve after confirming.

The butterfly valve may be set on any position of the equipment pipeline, but shall be vertically set, if it equipped with an actuator. E.g. the actuator shall be set on a position vertical to an horizontal pipeline and beneficial to both operation and checkup.

In the butterfly valve installation, let the medium flowing from the rotating axis of the valve to the sealing surface as can as possible, this is because the forward sealing performance is better than the reversed one.

The connecting bolts between the butterfly valve and the pipeline shall be tightened diagonally several times. Instead of once tightening on one bolt. so as to prevent leaking at the flange connection due to uneven stress.

Turn the handwheel CCW when to open the valve and clock wise when to close it. Turn it in place according to the open-close marks.

At ex-works, the control mechanic travel of the electric butterfly valve has been well adjusted and, to prevent the mistake on the making direction of the power supply, users need to set the valve to the mid-open position by hand before the first time to put through the power supply and check up if the direction of the indicating dial is identical to that in which the valve is opened.

In case of a failure during use of the valve, stop use at once, check out the cause and settle it.

Valve storage: keep the uninstalled and unused valves in a dry room and fitly piled up, instead of outdoors, in order to prevent damage and corrosion. For those to be stored for a long time, measures to clean, dry and coat with anti-rusting oil shall be taken in a fixed period of time and blinds shall be used on both ends of the valve to protect the flange sealing surfaces and to prevent impurities from entering the internal cavity.

Valve shipment: before shipment, first pack the valve upon the requirement in the contract and make sure it conforms to JB2759《General technical conditions for packing electromechanical products》 so as to guarantee it not to get damaged and any parts to be lost during the shipment.

Valve warranty: for any damage caused due to material defect, manufacturing quality, unreasonable design as well as happened during normal use within one year after the valve is put into use but not over 18 months after delivery, warranty is available after such damage is confirmed by our quality inspection sector.



## APPLICATIONS IN MAJOR INDUSTRIES

### PETROCHEMICAL PLANTS

- Brine, Co2 VAPOR
- Propylene Plants
- Steam service
- Oxygen Service
- Hydrogen Gas, Propane Gas
- Flare Inlet and Mandiford Isolation
- Ethylene Plants
- PSA&Molecular Sieves
- Ethylene Crackers
- Coker Plants



### CENTRAL HEATING



- Thermal Power Plant So The Heat Exchange Station
- Regional Boiler Rooms
- The Hot Water Pipe Network
- The Steam Pipe Network

### FOSSIL POWER PLANTS



- Pump Isolation
- Condenser COOLING
- Pump and Steam Extraction Isolation
- Heat Exchanger, Condenser Cooling Isolation

### NUCLEAR POWER PLANTS



- Containment Isolation
- Saltwater Service
- Core Spray System
- Pump Isolation Seawater Desalination System

### PULP AND PAPER



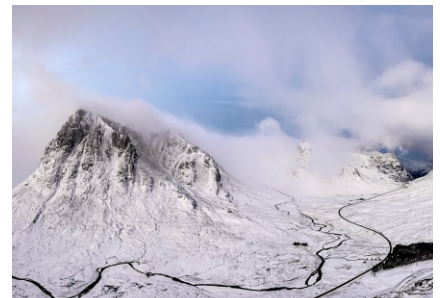
- Steam Isolation, Boiler Water
- Green, Red and Black Liquors
- Oxygen Lines
- Lime and Slurries

### Oil Storage Isolation Steam Supply Valves



- Desulphurization Systems and Tail Gas Treaters
- Flare Gas Hydrogen, Sour Gas Isolation
- Hot Cracking Gas Catalytic Cracker Units

### CRYOGENICS



- All Liquid Gases
- Oil Field Recovery System
- Gasification Plants and Storage
- LNG Ship? @s Service