

**CONCENTRIC DESIGN SOFT SEATED  
BUTTERFLY VALVE**



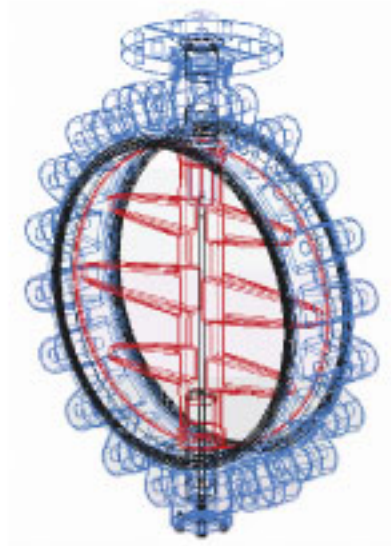
## About FLUCON

A Great experienced team in valve business

Regard product development as a key factor

Ensure Safety of her product

Responsible for the enviroment



**When you buy Butterfly Valves Soft seated,  
What the FLUCON all new designed 22 Series can offer to you?**

CE Approved

Long service

Reduced Torque

Large Capacity for Flow

Wide Range application

Unique helpful Wave Line seat

Unique all time good-looking

Value for money & competitive prices



casting scene



machining center



quality inspection



valve seat installation



Pressure test




### Production Range

Type		Wafer	Lug	Double Flanged
Fig		223	224	240
Picture				
Dimensions		DN50 to DN1400 2" to 56"	DN50 to DN1400 2" to 56"	DN50 to DN1200 2" to 48"
Assembly Between flanges	DN50(2" ) to DN300(12" )	EN1092 PN10, PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 JIS B 2239 10K,16K BS 10 Table D, 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
	DN350(14" ) to DN600(24" )	EN1092 PN10, PN16 ASME B16.1 CLASS125 ASME B16.5 CLASS150 BS10 Table D, 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 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	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℃~200℃ (Depends on seal)	-35℃~200℃ (Depends on seal)	-35℃~200℃ (Depends on seal)




## Difference between Flucon valve and Normal valve


### Flucon Construction



The disc is precisely machined, sealing edge is a polished ball for torque and wear control. two-piece shaft construction enhances the Cv Value and avoids turbulence



By bonding the elastomer to a phenolic backing ring, complete support and stability of the seat is assured. This guarantees positive control of seating torque while eliminating seat distortion.

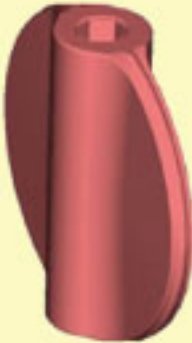


There is a groove inside backing ring, which brings a low torque between the disc and the seat when closing or opening.

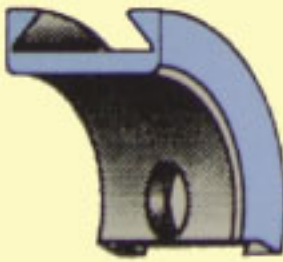


Seating area designed with a wave line of slope, which reduces wear between disc and seat. Sealing could be always kept by adjusting the angle of disc to compensate long time wear between seat and disc. Long life time is enhanced.

### Normal Construction



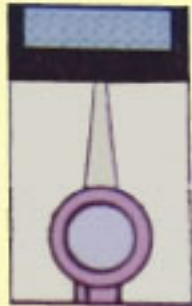
Roughly machined or just made by casting, precise dimensions are not maintained. Thicker center construction results in big Cv Value and turbulence



Simple elastomer "boot" seat has no rigid support, LD. of seating area is severely distorted when seat is installed between flanges. Disc must be opened during installation to prevent binding of disc



No any groove inside backing ring.

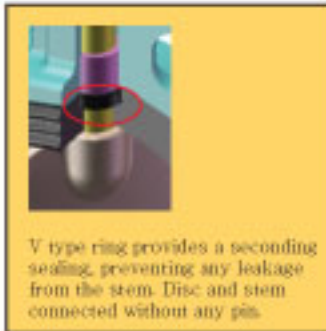
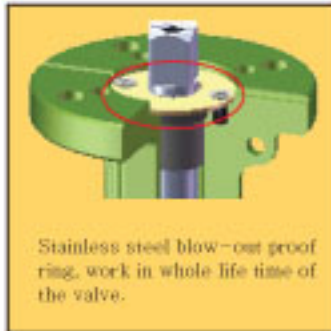


No any wave line, sealing is achieved by strong wear. Shorter life time and valve has to be thrown away if leakage happen because of wear between seat and disc.

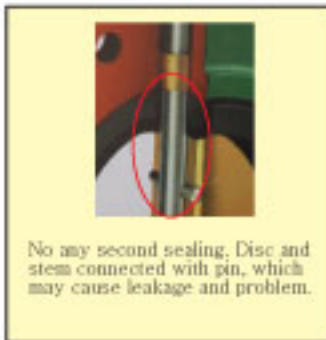
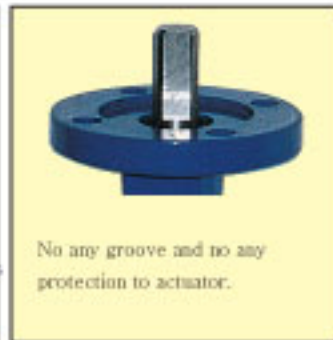
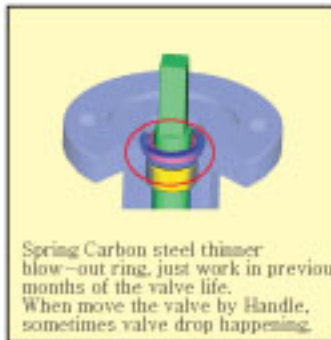


## Difference between Flucon valve and Normal valve

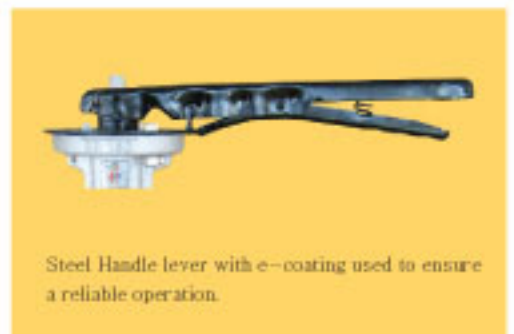
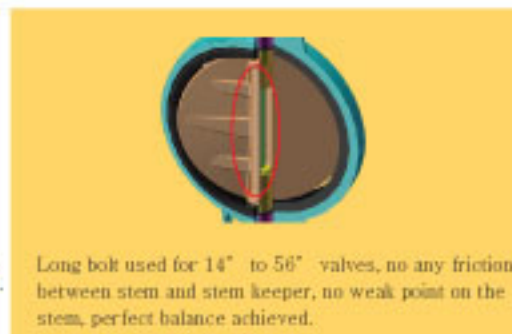
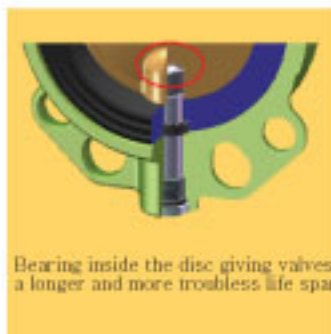
### Flucon Construction



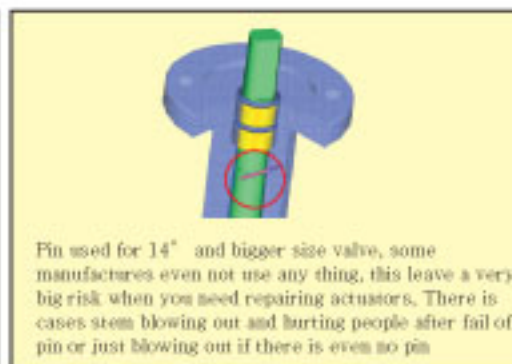
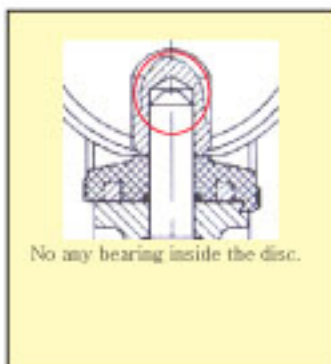
### Normal Construction



### Flucon Construction

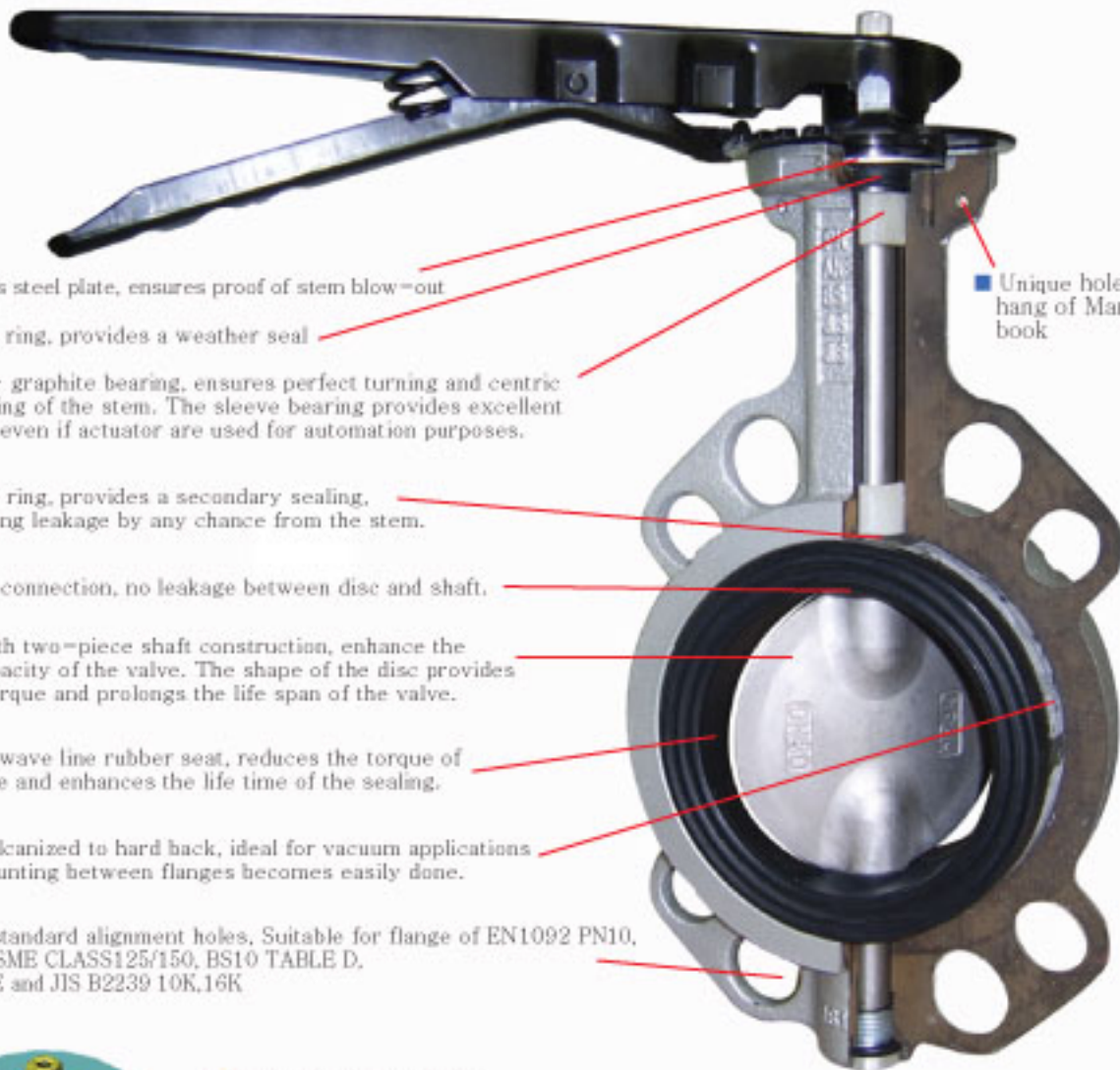


### Normal Construction



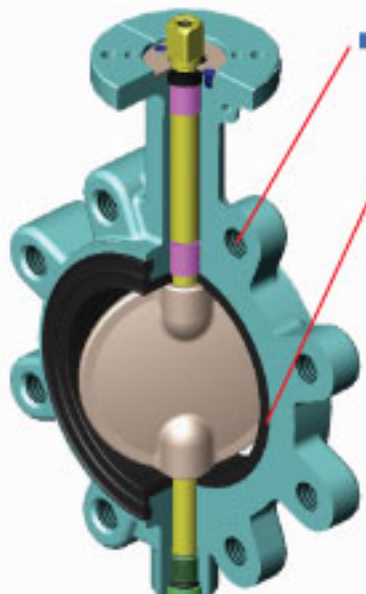


### Construction Features DN50(2") to DN300(12")

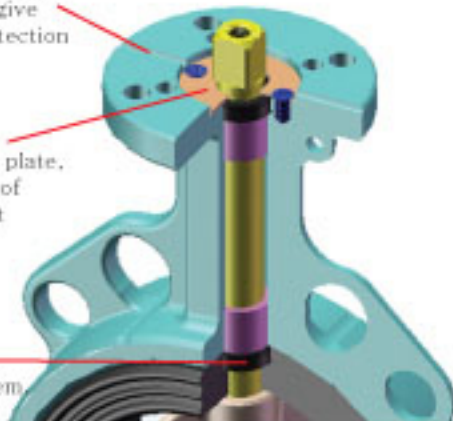


- Stainless steel plate, ensures proof of stem blow-out
- V-type ring, provides a weather seal
- PTFE + graphite bearing, ensures perfect turning and centric positioning of the stem. The sleeve bearing provides excellent support even if actuator are used for automation purposes.
- V-type ring, provides a secondary sealing, preventing leakage by any chance from the stem.
- Pinless connection, no leakage between disc and shaft.
- Disc with two-piece shaft construction, enhance the flow capacity of the valve. The shape of the disc provides lower torque and prolongs the life span of the valve.
- Unique wave line rubber seat, reduces the torque of the valve and enhances the life time of the sealing.
- Seat vulcanized to hard back, ideal for vacuum applications and mounting between flanges becomes easily done.
- Multi-standard alignment holes. Suitable for flange of EN1092 PN10, PN16, ASME CLASS125/150, BS10 TABLE D, TABLE E and JIS B2239 10K,16K

■ Unique hole for hang of Manual book



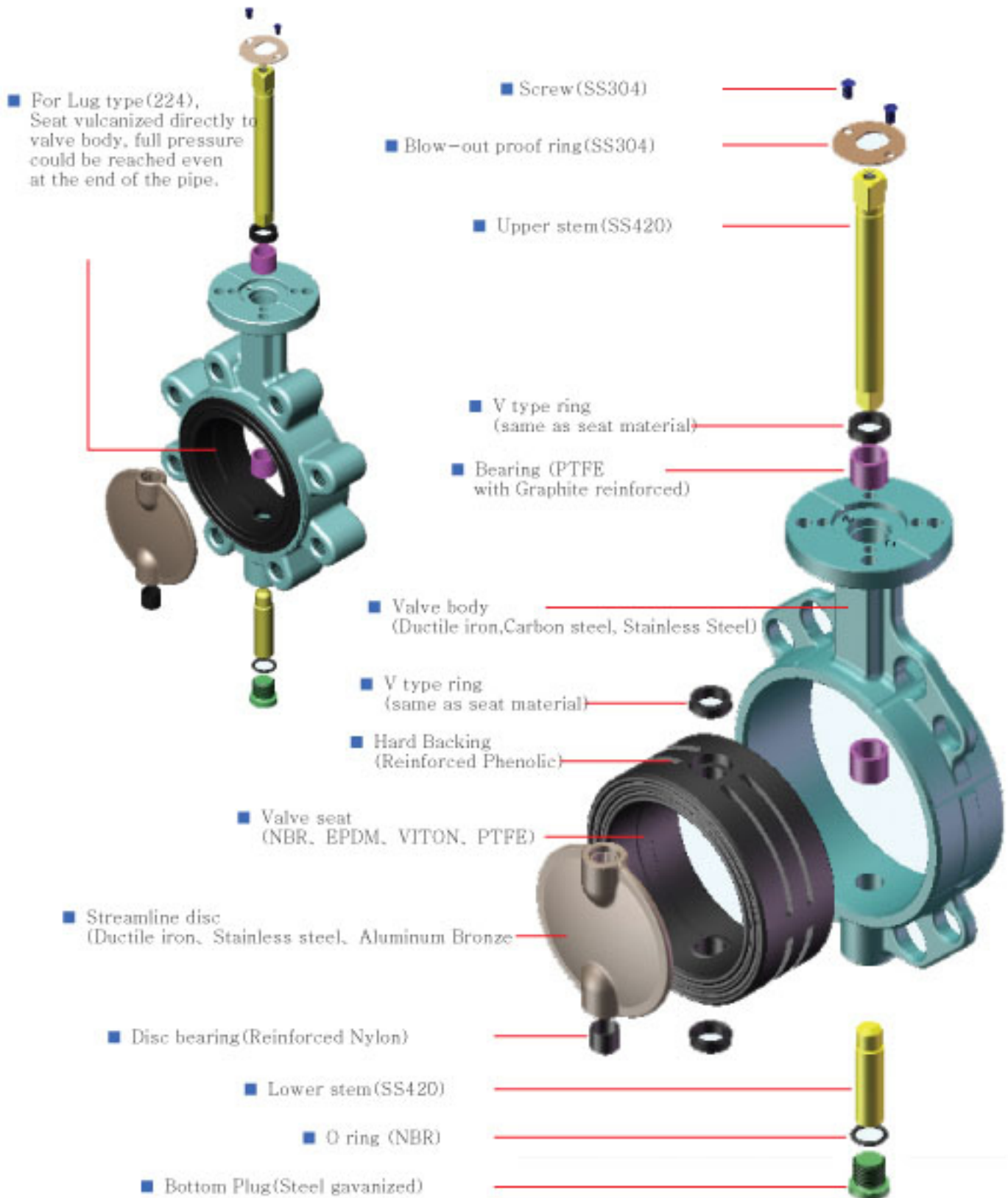
- Thread holes could be drilled according to requirements
- For Lug type (224), Seat vulcanized to valve body, full pressure could be reached even at the end of the pipe.



- Unique groove getting rid of wetness, give a very good protection to actuators
- Stainless steel plate, ensures proof of stem blow-out
- V-type ring, provides a secondary sealing, preventing leakage by any chance from the stem

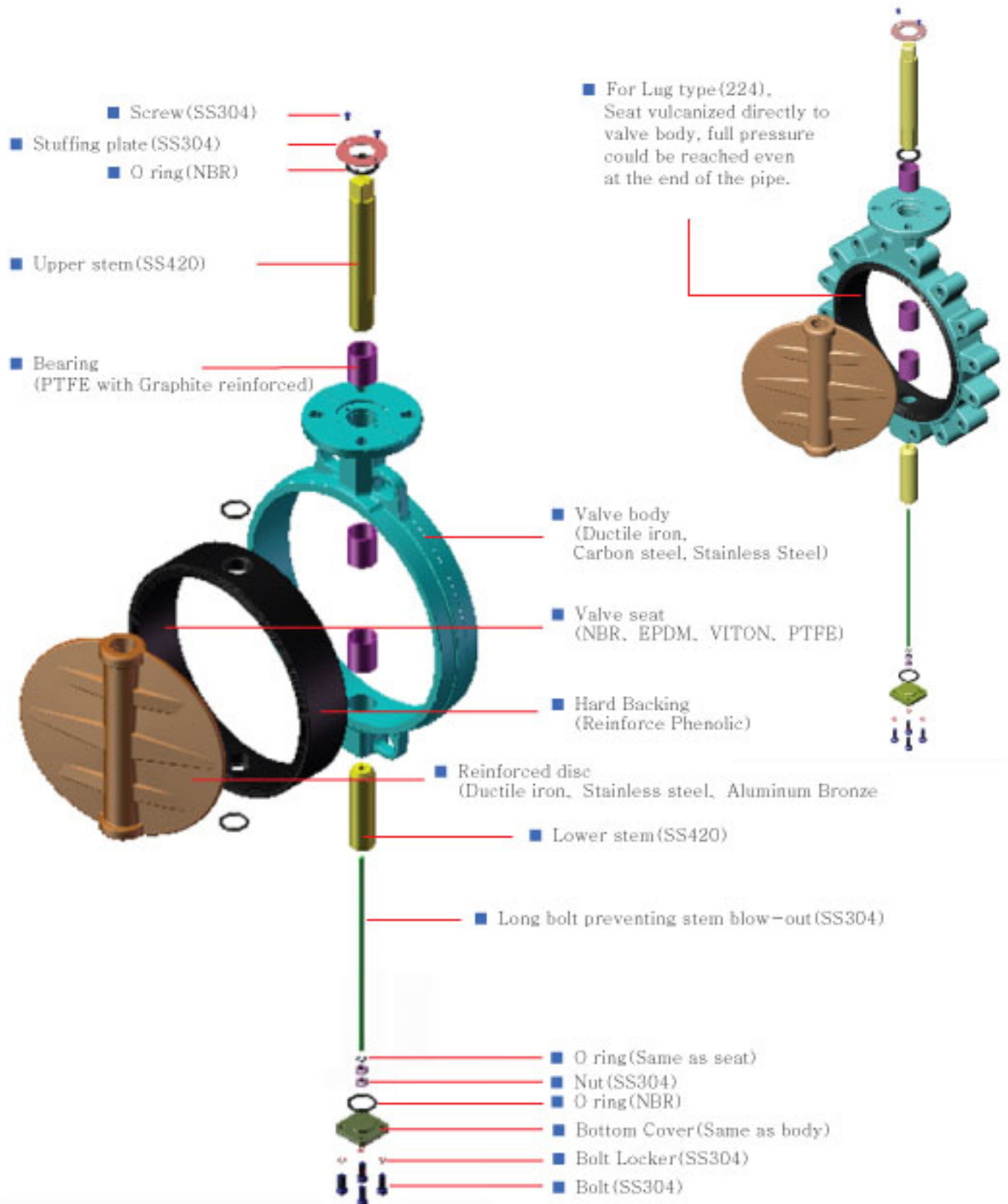


## Valve parts DN50(2") to DN300(12")





## Valve parts DN350(14") to DN1400(56")

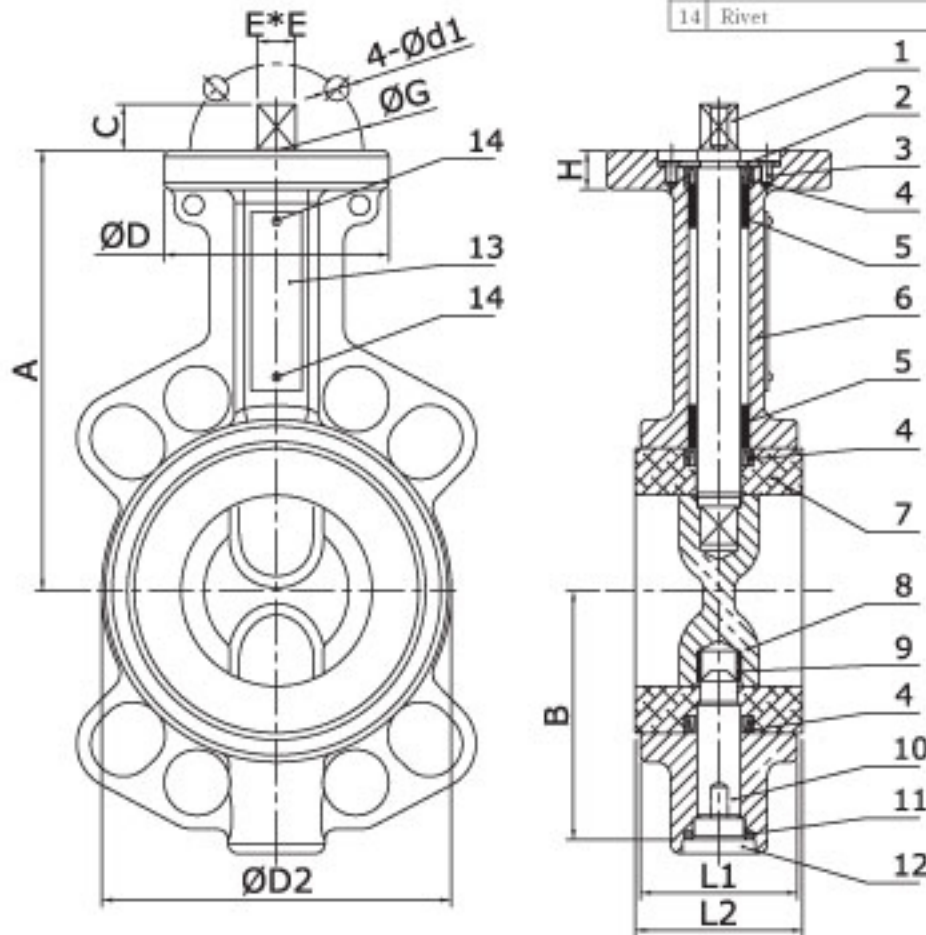




## Dimensions of 223 Valve DN50(2") to DN300(12")

SIZE	A	B	C	E*E	D	D2	G	d1	H	L1	L2
DN50	126	72	13.5	11*11	65	99	50	7	10	43	46
DN65	134	82	13.5	11*11	65	113.4	50	7	10	46	49
DN80	157	95.5	13.5	11*11	65	128.7	50	7	10	46	49
DN100	167	113.5	17.5	14*14	90	156.7	50+70	7+9	13	52	55.6
DN125	180	129	17.5	14*14	90	190.3	70	9	13	56	58.7
DN150	203	142	18.5	17*17	90	213	70	9	13	56	58.7
DN200	228	172	24.5	22*22	125	265.8	102	11	15	60	64.2
DN250	266	213	24.5	22*22	125	324.2	102	11	15	68	72.4
DN300	291	242	26.5	27*27	150	376.8	125	13	15	78	81.5

No.	Part Name	Standard Material
1	Upper stem	SS420
2	Preventing ring	SS304
3	Screw	SS304
4	V type ring	Same as seat
5	Bearing	PTFE Graphite reinforced
6	Body	GGG40 / WCB
7	Seat	NBR, EPDM, VITON, PTFE
8	Disc	SS316
9	Disc bearing	Nylon Reinforced
10	Lower stem	SS420
11	O ring	NBR
12	Plug	Steel Zinc-plated
13	Name plate	SS304
14	Rivet	Copper



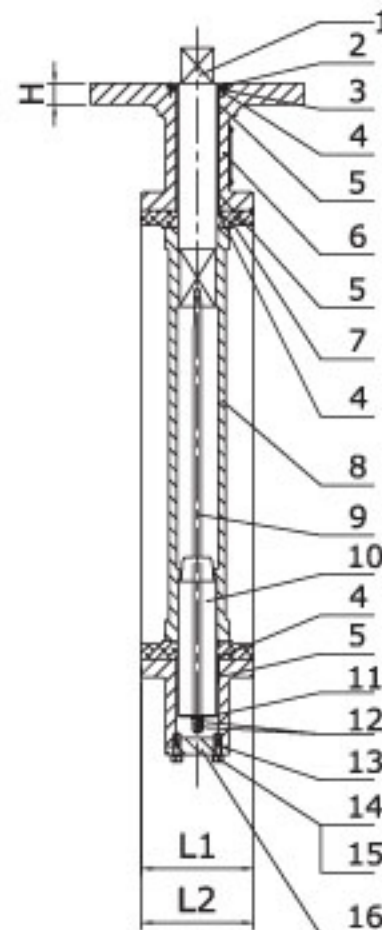
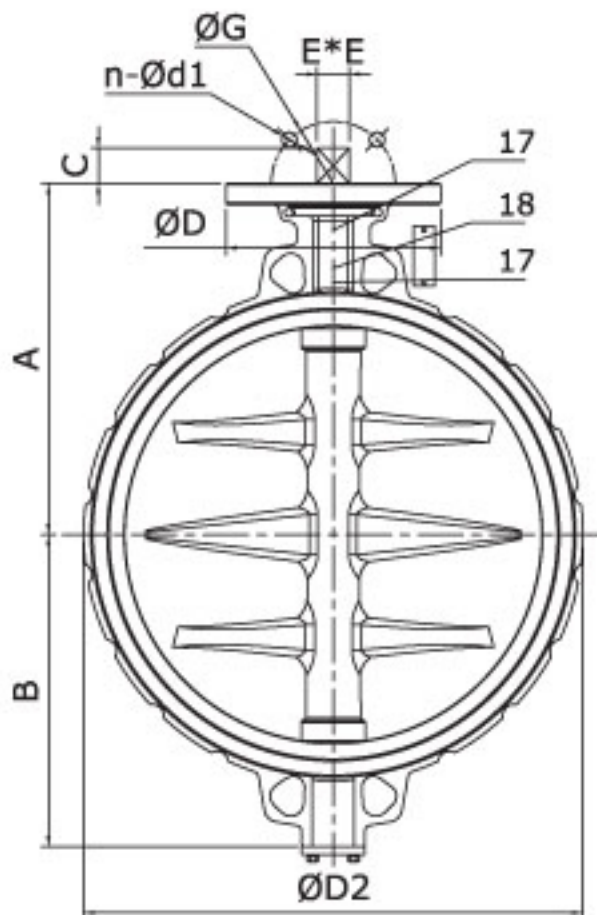
1. Valve design complies with API609, MSS SP-67, BS5155 and EN593 ;
2. Valve face to face conform to EN558 basic series 20(wafer short) and API609 ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10, PN16 . ANSI B16.1 CLASS125, ANSI B16.5 CLASS150 ,  
BS10 TABLE D, TABLE E . JIS B2239 10K, 16K.
6. Valves meet the intent of and have passed AWWA C504-87 Section 5 proof of design tests.

## Dimensions of 223 Valve DN350(14") to DN1400(56")

SIZE	A	B	C	E*E	D	D2	G	n	d1	H	L1	L2
DN350	332	258	30	27*27	175	411.7	125+140	4+4	14+18	19	78	81.4
DN400	363	301.5	30	27*27	175	471.2	125+140	4+4	14+18	20	102	106
DN450	397	333	39	35*36	210	528	140+165	4+4	18+22	25	114	118
DN500	425	378	49	45*46	210	580.4	140+165	4+4	18+22	25	127	131
DN600	498	438	49	45*46	300	687.9	165+254	4+8	22+18	30	154	158.4

Dimensions of DN700(28" ) to DN1400(56" )  
please contact with our technical department if you need.

No.	Part Name	Standard Material
1	Upper stem	SS420
2	Stuffing plate	SS304
3	Screw	SS304
4	O ring	Same as seat
5	Bearing	PTFE Graphite Reinforced
6	Body	GGG40 / WCB
7	Seat	NBR, EPDM, VITON, PTFE
8	Disc	SS316
9	Long bolt	SS304
10	Lower stem	SS420
11	O ring	Same as seat
12	Nut	SS304
13	O ring	NBR
14	Bolt	SS304
15	Locker	SS304
16	Bottom cover	Same as body
17	Rivet	Copper
18	Name plate	SS304



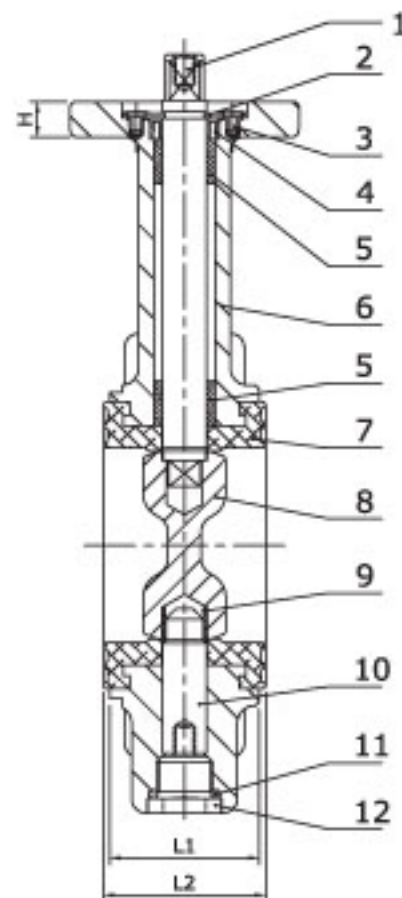
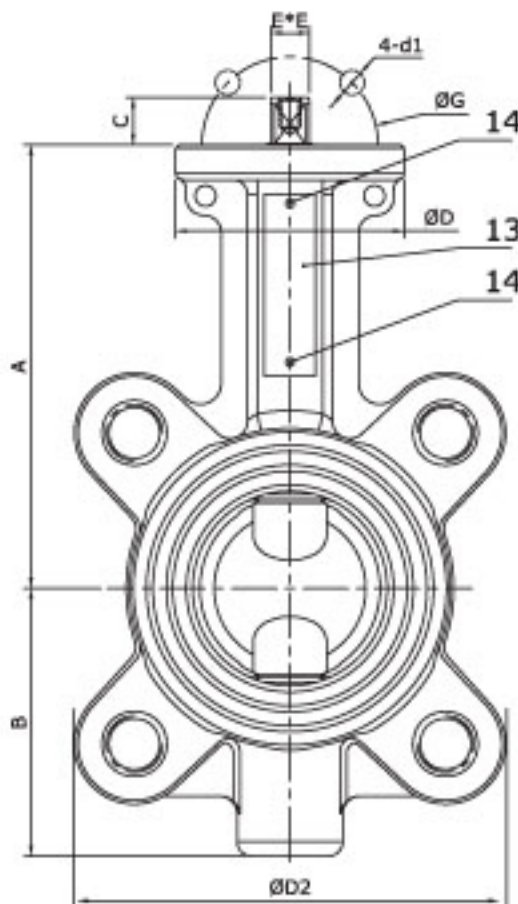
1. Valve design complies with API609, MSS SP-67, BS5155 and EN593 ;
2. Valve face to face conform to EN558 basic series 20(wafer short) and API609 ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10, PN16 , ANSI B16.1 CLASS125, ANSI B16.5 CLASS150 , BS10 TABLE D, TABLE E.
6. Valves meet the intent of and have passed AWWA C504-87 Section 5 proof of design tests.



## Dimensions of 224 Valve DN50(2") to DN300(12")

SIZE	A	B	C	E*E	D	D2	G	d1	H	L1	L2
DN50	126	76	13.5	11*11	65	123	50	7	10	43	46
DN65	134	82	13.5	11*11	65	137	50	7	10	46	49
DN80	157	95.5	13.5	11*11	65	180	50	7	10	46	49
DN100	167	113.5	17.5	14*14	90	199	50+70	7+9	13	52	55.6
DN125	180	129	17.5	14*14	90	226	70	9	13	56	58.7
DN150	203	142	18.5	17*17	90	262	70	9	13	56	58.7
DN200	228	172	24.5	22*22	125	315	102	11	15	60	64.2
DN250	266	213	24.5	22*22	125	380	102	11	15	68	72.4
DN300	291	242	26.5	27*27	150	429	125	13	15	78	81.5

No.	Part Name	Standard Material
1	Upper stem	SS420
2	Preventing ring	SS304
3	Screw	SS304
4	V type ring	Same as seat
5	Bearing	PTFE Graphite reinforced
6	Body	GGG40/ WCB
7	Seat	NBR, EPDM, VITON, PTFE
8	Disc	SS316
9	Disc bearing	Nylon Reinforced
10	Lower stem	SS420
11	O ring	NBR
12	Plug	Steel Zinc-plated
13	Name plate	SS304
14	Rivet	Copper



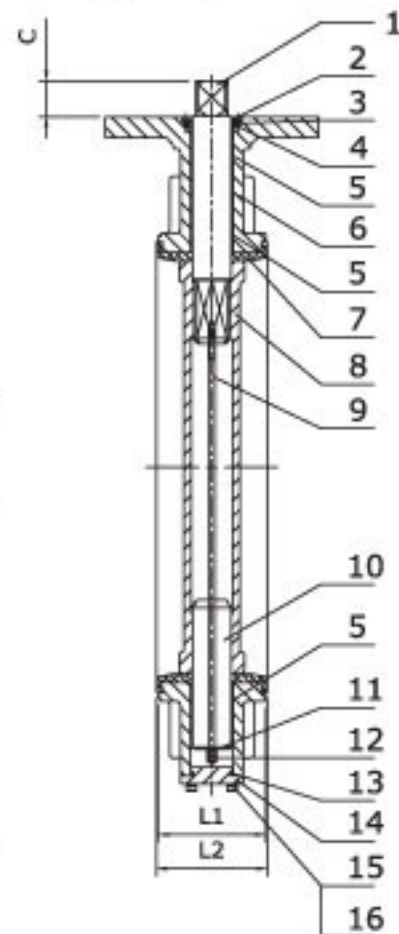
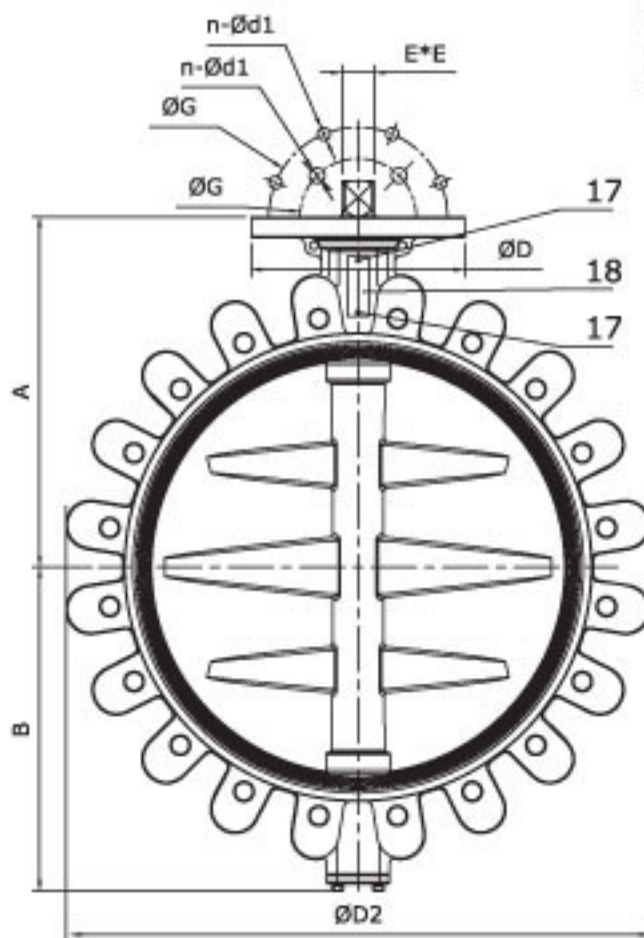
1. Valve design complies with API609, MSS SP-67, BS5155 and EN593 ;
2. Valve face to face conform to EN558 basic series 20(wafer short) and API609 ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10 or PN16 , or ANSI B16.1 CLASS125, ANSI B16.5 CLASS150.
6. Valves meet the intent of and have passed AWWA C504-87 Section 5 proof of design tests.

## Dimensions of 224 Valve DN350(14") to DN1400(56")

SIZE	A	B	C	E*E	D	D2	G	n	d1	H	L1	L2
DN350	332	258	30	27*27	175	493	125+140	4+4	14+18	19	78	81.4
DN400	363	301.5	30	27*27	175	556	125+140	4+4	14+18	20	102	106
DN450	397	333	39	36*36	210	637	140+165	4+4	18+22	25	114	118
DN500	425	378	49	46*46	210	705	140+165	4+4	18+22	25	127	131
DN600	498	438	49	46*46	300	831	165+254	4+8	22+18	30	154	158.4

Dimensions of DN700(28" ) to DN1400(56" )  
please contact with our technical department if you need.

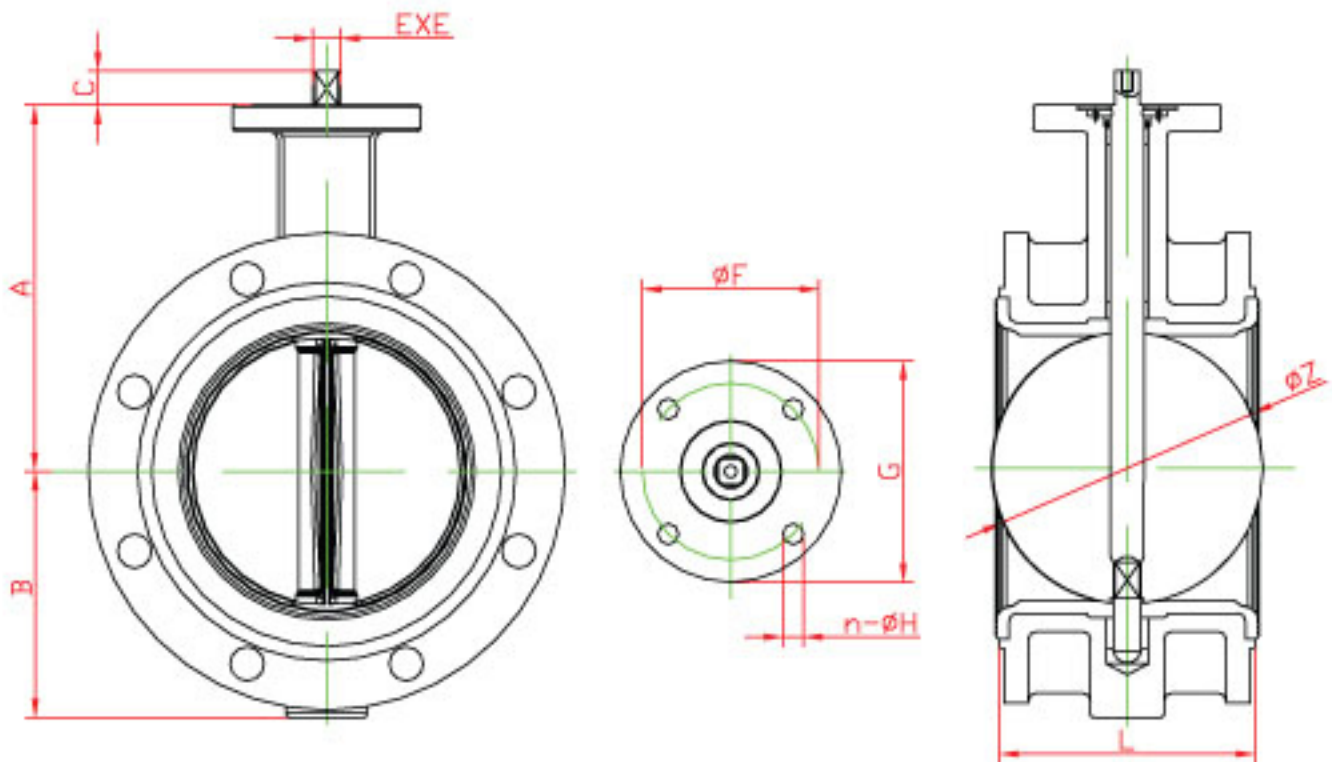
No.	Part Name	Standar Material
1	Upper stem	SS420
2	Stuffing plate	SS304
3	Screw	SS304
4	O ring	Same as seat
5	Bearing	PTFE Graphite Reinforced
6	Body	GGG40 / WCB
7	Seat	NBR,EPDM,VITON,PTFE
8	Disc	SS316
9	Long bolt	SS304
10	Lower stem	SS420
11	O ring	Same as seat
12	Nut	SS304
13	O ring	NBR
14	Bottom cover	Same as body
15	Bolt	SS304
16	Locker	SS304
17	Rivet	Copper
18	Name plate	SS304



1. Valve design complies with API609, MSS SP-67, BS5155 and EN593 ;
2. Valve face to face conform to EN558 basic series 20(wafer short) and API609 ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10 or PN16 , or ANSI B16.1 CLASS125, ANSI B16.5 CLASS150.
6. Valves meet the intent of and have passed AWWA C504-87 Section 5 proof of design tests.



### Dimensions of 240 Valve DN50(2") to DN300(12")



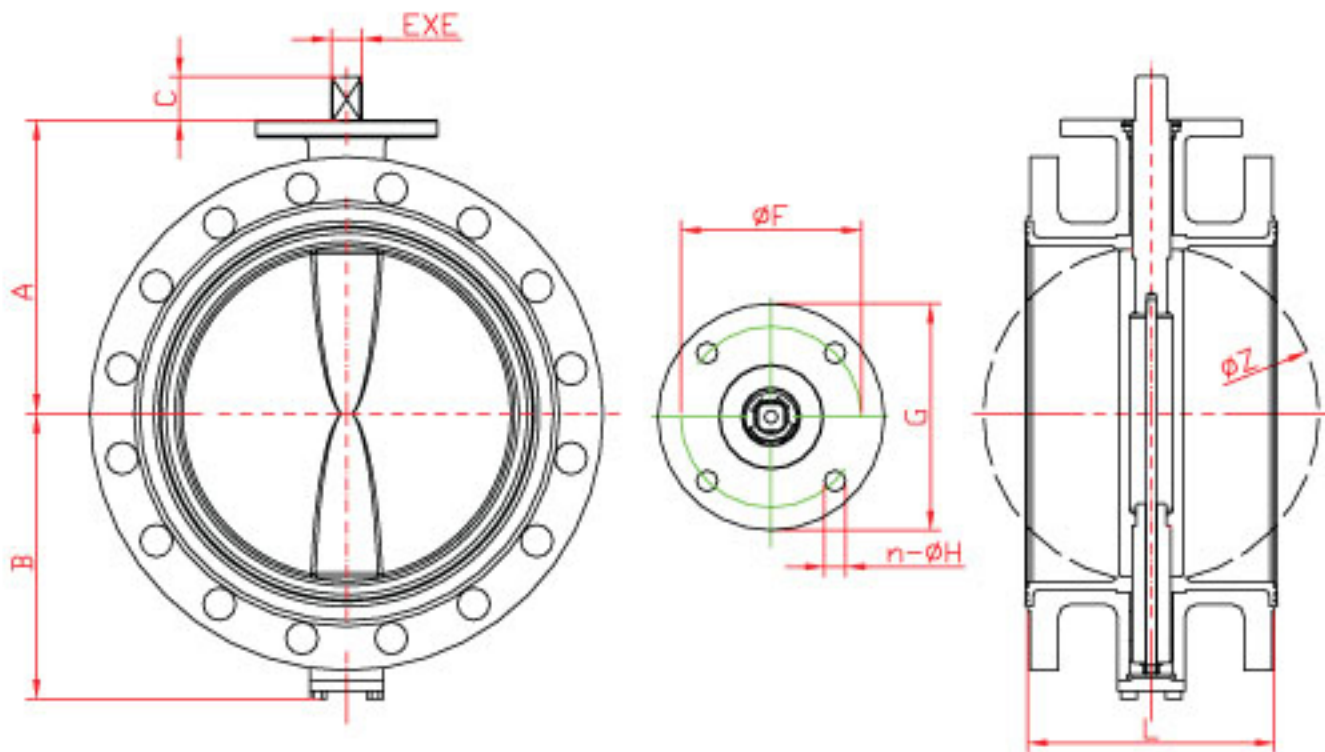
SIZE	A	B	C	E	F	G	n-H	L	Z
DN50	142	80	13.5	11	70	90	4-10	108	53
DN65	155	89	13.5	11	70	90	4-10	112	65
DN80	161	95	13.5	11	70	90	4-10	114	79
DN100	180	114	17.5	14	70	90	4-10	127	104
DN125	193	127	17.5	14	70	90	4-10	140	124
DN150	205	139	18.5	17	70	90	4-10	140	156
DN200	250	175	24.5	22	102	125	4-12	152	203
DN250	282	203	24.5	22	102	125	4-12	165	251
DN300	326	242	27	27	102	125	4-12	178	302

No.	Part	Material	Standard
1	Body	DI	GGG40
2	Disc	SS	CF8M
3	Seat	EPDM	
4	Shaft	SS	SS420

1. Valve design complies with API609, MSS SP-67, BS5155 and EN593 ;
2. Valve face to face conform to EN558 basic series 13 (Double flanged short) ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10 or PN16 , or ANSI B16.1 CLASS125, ANSI B16.5 CLASS150.
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## Dimensions of 240 Valve DN350(14") to DN1400(56")

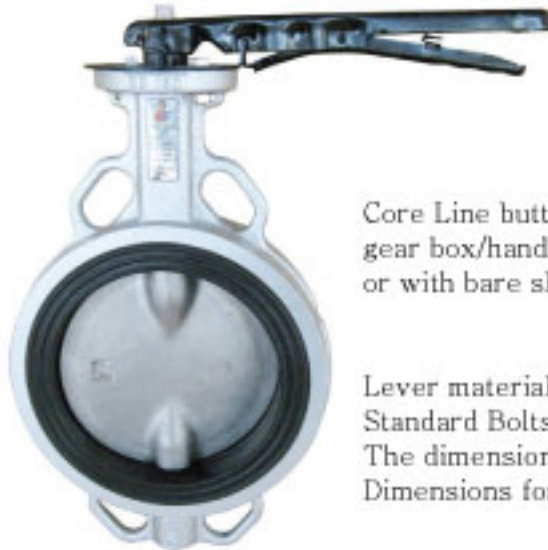


Dimensions of DN700(28" ) to DN1400(56" ) please contact with our technical department if you need.

Size	A	B	C	E	F	G	n-H	L	Z	No.	Part	Material	Standard
DN350	358	267	24.5	22	102	125	4-12	190	334	1	Body	DI	GGG40
DN400	380	301	30	27	140	175	4-18	216	390	2	Disc	SS	CF8M
DN450	422	381	30	27	140	175	4-18	222	441	3	Seat	EPDM	
DN500	479	387	39	36	140	175	4-18	229	492	4	Shaft	SS	SS431
DN600	562	457	39	36	165	210	4-23	267	593				

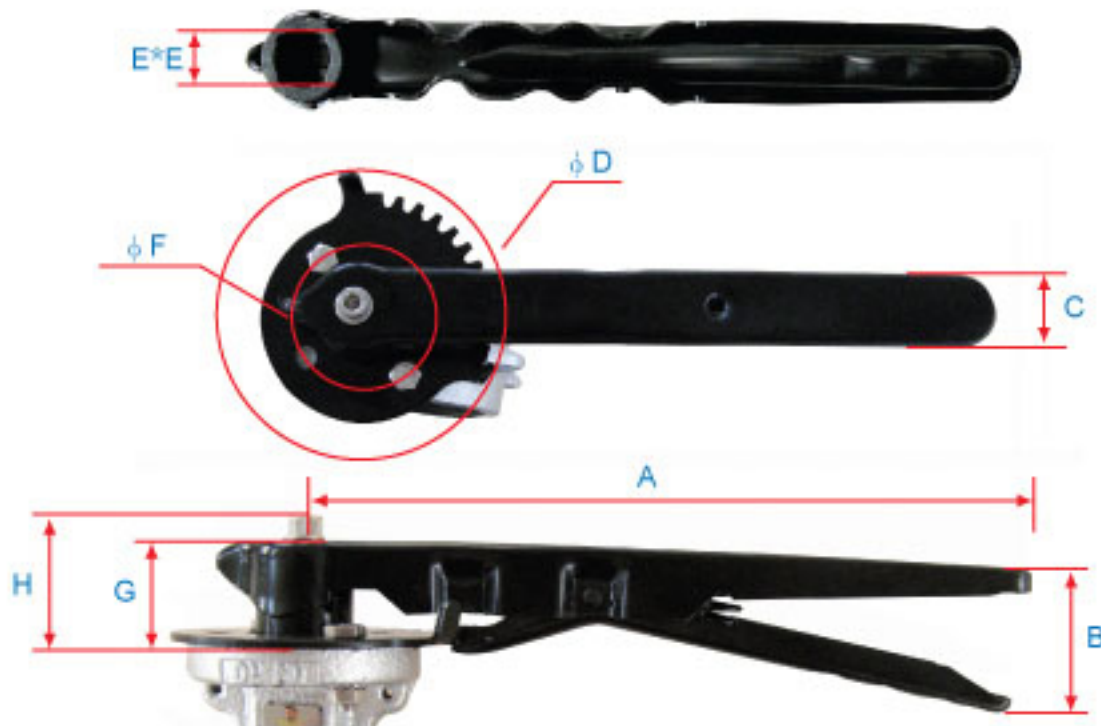
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2. Valve face to face conform to EN558 basic series 13 (Double flanged short) ;
3. Valve inspection according to API598 ;
4. Top flange compatible with ISO5211, actuator can be mounted parallel or perpendicular to the pipe line ;
5. Suitable between flanges : EN1092 PN10 or PN16 , or ANSI B16.1 CLASS125, ANSI B16.5 CLASS150.
6. Valves meet the intent of and have passed AWWA C504-87 Section 5 proof of design tests.

## Dimensions of Handlever operator



Core Line butterfly valves can be supplied for operation by lever, gear box/hand wheel, pneumatic or electric actuator, or with bare shaft for fitting with customer's own operating mechanism.

Lever material could be steel by e-coating, Aluminum Alloy or stainless steel. Standard Bolts and nuts for the lever are SS304. The dimensions valid for type 223 and 224 Steel and SS lever. Dimensions for Aluminum Please contact with us when needed.



Unit:mm

Size	A	B	C	D	E	F	G	H	Qty of Bolt	Size of Bolt
DN50-80	220	70	25	90	11	50	29.5	37.5	2	M6×20
DN100-125	260	52	30	120	14	70	31.5	40.5	2	M8×25
DN150	260	52	30	120	17	70	31.5	40.5	2	M8×25
DN200-250	370	75	30	180	22	102	38	47	2	M10×30



### Dimensions of DN50-DN300 Gear box operator

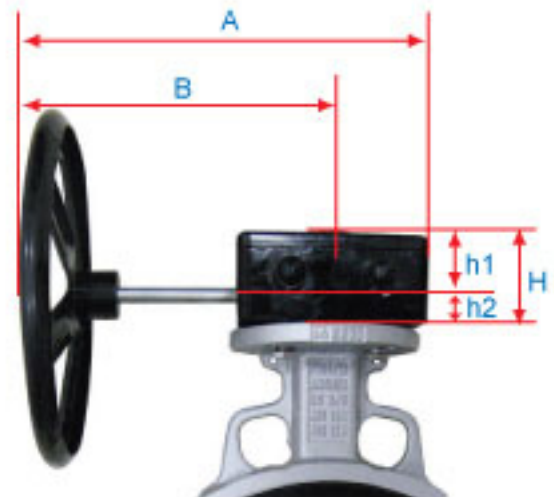
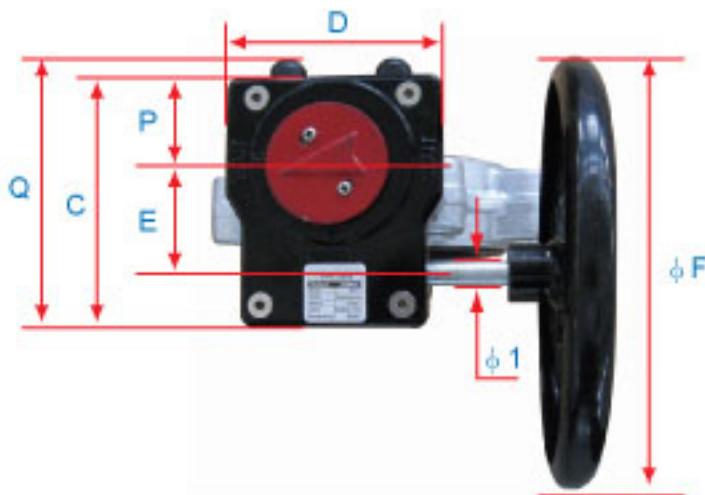
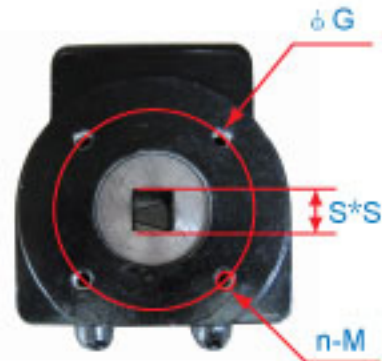


Aluminum alloy housing, steel input shaft & worm gear, ductile iron output gear segment. The enclosure is weatherproof and units are normally provided with a handwheel.

Adjustable end of travel stops are standard and factory set when the gearbox is factory mounted.

Standard Bolts and nuts for the gearbox are SS304.

The dimensions is valid for 223 and 224 series valves.



Unit : mm

Size	Ratio	A	B	C	D	E	F	G	H	h1	h2	n	M	φ1	P	Q	S*S	Qty of Bolt	Size of Bolt
DN50-80	40:1	148	108	98	80	42.5	120	50	48	26	22	4	M6	12	50	112	11*11	4	M6×20
DN100-125	37:1	169	119	115	100	50	200	70	55	27	28	4	M8	12	55	130	14*14	4	M8×25
DN150	37:1	169	119	115	100	50	200	70	55	27	28	4	M8	12	55	130	17*17	4	M8×25
DN200-250	45:1	296	223	155	146	60	300	102	71	38	33	4	M10	15	80	176	22*22	4	M10×30
DN300	45:1	296	223	155	146	60	300	125	71	38	33	4	M10	15	80	176	27*27	4	M10×30

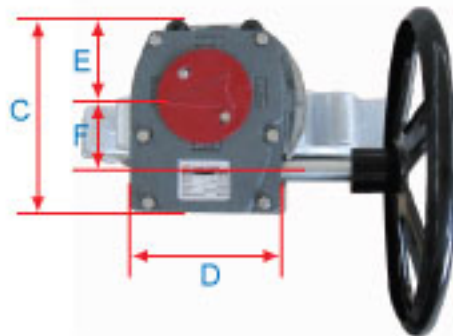
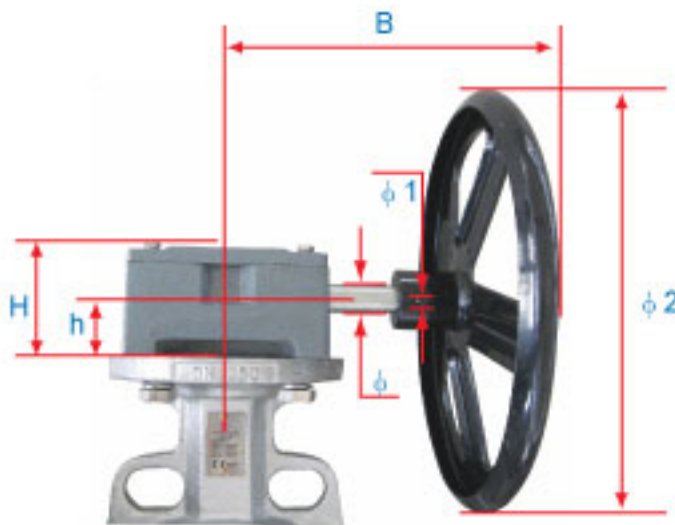
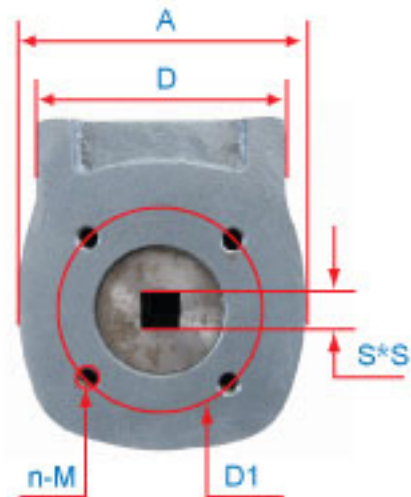




### Dimensions of DN350-DN600 Gear box operator



Ductile iron housing, steel input shaft & worm gear, ductile iron output gear segment. The enclosure is weatherproof and units are normally provided with a handwheel. Adjustable end of travel stops are standard and factory set when the gearbox is factory mounted. Standard Bolts and nuts for the gearbox are SS304. The dimensions are valid for 223 and 224 series valves.



Unit: mm

Size	Ratio	D1	n-M	Φ	A	Φ1	B	C	D	H	h	E	F	S×S	Φ2	Qty of Bolt	Size of Bolt
DN350	42:1	140	4-M16	20	150	6	168	157	136	81	42	52	67	27×27	300	4	M16×40
DN400	60:1	140	4-M16	20	198	6	185	217	184	98	50	86	90	27×27	300	4	M16×40
DN450	68:1	140	4-M16	30	252	8	250	292	248	105	50	114	123	36×36	400	4	M16×45
DN500	68:1	165	4-M20	30	252	8	250	292	248	105	50	114	123	46×46	400	4	M20×45
DN600	88:1	254	8-M16	30	315	8	275	326	313	127	50	117	153	46×46	500	8	M16×55



Valve Weight information (KG)

SIZE		Fig. 223	Fig. 224
2	50	2	3
2 1/2	65	2.5	3.8
3	80	3.3	5.1
4	100	4.9	7.2
5	125	6.4	8.9
6	150	7.7	13.5
8	200	12.2	17
10	250	18.5	27
12	300	25.9	35.8
14	350	41	51.7
16	400	58.1	78
18	450	81.6	117
20	500	101.8	173
24	600	173.1	247

### Material available for main parts

Body	Disc	Seat	Seat Temp. limit	Stem
GGG40	Ductile iron Nickle plated	NBR	-20℃~+85℃	SS420
GGG40.3	Ductile Nylon coated(-20℃~+160℃)	EPDM	-30℃~+145℃	SS431
GG25	Ductile iron PTFE coated(-40℃~+200℃)	VITON	-20℃~+200℃	SS304
Carbon steel	Stainless steel	PTFE	-40℃~+150℃	SS316
Stainless steel	Alloy Steel	Silicon Rubber	-60℃~+200℃	17-4PHSS
	Dual phase steel	Nature Rubber	-50℃~+70℃	Monel
	Aluminum Bronze	CR	-40℃~+120℃	
	Ti Alloy	CSM	-30℃~+130℃	



### Valve seating torques (NM)

SIZE		Maximum differential pressure (bar)				
		3.5	7	10	14	16
2	50	7	7	8	8	8
2 1/2	65	11	11	12	13	13
3	80	14	15	17	18	19
4	100	21	22	24	27	28
5	125	32	35	39	44	47
6	150	45	49	55	63	67
8	200	82	91	104	122	131
10	250	134	151	175	208	224
12	300	192	215	251	298	321
14	350	379	399	471	568	616
16	400	525	552	659	803	875
18	450	700	737	891	1095	1197
20	500	911	959	1169	1450	1590
24	600	1444	1520	1884	2368	2611

All torque values shown on the chart are for "wet" (water and other non-lubricating media) on-off service. For "dry" service (non-lubricating, dry gas media), multiply the above torques by 1.25. Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing Valve systems hydrodynamic torque must be considered to help ensure correct

### Kv values – valve sizing Coefficients (M<sup>3</sup>/H AT 1BAR Δ P)

SIZE		OPENIGN ANGLE								
		10°	20°	30°	40°	50°	60°	70°	80°	90°
2	50		0.9	4.7	13.7	29.1	47.1	71.1	97.7	107.1
2 1/2	65		2.3	11.1	26.6	49.7	77.1	121.7	170.5	212.5
3	80		6	28	54	91	140	213	301	404
4	100		14	57	108	175	262	404	594	799
5	125		27	84	156	248	385	624	954	1239
6	150	7	51	129	224	363	572	977	1535	1929
8	200	22	114	229	401	639	1018	1755	2880	3484
10	250	33	171	334	634	970	1530	2650	4403	5753
12	300	49	250	490	925	1416	2231	3865	6641	8828
14	350	118	301	631	1131	1918	3081	4963	8884	10308
16	400	153	393	824	1478	2506	4024	6482	11603	13464
18	450	195	498	1043	1871	3170	5093	8210	14686	17041
20	500	240	615	1288	2309	3913	6287	10128	18130	21038
24	600	345	885	1853	3326	5635	9054	14584	26109	30295

90° = Fully open.