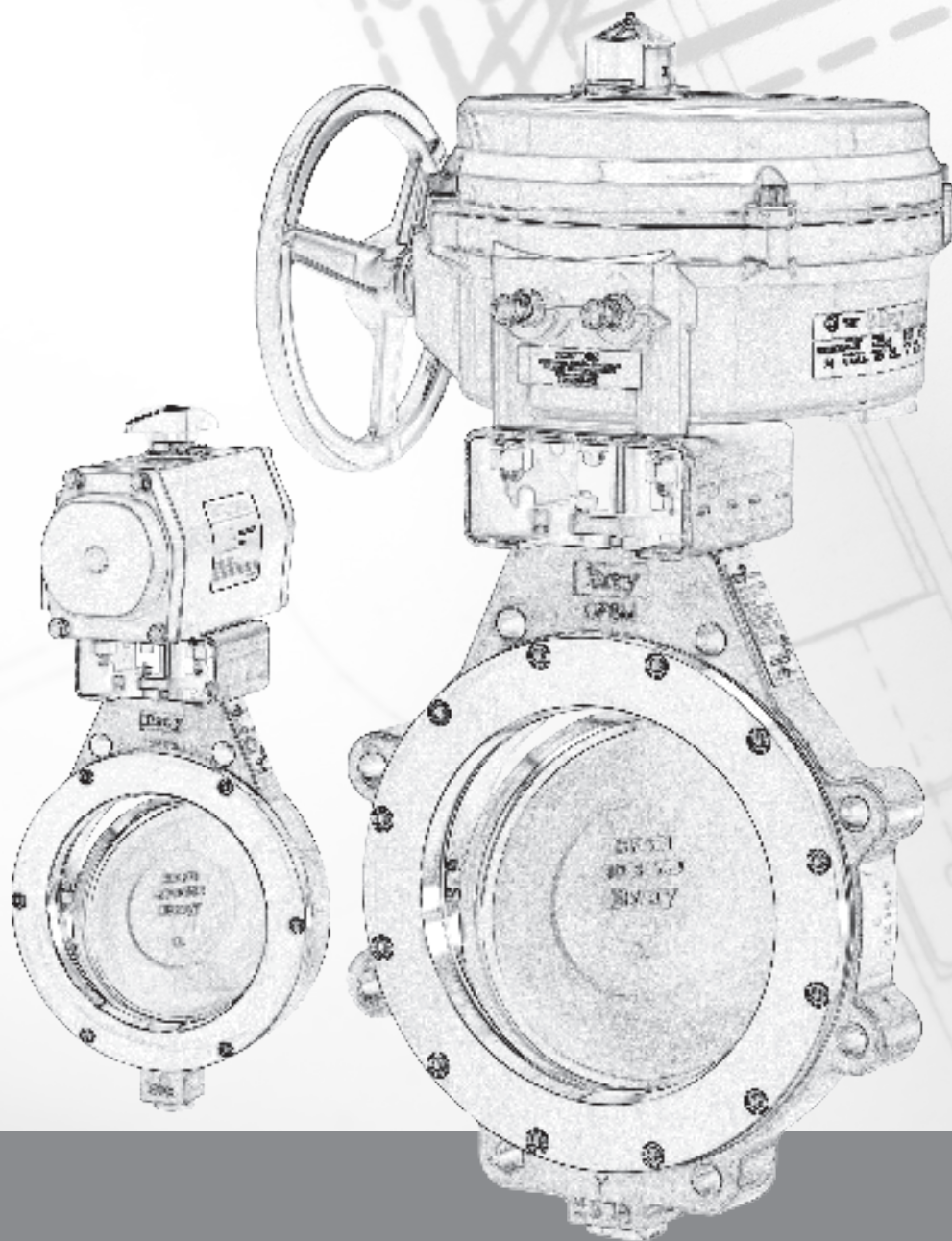


DOUBLE OFFSET BUTTERFLY VALVES SALES REFERENCE DRAWINGS

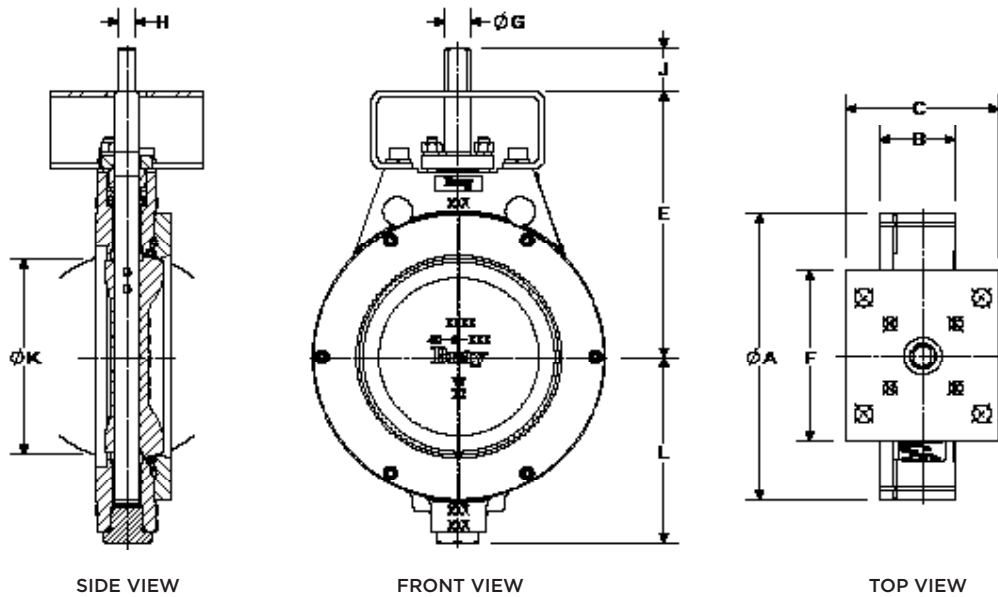


 **Bray**[®]

BRAY.COM

THE HIGH PERFORMANCE COMPANY

SERIES	TYPE	SIZE RANGE	FLANGE ACCOMODATION
Series 40	Wafer	DN50 - 300	PN10/16
Series 40	Wafer	DN350 - 1400	PN10/16
Series 41	Lug	DN50 - 300	PN10/16
Series 41	Lug	DN350 - 1400	PN10/16
Series 42	Wafer	DN50 - 300	PN25/40
Series 42	Wafer	DN350 - 1200	PN25/40
Series 43	Lug	DN65 - 300	PN25/40
Series 43	Lug	DN350 - 1200	PN25/40
Series 44	Wafer	DN80 - 900	PN63/100
Series 45	Lug	DN80 - 900	PN63/100
Series 4A	Double Flanged	DN80 - 900	PN10/16
Series 4B	Double Flanged	DN80 - 500	PN25/40



FLANGE ACCOMMODATION*

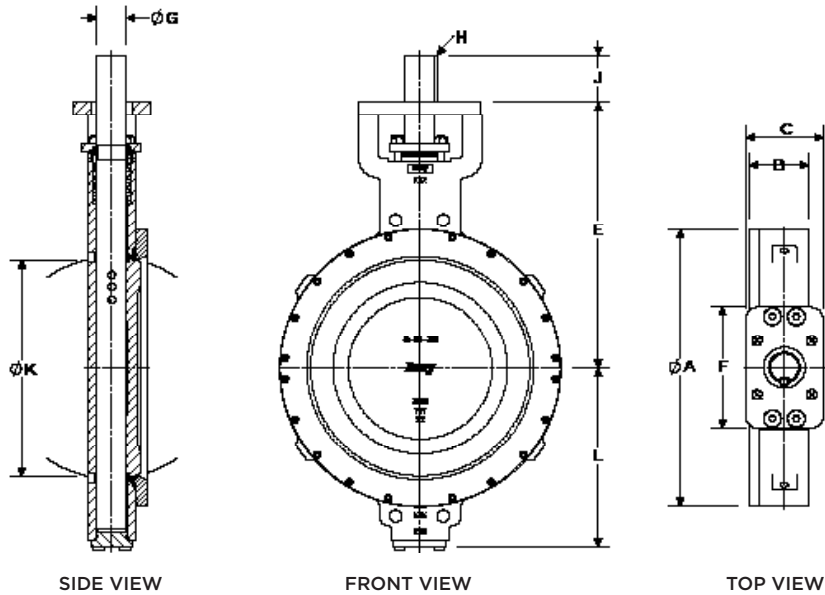
DN	PN 10			PN 16		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
50	125	4	M16	125	4	M16
65	145	4	M16	145	4	M16
80	160	8	M16	160	8	M16
100	180	8	M16	180	8	M16
125	210	8	M16	210	8	M16
150	240	8	M20	240	8	M20
200	295	8	M20	295	12	M20
250	350	12	M20	355	12	M24
300	400	12	M20	410	12	M24

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
50	102	44	64	152	111	14	10	70	4	10.0	32	38	92	5.0
65	121	48	64	162	111	16	11	70	4	10.0	32	58	97	6.0
80	133	48	64	168	111	16	11	70	4	10.0	32	73	104	7.0
100	171	52	64	191	111	16	11	70	4	10.0	32	94	120	9.0
125	191	57	114	191	130	19	13	70	4	10.0	32	122	129	12.0
150	219	57	114	203	130	19	13	70	4	10.0	32	149	141	15.0
200	273	61	114	241	130	22	16	125	4	14.0	32	198	176	21.0
250	332	70	114	273	155	30	22	125	4	14.0	51	248	217	36.0
300	394	78	114	311	155	30	22	125	4	14.0	51	298	259	56.0

Note:
Ø K is disc chordal dimension at face of valve.



FLANGE ACCOMMODATION*

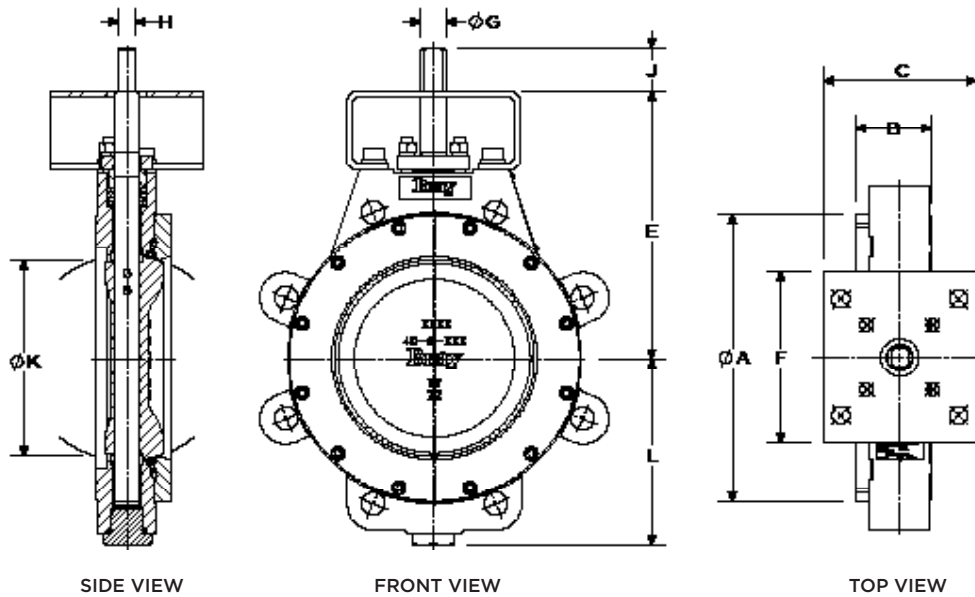
DN	PN 10			PN 16		
	Bolt Circle \varnothing	No of Holes	Threads	Bolt Circle \varnothing	No of Holes	Threads
350	460	16	M20	470	16	M24
400	515	16	M24	525	16	M27
450	565	20	M24	585	20	M27
500	620	20	M24	650	20	M30
600	725	20	M27	840	20	M33
700	895	24	M27	910	24	M33
800	1015	24	M30	1025	24	M36
900	1115	28	M30	1125	28	M36
1000 to 1400	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	$\varnothing G$	H Key Size [mm]	Top Plate Drilling			J	$\varnothing K$	L	Weight (Kg)
								Bolt circle \varnothing	No of Holes	Hole \varnothing				
350	445	95	165	368	197	35	10x10	125	4	14.0	51	328	304	94.0
400	503	104	165	451	264	50	12x10	165	4	21.0	64	373	329	142.0
450	544	117	165	508	264	50	12x10	165	4	21.0	64	422	359	182.0
500	601	128	165	578	264	64	16x16	165	4	21.0	102	470	388	239.0
600	711	152	298	635	391	76	19x19	254	8	17.0	102	572	463	369.0
700	823	165	298	679	391	76	19x19	254	8	17.0	133	672	522	506.0
800	956	191	343	762	495	89	22x16	298	8	21.0	133	767	568	748.0
900	1033	210	343	838	495	89	22x16	298	8	21.0	133	864	642	889.0
1000 to 1400	Consult Factory													

Note:
 $\varnothing K$ is disc chordal dimension at face of valve.


FLANGE ACCOMMODATION*

DN	PN 10			PN 16		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
50	125	4	M16	125	4	M16
65	145	4	M16	145	4	M16
80	160	8	M16	160	8	M16
100	180	8	M16	180	8	M16
125	210	8	M16	210	8	M16
150	240	8	M20	240	8	M20
200	295	8	M20	295	12	M20
250	350	12	M20	355	12	M24
300	400	12	M20	410	12	M24

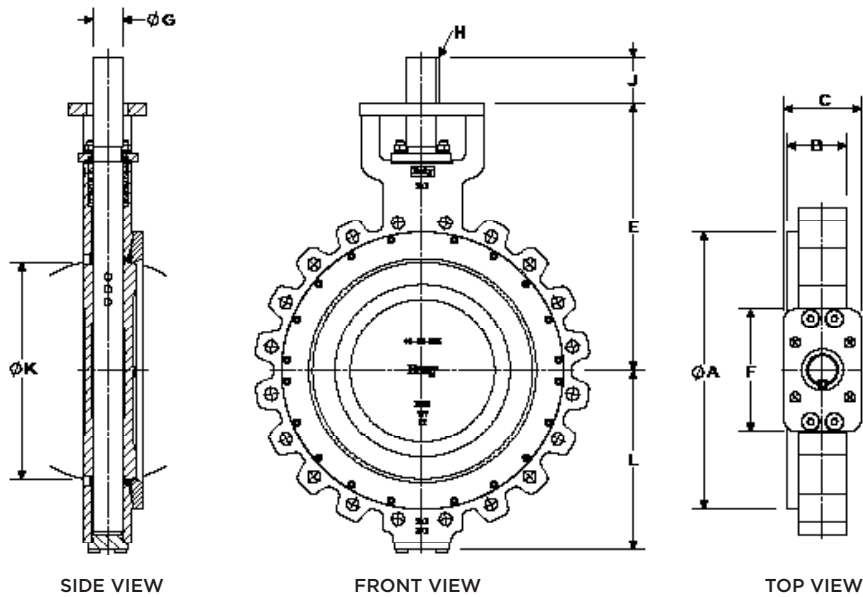
*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
50	102	44	64	152	111	14	10	70	4	10.0	32	38	92	5.0
65	121	48	64	162	111	16	11	70	4	10.0	32	58	97	6.0
80	133	48	64	168	111	16	11	70	4	10.0	32	73	104	7.0
100	171	52	64	191	111	16	11	70	4	10.0	32	94	120	10.0
125	191	57	114	191	130	19	13	70	4	10.0	32	122	129	15.0
150	219	57	114	203	130	19	13	70	4	10.0	32	149	141	21.0
200	273	61	114	241	130	22	16	125	4	14.0	32	198	176	24.0
250	332	70	114	273	155	30	22	125	4	14.0	51	248	217	43.0
300	394	78	114	311	155	30	22	125	4	14.0	51	298	259	62.0

Note:

Ø K is disc chordal dimension at face of valve.



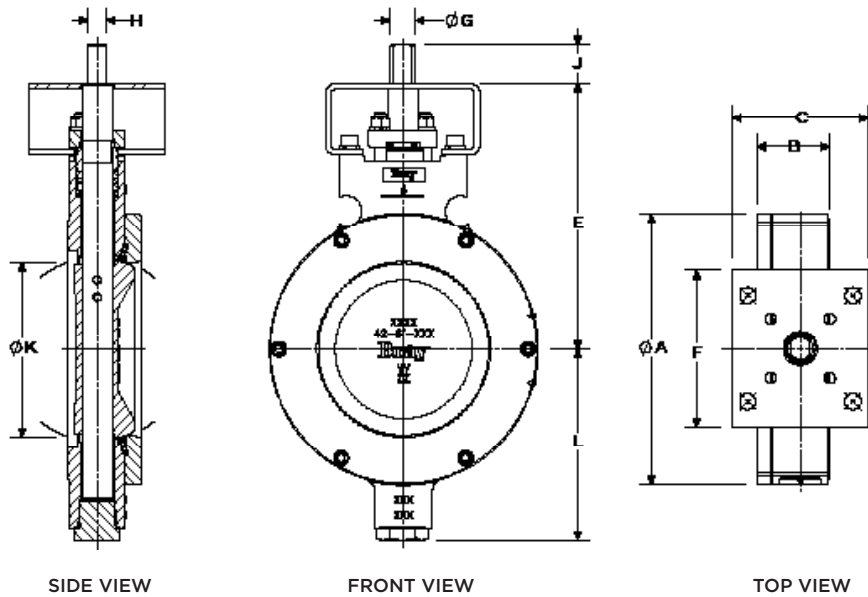
FLANGE ACCOMMODATION*						
DN	PN 10			PN 16		
	Bolt Circle ϕ	No of Holes	Threads	Bolt Circle ϕ	No of Holes	Threads
350	460	16	M20	470	16	M24
400	515	16	M24	525	16	M27
450	565	20	M24	585	20	M27
500	620	20	M24	650	20	M30
600	725	20	M27	840	20	M33
700	895	24	M27	910	24	M33
800	1015	24	M30	1025	24	M36
900	1115	28	M30	1125	28	M36
1000 to 1400	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	ϕG	H Key Size [mm]	Top Plate Drilling			J	ϕK	L	Weight (Kg)
								Bolt circle ϕ	No of Holes	Hole ϕ				
350	445	95	165	368	197	35	10x10	125	4	14.0	51	328	304	103.0
400	503	104	165	451	264	50	12x10	165	4	21.0	64	373	329	156.0
450	544	117	165	508	264	50	12x10	165	4	21.0	64	422	359	200.0
500	601	128	165	578	264	64	16x16	165	4	21.0	102	470	388	274.0
600	711	152	298	635	391	76	19x19	254	8	17.0	102	572	463	422.0
700	823	165	298	679	391	76	19x19	254	8	17.0	133	672	522	590.0
800	956	191	343	762	495	89	22x16	298	8	21.0	133	767	568	934.0
900	1033	210	343	838	495	89	22x16	298	8	21.0	133	864	642	1179.0
1000 to 1400	Consult Factory													

Note:
 ϕK is disc chordal dimension at face of valve.


FLANGE ACCOMMODATION*

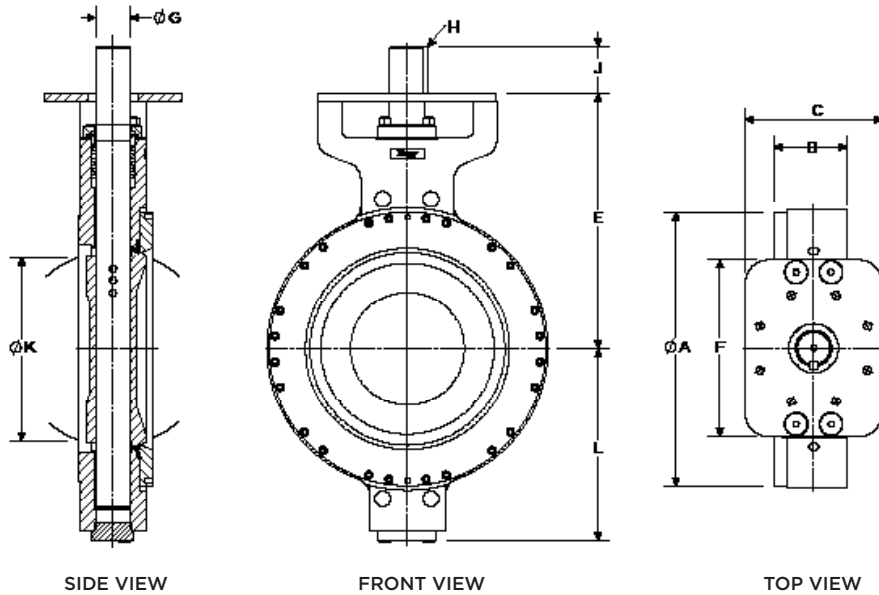
DN	PN 25			PN 40		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
50	125	4	M16	125	4	M16
65	145	8	M16	145	8	M16
80	160	8	M16	160	8	M16
100	190	8	M20	190	8	M20
125	220	8	M24	220	8	M24
150	250	8	M24	250	8	M24
200	310	12	M24	350	12	M27
250	370	12	M27	385	12	M30
300	430	16	M27	450	16	M30

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
50	102	44	64	152	111	14	10	70	4	10.0	32	38	92	5.0
65	121	48	64	162	111	16	11	70	4	10.0	32	58	97	6.0
80	133	48	64	168	111	16	11	70	4	10.0	32	73	104	7.0
100	171	52	64	191	111	16	11	70	4	10.0	32	94	120	9.0
125	210	57	114	203	130	19	13	70	4	10.0	32	122	130	15.0
150	226	61	114	222	130	22	16	125	4	14.0	32	146	159	18.0
200	278	72	114	254	155	30	22	125	4	14.0	51	192	192	31.0
250	337	83	114	289	155	35	10x10	125	4	14.0	51	240	238	51.0
300	395	92	165	343	197	35	10x10	125	4	14.0	51	287	277	78.0

Note:
Ø K is disc chordal dimension at face of valve.



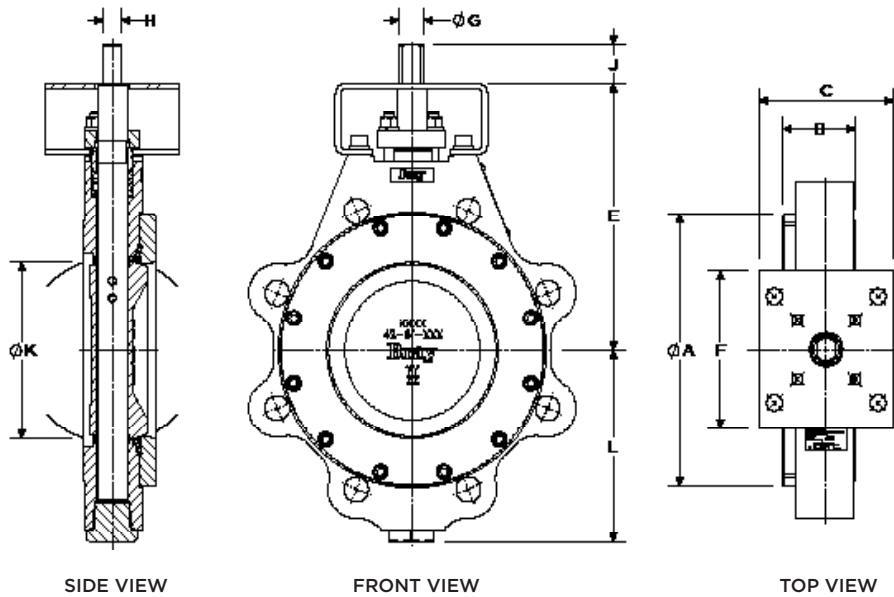
FLANGE ACCOMMODATION*						
DN	PN 25			PN 40		
	Bolt Circle \varnothing	No of Holes	Threads	Bolt Circle \varnothing	No of Holes	Threads
350	490	16	M30	510	16	M33
400	550	16	M33	585	16	M36
450	600	20	M33	610	20	M36
500	660	20	M36	670	20	M39
600	770	20	M36	795	20	M45
900 to 1200	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	$\varnothing G$	H Key Size [mm]	Top Plate Drilling			J	$\varnothing K$	L	Weight (Kg)
								Bolt circle \varnothing	No of Holes	Hole \varnothing				
350	455	118	165	464	264	50	12x10	165	4	21.0	64	289	318	149.0
400	506	136	165	533	264	64	16x16	165	4	21.0	102	363	353	206.0
450	559	152	298	533	391	64	16x16	254	8	17.0	102	381	392	274.0
500	612	161	298	565	391	76	19x19	254	8	17.0	102	419	427	354.0
600	734	182	343	667	495	89	22x16	298	8	21.0	133	525	503	572.0
900 to 1200	Consult Factory													

Note:
 $\varnothing K$ is disc chordal dimension at face of valve.


FLANGE ACCOMMODATION*

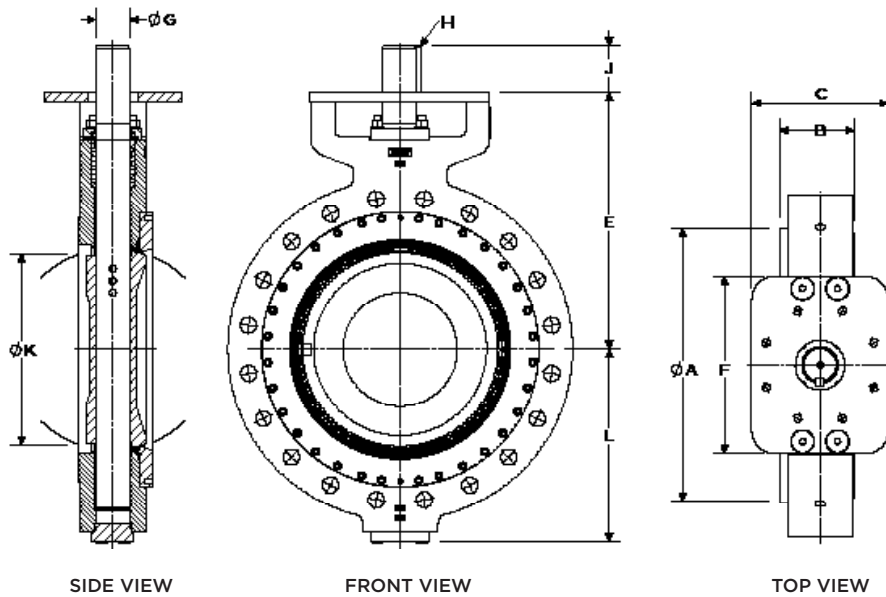
DN	PN 25			PN 40		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
65	145	8	M16	145	8	M16
80	160	8	M16	160	8	M16
100	190	8	M20	190	8	M20
125	220	8	M24	220	8	M24
150	250	8	M24	250	8	M24
200	310	12	M24	350	12	M27
250	370	12	M27	385	12	M30
300	430	16	M27	450	16	M30

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
65	121	48	64	162	111	16	11	70	4	10.0	32	58	97	7.0
80	133	48	64	168	111	16	11	70	4	10.0	32	73	104	8.0
100	171	52	64	191	111	16	11	70	4	10.0	32	94	120	10.0
125	210	57	114	203	130	19	13	70	4	10.0	32	122	130	18.0
150	226	61	114	222	130	22	16	125	4	14.0	32	146	159	24.0
200	278	72	114	254	155	30	22	125	4	14.0	51	192	192	40.0
250	337	83	114	289	155	35	10x10	125	4	14.0	51	240	238	65.0
300	395	92	165	343	197	35	10x10	125	4	14.0	51	287	277	98.0

Note:
Ø K is disc chordal dimension at face of valve.



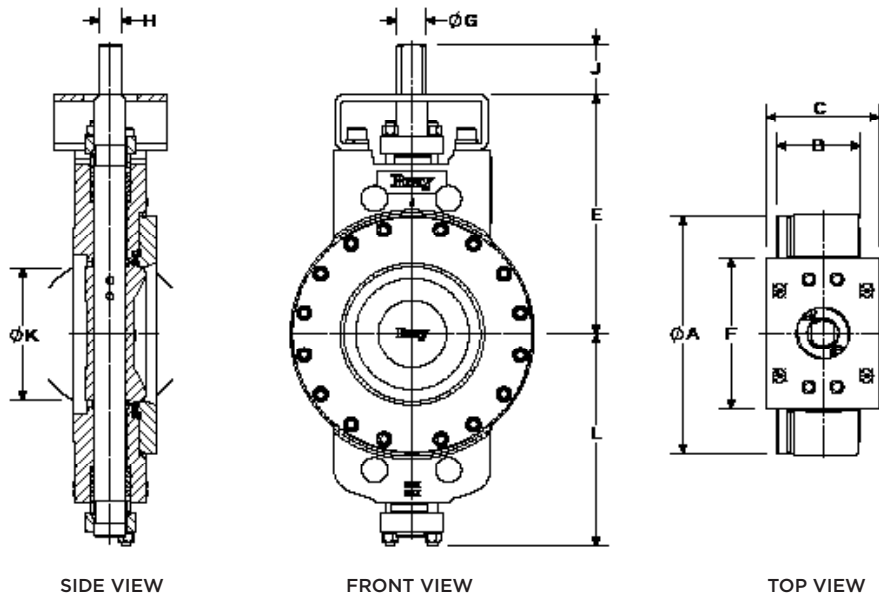
FLANGE ACCOMMODATION*						
DN	PN 25			PN 40		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
350	490	16	M30	510	16	M33
400	550	16	M33	585	16	M36
450	600	20	M33	610	20	M36
500	660	20	M36	670	20	M39
600	770	20	M36	795	20	M45
900 to 1200	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H Key Size [mm]	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
350	455	118	165	464	264	50	12x10	165	4	21.0	64	289	318	201.0
400	506	136	165	533	264	64	16x16	165	4	21.0	102	363	353	269.0
450	559	152	298	533	391	64	16x16	254	8	17.0	102	381	392	388.0
500	612	161	298	565	391	76	19x19	254	8	17.0	102	419	427	476.0
600	734	182	343	667	495	89	22x16	298	8	21.0	133	525	503	780.0
900 to 1200	Consult Factory													

Note:
Ø K is disc chordal dimension at face of valve.



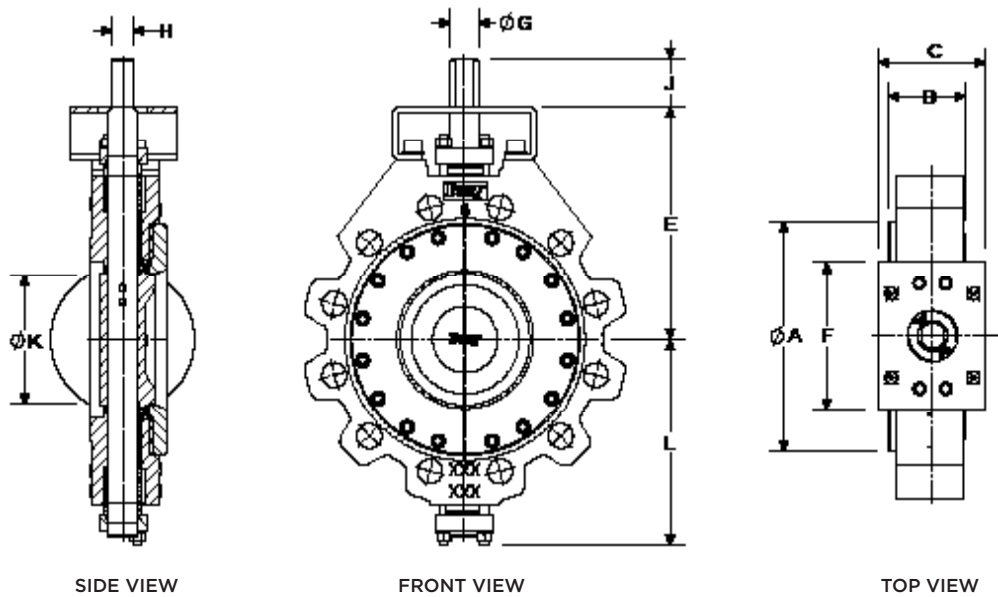
FLANGE ACCOMMODATION*						
DN	PN 63			PN 100		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
80	170	8	M20	180	8	M24
100	200	8	M24	210	8	M27
150	280	8	M30	290	12	M30
200	345	12	M33	360	12	M33
250	400	12	M33	430	12	M36
300	460	16	M33	500	16	M39
350	525	16	M36	560	16	M45
400	585	16	M36	620	16	M45
450	610	20	M36	654	20	M52
500	670	20	M39	760	20	M52
600 to 900	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H Key Size [mm]**	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
80	147	56	114	178	130	19	13	70	4	10.0	32	70	145	11.0
100	178	64	114	216	130	22	16	125	4	14.0	32	90	179	19.0
150	248	81	114	248	155	30	22	125	4	14.0	51	137	218	36.0
200	300	102	165	311	197	35	10x10	165	4	21.0	51	175	274	70.0
250	358	117	165	432	264	50	12x10	165	4	21.0	64	216	371	127.0
300	418	140	165	464	264	50	12x10	165	4	21.0	64	257	399	175.0
350	458	155	298	502	391	64	16x16	254	8	17.0	102	276	444	249.0
400	518	178	298	552	391	76	19x19	254	8	17.0	102	321	493	341.0
450	588	197	343	603	495	89	22x16	298	8	21.0	133	371	535	494.0
500	639	216	343	654	495	102	25x19	298	8	21.0	133	416	590	617.0
600 to 900	Consult Factory													

Note:
Ø K is disc chordal dimension at face of valve.



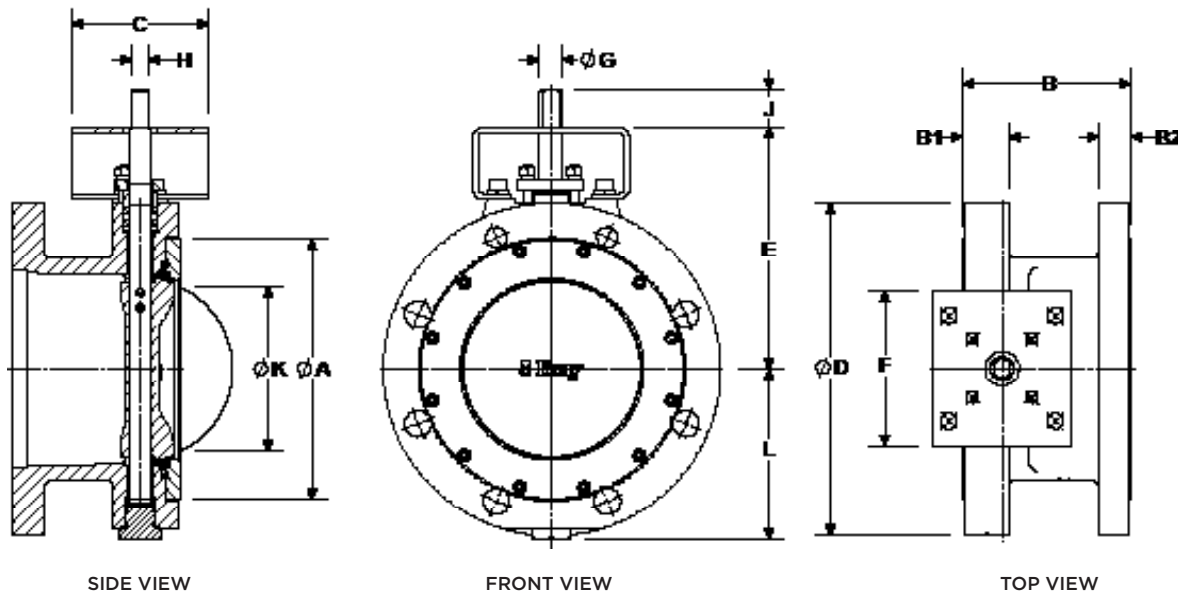
FLANGE ACCOMMODATION*						
DN	PN 63			PN 100		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
80	170	8	M20	180	8	M24
100	200	8	M24	210	8	M27
150	280	8	M30	290	12	M30
200	345	12	M33	360	12	M33
250	400	12	M33	430	12	M36
300	460	16	M33	500	16	M39
350	525	16	M36	560	16	M45
400	585	16	M36	620	16	M45
450	610	20	M36	654	20	M52
500	670	20	M39	760	20	M52
600 to 900	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	C	E	F	Ø G	H Key Size [mm]**	Top Plate Drilling			J	Ø K	L	Weight (Kg)
								Bolt circle Ø	No of Holes	Hole Ø				
80	147	56	114	178	130	19	13	70	4	10.0	32	70	145	14.0
100	178	64	114	216	130	22	16	125	4	14.0	32	90	179	26.0
150	248	81	114	248	155	30	22	125	4	14.0	51	137	218	54.0
200	300	102	165	311	197	35	10x10	165	4	21.0	51	175	274	103.0
250	358	117	165	432	264	50	12x10	165	4	21.0	64	216	371	181.0
300	418	140	165	464	264	50	12x10	165	4	21.0	64	257	399	248.0
350	458	155	298	502	391	64	16x16	254	8	17.0	102	276	444	340.0
400	518	178	298	552	391	76	19x19	254	8	17.0	102	321	493	499.0
450	588	197	343	603	495	89	22x16	298	8	21.0	133	371	535	667.0
500	639	216	343	654	495	102	25x19	298	8	21.0	133	416	590	839.0
600 to 900	Consult Factory													

Note:
Ø K is disc chordal dimension at face of valve.



FLANGE ACCOMMODATION*

DN	PN 10			PN 16		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
80	160	8	M16	160	8	M16
100	180	8	M16	180	8	M16
125	210	8	M16	210	8	M16
150	240	8	M20	240	8	M20
200	295	8	M20	295	12	M20
250	350	12	M20	355	12	M24
300	400	12	M20	410	12	M24
350	460	16	M20	470	16	M24
400	515	16	M24	525	16	M27
450	565	20	M24	585	20	M27
500	620	20	M24	650	20	M30
600 to 900	Consult Factory					

*Above information according to EN 1092.
Contact factory for individual bolt information.

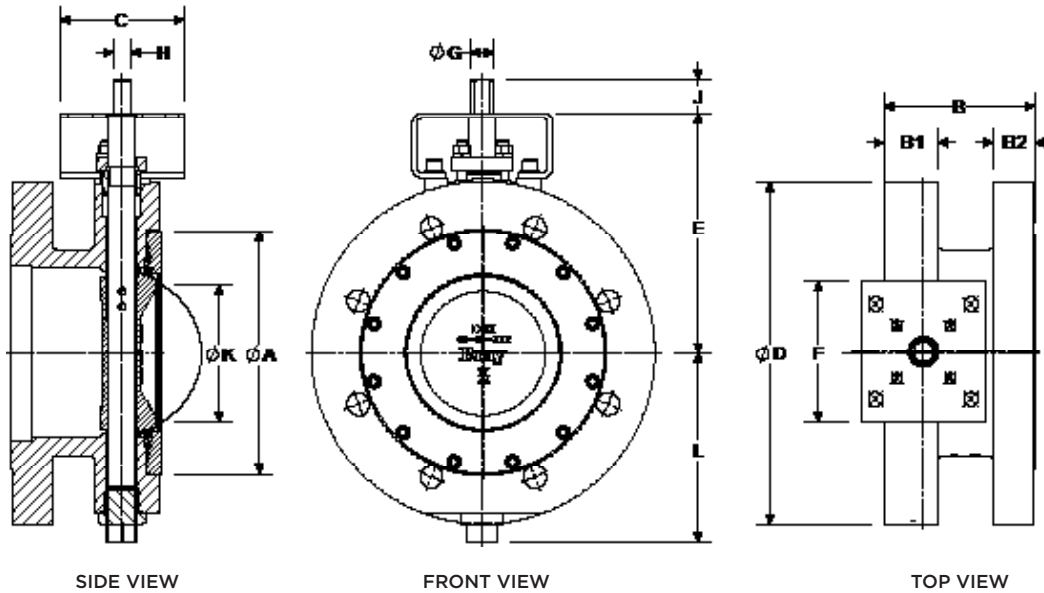
DIMENSIONS [MM]

DN	A	B	B1	B2	C	D	E	F	Top Plate Drilling			Ø G	H Key Size [mm]**	J	Ø K	L	Weight (Kg)
									Bolt circle Ø	No of Holes	Hole Ø						
80	133	114	36	27	64	191	168	111	70	4	10.0	16	11	32	73	104	13.0
100	171	127	37	27	64	229	191	111	70	4	10.0	16	11	32	94	120	19.0
125	191	140	36	25	114	254	191	130	70	4	10.0	19	11	32	122	129	24.0
150	219	140	38	27	114	279	203	130	70	4	10.0	19	13	32	149	141	28.0
200	273	152	46	30	114	343	241	130	125	4	14.0	22	16	32	198	176	45.0
250	332	165	46	34	114	406	273	155	125	4	14.0	30	22	51	248	217	78.0
300	394	178	54	36	114	483	311	155	125	4	14.0	30	22	51	298	259	104.0
350	445	191	58	39	165	533	368	197	125	4	14.0	35	10x10	51	328	304	156.0
400	503	216	57	41	165	597	451	264	165	4	21.0	50	12x10	64	373	329	250.0
450	544	222	63	44	165	635	508	264	165	4	21.0	50	12x10	64	422	359	320.0
500	601	229	69	44	165	715	578	264	165	4	21.0	63.5	16x16	102	470	388	440.0
600 to 900	Consult Factory																

Note:
Ø K is disc chordal dimension at face of valve.

Above drawing shows a Series 4A size DN150
**H = Key Size starting from DN350

Drawings are for reference only.
All weights are approximate and variable dependent upon trim selection.
The right to change or modify product design or product without prior notice is reserved.



FLANGE ACCOMMODATION*

DN	PN 25			PN 40		
	Bolt Circle Ø	No of Holes	Threads	Bolt Circle Ø	No of Holes	Threads
80	160	8	M16	160	8	M16
100	190	8	M20	190	8	M20
150	220	8	M24	220	8	M24
200	250	8	M24	250	8	M24
250	310	12	M24	350	12	M27
300	370	12	M27	385	12	M30
350	490	16	M30	510	16	M33
400	550	16	M33	585	16	M36
450	600	20	M33	610	20	M36
500	660	20	M36	670	20	M39

*Above information according to EN 1092.
Contact factory for individual bolt information.

DIMENSIONS [MM]

DN	A	B	B1	B2	C	D	E	F	Top Plate Drilling			Ø G	H Key Size [mm]**	J	Ø K	L	Weight (Kg)
									Bolt circle Ø	No of Holes	Hole Ø						
80	133	114	39	28	64	210	168	111	70	4	10.0	16	11	32	52	104	21.0
100	171	127	44	32	64	254	191	111	70	4	10.0	16	11	32	72	120	31.0
150	226	140	49	37	114	318	222	130	125	4	13.0	22	16	32	127	159	53.0
200	278	152	55	41	114	394	254	155	125	4	14.0	30	22	51	170	192	88.0
250	337	165	65	48	114	445	289	155	125	4	13.0	35	10	51	217	238	136.0
300	395	178	70	51	165	521	343	197	125	4	13.0	35	10	51	264	277	196.0
350	438	191	75	54	165	584	464	264	165	4	21.0	50	10x10	64	268	318	310.0
400	495	216	80	57	165	648	533	264	165	4	21.0	64	16x16	102	344	353	409.0
450	543	222	92	60	298	711	533	391	254	8	17.0	64	16x16	102	351	392	530.0
500	604	229	91	64	298	775	565	391	254	8	17.0	76	19x19	102	394	427	651.0

Note:
Ø K is disc chordal dimension at face of valve.

Above drawing shows a Series 4B size DN150
**H = Key Size starting from DN250

Drawings are for reference only.
All weights are approximate and variable dependent upon trim selection.
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