

BUTTERFLY VALVES

- TRIPLE OFFSET BUTTERFLY VALVES (TRB SERIES)
- DOUBLE ECCENTRIC BUTTERFLY VALVES (HPB SERIES)
- SINGLE ECCENTRIC BUTTERFLY VALVES (SEB SERIES)
- CONCENTRIC BUTTERFLY VALVES (COB SERIES)

TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)

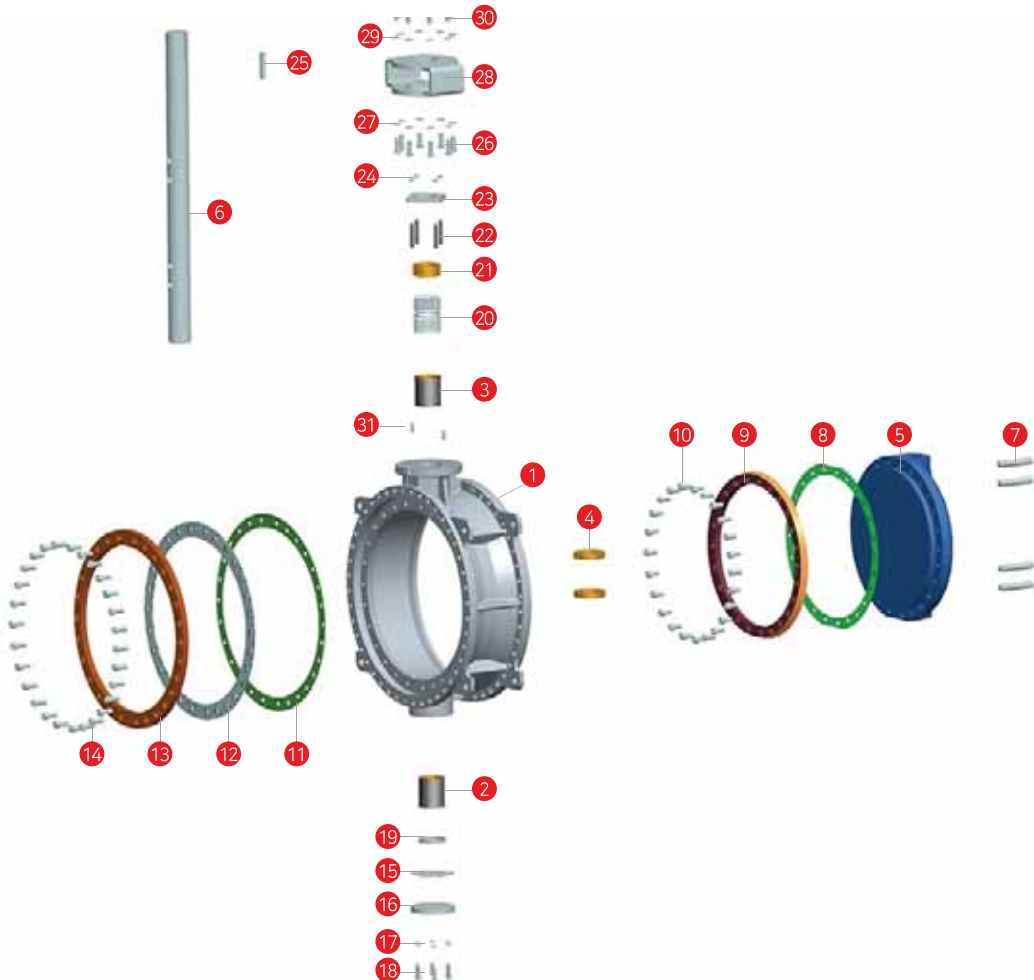


TRIPLE OFFSET 1800A (72")

Range	Application
Size	3"(80A) ~ 124"(3100A)
Fluid	Water, Air, Steam, Gas
Rating	JIS 10K, 20K, 30K, 40K, 63K
	ANSI 150#, 300#, 600#, 900#
	PN10, 16, 25, 40
End Connection	Wafer, Lugged, Flanged
Temp. Range	-50 ~ 650 °C
Materials	Body
	Cast Steel, Stainless Steel (Ni) Al Bronze, (Super) Duplex S.S etc
	Disc
	Stainless Steel, (Ni) Al Bronze (Super) Duplex S.S etc
	Seat
	Metal (Laminated) with Graphite

CONTRACTOR	HYUNDAI ENGINEERING
PROJECT	TONE PJT
END CUSTOMER	TURKMENGAS IN TURKMENISTAN

DKC DRAWING AND PART LIST OF TRIPLE OFFSET BUTTERFLY VALVE



No.	Part Name
1	BODY
2	DU BUSH
3	DU BUSH
4	THRUST BEARING
5	DISC
6	SHAFT
7	SHAFT PIN
8	GASKET, DISC SEAT
9	DISC SEAT, FINISH
10	SOCKET HEAD BOLT
11	GASKET, BODY SEAT
12	BODY SEAT
13	BODY SEAT RETAINER
14	SOCKET HEAD BOLT
15	GASKET, END COVER
16	END COVER
17	SPRING WASHER
18	HEX HEAD BOLT
19	PACKING RETAINER
20	GLAND PACKING
21	GRAND BUSH
22	STUD BOLT
23	GLAND FLANGE
24	HEX NUT
25	KEY
26	HEX HEAD BOLT
27	SPRING WASHER
28	BRACKET
29	SPRING WASHER
30	HEX HEAD BOLT
31	BRACKET LOCK PIN

TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)



150# 1100A (44")

CONTRACTOR	FUJI ELECTRONIC
PROJECT	ULUBELU GEOTHERMAL POWER IN INDONESIA
END CUSTOMER	PT. PLN (PERSERO)



150# 700A (28") & 500A (20")

CONTRACTOR	CAPRO
PROJECT	GAS LINE _ IMPROVEMENT
END CUSTOMER	CAPRO IN KOREA



150# 900A (36")

CONTRACTOR	DOOSAN HEAVY IND.
PROJECT	GHECO-ONE PJT
END CUSTOMER	TAIWAN POWER COMPANY IN THAILAND



600# 350A (14")

CONTRACTOR	SVT
PROJECT	BARAKA III & SOHAR II POWER PLANT PJT
END CUSTOMER	OMAN

DKC CO., LTD.

BUTTERFLY VALVES

CHECK VALVE

NON RETURN VALVE

SPECIAL VALVE

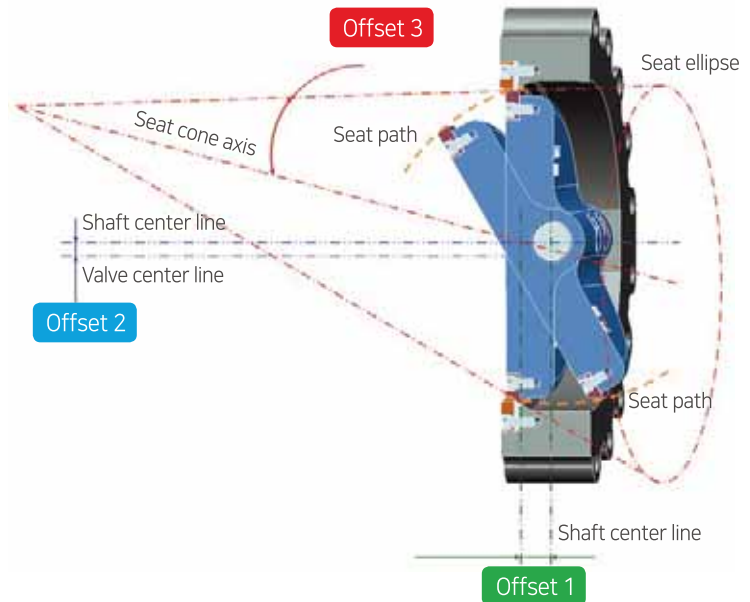
TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)

DKC PRINCIPLE OF OPERATION

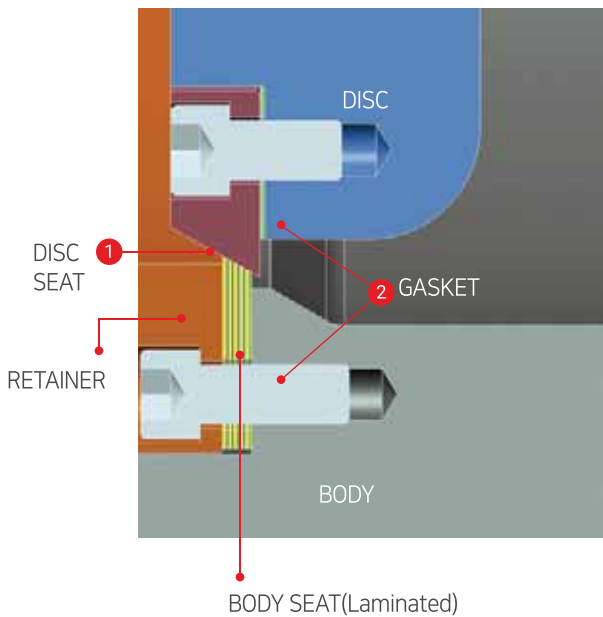
This geometry ensures that disc seat contracts the body seat only at the final shut-off position without rubbing or galling, providing a torque generated resilient seal with sufficient "wedging" to ensure a uniform seal contact

THE TRIPLE OFFSET GEOMETRY

- Offset 1** The shaft is offset behind the seat axis to allow complete sealing contact around the entire seat.
- Offset 2** The shaft centerline is offset from the pipe and valve which provides interference free opening and to achieve uniform compressive sealing around the entire seat.
- Offset 3** The seat cone axis is offset from the shaft centerline to eliminate friction during closing and opening and to achieve uniform compressive sealing around the entire seat.



DKC FRICTION FREE SEALING FOR LONG CYCLE LIFE



THE LAMINATED DISC SEAL

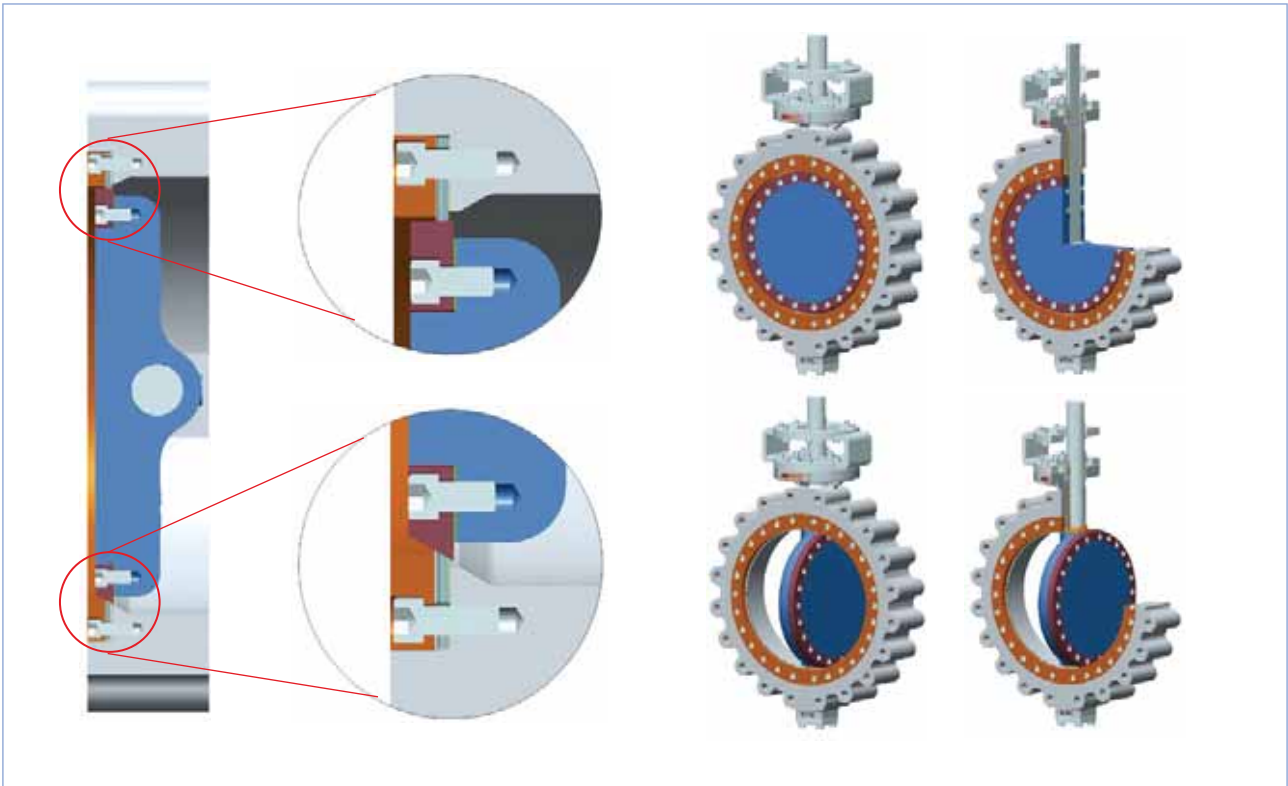
Seating forces are generated by the torque during closing uniformly around the entire circumference. The resilient seal flexes and energizes, the shape of the seat. The compression forces equally distributed around the perimeter provide a tight bidirectional shut off. The resiliency of the seal allows the valve body and disc to contact or expand, without the risk of jamming due to temperature fluctuations. It is self-adjusting.

DKC provides an extra rigid retaining ring with bolting, resulting from ASME stress calculations.

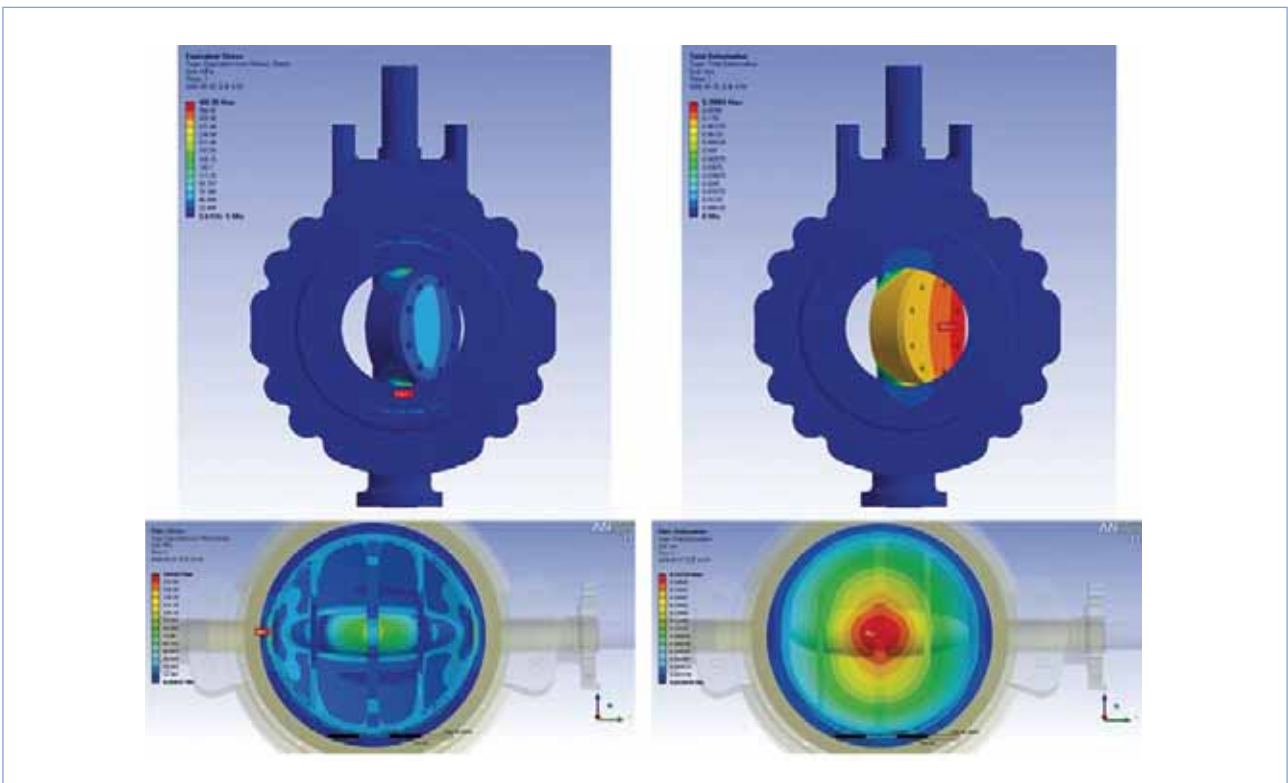
- ① Seat is hardfaced with Stellite as an option.
- ② The gasket is spiral wound SS/Graphite for zero leakage.

TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)

Technical Design

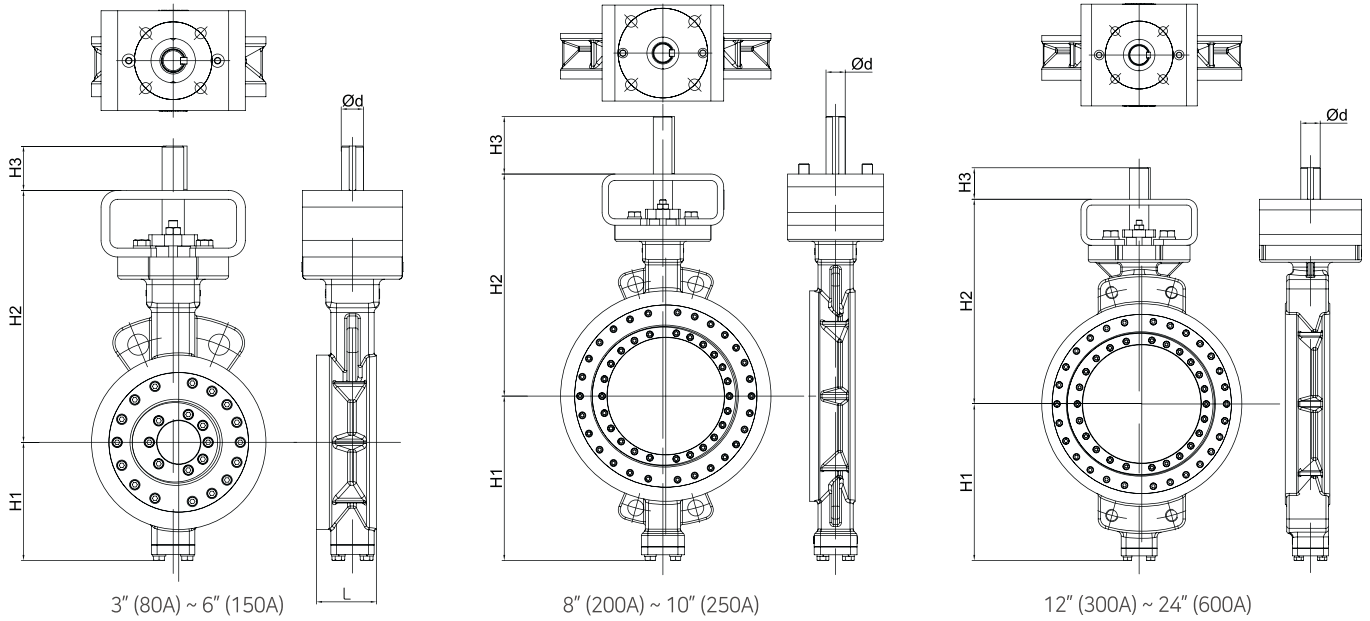


Analysis



DIMENSION TABLE FOR TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)

WAFER DESIGN



Max. Size : 3000A (120")

Unit : mm

CLASS 150 WAFER TYPE							
VALVE SIZE		H1	H2	H3	L	TOP FLANGE	WEIGHT (kg)
mm	inch	APPROX.	APPROX.	APPROX.	WAFER	ISO 5211	
80	3	127	207	40	48	F-07	20
100	4	107	227	40	54	F-07	20
150	6	135	253	55	57	F-07	20
200	8	223	292	70	64	F-10	45
250	10	257	347	90	71	F-14	57
300	12	298	393	90	81	F-14	85
350	14	323	438	95	92	F-16	133
400	16	360	463	104	102	F-16	186
450	18	380	483	110	114	F-16	213
500	20	412	600	120	127	F-25	334
600	24	478	583	120	154	F-25	455

CLASS 600 WAFER TYPE							
VALVE SIZE		H1	H2	H3	L	TOP FLANGE	WEIGHT (kg)
mm	inch	APPROX.	APPROX.	APPROX.	WAFER	ISO 5211	
80	-	-	-	-	-	-	-
100	4	181	243	70	64	F-10	28
150	6	221	285	80	78	F-14	65
200	8	293	405	85	102	F-16	92
250	10	340	455	85	117	F-16	134
300	12	365	480	110	140	F-25	224
350	14	365	528	120	155	F-25	285
400	16	410	575	120	178	F-25	455
450	18	445	620	155	200	F-30	555
500	20	485	665	155	216	F-30	694
600	24	555	740	165	232	F-35	1093

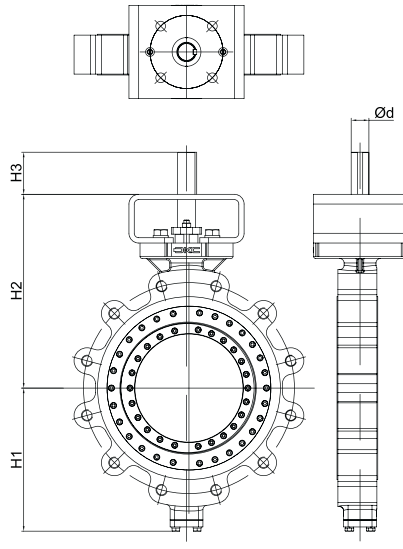
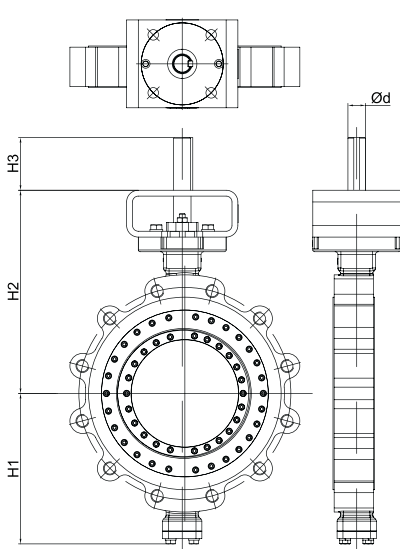
CLASS 300 WAFER TYPE							
VALVE SIZE		H1	H2	H3	L	TOP FLANGE	WEIGHT (kg)
mm	inch	APPROX.	APPROX.	APPROX.	WAFER	ISO 5211	
80	3	150	217	55	48	F-07	20
100	4	172	240	55	54	F-07	20
150	6	213	283	70	59	F-10	36
200	8	247	328	80	73	F-12	51
250	10	290	412	90	83	F-14	100
300	12	328	450	110	92	F-16	134
350	14	361	483	110	117	F-16	196
400	16	395	520	120	133	F-25	232
450	18	430	560	120	149	F-25	360
500	20	470	600	150	159	F-30	457
600	24	536	728	170	181	F-30	670

CLASS 900 WAFER TYPE							
VALVE SIZE		H1	H2	H3	L	TOP FLANGE	WEIGHT (kg)
mm	inch	APPROX.	APPROX.	APPROX.	WAFER	ISO 5211	
80	-	-	-	-	-	-	-
100	4	181	240	64	80	F-10	39
150	6	238	315	79	104	F-14	89
200	8	281	360	79	112	F-16	134
250	10	358	412	109	135	F-16	224
300	12	383	475	109	170	F-25	298
350	14	419	512	128	173	F-25	376
400	16	455	610	129	210	F-25	570
450	18	503	660	178	228	F-30	691
500	20	550	685	178	250	F-30	905
600	24	656	790	199	275	F-35	1317

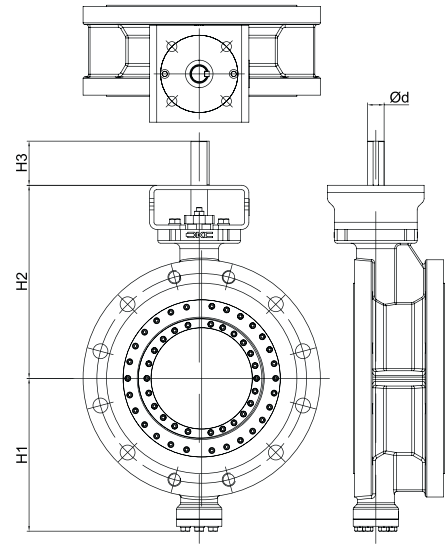
L : Face to Face Dimension
* Please contact sales office for other sizes.

DIMENSION TABLE FOR TRIPLE OFFSET BUTTERFLY VALVE (TRB SERIES)

LUG DESIGN



FLANGE DESIGN



Max. Size : 3000A (120")

Unit : mm

CLASS 150 LUG AND FLANGE TYPE									
VALVE SIZE		H1.	H2.	H3.	L		TOP FLANGE ISO 5211	WEIGHT (kg)	
mm	inch				LUG	FLANGE		LUG	FLANGE
80	3	130	207	40	48	114	F-07	21	32
100	4	150	227	40	54	127	F-07	21	37
150	6	175	253	55	57	140	F-07	22	48
200	8	223	292	70	64	152	F-10	47	89
250	10	257	347	90	71	165	F-14	61	112
300	12	298	393	90	81	178	F-14	91	161
350	14	323	438	95	92	190	F-16	142	228
400	16	360	463	104	102	216	F-16	199	303
450	18	380	483	110	114	222	F-16	229	364
500	20	412	600	120	127	229	F-25	364	499
600	24	478	583	120	154	267	F-25	492	699

CLASS 600 LUG AND FLANGE TYPE									
VALVE SIZE		H1.	H2.	H3.	L		TOP FLANGE ISO 5211	WEIGHT (kg)	
mm	inch				LUG	FLANGE		LUG	FLANGE
100	4	181	243	70	64	190	F-10	30	69
150	6	221	285	80	78	210	F-14	72	135
200	8	293	405	85	102	230	F-16	102	162
250	10	340	455	85	117	250	F-16	187	268
300	12	365	480	110	140	270	F-25	259	364
350	14	365	528	120	155	290	F-25	329	369
400	16	410	575	120	178	310	F-25	520	632
450	18	445	620	155	200	330	F-30	635	739
500	20	485	665	155	216	350	F-30	804	879
600	24	555	740	165	232	390	F-35	1243	1423

CLASS 300 LUG AND FLANGE TYPE									
VALVE SIZE		H1.	H2.	H3.	L		TOP FLANGE ISO 5211	WEIGHT (kg)	
mm	inch				LUG	FLANGE		LUG	FLANGE
80	3	150	217	55	48	114	F-07	21	36
100	4	172	240	55	54	127	F-07	21	46
150	6	213	283	70	59	140	F-10	39	76
200	8	247	328	80	73	152	F-12	56	93
250	10	290	412	90	83	165	F-14	112	164
300	12	328	450	110	92	178	F-16	150	222
350	14	361	483	110	117	190	F-16	229	298
400	16	395	520	120	133	216	F-25	277	357
450	18	430	560	120	149	222	F-25	433	499
500	20	470	600	150	159	229	F-30	549	621
600	24	536	728	170	181	267	F-30	805	916

CLASS 900 LUG AND FLANGE TYPE									
VALVE SIZE		H1.	H2.	H3.	L		TOP FLANGE ISO 5211	WEIGHT (kg)	
mm	inch				LUG	FLANGE		LUG	FLANGE
100	4	181	240	64	80	235	F-10	43	93
150	6	238	315	79	104	250	F-14	100	184
200	8	281	360	79	112	310	F-16	151	256
250	10	358	412	109	135	350	F-16	256	425
300	12	383	475	109	170	380	F-25	352	496
350	14	419	512	128	173	400	F-25	440	656
400	16	455	610	129	210	430	F-25	663	834
450	18	503	660	178	228	460	F-30	824	1044
500	20	550	685	178	250	490	F-30	1069	1273
600	24	656	790	199	275	530	F-35	1704	2506

L : Face to Face Dimension
* Please contact sales office for other sizes.