

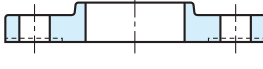
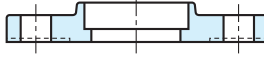
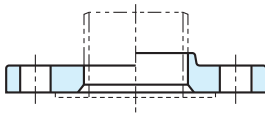
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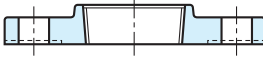
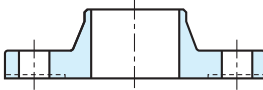
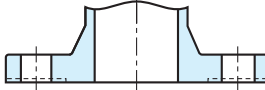
JIS FLANGES



Classification of Japanese Industrial Standards (JIS) Flanges

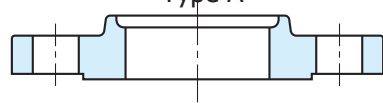
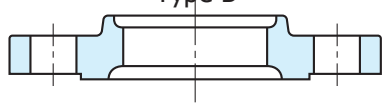
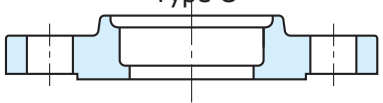


Type of flange	Slip on welding Flange		Socket Welding Flange (SW)	Lapped Flange (LJ)
	Plate Flange (SOP)	Hubbed Flange (SOH)		
Shapes of flanges				
Nominal Pressure	Nominal diameter of corresponding flange (A)			
2K (1)	(450 ~ 1500)	—	—	—
5K	10 ~ 1500	450 ~ 1500	10 ~ 80	15 ~ 600
10K	10 ~ 1500	250 ~ 1500	10 ~ 80	15 ~ 600
16K	—	10 ~ 600	10 ~ 80	15 ~ 600
20K	—	10 ~ 600 (2)	10 ~ 80	15 ~ 600
30K	—	10 ~ 400 (2)	—	—

Type of flange	Threaded Flange (TR)	Welding neck Flange (WN)	Blind Flange (BL)	Integral Flange (IT)
Shapes of flanges				
Nominal Pressure	Nominal diameter of corresponding flange (A)			
2K (1)	—	—	(450 ~ 1500)	—
5K	10 ~ 150	10 ~ 1500	10 ~ 1500	10 ~ 1500
10K	10 ~ 150	10 ~ 1500	10 ~ 1500	10 ~ 1500
16K	10 ~ 150	10 ~ 600	10 ~ 600	10 ~ 600
20K	10 ~ 150	10 ~ 600	10 ~ 600	10 ~ 600
30K	—	15 ~ 400	10 ~ 400	15 ~ 400
40K	—	15 ~ 400	15 ~ 400	—
63K	—	15 ~ 400	15 ~ 400	—

Notes: (1) Flange dimensions described in nominal pressure of 2K, 40K, and 63K are the basic dimensions of flange but are not prescribed in JIS B 2220.

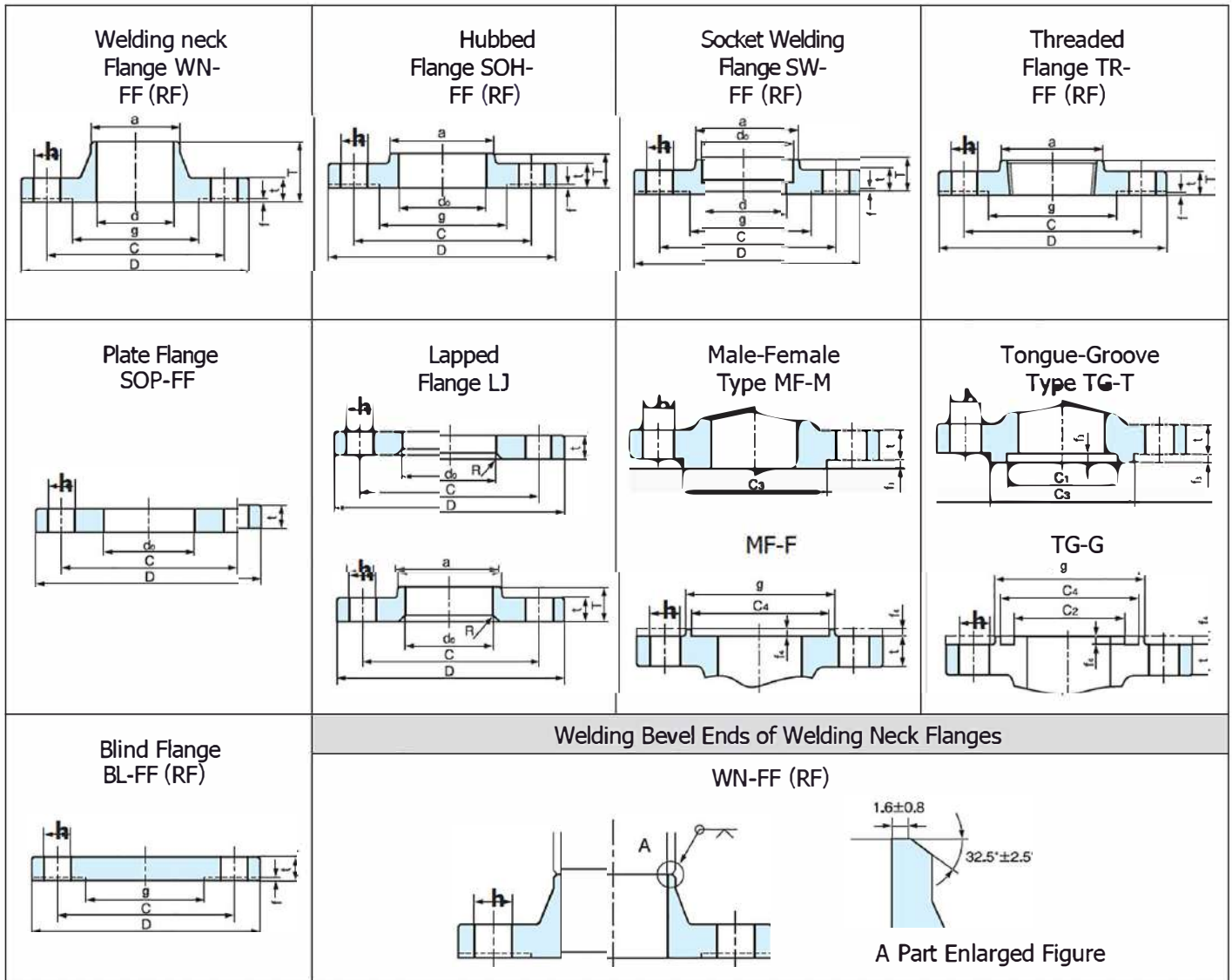
(2) Shapes of Slip on Welding Hub Flanges of Nominal Pressure 20K and 30K are as shown below.

Shapes of Slip on Welding Hubbed Flanges of Nominal Pressure 20K and 30K			
Type A 		Type B 	
Type C 			
Nominal Pressure	Nominal diameter of corresponding flange (A)		
20K	10 ~ 600	10 ~ 50	65 ~ 600
30K	10 ~ 400	10 ~ 50	65 ~ 400

Dimensional Tolerance for Japanese Industrial Standards (JIS) Flanges



JIS B 2220 Steel Pipe Flanges

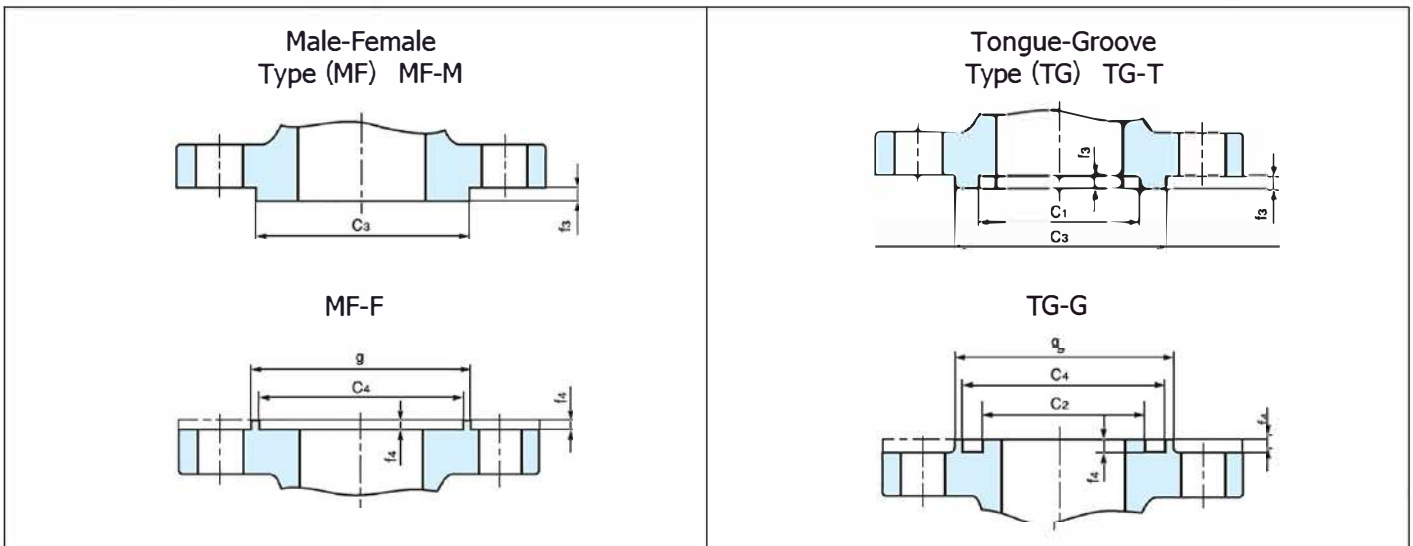


Unit : mm

Part of flange	Division by Dimension	Dimensional tolerances
Outside Dia. D	600 max. Over 600	±1.5 ±3
Bolt Circle Dia. C	950 max. Over 950	±0.8 ±1.5
Eccentricity between Bore and Bolt Circle Dia.		0.8 max.
Pitch of Bolt Hole P		±0.8
Dia. of Bolt Holes h		±0.5
Inside Diameter SOP, SOH SW, LJ d ₀	400 max.	+1 0
	Over 400 to 600 incl.	+1.5 0
	Over 600 to 800 incl.	+2 0
	Over 800 to 1000 incl.	+2.5 0
	Over 1000	+3 0
Inside Diameter WN, SW d	100 max.	0 -0.5
	Over 100 to 400 incl.	0 -1
	Over 400 to 600 incl.	0 -1.5
	Over 600 to 800 incl.	0 -2
	Over 800 to 1000 incl. Over 1000	0 -2.5 0 -3
Parallelism of the gasket contact face of flange and the bearing surface of bolt and nut.		1φmax.

Part of flange	Division by Dimension	Dimensional tolerances
Dia. at Small End of Hub a	220 max.	+2 0
	Over 220 to 650 incl.	+4 0
	Over 650	+8 0
Dia. of Gasket Seat C ₁ C ₂ C ₃ C ₄	500 max.	±0.3
	Over 500 to 1000 incl.	±0.35
	Over 1000 to 1500 incl.	±0.4
	Over 1500	±0.5
Thickness of Gasket Seat f ₃ f ₄		±0.2
Dia. of Gasket Seat g	700 max.	±0.8
	Over 700	±1.5
Thickness t, t-f	20 max.	+1.5 0
	Over 20 to 50 incl.	+2 0
	Over 50	+3 0
Length thru Hub T	SOH, SW, LJ, TR	±2
	WN 200 max. Over 200	+2 0 +3 0
Chamfering R	6 max.	+0.8 0
	Over 6	+1.6 0

Shapes and Dimensions of Japanese Industrial Standards (JIS) Flanges Gasket Contact Face



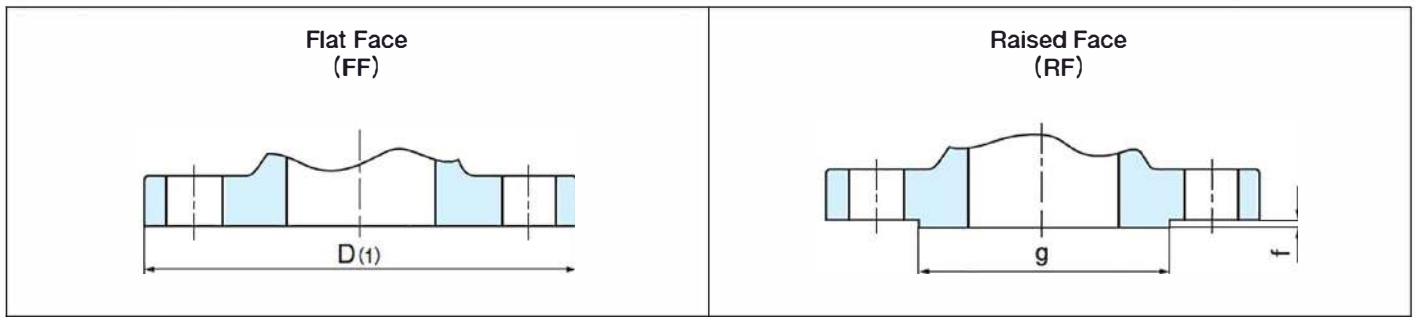
Unit : mm

Nominal Size	Male-Female Type (MF)				Tongue-Groove Type (TG)					
	Male Face (MF-M)		Female Face (MF-F)		Tongue Face (TG-T)			Groove Face (TG-G)		
	C3	f3	C4	f4	C1	C3	f3	C2	C4	f4
10	38	6	39	5	28	38	6	27	39	5
15	42	6	43	5	32	42	6	31	43	5
20	50	6	51	5	38	50	6	37	51	5
25	60	6	61	5	45	60	6	44	61	5
32	70	6	71	5	55	70	6	54	71	5
40	75	6	76	5	60	75	6	59	76	5
50	90	6	91	5	70	90	6	69	91	5
65	110	6	111	5	90	110	6	89	111	5
80	120	6	121	5	100	120	6	99	121	5
90	130	6	131	5	110	130	6	109	131	5
100	145	6	146	5	125	145	6	124	146	5
125	175	6	176	5	150	175	6	149	176	5
150	215	6	216	5	190	215	6	189	216	5
200	260	6	261	5	230	260	6	229	261	5
250	325	6	326	5	295	325	6	294	326	5
300	375	6	376	5	340	375	6	339	376	5
350	415	6	416	5	380	415	6	379	416	5
400	475	6	476	5	440	475	6	439	476	5
450	523	6	524	5	483	523	6	482	524	5
500	575	6	576	5	535	575	6	534	576	5
550	625	6	626	5	585	625	6	584	626	5
600	675	6	676	5	635	675	6	634	676	5
650	727	6	728	5	682	727	6	681	728	5
700	777	6	778	5	732	777	6	731	778	5
750	832	6	833	5	787	832	6	786	833	5
800	882	6	883	5	837	882	6	836	883	5
850	934	6	935	5	889	934	6	888	935	5
900	987	6	988	5	937	987	6	936	988	5
1000	1092	6	1094	5	1042	1092	6	1040	1094	5
1100	1192	6	1194	5	1142	1192	6	1140	1194	5
1200	1292	6	1294	5	1237	1292	6	1235	1294	5
1350	1442	6	1444	5	1387	1442	6	1385	1444	5
1500	1592	6	1594	5	1537	1592	6	1535	1594	5

Notes:

- The size g of Male-Female Type and Tongue-Groove Type depends on the size g of Raised Face.
- Regarding 5K and 10K, both Female Face and Groove Face shall have the shape shown by the imaginary line of the above figure.

Shapes and Dimensions of Japanese Industrial Standards (JIS) Flanges Gasket Contact Face

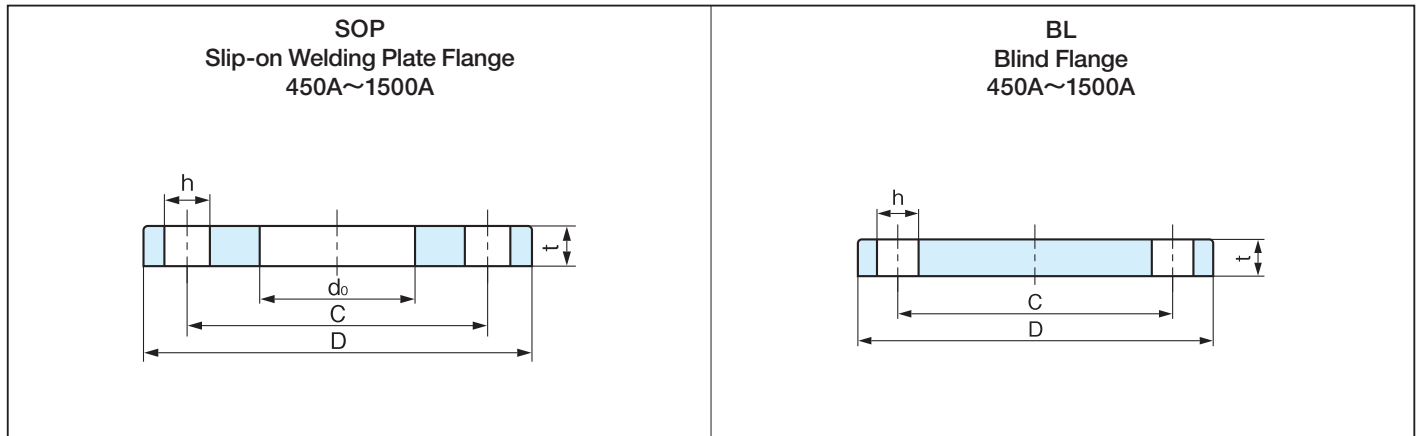


Unit : mm

Nominal Size	Nominal Pressure of Raised Face											
	5K		10K		16K		20K		30K		40K , 63K	
A	g	f	g	f	g	f	g	f	g	f	g	f
10	39	1	46	1	46	1	46	1	52	1	52	1
15	44	1	51	1	51	1	51	1	55	1	55	1
20	49	1	56	1	56	1	56	1	60	1	60	1
25	59	1	67	1	67	1	67	1	70	1	70	1
32	70	2	76	2	76	2	76	2	80	2	80	2
40	75	2	81	2	81	2	81	2	90	2	90	2
50	85	2	96	2	96	2	96	2	105	2	105	2
65	110	2	116	2	116	2	116	2	130	2	130	2
80	121	2	126	2	132	2	132	2	140	2	140	2
90	131	2	136	2	145	2	145	2	150	2	150	2
100	141	2	151	2	160	2	160	2	160	2	165	2
125	176	2	182	2	195	2	195	2	195	2	200	2
150	206	2	212	2	230	2	230	2	235	2	240	2
175	232	2	237	2	—	—	—	—	—	—	—	—
200	252	2	262	2	275	2	275	2	280	2	290	2
225	277	2	282	2	—	—	—	—	—	—	—	—
250	317	2	324	2	345	2	345	2	345	2	355	2
300	360	3	368	3	395	3	395	3	405	3	410	3
350	403	3	413	3	440	3	440	3	450	3	455	3
400	463	3	475	3	495	3	495	3	510	3	515	3
450	523	3	530	3	560	3	560	3	—	—	—	—
500	573	3	585	3	615	3	615	3	—	—	—	—
550	630	3	640	3	670	3	670	3	—	—	—	—
600	680	3	690	3	720	3	720	3	—	—	—	—
650	735	3	740	3	—	—	—	—	—	—	—	—
700	785	3	800	3	—	—	—	—	—	—	—	—
750	840	3	855	3	—	—	—	—	—	—	—	—
800	890	3	905	3	—	—	—	—	—	—	—	—
850	940	3	955	3	—	—	—	—	—	—	—	—
900	990	3	1005	3	—	—	—	—	—	—	—	—
1000	1090	3	1110	3	—	—	—	—	—	—	—	—
1100	1200	3	1220	3	—	—	—	—	—	—	—	—
1200	1305	3	1325	3	—	—	—	—	—	—	—	—
1350	1460	3	1480	3	—	—	—	—	—	—	—	—
1500	1615	3	1635	3	—	—	—	—	—	—	—	—

Note:①The size D of Flat Face is the same as the outside diameter of flange.

Basic Dimensions of Japanese Industrial Standards (JIS) 2K Flanges

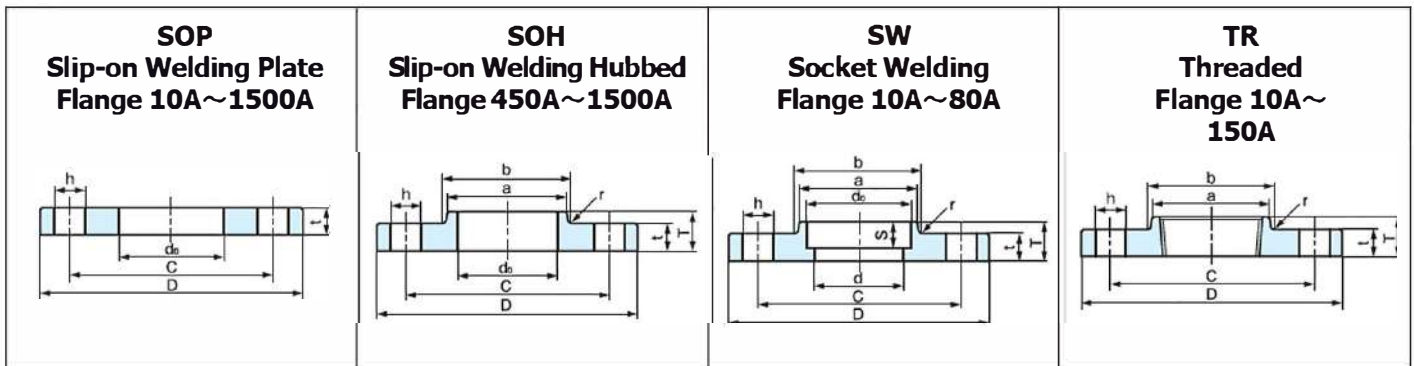


Unit : mm

Nominal Size	Bore	Outside Diameter	Thickness of Flange	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes
A	d0	D	t	C	h	
450	460.0	605	22	555	23	16
500	511.0	655	22	605	23	20
550	562.0	720	24	665	25	20
600	613.0	770	24	715	25	20
650	664.0	825	24	770	25	24
700	715.0	875	24	820	25	24
750	766.0	945	24	880	27	24
800	817.0	995	24	930	27	24
850	868.0	1045	24	980	27	24
900	919.0	1095	24	1030	27	24
1000	1021.0	1195	26	1130	27	28
1100	1123.0	1305	26	1240	27	28
1200	1224.0	1420	26	1350	27	32
1350	1377.0	1575	26	1505	27	32
1500	1529.0	1730	28	1660	27	36

Note : Following dimensions are not the part of regulation of JIS B 2220

Japanese Industrial Standards (JIS) Flanges 5K Flange Dimensions

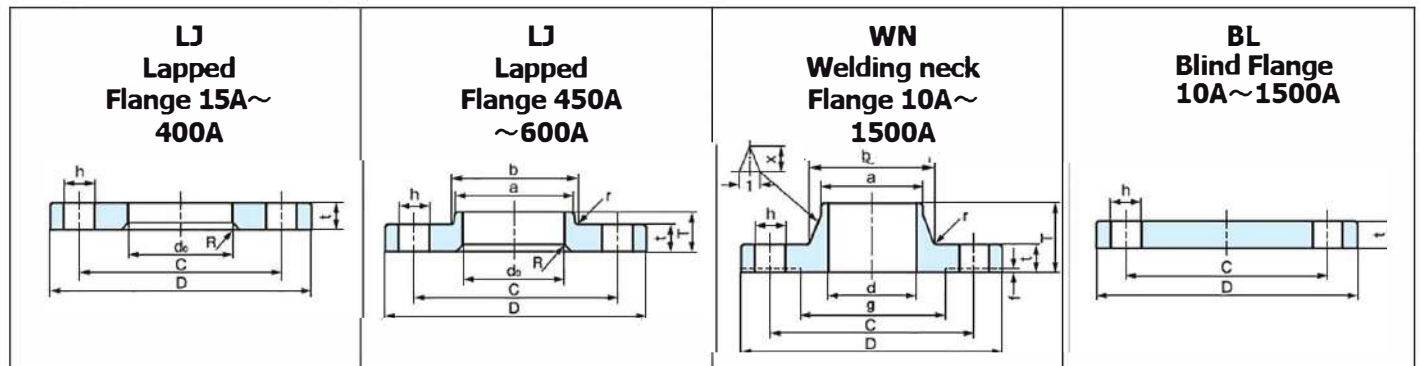


Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore			Depth of Socket	Designation of Thread TR	Raised Face	
					SOP	SOH	SW			Diameter	Height
					SOH	□	WN				
					SW		(1)	SW		WN	
A	D	C	h		d0	d0	d	S		g	f
10	75	55	12	4	17.8	—	12.7	10	Rc 3/8	39	1
15	80	60	12	4	22.2	23.4	16.1	10	Rc 1/2	44	1
20	85	65	12	4	27.7	28.9	21.6	13	Rc 3/4	49	1
25	95	75	12	4	34.5	35.6	27.6	13	Rc 1	59	1
32	115	90	15	4	43.2	44.3	35.7	13	Rc 1 1/4	70	2
40	120	95	15	4	49.1	50.4	41.6	13	Rc 1 1/2	75	2
50	130	105	15	4	61.1	62.7	52.9	16	Rc 2	85	2
65	155	130	15	4	77.1	78.7	67.9	16	Rc 2 1/2	110	2
80	180	145	19	4	90.0	91.6	80.7	16	Rc 3	121	2
90	190	155	19	4	102.6	104.1	93.2	—	—	131	2
100	200	165	19	8	115.4	116.9	105.3	—	Rc 4	141	2
125	235	200	19	8	141.2	143.0	130.8	—	Rc 5	176	2
150	265	230	19	8	166.6	168.4	155.2	—	Rc 6	206	2
175	300	260	23	8	192.1	—	180.1	—	—	232	2
200	320	280	23	8	218.0	219.5	204.7	—	—	252	2
225	345	305	23	12	243.7	—	229.4	—	—	277	2
250	385	345	23	12	269.5	271.7	254.2	—	—	317	2
300	430	390	23	12	321.0	322.8	304.7	—	—	360	3
350	480	435	25	12	358.1	360.2	339.8	—	—	403	3
400	540	495	25	16	409	411.2	390.6	—	—	463	3
450	605	555	25	16	460	462.3	441.4	—	—	523	3
500	655	605	25	20	511	514.4	492.2	—	—	573	3
550	720	665	27	20	562	565.2	543.0	—	—	630	3
600	770	715	27	20	613	616.0	593.8	—	—	680	3
650	825	770	27	24	664	—	644.6	—	—	735	3
700	875	820	27	24	715	—	695.4	—	—	785	3
750	945	880	33	24	766	—	746.2	—	—	840	3
800	995	930	33	24	817	—	797.0	—	—	890	3
850	1045	980	33	24	868	—	847.8	—	—	940	3
900	1095	1030	33	24	919	—	898.6	—	—	990	3
1000	1195	1130	33	28	1021	—	1000.2	—	—	1090	3
1100	1305	1240	33	28	1122	—	1098.6	—	—	1200	3
1200	1420	1350	33	32	1224	—	1200.2	—	—	1305	3
1350	1575	1505	33	32	1376	—	1346.2	—	—	1460	3
1500	1730	1660	33	36	1529	—	1498.6	—	—	1615	3

Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Japanese Industrial Standards (JIS) Flanges 5K Flange Dimensions

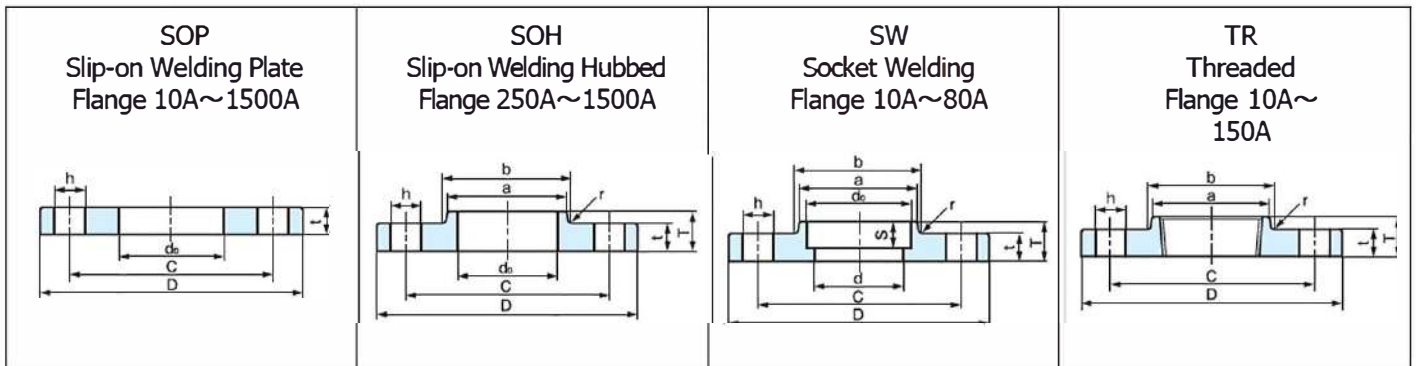


Unit : mm

Nomina Size	Thickness of Flange		Diam. of Hub at Small End		Diam. of Hub at Large End		Taper of Hub	Length thru. Hub		Cham- fering	Radius of Fillet at Base of Hub		Thick- ness	Taper of Hub	
	Except BL	BL	SOH SW LJ, TR	WN	SOH SW LJ, TR	WN		SOH SW LJ, TR	WN		SOH SW LJ, TR	WN			WN (1)
A	t		a		b		x	T		R	r		t	x	
10	9		23	17.3	26	26	1.25	13	24	—	4	4	—	—	
15	9		27	21.7	30	31	1.25	13	25	3	4	4	—	—	
20	10		33	27.2	36	38	1.25	15	28	3	4	4	—	—	
25	10		41	34.0	44	46	1.25	17	30	3	4	4	—	—	
32	12		50	42.7	53	55	1.25	19	33	4	4	4	—	—	
40	12		56	48.6	60	62	1.25	20	34	4	4	4	—	—	
50	14		69	60.5	73	73	1.25	24	36	4	4	4	—	—	
65	14		86	76.3	91	91	1.25	27	39	5	4	4	—	—	
80	14		99	89.1	105	105	1.25	30	41	5	4	4	—	—	
90	14		—	101.6	—	117	1.25	—	41	5	—	4	—	—	
100	16		127	114.3	130	128	1.25	36	41	5	4	4	—	—	
125	16		154	139.8	161	156	1.25	40	43	6	4	4	—	—	
150	18		182	165.2	189	184	1.25	40	49	6	4	4	—	—	
175	18		—	190.7	—	209	1.25	—	49	—	—	4	—	—	
200	20		—	216.3	—	235	1.25	—	53	6	—	4	—	—	
225	20		—	241.8	—	261	1.25	—	54	—	—	4	—	—	
250	22		—	267.4	—	290	1.25	—	61	6	—	4	—	—	
300	22		—	318.5	—	342	1.25	—	62	9	—	4	—	—	
350	24		—	355.6	—	385	1.25	—	73	9	—	4	—	—	
400	24		—	406.4	—	438	1.25	—	76	9	—	4	—	—	
450	24		495	457.2	500	491	1.25	40	79	9	5	5	—	—	
500	24		546	508.0	552	541	1.25	40	79	9	5	5	—	—	
550	26		597	558.8	603	593	1.25	42	81	9	5	5	—	—	
600	26		648	609.6	654	643	1.25	44	81	9	5	5	—	—	
650	26	28	702	660.4	708	698	1.25	48	85	—	5	5	—	—	
700	26	30	751	711.2	758	748	1.5	48	94	—	5	5	36	1.25	
750	28	32	802	762.0	810	802	1.5	52	100	—	5	5	38	1.25	
800	28	34	854	812.8	862	852	1.5	52	100	—	5	5	38	1.25	
850	28	36	904	863.6	912	902	1.75	54	108	—	5	5	38	1.5	
900	30	36	956	914.4	964	952	1.75	56	108	—	5	5	40	1.5	
1000	32	40	1058	1016.0	1066	1052	2	60	116	—	5	5	50	1.5	
1100	32	44	1158	1117.6	1170	1162	2	71	136	—	7	8	56	1.5	
1200	34	48	1260	1219.2	1272	1272	2	77	155	—	7	8	62	1.5	
1350	34	54	1414	1371.6	1426	1427	2	80	164	—	7	8	62	1.5	
1500	36	58	1568	1524.0	1580	1582	2	86	172	—	7	10	66	1.5	

Note : ①By the agreement of the delivery parties,these sizes can be adopted.

Japanese Industrial Standards (JIS) Flanges 10K Flange Dimensions



Unit : mm

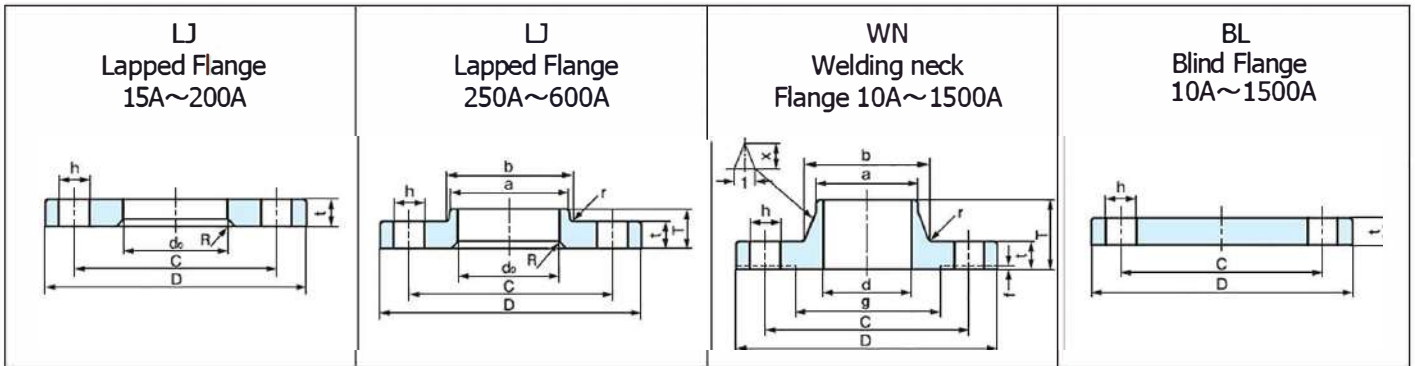
Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore			Depth of Socket	Designation of Thread TR	Raised Face	
					SOP SOH SW	□	SW WN (1)			Diameter	Height
					d0	d0	d	SW S		WN g	f
10	90	65	15	4	17.8	—	12.7	10	Rc 3/8	46	1
15	95	70	15	4	22.2	23.4	16.1	10	Rc 1/2	51	1
20	100	75	15	4	27.7	28.9	21.6	13	Rc 3/4	56	1
25	125	90	19	4	34.5	35.6	27.6	13	Rc 1	67	1
32	135	100	19	4	43.2	44.3	35.7	13	Rc 1 1/4	76	2
40	140	105	19	4	49.1	50.4	41.6	13	Rc 1 1/2	81	2
50	155	120	19	4	61.1	62.7	52.9	16	Rc 2	96	2
65	175	140	19	4	77.1	78.7	67.9	16	Rc 2 1/2	116	2
80	185	150	19	8	90.0	91.6	80.7	16	Rc 3	126	2
90	195	160	19	8	102.6	104.1	93.2	—	—	136	2
100	210	175	19	8	115.4	116.9	105.3	—	Rc 4	151	2
125	250	210	23	8	141.2	143.0	130.8	—	Rc 5	182	2
150	280	240	23	8	166.6	168.4	155.2	—	Rc 6	212	2
175	305	265	23	12	192.1	—	180.1	—	—	237	2
200	330	290	23	12	218.0	219.5	204.7	—	—	262	2
225	350	310	23	12	243.7	—	229.4	—	—	282	2
250	400	355	25	12	269.5	271.7	254.2	—	—	324	2
300	445	400	25	16	321.0	322.8	304.7	—	—	368	3
350	490	445	25	16	358.1	360.2	339.8	—	—	413	3
400	560	510	27	16	409	411.2	390.6	—	—	475	3
450	620	565	27	20	460	462.3	441.4	—	—	530	3
500	675	620	27	20	511	514.4	492.2	—	—	585	3
550	745	680	33	20	562	565.2	543.0	—	—	640	3
600	795	730	33	24	613	616.0	593.8	—	—	690	3
650	845	780	33	24	664	—	644.6	—	—	740	3
700	905	840	33	24	715	—	695.4	—	—	800	3
750	970	900	33	24	766	—	746.2	—	—	855	3
800	1020	950	33	28	817	—	797.0	—	—	905	3
850	1070	1000	33	28	868	—	847.8	—	—	955	3
900	1120	1050	33	28	919	—	898.6	—	—	1005	3
1000	1235	1160	39	28	1021	—	1000.2	—	—	1110	3
1100	1345	1270	39	28	1122	—	1098.6	—	—	1220	3
1200	1465	1380	39	32	1224	—	1200.2	—	—	1325	3
1350	1630	1540	45	36	1376	—	1346.2	—	—	1480	3
1500	1795	1700	45	40	1529	—	1498.6	—	—	1635	3

Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Japanese Industrial Standards (JIS)

Flanges 10K Flange

Dimensions

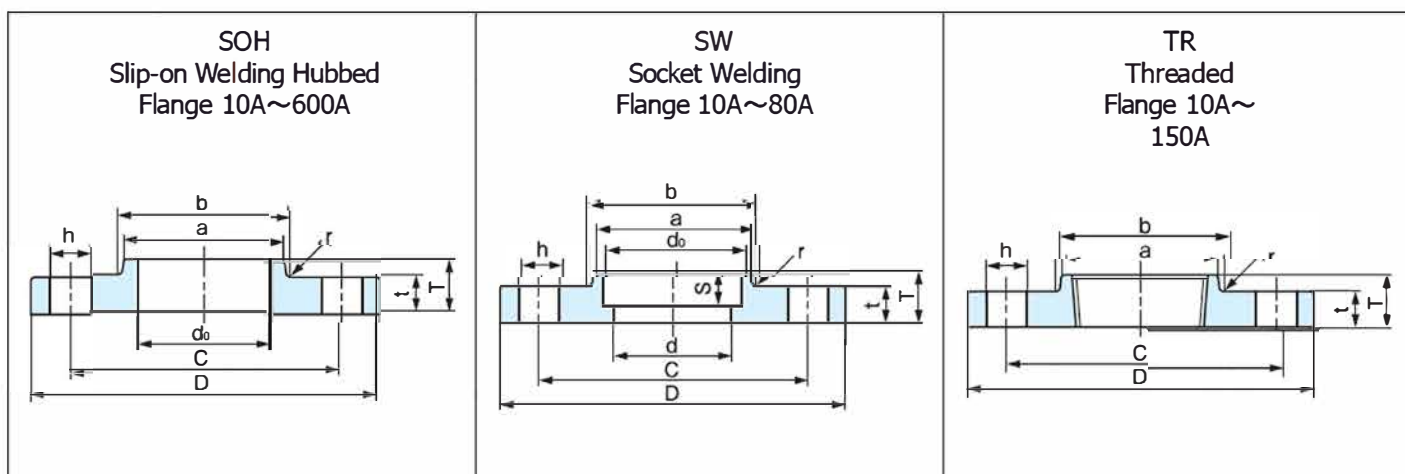


Unit : mm

Nomina Size	Thickness of Flange		Diam. of Hub at Small End		Diam. of Hub at Large End		Taper of Hub	Length thru. Hub		Cham- fering	Radius of Fillet at Base of Hub		Thick- ness	Taper of Hub
	Except BL	BL	SOH SW LJ, TR	WN	SOH SW LJ, TR	WN		SOH SW LJ, TR	WN		SOH SW LJ, TR	WN		
							A			t			a	b
10	12		23	17.3	26	28	1.25	16	29	—	4	4	—	—
15	12		27	21.7	30	33	1.25	16	31	3	4	4	—	—
20	14		33	27.2	36	38	1.25	20	32	3	4	4	—	—
25	14		41	34.0	44	47	1.25	20	36	3	4	4	—	—
32	16		50	42.7	53	56	1.25	22	38	4	4	4	—	—
40	16		56	48.6	60	62	1.25	24	38	4	4	4	—	—
50	16		69	60.5	73	75	1.25	24	40	4	4	4	—	—
65	18		86	76.3	91	92	1.25	27	44	5	4	4	—	—
80	18		99	89.1	105	105	1.25	30	45	5	4	5	—	—
90	18		—	101.6	—	117	1.25	—	45	5	—	5	—	—
100	18		127	114.3	130	130	1.25	36	45	5	4	5	—	—
125	20		154	139.8	161	156	1.25	40	47	6	4	5	—	—
150	22		182	165.2	189	184	1.25	40	53	6	4	5	—	—
175	22		—	190.7	—	210	1.25	—	55	—	—	5	—	—
200	22		—	216.3	—	238	1.25	—	58	6	—	5	—	—
225	22		—	241.8	—	261	1.25	—	58	—	—	5	—	—
250	24		288	267.4	292	292	1.25	36	65	6	6	6	—	—
300	24		340	318.5	346	345	1.25	38	68	9	6	6	—	—
350	26		380	355.6	386	388	1.25	42	79	9	6	6	—	—
400	28		436	406.4	442	442	1.25	44	85	9	6	6	—	—
450	30		496	457.2	502	495	1.25	48	90	9	6	6	—	—
500	30	30	548	508.0	554	546	1.5	48	99	9	6	6	40	1.25
550	32	34	604	558.8	610	597	1.75	52	111	9	6	6	42	1.5
600	32	36	656	609.6	662	648	1.75	52	112	9	6	6	42	1.5
650	34	38	706	660.4	712	700	1.75	56	116	—	6	6	44	1.5
700	34	40	762	711.2	770	754	2	58	132	—	6	6	56	1.5
750	36	44	816	762.0	824	807	2	62	139	—	6	6	60	1.5
800	36	46	868	812.8	876	858	2	64	139	—	6	6	60	1.5
850	36	48	920	863.6	928	908	2	66	139	—	6	6	60	1.5
900	38	50	971	914.4	979	959	2	70	140	—	6	6	62	1.5
1000	40	56	1073	1016.0	1081	1065	2	74	151	—	6	6	66	1.5
1100	42	62	1175	1117.6	1185	1174	2	95	170	—	8	10	72	1.5
1200	44	66	1278	1219.2	1290	1281	2	101	182	—	8	10	76	1.5
1350	48	74	1432	1371.6	1450	1438	2	110	200	—	8	10	82	1.5
1500	50	82	1585	1524.0	1605	1598	2	123	218	—	8	12	88	1.5

Note : ①By the agreement of the delivery parties, these sizes can be adopted.

Japanese Industrial Standards (JIS) Flanges 16K Flange Dimensions

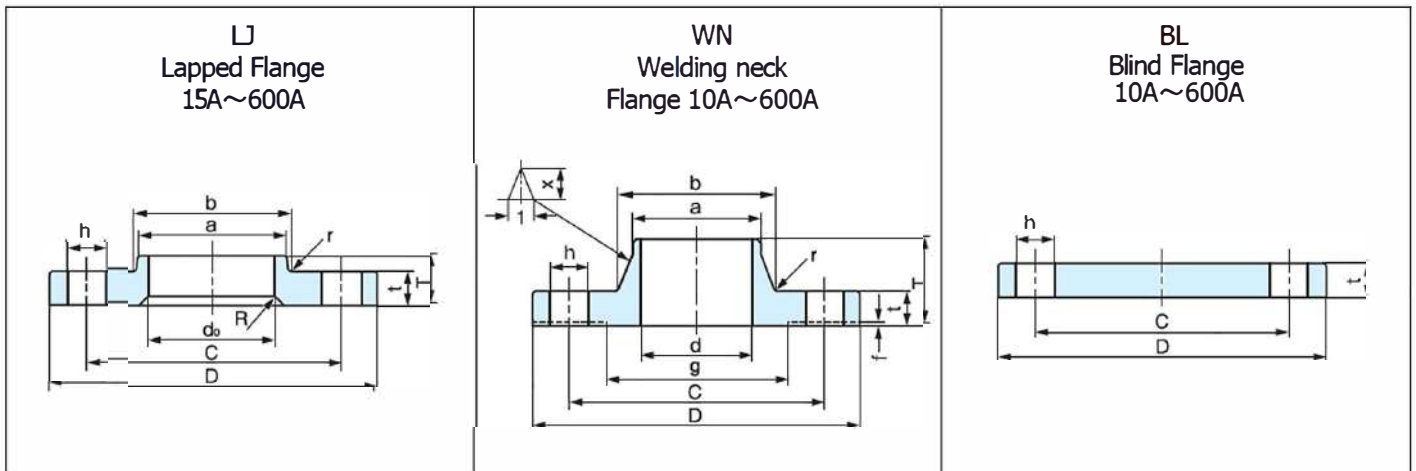


Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore			Depth of Socket	Designa- tion of Thread TR	Raised Face	
					SOH SW	□	SW WN (1)			Diameter	Height
					d0	d0	d				
					d0	d0	d				
A	D	C	h		d0	d0	d	S		q	f
10	90	65	15	4	17.8	—	12.7	10	Rc 3/8	46	1
15	95	70	15	4	22.2	23.4	16.1	10	Rc 1/2	51	1
20	100	75	15	4	27.7	28.9	21.4	13	Rc 3/4	56	1
25	125	90	19	4	34.5	35.6	27.2	13	Rc 1	67	1
32	135	100	19	4	43.2	44.3	35.5	13	Rc 1 1/4	76	2
40	140	105	19	4	49.1	50.4	41.2	13	Rc 1 1/2	81	2
50	155	120	19	8	61.1	62.7	52.7	16	Rc 2	96	2
65	175	140	19	8	77.1	78.7	65.9	16	Rc 2 1/2	116	2
80	200	160	23	8	90.0	91.6	78.1	16	Rc 3	132	2
90	210	170	23	8	102.6	104.1	90.2	—	—	145	2
100	225	185	23	8	115.4	116.9	102.3	—	Rc 4	160	2
125	270	225	25	8	141.2	143.0	126.6	—	Rc 5	195	2
150	305	260	25	12	166.6	168.4	151.0	—	Rc 6	230	2
200	350	305	25	12	218.0	219.5	199.9	—	—	275	2
250	430	380	27	12	269.5	271.7	248.8	—	—	345	2
300	480	430	27	16	321.0	322.8	297.9	—	—	395	3
350	540	480	33	16	358.1	360.2	333.4	—	—	440	3
400	605	540	33	16	409	411.2	381.0	—	—	495	3
450	675	605	33	20	460	462.3	431.8	—	—	560	3
500	730	660	33	20	511	514.4	482.6	—	—	615	3
550	795	720	39	20	562	565.2	533.4	—	—	670	3
600	845	770	39	24	613	616.0	584.2	—	—	720	3

Note: ① The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

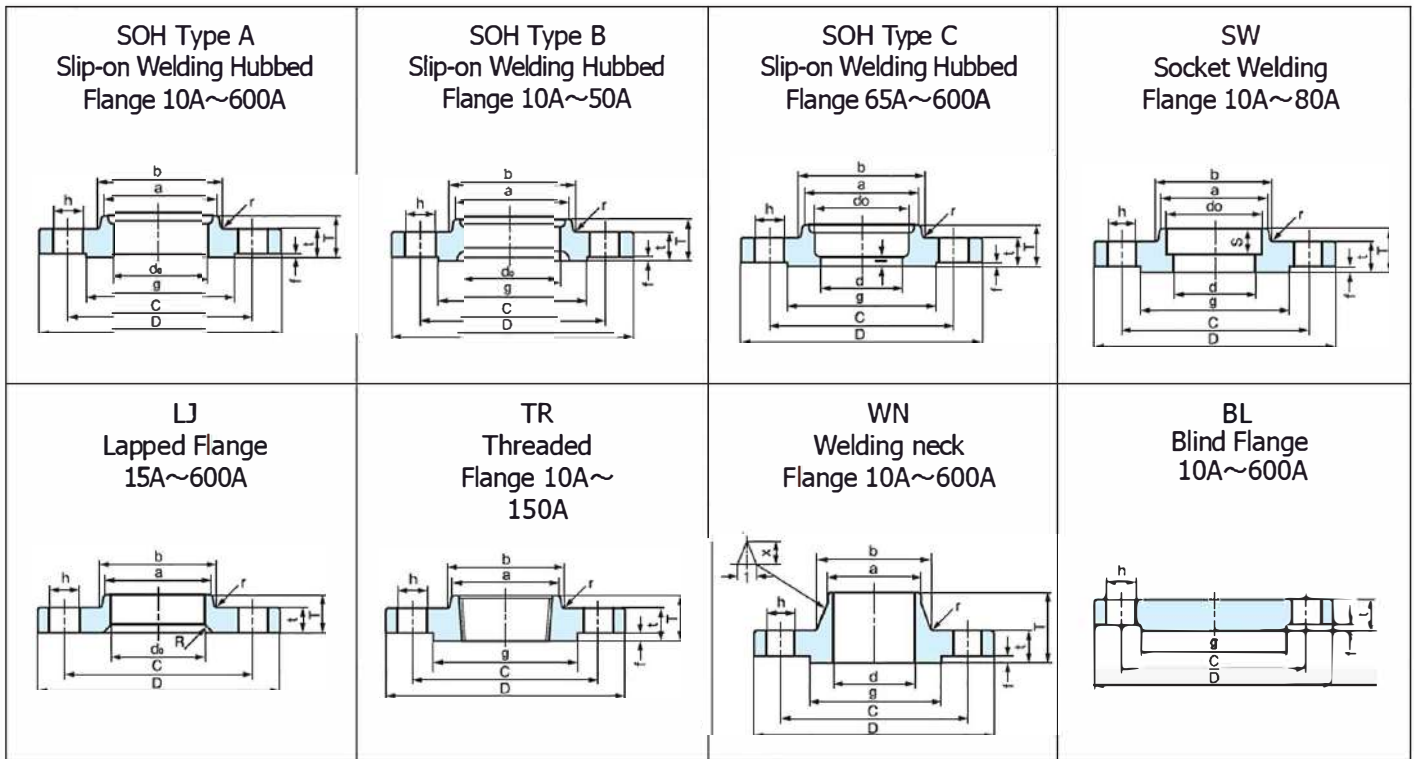
Japanese Industrial Standards (JIS) Flanges 16K Flange Dimensions



Unit : mm

Nominal Size	Thickness of Flange t	Diam. of Hub at Small End		Diam. of Hub at Large End		Taper of Hub WN	Length thru. Hub			Cham- fering LJ	Radius of Fillet at Base of Hub r
		SOH SW LJ, TR	WN	SOH SW LJ, TR	WN		SOH SW LJ	TR	WN		
		a		b			T				
A	t	a		b		x	T			R	r
10	12	26	17.3	28	29	1.25	16	16	31	—	4
15	12	30	21.7	32	34	1.25	16	16	32	3	4
20	14	38	27.2	42	39	1.25	20	20	34	3	4
25	14	46	34.0	50	47	1.25	20	20	36	3	4
32	16	56	42.7	60	56	1.25	22	22	39	4	5
40	16	62	48.6	66	62	1.25	24	24	39	4	5
50	16	76	60.5	80	75	1.25	24	24	40	4	5
65	18	94	76.3	98	92	1.25	26	27	46	5	5
80	20	108	89.1	112	105	1.25	28	30	49	5	6
90	20	120	101.6	124	118	1.25	30	—	50	5	6
100	22	134	114.3	138	134	1.25	34	36	56	5	6
125	22	164	139.8	170	162	1.25	34	40	60	6	6
150	24	196	165.2	202	192	1.25	38	40	69	6	6
200	26	244	216.3	252	244	1.25	40	—	73	6	6
250	28	304	267.4	312	298	1.25	44	—	81	6	6
300	30	354	318.5	364	352	1.25	48	—	88	9	8
350	34	398	355.6	408	398	1.25	52	—	104	9	8
400	38	446	406.4	456	452	1.25	60	—	115	9	10
450	40	504	457.2	514	510	1.25	64	—	126	9	10
500	42	558	508.0	568	561	1.25	68	—	128	9	10
550	44	612	558.8	622	616	1.25	70	—	135	9	10
600	46	666	609.6	676	670	1.25	74	—	141	9	10

Japanese Industrial Standards (JIS) Flanges 20K Flange Dimensions



Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore			Depth of Socket SW	Designation of Thread TR	Raised Face	
					SOH SW	LJ	SW WN SOH			Diameter	Height
A	D	C	h		d0	d0	(1) d	S		g	f
10	90	65	15	4	17.8	—	12.7	10	Rc 3/8	46	1
15	95	70	15	4	22.2	23.4	16.1	10	Rc 1/2	51	1
20	100	75	15	4	27.7	28.9	21.4	13	Rc 3/4	56	1
25	125	90	19	4	34.5	35.6	27.2	13	Rc 1	67	1
32	135	100	19	4	43.2	44.3	35.5	13	Rc 1 1/4	76	2
40	140	105	19	4	49.1	50.4	41.2	13	Rc 1 1/2	81	2
50	155	120	19	8	61.1	62.7	52.7	16	Rc 2	96	2
65	175	140	19	8	77.1	78.7	65.9	16	Rc 2 1/2	116	2
80	200	160	23	8	90.0	91.6	78.1	16	Rc 3	132	2
90	210	170	23	8	102.6	104.1	90.2	—	—	145	2
100	225	185	23	8	115.4	116.9	102.3	—	Rc 4	160	2
125	270	225	25	8	141.2	143.0	126.6	—	Rc 5	195	2
150	305	260	25	12	166.6	168.4	151.0	—	Rc 6	230	2
200	350	305	25	12	218.0	219.5	199.9	—	—	275	2
250	430	380	27	12	269.5	271.7	248.8	—	—	345	2
300	480	430	27	16	321.0	322.8	297.9	—	—	395	3
350	540	480	33	16	358.1	360.2	333.4	—	—	440	3
400	605	540	33	16	409	411.2	381.0	—	—	495	3
450	675	605	33	20	460	462.3	431.8	—	—	560	3
500	730	660	33	20	511	514.4	482.6	—	—	615	3
550	795	720	39	20	562	565.2	533.4	—	—	670	3
600	845	770	39	24	613	616.0	584.2	—	—	720	3

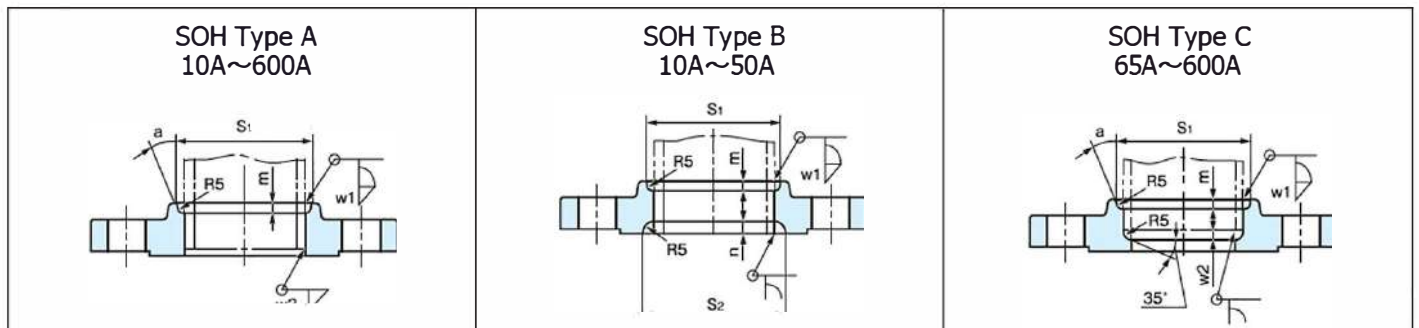
Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Japanese Industrial Standards (JIS) Flanges 20K Flange Dimensions



Unit : mm

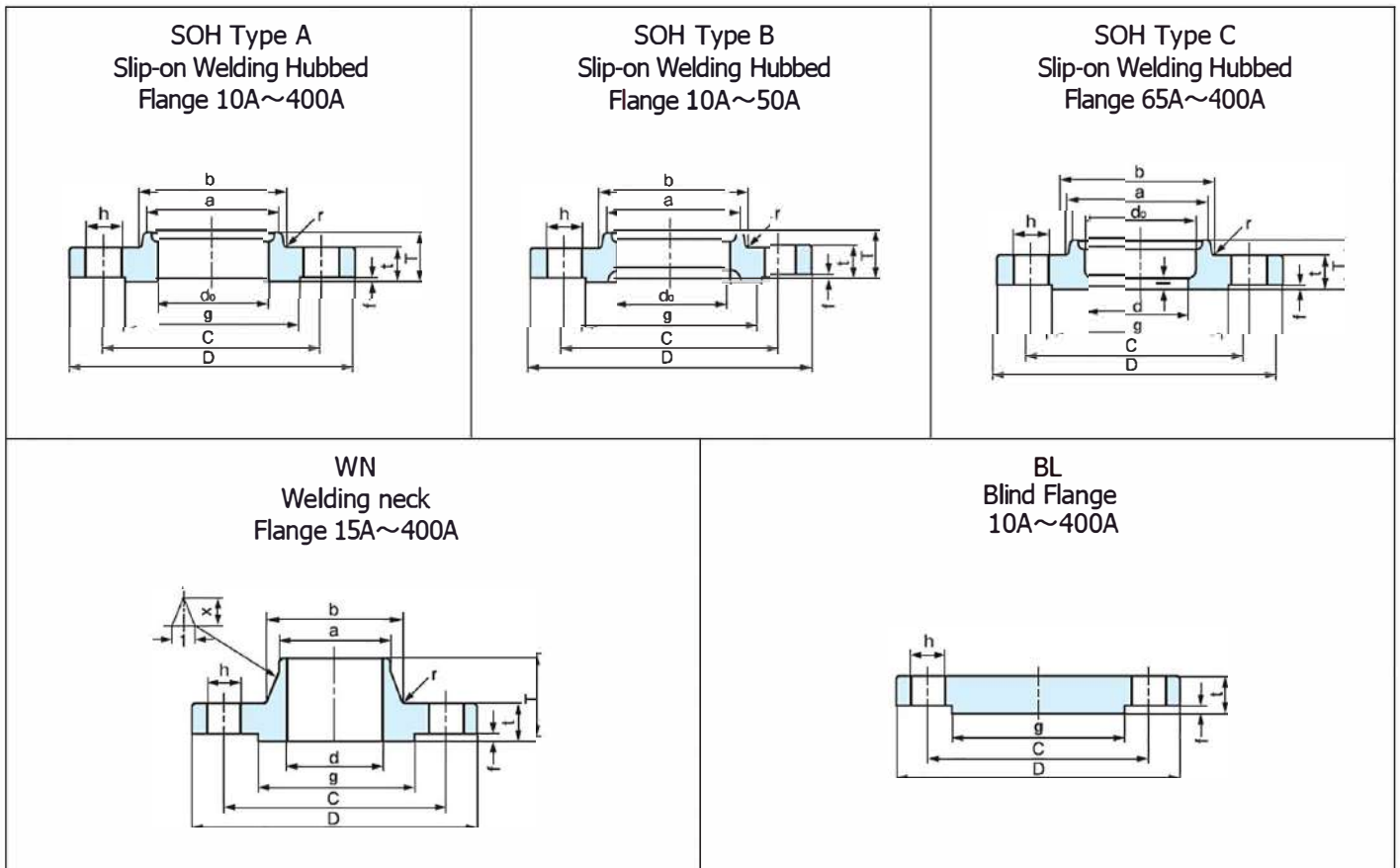
Nominal Size	Thickness of Flange	Diam. of Hub at Small End		Diam. of Hub at Large End		Taper of Hub	Length thru. Hub		Cham-fearing	Radius of Fillet	Stopper of Socket
		SOH SW	WN	SOH SW	WN		SOH SW	WN			
		LJ, TR		LJ, TR			LJ, TR		LJ		SOH Type C
A	t	a		b		x	T		R	r	I
10	14	30	17.3	32	29	1.25	20	33	—	4	—
15	14	34	21.7	36	34	1.25	20	34	3	4	—
20	16	40	27.2	42	39	1.25	22	36	3	4	—
25	16	48	34.0	50	47	1.25	24	38	3	4	—
32	18	56	42.7	60	56	1.25	26	41	4	5	—
40	18	62	48.6	66	62	1.25	26	41	4	5	—
50	18	76	60.5	80	75	1.25	26	42	4	5	—
65	20	100	76.3	104	92	1.25	30	48	5	5	6
80	22	113	89.1	117	105	1.25	34	51	5	6	6
90	24	126	101.6	130	118	1.25	36	54	5	6	6
100	24	138	114.3	142	134	1.25	36	58	5	6	6
125	26	166	139.8	172	162	1.25	40	64	6	6	6
150	28	196	165.2	202	192	1.25	42	73	6	6	6
200	30	244	216.3	252	244	1.25	46	77	6	6	6
250	34	304	267.4	312	298	1.25	52	87	6	6	6
300	36	354	318.5	364	352	1.25	56	94	9	8	6
350	40	398	355.6	408	398	1.25	62	110	9	8	6
400	46	446	406.4	456	452	1.25	70	123	9	10	7
450	48	504	457.2	514	510	1.25	78	134	9	10	7
500	50	558	508.0	568	561	1.25	84	136	9	10	7
550	52	612	558.8	622	616	1.25	90	143	9	10	7
600	54	666	609.6	676	670	1.25	96	149	9	10	7



Unit : mm

Nominal Size A	S1	S2	m	n	a	Leg of Weld	
						w1	w2
10	27	27	4	4	—	4	3
15	31	31	4	4	—	4	3
20	37	37	4	4	—	5	3.5
25	44	44	4	4.5	—	6	4
32	52	53	4	5	—	6	4
40	58	59	4	5.5	—	6	4
50	70	72	4	5.5	—	6.5	4
65	94	—	6	—	20°	8	6
80	107	—	6	—	20°	8	6
90	120	—	6	—	20°	9	6
100	132	—	6	—	20°	9	7
125	160	—	7	—	30°	10	7
150	186	—	8	—	30°	10	8
200	237	—	9	—	30°	11	9
250	290	—	10	—	30°	12	10
300	345	—	11	—	30°	13	11
350	384	—	12	—	35°	14	12
400	437	—	13	—	35°	15	12
450	490	—	15	—	35°	16	14
500	544	—	16	—	35°	16	14
550	595	—	16	—	35°	18	16
600	646	—	18	—	35°	18	16

Japanese Industrial Standards (JIS) Flanges 30K Flange Dimensions



Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore		Thickness of Flange	Raised Face	
					SOH	SOH WN (1)		Diameter	Height
					d0	d		g	f
A	D	C	h				t		
10	110	75	19	4	17.8	—	16	52	1
15	115	80	19	4	22.2	16.1	18	55	1
20	120	85	19	4	27.7	21.4	18	60	1
25	130	95	19	4	34.5	27.2	20	70	1
32	140	105	19	4	43.2	35.5	22	80	2
40	160	120	23	4	49.1	41.2	22	90	2
50	165	130	19	8	61.1	52.7	22	105	2
65	200	160	23	8	77.1	65.9	26	130	2
80	210	170	23	8	90.0	78.1	28	140	2
90	230	185	25	8	102.6	90.2	30	150	2
100	240	195	25	8	115.4	102.3	32	160	2
125	275	230	25	8	141.2	126.6	36	195	2
150	325	275	27	12	166.6	151.0	38	235	2
200	370	320	27	12	218.0	199.9	42	280	2
250	450	390	33	12	269.5	248.8	48	345	2
300	515	450	33	16	321.0	297.9	52	405	3
350	560	495	33	16	358.1	333.4	54	450	3
400	630	560	39	16	409	381.0	60	510	3

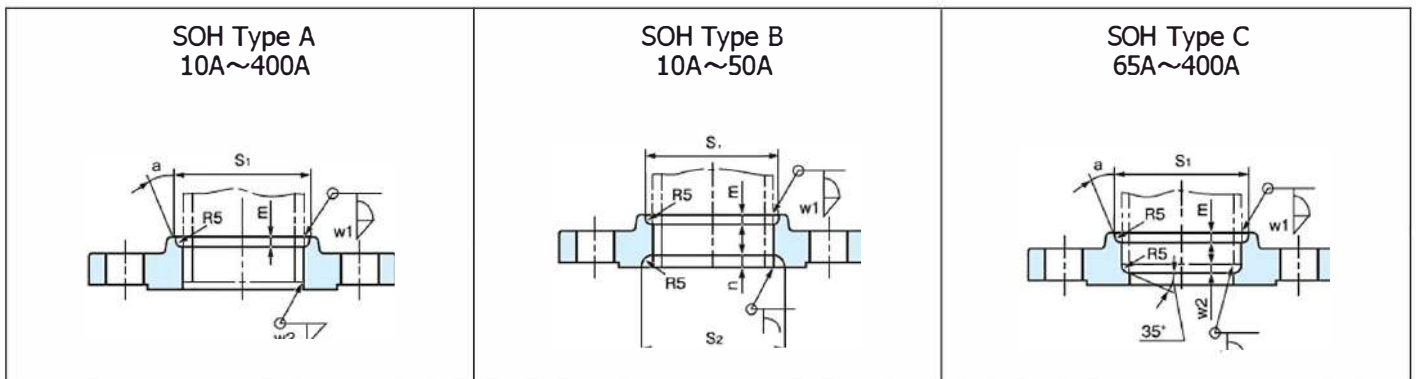
Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Japanese Industrial Standards (JIS) Flanges 30K Flange Dimensions



Unit : mm

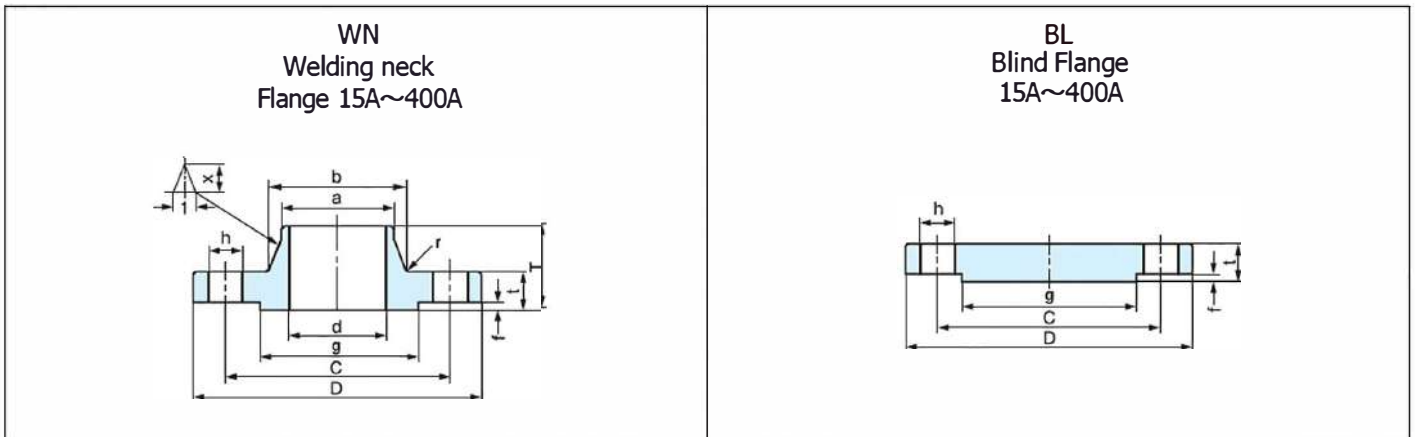
Nominal Size	Diam. of Hub at Small End		Diam. of Hub at Large End		Taper of Hub	Length thru. Hub		Radius of Fillet		Stopper of Socket
	SOH	WN	SOH	WN		SOH	WN	SOH	WN	SOH Type C
	A	a	b		WN	T		r		I
10	30	—	34	—	—	24	—	4	—	—
15	36	21.7	40	40	1.25	26	45	5	6	—
20	42	27.2	46	44	1.25	28	45	5	6	—
25	50	34.0	54	52	1.25	30	48	5	6	—
32	60	42.7	64	62	1.25	32	52	6	6	—
40	66	48.6	70	70	1.25	34	54	6	6	—
50	82	60.5	86	84	1.25	36	57	6	8	—
65	102	76.3	106	104	1.25	40	69	8	8	6
80	115	89.1	121	118	1.25	44	73	8	8	6
90	128	101.6	134	130	1.25	46	74	8	8	6
100	141	114.3	147	142	1.25	48	76	8	8	6
125	166	139.8	172	172	1.25	54	86	8	10	6
150	196	165.2	204	202	1.25	58	95	8	10	6
200	248	216.3	256	254	1.25	64	102	8	10	6
250	306	267.4	314	312	1.25	72	118	10	12	6
300	360	318.5	370	366	1.25	78	127	10	15	6
350	402	355.6	412	406	1.25	84	134	12	15	6
400	456	406.4	468	462	1.25	92	149	15	20	7



Unit : mm

Nominal Size A	S1	S2	m	n	a	Leg of Weld	
						w1	w2
10	27	27	4	4	—	4	3
15	31	40	4	5	—	4	3
20	37	44	5	5	—	5	3.5
25	44	52	6	5	—	6	4
32	52	60	6	5	—	6	4
40	58	66	6	5	—	6	4
50	70	78	6.5	5	—	6.5	4
65	96	—	9.5	—	20°	10	6
80	109	—	9.5	—	20°	10	6
90	122	—	9.5	—	20°	10.5	6
100	135	—	9.5	—	20°	10.5	7
125	160	—	9.5	—	20°	10.5	7
150	186	—	9.5	—	20°	10.5	8
200	237	—	9.5	—	20°	11	9
250	290	—	10	—	20°	12	10
300	345	—	12	—	30°	13	11
350	385	—	13	—	30°	14	12
400	435	—	14	—	30°	15	13

Japanese Industrial Standards (JIS) Flanges 40K Flange Dimensions

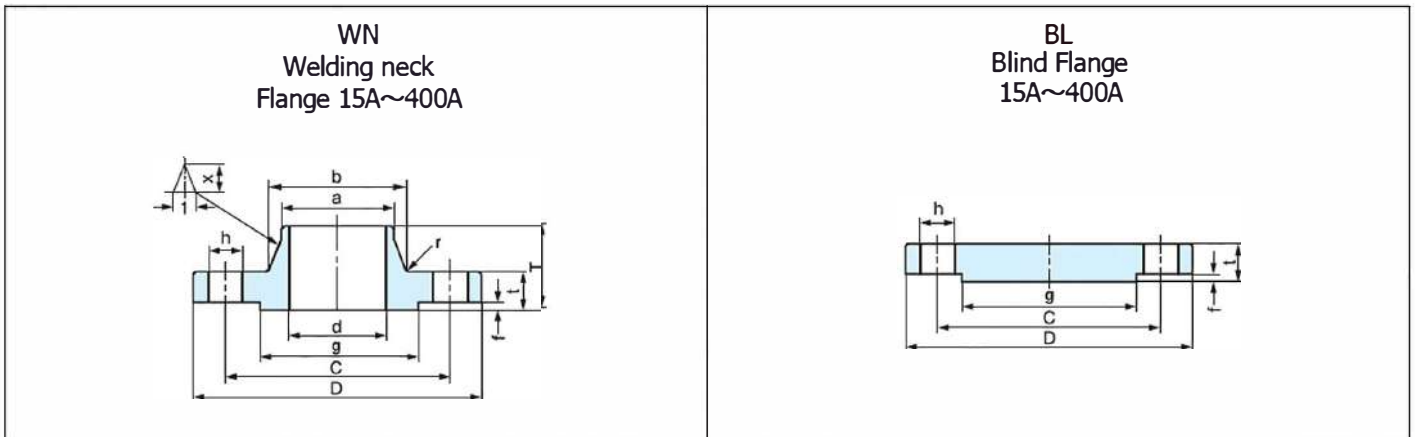


Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore	Thickness of Flange	Raised Face		Diam. of Hub at Small End	Diam. of Hub at Large End	Taper of Hub	Length thru. Hub	Radius of Fillet
					WN (1)		Diameter	Height	WN	WN	WN	WN	WN
A	D	C	h		d	t	g	f	a	b	x	T	r
15	115	80	19	4	16.1	20	55	1	21.7	40	1.25	48	6
20	120	85	19	4	21.4	20	60	1	27.2	45	1.25	48	6
25	130	95	19	4	27.2	22	70	1	34.0	54	1.25	53	6
32	140	105	19	4	35.5	24	80	2	42.7	62	1.25	54	6
40	160	120	23	4	41.2	24	90	2	48.6	72	1.25	59	6
50	165	130	19	8	52.7	26	105	2	60.5	87	1.25	65	8
65	200	160	23	8	65.9	30	130	2	76.3	108	1.25	78	8
80	210	170	23	8	78.1	32	140	2	89.1	119	1.25	78	8
90	230	185	25	8	90.2	34	150	2	101.6	130	1.25	79	8
100	250	205	25	8	102.3	36	165	2	114.3	146	1.25	85	8
125	300	250	27	8	126.6	40	200	2	139.8	186	1.25	108	10
150	355	295	33	12	151.0	44	240	2	165.2	215	1.25	117	10
200	405	345	33	12	199.9	50	290	2	216.3	270	1.25	130	10
250	475	410	33	12	248.8	56	355	2	267.4	333	1.25	152	12
300	540	470	39	16	297.9	60	410	3	318.5	380	1.25	153	15
350	585	515	39	16	333.4	64	455	3	355.6	425	1.25	168	15
400	645	570	39	16	381.0	70	515	3	406.4	466	1.25	168	20

Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Japanese Industrial Standards (JIS) Flanges 63K Flange Dimensions



Unit : mm

Nominal Size	Outside Diameter	Bolt Circle Diameter	Diam. of Bolt Holes	Number of Bolt Holes	Bore	Thickness of Flange	Raised Face		Diam. of Hub at Small End	Diam. of Hub at Large End	Taper of Hub	Length thru. Hub	Radius of Fillet
					WN (1)		Diameter	Height	WN	WN	WN	WN	WN
A	D	C	h		d	t	g	f	a	b	x	T	r
15	120	85	19	4	14.3	23	55	1	21.7	42	1.25	57	6
20	135	95	23	4	19.4	25	60	1	27.2	46	1.25	57	6
25	140	100	23	4	25.0	27	70	1	34.0	55	1.25	61	6
32	150	110	23	4	32.9	30	80	2	42.7	60	1.25	61	6
40	175	130	25	4	38.4	32	90	2	48.6	75	1.25	73	6
50	185	145	23	8	49.5	34	105	2	60.5	92	1.25	82	8
65	220	175	25	8	62.3	38	130	2	76.3	118	1.25	101	8
80	230	185	25	8	73.9	40	140	2	89.1	130	1.25	103	8
90	255	205	27	8	85.4	42	150	2	101.6	140	1.25	103	8
100	270	220	27	8	97.1	44	165	2	114.3	154	1.25	107	8
125	325	265	33	8	120.8	50	200	2	139.8	190	1.25	127	10
150	365	305	33	12	143.2	54	240	2	165.2	230	1.25	152	10
200	425	360	33	12	190.9	60	290	2	216.3	280	1.25	159	10
250	500	430	39	12	237.2	68	355	2	267.4	346	1.25	189	12
300	560	485	39	16	283.7	77	410	3	318.5	395	1.25	199	15
350	615	530	45	16	317.6	81	455	3	355.6	429	1.25	202	15
400	680	590	45	16	363.6	89	515	3	406.4	479	1.25	212	20

Note : ①The Bore d shall be adjusted by the inside diameter of the steel pipe to be joined.

Weight of Japanese Industrial Standards (JIS) Flanges



Unit : kg

Nominal Size	2K flange		5K flange								10K flange								
	A	SOP	BL	SOP	SOH	SW	LJ	TR	WN	WN★	BL	SOP	SOH	SW	LJ	TR	WN	WN★	BL
10	—	—	0.26	—	0.27	—	0.28	0.30	0.30	—	0.28	0.51	—	0.52	—	0.52	0.55	—	0.53
15	—	—	0.30	—	0.31	0.29	0.31	0.35	—	—	0.32	0.56	—	0.58	0.56	0.58	0.63	—	0.60
20	—	—	0.36	—	0.38	0.36	0.39	0.44	—	—	0.41	0.72	—	0.75	0.71	0.75	0.80	—	0.79
25	—	—	0.45	—	0.48	0.44	0.50	0.56	—	—	0.52	1.12	—	1.16	1.11	1.17	1.26	—	1.22
32	—	—	0.77	—	0.83	0.76	0.84	0.94	—	—	0.91	1.47	—	1.53	1.45	1.54	1.67	—	1.66
40	—	—	0.82	—	0.90	0.80	0.91	1.03	—	—	1.00	1.55	—	1.65	1.53	1.65	1.78	—	1.79
50	—	—	1.06	—	1.19	1.03	1.20	1.33	—	—	1.38	1.86	—	1.97	1.83	1.99	2.18	—	2.23
65	—	—	1.48	—	1.72	1.44	1.74	1.92	—	—	2.00	2.58	—	2.77	2.53	2.79	3.07	—	3.24
80	—	—	1.97	—	2.34	1.92	2.35	2.53	—	—	2.67	2.58	—	2.89	2.52	2.90	3.17	—	3.48
90	—	—	2.08	—	—	2.02	—	2.70	—	—	2.99	2.73	—	—	2.66	—	3.40	—	3.90
100	—	—	2.35	—	—	2.28	2.99	3.04	—	—	3.66	3.10	—	—	3.02	3.70	3.89	—	4.57
125	—	—	3.20	—	—	3.08	4.29	4.17	—	—	5.16	4.73	—	—	4.60	5.70	5.77	—	7.18
150	—	—	4.39	—	—	4.25	5.74	5.87	—	—	7.47	6.30	—	—	6.14	7.48	7.86	—	10.1
175	—	—	5.42	—	—	—	—	7.16	—	—	9.52	6.75	—	—	—	—	8.70	—	11.8
200	—	—	6.24	—	—	6.06	—	8.50	—	—	12.1	7.46	—	—	7.28	—	10.1	—	13.9
225	—	—	6.57	—	—	—	—	9.30	—	—	13.9	7.70	—	—	—	—	10.6	—	15.8
250	—	—	9.39	—	—	9.11	—	13.2	—	—	19.2	11.8	12.7	—	12.3	—	16.0	—	22.6
300	—	—	10.2	—	—	9.76	—	15.1	—	—	24.2	12.6	13.8	—	13.2	—	18.1	—	27.8
350	—	—	14.0	—	—	13.4	—	21.6	—	—	33.0	16.3	18.2	—	17.4	—	24.8	—	36.9
400	—	—	16.9	—	—	16.2	—	26.2	—	—	41.7	23.2	25.8	—	24.8	—	34.2	—	52.1
450	19.9	48.8	21.4	24.9	—	23.9	—	32.7	—	—	52.7	29.3	33.4	—	32.3	—	42.7	—	68.4
500	21.5	57.1	23.0	27.0	—	25.6	—	35.4	—	—	61.6	33.3	38.0	—	36.4	—	50.3	60.4	81.6
550	28.2	75.2	30.1	34.5	—	33.0	—	44.4	—	—	80.8	42.9	49.4	—	47.7	—	64.4	76.7	112※
600	30.4	86.3	32.5	37.8	—	36.2	—	47.8	—	—	92.7	45.4	52.6	—	50.8	—	69.1	82.1	134※
650	33.5	99.1	35.6	43.2	—	—	—	54.3	—	—	114	51.8	60.2	—	—	—	78.7	92.6	161
700	35.8	111.8	38.0	45.8	—	—	—	60.6	74.0	—	138	59.0	70.2	—	—	—	94.5	129.0	196
750	43.0	130.3	48.4	57.7	—	—	—	75.4	91.1	—	171	72.8	86.5	—	—	—	114	158.0	248
800	45.4	144.7	51.2	61.3	—	—	—	79.5	96.3	—	202	76.0	92.0	—	—	—	120	166.0	286
850	47.8	159.9	53.9	65.3	—	—	—	87.0	105	—	237	80.1	98.7	—	—	—	126	175.0	330
900	50.1	175.8	60.7	73.1	—	—	—	95.2	114	—	260	88.9	110	—	—	—	138	190.0	377
1000	58.9	226.9	70.1	84.8	—	—	—	111	147	—	345	109	133	—	—	—	171	236.0	512
1100	67.9	271.2	81.6	105	—	—	—	146	202	—	454	131	175	—	—	—	222	307.0	675
1200	79.7	321.2	101	129	—	—	—	190	265	—	586	163	215	—	—	—	275	381.0	854
1350	90.5	396.2	116	151	—	—	—	240	324	—	814	204	274	—	—	—	368	496.0	1180
1500	109.6	515.4	137	180	—	—	—	284	385	—	1060	248	340	—	—	—	459	624.0	1590

Notes :

- Regarding WN* , refer to dimensions of WN (1) of page33.
- Regarding WN** , refer to dimensions of WN (1) of page34.
- The above flange weight is computed as 7.85g/cm² in density of steel.
- The mass of the above flange is based on flat face type for the computation.

Weight of Japanese Industrial Standards (JIS) Flanges



Unit : kg

Nominal Size	16K flange						20K flange								
	A	SOH	SW	LJ	TR	WN	BL	SOH			SW	LJ	TR	WN	BL
								A	B	C					
10	0.52	0.53	—	0.53	0.56	0.53	0.58	0.58	—	0.60	—	0.60	0.61	0.59	
15	0.58	0.58	0.57	0.59	0.64	0.60	0.65	0.64	—	0.67	0.68	0.67	0.70	0.67	
20	0.75	0.76	0.74	0.77	0.81	0.79	0.81	0.80	—	0.84	0.84	0.84	0.88	0.86	
25	1.16	1.18	1.15	1.19	1.27	1.22	1.27	1.26	—	1.31	1.33	1.32	1.37	1.34	
32	1.53	1.56	1.50	1.57	1.67	1.66	1.58	1.57	—	1.64	1.70	1.64	1.73	1.73	
40	1.64	1.68	1.61	1.69	1.79	1.79	1.68	1.66	—	1.74	1.80	1.74	1.85	1.87	
50	1.83	1.88	1.79	1.90	2.05	2.09	1.89	1.86	—	1.96	2.00	1.97	2.12	2.20	
65	2.58	2.68	2.51	2.71	3.00	3.08	2.73	—	2.81	2.92	2.89	2.91	3.11	3.24	
80	3.61	3.76	3.53	3.81	4.16	4.41	3.85	—	3.95	4.13	4.04	4.08	4.30	4.63	
90	3.89	—	3.80	—	4.53	4.92	4.47	—	4.59	—	4.67	—	5.08	5.67	
100	4.87	—	4.76	5.18	5.76	6.29	5.03	—	5.18	—	5.24	5.35	5.95	6.61	
125	7.09	—	6.92	7.76	8.39	9.21	7.94	—	8.15	—	8.24	8.44	9.31	10.5	
150	9.57	—	9.35	10.2	11.5	12.7	10.4	—	10.7	—	10.8	11.1	12.6	14.4	
200	12.0	—	11.8	—	15.3	18.4	13.1	—	13.6	—	13.6	—	16.6	20.8	
250	20.1	—	19.6	—	24.8	30.4	23.1	—	23.8	—	23.7	—	28.3	36.2	
300	24.3	—	23.6	—	31.3	40.5	27.2	—	28.1	—	28.1	—	34.9	47.4	
350	34.4	—	33.5	—	45.7	57.5	38.4	—	39.5	—	39.7	—	50.2	66.1	
400	47.4	—	46.3	—	63.6	81.7	53.9	—	55.5	—	55.6	—	71.7	97.0	
450	61.8	—	60.5	—	82.8	107	71.0	—	72.9	—	73.1	—	92.8	126	
500	73.7	—	71.7	—	96.3	132	84.6	—	86.7	—	86.5	—	108	155	
550	87.9	—	85.8	—	116	163	102	—	104	—	104	—	128	190	
600	98.4	—	96.1	—	130	192	115	—	117	—	117	—	144	223	

Notes :

- The above flange weight is computed as 7.85g/cm² in density of steel.
- The mass of 16K flange is based on flat face type and the mass of both 20K and 30K flange is based on raised face type for the computation.

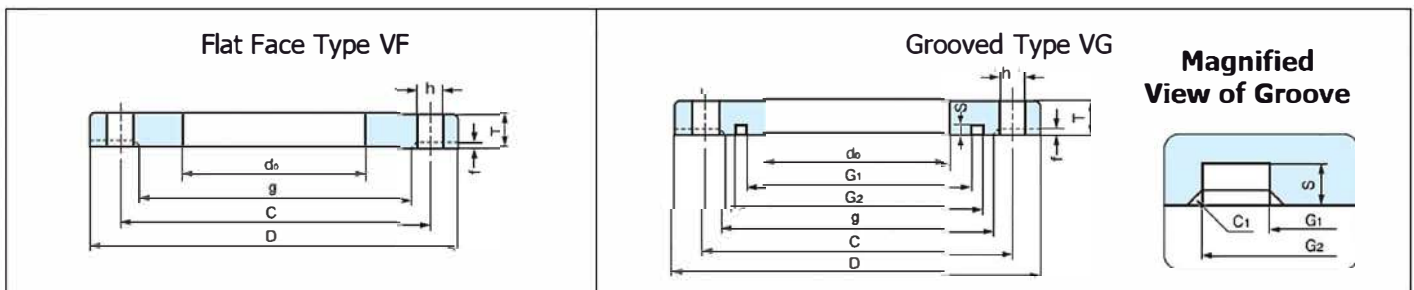
Unit : kg

Nominal Size	30K flange					40K flange		63K flange	
	SOH			WN	BL	WN	BL	WN	BL
	A	B	C						
10	1.00	1.00	—	—	1.00	—	—	—	—
15	1.24	1.22	—	1.33	1.25	1.47	1.40	1.89	1.78
20	1.36	1.34	—	1.45	1.38	1.61	1.54	2.51	2.41
25	1.77	1.75	—	1.92	1.84	2.14	2.03	2.98	2.83
32	2.17	2.15	—	2.39	2.32	2.60	2.54	3.65	3.60
40	2.82	2.79	—	3.09	3.00	3.41	3.29	5.54	5.30
50	2.89	2.86	—	3.24	3.14	3.88	3.74	6.43	6.05
65	4.88	—	4.96	5.70	5.50	6.68	6.38	10.9	9.84
80	5.70	—	5.80	6.72	6.63	7.61	7.62	12.4	11.5
90	7.13	—	7.25	8.31	8.55	9.31	9.73	15.4	14.9
100	8.01	—	8.16	9.40	10.0	11.8	12.4	18.1	17.7
125	11.6	—	11.9	14.0	15.3	20.3	20.2	30.0	29.2
150	17.0	—	17.3	20.2	22.2	29.2	30.0	42.4	39.2
200	22.2	—	22.6	27.2	32.6	41.9	45.7	61.0	61.0
250	36.8	—	37.5	45.2	55.2	66.1	72.3	97.3	95.9
300	49.1	—	50.0	61.0	77.9	81.2	97.0	128	135
350	60.4	—	61.5	74.5	96.9	103	123	154	170
400	82.0	—	83.7	103	136	127	167	202	233

Notes :

- The above flange weight is computed as 7.85g/cm² in density of steel.
- The mass of the above flange is based on raised face type for the computation.

Vacuum Flange Dimensions and Vacuum Flange Dimensional Tolerance



Vacuum flange dimensions

Unit : mm

Nominal Size	Outside Diam. of Pipe	Dimensions of Flange					Bolt Holes			Gasket Groove		
		Outside Diam.	Bore	Thickness	Height of Raised Face	Diam. of Raised Face	Bolt Circle Diam.	Number of Bolt Holes	Diam. of Bolt Holes	Inside Diam.	Outside Diam.	Depth
A		D	d0	T	f	g	C	a	h	G1	G2	S
10	17.3	70	17.8	8	1	38	50	4	10	24	34	3
20	27.2	80	27.7	8	1	48	60	4	10	34	44	3
25	34.0	90	34.5	8	1	58	70	4	10	40	50	3
40	48.6	105	49.1	10	1	72	85	4	10	55	65	3
50	60.5	120	61.1	10	1	88	100	4	10	70	80	3
65	76.3	145	77.1	10	1	105	120	4	12	85	95	3
80	89.1	160	90.0	12	2	120	135	4	12	100	110	3
100	114.3	185	115.4	12	2	145	160	8	12	120	130	3
125	139.8	210	141.2	12	2	170	185	8	12	150	160	3
150	165.2	235	166.6	12	2	195	210	8	12	175	185	3
200	216.3	300	218.0	16	2	252	270	8	15	225	241	4.5
250	267.4	350	269.5	16	2	302	320	12	15	275	291	4.5
300	318.5	400	321.0	16	2	352	370	12	15	325	341	4.5
350	355.6	450	358.1	20	2	402	420	12	15	380	396	4.5
400	406.4	520	409	20	2	458	480	12	18.5	430	446	4.5
450	457.2	575	460	20	2	511	535	16	18.5	480	504	7
500	508.0	625	511	22	2	561	585	16	18.5	530	554	7
550	558.8	680	562	24	2	616	640	16	18.5	585	609	7
600	609.6	750	613	24	2	672	700	16	23	640	664	7
650	660.4	800	664	24	2	722	750	20	23	690	714	7
700	711.2	850	715	26	2	772	800	20	23	740	764	7
750	762.0	900	766	26	2	822	850	20	23	790	814	7
800	812.8	955	817	26	2	877	905	24	23	845	869	7
900	914.4	1065	919	28	2	983	1015	24	25	950	974	7
1000	1016.0	1170	1021	28	2	1088	1120	24	25	1055	1079	7

Notes :

- The tolerances for f, g and h shall be appropriately determined for individual cases in such a way as well cause no inconveniences in practice.
- As to the outside diameter (d) of the pipe to be jointed, those shown in the table or other sizes nearly equal to them shall be used.
- The joint face of the flange can be made as shown by the broken line.
- The bolt fastening face of the flange shall be finished in parallel to the joint face of the flange.
- In case O ring is used for the gasket, the chamfered edge of the groove can be made smaller than shown above.

Dimensional tolerance

Unit : mm

Parts of Flange		Range of Standard Dimensions	Tolerance	
Outside Diameter of Flange	D	70 ~ 235	+1	0
		300 ~ 575	+1.5	0
		625 ~ 1170	+2	0
Thickness of Flange	T	8 ~ 18	+1	0
		20 ~ 28	+1.5	0
Diameter of Bolt Circle	C	50 ~ 210	±0.5	
		270 ~ 585	±0.6	
		640 ~ 1120	±0.8	
Pitch of Bolt Hole		(39.25 ~ 146.53) *	±0.5	
Inside Diameter of Groove for Gasket	G1	24 ~ 325	+1.0	0
		380 ~ 640	+1.5	0
		690 ~ 1055	+2	0
Width of Groove		(5 ~ 12) *	+0.1	0
Depth of Groove	S	3 ~ 7	0	-0.2

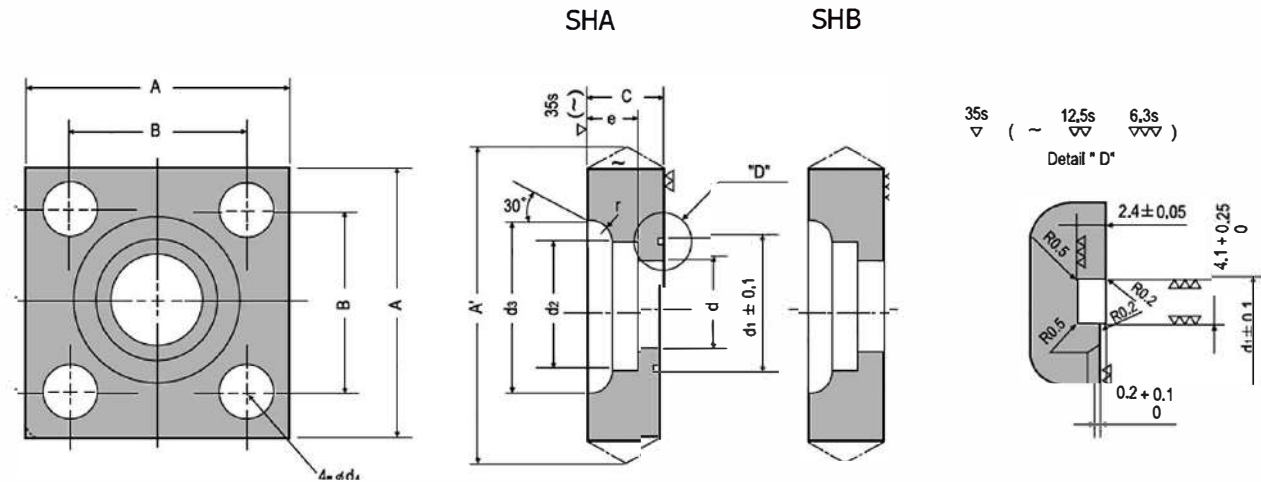
Note : ① Numerical values marked with* are obtained from the standard dimensions in the table.

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Japanese Industrial Standards
(JIS) B 2291 Flanges for Oil
Pressure.

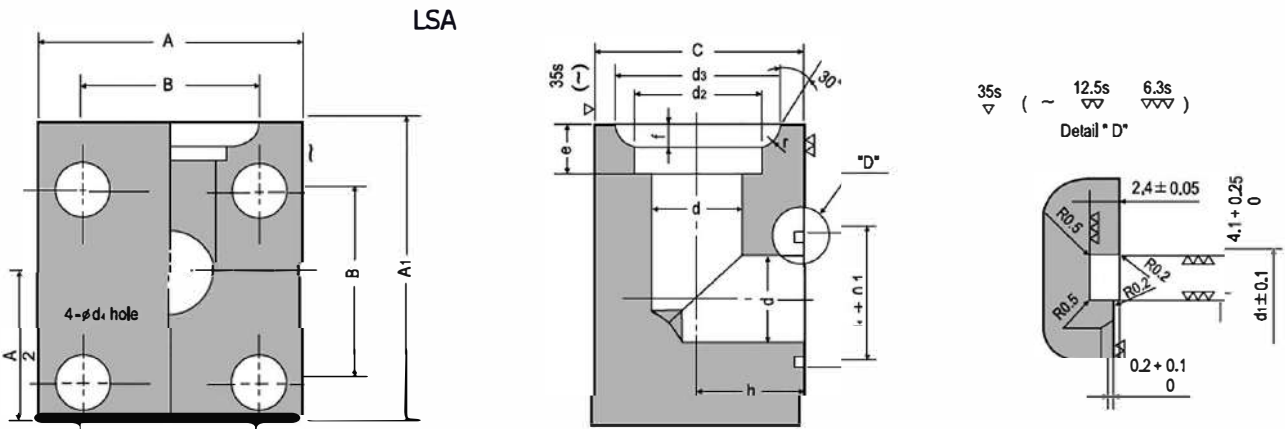


210kg/Cm²



Unit:mm

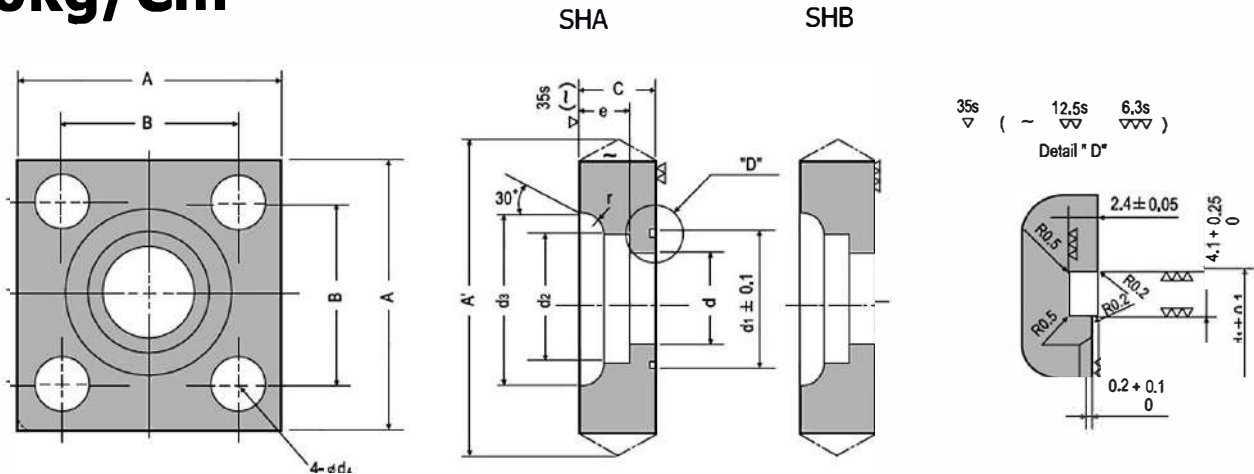
Nominal Bore	A		A' (MAX)	B		C		d	d1	d2		e	d3	d4	f	r	Weight (kg)	기호	
15	63	±1	67	40	±0.2	22	+0	16	30	±0.1	22.2	+0.2	11	32	11	3.5	5	0.6	G25
20	68		72	45		22	-1	20	35		27.7	-0	12	38	11	4.0	5	0.7	G30
25	80		85	53		28	+0	25	40		34.5		14	45	13	4.0	5	1.2	G35
32	90	±1.2	95	63	±0.4	28	-1.5	31.5	45	±0.1	43.2	+0.3	16	56	13	6.0	5	1.5	G40
40	100		106	70		36		37.5	55		49.1	-0	18	63	18	7.0	5	2.4	G50
50	112	±1.5	118	80	±0.4	36	+0	47.5	65	±0.1	61.1		20	75	18	7.0	5	2.8	G60
65	140		148	100		45	-2	60	80		77.1	+0.4	22	95	22	9.5	6	5.3	G75
80	155		163	112		45		71	90		90.0	-0	25	108	24	11.0	6	6.2	G85



Unit:mm

Nominal Bore	A		A'		B		C		h	d	d1	d2		e	d3	d4	f	r	Weight (kg)	
15	54	±1	63	±1	36	±0.2	40	±0.2	20	16	30	22.2	+0.2	11	32	11	3.5	5	1.0	
20	58		70		40		22.5		20	35	27.7	-0	12	38	11	4.0	5	1.3		
25	68	±1.2	82	±1.2	48		50		25	25	40	34.5	+0.3	14	45	13	4.0	5	1.9	
32	76		92		56		63		31.5	31.5	45	43.2		16	56	13	6.0	5	2.9	
40	92	±1.5	110	±1.5	65	71	35.5		37.5	55	49.1	-0		18	63	18	7.0	5	4.7	
50	100		125		73	85	42.5		47.5	65	61.1	20		75	18	7.0	5	6.8		
65	128	±2	150	±2	92	±0.4	106		±0.4	53	60	80	77.1	+0.4	22	95	22	9.5	6	12.8
80	140		170		103		118			59	71	90	90.0	-0	25	108	24	11.0	6	17.0

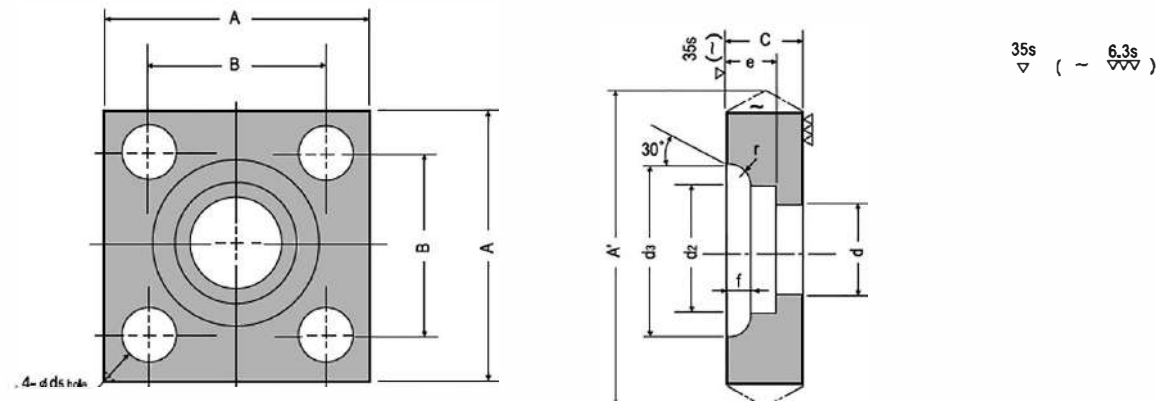
210kg/Cm²



Unit:mm

Nominal Bore	A		A' (MAX)	B		C		d	d		d2		e	d3	d4	f	r	Weight (kg)
15	54	±1	58	36	±0.2	22	+0	16	30	±0.1	22.2	+0.2	11	32	11	3.5	5	0.5
20	58		62	40		22	-1	20	35		27.7	-0	12	38	11	4.0	5	0.6
25	68		±1.2	73		48	28	+0	25		40	34.5	+0.3	14	45	13	4.0	5
32	76	81		56	28	-1.5	31.5	45	43.2	+0.3	16	56		13	6.0	5	1.0	
40	92	±1.5	98	65	±0.4	36	+0	37.5	55	±0.1	49.1	-0	18	63	18	7.0	5	1.9
50	100		106	73		36		47.5	65		61.1	-0	20	75	18	7.0	5	2.0
65	128	±2	136	92	±0.4	45	-2	60	80	±0.1	77.1	+0.4	22	95	22	9.5	6	4.1
80	140		148	103		45		71	90		90.0	-0	25	108	24	11.0	6	4.7

SSB



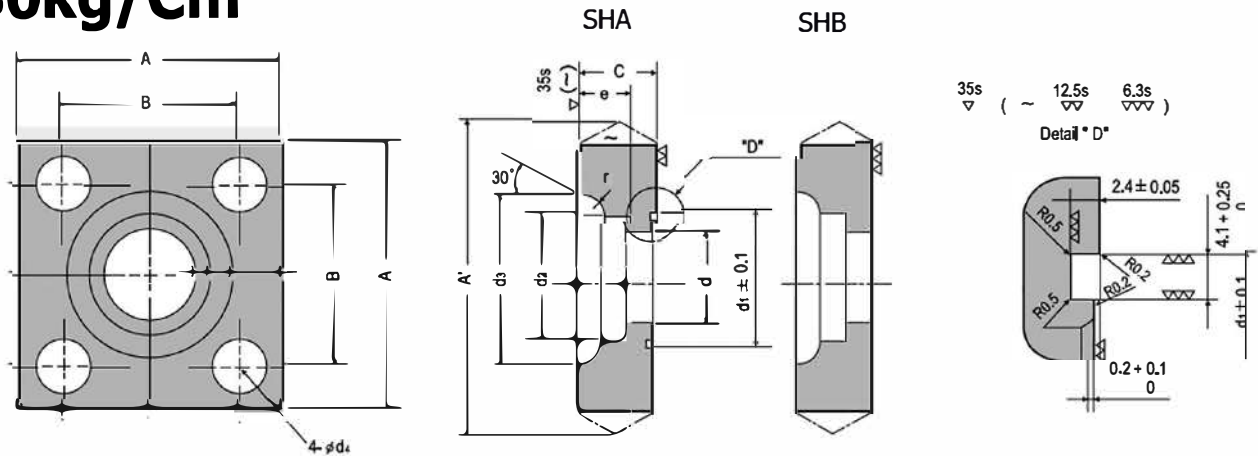
Unit:mm

Nominal Bore	A		A' (MAX)	B		C		d	d2		e	d3	d4	f	r	Weight (kg)	
15	54	±1	58	36	±0.2	22	+0	16	22.2	+0.2 -0	11	32	M10	3.5	5	0.5	
20	58		62	40		22	-1	20	27.7		12	38	M10	4.0	5	0.6	
25	68	±1.2	73	48		28	+0	25	34.5	+0.3 -0	14	45	M12	4.0	5	0.8	
32	76		81	56		28	-1.5	31.5	43.2		16	56	M12	6.0	5	1.0	
40	92	±1.5	98	65	±0.4	36	+0 -2	37.5	49.1		-0	18	63	M16	7.0	5	1.9
50	100		106	73		36		47.5	61.1			20	75	M16	7.0	5	2.0
65	128	±2	136	92		45		60	77.1	+0.4 -0	22	95	M20	9.5	6	4.1	
80	140		148	103		45		71	90.0		25	108	M22	11.0	6	4.7	

Japanese Industrial Standards
(JIS) B 2291 Flanges for Oil
Pressure.



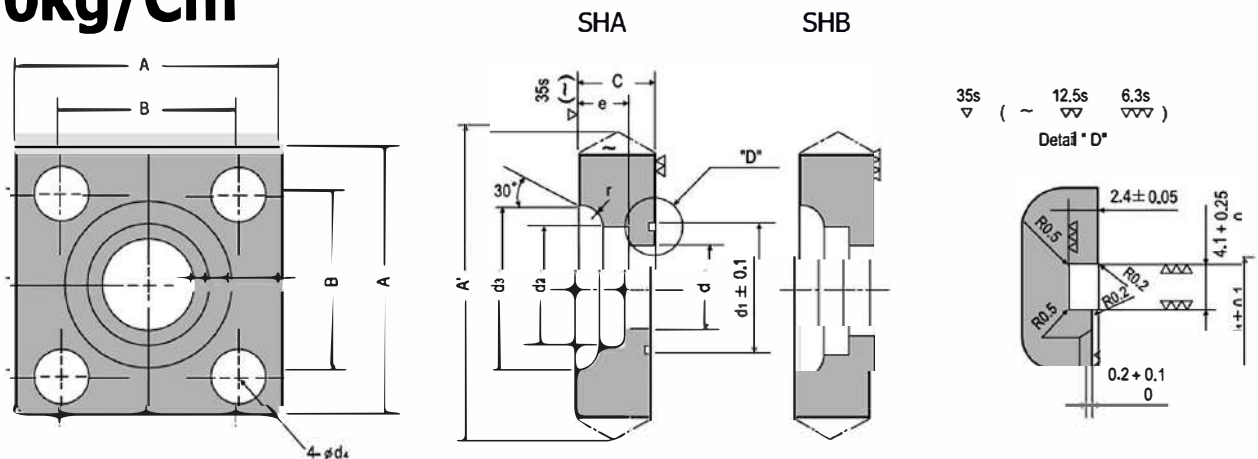
280kg/Cm²



Unit:mm

Nominal Bore	A		A' (MAX)	B		C		d	d	d2		e	d8	d4	f	r	Weight (kg)
15	66	±1	70	43	±0.2	22	+0	12.3	24	±0.1	22.2	+0.2	12	34	11	4.0	0.63
20	72		76	48		25	-1	16.2	30		27.7	-0	12	40	11	4.5	5
25	85	±1.2	91	58	±0.2	35	+0	21.2	35	±0.1	34.5	+0.3	14	48	13.5	5.0	1.64
32	98		104	68		35	-1.5	29.9	45		43.2		18	60	17.5	6.5	5
40	105	±1.5	112	74	±0.4	40	+0	34.4	50	±0.1	49.1	-0	20	66	17.5	7.5	2.66
50	130		139	90		50		43.1	60		61.1	20	79	22	8.0	5	5.14
65	150	±2	161	108	±0.4	60	-2	57.3	75	±0.1	77.1	+0.4	25	100	24	10.0	7.95
80	170		181	120		65		66.9	85		90.0	-0	25	114	26	12.0	6

350kg/Cm²



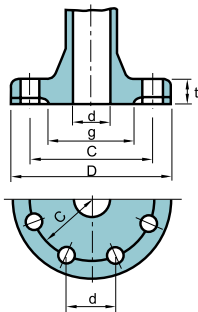
Unit:mm

Nominal Bore	A		A' (MAX)	B		C		d	d		d2		e	d8	d4	f	r	Weight (kg)
15	68	±1.2	73	45	±0.2	28	+0 -1.5	12.3	24	±0.1	22.2	+0.2	12	37.5	11	4	5	0.88
20	82		87	55		30		16.2	30		27.7	-0	12	43.5	13.5	5	5	1.34
25	95		101	65		35		21.2	35		34.5	+0.3 -0	14	53	17.5	5.5	6	2.02
32	100		106	70		35		23.3	40		43.2		18	63	17.5	7	6	2.16
40	105	±1.5	112	75	±0.4	42	+0 -2	28.2	45	±0.1	49.1	+0.3 -0	20	70	17.5	8	6	2.84
50	132		140	92		50		38.3	55		61.1		25	84	22	9	6	5.30
65	160	±2	170	112		60		48.3	65		77.1	+0.4	30	105	26	12	7	9.92
80	190		202	130		68		58.7	75		90.0	-0	30	120	33	13.5	7	14.8

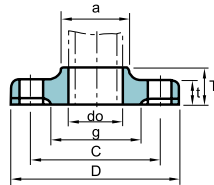
Tolerance for Japanese Industrial standards (JIS) Flanges



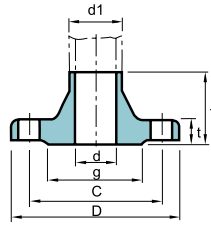
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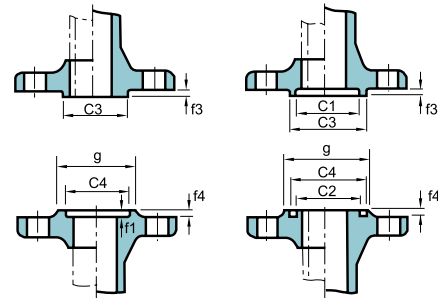
SLIP - ON



WELDING NECK



TYPE OF GASKET SURFACE



Flange Section		Surface Condition	Basic Size	Dimensional Tolerance
Outside Dia. D	As Forged (1)		300 & below	+not specified -2.0
			over 300 thru 600	
			over 600 thru 1000	+not specified -3.0
			over 1000 thru 1500	
	Finish		300 & below	±1
			over 300 thru 600	±1.5
			over 600 thru 1000	±2
			over 1000 thru 1500	±2.5
Inside Dia.	Solid Flange d(2)	As Forged (1)	16 & below	±1
			over 16 thru 63	±1.5
			over 63 thru 125	±2
			over 125 thru 150	±2.5
			over 250 thru 500	±3
			over 500 thru 1000	±4
	Slip-on Flange do	Finish	100 & below	+0.5, 0
			over 100 thru 400	+1, 0
			over 400 thru 600	+1.5, 0
			over 600 thru 800	+2.0, 0
			over 800 thru 1000	+2.5, 0
			over 1000	+3, 0
	Welding Neck Flange d	Finish	100 & below	0, -0.5
			over 100 thru 400	0, -1
			over 400 thru 600	0, -1.5
			over 600 thru 800	0, -2
Bolt Hole	Bolt Circle Dia. c		250 & below	±0.5
			over 250 thru 550	±0.6
			over 550 thru 950	±0.8
			over 950 thru 1350	±1
			over 1350	±1.5

Flange Section		Surface Condition	Basic Size	Dimensional Tolerance
Bolt Hole	Pitch of Hole P	Drilling Hole		±0.5
Dia. of Hub	Slip-on Flange (a) and Welding Neck Flange (d1)	As Forged (1)	220 & below	+2, 0
			over 220 thru 450	+3, 0
			over 450 thru 650	+4, 0
			over 650 thru 850	+6, 0
			over 850 thru 1000	+7, 0
			over 1000	+8, 0
		Finish	220 & below	+1, 0
			over 220 thru 450	+1.5, 0
			over 450 thru 650	+2, 0
			over 650 thru 850	+2.5, 0
			over 850 thru 1000	+3, 0
Gasket Seat	C1, C2, C3, C4	Finish	500 & below	±0.3
			over 500 thru 1000	±0.35
			over 1000 thru 1500	±0.4
	f3, f4	Finish	over 1500	±0.5
			8 & below	±0.2
	g	Finish	over 8	±0.25
			200 & below	±0.8
			over 200 thru 650	±0.9
			over 650 thru 1000	±1
			over 1000	±1.2
Thickness		One-side Finish	20 & below	+1.5, 0
			over 20 thru 50	+2, 0
		Bolt-side Finish	over 50 thru 100	+3, 0
			20 & below	+1, 0
		One-side Finish	over 20 thru 50	+1.5, 0
			over 50 thru 100	+2, 0
		Bolt-side Finish	50 & below	±1
			over 50 thru 100	±1.5
Hub Height T	Flange with pipe Inserted	Finish	over 100 thru 200	±2
			over 200 & below	+2, 0
	Flange with Butt-Welded Pipe	Finish	over 200 thru 300	+3, 0

Notes

1. This dimensional tolerance applies to the machined surface, as required.
2. This dimension d has been specified only for the flange, of which the bore part is cylindrical in shape.

Remarks

1. The dimensions d of bore part of the solid flanges with surface, as forged of valves, pumps, etc. are allowed up to plus 100% of the above dimensional tolerance. Provided that the required thickness shall be free from its influence.
2. The thickness of flange of valve and the like, of which the dimension between flange faces is limited to a fixed value, are allowed up to plus 100% of the above dimensional tolerance in the column of thickness.
3. In the case of spot facing of the single surface finishing, the thickness of spot facing is allowed up to 70% of the dimensional tolerance in the above column of thickness in negative side.
4. The chain double-lines in the figures of solid flange and socket welding type flange illustrate the cases of large raised face flange.

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