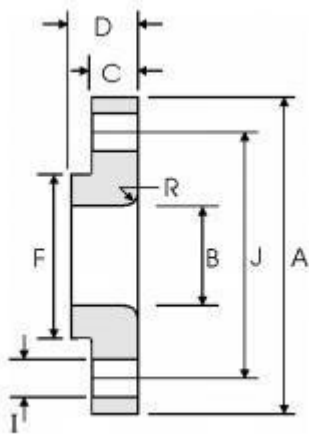
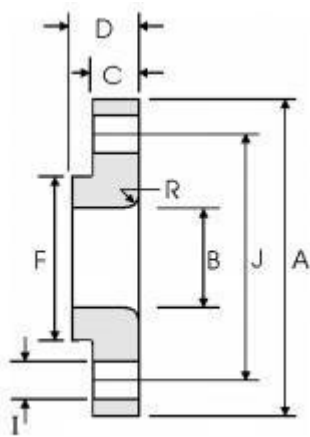


Dimensions of lap joint flanges - ASME B16.5 Class150



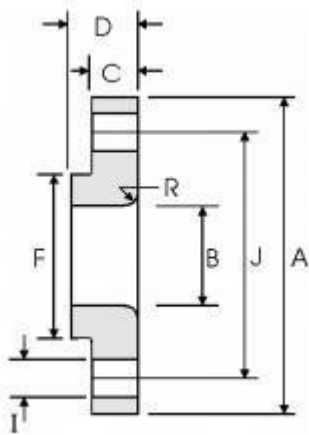
DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	90	22.9	11.2	16	3	30	4	15.7	60.3
20	3/4	100	28.2	12.7	16	3	38	4	15.7	69.9
25	1	110	34.9	14.3	17	3	49	4	15.7	79.4
32	1 ¼	115	43.7	15.9	21	5	59	4	15.7	88.9
40	1 ½	125	50	17.5	22	6	65	4	15.7	98.4
50	2	150	62.5	19.1	25	8	78	4	19.1	120.7
65	2 ½	180	75.4	22.3	29	8	90	4	19.1	139.7
80	3	190	91.4	23.9	30	10	108	4	19.1	152.4
90	3 ½	215	104.1	23.9	32	10	122	8	19.1	177.8
100	4	230	116.8	23.9	33	11	135	8	19.1	190.5
125	5	255	144.4	23.9	36	11	164	8	22.4	215.9
150	6	280	171.4	25.4	40	13	192	8	22.4	241.3
200	8	345	222.2	28.6	44	13	246	8	22.4	298.5
250	10	405	277.4	30.2	49	13	305	12	25.4	362
300	12	485	328.2	31.8	56	13	365	12	25.4	431.8
350	14	535	360.2	35	79	13	400	12	28.4	476.3
400	16	595	411.2	36.6	87	13	457	16	28.4	539.8
450	18	635	462.3	39.7	97	13	505	16	31.75	577.9
500	20	700	514.4	42.9	103	13	559	20	31.75	635
600	24	815	616	47.7	111	13	663	20	35.1	749.3

Dimensions of lap joint flanges - ASME B16.5 Class 300



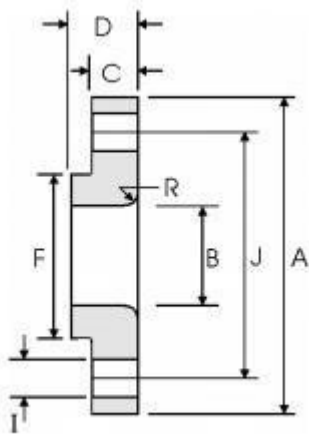
DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	95	22.9	14.3	22	3	38	4	15.7	66.7
20	3/4	115	28.2	15.9	25	3	48	4	19	82.6
25	1	125	34.9	17.5	27	3	54	4	19	88.9
32	1 ¼	135	43.7	19.1	27	5	64	4	19	98.4
40	1 ½	155	50	20.7	30	6	70	4	22.3	114.3
50	2	165	62.5	22.3	33	8	84	8	19	127
65	2 ½	190	75.4	25.4	38	8	100	8	22.3	149.2
80	3	210	91.4	28.6	43	10	117	8	22.3	168.3
90	3 ½	230	104.1	30.2	44	10	133	8	22.3	184.2
100	4	255	116.8	31.8	48	11	146	8	22.3	200
125	5	280	144.4	35	51	11	178	8	22.3	235
150	6	320	171.4	36.6	52	13	206	12	22.3	269.9
200	8	380	222.2	41.3	62	13	260	12	25.4	330.2
250	10	445	277.4	47.7	95	13	321	16	28.4	387.4
300	12	520	328.2	50.8	102	13	375	16	31.7	450.8
350	14	585	360.2	54	111	13	425	20	31.7	514.4
400	16	650	411.2	57.2	121	13	483	20	35	571.5
450	18	710	462.3	60.4	130	13	533	24	35	628.6
500	20	775	514.4	63.5	140	13	587	24	35	685.8
600	24	915	616	69.9	152	13	702	24	41.1	812.8

Dimensions of lap joint flanges - ASME B16.5 Class 400



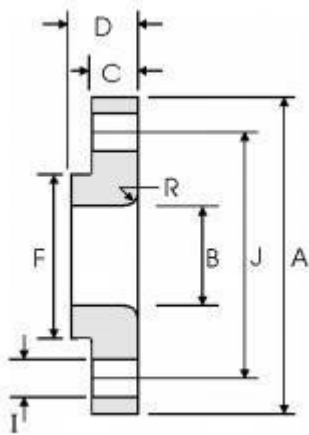
DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	95	22.9	14.3	22	3	38	4	15.7	66.7
20	3/4	115	28.2	15.9	25	3	48	4	19	82.6
25	1	125	34.9	17.5	27	3	54	4	19	88.9
32	1 ¼	135	43.7	20.7	29	5	64	4	19	98.4
40	1 ½	155	50	22.3	32	6	70	4	22.3	114.3
50	2	165	62.5	25.4	37	8	84	8	19	127
65	2 ½	190	75.4	28.6	41	8	100	8	22.3	149.2
80	3	210	91.4	31.8	46	10	117	8	22.3	168.3
90	3 ½	230	104.1	35	49	10	133	8	25.4	184.2
100	4	255	116.8	35	51	11	146	8	25.4	200
125	5	280	144.5	38.1	54	11	178	8	25.4	235
150	6	320	171.4	41.3	57	13	206	12	35.4	269.9
200	8	380	222.2	47.7	68	13	260	12	28.4	330.2
250	10	445	277.4	54	102	13	321	16	31.75	387.4
300	12	520	328.2	57.2	108	13	375	16	35.1	450.8
350	14	585	360.2	60.4	117	13	425	20	35.1	514.4
400	16	650	411.2	63.5	127	13	483	20	38.1	571.5
450	18	710	462.3	66.7	137	13	533	24	38.1	628.6
500	20	775	514.4	69.9	146	13	587	24	41.1	685.8
600	24	915	616	76.2	159	13	702	24	47.8	812.8

Dimensions of lap joint flanges - ASME B16.5 Class 600



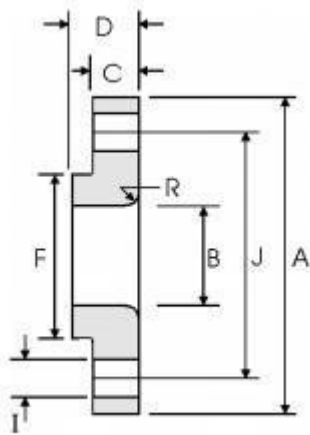
DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	95	22.9	14.3	22	3	38	4	15.7	66.7
20	3/4	115	28.2	15.9	25	3	48	4	19	82.6
25	1	125	34.9	17.5	27	3	54	4	19	88.9
32	1 ¼	135	43.7	20.7	29	5	64	4	19	98.4
40	1 ½	155	50	22.3	32	6	70	4	22.3	114.3
50	2	165	62.5	25.4	37	8	84	8	19	127
65	2 ½	190	75.4	28.6	41	8	100	8	22.3	149.2
80	3	210	91.4	31.8	46	10	117	8	22.3	168.3
90	3 ½	230	104.1	35	49	10	133	8	25.4	184.2
100	4	275	116.8	38.1	54	11	152	8	25.4	215.9
125	5	330	144.4	44.5	60	11	189	8	28.4	266.7
150	6	355	171.4	47.7	67	13	222	12	28.4	292.1
200	8	420	222.2	55.6	76	13	273	12	31.75	349.2
250	10	510	277.4	63.5	111	13	343	16	35.1	431.8
300	12	560	328.2	66.7	117	13	400	20	35.1	489
350	14	605	360.2	69.9	127	13	432	20	38.1	527
400	16	685	411.2	76.2	140	13	495	20	41.1	603.2
450	18	745	462.3	82.6	152	13	546	20	44.5	654
500	20	815	514.4	88.9	165	13	610	24	44.5	723.9
600	24	940	616	101.6	184	13	718	24	50.8	838.2

Dimensions of lap joint flanges - ASME B16.5 Class 900



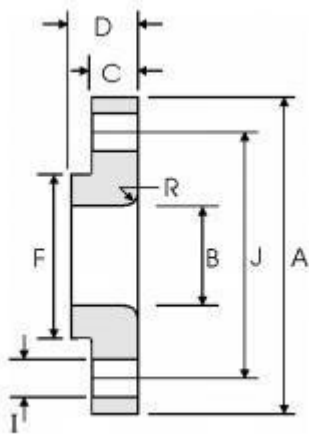
DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	120	22.9	22.3	32	3	38	4	22.3	82.6
20	3/4	130	28.2	25.4	35	3	44	4	22.3	88.9
25	1	150	34.9	28.6	41	3	52	4	25.4	101.6
32	1 ¼	160	43.7	28.6	41	5	64	4	25.4	111.1
40	1 ½	180	50	31.8	44	6	70	4	28.4	123.8
50	2	215	62.5	38.1	57	8	105	8	25.4	165.1
65	2 ½	245	75.4	41.3	64	8	124	8	28.4	190.5
80	3	240	91.4	38.1	54	10	127	8	25.4	190.5
100	4	290	116.8	44.5	70	11	159	8	31.7	235
125	5	350	144.4	50.8	79	11	190	8	35	279.4
150	6	380	171.4	55.6	86	13	235	12	31.7	317.5
200	8	470	222.2	63.5	114	13	298	12	38.1	393.7
250	10	545	277.4	69.9	127	13	368	16	38.1	469.9
300	12	610	328.2	79.4	143	13	419	20	38.1	533.4
350	14	640	360.2	85.8	156	13	451	20	41.1	558.8
400	16	705	411.2	88.9	165	13	508	20	44.4	616
450	18	785	462.3	101.6	190	13	565	20	50.8	685.8
500	20	855	514.4	108	210	13	622	20	53.8	749.3
600	24	1040	616	139.7	267	13	749	20	66.55	901.7

Dimensions of lap joint flanges - ASME B16.5 Class 1500



DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	120	22.9	22.3	32	3	38	4	22.3	82.6
20	3/4	130	28.2	25.4	35	3	44	4	22.3	88.9
25	1	150	34.9	28.6	41	3	52	4	25.4	101.6
32	1 ¼	160	43.7	28.6	41	5	64	4	25.4	111.1
40	1 ½	180	50	31.8	44	6	70	4	28.4	123.8
50	2	215	62.5	38.1	57	8	105	8	25.4	165.1
65	2 ½	245	75.4	41.3	64	8	124	8	28.4	190.5
80	3	265	91.4	47.7	73	10	133	8	25.4	190.5
100	4	310	116.8	54	90	11	162	8	31.7	235
125	5	375	144.4	73.1	105	11	197	8	35	279.4
150	6	395	171.4	82.6	119	13	229	12	31.7	317.5
200	8	485	222.2	92.1	143	13	292	12	38.1	393.7
250	10	585	277.4	108	178	13	368	16	38.1	469.9
300	12	675	328.2	123.9	219	13	451	20	38.1	533.4
350	14	750	360.2	133.4	241	13	495	20	41.1	558.8
400	16	825	411.2	146.1	260	13	552	20	44.4	616
450	18	915	462.3	162	276	13	597	20	50.8	685.8
500	20	985	514.4	177.8	292	13	641	20	53.8	749.3
600	24	1170	616	203.2	330	13	762	20	66.55	901.7

Dimensions of lap joint flanges - ASME B16.5 Class 2500



DN	NPS	Overall Diameter	Inside Diameter(Min.)	Thickness of Flange(Min.)	Overall Length	Lap Radius	Diameter of Hub	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolt Circle
		A	B	C	D	R	F	H	I	J
15	1/2	135	22.9	30.2	40	3	43	4	22.3	88.9
20	3/4	140	28.2	31.8	43	3	51	4	22.3	95.2
25	1	160	34.9	35	48	3	57	4	25.4	108
32	1 ¼	185	43.7	38.1	52	5	73	4	28.4	130.2
40	1 ½	205	50	44.5	60	6	79	4	31.75	146
50	2	235	62.5	50.9	70	8	95	8	28.4	171.4
65	2 ½	265	75.4	57.2	79	8	114	8	31.75	196.8
80	3	305	91.4	66.7	92	10	133	8	35.1	228.6
100	4	355	116.8	76.2	108	11	165	8	41.1	273
125	5	420	144.4	92.1	130	11	203	8	47.8	323.8
150	6	485	171.4	108	152	13	235	8	53.8	368.3
200	8	550	222.2	127	178	13	305	12	53.8	438.2
250	10	675	277.4	165.1	229	13	375	12	66.55	539.8
300	12	760	328.2	184.2	254	13	441	12	73.15	619.1