



温州灵腾流体法兰手册

FLANGE MANUAL FROM WENZHOU LEADTEK FLUID

WELFLOW SPECIALIZED IN WELL FLOW VALVE &
PIPE FITTINGS SYSTEM.

Flanges General Information

A Flange is a method of connecting pipes, valves, pumps and other equipment to form a pipework system. It also provides easy access for cleaning, inspection or modification.

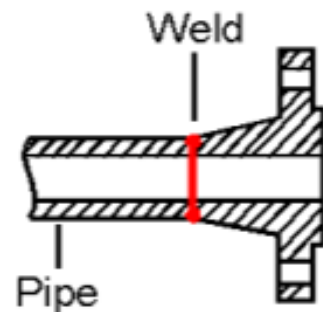
Flanges are usually welded or screwed into such systems and then joined with bolts.

Flange Types

Weld Neck

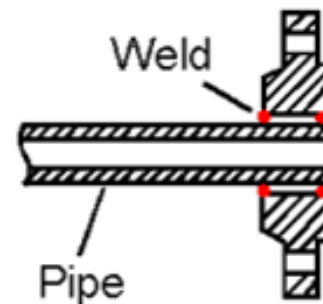
This flange is circumferentially welded into the system at its neck which means that the integrity of the butt of the welded area can be easily examined by radiography.

The bores of both pipe and flange match, which reduces turbulence and erosion inside the pipeline. The weld neck is therefore favoured in critical applications



Slip On

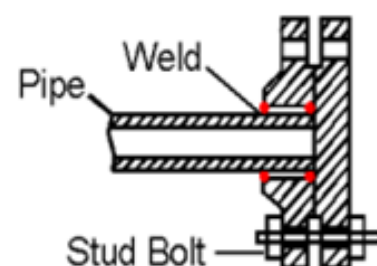
This flange is slipped over the pipe and then fillet welded. Slip-on flanges are easy to use in fabricated applications.



Blind

This flange is used to blank off pipelines, valves and pumps, it can also be used as an inspection cover. It

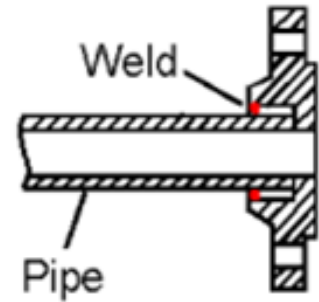
is sometimes referred to as a blanking flange.



Flanges General Information

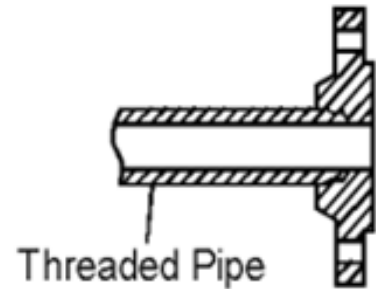
Socket Welded

This flange is counter bored to accept the pipe before being fillet welded. The bore of the pipe and flange are both the same therefore giving good flow characteristics.



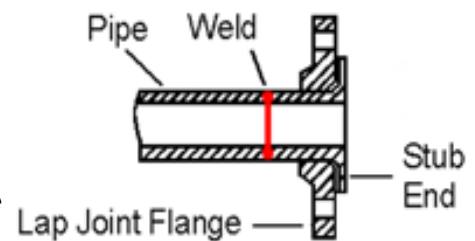
Threaded

This flange is referred to as either threaded or screwed. It is used to connect other threaded components in low-pressure, non-critical applications. No welding is required.



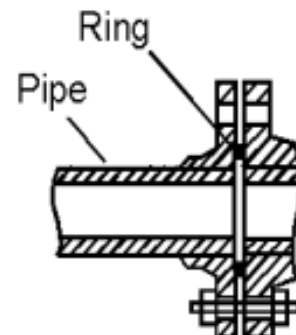
Lap Joint

These flanges are always used with either a stub end or Taft, which is butt-welded to the pipe with the flange loose behind it. This means the stub end or taft always makes the face. The lap joint is favored in low-pressure applications because it is easily assembled and aligned. To reduce cost these flanges can be supplied without a hub and/or in treated, coated carbon steel.



Ring Type Joint

This is a method of ensuring leak-proof flange connection at high pressures. A metal ring is compressed into a hexagonal groove on the face of the flange to make the seal. This jointing method can be employed on Weld Neck, Slip-on, and Blind Flanges.



ANSI/ASME B16.5 150LBS

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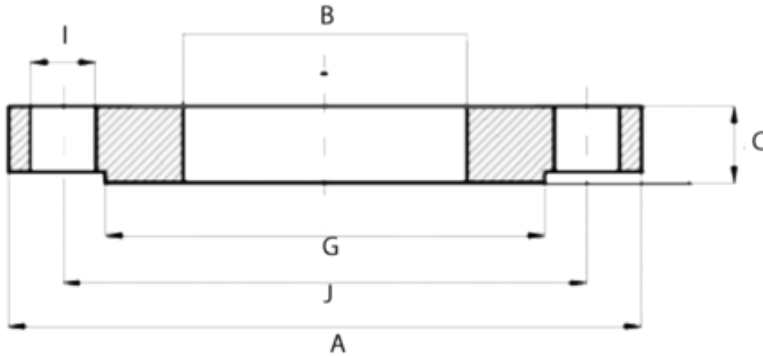
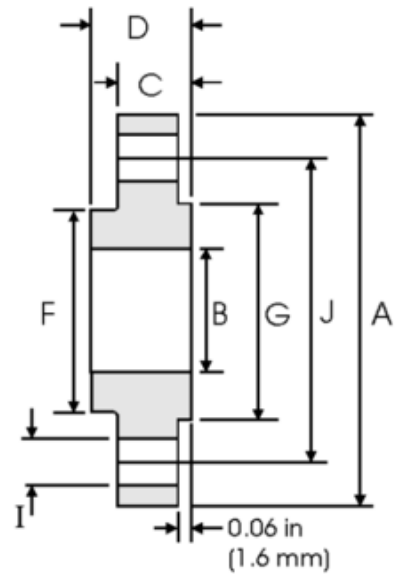


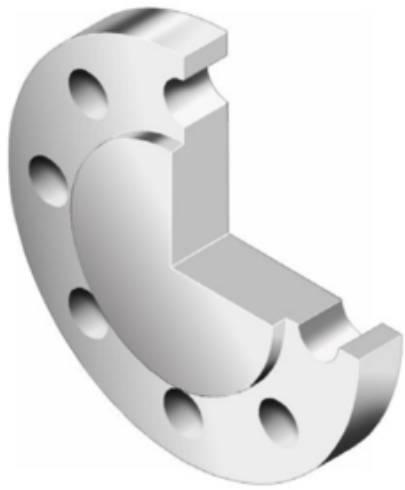
Plate Flange Class 150 (PN20)



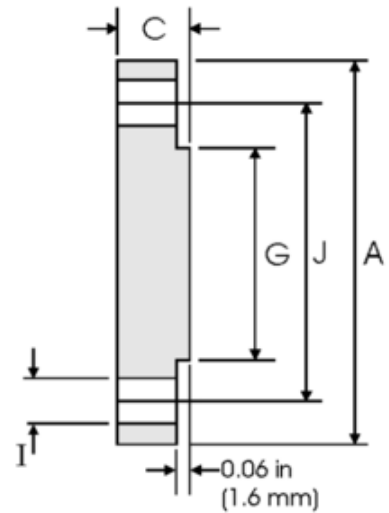
Slip On Class 150 (PN20)

Size	PIPE	A		B		C	D	F		G	H	I		J
1/2"	21.3	90	88.9	22.5	22.4	11.2	15.7	22.5	22.4	35.1	4	16	15.70	60.3
3/4"	26.9	100	98.6	27.5	27.7	12.7	15.7	27.5	27.7	42.9	4	16	15.70	69.9
1"	33.7	110	108.0	34.5	34.5	14.2	17.5	34.5	34.5	50.8	4	16	15.70	79.4
1 1/4"	42.4	115	117.3	43.5	43.2	15.7	20.6	43.5	43.2	63.5	4	16	15.70	88.9
1 1/2"	48.3	125	127.0	49.5	49.5	17.5	22.4	49.5	49.5	73.0	4	16	15.70	98.4
2"	60.3	150	152.4	61.5	62.0	19.1	25.4	61.5	62.0	91.9	4	18	19.10	120.7
2 1/2"	76.1	180	177.8	77.6	74.7	22.4	28.4	77.6	74.7	104.6	4	18	19.10	139.7
3"	88.9	190	190.5	90.5	90.7	23.9	30.2	90.5	90.7	127.0	4	18	19.10	152.4
4"	114.3	230	228.6	116.0	116.1	23.9	33.3	116.0	116.1	157.2	8	18	19.10	190.5
5"	139.7	255	254.0	143.5	143.8	23.9	36.6	143.5	143.8	185.7	8	22	22.40	215.9
6"	168.3	280	279.4	170.5	170.7	25.4	39.6	170.5	170.7	215.9	8	22	22.40	241.3
8"	219.1	345	342.9	221.5	221.5	28.4	44.5	221.5	221.5	269.7	8	22	22.40	298.5
10"	273	405	406.4	276.5	276.3	30.2	49.3	276.5	276.3	323.9	12	26	25.40	362.0
12"	323.9	485	482.6	328.0	327.1	31.75	55.6	328.0	327.1	381.0	12	26	25.40	431.8
14"	355.6	535	533.4	360.0	359.1	35.10	57.1	360.0	359.1	412.8	12	30	28.40	476.3
16"	406.4	595	596.9	411.0	410.5	36.60	63.5	411.0	410.5	469.9	16	30	28.40	539.8
18"	457	635	635	462.0	461.8	39.60	68.3	462.0	461.8	533.4	16	33	31.75	577.9
20"	508	700	698.5	513.5	513.1	42.90	73.1	513.5	513.1	584.2	20	33	31.75	635.0
24"	610	815	812.8	616.5	616.0	47.80	82.6	616.5	616.0	692.2	20	36	35.10	749.3

Note: Without Specific Required, The products will provide according to the highlighted datasheet.



ANSI/ASME B16.5 150LBS HG/T20616-2009



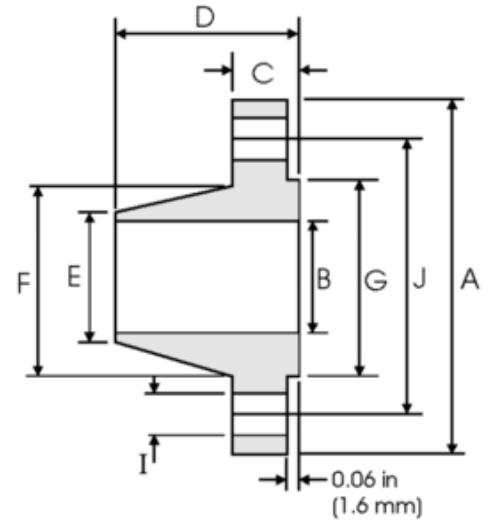
Blind Flanges Class 150 (PN20)

Size	A		C	G	TH	H	I		J
1/2"	90	88.9	11.2	35.1	M14	4	16	15.70	60.3
3/4"	100	98.6	12.7	42.9	M14	4	16	15.70	69.9
1"	110	108.0	14.2	50.8	M14	4	16	15.70	79.4
1 1/4"	115	117.3	15.7	63.5	M14	4	16	15.70	88.9
1 1/2"	125	127.0	17.5	73.0	M14	4	16	15.70	98.4
2"	150	152.4	19.1	91.9	M16	4	18	19.10	120.7
2 1/2"	180	177.8	22.4	104.6	M16	4	18	19.10	139.7
3"	190	190.5	23.9	127.0	M16	4	18	19.10	152.4
4"	230	228.6	23.9	157.2	M16	8	18	19.10	190.5
5"	255	254.0	23.9	185.7	M20	8	22	22.40	215.9
6"	280	279.4	25.4	215.9	M20	8	22	22.40	241.3
8"	345	342.9	28.4	269.7	M20	8	22	22.40	298.5
10"	405	406.4	30.2	323.9	M24	12	26	25.40	362.0
12"	485	482.6	31.75	381.0	M24	12	26	25.40	431.8
14"	535	533.4	35.10	412.8	M27	12	30	28.40	476.3
16"	595	596.9	36.60	469.9	M27	16	30	28.40	539.8
18"	635	635.0	39.60	533.4	M30	16	33	31.75	577.9
20"	700	698.5	42.90	584.2	M30	20	33	31.75	635.0
24"	815	812.8	47.80	692.2	M33	20	36	35.10	749.3

Note: Without Specific Required, The products will provide according to the highlighted datasheet.

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Weld Neck Flange Class 150 (PN20)

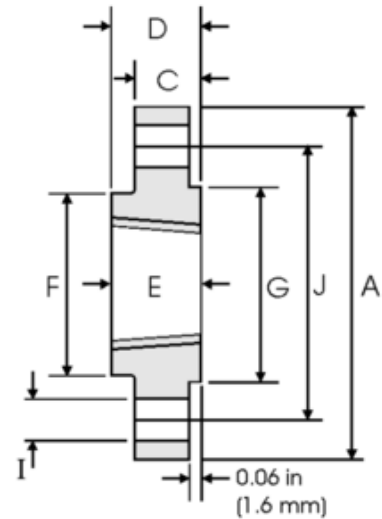
Size	A		B		C	D	E	F		G	H	I		J
1/2"	90	88.9	15.5	15.7	11.2	47.80	21.30	30	30.20	35.1	4	16	15.70	60.3
3/4"	100	98.6	21	20.8	12.7	52.30	26.70	38	38.10	42.9	4	16	15.70	69.9
1"	110	108.0	27	26.7	14.2	55.60	33.50	49	49.30	50.8	4	16	15.70	79.4
1 1/4"	115	117.3	35	35.1	15.7	57.15	42.20	59	58.70	63.5	4	16	15.70	88.9
1 1/2"	125	127.0	41	40.9	17.5	62.00	48.30	65	65.00	73.0	4	16	15.70	98.4
2"	150	152.4	52	52.6	19.1	63.50	60.45	78	77.70	91.9	4	18	19.10	120.7
2 1/2"	180	177.8	66	62.7	22.4	69.85	73.15	90	90.40	104.6	4	18	19.10	139.7
3"	190	190.5	77.5	78	23.9	69.85	88.90	108	108.0	127.0	4	18	19.10	152.4
4"	230	228.6	101.5	102.4	23.9	76.20	114.3	135	134.9	157.2	8	18	19.10	190.5
5"	255	254.0	127	128.3	23.9	88.90	141.2	164	163.6	185.7	8	22	22.40	215.9
6"	280	279.4	154	154.2	25.4	88.90	168.4	192	192.0	215.9	8	22	22.40	241.3
8"	345	342.9	203	202.7	28.4	101.6	219.2	246	246.1	269.7	8	22	22.40	298.5
10"	405	406.4	255	254.5	30.2	101.6	273.0	305	304.8	323.9	12	26	25.40	362.0
12"	485	482.6	303.5	304.8	31.75	114.3	323.8	365	365.3	381.0	12	26	25.40	431.8
14"	535	533.4	-	-	35.10	127.0	355.6	400	400.1	412.8	12	30	28.40	476.3
16"	595	596.9	-	-	36.60	127.0	406.4	475	475.2	469.9	16	30	28.40	539.8
18"	635	635.0	-	-	39.60	139.7	457.2	505	505.0	533.4	16	33	31.75	577.9
20"	700	698.5	-	-	42.90	144.5	508.0	559	558.8	584.2	20	33	31.75	635.0
24"	815	812.8	-	-	47.80	152.4	609.6	663	663.4	692.2	20	36	35.10	749.3

Note: Without Specific Required, The products will provide according to the highlighted datasheet.
Dimension B corresponds to the pipe inside diameter. Values quoted assume SCH40 wall thickness.

ANSI/ASME B16.5 150LBS HG/T20616-2009



Thread Flange Class 150 (PN20)



Size	PIPE	A		C	D	E	F		G	H	I		J
1/2"	21.3	90	88.9	11.2	15.7	15.70	30	30.20	35.1	4	16	15.70	60.3
3/4"	26.9	100	98.6	12.7	15.7	15.70	38	38.10	42.9	4	16	15.70	69.9
1"	33.7	110	108.0	14.2	17.5	17.50	49	49.30	50.8	4	16	15.70	79.4
1 1/4"	42.4	115	117.3	15.7	20.6	20.60	59	58.70	63.5	4	16	15.70	88.9
1 1/2"	48.3	125	127.0	17.5	22.4	22.30	65	65.00	73.0	4	16	15.70	98.4
2"	60.3	150	152.4	19.1	25.4	25.40	78	77.70	91.9	4	18	19.10	120.7
2 1/2"	76.1	180	177.8	22.4	28.4	28.40	90	90.40	104.6	4	18	19.10	139.7
3"	88.9	190	190.5	23.9	30.2	30.20	108	108.0	127.0	4	18	19.10	152.4
4"	114.3	230	228.6	23.9	33.30	33.30	135	134.9	157.2	8	18	19.10	190.5
5"	139.7	255	254.0	23.9	36.60	36.60	164	163.6	185.7	8	22	22.40	215.9
6"	168.3	280	279.4	25.4	39.60	39.60	192	192.0	215.9	8	22	22.40	241.3

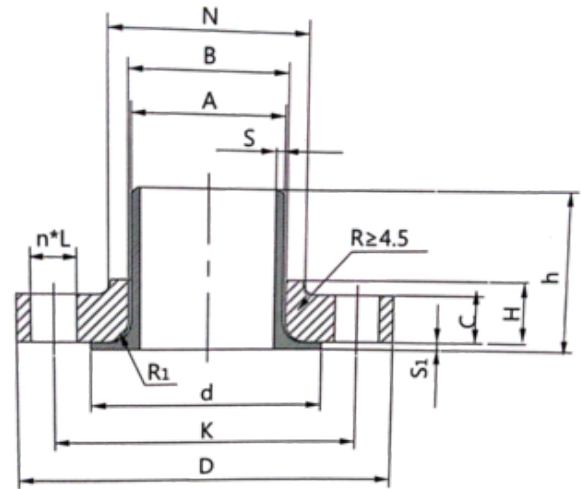
Note: Without Specific Required, The products will provide according to the highlighted datasheet.

1. The thread conforms to ASME B1.20.1 NPT Threads as described in Section 10. (The only exceptions are small male and female plain face threaded flanges with us NPSL recount threads)
2. Class 150 threaded flanges are made without a counterbore. Threads are chamfered to the major diameter(approx), at an angle of 45 ° (approx.) at the back of the flange.

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Lap Joint Flanges(Loose Flanges) Class 150 (PN20) & Stud End



Size	PIPE	D		B	C	N	H	R1	h	d	n	L		K
1/2"	21.3	90	88.9	22.9	11.2	30	16	3	51	34.9	4	16	15.70	60.3
3/4"	26.9	100	98.6	28.2	12.7	38	16	3	51	42.9	4	16	15.70	69.9
1"	33.7	110	108.0	34.9	14.2	49	17	3	51	50.8	4	16	15.70	79.4
1 1/4"	42.4	115	117.3	43.7	15.7	59	21	5	51	63.5	4	16	15.70	88.9
1 1/2"	48.3	125	127.0	50.0	17.5	65	22	6	51	73.0	4	16	15.70	98.4
2"	60.3	150	152.4	62.5	19.1	78	25	8	64	92.1	4	18	19.10	120.7
2 1/2"	76.1	180	177.8	78.5/75.4	22.4	90	29	8	64	104.8	4	18	19.10	139.7
3"	88.9	190	190.5	91.4	23.9	108	30	10	64	127.0	4	18	19.10	152.4
4"	114.3	230	228.6	116.8	23.9	135	33	11	76	157.2	8	18	19.10	190.5
5"	139.7	255	254.0	144.4	23.9	164	36	11	76	185.7	8	22	22.40	215.9
6"	168.3	280	279.4	171.4	25.4	192	40	13	89	215.9	8	22	22.40	241.3
8"	219.1	345	342.9	222.2	28.4	246	44	13	102	269.9	8	22	22.40	298.5
10"	273	405	406.4	277.4	30.2	305	49	13	127	323.8	12	26	25.40	362.0
12"	323.9	485	482.6	328.2	31.75	365	56	13	152	381.0	12	26	25.40	431.8
14"	355.6	535	533.4	360.2	35.10	400	79	13	152	412.8	12	30	28.40	476.3
16"	406.4	595	596.9	411.2	36.60	457	87	13	152	469.9	16	30	28.40	539.8
18"	457	635	635	462.3	39.60	505	97	13	152	533.4	16	33	31.75	577.9
20"	508	700	698.5	514.4	42.90	559	103	13	152	584.2	20	33	31.75	635.0
24"	610	815	812.8	616.0	47.80	663	111	13	152	692.2	20	36	35.10	749.3

1. The wall thickness S of the stub end is generally not less than the nominal wall thickness of the steel pipe, and the user should specify it when ordering
2. The thickness S1 of the stub end shall not be less than the minimum wall thickness of the steel pipe (0.875S)