

(17)

Table II-4 Dimensions of Facings (Other Than Ring Joints, All Pressure Rating Classes)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Pipe Size	Outside Diameter				Inside Diameter of Large and Small Tongue, U	Inside Diameter of Small Male [Note (1)]	Outside Diameter			Inside Diameter of Large and Small Groove, Z	Height		Minimum Outside Diameter of Raised Portion [Notes (6), (7)]	
	Raised Face Large Male and Large Tongue, R	Small Male, S [Note (1)]	Small Tongue, T	Large Female and Large Groove, W			Small Female, X [Note (1)]	Small Groove, Y	Raised Face [Notes (2), (3)]		Large and Small Tongue [Notes (2), (4)]	Depth of Groove or Female [Notes (2), (5)]	Small Female and Groove, K	Large Female and Groove, L
1/2	1.38	0.72	1.38	1.00	...	1.44	0.78	1.44	0.94	...	...	...	1.75	1.81
3/4	1.69	0.94	1.69	1.31	...	1.75	1.00	1.75	1.25	...	...	...	2.06	2.12
1	2.00	1.19	1.88	1.50	...	2.06	1.25	1.94	1.44	...	...	...	2.25	2.44
1 1/4	2.50	1.50	2.25	1.88	...	2.56	1.56	2.31	1.81	...	...	...	2.62	2.94
1 1/2	2.88	1.75	2.50	2.12	...	2.94	1.81	2.56	2.06	...	...	...	2.88	3.31
2	3.62	2.25	3.25	2.88	...	3.69	2.31	3.31	2.81	...	...	...	3.62	4.06
2 1/2	4.12	2.69	3.75	3.38	...	4.19	2.75	3.81	3.31	...	...	...	4.12	4.56
3	5.00	3.31	4.62	4.25	...	5.06	3.38	4.69	4.19	...	...	...	5.00	5.44
3 1/2	5.50	3.81	5.12	4.75	...	5.56	3.88	5.19	4.69	...	...	...	5.50	5.94
4	6.19	4.31	5.69	5.19	...	6.25	4.38	5.75	5.12	...	...	...	6.19	6.62
5	7.31	5.38	6.81	6.31	...	7.38	5.44	6.88	6.25	...	...	...	7.31	7.75
6	8.50	6.38	8.00	7.50	...	8.56	6.44	8.06	7.44	...	...	...	8.50	8.94
8	10.62	8.38	10.00	9.38	...	10.69	8.44	10.06	9.31	...	...	...	10.62	11.06
10	12.75	10.50	12.00	11.25	...	12.81	10.56	12.06	11.19	...	...	...	12.75	13.19
12	15.00	12.50	14.25	13.50	...	15.06	12.56	14.31	13.44	...	...	...	15.00	15.44
14	16.25	13.75	15.50	14.75	...	16.31	13.81	15.56	14.69	...	...	...	16.25	16.69
16	18.50	15.75	17.62	16.75	...	18.56	15.81	17.69	16.69	...	...	...	18.50	18.94
18	21.00	17.75	20.12	19.25	...	21.06	17.81	20.19	19.19	...	...	...	21.00	21.44
20	23.00	19.75	22.00	21.00	...	23.06	19.81	22.06	20.94	...	...	...	23.00	23.44
22	25.25	...	...	...	...	...	...	...	...	...	...	...	...	...
24	27.25	23.75	26.25	25.25	...	27.31	23.81	26.31	25.19	...	...	...	27.25	27.69

## GENERAL NOTES:

- (a) Dimensions are in inches.  
 (b) For facing requirements for flanges and flanged fittings, see paras. 6.3 and 6.4 and Figure II-6.  
 (c) For facing requirements for lapped joints, see para. 6.4.3 and Figure II-6.  
 (d) For facing tolerances, see para. 7.3.



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**Table II-4 Dimensions of Facings (Other Than Ring Joints, All Pressure Rating Classes) (Cont'd)**

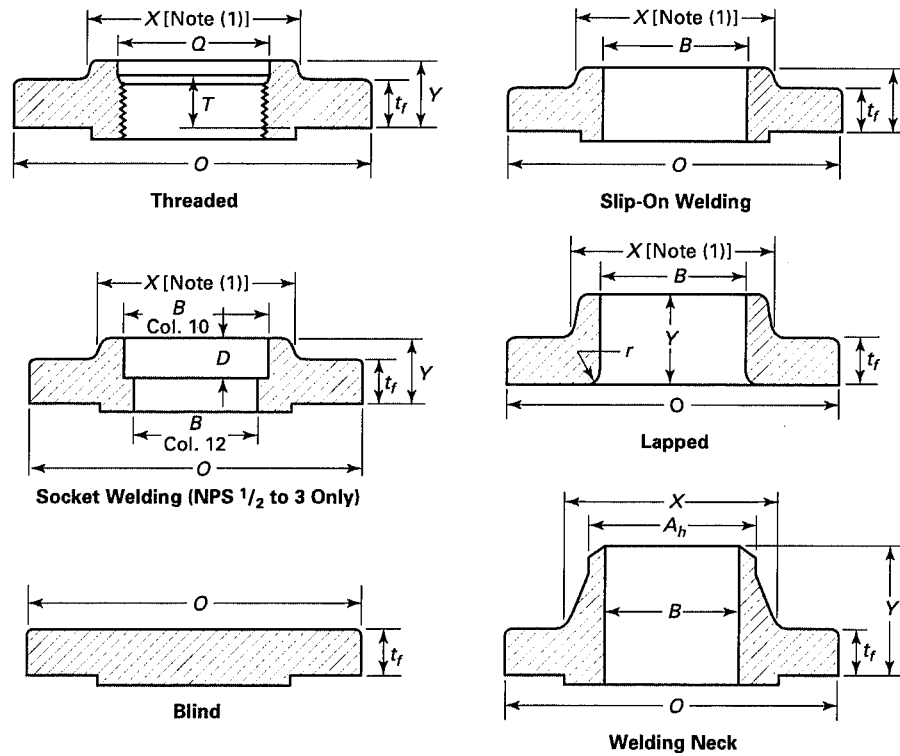
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NOTES:

- (1) For small male and female joints, care should be taken in the use of these dimensions to ensure that the inside diameter of fitting or pipe is small enough to permit sufficient bearing surface to prevent the crushing of the gasket. This applies particularly where the joint is made on the end of the pipe. The inside diameter of the fitting should match the inside diameter of the pipe as specified by the purchaser. Threaded companion flanges for small male and female joints are furnished with plain face and are threaded with American National Standard Locknut Thread (NPSL).
- (2) See para. 6.4.3 and Figure II-6 for thickness and outside diameters of laps.
- (3) The height of the raised face is either 0.06 in. or 0.25 in. (see para. 6.4.1).
- (4) The height of the large and small male and tongue is 0.25 in.
- (5) The depth of the groove or female is 0.19 in.
- (6) The raised portion of the full face may be furnished unless otherwise specified on order.
- (7) Large male and female faces and large tongue and groove are not applicable to Class 150 because of potential dimensional conflicts.

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Table II-16 Dimensions of Class 600 Flanges



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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Pipe Size	Outside Diameter of Flange, $O$	Minimum Thickness of Flange, $t_f$	Diameter of Hub, $X$	Hub Diameter Beginning of Chamfer Welding Neck, $A_h$ [Note (2)]	Length Through Hub			Minimum Thread Length Flange, $T$ [Note (3)]	Bore			Corner Bore Radius of Flange and Lapped Pipe, $r$	Minimum Counter-bore Threaded Flange, $Q$	Depth of Socket, $D$
					Threaded Slip-On Socket Welding, $Y$	Lapped, $Y$	Welding Neck, $Y$		Minimum Slip-On/Socket Welding, $B$	Minimum Lapped, $B$	Welding Neck/Socket Welding, $B$			
1/2	3.75	0.56	1.50	0.84	0.88	0.88	2.06	0.62	0.88	0.90	Note (4)	0.12	0.93	0.38
3/4	4.62	0.62	1.88	1.05	1.00	1.00	2.25	0.62	1.09	1.11	Note (4)	0.12	1.14	0.44
1	4.88	0.69	2.12	1.32	1.06	1.06	2.44	0.69	1.36	1.38	Note (4)	0.12	1.41	0.50
1 1/4	5.25	0.81	2.50	1.66	1.12	1.12	2.62	0.81	1.70	1.72	Note (4)	0.19	1.75	0.56
1 1/2	6.12	0.88	2.75	1.90	1.25	1.25	2.75	0.88	1.95	1.97	Note (4)	0.25	1.99	0.62
2	6.50	1.00	3.31	2.38	1.44	1.44	2.88	1.12	2.44	2.46	Note (4)	0.31	2.50	0.69

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Table II-16 Dimensions of Class 600 Flanges (Cont'd)

1	2	3	4	5	6			7	8	9	10		11	12	13	14	15
Nominal Pipe Size	Outside Diameter of Flange, <i>O</i>	Minimum Thickness of Flange, <i>t<sub>f</sub></i>	Diameter of Hub, <i>X</i>	Hub Diameter Beginning of Chamfer Welding Neck, <i>A<sub>h</sub></i> [Note (2)]	Length Through Hub			Welding Neck, <i>Y</i>	Minimum Thread Length Threaded Flange, <i>T</i> [Note (3)]	Bore		Welding Neck/ Socket Welding, <i>B</i>	Corner Bore Radius of Lapped Flange and Pipe, <i>r</i>	Minimum Counter- bore Threaded Flange, <i>Q</i>	Depth of Socket, <i>D</i>		
					Threaded Slip-On Socket Welding, <i>Y</i>	Lapped, <i>Y</i>	Minimum Slip-On/ Socket Welding, <i>B</i>			Minimum Lapped, <i>B</i>							
2½	7.50	1.12	3.94	2.88	1.62	1.62	3.12	1.25	2.94	2.97	Note (4)	0.31	3.00	0.75			
3	8.25	1.25	4.62	3.50	1.81	1.81	3.25	1.38	3.57	3.60	Note (4)	0.38	3.63	0.81			
3½	9.00	1.38	5.25	4.00	1.94	1.94	3.38	1.56	4.07	4.10	Note (4)	0.38	4.13	...			
4	10.75	1.50	6.00	4.50	2.12	2.12	4.00	1.62	4.57	4.60	Note (4)	0.44	4.63	...			
5	13.00	1.75	7.44	5.56	2.38	2.38	4.50	1.88	5.66	5.69	Note (4)	0.44	5.69	...			
6	14.00	1.88	8.75	6.63	2.62	2.62	4.62	2.00	6.72	6.75	Note (4)	0.50	6.75	...			
8	16.50	2.19	10.75	8.63	3.00	3.00	5.25	2.25	8.72	8.75	Note (4)	0.50	8.75	...			
10	20.00	2.50	13.50	10.75	3.38	4.38	6.00	2.56	10.88	10.92	Note (4)	0.50	10.88	...			
12	22.00	2.62	15.75	12.75	3.62	4.62	6.12	2.75	12.88	12.92	Note (4)	0.50	12.94	...			
14	23.75	2.75	17.00	14.00	3.69	5.00	6.50	2.88	14.14	14.18	Note (4)	0.50	14.19	...			
16	27.00	3.00	19.50	16.00	4.19	5.50	7.00	3.06	16.16	16.19	Note (4)	0.50	16.19	...			
18	29.25	3.25	21.50	18.00	4.62	6.00	7.25	3.12	18.18	18.20	Note (4)	0.50	18.19	...			
20	32.00	3.50	24.00	20.00	5.00	6.50	7.50	3.25	20.20	20.25	Note (4)	0.50	20.19	...			
22	34.25	3.75	26.25	22.00	5.25	6.88	7.75	...	22.22	22.25	Note (4)	0.50	...	...			
24	37.00	4.00	28.25	24.00	5.50	7.25	8.00	3.62	24.25	24.25	Note (4)	0.50	24.19	...			

## GENERAL NOTES:

- (a) Dimensions are in inches.  
 (b) For tolerances, see section 7.  
 (c) For facings, see para. 6.4.  
 (d) For flange bolt holes, see para. 6.5 and Table II-15.  
 (e) For spot facing, see para. 6.6.  
 (f) For reducing threaded and slip-on flanges, see Table II-6.  
 (g) Blind flanges may be made with or without hubs at the manufacturer's option.  
 (h) For reducing welding neck flanges, see para. 6.8.

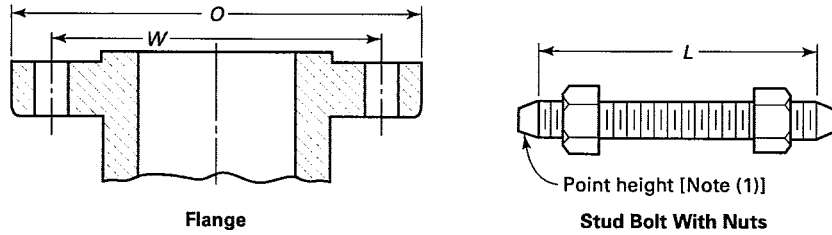
## NOTES:

- (1) This dimension is for the large end of the hub, which may be straight or tapered. Taper shall not exceed 7 deg on threaded, slip-on, socket-welding, and lapped flanges.  
 (2) For welding end bevel, see para. 6.7.  
 (3) For threads in threaded flanges, see para. 6.9.  
 (4) To be specified by the purchaser.

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Table II-17 Templates for Drilling Class 900 Pipe Flanges and Flanged Fittings



Nominal Pipe Size	Outside Diameter of Flange, <i>O</i>	Drilling [Notes (2), (3)]				Length of Bolts, <i>L</i> [Notes (1), (4)]		
		Diameter of Bolt Circle, <i>W</i>	Diameter of Bolt Holes	Number of Bolts	Diameter of Bolts	Raised Face 0.25 in.	Male and Female/Tongue and Groove	Ring Joint
1/2								
3/4								
1								
1 1/4								
1 1/2								
2								
2 1/2								
3	9.50	7.50	1	8	7/8	5.75	5.50	5.75
4	11.50	9.25	1 1/4	8	1 1/8	6.75	6.50	6.75
5	13.75	11.00	1 3/8	8	1 1/4	7.50	7.25	7.50
6	15.00	12.50	1 1/4	12	1 1/8	7.50	7.25	7.75
8	18.50	15.50	1 1/2	12	1 3/8	8.75	8.50	8.75
10	21.50	18.50	1 1/2	16	1 3/8	9.25	9.00	9.25
12	24.00	21.00	1 1/2	20	1 3/8	10.00	9.75	10.00
14	25.25	22.00	1 5/8	20	1 1/2	10.75	10.50	11.00
16	27.75	24.25	1 3/4	20	1 5/8	11.25	11.00	11.50
18	31.00	27.00	2	20	1 7/8	12.75	12.50	13.25
20	33.75	29.50	2 1/8	20	2	13.75	13.50	14.25
24	41.00	35.50	2 5/8	20	2 1/2	17.25	17.00	18.00

Use Class 1500 dimensions in these sizes

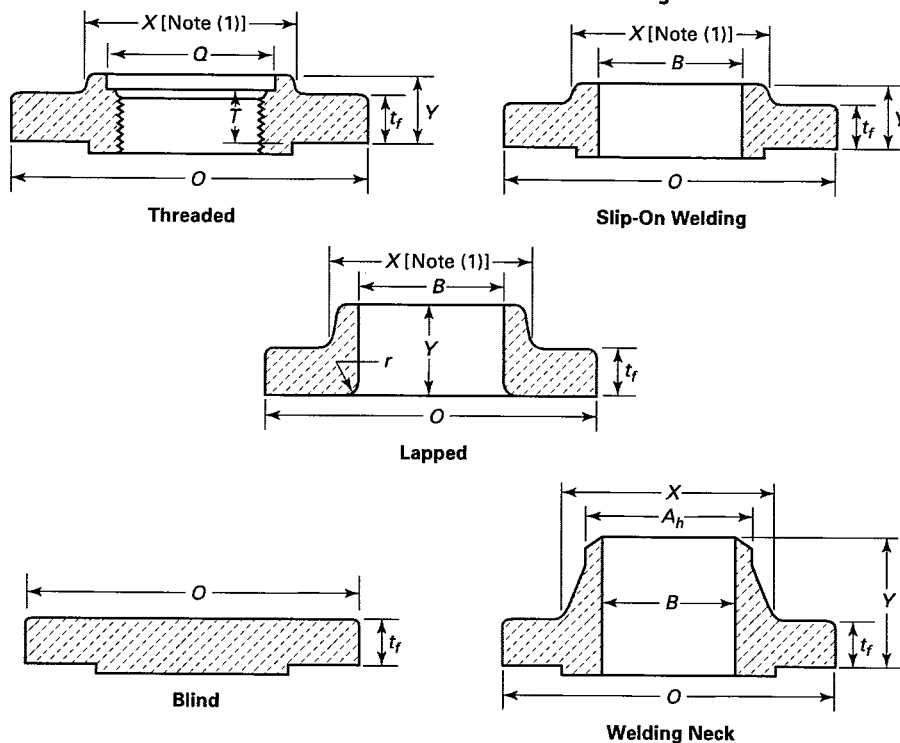
GENERAL NOTES:

- (a) Dimensions are in inches.
- (b) For other dimensions, see Table II-18 and Table II-19.

NOTES:

- (1) The length of the stud bolt does not include the height of the points (see para. 6.10.2).
- (2) For flange bolt holes, see para. 6.5.
- (3) For spot facing, see para. 6.6.
- (4) Bolt lengths not shown in the table may be determined in accordance with Nonmandatory Appendix C (see para. 6.10.2).

Table II-18 Dimensions of Class 900 Flanges



1	2	3	4	5	6 7 8			9	10 11		12	13	14
Nominal Pipe Size	Outside Diameter of Flange, $O$	Minimum Thickness of Flange, $t_f$	Diameter of Hub, $X$	Hub Diameter Beginning of Chamfer Welding Neck, $A_h$ [Note (2)]	Length Through Hub			Minimum Thread Length Threaded Flange, $T$ [Note (3)]	Bore		Welding Neck, $B$	Corner Bore Radius of Lapped Flange and Pipe, $r$	Minimum Counterbore Threaded Flange, $Q$
					Threaded Slip-On, $Y$	Lapped, $Y$	Welding Neck, $Y$		Minimum Slip-On, $B$	Minimum Lapped, $B$			
$\frac{1}{2}$													
$\frac{3}{4}$													
1													
$1\frac{1}{4}$					Use Class 1500 dimensions in these sizes [Note (4)]								
$1\frac{1}{2}$													
2													
$2\frac{1}{2}$													
3	9.50	1.50	5.00	3.50	2.12	2.12	4.00	1.62	3.57	3.60	Note (5)	0.38	3.63
4	11.50	1.75	6.25	4.50	2.75	2.75	4.50	1.88	4.57	4.60	Note (5)	0.44	4.63
5	13.75	2.00	7.50	5.56	3.12	3.12	5.00	2.12	5.66	5.69	Note (5)	0.44	5.69
6	15.00	2.19	9.25	6.63	3.38	3.38	5.50	2.25	6.72	6.75	Note (5)	0.50	6.75
8	18.50	2.50	11.75	8.63	4.00	4.50	6.38	2.50	8.72	8.75	Note (5)	0.50	8.75
10	21.50	2.75	14.50	10.75	4.25	5.00	7.25	2.81	10.88	10.92	Note (5)	0.50	10.88
12	24.00	3.12	16.50	12.75	4.62	5.62	7.88	3.00	12.88	12.92	Note (5)	0.50	12.94
14	25.25	3.38	17.75	14.00	5.12	6.12	8.38	3.25	14.14	14.18	Note (5)	0.50	14.19
16	27.75	3.50	20.00	16.00	5.25	6.50	8.50	3.38	16.16	16.19	Note (5)	0.50	16.19
18	31.00	4.00	22.25	18.00	6.00	7.50	9.00	3.50	18.18	18.20	Note (5)	0.50	18.19

Table II-18 Dimensions of Class 900 Flanges (Cont'd)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Nominal Pipe Size	Outside Diameter of Flange, O	Minimum Thickness of Flange, t <sub>f</sub>	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A <sub>h</sub> [Note (2)]	Length Through Hub			Minimum Thread Length Threaded Flange, T [Note (3)]	Bore			Corner Bore Radius of Lapped Flange and Pipe, r	Minimum Counterbore Threaded Flange, Q
					Threaded Slip-On, Y	Lapped, Y	Welding Neck, Y		Minimum Slip-On, B	Minimum Lapped, B	Welding Neck, B		
20	33.75	4.25	24.50	20.00	6.25	8.25	9.75	3.62	20.20	20.25	Note (5)	0.50	20.19
24	41.00	5.50	29.50	24.00	8.00	10.50	11.50	4.00	24.25	24.25	Note (5)	0.50	24.19

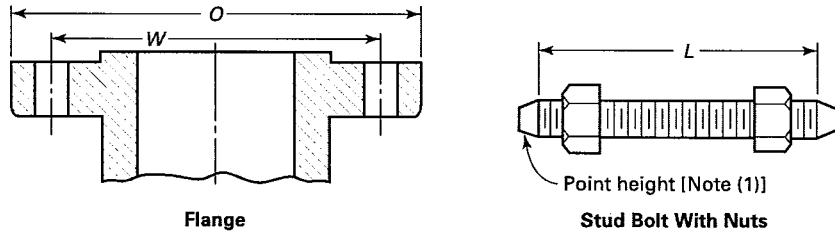
## GENERAL NOTES:

- (a) Dimensions are in inches.
- (b) For tolerances, see section 7.
- (c) For facings, see para. 6.4.
- (d) For flange bolt holes, see para. 6.5 and Table II-17.
- (e) For spot facing, see para. 6.6.
- (f) For reducing threaded and slip-on flanges, see Table II-6.
- (g) Blind flanges may be made with or without hubs at the manufacturer's option.
- (h) For reducing welding neck flanges, see para. 6.8.

## NOTES:

- (1) This dimension is for the large end of the hub, which may be straight or tapered. Taper shall not exceed 7 deg on threaded, slip-on, socket-welding, and lapped flanges.
- (2) For welding end bevel, see para. 6.7.
- (3) For threads in threaded flanges, see para. 6.9.
- (4) Socket welding flanges may be provided in NPS ½ through 2½ using Class 1500 dimensions.
- (5) To be specified by the purchaser.

Table II-19 Templates for Drilling Class 1500 Pipe Flanges



Nominal Pipe Size	Outside Diameter of Flange, <i>O</i>	Drilling [Notes (2), (3)]				Length of Bolts, <i>L</i> [Notes (1), (4)]		
		Diameter of Bolt Circle, <i>W</i>	Diameter of Bolt Holes	Number of Bolts	Diameter of Bolts	Raised Face 0.25 in.	Male and Female/Tongue and Groove	Ring Joint
1/2	4.75	3.25	7/8	4	3/4	4.25	4.00	4.25
3/4	5.12	3.50	7/8	4	3/4	4.50	4.25	4.50
1	5.88	4.00	1	4	7/8	5.00	4.75	5.00
1 1/4	6.25	4.38	1	4	7/8	5.00	4.75	5.00
1 1/2	7.00	4.88	1 1/8	4	1	5.50	5.25	5.50
2	8.50	6.50	1	8	7/8	5.75	5.50	5.75
2 1/2	9.62	7.50	1 1/8	8	1	6.25	6.00	6.25
3	10.50	8.00	1 1/4	8	1 1/8	7.00	6.75	7.00
4	12.25	9.50	1 3/8	8	1 1/4	7.75	7.50	7.75
5	14.75	11.50	1 5/8	8	1 1/2	9.75	9.50	9.75
6	15.50	12.50	1 1/2	12	1 3/8	10.25	10.00	10.50
8	19.00	15.50	1 3/4	12	1 5/8	11.50	11.25	11.75
10	23.00	19.00	2	12	1 7/8	13.25	13.00	13.50
12	26.50	22.50	2 1/8	16	2	14.75	14.50	15.25
14	29.50	25.00	2 3/8	16	2 1/4	16.00	15.75	16.75
16	32.50	27.75	2 5/8	16	2 1/2	17.50	17.25	18.50
18	36.00	30.50	2 7/8	16	2 3/4	19.50	19.25	20.75
20	38.75	32.75	3 1/8	16	3	21.25	21.00	22.25
24	46.00	39.00	3 5/8	16	3 1/2	24.25	24.00	25.50

GENERAL NOTES:

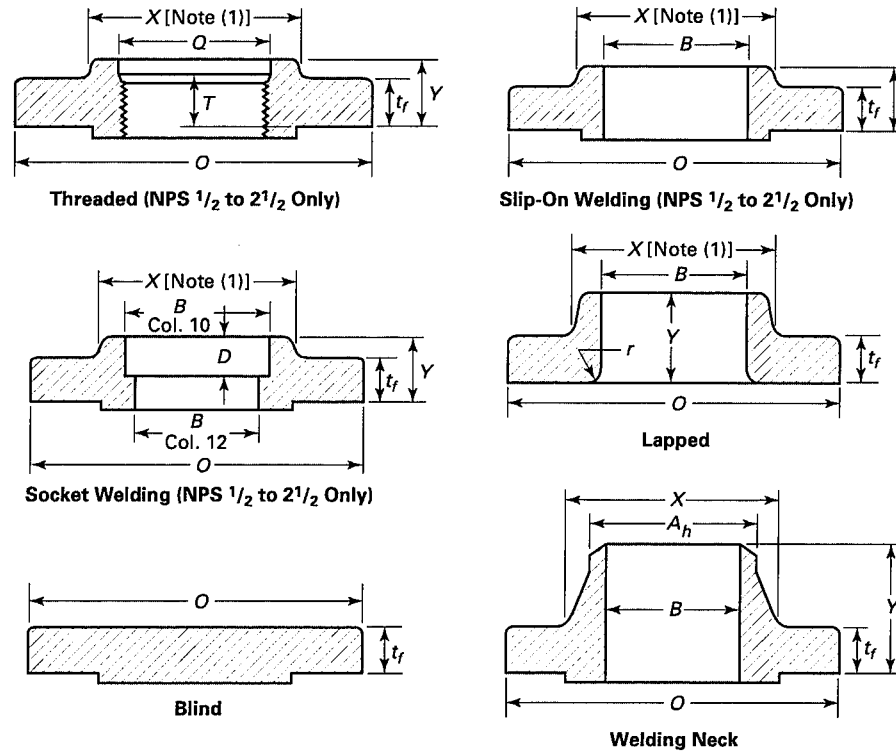
- (a) Dimensions are in inches.
- (b) For other dimensions, see Table II-20.

NOTES:

- (1) The length of the stud bolt does not include the height of the points (see para. 6.10.2).
- (2) For flange bolt holes, see para. 6.5.
- (3) For spot facing, see para. 6.6.
- (4) Bolt lengths not shown in the table may be determined in accordance with Nonmandatory Appendix C (see para. 6.10.2).



Table II-20 Dimensions of Class 1500 Flanges



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Nominal Pipe Size	Outside Diameter of Flange, O	Minimum Thickness of Flange, t <sub>f</sub>	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A <sub>h</sub> [Note (2)]	Length Through Hub			Minimum Thread Length Threaded Flange, T [Note (3)]	Bore			Corner Bore Radius of Lapped Flange and Pipe, r	Minimum Counterbore Threaded Flange, Q	Depth of Socket, D
					Threaded Slip-On Socket Welding, Y	Lapped Y	Welding Neck, Y		Minimum Slip-On Socket Welding, B	Minimum Lapped, B	Welding Neck/Socket Welding, B			
1/2	4.75	0.88	1.50	0.84	1.25	1.25	2.38	0.88	0.88	0.90	Note (4)	0.12	0.93	0.38
3/4	5.12	1.00	1.75	1.05	1.38	1.38	2.75	1.00	1.09	1.11	Note (4)	0.12	1.14	0.44
1	5.88	1.12	2.06	1.32	1.62	1.62	2.88	1.12	1.36	1.38	Note (4)	0.12	1.41	0.50
1 1/4	6.25	1.12	2.50	1.66	1.62	1.62	2.88	1.19	1.70	1.72	Note (4)	0.19	1.75	0.56
1 1/2	7.00	1.25	2.75	1.90	1.75	1.75	3.25	1.25	1.95	1.97	Note (4)	0.25	1.99	0.62
2	8.50	1.50	4.12	2.38	2.25	2.25	4.00	1.50	2.44	2.46	Note (4)	0.31	2.50	0.69
2 1/2	9.62	1.62	4.88	2.88	2.50	2.50	4.12	1.88	2.94	2.97	Note (4)	0.31	3.00	0.75

Table II-20 Dimensions of Class 1500 Flanges (Cont'd)

1	2	3	4	5	6			8	9	10		11	12	13	14	15
Nominal Pipe Size	Outside Diameter of Flange, <i>O</i>	Minimum Thickness of Flange, <i>t<sub>f</sub></i>	Diameter of Hub, <i>X</i>	Hub Diameter Beginning of Chamfer Welding Neck, <i>A<sub>h</sub></i> [Note (2)]	Length Through Hub			Welding Neck, <i>Y</i>	Minimum Thread Length Threaded Flange, <i>T</i> [Note (3)]	Bore		Welding Neck/ Socket Welding, <i>B</i>	Corner Bore Radius of Lapped Flange and Pipe, <i>r</i>	Minimum Counterbore Threaded Flange, <i>Q</i>	Depth of Socket, <i>D</i>	
					Threaded Slip-On Socket Welding, <i>Y</i>	Lapped <i>Y</i>	Minimum Slip-On Socket Welding, <i>B</i>			Minimum Lapped, <i>B</i>						
3	10.50	1.88	5.25	3.50	...	2.88	4.62	...	...	3.60	Note (4)	0.38	...	...		
4	12.25	2.12	6.38	4.50	...	3.56	4.88	...	...	4.60	Note (4)	0.44	...	...		
5	14.75	2.88	7.75	5.56	...	4.12	6.12	...	...	5.69	Note (4)	0.44	...	...		
6	15.50	3.25	9.00	6.63	...	4.69	6.75	...	...	6.75	Note (4)	0.50	...	...		
8	19.00	3.62	11.50	8.63	...	5.62	8.38	...	...	8.75	Note (4)	0.50	...	...		
10	23.00	4.25	14.50	10.75	...	7.00	10.00	...	...	10.92	Note (4)	0.50	...	...		
12	26.50	4.88	17.75	12.75	...	8.62	11.12	...	...	12.92	Note (4)	0.50	...	...		
14	29.50	5.25	19.50	14.00	...	9.50	11.75	...	...	14.18	Note (4)	0.50	...	...		
16	32.50	5.75	21.75	16.00	...	10.25	12.25	...	...	16.19	Note (4)	0.50	...	...		
18	36.00	6.38	23.50	18.00	...	10.88	12.88	...	...	18.20	Note (4)	0.50	...	...		
20	38.75	7.00	25.25	20.00	...	11.50	14.00	...	...	20.25	Note (4)	0.50	...	...		
24	46.00	8.00	30.00	24.00	...	13.00	16.00	...	...	24.25	Note (4)	0.50	...	...		

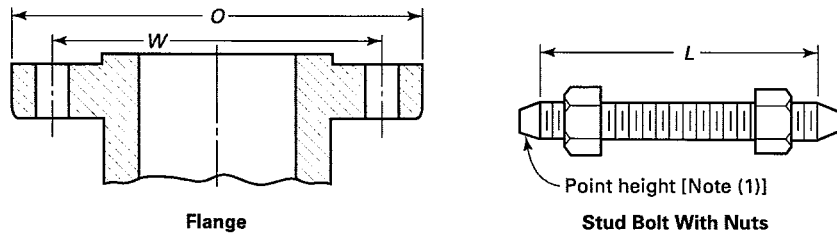
GENERAL NOTES:

- (a) Dimensions are in inches.
- (b) For tolerances, see section 7.
- (c) For facings, see para. 6.4.
- (d) For flange bolt holes, see para. 6.5 and Table II-19.
- (e) For spot facing, see para. 6.6.
- (f) For reducing threaded and slip-on flanges, see Table II-6.
- (g) Blind flanges may be made with or without hubs at the manufacturer's option.
- (h) For reducing welding neck flanges, see para. 6.8.

NOTES:

- (1) This dimension is for the large end of the hub, which may be straight or tapered. Taper shall not exceed 7 deg on threaded, slip-on, socket-welding, and lapped flanges.
- (2) For welding end bevel, see para. 6.7.
- (3) For threads in threaded flanges, see para. 6.9.
- (4) To be specified by the purchaser.

Table II-21 Templates for Drilling Class 2500 Pipe Flanges



Nominal Pipe Size	Outside Diameter of Flange, <i>O</i>	Drilling [Notes (2), (3)]				Length of Bolts, <i>L</i> [Notes (1), (4)]		
		Diameter of Bolt Circle, <i>W</i>	Diameter of Bolt Holes	Number of Bolts	Diameter of Bolts	Raised Face 0.25 in.	Male and Female/Tongue and Groove	Ring Joint
1/2	5.25	3.50	7/8	4	3/4	4.75	4.50	4.75
3/4	5.50	3.75	7/8	4	3/4	5.00	4.75	5.00
1	6.25	4.25	1	4	7/8	5.50	5.25	5.50
1 1/4	7.25	5.12	1 1/8	4	1	6.00	5.75	6.00
1 1/2	8.00	5.75	1 1/4	4	1 1/8	6.75	6.50	6.75
2	9.25	6.75	1 1/8	8	1	7.00	6.75	7.00
2 1/2	10.50	7.75	1 1/4	8	1 1/8	7.75	7.50	8.00
3	12.00	9.00	1 3/8	8	1 1/4	8.75	8.50	9.00
4	14.00	10.75	1 5/8	8	1 1/2	10.00	9.75	10.25
5	16.50	12.75	1 7/8	8	1 3/4	11.75	11.50	12.25
6	19.00	14.50	2 1/8	8	2	13.50	13.25	14.00
8	21.75	17.25	2 1/8	12	2	15.00	14.75	15.50
10	26.50	21.25	2 5/8	12	2 1/2	19.25	19.00	20.00
12	30.00	24.38	2 7/8	12	2 3/4	21.25	21.00	22.00

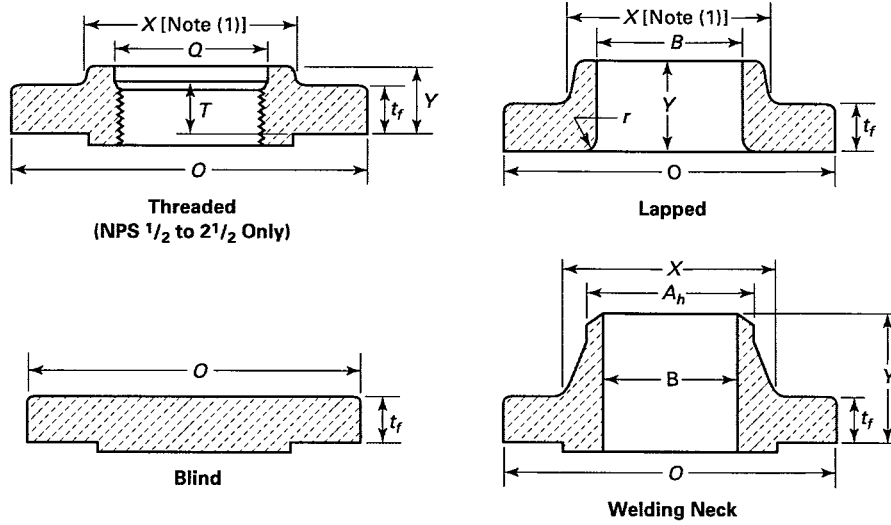
GENERAL NOTES:

- (a) Dimensions are in inches.
- (b) For other dimensions, see Table II-22.

NOTES:

- (1) The length of the stud bolt does not include the height of the points (see para. 6.10.2).
- (2) For flange bolt holes, see para. 6.5.
- (3) For spot facing, see para. 6.6.
- (4) Bolt lengths not shown in the table may be determined in accordance with Nonmandatory Appendix C (see para. 6.10.2).

Table II-22 Dimensions of Class 2500 Flanges



Nominal Pipe Size	Outside Diameter of Flange, O	Minimum Thickness of Flange, tr	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, Ah [Note (2)]	Length Through Hub			Minimum Thread Length Threaded Flange, T [Note (3)]	Bore		Corner Bore Radius of Lapped Flange and Pipe, r	Minimum Counterbore Threaded Flange, Q
					Threaded, Y	Lapped, Y	Welding Neck, Y		Minimum Lapped, B	Welding Neck, B		
1/2	5.25	1.19	1.69	0.84	1.56	1.56	2.88	1.12	0.90	Note (4)	0.12	0.93
3/4	5.50	1.25	2.00	1.05	1.69	1.69	3.12	1.25	1.11	Note (4)	0.12	1.14
1	6.25	1.38	2.25	1.32	1.88	1.88	3.50	1.38	1.38	Note (4)	0.12	1.41
1 1/4	7.25	1.50	2.88	1.66	2.06	2.06	3.75	1.50	1.72	Note (4)	0.19	1.75
1 1/2	8.00	1.75	3.12	1.90	2.38	2.38	4.38	1.75	1.97	Note (4)	0.25	1.99
2	9.25	2.00	3.75	2.38	2.75	2.75	5.00	2.00	2.46	Note (4)	0.31	2.50
2 1/2	10.50	2.25	4.50	2.88	3.12	3.12	5.62	2.25	2.97	Note (4)	0.31	3.00
3	12.00	2.62	5.25	3.50	...	3.62	6.62	...	3.60	Note (4)	0.38	...
4	14.00	3.00	6.50	4.50	...	4.25	7.50	...	4.60	Note (4)	0.44	...
5	16.50	3.62	8.00	5.56	...	5.12	9.00	...	5.69	Note (4)	0.44	...
6	19.00	4.25	9.25	6.63	...	6.00	10.75	...	6.75	Note (4)	0.50	...
8	21.75	5.00	12.00	8.63	...	7.00	12.50	...	8.75	Note (4)	0.50	...
10	26.50	6.50	14.75	10.75	...	9.00	16.50	...	10.92	Note (4)	0.50	...
12	30.00	7.25	17.38	12.75	...	10.00	18.25	...	12.92	Note (4)	0.50	...

GENERAL NOTES:

- (a) Dimensions are in inches.
- (b) For tolerances, see section 7.
- (c) For facings, see para. 6.4.
- (d) For flange bolt holes, see para. 6.5 and Table II-21.
- (e) For spot facing, see para. 6.6.
- (f) For reducing threaded and slip-on flanges, see Table II-6.
- (g) Blind flanges may be made with or without hubs at the manufacturer's option.
- (h) For reducing welding neck flanges, see para. 6.8.

NOTES:

- (1) This dimension is for the large end of the hub, which may be straight or tapered. Taper shall not exceed 7 deg on threaded and lapped flanges.
- (2) For welding end bevel, see para. 6.7.
- (3) For threads in threaded flanges, see para. 6.9.
- (4) To be specified by the purchaser.