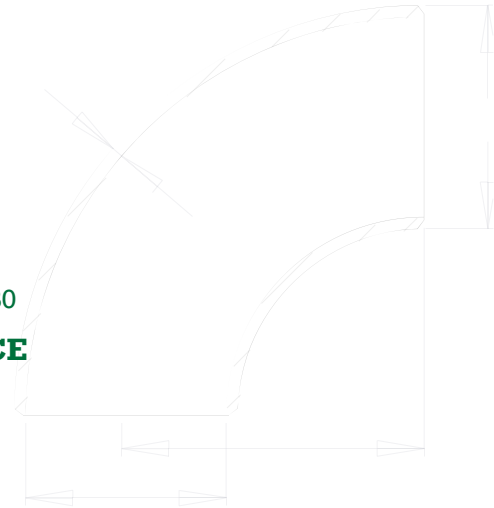
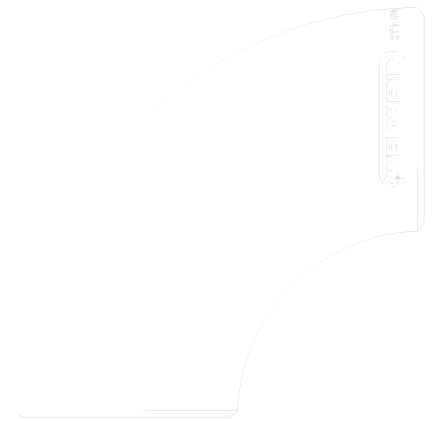
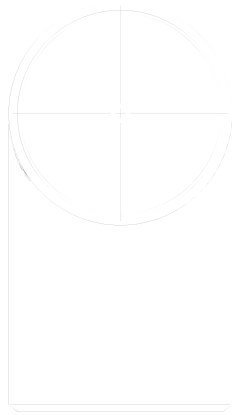
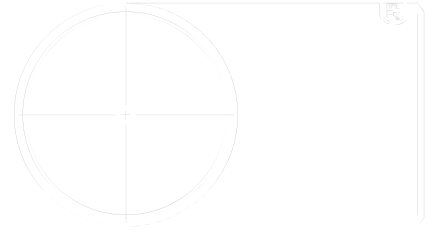
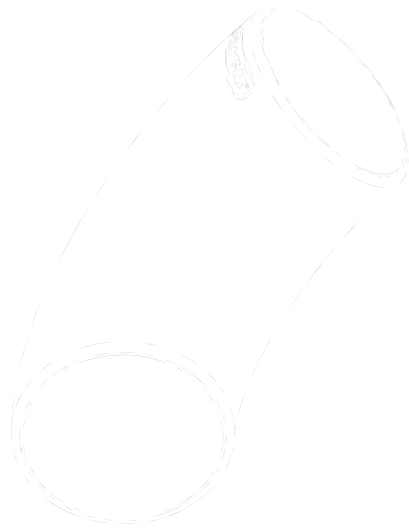




**Carbon Steel Weld Fitting & Weld Flange
Products for Piping Construction**

**SIXTY-THIRD
EDITION**

Printed in U.S.A.



WELDBEND CORPORATION

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FLANGES

1/2" through 60"

- Class 125
- Class 150
- Class 300
- Class 600
- Class 900
- Class 1500
- Class 2500

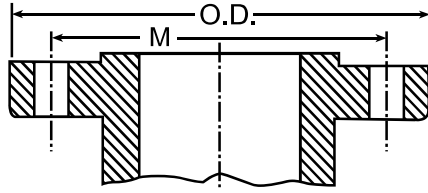
For Ring Type Joint Facing Dimension information see page 148-153.

FLANGES

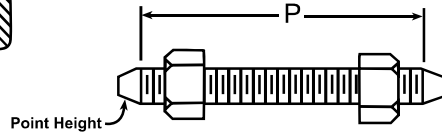


All Products Backed by the Weldbend Warranty

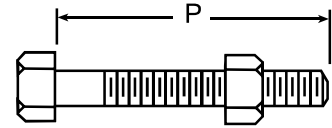
For Ring Type Joint Facing Dimension information see page 148.



Flange



Stud Bolt



Machine Bolt

Bolting Pattern and Bolt Lengths								
Pipe Size	Outside Diameter	Drilling				Length of Bolts		
		Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes	Diameter of Bolts	Stud Bolts Raised Face 0.06 in.	Stud Bolts Ring Joint	Machine Bolts Raised Face 0.06 in.
	O.D.	M				P	P	P

ASME B16.5

1/2	3.50	2.38	5/8	4	1/2	2.25	*	2.00
3/4	3.88	2.75	5/8	4	1/2	2.50	*	2.00
1	4.25	3.12	5/8	4	1/2	2.50	3.00	2.25
1 1/4	4.62	3.50	5/8	4	1/2	2.75	3.25	2.25
1 1/2	5.00	3.88	5/8	4	1/2	2.75	3.25	2.50
2	6.00	4.75	3/4	4	5/8	3.25	3.75	2.75
2 1/2	7.00	5.50	3/4	4	5/8	3.50	4.00	3.00
3	7.50	6.00	3/4	4	5/8	3.50	4.00	3.00
3 1/2	8.50	7.00	3/4	8	5/8	3.50	4.00	3.00
4	9.00	7.50	3/4	8	5/8	3.50	4.00	3.00
5	10.00	8.50	7/8	8	3/4	3.75	4.25	3.25
6	11.00	9.50	7/8	8	3/4	4.00	4.50	3.25
8	13.50	11.75	7/8	8	3/4	4.25	4.75	3.50
10	16.00	14.25	1	12	7/8	4.50	5.00	4.00
12	19.00	17.00	1	12	7/8	4.75	5.25	4.00
14	21.00	18.75	1 1/8	12	1	5.25	5.75	4.50
16	23.50	21.25	1 1/8	16	1	5.25	5.75	4.50
18	25.00	22.75	1 1/4	16	1 1/8	5.75	6.25	5.00
20	27.50	25.00	1 1/4	20	1 1/8	6.25	6.75	5.50
24	32.00	29.50	1 3/8	20	1 1/4	6.75	7.25	6.00

ASME B16.47 Series A

30	38.75	36.00	1 3/8	28	1 1/4	Formula for determining bolt lengths (P) see page 159.
36	46.00	42.75	1 5/8	32	1 1/2	
42	53.00	49.50	1 5/8	36	1 1/2	
48	59.50	56.00	1 5/8	44	1 1/2	

ASME B16.47 Series B

30	34.94	33.31	7/8	44	3/4	Formula for determining bolt lengths (P) see page 159.
36	41.62	39.75	1	44	7/8	
42	48.25	46.12	1 1/8	48	1	
48	54.81	52.56	1 1/4	44	1 1/8	

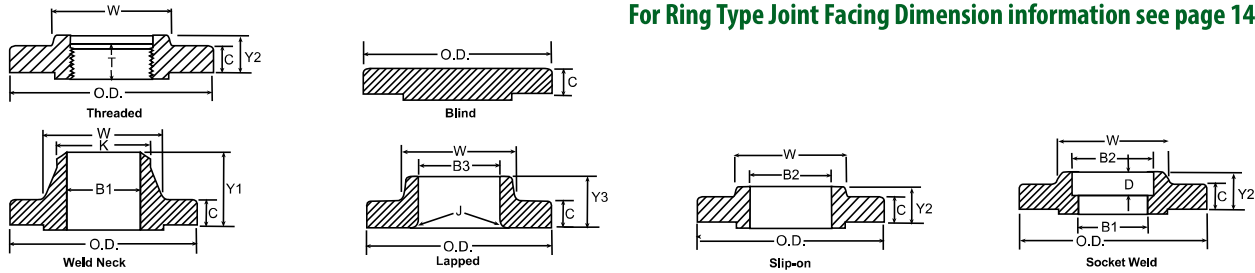
WELDBEND NOTES

- Standard flange facings on page 146.
- All dimensions are in inches.
- Calculated flange weights on page 99.
- For dimensional tolerances see page 144.

- All flanges conform to ASTM A105/ASME SA105.
- All flanges 1/2"-24" conform to ASME B16.5.
All flanges 30" and larger conform to ASME B16.47.

* This size and thickness does not correspond to any pipe schedule number.

For Ring Type Joint Facing Dimension information see page 148.



Pipe Size	Outside Diameter of Flange	Thickness of Flange (Min.)	Thickness of Lap Joint (Min.)	Diameter of Hub*	Diameter of Weld Neck	Length Through Hub			Thread Length (Min.)	Bore			Lap Joint Radius	Depth of Socket
						Threaded, Slip-on & Socket Weld	Lap Joint	Weld Neck		Slip-on & Socket Weld (Min.)	Lap Joint (Min.)	Weld Neck & Socket Weld		
	O.D.	C	C	W	K	Y2	Y3	Y1	T	B2	B3	B1 ▲	J	D

ASME B16.5

½	3.50	0.38	0.44	1.19	0.84	0.56	0.62	1.81	0.62	0.88	0.90	0.62	0.12	0.38
¾	3.88	0.44	0.50	1.50	1.05	0.56	0.62	2.00	0.62	1.09	1.11	0.82	0.12	0.44
1	4.25	0.50	0.56	1.94	1.32	0.62	0.69	2.12	0.69	1.36	1.38	1.05	0.12	0.50
1 ¼	4.62	0.56	0.62	2.31	1.66	0.75	0.81	2.19	0.81	1.70	1.72	1.38	0.19	0.56
1 ½	5.00	0.62	0.69	2.56	1.90	0.81	0.88	2.38	0.88	1.95	1.97	1.61	0.25	0.62
2	6.00	0.69	0.75	3.06	2.38	0.94	1.00	2.44	1.00	2.44	2.46	2.07	0.31	0.69
2 ½	7.00	0.81	0.88	3.56	2.88	1.06	1.12	2.69	1.12	2.94	2.97	2.47	0.31	0.75
3	7.50	0.88	0.94	4.25	3.50	1.12	1.19	2.69	1.19	3.57	3.60	3.07	0.38	0.81
3 ½	8.50	0.88	0.94	4.81	4.00	1.19	1.25	2.75	1.25	4.07	4.10	3.55	0.38	
4	9.00	0.88	0.94	5.31	4.50	1.25	1.31	2.94	1.31	4.57	4.60	4.03	0.44	
5	10.00	0.88	0.94	6.44	5.56	1.38	1.44	3.44	1.44	5.66	5.69	5.05	0.44	
6	11.00	0.94	1.00	7.56	6.63	1.50	1.56	3.44	1.56	6.72	6.75	6.07	0.50	
8	13.50	1.06	1.12	9.69	8.63	1.69	1.75	3.94	1.75	8.72	8.75	7.98	0.50	
10	16.00	1.12	1.19	12.00	10.75	1.88	1.94	3.94	1.94	10.88	10.92	10.02	0.50	
12	19.00	1.19	1.25	14.38	12.75	2.12	2.19	4.44	2.19	12.88	12.92	12.00	0.50	
14	21.00	1.31	1.38	15.75	14.00	2.19	3.12	4.94	2.25	14.14	14.18	13.25	0.50	
16	23.50	1.38	1.44	18.00	16.00	2.44	3.44	4.94	2.50	16.16	16.19	15.25	0.50	
18	25.00	1.50	1.56	19.88	18.00	2.62	3.81	5.44	2.69	18.18	18.20	17.25	0.50	
20	27.50	1.62	1.69	22.00	20.00	2.81	4.06	5.62	2.88	20.20	20.25	19.25	0.50	
24	32.00	1.81	1.88	26.12	24.00	3.19	4.38	5.94	3.25	24.25	24.25	23.25	0.50	

WN BLD

ASME B16.47 Series A

30	38.75	2.88	2.88		30.75	30.00		5.32						
36	46.00	3.50	3.50		36.75	36.00		6.13						
42	53.00	3.75	3.75		43.00	42.00		6.69						
48	59.50	4.19	4.19		49.12	48.00		7.50						

WN BLD

ASME B16.47 Series B

30	34.94	1.69	1.94		31.00	30.06		3.88						
36	41.62	2.00	2.25		37.19	36.06		4.57						
42	48.25	2.25	2.65		43.38	42.12		5.19						
48	54.81	2.50	3.00		49.50	48.12		5.82						

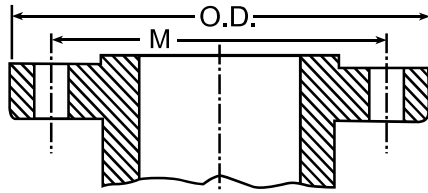
WELDBEND NOTES

- Standard flange facings on page 146.
- All dimensions are in inches.
- Calculated flange weights on page 99.
- For dimensional tolerances see page 144.
- Weld end preparations on page 154.

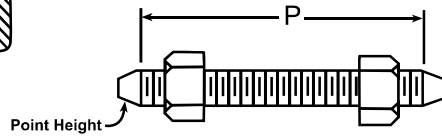
- Thread standards on page 156.
- Blind flanges may be produced with or without hubs.
- All flanges conform to ASTM A105/ASME SA105.
- All flanges ½"-24" conform to ASME B16.5.
- All flanges 30" and larger conform to ASME B16.47.

* A taper shall not exceed 7 degrees on threaded, slip-on and lapped flanges.
 ▲ Dimensions listed for socket weld and weld neck flanges are for Standard bore unless specified by purchaser.

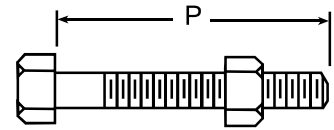
For Ring Type Joint Facing Dimension information see page 149.



Flange



Stud Bolt



Machine Bolt

Bolting Pattern and Bolt Lengths								
Pipe Size	Outside Diameter	Drilling				Length of Bolts		
		Diameter of Bolt Circle	Diameter of Bolt Holes	Number of Bolt Holes	Diameter of Bolts	Stud Bolts Raised Face 0.06 in.	Stud Bolts Ring Joint	Machine Bolts Raised Face 0.06 in.
	O.D.	M				P	P	P

ASME B16.5

1/2	3.75	2.62	5/8	4	1/2	2.50	3.00	2.25
3/4	4.62	3.25	3/4	4	5/8	3.00	3.50	2.50
1	4.88	3.50	3/4	4	5/8	3.00	3.50	2.50
1 1/4	5.25	3.88	3/4	4	5/8	3.25	3.75	2.75
1 1/2	6.12	4.50	7/8	4	3/4	3.50	4.00	3.00
2	6.50	5.00	3/4	8	5/8	3.50	4.00	3.00
2 1/2	7.50	5.88	7/8	8	3/4	4.00	4.50	3.25
3	8.25	6.62	7/8	8	3/4	4.25	4.75	3.50
3 1/2	9.00	7.25	7/8	8	3/4	4.25	5.00	3.75
4	10.00	7.88	7/8	8	3/4	4.50	5.00	3.75
5	11.00	9.25	7/8	8	3/4	4.75	5.25	4.25
6	12.50	10.62	7/8	12	3/4	4.75	5.50	4.25
8	15.00	13.00	1	12	7/8	5.50	6.00	4.75
10	17.50	15.25	1 1/8	16	1	6.25	6.75	5.50
12	20.50	17.75	1 1/4	16	1 1/8	6.75	7.25	5.75
14	23.00	20.25	1 1/4	20	1 1/8	7.00	7.50	6.25
16	25.50	22.50	1 3/8	20	1 1/4	7.50	8.00	6.50
18	28.00	24.75	1 3/8	24	1 1/4	7.75	8.25	6.75
20	30.50	27.00	1 3/8	24	1 1/4	8.00	8.75	7.25
24	36.00	32.00	1 5/8	24	1 1/2	9.00	10.00	8.00

ASME B16.47 Series A

30	43.00	39.25	1 7/8	28	1 3/4	Formula for determining bolt lengths (P) see page 159.
36	50.00	46.00	2 1/8	32	2	
42	50.75	47.50	1 3/4	32	1 5/8	
48	57.75	54.00	2	32	1 7/8	

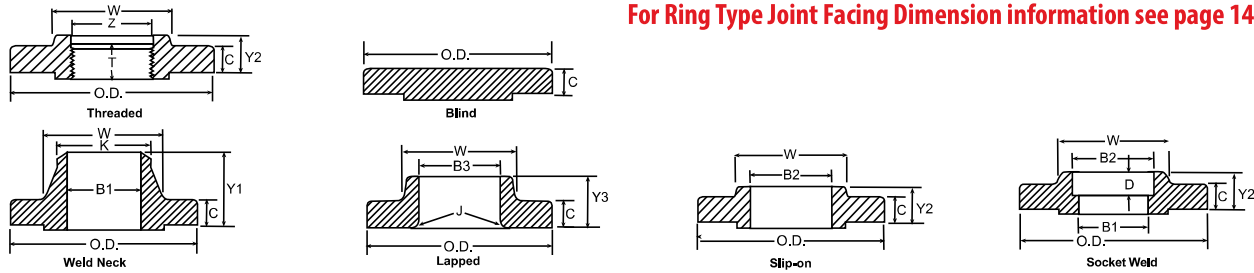
ASME B16.47 Series B

30	39.00	36.25	1 1/2	36	1 3/8	Formula for determining bolt lengths (P) see page 159.
36	46.12	42.88	1 3/4	32	1 5/8	
42	52.50	49.00	1 7/8	36	1 3/4	
48	59.50	55.75	2	40	1 7/8	

WELDBEND NOTES

- Standard flange facings on page 146.
- All dimensions are in inches.
- Calculated flange weights on page 100.
- For dimensional tolerances see page 144.
- All flanges conform to ASTM A105/ASME SA105.
- All flanges 1/2"-24" conform to ASME B16.5.
All flanges 30" and larger conform to ASME B16.47.

For Ring Type Joint Facing Dimension information see page 149.



Pipe Size	Outside Diameter of Flange	Thickness of Flange (Min.)	Thickness of Lap Joint (Min.)	Diameter of Hub*	Diameter of Weld Neck	Length Through Hub			Thread Length (Min.)	Bore			Lap Joint Radius	Min. Counter Bore Threaded Flange	Depth of Socket
						Threaded, Slip-on & Socket Weld	Lap Joint	Weld Neck		Slip-on & Socket Weld (Min.)	Lap Joint (Min.)	Weld Neck & Socket Weld			
	O.D.	C	C	W	K	Y2	Y3	Y1	T	B2	B3	B1 ▲	J	Z	D

ASME B16.5

½	3.75	0.50	0.56	1.50	0.84	0.81	0.88	2.00	0.62	0.88	0.90	0.62	0.12	0.93	0.38
¾	4.62	0.56	0.62	1.88	1.05	0.94	1.00	2.19	0.62	1.09	1.11	0.82	0.12	1.14	0.44
1	4.88	0.62	0.69	2.12	1.32	1.00	1.06	2.38	0.69	1.36	1.38	1.05	0.12	1.41	0.50
1 ¼	5.25	0.69	0.75	2.50	1.66	1.00	1.06	2.50	0.81	1.70	1.72	1.38	0.19	1.75	0.56
1 ½	6.12	0.75	0.81	2.75	1.90	1.13	1.19	2.63	0.88	1.95	1.97	1.61	0.25	1.98	0.62
2	6.50	0.81	0.88	3.31	2.38	1.25	1.31	2.69	1.12	2.44	2.46	2.07	0.31	2.50	0.69
2 ½	7.50	0.94	1.00	3.94	2.88	1.44	1.50	2.94	1.25	2.94	2.97	2.47	0.31	3.00	0.75
3	8.25	1.06	1.12	4.62	3.50	1.63	1.69	3.06	1.25	3.57	3.60	3.07	0.38	3.63	0.81
3 ½	9.00	1.12	1.19	5.25	4.00	1.69	1.75	3.13	1.44	4.07	4.10	3.55	0.38	4.13	
4	10.00	1.19	1.25	5.75	4.50	1.82	1.88	3.32	1.44	4.57	4.60	4.03	0.44	4.63	
5	11.00	1.31	1.38	7.00	5.56	1.94	2.00	3.82	1.69	5.66	5.69	5.05	0.44	5.69	
6	12.50	1.38	1.44	8.12	6.63	2.00	2.06	3.82	1.81	6.72	6.75	6.07	0.50	6.75	
8	15.00	1.56	1.62	10.25	8.63	2.38	2.44	4.32	2.00	8.72	8.75	7.98	0.50	8.75	
10	17.50	1.81	1.88	12.62	10.75	2.56	3.75	4.56	2.19	10.88	10.92	10.02	0.50	10.88	
12	20.50	1.94	2.00	14.75	12.75	2.82	4.00	5.06	2.38	12.88	12.92	12.00	0.50	12.94	
14	23.00	2.06	2.12	16.75	14.00	2.94	4.38	5.56	2.50	14.14	14.18	13.25	0.50	14.19	
16	25.50	2.19	2.25	19.00	16.00	3.19	4.75	5.69	2.69	16.16	16.19	15.25	0.50	16.19	
18	28.00	2.31	2.38	21.00	18.00	3.44	5.12	6.19	2.75	18.18	18.20	17.25	0.50	18.19	
20	30.50	2.44	2.50	23.12	20.00	3.69	5.50	6.32	2.88	20.20	20.25	19.25	0.50	20.19	
24	36.00	2.69	2.75	27.62	24.00	4.13	6.00	6.56	3.25	24.25	24.25	23.25	0.50	24.19	

ASME B16.47 Series A

	WN	BLD				
30	43.00	3.57	3.69	32.56	30.00	8.19
36	50.00	4.07	4.32	39.00	36.00	9.44
42	50.75	4.63	4.63	43.25	42.00	7.82
48	57.75	5.19	5.19	49.38	48.00	8.75

ASME B16.47 Series B

	WN	BLD				
30	39.00	3.63	3.63	32.00	30.25	6.16
36	46.12	4.00	4.00	38.00	36.25	7.06
42	52.50	4.63	4.63	44.00	42.31	8.00
48	59.50	5.00	5.25	50.31	48.31	8.75

WELDBEND NOTES

- Standard flange facings on page 146.
- All dimensions are in inches.
- Calculated flange weights on page 100.
- For dimensional tolerances see page 144.
- Weld end preparations on page 154.
- Thread standards on page 156.
- Blind flanges may be produced with or without hubs.
- All flanges conform to ASTM A105/ASME SA105.
- All flanges ½"-24" conform to ASME B16.5. All flanges 30" and larger conform to ASME B16.47.
- * A taper shall not exceed 7 degrees on threaded, slip-on and lapped flanges.
- ▲ Dimensions listed for socket weld and weld neck flanges are for Standard bore unless specified by purchaser.

FLANGES