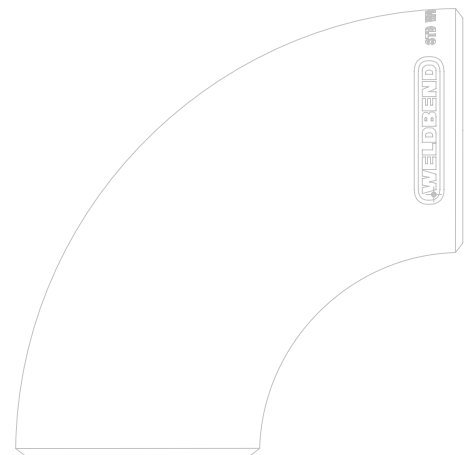
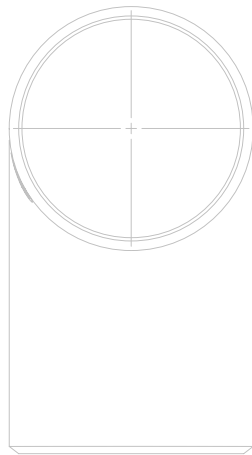
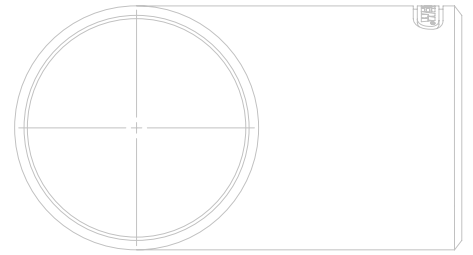
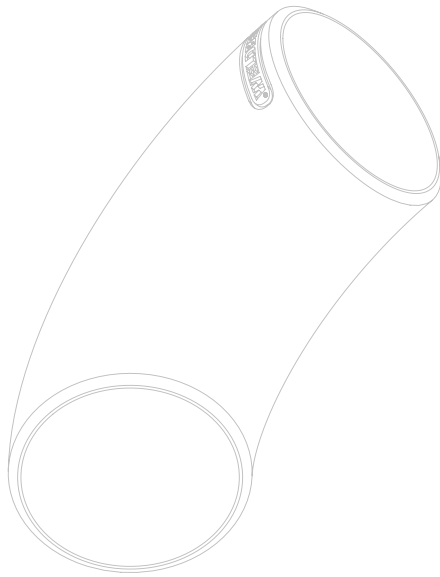




**Carbon Steel Weld Fitting & Weld Flange  
Products for Piping Construction**

**SIXTY-THIRD  
EDITION**

**Printed in U.S.A.**



## **WELDBEND CORPORATION**

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FAX: 708/458-0106

### **GENERAL OFFICE**

TEL: 773/582-3500

FAX: 773/582-7621

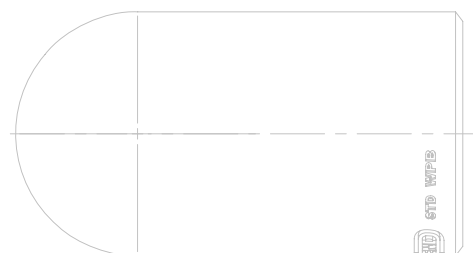
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**[info@weldbend.com](mailto:info@weldbend.com)**

**[orders@weldbend.com](mailto:orders@weldbend.com)**

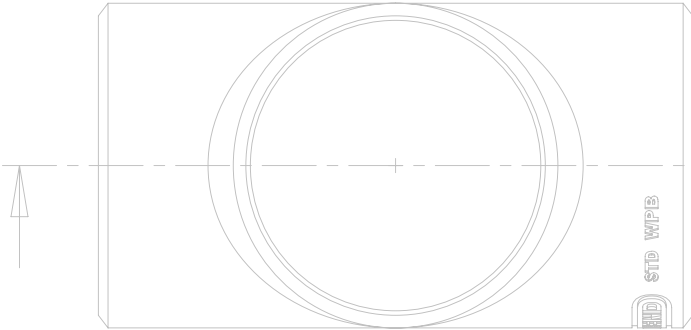
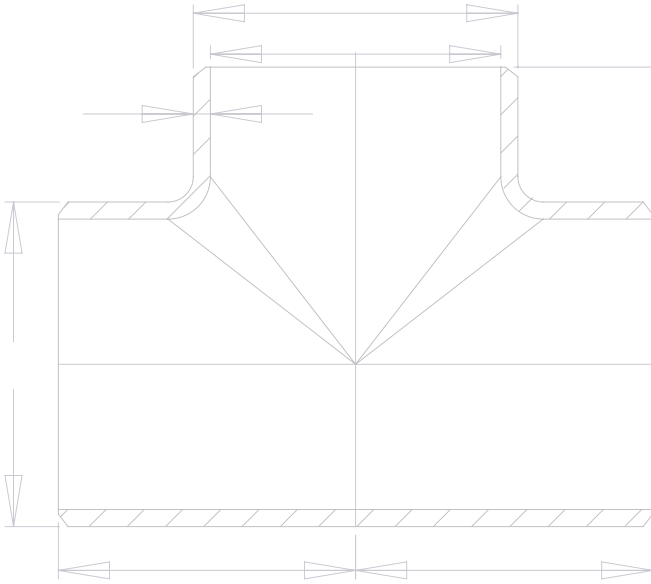
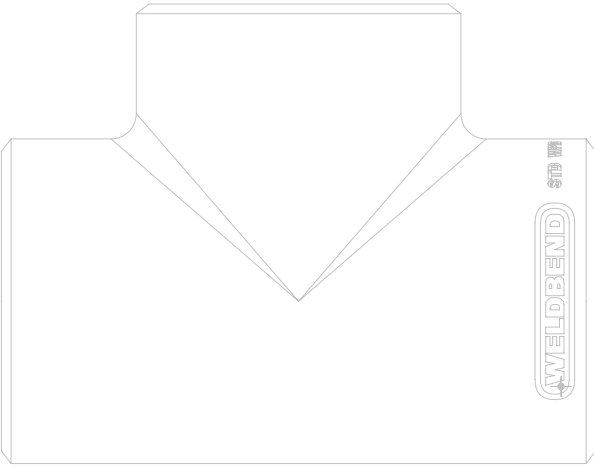
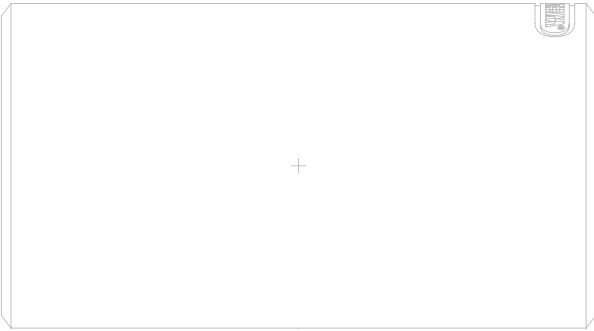
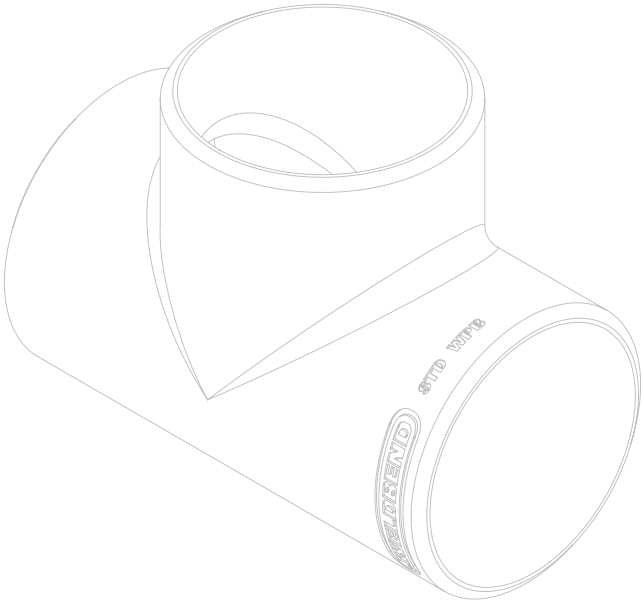
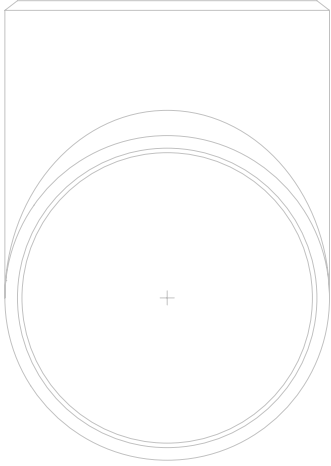
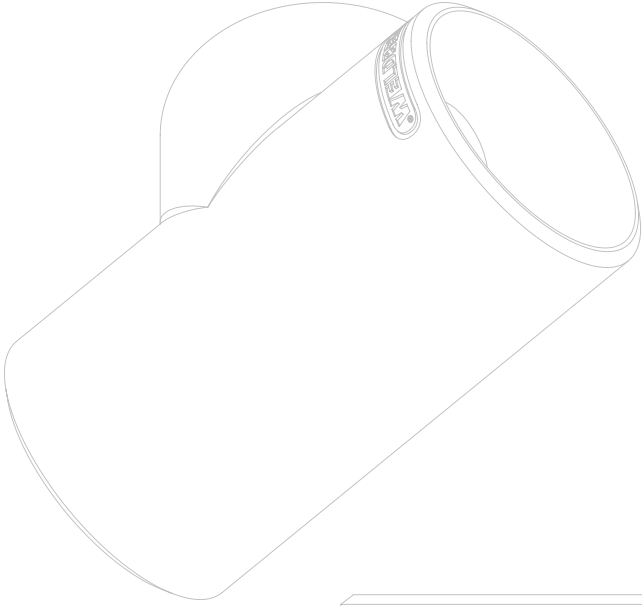
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**[customer.service@weldbend.com](mailto:customer.service@weldbend.com)**

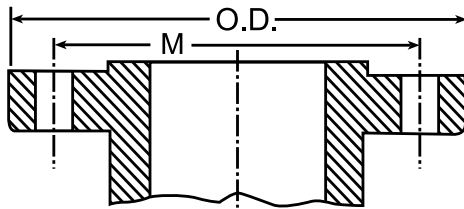


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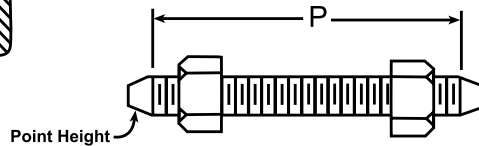
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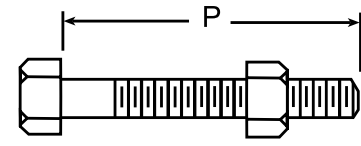
For Ring Type Joint Facing Dimension information see page 148.



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 |                                                        |  |  |

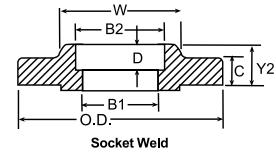
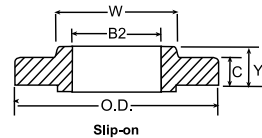
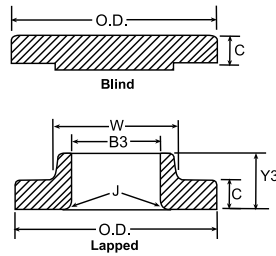
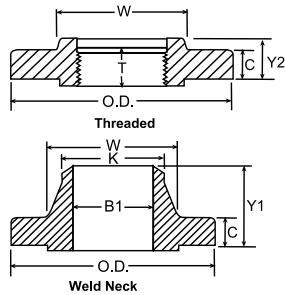
## WELDBEND NOTES

- 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.) | Slip-on & Socket Weld (Min.) | Bore | Weld Neck & Socket Weld | Lap Joint Radius | Depth of Socket |
|-----------|----------------------------|----------------------------|-------------------------------|------------------|-----------------------|---------------------------------|-----------|-----------|----------------------|------------------------------|------|-------------------------|------------------|-----------------|
|           | O.D.                       | C                          | C                             | W                | K                     | Threaded, Slip-on & Socket Weld | Lap Joint | Weld Neck | T                    | B2                           | B3   | B1 ▲                    | J                | D               |
|           |                            |                            |                               |                  |                       | Y2                              | Y3        | Y1        |                      |                              |      |                         |                  |                 |

## ASME B16.5

|       |       |      |      |       |       |      |      |      |      |       |       |       |      |      |
|-------|-------|------|------|-------|-------|------|------|------|------|-------|-------|-------|------|------|
| 1/2   | 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 |
| 3/4   | 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 1/4 | 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 1/2 | 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 1/2 | 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 1/2 | 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 |      |

## 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 |  |

## 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 1/2"-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.

| CLASS 150 |                  |                    |           |       |           |
|-----------|------------------|--------------------|-----------|-------|-----------|
| Pipe Size | Outside Diameter | Threaded & Slip-on | Weld Neck | Blind | Lap Joint |
|           | O.D.             |                    |           |       |           |

ASME B16.5

|     |       |        |        |        |        |
|-----|-------|--------|--------|--------|--------|
| ½   | 3.50  | 2.00   | 2.00   | 2.00   | 1.00   |
| ¾   | 3.88  | 2.00   | 2.00   | 2.00   | 2.00   |
| 1   | 4.25  | 2.00   | 3.00   | 2.00   | 2.00   |
| 1 ¼ | 4.62  | 3.00   | 3.00   | 3.00   | 3.00   |
| 1 ½ | 5.00  | 3.00   | 4.00   | 4.00   | 3.00   |
| 2   | 6.00  | 5.00   | 6.00   | 5.00   | 5.00   |
| 2 ½ | 7.00  | 8.00   | 10.00  | 7.00   | 8.00   |
| 3   | 7.50  | 9.00   | 11.50  | 9.00   | 9.00   |
| 3 ½ | 8.50  | 12.00  | 12.00  | 13.00  | 11.00  |
| 4   | 9.00  | 13.00  | 16.50  | 17.00  | 13.00  |
| 5   | 10.00 | 15.00  | 21.00  | 20.00  | 15.00  |
| 6   | 11.00 | 19.00  | 26.00  | 27.00  | 19.00  |
| 8   | 13.50 | 30.00  | 42.00  | 47.00  | 30.00  |
| 10  | 16.00 | 43.00  | 54.00  | 70.00  | 43.00  |
| 12  | 19.00 | 64.00  | 88.00  | 123.00 | 64.00  |
| 14  | 21.00 | 90.00  | 114.00 | 140.00 | 105.00 |
| 16  | 23.50 | 106.00 | 140.00 | 180.00 | 140.00 |
| 18  | 25.00 | 130.00 | 165.00 | 220.00 | 160.00 |
| 20  | 27.50 | 165.00 | 197.00 | 285.00 | 195.00 |
| 24  | 32.00 | 220.00 | 268.00 | 430.00 | 275.00 |

ASME B16.47 Series A

|    |       |   |         |         |   |
|----|-------|---|---------|---------|---|
| 30 | 38.75 | — | 400.00  | 982.00  | — |
| 36 | 46.00 | — | 640.00  | 1676.00 | — |
| 42 | 53.00 | — | 890.00  | 2381.00 | — |
| 48 | 59.50 | — | 1185.00 | 3348.00 | — |

ASME B16.47 Series B

|    |       |   |        |         |   |
|----|-------|---|--------|---------|---|
| 30 | 34.94 | — | 150.00 | 543.00  | — |
| 36 | 41.62 | — | 240.00 | 890.00  | — |
| 42 | 48.25 | — | 345.00 | 1393.00 | — |
| 48 | 54.81 | — | 480.00 | 2045.00 | — |

**WELDBEND** NOTES

1. All dimensions are in inches.
2. All weights are in pounds and approximated or estimated.