

TEXAS FLANGE

PRODUCT CATALOG: VER 5.1



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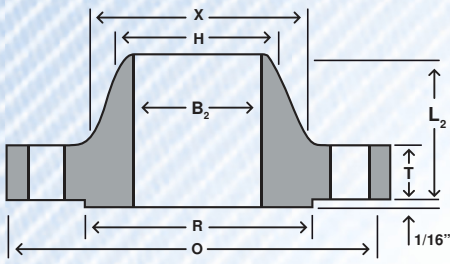
TEXAS FLANGE

PRODUCT CATALOG: VER 5.1

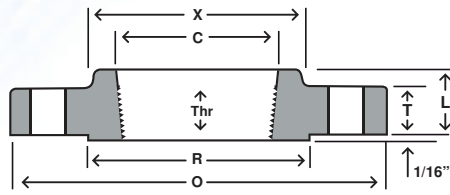
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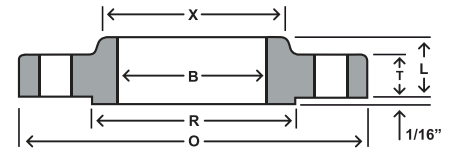
ANSI B16.5 Class 150 Forged Flanges



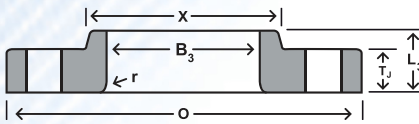
WELD NECK



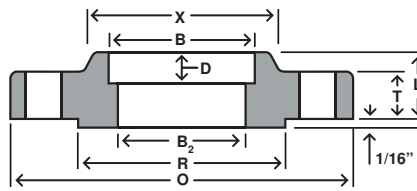
THREADED



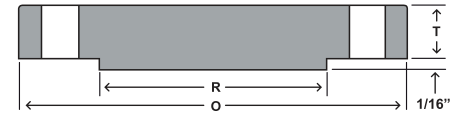
SLIP—ON



LAP JOINT



SOCKET WELD



BLIND

| Nom. Pipe Size | O | T | T _J | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | D | Thr |
|----------------|-------|------|----------------|-------|-------|-----------------------------|-----------------|-------|-----------------------------|----------------|-------|------|----------------|-----------------------------|------|------|------|
| 1/2 | 3.50 | 0.38 | 0.44 | 1.38 | 1.19 | 4-0.62 | 2.38 | 0.88 | 0.62 | 0.90 | 0.84 | 0.56 | 1.81 | 0.62 | 0.12 | 0.38 | 0.62 |
| 3/4 | 3.88 | 0.44 | 0.50 | 1.69 | 1.50 | 4-0.62 | 2.75 | 1.09 | 0.82 | 1.11 | 1.05 | 0.56 | 2.00 | 0.62 | 0.12 | 0.44 | 0.62 |
| 1 | 4.25 | 0.50 | 0.56 | 2.00 | 1.94 | 4-0.62 | 3.12 | 1.36 | 1.05 | 1.38 | 1.32 | 0.62 | 2.12 | 0.69 | 0.12 | 0.50 | 0.69 |
| 1 1/4 | 4.62 | 0.56 | 0.62 | 2.50 | 2.31 | 4-0.62 | 3.50 | 1.70 | 1.38 | 1.72 | 1.66 | 0.75 | 2.19 | 0.81 | 0.19 | 0.56 | 0.81 |
| 1 1/2 | 5.00 | 0.62 | 0.69 | 2.88 | 2.56 | 4-0.62 | 3.88 | 1.95 | 1.61 | 1.97 | 1.90 | 0.81 | 2.38 | 0.88 | 0.25 | 0.62 | 0.88 |
| 2 | 6.00 | 0.69 | 0.75 | 3.62 | 3.06 | 4-0.75 | 4.75 | 2.44 | 2.07 | 2.46 | 2.38 | 0.94 | 2.44 | 1.00 | 0.31 | 0.69 | 1.00 |
| 2 1/2 | 7.00 | 0.81 | 0.88 | 4.12 | 3.56 | 4-0.75 | 5.50 | 2.94 | 2.47 | 2.97 | 2.88 | 1.06 | 2.69 | 1.12 | 0.31 | 0.75 | 1.12 |
| 3 | 7.50 | 0.88 | 0.94 | 5.00 | 4.25 | 4-0.75 | 6.00 | 3.57 | 3.07 | 3.60 | 3.50 | 1.12 | 2.69 | 1.19 | 0.38 | 0.81 | 1.19 |
| 3 1/2 | 8.50 | 0.88 | 0.94 | 5.50 | 4.81 | 8-0.75 | 7.00 | 4.07 | 3.55 | 4.10 | 4.00 | 1.19 | 2.75 | 1.25 | 0.38 | 0.88 | 1.25 |
| 4 | 9.00 | 0.88 | 0.94 | 6.19 | 5.31 | 8-0.75 | 7.50 | 4.57 | 4.03 | 4.60 | 4.50 | 1.25 | 2.94 | 1.31 | 0.44 | 0.94 | 1.31 |
| 5 | 10.00 | 0.88 | 0.94 | 7.31 | 6.44 | 8-0.88 | 8.50 | 5.66 | 5.05 | 5.69 | 5.56 | 1.38 | 3.44 | 1.44 | 0.44 | 0.94 | 1.44 |
| 6 | 11.00 | 0.94 | 1.00 | 8.50 | 7.56 | 8-0.88 | 9.50 | 6.72 | 6.07 | 6.75 | 6.63 | 1.50 | 3.44 | 1.56 | 0.50 | 1.06 | 1.56 |
| 8 | 13.50 | 1.06 | 1.12 | 10.62 | 9.69 | 8-0.88 | 11.75 | 8.72 | 7.98 | 8.75 | 8.63 | 1.69 | 3.94 | 1.75 | 0.50 | 1.25 | 1.75 |
| 10 | 16.00 | 1.12 | 1.19 | 12.75 | 12.00 | 12-1.00 | 14.25 | 10.88 | 10.02 | 10.92 | 10.75 | 1.88 | 3.94 | 1.94 | 0.50 | 1.31 | 1.94 |
| 12 | 19.00 | 1.19 | 1.25 | 15.00 | 14.38 | 12-1.00 | 17.00 | 12.88 | 12.00 | 12.92 | 12.75 | 2.12 | 4.44 | 2.19 | 0.50 | 1.56 | 2.19 |
| 14 | 21.00 | 1.31 | 1.38 | 16.25 | 15.75 | 12-1.12 | 18.75 | 14.14 | 13.25 | 14.18 | 14.00 | 2.19 | 4.94 | 3.12 | 0.50 | 1.63 | 2.25 |
| 16 | 23.50 | 1.38 | 1.44 | 18.50 | 18.00 | 16-1.12 | 21.25 | 16.16 | 15.25 | 16.19 | 16.00 | 2.44 | 4.94 | 3.44 | 0.50 | 1.75 | 2.50 |
| 18 | 25.00 | 1.50 | 1.56 | 21.00 | 19.88 | 16-1.25 | 22.75 | 18.18 | 17.25 | 18.20 | 18.00 | 2.62 | 5.44 | 3.81 | 0.50 | 1.94 | 2.69 |
| 20 | 27.50 | 1.62 | 1.69 | 23.00 | 22.00 | 20-1.25 | 25.00 | 20.20 | 19.25 | 20.25 | 20.00 | 2.81 | 5.62 | 4.06 | 0.50 | 2.13 | 2.88 |
| 22 | 29.50 | 1.75 | 1.81 | 25.25 | 24.25 | 20-1.38 | 27.25 | 22.22 | 21.25 | 22.25 | 22.00 | 3.07 | 5.82 | 4.25 | 0.50 | 2.38 | 3.13 |
| 24 | 32.00 | 1.81 | 1.88 | 27.25 | 26.12 | 20-1.38 | 29.50 | 24.25 | 23.25 | 24.25 | 24.00 | 3.19 | 5.94 | 4.38 | 0.50 | 2.50 | 3.25 |

DIMENSIONS ARE IN INCHES

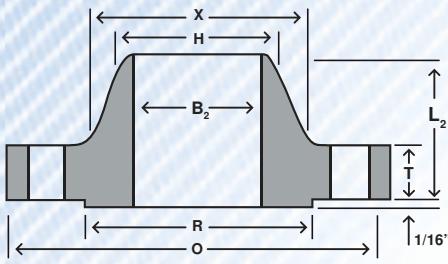
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) Standard bore dimensions provided. See bore chart for other wall thicknesses

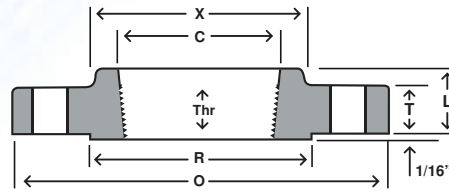
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



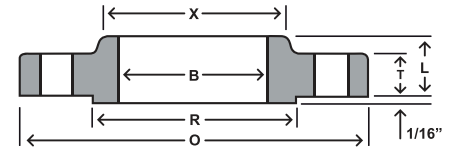
ANSI B16.5 Class 300 Forged Flanges



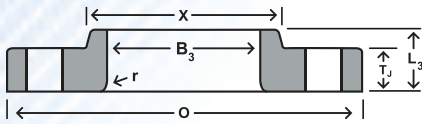
WELD NECK



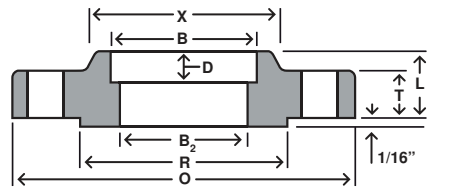
THREADED



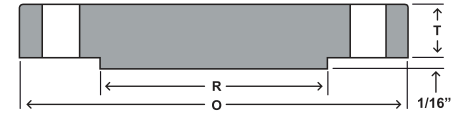
SLIP—ON



LAP JOINT



SOCKET WELD



BLIND

| Nom. Pipe Size | O | T | T _J | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | C | D | Thr |
|----------------|-------|------|----------------|-------|-------|-----------------------------|-----------------|-------|-----------------------------|----------------|-------|------|----------------|-----------------------------|------|-------|------|------|
| 1/2 | 3.75 | 0.50 | 0.56 | 1.38 | 1.50 | 4-0.63 | 2.62 | 0.88 | 0.62 | 0.90 | 0.84 | 0.81 | 2.00 | 0.88 | 0.12 | 0.93 | 0.38 | 0.62 |
| 3/4 | 4.62 | 0.56 | 0.62 | 1.69 | 1.88 | 4-0.75 | 3.25 | 1.09 | 0.82 | 1.11 | 1.05 | 0.94 | 2.19 | 1.00 | 0.12 | 1.14 | 0.44 | 0.62 |
| 1 | 4.88 | 0.62 | 0.69 | 2.00 | 2.12 | 4-0.75 | 3.50 | 1.36 | 1.05 | 1.38 | 1.32 | 1.00 | 2.38 | 1.06 | 0.12 | 1.41 | 0.50 | 0.69 |
| 1 1/4 | 5.25 | 0.69 | 0.75 | 2.50 | 2.50 | 4-0.75 | 3.88 | 1.70 | 1.38 | 1.72 | 1.66 | 1.00 | 2.50 | 1.06 | 0.19 | 1.75 | 0.56 | 0.81 |
| 1 1/2 | 6.12 | 0.75 | 0.81 | 2.88 | 2.75 | 4-0.88 | 4.50 | 1.95 | 1.61 | 1.97 | 1.90 | 1.13 | 2.63 | 1.19 | 0.25 | 1.98 | 0.62 | 0.88 |
| 2 | 6.50 | 0.81 | 0.88 | 3.62 | 3.31 | 8-0.75 | 5.00 | 2.44 | 2.07 | 2.46 | 2.38 | 1.25 | 2.69 | 1.31 | 0.31 | 2.50 | 0.69 | 1.12 |
| 2 1/2 | 7.50 | 0.94 | 1.00 | 4.12 | 3.94 | 8-0.88 | 5.88 | 2.94 | 2.47 | 2.97 | 2.88 | 1.44 | 2.94 | 1.50 | 0.31 | 3.00 | 0.75 | 1.25 |
| 3 | 8.25 | 1.06 | 1.12 | 5.00 | 4.62 | 8-0.88 | 6.62 | 3.57 | 3.07 | 3.60 | 3.50 | 1.63 | 3.06 | 1.69 | 0.38 | 3.63 | 0.81 | 1.25 |
| 3 1/2 | 9.00 | 1.12 | 1.19 | 5.50 | 5.25 | 8-0.88 | 7.25 | 4.07 | 3.55 | 4.10 | 4.00 | 1.69 | 3.13 | 1.75 | 0.38 | 4.13 | ... | 1.44 |
| 4 | 10.00 | 1.19 | 1.25 | 6.19 | 5.75 | 8-0.88 | 7.88 | 4.57 | 4.03 | 4.60 | 4.50 | 1.82 | 3.32 | 1.88 | 0.44 | 4.63 | ... | 1.44 |
| 5 | 11.00 | 1.31 | 1.38 | 7.31 | 7.00 | 8-0.88 | 9.25 | 5.66 | 5.05 | 5.69 | 5.56 | 1.94 | 3.82 | 2.00 | 0.44 | 5.69 | ... | 1.69 |
| 6 | 12.50 | 1.38 | 1.44 | 8.50 | 8.12 | 12-0.88 | 10.62 | 6.72 | 6.07 | 6.75 | 6.63 | 2.00 | 3.82 | 2.06 | 0.50 | 6.75 | ... | 1.81 |
| 8 | 15.00 | 1.56 | 1.62 | 10.62 | 10.25 | 12-1.00 | 13.00 | 8.72 | 7.98 | 8.75 | 8.63 | 2.38 | 4.32 | 2.44 | 0.50 | 8.75 | ... | 2.00 |
| 10 | 17.50 | 1.81 | 1.88 | 12.75 | 12.62 | 16-1.12 | 15.25 | 10.88 | 10.02 | 10.92 | 10.75 | 2.56 | 4.56 | 3.75 | 0.50 | 10.88 | ... | 2.19 |
| 12 | 20.50 | 1.94 | 2.00 | 15.00 | 14.75 | 16-1.25 | 17.75 | 12.88 | 12.00 | 12.92 | 12.75 | 2.82 | 5.06 | 4.00 | 0.50 | 12.94 | ... | 2.38 |
| 14 | 23.00 | 2.06 | 2.12 | 16.25 | 16.75 | 20-1.25 | 20.25 | 14.14 | 13.25 | 14.18 | 14.00 | 2.94 | 5.56 | 4.38 | 0.50 | 14.19 | ... | 2.50 |
| 16 | 25.50 | 2.19 | 2.25 | 18.50 | 19.00 | 20-1.38 | 22.50 | 16.16 | 15.25 | 16.19 | 16.00 | 3.19 | 5.69 | 4.75 | 0.50 | 16.19 | ... | 2.69 |
| 18 | 28.00 | 2.31 | 2.38 | 21.00 | 21.00 | 24-1.38 | 24.75 | 18.18 | 17.25 | 18.20 | 18.00 | 3.44 | 6.19 | 5.12 | 0.50 | 18.19 | ... | 2.75 |
| 20 | 30.50 | 2.44 | 2.50 | 23.00 | 23.12 | 24-1.38 | 27.00 | 20.20 | 19.25 | 20.25 | 20.00 | 3.69 | 6.32 | 5.50 | 0.50 | 20.19 | ... | 2.88 |
| 22 | 33.00 | 2.57 | 2.63 | 25.25 | 25.25 | 24-1.63 | 29.25 | 22.22 | 21.25 | 22.25 | 22.00 | 3.93 | 6.43 | 5.75 | 0.50 | 22.19 | ... | 3.13 |
| 24 | 36.00 | 2.69 | 2.75 | 27.25 | 27.62 | 24-1.63 | 32.00 | 24.25 | 23.25 | 24.25 | 24.00 | 4.13 | 6.56 | 6.00 | 0.50 | 24.19 | ... | 3.25 |

DIMENSIONS ARE IN INCHES

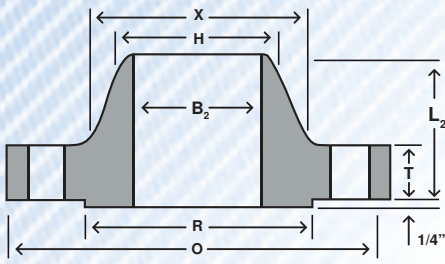
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) Standard bore dimensions provided. See bore chart for other wall thicknesses

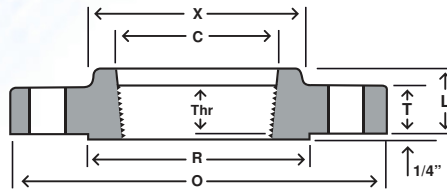
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



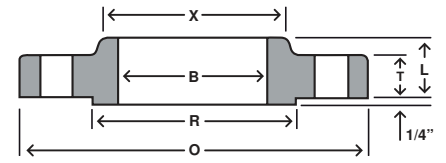
ANSI B16.5 Class 400 Forged Flanges



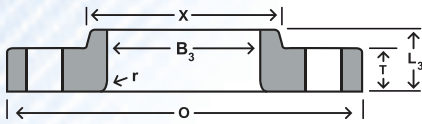
WELD NECK



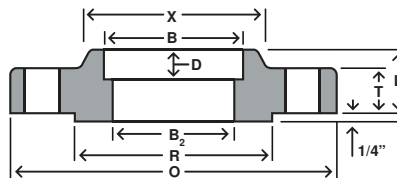
THREADED



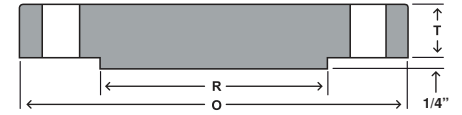
SLIP—ON



LAP JOINT



SOCKET WELD



BLIND

| Nom. Pipe Size | O | T | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | C | D | Thr |
|----------------|-------|------|-------|-------|-----------------------------|-----------------|-------|-----------------------------|----------------|-------|------|----------------|-----------------------------|------|-------|------|------|
| 1/2 | 3.75 | 0.56 | 1.38 | 1.50 | 4-0.63 | 2.62 | 0.88 | | 0.90 | 0.84 | 0.88 | 2.06 | 0.88 | 0.12 | 0.93 | 0.38 | 0.62 |
| 3/4 | 4.62 | 0.62 | 1.69 | 1.88 | 4-0.75 | 3.25 | 1.09 | | 1.11 | 1.05 | 1.00 | 2.25 | 1.00 | 0.12 | 1.14 | 0.44 | 0.62 |
| 1 | 4.88 | 0.69 | 2.00 | 2.12 | 4-0.75 | 3.50 | 1.36 | | 1.38 | 1.32 | 1.06 | 2.44 | 1.06 | 0.12 | 1.41 | 0.50 | 0.69 |
| 1 1/4 | 5.25 | 0.81 | 2.50 | 2.50 | 4-0.75 | 3.88 | 1.70 | | 1.72 | 1.66 | 1.12 | 2.62 | 1.12 | 0.19 | 1.75 | 0.56 | 0.81 |
| 1 1/2 | 6.12 | 0.88 | 2.88 | 2.75 | 4-0.88 | 4.50 | 1.95 | | 1.97 | 1.90 | 1.25 | 2.75 | 1.25 | 0.25 | 1.99 | 0.62 | 0.88 |
| 2 | 6.50 | 1.00 | 3.62 | 3.31 | 8-0.75 | 5.00 | 2.44 | | 2.46 | 2.38 | 1.44 | 2.88 | 1.44 | 0.31 | 2.50 | 0.69 | 1.12 |
| 2 1/2 | 7.50 | 1.12 | 4.12 | 3.94 | 8-0.88 | 5.88 | 2.94 | | 2.97 | 2.88 | 1.62 | 3.12 | 1.62 | 0.31 | 3.00 | 0.75 | 1.25 |
| 3 | 8.25 | 1.25 | 5.00 | 4.62 | 8-0.88 | 6.62 | 3.57 | | 3.60 | 3.50 | 1.81 | 3.25 | 1.81 | 0.38 | 3.63 | 0.81 | 1.38 |
| 3 1/2 | 9.00 | 1.38 | 5.50 | 5.25 | 8-1.00 | 7.25 | 4.07 | | 4.10 | 4.00 | 1.94 | 3.38 | 1.94 | 0.38 | 4.13 | .... | 1.56 |
| 4 | 10.00 | 1.38 | 6.19 | 5.75 | 8-1.00 | 7.88 | 4.57 | | 4.60 | 4.50 | 2.00 | 3.50 | 2.00 | 0.44 | 4.63 | .... | 1.44 |
| 5 | 11.00 | 1.50 | 7.31 | 7.00 | 8-1.00 | 9.25 | 5.66 | | 5.69 | 5.56 | 2.12 | 4.00 | 2.12 | 0.44 | 5.69 | .... | 1.69 |
| 6 | 12.50 | 1.62 | 8.50 | 8.12 | 12-1.00 | 10.62 | 6.72 | | 6.75 | 6.63 | 2.25 | 4.06 | 2.25 | 0.50 | 6.75 | .... | 1.81 |
| 8 | 15.00 | 1.88 | 10.62 | 10.25 | 12-1.12 | 13.00 | 8.72 | | 8.75 | 8.63 | 2.69 | 4.62 | 2.69 | 0.50 | 8.75 | .... | 2.00 |
| 10 | 17.50 | 2.12 | 12.75 | 12.62 | 16-1.25 | 15.25 | 10.88 | | 10.92 | 10.75 | 2.88 | 4.88 | 4.00 | 0.50 | 10.88 | .... | 2.19 |
| 12 | 20.50 | 2.25 | 15.00 | 14.75 | 16-1.38 | 17.75 | 12.88 | | 12.92 | 12.75 | 3.12 | 5.38 | 4.25 | 0.50 | 12.94 | .... | 2.38 |
| 14 | 23.00 | 2.38 | 16.25 | 16.75 | 20-1.38 | 20.25 | 14.14 | | 14.18 | 14.00 | 3.31 | 5.88 | 4.62 | 0.50 | 14.19 | .... | 2.50 |
| 16 | 25.50 | 2.50 | 18.50 | 19.00 | 20-1.50 | 22.50 | 16.16 | | 16.19 | 16.00 | 3.69 | 6.00 | 5.00 | 0.50 | 16.19 | .... | 2.69 |
| 18 | 28.00 | 2.62 | 21.00 | 21.00 | 24-1.50 | 24.75 | 18.18 | | 18.20 | 18.00 | 3.88 | 6.50 | 5.38 | 0.50 | 18.19 | .... | 2.75 |
| 20 | 30.50 | 2.75 | 23.00 | 23.12 | 24-1.62 | 27.00 | 20.20 | | 20.25 | 20.00 | 4.00 | 6.62 | 5.75 | 0.50 | 20.19 | .... | 2.88 |
| 22 | 33.00 | 2.88 | 25.25 | 25.25 | 24-1.75 | 29.25 | 22.22 | | 22.25 | 22.00 | 4.25 | 6.75 | 6.00 | 0.50 | .... | .... | -- |
| 24 | 36.00 | 3.00 | 27.25 | 27.62 | 24-1.88 | 32.00 | 24.25 | | 24.25 | 24.00 | 4.50 | 6.88 | 6.25 | 0.50 | 24.19 | .... | 3.25 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES

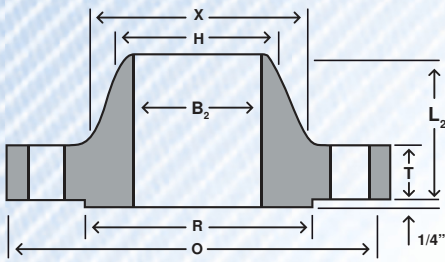
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) See bore chart for wall thickness

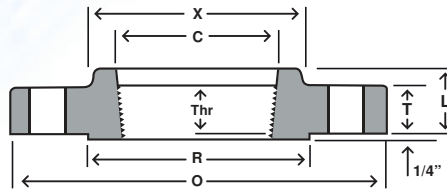
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



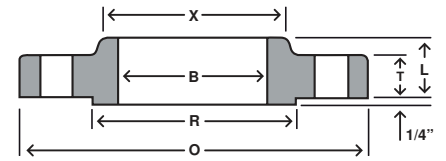
ANSI B16.5 Class 600 Forged Flanges



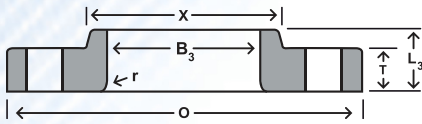
WELD NECK



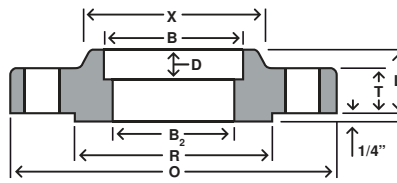
THREADED



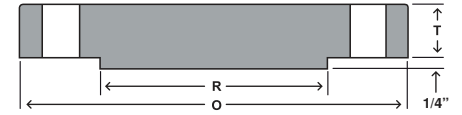
SLIP—ON



LAP JOINT



SOCKET WELD



BLIND

| Nom. Pipe Size | O | T | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | C | D | Thr |
|----------------|-------|------|-------|-------|-----------------------------|-----------------|-------|-----------------------------|----------------|-------|------|----------------|-----------------------------|------|-------|------|------|
| 1/2 | 3.75 | 0.56 | 1.38 | 1.50 | 4-0.63 | 2.62 | 0.88 | | 0.90 | 0.84 | 0.88 | 2.06 | 0.88 | 0.12 | 0.93 | 0.38 | 0.62 |
| 3/4 | 4.62 | 0.62 | 1.69 | 1.88 | 4-0.75 | 3.25 | 1.09 | | 1.11 | 1.05 | 1.00 | 2.25 | 1.00 | 0.12 | 1.14 | 0.44 | 0.62 |
| 1 | 4.88 | 0.69 | 2.00 | 2.12 | 4-0.75 | 3.50 | 1.36 | | 1.38 | 1.32 | 1.06 | 2.44 | 1.06 | 0.12 | 1.41 | 0.50 | 0.69 |
| 1 1/4 | 5.25 | 0.81 | 2.50 | 2.50 | 4-0.75 | 3.88 | 1.70 | | 1.72 | 1.66 | 1.12 | 2.62 | 1.12 | 0.19 | 1.75 | 0.56 | 0.81 |
| 1 1/2 | 6.12 | 0.88 | 2.88 | 2.75 | 4-0.88 | 4.50 | 1.95 | | 1.97 | 1.90 | 1.25 | 2.75 | 1.25 | 0.25 | 1.99 | 0.62 | 0.88 |
| 2 | 6.50 | 1.00 | 3.62 | 3.31 | 8-0.75 | 5.00 | 2.44 | | 2.46 | 2.38 | 1.44 | 2.88 | 1.44 | 0.31 | 2.50 | 0.69 | 1.12 |
| 2 1/2 | 7.50 | 1.12 | 4.12 | 3.94 | 8-0.88 | 5.88 | 2.94 | | 2.97 | 2.88 | 1.62 | 3.12 | 1.62 | 0.31 | 3.00 | 0.75 | 1.25 |
| 3 | 8.25 | 1.25 | 5.00 | 4.62 | 8-0.88 | 6.62 | 3.57 | | 3.60 | 3.50 | 1.81 | 3.25 | 1.81 | 0.38 | 3.63 | 0.81 | 1.38 |
| 3 1/2 | 9.00 | 1.38 | 5.50 | 5.25 | 8-1.00 | 7.25 | 4.07 | | 4.10 | 4.00 | 1.94 | 3.38 | 1.94 | 0.38 | 4.13 | .... | 1.56 |
| 4 | 10.75 | 1.50 | 6.19 | 6.00 | 8-1.00 | 8.50 | 4.57 | | 4.60 | 4.50 | 2.12 | 4.00 | 2.12 | 0.44 | 4.63 | .... | 1.62 |
| 5 | 13.00 | 1.75 | 7.31 | 7.44 | 8-1.12 | 10.50 | 5.66 | | 5.69 | 5.56 | 2.38 | 4.50 | 2.38 | 0.44 | 5.69 | .... | 1.88 |
| 6 | 14.00 | 1.88 | 8.50 | 8.75 | 12-1.12 | 11.50 | 6.72 | | 6.75 | 6.63 | 2.62 | 4.62 | 2.62 | 0.50 | 6.75 | .... | 2.00 |
| 8 | 16.50 | 2.19 | 10.62 | 10.75 | 12-1.25 | 13.75 | 8.72 | | 8.75 | 8.63 | 3.00 | 5.25 | 3.00 | 0.50 | 8.75 | .... | 2.25 |
| 10 | 20.00 | 2.50 | 12.75 | 13.50 | 16-1.38 | 17.00 | 10.88 | | 10.92 | 10.75 | 3.38 | 6.00 | 4.38 | 0.50 | 10.88 | .... | 2.56 |
| 12 | 22.00 | 2.62 | 15.00 | 15.75 | 20-1.38 | 19.25 | 12.88 | | 12.92 | 12.75 | 3.62 | 6.12 | 4.62 | 0.50 | 12.94 | .... | 2.75 |
| 14 | 23.75 | 2.75 | 16.25 | 17.00 | 20-1.50 | 20.75 | 14.14 | | 14.18 | 14.00 | 3.69 | 6.50 | 5.00 | 0.50 | 14.19 | .... | 2.88 |
| 16 | 27.00 | 3.00 | 18.50 | 19.50 | 20-1.63 | 23.75 | 16.16 | | 16.19 | 16.00 | 4.19 | 7.00 | 5.50 | 0.50 | 16.19 | .... | 3.06 |
| 18 | 29.25 | 3.25 | 21.00 | 21.50 | 20-1.75 | 25.75 | 18.18 | | 18.20 | 18.00 | 4.62 | 7.25 | 6.00 | 0.50 | 18.19 | .... | 3.12 |
| 20 | 32.00 | 3.50 | 23.00 | 24.00 | 24-1.75 | 28.50 | 20.20 | | 20.25 | 20.00 | 5.00 | 7.50 | 6.50 | 0.50 | 20.19 | .... | 3.25 |
| 22 | 34.25 | 3.75 | 25.25 | 26.25 | 24-1.75 | 30.63 | 22.22 | | 22.25 | 22.00 | 5.25 | 7.75 | 6.88 | 0.50 | .... | .... | -- |
| 24 | 37.00 | 4.00 | 27.25 | 28.25 | 24-2.00 | 33.00 | 24.25 | | 24.25 | 24.00 | 5.50 | 8.00 | 7.25 | 0.50 | 24.19 | .... | 3.62 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES

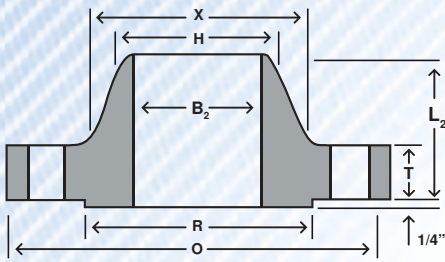
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) See bore chart for wall thickness

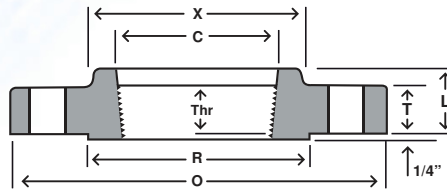
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



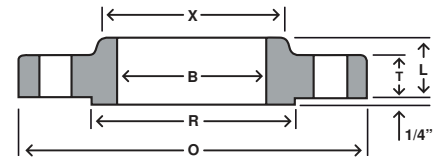
ANSI B16.5 Class 900 Forged Flanges



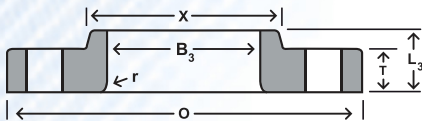
WELD NECK



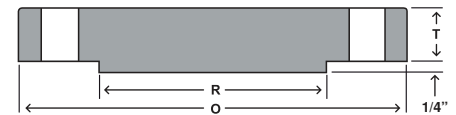
THREADED



SLIP—ON



LAP JOINT



BLIND

| Nom. Pipe Size | O | T | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | C | Thr |
|----------------|---|---|---|---|-----------------------------|-----------------|---|-----------------------------|----------------|---|---|----------------|-----------------------------|---|---|-----|
|----------------|---|---|---|---|-----------------------------|-----------------|---|-----------------------------|----------------|---|---|----------------|-----------------------------|---|---|-----|

Sizes 1/2" through 2 1/2" are identical to class 1500.

Sizes 1/2" through 2 1/2" are identical to class 1500.

| | | | | | | | | | | | | | | | | | |
|----|-------|------|-------|-------|---------|-------|-------|--|--|--|--|--|--|--|--|--|--|
| 3 | 9.50 | 1.50 | 5.00 | 5.00 | 8-1.00 | 7.50 | 3.57 | | | | | | | | | | |
| 4 | 11.50 | 1.75 | 6.19 | 6.25 | 8-1.25 | 9.25 | 4.57 | | | | | | | | | | |
| 5 | 13.75 | 2.00 | 7.31 | 7.50 | 8-1.38 | 11.00 | 5.66 | | | | | | | | | | |
| 6 | 15.00 | 2.19 | 8.50 | 9.25 | 12-1.25 | 12.50 | 6.72 | | | | | | | | | | |
| 8 | 18.50 | 2.50 | 10.63 | 11.75 | 12-1.50 | 15.50 | 8.72 | | | | | | | | | | |
| 10 | 21.50 | 2.75 | 12.75 | 14.50 | 16-1.50 | 18.50 | 10.88 | | | | | | | | | | |
| 12 | 24.00 | 3.12 | 15.00 | 16.50 | 20-1.50 | 21.00 | 12.88 | | | | | | | | | | |
| 14 | 25.25 | 3.38 | 16.25 | 17.75 | 20-1.63 | 22.00 | 14.14 | | | | | | | | | | |
| 16 | 27.75 | 3.50 | 18.50 | 20.00 | 20-1.75 | 24.25 | 16.16 | | | | | | | | | | |
| 18 | 31.00 | 4.00 | 21.00 | 22.25 | 20-2.00 | 27.00 | 18.18 | | | | | | | | | | |
| 20 | 33.75 | 4.25 | 23.00 | 24.50 | 20-2.13 | 29.50 | 20.20 | | | | | | | | | | |
| 24 | 41.00 | 5.50 | 27.25 | 29.50 | 20-2.63 | 35.50 | 24.25 | | | | | | | | | | |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES

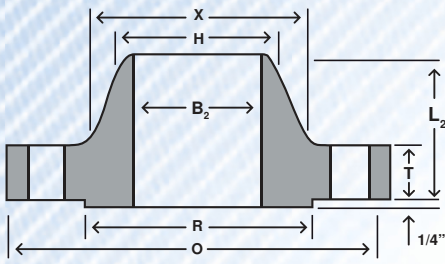
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) See bore chart for wall thickness

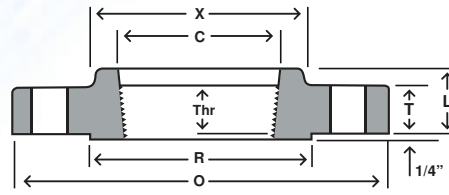
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



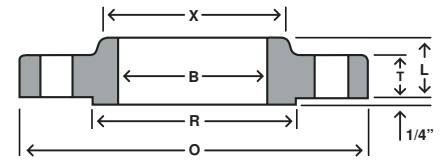
ANSI B16.5 Class 1500 Forged Flanges



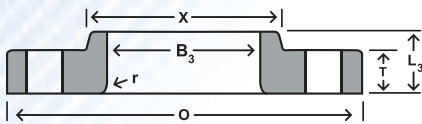
WELD NECK



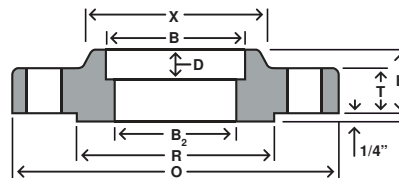
THREADED



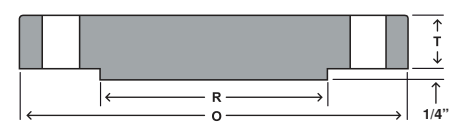
SLIP—ON



LAP JOINT



SOCKET WELD



BLIND

| Nom. Pipe Size | O | T | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ ^c | r | C | D | Thr |
|----------------|-------|------|-------|-------|-----------------------------|-----------------|------|-----------------------------|----------------|-------|------|----------------|-----------------------------|------|------|------|------|
| 1/2 | 4.75 | 0.88 | 1.38 | 1.50 | 4-0.88 | 3.25 | 0.88 | | 0.90 | 0.84 | 1.25 | 2.38 | 1.25 | 0.12 | 0.93 | 0.38 | 0.88 |
| 3/4 | 5.12 | 1.00 | 1.69 | 1.75 | 4-0.88 | 3.50 | 1.09 | | 1.11 | 1.05 | 1.38 | 2.75 | 1.38 | 0.12 | 1.14 | 0.44 | 1.00 |
| 1 | 5.88 | 1.12 | 2.00 | 2.06 | 4-1.00 | 4.00 | 1.36 | | 1.38 | 1.32 | 1.62 | 2.88 | 1.62 | 0.12 | 1.41 | 0.50 | 1.12 |
| 1 1/4 | 6.25 | 1.12 | 2.50 | 2.50 | 4-1.00 | 4.38 | 1.70 | | 1.72 | 1.66 | 1.62 | 2.88 | 1.62 | 0.19 | 1.75 | 0.56 | 1.19 |
| 1 1/2 | 7.00 | 1.25 | 2.88 | 2.75 | 4-1.12 | 4.88 | 1.95 | | 1.97 | 1.90 | 1.75 | 3.25 | 1.75 | 0.25 | 1.99 | 0.62 | 1.25 |
| 2 | 8.50 | 1.50 | 3.63 | 4.12 | 8-1.00 | 6.50 | 2.44 | | 2.46 | 2.38 | 2.25 | 4.00 | 2.25 | 0.31 | 2.50 | 0.69 | 1.50 |
| 2 1/2 | 9.62 | 1.62 | 4.13 | 4.88 | 8-1.12 | 7.50 | 2.94 | | 2.97 | 2.88 | 2.50 | 4.12 | 2.50 | 0.31 | 3.00 | 0.75 | 1.88 |
| 3 | 10.50 | 1.88 | 5.00 | 5.25 | 8-1.25 | 8.00 | ... | | 3.60 | 3.50 | ... | 4.62 | 2.88 | 0.38 | ... | ... | ... |
| 4 | 12.25 | 2.12 | 6.19 | 6.38 | 8-1.38 | 9.50 | ... | | 4.60 | 4.50 | ... | 4.88 | 3.56 | 0.44 | ... | ... | ... |
| 5 | 14.75 | 2.88 | 7.31 | 7.75 | 8-1.63 | 11.50 | ... | | 5.69 | 5.56 | ... | 6.12 | 4.12 | 0.44 | ... | ... | ... |
| 6 | 15.50 | 3.25 | 8.50 | 9.00 | 12-1.50 | 12.50 | ... | | 6.75 | 6.63 | ... | 6.75 | 4.69 | 0.50 | ... | ... | ... |
| 8 | 19.00 | 3.62 | 10.63 | 11.50 | 12-1.75 | 15.50 | ... | | 8.75 | 8.63 | ... | 8.38 | 5.62 | 0.50 | ... | ... | ... |
| 10 | 23.00 | 4.25 | 12.75 | 14.50 | 12-2.00 | 19.00 | ... | | 10.92 | 10.75 | ... | 10.00 | 7.00 | 0.50 | ... | ... | ... |
| 12 | 26.50 | 4.88 | 15.00 | 17.75 | 16-2.12 | 22.50 | ... | | 12.92 | 12.75 | ... | 11.12 | 8.62 | 0.50 | ... | ... | ... |
| 14 | 29.50 | 5.25 | 16.25 | 19.50 | 16-2.38 | 25.00 | ... | | 14.18 | 14.00 | ... | 11.75 | 9.50 | 0.50 | ... | ... | ... |
| 16 | 32.50 | 5.75 | 18.50 | 21.75 | 16-2.63 | 27.75 | ... | | 16.19 | 16.00 | ... | 12.25 | 10.25 | 0.50 | ... | ... | ... |
| 18 | 36.00 | 6.38 | 21.00 | 23.50 | 16-2.88 | 30.50 | ... | | 18.20 | 18.00 | ... | 12.88 | 10.88 | 0.50 | ... | ... | ... |
| 20 | 38.75 | 7.00 | 23.00 | 25.25 | 16-3.12 | 32.75 | ... | | 20.25 | 20.00 | ... | 14.00 | 11.50 | 0.50 | ... | ... | ... |
| 24 | 46.00 | 8.00 | 27.25 | 30.00 | 16-3.63 | 39.00 | ... | | 24.25 | 24.00 | ... | 16.00 | 13.00 | 0.50 | ... | ... | ... |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES

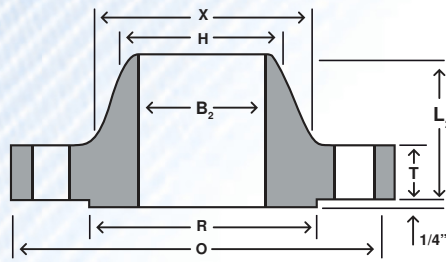
(A) Bolt hole diameter 1/8" larger than bolt diameter

(B) See bore chart for wall thickness

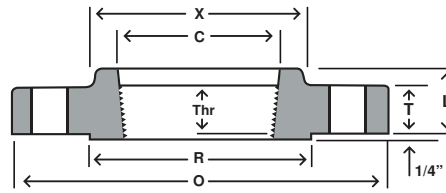
(C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.



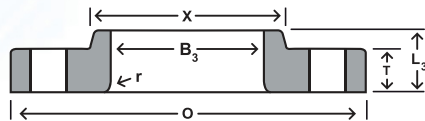
ANSI B16.5 Class 2500 Forged Flanges



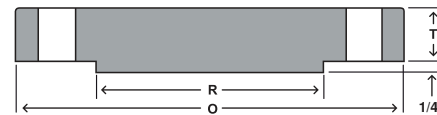
WELD NECK



THREADED



LAP JOINT



BLIND

| Nom. Pipe Size | O | T | R | X | #/Dia of Holes ^a | Bolt Circle Dia | B ₂ ^b | B ₃ | H | L | L ₂ | L ₃ | r | C | Thr |
|----------------|-------|------|-------|-------|-----------------------------|-----------------|-----------------------------|----------------|-------|------|----------------|----------------|------|------|------|
| 1/2 | 5.25 | 1.19 | 1.38 | 1.69 | 4-0.88 | 3.50 | | 0.90 | 0.84 | 1.56 | 2.88 | 1.56 | 0.12 | 0.93 | 1.12 |
| 3/4 | 5.50 | 1.25 | 1.69 | 2.00 | 4-0.88 | 3.75 | | 1.11 | 1.05 | 1.69 | 3.12 | 1.69 | 0.12 | 1.14 | 1.25 |
| 1 | 6.25 | 1.38 | 2.00 | 2.25 | 4-1.00 | 4.25 | | 1.38 | 1.32 | 1.88 | 3.50 | 1.88 | 0.12 | 1.41 | 1.38 |
| 1 1/4 | 7.25 | 1.50 | 2.50 | 2.88 | 4-1.12 | 5.13 | | 1.72 | 1.66 | 2.06 | 3.75 | 2.06 | 0.19 | 1.75 | 1.50 |
| 1 1/2 | 8.00 | 1.75 | 2.88 | 3.12 | 4-1.25 | 5.75 | | 1.97 | 1.90 | 2.38 | 4.38 | 2.38 | 0.25 | 1.99 | 1.75 |
| 2 | 9.25 | 2.00 | 3.63 | 3.75 | 8-1.12 | 6.75 | | 2.46 | 2.38 | 2.75 | 5.00 | 2.75 | 0.31 | 2.50 | 2.00 |
| 2 1/2 | 10.50 | 2.25 | 4.13 | 4.50 | 8-1.25 | 7.75 | | 2.97 | 2.88 | 3.12 | 5.62 | 3.12 | 0.31 | 3.00 | 2.25 |
| 3 | 12.00 | 2.62 | 5.00 | 5.25 | 8-1.38 | 9.00 | | 3.60 | 3.50 | .... | 6.62 | 3.62 | 0.38 | .... | .... |
| 4 | 14.00 | 3.00 | 6.19 | 6.50 | 8-1.63 | 10.75 | | 4.60 | 4.50 | .... | 7.50 | 4.25 | 0.44 | .... | .... |
| 5 | 16.50 | 3.62 | 7.31 | 8.00 | 8-1.88 | 12.75 | | 5.69 | 5.56 | .... | 9.00 | 5.12 | 0.44 | .... | .... |
| 6 | 19.00 | 4.25 | 8.50 | 9.25 | 8-2.12 | 14.50 | | 6.75 | 6.63 | .... | 10.75 | 6.00 | 0.50 | .... | .... |
| 8 | 21.75 | 5.00 | 10.63 | 12.00 | 12-2.12 | 17.25 | | 8.75 | 8.63 | .... | 12.50 | 7.00 | 0.50 | .... | .... |
| 10 | 26.50 | 6.50 | 12.75 | 14.75 | 12-2.63 | 21.25 | | 10.92 | 10.75 | .... | 16.50 | 9.00 | 0.50 | .... | .... |
| 12 | 30.00 | 7.25 | 15.00 | 17.38 | 12-2.88 | 24.38 | | 12.92 | 12.75 | .... | 18.25 | 10.00 | 0.50 | .... | .... |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES

- (A) Bolt hole diameter 1/8" larger than bolt diameter
- (B) See bore chart for wall thickness
- (C) This dimension is commonly associated with "true" lap joints. Industry standard is to make to the slip on length through the hub.
- (D) Slip On's and Socket Welds are not included in ASME/ANSI code for 2500# Class.
- (E) Sizes larger than 12" in 2500# can be quoted, but we would require a drawing to be supplied.



ANSI B16.5 – 1/2”–24” Forged Flanges

APPROXIMATE WEIGHT LIST (LBS)

| CLASS | Nominal Pipe Size | Slip On | Threaded | Socket Weld | Lap Joint | Blind | Weld Neck |
|--------|-------------------|---------|----------|-------------|-----------|-------|-----------|
| 150 lb | 1/2 | 1 | 1 | 2 | 1 | 2 | 2 |
| | 3/4 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 1 | 2 | 2 | 2 | 2 | 2 | 3 |
| | 1 1/4 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 1 1/2 | 3 | 3 | 3 | 3 | 4 | 4 |
| | 2 | 5 | 5 | 5 | 5 | 5 | 6 |
| | 2 1/2 | 8 | 8 | 8 | 8 | 7 | 10 |
| | 3 | 9 | 9 | 9 | 9 | 9 | 11.5 |
| | 3 1/2 | 11 | 12 | 11 | 11 | 13 | 12 |
| | 4 | 13 | 13 | 13 | 13 | 17 | 16.5 |
| | 5 | 15 | 15 | 15 | 15 | 20 | 21 |
| | 6 | 19 | 19 | 19 | 19 | 27 | 26 |
| | 8 | 30 | 30 | 30 | 30 | 47 | 42 |
| | 10 | 43 | 43 | 43 | 43 | 70 | 54 |
| | 12 | 64 | 64 | 64 | 64 | 123 | 88 |
| | 14 | 90 | 90 | 90 | 105 | 140 | 114 |
| | 16 | 106 | 98 | 98 | 140 | 180 | 140 |
| | 18 | 130 | 130 | 130 | 160 | 220 | 165 |
| | 20 | 165 | 165 | 165 | 195 | 285 | 197 |
| | 22 | 185 | 185 | 185 | 245 | 355 | 225 |
| 24 | 220 | 220 | 220 | 275 | 430 | 268 | |
| 300 lb | 1/2 | 2 | 2 | 3 | 2 | 2 | 2 |
| | 3/4 | 3 | 3 | 3 | 3 | 3 | 3 |
| | 1 | 3 | 3 | 3 | 3 | 4 | 4 |
| | 1 1/4 | 4.5 | 4.5 | 4 | 4.5 | 6 | 5 |
| | 1 1/2 | 6.5 | 6.5 | 6 | 6.5 | 7 | 7 |
| | 2 | 7 | 7 | 7 | 7 | 8 | 9 |
| | 2 1/2 | 10 | 10 | 10 | 10 | 12 | 12 |
| | 3 | 13 | 14 | 13 | 14.5 | 16 | 18 |
| | 3 1/2 | 17 | 17 | 17 | 17 | 21 | 20 |
| | 4 | 23.5 | 24 | 22 | 24 | 28 | 26.5 |
| | 5 | 29 | 31 | 28 | 28 | 37 | 36 |
| | 6 | 39 | 39 | 39 | 39 | 50 | 45 |
| | 8 | 58 | 58 | 58 | 58 | 81 | 69 |
| | 10 | 81 | 81 | 81 | 91 | 124 | 100 |
| | 12 | 115 | 115 | 115 | 140 | 185 | 142 |
| | 14 | 165 | 165 | 165 | 190 | 250 | 206 |
| | 16 | 210 | 220 | 190 | 234 | 315 | 250 |
| | 18 | 253 | 280 | 250 | 305 | 414 | 320 |
| | 20 | 315 | 325 | 315 | 375 | 515 | 400 |
| | 22 | 370 | 370 | 370 | 435 | 640 | 465 |
| 24 | 490 | 490 | 475 | 550 | 800 | 580 | |



ANSI B16.5 – 1/2” – 24” Forged Flanges

APPROXIMATE WEIGHT LIST (LBS) CONT.

| CLASS | Nominal Pipe Size | Slip On | Threaded | Socket Weld | Lap Joint | Blind | Weld Neck | |
|--------|-------------------|---------|----------|-------------|-----------|-------|-----------|---|
| 400 lb | 1/2 | 2 | 2 | 2 | 2 | 2 | 3 | |
| | 3/4 | 3 | 3 | 3 | 3 | 3 | 3.5 | |
| | 1 | 3.5 | 3.5 | 3.5 | 3.5 | 4 | 4 | |
| | 1 1/4 | 4.5 | 4.5 | 4.5 | 4.5 | 6 | 4.5 | |
| | 1 1/2 | 6.5 | 6.5 | 6.5 | 6.5 | 8 | 8 | |
| | 2 | 8 | 8 | 8 | 8 | 10 | 10 | |
| | 2 1/2 | 12 | 12 | 12 | 11 | 15 | 14 | |
| | 3 | 15 | 15 | 15 | 14 | 20 | 18 | |
| | 3 1/2 | 21 | 21 | 21 | 20 | 29 | 26 | |
| | 4 | 26 | 26 | 26 | 25 | 33 | 35 | |
| | 5 | 31 | 31 | 31 | 29 | 44 | 43 | |
| | 6 | 44 | 44 | 44 | 42 | 61 | 57 | |
| | 8 | 67 | 67 | 67 | 64 | 100 | 89 | |
| | 10 | 91 | 91 | 91 | 110 | 155 | 125 | |
| | 12 | 130 | 130 | 130 | 152 | 226 | 175 | |
| | 14 | 191 | 191 | 191 | 210 | 310 | 233 | |
| | 16 | 253 | 253 | 253 | 280 | 398 | 295 | |
| | 18 | 310 | 310 | 310 | 345 | 502 | 360 | |
| | 20 | 378 | 378 | 378 | 420 | 621 | 445 | |
| | 22 | 405 | 405 | 405 | 455 | 720 | 505 | |
| | 24 | 539 | 539 | 539 | 615 | 936 | 640 | |
| | 600 lb | 1/2 | 2 | 2 | 2 | 2 | 3 | 3 |
| | | 3/4 | 3 | 3 | 3 | 3 | 4 | 4 |
| | | 1 | 4 | 4 | 4 | 4 | 4 | 4 |
| 1 1/4 | | 5 | 5 | 5 | 5 | 6 | 6 | |
| 1 1/2 | | 7 | 7 | 7 | 7 | 8 | 8 | |
| 2 | | 9 | 9 | 9 | 9 | 10 | 12 | |
| 2 1/2 | | 13 | 13 | 13 | 12 | 15 | 18 | |
| 3 | | 16 | 16 | 16 | 15 | 20 | 23 | |
| 3 1/2 | | 21 | 21 | 21 | 20 | 29 | 26 | |
| 4 | | 37 | 37 | 37 | 36 | 41 | 42 | |
| 5 | | 63 | 63 | 63 | 63 | 68 | 68 | |
| 6 | | 80 | 80 | 80 | 78 | 86 | 81 | |
| 8 | | 115 | 15 | 15 | 112 | 140 | 120 | |
| 10 | | 177 | 177 | 177 | 195 | 231 | 190 | |
| 12 | | 215 | 215 | 215 | 240 | 295 | 226 | |
| 14 | | 259 | 259 | 259 | 290 | 378 | 347 | |
| 16 | | 366 | 366 | 366 | 400 | 527 | 481 | |
| 18 | | 476 | 476 | 476 | 469 | 665 | 555 | |
| 20 | | 612 | 612 | 612 | 604 | 855 | 690 | |
| 22 | | 590 | 590 | 590 | 670 | 1000 | 720 | |
| 24 | | 876 | 876 | 876 | 866 | 1250 | 977 | |



ANSI B16.5 – 1/2”–24” Forged Flanges

APPROXIMATE WEIGHT LIST (LBS) CONT.

| CLASS | Nominal Pipe Size | Slip On | Threaded | Socket Weld | Lap Joint | Blind | Weld Neck |
|---------|-------------------|---------|----------|-------------|-----------|-------|-----------|
| 900 lb | 1/2 | 6 | 6 | 6 | 6 | 4 | 7 |
| | 3/4 | 6 | 6 | 6 | 6 | 6 | 7 |
| | 1 | 7.5 | 7.5 | 7.5 | 7.5 | 9 | 8.5 |
| | 1 1/4 | 10 | 10 | 10 | 10 | 10 | 10 |
| | 1 1/2 | 14 | 14 | 14 | 14 | 14 | 14 |
| | 2 | 22 | 22 | 22 | 21 | 25 | 24 |
| | 2 1/2 | 31 | 31 | 31 | 25 | 32 | 31 |
| | 3 | 36 | 36 | 36 | 29 | 35 | 36 |
| | 4 | 53 | 53 | 53 | 51 | 54 | 53 |
| | 5 | 83 | 83 | 83 | 81 | 87 | 86 |
| | 6 | 110 | 110 | 110 | 105 | 115 | 110 |
| | 8 | 172 | 172 | 172 | 190 | 200 | 187 |
| | 10 | 245 | 245 | 245 | 277 | 290 | 268 |
| | 12 | 326 | 326 | 326 | 371 | 415 | 372 |
| | 14 | 400 | 400 | 400 | 415 | 520 | 562 |
| | 16 | 459 | 459 | 459 | 488 | 619 | 685 |
| 18 | 647 | 647 | 647 | 670 | 880 | 924 | |
| 20 | 792 | 792 | 792 | 868 | 1107 | 1164 | |
| 24 | 1480 | 1480 | 1480 | 1659 | 2099 | 2107 | |
| 1500 lb | 1/2 | 6 | 6 | 6 | 6 | 4 | 7 |
| | 3/4 | 6 | 6 | 6 | 6 | 6 | 7 |
| | 1 | 8 | 8 | 8 | 8 | 9 | 9 |
| | 1 1/4 | 10 | 10 | 10 | 10 | 10 | 10 |
| | 1 1/2 | 14 | 14 | 14 | 14 | 14 | 14 |
| | 2 | 25 | 25 | 25 | 25 | 25 | 25 |
| | 2 1/2 | 36 | 36 | 36 | 35 | 35 | 36 |
| | 3 | 48 | 48 | 48 | 47 | 48 | 48 |
| | 4 | 73 | 73 | 73 | 75 | 73 | 73 |
| | 5 | 132 | 132 | 132 | 140 | 140 | 132 |
| | 6 | 165 | 165 | 165 | 170 | 160 | 165 |
| | 8 | 260 | 260 | 260 | 286 | 302 | 275 |
| | 10 | 436 | 436 | 436 | 485 | 510 | 455 |
| | 12 | 667 | 667 | 667 | 749 | 775 | 690 |
| | 14 | 940 | 940 | 940 | 890 | 975 | 940 |
| | 16 | 1250 | 1250 | 1250 | 1250 | 1300 | 1250 |
| 18 | 1625 | 1625 | 1625 | 1475 | 1750 | 1625 | |
| 20 | 2050 | 2050 | 2050 | 1775 | 2225 | 2050 | |
| 24 | 2825 | 2825 | 2825 | 2825 | 3625 | 3325 | |
| 2500 lb | 1/2 | .... | 7 | .... | 7 | 7 | 8 |
| | 3/4 | .... | 9 | .... | 8 | 10 | 9 |
| | 1 | .... | 12 | .... | 12 | 12 | 13 |
| | 1 1/4 | .... | 18 | .... | 17 | 18 | 20 |
| | 1 1/2 | .... | 25 | .... | 24 | 25 | 28 |
| | 2 | .... | 38 | .... | 37 | 39 | 42 |
| | 2 1/2 | .... | 55 | .... | 53 | 56 | 52 |
| | 3 | .... | 83 | .... | 80 | 86 | 94 |
| | 4 | .... | 127 | .... | 122 | 133 | 146 |
| | 5 | .... | 210 | .... | 204 | 223 | 244 |
| | 6 | .... | 323 | .... | 314 | 345 | 378 |
| | 8 | .... | 485 | .... | 471 | 533 | 576 |
| 10 | .... | 925 | .... | 897 | 1025 | 1068 | |
| 12 | .... | 1300 | .... | 1262 | 1464 | 1608 | |



Dimensional Tolerances B16.5–2003

THREADED | SOCKET WELD SLIP ON | LAP JOINT | BLIND

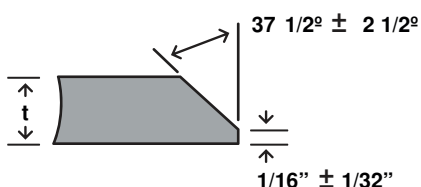
| | | |
|------------------------------------|---|--|
| Outside Diameter (1) | when the O.D. is 24" or less | $\pm 1/16"$ |
| | when the O.D. is over 24" | $\pm 1/8"$ |
| Inside Diameter | Threaded | within limits on boring gauge |
| | Socket-Welding, Slip-On and Lap-Joint | $\leq 10" + 1/32", -0"$ $\geq 12" + 1/16", -0"$ |
| Outside Diameter of Hub (1) | $\leq 12"$ | $+3/32"$ $-1/16"$ |
| | $\geq 14"$ | $\pm 1/8"$ |
| Diameter of Contact Face | 1/16" Raised Face | $\pm 1/32"$ |
| | 1/4" Raised Face Tongue & Groove Male, Female | $\pm 1/64"$ |
| Diameter of Counterbore | Same as for Inside diameter | |
| Drilling | Bolt Circle | $\pm 1/16"$ |
| | Bolt Hole Spacing | $\pm 1/32"$ |
| | Concentricity of Bolt Circle with Respect to Facing | NPS $\leq 2 1/2"$ $1/32"$ max NPS $\geq 3"$ $1/16"$ max |
| Thickness | $\leq 18"$ | $+1/8", -0"$ |
| | $\geq 20"$ | $+3/16", -0"$ |
| Length Through the Hub (1) | $\leq 18"$ | $+1/8", -1/32"$ |
| | $\geq 20"$ | $+3/16", -1/16"$ |

WELD NECK

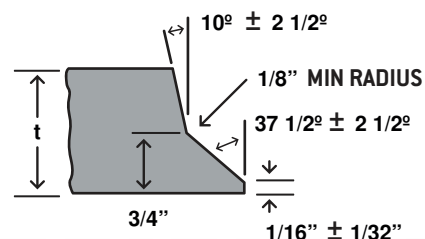
| | | |
|--|---|--|
| Outside Diameter (1) | when the O.D. is 24" or less | $\pm 1/16"$ |
| | when the O.D. is over 24" | $\pm 1/8"$ |
| Inside Diameter | $\leq 10"$ | $\pm 1/32"$ |
| | 12" through 18" | $\pm 1/16"$ |
| | $\geq 20"$ | $+1/8"$ $-1/16"$ |
| Diameter of Contact Face | 1/16" Raised Face | $\pm 1/32"$ |
| | 1/4" Raised Face Tongue & Groove Male, Female | $\pm 1/64"$ |
| Diameter of Hub at Base (1) | when Hub Base is 24" or less | $+1/16"$ |
| | when Hub Base is over 24" | $\pm 1/8"$ |
| Diameter of Hub at Point of Welding | NPS $\leq 5"$ | $+3/32"$ $-1/32"$ |
| | NPS $\geq 6"$ | $+5/32"$ $1/32"$ |
| Drilling | Bolt Circle | $\pm 1/16"$ |
| | Bolt Hole Spacing | $\pm 1/32"$ |
| | Concentricity of Bolt Circle with Respect to Facing | NPS $\leq 2 1/2"$ $1/32"$ max NPS $\geq 3"$ $1/16"$ max |
| Thickness | $\leq 18"$ | $+1/8", -0"$ |
| | $\geq 20"$ | $+3/16", -0"$ |
| Length Through the Hub | NPS $\leq 4"$ | $\pm 1/16"$ |
| | $5 \leq \text{NPS} \leq 10"$ | $+1/16", -1/8"$ |
| | $\geq 12"$ | $+1/8", -3/16"$ |

WELDING BEVEL STANDARDS

For wall thickness "t" 3/16" to 3/4" included



For wall thickness "t" greater than 3/4"



[1] Tolerances not listed in B16.5–2003

Bolt and Stud Dimensions

ASME B16.5

| Nominal Pipe Size | 150 LB. Flanges | | | | 300 LB. Flanges | | | | 600 LB. Flanges | | | |
|-------------------|------------------|-----------------------|----------------|-------|------------------|-----------------------|----------------|-------|------------------|-----------------------|----------------|--------|
| | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | |
| | | | 1/16 RF | RTJ | | | 1/16 RF | RTJ | | | 1/4 RF | RTJ |
| 1/2 | 4 | 0.50 | 2-1/4 | - | 4 | 0.50 | 2-1/2 | 3 | 4 | 0.50 | 3 | 3 |
| 3/4 | 4 | 0.50 | 2-1/2 | - | 4 | 0.63 | 3 | 3-1/2 | 4 | 0.63 | 3-1/2 | 3-1/2 |
| 1 | 4 | 0.50 | 2-1/2 | 3 | 4 | 0.63 | 3 | 3-1/2 | 4 | 0.63 | 3-1/2 | 3-1/2 |
| 1-1/4 | 4 | 0.50 | 2-3/4 | 3-1/4 | 4 | 0.63 | 3-1/4 | 3-3/4 | 4 | 0.63 | 3-3/4 | 3-3/4 |
| 1-1/2 | 4 | 0.50 | 2-3/4 | 3-1/4 | 4 | 0.75 | 3-1/2 | 4 | 4 | 0.75 | 4-1/4 | 4-1/4 |
| 2 | 4 | 0.63 | 3-1/4 | 3-3/4 | 8 | 0.63 | 3-1/2 | 4 | 8 | 0.63 | 4-1/4 | 4-1/4 |
| 2-1/2 | 4 | 0.63 | 3-1/2 | 4 | 8 | 0.75 | 4 | 4-1/2 | 8 | 0.75 | 4-3/4 | 4-3/4 |
| 3 | 4 | 0.63 | 3-1/2 | 4 | 8 | 0.75 | 4-1/4 | 4-3/4 | 8 | 0.75 | 5 | 5 |
| 3-1/2 | 8 | 0.63 | 3-1/2 | 4 | 8 | 0.75 | 4-1/4 | 5 | 8 | 0.88 | 5-1/2 | 5-1/2 |
| 4 | 8 | 0.63 | 3-1/2 | 4 | 8 | 0.75 | 4-1/2 | 5 | 8 | 0.88 | 5-3/4 | 5-3/4 |
| 5 | 8 | 0.75 | 3-3/4 | 4-1/4 | 8 | 0.75 | 4-3/4 | 5-1/4 | 8 | 1.00 | 6-1/2 | 6-1/2 |
| 6 | 8 | 0.75 | 4 | 4-1/2 | 12 | 0.75 | 4-3/4 | 5-1/2 | 12 | 1.00 | 6-3/4 | 6-3/4 |
| 8 | 8 | 0.75 | 4-1/4 | 4-3/4 | 12 | 0.88 | 5-1/2 | 6 | 12 | 1.13 | 7-1/2 | 7-3/4 |
| 10 | 12 | 0.88 | 4-1/2 | 5 | 16 | 1.00 | 6-1/4 | 6-3/4 | 16 | 1.25 | 8-1/2 | 8-1/2 |
| 12 | 12 | 0.88 | 4-3/4 | 5-1/4 | 16 | 1.13 | 6-3/4 | 7-1/4 | 20 | 1.25 | 8-3/4 | 8-3/4 |
| 14 | 12 | 1.00 | 5-1/4 | 5-3/4 | 20 | 1.13 | 7 | 7-1/2 | 20 | 1.38 | 9-1/4 | 9-1/4 |
| 16 | 16 | 1.00 | 5-1/4 | 5-3/4 | 20 | 1.25 | 7-1/2 | 8 | 20 | 1.50 | 10 | 10 |
| 18 | 16 | 1.13 | 5-3/4 | 6-1/4 | 24 | 1.25 | 7-3/4 | 8-1/4 | 20 | 1.63 | 10-3/4 | 10-3/4 |
| 20 | 20 | 1.13 | 6-1/4 | 6-3/4 | 24 | 1.25 | 8 | 8-3/4 | 24 | 1.63 | 11-1/4 | 11-1/2 |
| 24 | 20 | 1.25 | 6-3/4 | 7-1/4 | 24 | 1.50 | 9 | 10 | 24 | 1.88 | 13 | 13-1/4 |

| Nominal Pipe Size | 900 LB. Flanges | | | | 1500 LB. Flanges | | | | 2500 LB. Flanges | | | |
|-------------------|------------------|-----------------------|----------------|--------|------------------|-----------------------|----------------|--------|------------------|-----------------------|----------------|--------|
| | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | | # Bolts or Studs | Dia of Bolts or Studs | Length of Stud | |
| | | | 1/4 RF | RTJ | | | 1/4 RF | RTJ | | | 1/4 RF | RTJ |
| 1/2 | 4 | 0.75 | 4-1/4 | 4-1/4 | 4 | 0.75 | 4-1/4 | 4-1/4 | 4 | 0.75 | 4-3/4 | 4-3/4 |
| 3/4 | 4 | 0.75 | 4-1/2 | 4-1/2 | 4 | 0.75 | 4-1/2 | 4-1/2 | 4 | 0.75 | 5 | 5 |
| 1 | 4 | 0.88 | 5 | 5 | 4 | 0.88 | 5 | 5 | 4 | 0.88 | 5-1/2 | 5-1/2 |
| 1-1/4 | 4 | 0.88 | 5 | 5 | 4 | 0.88 | 5 | 5 | 4 | 1.00 | 6 | 6 |
| 1-1/2 | 4 | 1.00 | 5-1/2 | 5-1/2 | 4 | 1.00 | 5-1/2 | 5-1/2 | 4 | 1.13 | 6-3/4 | 6-3/4 |
| 2 | 8 | 0.88 | 5-3/4 | 5-3/4 | 8 | 0.88 | 5-3/4 | 5-3/4 | 8 | 1.00 | 7 | 7 |
| 2-1/2 | 8 | 1.00 | 6-1/4 | 6-1/4 | 8 | 1.00 | 6-1/4 | 6-1/4 | 8 | 1.13 | 7-3/4 | 8 |
| 3 | 8 | 0.88 | 5-3/4 | 5-3/4 | 8 | 1.13 | 7 | 7 | 8 | 1.25 | 8-3/4 | 9 |
| 4 | 8 | 1.13 | 6-3/4 | 6-3/4 | 8 | 1.25 | 7-3/4 | 7-3/4 | 8 | 1.50 | 10 | 10-1/4 |
| 5 | 8 | 1.25 | 7-1/2 | 7-1/2 | 8 | 1.50 | 9-3/4 | 9-3/4 | 8 | 1.75 | 11-3/4 | 12-1/4 |
| 6 | 12 | 1.13 | 7-1/2 | 7-3/4 | 12 | 1.38 | 10-1/4 | 10-1/2 | 8 | 2.00 | 13-1/2 | 14 |
| 8 | 12 | 1.38 | 8-3/4 | 8-3/4 | 12 | 1.63 | 11-1/2 | 12-3/4 | 12 | 2.00 | 15 | 15-1/2 |
| 10 | 16 | 1.38 | 9-1/4 | 9-1/4 | 12 | 1.88 | 13-1/4 | 13-1/2 | 12 | 2.50 | 19-1/4 | 20 |
| 12 | 20 | 1.38 | 10 | 10 | 16 | 2.00 | 14-3/4 | 15-1/4 | 12 | 2.75 | 21-1/4 | 22 |
| 14 | 20 | 1.50 | 10-3/4 | 11 | 16 | 2.25 | 16 | 16-3/4 | - | - | - | - |
| 16 | 20 | 1.63 | 11-1/4 | 11-1/2 | 16 | 2.50 | 17-1/2 | 18-1/2 | - | - | - | - |
| 18 | 20 | 1.88 | 12-3/4 | 13-1/4 | 16 | 2.75 | 19-1/2 | 20-3/4 | - | - | - | - |
| 20 | 20 | 2.00 | 13-3/4 | 14-1/4 | 16 | 3.00 | 21-1/4 | 22-1/4 | - | - | - | - |
| 24 | 20 | 2.50 | 17-1/4 | 18 | 16 | 3.50 | 24-1/4 | 25-1/2 | - | - | - | - |

DIMENSIONS ARE IN INCHES



A Quick Note on B16.47

ASME has incorporated most of the MSS-SP44 specification into B16.47 Series A and most of the API 605 specification into B16.47 Series B. They have also added Blind Flanges to these two specs. You may note that either spec only includes Weld Necks and Blinds.

For Slip On's over 24", please specify one of the following:

- a. Industry standard per B16.1 dims (125LW, 125/150, 250)
- b. AWWA C207 (Rings or Hubs and Class B, D, E, or F)
- c. Boiler code flanges (75#, 175#, 350#)
- d. SO to Ser A or Ser B dims. We have now included these dimensions on pp 28-30.

For a more detailed explanation of large diameter slip on's please see the FAQ page at www.texasflange.com.

If you need help deciding which flange best suits your application, feel free to contact us.

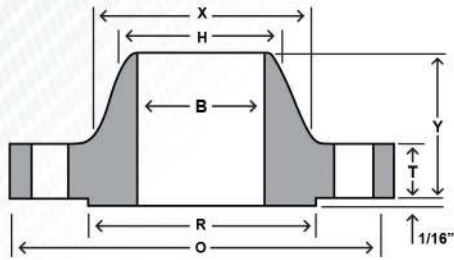


Bolt and Stud Recommendations per ASME B16.47

| | Carbon Steel | Other Materials |
|---|--|---|
| Stud-bolts | AMSE B18.2.1 | |
| Bolts | AMSE B18.2.1, square or heavy hex head | AMSE B18.2.1, square or heavy hex head |
| Nuts smaller than 3/4" Nuts equal to or larger than 3/4" | ASME/ASME B18.2.2., heavy hex | |
| | ASME/AMSE B18.2.2, hex or heavy hex | ASME/ASME B18.2.2, heavy hex |
| Male Threads | ASME B1.1, Cl. 2A coarse series | ASME B1.1, Cl. 2A coarse series up through 1" bolts, 8 thread series for larger bolts |
| Female Threads | ASME B1.1, Cl. 2B coarse series | ASME B1.1, Cl. 2B coarse series up through 1" bolts, 8 thread series for larger bolts |



B16.47 Series A Class 150 Weld Neck & Blind



WELD NECK



BLIND

| Nom Size | Thickness | | | Drilling | | | | | | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 34.25 | 2.63 | 2.63 | 29.50 | 26.62 | | 4.69 | 26.00 | 31.75 | 8.75 | 1.38 | 24 | 300 | 702 |
| 28 | 36.50 | 2.75 | 2.75 | 31.50 | 28.62 | | 4.88 | 28.00 | 34.00 | 9.00 | 1.38 | 28 | 345 | 833 |
| 30 | 38.75 | 2.88 | 2.88 | 33.75 | 30.75 | | 5.32 | 30.00 | 36.00 | 9.25 | 1.38 | 28 | 400 | 982 |
| 32 | 41.75 | 3.13 | 3.13 | 36.00 | 32.75 | | 5.63 | 32.00 | 38.50 | 10.50 | 1.62 | 28 | 505 | 1237 |
| 34 | 43.75 | 3.19 | 3.19 | 38.00 | 34.75 | | 5.82 | 34.00 | 40.50 | 10.50 | 1.62 | 32 | 540 | 1384 |
| 36 | 46.00 | 3.50 | 3.50 | 40.25 | 36.75 | | 6.13 | 36.00 | 42.75 | 11.00 | 1.62 | 32 | 640 | 1676 |
| 38 | 48.75 | 3.38 | 3.38 | 42.25 | 39.00 | | 6.13 | 38.00 | 45.25 | 11.00 | 1.62 | 32 | 720 | 1819 |
| 40 | 50.75 | 3.50 | 3.50 | 44.25 | 41.00 | | 6.38 | 40.00 | 47.25 | 11.00 | 1.62 | 36 | 775 | 2040 |
| 42 | 53.00 | 3.75 | 3.75 | 47.00 | 43.00 | | 6.69 | 42.00 | 49.50 | 11.50 | 1.62 | 36 | 890 | 2381 |
| 44 | 55.25 | 3.94 | 3.94 | 49.00 | 45.00 | | 6.94 | 44.00 | 51.75 | 12.00 | 1.62 | 40 | 990 | 2717 |
| 46 | 57.25 | 4.00 | 4.00 | 51.00 | 47.12 | | 7.25 | 46.00 | 53.75 | 12.00 | 1.62 | 40 | 1060 | 2961 |
| 48 | 59.50 | 4.19 | 4.19 | 53.50 | 49.12 | | 7.50 | 48.00 | 56.00 | 12.50 | 1.62 | 44 | 1185 | 3348 |
| 50 | 61.75 | 4.32 | 4.32 | 55.50 | 51.25 | | 7.94 | 50.00 | 58.25 | 13.25 | 1.88 | 44 | 1270 | 3716 |
| 52 | 64.00 | 4.50 | 4.50 | 57.50 | 53.25 | | 8.19 | 52.00 | 60.50 | 13.75 | 1.88 | 44 | 1410 | 4156 |
| 54 | 66.25 | 4.69 | 4.69 | 59.50 | 55.25 | | 8.44 | 54.00 | 62.75 | 14.00 | 1.88 | 44 | 1585 | 4639 |
| 56 | 68.75 | 4.82 | 4.82 | 62.00 | 57.38 | | 8.94 | 56.00 | 65.00 | 14.25 | 1.88 | 48 | 1760 | 5132 |
| 58 | 71.00 | 5.00 | 5.00 | 64.00 | 59.38 | | 9.19 | 58.00 | 67.25 | 14.75 | 1.88 | 48 | 1915 | 5675 |
| 60 | 73.00 | 5.13 | 5.13 | 66.00 | 61.38 | | 9.38 | 60.00 | 69.25 | 15.00 | 1.88 | 52 | 2045 | 6154 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

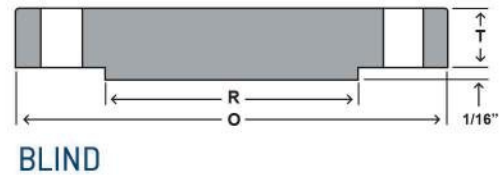
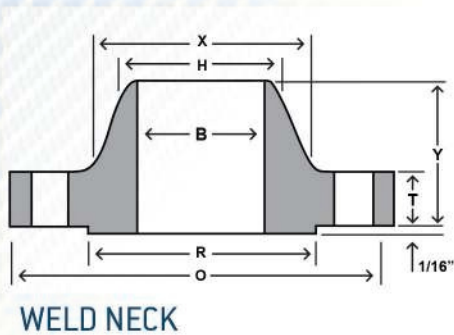
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series A Class 300 Weld Neck & Blind



| Nom Size | Thickness | | | Drilling | | | | | | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 38.25 | 3.07 | 3.25 | 29.50 | 28.38 | | 7.19 | 26.00 | 34.50 | 10.75 | 1.75 | 28 | 605 | 1078 |
| 28 | 40.75 | 3.32 | 3.50 | 31.50 | 30.50 | | 7.69 | 28.00 | 37.00 | 11.25 | 1.75 | 28 | 745 | 1315 |
| 30 | 43.00 | 3.57 | 3.69 | 33.75 | 32.56 | | 8.19 | 30.00 | 39.25 | 12.00 | 1.88 | 28 | 870 | 1543 |
| 32 | 45.25 | 3.82 | 3.88 | 36.00 | 34.69 | | 8.69 | 32.00 | 41.50 | 12.50 | 2.00 | 28 | 1005 | 1795 |
| 34 | 47.50 | 3.94 | 4.07 | 38.00 | 36.88 | | 9.07 | 34.00 | 43.50 | 13.00 | 2.00 | 28 | 1145 | 2068 |
| 36 | 50.00 | 4.07 | 4.32 | 40.25 | 39.00 | | 9.44 | 36.00 | 46.00 | 13.50 | 2.12 | 32 | 1275 | 2436 |
| 38 | 46.00 | 4.19 | 4.19 | 40.50 | 39.12 | | 7.06 | 38.00 | 43.00 | 12.50 | 1.62 | 32 | 695 | 2001 |
| 40 | 48.75 | 4.44 | 4.44 | 42.75 | 41.25 | | 7.56 | 40.00 | 45.50 | 13.25 | 1.75 | 32 | 840 | 2380 |
| 42 | 50.75 | 4.63 | 4.63 | 44.75 | 43.25 | | 7.82 | 42.00 | 47.50 | 13.75 | 1.75 | 32 | 950 | 2688 |
| 44 | 53.25 | 4.82 | 4.82 | 47.00 | 45.25 | | 8.06 | 44.00 | 49.75 | 14.25 | 1.88 | 32 | 1055 | 3079 |
| 46 | 55.75 | 5.00 | 5.00 | 49.00 | 47.38 | | 8.44 | 46.00 | 52.00 | 15.00 | 2.00 | 28 | 1235 | 3499 |
| 48 | 57.75 | 5.19 | 5.19 | 51.25 | 49.38 | | 8.75 | 48.00 | 54.00 | 15.25 | 2.00 | 32 | 1380 | 3896 |
| 50 | 60.25 | 5.44 | 5.44 | 53.50 | 51.38 | | 9.07 | 50.00 | 56.25 | 16.00 | 2.12 | 32 | 1530 | 4442 |
| 52 | 62.25 | 5.63 | 5.63 | 55.50 | 53.38 | | 9.32 | 52.00 | 58.25 | 16.50 | 2.12 | 32 | 1660 | 4906 |
| 54 | 65.25 | 5.94 | 5.94 | 57.75 | 55.50 | | 9.88 | 54.00 | 61.00 | 17.50 | 2.38 | 28 | 2050 | 5684 |
| 56 | 67.25 | 6.00 | 6.00 | 59.75 | 57.62 | | 10.19 | 56.00 | 63.00 | 17.75 | 2.38 | 28 | 2155 | 6098 |
| 58 | 69.25 | 6.19 | 6.19 | 62.00 | 59.62 | | 10.44 | 58.00 | 65.00 | 18.00 | 2.38 | 32 | 2270 | 6669 |
| 60 | 71.25 | 6.38 | 6.38 | 64.00 | 61.62 | | 10.69 | 60.00 | 67.00 | 18.50 | 2.38 | 32 | 2470 | 7274 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

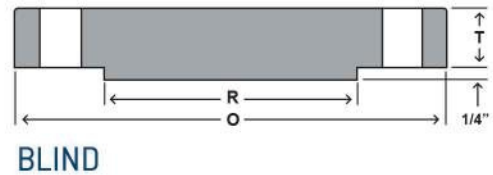
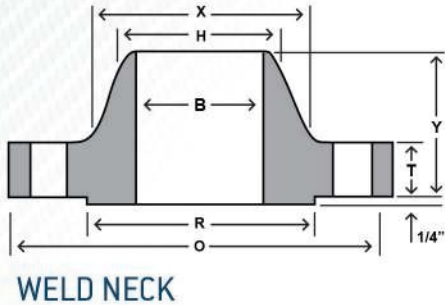
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series A Class 400 Weld Neck & Blind



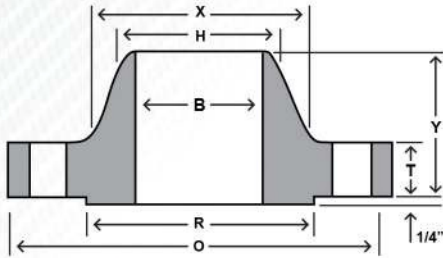
| Nom Size | Thickness | | | Drilling | | | | | | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 38.25 | 3.50 | 3.88 | 29.50 | 28.62 | | 7.62 | 26.00 | 34.50 | 12.50 | 1.88 | 28 | 650 | 1263 |
| 28 | 40.75 | 3.75 | 4.12 | 31.50 | 30.81 | | 8.12 | 28.00 | 37.00 | 13.25 | 2.00 | 28 | 785 | 1522 |
| 30 | 43.00 | 4.00 | 4.38 | 33.75 | 32.94 | | 8.62 | 30.00 | 39.25 | 14.00 | 2.12 | 28 | 905 | 1802 |
| 32 | 45.25 | 4.25 | 4.56 | 36.00 | 35.00 | | 9.12 | 32.00 | 41.50 | 14.25 | 2.12 | 28 | 1065 | 2077 |
| 34 | 47.50 | 4.38 | 4.81 | 38.00 | 37.19 | | 9.50 | 34.00 | 43.50 | 14.75 | 2.12 | 28 | 1200 | 2415 |
| 36 | 50.00 | 4.50 | 5.06 | 40.25 | 39.38 | | 9.88 | 36.00 | 46.00 | 15.00 | 2.12 | 32 | 1340 | 2815 |
| 38 | 47.50 | 4.88 | 4.88 | 40.75 | 39.50 | | 8.12 | 38.00 | 44.00 | 14.75 | 1.88 | 32 | 935 | 2450 |
| 40 | 50.00 | 5.12 | 5.12 | 43.00 | 41.50 | | 8.50 | 40.00 | 46.25 | 15.50 | 2.00 | 32 | 1090 | 2848 |
| 42 | 52.00 | 5.25 | 5.25 | 45.00 | 43.62 | | 8.81 | 42.00 | 48.25 | 15.75 | 2.00 | 32 | 1190 | 3159 |
| 44 | 54.50 | 5.50 | 5.50 | 47.25 | 45.62 | | 9.18 | 44.00 | 50.50 | 16.50 | 2.12 | 32 | 1375 | 3635 |
| 46 | 56.75 | 5.75 | 5.75 | 49.50 | 47.75 | | 9.62 | 46.00 | 52.75 | 17.00 | 2.12 | 36 | 1525 | 4120 |
| 48 | 59.50 | 6.00 | 6.00 | 51.50 | 49.88 | | 10.12 | 48.00 | 55.25 | 18.00 | 2.38 | 28 | 1790 | 4726 |
| 50 | 61.75 | 6.19 | 6.25 | 53.62 | 52.00 | | 10.56 | 50.00 | 57.50 | 18.50 | 2.38 | 32 | 1950 | 5303 |
| 52 | 63.75 | 6.38 | 6.44 | 55.62 | 54.00 | | 10.88 | 52.00 | 59.50 | 18.75 | 2.38 | 32 | 2125 | 5823 |
| 54 | 67.00 | 6.69 | 6.75 | 57.88 | 56.12 | | 11.38 | 54.00 | 62.25 | 20.00 | 2.62 | 28 | 2565 | 6742 |
| 56 | 69.00 | 6.88 | 6.94 | 60.12 | 58.25 | | 11.75 | 56.00 | 64.25 | 20.25 | 2.62 | 32 | 2710 | 7352 |
| 58 | 71.00 | 7.00 | 7.12 | 62.12 | 60.25 | | 12.06 | 58.00 | 66.25 | 20.50 | 2.62 | 32 | 3230 | 7986 |
| 60 | 74.25 | 7.31 | 7.44 | 64.38 | 62.38 | | 12.56 | 60.00 | 69.00 | 21.75 | 2.88 | 32 | 3820 | 9126 |

To be specified by Purchaser.

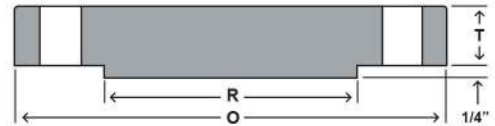
- DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS**
- (A) Bolt lengths are calculated based on bolting one WN to one Blind
 - (B) Bolt diameter should be 1/8" less than the bolt hole diameter
 - (C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series A Class 600 Weld Neck & Blind



WELD NECK



BLIND

| Nom Size | Thickness | | | | | | | | Drilling | | | | Weights | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 40.00 | 4.25 | 4.94 | 29.50 | 29.44 | | 8.75 | 26.00 | 36.00 | 14.50 | 2.00 | 28 | 940 | 1759 |
| 28 | 42.25 | 4.38 | 5.19 | 31.50 | 31.62 | | 9.25 | 28.00 | 38.00 | 15.00 | 2.12 | 28 | 1060 | 2061 |
| 30 | 44.50 | 4.50 | 5.50 | 33.75 | 33.94 | | 9.75 | 30.00 | 40.25 | 15.50 | 2.12 | 28 | 1210 | 2423 |
| 32 | 47.00 | 4.62 | 5.81 | 36.00 | 36.12 | | 10.25 | 32.00 | 42.50 | 16.50 | 2.38 | 28 | 1375 | 2856 |
| 34 | 49.00 | 4.75 | 6.06 | 38.00 | 38.31 | | 10.62 | 34.00 | 44.50 | 16.75 | 2.38 | 28 | 1540 | 3237 |
| 36 | 51.75 | 4.88 | 6.38 | 40.25 | 40.62 | | 11.12 | 36.00 | 47.00 | 17.75 | 2.62 | 28 | 1705 | 3802 |
| 38 | 50.00 | 6.00 | 6.12 | 41.50 | 40.25 | | 10.00 | 38.00 | 45.75 | 18.25 | 2.38 | 28 | 1470 | 3404 |
| 40 | 52.00 | 6.25 | 6.38 | 43.75 | 42.25 | | 10.38 | 40.00 | 47.75 | 18.75 | 2.38 | 32 | 1630 | 3838 |
| 42 | 55.25 | 6.62 | 6.75 | 46.00 | 44.38 | | 11.00 | 42.00 | 50.50 | 19.75 | 2.62 | 28 | 2030 | 4585 |
| 44 | 57.25 | 6.81 | 7.00 | 48.25 | 46.50 | | 11.38 | 44.00 | 52.50 | 20.25 | 2.62 | 32 | 2160 | 5105 |
| 46 | 59.50 | 7.06 | 7.31 | 50.25 | 48.62 | | 11.81 | 46.00 | 54.75 | 20.75 | 2.62 | 32 | 2410 | 5758 |
| 48 | 62.75 | 7.44 | 7.69 | 52.50 | 50.75 | | 12.44 | 48.00 | 57.50 | 22.25 | 2.88 | 32 | 2855 | 6737 |
| 50 | 65.75 | 7.75 | 8.00 | 54.50 | 52.88 | | 12.94 | 50.00 | 60.00 | 23.25 | 3.12 | 28 | 3330 | 7695 |
| 52 | 67.75 | 8.00 | 8.25 | 56.50 | 54.88 | | 13.25 | 52.00 | 62.00 | 23.75 | 3.12 | 32 | 3560 | 8426 |
| 54 | 70.00 | 8.25 | 8.56 | 58.75 | 57.00 | | 13.75 | 54.00 | 64.25 | 24.25 | 3.12 | 32 | 3920 | 9333 |
| 56 | 73.00 | 8.56 | 8.88 | 60.75 | 59.12 | | 14.25 | 56.00 | 66.75 | 25.50 | 3.38 | 32 | 4280 | 10529 |
| 58 | 75.00 | 8.75 | 9.12 | 63.00 | 61.12 | | 14.56 | 58.00 | 68.75 | 26.00 | 3.38 | 32 | 4640 | 11414 |
| 60 | 78.50 | 9.19 | 9.56 | 65.25 | 63.38 | | 15.31 | 60.00 | 71.75 | 27.25 | 3.62 | 28 | 5000 | 13108 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

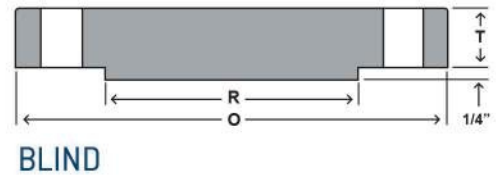
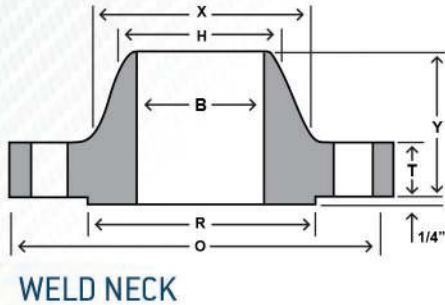
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series A Class 900 Weld Neck & Blind



| Nom Size | Thickness | | | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Drilling | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | | | | | | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | | | | | | R | X | B | Y | H | (A) | (B) |
| 26 | 42.75 | 5.50 | 6.31 | 29.50 | 30.50 | | 11.25 | 26.00 | 37.50 | 18.75 | 2.88 | 20 | 1525 | 2566 |
| 28 | 46.00 | 5.62 | 6.75 | 31.50 | 32.75 | | 11.75 | 28.00 | 40.25 | 19.75 | 3.12 | 20 | 1810 | 3178 |
| 30 | 48.50 | 5.88 | 7.18 | 33.75 | 35.00 | | 12.25 | 30.00 | 42.75 | 20.50 | 3.12 | 20 | 2120 | 3758 |
| 32 | 51.75 | 6.25 | 7.62 | 36.00 | 37.25 | | 13.00 | 32.00 | 45.50 | 22.00 | 3.38 | 20 | 2545 | 4541 |
| 34 | 55.00 | 6.50 | 8.06 | 38.00 | 39.62 | | 13.75 | 34.00 | 48.25 | 23.00 | 3.62 | 20 | 2970 | 5425 |
| 36 | 57.50 | 6.75 | 8.44 | 40.25 | 41.88 | | 14.25 | 36.00 | 50.75 | 23.75 | 3.62 | 20 | 3395 | 6209 |
| 38 | 57.50 | 7.50 | 8.50 | 43.25 | 42.25 | | 13.88 | 38.00 | 50.75 | 24.50 | 3.62 | 20 | 3385 | 6253 |
| 40 | 59.50 | 7.75 | 8.81 | 45.75 | 44.38 | | 14.31 | 40.00 | 52.75 | 25.00 | 3.62 | 24 | 3620 | 6940 |
| 42 | 61.50 | 8.12 | 9.12 | 47.75 | 46.31 | | 14.62 | 42.00 | 54.75 | 25.75 | 3.62 | 24 | 3960 | 7675 |
| 44 | 64.88 | 8.44 | 9.56 | 50.00 | 48.62 | | 15.38 | 44.00 | 57.62 | 27.00 | 3.88 | 24 | 4300 | 8954 |
| 46 | 68.25 | 8.88 | 10.06 | 52.50 | 50.88 | | 16.18 | 46.00 | 60.50 | 28.50 | 4.12 | 24 | 4640 | 10426 |
| 48 | 70.25 | 9.19 | 10.38 | 54.50 | 52.88 | | 16.50 | 48.00 | 62.50 | 29.00 | 4.12 | 24 | 4980 | 11398 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

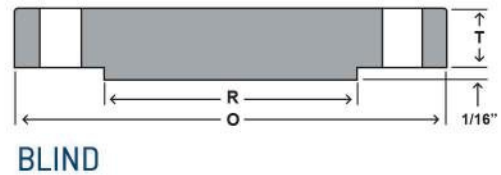
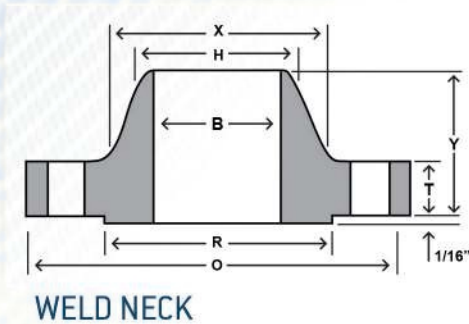
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 75 Weld Neck & Blind



| Nom Size | Thickness | | | | | | | | Drilling | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 30.00 | 1.25 | 1.25 | 27.75 | 26.62 | | 2.25 | 26.06 | 28.50 | 4.50 | 0.75 | 36 | 80 | 255 |
| 28 | 32.00 | 1.25 | 1.25 | 29.75 | 28.62 | | 2.38 | 28.06 | 30.50 | 4.50 | 0.75 | 40 | 85 | 290 |
| 30 | 34.00 | 1.25 | 1.25 | 31.75 | 30.62 | | 2.50 | 30.06 | 32.50 | 4.50 | 0.75 | 44 | 90 | 330 |
| 32 | 36.00 | 1.32 | 1.38 | 33.75 | 32.62 | | 2.69 | 32.06 | 34.50 | 4.75 | 0.75 | 48 | 105 | 390 |
| 34 | 38.00 | 1.32 | 1.44 | 35.75 | 34.62 | | 2.82 | 34.06 | 36.50 | 4.75 | 0.75 | 52 | 110 | 430 |
| 36 | 40.69 | 1.38 | 1.61 | 38.00 | 36.81 | | 3.32 | 36.06 | 39.06 | 5.25 | 0.88 | 40 | 145 | 518 |
| 38 | 42.69 | 1.44 | 1.69 | 40.00 | 38.81 | | 3.44 | 38.06 | 41.06 | 5.50 | 0.88 | 40 | 160 | 595 |
| 40 | 44.69 | 1.44 | 1.69 | 42.00 | 40.81 | | 3.57 | 40.06 | 43.06 | 5.50 | 0.88 | 44 | 170 | 760 |
| 42 | 46.69 | 1.50 | 1.82 | 44.00 | 42.81 | | 3.69 | 42.06 | 45.06 | 5.50 | 0.88 | 48 | 185 | 895 |
| 44 | 49.25 | 1.63 | 1.88 | 46.25 | 44.88 | | 4.07 | 44.06 | 47.38 | 6.00 | 1.00 | 36 | 230 | 1065 |
| 46 | 51.25 | 1.69 | 1.94 | 48.25 | 46.88 | | 4.19 | 46.06 | 49.38 | 6.25 | 1.00 | 40 | 245 | 1185 |
| 48 | 53.25 | 1.75 | 2.07 | 50.25 | 48.88 | | 4.32 | 48.06 | 51.38 | 6.50 | 1.00 | 44 | 270 | 1315 |
| 50 | 55.25 | 1.82 | 2.13 | 52.25 | 50.94 | | 4.50 | 50.06 | 53.38 | 6.50 | 1.00 | 44 | 290 | 1505 |
| 52 | 57.38 | 1.82 | 2.19 | 54.25 | 52.94 | | 4.69 | 52.06 | 55.50 | 6.75 | 1.00 | 48 | 310 | 1665 |
| 54 | 59.38 | 1.88 | 2.32 | 56.25 | 55.00 | | 4.88 | 54.06 | 57.50 | 6.75 | 1.00 | 48 | 340 | 1840 |
| 56 | 62.00 | 1.94 | 2.38 | 58.50 | 57.12 | | 5.25 | 56.06 | 59.88 | 7.25 | 1.12 | 40 | 400 | 2110 |
| 58 | 64.00 | 2.00 | 2.44 | 60.50 | 59.12 | | 5.38 | 58.06 | 61.88 | 7.25 | 1.12 | 44 | 430 | 2300 |
| 60 | 66.00 | 2.13 | 2.57 | 62.50 | 61.12 | | 5.63 | 60.06 | 63.88 | 7.75 | 1.12 | 44 | 475 | 2500 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

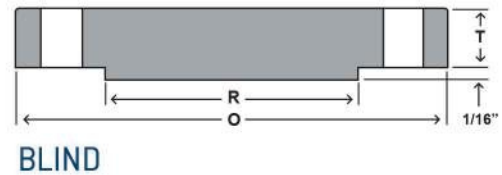
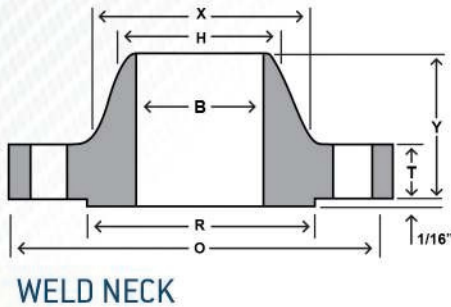
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 150 Weld Neck & Blind



| Nom Size | Thickness | | | | | | | | Drilling | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 30.94 | 1.57 | 1.69 | 28.00 | 26.94 | | 3.44 | 26.06 | 29.31 | 5.50 | 0.88 | 36 | 120 | 373 |
| 28 | 32.94 | 1.69 | 1.82 | 30.00 | 28.94 | | 3.69 | 28.06 | 31.31 | 5.75 | 0.88 | 40 | 140 | 454 |
| 30 | 34.94 | 1.69 | 1.94 | 32.00 | 31.00 | | 3.88 | 30.06 | 33.31 | 6.00 | 0.88 | 44 | 150 | 543 |
| 32 | 37.06 | 1.75 | 2.07 | 34.00 | 33.06 | | 4.19 | 32.06 | 35.44 | 6.25 | 0.88 | 48 | 170 | 648 |
| 34 | 39.56 | 1.88 | 2.19 | 36.25 | 35.12 | | 4.28 | 34.06 | 37.69 | 6.75 | 1.00 | 40 | 210 | 783 |
| 36 | 41.62 | 2.00 | 2.25 | 38.25 | 37.19 | | 4.57 | 36.06 | 39.75 | 6.75 | 1.00 | 44 | 240 | 890 |
| 38 | 44.25 | 2.07 | 2.44 | 40.25 | 39.25 | | 4.82 | 38.12 | 42.12 | 7.50 | 1.12 | 40 | 290 | 1089 |
| 40 | 46.25 | 2.13 | 2.57 | 42.50 | 41.31 | | 5.00 | 40.12 | 44.12 | 7.75 | 1.12 | 44 | 310 | 1247 |
| 42 | 48.25 | 2.25 | 2.63 | 44.50 | 43.38 | | 5.19 | 42.12 | 46.12 | 7.75 | 1.12 | 48 | 345 | 1393 |
| 44 | 50.25 | 2.32 | 2.75 | 46.50 | 45.38 | | 5.32 | 44.12 | 48.12 | 8.00 | 1.12 | 52 | 370 | 1579 |
| 46 | 52.81 | 2.38 | 2.88 | 48.62 | 47.44 | | 5.63 | 46.12 | 50.56 | 8.50 | 1.25 | 40 | 435 | 1824 |
| 48 | 54.81 | 2.50 | 3.00 | 50.75 | 49.50 | | 5.82 | 48.12 | 52.56 | 8.75 | 1.25 | 44 | 480 | 2045 |
| 50 | 56.81 | 2.63 | 3.13 | 52.75 | 51.50 | | 6.00 | 50.12 | 54.56 | 9.00 | 1.25 | 48 | 520 | 2284 |
| 52 | 58.81 | 2.69 | 3.25 | 54.75 | 53.56 | | 6.13 | 52.12 | 56.56 | 9.25 | 1.25 | 52 | 550 | 2547 |
| 54 | 61.00 | 2.75 | 3.38 | 56.75 | 55.62 | | 6.32 | 54.12 | 58.75 | 9.50 | 1.25 | 56 | 620 | 2848 |
| 56 | 63.00 | 2.82 | 3.50 | 58.75 | 57.69 | | 6.50 | 56.12 | 60.75 | 9.75 | 1.25 | 60 | 650 | 3144 |
| 58 | 65.94 | 2.88 | 3.62 | 60.75 | 59.69 | | 6.82 | 58.12 | 63.44 | 10.00 | 1.38 | 48 | 780 | 3560 |
| 60 | 67.94 | 2.94 | 3.75 | 63.00 | 61.81 | | 7.00 | 60.12 | 65.44 | 10.25 | 1.38 | 52 | 850 | 3913 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

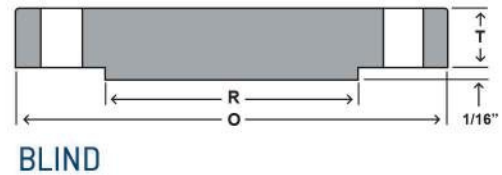
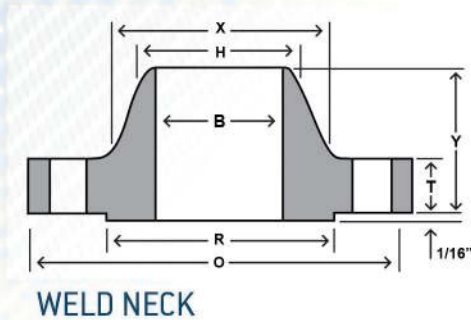
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 300 Weld Neck & Blind



| Nom Size | Thickness | | | | | | | | Drilling | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 34.12 | 3.44 | 3.44 | 29.00 | 27.62 | | 5.63 | 26.19 | 31.62 | 10.50 | 1.38 | 32 | 400 | 907 |
| 28 | 36.25 | 3.44 | 3.44 | 31.00 | 29.75 | | 5.81 | 28.19 | 33.75 | 10.50 | 1.38 | 36 | 450 | 1023 |
| 30 | 39.00 | 3.63 | 3.63 | 33.25 | 32.00 | | 6.16 | 30.25 | 36.25 | 11.25 | 1.50 | 36 | 550 | 1249 |
| 32 | 41.50 | 4.00 | 4.00 | 35.50 | 34.00 | | 6.56 | 32.25 | 38.50 | 12.00 | 1.62 | 32 | 685 | 1556 |
| 34 | 43.62 | 4.00 | 4.00 | 37.50 | 36.12 | | 6.75 | 34.25 | 40.62 | 12.00 | 1.62 | 36 | 750 | 1719 |
| 36 | 46.12 | 4.00 | 4.00 | 39.75 | 38.00 | | 7.06 | 36.25 | 42.88 | 12.50 | 1.75 | 32 | 840 | 1921 |
| 38 | 48.12 | 4.31 | 4.31 | 41.75 | 40.00 | | 7.50 | 38.25 | 44.88 | 13.00 | 1.75 | 36 | 915 | 2257 |
| 40 | 50.12 | 4.50 | 4.50 | 43.88 | 42.00 | | 7.75 | 40.25 | 46.88 | 13.50 | 1.75 | 40 | 990 | 2549 |
| 42 | 52.50 | 4.63 | 4.63 | 46.00 | 44.00 | | 8.00 | 42.31 | 49.00 | 14.00 | 1.88 | 36 | 1135 | 2876 |
| 44 | 54.50 | 4.94 | 4.94 | 48.00 | 46.19 | | 8.38 | 44.31 | 51.00 | 14.50 | 1.88 | 40 | 1235 | 3304 |
| 46 | 57.50 | 5.00 | 5.06 | 50.00 | 48.38 | | 8.69 | 46.31 | 53.75 | 15.00 | 2.00 | 36 | 1470 | 3766 |
| 48 | 59.50 | 5.00 | 5.25 | 52.25 | 50.31 | | 8.75 | 48.31 | 55.75 | 15.25 | 2.00 | 40 | 1575 | 4183 |
| 50 | 61.50 | 5.38 | 5.44 | 54.25 | 52.38 | | 9.19 | 50.31 | 57.75 | 15.75 | 2.00 | 44 | 1710 | 4629 |
| 52 | 63.50 | 5.56 | 5.61 | 56.25 | 54.44 | | 9.50 | 52.31 | 59.75 | 16.00 | 2.00 | 48 | 1840 | 5096 |
| 54 | 65.88 | 5.32 | 5.81 | 58.25 | 56.50 | | 9.38 | 54.31 | 62.12 | 16.00 | 2.00 | 48 | 1980 | 5678 |
| 56 | 69.50 | 6.00 | 6.12 | 60.50 | 58.81 | | 10.50 | 56.31 | 65.00 | 17.75 | 2.38 | 36 | 2595 | 6642 |
| 58 | 71.94 | 6.00 | 6.31 | 62.75 | 60.94 | | 10.75 | 58.31 | 67.44 | 18.00 | 2.38 | 40 | 2770 | 7347 |
| 60 | 73.94 | 5.88 | 6.50 | 65.00 | 62.94 | | 10.63 | 60.31 | 69.44 | 18.00 | 2.38 | 40 | 2870 | 7980 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

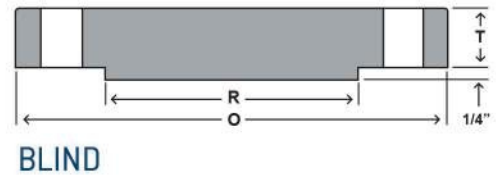
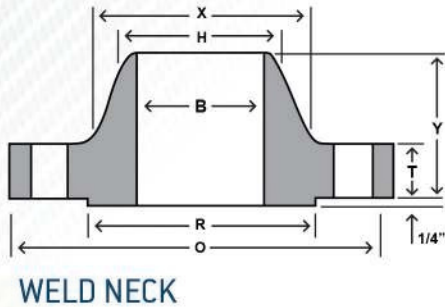
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 400 Weld Neck & Blind



| Nom Size | Thickness | | | | | | Drilling | | | | | Weight | | |
|----------|-----------|-----------|-------|----------|-------------|------|----------|-----------|-------------|-------------|----------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 33.50 | 3.50 | 3.50 | 28.00 | 27.12 | | 5.88 | 26.00 | 30.75 | 11.25 | 1.50 | 28 | 360 | 874 |
| 28 | 36.00 | 3.75 | 3.75 | 30.00 | 29.12 | | 6.25 | 28.00 | 33.00 | 12.00 | 1.62 | 24 | 450 | 1081 |
| 30 | 38.25 | 4.00 | 4.00 | 32.25 | 31.25 | | 6.69 | 30.00 | 35.25 | 12.50 | 1.62 | 28 | 530 | 1302 |
| 32 | 40.75 | 4.25 | 4.25 | 34.38 | 33.25 | | 7.06 | 32.00 | 37.50 | 13.25 | 1.75 | 28 | 635 | 1570 |
| 34 | 42.75 | 4.38 | 4.38 | 36.50 | 35.38 | | 7.38 | 34.00 | 39.50 | 13.50 | 1.75 | 32 | 690 | 1781 |
| 36 | 45.50 | 4.69 | 4.69 | 38.62 | 37.50 | | 7.88 | 36.00 | 42.00 | 14.50 | 1.88 | 28 | 855 | 2160 |
| 38 | 47.50 | 4.88 | 4.88 | 40.75 | 39.50 | | 8.12 | 38.00 | 44.00 | 14.75 | 1.88 | 32 | 935 | 2450 |
| 40 | 50.00 | 5.12 | 5.12 | 43.00 | 41.50 | | 8.50 | 40.00 | 46.25 | 15.50 | 2.00 | 32 | 1090 | 2848 |
| 42 | 52.00 | 5.25 | 5.25 | 45.00 | 43.62 | | 8.81 | 42.00 | 48.25 | 15.75 | 2.00 | 32 | 1190 | 3159 |
| 44 | 54.50 | 5.50 | 5.50 | 47.25 | 45.62 | | 9.18 | 44.00 | 50.50 | 16.50 | 2.12 | 32 | 1375 | 3635 |
| 46 | 56.75 | 5.75 | 5.75 | 49.50 | 47.75 | | 9.62 | 46.00 | 52.75 | 17.00 | 2.12 | 36 | 1525 | 4120 |
| 48 | 59.50 | 6.00 | 6.00 | 51.50 | 49.88 | | 10.12 | 48.00 | 55.25 | 18.00 | 2.38 | 28 | 1790 | 4726 |
| 50 | 61.75 | 6.19 | 6.25 | 53.62 | 52.00 | | 10.56 | 50.00 | 57.50 | 18.50 | 2.38 | 32 | 1950 | 5303 |
| 52 | 63.75 | 6.38 | 6.44 | 55.62 | 54.00 | | 10.88 | 52.00 | 59.50 | 18.75 | 2.38 | 32 | 2125 | 5823 |
| 54 | 67.00 | 6.69 | 6.75 | 57.88 | 56.12 | | 11.38 | 54.00 | 62.25 | 20.00 | 2.62 | 28 | 2565 | 6742 |
| 56 | 69.00 | 6.88 | 6.94 | 60.12 | 58.25 | | 11.75 | 56.00 | 64.25 | 20.25 | 2.62 | 32 | 2710 | 7352 |
| 58 | 71.00 | 7.00 | 7.12 | 62.12 | 60.25 | | 12.06 | 58.00 | 66.25 | 20.50 | 2.62 | 32 | 3230 | 7986 |
| 60 | 74.25 | 7.31 | 7.44 | 64.38 | 62.38 | | 12.56 | 60.00 | 69.00 | 21.75 | 2.88 | 32 | 3820 | 9126 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

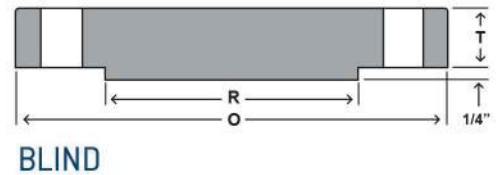
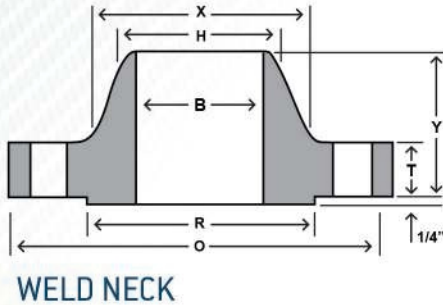
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 600 Weld Neck & Blind



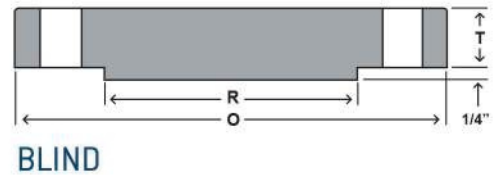
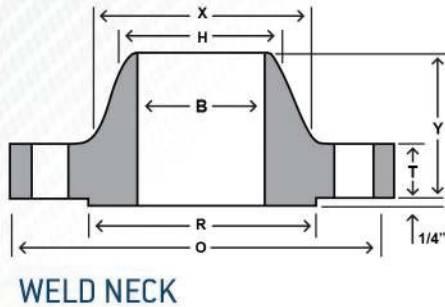
| Nom Size | Thickness | | | | | | | | Drilling | | | | Weights | |
|----------|-----------|-----------|-------|----------|-------------|------|-------|-----------|-------------|-------------|----------|------------|-----------|--------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 35.00 | 4.38 | 4.38 | 28.62 | 27.50 | | 7.12 | 26.00 | 31.75 | 13.50 | 1.75 | 28 | 550 | 1194 |
| 28 | 37.50 | 4.56 | 4.56 | 30.88 | 29.62 | | 7.50 | 28.00 | 34.00 | 14.25 | 1.88 | 28 | 650 | 1427 |
| 30 | 40.25 | 4.94 | 5.00 | 33.12 | 31.75 | | 8.06 | 30.00 | 36.50 | 15.25 | 2.00 | 28 | 810 | 1802 |
| 32 | 42.75 | 5.12 | 5.31 | 35.25 | 33.88 | | 8.50 | 32.00 | 38.75 | 16.00 | 2.12 | 28 | 950 | 2159 |
| 34 | 45.75 | 5.56 | 5.68 | 37.50 | 36.00 | | 9.19 | 34.00 | 41.50 | 17.25 | 2.38 | 24 | 1205 | 2645 |
| 36 | 47.75 | 5.75 | 5.94 | 39.75 | 38.12 | | 9.56 | 36.00 | 43.50 | 17.75 | 2.38 | 28 | 1340 | 3013 |
| 38 | 50.00 | 6.00 | 6.12 | 41.50 | 40.25 | | 10.00 | 38.00 | 45.75 | 18.25 | 2.38 | 28 | 1470 | 3404 |
| 40 | 52.00 | 6.25 | 6.38 | 43.75 | 42.25 | | 10.38 | 40.00 | 47.75 | 18.75 | 2.38 | 32 | 1630 | 3838 |
| 42 | 55.25 | 6.62 | 6.75 | 46.00 | 44.38 | | 11.00 | 42.00 | 50.50 | 19.75 | 2.62 | 28 | 2030 | 4585 |
| 44 | 57.25 | 6.81 | 7.00 | 48.25 | 46.50 | | 11.38 | 44.00 | 52.50 | 20.25 | 2.62 | 32 | 2160 | 5105 |
| 46 | 59.50 | 7.06 | 7.31 | 50.25 | 48.62 | | 11.81 | 46.00 | 54.75 | 20.75 | 2.62 | 32 | 2410 | 5758 |
| 48 | 62.75 | 7.44 | 7.69 | 52.50 | 50.75 | | 12.44 | 48.00 | 57.50 | 22.25 | 2.88 | 32 | 2855 | 6737 |
| 50 | 65.75 | 7.75 | 8.00 | 54.50 | 52.88 | | 12.94 | 50.00 | 60.00 | 23.25 | 3.12 | 28 | 3330 | 7695 |
| 52 | 67.75 | 8.00 | 8.25 | 56.50 | 54.88 | | 13.25 | 52.00 | 62.00 | 23.75 | 3.12 | 32 | 3560 | 8426 |
| 54 | 70.00 | 8.25 | 8.56 | 58.75 | 57.00 | | 13.75 | 54.00 | 64.25 | 24.25 | 3.12 | 32 | 3920 | 9333 |
| 56 | 73.00 | 8.56 | 8.88 | 60.75 | 59.12 | | 14.25 | 56.00 | 66.75 | 25.50 | 3.38 | 32 | 4280 | 10,529 |
| 58 | 75.00 | 8.75 | 9.12 | 63.00 | 61.12 | | 14.56 | 58.00 | 68.75 | 26.00 | 3.38 | 32 | 4640 | 11,414 |
| 60 | 78.50 | 9.19 | 9.56 | 65.25 | 63.38 | | 15.31 | 60.00 | 71.75 | 27.25 | 3.62 | 28 | 5000 | 13,108 |

To be specified by Purchaser.

- DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS**
- (A) Bolt lengths are calculated based on bolting one WN to one Blind
 - (B) Bolt diameter should be 1/8" less than the bolt hole diameter
 - (C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series B Class 900 Weld Neck & Blind



| Nom Size | Thickness | | | | | | Drilling | | | | | | Weights | |
|----------|-----------|-----------|-------|----------|-------------|------|----------|-----------|-------------|-------------|----------|------------|-----------|--------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length | Hole Dia | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | Y | H | | (A) | (B) | | | |
| 26 | 40.25 | 5.31 | 6.06 | 30.00 | 29.25 | | 10.19 | 26.00 | 35.50 | 17.75 | 2.62 | 20 | 1050 | 2184 |
| 28 | 43.50 | 5.81 | 6.56 | 32.25 | 31.38 | | 10.88 | 28.00 | 38.25 | 19.50 | 2.88 | 20 | 1520 | 2762 |
| 30 | 46.50 | 6.12 | 6.93 | 34.50 | 33.50 | | 11.38 | 30.00 | 40.75 | 20.50 | 3.12 | 20 | 1820 | 3334 |
| 32 | 48.75 | 6.31 | 7.31 | 36.50 | 35.75 | | 11.94 | 32.00 | 43.00 | 21.00 | 3.12 | 20 | 2065 | 3865 |
| 34 | 51.75 | 6.75 | 7.68 | 39.00 | 37.88 | | 12.56 | 34.00 | 45.50 | 22.50 | 3.38 | 20 | 2450 | 4576 |
| 36 | 53.00 | 6.81 | 7.94 | 40.50 | 40.00 | | 12.81 | 36.00 | 47.25 | 22.25 | 3.12 | 24 | 2520 | 4963 |
| 38 | 57.50 | 7.50 | 8.50 | 43.25 | 42.25 | | 13.88 | 38.00 | 50.75 | 24.50 | 3.62 | 20 | 3385 | 6253 |
| 40 | 59.50 | 7.75 | 8.81 | 45.75 | 44.38 | | 14.31 | 40.00 | 52.75 | 25.00 | 3.62 | 24 | 3620 | 6940 |
| 42 | 61.50 | 8.12 | 9.12 | 47.75 | 46.31 | | 14.62 | 42.00 | 54.75 | 25.75 | 3.62 | 24 | 3960 | 7675 |
| 44 | 64.88 | 8.44 | 9.56 | 50.00 | 48.62 | | 15.38 | 44.00 | 57.62 | 27.00 | 3.88 | 24 | 4300 | 8954 |
| 46 | 68.25 | 8.88 | 10.06 | 52.50 | 50.88 | | 16.18 | 46.00 | 60.50 | 28.50 | 4.12 | 24 | 4640 | 10,426 |
| 48 | 70.25 | 9.19 | 10.38 | 54.50 | 52.88 | | 16.50 | 48.00 | 62.50 | 29.00 | 4.12 | 24 | 4980 | 11,398 |

To be specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

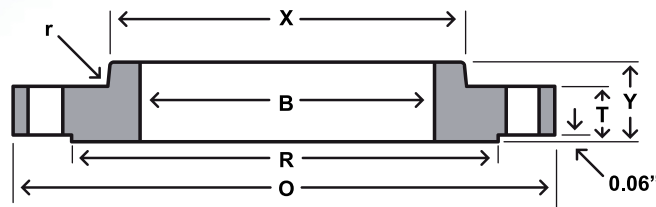
(A) Bolt lengths are calculated based on bolting one WN to one Blind

(B) Bolt diameter should be 1/8" less than the bolt hole diameter

(C) Larger sizes as well as intermediate sizes can be furnished



B16.47 Series A Class 150# Modified per Industry Standard to be Slip On



INDUSTRY STANDARD CLASS 150 SERIES "A" SLIP-ON FLANGES (BOLTING MATCHES)

| Nom Size | | | | | | | | Drilling | | | Weight |
|----------|-------|-----------|-------------|------|--------------|--------|-------|------------|----------|------------|--------|
| | OD | Thickness | RF Diameter | LTH | Hub Diameter | Min FR | Bore | # of Holes | Hole Dia | Circle Dia | |
| | O | T | R | Y | X | r | B | | (B) | | |
| 26 | 34.25 | 2.69 | 29.50 | 3.69 | 28.25 | 0.38 | 26.25 | 24 | 1.38 | 31.75 | 235 |
| 28 | 36.5 | 3.06 | 31.50 | 3.81 | 30.50 | 0.44 | 28.25 | 28 | 1.38 | 34 | 270 |
| 30 | 38.75 | 3.31 | 33.75 | 3.94 | 32.50 | 0.44 | 30.25 | 28 | 1.38 | 36 | 305 |
| 32 | 41.75 | 3.41 | 36.00 | 4.18 | 34.50 | 0.44 | 32.25 | 28 | 1.63 | 38.5 | 375 |
| 34 | 43.75 | 3.68 | 38.00 | 4.25 | 36.50 | 0.50 | 34.25 | 32 | 1.63 | 40.5 | 400 |
| 36 | 46 | 3.96 | 40.25 | 4.56 | 38.75 | 0.50 | 36.25 | 32 | 1.63 | 42.75 | 450 |
| 38 | 48.75 | 4.06 | 42.25 | 4.56 | 41.25 | 0.50 | 38.25 | 32 | 1.63 | 45.25 | 530 |
| 40 | 50.75 | 4.18 | 44.25 | 4.81 | 43.25 | 0.50 | 40.25 | 36 | 1.63 | 47.25 | 570 |
| 42 | 53 | 4.43 | 47.00 | 5.06 | 45.50 | 0.50 | 42.25 | 36 | 1.63 | 49.5 | 650 |
| 44 | 55.25 | 4.68 | 49.00 | 5.18 | 47.75 | 0.50 | 44.25 | 40 | 1.63 | 51.75 | 690 |
| 46 | 57.25 | 4.86 | 51.00 | 5.31 | 49.75 | 0.50 | 46.25 | 40 | 1.63 | 53.75 | 730 |
| 48 | 59.5 | 5.06 | 53.50 | 5.56 | 52.00 | 0.50 | 48.25 | 44 | 1.63 | 56 | 800 |

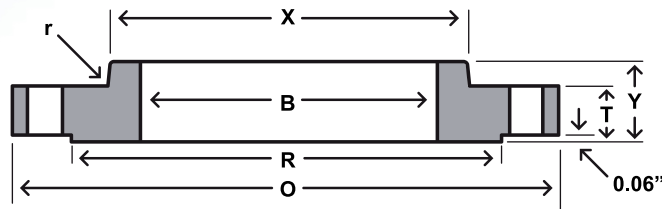
DIMENSIONS ARE IN INCHES

- (A) These flanges will be supplied with a 1/16" raised face unless otherwise specified
- (B) Dimensions are supportive from industry terminology and are a non-committee specification
- (C) These flanges are not covered by ASME B16.47 or MSS-SP44 specifications



B16.47 Series B Class 150#

Modified per Industry Standard to be Slip On



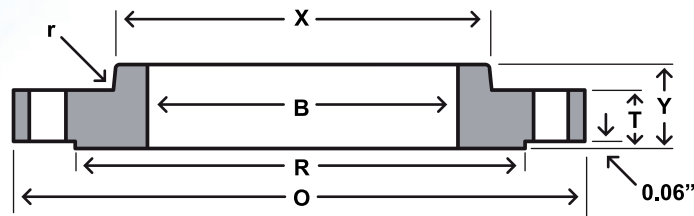
| Nom Size | | | | | | | | Drilling | | | Weight |
|----------|-------|-----------|-------------|------|--------------|--------|-------|------------|----------|------------|--------|
| | OD | Thickness | RF Diameter | LTH | Hub Diameter | Min FR | Bore | # of Holes | Hole Dia | Circle Dia | |
| | O | T | R | Y | X | r | B | | (B) | | |
| 26 | 30.94 | 1.62 | 28.00 | 2.62 | 26.94 | 0.38 | 26.25 | 36 | 0.88 | 29.31 | 85 |
| 28 | 32.94 | 1.75 | 30.00 | 2.75 | 28.94 | 0.38 | 28.25 | 40 | 0.88 | 31.31 | 97 |
| 30 | 34.94 | 1.75 | 32.00 | 2.75 | 31.00 | 0.38 | 30.25 | 44 | 0.88 | 33.31 | 103 |
| 32 | 37.06 | 1.81 | 34.00 | 2.81 | 33.06 | 0.38 | 32.25 | 48 | 0.88 | 35.44 | 125 |
| 34 | 39.56 | 1.94 | 36.25 | 2.94 | 35.12 | 0.38 | 34.25 | 40 | 1.00 | 37.69 | 165 |
| 36 | 41.62 | 2.06 | 38.25 | 3.06 | 37.19 | 0.38 | 36.25 | 44 | 1.00 | 39.75 | 186 |
| 38 | 44.25 | 2.12 | 40.25 | 3.12 | 39.25 | 0.38 | 38.25 | 40 | 1.12 | 42.12 | 227 |
| 40 | 46.25 | 2.19 | 42.50 | 3.19 | 41.31 | 0.38 | 40.25 | 44 | 1.12 | 44.12 | 245 |
| 42 | 48.25 | 2.31 | 44.50 | 3.31 | 43.38 | 0.44 | 42.25 | 48 | 1.12 | 46.12 | 269 |
| 44 | 50.25 | 2.38 | 46.50 | 3.38 | 45.38 | 0.44 | 44.25 | 52 | 1.12 | 48.12 | 288 |
| 46 | 52.81 | 2.44 | 48.62 | 3.44 | 47.44 | 0.44 | 46.25 | 40 | 1.25 | 50.56 | 343 |
| 48 | 54.81 | 2.56 | 50.75 | 3.56 | 49.50 | 0.44 | 48.25 | 44 | 1.25 | 52.56 | 373 |
| 50 | 56.81 | 2.69 | 52.75 | 3.69 | 51.50 | 0.44 | 50.25 | 48 | 1.25 | 54.56 | 403 |
| 52 | 58.81 | 2.75 | 54.75 | 3.75 | 53.56 | 0.44 | 52.25 | 52 | 1.25 | 56.56 | 426 |
| 54 | 61.00 | 2.81 | 56.75 | 3.81 | 55.62 | 0.44 | 54.25 | 56 | 1.25 | 58.75 | 469 |
| 56 | 63.00 | 2.88 | 58.75 | 3.88 | 57.69 | 0.56 | 56.25 | 60 | 1.25 | 60.75 | 492 |
| 58 | 65.94 | 2.94 | 60.75 | 3.94 | 59.69 | 0.56 | 58.25 | 48 | 1.38 | 63.44 | 602 |
| 60 | 67.94 | 3.00 | 63.00 | 4.00 | 61.81 | 0.56 | 60.25 | 52 | 1.38 | 65.44 | 634 |

DIMENSIONS ARE IN INCHES

- (A) These flanges will be supplied with a 1/16" raised face unless otherwise specified
- (B) Dimensions are supportive from industry terminology and are a non-committee specification
- (C) These flanges are not covered by ASME B16.47 or API-605 specifications



B16.47 Series A Class 300# Modified per Industry Standard to be Slip On



INDUSTRY STANDARD CLASS 300 SERIES "A" SLIP-ON FLANGES (BOLTING MATCHES)

| Nom Size | | | | | | | | Drilling | | | Weight |
|----------|-------|-----------|-------------|------|--------------|------|--------|------------|----------|------------|--------|
| | OD | Thickness | RF Diameter | LTH | Hub Diameter | Bore | Min FR | # of Holes | Hole Dia | Circle Dia | |
| | O | T | R | Y | X | B | r | | {B} | | |
| 26 | 38.25 | 3.12 | 29.50 | 5.37 | 30.25 | 0.38 | 26.25 | 28 | 1.75 | 34.50 | 595 |
| 28 | 40.75 | 3.38 | 31.50 | 5.68 | 32.75 | 0.44 | 28.25 | 28 | 1.75 | 37.00 | 729 |
| 30 | 43.00 | 3.62 | 33.75 | 6.12 | 34.75 | 0.44 | 30.25 | 28 | 1.88 | 39.25 | 840 |
| 32 | 45.25 | 3.88 | 36.00 | 6.56 | 36.75 | 0.44 | 32.25 | 28 | 2.00 | 41.50 | 964 |
| 34 | 47.50 | 4.00 | 38.00 | 6.81 | 38.75 | 0.50 | 34.25 | 28 | 2.00 | 43.50 | 1076 |
| 36 | 50.00 | 4.12 | 40.25 | 7.06 | 41.00 | 0.50 | 36.25 | 32 | 2.12 | 46.00 | 1202 |
| 38 | 46.00 | 5.31 | 40.50 | 6.06 | 39.00 | 0.50 | 38.25 | 32 | 1.62 | 43.00 | 687 |
| 40 | 48.75 | 5.56 | 42.75 | 6.56 | 41.25 | 0.50 | 40.25 | 32 | 1.75 | 45.50 | 840 |
| 42 | 50.75 | 5.81 | 44.75 | 6.81 | 43.25 | 0.50 | 42.25 | 32 | 1.75 | 47.50 | 922 |
| 44 | 53.25 | 6.06 | 47.00 | 6.86 | 45.25 | 0.50 | 44.25 | 32 | 1.88 | 49.75 | 1055 |
| 46 | 55.75 | 6.31 | 49.00 | 7.06 | 47.25 | 0.50 | 46.25 | 28 | 2.00 | 52.00 | 1205 |
| 48 | 57.75 | 6.56 | 51.25 | 7.18 | 49.25 | 0.50 | 48.25 | 32 | 2.00 | 54.00 | 1306 |

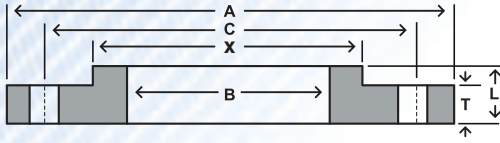
DIMENSIONS ARE IN INCHES

- (A) These flanges will be supplied with a 1/16" raised face unless otherwise specified
- (B) Dimensions are supportive from industry terminology and are a non-committee specification
- (C) These flanges are not covered by ASME B16.47 or MSS-SP44 specifications



Class 125 LW (175–150psi*)

SAME AS AWWA CLASS D HUB



| Nom Size | | | | | | Drilling | | | | Weight |
|----------|--------|-----------|-------------|-------|-------|-------------|-------------|----------|------------|--------|
| | OD | Thickness | Dia at Base | Bore | LTH | Bolt Circle | Bolt Length | Hole Dia | # of Holes | |
| | A | T | X | B | L | C | | | | |
| 4 | 9.00 | 0.500 | 5.312 | 4.57 | 0.875 | 7.50 | 2.75 | 0.750 | 8 | 7 |
| 5 | 10.00 | 0.562 | 6.438 | 5.66 | 1.250 | 8.50 | 3.25 | 0.875 | 8 | 9 |
| 6 | 11.00 | 0.562 | 7.562 | 6.72 | 1.250 | 9.50 | 3.25 | 0.875 | 8 | 11 |
| 8 | 13.50 | 0.562 | 9.688 | 8.72 | 1.250 | 11.75 | 3.25 | 0.875 | 8 | 15 |
| 10 | 16.00 | 0.688 | 12.000 | 10.88 | 1.250 | 14.25 | 3.75 | 1.000 | 12 | 22 |
| 12 | 19.00 | 0.688 | 14.375 | 12.88 | 1.250 | 17.00 | 3.75 | 1.000 | 12 | 33 |
| 14 | 21.00 | 0.750 | 15.750 | 14.19 | 1.250 | 18.75 | 4.00 | 1.125 | 12 | 43 |
| 16 | 23.50 | 0.750 | 18.000 | 16.19 | 1.250 | 21.25 | 4.00 | 1.125 | 16 | 52 |
| 18 | 25.00 | 0.750 | 19.875 | 18.19 | 1.250 | 22.75 | 4.25 | 1.250 | 16 | 52 |
| 20 | 27.50 | 0.750 | 22.000 | 20.19 | 1.250 | 25.00 | 4.25 | 1.250 | 20 | 61 |
| 22 | 29.50 | 1.000 | 24.000 | 22.19 | 1.750 | 27.25 | 5.00 | 1.375 | 20 | 92 |
| 24 | 32.00 | 1.000 | 26.125 | 24.19 | 1.750 | 29.50 | 5.00 | 1.375 | 20 | 105 |
| 26 | 34.25 | 1.000 | 28.500 | 26.19 | 1.750 | 31.75 | 5.00 | 1.375 | 24 | 119 |
| 28 | 36.50 | 1.000 | 30.500 | 28.19 | 1.750 | 34.00 | 5.00 | 1.375 | 28 | 130 |
| 30 | 38.75 | 1.000 | 32.500 | 30.19 | 1.750 | 36.00 | 5.00 | 1.375 | 28 | 144 |
| 32 | 41.75 | 1.125 | 34.750 | 32.19 | 1.750 | 38.50 | 6.00 | 1.625 | 28 | 182 |
| 34 | 43.75 | 1.125 | 36.750 | 34.19 | 1.750 | 40.50 | 6.00 | 1.625 | 32 | 191 |
| 36 | 46.00 | 1.125 | 38.750 | 36.19 | 1.750 | 42.75 | 6.00 | 1.625 | 32 | 207 |
| 38 | 48.75 | 1.125 | 40.750 | 38.19 | 1.750 | 45.25 | 6.00 | 1.625 | 32 | 237 |
| 40 | 50.75 | 1.125 | 43.000 | 40.19 | 1.750 | 47.25 | 6.00 | 1.625 | 36 | 249 |
| 42 | 53.00 | 1.250 | 45.000 | 42.19 | 1.750 | 49.50 | 6.25 | 1.625 | 36 | 287 |
| 44 | 55.25 | 1.250 | 47.000 | 44.19 | 2.250 | 51.75 | 6.25 | 1.625 | 40 | 334 |
| 46 | 57.25 | 1.250 | 49.000 | 46.19 | 2.250 | 53.75 | 6.25 | 1.625 | 40 | 348 |
| 48 | 59.50 | 1.375 | 51.000 | 48.19 | 2.500 | 56.00 | 6.50 | 1.625 | 44 | 407 |
| 50 | 61.75 | 1.375 | 53.000 | 50.19 | 2.500 | 58.25 | 7.00 | 1.875 | 44 | 421 |
| 52 | 64.00 | 1.375 | 55.000 | 52.19 | 2.500 | 60.50 | 7.00 | 1.875 | 44 | 448 |
| 54 | 66.25 | 1.375 | 57.000 | 54.19 | 2.500 | 62.75 | 7.00 | 1.875 | 44 | 475 |
| 60 | 73.00 | 1.500 | 63.000 | 60.19 | 2.750 | 69.25 | 7.25 | 1.875 | 52 | 605 |
| 66 | 80.00 | 1.500 | 69.000 | 66.19 | 2.750 | 76.00 | 7.25 | 1.875 | 52 | 718 |
| 72 | 86.50 | 1.500 | 75.000 | 72.19 | 2.750 | 82.50 | 7.25 | 1.875 | 60 | 803 |
| 78 | 93.00 | 1.750 | 81.250 | 78.19 | 3.000 | 89.00 | 8.25 | 2.125 | 64 | 1010 |
| 84 | 99.75 | 1.750 | 87.500 | 84.19 | 3.000 | 95.50 | 8.25 | 2.125 | 64 | 1160 |
| 90 | 106.50 | 2.000 | 93.750 | 90.19 | 3.250 | 102.00 | 9.50 | 2.438 | 68 | 1430 |
| 96 | 113.25 | 2.000 | 100.000 | 96.19 | 3.250 | 108.50 | 9.50 | 2.438 | 68 | 1618 |

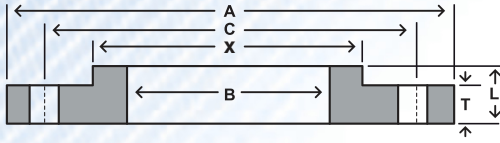
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: HUB FLANGES ARE TO BE USED ON PIPE THAT HAS AN OD EQUAL TO THE NOMINAL PIPE SIZE IN THE FIRST COLUMN. *PRESSURE RATINGS ARE FROM AWWA TABLE 3 CLASS D. PRESSURE RATING AT ATMOSPHERIC TEMPERATURE: SIZES 4-12" INCLUSIVE, 175 PSI; SIZES LARGER THAN 12", 150 PSI. THESE FLANGES HAVE THE SAME DIAMETER AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST IRON FLANGES. IN SIZES 24" AND SMALLER THEY ALSO MATCH UP TO ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



Class 125 S0 (275psi*)

SAME AS AWWA TABLE 4 CLASS E



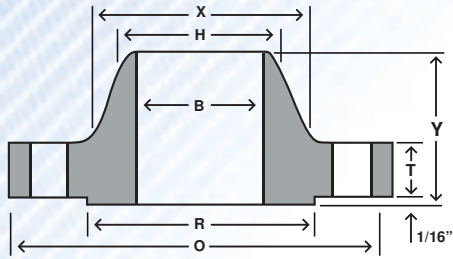
| Nom Size | | | | | | Drilling | | | | Weight |
|----------|--------|-----------|-------------|-------|-------|-------------|-------------|----------|------------|--------|
| | OD | Thickness | Dia at Base | Bore | LTH | Bolt Circle | Bolt Length | Hole Dia | # of Holes | |
| | A | T | X | B | L | C | | | | |
| 4 | 9.00 | 0.938 | 5.312 | 4.57 | 1.312 | 7.50 | 3.75 | 0.750 | 8 | 13 |
| 5 | 10.00 | 0.938 | 6.438 | 5.66 | 1.438 | 8.50 | 4.00 | 0.875 | 8 | 14 |
| 6 | 11.00 | 1.000 | 7.562 | 6.72 | 1.562 | 9.50 | 4.00 | 0.875 | 8 | 17 |
| 8 | 13.50 | 1.125 | 9.688 | 8.72 | 1.750 | 11.75 | 4.50 | 0.875 | 8 | 28 |
| 10 | 16.00 | 1.188 | 12.000 | 10.88 | 1.938 | 14.25 | 5.00 | 1.000 | 12 | 37 |
| 12 | 19.00 | 1.250 | 14.375 | 12.88 | 2.188 | 17.00 | 5.00 | 1.000 | 12 | 59 |
| 14 | 21.00 | 1.375 | 15.750 | 14.19 | 2.250 | 18.75 | 5.50 | 1.125 | 12 | 78 |
| 16 | 23.50 | 1.438 | 18.000 | 16.19 | 2.500 | 21.25 | 5.75 | 1.125 | 16 | 101 |
| 18 | 25.00 | 1.562 | 19.875 | 18.19 | 2.688 | 22.75 | 6.00 | 1.250 | 16 | 110 |
| 20 | 27.50 | 1.688 | 22.000 | 20.19 | 2.875 | 25.00 | 6.50 | 1.250 | 20 | 139 |
| 22 | 29.50 | 1.812 | 24.000 | 22.19 | 3.125 | 27.25 | 6.75 | 1.375 | 20 | 162 |
| 24 | 32.00 | 1.875 | 26.125 | 24.19 | 3.250 | 29.50 | 7.00 | 1.375 | 20 | 197 |
| 26 | 34.25 | 2.000 | 28.500 | 26.19 | 3.375 | 31.75 | 7.25 | 1.375 | 24 | 235 |
| 28 | 36.50 | 2.062 | 30.750 | 28.19 | 3.438 | 34.00 | 7.50 | 1.375 | 28 | 269 |
| 30 | 38.75 | 2.125 | 32.750 | 30.19 | 3.500 | 36.00 | 7.75 | 1.375 | 28 | 303 |
| 32 | 41.75 | 2.250 | 35.000 | 32.19 | 3.625 | 38.50 | 8.50 | 1.625 | 28 | 375 |
| 34 | 43.75 | 2.312 | 37.000 | 34.19 | 3.688 | 40.50 | 8.50 | 1.625 | 32 | 401 |
| 36 | 46.00 | 2.375 | 39.250 | 36.19 | 3.750 | 42.75 | 8.75 | 1.625 | 32 | 452 |
| 38 | 48.75 | 2.375 | 41.750 | 38.19 | 3.750 | 45.25 | 8.75 | 1.625 | 32 | 528 |
| 40 | 50.75 | 2.500 | 43.750 | 40.19 | 3.875 | 47.25 | 9.00 | 1.625 | 36 | 573 |
| 42 | 53.00 | 2.625 | 46.000 | 42.19 | 4.000 | 49.50 | 9.25 | 1.625 | 36 | 648 |
| 44 | 55.25 | 2.625 | 48.000 | 44.19 | 4.000 | 51.75 | 9.25 | 1.625 | 40 | 688 |
| 46 | 57.25 | 2.688 | 50.000 | 46.19 | 4.062 | 53.75 | 9.25 | 1.625 | 40 | 733 |
| 48 | 59.50 | 2.750 | 52.250 | 48.19 | 4.125 | 56.00 | 9.50 | 1.625 | 44 | 799 |
| 50 | 61.75 | 2.750 | 54.250 | 50.19 | 4.125 | 58.25 | 10.00 | 1.875 | 44 | 827 |
| 52 | 64.00 | 2.875 | 56.500 | 52.19 | 4.250 | 60.50 | 10.25 | 1.875 | 44 | 922 |
| 54 | 66.25 | 3.000 | 58.750 | 54.19 | 4.375 | 62.75 | 10.50 | 1.875 | 44 | 1024 |
| 60 | 73.00 | 3.125 | 65.250 | 60.19 | 4.500 | 69.25 | 11.00 | 1.875 | 52 | 1253 |
| 66 | 80.00 | 3.375 | 71.500 | 66.19 | 4.875 | 76.00 | 11.50 | 1.875 | 52 | 1623 |
| 72 | 86.50 | 3.500 | 78.500 | 72.19 | 5.000 | 82.50 | 11.75 | 1.875 | 60 | 1922 |
| 78 | 93.00 | 3.875 | 84.500 | 78.19 | 5.375 | 89.00 | 13.00 | 2.125 | 64 | 2279 |
| 84 | 99.75 | 3.875 | 90.500 | 84.19 | 5.375 | 95.50 | 13.00 | 2.125 | 64 | 2586 |
| 90 | 106.50 | 4.250 | 96.750 | 90.19 | 5.750 | 102.00 | 14.25 | 2.438 | 68 | 3061 |
| 96 | 113.25 | 4.250 | 102.750 | 96.19 | 5.750 | 108.50 | 14.25 | 2.438 | 68 | 3432 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: COMMONLY REFERRED TO AS A CLASS 150# IN LARGER DIAMETER. CAN BE FURNISHED WITH A RAISED FACE. *PRESSURE RATINGS FROM AWWA TABLE 4 CLASS E. PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 275 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



Class 125 WN



| Nom Size | | | | | | | | Drilling | | | | Weight |
|----------|--------|-----------|----------|-------------|------|-----------|------|-------------|-------------|----------|------------|--------|
| | OD | Thickness | OD of RF | Dia at Base | Bore | Dia Bevel | LTH | Bolt Circle | Bolt Length | Hole Dia | # of Holes | |
| | O | T | R | X | B | H | Y | | | | | |
| 6 | 11.00 | 1.00 | 8.50 | 7.56 | | 6.63 | 3.50 | 9.50 | 4.00 | 0.88 | 8 | 24 |
| 8 | 13.50 | 1.13 | 10.63 | 9.69 | | 8.63 | 4.00 | 11.75 | 4.50 | 0.88 | 8 | 39 |
| 10 | 16.00 | 1.19 | 12.75 | 12.00 | | 10.75 | 4.00 | 14.25 | 5.00 | 1.00 | 12 | 52 |
| 12 | 19.00 | 1.25 | 15.00 | 14.38 | | 12.75 | 4.50 | 17.00 | 5.00 | 1.00 | 12 | 80 |
| 14 | 21.00 | 1.38 | 16.25 | 15.75 | | 14.00 | 5.00 | 18.75 | 5.50 | 1.13 | 12 | 110 |
| 16 | 23.50 | 1.44 | 18.50 | 18.00 | | 16.00 | 5.00 | 21.25 | 5.75 | 1.13 | 16 | 140 |
| 18 | 25.00 | 1.56 | 21.00 | 19.88 | | 18.00 | 5.50 | 22.75 | 6.00 | 1.25 | 16 | 150 |
| 20 | 27.50 | 1.69 | 23.00 | 22.00 | | 20.00 | 5.69 | 25.00 | 6.50 | 1.25 | 20 | 180 |
| 22 | 29.50 | 1.81 | 25.25 | 24.25 | | 22.00 | 5.88 | 27.25 | 6.75 | 1.38 | 20 | 225 |
| 24 | 32.00 | 1.88 | 27.25 | 26.13 | | 24.00 | 6.00 | 29.50 | 7.00 | 1.38 | 20 | 255 |
| 26 | 34.25 | 2.00 | 29.50 | 28.50 | | 26.00 | 5.00 | 31.75 | 7.25 | 1.38 | 24 | 265 |
| 28 | 36.50 | 2.06 | 31.50 | 30.75 | | 28.00 | 5.06 | 34.00 | 7.50 | 1.38 | 28 | 295 |
| 30 | 38.75 | 2.13 | 33.75 | 32.75 | | 30.00 | 5.13 | 36.00 | 7.75 | 1.38 | 28 | 340 |
| 32 | 41.75 | 2.25 | 36.00 | 35.00 | | 32.00 | 5.25 | 38.50 | 8.50 | 1.63 | 28 | 410 |
| 34 | 43.75 | 2.31 | 38.00 | 37.00 | | 34.00 | 5.31 | 40.50 | 8.50 | 1.63 | 32 | 440 |
| 36 | 46.00 | 2.38 | 40.25 | 39.25 | | 36.00 | 5.38 | 42.75 | 8.75 | 1.63 | 32 | 495 |
| 38 | 48.75 | 2.38 | 42.25 | 41.75 | | 38.00 | 5.38 | 45.25 | 8.75 | 1.63 | 32 | 570 |
| 40 | 50.75 | 2.50 | 44.25 | 43.75 | | 40.00 | 5.50 | 47.25 | 9.00 | 1.63 | 36 | 620 |
| 42 | 53.00 | 2.63 | 47.00 | 46.00 | | 42.00 | 5.63 | 49.50 | 9.25 | 1.63 | 36 | 710 |
| 44 | 55.25 | 2.63 | 49.00 | 48.00 | | 44.00 | 5.63 | 51.75 | 9.25 | 1.63 | 40 | 750 |
| 46 | 57.25 | 2.69 | 51.00 | 50.00 | | 46.00 | 5.68 | 53.75 | 9.25 | 1.63 | 40 | 800 |
| 48 | 59.50 | 2.75 | 53.50 | 52.25 | | 48.00 | 5.75 | 56.00 | 9.50 | 1.63 | 44 | 870 |
| 50 | 61.75 | 2.75 | 55.50 | 54.25 | | 50.00 | 5.75 | 58.25 | 10.00 | 1.88 | 44 | 900 |
| 52 | 64.00 | 2.88 | 57.50 | 56.50 | | 52.00 | 5.88 | 60.50 | 10.25 | 1.88 | 44 | 1000 |
| 54 | 66.25 | 3.00 | 59.75 | 58.75 | | 54.00 | 6.00 | 62.75 | 10.50 | 1.88 | 44 | 1100 |
| 60 | 73.00 | 3.13 | 66.00 | 65.25 | | 60.00 | 6.13 | 69.25 | 11.00 | 1.88 | 52 | 1350 |
| 66 | 80.00 | 3.38 | - | 71.50 | | 66.00 | 6.38 | 76.00 | 11.50 | 1.88 | 52 | 1775 |
| 72 | 86.50 | 3.50 | - | 78.50 | | 72.00 | 6.50 | 82.50 | 11.75 | 1.88 | 60 | 2100 |
| 84 | 99.75 | 3.88 | - | 90.50 | | 84.00 | 6.88 | 95.50 | 13.00 | 2.13 | 64 | 2825 |
| 96 | 113.25 | 4.25 | - | 102.75 | | 96.00 | 7.25 | 108.50 | 14.25 | 2.44 | 68 | 3800 |

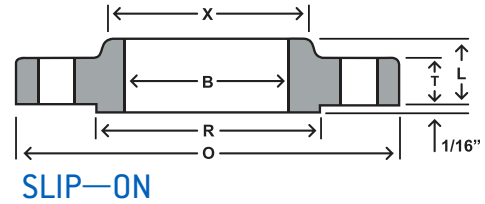
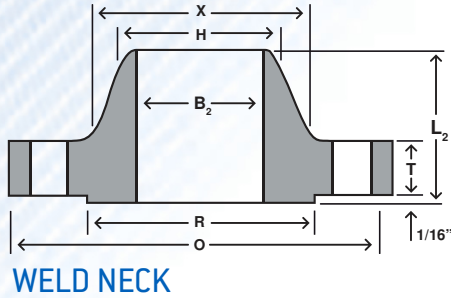
To Be Specified by Purchaser.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: CAN BE FURNISHED WITH A FLAT FACE. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST IRON FLANGES.



Class 250 (300psi*)



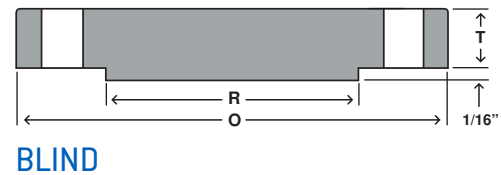
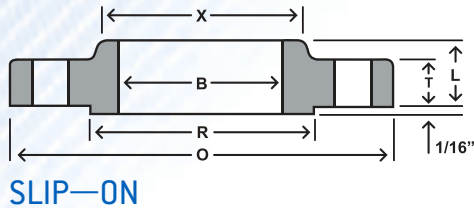
| Nom. Size | | | | | Bore | | LTH | | Drilling | | | | Weights | | |
|-----------|-------|-----------|----------|-------------|-------------------------------|-------|----------------|-------|-------------|-------------|----------|---------|-----------|---------|-------|
| | OD | Thickness | OD of RF | Dia at Base | WN | SO | Weld Neck | SO | Bolt Circle | Bolt Length | Hole Dia | # Holes | Weld Neck | Slip-on | Blind |
| | O | T | R | X | B ₂ | B | L ₂ | L | | | | | | | |
| 26 | 38.25 | 2.81 | 32.44 | 30.50 | To be specified by Purchaser. | 26.25 | 5.81 | 4.75 | 34.50 | 10.00 | 1.88 | 28 | 534 | 531 | 916 |
| 28 | 40.75 | 2.94 | 34.94 | 33.00 | | 28.25 | 5.94 | 5.00 | 37.00 | 10.25 | 1.88 | 28 | 629 | 637 | 1095 |
| 30 | 43.00 | 3.00 | 37.19 | 35.25 | | 30.25 | 6.00 | 5.00 | 39.25 | 10.50 | 1.88 | 28 | 702 | 707 | 1236 |
| 32 | 45.25 | 3.12 | 39.44 | 37.50 | | 32.25 | 6.12 | 5.12 | 41.50 | 10.75 | 1.88 | 28 | 793 | 801 | 1424 |
| 34 | 47.50 | 3.25 | 41.44 | 39.50 | | 34.25 | 6.25 | 5.25 | 43.50 | 11.25 | 1.88 | 28 | 882 | 889 | 1649 |
| 36 | 50.00 | 3.38 | 43.69 | 41.50 | | 36.25 | 6.38 | 5.38 | 46.00 | 12.00 | 2.13 | 32 | 969 | 970 | 1884 |
| 38 | 52.25 | 3.44 | 45.69 | 43.50 | | 38.25 | 6.44 | 5.50 | 48.00 | 12.00 | 2.13 | 32 | 1057 | 1062 | 2094 |
| 40 | 54.25 | 3.56 | 47.94 | 45.75 | | 40.25 | 6.56 | 5.50 | 50.25 | 12.25 | 2.13 | 36 | 1158 | 1172 | 2336 |
| 42 | 57.00 | 3.69 | 50.44 | 47.75 | | 42.25 | 6.94 | 5.62 | 52.75 | 12.50 | 2.125 | 36 | 1318 | 1288 | 2673 |
| 44 | 59.25 | 3.75 | 52.69 | 49.75 | | 44.25 | 7.00 | 5.75 | 55.00 | 12.75 | 2.13 | 36 | 1423 | 1397 | 2935 |
| 46 | 61.50 | 3.88 | 54.94 | 51.75 | 46.25 | 7.12 | 5.88 | 57.25 | 13.00 | 2.13 | 40 | 1536 | 1510 | 3272 | |
| 48 | 65.00 | 4.00 | 58.44 | 54.00 | 48.25 | 7.25 | 6.00 | 60.75 | 13.25 | 2.13 | 40 | 1824 | 1797 | 3768 | |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: *AWWA PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 300 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 250 CAST IRON FLANGED



Industry Standard Class 75 Slip—On & Blind



| Nom Size | Thickness | | | | | | | Drilling | | | | Weight | |
|----------|-----------|---------|-------|----------|-------------|-------------------|------|-------------|--------------------------|-----------------------|------------|---------|-------|
| | OD | Slip On | Blind | OD of RF | Dia at Base | Bore ^a | LTH | Bolt Circle | Bolt Length ^b | Hole Dia ^c | # of Holes | Slip On | Blind |
| | O | T | T | R | X | B | L | | | | | | |
| 26 | 33.00 | 1.25 | 1.25 | 30.00 | 28.50 | 26.25 | 2.25 | 31.00 | 5.00 | 1.00 | 32 | 120 | 290 |
| 28 | 35.00 | 1.25 | 1.38 | 32.00 | 30.50 | 28.25 | 2.25 | 33.00 | 5.25 | 1.00 | 36 | 140 | 360 |
| 30 | 37.00 | 1.25 | 1.38 | 34.00 | 32.50 | 30.25 | 2.25 | 35.00 | 5.25 | 1.00 | 36 | 150 | 405 |
| 32 | 39.50 | 1.25 | 1.50 | 36.25 | 34.63 | 32.25 | 2.50 | 37.38 | 5.50 | 1.13 | 40 | 170 | 500 |
| 34 | 41.50 | 1.25 | 1.63 | 38.25 | 36.63 | 34.25 | 2.50 | 39.38 | 5.75 | 1.13 | 40 | 180 | 600 |
| 36 | 43.50 | 1.25 | 1.63 | 40.25 | 38.63 | 36.25 | 2.50 | 41.38 | 5.75 | 1.13 | 44 | 190 | 660 |
| 42 | 50.00 | 1.25 | 1.88 | 46.50 | 44.75 | 42.25 | 2.75 | 47.75 | 6.25 | 1.25 | 48 | 235 | 1000 |
| 48 | 56.00 | 1.25 | 2.13 | 52.50 | 50.75 | 48.25 | 2.88 | 53.75 | 6.50 | 1.25 | 56 | 270 | 1450 |
| 54 | 62.50 | 1.38 | 2.38 | 59.00 | 57.25 | 54.25 | 3.13 | 60.25 | 6.75 | 1.25 | 68 | 335 | 2000 |
| 60 | 68.50 | 1.63 | 2.63 | 65.00 | 63.25 | 60.25 | 3.63 | 66.25 | 7.25 | 1.25 | 72 | 450 | 2675 |
| 66 | 75.50 | 1.75 | 2.88 | 71.63 | 69.50 | 66.25 | 4.00 | 73.00 | 8.00 | 1.38 | 72 | 590 | 3550 |
| 72 | 81.50 | 2.00 | 3.13 | 77.63 | 75.50 | 72.25 | 4.50 | 79.00 | 8.50 | 1.38 | 80 | 730 | 4500 |

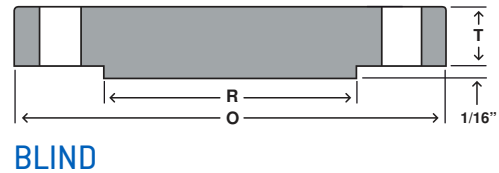
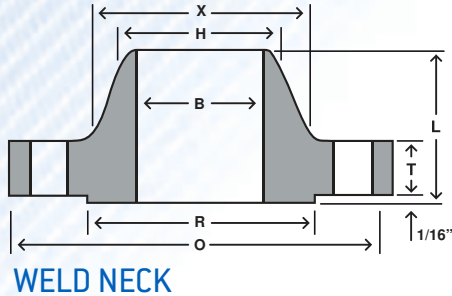
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: LARGER SIZES AS WELL AS INTERMEDIATE SIZES CAN BE FURNISHED. WHEN ORDERING INDUSTRY STANDARD CLASS 75 BLINDS SPECIFY IF THEY ARE TO BE USED WITH WELD NECK OR SLIP—ON FLANGES AS THE BLINDS DIFFER BETWEEN THE TWO.

- (A) Bores listed are most common. They can be specified by the customer where applicable
- (B) Bolt lengths are calculated based on bolting one slip—on to one blind. Any other bolting combination will cause variance in bolt length
- (C) Bolt hole diameter 1/8" larger than bolt diameter



Industry Standard Class 75 Weld Neck & Blind



| Nom Size | Thickness | | | | | | | | Drilling | | | | Weight | |
|----------|-----------|-----------|-------|----------|-------------|------|------|-----------|-------------|--------------------------|-----------------------|------------|-----------|-------|
| | OD | Weld Neck | Blind | OD of RF | Dia at Base | Bore | LTH | Dia Bevel | Bolt Circle | Bolt Length ^a | Hole Dia ^b | # of Holes | Weld Neck | Blind |
| | O | T | T | R | X | B | L | H | | | | | | |
| 26 | 31.50 | 1.15 | 1.25 | 28.63 | 27.13 | | 3.00 | | 29.63 | 5.00 | 1.00 | 32 | 98 | 265 |
| 28 | 33.50 | 1.25 | 1.25 | 30.63 | 29.13 | | 3.00 | | 31.63 | 5.00 | 1.00 | 36 | 105 | 300 |
| 30 | 35.50 | 1.25 | 1.38 | 32.63 | 31.13 | | 3.00 | | 33.63 | 5.25 | 1.00 | 36 | 110 | 370 |
| 32 | 38.25 | 1.25 | 1.50 | 35.00 | 33.38 | | 3.25 | | 36.16 | 5.50 | 1.13 | 36 | 140 | 470 |
| 34 | 40.25 | 1.25 | 1.50 | 37.00 | 35.38 | | 3.25 | | 38.13 | 5.50 | 1.13 | 40 | 150 | 520 |
| 36 | 42.25 | 1.25 | 1.63 | 39.00 | 37.38 | | 3.25 | | 40.13 | 5.75 | 1.13 | 40 | 160 | 620 |
| 42 | 49.00 | 1.25 | 1.88 | 45.50 | 43.75 | | 3.50 | | 46.75 | 6.25 | 1.25 | 48 | 210 | 970 |
| 48 | 55.00 | 1.25 | 2.13 | 51.50 | 49.75 | | 3.75 | | 52.75 | 6.50 | 1.25 | 52 | 240 | 1375 |
| 54 | 61.25 | 1.38 | 2.38 | 57.75 | 56.00 | | 4.00 | | 59.00 | 6.75 | 1.25 | 64 | 310 | 1925 |
| 60 | 67.25 | 1.63 | 2.63 | 63.75 | 62.00 | | 4.38 | | 65.00 | 7.25 | 1.25 | 72 | 400 | 2575 |
| 66 | 74.00 | 1.88 | 2.88 | 70.13 | 68.00 | | 4.88 | | 71.50 | 8.00 | 1.38 | 72 | 560 | 3400 |
| 72 | 80.00 | 2.25 | 3.13 | 76.13 | 74.00 | | 5.25 | | 77.50 | 8.75 | 1.38 | 80 | 700 | 4350 |

To be specified by Purchaser.

To be determined by design requirements.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

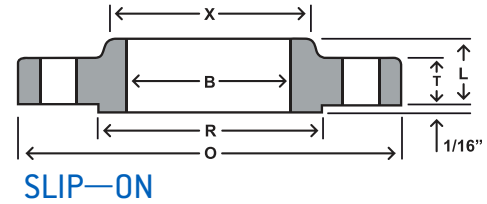
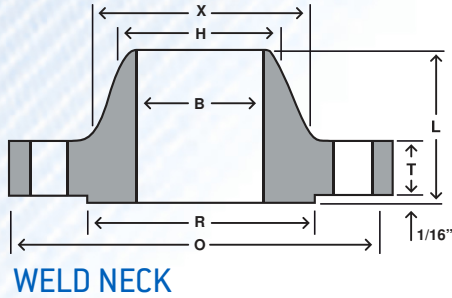
NOTES: LARGER SIZES AS WELL AS INTERMEDIATE SIZES CAN BE FURNISHED. WHEN ORDERING INDUSTRY STANDARD CLASS 75 BLINDS SPECIFY IF THEY ARE TO BE USED WITH WELD NECK OR SLIP—ON FLANGES AS THE BLINDS DIFFER BETWEEN THE TWO.

(A) Bolt lengths are calculated based on bolting one slip—on to one blind. Any other bolting combination will cause variance in bolt length

(B) Bolt hole diameter 1/8" larger than bolt diameter



Industry Standard Class 175



| Nom Size | Thickness | | | | | OD of RF | Dia at Base | Bore | | LTH | | Dia Bevel |
|----------|-----------|-----------|---------|-------|-----------|----------|-------------|---------|-----------|---------|---|-----------|
| | OD | Weld Neck | Slip-On | Blind | Weld Neck | | | Slip-On | Weld Neck | Slip-On | | |
| | O | T | T | | B | | | B | L | L | H | |
| 26 | 31.50 | 1.38 | 1.38 | 1.78 | 29.00 | 27.63 | | 26.25 | 3.38 | 2.75 | | |
| 28 | 33.50 | 1.38 | 1.38 | 2.00 | 31.00 | 29.63 | | 28.25 | 3.38 | 2.75 | | |
| 30 | 35.75 | 1.38 | 1.38 | 2.13 | 33.25 | 31.88 | | 30.25 | 3.63 | 2.75 | | |
| 32 | 37.75 | 1.38 | 1.38 | 2.25 | 35.25 | 33.88 | | 32.25 | 3.63 | 2.75 | | |
| 34 | 40.25 | 1.50 | 1.75 | 2.38 | 37.38 | 35.88 | | 34.25 | 3.75 | 3.38 | | |
| 36 | 42.25 | 1.50 | 1.75 | 2.50 | 39.38 | 37.88 | | 36.25 | 3.75 | 3.38 | | |
| 38 | 44.25 | 1.75 | 2.00 | 2.63 | 41.38 | 39.88 | | 38.25 | 4.13 | 3.75 | | |
| 40 | 46.25 | 1.75 | 2.00 | 2.75 | 43.38 | 41.88 | | 40.25 | 4.13 | 4.00 | | |
| 42 | 49.00 | 2.00 | 2.38 | 2.88 | 45.75 | 44.13 | | 42.25 | 4.50 | 4.38 | | |
| 44 | 51.00 | 2.00 | 2.38 | 3.00 | 47.75 | 46.13 | | 44.25 | 4.50 | 4.38 | | |
| 46 | 53.00 | 2.00 | 2.38 | 3.13 | 49.75 | 48.13 | | 46.25 | 4.50 | 4.63 | | |
| 48 | 55.00 | 2.25 | 2.63 | 3.38 | 51.75 | 50.13 | | 48.25 | 4.88 | 4.88 | | |
| 50 | 57.00 | 2.25 | 2.63 | 3.38 | 53.75 | 52.13 | | 50.25 | 4.88 | 4.88 | | |
| 52 | 59.50 | 2.63 | 3.00 | 3.63 | 56.00 | 54.25 | | 52.25 | 5.38 | 5.38 | | |
| 54 | 61.50 | 2.63 | 3.00 | 3.63 | 58.00 | 56.25 | | 54.25 | 5.38 | 5.38 | | |
| 60 | 67.50 | 2.75 | 3.13 | 4.00 | 64.00 | 62.25 | | 60.25 | 5.75 | 5.88 | | |
| 66 | 73.50 | 3.13 | 4.00 | 4.38 | 70.00 | 68.50 | | 66.25 | 6.13 | 6.88 | | |
| 72 | 80.00 | 3.63 | 5.00 | 4.75 | 76.50 | 74.50 | | 72.25 | 6.63 | 8.00 | | |
| 84 | 94.00 | 3.00 | 5.00 | 5.50 | 90.13 | 88.00 | | 84.25 | 7.00 | 8.50 | | |
| 96 | 106.00 | 3.50 | 5.00 | 6.12 | 102.13 | 100.00 | | 96.25 | 7.50 | 9.00 | | |

To be specified by purchaser.

To be established by design requirements.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



Industry Standard Class 175

CONT.

| Nom Size | Drilling | | | | Weight | | |
|----------|-------------|--------------------------|-----------------------|------------|-----------|---------|-------|
| | Bolt Circle | Bolt Length ^a | Hole Dia ^b | # of Holes | Weld Neck | Slip On | Blind |
| 26 | 29.88 | 5.50 | 0.88 | 28 | 120 | 105 | 405 |
| 28 | 31.88 | 5.75 | 0.88 | 28 | 130 | 115 | 490 |
| 30 | 34.13 | 5.75 | 0.88 | 36 | 150 | 130 | 590 |
| 32 | 36.13 | 6.00 | 0.88 | 36 | 160 | 140 | 700 |
| 34 | 38.38 | 6.75 | 1.00 | 36 | 195 | 200 | 840 |
| 36 | 40.38 | 6.75 | 1.00 | 36 | 205 | 210 | 970 |
| 38 | 42.38 | 7.25 | 1.00 | 36 | 245 | 250 | 1125 |
| 40 | 44.38 | 7.25 | 1.00 | 40 | 255 | 270 | 1300 |
| 42 | 46.88 | 8.00 | 1.13 | 40 | 340 | 365 | 1500 |
| 44 | 48.88 | 8.25 | 1.13 | 40 | 360 | 380 | 1700 |
| 46 | 50.88 | 8.25 | 1.13 | 40 | 375 | 410 | 1925 |
| 48 | 52.88 | 8.75 | 1.13 | 44 | 430 | 460 | 2225 |
| 50 | 54.88 | 8.75 | 1.13 | 44 | 450 | 480 | 2400 |
| 52 | 57.25 | 9.75 | 1.25 | 44 | 560 | 600 | 2800 |
| 54 | 59.25 | 9.75 | 1.25 | 44 | 580 | 620 | 3000 |
| 60 | 65.25 | 10.25 | 1.25 | 48 | 680 | 730 | 4000 |
| 66 | 71.25 | 11.50 | 1.25 | 56 | 830 | 1000 | 5175 |
| 72 | 77.75 | 12.75 | 1.25 | 64 | 1075 | 1400 | 6650 |
| 84 | 91.5 | 13.75 | 1.38 | 72 | 1550 | 2250 | - |
| 96 | 103.5 | 14.25 | 1.38 | 88 | 1950 | 2600 | - |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

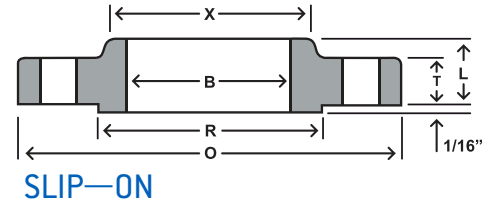
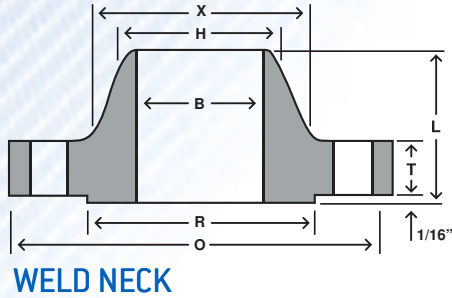
NOTES: SIZES ARE NOMINAL INSIDE DIAMETERS OF PIPE OR SHELL USED WITH WELDING NECK FLANGES, AND NOMINAL OD OF PIPE OR SHELL USED WITH SLIP—ON FLANGES. LARGER SIZES AS WELL AS INTERMEDIATE SIZES CAN BE FURNISHED.

(A) Bolt lengths are calculated based on bolting one slip—on to one blind. Any other bolting combination will cause variance in bolt length

(B) Bolt hole diameter 1/8" larger than bolt diameter



Industry Standard Class 350



| Nom Size | Thickness | | | | OD of RF | Dia at Base | Bore | | LTH | | Dia Bevel |
|----------|-----------|-----------|---------|-------|----------|-------------|-----------|---------|-----------|---------|-----------|
| | OD | Weld Neck | Slip-On | Blind | | | Weld Neck | Slip-On | Weld Neck | Slip-On | |
| | O | T | T | | | | B | B | L | L |  | H |
| 26 | 32.75 | 2.50 | 2.50 | 2.75 | 29.50 | 27.88 | | 26.25 | 5.00 | 4.50 | |
| 28 | 34.75 | 2.50 | 2.50 | 2.88 | 31.50 | 29.88 | | 28.25 | 5.00 | 4.50 | |
| 30 | 37.00 | 2.63 | 2.63 | 3.00 | 33.75 | 32.13 | | 30.25 | 5.25 | 4.75 | |
| 32 | 39.00 | 2.75 | 2.75 | 3.25 | 35.75 | 34.13 | | 32.25 | 5.50 | 5.00 | |
| 34 | 41.00 | 2.88 | 2.88 | 3.38 | 37.75 | 36.13 | | 34.25 | 5.75 | 5.13 | |
| 36 | 43.75 | 3.13 | 3.13 | 3.63 | 40.25 | 38.50 | | 36.25 | 6.13 | 5.63 | |
| 38 | 45.75 | 3.13 | 3.13 | 3.75 | 42.25 | 40.50 | | 38.25 | 6.13 | 5.63 | |
| 40 | 47.75 | 3.25 | 3.25 | 4.00 | 44.25 | 42.50 | | 40.25 | 6.25 | 5.88 | |
| 42 | 50.00 | 3.50 | 3.50 | 4.13 | 46.50 | 44.75 | | 42.25 | 6.50 | 6.13 | |
| 44 | 52.75 | 3.75 | 3.75 | 4.38 | 48.88 | 46.75 | | 44.25 | 6.75 | 6.75 | |
| 46 | 54.75 | 4.25 | 4.25 | 4.75 | 50.88 | 48.75 | | 46.25 | 7.25 | 7.25 | |
| 48 | 56.75 | 4.25 | 4.25 | 4.75 | 52.88 | 50.75 | | 48.25 | 7.25 | 7.25 | |
| 52 | 61.50 | 4.25 | - | - | 57.25 | 55.00 | | 52.25 | 7.50 | - | |
| 54 | 63.50 | 4.50 | 4.75 | - | 59.25 | 57.00 | | 54.25 | 7.75 | 8.25 | |
| 60 | 69.50 | 4.50 | 5.00 | - | 65.25 | 63.00 | | 60.25 | 8.00 | 8.50 | |
| 66 | 77.00 | 4.00 | - | - | 72.38 | 70.00 | | 66.25 | 8.50 | - | |
| 72 | 83.00 | 4.00 | - | - | 78.38 | 76.00 | | 72.25 | 9.00 | - | |

To be specified by purchaser.

To be established by design requirements.

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



Industry Standard Class 350

CONT.

| Nom Size | Drilling | | | | Weight | | |
|----------|-------------|--------------------------|-----------------------|------------|-----------|---------|-------|
| | Bolt Circle | Bolt Length ^a | Hole Dia ^b | # of Holes | Weld Neck | Slip On | Blind |
| 26 | 30.63 | 8.00 | 1.13 | 28 | 245 | 225 | 580 |
| 28 | 32.63 | 8.25 | 1.13 | 28 | 260 | 250 | 750 |
| 30 | 34.88 | 8.50 | 1.13 | 32 | 305 | 295 | 890 |
| 32 | 36.88 | 8.75 | 1.13 | 36 | 340 | 325 | 1050 |
| 34 | 38.88 | 9.00 | 1.13 | 40 | 375 | 355 | 1225 |
| 36 | 41.50 | 9.75 | 1.25 | 40 | 480 | 465 | 1500 |
| 38 | 43.50 | 10.00 | 1.25 | 40 | 510 | 490 | 1700 |
| 40 | 45.50 | 10.25 | 1.25 | 44 | 540 | 530 | 1975 |
| 42 | 47.75 | 10.75 | 1.25 | 48 | 640 | 620 | 2225 |
| 44 | 50.25 | 11.50 | 1.38 | 44 | 760 | 760 | 2625 |
| 46 | 52.25 | 12.25 | 1.38 | 48 | 880 | 880 | 2950 |
| 48 | 54.25 | 12.25 | 1.38 | 48 | 920 | 920 | 3300 |
| 52 | 58.75 | - | 1.50 | 52 | 1075 | - | - |
| 54 | 60.75 | - | 1.50 | 52 | 1200 | 1150 | - |
| 60 | 66.75 | - | 1.50 | 60 | 1325 | 1450 | - |
| 66 | 74.00 | - | 1.63 | 60 | 1675 | - | - |
| 72 | 80.00 | - | 1.63 | 72 | 1850 | - | - |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

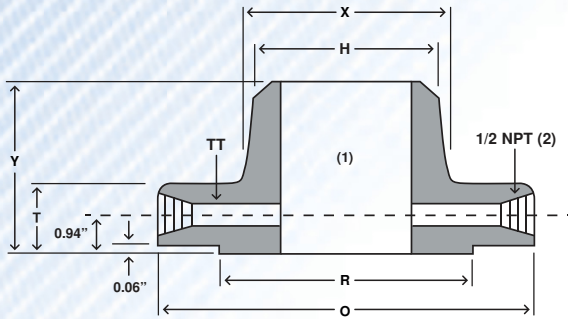
NOTES: SIZES ARE NOMINAL INSIDE DIAMETERS OF PIPE OR SHELL USED WITH WELDING NECK FLANGES, AND NOMINAL OD OF PIPE OR SHELL USED WITH SLIP—ON FLANGES. LARGER SIZES AS WELL AS INTERMEDIATE SIZES CAN BE FURNISHED.

(A) Bolt lengths are calculated based on bolting one slip—on to one blind. Any other bolting combination will cause variance in bolt length

(B) Bolt hole diameter 1/8" larger than bolt diameter



Welding Neck Orifice Class 300



| | | | | | | | | | Drilling | | | |
|----|----------|-------|-----------|----------|-------------|-----------|-------|----------------------------|-------------|----------|------------|----------|
| | Nom Size | OD | Thickness | OD of RF | Dia at Base | Dia Bevel | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of Holes | Bolt Dia |
| | | O | T | R | X | H | Y | TT | | | | |
| in | 1 | 4.88 | 1.50 | 2.00 | 2.12 | 1.32 | 3.25 | 1/4 | 3.50 | 0.69 | 4 | 5/8 |
| mm | | 124.0 | 38.1 | 50.8 | 53.8 | 33.5 | 82.6 | 6.4 | 88.9 | 17.5 | | 15.9 |
| in | 1 1/2 | 6.12 | 1.50 | 2.88 | 2.75 | 1.90 | 3.38 | 1/4 | 4.50 | 0.81 | 4 | 3/4 |
| mm | | 155.4 | 38.1 | 73.2 | 69.9 | 48.3 | 85.9 | 6.4 | 114.3 | 20.6 | | 19.1 |
| in | 2 | 6.50 | 1.50 | 3.62 | 3.31 | 2.38 | 3.38 | 1/4 | 5.00 | 0.69 | 8 | 5/8 |
| mm | | 165.1 | 38.1 | 91.9 | 84.1 | 60.5 | 85.9 | 6.4 | 127.0 | 17.5 | | 15.9 |
| in | 2 1/2 | 7.50 | 1.50 | 4.12 | 3.94 | 2.88 | 3.50 | 1/4 | 5.88 | 0.81 | 8 | 3/4 |
| mm | | 190.5 | 38.1 | 104.6 | 100.1 | 73.2 | 88.9 | 6.4 | 149.4 | 20.6 | | 19.1 |
| in | 3 | 8.25 | 1.50 | 5.00 | 4.62 | 3.50 | 3.50 | 3/8 | 6.62 | 0.81 | 8 | 3/4 |
| mm | | 209.6 | 38.1 | 127.0 | 117.3 | 88.9 | 88.9 | 9.5 | 168.1 | 20.6 | | 19.1 |
| in | 4 | 10.00 | 1.50 | 6.19 | 5.75 | 4.50 | 3.62 | 1/2 | 7.88 | 0.81 | 8 | 3/4 |
| mm | | 254.0 | 38.1 | 157.2 | 146.1 | 114.3 | 91.9 | 12.7 | 200.2 | 20.6 | | 19.1 |
| in | 6 | 12.50 | 1.50 | 8.50 | 8.12 | 6.63 | 3.94 | 1/2 | 10.62 | 0.88 | 12 | 3/4 |
| mm | | 317.5 | 38.1 | 215.9 | 206.2 | 168.4 | 100.1 | 12.7 | 269.7 | 22.4 | | 19.1 |
| in | 8 | 15.00 | 1.62 | 10.62 | 10.25 | 8.63 | 4.38 | 1/2 | 13.00 | 1.00 | 12 | 7/8 |
| mm | | 381.0 | 41.1 | 269.7 | 260.4 | 219.2 | 111.3 | 12.7 | 330.2 | 25.4 | | 22.2 |
| in | 10 | 17.50 | 1.88 | 12.75 | 12.62 | 10.75 | 4.62 | 1/2 | 15.25 | 1.12 | 16 | 1 |
| mm | | 444.5 | 47.8 | 323.9 | 320.5 | 273.1 | 117.3 | 12.7 | 387.4 | 28.4 | | 25.4 |
| in | 12 | 20.50 | 2.00 | 15.00 | 14.75 | 12.75 | 5.12 | 1/2 | 17.75 | 1.25 | 16 | 1 1/8 |
| mm | | 520.7 | 50.8 | 381.0 | 374.7 | 323.9 | 130.0 | 12.7 | 450.9 | 31.8 | | 28.6 |
| in | 14 | 23.00 | 2.12 | 16.25 | 16.75 | 14.00 | 5.62 | 1/2 | 20.25 | 1.25 | 20 | 1 1/8 |
| mm | | 584.2 | 53.8 | 412.8 | 425.5 | 355.6 | 142.7 | 12.7 | 514.4 | 31.8 | | 28.6 |
| in | 16 | 25.50 | 2.25 | 18.50 | 19.00 | 16.00 | 5.75 | 1/2 | 22.50 | 1.38 | 20 | 1 1/4 |
| mm | | 647.7 | 57.2 | 469.9 | 482.6 | 406.4 | 146.1 | 12.7 | 571.5 | 35.1 | | 31.8 |
| in | 18 | 28.00 | 2.38 | 21.00 | 21.00 | 18.00 | 6.25 | 1/2 | 24.75 | 1.38 | 24 | 1 1/4 |
| mm | | 711.2 | 60.5 | 533.4 | 533.4 | 457.2 | 158.8 | 12.7 | 628.7 | 35.1 | | 31.8 |
| in | 20 | 30.50 | 2.50 | 23.00 | 23.12 | 20.00 | 6.38 | 1/2 | 27.00 | 1.38 | 24 | 1 1/4 |
| mm | | 774.7 | 63.5 | 584.2 | 587.2 | 508.0 | 162.1 | 12.7 | 685.8 | 35.1 | | 31.8 |
| in | 24 | 36.00 | 2.75 | 27.25 | 27.62 | 24.00 | 6.62 | 1/2 | 32.00 | 1.62 | 24 | 1 1/2 |
| mm | | 914.4 | 69.9 | 692.2 | 701.5 | 609.6 | 168.1 | 12.7 | 812.8 | 41.1 | | 38.1 |

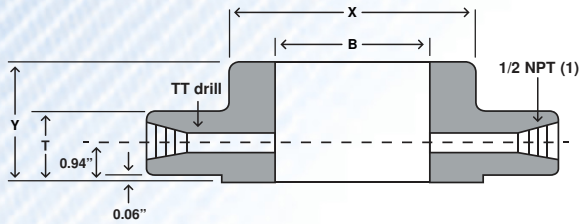
NOTES: WELD NECK FLANGES NPS 3" AND SMALLER ARE IDENTICAL TO CLASS 600 FLANGES AND MAY BE SO MARKED

(1) Bore diameter to be specified by purchaser

(2) Other NPT and SW connections available upon request



Slip On Orifice Class 300

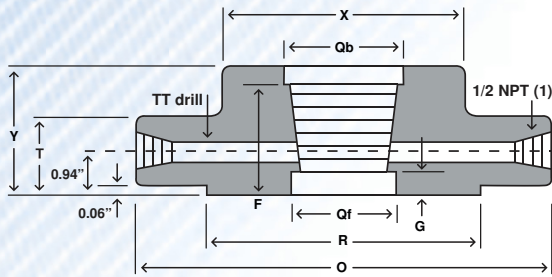


| | Nom Size | Drilling | | | | | | | | | | |
|----|----------|----------|-----------|----------|-------------|-------|-------|----------------------------|-------------|----------|------------|----------|
| | | OD | Thickness | OD of RF | Dia at base | Bore | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of holes | Bolt Dia |
| | | O | T | R | X | B | Y | TT | | | | |
| in | 1 | 4.88 | 1.50 | 2.00 | 2.12 | 1.36 | 1.88 | 1/4 | 3.50 | 0.69 | 4 | 5/8 |
| mm | | 124.0 | 38.1 | 50.8 | 53.8 | 34.5 | 47.8 | 6.4 | 88.9 | 17.5 | | 15.9 |
| in | 1 1/2 | 6.12 | 1.50 | 2.88 | 2.75 | 1.95 | 1.88 | 1/4 | 4.50 | 0.81 | 4 | 3/4 |
| mm | | 155.4 | 38.1 | 73.2 | 69.9 | 49.5 | 47.8 | 6.4 | 114.3 | 20.6 | | 19.1 |
| in | 2 | 6.50 | 1.50 | 3.62 | 3.31 | 2.44 | 1.94 | 1/4 | 5.00 | 0.69 | 8 | 5/8 |
| mm | | 165.1 | 38.1 | 91.9 | 84.1 | 62.0 | 49.3 | 6.4 | 127.0 | 17.5 | | 15.9 |
| in | 2 1/2 | 7.50 | 1.50 | 4.12 | 3.94 | 2.94 | 2.00 | 1/4 | 5.88 | 0.81 | 8 | 3/4 |
| mm | | 190.5 | 38.1 | 104.6 | 100.1 | 74.7 | 50.8 | 6.4 | 149.4 | 20.6 | | 19.1 |
| in | 3 | 8.25 | 1.50 | 5.00 | 4.62 | 3.57 | 2.06 | 3/8 | 6.62 | 0.81 | 8 | 3/4 |
| mm | | 209.6 | 38.1 | 127.0 | 117.3 | 90.7 | 52.3 | 9.5 | 168.1 | 20.6 | | 19.1 |
| in | 4 | 10.00 | 1.50 | 6.19 | 5.75 | 4.57 | 2.12 | 1/2 | 7.88 | 0.81 | 8 | 3/4 |
| mm | | 254.0 | 38.1 | 157.2 | 146.1 | 116.1 | 53.8 | 12.7 | 200.2 | 20.6 | | 19.1 |
| in | 6 | 12.50 | 1.50 | 8.50 | 8.12 | 6.72 | 2.12 | 1/2 | 10.62 | 0.88 | 12 | 3/4 |
| mm | | 317.5 | 38.1 | 215.9 | 206.2 | 170.7 | 53.8 | 12.7 | 269.7 | 22.4 | | 19.1 |
| in | 8 | 15.00 | 1.62 | 10.62 | 10.25 | 8.72 | 2.44 | 1/2 | 13.00 | 1.00 | 12 | 7/8 |
| mm | | 381.0 | 41.1 | 269.7 | 260.4 | 221.5 | 62.0 | 12.7 | 330.2 | 25.4 | | 22.2 |
| in | 10 | 17.50 | 1.88 | 12.75 | 12.62 | 10.88 | 2.62 | 1/2 | 15.25 | 1.12 | 16 | 1 |
| mm | | 444.5 | 47.8 | 323.9 | 320.5 | 276.4 | 66.5 | 12.7 | 387.4 | 28.4 | | 25.4 |
| in | 12 | 20.50 | 2.00 | 15.00 | 14.75 | 12.88 | 2.88 | 1/2 | 17.75 | 1.25 | 16 | 1 1/8 |
| mm | | 520.7 | 50.8 | 381.0 | 374.7 | 327.2 | 73.2 | 12.7 | 450.9 | 31.8 | | 28.6 |
| in | 14 | 23.00 | 2.12 | 16.25 | 16.75 | 14.14 | 3.00 | 1/2 | 20.25 | 1.25 | 20 | 1 1/8 |
| mm | | 584.2 | 53.8 | 412.8 | 425.5 | 359.2 | 76.2 | 12.7 | 514.4 | 31.8 | | 28.6 |
| in | 16 | 25.50 | 2.25 | 18.50 | 19.00 | 16.16 | 3.25 | 1/2 | 22.50 | 1.38 | 20 | 1 1/4 |
| mm | | 647.7 | 57.2 | 469.9 | 482.6 | 410.5 | 82.6 | 12.7 | 571.5 | 35.1 | | 31.8 |
| in | 18 | 28.00 | 2.38 | 21.00 | 21.00 | 18.18 | 3.50 | 1/2 | 24.75 | 1.38 | 24 | 1 1/4 |
| mm | | 711.2 | 60.5 | 533.4 | 533.4 | 461.8 | 88.9 | 12.7 | 628.7 | 35.1 | | 31.8 |
| in | 20 | 30.50 | 2.50 | 23.00 | 23.12 | 20.20 | 3.75 | 1/2 | 27.00 | 1.38 | 24 | 1 1/4 |
| mm | | 774.7 | 63.5 | 584.2 | 587.2 | 513.1 | 95.3 | 12.7 | 685.8 | 35.1 | | 31.8 |
| in | 24 | 36.00 | 2.75 | 27.25 | 27.62 | 24.25 | 4.19 | 1/2 | 32.00 | 1.62 | 24 | 1 1/2 |
| mm | | 914.4 | 69.9 | 692.2 | 701.5 | 616.0 | 106.4 | 12.7 | 812.8 | 41.1 | | 38.1 |

[1] Other NPT and SW connections available upon request



Threaded Orifice Class 300



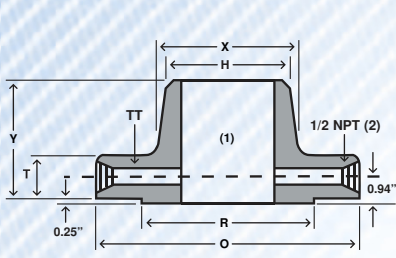
| Nom Size | OD | Thickness | OD of RF | Dia at Base | LTH | OD of Counter Bore | | Counter Bore Depth [from face] | | Dia of Pressure Connection | Drilling | | | | |
|-----------|-------|-----------|----------|-------------|------|--------------------|-------------------|--------------------------------|------|----------------------------|----------|-------------|----------|------------|----------|
| | | | | | | Qb ⁽²⁾ | Qf ⁽³⁾ | F | G | | TT | Bolt Circle | Hole Dia | # of Holes | Bolt Dia |
| | | | | | | O | T | R | X |  |  |  |  |  |  | Y |
| in. 1 | 4.88 | 1.50 | 2.00 | 2.12 | 1.88 | 1.41 | 1.30 | 1.44 | 0.75 | 1/4 | 3.50 | 0.69 | 4 | 5/8 | |
| mm. | 124.0 | 38.1 | 50.8 | 53.8 | 47.8 | 35.8 | 33.0 | 36.6 | 19.1 | 6.4 | 88.9 | 17.5 | | 15.9 | |
| in. 1 1/2 | 6.12 | 1.50 | 2.88 | 2.75 | 1.88 | 1.99 | 1.89 | 1.47 | 0.72 | 1/4 | 4.50 | 0.81 | 4 | 3/4 | |
| mm. | 155.4 | 38.1 | 73.2 | 69.9 | 47.8 | 50.5 | 48.0 | 37.3 | 18.3 | 6.4 | 114.3 | 20.6 | | 19.1 | |
| in. 2 | 6.50 | 1.50 | 3.62 | 3.31 | 1.94 | 2.50 | 2.36 | 1.50 | 0.69 | 1/4 | 5.00 | 0.69 | 8 | 5/8 | |
| mm. | 165.1 | 38.1 | 91.9 | 84.1 | 49.3 | 63.5 | 59.9 | 38.1 | 17.5 | 6.4 | 127.0 | 17.5 | | 15.9 | |
| in. 2 1/2 | 7.50 | 1.50 | 4.12 | 3.94 | 2.00 | 3.00 | 2.84 | 1.75 | 0.56 | 1/4 | 5.88 | 0.81 | 8 | 3/4 | |
| mm. | 190.5 | 38.1 | 104.6 | 100.1 | 50.8 | 76.2 | 72.1 | 44.5 | 14.2 | 6.4 | 149.4 | 20.6 | | 19.1 | |
| in. 3 | 8.25 | 1.50 | 5.00 | 4.62 | 2.06 | 3.63 | 3.46 | 1.81 | 0.56 | 3/8 | 6.62 | 0.81 | 8 | 3/4 | |
| mm. | 209.6 | 38.1 | 127.0 | 117.3 | 52.3 | 92.2 | 87.9 | 46.0 | 14.2 | 9.5 | 168.1 | 20.6 | | 19.1 | |
| in. 4 | 10.00 | 1.50 | 6.19 | 5.75 | 2.12 | 4.63 | 4.45 | 1.88 | 0.56 | 1/2 | 7.88 | 0.81 | 8 | 3/4 | |
| mm. | 254.0 | 38.1 | 157.2 | 146.1 | 53.8 | 117.6 | 113.0 | 47.8 | 14.2 | 12.7 | 200.2 | 20.6 | | 19.1 | |
| in. 6 | 12.50 | 1.50 | 8.50 | 8.12 | 2.12 | 6.75 | 6.57 | 1.88 | 0.31 | 1/2 | 10.62 | 0.88 | 12 | 3/4 | |
| mm. | 317.5 | 38.1 | 215.9 | 206.2 | 53.8 | 171.5 | 166.9 | 47.8 | 7.9 | 12.7 | 269.7 | 22.4 | | 19.1 | |
| in. 8 | 15.00 | 1.62 | 10.62 | 10.25 | 2.44 | 8.75 | 8.55 | 2.19 | 0.44 | 1/2 | 13.00 | 1.00 | 12 | 7/8 | |
| mm. | 381.0 | 41.1 | 269.7 | 260.4 | 62.0 | 222.3 | 217.2 | 55.6 | 11.2 | 12.7 | 330.2 | 25.4 | | 22.2 | |

[1] Other NPT and SW connections available upon request

[2] Qb counterbore back

[3] Qf counterbore face

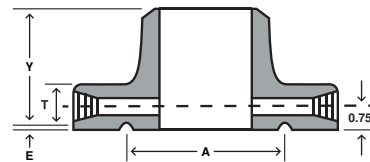
Welding Neck Orifice Class 400



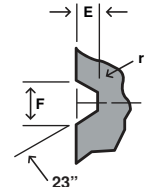
RAISED FACE



SPECIAL 1 OR 2 PIECE RING AND ORIFICE PLATE ASSEMBLY



RING TYPE JOINT



GROOVE DETAIL

| | | | | | | | | | Drilling | | | | Ring Type Joint | | | | | |
|----|----------|-------|-----------|----------|-------------|-----------|-------|----------------------------|-------------|----------|------------|----------|-----------------|-----------|--------------|--------------|---------------|--------------|
| | Nom Size | OD | Thickness | OD of RF | Dia at Base | Dia Bevel | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of holes | Bolt Dia | Grove # | Pitch Dia | Groove Depth | Groove width | Rad at Bottom | Spec Oval RH |
| | | O | T | R | X | H | Y | TT | | | | | P | E | F | r max | W | |
| in | 4 | 10.00 | 1.50 | 6.19 | 5.75 | 4.50 | 3.50 | 1/2 | 7.88 | 1.00 | 8 | 7/8 | R37 | 5.875 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 254.0 | 38.1 | 157.2 | 146.1 | 114.3 | 88.9 | 12.7 | 200.2 | 25.4 | | 22.2 | | 149.225 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 6 | 12.50 | 1.62 | 8.50 | 8.12 | 6.63 | 4.06 | 1/2 | 10.62 | 1.00 | 12 | 7/8 | R45 | 8.312 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 317.5 | 41.1 | 215.9 | 206.2 | 168.4 | 103.1 | 12.7 | 269.7 | 25.4 | | 22.2 | | 211.125 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 8 | 15.00 | 1.88 | 10.62 | 10.25 | 8.63 | 4.62 | 1/2 | 13.00 | 1.12 | 12 | 1 | R49 | 10.625 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 381.0 | 47.8 | 269.7 | 260.4 | 219.2 | 117.3 | 12.7 | 330.2 | 28.4 | | 25.4 | | 269.875 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 10 | 17.50 | 2.12 | 12.75 | 12.62 | 10.75 | 4.88 | 1/2 | 15.25 | 1.25 | 16 | 1 1/8 | R53 | 12.750 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 444.5 | 53.8 | 323.9 | 320.5 | 273.1 | 124.0 | 12.7 | 387.4 | 31.8 | | 28.6 | | 323.850 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 12 | 20.50 | 2.25 | 15.00 | 14.75 | 12.75 | 5.38 | 1/2 | 17.75 | 1.38 | 16 | 1 1/4 | R57 | 15.000 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 520.7 | 57.2 | 381.0 | 374.7 | 323.9 | 136.7 | 12.7 | 450.9 | 35.1 | | 31.8 | | 381.000 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 14 | 23.00 | 2.39 | 16.25 | 16.75 | 14.00 | 5.88 | 1/2 | 20.25 | 1.38 | 20 | 1 1/4 | R61 | 16.500 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 584.2 | 60.7 | 412.8 | 425.5 | 355.6 | 149.4 | 12.7 | 514.4 | 35.1 | | 31.8 | | 419.100 | 7.925 | 11.913 | 0.8 | 26.9 |
| in | 16 | 25.50 | 2.50 | 18.50 | 19.00 | 16.00 | 6.00 | 1/2 | 22.50 | 1.50 | 20 | 1 3/8 | R65 | 18.500 | 0.312 | 0.469 | 0.03 | 1.19 |
| mm | | 647.7 | 63.5 | 469.9 | 482.6 | 406.4 | 152.4 | 12.7 | 571.5 | 38.1 | | 34.9 | | 469.900 | 7.925 | 11.913 | 0.8 | 30.2 |
| in | 18 | 28.00 | 2.62 | 21.00 | 21.00 | 18.00 | 6.50 | 1/2 | 24.75 | 1.50 | 24 | 1 3/8 | R69 | 21.000 | 0.312 | 0.469 | 0.03 | 1.19 |
| mm | | 711.2 | 66.5 | 533.4 | 533.4 | 457.2 | 165.1 | 12.7 | 628.7 | 38.1 | | 34.9 | | 533.400 | 7.925 | 11.913 | 0.8 | 30.2 |
| in | 20 | 30.50 | 2.75 | 23.00 | 23.12 | 20.00 | 6.62 | 1/2 | 27.00 | 1.62 | 24 | 1 1/2 | R73 | 23.000 | 0.375 | 0.531 | 0.06 | 1.25 |
| mm | | 774.7 | 69.9 | 584.2 | 587.12 | 508.0 | 168.1 | 12.7 | 685.8 | 41.1 | | 38.1 | | 584.200 | 9.525 | 13.487 | 1.5 | 31.8 |
| in | 24 | 36.00 | 3.00 | 27.25 | 27.62 | 24.00 | 6.88 | 1/2 | 32.00 | 1.89 | 24 | 1 3/4 | | | | | | |
| mm | | 914.4 | 76.2 | 692.2 | 701.5 | 609.6 | 174.8 | 12.7 | 812.8 | 48.0 | | 44.5 | | | | | | |

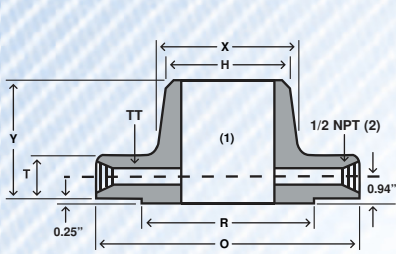
NOTES: WELD NECK FLANGES NPS 3" AND SMALLER ARE IDENTICAL TO CLASS 600 FLANGES AND MAY BE SO MARKED

(1) Bore diameter to be specified by purchaser

(2) Other NPT and SW connections available upon request



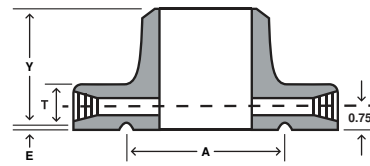
Welding Neck Orifice Class 600



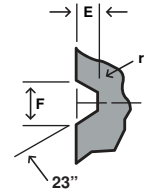
RAISED FACE



SPECIAL 1 OR 2 PIECE RING AND ORIFICE PLATE ASSEMBLY



RING TYPE JOINT



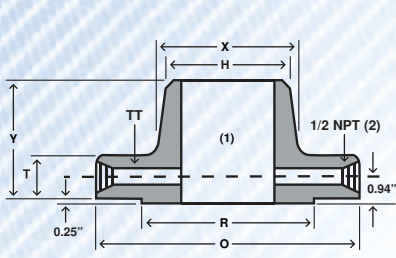
GROOVE DETAIL

| in | mm | Nom Size | Drilling | | | | | | | | | | | Ring Type Joint | | | | | |
|-------|-------|----------|----------|-----------|----------|-------------|-----------|--------|----------------------------|-------------|----------|------------|----------|-----------------|-----------|--------------|--------------|---------------|--------------|
| | | | OD | Thickness | OD of RF | Dia at base | Dia Bevel | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of holes | Bolt Dia | Grove # | Pitch Dia | Groove Depth | Groove width | Rad at Bottom | Spec Oval RH |
| | | | O | T | R | X | H | Y | TT | RF | RJ | | | P | E | F | r max | W | |
| 1 | 4.88 | 1.50 | 2.00 | 2.12 | 1.32 | 3.25 | 1/4 | 3.50 | 0.69 | 0.75 | 4 | 5/8 | R16 | 2.000 | 0.250 | 0.344 | 0.03 | 1.00 | |
| | 124.0 | 38.1 | 50.8 | 53.8 | 33.5 | 82.6 | 6.4 | 88.9 | 17.50 | 19.1 | | 15.9 | | 50.800 | 6.350 | 8.738 | 0.8 | 25.4 | |
| 1 1/2 | 6.12 | 1.50 | 2.88 | 2.75 | 1.90 | 3.38 | 1/4 | 4.50 | 0.81 | 0.88 | 4 | 3/4 | R20 | 2.688 | 0.250 | 0.344 | 0.03 | 1.00 | |
| | 155.4 | 38.1 | 73.2 | 69.9 | 48.3 | 85.9 | 6.4 | 114.3 | 20.60 | 22.4 | | 19.1 | | 68.275 | 6.350 | 8.738 | 0.8 | 25.4 | |
| 2 | 6.50 | 1.50 | 3.62 | 3.31 | 2.38 | 3.38 | 1/4 | 5.00 | 0.69 | 0.75 | 8 | 5/8 | R23 | 3.250 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 165.1 | 38.1 | 91.9 | 84.1 | 60.5 | 85.9 | 6.4 | 127.00 | 17.50 | 19.1 | | 15.9 | | 82.550 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 2 1/2 | 7.50 | 1.50 | 4.12 | 3.94 | 2.88 | 3.50 | 1/4 | 5.88 | 0.81 | 0.88 | 8 | 3/4 | R26 | 4.000 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 190.5 | 38.1 | 104.6 | 100.1 | 73.2 | 88.9 | 6.4 | 149.35 | 20.60 | 22.4 | | 19.1 | | 101.600 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 3 | 8.25 | 1.50 | 5.00 | 4.62 | 3.50 | 3.50 | 3/8 | 6.62 | 0.81 | 0.88 | 8 | 3/4 | R31 | 4.875 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 209.6 | 38.1 | 127.0 | 117.3 | 88.9 | 88.9 | 9.5 | 168.15 | 20.60 | 22.4 | | 19.1 | | 123.825 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 4 | 10.75 | 1.50 | 6.19 | 6.00 | 4.50 | 4.00 | 1/2 | 8.50 | 1.00 | 1.00 | 8 | 7/8 | R37 | 5.875 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 273.1 | 38.1 | 157.2 | 152.4 | 114.3 | 101.6 | 12.7 | 215.9 | 25.40 | 25.4 | | 22.2 | | 149.225 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 6 | 14.00 | 1.88 | 8.50 | 8.75 | 6.63 | 4.62 | 1/2 | 11.50 | 1.12 | 1.12 | 12 | 1 | R45 | 8.312 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 355.6 | 47.8 | 215.9 | 222.3 | 168.4 | 117.3 | 12.7 | 292.1 | 28.40 | 28.4 | | 25.4 | | 211.125 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 8 | 16.50 | 2.19 | 10.62 | 10.75 | 8.63 | 5.25 | 1/2 | 13.75 | 1.25 | 1.25 | 12 | 1 1/8 | R49 | 10.625 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 419.1 | 55.6 | 269.7 | 273.1 | 219.2 | 133.4 | 12.7 | 349.25 | 31.80 | 31.8 | | 28.6 | | 269.875 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 10 | 20.00 | 2.50 | 12.75 | 13.50 | 10.75 | 6.00 | 1/2 | 17.00 | 1.38 | 1.38 | 16 | 1 1/4 | R53 | 12.750 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 508.0 | 63.5 | 323.9 | 342.9 | 273.1 | 152.4 | 12.7 | 431.8 | 35.10 | 35.1 | | 31.8 | | 323.850 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 12 | 22.00 | 2.62 | 15.00 | 15.75 | 12.75 | 6.12 | 1/2 | 19.25 | 1.38 | 1.38 | 20 | 1 1/4 | R57 | 15.000 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 558.8 | 66.5 | 381.0 | 400.1 | 323.9 | 155.4 | 12.7 | 488.95 | 35.10 | 35.1 | | 31.8 | | 381.000 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 14 | 23.75 | 2.75 | 16.25 | 17.00 | 14.00 | 6.50 | 1/2 | 20.75 | 1.50 | 1.50 | 20 | 1 3/8 | R61 | 16.500 | 0.312 | 0.469 | 0.03 | 1.06 | |
| | 603.3 | 69.9 | 412.8 | 431.8 | 355.6 | 165.1 | 12.7 | 527.05 | 38.10 | 38.1 | | 35.1 | | 419.100 | 7.925 | 11.913 | 0.8 | 26.9 | |
| 16 | 27.00 | 3.00 | 18.50 | 19.50 | 16.00 | 7.00 | 1/2 | 23.75 | 1.60 | 1.60 | 20 | 1 1/2 | R65 | 18.500 | 0.312 | 0.469 | 0.03 | 1.19 | |
| | 685.8 | 76.2 | 469.9 | 495.3 | 406.4 | 177.8 | 12.7 | 603.25 | 41.10 | 41.1 | | 38.1 | | 469.900 | 7.925 | 11.913 | 0.8 | 30.2 | |
| 18 | 29.25 | 3.25 | 21.00 | 21.50 | 18.00 | 7.25 | 1/2 | 25.75 | 1.75 | 1.75 | 20 | 1 5/8 | R69 | 21.000 | 0.312 | 0.469 | 0.03 | 1.19 | |
| | 743.0 | 82.6 | 533.4 | 546.1 | 457.2 | 184.2 | 12.7 | 654.05 | 44.50 | 44.5 | | 41.3 | | 533.400 | 7.925 | 11.913 | 0.8 | 30.2 | |
| 20 | 32.00 | 3.50 | 23.00 | 24.00 | 20.00 | 7.50 | 1/2 | 28.50 | 1.75 | 1.75 | 24 | 1 5/8 | R73 | 23.000 | 0.375 | 0.531 | 0.06 | 1.25 | |
| | 812.8 | 88.9 | 584.2 | 609.6 | 508.0 | 190.5 | 12.7 | 723.9 | 44.50 | 44.5 | | 41.3 | | 584.200 | 9.525 | 13.487 | 1.5 | 31.8 | |
| 24 | 37.00 | 4.00 | 27.25 | 28.25 | 24.00 | 8.00 | 1/2 | 33.00 | 2.00 | 2.00 | 24 | 1 7/8 | | | | | | | |
| | 939.8 | 101.6 | 692.2 | 717.6 | 609.6 | 203.2 | 12.7 | 838.2 | 50.80 | 50.8 | | 47.6 | | | | | | | |

- [1] Bore diameter to be specified by purchaser
- [2] Other NPT and SW connections available upon request



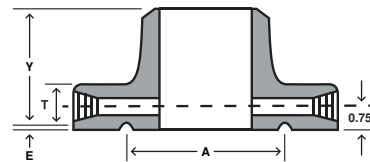
Welding Neck Orifice Class 900



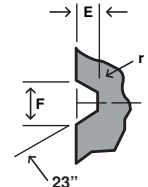
RAISED FACE



SPECIAL 1 OR 2 PIECE RING AND ORIFICE PLATE ASSEMBLY



RING TYPE JOINT



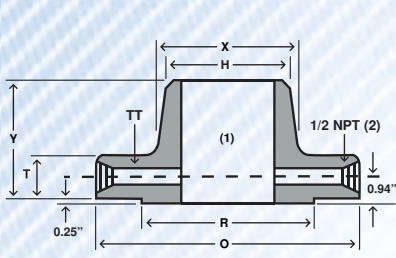
GROOVE DETAIL

| | Nom Size | Drilling | | | | | | | | | | | Ring Type Joint | | | | | |
|----|----------|----------|-----------|----------|-------------|-----------|-------|----------------------------|-------------|----------|------------|----------|-----------------|-----------|--------------|--------------|---------------|--------------|
| | | OD | Thickness | OD of RF | Dia at Base | Dia Bevel | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of holes | Bolt Dia | Grove # | Pitch Dia | Groove Depth | Groove Width | Rad at Bottom | Spec Oval RH |
| | | O | T | R | X | H | Y | TT | | | | | P | E | F | r max | W | |
| in | 3 | 9.50 | 1.50 | 5.00 | 5.00 | 3.50 | 4.00 | 3/8 | 7.50 | 1.00 | 8 | 7/8 | R31 | 4.875 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 241.3 | 38.1 | 127.0 | 127.0 | 88.9 | 101.6 | 9.5 | 190.5 | 25.40 | | 22.2 | 123.825 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 4 | 11.50 | 1.75 | 6.19 | 6.25 | 4.50 | 4.50 | 1/2 | 9.25 | 1.25 | 8 | 1 1/8 | R37 | 5.875 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 292.1 | 44.5 | 157.2 | 158.8 | 114.3 | 114.3 | 12.7 | 235.0 | 31.80 | | 28.6 | 149.225 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 6 | 15.00 | 2.19 | 8.50 | 9.25 | 6.63 | 5.50 | 1/2 | 12.50 | 1.25 | 12 | 1 1/8 | R45 | 8.312 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 381.0 | 55.6 | 215.9 | 235.0 | 168.4 | 139.7 | 12.7 | 317.5 | 31.80 | | 28.6 | 211.125 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 8 | 18.50 | 2.50 | 10.62 | 11.75 | 8.63 | 6.38 | 1/2 | 15.50 | 1.50 | 12 | 1 3/8 | R49 | 10.625 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 469.9 | 63.5 | 269.7 | 298.5 | 219.2 | 162.1 | 12.7 | 393.7 | 38.10 | | 34.9 | 269.875 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 10 | 21.50 | 2.75 | 12.75 | 14.50 | 10.75 | 7.25 | 1/2 | 18.50 | 1.50 | 16 | 1 3/8 | R53 | 12.750 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 546.1 | 69.9 | 323.9 | 368.3 | 273.1 | 184.2 | 12.7 | 469.9 | 38.10 | | 34.9 | 323.850 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 12 | 24.00 | 3.12 | 15.00 | 16.50 | 12.75 | 7.88 | 1/2 | 21.00 | 1.50 | 20 | 1 3/8 | R57 | 15.000 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 609.6 | 79.2 | 381.0 | 419.1 | 323.9 | 200.2 | 12.7 | 533.4 | 38.10 | | 34.9 | 381.000 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 14 | 25.25 | 3.38 | 16.25 | 17.75 | 14.00 | 8.38 | 1/2 | 22.00 | 1.62 | 20 | 1 1/2 | | | | | | |
| mm | | 641.4 | 85.9 | 412.8 | 450.9 | 355.6 | 212.9 | 12.7 | 558.8 | 41.10 | | 38.1 | | | | | | |
| in | 16 | 27.75 | 3.50 | 18.50 | 20.00 | 16.00 | 8.50 | 1/2 | 24.30 | 1.75 | 20 | 1 5/8 | | | | | | |
| mm | | 704.9 | 88.9 | 469.9 | 508.0 | 406.4 | 215.9 | 12.7 | 616.0 | 44.50 | | 41.3 | | | | | | |
| in | 18 | 31.00 | 4.00 | 21.00 | 22.25 | 18.00 | 9.00 | 1/2 | 27.00 | 2.00 | 20 | 1 7/8 | | | | | | |
| mm | | 787.4 | 101.6 | 533.4 | 565.2 | 457.2 | 228.6 | 12.7 | 685.8 | 50.80 | | 47.6 | | | | | | |
| in | 20 | 33.75 | 4.25 | 23.00 | 24.50 | 20.00 | 9.75 | 1/2 | 29.50 | 2.12 | 20 | 2 | | | | | | |
| mm | | 857.3 | 108.0 | 584.2 | 622.3 | 508.0 | 247.7 | 12.7 | 749.3 | 53.80 | | 50.8 | | | | | | |
| in | 24 | 41.00 | 5.50 | 27.25 | 29.50 | 24.00 | 11.50 | 1/2 | 35.50 | 2.62 | 20 | 2 1/2 | | | | | | |
| mm | | 1041.4 | 139.7 | 692.2 | 749.3 | 609.6 | 292.1 | 12.7 | 901.7 | 66.50 | | 63.5 | | | | | | |

(1) Bore diameter to be specified by purchaser
 (2) Other NPT and SW connections available upon request



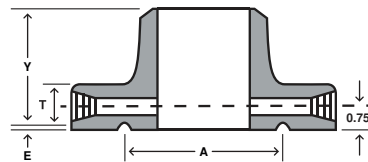
Welding Neck Orifice Class 1500



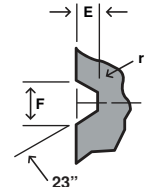
RAISED FACE



SPECIAL 1 OR 2 PIECE RING AND ORIFICE PLATE ASSEMBLY



RING TYPE JOINT



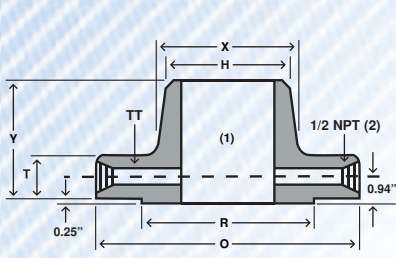
GROOVE DETAIL

| | Nom Size | | | | | | | | Drilling | | | | Ring Type Joint | | | | | |
|----|----------|--------|-----------|----------|-------------|-----------|-------|----------------------------|-------------|----------|------------|----------|-----------------|-----------|--------------|--------------|---------------|--------------|
| | | OD | Thickness | OD of RF | Dia at Base | Dia Bevel | LTH | Dia of Pressure Connection | Bolt Circle | Hole Dia | # of holes | Bolt Dia | Grove # | Pitch Dia | Groove Depth | Groove Width | Rad at Bottom | Spec Oval RH |
| | | O | T | R | X | H | Y | TT | | | | | P | E | F | r max | W | |
| in | 1 | 5.88 | 1.50 | 2.00 | 2.06 | 1.32 | 3.25 | 1/4 | 4.00 | 1.00 | 4 | 7/8 | R16 | 2.000 | 0.250 | 0.344 | 0.03 | 1.00 |
| mm | | 149.4 | 38.1 | 50.8 | 52.3 | 33.5 | 82.6 | 6.4 | 101.6 | 25.4 | 22.2 | 22.2 | 50.800 | 6.350 | 8.738 | 0.8 | 25.4 | |
| in | 1 1/2 | 7.00 | 1.50 | 2.88 | 2.75 | 1.90 | 3.50 | 1/4 | 4.88 | 1.12 | 4 | 1 | R20 | 2.688 | 0.250 | 0.344 | 0.03 | 1.00 |
| mm | | 177.8 | 38.1 | 73.2 | 69.9 | 48.3 | 88.9 | 6.4 | 124.0 | 28.4 | 25.4 | 25.4 | 68.275 | 6.350 | 8.738 | 0.8 | 25.4 | |
| in | 2 | 8.50 | 1.50 | 3.62 | 4.12 | 2.38 | 4.00 | 1/4 | 6.50 | 1.00 | 8 | 7/8 | R24 | 3.750 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 215.9 | 38.1 | 91.9 | 104.6 | 60.5 | 101.6 | 6.4 | 165.1 | 25.4 | 22.2 | 22.2 | 95.250 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 2 1/2 | 9.62 | 1.62 | 4.12 | 4.88 | 2.88 | 4.12 | 1/4 | 7.50 | 1.12 | 8 | 1 | R27 | 4.250 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 244.3 | 41.1 | 104.6 | 124.0 | 73.2 | 104.6 | 6.4 | 190.5 | 28.4 | 25.4 | 25.4 | 107.950 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 3 | 10.50 | 1.88 | 5.00 | 5.25 | 3.50 | 4.62 | 3/8 | 8.00 | 1.25 | 8 | 1 1/8 | R35 | 5.375 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 266.7 | 47.8 | 127.0 | 133.4 | 88.9 | 117.3 | 9.5 | 203.2 | 31.8 | 28.6 | 28.6 | 136.525 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 4 | 12.25 | 2.12 | 6.19 | 6.38 | 4.50 | 4.88 | 1/2 | 9.50 | 1.38 | 8 | 1 1/4 | R39 | 6.375 | 0.312 | 0.469 | 0.03 | 1.06 |
| mm | | 311.2 | 53.8 | 157.2 | 162.1 | 114.3 | 124.0 | 12.7 | 241.3 | 35.1 | 31.8 | 31.8 | 161.925 | 7.925 | 11.913 | 0.8 | 26.9 | |
| in | 6 | 15.50 | 3.25 | 8.50 | 9.00 | 6.63 | 6.75 | 1/2 | 12.50 | 1.50 | 12 | 1 3/8 | R46 | 8.312 | 0.375 | 0.531 | 0.06 | 1.12 |
| mm | | 393.7 | 82.6 | 215.9 | 228.6 | 168.4 | 171.5 | 12.7 | 317.5 | 38.1 | 34.9 | 34.9 | 211.125 | 9.525 | 13.487 | 1.5 | 28.4 | |
| in | 8 | 19.00 | 3.62 | 10.62 | 11.50 | 8.63 | 8.38 | 1/2 | 15.50 | 1.75 | 12 | 1 5/8 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 482.6 | 91.9 | 269.7 | 292.1 | 219.2 | 212.9 | 12.7 | 393.7 | 44.5 | 41.3 | 41.3 | ..... | ..... | ..... | ..... | ..... |  |
| in | 10 | 23.00 | 4.25 | 12.75 | 14.50 | 10.75 | 10.00 | 1/2 | 19.00 | 2.00 | 12 | 1 7/8 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 584.2 | 108.0 | 323.9 | 368.3 | 273.1 | 254.0 | 12.7 | 482.6 | 50.8 | 47.6 | 47.6 | ..... | ..... | ..... | ..... | ..... |  |
| in | 12 | 26.50 | 4.88 | 15.00 | 17.75 | 12.75 | 11.12 | 1/2 | 22.50 | 2.12 | 16 | 2 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 673.1 | 124.0 | 381.0 | 450.9 | 323.9 | 282.4 | 12.7 | 571.5 | 53.8 | 50.8 | 50.8 | ..... | ..... | ..... | ..... | ..... |  |
| in | 14 | 29.50 | 5.25 | 16.25 | 19.50 | 14.00 | 11.75 | 1/2 | 25.00 | 2.38 | 16 | 2 1/4 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 749.3 | 133.4 | 412.8 | 495.3 | 355.6 | 298.5 | 12.7 | 635.0 | 60.5 | 57.2 | 57.2 | ..... | ..... | ..... | ..... | ..... |  |
| in | 16 | 32.50 | 5.75 | 18.50 | 21.75 | 16.00 | 12.25 | 1/2 | 27.80 | 2.60 | 16 | 2 1/2 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 825.5 | 146.1 | 469.9 | 552.1 | 406.4 | 311.2 | 12.7 | 704.9 | 66.5 | 63.5 | 63.5 | ..... | ..... | ..... | ..... | ..... |  |
| in | 18 | 36.00 | 6.38 | 21.00 | 23.50 | 18.00 | 12.88 | 1/2 | 30.50 | 2.88 | 16 | 2 3/4 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 914.4 | 162.1 | 533.4 | 596.9 | 457.2 | 327.2 | 12.7 | 774.7 | 73.2 | 69.9 | 69.9 | ..... | ..... | ..... | ..... | ..... |  |
| in | 20 | 38.75 | 7.00 | 23.00 | 25.25 | 20.00 | 14.00 | 1/2 | 32.75 | 3.12 | 16 | 3 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 984.3 | 177.8 | 584.2 | 641.4 | 508.0 | 355.6 | 12.7 | 831.9 | 79.2 | 76.2 | 76.2 | ..... | ..... | ..... | ..... | ..... |  |
| in | 24 | 46.00 | 8.00 | 27.25 | 30.00 | 24.00 | 16.00 | 1/2 | 39.00 | 3.62 | 16 | 3 1/2 | ..... | ..... | ..... | ..... | ..... |  |
| mm | | 1168.4 | 203.2 | 692.2 | 762.0 | 609.6 | 406.4 | 12.7 | 990.6 | 91.9 | 88.9 | 88.9 | ..... | ..... | ..... | ..... | ..... |  |

(1) Bore diameter to be specified by purchaser
 (2) Other NPT and SW connections available upon request



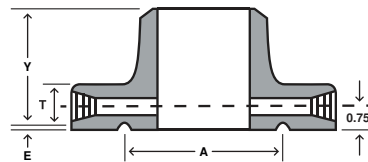
Welding Neck Orifice Class 2500



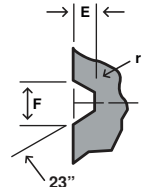
RAISED FACE



SPECIAL 1 OR 2 PIECE RING AND ORIFICE PLATE ASSEMBLY



RING TYPE JOINT



GROOVE DETAIL

| Nom Size | OD | Thickness | OD of RF | Dia at Base | Dia Bevel | LTH | Dia of Pressure Connection | Drilling | | | | Ring Type Joint | | | | | | |
|----------|-------|-----------|----------|-------------|-----------|-------|----------------------------|-------------|----------|------------|----------|-----------------|-----------|--------------|--------------|---------------|--------------|---|
| | | | | | | | | Bolt Circle | Hole Dia | # of holes | Bolt Dia | Grove # | Pitch Dia | Groove Depth | Groove Width | Rad at Bottom | Spec Oval RH | |
| | | | | | | | | O | T | R | X | H | Y | TT | | P | E | F | r max | W |
| in 1 | 6.25 | 1.50 | 2.00 | 2.25 | 1.32 | 3.62 | 1/4 | 4.25 | 1.00 | 4 | 7/8 | R18 | 2.375 | 0.250 | 0.344 | 0.03 | 1.00 | |
| mm | 158.8 | 38.1 | 50.8 | 57.2 | 33.5 | 91.9 | 6.4 | 108.0 | 25.4 | 22.2 | 22.2 | 60.325 | 6.350 | 8.738 | 0.8 | 25.4 | | |
| in 1 1/2 | 8.00 | 1.75 | 2.88 | 3.12 | 1.90 | 4.38 | 1/4 | 5.75 | 1.25 | 4 | 1 1/8 | R23 | 3.250 | 0.312 | 0.469 | 0.03 | 1.06 | |
| mm | 203.2 | 44.5 | 73.2 | 79.2 | 48.3 | 111.3 | 6.4 | 146.1 | 31.8 | 28.6 | 28.6 | 82.550 | 7.925 | 11.913 | 0.8 | 26.9 | | |
| in 2 | 9.25 | 2.00 | 3.62 | 3.75 | 2.38 | 5.00 | 1/4 | 6.75 | 1.12 | 8 | 1 | R26 | 4.000 | 0.312 | 0.469 | 0.03 | 1.06 | |
| mm | 235.0 | 50.8 | 91.9 | 95.3 | 60.5 | 127.0 | 6.4 | 171.5 | 28.4 | 25.4 | 25.4 | 101.600 | 7.925 | 11.913 | 0.8 | 26.9 | | |
| in 2 1/2 | 10.50 | 2.25 | 4.12 | 4.50 | 2.88 | 5.62 | 1/4 | 7.75 | 1.25 | 8 | 1 1/8 | R28 | 4.375 | 0.375 | 0.531 | 0.06 | 1.19 | |
| mm | 266.7 | 57.2 | 104.6 | 114.3 | 73.2 | 142.7 | 6.4 | 196.9 | 31.8 | 28.6 | 28.6 | 111.125 | 9.525 | 13.487 | 1.5 | 30.2 | | |
| in 3 | 12.00 | 2.62 | 5.00 | 5.25 | 3.50 | 6.62 | 3/8 | 9.00 | 1.38 | 8 | 1 1/4 | R32 | 5.000 | 0.375 | 0.531 | 0.06 | 1.19 | |
| mm | 304.8 | 66.5 | 127.0 | 133.4 | 88.9 | 168.1 | 9.5 | 228.6 | 35.1 | 31.8 | 31.8 | 127.000 | 9.525 | 13.487 | 1.5 | 30.2 | | |
| in 4 | 14.00 | 3.00 | 6.19 | 6.50 | 4.50 | 7.50 | 1/2 | 10.75 | 1.62 | 8 | 1 1/2 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| mm | 355.6 | 76.2 | 157.2 | 165.1 | 114.3 | 190.5 | 12.7 | 273.1 | 41.1 | 38.1 | 38.1 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| in 6 | 19.00 | 4.25 | 8.50 | 9.25 | 6.63 | 10.75 | 1/2 | 14.50 | 2.12 | 8 | 2 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| mm | 482.6 | 108.0 | 215.9 | 235.0 | 168.4 | 273.1 | 12.7 | 368.3 | 53.8 | 50.8 | 50.8 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| in 8 | 21.75 | 5.00 | 10.62 | 12.00 | 8.63 | 12.50 | 1/2 | 17.25 | 2.12 | 12 | 2 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| mm | 552.5 | 127.0 | 269.7 | 304.8 | 219.2 | 317.5 | 12.7 | 438.2 | 53.8 | 50.8 | 50.8 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| in 10 | 26.50 | 6.50 | 12.75 | 14.75 | 10.75 | 16.50 | 1/2 | 21.25 | 2.62 | 12 | 2 1/2 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| mm | 673.1 | 165.1 | 323.9 | 374.7 | 273.1 | 419.1 | 12.7 | 539.8 | 66.5 | 63.5 | 63.5 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| in 12 | 30.00 | 7.25 | 15.00 | 17.38 | 12.75 | 18.25 | 1/2 | 24.38 | 2.88 | 12 | 2 3/4 | ..... | ..... | ..... | ..... | ..... | ..... |  |
| mm | 762.0 | 184.2 | 381.0 | 441.5 | 323.9 | 463.6 | 12.7 | 619.3 | 73.2 | 69.9 | 69.9 | ..... | ..... | ..... | ..... | ..... | ..... |  |

(1) Bore diameter to be specified by purchaser
 (2) Other NPT and SW connections available upon request



Jack Screw Sizes for Orifice Flanges

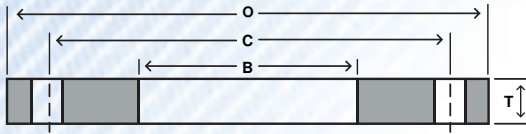
| RING JOINT FACE | | | | | | | | | | | | | | | |
|-------------------|---------|--------|-----------|---------|--------|-----------|---------|--------|-----------|---------|--------|-----------|----------|--------|-----------|
| Nominal Pipe Size | 300 Lb. | | | 400 Lb. | | | 600 Lb. | | | 900 Lb. | | | 1500 Lb. | | |
| | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size |
| 1 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 3/4 | 5/8 | 3 3/4 | 3/4 |
| 1 1/4 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 3/4 | 5/8 | 3 3/4 | 3/4 |
| 1 1/2 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 3/4 | 5/8 | 3 3/4 | 3/4 |
| 2 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 3 3/4 | 11/16 | 5/8 | 4 | 3/4 | 5/8 | 4 | 3/4 |
| 2 1/2 | 3/4 | 3 3/4 | 13/16 | 3/4 | 3 3/4 | 13/16 | 3/4 | 3 3/4 | 13/16 | 5/8 | 4 1/4 | 3/4 | 5/8 | 4 1/4 | 3/4 |
| 3 | 3/4 | 3 3/4 | 13/16 | 3/4 | 3 3/4 | 13/16 | 3/4 | 3 3/4 | 13/16 | 3/4 | 4 1/2 | 7/8 | 3/4 | 4 1/2 | 7/8 |
| 4 | 3/4 | 3 3/4 | 13/16 | 3/4 | 4 | 7/8 | 3/4 | 4 | 7/8 | 3/4 | 5 | 7/8 | 3/4 | 5 | 7/8 |
| 5 | 3/4 | 4 | 7/8 | 3/4 | 4 | 7/8 | 3/4 | 4 1/2 | 7/8 | 3/4 | 6 | 7/8 | 3/4 | 6 | 7/8 |
| 6 | 3/4 | 4 | 7/8 | 7/8 | 4 1/2 | 1 | 7/8 | 4 1/2 | 1 | 1 | 6 | 1 1/8 | 1 | 6 | 1 1/8 |
| 8 | 3/4 | 4 1/4 | 7/8 | 7/8 | 4 1/2 | 1 | 7/8 | 5 | 1 | 1 | 7 | 1 1/8 | 1 | 7 | 1 1/8 |
| 10 | 1 | 4 1/2 | 1 1/8 | 7/8 | 5 | 1 | 7/8 | 5 | 1 | 1 | 7 | 1 1/8 | 1 | 7 | 1 1/8 |
| 12 | 1 | 4 1/2 | 1 1/8 | 7/8 | 5 | 1 | 7/8 | 5 1/2 | 1 | 1 | 8 | 1 1/8 | 1 | 8 | 1 1/8 |
| 14 | 1 | 5 | 1 1/8 | | | | | | | | | | | | |
| 16 | 1 | 5 | 1 1/8 | | | | | | | | | | | | |
| 18 | 1 | 5 | 1 1/8 | | | | | | | | | | | | |
| 20 | 1 | 5 1/2 | 1 1/8 | | | | | | | | | | | | |
| 22 | 1 | 5 1/2 | 1 1/8 | | | | | | | | | | | | |
| 24 | 1 | 5 1/2 | 1 1/8 | | | | | | | | | | | | |

| RAISED FACE | | | | | | | | | | | | | | | |
|-------------------|---------|--------|-----------|---------|--------|-----------|---------|--------|-----------|---------|--------|-----------|----------|--------|-----------|
| Nominal Pipe Size | 300 Lb. | | | 400 Lb. | | | 600 Lb. | | | 900 Lb. | | | 1500 Lb. | | |
| | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size | Size | Length | Hole Size |
| 1 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 3 1/4 | 3/4 | 5/8 | 3 1/4 | 3/4 |
| 1 1/4 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 3 1/4 | 3/4 | 5/8 | 3 1/4 | 3/4 |
| 1 1/2 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 3 1/4 | 3/4 | 5/8 | 3 1/4 | 3/4 |
| 2 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 2 3/4 | 11/16 | 5/8 | 3 1/4 | 3/4 | 5/8 | 3 1/4 | 3/4 |
| 2 1/2 | 5/8 | 2 3/4 | 13/16 | 5/8 | 2 3/4 | 13/16 | 5/8 | 2 3/4 | 13/16 | 5/8 | 3 1/2 | 3/4 | 5/8 | 3 1/2 | 3/4 |
| 3 | 3/4 | 2 3/4 | 13/16 | 3/4 | 2 3/4 | 13/16 | 3/4 | 2 3/4 | 13/16 | 3/4 | 3 3/4 | 7/8 | 3/4 | 3 3/4 | 7/8 |
| 4 | 3/4 | 2 3/4 | 13/16 | 3/4 | 3 1/4 | 7/8 | 3/4 | 3 1/4 | 7/8 | 3/4 | 4 | 7/8 | 3/4 | 4 | 7/8 |
| 5 | 3/4 | 2 3/4 | 7/8 | 3/4 | 3 1/4 | 7/8 | 3/4 | 3 1/2 | 7/8 | 3/4 | 5 | 7/8 | 3/4 | 5 | 7/8 |
| 6 | 3/4 | 2 3/4 | 7/8 | 7/8 | 3 1/2 | 1 | 7/8 | 4 | 1 | 1 | 5 | 1 1/8 | 1 | 5 | 1 1/8 |
| 8 | 3/4 | 3 | 7/8 | 7/8 | 4 | 1 | 7/8 | 4 | 1 | 1 | 5 1/2 | 1 1/8 | 1 | 5 1/2 | 1 1/8 |
| 10 | 1 | 3 1/2 | 1 1/8 | 1 1/8 | 4 | 1 | 7/8 | 4 1/2 | 1 | 1 | 6 | 1 1/8 | 1 | 6 | 1 1/8 |
| 12 | 1 | 3 1/2 | 1 1/8 | 1 1/8 | 4 | 1 | 7/8 | 4 1/2 | 1 | 1 | 7 | 1 1/8 | 1 | 7 | 1 1/8 |
| 14 | 1 | 3 1/2 | 1 1/8 | | | | | | | | | | | | |
| 16 | 1 | 3 1/2 | 1 1/8 | | | | | | | | | | | | |
| 18 | 1 | 3 3/4 | 1 1/8 | | | | | | | | | | | | |
| 20 | 1 | 3 3/4 | 1 1/8 | | | | | | | | | | | | |
| 22 | 1 | 4 | 1 1/8 | | | | | | | | | | | | |
| 24 | 1 | 4 | 1 1/8 | | | | | | | | | | | | |



AWWA Standard Steel—Ring Flange (86psi*)

TABLE 2 CLASS B (BLINDS FROM TABLE 7)



| Nom Size | Thickness | | | Drilling | | | | Weight | |
|----------|-----------|---------|-------|----------|-------------|----------|------------|---------|-------|
| | OD | Slip-On | Blind | Bore | Bolt Circle | Hole Dia | # of Holes | Slip-on | Blind |
| | O | T | T | B | C | | | | |
| 4 | 9.00 | 0.625 | 0.625 | 4.57 | 7.50 | 0.750 | 8 | 8 | 11 |
| 5 | 10.00 | 0.625 | 0.625 | 5.66 | 8.50 | 0.875 | 8 | 9 | 14 |
| 6 | 11.00 | 0.688 | 0.688 | 6.72 | 9.50 | 0.875 | 8 | 11 | 19 |
| 8 | 13.50 | 0.688 | 0.688 | 8.72 | 11.75 | 0.875 | 8 | 15 | 28 |
| 10 | 16.00 | 0.688 | 0.688 | 10.88 | 14.25 | 1.000 | 12 | 19 | 39 |
| 12 | 19.00 | 0.688 | 0.719 | 12.88 | 17.00 | 1.000 | 12 | 28 | 58 |
| 14 | 21.00 | 0.688 | 0.791 | 14.19 | 18.75 | 1.125 | 12 | 34 | 78 |
| 16 | 23.50 | 0.688 | 0.892 | 16.19 | 21.25 | 1.125 | 16 | 41 | 110 |
| 18 | 25.00 | 0.688 | 0.950 | 18.19 | 22.75 | 1.250 | 16 | 41 | 132 |
| 20 | 27.50 | 0.688 | 1.040 | 20.19 | 25.00 | 1.250 | 20 | 49 | 175 |
| 22 | 29.50 | 0.750 | 1.132 | 22.19 | 27.25 | 1.375 | 20 | 57 | 219 |
| 24 | 32.00 | 0.750 | 1.216 | 24.19 | 29.50 | 1.375 | 20 | 67 | 277 |
| 26 | 34.25 | 0.812 | 1.307 | 26.19 | 31.75 | 1.375 | 24 | 80 | 341 |
| 28 | 36.50 | 0.875 | 1.398 | 28.19 | 34.00 | 1.375 | 28 | 94 | 414 |
| 30 | 38.75 | 0.875 | 1.477 | 30.19 | 36.00 | 1.375 | 28 | 105 | 493 |
| 32 | 41.75 | 0.936 | 1.581 | 32.19 | 38.50 | 1.625 | 28 | 132 | 613 |
| 34 | 43.75 | 0.938 | 1.661 | 34.19 | 40.50 | 1.625 | 32 | 137 | 707 |
| 36 | 46.00 | 1.000 | 1.751 | 36.19 | 42.75 | 1.625 | 32 | 161 | 824 |
| 38 | 48.75 | 1.000 | 1.853 | 38.19 | 45.25 | 1.625 | 32 | 185 | 980 |
| 40 | 50.75 | 1.000 | 1.933 | 40.19 | 47.25 | 1.625 | 36 | 193 | 1108 |
| 42 | 53.00 | 1.125 | 2.023 | 42.19 | 49.50 | 1.625 | 36 | 234 | 1264 |
| 44 | 55.25 | 1.125 | 2.114 | 44.19 | 51.75 | 1.625 | 40 | 249 | 1436 |
| 46 | 57.25 | 1.125 | 2.194 | 46.19 | 53.75 | 1.625 | 40 | 260 | 1600 |
| 48 | 59.50 | 1.250 | 2.285 | 48.19 | 56.00 | 1.625 | 44 | 306 | 1800 |
| 50 | 61.75 | 1.250 | 2.377 | 50.19 | 58.25 | 1.875 | 44 | 317 | 2017 |
| 52 | 64.00 | 1.250 | 2.468 | 52.19 | 60.50 | 1.875 | 44 | 339 | 2249 |
| 54 | 66.25 | 1.375 | 2.559 | 54.19 | 62.75 | 1.875 | 44 | 397 | 2499 |
| 60 | 73.00 | 1.500 | 2.820 | 60.19 | 69.25 | 1.875 | 52 | 508 | 3344 |
| 66 | 80.00 | 1.625 | 3.092 | 66.19 | 76.00 | 1.875 | 52 | 664 | 4403 |
| 72 | 86.50 | 1.750 | 3.353 | 72.19 | 82.50 | 1.875 | 60 | 802 | 5582 |
| 78 | 93.00 | 2.000 | ..... | 78.19 | 89.00 | 2.125 | 64 | 1000 | ..... |
| 84 | 99.75 | 2.000 | ..... | 84.19 | 95.50 | 2.125 | 64 | 1145 | ..... |
| 90 | 106.50 | 2.250 | ..... | 90.19 | 102.00 | 2.438 | 68 | 1404 | ..... |
| 96 | 113.25 | 2.250 | ..... | 96.19 | 108.50 | 2.438 | 68 | 1586 | ..... |
| 102 | 120.00 | 2.500 | ..... | 102.19 | 114.50 | 2.688 | 72 | 1912 | ..... |
| 108 | 126.75 | 2.500 | ..... | 108.19 | 120.75 | 2.688 | 72 | 2136 | ..... |
| 114 | 133.50 | 2.750 | ..... | 114.19 | 126.75 | 2.938 | 76 | 2525 | ..... |
| 120 | 140.25 | 2.750 | ..... | 120.19 | 132.75 | 2.938 | 76 | 2795 | ..... |
| 126 | 147.00 | 3.000 | ..... | 126.19 | 139.25 | 3.188 | 80 | 3252 | ..... |
| 132 | 153.75 | 3.000 | ..... | 132.19 | 145.75 | 3.188 | 80 | 3572 | ..... |
| 138 | 160.50 | 3.250 | ..... | 138.19 | 152.00 | 3.438 | 84 | 4101 | ..... |
| 144 | 167.25 | 3.250 | ..... | 144.19 | 158.25 | 3.438 | 84 | 4475 | ..... |

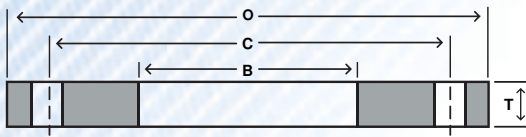
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: *PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 86 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



AWWA Standard Steel—Ring Flange (175–150psi*)

TABLE 2 CLASS D (BLINDS FROM TABLE 7)



| Nom Size | Thickness | | | Bore B | Drilling | | | Weight | |
|----------|-----------|---------|-------|-----------|-------------|----------|------------|---------|-------|
| | OD | Slip-On | Blind | | Bolt Circle | Hole Dia | # of Holes | Slip-on | Blind |
| | O | T | T | | C | | | | |
| 4 | 9.00 | 0.625 | 0.625 | 4.57 | 7.50 | 0.750 | 8 | 8 | 11 |
| 5 | 10.00 | 0.625 | 0.650 | 5.66 | 8.50 | 0.875 | 8 | 9 | 14 |
| 6 | 11.00 | 0.688 | 0.693 | 6.72 | 9.50 | 0.875 | 8 | 11 | 19 |
| 8 | 13.50 | 0.688 | 0.812 | 8.72 | 11.75 | 0.875 | 8 | 15 | 33 |
| 10 | 16.00 | 0.688 | 0.953 | 10.88 | 14.25 | 1.000 | 12 | 19 | 54 |
| 12 | 19.00 | 0.812 | 1.117 | 12.88 | 17.00 | 1.000 | 12 | 33 | 90 |
| 14 | 21.00 | 0.938 | 1.133 | 14.19 | 18.75 | 1.125 | 12 | 47 | 111 |
| 16 | 23.50 | 1.000 | 1.265 | 16.19 | 21.25 | 1.125 | 16 | 60 | 155 |
| 18 | 25.00 | 1.062 | 1.331 | 18.19 | 22.75 | 1.250 | 16 | 64 | 185 |
| 20 | 27.50 | 1.125 | 1.448 | 20.19 | 25.00 | 1.250 | 20 | 79 | 244 |
| 22 | 29.50 | 1.188 | 1.568 | 22.19 | 27.25 | 1.375 | 20 | 90 | 304 |
| 24 | 32.00 | 1.250 | 1.661 | 24.19 | 29.50 | 1.375 | 20 | 112 | 378 |
| 26 | 34.25 | 1.312 | 1.786 | 26.19 | 31.75 | 1.375 | 24 | 129 | 466 |
| 28 | 36.50 | 1.312 | 1.906 | 28.19 | 34.00 | 1.375 | 28 | 141 | 565 |
| 30 | 38.75 | 1.375 | 2.008 | 30.19 | 36.00 | 1.375 | 28 | 164 | 671 |
| 32 | 41.75 | 1.500 | 2.150 | 32.19 | 38.50 | 1.625 | 28 | 211 | 834 |
| 34 | 43.75 | 1.500 | 2.252 | 34.19 | 40.50 | 1.625 | 32 | 220 | 959 |
| 36 | 46.00 | 1.625 | 2.370 | 36.19 | 42.75 | 1.625 | 32 | 261 | 1116 |
| 38 | 48.75 | 1.625 | 2.506 | 38.19 | 45.25 | 1.625 | 32 | 301 | 1325 |
| 40 | 50.75 | 1.625 | 2.609 | 40.19 | 47.25 | 1.625 | 36 | 313 | 1438 |
| 42 | 53.00 | 1.750 | 2.729 | 42.19 | 49.50 | 1.625 | 36 | 364 | 1706 |
| 44 | 55.25 | 1.750 | 2.849 | 44.19 | 51.75 | 1.625 | 40 | 387 | 1935 |
| 46 | 57.25 | 1.750 | 2.952 | 46.19 | 53.75 | 1.625 | 40 | 404 | 2153 |
| 48 | 59.50 | 1.875 | 3.072 | 48.19 | 56.00 | 1.625 | 44 | 460 | 2420 |
| 50 | 61.75 | 2.000 | 3.196 | 50.19 | 58.25 | 1.875 | 44 | 507 | 2712 |
| 52 | 64.00 | 2.000 | 3.315 | 52.19 | 60.50 | 1.875 | 44 | 542 | 3021 |
| 54 | 66.25 | 2.125 | 3.435 | 54.19 | 62.75 | 1.875 | 44 | 614 | 3355 |
| 60 | 73.00 | 2.250 | 3.779 | 60.19 | 69.25 | 1.875 | 52 | 763 | 4481 |
| 66 | 80.00 | 2.500 | 4.136 | 66.19 | 76.00 | 1.875 | 52 | 1021 | 5890 |
| 72 | 86.50 | 2.625 | 4.480 | 72.19 | 82.50 | 1.875 | 60 | 1203 | 7458 |
| 78 | 93.00 | 2.750 | ..... | 78.19 | 89.00 | 2.125 | 64 | 1374 | ..... |
| 84 | 99.75 | 2.875 | ..... | 84.19 | 95.50 | 2.125 | 64 | 1646 | ..... |
| 90 | 106.50 | 3.000 | ..... | 90.19 | 102.00 | 2.438 | 68 | 1872 | ..... |
| 96 | 113.25 | 3.250 | ..... | 96.19 | 108.50 | 2.438 | 68 | 2291 | ..... |
| 102 | 120.00 | 3.250 | ..... | 102.19 | 114.50 | 2.688 | 72 | 2485 | ..... |
| 108 | 126.75 | 3.375 | ..... | 108.19 | 120.75 | 2.688 | 72 | 2884 | ..... |
| 114 | 133.50 | 3.500 | ..... | 114.19 | 126.75 | 2.938 | 76 | 3214 | ..... |
| 120 | 140.25 | 3.500 | ..... | 120.19 | 132.75 | 2.938 | 76 | 3558 | ..... |
| 126 | 147.00 | 3.750 | ..... | 126.19 | 139.25 | 3.188 | 80 | 4065 | ..... |
| 132 | 153.75 | 3.875 | ..... | 132.19 | 145.75 | 3.188 | 80 | 4614 | ..... |
| 138 | 160.50 | 4.000 | ..... | 138.19 | 152.00 | 3.438 | 84 | 5047 | ..... |
| 144 | 167.25 | 4.125 | ..... | 144.19 | 158.25 | 3.438 | 84 | 5680 | ..... |

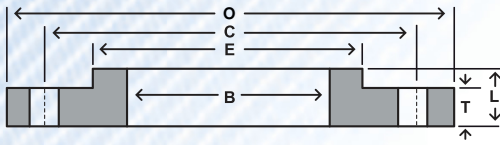
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: *PRESSURE RATING AT ATMOSPHERIC TEMPERATURE: SIZES 4-12" INCLUSIVE, 175 PSI; SIZES LARGER THAN 12", 150 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST-IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



AWWA Standard Steel—Hub Flange (175–150psi*)

TABLE 3 CLASS D



| Nom Size | Drilling | | | | | | | | |
|----------|----------|-----------|-------------------|-------------|-------|-------------|----------|------------|--------|
| | OD | Thickness | Overall Thickness | Dia at Base | Bore | Bolt Circle | Hole Dia | # of Holes | Weight |
| | O | T | L | E | B | C | | | |
| 4 | 9.00 | 0.500 | 0.875 | 5.312 | 4.57 | 7.50 | 0.750 | 8 | 7 |
| 5 | 10.00 | 0.562 | 1.250 | 6.312 | 5.66 | 8.50 | 0.875 | 8 | 9 |
| 6 | 11.00 | 0.562 | 1.250 | 7.562 | 6.72 | 9.50 | 0.875 | 8 | 11 |
| 8 | 13.50 | 0.562 | 1.250 | 9.688 | 8.72 | 11.75 | 0.875 | 8 | 15 |
| 10 | 16.00 | 0.688 | 1.250 | 12.000 | 10.88 | 14.25 | 1.000 | 12 | 22 |
| 12 | 19.00 | 0.688 | 1.250 | 14.375 | 12.88 | 17.00 | 1.000 | 12 | 33 |
| 14 | 21.00 | 0.750 | 1.250 | 15.750 | 14.19 | 18.75 | 1.125 | 12 | 43 |
| 16 | 23.50 | 0.750 | 1.250 | 18.000 | 16.19 | 21.25 | 1.125 | 16 | 52 |
| 18 | 25.00 | 0.750 | 1.250 | 19.875 | 18.19 | 22.75 | 1.250 | 16 | 52 |
| 20 | 27.50 | 0.750 | 1.250 | 22.000 | 20.19 | 25.00 | 1.250 | 20 | 61 |
| 22 | 29.50 | 1.000 | 1.750 | 24.250 | 22.19 | 27.25 | 1.375 | 20 | 92 |
| 24 | 32.00 | 1.000 | 1.750 | 26.125 | 24.19 | 29.50 | 1.375 | 20 | 105 |
| 26 | 34.25 | 1.000 | 1.750 | 28.500 | 26.19 | 31.75 | 1.375 | 24 | 119 |
| 28 | 36.50 | 1.000 | 1.750 | 30.500 | 28.19 | 34.00 | 1.375 | 28 | 130 |
| 30 | 38.75 | 1.000 | 1.750 | 32.500 | 30.19 | 36.00 | 1.375 | 28 | 144 |
| 32 | 41.75 | 1.125 | 1.750 | 34.750 | 32.19 | 38.50 | 1.625 | 28 | 182 |
| 34 | 43.75 | 1.125 | 1.750 | 36.750 | 34.19 | 40.50 | 1.625 | 32 | 191 |
| 36 | 46.00 | 1.125 | 1.750 | 38.750 | 36.19 | 42.75 | 1.625 | 32 | 207 |
| 38 | 48.75 | 1.125 | 1.750 | 40.750 | 38.19 | 45.25 | 1.625 | 32 | 237 |
| 40 | 50.75 | 1.125 | 1.750 | 43.000 | 40.19 | 47.25 | 1.625 | 36 | 249 |
| 42 | 53.00 | 1.250 | 1.750 | 45.000 | 42.19 | 49.50 | 1.625 | 36 | 287 |
| 44 | 55.25 | 1.250 | 2.250 | 47.000 | 44.19 | 51.75 | 1.625 | 40 | 334 |
| 46 | 57.25 | 1.250 | 2.250 | 49.000 | 46.19 | 53.75 | 1.625 | 40 | 348 |
| 48 | 59.50 | 1.375 | 2.500 | 51.000 | 48.19 | 56.00 | 1.625 | 44 | 407 |
| 50 | 61.75 | 1.375 | 2.500 | 53.000 | 50.19 | 58.25 | 1.875 | 44 | 421 |
| 52 | 64.00 | 1.375 | 2.500 | 55.000 | 52.19 | 60.50 | 1.875 | 44 | 448 |
| 54 | 66.25 | 1.375 | 2.500 | 57.000 | 54.19 | 62.75 | 1.875 | 44 | 475 |
| 60 | 73.00 | 1.500 | 2.750 | 63.000 | 60.19 | 69.25 | 1.875 | 52 | 605 |
| 66 | 80.00 | 1.500 | 2.750 | 69.000 | 66.19 | 76.00 | 1.875 | 52 | 718 |
| 72 | 86.50 | 1.500 | 2.750 | 75.000 | 72.19 | 82.50 | 1.875 | 60 | 803 |
| 78 | 93.00 | 1.750 | 3.000 | 81.250 | 78.19 | 89.00 | 2.125 | 64 | 1010 |
| 84 | 99.75 | 1.750 | 3.000 | 87.500 | 84.19 | 95.50 | 2.125 | 64 | 1160 |
| 90 | 106.50 | 2.000 | 3.250 | 93.750 | 90.19 | 102.00 | 2.438 | 68 | 1430 |
| 96 | 113.25 | 2.000 | 3.250 | 100.000 | 96.19 | 108.50 | 2.438 | 68 | 1618 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

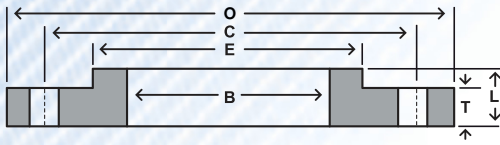
NOTES: HUB FLANGES ARE TO BE USED ON PIPE THAT HAS AN OD EQUAL TO THE NOMINAL PIPE SIZE IN THE FIRST COLUMN.

*PRESSURE RATING AT ATMOSPHERIC TEMPERATURE: SIZES 4-12" INCLUSIVE, 175 PSI; SIZES LARGER THAN 12", 150 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST-IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



AWWA Standard Steel—Hub Flange (275psi*)

TABLE 4 CLASS E



| Nom Size | Drilling | | | | | | | | |
|----------|----------|-----------|-------------------|-------------|-------|-------------|----------|------------|--------|
| | OD | Thickness | Overall Thickness | Dia at Base | Bore | Bolt Circle | Hole Dia | # of Holes | Weight |
| | O | T | L | E | B | C | | | |
| 4 | 9.00 | 0.938 | 1.312 | 5.312 | 4.57 | 7.50 | 0.750 | 8 | 13 |
| 5 | 10.00 | 0.938 | 1.438 | 6.438 | 5.66 | 8.50 | 0.875 | 8 | 14 |
| 6 | 11.00 | 1.000 | 1.562 | 7.562 | 6.72 | 9.50 | 0.875 | 8 | 17 |
| 8 | 13.50 | 1.125 | 1.750 | 9.688 | 8.72 | 11.75 | 0.875 | 8 | 28 |
| 10 | 16.00 | 1.188 | 1.938 | 12.000 | 10.88 | 14.25 | 1.000 | 12 | 37 |
| 12 | 19.00 | 1.250 | 2.188 | 14.375 | 12.88 | 17.00 | 1.000 | 12 | 59 |
| 14 | 21.00 | 1.375 | 2.250 | 15.750 | 14.19 | 18.75 | 1.125 | 12 | 78 |
| 16 | 23.50 | 1.438 | 2.500 | 18.000 | 16.19 | 21.25 | 1.125 | 16 | 101 |
| 18 | 25.00 | 1.562 | 2.688 | 19.875 | 18.19 | 22.75 | 1.250 | 16 | 110 |
| 20 | 27.50 | 1.688 | 2.875 | 22.000 | 20.19 | 25.00 | 1.250 | 20 | 139 |
| 22 | 29.50 | 1.812 | 3.125 | 24.000 | 22.19 | 27.25 | 1.375 | 20 | 162 |
| 24 | 32.00 | 1.875 | 3.250 | 26.125 | 24.19 | 29.50 | 1.375 | 20 | 197 |
| 26 | 34.25 | 2.000 | 3.375 | 28.500 | 26.19 | 31.75 | 1.375 | 24 | 235 |
| 28 | 36.50 | 2.062 | 3.438 | 30.750 | 28.19 | 34.00 | 1.375 | 28 | 269 |
| 30 | 38.75 | 2.125 | 3.500 | 32.750 | 30.19 | 36.00 | 1.375 | 28 | 303 |
| 32 | 41.75 | 2.250 | 3.625 | 35.000 | 32.19 | 38.50 | 1.625 | 28 | 375 |
| 34 | 43.75 | 2.312 | 3.688 | 37.000 | 34.19 | 40.50 | 1.625 | 32 | 401 |
| 36 | 46.00 | 2.375 | 3.750 | 39.250 | 36.19 | 42.75 | 1.625 | 32 | 452 |
| 38 | 48.75 | 2.375 | 3.750 | 41.750 | 38.19 | 45.25 | 1.625 | 32 | 528 |
| 40 | 50.75 | 2.500 | 3.875 | 43.750 | 40.19 | 47.25 | 1.625 | 36 | 573 |
| 42 | 53.00 | 2.625 | 4.000 | 46.000 | 42.19 | 49.50 | 1.625 | 36 | 648 |
| 44 | 55.25 | 2.625 | 4.000 | 48.000 | 44.19 | 51.75 | 1.625 | 40 | 688 |
| 46 | 57.25 | 2.688 | 4.062 | 50.000 | 46.19 | 53.75 | 1.625 | 40 | 733 |
| 48 | 59.50 | 2.750 | 4.125 | 52.250 | 48.19 | 56.00 | 1.625 | 44 | 799 |
| 50 | 61.75 | 2.750 | 4.125 | 54.250 | 50.19 | 58.25 | 1.875 | 44 | 827 |
| 52 | 64.00 | 2.875 | 4.250 | 56.500 | 52.19 | 60.50 | 1.875 | 44 | 922 |
| 54 | 66.25 | 3.000 | 4.375 | 58.750 | 54.19 | 62.75 | 1.875 | 44 | 1024 |
| 60 | 73.00 | 3.125 | 4.500 | 65.250 | 60.19 | 69.25 | 1.875 | 52 | 1253 |
| 66 | 80.00 | 3.375 | 4.875 | 71.500 | 66.19 | 76.00 | 1.875 | 52 | 1623 |
| 72 | 86.50 | 3.500 | 5.000 | 78.500 | 72.19 | 82.50 | 1.875 | 60 | 1922 |
| 78 | 93.00 | 3.875 | 5.375 | 84.500 | 78.19 | 89.00 | 2.125 | 64 | 2279 |
| 84 | 99.75 | 3.875 | 5.375 | 90.500 | 84.19 | 95.50 | 2.125 | 64 | 2586 |
| 90 | 106.50 | 4.250 | 5.750 | 96.750 | 90.19 | 102.00 | 2.438 | 68 | 3061 |
| 96 | 113.25 | 4.250 | 5.750 | 102.750 | 96.19 | 108.50 | 2.438 | 68 | 3432 |

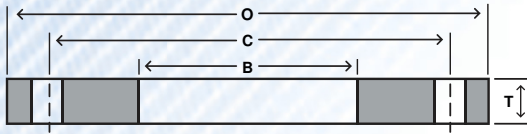
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: HUB FLANGES ARE TO BE USED ON PIPE THAT HAS AN OD EQUAL TO THE NOMINAL PIPE SIZE IN THE FIRST COLUMN. *PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 275 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST-IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 CLASS 150 STANDARD FOR STEEL FLANGES. THE THICKNESS OF A CLASS 150 FLANGE FROM WHICH THE RAISED FACE HAS BEEN REMOVED SHALL BE NO LESS THAN DIMENSION T MINUS 0.06"



AWWA Standard Steel—Ring Flange (275psi*)

TABLE 5 CLASS E (BLINDS FROM TABLE 7)



| Nom Size | Thickness | | | Bore | Drilling | | | Weight | |
|----------|-----------|---------|-------|--------|-------------|----------|------------|---------|-------|
| | OD | Slip-On | Blind | | Bolt Circle | Hole Dia | # of Holes | Slip-on | Blind |
| | O | T | T | | B | C | | | |
| 4 | 9.00 | 1.125 | 1.125 | 4.57 | 7.50 | 0.750 | 8 | 14 | 20 |
| 5 | 10.00 | 1.188 | 1.188 | 5.66 | 8.50 | 0.875 | 8 | 16 | 26 |
| 6 | 11.00 | 1.313 | 1.313 | 6.72 | 9.50 | 0.875 | 8 | 20 | 35 |
| 8 | 13.50 | 1.500 | 1.500 | 8.72 | 11.75 | 0.875 | 8 | 33 | 61 |
| 10 | 16.00 | 1.563 | 1.563 | 10.88 | 14.25 | 1.000 | 12 | 44 | 89 |
| 12 | 19.00 | 1.750 | 1.750 | 12.88 | 17.00 | 1.000 | 12 | 71 | 141 |
| 14 | 21.00 | 1.875 | 1.875 | 14.19 | 18.75 | 1.125 | 12 | 94 | 184 |
| 16 | 23.50 | 2.000 | 2.000 | 16.19 | 21.25 | 1.125 | 16 | 120 | 246 |
| 18 | 25.00 | 2.125 | 2.125 | 18.19 | 22.75 | 1.250 | 16 | 127 | 296 |
| 20 | 27.50 | 2.375 | 2.375 | 20.19 | 25.00 | 1.250 | 20 | 168 | 400 |
| 22 | 29.50 | 2.500 | 2.500 | 22.19 | 27.25 | 1.375 | 20 | 189 | 484 |
| 24 | 32.00 | 2.625 | 2.625 | 24.19 | 29.50 | 1.375 | 20 | 234 | 598 |
| 26 | 34.25 | 2.750 | 2.750 | 26.19 | 31.75 | 1.375 | 24 | 270 | 718 |
| 28 | 36.50 | 2.750 | 2.750 | 28.19 | 34.00 | 1.375 | 28 | 297 | 815 |
| 30 | 38.75 | 2.875 | 2.875 | 30.19 | 36.00 | 1.375 | 28 | 344 | 961 |
| 32 | 41.75 | 3.000 | 3.000 | 32.19 | 38.50 | 1.625 | 28 | 422 | 1163 |
| 34 | 43.75 | 3.000 | 3.050 | 34.19 | 40.50 | 1.625 | 32 | 441 | 1299 |
| 36 | 46.00 | 3.125 | 3.209 | 36.19 | 42.75 | 1.625 | 32 | 502 | 1511 |
| 38 | 48.75 | 3.125 | 3.394 | 38.19 | 45.25 | 1.625 | 32 | 580 | 1795 |
| 40 | 50.75 | 3.250 | 3.533 | 40.19 | 47.25 | 1.625 | 36 | 626 | 2025 |
| 42 | 53.00 | 3.375 | 3.695 | 42.19 | 49.50 | 1.625 | 36 | 701 | 2309 |
| 44 | 55.25 | 3.375 | 3.857 | 44.19 | 51.75 | 1.625 | 40 | 747 | 2715 |
| 46 | 57.25 | 3.438 | 3.997 | 46.19 | 53.75 | 1.625 | 40 | 794 | 2813 |
| 48 | 59.50 | 3.500 | 4.159 | 48.19 | 56.00 | 1.625 | 44 | 858 | 3276 |
| 50 | 61.75 | 3.500 | 4.327 | 50.19 | 58.25 | 1.875 | 44 | 887 | 3671 |
| 52 | 64.00 | 3.625 | 4.489 | 52.19 | 60.50 | 1.875 | 44 | 982 | 4091 |
| 54 | 66.25 | 3.750 | 4.651 | 54.19 | 62.75 | 1.875 | 44 | 1083 | 4542 |
| 60 | 73.00 | 3.875 | 5.116 | 60.19 | 69.25 | 1.875 | 52 | 1313 | 6066 |
| 66 | 80.00 | 4.250 | 5.601 | 66.19 | 76.00 | 1.875 | 52 | 1736 | 7976 |
| 72 | 86.50 | 4.375 | 6.066 | 72.19 | 82.50 | 1.875 | 60 | 2005 | 10099 |
| 78 | 93.00 | 4.750 | ..... | 78.19 | 89.00 | 2.125 | 64 | 2374 | ..... |
| 84 | 99.75 | 4.750 | ..... | 84.19 | 95.50 | 2.125 | 64 | 2719 | ..... |
| 90 | 106.50 | 5.125 | ..... | 90.19 | 102.00 | 2.438 | 68 | 3197 | ..... |
| 96 | 113.25 | 5.125 | ..... | 96.19 | 108.50 | 2.438 | 68 | 3613 | ..... |
| 102 | 120.00 | 5.500 | ..... | 102.19 | 114.50 | 2.688 | 72 | 4206 | ..... |
| 108 | 126.75 | 5.500 | ..... | 108.19 | 120.75 | 2.688 | 72 | 4700 | ..... |
| 114 | 133.50 | 5.875 | ..... | 114.19 | 126.75 | 2.938 | 76 | 5395 | ..... |
| 120 | 140.25 | 5.875 | ..... | 120.19 | 132.75 | 2.938 | 76 | 5972 | ..... |
| 126 | 147.00 | 6.250 | ..... | 126.19 | 139.25 | 3.188 | 80 | 6775 | ..... |
| 132 | 153.75 | 6.250 | ..... | 132.19 | 145.75 | 3.188 | 80 | 7442 | ..... |
| 138 | 160.50 | 6.750 | ..... | 138.19 | 152.00 | 3.438 | 84 | 8517 | ..... |
| 144 | 167.25 | 6.750 | ..... | 144.19 | 158.25 | 3.438 | 84 | 9295 | ..... |

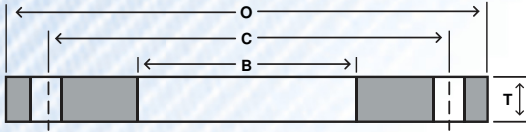
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

NOTES: *PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 275 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 125 CAST-IRON FLANGES. IN SIZES 24" AND SMALLER, THEY ALSO MATCH ANSI/ASME B16.5 150-PSI STANDARD FOR STEEL FLANGES.



AWWA Standard Steel—Ring Flange (300psi*)

TABLE 6 CLASS F (BLINDS FROM TABLE 7)



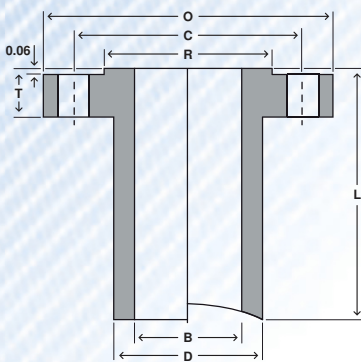
| Nom Size | Thickness | | | Bore | Drilling | | | Weight | |
|----------|-----------|---------|-------|-------|-------------|----------|------------|---------|-------|
| | OD | Slip-On | Blind | | Bolt Circle | Hole Dia | # of Holes | Slip-on | Blind |
| | O | T | T | | B | C | | | |
| 4 | 10.00 | 1.130 | 1.130 | 4.57 | 7.88 | 0.875 | 8 | 18 | 25 |
| 5 | 11.00 | 1.210 | 1.210 | 5.66 | 9.25 | 0.875 | 8 | 22 | 33 |
| 6 | 12.50 | 1.310 | 1.310 | 6.73 | 10.62 | 0.875 | 12 | 30 | 46 |
| 8 | 15.00 | 1.310 | 1.310 | 8.73 | 13.00 | 1.000 | 12 | 40 | 66 |
| 10 | 17.50 | 1.500 | 1.500 | 10.88 | 15.25 | 1.125 | 16 | 56 | 102 |
| 12 | 20.50 | 1.630 | 1.630 | 12.88 | 17.75 | 1.250 | 16 | 83 | 152 |
| 14 | 23.00 | 1.940 | 1.940 | 14.19 | 20.25 | 1.250 | 20 | 128 | 228 |
| 16 | 25.50 | 2.140 | 2.140 | 16.19 | 22.50 | 1.375 | 20 | 167 | 310 |
| 18 | 28.00 | 2.250 | 2.250 | 18.19 | 24.75 | 1.375 | 24 | 204 | 392 |
| 20 | 30.50 | 2.330 | 2.330 | 20.19 | 27.00 | 1.375 | 24 | 247 | 482 |
| 22 | 33.00 | 2.500 | 2.500 | 22.19 | 29.25 | 1.375 | 24 | 307 | 606 |
| 24 | 36.00 | 2.690 | 2.690 | 24.19 | 32.00 | 1.625 | 24 | 388 | 776 |
| 26 | 38.25 | 3.000 | 3.000 | 26.19 | 34.50 | 1.875 | 28 | 451 | 977 |
| 28 | 40.75 | 3.130 | 3.130 | 28.19 | 37.00 | 1.875 | 28 | 532 | 1156 |
| 30 | 43.00 | 3.150 | 3.166 | 30.19 | 39.25 | 1.875 | 28 | 586 | 1303 |
| 32 | 45.25 | 3.250 | 3.332 | 32.19 | 41.50 | 1.875 | 28 | 657 | 1518 |
| 34 | 47.50 | 3.380 | 3.475 | 34.19 | 43.50 | 1.875 | 28 | 741 | 1745 |
| 36 | 50.00 | 3.460 | 3.671 | 36.19 | 46.00 | 2.125 | 32 | 802 | 2042 |
| 38 | 52.25 | 3.500 | 3.815 | 38.19 | 48.00 | 2.125 | 32 | 874 | 2317 |
| 40 | 54.25 | 3.630 | 3.982 | 40.19 | 50.25 | 2.125 | 36 | 937 | 2608 |
| 42 | 57.00 | 3.810 | 4.171 | 42.19 | 52.75 | 2.125 | 36 | 1103 | 3015 |
| 44 | 59.25 | 4.000 | 4.338 | 44.19 | 55.00 | 2.125 | 36 | 1237 | 3388 |
| 46 | 61.50 | 4.130 | 4.505 | 46.19 | 57.25 | 2.125 | 40 | 1344 | 3791 |
| 48 | 65.00 | 4.500 | 4.781 | 48.19 | 60.75 | 2.125 | 40 | 1718 | 4494 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

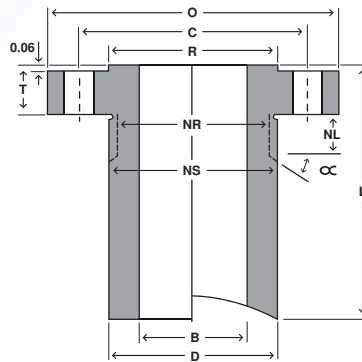
NOTES: *PRESSURE RATING AT ATMOSPHERIC TEMPERATURE IS 300 PSI. THESE FLANGES HAVE THE SAME OD AND DRILLING AS ANSI/ASME B16.1 CLASS 250 CAST-IRON PIPE AND FLANGED FITTINGS.



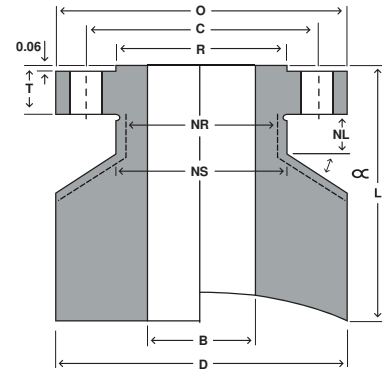
Class 150 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

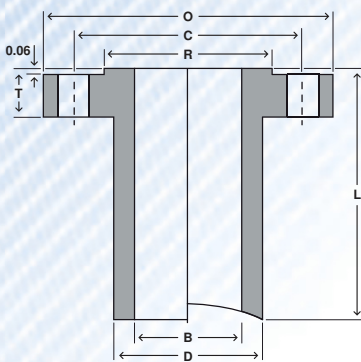
| Size | | Flange | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | Length | | |
|-------|--------------|---------|-------|------|-----------|-------|-------|---------|------------|-----------|-------------|----------|------------|---------------|-------|-----------|------------|------|--------|------|--------|--------|--------|------|
| Norm | Bore LWN & E | Bore HB | OD | Thk. | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 3.50 | 0.44 | 1.38 | 1.25 | 1.50 | 3.50 | 4 | 0.62 | 2.38 | 1.50 | 1.25 | 0.75 | 1/2 | 2 1/4 | 2 3/4 | 3 | 0.3 | 5 | 0.4 | 21 | 2.7 | 9 |
| 3/4 | 0.75 | 0.74 | 3.88 | 0.50 | 1.69 | 1.62 | 1.88 | 3.88 | 4 | 0.62 | 2.75 | 1.88 | 1.62 | 0.75 | 1/2 | 2 1/2 | 3 | 5 | 0.5 | 7 | 0.7 | 27 | 3.2 | 9 |
| 1 | 1.00 | 0.96 | 4.25 | 0.56 | 2.00 | 2.00 | 2.25 | 4.25 | 4 | 0.62 | 3.12 | 2.25 | 2.00 | 0.75 | 1/2 | 2 1/2 | 3 | 7 | 0.7 | 10 | 0.9 | 30 | 3.8 | 9 |
| 1 1/4 | 1.25 | 1.28 | 4.62 | 0.62 | 2.50 | 2.38 | 2.62 | 4.62 | 4 | 0.62 | 3.50 | 2.62 | 2.38 | 0.75 | 1/2 | 2 3/4 | 3 1/4 | 10 | 0.9 | 12 | 1.2 | 36 | 4.4 | 9 |
| 1 1/2 | 1.50 | 1.50 | 5.00 | 0.69 | 2.88 | 2.62 | 3.00 | 5.00 | 4 | 0.62 | 3.88 | 3.00 | 2.62 | 0.75 | 1/2 | 2 3/4 | 3 1/4 | 12 | 1 | 16 | 1.5 | 41 | 5.1 | 9 |
| 2 | 2.00 | 1.94 | 6.00 | 0.75 | 3.62 | 3.06 | 3.69 | 6.00 | 4 | 0.75 | 4.75 | 3.69 | 3.06 | 0.88 | 5/8 | 3 1/4 | 3 3/4 | 15 | 1.2 | 23 | 2.2 | 57 | 7.1 | 9 |
| 2 1/2 | 2.50 | 2.32 | 7.00 | 0.88 | 4.12 | 3.75 | 4.44 | 7.00 | 4 | 0.75 | 5.50 | 4.44 | 3.75 | 0.88 | 5/8 | 3 1/2 | 4 | 22 | 1.7 | 34 | 3.2 | 79 | 10 | 9 |
| 3 | 3.00 | 2.90 | 7.50 | 0.94 | 5.00 | 4.25 | 4.94 | 7.50 | 4 | 0.75 | 6.00 | 4.94 | 4.25 | 0.88 | 5/8 | 3 1/2 | 4 1/4 | 25 | 2 | 38 | 3.6 | 86 | 11 | 9 |
| 3 1/2 | 3.50 | 3.36 | 8.50 | 0.94 | 5.50 | 4.88 | 5.94 | 8.50 | 8 | 0.75 | 7.00 | 5.94 | 4.88 | 0.88 | 5/8 | 3 1/2 | 4 1/4 | 32 | 2.6 | 55 | 5.3 | 110 | 13 | 9 |
| 4 | 4.00 | 3.83 | 9.00 | 0.94 | 6.19 | 5.50 | 6.44 | 9.00 | 8 | 0.75 | 7.50 | 6.44 | 5.50 | 0.88 | 5/8 | 3 1/2 | 4 1/4 | 47 | 3.2 | 78 | 6 | 164 | 14 | 12 |
| 5 | 5.00 | 4.81 | 10.00 | 0.94 | 7.31 | 6.50 | 7.25 | 10.00 | 8 | 0.88 | 8.50 | 7.25 | 6.50 | 1.00 | 3/4 | 3 3/4 | 4 1/2 | 57 | 3.8 | 87 | 6.5 | 189 | 17 | 12 |
| 6 | 6.00 | 5.76 | 11.00 | 1.00 | 8.50 | 7.75 | 8.25 | 11.00 | 8 | 0.88 | 9.50 | 8.25 | 7.75 | 1.00 | 3/4 | 4 | 4 1/2 | 75 | 5.4 | 103 | 7.8 | 216 | 19 | 12 |
| 8 | 8.00 | 7.62 | 13.50 | 1.12 | 10.62 | 9.75 | 10.50 | 13.50 | 8 | 0.88 | 11.75 | 10.50 | 9.75 | 1.00 | 3/4 | 4 1/4 | 4 3/4 | 102 | 6.9 | 157 | 11 | 292 | 26 | 12 |
| 10 | 10.00 | 9.56 | 16.00 | 1.19 | 12.75 | 12.00 | 12.81 | 16.00 | 12 | 1.00 | 14.25 | 12.81 | 12.00 | 1.12 | 7/8 | 4 3/4 | 5 1/4 | 143 | 9.8 | 214 | 16 | 382 | 35 | 12 |
| 12 | 12.00 | 11.38 | 19.00 | 1.25 | 15.00 | 14.38 | 15.56 | 19.00 | 12 | 1.00 | 17.00 | 15.56 | 14.38 | 1.12 | 7/8 | 4 3/4 | 5 1/2 | 205 | 14 | 329 | 25 | 535 | 48 | 12 |
| 14 | 14.00 | 14.00 | 21.00 | 1.38 | 16.25 | 16.00 | 17.12 | 21.00 | 12 | 1.12 | 18.75 | 17.12 | 16.00 | 1.25 | 1 | 5 1/4 | 6 | 211 | 13 | 296 | 22 | 585 | 55 | 12 |
| 16 | 16.00 | 16.00 | 23.50 | 1.44 | 18.50 | 18.00 | 19.62 | 23.50 | 16 | 1.12 | 21.25 | 19.62 | 18.00 | 1.25 | 1 | 5 1/2 | 6 | 246 | 15 | 388 | 29 | 714 | 66 | 12 |
| 18 | 18.00 | 18.00 | 25.00 | 1.56 | 21.00 | 20.00 | 20.94 | 25.00 | 16 | 1.25 | 22.75 | 20.94 | 20.00 | 1.38 | 1 1/8 | 6 | 6 1/2 | 270 | 17 | 362 | 25 | 711 | 67 | 12 |
| 20 | 20.00 | 20.00 | 27.50 | 1.69 | 23.00 | 22.00 | 23.19 | 27.50 | 20 | 1.25 | 25.00 | 23.19 | 22.00 | 1.38 | 1 1/8 | 6 1/4 | 7 | 311 | 19 | 434 | 31 | 840 | 79 | 12 |
| 24 | 24.00 | 24.00 | 32.00 | 1.88 | 27.25 | 26.25 | 27.50 | 32.00 | 20 | 1.38 | 29.50 | 27.50 | 26.25 | 1.50 | 1 1/4 | 7 | 7 3/4 | 423 | 25 | 574 | 40 | 1046 | 100 | 12 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

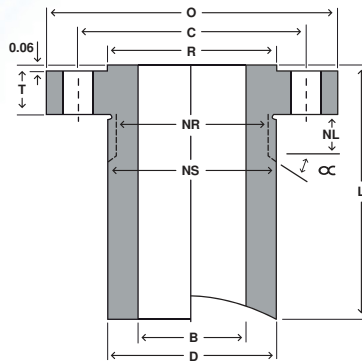
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



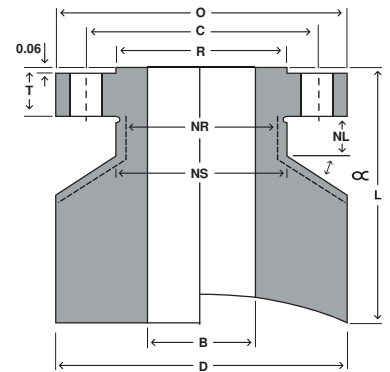
Class 300 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

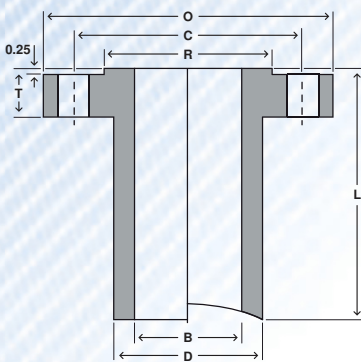
| Size | | Flange | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | | Length | |
|-------|--------------|---------|-------|------|-----------|-------|-------|---------|------------|-----------|-------------|----------|------------|---------------|-------|-----------|------------|------|--------|------|--------|------|--------|------|
| Nom | Bore LWN & E | Bore HB | OD | Thk | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 3.75 | 0.56 | 1.38 | 1.50 | 1.75 | 3.75 | 4 | 0.62 | 2.62 | 1.75 | 1.50 | 0.75 | 1/2 | 2 1/2 | 3 | 5 | 0.4 | 7 | 0.6 | 24 | 3.1 | 9 |
| 3/4 | 0.75 | 0.74 | 4.62 | 0.62 | 1.69 | 1.88 | 2.19 | 4.62 | 4 | 0.75 | 3.25 | 2.19 | 1.88 | 0.88 | 5/8 | 3 | 3 1/2 | 9 | 0.7 | 11 | 0.9 | 37 | 4.6 | 9 |
| 1 | 1.00 | 0.96 | 4.88 | 0.69 | 2.00 | 2.12 | 2.44 | 4.88 | 4 | 0.75 | 3.50 | 2.44 | 2.12 | 0.88 | 5/8 | 3 1/4 | 3 1/2 | 9 | 0.8 | 12 | 1.1 | 40 | 5.1 | 9 |
| 1 1/4 | 1.25 | 1.28 | 5.25 | 0.75 | 2.50 | 2.50 | 2.81 | 5.25 | 4 | 0.75 | 3.88 | 2.81 | 2.50 | 0.88 | 5/8 | 3 1/4 | 3 3/4 | 13 | 1 | 15 | 1.4 | 45 | 5.8 | 9 |
| 1 1/2 | 1.50 | 1.50 | 6.12 | 0.81 | 2.88 | 2.75 | 3.25 | 6.12 | 4 | 0.88 | 4.50 | 3.25 | 2.75 | 1.00 | 3/4 | 3 1/2 | 4 | 15 | 1.2 | 21 | 1.9 | 61 | 7.8 | 9 |
| 2 | 2.00 | 1.94 | 6.50 | 0.88 | 3.62 | 3.31 | 3.94 | 6.50 | 8 | 0.75 | 5.00 | 3.94 | 3.31 | 0.88 | 5/8 | 3 1/2 | 4 1/4 | 20 | 1.5 | 28 | 2.6 | 68 | 8.5 | 9 |
| 2 1/2 | 2.50 | 2.32 | 7.50 | 1.00 | 4.12 | 3.94 | 4.62 | 7.50 | 8 | 0.88 | 5.88 | 4.62 | 3.94 | 1.00 | 3/4 | 4 | 4 1/2 | 25 | 2.1 | 38 | 3.6 | 89 | 11 | 9 |
| 3 | 3.00 | 2.90 | 8.25 | 1.12 | 5.00 | 4.62 | 5.38 | 8.25 | 8 | 0.88 | 6.62 | 5.38 | 4.62 | 1.00 | 3/4 | 4 1/4 | 5 | 35 | 2.7 | 49 | 4.6 | 106 | 13 | 9 |
| 3 1/2 | 3.50 | 3.36 | 9.00 | 1.19 | 5.50 | 5.25 | 6.00 | 9.00 | 8 | 0.88 | 7.25 | 6.00 | 5.25 | 1.00 | 3/4 | 4 1/4 | 5 | 42 | 3.4 | 59 | 5.5 | 122 | 15 | 9 |
| 4 | 4.00 | 3.83 | 10.00 | 1.25 | 6.19 | 5.75 | 6.62 | 10.00 | 8 | 0.88 | 7.88 | 6.62 | 5.75 | 1.00 | 3/4 | 4 1/2 | 5 1/4 | 62 | 3.8 | 91 | 6.5 | 207 | 19 | 12 |
| 5 | 5.00 | 4.81 | 11.00 | 1.38 | 7.31 | 7.00 | 8.00 | 11.00 | 8 | 0.88 | 9.25 | 8.00 | 7.00 | 1.00 | 3/4 | 4 3/4 | 5 1/4 | 84 | 5.3 | 124 | 9.1 | 241 | 21 | 12 |
| 6 | 6.00 | 5.76 | 12.50 | 1.44 | 8.50 | 8.12 | 9.38 | 12.50 | 12 | 0.88 | 10.62 | 9.38 | 8.12 | 1.00 | 3/4 | 4 3/4 | 5 3/4 | 105 | 6.7 | 165 | 12 | 303 | 27 | 12 |
| 8 | 8.00 | 7.62 | 15.00 | 1.62 | 10.62 | 10.25 | 11.56 | 15.00 | 12 | 1.00 | 13.00 | 11.56 | 10.25 | 1.12 | 7/8 | 5 1/2 | 6 1/4 | 148 | 9.1 | 228 | 17 | 405 | 36 | 12 |
| 10 | 10.00 | 9.56 | 17.50 | 1.88 | 12.75 | 12.62 | 13.62 | 17.50 | 16 | 1.12 | 15.25 | 13.62 | 12.62 | 1.25 | 1 | 6 1/4 | 7 1/4 | 210 | 13 | 291 | 21 | 499 | 46 | 12 |
| 12 | 12.00 | 11.38 | 20.50 | 2.00 | 15.00 | 14.75 | 15.94 | 20.50 | 16 | 1.25 | 17.75 | 15.94 | 14.75 | 1.38 | 1 1/8 | 6 3/4 | 7 1/2 | 275 | 16 | 392 | 28 | 651 | 61 | 12 |
| 14 | 14.00 | 14.00 | 23.00 | 2.12 | 16.25 | 16.75 | 18.44 | 23.00 | 20 | 1.25 | 20.25 | 18.44 | 16.75 | 1.38 | 1 1/8 | 7 | 7 3/4 | 324 | 19 | 456 | 32 | 785 | 74 | 12 |
| 16 | 16.00 | 16.00 | 25.50 | 2.25 | 18.50 | 19.00 | 20.50 | 25.50 | 20 | 1.38 | 22.50 | 20.50 | 19.00 | 1.50 | 1 1/4 | 7 1/2 | 8 1/2 | 404 | 23 | 529 | 37 | 914 | 88 | 12 |
| 18 | 18.00 | 18.00 | 28.00 | 2.38 | 21.00 | 21.00 | 22.75 | 28.00 | 24 | 1.38 | 24.75 | 22.75 | 21.00 | 1.50 | 1 1/4 | 7 3/4 | 8 1/4 | 465 | 26 | 630 | 43 | 1066 | 102 | 12 |
| 20 | 20.00 | 20.00 | 30.50 | 2.50 | 23.00 | 23.12 | 25.00 | 30.50 | 24 | 1.38 | 27.00 | 25.00 | 23.12 | 1.50 | 1 1/4 | 8 1/4 | 9 1/4 | 549 | 30 | 741 | 50 | 1228 | 118 | 12 |
| 24 | 24.00 | 24.00 | 36.00 | 2.75 | 27.25 | 27.62 | 29.62 | 36.00 | 24 | 1.62 | 32.00 | 29.62 | 27.62 | 1.75 | 1 1/2 | 9 1/4 | 10 1/4 | 778 | 42 | 1016 | 67 | 1627 | 160 | 12 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

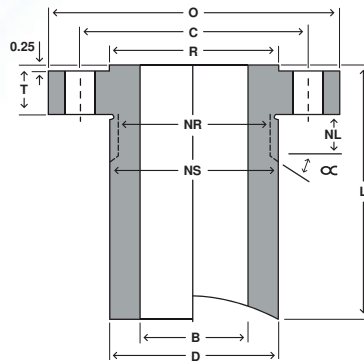
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



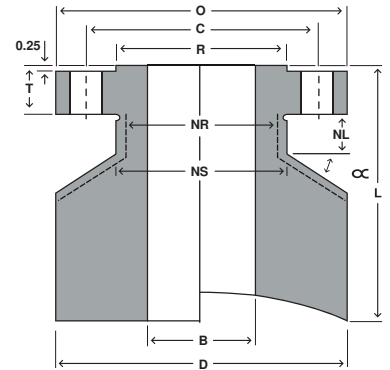
Class 400 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

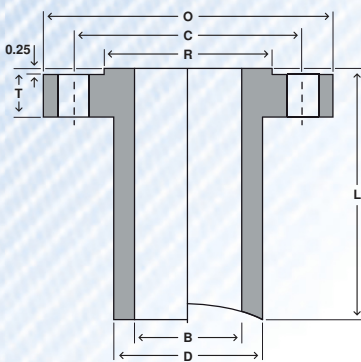
| Size | | | Flange | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | | Length |
|-------|--------------|---------|--------|------|----------|-----------|-------|-------|------------|-----------|-------------|----------|------------|---------------|-----------|-----------|------------|---------|--------|------|--------|------|--------|--------|
| Nom | Bore LWN & E | Bore HB | OD | Thk. | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 3.75 | 0.56 | 1.38 | 1.50 | 1.75 | 3.75 | 4 | 0.62 | 2.62 | 1.75 | 1.50 | 0.75 | 1/2 | 3 | 3 | 5 | 0.4 | 7 | 0.6 | 24 | 3.1 | 9 |
| 3/4 | 0.75 | 0.74 | 4.62 | 0.62 | 1.69 | 1.88 | 2.19 | 4.62 | 4 | 0.75 | 3.25 | 2.19 | 1.88 | 0.88 | 5/8 | 3 1/2 | 3 1/2 | 8 | 0.7 | 11 | 0.9 | 37 | 4.6 | 9 |
| 1 | 1.00 | 0.96 | 4.88 | 0.69 | 2.00 | 2.12 | 2.44 | 4.88 | 4 | 0.75 | 3.50 | 2.44 | 2.12 | 0.88 | 5/8 | 3 1/2 | 3 1/2 | 9 | 0.8 | 12 | 1.1 | 40 | 5.1 | 9 |
| 1 1/4 | 1.25 | 1.28 | 5.25 | 0.81 | 2.50 | 2.50 | 2.81 | 5.25 | 4 | 0.75 | 3.88 | 2.81 | 2.50 | 0.88 | 5/8 | 3 3/4 | 3 3/4 | 13 | 1 | 15 | 1.4 | 45 | 5.8 | 9 |
| 1 1/2 | 1.50 | 1.50 | 6.12 | 0.88 | 2.88 | 2.75 | 3.25 | 6.12 | 4 | 0.88 | 4.50 | 3.25 | 2.75 | 1.00 | 3/4 | 4 1/4 | 4 1/4 | 16 | 1.2 | 21 | 1.9 | 61 | 7.8 | 9 |
| 2 | 2.00 | 1.94 | 6.50 | 1.00 | 3.62 | 3.31 | 3.94 | 6.50 | 8 | 0.75 | 5.00 | 3.94 | 3.31 | 0.88 | 5/8 | 4 1/4 | 4 1/4 | 20 | 1.5 | 29 | 2.6 | 68 | 8.5 | 9 |
| 2 1/2 | 2.50 | 2.32 | 7.50 | 1.12 | 4.12 | 3.94 | 4.63 | 7.50 | 8 | 0.88 | 5.88 | 4.63 | 3.94 | 1.00 | 3/4 | 4 3/4 | 4 3/4 | 27 | 2.1 | 39 | 3.6 | 88 | 11 | 9 |
| 3 | 3.00 | 2.90 | 8.25 | 1.25 | 5.00 | 4.62 | 5.38 | 8.25 | 8 | 0.88 | 6.62 | 5.38 | 4.62 | 1.00 | 3/4 | 5 | 5 | 36 | 2.7 | 50 | 4.6 | 104 | 13 | 9 |
| 3 1/2 | 3.50 | 3.36 | 9.00 | 1.38 | 5.50 | 5.25 | 5.81 | 9.00 | 8 | 1.00 | 7.25 | 5.81 | 5.25 | 1.12 | 7/8 | 5 1/2 | 5 1/2 | 45 | 3.4 | 61 | 5.5 | 116 | 15 | 9 |
| 4 | 4.00 | 3.83 | 10.00 | 1.38 | 6.19 | 5.75 | 6.44 | 10.00 | 8 | 1.00 | 7.88 | 6.44 | 5.75 | 1.12 | 7/8 | 5 1/2 | 5 1/2 | 65 | 3.8 | 93 | 6.5 | 197 | 19 | 12 |
| 5 | 5.00 | 4.81 | 11.00 | 1.50 | 7.31 | 7.00 | 7.81 | 11.00 | 8 | 1.00 | 9.25 | 7.81 | 7.00 | 1.12 | 7/8 | 5 3/4 | 5 3/4 | 88 | 5.3 | 127 | 9.1 | 229 | 22 | 12 |
| 6 | 6.00 | 5.76 | 12.50 | 1.62 | 8.50 | 8.12 | 9.19 | 12.50 | 12 | 1.00 | 10.62 | 9.19 | 8.12 | 1.12 | 7/8 | 6 | 6 | 110 | 6.7 | 169 | 12 | 286 | 27 | 12 |
| 8 | 8.00 | 7.62 | 15.00 | 1.88 | 10.62 | 10.25 | 11.38 | 15.00 | 12 | 1.12 | 13.00 | 11.38 | 10.25 | 1.25 | 1 | 6 3/4 | 6 3/4 | 154 | 9.1 | 233 | 17 | 379 | 36 | 12 |
| 10 | 10.00 | 9.56 | 17.50 | 2.12 | 12.75 | 12.62 | 13.44 | 17.50 | 16 | 1.25 | 15.25 | 13.44 | 12.62 | 1.38 | 1 1/8 | 7 1/2 | 7 1/2 | 218 | 13 | 298 | 21 | 475 | 46 | 12 |
| 12 | 12.00 | 11.38 | 20.50 | 2.25 | 15.00 | 14.75 | 15.75 | 20.50 | 16 | 1.38 | 17.75 | 15.75 | 14.75 | 1.50 | 1 1/4 | 8 | 8 | 285 | 16 | 401 | 28 | 627 | 62 | 12 |
| 14 | 14.00 | 14.00 | 23.00 | 2.38 | 16.25 | 16.75 | 18.25 | 23.00 | 20 | 1.38 | 20.25 | 18.25 | 16.75 | 1.50 | 1 1/4 | 8 1/4 | 8 1/4 | 336 | 19 | 467 | 32 | 758 | 74 | 12 |
| 16 | 16.00 | 16.00 | 25.50 | 2.50 | 18.50 | 19.00 | 20.31 | 25.50 | 20 | 1.50 | 22.50 | 20.31 | 19.00 | 1.62 | 1 3/8 | 8 3/4 | 8 3/4 | 418 | 23 | 542 | 37 | 884 | 88 | 12 |
| 18 | 18.00 | 18.00 | 28.00 | 2.62 | 21.00 | 21.00 | 22.56 | 28.00 | 24 | 1.50 | 24.75 | 22.56 | 21.00 | 1.62 | 1 3/8 | 9 | 9 | 482 | 26 | 645 | 43 | 1033 | 102 | 12 |
| 20 | 20.00 | 20.00 | 30.50 | 2.75 | 23.00 | 23.12 | 24.63 | 30.50 | 24 | 1.62 | 27.00 | 24.63 | 23.12 | 1.75 | 1 1/2 | 9 1/2 | 9 3/4 | 568 | 30 | 759 | 50 | 1165 | 118 | 12 |
| 24 | 24.00 | 24.00 | 36.00 | 3.00 | 27.25 | 27.62 | 29.25 | 36.00 | 24 | 1.88 | 32.00 | 29.25 | 27.62 | 2.00 | 1 3/4 | 10 1/2 | 11 | 804 | 42 | 1040 | 67 | 1540 | 160 | 12 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

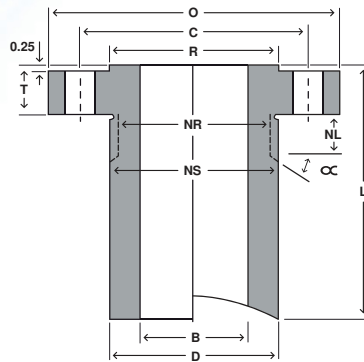
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



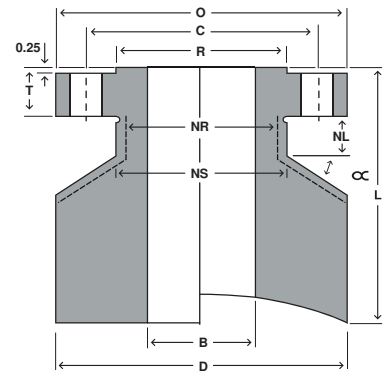
Class 600 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

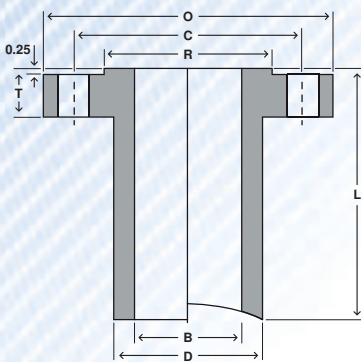
| Size | | Flange | | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | | Length |
|-------|--------------|---------|-------|------|----------|-----------|-------|-------|------------|-----------|-------------|----------|------------|---------------|-----------|-----------|------------|---------|--------|------|--------|------|--------|--------|
| Nom | Bore LWN & E | Bore HB | OD | Thk | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 3.75 | 0.56 | 1.38 | 1.50 | 1.75 | 3.75 | 4 | 0.62 | 2.62 | 1.75 | 1.50 | 0.75 | 1/2 | 3 | 3 | 5 | 0.4 | 7 | 0.6 | 24 | 3.1 | 9 |
| 3/4 | 0.75 | 0.74 | 4.62 | 0.62 | 1.69 | 1.88 | 2.19 | 4.62 | 4 | 0.75 | 3.25 | 2.19 | 1.88 | 0.88 | 5/8 | 3 1/2 | 3 1/2 | 8 | 0.7 | 11 | 0.9 | 36 | 4.6 | 9 |
| 1 | 1.00 | 0.96 | 4.88 | 0.69 | 2.00 | 2.12 | 2.44 | 4.88 | 4 | 0.75 | 3.50 | 2.44 | 2.12 | 0.88 | 5/8 | 3 1/2 | 3 1/2 | 9 | 0.8 | 12 | 1.1 | 39 | 5.1 | 9 |
| 1 1/4 | 1.25 | 1.28 | 5.25 | 0.81 | 2.50 | 2.50 | 2.81 | 5.25 | 4 | 0.75 | 3.88 | 2.81 | 2.50 | 0.88 | 5/8 | 3 3/4 | 3 3/4 | 13 | 1 | 15 | 1.4 | 44 | 5.8 | 9 |
| 1 1/2 | 1.50 | 1.50 | 6.12 | 0.88 | 2.88 | 2.75 | 3.25 | 6.12 | 4 | 0.88 | 4.50 | 3.25 | 2.75 | 1.00 | 3/4 | 4 1/4 | 4 1/4 | 16 | 1.2 | 21 | 1.9 | 59 | 7.8 | 9 |
| 2 | 2.00 | 1.94 | 6.50 | 1.00 | 3.62 | 3.31 | 3.94 | 6.50 | 8 | 0.75 | 5.00 | 3.94 | 3.31 | 0.88 | 5/8 | 4 1/4 | 4 1/4 | 20 | 1.5 | 29 | 2.6 | 67 | 8.5 | 9 |
| 2 1/2 | 2.50 | 2.32 | 7.50 | 1.12 | 4.12 | 3.94 | 4.62 | 7.50 | 8 | 0.88 | 5.88 | 4.62 | 3.94 | 1.00 | 3/4 | 5 | 4 3/4 | 27 | 2.1 | 39 | 3.6 | 85 | 11 | 9 |
| 3 | 3.00 | 2.90 | 8.25 | 1.25 | 5.00 | 4.62 | 5.38 | 8.25 | 8 | 0.88 | 6.62 | 5.38 | 4.62 | 1.00 | 3/4 | 5 | 5 1/4 | 36 | 2.7 | 50 | 4.6 | 104 | 13 | 9 |
| 3 1/2 | 3.50 | 3.36 | 9.00 | 1.38 | 5.50 | 5.25 | 5.81 | 9.00 | 8 | 1.00 | 7.25 | 5.81 | 5.25 | 1.12 | 7/8 | 5 1/2 | 5 1/2 | 45 | 3.4 | 57 | 5 | 116 | 15 | 9 |
| 4 | 4.00 | 3.83 | 10.75 | 1.50 | 6.19 | 6.00 | 7.06 | 10.75 | 8 | 1.00 | 8.50 | 7.06 | 6.00 | 1.12 | 7/8 | 5 3/4 | 6 | 77 | 4.5 | 113 | 7.8 | 238 | 22 | 12 |
| 5 | 5.00 | 4.81 | 13.00 | 1.75 | 7.31 | 7.50 | 8.88 | 13.00 | 8 | 1.12 | 10.50 | 8.88 | 7.50 | 1.25 | 1 | 6 1/2 | 6 1/2 | 123 | 7 | 180 | 12 | 336 | 32 | 12 |
| 6 | 6.00 | 5.76 | 14.00 | 1.88 | 8.50 | 8.75 | 9.88 | 14.00 | 12 | 1.12 | 11.50 | 9.88 | 8.75 | 1.25 | 1 | 6 3/4 | 7 | 152 | 9 | 207 | 14 | 373 | 36 | 12 |
| 8 | 8.00 | 7.62 | 16.50 | 2.19 | 10.62 | 10.75 | 11.94 | 16.50 | 12 | 1.25 | 13.75 | 11.94 | 10.75 | 1.38 | 1 1/8 | 7 3/4 | 8 | 207 | 11 | 277 | 19 | 478 | 46 | 12 |
| 10 | 10.00 | 9.56 | 20.00 | 2.50 | 12.75 | 13.50 | 15.00 | 20.00 | 16 | 1.38 | 17.00 | 15.00 | 13.50 | 1.50 | 1 1/4 | 8 1/2 | 8 3/4 | 324 | 18 | 433 | 30 | 683 | 67 | 12 |
| 12 | 12.00 | 11.38 | 22.00 | 2.62 | 15.00 | 15.75 | 17.25 | 22.00 | 20 | 1.38 | 19.25 | 17.25 | 15.75 | 1.50 | 1 1/4 | 8 3/4 | 9 | 393 | 23 | 533 | 37 | 779 | 76 | 12 |
| 14 | 14.00 | 14.00 | 23.75 | 2.75 | 16.25 | 17.00 | 18.56 | 23.75 | 20 | 1.50 | 20.75 | 18.56 | 17.00 | 1.62 | 1 3/8 | 9 1/4 | 9 1/2 | 471 | 21 | 631 | 33 | 1149 | 82 | 16 |
| 16 | 16.00 | 16.00 | 27.00 | 3.00 | 18.50 | 19.50 | 21.38 | 27.00 | 20 | 1.62 | 23.75 | 21.38 | 19.50 | 1.75 | 1 1/2 | 10 | 10 1/4 | 638 | 28 | 856 | 45 | 1471 | 105 | 16 |
| 18 | 18.00 | 18.00 | 29.25 | 3.25 | 21.00 | 21.50 | 23.19 | 29.25 | 20 | 1.75 | 25.75 | 23.19 | 21.50 | 1.88 | 1 5/8 | 10 3/4 | 11 | 731 | 31 | 941 | 48 | 1628 | 118 | 16 |
| 20 | 20.00 | 20.00 | 32.00 | 3.50 | 23.00 | 24.00 | 25.94 | 32.00 | 24 | 1.75 | 28.50 | 25.94 | 24.00 | 1.88 | 1 5/8 | 11 1/2 | 11 3/4 | 916 | 39 | 1180 | 61 | 1920 | 139 | 16 |
| 24 | 24.00 | 24.00 | 37.00 | 4.00 | 27.25 | 28.25 | 30.06 | 37.00 | 24 | 2.00 | 33.00 | 30.06 | 28.25 | 2.12 | 1 7/8 | 13 | 13 1/2 | 1210 | 49 | 1486 | 73 | 2376 | 176 | 16 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

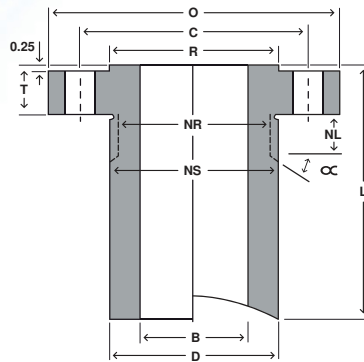
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



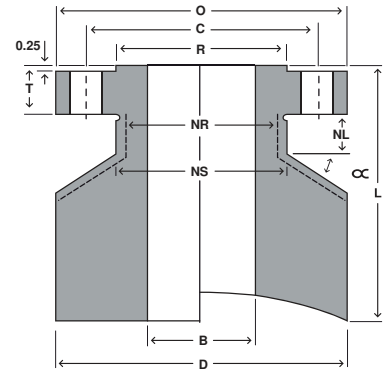
Class 900 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

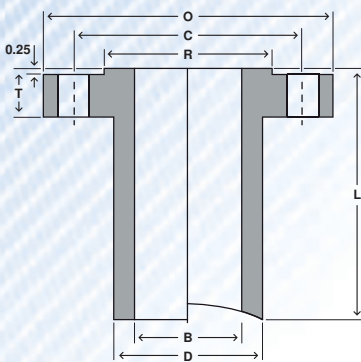
| Size | | Flange | | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | Length | | | | |
|-------|--------------|---------|-------|------|----------|-----------|-------|-------|------------|-----------|-------------|----------|------------|---------------|-----------|-----------|------------|---------|--------|------|--------|--------|--------|--------|--------|--------|---|
| Nom | Bore LWN & E | Bore HB | OD | Thk | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | HB | E | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | Base | Per 1" | L | |
| 1/2 | 0.50 | 0.55 | 4.75 | 0.88 | 1.38 | 1.56 | 2.00 | 4.75 | 4 | 0.88 | 3.25 | 2.00 | 1.56 | 1.00 | 3/4 | 4 1/4 | 4 1/4 | 8 | 0.5 | 10 | 0.8 | 37 | 5 | 9 | | 9 | |
| 3/4 | 0.75 | 0.74 | 5.12 | 1.00 | 1.69 | 1.81 | 2.25 | 5.12 | 4 | 0.88 | 3.50 | 2.25 | 1.81 | 1.00 | 3/4 | 4 1/2 | 4 1/2 | 10 | 0.6 | 13 | 1 | 42 | 5.7 | | 9 | 9 | |
| 1 | 1.00 | 0.96 | 5.88 | 1.12 | 2.00 | 2.12 | 2.56 | 5.88 | 4 | 1.00 | 4.00 | 2.56 | 2.12 | 1.12 | 7/8 | 5 | 5 | 13 | 0.8 | 17 | 1.3 | 54 | 7.5 | | 9 | 9 | |
| 1 1/4 | 1.25 | 1.28 | 6.25 | 1.12 | 2.50 | 2.50 | 2.94 | 6.25 | 4 | 1.00 | 4.38 | 2.94 | 2.50 | 1.12 | 7/8 | 5 | 5 | 17 | 1 | 20 | 1.6 | 61 | 8.3 | | 9 | 9 | |
| 1 1/2 | 1.50 | 1.50 | 7.00 | 1.25 | 2.88 | 2.75 | 3.25 | 7.00 | 4 | 1.12 | 4.88 | 3.25 | 2.75 | 1.25 | 1 | 5 1/2 | 5 1/2 | 21 | 1.2 | 26 | 1.9 | 77 | 10 | | 9 | 9 | |
| 2 | 2.00 | 1.94 | 8.50 | 1.50 | 3.62 | 4.12 | 5.06 | 8.50 | 8 | 1.00 | 6.50 | 5.06 | 4.12 | 1.12 | 7/8 | 5 3/4 | 5 3/4 | 42 | 2.9 | 56 | 4.9 | 115 | 15 | | 9 | 9 | |
| 2 1/2 | 2.50 | 2.32 | 9.62 | 1.62 | 4.12 | 4.88 | 5.88 | 9.62 | 8 | 1.12 | 7.50 | 5.88 | 4.88 | 1.25 | 1 | 6 1/4 | 6 1/4 | 56 | 3.9 | 75 | 6.5 | 144 | 19 | | 9 | 9 | |
| 3 | 3.00 | 2.90 | 9.50 | 1.50 | 5.00 | 5.00 | 6.06 | 9.50 | 8 | 1.00 | 7.50 | 6.06 | 5.00 | 1.12 | 7/8 | 5 3/4 | 5 3/4 | 51 | 3.6 | 71 | 6.3 | 139 | 18 | | 9 | 9 | |
| 4 | 4.00 | 3.83 | 11.50 | 1.75 | 6.19 | 6.25 | 7.44 | 11.50 | 8 | 1.25 | 9.25 | 7.44 | 6.25 | 1.38 | 1 1/8 | 6 3/4 | 6 3/4 | 93 | 5.1 | 133 | 9.1 | 270 | 26 | | 12 | 12 | |
| 5 | 5.00 | 4.81 | 13.75 | 2.00 | 7.31 | 7.50 | 9.00 | 13.75 | 8 | 1.38 | 11.00 | 9.00 | 7.50 | 1.50 | 1 1/4 | 7 1/2 | 7 1/2 | 135 | 7 | 194 | 13 | 376 | 37 | | 12 | 12 | |
| 6 | 6.00 | 5.76 | 15.00 | 2.19 | 8.50 | 9.25 | 10.69 | 15.00 | 12 | 1.25 | 12.50 | 10.69 | 9.25 | 1.38 | 1 1/8 | 7 1/2 | 7 3/4 | 191 | 11 | 259 | 18 | 436 | 42 | | 12 | 12 | |
| 8 | 8.00 | 7.62 | 18.50 | 2.50 | 10.62 | 11.75 | 13.31 | 18.50 | 12 | 1.50 | 15.50 | 13.31 | 11.75 | 1.62 | 1 3/8 | 8 3/4 | 8 3/4 | 297 | 16 | 389 | 27 | 626 | 62 | | 12 | 12 | |
| 10 | 10.00 | 9.56 | 21.50 | 2.75 | 12.75 | 14.50 | 16.31 | 21.50 | 16 | 1.50 | 18.50 | 16.31 | 14.50 | 1.62 | 1 3/8 | 9 1/4 | 9 1/4 | 422 | 25 | 558 | 39 | 824 | 81 | | 12 | 12 | |
| 12 | 12.00 | 11.38 | 24.00 | 3.12 | 15.00 | 16.50 | 18.81 | 24.00 | 20 | 1.50 | 21.00 | 18.81 | 16.50 | 1.62 | 1 3/8 | 10 | 10 | 518 | 29 | 715 | 50 | 984 | 96 | | 12 | 12 | |
| 14 | 14.00 | 14.00 | 25.25 | 3.38 | 16.25 | 17.75 | 19.62 | 25.25 | 20 | 1.62 | 22.00 | 19.62 | 17.75 | 1.75 | 1 1/2 | 10 3/4 | 11 | 624 | 26 | 817 | 42 | 1368 | 98 | | 16 | 16 | |
| 16 | 16.00 | 16.00 | 27.75 | 3.50 | 18.50 | 20.00 | 21.69 | 27.75 | 20 | 1.75 | 24.25 | 21.69 | 20.00 | 1.88 | 1 5/8 | 11 1/4 | 11 1/2 | 750 | 32 | 942 | 48 | 1573 | 114 | | 16 | 16 | |
| 18 | 18.00 | 18.00 | 31.00 | 4.00 | 21.00 | 22.25 | 24.06 | 31.00 | 20 | 2.00 | 27.00 | 24.06 | 22.25 | 2.12 | 1 7/8 | 12 3/4 | 13 1/4 | 950 | 38 | 1169 | 57 | 1898 | 142 | | 16 | 16 | |
| 20 | 20.00 | 20.00 | 33.75 | 4.25 | 23.00 | 24.50 | 26.38 | 33.75 | 20 | 2.12 | 29.50 | 26.38 | 24.50 | 2.25 | 2 | 13 3/4 | 14 1/4 | 1121 | 43 | 1378 | 66 | 2182 | 164 | | 16 | 16 | |
| 24 | 24.00 | 24.00 | 41.00 | 5.50 | 27.25 | 29.50 | 31.62 | 41.00 | 20 | 2.62 | 35.50 | 31.62 | 29.50 | 2.75 | 2 1/2 | 17 1/4 | 18 | 1865 | 65 | 2160 | 94 | 3084 | 246 | | 16 | 16 | |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

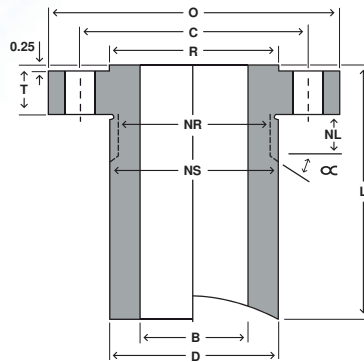
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



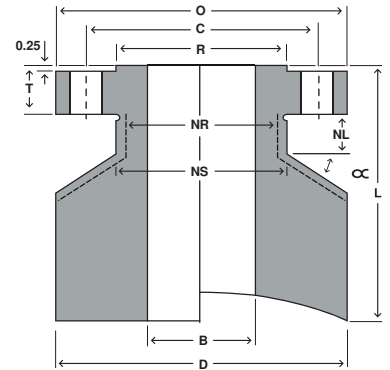
Class 1500 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

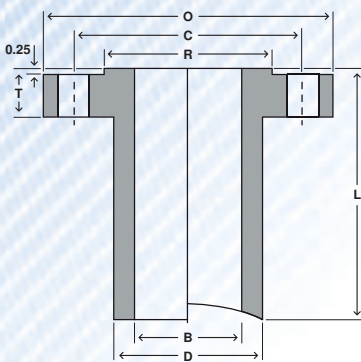
| Size | | Flange | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | Length | | |
|-------|--------------|---------|-------|------|-----------|-------|-------|---------|------------|-----------|-------------|----------|------------|---------------|-------|-----------|------------|------|--------|------|--------|--------|--------|------|
| Nom | Bore LWN & E | Bore HB | OD | Thk | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 4.75 | 0.88 | 1.38 | 1.56 | 2.00 | 4.75 | 4 | 0.88 | 3.25 | 2.00 | 1.56 | 1.00 | 3/4 | 4 1/4 | 4 1/4 | 8 | 0.5 | 10 | 0.8 | 37 | 5 | 9 |
| 3/4 | 0.75 | 0.74 | 5.12 | 1.00 | 1.69 | 1.81 | 2.25 | 5.12 | 4 | 0.88 | 3.50 | 2.25 | 1.81 | 1.00 | 3/4 | 4 1/2 | 4 1/2 | 10 | 0.6 | 13 | 1 | 42 | 5.7 | 9 |
| 1 | 1.00 | 0.96 | 5.88 | 1.12 | 2.00 | 2.12 | 2.56 | 5.88 | 4 | 1.00 | 4.00 | 2.56 | 2.12 | 1.12 | 7/8 | 5 | 5 | 13 | 0.8 | 17 | 1.3 | 54 | 7.5 | 9 |
| 1 1/4 | 1.25 | 1.28 | 6.25 | 1.12 | 2.50 | 2.50 | 2.94 | 6.25 | 4 | 1.00 | 4.38 | 2.94 | 2.50 | 1.12 | 7/8 | 5 | 5 | 17 | 1 | 20 | 1.6 | 61 | 8.3 | 9 |
| 1 1/2 | 1.50 | 1.50 | 7.00 | 1.25 | 2.88 | 2.75 | 3.25 | 7.00 | 4 | 1.12 | 4.88 | 3.25 | 2.75 | 1.25 | 1 | 5 1/2 | 5 1/2 | 21 | 1.2 | 26 | 1.9 | 77 | 10 | 9 |
| 2 | 2.00 | 1.94 | 8.50 | 1.50 | 3.62 | 4.12 | 5.06 | 8.50 | 8 | 1.00 | 6.50 | 5.06 | 4.12 | 1.12 | 7/8 | 5 3/4 | 5 3/4 | 42 | 2.9 | 56 | 4.9 | 115 | 15 | 9 |
| 2 1/2 | 2.50 | 2.32 | 9.62 | 1.62 | 4.12 | 4.88 | 5.88 | 9.62 | 8 | 1.12 | 7.50 | 5.88 | 4.88 | 1.25 | 1 | 6 1/4 | 6 1/4 | 56 | 3.9 | 75 | 6.5 | 144 | 19 | 9 |
| 3 | 3.00 | 2.90 | 10.50 | 1.88 | 5.00 | 5.25 | 6.19 | 10.50 | 8 | 1.25 | 8.00 | 6.19 | 5.25 | 1.38 | 1 1/8 | 7 | 7 | 67 | 4.1 | 84 | 6.7 | 161 | 23 | 9 |
| 4 | 4.00 | 3.83 | 12.25 | 2.12 | 6.19 | 6.38 | 7.50 | 12.25 | 8 | 1.38 | 9.50 | 7.50 | 6.38 | 1.50 | 1 1/4 | 7 3/4 | 7 3/4 | 110 | 5.5 | 147 | 9.3 | 302 | 30 | 12 |
| 5 | 5.00 | 4.81 | 14.75 | 2.88 | 7.31 | 7.75 | 9.12 | 14.75 | 8 | 1.62 | 11.50 | 9.12 | 7.75 | 1.75 | 1 1/2 | 9 3/4 | 9 3/4 | 181 | 7.8 | 233 | 13 | 414 | 43 | 12 |
| 6 | 6.00 | 5.76 | 15.50 | 3.25 | 8.50 | 9.00 | 10.31 | 15.50 | 12 | 1.50 | 12.50 | 10.31 | 9.00 | 1.62 | 1 3/8 | 10 1/4 | 10 1/2 | 215 | 10 | 272 | 16 | 445 | 46 | 12 |
| 8 | 8.00 | 7.62 | 19.00 | 3.62 | 10.62 | 11.50 | 12.94 | 19.00 | 12 | 1.75 | 15.50 | 12.94 | 11.50 | 1.88 | 1 5/8 | 11 1/2 | 12 3/4 | 337 | 15 | 417 | 24 | 629 | 67 | 12 |
| 10 | 10.00 | 9.56 | 23.00 | 4.25 | 12.75 | 14.50 | 16.06 | 23.00 | 12 | 2.00 | 19.00 | 16.06 | 14.50 | 2.12 | 1 7/8 | 13 1/4 | 13 1/2 | 546 | 25 | 651 | 37 | 888 | 97 | 12 |
| 12 | 12.00 | 11.38 | 26.50 | 4.88 | 15.00 | 17.75 | 19.38 | 26.50 | 16 | 2.12 | 22.50 | 19.38 | 17.75 | 2.25 | 2 | 14 3/4 | 15 1/4 | 946 | 38 | 1148 | 55 | 1683 | 127 | 16 |
| 14 | 14.00 | 14.00 | 29.50 | 5.25 | 16.25 | 19.50 | 21.50 | 29.50 | 16 | 2.38 | 25.00 | 21.50 | 19.50 | 2.50 | 2 1/4 | 16 | 16 3/4 | 1116 | 41 | 1308 | 59 | 1929 | 150 | 16 |
| 16 | 16.00 | 16.00 | 32.50 | 5.75 | 18.50 | 21.75 | 23.88 | 32.50 | 16 | 2.62 | 27.75 | 23.88 | 21.75 | 2.75 | 2 1/2 | 17 1/2 | 18 1/2 | 1371 | 48 | 1588 | 70 | 2238 | 178 | 16 |
| 18 | 18.00 | 18.00 | 36.00 | 6.38 | 21.00 | 23.50 | 26.25 | 36.00 | 16 | 2.88 | 30.50 | 26.25 | 23.50 | 3.00 | 2 3/4 | 19 1/2 | 20 3/4 | 1674 | 51 | 1959 | 81 | 2629 | 216 | 16 |
| 20 | 20.00 | 20.00 | 38.75 | 7.00 | 23.00 | 25.25 | 28.12 | 38.75 | 16 | 3.12 | 32.75 | 28.12 | 25.25 | 3.25 | 3 | 21 1/4 | 22 1/4 | 1943 | 53 | 2241 | 87 | 2868 | 245 | 16 |
| 24 | 24.00 | 24.00 | 46.00 | 8.00 | 27.25 | 30.00 | 33.62 | 46.00 | 16 | 3.62 | 39.00 | 33.62 | 30.00 | 3.75 | 3 1/2 | 24 1/4 | 25 1/2 | 2936 | 72 | 3334 | 123 | 3819 | 343 | 16 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

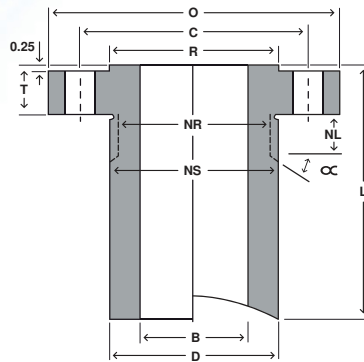
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



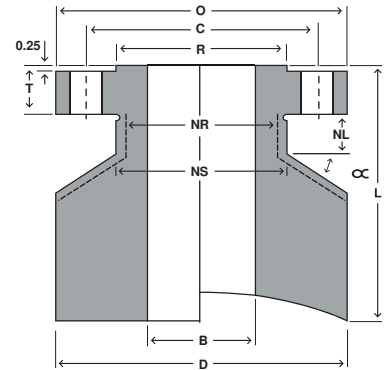
Class 2500 Standard Connection Specifications



LONG WELD NECK "LWN"



HEAVY BARREL "HB"



EQUAL BARREL "E"

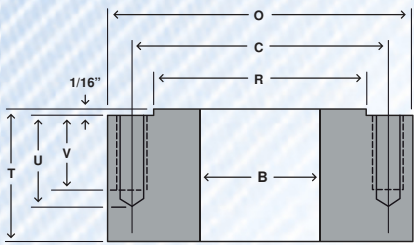
| Size | | Flange | | | Barrel OD | | | Bolting | | | Nut | | | Stud Bolt | | | Weights | | | | | Length | | |
|-------|--------------|---------|-------|------|-----------|-------|-------|---------|------------|-----------|-------------|----------|------------|---------------|-------|-----------|------------|------|--------|------|--------|--------|--------|------|
| Nom | Bore LWN & E | Bore HB | OD | Thk | RF of OD | LWN | HB | E | # of Holes | Hole Size | Bolt Circle | Stop Dia | Relief Dia | Relief Length | Size | RF Length | RTJ Length | LWN | | HB | | E | | Base |
| | B | B | O | T | R | D | D | D | | | C | NS | NR | NL | | | | Base | Per 1" | Base | Per 1" | Base | Per 1" | L |
| 1/2 | 0.50 | 0.55 | 5.25 | 1.19 | 1.38 | 1.81 | 2.25 | 5.25 | 4 | 0.88 | 3.50 | 2.25 | 1.81 | 1.00 | 3/4 | 4 3/4 | 4 3/4 | 11 | 0.7 | 14 | 1.1 | 45 | 6.1 | 9 |
| 3/4 | 0.75 | 0.74 | 5.50 | 1.25 | 1.69 | 2.06 | 2.50 | 5.50 | 4 | 0.88 | 3.75 | 2.50 | 2.06 | 1.00 | 3/4 | 5 | 5 | 13 | 0.8 | 17 | 1.3 | 49 | 6.6 | 9 |
| 1 | 1.00 | 0.96 | 6.25 | 1.38 | 2.00 | 2.25 | 2.81 | 6.25 | 4 | 1.00 | 4.25 | 2.81 | 2.25 | 1.12 | 7/8 | 5 1/2 | 5 1/2 | 18 | 0.9 | 22 | 1.6 | 62 | 8.5 | 9 |
| 1 1/4 | 1.25 | 1.28 | 7.25 | 1.50 | 2.50 | 2.88 | 3.50 | 7.25 | 4 | 1.12 | 5.12 | 3.50 | 2.88 | 1.25 | 1 | 6 | 6 | 27 | 1.5 | 32 | 2.4 | 84 | 11 | 9 |
| 1 1/2 | 1.50 | 1.50 | 8.00 | 1.75 | 2.88 | 3.12 | 3.94 | 8.00 | 4 | 1.25 | 5.75 | 3.94 | 3.12 | 1.38 | 1 1/8 | 6 3/4 | 6 3/4 | 33 | 1.7 | 42 | 3 | 94 | 14 | 9 |
| 2 | 2.00 | 1.94 | 9.25 | 2.00 | 3.62 | 3.75 | 5.12 | 9.25 | 8 | 1.12 | 6.75 | 5.12 | 3.75 | 1.25 | 1 | 7 | 7 | 48 | 2.2 | 66 | 5 | 131 | 18 | 9 |
| 2 1/2 | 2.50 | 2.32 | 10.50 | 2.25 | 4.12 | 4.50 | 5.94 | 10.50 | 8 | 1.25 | 7.75 | 5.94 | 4.50 | 1.38 | 1 1/8 | 7 3/4 | 8 | 66 | 3.1 | 90 | 6.7 | 165 | 23 | 9 |
| 3 | 3.00 | 2.90 | 12.00 | 2.62 | 5.00 | 5.25 | 7.00 | 12.00 | 8 | 1.38 | 9.00 | 7.00 | 5.25 | 1.50 | 1 1/4 | 8 3/4 | 9 | 97 | 4.1 | 127 | 9 | 210 | 30 | 9 |
| 4 | 4.00 | 3.83 | 14.00 | 3.00 | 6.19 | 6.50 | 8.38 | 14.00 | 8 | 1.62 | 10.75 | 8.38 | 6.50 | 1.75 | 1 1/2 | 10 | 10 1/4 | 159 | 5.8 | 218 | 12 | 391 | 40 | 12 |
| 5 | 5.00 | 4.81 | 16.50 | 3.62 | 7.31 | 8.00 | 10.00 | 16.50 | 8 | 1.88 | 12.75 | 10.00 | 8.00 | 2.00 | 1 3/4 | 11 3/4 | 12 1/4 | 248 | 8.7 | 319 | 17 | 518 | 55 | 12 |
| 6 | 6.00 | 5.76 | 19.00 | 4.25 | 8.50 | 9.25 | 11.38 | 19.00 | 8 | 2.12 | 14.50 | 11.38 | 9.25 | 2.25 | 2 | 13 1/2 | 14 | 358 | 11 | 441 | 21 | 641 | 73 | 12 |
| 8 | 8.00 | 7.62 | 21.75 | 5.00 | 10.62 | 12.00 | 14.12 | 21.75 | 12 | 2.12 | 17.25 | 14.12 | 12.00 | 2.25 | 2 | 15 | 15 1/2 | 589 | 18 | 743 | 31 | 1167 | 92 | 16 |
| 10 | 10.00 | 9.56 | 26.50 | 6.50 | 12.75 | 14.75 | 17.38 | 26.50 | 12 | 2.62 | 21.25 | 17.38 | 14.75 | 2.75 | 2 1/2 | 19 1/4 | 20 | 997 | 26 | 1202 | 47 | 1625 | 134 | 16 |
| 12 | 12.00 | 11.38 | 30.00 | 7.25 | 15.00 | 17.38 | 20.12 | 30.00 | 12 | 2.88 | 24.38 | 20.12 | 17.38 | 3.00 | 2 3/4 | 21 1/4 | 22 | 1363 | 35 | 1609 | 61 | 1995 | 168 | 16 |

For intermediate connections, see subcategory under Flange Dims/Weights at www.texasflange.com.

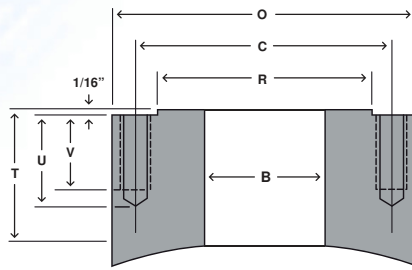
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



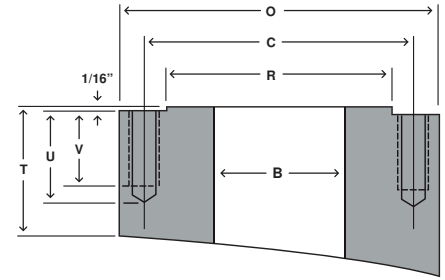
Class 150 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| B | O | T | R | C | | | U | | | V | Base | per 1" |
| 1/2 | 3.50 | 1.25 | 1.38 | 2.38 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 3 | 2.7 |
| 3/4 | 3.88 | 1.25 | 1.69 | 2.75 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 3.7 | 3.2 |
| 1 | 4.25 | 1.25 | 2.00 | 3.12 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 4.3 | 3.8 |
| 1 1/4 | 4.62 | 1.25 | 2.50 | 3.50 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 5.1 | 4.4 |
| 1 1/2 | 5.00 | 1.25 | 2.88 | 3.88 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 5.9 | 5.1 |
| 2 | 6.00 | 1.50 | 3.62 | 4.75 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 10.2 | 7.1 |
| 2 1/2 | 7.00 | 1.50 | 4.12 | 5.50 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 14 | 9.5 |
| 3 | 7.50 | 1.50 | 5.00 | 6.00 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 15 | 11 |
| 3 1/2 | 8.50 | 1.50 | 5.50 | 7.00 | 17/32 | 8 | 1.12 | 5/8 | 11 | 0.75 | 19 | 13 |
| 4 | 9.00 | 1.50 | 6.19 | 7.50 | 17/32 | 8 | 1.12 | 5/8 | 11 | 0.75 | 20 | 14 |
| 5 | 10.00 | 1.75 | 7.31 | 8.50 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 28 | 17 |
| 6 | 11.00 | 1.75 | 8.50 | 9.50 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 31 | 19 |
| 8 | 13.50 | 1.75 | 10.62 | 11.75 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 46 | 26 |
| 10 | 16.00 | 1.81 | 12.75 | 14.25 | 49/64 | 12 | 1.44 | 7/8 | 9 | 1.00 | 58 | 35 |
| 12 | 19.00 | 1.81 | 15.00 | 17.00 | 49/64 | 12 | 1.44 | 7/8 | 9 | 1.00 | 83 | 48 |
| 14 | 21.00 | 2.00 | 16.25 | 18.75 | 7/8 | 12 | 1.56 | 1 | 8 | 1.12 | 102 | 55 |
| 16 | 23.50 | 2.00 | 18.50 | 21.25 | 7/8 | 16 | 1.56 | 1 | 8 | 1.12 | 123 | 66 |
| 18 | 25.00 | 2.25 | 21.00 | 22.75 | 1 | 16 | 1.81 | 1 1/8 | 8 | 1.25 | 140 | 67 |
| 20 | 27.50 | 2.25 | 23.00 | 25.00 | 1 | 20 | 1.81 | 1 1/8 | 8 | 1.25 | 166 | 79 |
| 24 | 32.00 | 2.50 | 27.25 | 29.50 | 1 1/8 | 20 | 2.12 | 1 1/4 | 8 | 1.44 | 231 | 100 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

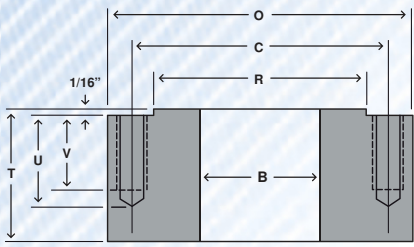
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is in accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi(g), and a stud stress of 25,000 psi(g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

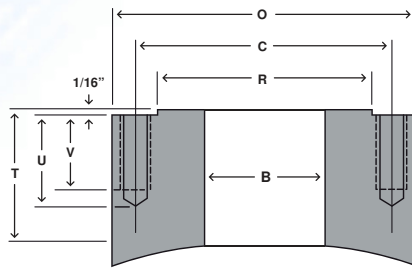
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



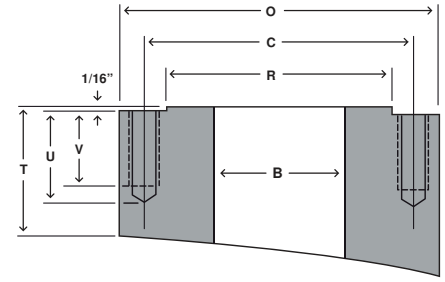
Class 300 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| B | O | T | R | C | | | U | | | V | Base | per 1" |
| 1/2 | 3.75 | 1.25 | 1.38 | 2.62 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 3.5 | 3.1 |
| 3/4 | 4.62 | 1.50 | 1.69 | 3.25 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 6.4 | 4.6 |
| 1 | 4.88 | 1.50 | 2.00 | 3.50 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 7 | 5.1 |
| 1 1/4 | 5.25 | 1.50 | 2.50 | 3.88 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 8 | 5.8 |
| 1 1/2 | 6.12 | 1.75 | 2.88 | 4.50 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 13 | 7.8 |
| 2 | 6.50 | 1.50 | 3.62 | 5.00 | 17/32 | 8 | 1.12 | 5/8 | 11 | 0.75 | 12 | 8.5 |
| 2 1/2 | 7.50 | 1.75 | 4.12 | 5.88 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 18 | 11 |
| 3 | 8.25 | 1.75 | 5.00 | 6.62 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 22 | 14 |
| 3 1/2 | 9.00 | 1.75 | 5.50 | 7.25 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 25 | 15 |
| 4 | 10.00 | 1.75 | 6.19 | 7.88 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 30 | 19 |
| 5 | 11.00 | 1.75 | 7.31 | 9.25 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 36 | 21 |
| 6 | 12.50 | 1.75 | 8.50 | 10.62 | 21/32 | 12 | 1.31 | 3/4 | 10 | 0.88 | 44 | 27 |
| 8 | 15.00 | 1.88 | 10.62 | 13.00 | 49/64 | 12 | 1.44 | 7/8 | 9 | 1.00 | 63 | 36 |
| 10 | 17.50 | 2.12 | 12.75 | 15.25 | 7/8 | 16 | 1.56 | 1 | 8 | 1.12 | 90 | 46 |
| 12 | 20.50 | 2.25 | 15.00 | 17.75 | 1 | 16 | 1.81 | 1 1/8 | 8 | 1.25 | 127 | 61 |
| 14 | 23.00 | 2.25 | 16.25 | 20.25 | 1 | 20 | 1.81 | 1 1/8 | 8 | 1.25 | 153 | 74 |
| 16 | 25.50 | 2.50 | 18.50 | 22.50 | 1 1/8 | 20 | 2.12 | 1 1/4 | 8 | 1.44 | 201 | 88 |
| 18 | 28.00 | 2.50 | 21.00 | 24.75 | 1 1/8 | 24 | 2.12 | 1 1/4 | 8 | 1.44 | 235 | 102 |
| 20 | 30.50 | 2.50 | 23.00 | 27.00 | 1 1/8 | 24 | 2.12 | 1 1/4 | 8 | 1.44 | 273 | 118 |
| 24 | 36.00 | 2.88 | 27.25 | 32.00 | 1 3/8 | 24 | 2.38 | 1 1/2 | 8 | 1.69 | 425 | 160 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

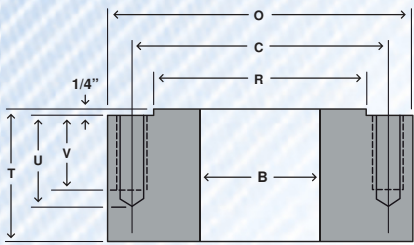
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is in accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi(g), and a stud stress of 25,000 psi(g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

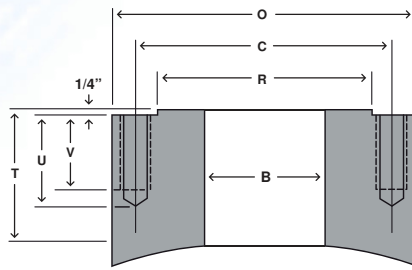
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



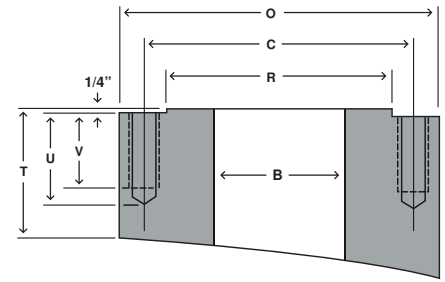
Class 600 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| B | O | T | R | C | | | U | | | V | Base | per 1" |
| 1/2 | 3.75 | 1.50 | 1.38 | 2.62 | 27/64 | 4 | 0.88 | 1/2 | 13 | 0.56 | 3.8 | 3.1 |
| 3/4 | 4.62 | 1.75 | 1.69 | 3.25 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 6.7 | 4.6 |
| 1 | 4.88 | 1.75 | 2.00 | 3.50 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 7.4 | 5.1 |
| 1 1/4 | 5.25 | 1.75 | 2.50 | 3.88 | 17/32 | 4 | 1.12 | 5/8 | 11 | 0.75 | 8.6 | 5.8 |
| 1 1/2 | 6.12 | 1.94 | 2.88 | 4.50 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 13 | 7.8 |
| 2 | 6.50 | 1.75 | 3.62 | 5.00 | 17/32 | 8 | 1.12 | 5/8 | 11 | 0.75 | 12 | 8.5 |
| 2 1/2 | 7.50 | 2.00 | 4.12 | 5.88 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 19 | 11 |
| 3 | 8.25 | 2.00 | 5.00 | 6.62 | 21/32 | 8 | 1.31 | 3/4 | 10 | 0.88 | 23 | 13 |
| 3 1/2 | 9.00 | 2.12 | 5.50 | 7.25 | 49/64 | 8 | 1.44 | 7/8 | 9 | 1.00 | 28 | 15 |
| 4 | 10.75 | 2.12 | 6.19 | 8.50 | 49/64 | 8 | 1.44 | 7/8 | 9 | 1.00 | 41 | 22 |
| 5 | 13.00 | 2.25 | 7.31 | 10.50 | 7/8 | 8 | 1.56 | 1 | 8 | 1.12 | 63 | 32 |
| 6 | 14.00 | 2.25 | 8.50 | 11.50 | 7/8 | 12 | 1.56 | 1 | 8 | 1.12 | 68 | 36 |
| 8 | 16.50 | 2.50 | 10.62 | 13.75 | 1 | 12 | 1.81 | 1 1/8 | 8 | 1.25 | 101 | 46 |
| 10 | 20.00 | 2.75 | 12.75 | 17.00 | 1 1/8 | 16 | 2.12 | 1 1/4 | 8 | 1.44 | 160 | 67 |
| 12 | 22.00 | 2.75 | 15.00 | 19.25 | 1 1/8 | 20 | 2.12 | 1 1/4 | 8 | 1.44 | 180 | 76 |
| 14 | 23.75 | 2.88 | 16.25 | 20.75 | 1 1/4 | 20 | 2.25 | 1 3/8 | 8 | 1.56 | 201 | 82 |
| 16 | 27.00 | 3.00 | 18.50 | 23.75 | 1 3/8 | 20 | 2.38 | 1 1/2 | 8 | 1.69 | 271 | 105 |
| 18 | 29.25 | 3.25 | 21.00 | 25.75 | 1 1/2 | 20 | 2.56 | 1 5/8 | 8 | 1.88 | 331 | 118 |
| 20 | 32.00 | 3.25 | 23.00 | 28.50 | 1 1/2 | 24 | 2.56 | 1 5/8 | 8 | 1.88 | 387 | 139 |
| 24 | 37.00 | 3.75 | 27.25 | 33.00 | 1 3/4 | 24 | 3.00 | 1 7/8 | 8 | 2.12 | 571 | 176 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

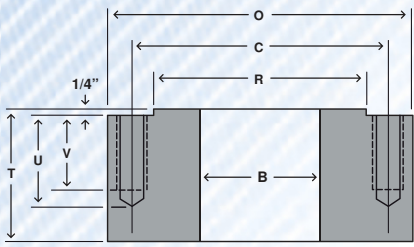
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is in accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi(g), and a stud stress of 25,000 psi(g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

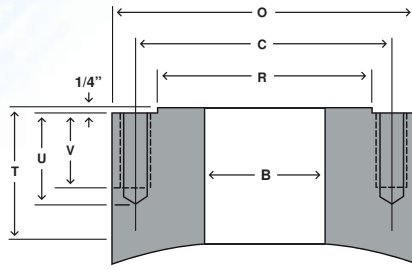
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



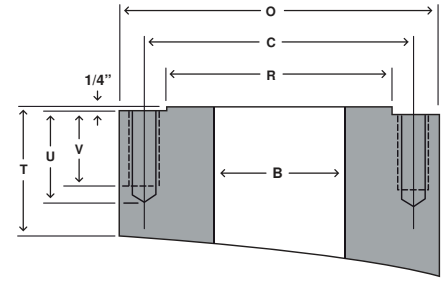
Class 900 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| B | O | T | R | C | | | U | | | V | Base | per 1" |
| 1/2 | 4.75 | 2.00 | 1.38 | 3.25 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 8.2 | 5 |
| 3/4 | 5.12 | 2.00 | 1.69 | 3.50 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 10 | 5.7 |
| 1 | 5.88 | 2.12 | 2.00 | 4.00 | 49/64 | 4 | 1.44 | 7/8 | 9 | 1.00 | 14 | 7.5 |
| 1 1/4 | 6.25 | 2.12 | 2.50 | 4.38 | 49/64 | 4 | 1.44 | 7/8 | 9 | 1.00 | 15 | 8.3 |
| 1 1/2 | 7.00 | 2.25 | 2.88 | 4.88 | 7/8 | 4 | 1.56 | 1 | 8 | 1.12 | 20 | 10 |
| 2 | 8.50 | 2.12 | 3.62 | 6.50 | 49/64 | 8 | 1.44 | 7/8 | 9 | 1.00 | 27 | 15 |
| 2 1/2 | 9.62 | 2.25 | 4.12 | 7.50 | 7/8 | 8 | 1.56 | 1 | 8 | 1.12 | 37 | 19 |
| 3 | 9.50 | 2.12 | 5.00 | 7.50 | 49/64 | 8 | 1.44 | 7/8 | 9 | 1.00 | 33 | 18 |
| 4 | 11.50 | 2.50 | 6.19 | 9.25 | 1 | 8 | 1.81 | 1 1/8 | 8 | 1.25 | 56 | 26 |
| 5 | 13.75 | 2.75 | 7.31 | 11.00 | 1 1/8 | 8 | 2.12 | 1 1/4 | 8 | 1.44 | 87 | 37 |
| 6 | 15.00 | 2.50 | 8.50 | 12.50 | 1 | 12 | 1.81 | 1 1/8 | 8 | 1.25 | 91 | 42 |
| 8 | 18.50 | 3.00 | 10.62 | 15.50 | 1 1/4 | 12 | 2.25 | 1 3/8 | 8 | 1.56 | 162 | 62 |
| 10 | 21.50 | 3.00 | 12.75 | 18.50 | 1 1/4 | 16 | 2.25 | 1 3/8 | 8 | 1.56 | 210 | 81 |
| 12 | 24.00 | 3.00 | 15.00 | 21.00 | 1 1/4 | 20 | 2.25 | 1 3/8 | 8 | 1.56 | 251 | 96 |
| 14 | 25.25 | 3.25 | 16.25 | 22.00 | 1 3/8 | 20 | 2.38 | 1 1/2 | 8 | 1.69 | 275 | 98 |
| 16 | 27.75 | 3.50 | 18.50 | 24.25 | 1 1/2 | 20 | 2.56 | 1 5/8 | 8 | 1.88 | 348 | 114 |
| 18 | 31.00 | 3.88 | 21.00 | 27.00 | 1 3/4 | 20 | 3.00 | 1 7/8 | 8 | 2.12 | 473 | 142 |
| 20 | 33.75 | 4.25 | 23.00 | 29.50 | 1 7/8 | 20 | 3.31 | 2 | 8 | 2.25 | 608 | 164 |
| 24 | 41.00 | 5.12 | 27.25 | 35.50 | 2 3/8 | 20 | 4.00 | 2 1/2 | 8 | 2.81 | 1096 | 246 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

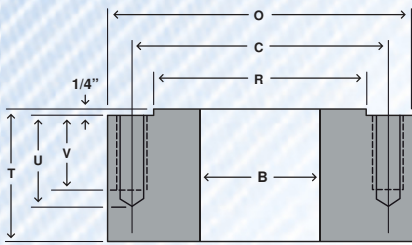
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is in accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi (g), and a stud stress of 25,000 psi (g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

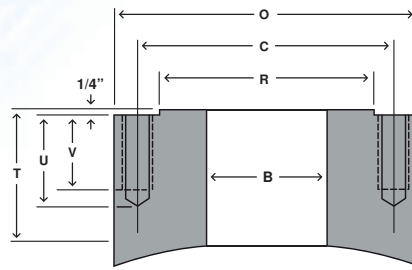
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



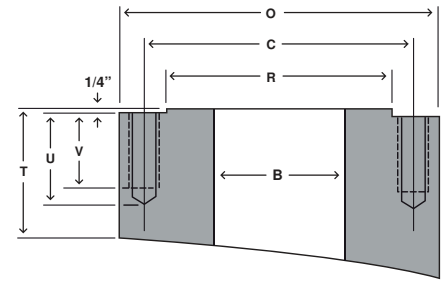
Class 1500 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore Size | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-----------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| | | | | | | | | | | | Base | per 1" |
| B | O | T | R | C | | | U | | | V | | |
| 1/2 | 4.75 | 2.00 | 1.38 | 3.25 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 8.2 | 5 |
| 3/4 | 5.12 | 2.00 | 1.69 | 3.50 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 10 | 5.7 |
| 1 | 5.88 | 2.12 | 2.00 | 4.00 | 49/64 | 4 | 1.44 | 7/8 | 9 | 1.00 | 14 | 7.5 |
| 1 1/4 | 6.25 | 2.12 | 2.50 | 4.38 | 49/64 | 4 | 1.44 | 7/8 | 9 | 1.00 | 15 | 8.3 |
| 1 1/2 | 7.00 | 2.25 | 2.88 | 4.88 | 7/8 | 4 | 1.56 | 1 | 8 | 1.12 | 20 | 10 |
| 2 | 8.50 | 2.12 | 3.62 | 6.50 | 49/64 | 8 | 1.44 | 7/8 | 9 | 1.00 | 27 | 15 |
| 2 1/2 | 9.62 | 2.25 | 4.12 | 7.50 | 7/8 | 8 | 1.56 | 1 | 8 | 1.12 | 37 | 19 |
| 3 | 10.50 | 2.50 | 5.00 | 8.00 | 1 | 8 | 1.81 | 1 1/8 | 8 | 1.25 | 48 | 23 |
| 4 | 12.25 | 2.75 | 6.19 | 9.50 | 1 1/8 | 8 | 2.12 | 1 1/4 | 8 | 1.44 | 70 | 30 |
| 5 | 14.75 | 3.12 | 7.31 | 11.50 | 1 3/8 | 8 | 2.38 | 1 1/2 | 8 | 1.69 | 114 | 43 |
| 6 | 15.50 | 3.00 | 8.50 | 12.50 | 1 1/4 | 12 | 2.25 | 1 3/8 | 8 | 1.56 | 116 | 45 |
| 8 | 19.00 | 3.50 | 10.62 | 15.50 | 1 1/2 | 12 | 2.56 | 1 5/8 | 8 | 1.88 | 224 | 66 |
| 10 | 23.00 | 3.88 | 12.75 | 19.00 | 1 3/4 | 12 | 3.00 | 1 7/8 | 8 | 2.12 | 345 | 95 |
| 12 | 26.50 | 4.12 | 15.00 | 22.50 | 1 7/8 | 16 | 3.31 | 2 | 8 | 2.25 | 456 | 124 |
| 14 | 29.50 | 4.25 | 16.25 | 25.00 | 2 1/8 | 16 | 3.56 | 2 1/4 | 8 | 2.56 | 540 | 150 |
| 16 | 32.50 | 5.00 | 18.50 | 27.75 | 2 3/8 | 16 | 4.00 | 2 1/2 | 8 | 2.81 | 762 | 178 |
| 18 | 36.00 | 5.50 | 21.00 | 30.50 | 2 5/8 | 16 | 4.38 | 2 3/4 | 8 | 3.12 | 1024 | 216 |
| 20 | 38.75 | 5.88 | 23.00 | 32.75 | 2 7/8 | 16 | 4.62 | 3 | 8 | 3.44 | 1234 | 245 |
| 24 | 46.00 | 6.75 | 27.25 | 39.00 | 3 3/8 | 16 | 5.38 | 3 1/2 | 8 | 4.00 | 1992 | 343 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

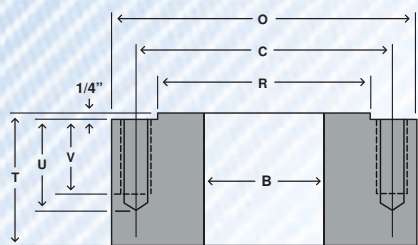
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is an accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi (g), and a stud stress of 25,000 psi (g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

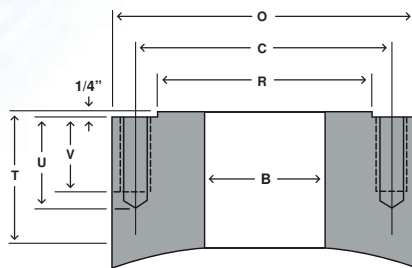
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



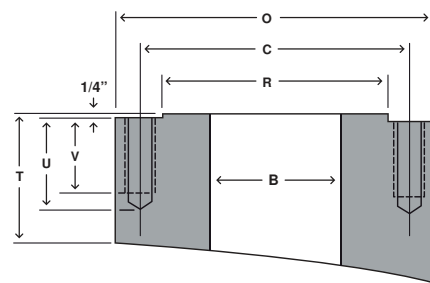
Class 2500 Studding Outlets



FLAT BOTTOM



SHELL / HEAD MOUNT



TANGENTIAL MOUNT

| Bore Size | OD | Thickness | OD of RF | Stud Circle | Hole Dia | # of Holes | Hole Depth | Tap Size | T.P.I. | Tap Depth | Flat Bottom Weight | |
|-----------|-------|-----------|----------|-------------|----------|------------|------------|----------|--------|-----------|--------------------|--------|
| B | O | T | R | C | | | U | | | V | Base | per 1" |
| 1/2 | 5.25 | 2.00 | 1.38 | 3.50 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 10 | 6.1 |
| 3/4 | 5.50 | 2.00 | 1.69 | 3.75 | 21/32 | 4 | 1.31 | 3/4 | 10 | 0.88 | 11 | 6.6 |
| 1 | 6.25 | 2.12 | 2.00 | 4.25 | 49/64 | 4 | 1.44 | 7/8 | 9 | 1.00 | 15 | 8.5 |
| 1 1/4 | 7.25 | 2.25 | 2.50 | 5.12 | 7/8 | 4 | 1.56 | 1 | 8 | 1.12 | 22 | 11 |
| 1 1/2 | 8.00 | 2.50 | 2.88 | 5.75 | 1 | 4 | 1.81 | 1 1/8 | 8 | 1.25 | 29 | 14 |
| 2 | 9.25 | 2.25 | 3.62 | 6.75 | 7/8 | 8 | 1.56 | 1 | 8 | 1.12 | 34 | 18 |
| 2 1/2 | 10.50 | 2.50 | 4.12 | 7.75 | 1 | 8 | 1.81 | 1 1/8 | 8 | 1.25 | 49 | 23 |
| 3 | 12.00 | 2.75 | 5.00 | 9.00 | 1 1/8 | 8 | 2.12 | 1 1/4 | 8 | 1.44 | 71 | 30 |
| 4 | 14.00 | 3.25 | 6.19 | 10.75 | 1 3/8 | 8 | 2.38 | 1 1/2 | 8 | 1.69 | 112 | 40 |
| 5 | 16.50 | 3.75 | 7.31 | 12.75 | 1 5/8 | 8 | 2.81 | 1 3/4 | 8 | 2.00 | 179 | 55 |
| 6 | 19.00 | 4.12 | 8.50 | 14.50 | 1 7/8 | 8 | 3.31 | 2 | 8 | 2.25 | 259 | 72 |
| 8 | 21.75 | 4.38 | 10.62 | 17.25 | 1 7/8 | 12 | 3.31 | 2 | 8 | 2.25 | 345 | 91 |
| 10 | 26.50 | 5.12 | 12.75 | 21.25 | 2 3/8 | 12 | 4.00 | 2 1/2 | 8 | 2.81 | 590 | 134 |
| 12 | 30.00 | 5.50 | 15.00 | 24.38 | 2 5/8 | 12 | 4.38 | 2 3/4 | 8 | 3.12 | 799 | 168 |

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS

MATERIAL: Studding Outlets are most commonly provided in SA-105. they can also be made from a full range of stainless and alloy materials

THICKNESS: The standard thickness shown above for all studding outlets is the minimum required per ASME section V111 division 1 paragraph UG-43(d) for thread engagement and an ID mount. It is important to note that each individual application should be analyzed for proper thickness

FACING: The studding outlet minimum thickness "T" includes proper raised face per ANSI B16.5. Outlets can be supplied with any special facing as needed upon request.

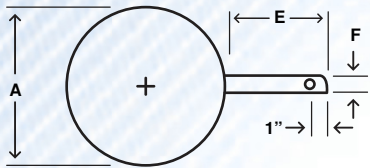
DRILLING AND TAPPING: Studding outlets are furnished to ANSI B16.5 specifications unless otherwise specified. Thread depth is in accordance with ASME section V111 Division 1 Para. UG-43(g) for a design temperature not to exceed 650°F, a base metal stress of 17,500 psi (g), and a stud stress of 25,000 psi (g). All other materials exceeding these stresses should be checked for UG-43 compliance

BORE: Bore sizes shown above are standard. Other sizes can be furnished upon request

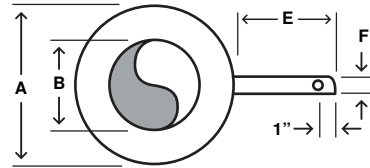
CURVING: All connections can be furnished contoured to fit any shell, head, or cone at an additional cost. Specify diameter to be mounted



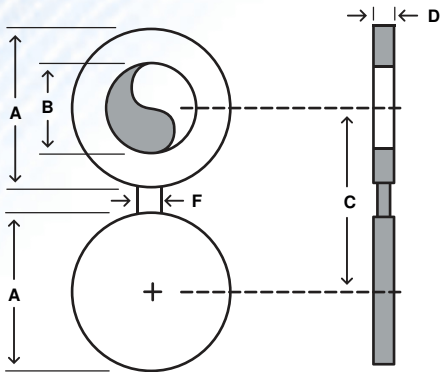
Line Blinds Class 150



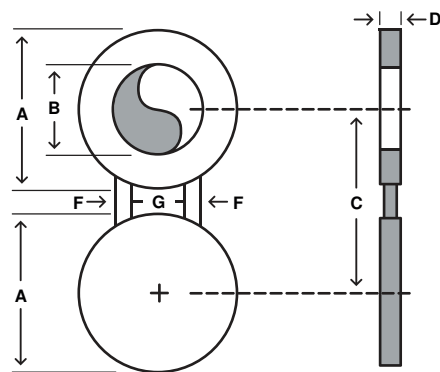
PADDLE BLANK TYPE 1



PADDLE SPACER TYPE 2



SPECTACLE BLIND TYPE 3



SPECTACLE BLIND TYPE 4

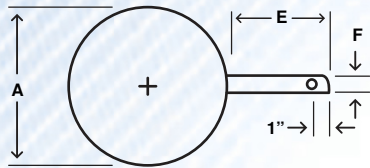
| SIZE | A | B | C | D | E | F | G | Weights | | |
|-------|--------|-------|--------|-------|---|-------|-------|---------|-----|-----|
| | | | | | | | | 1 | 2 | 3,4 |
| 1 | 2 1/2 | 1.05 | 3 1/8 | 1/4 | 4 | 1 | ..... | 1 | 1 | 1 |
| 1 1/2 | 3 1/4 | 1.90 | 3 7/8 | 1/4 | 4 | 1 | ..... | 1 | 1 | 1 |
| 2 | 4 | 2.38 | 4 3/4 | 1/4 | 4 | 1 | ..... | 2 | 1 | 2 |
| 2 1/2 | 4 3/4 | 2.88 | 5 1/2 | 1/4 | 4 | 1 | ..... | 2 | 2 | 3 |
| 3 | 5 1/4 | 3.50 | 6 | 1/4 | 4 | 1 | ..... | 2 | 2 | 3 |
| 4 | 6 3/4 | 4.50 | 7 1/2 | 3/8 | 4 | 1 | ..... | 3 | 2 | 5 |
| 6 | 8 5/8 | 6.62 | 9 1/2 | 1/2 | 4 | 1 | ..... | 7 | 4 | 10 |
| 8 | 10 7/8 | 8.62 | 11 3/4 | 1/2 | 4 | 1 | ..... | 14 | 7 | 20 |
| 10 | 13 1/4 | 10.75 | 14 1/4 | 5/8 | 5 | 1 | ..... | 26 | 12 | 35 |
| 12 | 16 | 12.75 | 17 | 3/4 | 5 | 1 1/2 | ..... | 45 | 21 | 62 |
| 14 | 17 1/2 | 14.00 | 18 3/4 | 3/4 | 5 | 1 1/2 | ..... | 53 | 24 | 74 |
| 16 | 20 | 16.00 | 21 1/4 | 7/8 | 5 | 1 1/2 | 1 1/2 | 92 | 40 | 127 |
| 18 | 21 3/8 | 18.00 | 22 3/4 | 1 | 5 | 1 1/2 | 1 1/2 | 105 | 39 | 139 |
| 20 | 23 5/8 | 20.00 | 25 | 1 1/8 | 5 | 1 1/2 | 1 1/2 | 145 | 50 | 188 |
| 24 | 28 | 24.00 | 29 1/2 | 1 1/4 | 5 | 1 1/2 | 1 1/2 | 245 | 80 | 315 |
| 30 | 34 1/2 | 30.00 | 36 | 1 5/8 | 5 | 1 1/2 | 1 1/2 | 437 | 128 | 555 |
| 36 | 41 | 36.00 | 42 3/4 | 2 | 6 | 1 1/2 | 1 3/4 | 757 | 203 | 945 |

*Based on ASME B16.48

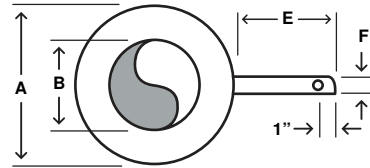
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



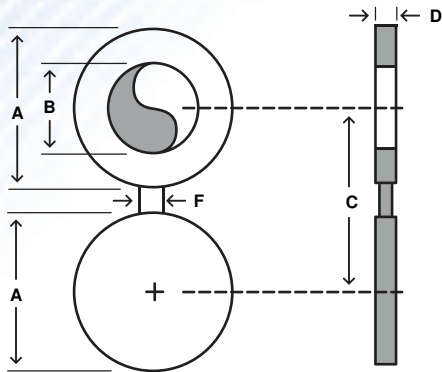
Line Blinds Class 300



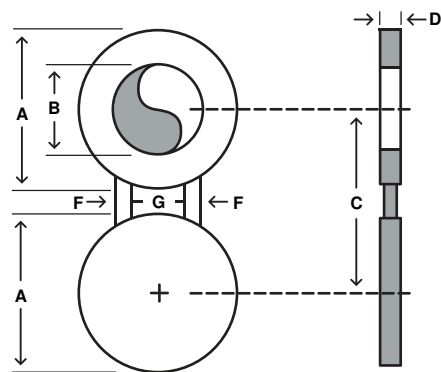
PADDLE BLANK TYPE 1



PADDLE SPACER TYPE 2



SPECTACLE BLIND TYPE 3



SPECTACLE BLIND TYPE 4

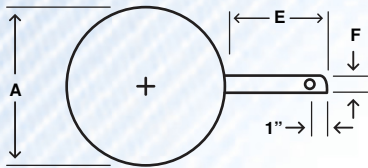
| SIZE | A | B | C | D | E | F | G | Weights | | |
|-------|--------|-------|--------|-------|---|-------|-------|---------|-----|------|
| | | | | | | | | 1 | 2 | 3,4 |
| 1 | 2 3/4 | 1.05 | 3 1/2 | 1/4 | 4 | 1 | ..... | 1 | 1 | 1 |
| 1 1/2 | 3 5/8 | 1.90 | 4 1/2 | 1/4 | 4 | 1 | ..... | 1 | 1 | 2 |
| 2 | 4 1/4 | 2.38 | 5 | 3/8 | 4 | 1 | ..... | 2 | 1 | 2 |
| 2 1/2 | 5 | 2.88 | 5 7/8 | 3/8 | 4 | 1 | ..... | 3 | 2 | 4 |
| 3 | 5 3/4 | 3.50 | 6 5/8 | 3/8 | 4 | 1 | ..... | 3 | 3 | 4 |
| 4 | 7 | 4.50 | 7 7/8 | 1/2 | 4 | 1 | ..... | 7 | 5 | 10 |
| 6 | 9 3/4 | 6.62 | 10 5/8 | 5/8 | 4 | 1 | ..... | 15 | 10 | 22 |
| 8 | 12 | 8.62 | 13 | 7/8 | 4 | 1 | ..... | 26 | 15 | 38 |
| 10 | 14 1/8 | 10.75 | 15 1/4 | 1 | 5 | 1 | ..... | 47 | 25 | 67 |
| 12 | 16 1/2 | 12.75 | 17 3/4 | 1 1/4 | 5 | 1 1/2 | 1 1/2 | 79 | 39 | 113 |
| 14 | 18 7/8 | 14.00 | 20 1/4 | 1 1/4 | 5 | 1 1/2 | 1 1/2 | 103 | 54 | 150 |
| 16 | 21 | 16.00 | 22 1/2 | 1 1/2 | 5 | 1 1/2 | 1 1/2 | 151 | 74 | 218 |
| 18 | 23 1/4 | 18.00 | 24 3/4 | 1 5/8 | 5 | 1 1/2 | 1 1/2 | 200 | 92 | 285 |
| 20 | 25 1/2 | 20.00 | 27 | 1 7/8 | 6 | 1 1/2 | 1 1/2 | 280 | 124 | 390 |
| 24 | 30 1/4 | 24.00 | 32 | 2 | 6 | 1 1/2 | 1 1/2 | 470 | 200 | 650 |
| 30 | 37 1/4 | 30.00 | 39 1/4 | 2 5/8 | 6 | 1 1/2 | 1 1/2 | 860 | 340 | 1190 |

*Based on ASME B16.48

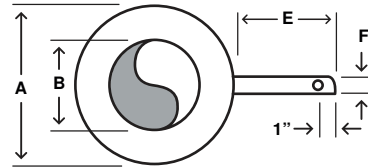
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



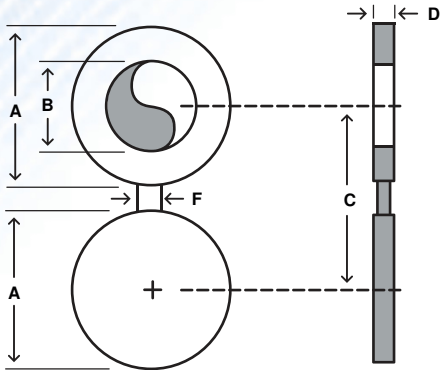
Line Blinds Class 600



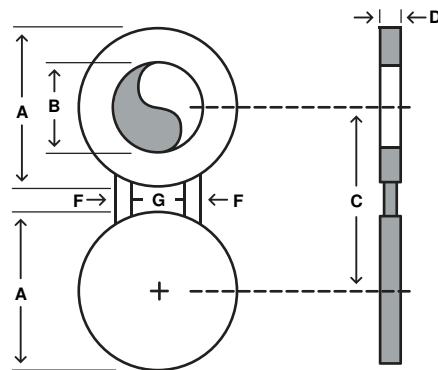
PADDLE BLANK TYPE 1



PADDLE SPACER TYPE 2



SPECTACLE BLIND TYPE 3



SPECTACLE BLIND TYPE 4

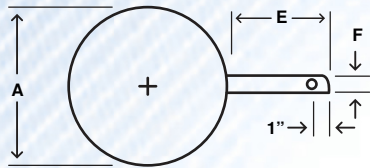
| SIZE | A | B | C | D | E | F | G | Weights | | |
|-------|--------|-------|--------|-------|---|-------|-------|---------|-----|-----|
| | | | | | | | | 1 | 2 | 3,4 |
| 1 | 2 3/4 | 1.50 | 3 1/2 | 1/4 | 4 | 1 | ..... | 1 | 1 | 1 |
| 1 1/2 | 3 5/8 | 1.68 | 4 1/2 | 3/8 | 4 | 1 | ..... | 1 | 1 | 2 |
| 2 | 4 1/4 | 2.16 | 5 | 3/8 | 4 | 1 | ..... | 2 | 1 | 3 |
| 2 1/2 | 5 | 2.64 | 5 7/8 | 1/2 | 4 | 1 | ..... | 3 | 2 | 4 |
| 3 | 5 3/4 | 3.26 | 6 5/8 | 1/2 | 4 | 1 | ..... | 5 | 4 | 7 |
| 4 | 7 1/2 | 4.26 | 8 1/2 | 5/8 | 4 | 1 | ..... | 9 | 7 | 14 |
| 6 | 10 3/8 | 6.36 | 11 1/2 | 7/8 | 4 | 1 | ..... | 23 | 17 | 36 |
| 8 | 12 1/2 | 8.33 | 13 3/4 | 1 1/8 | 4 | 1 | ..... | 42 | 27 | 65 |
| 10 | 15 5/8 | 10.42 | 17 | 1 3/8 | 5 | 1 1/2 | 1 1/2 | 85 | 53 | 132 |
| 12 | 17 3/4 | 12.39 | 19 1/4 | 1 5/8 | 5 | 1 1/2 | 1 1/2 | 127 | 73 | 193 |
| 14 | 19 1/8 | 13.62 | 20 3/4 | 1 3/4 | 5 | 1 1/2 | 1 3/4 | 147 | 79 | 218 |
| 16 | 22 | 15.62 | 23 3/4 | 2 | 5 | 1 1/2 | 1 3/4 | 237 | 140 | 365 |
| 18 | 23 7/8 | 17.62 | 25 3/4 | 2 1/8 | 5 | 1 1/2 | 2 | 310 | 153 | 450 |
| 20 | 26 5/8 | 19.56 | 28 1/2 | 2 1/2 | 6 | 1 1/2 | 2 | 405 | 235 | 625 |
| 24 | 30 7/8 | 23.50 | 33 | 2 7/8 | 6 | 1 1/2 | 2 1/4 | 645 | 335 | 970 |

*Based on ASME B16.48

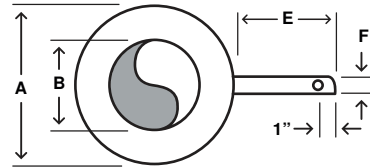
DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



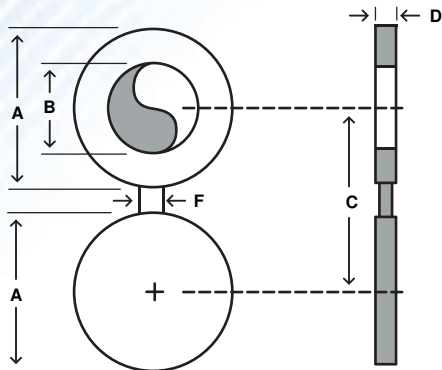
Line Blinds Class 900



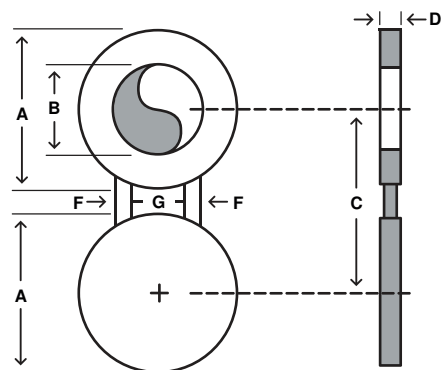
PADDLE BLANK TYPE 1



PADDLE SPACER TYPE 2



SPECTACLE BLIND TYPE 3



SPECTACLE BLIND TYPE 4

| SIZE | A | B | C | D | E | F | G | Weights | | |
|-------|--------|-------|--------|-------|---|-------|-------|---------|-----|-----|
| | | | | | | | | 1 | 2 | 3,4 |
| 1 | 3 | 1.05 | 4 | 1/4 | 5 | 1 | ..... | 1 | 1 | 1 |
| 1 1/2 | 3 3/4 | 1.68 | 4 7/8 | 3/8 | 5 | 1 | ..... | 2 | 2 | 2 |
| 2 | 5 1/2 | 2.16 | 6 1/2 | 1/2 | 5 | 1 | ..... | 3 | 3 | 5 |
| 2 1/2 | 6 3/8 | 2.64 | 7 1/2 | 1/2 | 5 | 1 | ..... | 6 | 5 | 9 |
| 3 | 6 1/2 | 3.26 | 7 1/2 | 5/8 | 5 | 1 | ..... | 8 | 7 | 11 |
| 4 | 8 | 4.26 | 9 1/4 | 3/4 | 5 | 1 | ..... | 13 | 11 | 20 |
| 6 | 11 1/4 | 6.36 | 12 1/2 | 1 | 5 | 1 | ..... | 35 | 28 | 58 |
| 8 | 14 | 8.33 | 15 1/2 | 1 3/8 | 5 | 1 | 1 1/2 | 63 | 49 | 107 |
| 10 | 17 | 10.42 | 18 1/2 | 1 5/8 | 5 | 1 1/2 | 1 1/2 | 117 | 89 | 200 |
| 12 | 19 3/8 | 12.39 | 21 | 1 7/8 | 5 | 1 1/2 | 1 1/2 | 172 | 127 | 290 |
| 14 | 20 1/4 | 13.62 | 22 | 2 1/8 | 6 | 1 1/2 | 1 3/4 | 212 | 150 | 350 |
| 16 | 22 3/8 | 15.62 | 24 1/4 | 2 3/8 | 6 | 1 1/2 | 1 3/4 | 286 | 196 | 468 |
| 18 | 24 7/8 | 17.62 | 27 | 2 5/8 | 6 | 1 1/2 | 2 | 407 | 275 | 665 |

*Based on ASME B16.48

DIMENSIONS ARE IN INCHES | WEIGHTS ARE IN POUNDS



1/2"–24"–COVERED BY ANSI B16.5

QUANTITY

SIZE *(nominal pipe size)*

PRESSURE CLASS *(150–2500)*

FACING *(RF, FF, RTJ, ect.)*

TYPE *(WN, SO, Threaded, Blind, SW, LJ)*

BORE *(if SW or WN)*

MATERIAL

E.G. 2–4" 300# RFWN STD 304

26"–60" COVERED BY ANSI B16.47–WN AND BLINDS ONLY

QUANTITY

SIZE *(nominal pipe size)*

PRESSURE CLASS

FACING

TYPE

BORE *(if WN)*

SERIES

MATERIAL

E.G. 2–36" 300# RF BLIND SER A 304

SLIP—ONS LARGER THAN 24"

INDUSTRY STANDARD 125LW, 125 / 150, CLASS 250

BOILER CODE CLASS 75, 175, 350

B16.47 SER A DIMENSIONS PER TUBE TURN

B16.47 SER B DIMENSIONS WITH 1" HUB *(slightly tapered)*

E.G. 30" 150# RFSO SERIES A PER TT A105

AWWA FLANGES

QUANTITY

SIZE *(nominal pipe size)*

CLASS *(B, D, E, F)*

TYPE *(ring, hub, blind)*

MATERIAL *(if not standard steel)*

E.G. 3–30" CLASS D RING 316

Wall Thickness

| Nom Pipe Size | OD | NOMINAL WALL THICKNESS | | | | | | | | | | | | |
|---------------|--------|------------------------|--------|--------|----------|--------|--------|---------|--------|---------|---------|---------|---------|--------|
| | | Sch 10 | Sch 20 | Sch 30 | STD Wall | Sch 40 | Sch 60 | EXT Hvy | Sch 80 | Sch 100 | Sch 120 | Sch 140 | Sch 160 | XX Hvy |
| 1/2 | 0.840 | 0.083 | ..... | ..... | 0.109 | 0.109 | ..... | 0.147 | 0.147 | ..... | ..... | ..... | 0.188 | 0.294 |
| 3/4 | 1.050 | 0.083 | ..... | ..... | 0.113 | 0.113 | ..... | 0.154 | 0.154 | ..... | ..... | ..... | 0.219 | 0.308 |
| 1 | 1.315 | 0.109 | ..... | ..... | 0.133 | 0.133 | ..... | 0.179 | 0.179 | ..... | ..... | ..... | 0.250 | 0.358 |
| 1 1/4 | 1.660 | 0.109 | ..... | ..... | 0.140 | 0.140 | ..... | 0.191 | 0.191 | ..... | ..... | ..... | 0.250 | 0.382 |
| 1 1/2 | 1.900 | 0.109 | ..... | ..... | 0.145 | 0.145 | ..... | 0.200 | 0.200 | ..... | ..... | ..... | 0.281 | 0.400 |
| 2 | 2.375 | 0.109 | ..... | ..... | 0.154 | 0.154 | ..... | 0.218 | 0.218 | ..... | ..... | ..... | 0.344 | 0.436 |
| 2 1/2 | 2.875 | 0.120 | ..... | ..... | 0.203 | 0.203 | ..... | 0.276 | 0.276 | ..... | ..... | ..... | 0.375 | 0.552 |
| 3 | 3.500 | 0.120 | ..... | ..... | 0.216 | 0.216 | ..... | 0.300 | 0.300 | ..... | ..... | ..... | 0.438 | 0.600 |
| 3 1/2 | 4.000 | 0.120 | ..... | ..... | 0.226 | 0.226 | ..... | 0.318 | 0.318 | ..... | ..... | ..... | ..... | 0.636 |
| 4 | 4.500 | 0.120 | ..... | ..... | 0.237 | 0.237 | ..... | 0.337 | 0.337 | ..... | 0.438 | ..... | 0.531 | 0.674 |
| 5 | 5.563 | 0.134 | ..... | ..... | 0.258 | 0.258 | ..... | 0.375 | 0.375 | ..... | 0.500 | ..... | 0.625 | 0.750 |
| 6 | 6.625 | 0.134 | ..... | ..... | 0.280 | 0.280 | ..... | 0.432 | 0.432 | ..... | 0.562 | ..... | 0.719 | 0.864 |
| 8 | 8.625 | 0.148 | 0.250 | 0.277 | 0.322 | 0.322 | 0.406 | 0.500 | 0.500 | 0.594 | 0.719 | 0.812 | 0.906 | 0.875 |
| 10 | 10.750 | 0.165 | 0.250 | 0.307 | 0.365 | 0.365 | 0.500 | 0.500 | 0.594 | 0.719 | 0.844 | 1.000 | 1.125 | 1.000 |
| 12 | 12.750 | 0.180 | 0.250 | 0.330 | 0.375 | 0.406 | 0.562 | 0.500 | 0.688 | 0.844 | 1.000 | 1.125 | 1.312 | 1.000 |
| 14 | 14.000 | 0.250 | 0.312 | 0.375 | 0.375 | 0.438 | 0.594 | 0.500 | 0.750 | 0.938 | 1.094 | 1.250 | 1.406 | ..... |
| 16 | 16.000 | 0.250 | 0.312 | 0.375 | 0.375 | 0.500 | 0.656 | 0.500 | 0.844 | 1.031 | 1.219 | 1.438 | 1.594 | ..... |
| 18 | 18.000 | 0.250 | 0.312 | 0.438 | 0.375 | 0.562 | 0.750 | 0.500 | 0.938 | 1.156 | 1.375 | 1.562 | 1.781 | ..... |
| 20 | 20.000 | 0.250 | 0.375 | 0.500 | 0.375 | 0.594 | 0.812 | 0.500 | 1.031 | 1.281 | 1.500 | 1.750 | 1.969 | ..... |
| 22 | 22.000 | 0.250 | ..... | ..... | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 24 | 24.000 | 0.250 | 0.375 | 0.562 | 0.375 | 0.688 | 0.969 | 0.500 | 1.219 | 1.531 | 1.812 | 2.062 | 2.344 | ..... |
| 26 | 26.000 | ..... | ..... | ..... | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 30 | 30.000 | 0.312 | 0.500 | 0.625 | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 36 | 36.000 | 0.312 | 0.500 | 0.625 | 0.375 | 0.750 | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 40 | 40.000 | ..... | ..... | ..... | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 42 | 42.000 | ..... | ..... | ..... | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 48 | 48.000 | ..... | ..... | ..... | 0.375 | ..... | ..... | 0.500 | ..... | ..... | ..... | ..... | ..... | ..... |

DIMENSIONS ARE IN INCHES

- (1) Light wall thicknesses are identical to stainless steel Schedule 10S in sizes through 12", and to Schedule 10 sizes 14" and larger
- (2) Standard wall thicknesses are identical to stainless steel Schedule 40S in sizes through 10"
- (3) Extra heavy wall thicknesses are identical to stainless steel schedule 80S in sizes through 8"
- (4) Other types, sizes, and thicknesses of flanges can be provided to meet application
- (5) Stocked and manufactured in carbon steel, stainless steel, and variety of other metals and alloys
- (6) Inside pipe diameters are provided on the following page



Weld Neck Flange Bores

| Nom Pipe Size | OD | NOMINAL BORE | | | | | | | | | | | | |
|---------------|--------|--------------|--------|--------|----------|--------|--------|---------|--------|---------|---------|---------|---------|--------|
| | | Sch 10 | Sch 20 | Sch 30 | STD Wall | Sch 40 | Sch 60 | EXT Hvy | Sch 80 | Sch 100 | Sch 120 | Sch 140 | Sch 160 | XX Hvy |
| 1/2 | 0.840 | 0.674 | ..... | ..... | 0.622 | 0.622 | ..... | 0.546 | 0.546 | ..... | ..... | ..... | 0.464 | 0.252 |
| 3/4 | 1.050 | 0.884 | ..... | ..... | 0.824 | 0.824 | ..... | 0.742 | 0.742 | ..... | ..... | ..... | 0.612 | 0.434 |
| 1 | 1.315 | 1.097 | ..... | ..... | 1.049 | 1.049 | ..... | 0.957 | 0.957 | ..... | ..... | ..... | 0.815 | 0.599 |
| 1 1/4 | 1.660 | 1.442 | ..... | ..... | 1.380 | 1.380 | ..... | 1.278 | 1.278 | ..... | ..... | ..... | 1.160 | 0.896 |
| 1 1/2 | 1.900 | 1.682 | ..... | ..... | 1.610 | 1.610 | ..... | 1.500 | 1.500 | ..... | ..... | ..... | 1.338 | 1.100 |
| 2 | 2.375 | 2.157 | ..... | ..... | 2.067 | 2.067 | ..... | 1.939 | 1.939 | ..... | ..... | ..... | 1.687 | 1.503 |
| 2 1/2 | 2.875 | 2.635 | ..... | ..... | 2.469 | 2.469 | ..... | 2.323 | 2.323 | ..... | ..... | ..... | 2.125 | 1.771 |
| 3 | 3.500 | 3.260 | ..... | ..... | 3.068 | 3.068 | ..... | 2.900 | 2.900 | ..... | ..... | ..... | 2.624 | 2.300 |
| 3 1/2 | 4.000 | 3.760 | ..... | ..... | 3.548 | 3.548 | ..... | 3.364 | 3.364 | ..... | ..... | ..... | ..... | 2.728 |
| 4 | 4.500 | 4.260 | ..... | ..... | 4.026 | 4.026 | ..... | 3.826 | 3.826 | ..... | 3.624 | ..... | 3.438 | 3.152 |
| 5 | 5.563 | 5.295 | ..... | ..... | 5.047 | 5.047 | ..... | 4.813 | 4.813 | ..... | 4.563 | ..... | 4.313 | 4.063 |
| 6 | 6.625 | 6.357 | ..... | ..... | 6.065 | 6.065 | ..... | 5.761 | 5.761 | ..... | 5.501 | ..... | 5.187 | 4.897 |
| 8 | 8.625 | 8.329 | 8.125 | 8.071 | 7.981 | 7.981 | 7.813 | 7.625 | 7.625 | 7.437 | 7.187 | 7.001 | 6.813 | 6.875 |
| 10 | 10.750 | 10.420 | 10.250 | 10.136 | 10.020 | 10.020 | 9.750 | 9.750 | 9.562 | 9.312 | 9.062 | 8.750 | 8.500 | 8.750 |
| 12 | 12.750 | 12.390 | 12.250 | 12.090 | 12.000 | 11.938 | 11.626 | 11.750 | 11.374 | 11.062 | 10.750 | 10.500 | 10.126 | 10.750 |
| 14 | 14.000 | 13.500 | 13.376 | 13.250 | 13.250 | 13.124 | 12.812 | 13.000 | 12.500 | 12.124 | 11.812 | 11.500 | 11.188 | ..... |
| 16 | 16.000 | 15.500 | 15.376 | 15.250 | 15.250 | 15.000 | 14.688 | 15.000 | 14.312 | 13.938 | 13.562 | 13.124 | 12.812 | ..... |
| 18 | 18.000 | 17.500 | 17.376 | 17.124 | 17.250 | 16.876 | 16.500 | 17.000 | 16.124 | 15.688 | 15.250 | 14.876 | 14.438 | ..... |
| 20 | 20.000 | 19.500 | 19.250 | 19.000 | 19.250 | 18.812 | 18.376 | 19.000 | 17.938 | 17.438 | 17.000 | 16.500 | 16.062 | ..... |
| 22 | 22.000 | 21.500 | ..... | ..... | 21.250 | ..... | ..... | 21.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 24 | 24.000 | 23.500 | 23.250 | 22.876 | 23.250 | 22.624 | 22.062 | 23.000 | 21.562 | 20.938 | 20.376 | 19.876 | 19.312 | ..... |
| 26 | 26.000 | ..... | ..... | ..... | 25.250 | ..... | ..... | 25.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 30 | 30.000 | 29.376 | 29.000 | 28.750 | 29.250 | ..... | ..... | 29.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 36 | 36.000 | 35.376 | 35.000 | 34.750 | 35.250 | 34.500 | ..... | 35.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 40 | 40.000 | ..... | ..... | ..... | 39.250 | ..... | ..... | 39.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 42 | 42.000 | ..... | ..... | ..... | 41.250 | ..... | ..... | 41.000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 48 | 48.000 | ..... | ..... | ..... | 47.250 | ..... | ..... | 47.000 | ..... | ..... | ..... | ..... | ..... | ..... |

DIMENSIONS ARE IN INCHES

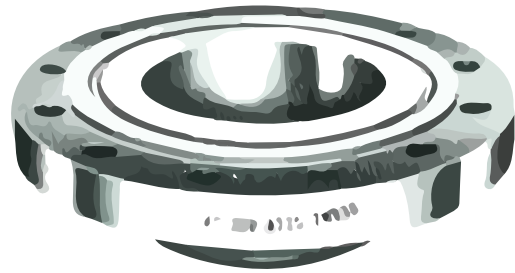
- (1) Source: ANSI B36.10
- (2) These dimensions are the same for inside pipe diameter. **ALWAYS** specify bore when ordering
- (3) Other type, sizes, and thicknesses of flanges can be provided to meet application
- (4) Stocked and manufactured in carbon steel, stainless steel, and a variety of other metals and alloys
- (5) Wall thicknesses are provided on the previous page



Dimensions of Ring—Joint Facings

TOLERANCES

| | |
|---------------------|--------------|
| E(depth) | +0.016 -0 |
| F(width) | ±0.008 |
| P[pitch diam] | ±0.005 |
| R(radius at bottom) | max |
| 23° (angle) | ±1/2° |

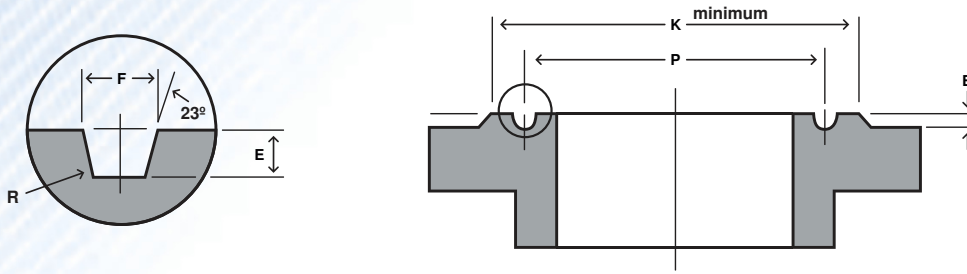


| Nominal Pipe Size | | | | | | | Groove Dimensions | | | | | Diameter of Raised Portion K | | | | | |
|-------------------|---------|---------|---------|---------|----------|----------|-------------------|-----------|-------|-------|------------------|------------------------------|-------------------------------|---------|----------|----------|-------|
| 150 PSI | 300 PSI | 400 PSI | 600 PSI | 900 PSI | 1500 PSI | 2500 PSI | Groove # | Pitch Dia | Depth | Width | Radius at Bottom | 150 PSI | 300 PSI 400 PSI 600 PSI | 900 PSI | 1500 PSI | 2500 PSI | Depth |
| | | | | | | | | P | E | F | R | | | | | | E |
| ..... | 1/2 | ..... | 1/2 | ..... | ..... | ..... | R11 | 1-11/32 | 7/32 | 9/32 | 1/32 | ..... | 2 | ..... | ..... | ..... | 7/32 |
| ..... | ..... | ..... | ..... | ..... | 1/2 | ..... | 12 | 1-9/16 | 1/4 | 11/32 | 1/32 | ..... | ..... | 2-3/8 | 2-3/8 | ..... | 1/4 |
| ..... | 3/4 | ..... | 3/4 | ..... | ..... | 1/2 | 13 | 1-11/16 | 1/4 | 11/32 | 1/32 | ..... | 2-1/2 | ..... | ..... | 2-9/16 | 1/4 |
| ..... | ..... | ..... | ..... | ..... | 3/4 | ..... | 14 | 1-3/4 | 1/4 | 11/32 | 1/32 | ..... | ..... | 2-5/8 | 2-5/8 | ..... | 1/4 |
| 1 | ..... | ..... | ..... | ..... | ..... | ..... | 15 | 1-7/8 | 1/4 | 11/32 | 1/32 | 2-1/2 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 1 | ..... | 1 | ..... | 1 | 3/4 | 16 | 2 | 1/4 | 11/32 | 1/32 | ..... | 2-3/4 | 2-13/16 | 2-13/16 | 2-7/8 | 1/4 |
| 1-1/4 | ..... | ..... | ..... | ..... | ..... | ..... | 17 | 2-1/4 | 1/4 | 11/32 | 1/32 | 2-7/8 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 1-1/4 | ..... | 1-1/4 | ..... | 1-1/4 | 1 | 18 | 2-3/8 | 1/4 | 11/32 | 1/32 | ..... | 3-1/8 | 3-3/16 | 3-3/16 | 3-1/4 | 1/4 |
| 1-1/2 | ..... | ..... | ..... | ..... | ..... | ..... | 19 | 2-9/16 | 1/4 | 11/32 | 1/32 | 3-1/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 1-1/2 | ..... | 1-1/2 | ..... | 1-1/2 | ..... | 20 | 2-11/16 | 1/4 | 11/32 | 1/32 | ..... | 3-9/16 | 3-5/8 | 3-5/8 | ..... | 1/4 |
| ..... | ..... | ..... | ..... | ..... | 1-1/4 | ..... | 21 | 2-27/32 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | ..... | 4 | 5/16 |
| 2 | ..... | ..... | ..... | ..... | ..... | ..... | 22 | 3-1/4 | 1/4 | 11/32 | 1/32 | 4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 2 | ..... | 2 | ..... | ..... | 1-1/2 | 23 | 3-1/4 | 5/16 | 15/32 | 1/32 | ..... | 4-1/4 | ..... | ..... | 4-1/2 | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 2 | ..... | 24 | 3-3/4 | 5/16 | 15/32 | 1/32 | ..... | ..... | 4-7/8 | 4-7/8 | ..... | 5/16 |
| 2-1/2 | ..... | ..... | ..... | ..... | ..... | ..... | 25 | 4 | 1/4 | 11/32 | 1/32 | 4-3/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 2-1/2 | ..... | 2-1/2 | ..... | ..... | 2 | 26 | 4 | 5/16 | 15/32 | 1/32 | ..... | 5 | ..... | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 2-1/2 | ..... | 27 | 4-1/4 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | 5-3/8 | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 2-1/2 | ..... | 28 | 4-3/8 | 3/8 | 17/32 | 1/16 | ..... | ..... | ..... | ..... | 5-7/8 | 3/8 |
| 3 | ..... | ..... | ..... | ..... | ..... | ..... | 29 | 4-1/2 | 1/4 | 11/32 | 1/32 | 5-1/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... | 30 | 4-5/8 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | ..... | ..... | 5/16 |
| ..... | 3 | ..... | 3 | 3 | ..... | ..... | 31 | 4-7/8 | 5/16 | 15/32 | 1/32 | ..... | 5-3/4 | 6-1/8 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 3 | ..... | 32 | 5 | 3/8 | 17/32 | 1/16 | ..... | ..... | ..... | ..... | 6-5/8 | 3/8 |
| 3-1/2 | ..... | ..... | ..... | ..... | ..... | ..... | 33 | 5-3/16 | 1/4 | 11/32 | 1/32 | 6-1/16 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 3-1/2 | ..... | 3-1/2 | ..... | ..... | ..... | 34 | 5-3/16 | 5/16 | 15/32 | 1/32 | ..... | 6-1/4 | ..... | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 3 | ..... | 35 | 5-3/8 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | 6-5/8 | ..... | 5/16 |
| 4 | ..... | ..... | ..... | ..... | ..... | ..... | 36 | 5-7/8 | 1/4 | 11/32 | 1/32 | 6-3/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 4 | 4 | 4 | 4 | ..... | ..... | 37 | 5-7/8 | 5/16 | 15/32 | 1/32 | ..... | 6-7/8 | 7-1/8 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | ..... | 4 | 38 | 6-3/16 | 7/16 | 21/32 | 1/16 | ..... | ..... | ..... | ..... | 8 | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 4 | ..... | 39 | 6-3/8 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | 7-5/8 | ..... | 5/16 |
| 5 | ..... | ..... | ..... | ..... | ..... | ..... | 40 | 6-3/4 | 1/4 | 11/32 | 1/32 | 7-5/8 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 5 | 5 | 5 | 5 | ..... | ..... | 41 | 7-1/8 | 5/16 | 15/32 | 1/32 | ..... | 8-1/4 | 8-1/2 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | ..... | 5 | 42 | 7-1/2 | 1/2 | 25/32 | 1/16 | ..... | ..... | ..... | ..... | 9-1/2 | 1/2 |
| 6 | ..... | ..... | ..... | ..... | ..... | ..... | 43 | 7-5/8 | 1/4 | 11/32 | 1/32 | 8-5/8 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | ..... | ..... | ..... | ..... | 5 | ..... | 44 | 7-5/8 | 5/16 | 15/32 | 1/32 | ..... | ..... | ..... | 9 | ..... | 5/16 |
| ..... | 6 | 6 | 6 | 6 | ..... | ..... | 45 | 8-5/16 | 5/16 | 15/32 | 1/32 | ..... | 9-1/2 | 9-1/2 | ..... | ..... | 5/16 |

DIMENSIONS ARE IN INCHES / RAISED FACE HEIGHT MATCHES DEPTH OF GROOVE



Dimensions of Ring—Joint Facings

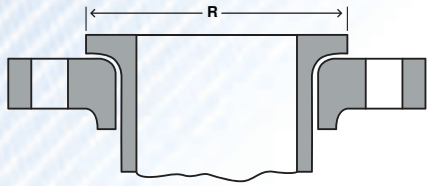


| Nominal Pipe Size | | | | | | | Groove Dimensions | | | | | Diameter of Raised Portion K | | | | | |
|-------------------|---------|---------|---------|---------|----------|----------|-------------------|----------------|------------|------------|-----------------------|------------------------------|-----------------------|---------|----------|----------|------------|
| 150 PSI | 300 PSI | 400 PSI | 600 PSI | 900 PSI | 1500 PSI | 2500 PSI | Groove # | Pitch Dia P | Depth E | Width F | Radius at Bottom R | 150 PSI | 300 400 600 PSI | 900 PSI | 1500 PSI | 2500 PSI | Depth E |
| ..... | ..... | ..... | ..... | ..... | 6 | ..... | R46 | 8-5/16 | 3/8 | 17/32 | 1/16 | ..... | ..... | ..... | 9-3/4 | ..... | 3/8 |
| ..... | ..... | ..... | ..... | ..... | 6 | ..... | 47 | 9 | 1/2 | 25/32 | 1/16 | ..... | ..... | ..... | ..... | 11 | 1/2 |
| 8 | ..... | ..... | ..... | ..... | ..... | ..... | 48 | 9-3/4 | 1/4 | 11/32 | 1/32 | 10-3/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 8 | 8 | 8 | 8 | ..... | ..... | 49 | 10-5/8 | 5/16 | 15/32 | 1/32 | ..... | 11-7/8 | 12-1/8 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 8 | ..... | 50 | 10-5/8 | 7/16 | 21/32 | 1/16 | ..... | ..... | ..... | 12-1/2 | ..... | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 8 | ..... | 51 | 11 | 9/16 | 29/32 | 1/16 | ..... | ..... | ..... | ..... | 13-3/8 | 9/16 |
| 10 | ..... | ..... | ..... | ..... | ..... | ..... | 52 | 12 | 1/4 | 11/32 | 1/32 | 13 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 10 | 10 | 10 | 10 | ..... | ..... | 53 | 12-3/4 | 5/16 | 15/32 | 1/32 | ..... | 14 | 14-1/4 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 10 | ..... | 54 | 12-3/4 | 7/16 | 21/32 | 1/16 | ..... | ..... | ..... | 14-5/8 | ..... | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 10 | ..... | 55 | 13-1/2 | 11/16 | 1-3/16 | 3/32 | ..... | ..... | ..... | ..... | 16-3/4 | 11/16 |
| 12 | ..... | ..... | ..... | ..... | ..... | ..... | 56 | 15 | 1/4 | 11/32 | 1/32 | 16 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 12 | 12 | 12 | 12 | ..... | ..... | 57 | 15 | 5/16 | 15/32 | 1/32 | ..... | 16-1/4 | 16-1/2 | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 12 | ..... | 58 | 15 | 9/16 | 29/32 | 1/16 | ..... | ..... | ..... | 17-1/4 | ..... | 9/16 |
| 14 | ..... | ..... | ..... | ..... | ..... | ..... | 59 | 15-5/8 | 1/4 | 11/32 | 1/32 | 16-3/4 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | ..... | ..... | ..... | ..... | 12 | ..... | 60 | 16 | 11/16 | 1-5/16 | 3/32 | ..... | ..... | ..... | ..... | 19-1/2 | 11/16 |
| ..... | 14 | 14 | 14 | ..... | ..... | ..... | 61 | 16-1/2 | 5/16 | 15/32 | 1/32 | ..... | 18 | ..... | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 14 | ..... | 62 | 16-1/2 | 7/16 | 21/32 | 1/16 | ..... | ..... | 18-3/8 | ..... | ..... | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 14 | ..... | 63 | 16-1/2 | 5/8 | 1-1/16 | 3/32 | ..... | ..... | ..... | 19-1/4 | ..... | 5/8 |
| 16 | ..... | ..... | ..... | ..... | ..... | ..... | 64 | 17-7/8 | 1/4 | 11/32 | 1/32 | 19 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 16 | 16 | 16 | ..... | ..... | ..... | 65 | 18-1/2 | 5/16 | 15/32 | 1/32 | ..... | 20 | ..... | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 16 | ..... | 66 | 18-1/2 | 7/16 | 21/32 | 1/16 | ..... | ..... | 20-5/8 | ..... | ..... | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 16 | ..... | 67 | 18-1/2 | 11/16 | 1-3/16 | 3/32 | ..... | ..... | ..... | 21-1/2 | ..... | 11/16 |
| 18 | ..... | ..... | ..... | ..... | ..... | ..... | 68 | 20-3/8 | 1/4 | 11/32 | 1/32 | 21-1/2 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 18 | 18 | 18 | ..... | ..... | ..... | 69 | 21 | 5/16 | 15/32 | 1/32 | ..... | 22-5/8 | ..... | ..... | ..... | 5/16 |
| ..... | ..... | ..... | ..... | ..... | 18 | ..... | 70 | 21 | 1/2 | 25/32 | 1/16 | ..... | ..... | 23-3/8 | ..... | ..... | 1/2 |
| ..... | ..... | ..... | ..... | ..... | 18 | ..... | 71 | 21 | 11/16 | 1-3/16 | 3/32 | ..... | ..... | ..... | 24-1/8 | ..... | 11/16 |
| 20 | ..... | ..... | ..... | ..... | ..... | ..... | 72 | 22 | 1/4 | 11/32 | 1/32 | 23-1/2 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 20 | 20 | 20 | ..... | ..... | ..... | 73 | 23 | 3/8 | 17/32 | 1/16 | ..... | 25 | ..... | ..... | ..... | 3/8 |
| ..... | ..... | ..... | ..... | ..... | 20 | ..... | 74 | 23 | 1/2 | 25/32 | 1/16 | ..... | ..... | 25-1/2 | ..... | ..... | 1/2 |
| ..... | ..... | ..... | ..... | ..... | 20 | ..... | 75 | 23 | 11/16 | 1-5/16 | 3/32 | ..... | ..... | — | 26-1/2 | ..... | 11/16 |
| 24 | ..... | ..... | ..... | ..... | ..... | ..... | 76 | 26-1/2 | 1/4 | 11/32 | 1/32 | 28 | ..... | ..... | ..... | ..... | 1/4 |
| ..... | 24 | 24 | 24 | ..... | ..... | ..... | 77 | 27-1/4 | 7/16 | 21/32 | 1/16 | ..... | 29-1/2 | ..... | ..... | ..... | 7/16 |
| ..... | ..... | ..... | ..... | ..... | 24 | ..... | 78 | 27-1/4 | 5/8 | 1-1/16 | 3/32 | ..... | ..... | 30-3/8 | ..... | ..... | 5/8 |
| ..... | ..... | ..... | ..... | ..... | 24 | ..... | 79 | 27-1/4 | 13/16 | 17/16 | 3/32 | ..... | ..... | ..... | 31-1/4 | ..... | 13/16 |

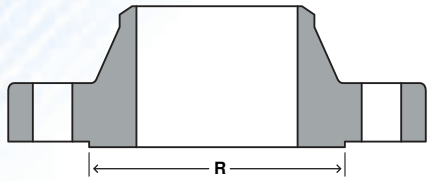
DIMENSIONS ARE IN INCHES / RAISED FACE HEIGHT MATCHES DEPTH OF GROOVE



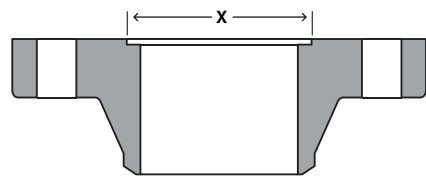
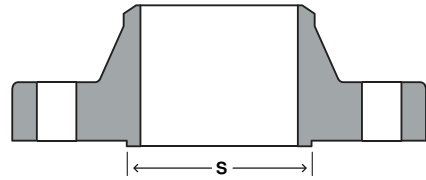
Alternate Flange Facings



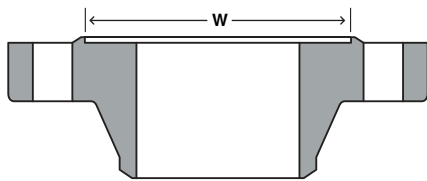
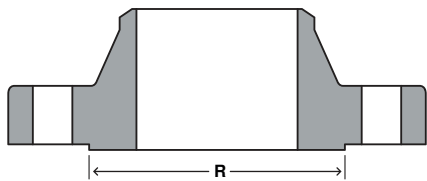
LAP JOINT



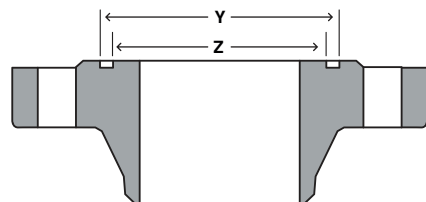
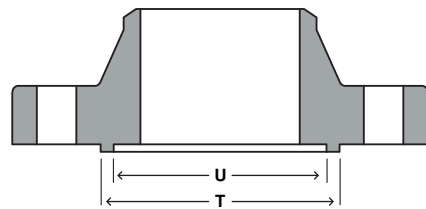
RAISED FACE



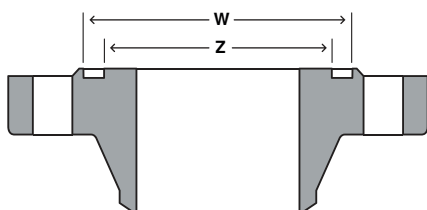
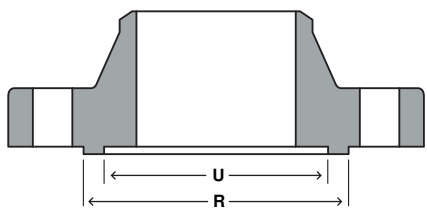
SMALL MALE & FEMALE



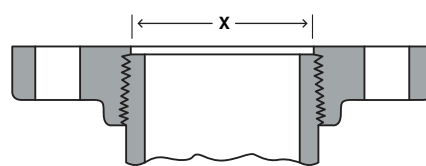
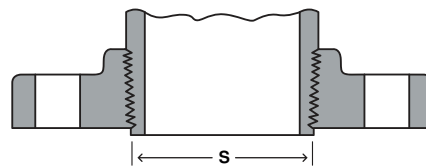
LARGE MALE & FEMALE



SMALL TONGUE & GROOVE



LARGE TONGUE & GROOVE



SMALL MALE & FEMALE
ON END OF PIPE



Alternate Flange Facings For 150 | 300 | 400 | 600 | 900 | 1500 | 2500 LB FLANGES

| Nominal Size (in.) | RF, LJ, Large Male and Large Tongue | Small Male [3] | Small Tongue | ID of Large and Small Tongue | Large Female and Large Groove | Small Female [3] | Small Groove | ID of Large and Small Groove | Raised Face 150 and 300 Pound Standards [2] | RF, Large and Small Male and Tongue 400, 600, 900, 1500, & 2500 lb. Standards [2] | Depth of Groove or Female |
|--------------------|-------------------------------------|----------------|--------------|------------------------------|-------------------------------|------------------|--------------|------------------------------|---|---|---------------------------|
| | R | S | T | U | W | X | Y | Z | | | |
| 1/2 | 1.38 | 0.72 | 1.38 | 1.00 | 1.44 | 0.78 | 1.44 | 0.94 | 0.06 | 0.25 | 0.19 |
| 3/4 | 1.69 | 0.94 | 1.69 | 1.31 | 1.75 | 1.00 | 1.75 | 1.25 | 0.06 | 0.25 | 0.19 |
| 1 | 2.00 | 1.19 | 1.88 | 1.50 | 2.06 | 1.25 | 1.94 | 1.44 | 0.06 | 0.25 | 0.19 |
| 1 1/4 | 2.50 | 1.50 | 2.25 | 1.88 | 2.56 | 1.56 | 2.31 | 1.81 | 0.06 | 0.25 | 0.19 |
| 1 1/2 | 2.88 | 1.75 | 2.50 | 2.12 | 2.94 | 1.81 | 2.56 | 2.06 | 0.06 | 0.25 | 0.19 |
| 2 | 3.62 | 2.25 | 3.25 | 2.88 | 3.69 | 2.31 | 3.31 | 2.81 | 0.06 | 0.25 | 0.19 |
| 2 1/2 | 4.12 | 2.69 | 3.75 | 3.38 | 4.19 | 2.75 | 3.81 | 3.31 | 0.06 | 0.25 | 0.19 |
| 3 | 5.00 | 3.31 | 4.62 | 4.25 | 5.06 | 3.38 | 4.69 | 4.19 | 0.06 | 0.25 | 0.19 |
| 3 1/2 | 5.50 | 3.81 | 5.12 | 4.75 | 5.56 | 3.88 | 5.19 | 4.69 | 0.06 | 0.25 | 0.19 |
| 4 | 6.19 | 4.31 | 5.69 | 5.19 | 6.25 | 4.38 | 5.75 | 5.12 | 0.06 | 0.25 | 0.19 |
| 5 | 7.31 | 5.38 | 6.81 | 6.31 | 7.38 | 5.44 | 6.88 | 6.25 | 0.06 | 0.25 | 0.19 |
| 6 | 8.50 | 6.38 | 8.00 | 7.50 | 8.56 | 6.44 | 8.06 | 7.44 | 0.06 | 0.25 | 0.19 |
| 8 | 10.62 | 8.38 | 10.00 | 9.38 | 10.69 | 8.44 | 10.06 | 9.31 | 0.06 | 0.25 | 0.19 |
| 10 | 12.75 | 10.50 | 12.00 | 11.25 | 12.81 | 10.56 | 12.06 | 11.19 | 0.06 | 0.25 | 0.19 |
| 12 | 15.00 | 12.50 | 14.25 | 13.50 | 15.06 | 12.56 | 14.31 | 13.44 | 0.06 | 0.25 | 0.19 |
| 14 | 16.25 | 13.75 | 15.50 | 14.75 | 16.31 | 13.81 | 15.56 | 14.69 | 0.06 | 0.25 | 0.19 |
| 16 | 18.50 | 15.75 | 17.62 | 16.75 | 18.56 | 15.81 | 17.69 | 16.69 | 0.06 | 0.25 | 0.19 |
| 18 | 21.00 | 17.75 | 20.12 | 19.25 | 21.06 | 17.81 | 20.19 | 19.19 | 0.06 | 0.25 | 0.19 |
| 20 | 23.00 | 19.75 | 22.00 | 21.00 | 23.06 | 19.81 | 22.06 | 20.94 | 0.06 | 0.25 | 0.19 |
| 24 | 27.25 | 23.75 | 26.25 | 25.25 | 27.31 | 23.81 | 26.31 | 25.19 | 0.06 | 0.25 | 0.19 |

[1] Regular facing for 150 and 300 lb. steel flanged fittings and flange standards is a 1/16" raised face included in the minimum flange thickness. A 1/16" raised face is also permitted on the 400, 600, 900, 1500, and 2500 lb. flange standards, but it must be added to the minimum flange thickness

[2] Regular facing for 400, 600, 900, 1500, and 2500 lb. flange standards is a 1/4" raised face not included in minimum flange thickness dimensions

[3] Care should be taken in the use of joints of these dimensions (they apply particularly on lines where the joint is made on the end of the pipe) to insure that pipe used is thick enough to permit sufficient bearing surface to prevent crushing the gasket. Threaded companion flanges are furnished with plain face and are threaded with American Standard Locknut Thread

[4] Dimensions shown are consistent with specifications predating the 1990's. Alternate face connections are typically supplied to meet older designs. Please specify if your requirements dictate otherwise



TEXAS FLANGE

PRODUCT CATALOG: VER 5.1

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