TYLER UNION®
Quality Waterworks Products

**28U - ANSI/AWWA C110/A21.10**
**Class 125 Flange Joint Full Body**
**Ductile Iron Fittings**
**Revised 4/2018**

☐ **DOMESTIC** ☐ **NON-DOMESTIC**

# SUBMITTAL: C110 FLANGE JOINT CLASS 125 PRODUCT

(Current revisions for the noted Standards apply)

**SIZES:** 2" - 64" (Contact Tyler Union for 54" – 64" flange fitting information)

**STANDARDS:** ANSI/AWWA C110/A21.10, NFPA 13/24, ASME B16.1, 3" - 12" UL listed and FM approved

**MATERIAL:** Cast of ASTM A536 qualified ductile iron. Date code is cast on and required for traceability.

**PRESSURE RATING:** *Flanged fittings *2" – 48" rated at 250 psi. 54" – 64" rated at 150psi.
*Note: With rubber annular ring flange gasket, 2" – 24" flanged fittings can be rated at 350 psi.

**DEFLECTION:** Deflection is "not" recommended for flange joint due to the rigidity of the joint.

**NSF-61 & NSF372:** Meets all requirements including Annex G, Tyler Union's Underwriters Laboratory listing MH16439.

**COATING:** Asphaltic or Primer per ANSI/AWWA C104/A21.4, Standard primer is Tnemec Pota Pox N140-1211. Contact Tyler Union for additional coating options.

**CEMENT LINING:** Per ANSI/AWWA C104/A21.4, with double cement lining available upon request.

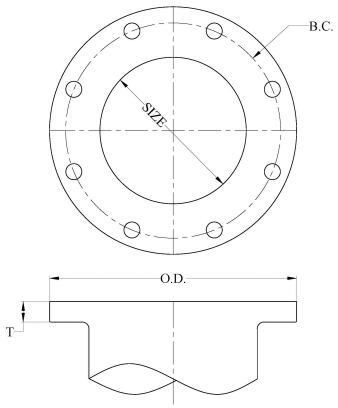
**EPOXY COATING:** Fusion bonded epoxy per ANSI/AWWA C116/A21.16. Additional coatings available upon request.

**BARE FITTINGS:** Available upon request.

**FLANGES:** ANSI Class 125 per ASME B16.1 and ANSI/AWWA C111/A21.11. Bolt holes shall straddle the center line
**NOTE: Class 125 ASME B16.1 are not compatible with Class 250 Flanges**
**NOTE: Class 250 ASME B16.1 fittings are available upon request.**

**FASTNERS:** High strength low alloy weathering steel per ANSI/AWWA C111/A21.11 and ASTM A242

**INSTALLATION:** Install per AWWA C600/C651 using pipe conforming to ANSI/AWWA C151/A21.51.




| | FLANGE DETAILS IN INCHES | | | | | BOLTS | |
|---|---|---|---|---|---|---|---|
| Size Inches | Diameter DI Pipe | Flange O.D. | B.C. Diameter | Flange Thickness T | Bolt Hole Diameter | Size | Qty |
| 2 | 2.51 | 6.00 | 4.75 | 0.62 | 0.750 | 5/8 x 2-1/4 | 4 |
| 3 | 3.96 | 7.50 | 6.00 | 0.75 | 0.750 | 5/8 x 2-1/4 | 4 |
| 4 | 4.80 | 9.00 | 7.50 | 0.94 | 0.750 | 5/8 x 3 | 8 |
| 6 | 6.90 | 11.00 | 9.50 | 1.00 | 0.875 | 3/4 x 3-1/2 | 8 |
| 8 | 9.05 | 13.50 | 11.75 | 1.12 | 0.875 | 3/4 x 3-1/2 | 8 |
| 10 | 11.10 | 16.00 | 14.25 | 1.19 | 1.000 | 7/8 x 4 | 12 |
| 12 | 13.20 | 19.00 | 17.00 | 1.25 | 1.000 | 7/8 x 4 | 12 |
| 14 | 15.30 | 21.00 | 18.75 | 1.38 | 1.125 | 1 x 4-1/2 | 12 |
| 16 | 17.40 | 23.50 | 21.25 | 1.44 | 1.125 | 1 x 4-1/2 | 16 |
| 18 | 19.50 | 25.00 | 22.75 | 1.56 | 1.250 | 1-1/8 x 5 | 16 |
| 20 | 21.60 | 27.50 | 25.00 | 1.69 | 1.250 | 1-1/8 x 5 | 20 |
| 24 | 25.80 | 32.00 | 29.50 | 1.88 | 1.375 | 1-1/4 x 5-1/2 | 20 |
| 30 | 32.00 | 38.75 | 36.00 | 2.12 | 1.375 | 1-1/4 x 5-1/2 | 28 |
| 36 | 38.30 | 46.00 | 42.75 | 2.38 | 1.625 | 1-1/2 x 7 | 32 |
| 42 | 44.50 | 53.00 | 49.50 | 2.62 | 1.625 | 1-1/2 x 7-1/2 | 36 |
| 48 | 50.80 | 59.50 | 56.00 | 2.75 | 1.625 | 1-1/2 x 8 | 44 |
| 54 | Available on Request | | | | | | |
| 60 | Available on Request | | | | | | |
| 64 | Available on Request | | | | | | |


**Anniston:** 1501 W 17th St. ● Anniston, AL 36201 ● (800) 226-7601
**Corona:** 1001 El Camino Ave. ● Corona, CA 92879 ● (866) 527-8471
**Tyler:** 11910 CR 492 ● Tyler, Texas 75706 ● (800) 527-8478
**Dallas:** 1201 Ave. S. Suite100 ● Grande Prairie, TX 75050
**Elmer:** 701 Kenyon Ave.● Elmer, New Jersey 03318
**New Lenox:** 2200 West Haven● New Lenox, IL 60451
**Portland:** 15670 N. Lombard St. ● Portland, OR 97203
**Oxford:** 1800 Greenbrier Dear Road ●Anniston, AL 36207

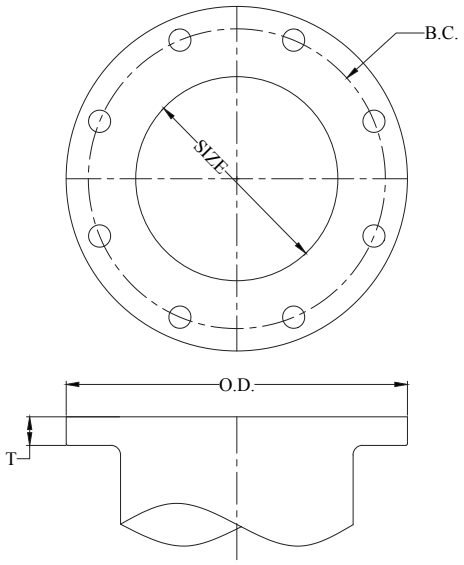
## C110 DUCTILE IRON FULL BODY FITTINGS

# SAMPLE SPECIFICATIONS

(Current ANSI/AWWA revisions apply)

Flanged fittings, 2" through 64", shall be manufactured of Ductile Iron in accordance with all applicable terms and provisions of standards ANSI/AWWA C110/A21.10. Flange surfaces shall be faced and drilled in accordance with ANSI Class 125, B16.1. All Ductile Iron flanged fittings shall be rated for water pressure of 250 psi. Flanged ductile iron fittings in 24" (610 mm) and smaller sizes may be rated for 350 psi (2,413 kPa) with the use of special gaskets .

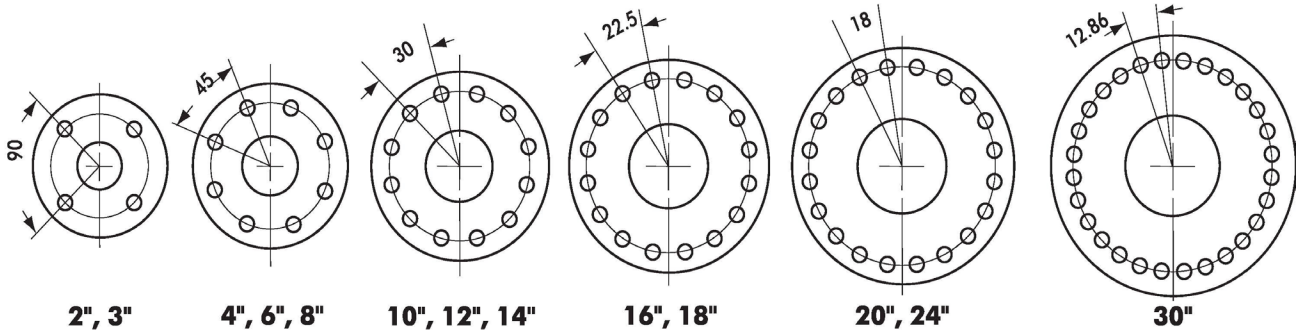
**NOTE:** Fittings are available prime coated, bare or epoxy coated. All coated fittings meet requirements of NSF-61, NSF-372 and Annex G. Interiors of fittings shall be lined and seal coated in accordance with ANSI/AWWA C104/A21.4. Installation of fittings shall be per AWWA C110.




ANSI/AWWA C110 Class 125 Flange Fittings

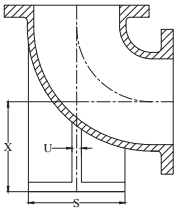
| FLANGE DETAILS | | | | | | |
|---|---|---|---|---|---|---|
| Nominal Pipe Size Inch | Flange O.D. | B.C. Diameter | Flange Thickness T | Bolt Hole Diameter | Number of Bolts | Bolt Dia. and Lengths |
| 2 | 6.00 | 4.75 | 0.62 | 0.750 | 4 | 5/8 x 2 1/4 |
| 3 | 7.50 | 6.00 | 0.75 | 0.750 | 4 | 5/8 x 2 1/2 |
| 4 | 9.00 | 7.50 | 0.94 | 0.750 | 8 | 5/8 x 3 |
| 6 | 11.00 | 9.50 | 1.00 | 0.880 | 8 | 3/4 x 3 1/2 |
| 8 | 13.50 | 11.75 | 1.12 | 0.880 | 8 | 3/4 x 3 1/2 |
| 10 | 16.00 | 14.25 | 1.19 | 1.000 | 12 | 7/8 x4 |
| 12 | 19.00 | 17.00 | 1.25 | 1.000 | 12 | 7/8 x4 |
| 14 | 21.00 | 18.75 | 1.38 | 1.130 | 12 | 1x 4 1/2 |
| 16 | 23.50 | 21.25 | 1.44 | 1.130 | 16 | 1 x 4 1/2 |
| 18 | 25.00 | 22.75 | 1.56 | 1.250 | 16 | 1 1/8 x 5 |
| 20 | 27.50 | 25.00 | 1.69 | 1.250 | 20 | 1 1/8 x5 |
| 24 | 32.00 | 29.50 | 1.88 | 1.375 | 20 | 1 1/4 x 5 1/2 |
| 30 | 38.75 | 36.00 | 2.12 | 1.375 | 28 | 1 1/4 x 6 1/2 |
| 36 | 46.00 | 42.75 | 2.38 | 1.625 | 32 | 1 1/2 x 7 |
| 42 | 53.00 | 49.50 | 2.62 | 1.625 | 36 | 1 1/2 x 7 1/2 |
| 48 | 59.50 | 56.00 | 2.75 | 1.625 | 44 | 1 1/2 x 8 |
| 54 | 66.25 | 62.75 | 3.00 | 2.00 | 44 | 1 3/4 x 8 1/2 |
| 60 | 73.00 | 69.25 | 3.12 | 2.00 | 52 | 1 3/4 x 9 |
| 64 | 80.00 | 76.00 | 3.38 | 2.00 | 52 | 1 3/4 x 9 |

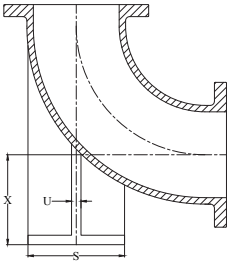
Contact Tyler Union for 54"–64" flange fitting information.

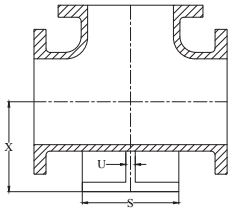


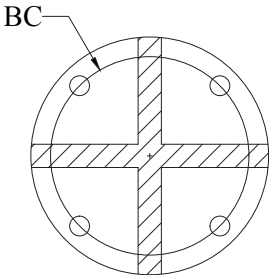

NOTE: Drilling templates are in multiples of four so that fittings may be made to face in any quarter. Bolt holes shall straddle the center line.

## C110 DUCTILE IRON FULL BODY FITTINGS



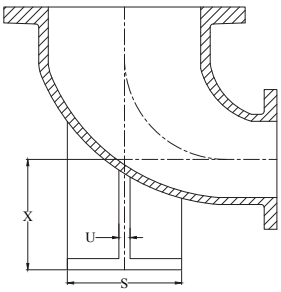



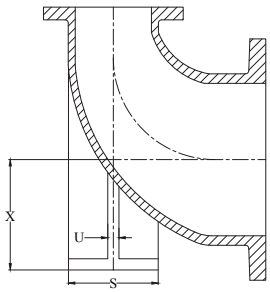

| 90° BASE BENDS | | | | 90° LONG RADIUS BASE BEND | | | BASE TEES | |
|---|---|---|---|---|---|---|---|---|
| Size | X | S | U | Support Pipe size | Weight | | | |
| | | | | | 90° | 90°L R | Tee | 90° |
| 3 | 4.88 | 5.00 | 0.50 | 1.50 | 38 | 41 | 47 | 35 |
| 4 | 5.50 | 6.00 | 0.50 | 2.00 | 50 | 60 | 76 | 55 |
| 6 | 7.00 | 7.00 | 0.62 | 2.50 | 83 | 100 | 115 | 85 |
| 8 | 8.38 | 9.00 | 0.88 | 4.00 | 142 | 180 | 195 | 145 |
| 10 | 9.75 | 9.00 | 0.88 | 4.00 | 210 | 315 | 315 | 145 |
| 12 | 11.25 | 11.00 | 1.00 | 6.00 | 300 | 427 | 450 | 300 |
| 14 | 12.50 | 11.00 | 1.00 | 6.00 | 400 | 580 | 570 | 360 |
| 16 | 13.75 | 11.00 | 1.00 | 6.00 | 505 | 740 | 710 | 445 |
| 18 | 15.00 | 13.50 | 1.12 | 8.00 | 645 | – | 900 | 565 |
| 20 | 16.00 | 13.50 | 1.12 | 8.00 | 805 | – | 1125 | 700 |
| 24 | 18.50 | 13.50 | 1.12 | 8.00 | 1215 | – | 1927 | 1030 |
| 30 | 23.00 | 16.00 | 1.15 | 10.00 | 1945 | – | – | 1625 |
| 36 | 26.00 | 19.00 | 1.15 | 12.00 | 2395 | 2895 | – | 2385 |
| 42 | 30.00 | 23.50 | 1.28 | – | – | – | – | 3465 |
| 48 | 34.00 | 25.00 | 1.42 | – | – | – | – | 4610 |

Base bends are made to order only and not returnable. Bases are funrished faced and drilled.

| BASE DRILLING DETAILS | | | |
|---|---|---|---|
| Size | BC | Bolt Hole Diameter | No of Holes |
| 3 | 3.88 | 5/8 | 4 |
| 4 | 4.75 | 3/4 | 4 |
| 6 | 5.50 | 3/4 | 4 |
| 8 | 7.50 | 3/4 | 4 |
| 10 | 7.50 | 3/4 | 4 |
| 12 | 9.50 | 7/8 | 4 |
| 14 | 9.50 | 7/8 | 4 |
| 16 | 9.50 | 7/8 | 4 |
| 18 | 11.75 | 7/8 | 4 |
| 20 | 11.75 | 7/8 | 4 |
| 24 | 11.75 | 7/8 | 4 |
| 30 | 14.25 | 1 | 4 |
| 36 | 17.00 | 1 | 4 |
| 42 | 21.25 | 1 1/8 | 4 |
| 48 | 22.75 | 1 1/4 | 4 |




Base Under Large End




Base Under Small End

| BASE | | | | |
|---|---|---|---|---|
| Size | X | S | U | Weight |
| 4x3 | 5.50 | 6.00 | 0.50 | 45 |
| 6x4 | 7.00 | 8.50 | 0.62 | 75 |
| 8x4 | 8.38 | 9.00 | 0.88 | 118 |
| 8x6 | 8.38 | 9.00 | 0.88 | 135 |
| 10x6 | 9.75 | 9.00 | 0.88 | 175 |
| 10x8 | 9.75 | 9.00 | 0.88 | 184 |
| 12x6 | 11.25 | 11.00 | 1.00 | 230 |
| 12x8 | 11.25 | 11.00 | 1.00 | 255 |

Note: X dimensions are identical on Base Under Large End & Base Under Small End. S dimension is determined by the largest fitting opening.