

CARDINAL
UHP



ultra high purity tubing and fittings dimensional specifications

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AMETEK[®]
THERMAL PROCESS MANAGEMENT

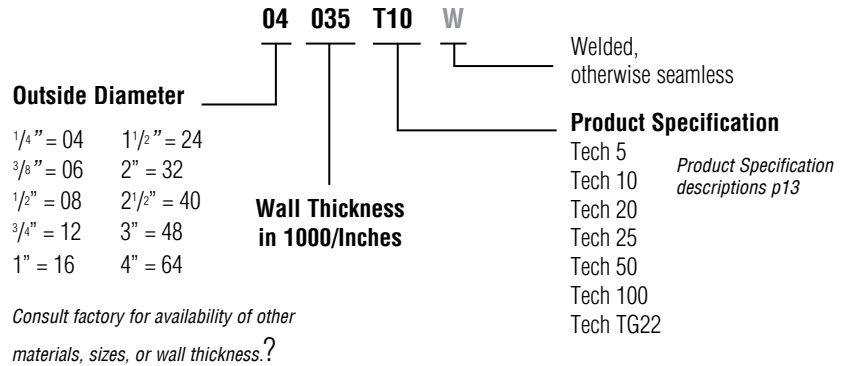
part description system

Cap Color Code:

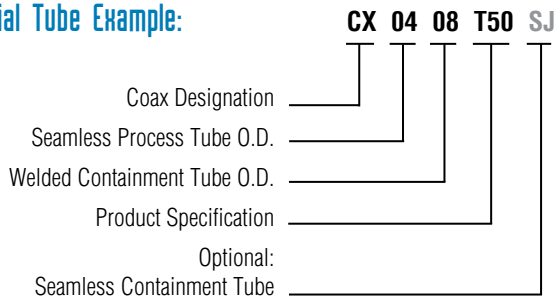
Product Specification descriptions p13

- Tech CM (white)
- Tech 5 (white)
- Tech 10 (white)
- Tech 20 (white)
- Tech 25 (blue)
- Tech 50 (blue)
- Tech 100 (blue)
- Tech TG22 (yellow)

Single Wall Tube Example:

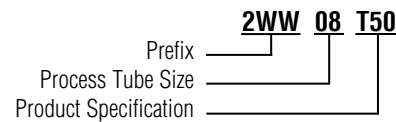


Coaxial Tube Example:

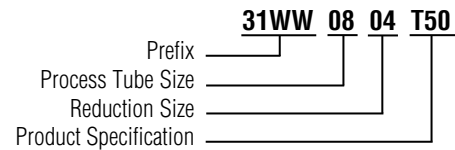


Fitting Example:

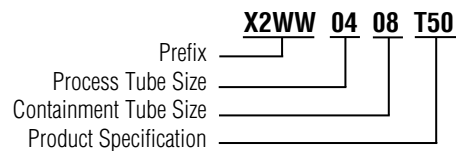
- 90° Elbow = 2WW
- 45° Elbow = 3WW
- Equal Tee = 7WWW
- End Cap = 16W



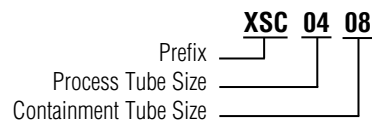
- Concentric Reducer = 31WW
- Reducing Tee = 7RWWW
- Coaxial Reducing Tee = X7RWWW



- Coaxial 90° Elbow = X2WW
- Coaxial 45° Elbow = X3WW
- Coaxial Equal Tee = X7WWW
- Coaxial Starter Piece = XSP
- Purge Tee w/VCR = XPT
- Purge Tee w/Two VCR = XPTV

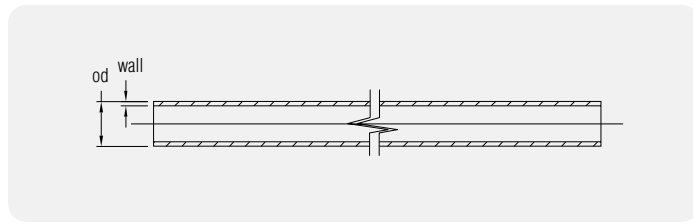


- Coaxial Sleeve Coupling* = XSC
- Coaxial Termination* = XTM



*These components are manufactured to containment tube specifications and do not have a specification suffix.

tubing specifications



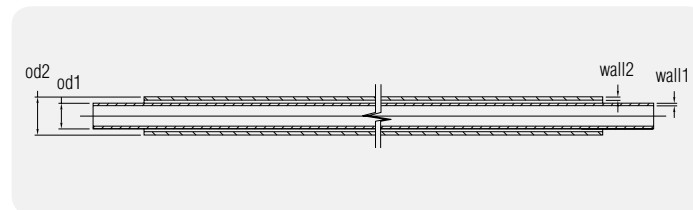
To complete part number add
product specification.

Example: 04035T50

| part no. | material | dimensions | | | | product specifications | | | | | | |
|-----------|---------------------|------------|------|-------|------|------------------------|----|----|----|----|-----|------|
| | | od | wall | lb/ft | kg/m | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 04035T | 316L SS SMLS | .250 | .035 | .080 | .180 | ● | ● | ● | ● | ● | ● | |
| 04035TG22 | Hastelloy® C22 SMLS | .250 | .035 | .080 | .180 | | | | | | | ● |
| 06035T | 316L SS SMLS | .375 | .035 | .130 | .290 | ● | ● | ● | ● | ● | ● | |
| 06035TG22 | Hastelloy C22 SMLS | .375 | .035 | .130 | .290 | | | | | | | ● |
| 08049T | 316L SS SMLS | .500 | .049 | .240 | .530 | ● | ● | ● | ● | ● | | |
| 08049TG22 | Hastelloy C22 SMLS | .500 | .049 | .240 | .530 | | | | | | | ● |
| 12065T | 316L SS SMLS | .750 | .065 | .480 | 1.06 | ● | ● | ● | ● | ● | | |
| 16065T_W | 316L SS WLD | 1.00 | .065 | .650 | 1.43 | ● | ● | ● | ● | ● | | |
| 16065T | 316L SS SMLS | 1.00 | .065 | .650 | 1.43 | | | ● | ● | ● | | |
| 24065T_W | 316L SS WLD | 1.50 | .065 | 1.00 | 2.21 | ● | ● | ● | ● | ● | | |
| 24065T | 316L SS SMLS | 1.50 | .065 | 1.00 | 2.21 | | | ● | ● | ● | | |
| 32065T_W | 316L SS WLD | 2.00 | .065 | 1.34 | 2.95 | ● | ● | ● | ● | ● | | |
| 32065T | 316L SS SMLS | 2.00 | .065 | 1.34 | 2.95 | | | ● | ● | ● | | |
| 48065T_W | 316L SS WLD | 3.00 | .065 | 2.03 | 4.48 | ● | ● | ● | ● | ● | | |
| 64083T_W | 316L SS WLD | 4.00 | .083 | 3.47 | 7.65 | ● | ● | ● | ● | ● | | |

Consult factory for availability of other materials, sizes, or wall thickness.

coaxial tubing specifications



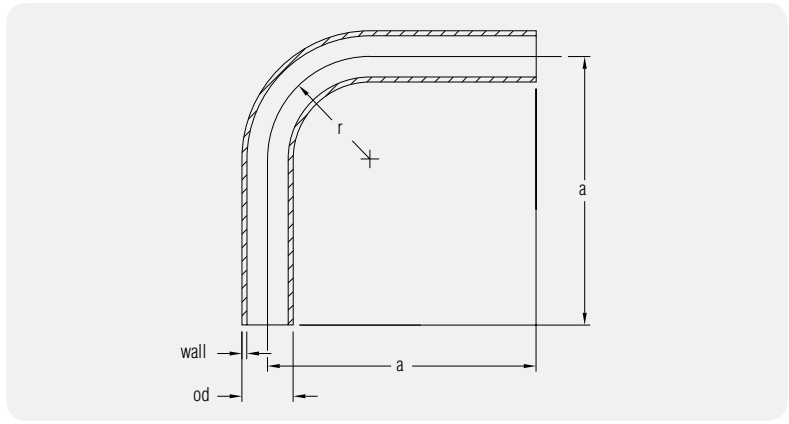
To complete part number add
product specification.

Example: CX0408T50

| part no. | process tube | dimensions | | | | | | product specifications | | | | | |
|------------|---------------------|----------------|-------|----------------|-------|-------|------|------------------------|----|----|----|-----|------|
| | | process od1 | wall1 | contain od2 | wall2 | lb/ft | kg/m | 10 | 20 | 25 | 50 | 100 | T622 |
| CX0408T | 316L SS SMLS | .250 | .035 | .500 | .049 | .320 | .706 | ● | ● | ● | ● | ● | |
| CX0408TG22 | Hastelloy® C22 SMLS | .250 | .035 | .500 | .049 | .320 | .706 | | | | | | ● |
| CX0610T | 316L SS SMLS | .375 | .035 | .625 | .049 | .490 | 1.08 | ● | ● | ● | ● | ● | |
| CX0610TG22 | Hastelloy C22 SMLS | .375 | .035 | .625 | .049 | .490 | 1.08 | | | | | | ● |
| CX0812T | 316L SS SMLS | .500 | .049 | .750 | .065 | .720 | 1.59 | ● | ● | ● | ● | ● | |
| CX0812TG22 | Hastelloy C22 SMLS | .500 | .049 | .750 | .065 | .720 | 1.59 | | | | | | ● |
| CX1216T | 316L SS SMLS | .750 | .065 | 1.00 | .065 | 1.13 | 2.49 | ● | ● | ● | ● | | |
| CX1620T | 316L SS SMLS | 1.00 | .265 | 1.25 | .065 | 1.52 | 3.35 | ● | ● | ● | ● | | |

Consult factory for availability of coaxial tubing with seamless containment tube.

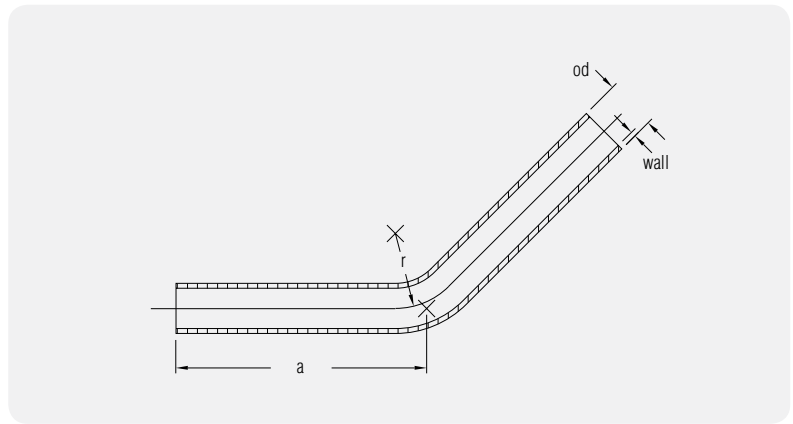
90° elbow 2WW



To complete part number add product specification.
Example: 2WW04T50

| part no. | material | dimensions | | | | | | product specifications | | | | | | |
|-----------|---------------------|------------|------|------|------|------|------|------------------------|----|----|----|----|-----|------|
| | | od | wall | a | r | a mm | r mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 2WW04T | 316L SS SMLS | .250 | .035 | 2.06 | .560 | 52 | 14 | ● | ● | ● | ● | ● | ● | |
| 2WW04TG22 | Hastelloy® C22 SMLS | .250 | .035 | 2.06 | .560 | 52 | 14 | | | | | | | ● |
| 2WW06T | 316L SS SMLS | .375 | .035 | 2.62 | .560 | 67 | 14 | ● | ● | ● | ● | ● | ● | |
| 2WW06TG22 | Hastelloy C22 SMLS | .375 | .035 | 2.62 | .560 | 67 | 14 | | | | | | | ● |
| 2WW08T | 316L SS SMLS | .500 | .049 | 2.62 | .750 | 67 | 19 | ● | ● | ● | ● | ● | ● | |
| 2WW08TG22 | Hastelloy C22 SMLS | .500 | .049 | 2.62 | .750 | 67 | 19 | | | | | | | ● |
| 2WW12T | 316L SS SMLS | .750 | .065 | 2.62 | 1.12 | 67 | 28 | ● | ● | ● | ● | ● | | |
| 2WW16T_W | 316L SS WLD | 1.00 | .065 | 4.00 | 1.50 | 102 | 38 | ● | ● | ● | ● | ● | | |
| 2WW16T | 316L SS SMLS | 1.00 | .065 | 4.00 | 1.50 | 102 | 38 | ● | ● | ● | ● | ● | | |
| 2WW24T_W | 316L SS WLD | 1.50 | .065 | 3.75 | 2.25 | 95 | 57 | ● | ● | ● | ● | ● | | |
| 2WW24T | 316L SS SMLS | 1.50 | .065 | 3.75 | 2.25 | 95 | 57 | ● | ● | ● | ● | ● | | |
| 2WW32T_W | 316L SS WLD | 2.00 | .065 | 4.75 | 3.00 | 121 | 76 | ● | ● | ● | ● | ● | | |
| 2WW32T | 316L SS SMLS | 2.00 | .065 | 4.75 | 3.00 | 121 | 76 | ● | ● | ● | ● | ● | | |
| 2WW48T_W | 316L SS WLD | 3.00 | .065 | 6.25 | 4.50 | 159 | 114 | ● | ● | ● | ● | ● | | |
| 2WW64T_W | 316L SS WLD | 4.00 | .083 | 8.00 | 6.00 | 203 | 152 | ● | ● | ● | ● | ● | | |

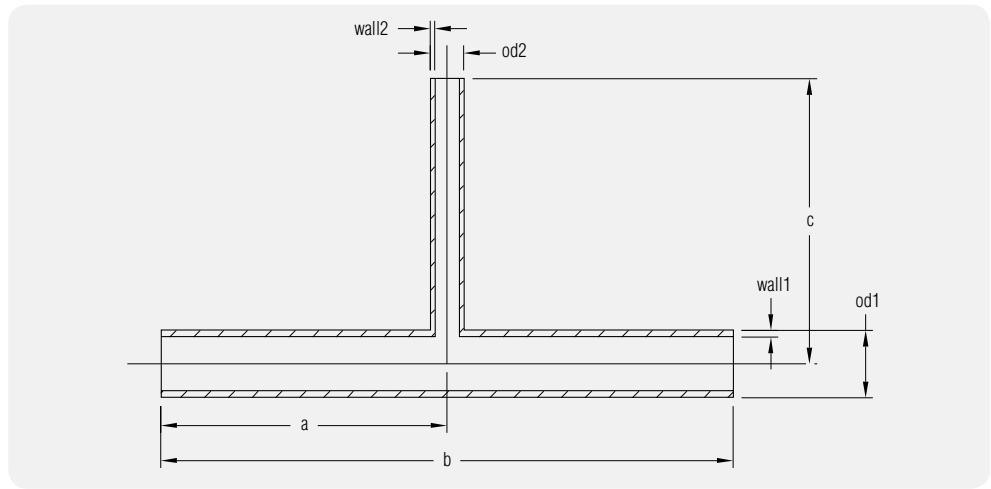
45° elbow 3WW



To complete part number add
product specification.
Example: 3WW04T50

| part no. | material | dimensions | | | | | | product specifications | | | | | | |
|-----------|---------------------|------------|------|-------|------|---------|---------|------------------------|----|----|----|----|-----|------|
| | | od | wall | a | r | a mm | r mm | 5 | 10 | 20 | 25 | 50 | 100 | TG22 |
| 3WW04T_ | 316L SS SMLS | .250 | .035 | 1.10 | .560 | 28 | 14 | ● | ● | ● | ● | ● | ● | |
| 3WW04TG22 | Hastelloy® C22 SMLS | .250 | .035 | 1.10 | .560 | 51 | 14 | | | | | | | ● |
| 3WW06T_ | 316L SS SMLS | .375 | .035 | 2.00 | .560 | 51 | 14 | ● | ● | ● | ● | ● | ● | |
| 3WW06TG22 | Hastelloy C22 SMLS | .375 | .035 | 2.00 | .560 | 51 | 14 | | | | | | | ● |
| 3WW08T_ | 316L SS SMLS | .500 | .049 | 2.50 | .750 | 64 | 19 | ● | ● | ● | ● | ● | ● | |
| 3WW08TG22 | Hastelloy C22 SMLS | .500 | .049 | 2.50 | .750 | 64 | 19 | | | | | | | ● |
| 3WW12T_ | 316L SS SMLS | .750 | .065 | 2.50 | 1.12 | 64 | 28 | ● | ● | ● | ● | ● | | |
| 3WW16T_W | 316L SS WLD | 1.00 | .065 | 3.12 | 1.50 | 79 | 38 | ● | ● | ● | ● | ● | | |
| 3WW16T_ | 316L SS SMLS | 1.00 | .065 | 3.12 | 1.50 | 79 | 38 | ● | ● | ● | ● | ● | | |
| 3WW24T_W | 316L SS WLD | 1.50 | .065 | 2.50 | 2.25 | 64 | 57 | ● | ● | ● | ● | ● | | |
| 3WW24T_ | 316L SS SMLS | 1.50 | .065 | 2.50 | 2.25 | 64 | 57 | ● | ● | ● | ● | ● | | |
| 3WW32T_W | 316L SS WLD | 2.00 | .065 | 3.00 | 3.00 | 76 | 76 | ● | ● | ● | ● | ● | | |
| 3WW32T_ | 316L SS SMLS | 2.00 | .065 | 3.00 | 3.00 | 76 | 76 | ● | ● | ● | ● | ● | | |
| 3WW48T_W | 316L SS WLD | 3.00 | .065 | 3.625 | 4.50 | 92 | 114 | ● | ● | ● | ● | ● | | |
| 3WW64T_W | 316L SS WLD | 4.00 | .083 | 4.50 | 6.00 | 114 | 152 | ● | ● | ● | ● | ● | | |

reducing tee 7RWWW



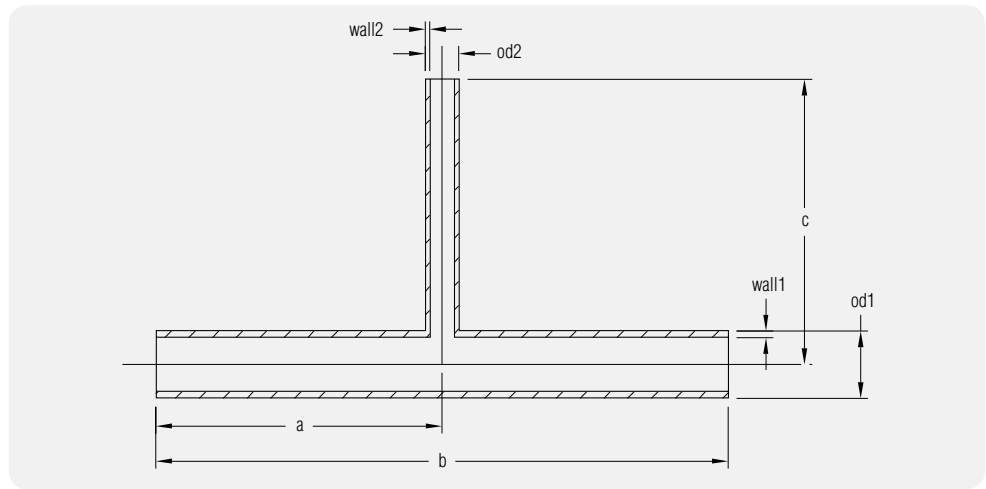
To complete part number add product specification.
Example: 7RWWW0604T50

| part no. | material | dimensions | | | | | | | | | product specifications | | | | | | | |
|---------------|---------------------|------------|------|-------|-------|-------|------|-------|------|------|------------------------|---|----|----|----|----|-----|------|
| | | od1 | od2 | wall1 | wall2 | a | b | c | a mm | b mm | c mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 7RWWW0604T | 316L SS SMLS | .375 | .250 | .035 | .035 | 1.75 | 3.50 | 1.75 | 45 | 89 | 45 | ● | ● | ● | ● | ● | ● | |
| 7RWWW0604TG22 | Hastelloy® C22 SMLS | .375 | .250 | .035 | .035 | 1.75 | 3.50 | 1.75 | 45 | 89 | 45 | | | | | | | ● |
| 7RWWW0804T | 316L SS SMLS | .500 | .250 | .049 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | ● | ● | ● | ● | ● | ● | |
| 7RWWW0804TG22 | Hastelloy C22 SMLS | .500 | .250 | .049 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | | | | | | | ● |
| 7RWWW0806T | 316L SS SMLS | .500 | .375 | .049 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | ● | ● | ● | ● | ● | ● | |
| 7RWWW0806TG22 | Hastelloy C22 SMLS | .500 | .375 | .049 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | | | | | | | ● |
| 7RWWW1204T | 316L SS SMLS | .750 | .250 | .065 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | ● | ● | ● | ● | ● | | |
| 7RWWW1206T | 316L SS SMLS | .750 | .375 | .065 | .035 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | ● | ● | ● | ● | ● | | |
| 7RWWW1208T | 316L SS SMLS | .750 | .500 | .065 | .049 | 2.12 | 4.25 | 2.12 | 54 | 108 | 54 | ● | ● | ● | ● | ● | | |
| 7RWWW1604T | 316L SS SMLS | 1.00 | .250 | .065 | .035 | 2.50 | 5.00 | 2.50 | 64 | 127 | 64 | ● | ● | ● | ● | ● | | |
| 7RWWW1606T | 316L SS SMLS | 1.00 | .375 | .065 | .035 | 2.50 | 5.00 | 2.50 | 64 | 127 | 64 | ● | ● | ● | ● | ● | | |
| 7RWWW1608T | 316L SS SMLS | 1.00 | .500 | .065 | .049 | 2.50 | 5.00 | 2.50 | 64 | 127 | 64 | ● | ● | ● | ● | ● | | |
| 7RWWW1612T | 316L SS SMLS | 1.00 | .750 | .065 | .065 | 2.50 | 5.00 | 2.50 | 64 | 127 | 64 | ● | ● | ● | ● | ● | | |
| 7RWWW2404T_W | 316L SS WLD | 1.50 | .250 | .065 | .035 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2404T | 316L SS SMLS | 1.50 | .250 | .065 | .035 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2406T_W | 316L SS WLD | 1.50 | .375 | .065 | .035 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2406T | 316L SS SMLS | 1.50 | .375 | .065 | .035 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2408T_W | 316L SS WLD | 1.50 | .500 | .065 | .049 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2408T | 316L SS SMLS | 1.50 | .500 | .065 | .049 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2412T_W | 316L SS WLD | 1.50 | .750 | .065 | .065 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2412T | 316L SS SMLS | 1.50 | .750 | .065 | .065 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2416T_W | 316L SS WLD | 1.50 | 1.00 | .065 | .065 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW2416T | 316L SS SMLS | 1.50 | 1.00 | .065 | .065 | 2.375 | 4.75 | 2.375 | 60 | 121 | 60 | ● | ● | ● | ● | ● | | |
| 7RWWW3204T_W | 316L SS WLD | 2.00 | .250 | .065 | .035 | 2.875 | 5.75 | 2.875 | 83 | 165 | 83 | ● | ● | ● | ● | ● | | |
| 7RWWW3204T | 316L SS SMLS | 2.00 | .250 | .065 | .035 | 2.875 | 5.75 | 2.875 | 83 | 165 | 83 | ● | ● | ● | ● | ● | | |

continued next page

reducing tee (cont.)

7RWWW

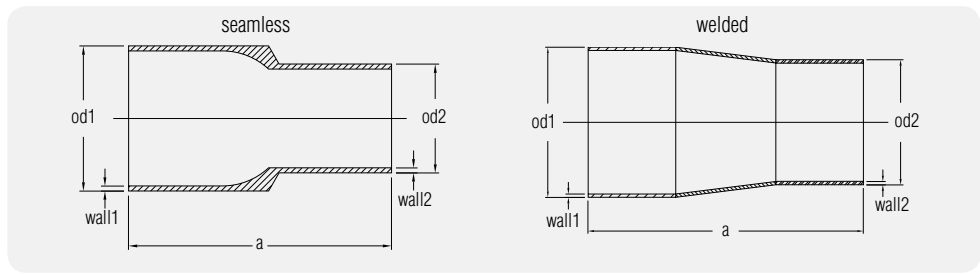


To complete part number add product specification.

Example: 7RWWW0604T50

| part no. | material | dimensions | | | | | | | | | | product specifications | | | | | | |
|--------------|--------------|------------|------|-------|-------|-------|------|-------|------|------|------|------------------------|----|----|----|----|-----|------|
| | | od1 | od2 | wall1 | wall2 | a | b | c | a mm | b mm | c mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 7RWWW3206T_W | 316L SS WLD | 2.00 | .375 | .065 | .035 | 2.875 | 5.75 | 2.875 | 83 | 165 | 83 | ● | ● | ● | ● | ● | | |
| 7RWWW3206T_ | 316L SS SMLS | 2.00 | .375 | .065 | .035 | 2.875 | 5.75 | 2.875 | 83 | 165 | 83 | ● | ● | ● | ● | ● | | |
| 7RWWW3208T_W | 316L SS WLD | 2.00 | .500 | .065 | .049 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3208T_ | 316L SS SMLS | 2.00 | .500 | .065 | .049 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3212T_W | 316L SS WLD | 2.00 | .750 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3212T_ | 316L SS SMLS | 2.00 | .750 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3216T_W | 316L SS WLD | 2.00 | 1.00 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3216T_ | 316L SS SMLS | 2.00 | 1.00 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3224T_W | 316L SS WLD | 2.00 | 1.50 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW3224T_ | 316L SS SMLS | 2.00 | 1.50 | .065 | .065 | 2.875 | 5.75 | 2.625 | 73 | 146 | 67 | ● | ● | ● | ● | ● | | |
| 7RWWW4804T_W | 316L SS WLD | 3.00 | .250 | .065 | .035 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4806T_W | 316L SS WLD | 3.00 | .375 | .065 | .035 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4808T_W | 316L SS WLD | 3.00 | .500 | .065 | .049 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4812T_W | 316L SS WLD | 3.00 | .750 | .065 | .065 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4816T_W | 316L SS WLD | 3.00 | 1.00 | .065 | .065 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4824T_W | 316L SS WLD | 3.00 | 1.50 | .065 | .065 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW4832T_W | 316L SS WLD | 3.00 | 2.00 | .065 | .065 | 3.375 | 6.75 | 3.125 | 86 | 172 | 79 | ● | ● | ● | ● | ● | | |
| 7RWWW6404T_W | 316L SS WLD | 4.00 | .250 | .083 | .035 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6406T_W | 316L SS WLD | 4.00 | .375 | .083 | .035 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6408T_W | 316L SS WLD | 4.00 | .500 | .083 | .049 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6412T_W | 316L SS WLD | 4.00 | .750 | .083 | .065 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6416T_W | 316L SS WLD | 4.00 | 1.00 | .083 | .065 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6424T_W | 316L SS WLD | 4.00 | 1.50 | .083 | .065 | 4.125 | 8.25 | 3.625 | 105 | 210 | 92 | ● | ● | ● | ● | ● | | |
| 7RWWW6432T_W | 316L SS WLD | 4.00 | 2.00 | .083 | .065 | 4.125 | 8.25 | 3.875 | 105 | 210 | 98 | ● | ● | ● | ● | ● | | |
| 7RWWW6448T_W | 316L SS WLD | 4.00 | 3.00 | .083 | .065 | 4.125 | 8.25 | 3.875 | 105 | 210 | 98 | ● | ● | ● | ● | ● | | |

concentric reducer 31WW



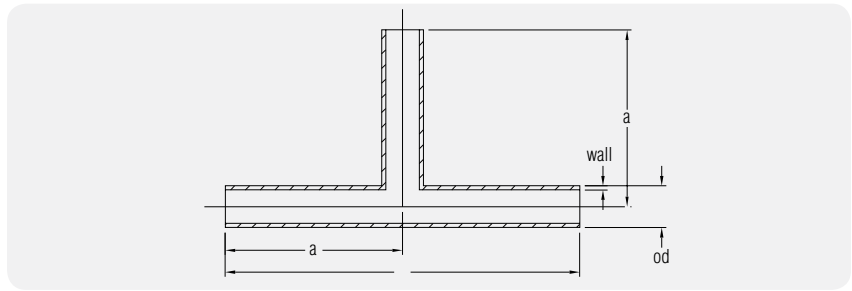
To complete part number add product specification.

Example: 31WW0604T50

| part no. | material | dimensions | | | | | product specifications | | | | | | |
|--------------|---------------------|------------|------|-------|-------|-------|------------------------|----|----|----|----|-----|------|
| | | od1 | od2 | wall1 | wall2 | a | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 31WW0604T_ | 316L SS SMLS | .375 | .250 | .035 | .035 | 2.75 | ● | ● | ● | ● | ● | ● | |
| 31WW0604TG22 | Hastelloy® C22 SMLS | .375 | .250 | .035 | .035 | 2.75 | | | | | | | ● |
| 31WW0804T_ | 316L SS SMLS | .500 | .250 | .049 | .035 | 2.75 | ● | ● | ● | ● | ● | ● | |
| 31WW0804TG22 | Hastelloy C22 SMLS | .500 | .250 | .049 | .035 | 2.75 | | | | | | | ● |
| 31WW0806T_ | 316L SS SMLS | .500 | .375 | .049 | .035 | 2.75 | ● | ● | ● | ● | ● | ● | |
| 31WW0806TG22 | Hastelloy C22 SMLS | .500 | .375 | .049 | .035 | 2.75 | | | | | | | ● |
| 31WW1204T_ | 316L SS SMLS | .750 | .250 | .065 | .035 | 2.75 | ● | ● | ● | ● | ● | | |
| 31WW1206T_ | 316L SS SMLS | .750 | .375 | .065 | .035 | 2.75 | ● | ● | ● | ● | ● | | |
| 31WW1208T_ | 316L SS SMLS | .750 | .500 | .065 | .049 | 2.75 | ● | ● | ● | ● | ● | | |
| 31WW1604T_ | 316L SS SMLS | 1.00 | .250 | .065 | .035 | 3.00 | ● | ● | ● | ● | ● | | |
| 31WW1606T_ | 316L SS SMLS | 1.00 | .375 | .065 | .035 | 3.00 | ● | ● | ● | ● | ● | | |
| 31WW1608T_ | 316L SS SMLS | 1.00 | .500 | .065 | .049 | 3.00 | ● | ● | ● | ● | ● | | |
| 31WW1612T_ | 316L SS SMLS | 1.00 | .750 | .065 | .065 | 3.00 | ● | ● | ● | ● | ● | | |
| 31WW2404T_ | 316L SS SMLS | 1.50 | .250 | .065 | .035 | 5.50 | ● | ● | ● | ● | ● | | |
| 31WW2406T_ | 316L SS SMLS | 1.50 | .375 | .065 | .035 | 5.50 | ● | ● | ● | ● | ● | | |
| 31WW2408T_ | 316L SS SMLS | 1.50 | .500 | .065 | .049 | 5.50 | ● | ● | ● | ● | ● | | |
| 31WW2412T_ | 316L SS SMLS | 1.50 | .750 | .065 | .065 | 5.00 | ● | ● | ● | ● | ● | | |
| 31WW2412T_W | 316L SS WLD | 1.50 | .750 | .065 | .065 | 3.00 | ● | ● | ● | ● | ● | | |
| 31WW2416T_ | 316L SS SMLS | 1.50 | 1.00 | .065 | .065 | 7.00 | ● | ● | ● | ● | ● | | |
| 31WW2416T_W | 316L SS WLD | 1.50 | 1.00 | .065 | .065 | 2.50 | ● | ● | ● | ● | ● | | |
| 31WW3204T_ | 316L SS SMLS | 2.00 | .250 | .065 | .035 | 7.75 | ● | ● | ● | ● | ● | | |
| 31WW3206T_ | 316L SS SMLS | 2.00 | .375 | .065 | .035 | 7.75 | ● | ● | ● | ● | ● | | |
| 31WW3208T_ | 316L SS SMLS | 2.00 | .500 | .065 | .049 | 7.75 | ● | ● | ● | ● | ● | | |
| 31WW3212T_ | 316L SS SMLS | 2.00 | .750 | .065 | .065 | 7.25 | ● | ● | ● | ● | ● | | |
| 31WW3212T_W | 316L SS WLD | 2.00 | .750 | .065 | .065 | 2.75 | ● | ● | ● | ● | ● | | |
| 31WW3216T_ | 316L SS SMLS | 2.00 | 1.00 | .065 | .065 | 7.25 | ● | ● | ● | ● | ● | | |
| 31WW3216T_W | 316L SS WLD | 2.00 | 1.00 | .065 | .065 | 3.375 | ● | ● | ● | ● | ● | | |
| 31WW3224T_ | 316L SS SMLS | 2.00 | 1.50 | .065 | .065 | 5.25 | ● | ● | ● | ● | ● | | |
| 31WW3224T_W | 316L SS WLD | 2.00 | 1.50 | .065 | .065 | 2.50 | ● | ● | ● | ● | ● | | |
| 31WW4816T_W | 316L SS WLD | 3.00 | 1.00 | .065 | .065 | 4.25 | ● | ● | ● | ● | ● | | |
| 31WW4824T_W | 316L SS WLD | 3.00 | 1.50 | .065 | .065 | 4.25 | ● | ● | ● | ● | ● | | |
| 31WW4832T_W | 316L SS WLD | 3.00 | 2.00 | .065 | .065 | 3.375 | ● | ● | ● | ● | ● | | |
| 31WW4840T_W | 316L SS WLD | 3.00 | 2.50 | .065 | .065 | 2.625 | ● | ● | ● | ● | ● | | |
| 31WW6416T_W | 316L SS WLD | 4.00 | 1.00 | .083 | .065 | 5.00 | ● | ● | ● | ● | ● | | |
| 31WW6424T_W | 316L SS WLD | 4.00 | 1.50 | .083 | .065 | 4.625 | ● | ● | ● | ● | ● | | |
| 31WW6432T_W | 316L SS WLD | 4.00 | 2.00 | .083 | .065 | 5.125 | ● | ● | ● | ● | ● | | |
| 31WW6440T_W | 316L SS WLD | 4.00 | 2.50 | .065 | .065 | 4.25 | ● | ● | ● | ● | ● | | |
| 31WW6448T_W | 316L SS WLD | 4.00 | 3.00 | .083 | .065 | 3.875 | ● | ● | ● | ● | ● | | |

Consult factory for availability of other materials, sizes, or wall thickness.

equal tee 7WWW

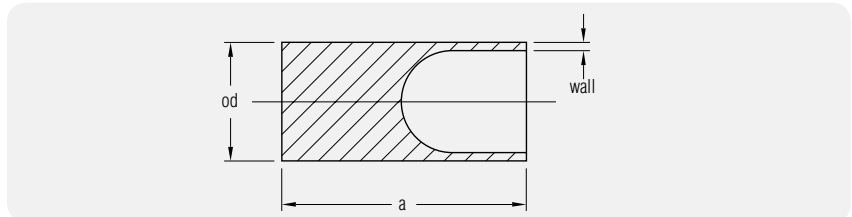


To complete part number add
product specification.

Example: 7WWW04T50

| part no. | material | dimensions | | | | | | product specifications | | | | | | |
|------------|---------------------|------------|------|-------|------|---------|---------|------------------------|----|----|----|----|-----|------|
| | | od | wall | a | b | a mm | b mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 7WWW04T | 316L SS SMLS | .250 | .035 | 1.75 | 3.50 | 45 | 89 | • | • | • | • | • | • | |
| 7WWW04TG22 | Hastelloy® C22 SMLS | .250 | .035 | 1.75 | 3.50 | 45 | 89 | | | | | | | • |
| 7WWW06T | 316L SS SMLS | .375 | .035 | 1.75 | 3.50 | 45 | 89 | • | • | • | • | • | • | |
| 7WWW06TG22 | Hastelloy C22 SMLS | .375 | .035 | 1.75 | 3.50 | 45 | 89 | | | | | | | • |
| 7WWW08T | 316L SS SMLS | .500 | .049 | 2.12 | 4.25 | 54 | 108 | • | • | • | • | • | • | |
| 7WWW08TG22 | Hastelloy C22 SMLS | .500 | .049 | 2.12 | 4.25 | 54 | 108 | | | | | | | • |
| 7WWW12T | 316L SS SMLS | .750 | .065 | 2.12 | 4.25 | 54 | 108 | • | • | • | • | • | | |
| 7WWW16T_W | 316L SS WLD | 1.00 | .065 | 2.50 | 5.00 | 64 | 127 | • | • | • | • | • | | |
| 7WWW16T | 316L SS SMLS | 1.00 | .065 | 2.50 | 5.00 | 64 | 127 | • | • | • | • | • | | |
| 7WWW24T_W | 316L SS WLD | 1.50 | .065 | 2.375 | 4.75 | 60 | 121 | • | • | • | • | • | | |
| 7WWW24T | 316L SS SMLS | 1.50 | .065 | 2.375 | 4.75 | 60 | 121 | • | • | • | • | • | | |
| 7WWW32T_W | 316L SS WLD | 2.00 | .065 | 2.875 | 5.75 | 73 | 146 | • | • | • | • | • | | |
| 7WWW32T | 316L SS SMLS | 2.00 | .065 | 2.875 | 5.75 | 73 | 146 | • | • | • | • | • | | |
| 7WWW48T_W | 316L SS WLD | 3.00 | .065 | 3.375 | 6.75 | 86 | 172 | • | • | • | • | • | | |
| 7WWW64T_W | 316L SS WLD | 4.00 | .083 | 4.125 | 8.25 | 105 | 210 | • | • | • | • | • | | |

end cap 16W

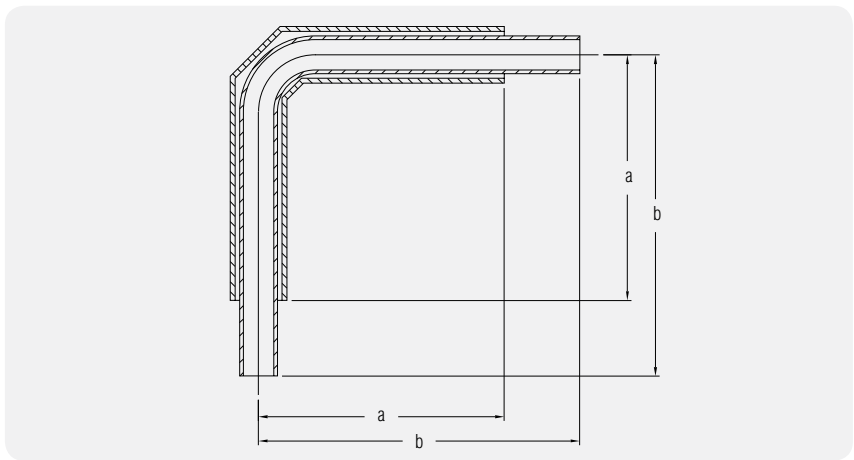


To complete part number add
product specification.

Example: 16W04T50

| part no. | material | dimensions | | | | product specifications | | | | | | |
|-----------|---------------------|------------|------|-------|---------|------------------------|----|----|----|----|-----|------|
| | | od | wall | a | a mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| 16W04T | 316L SS SMLS | .250 | .035 | 1.125 | 29 | • | • | • | • | • | • | |
| 16W04TG22 | Hastelloy® C22 SMLS | .250 | .035 | 1.125 | 29 | | | | | | | • |
| 16W06T | 316L SS SMLS | .375 | .035 | 1.125 | 29 | • | • | • | • | • | • | |
| 16W06TG22 | Hastelloy C22 SMLS | .375 | .035 | 1.125 | 29 | | | | | | | • |
| 16W08T | 316L SS SMLS | .500 | .049 | 1.375 | 35 | • | • | • | • | • | • | |
| 16W08TG22 | Hastelloy C22 SMLS | .500 | .049 | 1.375 | 35 | | | | | | | • |
| 16W12T | 316L SS SMLS | .750 | .065 | 1.75 | 44 | • | • | • | • | • | | |
| 16W16T | 316L SS SMLS | 1.00 | .065 | 1.75 | 44 | • | • | • | • | • | | |
| 16W24T | 316L SS SMLS | 1.50 | .065 | 2.00 | 51 | • | • | • | • | • | | |
| 16W32T | 316L SS SMLS | 2.00 | .065 | 2.00 | 51 | • | • | • | • | • | | |
| 16W48T_W | 316L SS WLD | 3.00 | .065 | 2.00 | 51 | • | • | • | • | • | | |
| 16W64T_W | 316L SS WLD | 4.00 | .083 | 2.50 | 51 | • | • | • | • | • | | |

coaxial 90° elbow X2WW

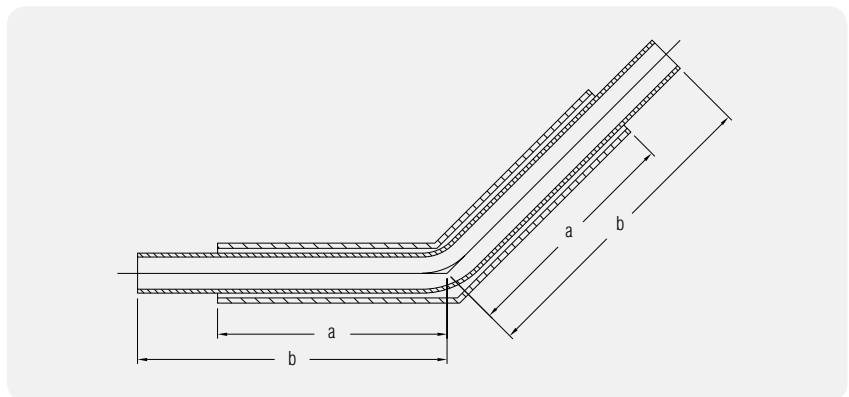


To complete part number add product specification.

Example: X2WW0408T50

| part no. | process tube | dimensions | | | | | | | | | product specifications | | | | | | | |
|--------------|---------------------|------------|--------------|------------|--------------|------|------|------|------|------|------------------------|---|----|----|----|----|-----|------|
| | | process od | process wall | contain od | contain wall | a | b | r | a mm | b mm | r mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| X2WW0408T_ | 316L SS SMLS | .250 | .035 | .500 | .049 | 3.37 | 4.37 | .560 | 86 | 111 | 14 | ● | ● | ● | ● | ● | ● | ● |
| X2WW0408TG22 | Hastelloy® C22 SMLS | .250 | .035 | .500 | .049 | 3.37 | 4.37 | .560 | 86 | 111 | 14 | | | | | | | ● |
| X2WW0610T_ | 316L SS SMLS | .375 | .035 | .625 | .049 | 3.12 | 4.12 | .560 | 79 | 105 | 14 | ● | ● | ● | ● | ● | ● | ● |
| X2WW0610TG22 | Hastelloy C22 SMLS | .375 | .035 | .625 | .049 | 3.12 | 4.12 | .560 | 79 | 105 | 14 | | | | | | | ● |
| X2WW0812T_ | 316L SS SMLS | .500 | .049 | .750 | .065 | 3.25 | 4.25 | .750 | 83 | 108 | 19 | ● | ● | ● | ● | ● | ● | ● |
| X2WW0812TG22 | Hastelloy C22 SMLS | .500 | .049 | .750 | .065 | 3.25 | 4.25 | .750 | 83 | 108 | 19 | | | | | | | ● |
| X2WW1216T_ | 316L SS SMLS | .750 | .065 | 1.00 | .065 | 5.00 | 6.75 | 1.12 | 127 | 172 | 28 | ● | ● | ● | ● | ● | ● | ● |
| X2WW1620T_ | 316L SS SMLS | 1.00 | .065 | 1.25 | .065 | 5.37 | 7.12 | 1.50 | 136 | 181 | 38 | ● | ● | ● | ● | ● | ● | ● |

coaxial 45° elbow X3WW

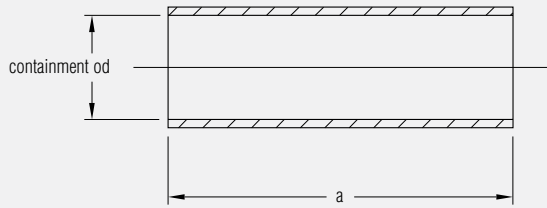


To complete part number add product specification.

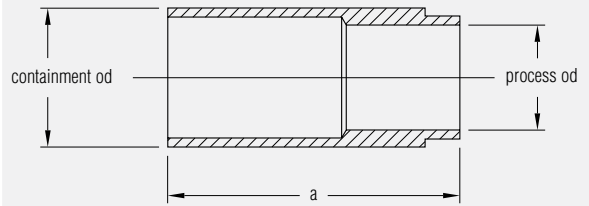
Example: X3WW0408T50

| part no. | process tube | dimensions | | | | | | | | | product specifications | | | | | | | |
|--------------|---------------------|------------|--------------|------------|--------------|------|------|------|------|------|------------------------|---|----|----|----|----|-----|------|
| | | process od | process wall | contain od | contain wall | a | b | r | a mm | b mm | r mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| X3WW0408T_ | 316L SS SMLS | .250 | .035 | .500 | .049 | 3.00 | 4.00 | .560 | 76 | 102 | 14 | ● | ● | ● | ● | ● | ● | ● |
| X3WW0408TG22 | Hastelloy® C22 SMLS | .250 | .035 | .500 | .049 | 3.00 | 4.00 | .560 | 76 | 102 | 14 | | | | | | | ● |
| X3WW0610T_ | 316L SS SMLS | .375 | .035 | .625 | .049 | 2.87 | 3.87 | .560 | 73 | 98 | 14 | ● | ● | ● | ● | ● | ● | ● |
| X3WW0610TG22 | Hastelloy C22 SMLS | .375 | .035 | .625 | .049 | 2.87 | 3.87 | .560 | 73 | 98 | 14 | | | | | | | ● |
| X3WW0812T_ | 316L SS SMLS | .500 | .049 | .750 | .065 | 2.87 | 3.87 | .750 | 73 | 98 | 19 | ● | ● | ● | ● | ● | ● | ● |
| X3WW0812TG22 | Hastelloy C22 SMLS | .500 | .049 | .750 | .065 | 2.87 | 3.87 | .750 | 73 | 98 | 19 | | | | | | | ● |
| X3WW1216T_ | 316L SS SMLS | .750 | .065 | 1.00 | .065 | 4.37 | 6.12 | 1.12 | 111 | 155 | 28 | ● | ● | ● | ● | ● | ● | ● |
| X3WW1620T_ | 316L SS SMLS | 1.00 | .065 | 1.25 | .065 | 4.50 | 6.25 | 1.50 | 114 | 159 | 38 | ● | ● | ● | ● | ● | ● | ● |

coaxial sleeve coupling XSC



coaxial termination XTM

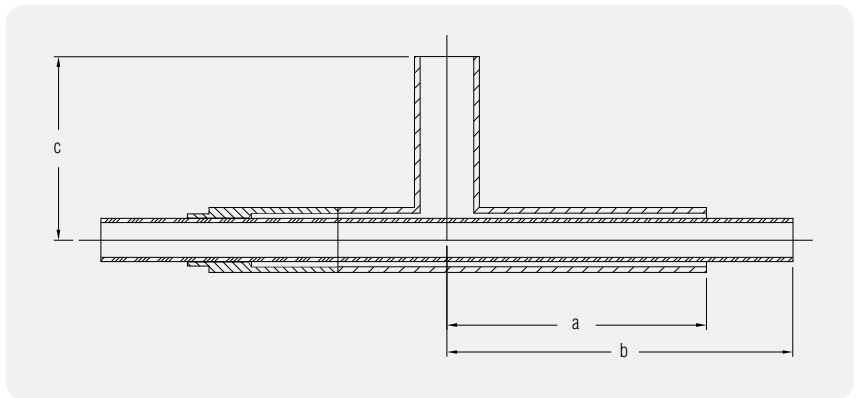


| part no. | process tube | dimensions | | |
|----------|---------------|------------|------|------|
| | | contain od | a | a mm |
| XSC0408 | 316L SS SMLS | .500 | 4.00 | 102 |
| XSC0610 | 316L SS SMLS | .625 | 4.00 | 102 |
| XSC0812 | 316L SS SMLS | .750 | 4.00 | 102 |
| XSC1216 | 316L SS SMLS. | 1.00 | 4.00 | 102 |
| XSC1620 | 316L SS SMLS | 1.25 | 4.00 | 102 |

| part no. | process tube | dimensions | | | |
|----------|--------------|------------|------------|------|------|
| | | process od | contain od | a | a mm |
| XTM0408 | 316L SS SMLS | .250 | .500 | 1.25 | 32 |
| XTM0610 | 316L SS SMLS | .375 | .625 | 1.25 | 32 |
| XTM0812 | 316L SS SMLS | .500 | .750 | 1.25 | 32 |
| XTM1216 | 316L SS SMLS | .750 | 1.00 | 2.00 | 51 |
| XTM1620 | 316L SS SMLS | 1.00 | 1.25 | 2.00 | 51 |

Consult factory for extended lengths.

coaxial starter piece XSP_n

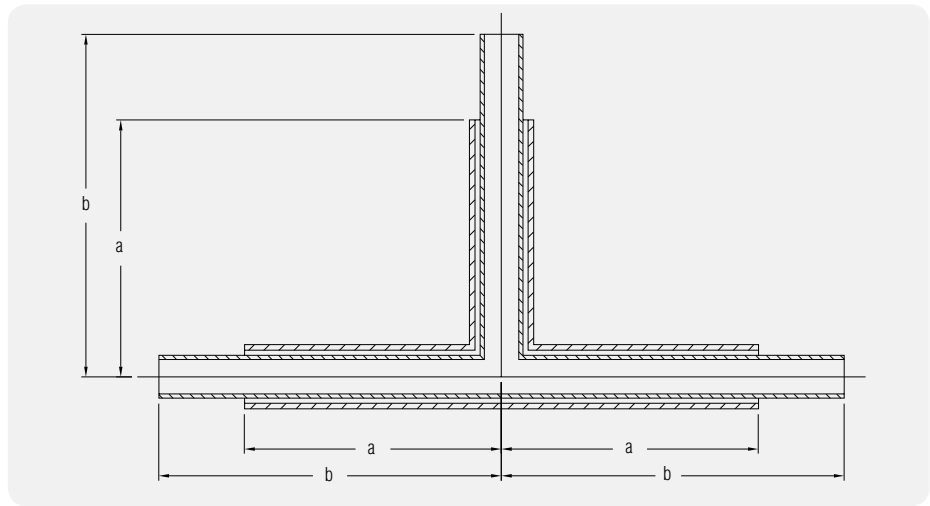


To complete part number add product specification.
Example: XSP0408T50

| part no. | process tube | dimensions | | | | | | | | | product specifications | | | | | | | |
|-------------|---------------------|------------|--------------|------------|--------------|------|------|------|------|------|------------------------|---|----|----|----|----|-----|------|
| | | process od | process wall | contain od | contain wall | a | b | c | a mm | b mm | c mm | 5 | 10 | 20 | 25 | 50 | 100 | T622 |
| XSP0408T_ | 316L SS SMLS | .250 | .035 | .500 | .049 | 2.87 | 3.87 | 2.12 | 73 | 98 | 54 | ● | ● | ● | ● | ● | ● | |
| XSP0408TG22 | Hastelloy® C22 SMLS | .250 | .035 | .500 | .049 | 2.87 | 3.87 | 2.12 | 73 | 98 | 54 | | | | | | | ● |
| XSP0610T_ | 316L SS SMLS | .375 | .035 | .625 | .049 | 3.00 | 4.00 | 2.12 | 76 | 102 | 54 | ● | ● | ● | ● | ● | ● | |
| XSP0610TG22 | Hastelloy C22 SMLS | .375 | .035 | .625 | .049 | 3.00 | 4.00 | 2.12 | 76 | 102 | 54 | | | | | | | ● |
| XSP0812T_ | 316L SS SMLS | .500 | .049 | .750 | .065 | 3.00 | 4.00 | 2.12 | 76 | 102 | 54 | ● | ● | ● | ● | ● | ● | |
| XSP0812TG22 | Hastelloy C22 SMLS | .500 | .049 | .750 | .065 | 3.00 | 4.00 | 2.12 | 76 | 102 | 54 | | | | | | | ● |
| XSP1216T_ | 316L SS SMLS | .750 | .065 | 1.00 | .065 | 4.62 | 5.62 | 2.12 | 117 | 143 | 54 | ● | ● | ● | ● | ● | | |
| XSP1620T_ | 316L SS SMLS | 1.00 | .065 | 1.25 | .065 | 4.75 | 5.75 | 2.50 | 121 | 146 | 64 | ● | ● | ● | ● | ● | | |

Consult factory for availability of other materials, sizes, or wall thickness.

coaxial equal tee X7WWW

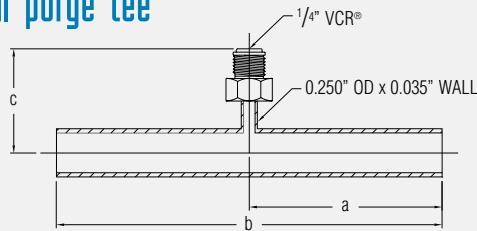


To complete part number add product specification.

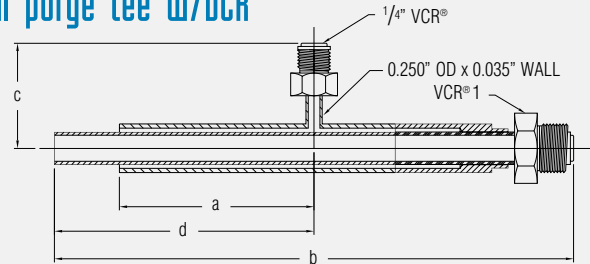
Example: X7WWW0408T50

| part no. | process tube | dimensions | | | | | | | | product specifications | | | | | | |
|---------------|---------------------|------------|--------------|------------|--------------|------|------|------|------|------------------------|----|----|----|----|-----|------|
| | | process od | contain wall | contain od | contain wall | a | b | a mm | b mm | 5 | 10 | 20 | 25 | 50 | 100 | TG22 |
| X7WWW0408T | 316L SS SMLS | .250 | .035 | .500 | .049 | 2.87 | 3.87 | 73 | 98 | ● | ● | ● | ● | ● | ● | |
| X7WWW0408TG22 | Hastelloy® C22 SMLS | .250 | .035 | .500 | .049 | 2.87 | 3.87 | 73 | 98 | | | | | | | ● |
| X7WWW0610T | 316L SS SMLS | .375 | .035 | .625 | .049 | 3.00 | 4.00 | 76 | 102 | ● | ● | ● | ● | ● | ● | |
| X7WWW0610TG22 | Hastelloy C22 SMLS | .375 | .035 | .625 | .049 | 3.00 | 4.00 | 76 | 102 | | | | | | | ● |
| X7WWW0812T | 316L SS SMLS | .500 | .049 | .750 | .065 | 3.00 | 4.00 | 76 | 102 | ● | ● | ● | ● | ● | ● | |
| X7WWW0812TG22 | Hastelloy C22 SMLS | .500 | .049 | .750 | .065 | 3.00 | 4.00 | 76 | 102 | | | | | | | ● |
| X7WWW1216T | 316L SS SMLS | .750 | .065 | 1.00 | .065 | 4.62 | 6.37 | 117 | 162 | ● | ● | ● | ● | ● | ● | |
| X7WWW1620T | 316L SS SMLS | 1.00 | .065 | 1.25 | .065 | 4.75 | 6.50 | 121 | 165 | ● | ● | ● | ● | ● | ● | |

coaxial purge tee KPT



coaxial purge tee w/UCR KPTU

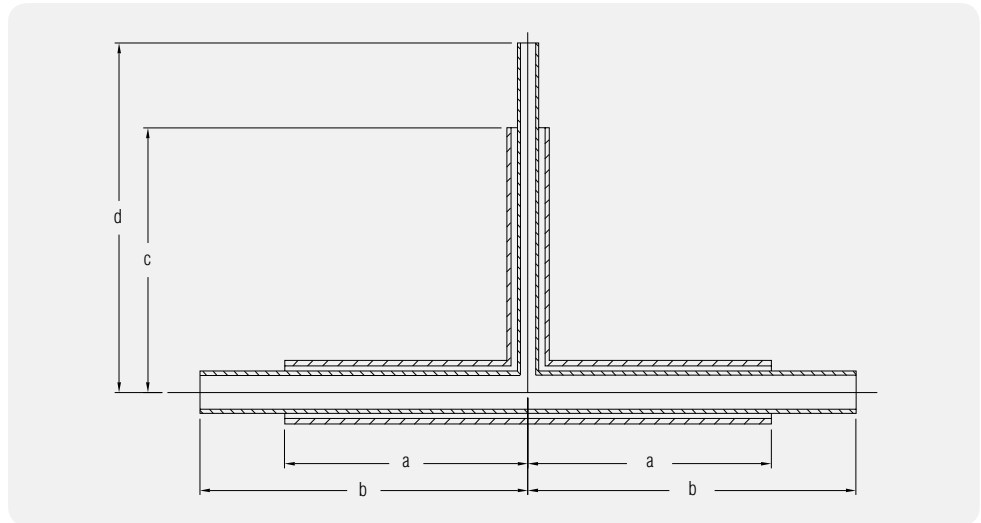


| part no. | process tube | dimensions | | | | | | | | | | | product specifications | | | | | | | |
|-----------|--------------|------------|----------------|------------------|------|------|------|------|------|------|------|------|------------------------|---|----|----|----|----|-----|------|
| | | process od | containment od | containment wall | a | b | c | d | a mm | b mm | c mm | d mm | UCR#1 | 5 | 10 | 20 | 25 | 50 | 100 | TG22 |
| XPT0408 | 316L SS SMLS | .250 | .500 | .049 | 2.87 | 5.75 | 1.51 | — | 73 | 146 | 38 | — | — | | | | | | | |
| XPT0610 | 316L SS SMLS | .375 | .625 | .049 | 3.00 | 6.00 | 1.57 | — | 76 | 152 | 40 | — | — | | | | | | | |
| XPT0812 | 316L SS SMLS | .500 | .750 | .065 | 3.00 | 6.00 | 1.62 | — | 76 | 152 | 41 | — | — | | | | | | | |
| XPT1216 | 316L SS SMLS | .750 | 1.00 | .065 | 4.62 | 9.25 | 1.74 | — | 117 | 235 | 44 | — | — | | | | | | | |
| XPT1620 | 316L SS SMLS | 1.00 | 1.25 | .065 | 4.75 | 9.50 | 1.87 | — | 121 | 241 | 48 | — | — | | | | | | | |
| XPTV0408T | 316L SS SMLS | .250 | .500 | .049 | 2.87 | 7.75 | 1.51 | 3.87 | 73 | 197 | 38 | 98 | .250 | ● | ● | ● | ● | ● | ● | |
| XPTV0610T | 316L SS SMLS | .375 | .625 | .049 | 3.00 | 8.00 | 1.57 | 4.00 | 76 | 203 | 40 | 102 | .370 | ● | ● | ● | ● | ● | ● | |
| XPTV0812T | 316L SS SMLS | .500 | .750 | .065 | 3.00 | 8.00 | 1.62 | 4.00 | 76 | 203 | 41 | 102 | .500 | ● | ● | ● | ● | ● | ● | |
| XPTV1216T | 316L SS SMLS | .750 | 1.00 | .065 | 4.62 | 2.75 | 1.74 | 6.37 | 117 | 324 | 44 | 162 | .750 | ● | ● | ● | ● | ● | ● | |
| XPTV1620T | 316L SS SMLS | 1.00 | 1.25 | .065 | 4.75 | 3.00 | 1.87 | 6.50 | 121 | 330 | 48 | 165 | 1.00 | ● | ● | ● | ● | ● | ● | |

Consult factory for Hastelloy® process tube.

Consult factory for availability of other materials, sizes, or wall thickness.

coaxial reducing tee X7RWWW



To complete part number add product specification.
Example: X7RWWW0604T50

| part no. | process tube | dimensions | | | | | | | | | | | | product specifications | | | | | | | |
|----------------|---------------------|------------|------------|------------|------------|------|------|------|------|------|------|------|------|------------------------|----|----|----|----|-----|------|---|
| | | base leg | | branch leg | | a | b | c | d | a mm | b mm | c mm | d mm | 5 | 10 | 20 | 25 | 50 | 100 | TC22 | |
| | | process od | contain od | process od | contain od | | | | | | | | | | | | | | | | |
| X7RWWW0604T_ | 316L SS SMLS | .375 | .625 | .250 | .500 | 2.87 | 3.87 | 3.12 | 4.12 | 73 | 98 | 79 | 105 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW0604TG22 | Hastelloy® C22 SMLS | .375 | .625 | .250 | .500 | 2.87 | 3.87 | 3.12 | 4.12 | 73 | 98 | 79 | 105 | | | | | | | | ● |
| X7RWWW0804T_ | 316L SS SMLS | .500 | .750 | .250 | .500 | 2.87 | 3.87 | 3.12 | 4.12 | 73 | 98 | 79 | 105 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW0804TG22 | Hastelloy C22 SMLS | .500 | .750 | .250 | .500 | 2.87 | 3.87 | 3.12 | 4.12 | 73 | 98 | 79 | 105 | | | | | | | | ● |
| X7RWWW0806T_ | 316L SS SMLS | .500 | .750 | .375 | .625 | 3.00 | 4.00 | 3.12 | 4.12 | 73 | 102 | 79 | 105 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW0806TG22 | Hastelloy C22 SMLS | .500 | .750 | .375 | .625 | 3.00 | 4.00 | 3.12 | 4.12 | 73 | 102 | 79 | 105 | | | | | | | | ● |
| X7RWWW1204T_ | 316L SS SMLS | .750 | 1.00 | .250 | .500 | 4.37 | 6.12 | 3.25 | 4.25 | 111 | 155 | 83 | 108 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1206T_ | 316L SS SMLS | .750 | 1.00 | .375 | .625 | 4.50 | 6.25 | 3.25 | 4.25 | 114 | 159 | 83 | 108 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1208T_ | 316L SS SMLS | .750 | 1.00 | .500 | .750 | 4.50 | 6.25 | 3.25 | 4.25 | 114 | 159 | 83 | 108 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1604T_ | 316L SS SMLS | 1.00 | 1.25 | .250 | .500 | 4.37 | 6.12 | 3.37 | 4.37 | 111 | 155 | 86 | 111 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1606T_ | 316L SS SMLS | 1.00 | 1.25 | .375 | .625 | 4.50 | 6.25 | 3.37 | 4.37 | 114 | 159 | 86 | 111 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1608T_ | 316L SS SMLS | 1.00 | 1.25 | .500 | .750 | 4.50 | 6.25 | 3.37 | 4.37 | 114 | 159 | 86 | 111 | ● | ● | ● | ● | ● | ● | ● | |
| X7RWWW1612T_ | 316L SS SMLS | 1.00 | 1.25 | .750 | 1.00 | 4.62 | 6.37 | 4.87 | 6.62 | 117 | 162 | 124 | 168 | ● | ● | ● | ● | ● | ● | ● | |

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product specifications

○ tech CM

- High quality seamless and welded 316L SS tubing.
- Thermocouple cleaned and capped per ASTM 632 supplement S3.
- Purged with filtered nitrogen, capped and bulk bagged in heat sealed polyethylene.
- Used for instrumentation, clean dry air, and other gas systems requiring cleaned high purity tubing.

○ tech 5

- Surface roughness of 40 μin / 1.0 $\mu\text{m Ra}$.
- High quality seamless and welded 316L SS tubing.
- Thermocouple cleaned and capped per ASTM 632 supplement S3.
- Purged with filtered nitrogen, capped and bulk bagged in heat sealed polyethylene.
- Used for instrumentation, clean dry air, and other gas systems requiring cleaned high purity tubing.

○ tech 10

- Average surface roughness of 25 μin / 0.63 $\mu\text{m Ra}$.
- High quality ASTM 269 and ASTM 270 316L SS tubing.
- Controlled sulfur for consistent weldability.
- Exceeds CFOS CGA G4.1 cleaning.
- Fully passivated with nitric acid.
- Rinsed with DI water, purged with filtered nitrogen, capped and individually bagged in heat sealed polyethylene.
- Used for analyzer sample lines, O₂ piping (CFOS), medical gas distribution and vent lines.
- Cleaned to ASTM G93-96 Level A.

○ tech 20

- Chemically polished with an average surface roughness of 15 μin / 0.20 $\mu\text{m Ra}$.
- High quality ASTM 269 and ASTM 270 316L SS tubing.
- Low particulate cleaning.
- Final cleaning and packaging performed in a cleanroom.
- DI water final rinse, purged with filtered nitrogen until dry, capped and individually bagged in heat sealed polyethylene.
- Used for general high purity systems, such as high grade analyzer lines, compressed dry air, argon, nitrogen and other inert bulk gas services.
- Cleaned to ASTM G93-96 Level A.

● tech 25

- Electropolished to 10 Ra Max / 0.20 $\mu\text{m Ra}$.
- 316L SS tubing meets ASTM specifications for consistent physical, dimensional and chemical composition.
- Controlled sulfur content to insure consistent weldability and reduced non-metallic inclusions.
- Final cleaning and packaging performed in a Class 10 cleanroom.
- 0.1 μ filtered 60°C DI water rinse.
- 0.005 μ filtered 120°C Nitrogen dried.
- Ends are sealed by pressing LDPE caps over polyamide nylon film.
- Individually double bagged in heat sealed polyethylene.
- Used in ultra high purity gas, chemical distribution, and WFI systems.



● tech 50

- Electropolished with an average surface roughness of $7\ \mu\text{m}$ / $0.18\ \mu\text{m Ra}$.
- 316L SS tubing meets ASTM specifications for consistent physical, dimensional and chemical composition.
- Restricted sulfur content insures consistent weldability and low non-metallic inclusions.
- Final cleaning and packaging performed in a Class 10 cleanroom.
- $0.1\ \mu$ filtered 18 Megohm 60°C DI water rinse until effluent surpasses 17.5 Megohm.
- Dried with $0.005\ \mu$ filtered 120°C Nitrogen.
- Ends are sealed by pressing LDPE caps over polyamide nylon film.
- Individually double bagged in heat sealed polyethylene.
- Subjected to numerous quality verification tests including: particle and moisture analysis, SEM, ESCA and Auger.
- Used for ultra high purity gas distribution systems.

● tech 100

- Electropolished to $5\ \mu\text{m}$ / $0.13\ \mu\text{m Ra}$ or $10\ \mu\text{m}$ / $0.25\ \mu\text{m Ra}$ surface roughness.
- Produced from secondary remelt 316L SS VAR tubing exceeding ASTM specifications for consistent physical, dimensional and chemical composition.
- Vacuum arc remelt (VAR) material reduces impurities in the stainless steel making it more corrosion resistant and pure than standard 316L SS.
- Restricted sulfur content insures consistent weldability and low non-metallic inclusions.
- Final cleaning and packaging performed in a Class 10 cleanroom.
- $0.1\ \mu$ filtered 18 Megohm 60°C DI water rinse until effluent surpasses 17.5 Megohm.
- Dried with $0.005\ \mu$ filtered 120°C Nitrogen.
- Ends are sealed by pressing LDPE caps over polyamide nylon film.
- Individually double bagged in heat sealed polyethylene.
- Subjected to numerous quality verification tests including: particle and moisture analysis, SEM, ESCA and Auger.
- Used for ultra high purity specialty gas distribution systems.

● TG22

- Hastelloy® C22 – a nickel chromium alloy is extremely resistant to pitting and crevice corrosion.
- Surface roughness of $20\ \mu\text{m}$ / $0.5\ \mu\text{m Ra}$.
- Chemically polished and passivated in nitric acid bath followed by a DI water rinse.
- Final cleaning and packaging performed in a Class 10 cleanroom.
- Rinsed with $0.1\ \mu$ filtered 18 Megohm 60°C DI water.
- Dried with $0.005\ \mu$ filtered 120°C Nitrogen.
- Ends are sealed by pressing LDPE caps over polyamide nylon film.
- Individually double bagged in heat sealed polyethylene.
- Verified quality by particle and moisture testing.
- Used for high purity distribution of highly corrosive gasses.





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