

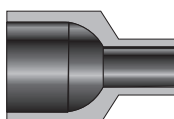


Ultrahigh-Purity Weld Fittings

MW, UW and AW Series

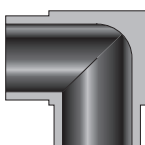
MW Series

(Mini butt weld fittings)



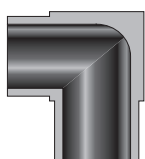
Reducing Unions
- MRWU

2-51



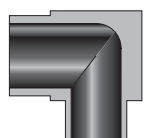
90° Union Elbows
- MWE

2-51



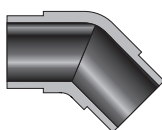
Extended Leg 90°
Union Elbow
- MWE

2-51



Reducing 90°
Union Elbows
- MWE

2-52



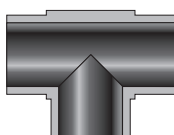
45° Union Elbows
- MWV

2-52



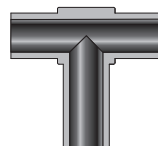
Tribows
- MWTB

2-52



Union Tees
- MWT

2-52



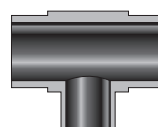
Extended Branch
Leg Union Tees
- MWT

2-53



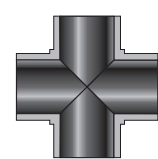
Extended Run
Leg Union Tees
- MWT

2-53



Reducing Tees
- MWT

2-53

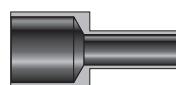


Union Crosses
- MWC

2-53

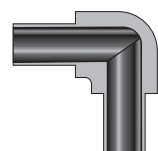
UW Series

(Long arm butt weld fittings)



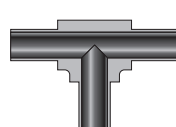
Reducing Unions
- URWU

2-55



Union Elbows
- UWE

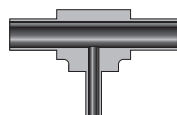
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Union Tees
- UWT

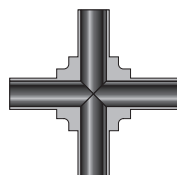
2-56

Contents



Reducing Tees
- UWT

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Union Crosses
- UWC

2-56



Weld Rings
- UWR

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AW Series (Automatic tube butt weld fittings)



Locator Unions
- ALWU

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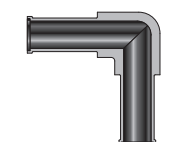
Unions
- AWU

2-58



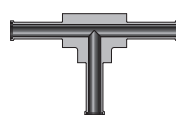
Reducing Unions
- AWU

2-58



90° Union Elbows
- AWE

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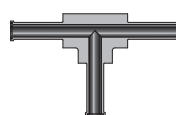
Union Tees
- AWT

2-60



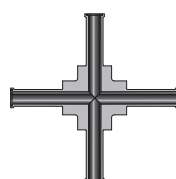
Reducing Tees
- AWT

2-60



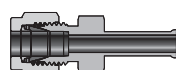
Manifold Tees
- AMWT

2-60



Union Crosses
- AWC

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Weld Connectors
- WC

2-61

Features

- ❖ 316, 316L, 316L VAR and 316L VIM-VAR (Vacuum Induction Melting/Vacuum Arc Remelting) stainless steel materials
- ❖ Each fitting is stamped with size, material and heat code

Standard Materials of Construction

Material	Bar Stock	Forging	Designator
316 S.S.	ASTM A479 / A276	ASTM A182/A314	316
316L S.S.			316L
316L VAR S.S.	ASTM A479 / A276 SEMI F20	—	316LV
316L VIM-VAR S.S.			316LVV

Pressure-Temperature Ratings

Material	316 316L Bar Stock	316L Forgings
Specification	ASTM A276 A479	ASTM A182
Temperature °F (°C)	Factor	
-20 (-28) to 100 (37)	1.00	1.00
200 (93)	0.86	0.71
300 (93)	0.78	0.63
400 (121)	0.71	0.57
500 (148)	0.66	0.53
600 (176)	0.63	0.50
650 (176)	0.62	0.49
700 (204)	0.60	0.48
750 (232)	0.60	0.47
800 (148)	0.59	0.46
850 (176)	0.58	0.45
900 (204)	0.57	-
950 (232)	0.57	-
1000 (232)	0.56	-

- ❖ Catalog working pressures shown are for temperatures from -20°F to 100°F (-28°C to 37°C). Pressure derating factors for applications at temperatures greater than 100°F (37°C) were determined from this pressure code and are listed in the table left

Wetted Surface Finish, Cleaning and Packaging

- ❖ Wetted Surface Finish
Standard surface finish is a roughness average of 10 µin. (0.25 µm) Ra
- ❖ Ultrahigh-purity Process Specification
CP-03 ultrahigh-purity cleaning and packaging, Wetted surfaces are finished to 5 µin. (0.13 µm) Ra
Example: **FBW4-MWE-FBW4-316L**

Ordering Information

- ❖ To order Hikelok butt weld fittings, add the material designator to the ordering number

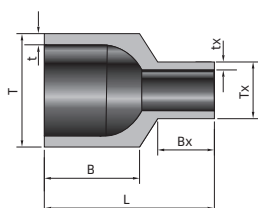
Mini butt weld fittings

MW Series

Features

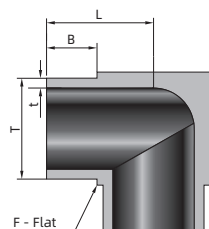
- ❖ Sizes range from 1/8" to 1/2" and 6 mm to 12 mm
- ❖ Radius junction design with elbows provides smooth flow path
- ❖ Compact design allows close component spacing
- ❖ Square, sharp, burrfree tube weld ends enhance alignment, maintain tube wall uniformity, and promoteweld repeatability.

Reducing Unions



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
					L	B	Bx	
1/4	0.035	1/8	0.028	FBW4-MRWU-FBW2-	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	5100 (351)
3/8	0.035	1/4	0.035	FBW6-MRWU-FBW4-	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3300 (227)
1/2	0.049	1/4	0.035	FBW8-MRWU-FBW4-	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3700 (254)
1/2	0.049	3/8	0.035	FBW8-MRWU-FBW6-	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3300 (227)

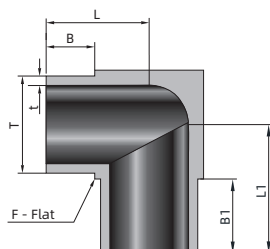
90°Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/8	0.028	FBW2-MWE-FBW2-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	8500 (585)
1/4	0.035	FBW4-MWE-FBW4-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	5100 (351)
3/8	0.035	FBW6-MWE-FBW6-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-MWE-FBW8-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)

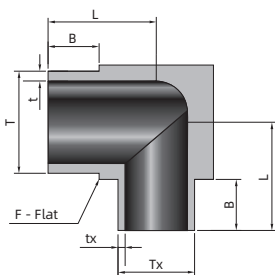
T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-MWE-MBW6-	10.4 (0.41)	6.4 (0.25)	7.9 (5/16)	420 (6095)
8	1.0	MBW8-MWE-MBW8-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-MWE-MBW10-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	240 (3483)
12	1.0	MBW12-MWE-MBW12-	13.5 (0.53)	6.4 (0.25)	14.3 (9/16)	200 (2902)

Extended Leg 90°Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)					Working Pressure psig (bar)
			B	B1	F	L	L1	
1/4	0.035	FBW4-MWE-FBW4-4161-	0.25 (6.4)	0.45 (11.4)	5/16 (7.9)	0.41 (10.4)	0.61 (15.5)	5100 (351)
1/4	0.035	FBW4-MWE-FBW4-4166-	0.25 (6.4)	0.50 (12.7)	5/16 (7.9)	0.41 (10.4)	0.66 (16.8)	5100 (351)
1/4	0.035	FBW4-MWE-FBW4-6161-	0.45 (11.4)	0.45 (11.4)	5/16 (7.9)	0.61 (15.5)	0.61 (15.5)	5100 (351)
1/4	0.035	FBW4-MWE-FBW4-6666-	0.50 (12.7)	0.50 (12.7)	5/16 (7.9)	0.66 (16.8)	0.66 (16.8)	5100 (351)

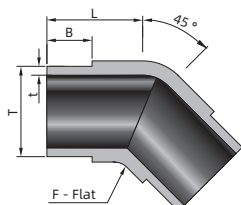
Reducing 90° Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
					L	B	F	
3/8	0.035	1/4	0.035	FBW6-MWE-FBW4-	0.47 (11.9)	0.25 (6.4)	7/16 (7.9)	3300 (227)
1/2	0.049	1/4	0.035	FBW8-MWE-FBW4-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)
1/2	0.049	3/8	0.035	FBW8-MWE-FBW6-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3300 (227)

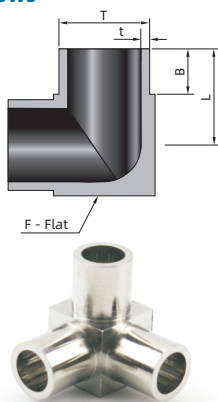
T-Tube O.D. (mm)	t-Wall Thickness (mm)	Tx-Tube O.D. (mm)	tx-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
					L	B	F	
8	1.0	6	1.0	MBW8-MWE-MBW6-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	310 (4499)
10	1.0	6	1.0	MBW10-MWE-MBW6-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	240 (3483)
12	1.0	6	1.0	MBW12-MWE-MBW6-	13.5 (0.53)	6.4 (0.25)	14.3 (9/16)	200 (2902)
12	1.0	8	1.0	MBW12-MWE-MBW8-	13.5 (0.53)	6.4 (0.25)	14.3 (9/16)	200 (2902)

45° Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/4	0.035	FBW4-MWV-FBW4-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	5100 (351)
3/8	0.035	FBW6-MWV-FBW6-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-MWV-FBW8-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)

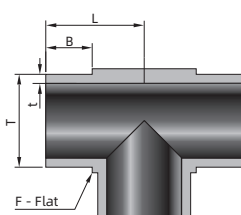
Tribows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/4	0.035	FBW4-MWTB-FBW4-FBW4-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	5100 (351)
3/8	0.035	FBW6-MWTB-FBW6-FBW6-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-MWTB-FBW8-FBW8-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-MWTB-MBW6-MBW6-	10.4 (0.41)	6.4 (0.25)	7.9 (5/16)	420 (6095)

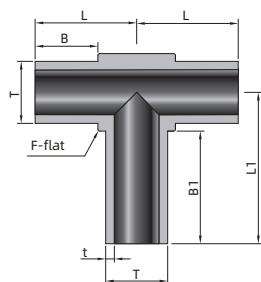
Union Tees



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working pressure psig (bar)
			L	B	F	
1/8	0.028	FBW2-MWT-FBW2-FBW2-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	8500 (585)
1/4	0.035	FBW4-MWT-FBW4-FBW4-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	5100 (351)
3/8	0.035	FBW6-MWT-FBW6-FBW6-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-MWT-FBW8-FBW8-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)

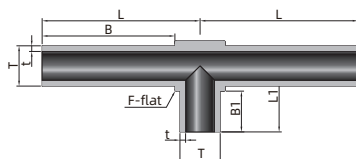
T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working pressure bar (psig)
			L	B	F	
6	1.0	MBW6-MWT-MBW6-MBW6-	10.4 (0.41)	6.4 (0.25)	7.9 (5/16)	420 (6095)
8	1.0	MBW8-MWT-MBW8-MBW8-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-MWT-MBW10-MBW10-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	240 (3483)
12	1.0	MBW12-MWT-MBW12-MBW12-	13.5 (0.53)	6.4 (0.25)	14.3 (9/16)	200 (2902)

Extended Branch Leg Union Tees



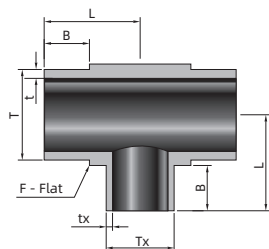
T-Tube O.D. (in.)	Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)					Working pressure psig (bar)
			L	L1	B	B1	F	
1/4	0.035	FBW4-MWT-FBW4-FBW4-4161-	0.41 (10.4)	0.61 (15.5)	0.25 (6.4)	0.45 (11.4)	5/16 (7.9)	5100 (351)

Extended Run Leg Union Tees



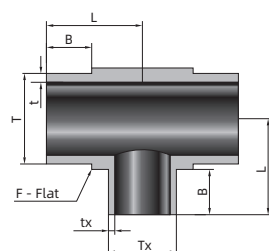
T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)					Working pressure psig (bar)
			L	L1	B	B1	F	
1/4	0.035	FBW4-MWT-FBW4-FBW4-9841-	0.98 (24.9)	0.41 (10.4)	0.83 (21.1)	0.25 (6.4)	5/16 (7.9)	5100 (351)

Reducing Tees



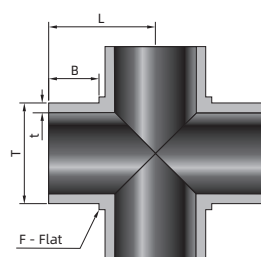
T-Tube O.D. (in.)	T-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
					L	B	F	
3/8	0.035	1/4	0.035	FBW6-MWT-FBW6-FBW4-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	1/4	0.035	FBW8-MWT-FBW8-FBW4-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)
1/2	0.049	3/8	0.035	FBW8-MWT-FBW8-FBW6-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3300 (227)

Reducing Tees



T-Tube O.D. (mm)	T-Wall Thickness (mm)	Tx-Tube O.D. (mm)	tx-Wall Thickness (mm.)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
					L	B	F	
10	1.0	6	1.0	MBW10-MWT-MBW10-MBW6-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	240 (3483)
12	1.0	6	1.0	MBW12-MWT-MBW12-MBW6-	0.53 (13.5)	6.4 (0.25)	14.3 (9/16)	200 (2902)
12	1.0	8	1.0	MBW12-MWT-MBW12-MBW8-	0.53 (13.5)	6.4 (0.25)	14.3 (9/16)	200 (2902)

Union Crosses



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/8	0.028	FBW2-MWC-FBW2-FBW2-FBW2-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	8500 (585)
1/4	0.035	FBW4-MWC-FBW4-FBW4-FBW4-	0.41 (10.4)	0.25 (6.4)	5/16 (7.9)	5100 (351)
3/8	0.035	FBW6-MWC-FBW6-FBW6-FBW6-	0.47 (11.9)	0.25 (6.4)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-MWC-FBW8-FBW8-FBW8-	0.53 (13.5)	0.25 (6.4)	9/16 (14.3)	3700 (254)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-MWC-MBW6-MBW6-MBW6-	10.4 (0.41)	6.4 (0.25)	7.9 (5/16)	420 (6095)
8	1.0	MBW8-MWC-MBW8-MBW8-MBW8-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-MWC-MBW10-MBW10-MBW10-	11.9 (0.47)	6.4 (0.25)	11.1 (7/16)	240 (3483)
12	1.0	MBW12-MWC-MBW12-MBW12-MBW12-	13.5 (0.53)	6.4 (0.25)	14.3 (9/16)	200 (2902)

How to Order

FBW4

— MWC

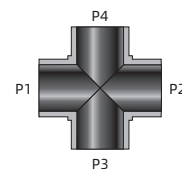
— FBW4

— FBW4

— FBW4

— 316

Port 1 Type	Port 1 Size	Configuration Designator	Port2	Port3	Port4	Material
FBW Fractional Tube Butt Weld MBW Metric Tube Butt Weld	2 1/8 in.	MRWU Reducing Unions	Same as Port 1	Same as Port 1	Same as Port 1	316 316 S.S.
	4 1/4 in.	MWE 90° Union Elbows				316L 316L S.S.
	6 3/8 in. or 6 mm	MWV 45° Union Elbows				316LV 316L VAR S.S.
	8 1/2 in. or 8 mm	MWTB Tribows				316LVV 316L VIM-VAR S.S.
	10 10 mm	MWT Union Tees				
	12 12 mm	MWC Union Crosses				



Long Arm Butt Weld Fittings

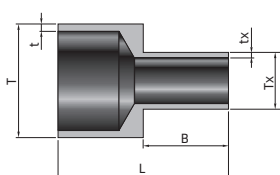
UW Series

Features

- ❖ Sizes range from 1/4" to 1" and 6 mm to 18 mm
- ❖ Radius junction design with elbows provides smooth flow path
- ❖ Precisely finished diameter matches tube diameter



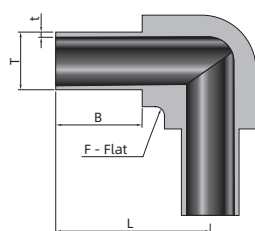
Reducing Unions



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)		Working Pressure psig (bar)
					L	B	
3/8	0.035	1/4	0.035	FBW6-URWU-FBW4-	1.50 (38.1)	0.75 (19.1)	3300 (227)
1/2	0.049	1/4	0.035	FBW8-URWU-FBW4-	1.50 (38.1)	0.75 (19.1)	3700 (254)
1/2	0.049	3/8	0.035	FBW8-URWU-FBW6-	1.50 (38.1)	0.75 (19.1)	3300 (227)
3/4	0.049	1/2	0.049	FBW12-URWU-FBW8-	1.50 (38.1)	0.75 (19.1)	2400 (165)
1	0.065	1/2	0.049	FBW16-URWU-FBW8-	1.50 (38.1)	0.75 (19.1)	2400 (165)
1	0.065	3/4	0.049	FBW16-URWU-FBW12-	1.50 (38.1)	0.75 (19.1)	2400 (165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Tx-Tube O.D. (mm)	tx-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)		Working Pressure psig (bar)
					L	B	
10	1.0	6	1.0	MBW10-URWU-MBW6-	38.1 (1.50)	19.1 (0.75)	240 (3483)
10	1.0	8	1.0	MBW10-URWU-MBW8-	38.1 (1.50)	19.1 (0.75)	240 (3483)
12	1.0	6	1.0	MBW12-URWU-MBW6-	38.1 (1.50)	19.1 (0.75)	200 (2902)
12	1.0	8	1.0	MBW12-URWU-MBW8-	38.1 (1.50)	19.1 (0.75)	200 (2902)
12	1.0	10	1.0	MBW12-URWU-MBW10-	38.1 (1.50)	19.1 (0.75)	200 (2902)
18	1.5	6	1.5	MBW18-URWU-MBW6-	38.1 (1.50)	19.1 (0.75)	200 (2902)
18	1.5	12	1.5	MBW18-URWU-MBW12-	38.1 (1.50)	19.1 (0.75)	200 (2902)

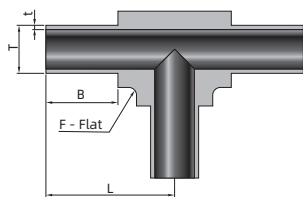
Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/4	0.035	FBW4-UWE-FBW4-	1.23 (31.2)	0.75 (19.1)	7/16 (11.1)	5100 (351)
3/8	0.035	FBW6-UWE-FBW6-	1.20 (30.5)	0.75 (19.1)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-UWE-FBW8-	1.34 (34.0)	0.75 (19.1)	11/16 (17.5)	3700 (254)
3/4	0.049	FBW12-UWE-FBW12-	1.46 (37.1)	0.75 (19.1)	15/16 (23.8)	2400 (165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-UWE-MBW6-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	420 (6095)
8	1.0	MBW8-UWE-MBW8-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-UWE-MBW10-	34.0 (1.34)	19.1 (0.75)	17.5 (11/16)	240 (3483)
12	1.0	MBW12-UWE-MBW12-	34.0 (1.34)	19.1 (0.75)	17.5 (11/16)	200 (2902)
18	1.5	MBW18-UWE-MBW18-	37.6 (1.48)	19.1 (0.75)	23.8 (15/16)	200 (2902)

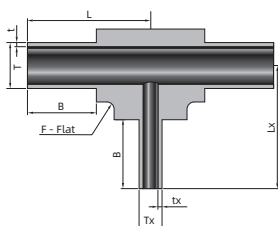
Union Tees



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/4	0.035	FBW4-UWT-FBW4-FBW4-	1.23 (31.2)	0.75 (19.1)	7/16 (11.1)	5100 (351)
3/8	0.035	FBW6-UWT-FBW6-FBW6-	1.20 (30.5)	0.75 (19.1)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-UWT-FBW8-FBW8-	1.34 (34.0)	0.75 (19.1)	11/16 (17.5)	3700 (254)
3/4	0.049	FBW12-UWT-FBW12-FBW12-	1.46 (37.1)	0.75 (19.1)	15/16 (23.8)	2400 (165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-UWT-MBW6-MBW6-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	420 (6095)
8	1.0	MBW8-UWT-MBW8-MBW8-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-UWT-MBW10-MBW10-	34.0 (1.34)	19.1 (0.75)	17.5 (11/16)	240 (3483)
12	1.0	MBW12-UWT-MBW12-MBW12-	34.0 (1.34)	19.1 (0.75)	17.5 (11/16)	200 (2902)
18	1.5	MBW18-UWT-MBW18-MBW18-	37.6 (1.48)	19.1 (0.75)	23.8 (15/16)	200 (2902)

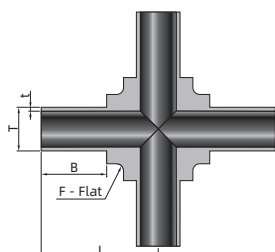
Reducing Tees



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Tx-Tube O.D. (in.)	tx-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)				Working Pressure psig (bar)
					L	Lx	B	F	
3/8	0.035	1/4	0.035	FBW6-UWT-FBW6-FBW4-	1.20(30.5)	1.23(31.2)	0.75(19.1)	7/16(11.1)	3300(227)
1/2	0.049	1/4	0.035	FBW8-UWT-FBW8-FBW4-	1.34(34.0)	1.34(34.0)	0.75(19.1)	11/16(17.5)	3700(254)
1/2	0.049	3/8	0.035	FBW8-UWT-FBW8-FBW6-	1.34(34.0)	1.35(34.3)	0.75(19.1)	11/16(17.5)	3700(254)
3/4	0.049	1/4	0.035	FBW12-UWT-FBW12-FBW4-	1.46(37.1)	1.48(37.6)	0.75(19.1)	15/16(23.8)	2400(165)
3/4	0.049	3/8	0.035	FBW12-UWT-FBW12-FBW6-	1.46(37.1)	1.35(34.3)	0.75(19.1)	15/16(23.8)	2400(165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Tx-Tube O.D. (mm)	tx-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)				Working Pressure bar (psig)
					L	Lx	B	F	
8	1.0	6	1.0	MBW8-UWT-MBW8-MBW6-	31.3(1.23)	31.3(1.23)	19.1(0.75)	11.1(7/16)	310(4499)
10	1.0	6	1.0	MBW10-UWT-MBW10-MBW6-	34.0(1.34)	34.0(1.34)	19.1(0.75)	17.5(11/16)	240(3483)
10	1.0	8	1.0	MBW10-UWT-MBW10-MBW8-	34.0(1.34)	34.0(1.34)	19.1(0.75)	17.5(11/16)	240(3483)
12	1.0	6	1.0	MBW12-UWT-MBW12-MBW6-	34.0(1.34)	34.0(1.34)	19.1(0.75)	17.5(11/16)	200(2902)
12	1.0	8	1.0	MBW12-UWT-MBW12-MBW8-	34.0(1.34)	34.0(1.34)	19.1(0.75)	17.5(11/16)	200(2902)

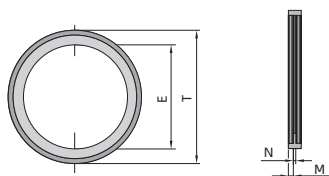
Union Crosses



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	B	F	
1/4	0.035	FBW4-UWC-FBW4-FBW4-FBW4-	1.23 (31.2)	0.75 (19.1)	7/16 (11.1)	5100 (351)
3/8	0.035	FBW6-UWC-FBW6-FBW6-FBW6-	1.20 (30.5)	0.75 (19.1)	7/16 (11.1)	3300 (227)
1/2	0.049	FBW8-UWC-FBW8-FBW8-FBW8-	1.34 (34.0)	0.75 (19.1)	11/16 (17.5)	3700 (254)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	B	F	
6	1.0	MBW6-UWC-MBW6-MBW6-MBW6-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	420 (6095)
8	1.0	MBW8-UWC-MBW8-MBW8-MBW8-	31.2 (1.23)	19.1 (0.75)	11.1 (7/16)	310 (4499)
10	1.0	MBW10-UWC-MBW10-MBW10-MBW10-	34.0 (1.34)	19.1 (0.75)	15.9 (5/8)	240 (3483)
12	1.0	MBW12-UWC-MBW12-MBW12-MBW12-	34.0 (1.34)	19.1 (0.75)	15.9 (5/8)	200 (2902)

Weld Rings



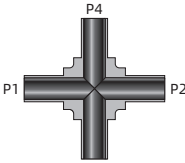
T-Tube O.D. (in.)	Ordering Number	Dimension, in. (mm)			
		E	M	N	T
1/4	UWR-4-	0.20 (5.1)	0.02 (0.51)	0.01 (0.25)	0.28 (7.1)
3/8	UWR-6-	0.32 (8.1)	0.02 (0.51)	0.01 (0.25)	0.41 (10.4)
1/2	UWR-8-	0.42 (10.7)	0.02 (0.51)	0.01 (0.25)	0.54 (13.7)

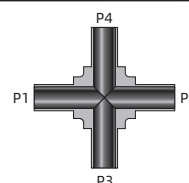
Ordering Information

Add the material designator as a postfix to the basic ordering number to complete the ordering number.

Example: **UWR-4-316**

How to Order

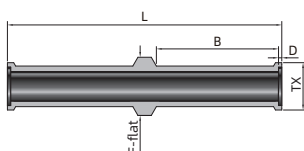
FBW6		—		UWC		—		FBW6		—		FBW6		—		316	
Port 1 Type		Port 1 Size		Configuration Designator		Port2		Port3		Port4		Material					
FBW	Fractional Tube Butt Weld	4	1/4 in.	URWU	Reducing Unions	Same as Port 1	Same as Port 1	Same as Port 1	Same as Port 1	316 316 S.S.							
		6	3/8 in. or 6 mm							316L 316L S.S.							
MBW	Metric Tube Butt Weld	8	1/2 in. or 8 mm	UWE	Union Elbows	Same as Port 1	Same as Port 1	Same as Port 1	Same as Port 1	316LV 316L VAR S.S.							
		10	10 mm							316LVV 316L VIM-VAR S.S.							
		12	1/2 in. or 12 mm	UWT	Union Tees												
		16	1 in.														
		18	18 mm														
				UWC	Union Crosses												



Automatic Tube Butt Weld Fittings

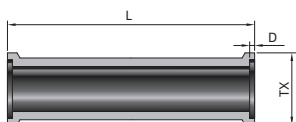
AW Series

Locator Unions



T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)					Working Pressure psig (bar)
			L	B	D	F	TX	
1/4	0.035	AFBW4-ALWU-AFBW4-	1.69 (42.9)	0.75 (19.1)	0.02 (0.51)	0.36 (9.1)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-ALWU-AFBW6-	1.71 (43.4)	0.75 (19.1)	0.03 (0.76)	0.42 (10.7)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-ALWU-AFBW8-	1.73 (43.9)	0.75 (19.1)	0.04 (1.0)	0.60 (15.2)	0.55 (14.0)	3700 (254)

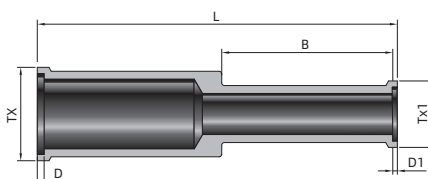
Unions



T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)			Working Pressure psig (bar)
			L	D	TX	
1/4	0.035	AFBW4-AWU-AFBW4-	1.00 (25.4)	0.02 (0.5)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-AWU-AFBW6-	1.00 (25.4)	0.03 (0.8)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-AWU-AFBW8-	1.00 (25.4)	0.04 (1.0)	0.55 (14.0)	3700 (254)
3/4	0.049	AFBW12-AWU-AFBW12-	1.00 (25.4)	0.04 (1.0)	0.80 (20.3)	2400 (165)
1	0.065	AFBW16-AWU-AFBW16-	1.25 (31.8)	0.04 (1.0)	1.06 (26.9)	2400 (165)

T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, mm (in.)			Working Pressure bar (psig)
			L	D	TX	
6	1	AMBW6-AWU-AMBW6-	31.8 (1.25)	0.5 (0.02)	6.9 (0.27)	420 (6095)
8	1	AMBW8-AWU-AMBW8-	31.8 (1.25)	0.8 (0.03)	8.9 (0.35)	310 (4499)
10	1	AMBW10-AWU-AMBW10-	31.8 (1.25)	0.8 (0.03)	10.9 (0.43)	240 (3483)
12	1	AMBW12-AWU-AMBW12-	31.8 (1.25)	1.0 (0.04)	13.2 (0.52)	200 (2902)
18	1.5	AMBW18-AWU-AMBW18-	31.8 (1.25)	1.0 (0.04)	19.3 (0.76)	200 (2902)

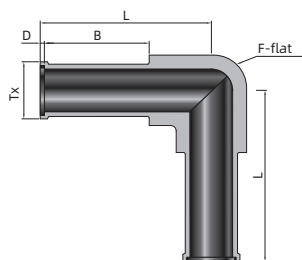
Reducing Unions



T-Tube O.D. (in.)	Wall (in.)	T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)						Working Pressure psig (bar)
					L	B	D	D1	TX	TX1	
3/8	0.035	1/4	0.035	AFBW6-AWU-AFBW4-	1.58 (40.1)	0.75 (19.1)	0.03 (0.8)	0.02 (0.5)	0.41 (10.4)	0.29 (7.4)	3300 (227)
1/2	0.049	1/4	0.035	AFBW8-AWU-AFBW4-	1.58 (40.1)	0.75 (19.1)	0.04 (1.0)	0.02 (0.5)	0.55 (14.0)	0.29 (7.4)	3700 (254)
1/2	0.049	3/8	0.035	AFBW8-AWU-AFBW6-	1.58 (40.1)	0.75 (19.1)	0.04 (1.0)	0.03 (0.8)	0.55 (14.0)	0.41 (10.4)	3300 (227)
3/4	0.049	1/2	0.049	AFBW12-AWU-AFBW8-	1.62 (41.1)	0.75 (19.1)	0.04 (1.0)	0.04 (1.0)	0.80 (20.3)	0.55 (14.0)	2400 (165)

T-Tube O.D. (mm)	Wall (mm)	T-Tube O.D. (mm)	Wall (mm)	Ordering Number	Dimension, mm (in.)						Working Pressure bar (psig)
					L	B	D	D1	TX	TX1	
8	1	6	1	AMBW6-AWU-AMBW6-	39.9 (1.57)	19.1 (0.75)	0.8 (0.03)	0.5 (0.02)	8.9 (0.35)	6.8 (0.27)	310 (4499)
12	1	6	1	AMBW12-AWU-AMBW6-	40.1 (1.58)	19.1 (0.75)	1.0 (0.04)	0.5 (0.02)	13.2 (0.52)	6.8 (0.27)	200 (2902)
12	1	8	1	AMBW12-AWU-AMBW8-	40.4 (1.59)	19.1 (0.75)	1.0 (0.04)	0.8 (0.03)	13.2 (0.52)	8.9 (0.35)	200 (2902)

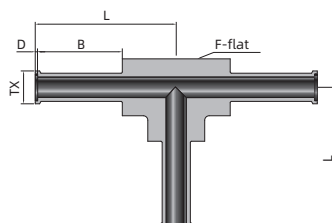
90° Union Elbows



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)					Working Pressure psig (bar)
			L	B	D	F	TX	
1/4	0.035	AFBW4-AWUE-AFBW4-	1.25 (31.8)	0.75 (19.1)	0.02 (0.5)	7/16 (11.1)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-AWUE-AFBW6-	1.23 (31.2)	0.75 (19.1)	0.03 (0.8)	7/16 (11.1)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-AWUE-AFBW8-	1.38 (35.1)	0.75 (19.1)	0.04 (1.0)	11/16 (17.5)	0.55 (14.0)	3700 (254)
3/4	0.049	AFBW12-AWUE-AFBW12-	1.50 (38.1)	0.75 (19.1)	0.04 (1.0)	15/16 (23.8)	0.80 (20.3)	2400 (165)
1	0.065	AFBW16-AWUE-AFBW16-	1.89 (48.0)	0.96 (24.4)	0.04 (1.0)	1 1/4 (31.8)	1.06 (26.9)	2400 (165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)					Working Pressure bar (psig)
			L	B	D	F	TX	
6	1	AMBW6-AWUE-AMBW6-	31.8 (1.25)	19.1 (0.75)	0.5 (0.02)	11.1 (7/16)	6.9 (0.27)	351 (5100)
8	1	AMBW8-AWUE-AMBW8-	32.0 (1.26)	19.1 (0.75)	0.8 (0.03)	11.1 (7/16)	8.9 (0.35)	227 (3300)
10	1	AMBW10-AWUE-AMBW10-	34.8 (1.37)	19.1 (0.75)	0.8 (0.03)	17.5 (11/16)	10.9 (0.43)	254 (3700)
12	1	AMBW12-AWUE-AMBW12-	35.1 (1.38)	19.1 (0.75)	1.0 (0.04)	17.5 (11/16)	13.2 (0.52)	199 (2888)
18	1.5	AMBW18-AWUE-AMBW18-	38.6 (1.52)	19.1 (0.75)	1.0 (0.04)	23.8 (15/16)	19.3 (0.76)	206 (2989)

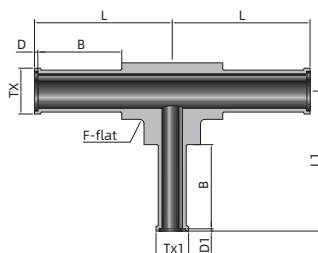
Union Tees



T-Tube O.D. (in.)	t-Wall Thickness (in.)	Ordering Number	Dimension, in. (mm)					Working Pressure psig (bar)
			L	B	D	F	TX	
1/4	0.035	AFBW4-AWT-AFBW4-AFBW4-	1.25 (31.8)	0.75 (19.1)	0.02 (0.5)	7/16 (11.1)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-AWT-AFBW6-AFBW6-	1.23 (31.2)	0.75 (19.1)	0.03 (0.8)	7/16 (11.1)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-AWT-AFBW8-AFBW8-	1.38 (35.1)	0.75 (19.1)	0.04 (1.0)	11/16 (17.5)	0.55 (14.0)	3500 (241)
3/4	0.049	AFBW12-AWT-AFBW12-AFBW12-	1.50 (38.1)	0.75 (19.1)	0.04 (1.0)	15/16 (23.8)	0.80 (20.3)	2400 (165)
1	0.065	AFBW16-AWT-AFBW16-AFBW16-	1.89 (48.0)	0.96 (24.4)	0.04 (1.0)	1 1/4 (31.8)	1.06 (26.9)	2400 (165)

T-Tube O.D. (mm)	t-Wall Thickness (mm)	Ordering Number	Dimension, mm (in.)					Working Pressure bar (psig)
			L	B	D	F	TX	
6	1	AMBW6-AWT-AMBW6-AMBW6-	31.8 (1.25)	19.1 (0.75)	0.5 (0.02)	11.1 (7/16)	6.9 (0.27)	454 (6589)
8	1	AMBW8-AWT-AMBW8-AMBW8-	32.0 (1.26)	19.1 (0.75)	0.8 (0.03)	11.1 (7/16)	8.9 (0.35)	323 (4687)
10	1	AMBW10-AWT-AMBW10-AMBW10-	34.8 (1.37)	19.1 (0.75)	0.8 (0.03)	17.5 (11/16)	10.9 (0.43)	254 (3686)
12	1	AMBW12-AWT-AMBW12-AMBW12-	35.1 (1.38)	19.1 (0.75)	1.0 (0.04)	17.5 (11/16)	13.2 (0.52)	206 (2989)
18	1.5	AMBW18-AWT-AMBW18-AMBW18-	38.6 (1.52)	19.1 (0.75)	1.0 (0.04)	23.8 (15/16)	19.3 (0.76)	206 (2989)

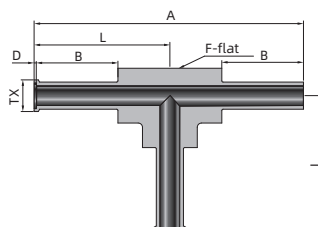
Reducing Tees



T-Tube O.D. (in.)	Wall (in.)	T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)								Working Pressure psig (bar)
					L	L1	B	D	D1	Tx	Tx1	F	
3/8	0.035	1/4	0.035	AFBW6-AWT-AFBW6-AFBW4-	1.23(31.2)	1.25(31.8)	0.75(19.1)	0.03(0.8)	0.02(0.5)	0.41(10.4)	0.29(7.4)	7/16(11.1)	3300(227)
1/2	0.049	1/4	0.035	AFBW8-AWT-AFBW8-AFBW4-	1.38(35.1)	1.38(35.1)	0.75(19.1)	0.04(1.0)	0.02(0.5)	0.55(14.0)	0.29(7.4)	11/16(17.5)	3700(254)
1/2	0.049	3/8	0.035	AFBW8-AWT-AFBW8-AFBW6-	1.38(35.1)	1.37(34.8)	0.75(19.1)	0.04(1.0)	0.03(0.8)	0.55(14.0)	0.41(10.4)	11/16(17.5)	3300(227)
3/4	0.049	3/8	0.035	AFBW12-AWT-AFBW12-AFBW6-	1.50(38.1)	1.50(38.1)	0.75(19.1)	0.04(1.0)	0.03(0.8)	0.80(20.3)	0.41(10.4)	15/16(23.8)	2400(165)
3/4	0.049	1/2	0.049	AFBW12-AWT-AFBW12-AFBW8-	1.50(38.1)	1.50(38.1)	0.75(19.1)	0.04(1.0)	0.04(1.0)	0.80(20.3)	0.55(14.0)	15/16(23.8)	2400(165)

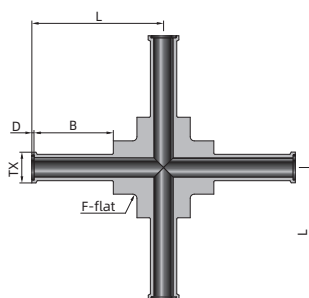
T-Tube O.D. (mm)	Wall (mm)	T-Tube O.D. (mm)	Wall (mm)	Ordering Number	Dimension, mm (in.)								Working Pressure bar (psig)
					L	L1	B	D	D1	Tx	Tx1	F	
12	1	6	1	AMBW12-AWT-AMBW12-AMBW6-	35.1(1.38)	34.5(1.36)	19.1(0.75)	0.5(0.02)	0.5(0.02)	13.2(0.52)	6.9(0.27)	17.5(11/16)	200(2902)

Manifold Tees



T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)						Working Pressure psig (bar)
			A	L	B	D	F	TX	
1/4	0.035	AFBW4-AMWT-FBW4-AFBW4-	2.48 (63.0)	1.25 (31.8)	0.75 (19.1)	0.02 (0.5)	7/16 (11.1)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-AMWT-FBW6-AFBW6-	2.43 (61.7)	1.23 (31.2)	0.75 (19.1)	0.03 (0.8)	11/16 (17.5)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-AMWT-FBW8-AFBW8-	2.72 (69.1)	1.38 (35.1)	0.75 (19.1)	0.04 (1.0)	11/16 (17.5)	0.55 (14.0)	3700 (254)

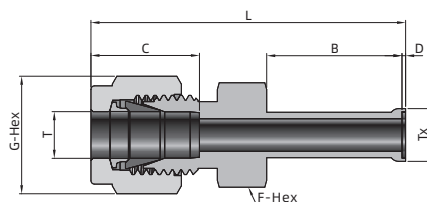
Union Crosses



T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)					Working Pressure psig (bar)
			L	B	D	F	TX	
1/4	0.035	AFBW4-AWC-AFBW4-AFBW4-AFBW4-	1.25 (31.8)	0.75 (19.1)	0.02 (0.5)	7/16 (11.1)	0.29 (7.4)	5100 (351)
3/8	0.035	AFBW6-AWC-AFBW6-AFBW6-AFBW6-	1.23 (31.2)	0.75 (19.1)	0.03 (0.8)	7/16 (11.1)	0.41 (10.4)	3300 (227)
1/2	0.049	AFBW8-AWC-AFBW8-AFBW8-AFBW8-	1.35 (34.3)	0.75 (19.1)	0.04 (1.0)	5/8 (17.5)	0.55 (14.0)	3700 (254)

T-Tube O.D. (mm)	Wall (mm)	Ordering Number	Dimension, mm (in.)					Working Pressure psig (bar)
			L	B	D	F	TX	
6	1	AMBW6-AWC-AMBW6-AMBW6-AMBW6-	31.8 (1.25)	19.1 (0.75)	0.5 (0.02)	11.1 (7/16)	6.9 (0.27)	420(6095)
8	1	AMBW8-AWC-AMBW8-AMBW8-AMBW8-	31.8 (1.25)	19.1 (0.75)	0.8 (0.03)	11.1 (7/16)	8.9 (0.35)	310(4499)

Weld Connectors



T-Tube O.D. (in.)	T-Tube O.D. (in.)	Wall (in.)	Ordering Number	Dimension, in. (mm)							Working Pressure psig (bar)
				L	B	C	D	TX	G	F	
1/4	1/4	0.035	F4-WC-AFBW4-	1.74 (44.2)	0.75 (19.1)	0.60 (15.2)	0.02 (0.51)	0.29 (7.4)	9/16 (14.3)	1/2 (12.7)	5100 (351)
3/8	3/8	0.035	F6-WC-AFBW6-	1.84 (46.7)	0.75 (19.1)	0.66 (16.8)	0.03 (0.76)	0.41 (10.4)	11/16 (17.5)	5/8 (15.9)	3300 (227)
1/2	1/2	0.049	F8-WC-AFBW8-	1.99 (50.5)	0.75 (19.1)	0.90 (22.9)	0.04 (1.0)	0.55 (14.0)	7/8 (22.2)	13/16 (20.6)	3700 (254)

How to Order

AFBW4 — AWC — AFBW4 — AFBW4 — AFBW4 — 316

Port 1 Type	Port 1 Size	Configuration Designator	Port 2 Type	Port 2 Size	Port 3	Port 4	Material
AFBW Automatic Fractional Tube Butt Weld AMBW Automatic Metric Tube Butt Weld F Fractional Ferrule	4 1/4 in.	ALWU Locator Unions	AFBW Automatic Fractional Tube Butt Weld AMBW Automatic Metric Tube Butt Weld	4 1/4 in.	Same as Port 2	Same as Port 3	316 316 S.S.
	6 3/8 in. or 6 mm	AWU Unions		6 3/8 in. or 6 mm			316L 316L S.S.
	8 1/2 in. or 8 mm	AWUE 90° Union Elbows		8 1/2 in. or 8 mm			316LV 316L VAR S.S.
	10 10 mm	AWT Union Tees		10 10 mm			316LVV 316L VIM-VAR S.S.
	12 3/4 in. or 12 mm	AMWT Manifold Tees		12 3/4 in. or 12 mm			
	16 1 in.	AWC Union Crosses		16 1 in.			
	18 18 mm	WC Weld Connectors		18 18 mm			

