

# PFA Tube Fittings



- Temperatures from 70 to 400°F (20 to 204°C)
- Working pressures up to 275 psig (18.9 bar)
- Sizes from 1/8 to 1/2 in.

## Features

- Audible click ensures tubing is inserted properly.
- Visual indication of proper pull-up:
  - no gap between body hex and hex nut
  - hex flat alignment.
- Smooth, molded internal wetted surfaces reduce potential for system contamination.
- Grooved tubing allows for higher working pressure.
- Wrench assembly avoids the potentially unsafe practices of hand assembly and disassembly.

## Materials

- Fittings—Molded PFA/ASTM D3307 Type I

## Pressure-Temperature Ratings

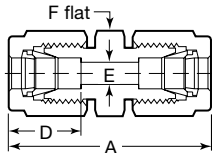
Pressure ratings are for Swagelok® PFA tube fittings used with properly grooved Swagelok PFA tubing.

Tube Wall, in.	0.030	0.047	0.062		
Tube Size, in.	1/8	1/4	1/4	3/8	1/2
Temperature, °F (°C)	Working Pressure, psig (bar)				
70 (20)	275 (18.9)	200 (13.7)	275 (18.9)	180 (12.4)	125 (8.6)
100 (37)	245 (16.8)	180 (12.4)	245 (16.8)	155 (10.6)	115 (7.9)
200 (93)	145 (9.9)	110 (7.5)	145 (9.9)	93 (6.4)	68 (4.6)
300 (148)	87 (5.9)	64 (4.4)	87 (5.9)	48 (3.3)	32 (2.2)
400 (204)	47 (3.2)	34 (2.3)	47 (3.2)	11 (0.75)	11 (0.75)

## Ordering Information and Dimensions

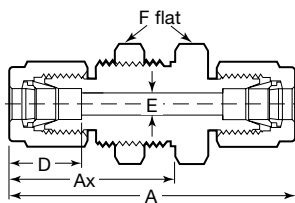
Dimensions, in inches (millimeters), are for reference only and are subject to change. Dimensions shown with Swagelok nuts finger-tight. E dimensions refer to the minimum opening.

### Unions



Tube Size in.	Ordering Number	Dimensions, in. (mm)			
		A	D	E	F
1/8	PFA-220-6	1.45 (36.8)	0.50 (12.7)	0.09 (2.3)	1/2
1/4	PFA-420-6	1.70 (43.2)	0.60 (15.2)	0.19 (4.8)	5/8
3/8	PFA-620-6	1.80 (45.7)	0.67 (17.0)	0.28 (7.1)	13/16
1/2	PFA-820-6	2.05 (52.1)	0.90 (22.9)	0.41 (10.4)	1

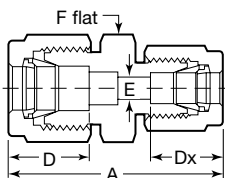
### Bulkhead Unions



Tube Size in.	Ordering Number	Dimensions, in. (mm)				
		A	Ax	D	E	F
1/4	PFA-420-61	2.42 (61.5)	1.41 (35.8)	0.60 (15.2)	0.19 (4.8)	7/8

Panel hole size is 0.70 in. (17.8 mm); maximum panel thickness is 0.44 in. (11.2 mm).

### Reducing Unions

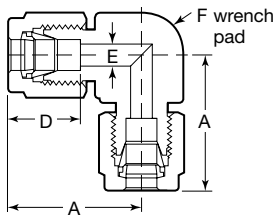


Tube Size in.	Ordering Number	Dimensions, in. (mm)				
		A	D	Dx	E	F
3/8 to 1/4	PFA-620-6-4	1.77 (45.0)	0.67 (17.0)	0.60 (15.2)	0.19 (4.8)	13/16
1/2 to 1/4	PFA-820-6-4	1.91 (48.5)	0.90 (22.9)	0.60 (15.2)	0.19 (4.8)	1
1/2 to 3/8	PFA-820-6-6	1.94 (49.3)	0.90 (22.9)	0.67 (17.0)	0.28 (7.1)	1

## Ordering Information and Dimensions

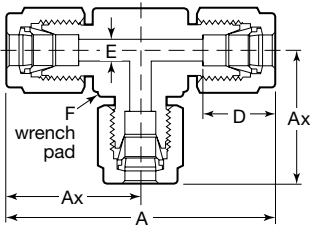
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### Union Elbows



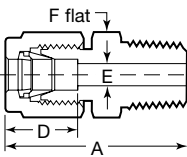
Tube Size in.	Ordering Number	Dimensions, in. (mm)			
		A	D	E	F
1/8	PFA-220-9	0.91 (23.1)	0.50 (12.7)	0.09 (2.3)	1/2
1/4	PFA-420-9	1.13 (28.7)	0.60 (15.2)	0.19 (4.8)	5/8
3/8	PFA-620-9	1.23 (31.2)	0.67 (17.0)	0.28 (7.1)	13/16
1/2	PFA-820-9	1.45 (36.8)	0.90 (22.9)	0.41 (10.4)	1

### Union Tees



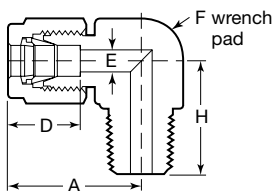
Tube Size in.	Ordering Number	Dimensions, in. (mm)				
		A	Ax	D	E	F
1/8	PFA-220-3	1.82 (46.2)	0.91 (23.1)	0.50 (12.7)	0.09 (2.3)	1/2
1/4	PFA-420-3	2.26 (57.4)	1.13 (28.7)	0.60 (15.2)	0.19 (4.8)	5/8
3/8	PFA-620-3	2.46 (62.5)	1.23 (31.2)	0.67 (17.0)	0.28 (7.1)	13/16
1/2	PFA-820-3	2.90 (73.7)	1.45 (36.8)	0.90 (22.9)	0.41 (10.4)	1

### Male Connectors



Tube Size in.	Pipe Size in.	Ordering Number	Dimensions, in. (mm)			
			A	D	E	F
1/8	1/8	PFA-220-1-2	1.21 (30.7)	0.50 (12.7)	0.09 (2.3)	1/2
1/4	1/8	PFA-420-1-2	1.36 (34.5)	0.60 (15.2)	0.19 (4.8)	5/8
	1/4	PFA-420-1-4	1.54 (39.1)			
3/8	1/4	PFA-620-1-4	1.60 (40.6)	0.67 (17.0)	0.28 (7.1)	13/16
	3/8	PFA-620-1-6				
1/2	3/8	PFA-820-1-6	1.74 (44.2)	0.90 (22.9)	0.41 (10.4)	1
	1/2	PFA-820-1-8				

### Male Elbows



Tube Size in.	Pipe Size in.	Ordering Number	Dimensions, in. (mm)				
			A	D	E	F	H
1/8	1/8	PFA-220-2-2	0.91 (23.1)	0.50 (12.7)	0.09 (2.3)	1/2	0.67 (17.0)
1/4	1/8	PFA-420-2-2	1.13 (28.7)	0.60 (15.2)	0.19 (4.8)	5/8	0.78 (19.8)
	1/4	PFA-420-2-4					0.96 (24.4)
3/8	1/4	PFA-620-2-4	1.23 (31.2)	0.67 (17.0)	0.28 (7.1)	13/16	1.03 (26.2)
	3/8	PFA-620-2-6					
1/2	3/8	PFA-820-2-6	1.45 (36.8)	0.90 (22.9)	0.41 (10.4)	1	1.14 (29.0)
	1/2	PFA-820-2-8					1.33 (33.8)

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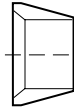
### Back Ferrules



Tube Size in.	Ordering Number <sup>①</sup>
1/4	PFA-424-1
3/8	PFA-624-1
1/2	PFA-824-1

① 1/8 in. back ferrule integral with nut.

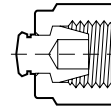
### Front Ferrules



Tube Size in.	Ordering Number
1/8	T-203-1 <sup>①</sup>
1/4	PFA-423-1
3/8	PFA-623-1
1/2	PFA-823-1

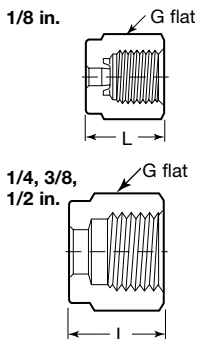
① PTFE material.

### Plugs



Tube Size in.	Ordering Number
1/8	PFA-220-P
1/4	PFA-420-P
3/8	PFA-620-P
1/2	PFA-820-P

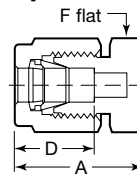
### Nuts



Tube Size in.	Ordering Number	Dimensions in. (mm)	
		G	L
1/8	PFA-222-1 <sup>①</sup>	1/2	0.57 (14.5)
1/4	PFA-422-1	5/8	0.65 (16.5)
3/8	PFA-622-1	13/16	0.68 (17.3)
1/2	PFA-822-1	1	0.79 (20.1)

① 1/8 in. back ferrule integral with nut.

### Caps

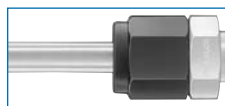
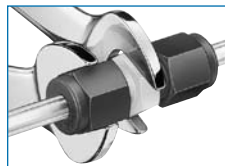


Tube Size in.	Ordering Number	Dimensions, in. (mm)		
		A	D	F
1/8	PFA-220-C	0.83 (21.1)	0.50 (12.7)	1/2
1/4	PFA-420-C	0.98 (24.9)	0.60 (15.2)	5/8
3/8	PFA-620-C	1.04 (26.4)	0.67 (17.0)	13/16
1/2	PFA-820-C	1.18 (30.0)	0.90 (22.9)	1

## Installation

**⚠ PFA tubing MUST be grooved for use with PFA tube fittings. Use the Swagelok groove cutter tool.**

1. Insert grooved PFA tubing into the Swagelok PFA tube fitting until a clicking sound is heard.
2. While holding fitting body steady, tighten the blue nut until there is no gap between the nut and body hexes.
3. Continue tightening until the nut and body hexes are aligned.



## PFA Tubing and Tools



For PFA tubing in accordance with ASTM D3307, Type II, in 1/8 to 1 in. and 6 to 12 mm sizes, see the Swagelok *Hose and Flexible Tubing* catalog, MS-01-180. The catalog also contains ordering information for the Swagelok groove cutter tool.

### Safe Product Selection

**When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.**

**Caution: Do not mix or interchange parts with those of other manufacturers.**

## Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit [swagelok.com](http://swagelok.com) or contact your authorized Swagelok representative.