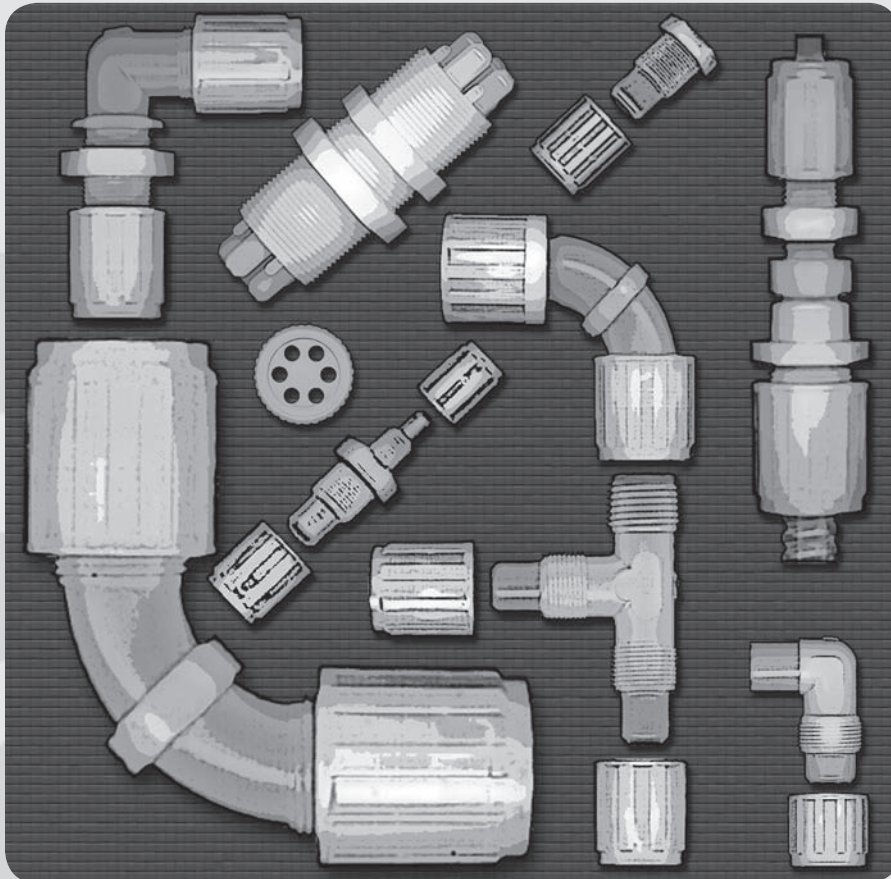


# ChemFlare™ Technical

PDF Published April 1, 2015

## PFA Fluid Handling System

ChemFlare™ PFA Tube & Fittings



**CHEMLINE**  **PLASTICS**  
SUPERIOR FLOW SOLUTIONS

ISO 9001:2008 Certified

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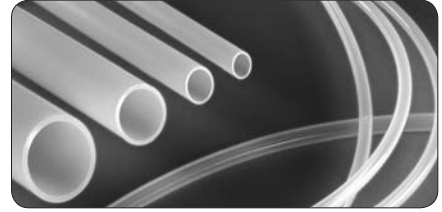
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# PFA Tubing



Technical



Chemline PFA (perfluoroalkoxy) is the Teflon tubing of choice for applications involving extreme chemical resistance combined with high temperature exposure. PFA tubing is made exclusively from the highest molecular weight resin available giving it superior physical properties. PFA tubing is suitable for even the most demanding applications.

## Industrial Grade PFA Tube – Imperial (suitable for flaring)

Item No.	Tube O.D.	Wall Thickness	Bend Radius	Working Pressure psi @ 22°C(72°F)
TT250-047	1/4"	0.047"	3/4"	352
TT375-062	3/8"	0.062"	1"	310
TT500-062	1/2"	0.062"	2"	232
TT750-062	3/4"	0.062"	6"	155
TT1000-062	1"	0.062"	22"	116

For high purity tubing, add -HP after the above item number

## Vacuum Service

Chemline recommends using 0.062" wall tubing at ambient temperature, with minimum bends for service down to -7.5 psi of vacuum.

# Technical Specifications

## PFA features

- 100% virgin grade high performance resins used to resist stress cracking
- Chemically inert to nearly all industrial chemicals and solvents
- Higher thermal stability than with FEP
- Lower permeability than with FEP
- Translucent
- Moisture absorption nearly zero
- FDA compliant for food contact
- Non-flammable
- Tubing is suitable for use with flare or conventional fittings
- Tubing is available in coiled hose and convoluted constructions
- Low permeation PFA tubing and pipe are also available
- Semiconductor grade PFA is also available

## PFA specifications

- General: Chemline PFA meets or exceeds the requirements listed in ASTM D 6867-03
- Temperature: -300° F to 500° F
- Flammability: UL 94 VO rated. Chemline PFA tubing resists combustion and does not promote flame spread
- FDA: Chemline PFA is approved for the use in food contact applications in compliance with FDA regulation: 21 CFR 177.1550
- USP Class VI: Chemline PFA tubing meets the requirements of UPS Class VI

## PFA physical properties

Upper Service Temperature  
 Specific Gravity  
 Tensile Strength  
 Elongation  
 Flex Modulus  
 MIT Flex Life  
 Hardness

## PFA applications

- Chemical process
- Heat exchangers
- Laboratory applications
- Semiconductor
- Flow monitoring
- Emissions monitoring
- Double containment systems
- Food processing
- Electrical insulation
- Automotive hose
- Automotive paint spray
- Sodium Bisulfite and Sodium Hypochlorite chemical feed systems

## ASTM test

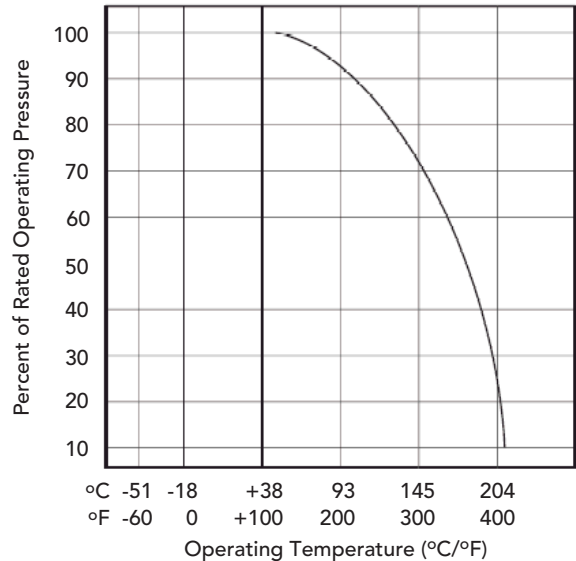
D 792  
 D 1708  
 D 638  
 D 790  
 D 2176  
 D 2240

## values

260°C (500°F)  
 2.15  
 4200 PSI  
 400 %  
 90,000 PSI  
 500,000+  
 60 Shore D

## pressure vs. temperature

### PFA Tubing



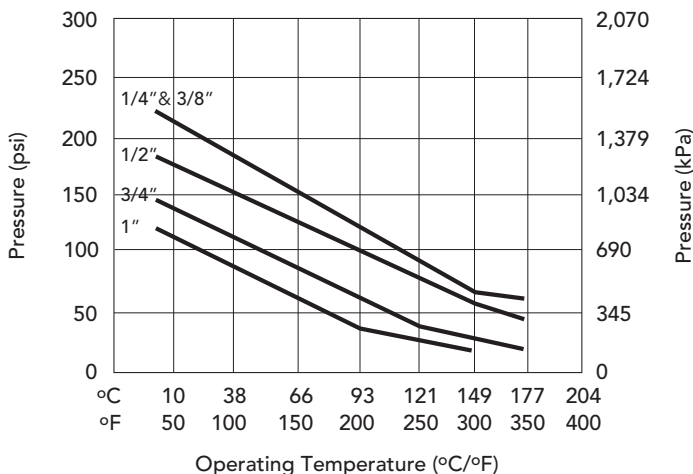
**Warning:** Not for use in applications exceeding 120°C (248°F)



### pressure vs. temperature

Pressure ratings based on 0.047" wall for 1/4" fittings and 0.062" wall for 3/8", 1/2", 3/4" and 1".

#### PFA Fittings



**Warning:** Not for use in applications exceeding 120°C (248°F).

ChemFlare™ PFA tube fittings bring to the Semiconductor, Biotech, Pharmaceutical and Ultra Pure Water industries an innovative and economical way of dispensing high-purity fluids.

**Quality** • Every ChemFlare™ fitting is manufactured from high purity PFA resin, providing chemical resistance and high purity. PFA is well known for use in ultra-pure water and chemical applications and is Semi-F57-0301 compliant.

**Efficiency** • Our Sweep Elbows have a fully swept flow path allowing up to 300% more flow than standard elbows.

**Size Range** • Size range is from 1/4" to 1-1/4" in all the popular fitting configurations. Special fitting configurations are available on a custom basis.

**Precise Assembly** • Our TruFLARE™ Tube Flaring System allows for precise and repeatable tube flares, making flare fitting assemblies easier, more cost effective and more convenient.

**Compatibility** • ChemFlare™ fittings are compatible and interchangeable with all other Fine Thread Flare Fitting systems. The fittings can be used with PFA, FEP and PTFE tubing.

**Patented TightFLARE™ Technology** • Our proprietary technology creates repeatable and precise "Female Flare" assemblies.

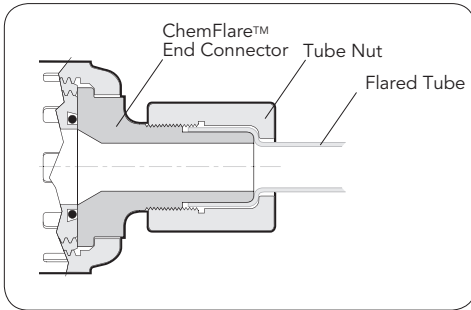
**Molding** • Only dedicated molds and process equipment are used for high purity production. This eliminates the possibility of cross-contamination, thus assuring "Quality without compromise."

**High Purity** • State-of-the-art tube fittings are ideal for UPW (Ultra Pure Water) and semiconductor grade chemical applications.

**Packaging** • Cleaning and packaging are proprietary processes conducted in a Class 1000 clean room using a five-stage cleaning and rinsing process. Fittings are packaged in a double polyethylene bags, ensuring the highest level of protection and contamination control.

# ChemFlare™ PFA Fittings

## ChemFlare™ end connectors



## tube vs. tight flare

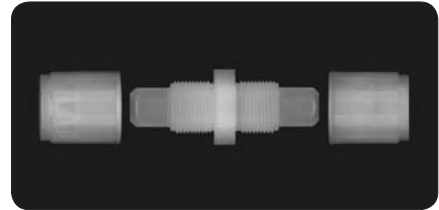
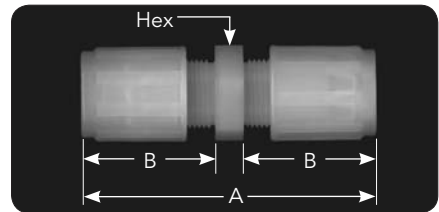
### ChemFlare™ Tube End Connections

ChemFlare™ Tube end connection have the standard male spigot which goes inside the flared tube. They come standard with the nut that goes over the tube before flaring. The dimension is shown in the charts as Tube.

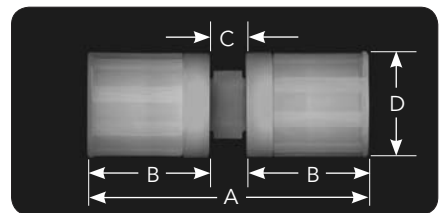
### ChemFlare™ Tight Flare End Connections

ChemFlare™ Tight Flare end connection have the female flare that accepts the male spigot of another fitting. They are used to reduce the distance between fittings (ie tight flare). They come standard with the nut that go onto the male spigot. This nut comes attached to the fitting. They are shown in the charts as Tight Flare.

## Technical



Tube End Connections



Shown without captive Tight Flare Nuts.

Tight Flare End Connections

## recommended nut torque setting

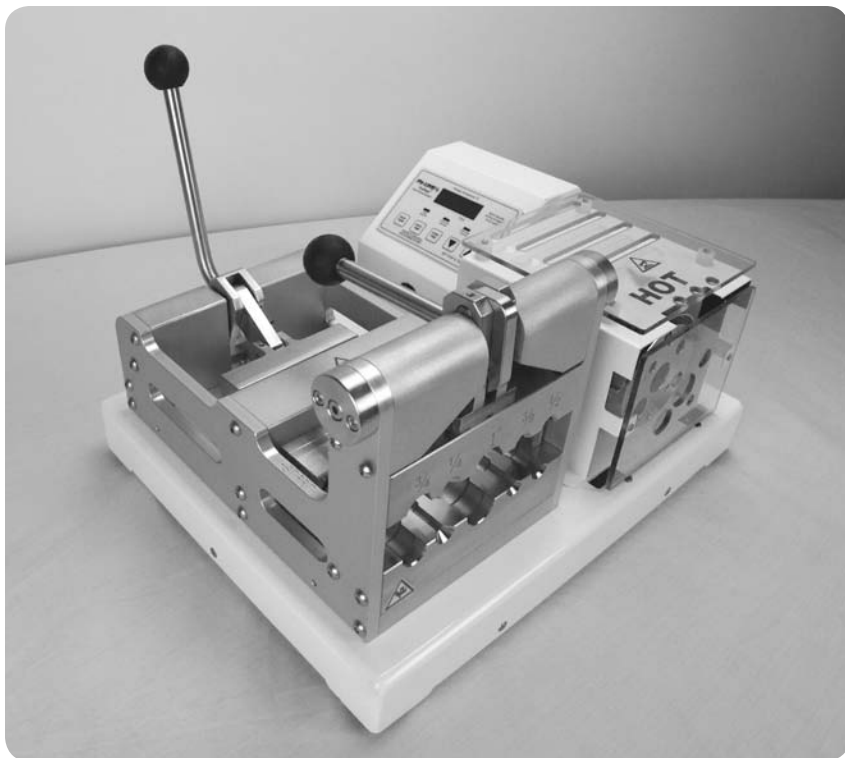
Tube O.D.	Wall Thickness (in.)	Minimum Torque (in.-lb.)	Maximum Torque (in.-lb.)
1/4"	0.047	6	11
3/8"	0.062	9	18
1/2"	0.062	12	23
3/4"	0.062	20	30
1"	0.062	30	48

# Flaring Tools



Technical

## TruFlare™ PFA tube flaring system



The **TF416 ChemFlaring Tool** is a bench-top molding machine for the production of flares directly onto PFA tubing from 1/4" to 1" in any location. These ChemFlare tube ends work with Chemline's line of ChemFlare fittings to provide smooth, safe and long term leak-free connections for difficult applications such as sodium hypochlorite. These flared end connections are easy to install and allow for compact plumbing and a small footprint. The semi-automated function ensures proper timing and temperature for each size of PFA tubing while at the melt stage, and the correct pressure while at the ChemFlare forming stage, while manual operation is reduced to moving between the melt head and the molding head, and operating the flange forming clamp.

The ChemFlaring tool is comprised of a base, control panel, on/off switch, end-of-cycle alarm, automated timer, melt head with all sizes of tube heaters, locking flange forming head with all sizes of ChemFlare forms, depth gauge and power cable.

A rugged wheeled thermoplastic case serves for the transport and the protected storage of the complete sanitary flange former and accessories. The flange former and transport case is 36/51/61 cm and weighs 17Kg / 38.0 lbs.

## fitting flaring tools



Universal Flare Tool

## heating tools



Hot Air Gun



The flaring process provides a permanent expansion (flare) of the tubing end, allowing insertion of the ChemFlare™ fitting body. Proper tube flaring and ChemFlare™ fitting assembly results in a secure tubing connection.

**Note:** The tubing cools rapidly so please read and understand all instructions before flaring your tubing.

### Tubing Preparation

Cut the tubing end squarely (.070" maximum squareness tolerance) using a tubing cutter. Insert the cut end of the tubing through the non threaded end of the nut. Warning: If you do not put the nut on the tube now you will not be able to put it on after you complete the flare.

### Heat Flaring Instructions

1. If using an hot air gun, set the hot air gun on "high". Hold the PFA tubing end flush with the heater edge and 1/2" to 3/4" above the heater and slowly rotate the tubing 360° for the approximate time specified in Table 1 or until a fine, clear line appears around the tubing.

**Note:** It is very important to fully rotate the tubing over the heat source so all surface areas receive an equal amount of heat. Uniform heating is essential to making a good flare. If using an infrared heating tool, turn on heating tool. Center 1/2" to 3/4" of the PFA tubing between the heat rings. While slowly rotating the PFA tubing back and forth between your forefinger and thumb, heat for the approximate time specified in Table 1 or until a fine, clear line appears around the tubing.

**Note:** To flare 1" tubing with an infrared heating tool, a larger heat ring (part number 213-91 or 213-92) is needed.

**Note:** It is very important to rotate the tubing through the heat source so all surface areas receive an equal amount of heat. Uniform heating is essential to making a good flare.

2. Remove the PFA tubing from the heat source. Immediately push the flaring mandrel into the tubing until the end of the tubing reaches the tube stop.

**Note:** Flaring 1/4" tubing is the most challenging because of its small size. To get a firm grip on the small tube diameter, we recommend using the grip pad that is included in the mandrel kit (for additional grip pad, part number 213-73).

3. Firmly hold the tubing onto the mandrel for the time specified in Table 1.

4. Let the flared tubing continue to cool on the mandrel for the time specified in Table 1.

5. The flaring process is now complete and the mandrel may be removed from the tube.

### Room Temperature Flaring Instructions

Reference Room Temperature Flaring Tool instructions that accompany each Room Temperature Flaring Tool Kit (part number 213-112).

### Fitting Assembly Instructions

Push the flared tubing end onto the ChemFlare™ fitting body until the end of the fitting body contacts the flare shoulder of the tube. The maximum gap between the tube end and end of threads should be .08" - .15". Tighten the nut onto the fitting body until hand tight (see Table 1 for recommended minimum torque values).

### Retightening

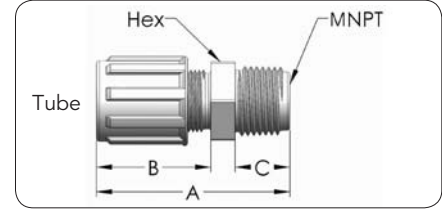
All fitting connections assembled using the Room Temperature flaring technique should be retightened to the minimum nut torque values identified in Table 1. All "SpaceSaver" fitting connections exposed to temperatures >165°F should be retightened to the minimum nut torque values identified in Table 1 (fitting must be returned to room temperature before retightening).

**Table 1**

Tubing & Fitting Size	1/4"	3/8"	1/2"	3/4"	1"
Heating time for PFA (sec.) – Air gun	15	25	25	25	25
Heating time for PFA (sec.) – Infrared heater	40	50	50	50	60
Hold tubing on flare mandrel (sec.)	20	20	20	20	25
Minimum cooling time on mandrel (min.)	2	2	3	3	3
Minimum nut torque (inch.lbs. ((N•m)) – PFA fitting/PVDF nut	5 (0.57)	8 (0.90)	11 (1.24)	14 (1.58)	30 (3.39)
Minimum nut torque (inch.lbs. ((N•m)) – PFA fitting/PFA nut	5 (0.57)	8 (0.90)	11 (1.24)	14 (1.58)	30 (3.39)
Minimum nut torque (inch.lbs. ((N•m)) – PFA fitting/CPFA nut	5 (0.57)	8 (0.90)	11 (1.24)	14 (1.58)	30 (3.39)
Minimum nut torque (inch.lbs. ((N•m)) – PVDF fitting/PVDF nut	5 (0.57)	8 (0.90)	11 (1.24)	19 (2.14)	40 (4.51)

# ChemFlare™ PFA Fittings

## Flare Fittings

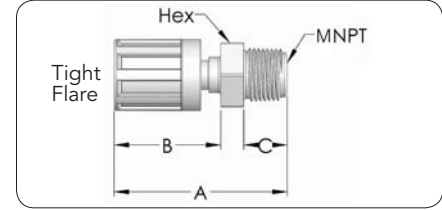


### Male Connector Inches

Item No.	Tube	MNPT	Orifice	A	B	C	HEX
CF-MC4-2N-1	1/4"	1/8"	0.15	1.91	1.16	0.45	5/8"
CF-MC4-4N-1	1/4"	1/4"	0.15	2.00	1.16	0.55	5/8"
CF-MC4-6N-1	1/4"	3/8"	0.15	2.00	1.16	0.55	11/16"
CF-MC4-8N-1	1/4"	1/2"	0.15	2.12	1.16	0.66	15/16"
CF-MC4-12N-1	1/4"	3/4"	0.15	2.12	1.16	0.67	1-3/16"
CF-MC4-16N-1	1/4"	1"	0.15	2.32	1.16	0.85	1-7/16"
CF-MC6-2N-1	3/8"	1/8"	0.18	2.09	1.27	0.55	13/16"
CF-MC6-4N-1	3/8"	1/4"	0.25	2.11	1.27	0.55	13/16"
CF-MC6-6N-1	3/8"	3/8"	0.25	2.11	1.27	0.55	13/16"
CF-MC6-8N-1	3/8"	1/2"	0.25	2.21	1.27	0.66	15/16"
CF-MC6-12N-1	3/8"	3/4"	0.25	2.22	1.27	0.66	1-3/16"
CF-MC6-16N-1	3/8"	1"	0.25	2.39	1.27	0.85	1-7/16"
CF-MC8-2N-1	1/2"	1/8"	0.18	2.20	1.36	0.54	15/16"
CF-MC8-4N-1	1/2"	1/4"	0.38	2.20	1.36	0.55	15/16"
CF-MC8-6N-1	1/2"	3/8"	0.38	2.20	1.36	0.55	15/16"
CF-MC8-8N-1	1/2"	1/2"	0.38	2.32	1.36	0.66	15/16"
CF-MC8-12N-1	1/2"	3/4"	0.38	2.32	1.36	0.66	1-3/16"
CF-MC8-16N-1	1/2"	1"	0.38	2.51	1.36	0.86	1-7/16"
CF-MC12-6N-1	3/4"	3/8"	0.38	2.37	1.52	0.56	15/16"
CF-MC12-8N-1	3/4"	1/2"	0.55	2.48	1.52	0.67	1-3/16"
CF-MC12-12N-1	3/4"	3/4"	0.63	2.48	1.52	0.67	1-3/16"
CF-MC12-16N-1	3/4"	1"	0.63	2.66	1.52	0.85	1-7/16"
CF-MC16-8N-1	1"	1/2"	0.55	2.69	1.73	0.67	1-7/16"
CF-MC16-12N-1	1"	3/4"	0.66	2.69	1.73	0.67	1-7/16"
CF-MC16-16N-1	1"	1"	0.88	2.88	1.73	0.86	1-7/16"
CF-MC20-16N-1	1-1/4"	1"	0.97	3.29	2.06	0.86	1-3/4"
CF-MC20-120N-1	1-1/4"	1-1/4"	1.10	3.29	2.06	0.86	1-3/4"

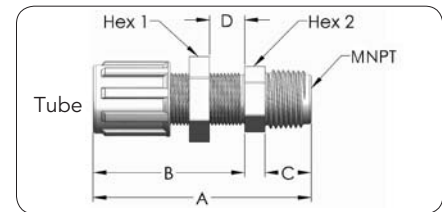
# ChemFlare™ PFA Fittings

## Flare Fittings



### Tight Flare Male Connector Inches

Item No.	Tight Flare	MNPT	Orifice	A	B	C	HEX
CF-MC4T-2N-1	1/4"	1/8"	0.15	2.16	1.31	0.45	5/8"
CF-MC4T-4N-1	1/4"	1/4"	0.15	2.13	1.29	0.55	5/8"
CF-MC4T-6N-1	1/4"	3/8"	0.15	2.13	1.29	0.55	13/16"
CF-MC4T-8N-1	1/4"	1/2"	0.15	2.27	1.31	0.67	13/16"
CF-MC6T-4N-1	3/8"	1/4"	0.25	2.22	1.37	0.56	13/16"
CF-MC6T-6N-1	3/8"	3/8"	0.25	2.22	1.37	0.55	13/16"
CF-MC6T-8N-1	3/8"	1/2"	0.25	2.33	1.37	0.67	13/16"
CF-MC8T-4N-1	1/2"	1/4"	0.38	2.28	1.43	0.56	15/16"
CF-MC8T-6N-1	1/2"	3/8"	0.38	2.26	1.42	0.55	13/16"
CF-MC8T-8N-1	1/2"	1/2"	0.38	2.47	1.51	0.67	15/16"
CF-MC12T-8N-1	3/4"	1/2"	0.55	2.57	1.61	0.67	1-3/16"
CF-MC12T-12N-1	3/4"	3/4"	0.63	2.57	1.61	0.67	1-3/16"



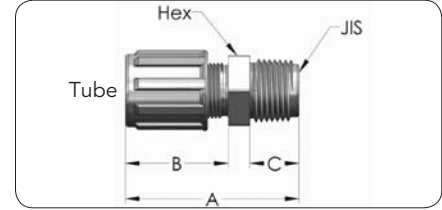
### Male Connector Panel Mount Inches

Item No.	Tube	MNPT	Orifice	A	B	C	D (max)	HEX 1	HEX 2
CF-MCPM4-2N-1	1/4"	1/8"	0.15	2.78	1.94	0.55	0.5	3/4"	11/16"
CF-MCPM4-4N-1	1/4"	1/4"	0.15	2.78	1.94	0.55	0.5	3/4"	11/16"
CF-MCPM4-6N-1	1/4"	3/8"	0.15	2.78	1.94	0.55	0.5	3/4"	11/16"
CF-MCPM6-4N-1	3/8"	1/4"	0.25	2.87	2.03	0.55	0.5	15/16"	13/16"
CF-MCPM6-6N-1	3/8"	3/8"	0.25	2.87	2.03	0.55	0.5	15/16"	13/16"
CF-MCPM8-4N-1	1/2"	1/4"	0.25	2.99	2.14	0.55	0.5	1-1/16"	15/16"
CF-MCPM8-6N-1	1/2"	3/8"	0.38	2.99	2.14	0.55	0.5	1-1/16"	15/16"
CF-MCPM8-8N-1	1/2"	1/2"	0.38	3.10	2.14	0.67	0.5	1-1/16"	15/16"
CF-MCPM12-12N-1	3/4"	3/4"	0.63	3.26	2.29	0.68	0.5	1-15/16"	1-3/16"
CF-MCPM16-16N-1	1"	1"	0.88	3.66	2.51	0.86	0.5	1-3/4"	1-5/16"



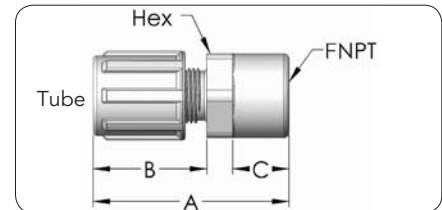
# ChemFlare™ PFA Fittings

## Flare Fittings



### Male Connector JIS Inches

Item No.	Tube	JIS Size	Orifice	A	B	C	HEX
CF-MC4-4JN-1	1/4"	1/4"	0.15	2.00	1.16	0.56	5/8"
CF-MC4-6JN-1	1/4"	3/8"	0.15	2.00	1.16	0.56	11/16"
CF-MC4-8JN-1	1/4"	1/2"	0.15	2.11	1.16	0.66	15/16"
CF-MC6-4JN-1	3/8"	1/4"	0.25	2.11	1.26	0.56	13/16"
CF-MC6-6JN-1	3/8"	3/8"	0.25	2.11	1.26	0.56	13/16"
CF-MC6-8JN-1	3/8"	1/2"	0.25	2.22	1.26	0.67	15/16"
CF-MC8-4JN-1	1/2"	1/4"	0.38	2.20	1.36	0.56	15/16"
CF-MC8-6JN-1	1/2"	3/8"	0.38	2.20	1.36	0.56	15/16"
CF-MC8-8JN-1	1/2"	1/2"	0.38	2.32	1.36	0.67	15/16"
CF-MC8-12JN-1	1/2"	3/4"	0.38	2.32	1.36	0.68	1-3/16"
CF-MC12-6JN-1	3/4"	3/8"	0.63	2.37	1.52	0.56	1-3/16"
CF-MC12-8JN-1	3/4"	1/2"	0.55	2.48	1.52	0.67	1-3/16"
CF-MC12-12JN-1	3/4"	3/4"	0.63	2.49	1.52	0.67	1-3/16"
CF-MC12-16JN-1	3/4"	1"	0.63	2.65	1.52	0.85	1-7/16"
CF-MC16-12JN-1	1"	3/4"	0.66	2.69	1.73	0.67	1-7/16"
CF-MC16-16JN-1	1"	1"	0.88	2.87	1.73	0.85	1-7/16"



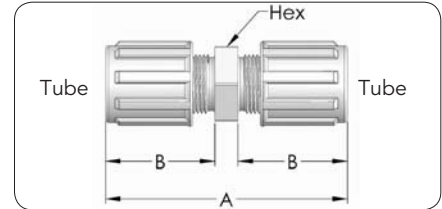
### Female Connector Inches

Item No.	Tube	FNPT	Orifice	A	B	C	HEX
CF-FC4-2N-1	1/4"	1/8"	0.15	1.90	1.16	0.49	5/8"
CF-FC4-4N-1	1/4"	1/4"	0.15	1.99	1.16	0.54	3/4"
CF-FC4-6N-1	1/4"	3/8"	0.15	2.00	1.16	0.55	15/16"
CF-FC4-8N-1	1/4"	1/2"	0.15	2.02	1.16	0.57	1-1/8"
CF-FC6-4N-1	3/8"	1/4"	0.25	2.08	1.27	0.54	3/4"
CF-FC6-6N-1	3/8"	3/8"	0.25	2.10	1.27	0.55	15/16"
CF-FC6-8N-1	3/8"	1/2"	0.25	2.13	1.27	0.57	1-1/8"
CF-FC8-4N-1	1/2"	1/4"	0.38	2.18	1.36	0.54	3/4"
CF-FC8-6N-1	1/2"	3/8"	0.38	2.20	1.36	0.55	15/16"
CF-FC8-8N-1	1/2"	1/2"	0.38	2.22	1.36	0.57	1-1/8"
CF-FC8-12N-1	1/2"	3/4"	0.38	2.28	1.36	0.63	1-3/8"
CF-FC8-16N-1	1/2"	1"	0.38	2.50	1.36	0.85	1-5/8"
CF-FC12-8N-1	3/4"	1/2"	0.63	2.38	1.52	0.57	1-1/8"
CF-FC12-12N-1	3/4"	3/4"	0.63	2.44	1.52	0.63	1-3/8"
CF-FC12-16N-1	3/4"	1"	0.63	2.66	1.52	0.85	1-5/8"
CF-FC16-16N-1	1"	1"	0.88	2.88	1.74	0.85	1-5/8"

# ChemFlare™ PFA Fittings

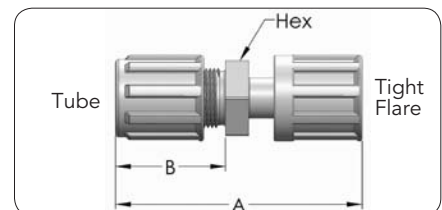


## Flare Fittings



### Straight Union Inches

Item No.	Tube	Tube	Orifice	A	B	HEX
CF-SU44N-1	1/4"	1/4"	0.15	2.62	1.16	11/16"
CF-SU66N-1	3/8"	3/8"	0.25	2.83	1.27	13/16"
CF-SU88N-1	1/2"	1/2"	0.38	3.02	1.36	15/16"
CF-SU1212N-1	3/4"	3/4"	0.63	3.32	1.52	1-3/16"
CF-SU1616N-1	1"	1"	0.88	3.72	1.73	1-7/16"
CF-SU2020N-1	1-1/4"	1-1/4"	1.10	4.50	2.25	1-3/4"

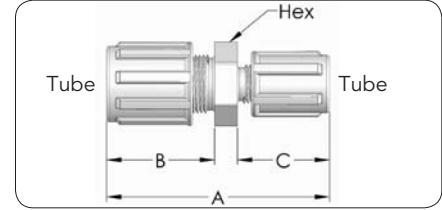


### Straight Union – Tube x Tight Flare Inches

Item No.	Tube	Tight Flare	Orifice	A	B	HEX
CF-SU44TN-1	1/4"	1/4"	0.15	2.76	1.16	11/16"
CF-SU66TN-1	3/8"	3/8"	0.25	2.93	1.27	13/16"
CF-SU88TN-1	1/2"	1/2"	0.38	3.07	1.36	15/16"
CF-SU1212TN-1	3/4"	3/4"	0.63	3.41	1.52	1-3/16"
CF-SU1616TN-1	1"	1"	0.88	4.04	1.73	1-7/16"

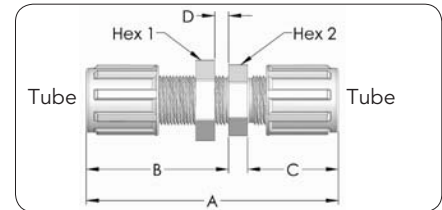
# ChemFlare™ PFA Fittings

## Flare Fittings



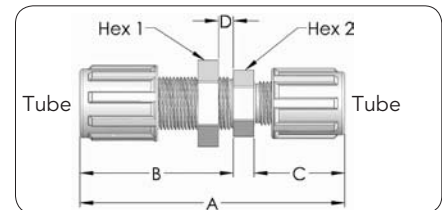
### Straight Union Reducer Inches

Item No.	Tube	Tube	Orifice	A	B	C	HEX
CF-SU64N-1	3/8"	1/4"	0.15	2.72	1.27	1.16	11/16"
CF-SU84N-1	1/2"	1/4"	0.15	2.82	1.36	1.16	15/16"
CF-SU86N-1	1/2"	3/8"	0.25	2.92	1.36	1.27	15/16"
CF-SU124N-1	3/4"	1/4"	0.15	2.96	1.52	1.16	1-3/16"
CF-SU126N-1	3/4"	3/8"	0.25	3.07	1.52	1.27	1-3/16"
CF-SU128N-1	3/4"	1/2"	0.38	3.17	1.52	1.36	1-3/16"
CF-SU168N-1	1"	1/2"	0.38	3.38	1.72	1.36	1-7/16"
CF-SU1612N-1	1"	3/4"	0.66	3.53	1.72	1.52	1-7/16"



### Straight Union Panel Mount Inches

Item No.	Tube	Tube	Orifice	A	B	C	D (max)	HEX 1	HEX 2
CF-SPM44N-1	1/4"	1/4"	0.15	3.40	1.94	1.16	0.5	3/4"	11/16"
CF-SPM66N-1	3/8"	3/8"	0.25	3.58	2.02	1.27	0.5	15/16"	13/16"
CF-SPM88N-1	1/2"	1/2"	0.38	3.80	2.24	1.36	0.5	1-1/16"	15/16"
CF-SPM1212N-1	3/4"	3/4"	0.63	4.11	2.30	1.52	0.5	1-5/16"	1-3/16"
CF-SPM1616N-1	1"	1"	0.88	4.53	2.52	1.73	0.5	1-3/4"	1-5/8"

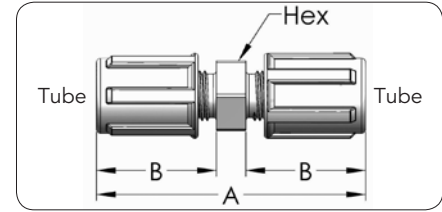


### Straight Union Panel Mount Reducer Inches

Item No.	Tube	Tube	Orifice	A	B	C	D (max)	HEX 1	HEX 2
CF-SPM64N-1	3/8"	1/4"	0.15	3.48	2.03	1.18	0.5	15/16"	13/16"
CF-SPM84N-1	1/2"	1/4"	0.15	3.59	2.14	1.18	0.5	1-1/16"	15/16"
CF-SPM86N-1	1/2"	3/8"	0.25	3.70	2.14	1.28	0.5	1-1/16"	15/16"
CF-SPM126N-1	3/4"	3/8"	0.25	3.86	2.30	1.28	0.5	1-5/16"	1-3/16"
CF-SPM128N-1	3/4"	1/2"	0.38	3.95	2.30	1.38	0.5	1-5/16"	1-3/16"
CF-SPM1612N-1	1"	3/4"	0.63	4.31	2.50	1.50	0.5	1-3/4"	1-5/8"

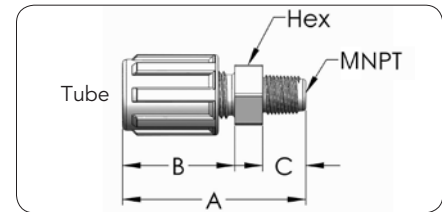
# ChemFlare™ PFA Fittings

## Flare Fittings



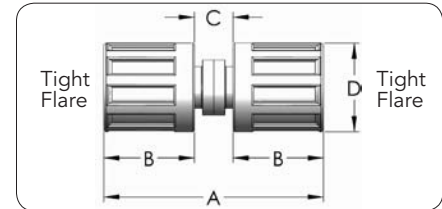
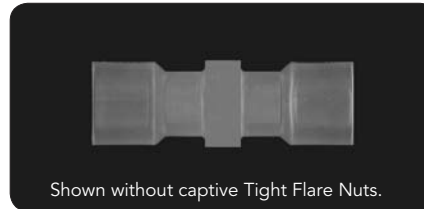
### Reduced Orifice Fittings – Straight Union Inches

Item No.	Tube	Tube	Orifice	A	B	HEX
CF-SU44N-1x.030	1/4"	1/4"	0.030	2.65	1.18	11/16"



### Reduced Orifice Fittings – Male Connector Inches

Item No.	Tube	MNPT	Orifice	A	B	C	HEX
CF-MC4-2N-1x.030	1/4"	1/8"	0.030	1.92	1.18	0.45	5/8"

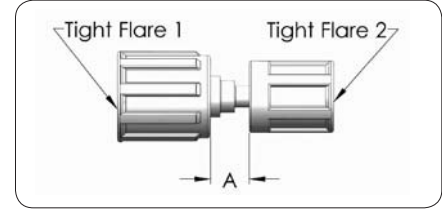


### Tight Flare Union Inches

Item No.	Tight Flare	Orifice	A	B	C	D
CF-TFU4N-1	1/4"	0.15	2.40	1.03	0.36	0.78
CF-TFU6N-1	3/8"	0.25	2.58	1.10	0.38	0.91
CF-TFU8N-1	1/2"	0.38	2.69	1.15	0.38	1.03
CF-TFU12N-1	3/4"	0.63	3.00	1.32	0.38	1.35
CF-TFU16N-1	1"	0.88	3.52	1.50	0.52	1.76

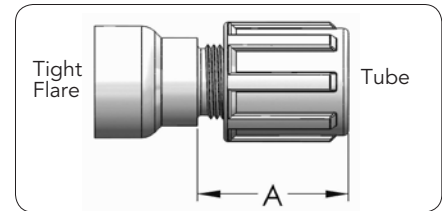
# ChemFlare™ PFA Fittings

## Flare Fittings



### Tight Flare Reducer Inches

Item No.	Tight Flare 1	Tight Flare 2	Orifice	A
CF-TFFR64N-1	3/8"	1/4"	0.15	0.29
CF-TFFR84N-1	1/2"	1/4"	0.15	0.41
CF-TFFR86N-1	1/2"	3/8"	0.25	0.29
CF-TFFR124N-1	3/4"	1/4"	0.15	0.41
CF-TFFR126N-1	3/4"	3/8"	0.25	0.41
CF-TFFR128N-1	3/4"	1/2"	0.38	0.41
CF-TFFR164N-1	1"	1/4"	0.15	0.34
CF-TFFR166N-1	1"	3/8"	0.25	0.34
CF-TFFR168N-1	1"	1/2"	0.38	0.35
CF-TFFR1612N-1	1"	3/4"	0.63	0.35

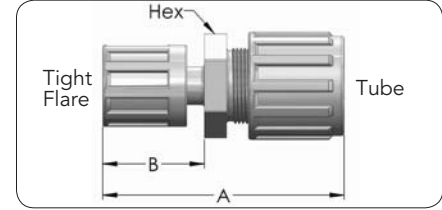


### Tight Flare Tube Reducer Inches

Item No.	Tight Flare	Tube	Orifice	A
CF-TFMR64N-1	3/8"	1/4"	0.15	1.33
CF-TFMR84N-1	1/2"	1/4"	0.15	1.27
CF-TFMR86N-1	1/2"	3/8"	0.25	1.42
CF-TFMR124N-1	3/4"	1/4"	0.15	1.27
CF-TFMR126N-1	3/4"	3/8"	0.25	1.37
CF-TFMR128N-1	3/4"	1/2"	0.38	1.47
CF-TFMR164N-1	1"	1/4"	0.15	1.23
CF-TFMR166N-1	1"	3/8"	0.25	1.32
CF-TFMR168N-1	1"	1/2"	0.38	1.43
CF-TFMR1612N-1	1"	3/4"	0.63	1.56

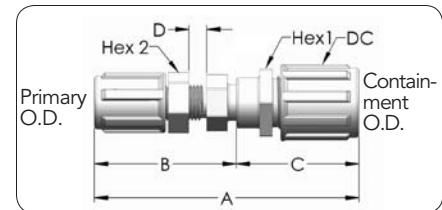
# ChemFlare™ PFA Fittings

## Flare Fittings



### Tight Flare Tube Increaser Inches

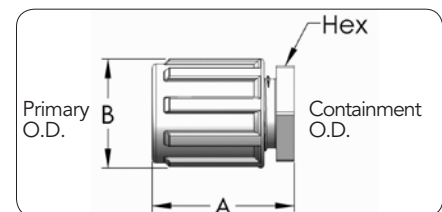
Item No.	Tight Flare	Tube	Orifice	A	B	HEX
CF-TFMI46N-1	1/4"	3/8"	0.15	2.88	1.33	13/16"
CF-TFMI48N-1	1/4"	1/2"	0.15	2.97	1.33	15/16"
CF-TFMI68N-1	3/8"	1/2"	0.25	3.03	1.38	15/16"
CF-TFMI612N-1	3/8"	3/4"	0.25	3.19	1.38	1-3/16"
CF-TFMI812N-1	1/2"	3/4"	0.38	3.23	1.42	1-3/16"
CF-TFMI816N-1	1/2"	1"	0.38	3.44	1.42	1-7/16"
CF-TFMI1216N-1	3/4"	1"	0.63	3.66	1.60	1-7/16"



### Double Containment Fittings

#### - Panel Mount Double Containment with O-Ring Containment Seal Inches

Item No.	Primary O.D.	Containment O.D.	Orifice	A	B	C	D	HEX 1	HEX 2	Panel Hole
CF-PM44DC8N-1	1/4"	1/2"	0.15	3.60	1.53	2.07	0.25	3/4"	11/16"	1/2"
CF-PM66DC12N-1	3/8"	3/4"	0.25	3.95	1.63	2.32	0.25	1-5/16"	13/16"	5/8"
CF-PM88DC12N-1	1/2"	3/4"	0.38	4.15	1.73	2.42	0.25	1-1/16"	15/16"	3/4"
CF-PM1212DC16N-1	3/4"	1"	0.63	4.58	1.88	2.70	0.25	1-5/16"	1-3/16"	1"



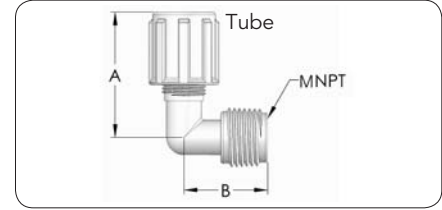
### PVDF

#### Double Containment Adaptor Inches

Item No.	Primary O.D.	Containment O.D.	A	B	HEX
CF-DC48	1/4"	1/2"	1.40	1.03	15/16"
CF-DC612	3/8"	3/4"	1.78	1.35	1-3/16"
CF-DC812	1/2"	3/4"	1.78	1.35	1-3/16"
CF-DC1216	3/4"	1"	2.04	1.82	1-9/16"

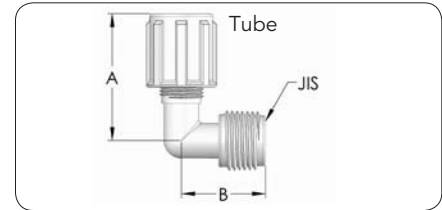
# ChemFlare™ PFA Fittings

## Flare Fittings



### Male Elbow Inches

Item No.	Tube	MNPT	Orifice	A	B
CF-ME4-2N-1	1/4"	1/8"	0.15	1.66	1.06
CF-ME4-4N-1	1/4"	1/4"	0.15	1.66	1.06
CF-ME4-6N-1	1/4"	3/8"	0.15	1.66	1.06
CF-ME4-8N-1	1/4"	1/2"	0.15	1.66	1.17
CF-ME6-2N-1	3/8"	1/8"	0.18	1.76	1.06
CF-ME6-4N-1	3/8"	1/4"	0.25	1.76	1.06
CF-ME6-6N-1	3/8"	3/8"	0.25	1.76	1.06
CF-ME6-8N-1	3/8"	1/2"	0.25	1.76	1.18
CF-ME6-12N-1	3/8"	3/4"	0.25	1.76	1.36
CF-ME8-2N-1	1/2"	1/8"	0.18	1.86	1.06
CF-ME8-4N-1	1/2"	1/4"	0.25	1.86	1.06
CF-ME8-6N-1	1/2"	3/8"	0.38	1.86	1.06
CF-ME8-8N-1	1/2"	1/2"	0.38	1.86	1.18
CF-ME8-12N-1	1/2"	3/4"	0.38	1.86	1.36
CF-ME8-16N-1	1/2"	1"	0.38	1.86	1.80
CF-ME12-6N-1	3/4"	3/8"	0.36	2.21	1.23
CF-ME12-8N-1	3/4"	1/2"	0.53	2.21	1.36
CF-ME12-12N-1	3/4"	3/4"	0.63	2.21	1.37
CF-ME12-16N-1	3/4"	1"	0.63	2.21	1.80
CF-ME16-12N-1	1"	3/4"	0.66	2.70	1.64
CF-ME16-16N-1	1"	1"	0.87	2.70	1.80

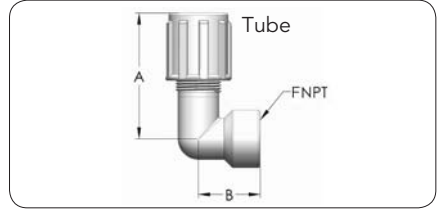


### Male Elbow JIS Inches

Item No.	Tube	JIS Size	Orifice	A	B
CF-ME4-4JN-1	1/4"	1/4"	0.15	1.66	1.06
CF-ME4-6JN-1	1/4"	3/8"	0.15	1.66	1.06
CF-ME6-4JN-1	3/8"	1/4"	0.25	1.76	1.06
CF-ME6-6JN-1	3/8"	3/8"	0.25	1.76	1.06
CF-ME6-8JN-1	3/8"	1/2"	0.25	1.76	1.18
CF-ME8-4JN-1	1/2"	1/4"	0.25	1.86	1.06
CF-ME8-6JN-1	1/2"	3/8"	0.38	1.86	1.06
CF-ME8-8JN-1	1/2"	1/2"	0.38	1.86	1.18
CF-ME8-12JN-1	1/2"	3/4"	0.38	1.86	1.36
CF-ME12-8JN-1	3/4"	1/2"	0.53	2.21	1.36
CF-ME12-12JN-1	3/4"	3/4"	0.63	2.21	1.37
CF-ME12-16JN-1	3/4"	1"	0.63	2.21	1.80
CF-ME16-12JN-1	1"	3/4"	0.66	2.70	1.64
CF-ME16-16JN-1	1"	1"	0.87	2.70	1.80

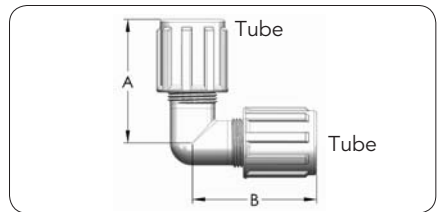
# ChemFlare™ PFA Fittings

## Flare Fittings



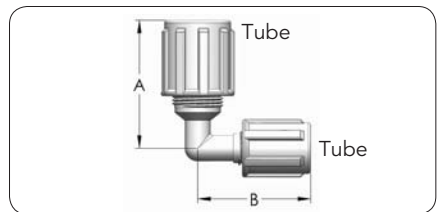
### Female Elbow Inches

Item No.	Tube	FNPT	Orifice	A	B
CF-FE4-2N-1	1/4"	1/8"	0.15	1.80	0.81
CF-FE4-4N-1	1/4"	1/4"	0.15	1.80	0.94
CF-FE4-6N-1	1/4"	3/8"	0.15	1.80	1.00
CF-FE4-8N-1	1/4"	1/2"	0.15	1.80	1.25
CF-FE6-4N-1	3/8"	1/4"	0.25	1.91	0.94
CF-FE6-6N-1	3/8"	3/8"	0.25	1.91	1.00
CF-FE6-8N-1	3/8"	1/2"	0.25	1.91	1.25
CF-FE8-4N-1	1/2"	1/4"	0.36	2.03	0.96
CF-FE8-6N-1	1/2"	3/8"	0.38	2.03	1.00
CF-FE8-8N-1	1/2"	1/2"	0.38	2.03	1.27
CF-FE8-12N-1	1/2"	3/4"	0.38	2.03	1.53
CF-FE12-8N-1	3/4"	1/2"	0.54	2.22	1.44
CF-FE12-12N-1	3/4"	3/4"	0.63	2.22	1.53
CF-FE16-16N-1	1"	1"	0.88	2.67	1.60



### Union Elbow Inches

Item No.	Tube	Tube	Orifice	A	B
CF-UE44N-1	1/4"	1/4"	0.15	1.66	1.66
CF-UE66N-1	3/8"	3/8"	0.25	1.76	1.76
CF-UE88N-1	1/2"	1/2"	0.38	1.87	1.87
CF-UE1212N-1	3/4"	3/4"	0.63	2.22	2.22
CF-UE1616N-1	1"	1"	0.87	2.70	2.70
CF-UE2020N-1	1-1/4"	1-1/4"	1.10	2.96	2.96



### Union Elbow Reducer Inches

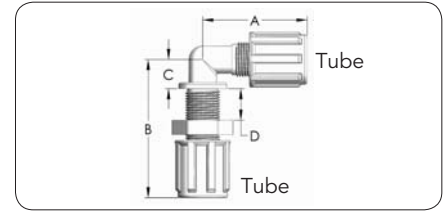
Item No.	Tube	Tube	Orifice	A	B
CF-UE64N-1	3/8"	1/4"	0.15	1.76	1.66
CF-UE84N-1	1/2"	1/4"	0.15	1.87	1.66
CF-UE86N-1	1/2"	3/8"	0.25	1.87	1.76
CF-UE124N-1	3/4"	1/4"	0.15	2.22	1.66
CF-UE126N-1	3/4"	3/8"	0.25	2.22	1.76
CF-UE128N-1	3/4"	1/2"	0.38	2.22	1.87
CF-UE168N-1	1"	1/2"	0.38	2.70	2.03
CF-UE1612N-1	1"	3/4"	0.63	2.70	2.22



# ChemFlare™ PFA Fittings

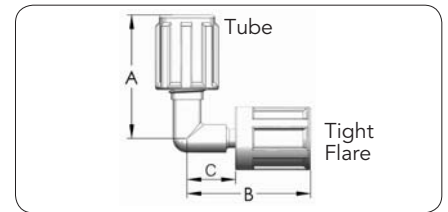


## Flare Fittings



### Union Elbow Panel Mount Inches

Item No.	Tube	Tube	Orifice	A	B	C	D (Max)	HEX	Min Panel Hole Diameter
CF-EPMX44N-1	1/4"	1/4"	0.15	1.66	1.85	0.51	0.50	3/4"	1/2"
CF-EPMX66N-1	3/8"	3/8"	0.25	1.77	1.96	0.51	0.50	15/16"	5/8"
CF-EPMX88N-1	1/2"	1/2"	0.38	1.88	1.94	0.66	0.50	1-1/16"	3/4"
CF-EPMX1212N-1	3/4"	3/4"	0.63	2.21	2.21	0.84	0.50	1-5/16"	1"

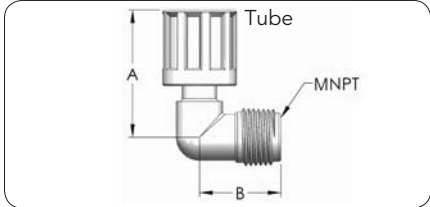


### Union Elbow Tube x Tight Flare Inches

Item No.	Tube	Tight Flare	Orifice	A	B	C
CF-UE44TN-1	1/4"	1/4"	0.15	1.65	1.64	0.66
CF-UE46TN-1	1/4"	3/8"	0.15	1.65	1.73	0.68
CF-UE48TN-1	1/4"	1/2"	0.15	1.65	1.84	0.73
CF-UE64TN-1	3/8"	1/4"	0.15	1.76	1.64	0.66
CF-UE66TN-1	3/8"	3/8"	0.25	1.76	1.73	0.68
CF-UE68TN-1	3/8"	1/2"	0.25	1.76	1.84	0.73
CF-UE612TN-1	3/8"	3/4"	0.25	1.76	2.13	0.87
CF-UE84TN-1	1/2"	1/4"	0.15	1.87	1.64	0.66
CF-UE86TN-1	1/2"	3/8"	0.25	1.87	1.73	0.68
CF-UE88TN-1	1/2"	1/2"	0.38	1.87	1.84	0.73
CF-UE812TN-1	1/2"	3/4"	0.38	1.87	2.13	0.87
CF-UE816TN-1	1/2"	1"	0.38	2.03	2.74	1.27
CF-UE128TN-1	3/4"	1/2"	0.38	2.22	1.84	0.73
CF-UE1212TN-1	3/4"	3/4"	0.63	2.22	2.13	0.87
CF-UE1216TN-1	3/4"	1"	0.63	2.22	2.74	1.27
CF-UE1612TN-1	1"	3/4"	0.63	2.70	2.13	0.87
CF-UE1616TN-1	1"	1"	0.88	2.70	2.74	1.27

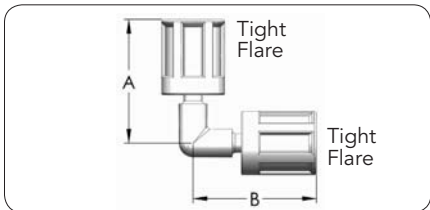
# ChemFlare™ PFA Fittings

## Flare Fittings



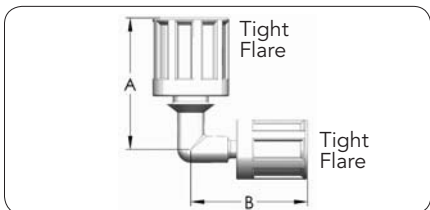
### Tight Flare Male Elbow Inches

Item No.	Tube O.D.	MNPT	Orifice	A	B
CF-ME4T-4N-1	1/4"	1/4"	0.15	1.66	1.06
CF-ME6T-6N-1	3/8"	3/8"	0.25	1.76	1.06
CF-ME8T-8N-1	1/2"	1/2"	0.38	1.85	1.18
CF-ME12T-12N-1	3/4"	3/4"	0.18	1.76	1.36
CF-ME16T-16N-1	1"	1"	0.25	1.76	1.18



### Tight Flare Union Elbow Inches

Item No.	Tight Flare	Orifice	A	B	C
CF-UE4TN-1	1/4"	0.15	1.64	1.64	0.66
CF-UE6TN-1	3/8"	0.25	1.73	1.73	0.68
CF-UE8TN-1	1/2"	0.38	1.84	1.84	0.73
CF-UE12TN-1	3/4"	0.63	2.13	2.13	0.87
CF-UE16TN-1	1"	0.88	2.74	2.74	1.27

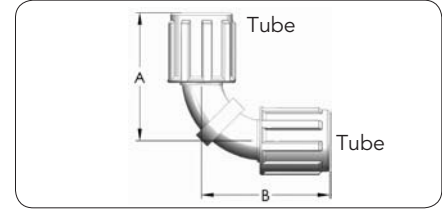


### Tight Flare Union Elbow Reducer Inches

Item No.	Tight Flare	Tight Flare	Orifice	A	B	C <sub>1</sub>	C <sub>2</sub>
CF-UE6T4TN-1	3/8"	1/4"	0.15	1.73	1.64	0.68	0.66
CF-UE8T4TN-1	1/2"	1/4"	0.15	1.84	1.64	0.73	0.66
CF-UE8T6TN-1	1/2"	3/8"	0.25	1.84	1.73	0.73	0.68
CF-UE12T8TN-1	3/4"	1/2"	0.38	2.13	1.84	0.87	0.73
CF-UE16T12TN-1	1"	3/4"	0.63	2.77	2.13	1.27	0.87

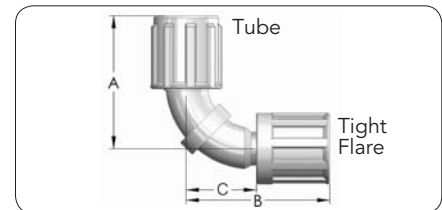
# ChemFlare™ PFA Fittings

## Flare Fittings



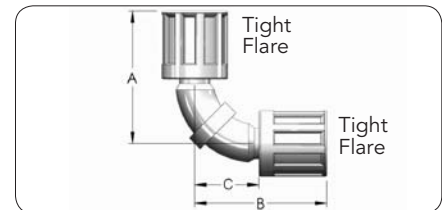
### Union Elbow Sweep Inches

Item No.	Tube	Tube	Orifice	A	B
CF-UES44N-1	1/4"	1/4"	0.15	1.62	1.62
CF-UES66N-1	3/8"	3/8"	0.25	1.83	1.83
CF-UES88N-1	1/2"	1/2"	0.38	2.05	2.05
CF-UES1212N-1	3/4"	3/4"	0.63	2.33	2.33
CF-UES1616N-1	1"	1"	0.88	2.78	2.78



### Union Elbow Sweep Tube x Tight Flare Inches

Item No.	Tube	Tight Flare	Orifice	A	B	C
CF-UES44TN-1	1/4"	1/4"	0.15	1.62	1.78	0.79
CF-UES66TN-1	3/8"	3/8"	0.25	1.83	1.97	0.93
CF-UES88TN-1	1/2"	1/2"	0.38	2.05	2.15	1.05
CF-UES1212TN-1	3/4"	3/4"	0.63	2.33	2.56	1.31
CF-UES1616TN-1	1"	1"	0.88	2.78	3.22	1.72

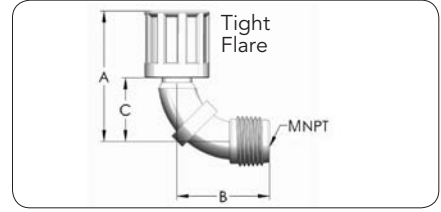


### Tight Flare Union Elbow Sweep Inches

Item No.	Tight Flare	Orifice	A	B	C
CF-UES4TN-1	1/4"	0.15	1.78	1.78	0.79
CF-UES6TN-1	3/8"	0.25	1.97	1.97	0.93
CF-UES8TN-1	1/2"	0.38	2.15	2.15	1.05
CF-UES12TN-1	3/4"	0.63	2.56	2.56	1.31
CF-UES16TN-1	1"	0.88	3.22	3.22	1.72

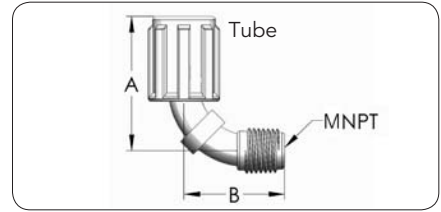
# ChemFlare™ PFA Fittings

## Flare Fittings



### Tight Flare Male Elbow Sweep Inches

Item No.	Tight Flare	MNPT	Orifice	A	B	C
CF-MES4T-4N-1	1/4"	1/4"	0.15	1.78	1.20	0.79
CF-MES6T-6N-1	3/8"	3/8"	0.25	1.97	1.32	0.93
CF-MES8T-8N-1	1/2"	1/2"	0.38	2.15	1.55	1.05
CF-MES12T-12N-1	3/4"	3/4"	0.63	2.56	1.76	1.31
CF-MES16T-16N-1	1"	1"	0.88	3.22	2.26	1.72

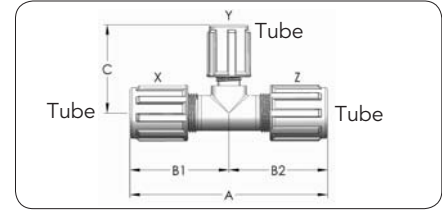


### Male Elbow Sweep Inches

Item No.	Tube	MNPT	Orifice	A	B
CF-MES4-4N-1	1/4"	1/4"	0.15	1.62	1.20
CF-MES6-6N-1	3/8"	3/8"	0.25	1.83	1.32
CF-MES8-8N-1	1/2"	1/2"	0.38	2.05	1.55
CF-MES12-12N-1	3/4"	3/4"	0.63	2.33	1.76
CF-MES16-16N-1	1"	1"	0.88	2.78	2.26

# ChemFlare™ PFA Fittings

## Flare Fittings

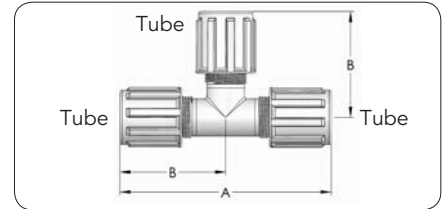


### Union Tee Reducer Inches

Item No.	Tube X	Tube Y	Tube Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4-6-4N-1	1/4"	3/8"	1/4"	0.15	3.32	1.66	1.76	1.66
CF-UT4-8-4N-1	1/4"	1/2"	1/4"	0.15	3.32	1.66	1.87	1.66
CF-UT6-4-4N-1	3/8"	1/4"	1/4"	0.15	3.42	1.76	1.66	1.76
CF-UT6-4-6N-1	3/8"	1/4"	3/8"	0.15	3.52	1.76	1.66	1.76
CF-UT6-6-4N-1	3/8"	3/8"	1/4"	0.15	3.42	1.76	1.76	1.76
CF-UT6-8-6N-1	3/8"	1/2"	3/8"	0.25	3.52	1.76	1.87	1.76
CF-UT8-4-4N-1	1/2"	1/4"	1/4"	0.15	3.53	1.87	1.66	1.87
CF-UT8-4-8N-1	1/2"	1/4"	1/2"	0.15	3.74	1.87	1.66	1.87
CF-UT8-6-6N-1	1/2"	3/8"	3/8"	0.25	3.63	1.87	1.76	1.87
CF-UT8-6-8N-1	1/2"	3/8"	1/2"	0.25	3.74	1.87	1.76	1.87
CF-UT8-8-4N-1	1/2"	1/2"	1/4"	0.15	3.53	1.87	1.87	1.87
CF-UT8-8-6N-1	1/2"	1/2"	3/8"	0.38	3.63	1.87	1.87	1.87
CF-UT8-12-8N-1	1/2"	3/4"	1/2"	0.38	3.72	1.86	2.22	1.86
CF-UT12-4-12N-1	3/4"	1/4"	3/4"	0.15	4.44	2.22	1.66	2.22
CF-UT12-6-12N-1	3/4"	3/8"	3/4"	0.25	4.44	2.22	1.76	2.22
CF-UT12-8-8N-1	3/4"	1/2"	1/2"	0.38	4.09	2.22	1.87	2.22
CF-UT12-8-12N-1	3/4"	1/2"	3/4"	0.38	4.44	2.22	1.87	2.22
CF-UT12-12-6N-1	3/4"	3/4"	3/8"	0.25	3.98	2.22	2.22	2.22
CF-UT12-12-8N-1	3/4"	3/4"	1/2"	0.38	4.09	2.22	2.22	2.22
CF-UT12-16-12N-1	3/4"	1"	3/4"	0.63	4.44	2.22	2.70	2.22
CF-UT16-4-16N-1	1"	1/4"	1"	0.15	5.40	2.70	2.02	2.70
CF-UT16-6-16N-1	1"	3/8"	1"	0.25	5.40	2.70	2.13	2.70
CF-UT16-8-16N-1	1"	1/2"	1"	0.38	5.40	2.70	2.26	2.70
CF-UT16-12-16N-1	1"	3/4"	1"	0.63	5.40	2.70	2.22	2.70
CF-UT16-12-12N-1	1"	3/4"	3/4"	0.63	4.92	2.70	2.22	2.70
CF-UT16-16-8N-1	1"	1"	1/2"	0.38	4.92	2.70	2.70	2.70
CF-UT16-16-12N-1	1"	1"	3/4"	0.63	4.92	2.70	2.70	2.70

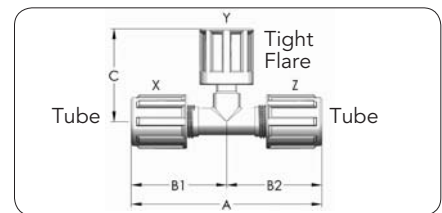
# ChemFlare™ PFA Fittings

## Flare Fittings



### Union Tee Inches

Item No.	Tube	Orifice	A	B
CF-UT4N-1	1/4"	0.15	3.32	1.66
CF-UT6N-1	3/8"	0.25	3.52	1.76
CF-UT8N-1	1/2"	0.38	3.74	1.87
CF-UT12N-1	3/4"	0.63	4.44	2.22
CF-UT16N-1	1"	0.88	5.40	2.70
CF-UT20N-1	1-1/4"	1.10	5.92	2.96



### Union Tee (Tight Flare) Branch Inches

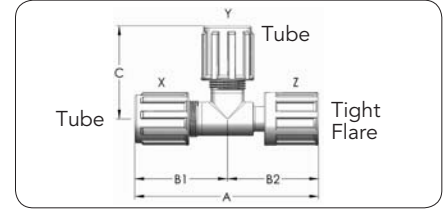
Item No.	Tube X	Tight Flare Y	Tube Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4-4T-4N-1	1/4"	1/4"	1/4"	0.15	3.32	1.66	1.64	1.66
CF-UT4-6T-4N-1	1/4"	3/8"	1/4"	0.15	3.32	1.66	1.73	1.66
CF-UT6-4T-6N-1	3/8"	1/4"	3/8"	0.15	3.52	1.76	1.64	1.76
CF-UT6-6T-6N-1	3/8"	3/8"	3/8"	0.25	3.52	1.76	1.73	1.76
CF-UT6-8T-6N-1	3/8"	1/2"	3/8"	0.25	3.52	1.76	1.84	1.76
CF-UT8-4T-8N-1	1/2"	1/4"	1/2"	0.15	3.74	1.87	1.64	1.87
CF-UT8-6T-8N-1	1/2"	3/8"	1/2"	0.25	3.74	1.87	1.73	1.87
CF-UT8-8T-4N-1	1/2"	1/2"	1/4"	0.15	3.53	1.87	1.84	1.87
CF-UT8-8T-8N-1	1/2"	1/2"	1/2"	0.38	3.74	1.87	1.84	1.87
CF-UT8-12T-8N-1	1/2"	3/4"	1/2"	0.38	3.74	1.87	2.13	1.87
CF-UT12-4T-12N-1	3/4"	1/4"	3/4"	0.15	4.44	2.22	1.64	2.22
CF-UT12-6T-12N-1	3/4"	3/8"	3/4"	0.25	4.44	2.22	1.73	2.22
CF-UT12-8T-8N-1	3/4"	1/2"	1/2"	0.38	4.09	2.22	1.84	2.22
CF-UT12-8T-12N-1	3/4"	1/2"	3/4"	0.38	4.44	2.22	1.97	2.22
CF-UT12-12T-8N-1	3/4"	3/4"	1/2"	0.38	4.09	2.22	2.13	2.22
CF-UT12-12T-12N-1	3/4"	3/4"	3/4"	0.63	4.44	2.22	2.13	2.22
CF-UT12-16T-12N-1	3/4"	1"	3/4"	0.63	4.44	2.22	2.74	2.22
CF-UT16-8T-16N-1	1"	1/2"	1"	0.38	5.40	2.70	2.09	2.70
CF-UT16-12T-16N-1	1"	3/4"	1"	0.63	5.40	2.70	2.23	2.70
CF-UT16-16T-16N-1	1"	1"	1"	0.88	5.40	2.70	2.74	2.70

For D Dimension: 4T=0.66, 6T=0.68, 8T=0.73, 12T=0.87, 16T=1.27

# ChemFlare™ PFA Fittings



## Flare Fittings



### Union Tee (Tight Flare) Run Inches

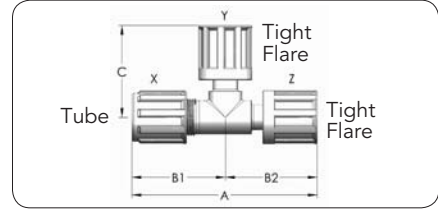
Item No.	Tube X	Tube Y	Tight Flare Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4-4-4TN-1	1/4"	1/4"	1/4"	0.15	3.30	1.66	1.66	1.64
CF-UT4-8-8TN-1	1/4"	1/2"	1/2"	0.15	3.50	1.66	1.87	1.84
CF-UT6-4-6TN-1	3/8"	1/4"	3/8"	0.15	3.49	1.76	1.66	1.73
CF-UT6-6-6TN-1	3/8"	3/8"	3/8"	0.25	3.49	1.76	1.76	1.73
CF-UT6-12-12TN-1	3/8"	3/4"	3/4"	0.25	3.89	1.76	2.22	2.13
CF-UT8-4-8TN-1	1/2"	1/4"	1/2"	0.15	3.71	1.87	1.66	1.84
CF-UT8-6-8TN-1	1/2"	3/8"	1/2"	0.25	3.71	1.87	1.76	1.84
CF-UT8-8-6TN-1	1/2"	1/2"	3/8"	0.25	3.60	1.87	1.87	1.73
CF-UT8-8-8TN-1	1/2"	1/2"	1/2"	0.38	3.71	1.87	1.87	1.84
CF-UT12-6-12TN-1	3/4"	3/8"	3/4"	0.25	4.35	2.22	1.76	2.13
CF-UT12-8-12TN-1	3/4"	1/2"	3/4"	0.38	4.35	2.22	1.87	2.13
CF-UT12-12-12TN-1	3/4"	3/4"	3/4"	0.63	4.35	2.22	2.22	2.13
CF-UT16-12-16TN-1	1"	3/4"	1"	0.63	5.44	2.70	2.22	2.74
CF-UT16-16-12TN-1	1"	1"	3/4"	0.63	4.94	2.70	2.70	2.24
CF-UT16-16-16TN-1	1"	1"	1"	0.88	5.44	2.70	2.70	2.74

For D Dimension: 4T=0.66, 6T=0.68, 8T=0.73, 12T=0.87, 16T=1.27

# ChemFlare™ PFA Fittings



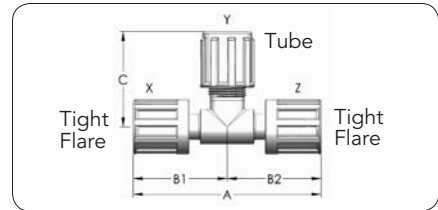
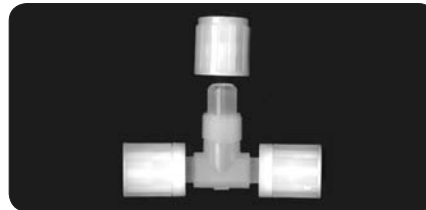
## Flare Fittings



### Union Tee (Tight Flare) Branch, Run Inches

Item No.	Tube X	Tight Flare Y	Tight Flare Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4-4T-4TN-1	1/4"	1/4"	1/4"	0.15	3.30	1.66	1.64	1.64
CF-UT6-4T-6TN-1	3/8"	1/4"	3/8"	0.15	3.49	1.76	1.64	1.73
CF-UT6-6T-6TN-1	3/8"	3/8"	3/8"	0.25	3.49	1.76	1.73	1.73
CF-UT8-8T-8TN-1	1/2"	1/2"	1/2"	0.38	3.71	1.87	1.84	1.84
CF-UT8-12T-12TN-1	1/2"	3/4"	3/4"	0.38	4.00	1.87	2.13	2.13
CF-UT12-8T-12TN-1	3/4"	1/2"	3/4"	0.38	4.31	2.22	1.84	2.13
CF-UT12-12T-8TN-1	3/4"	3/4"	1/2"	0.38	4.06	2.22	2.13	1.84
CF-UT12-12T-12TN-1	3/4"	3/4"	3/4"	0.63	4.35	2.22	2.13	2.13
CF-UT16-12T-12TN-1	1"	3/4"	3/4"	0.63	4.83	2.70	2.13	2.13
CF-UT16-16T-12TN-1	1"	1"	3/4"	0.63	4.94	2.70	2.77	2.24
CF-UT16-16T-16TN-1	1"	1"	1"	0.88	5.44	2.70	2.77	2.74

For D Dimension: 4T=0.66, 6T=0.68, 8T=0.73, 12T=0.87, 16T=1.27



### Union Tee (Tight Flare) Run, Run Inches

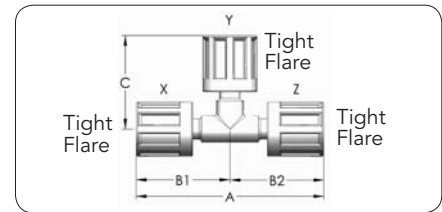
Item No.	Tight Flare X	Tube Y	Tight Flare Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4T-4-4TN-1	1/4"	1/4"	1/4"	0.15	3.28	1.64	1.66	1.64
CF-UT4T-6-4TN-1	1/4"	3/8"	1/4"	0.15	3.28	1.64	1.76	1.64
CF-UT6T-6-6TN-1	3/8"	3/8"	3/8"	0.25	3.46	1.73	1.76	1.73
CF-UT6T-8-6TN-1	3/8"	1/2"	3/8"	0.25	3.46	1.73	1.87	1.73
CF-UT8T-6-6TN-1	1/2"	3/8"	3/8"	0.25	3.57	1.84	1.76	1.84
CF-UT8T-8-4TN-1	1/2"	1/2"	1/4"	0.15	3.48	1.84	1.87	1.84
CF-UT8T-8-8TN-1	1/2"	1/2"	1/2"	0.38	3.68	1.84	1.87	1.84
CF-UT8T-12-8TN-1	1/2"	3/4"	1/2"	0.38	3.68	1.84	2.22	1.84
CF-UT12T-4-12TN-1	3/4"	1/4"	3/4"	0.15	4.26	2.13	1.66	2.13
CF-UT12T-6-12TN-1	3/4"	3/8"	3/4"	0.25	4.26	2.13	1.76	2.13
CF-UT12T-8-12TN-1	3/4"	1/2"	3/4"	0.38	4.26	2.13	1.87	2.13
CF-UT12T-12-12TN-1	3/4"	3/4"	3/4"	0.63	4.26	2.13	2.22	2.13
CF-UT16T-8-16TN-1	1"	1/2"	1"	0.38	5.58	2.74	2.26	2.74
CF-UT16T-12-16TN-1	1"	3/4"	1"	0.63	5.58	2.74	2.21	2.74
CF-UT16T-16-16TN-1	1"	1"	1"	0.88	5.58	2.74	2.70	2.74

For D Dimension: 4T=0.66, 6T=0.68, 8T=0.73, 12T=0.87, 16T=1.27



# ChemFlare™ PFA Fittings

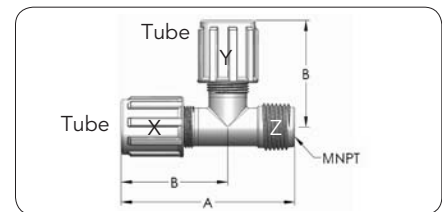
## Flare Fittings



### Union Tee (Tight Flare) All Inches

Item No.	Tight Flare X	Tight Flare Y	Tight Flare Z	Orifice	A	B <sub>1</sub>	C	B <sub>2</sub>
CF-UT4TN-1	1/4"	1/4"	1/4"	0.15	3.28	1.64	1.64	1.64
CF-UT4T-6T-4TN-1	1/4"	3/8"	1/4"	0.15	3.28	1.64	1.73	1.64
CF-UT6TN-1	3/8"	3/8"	3/8"	0.25	3.46	1.73	1.73	1.73
CF-UT6T-8T-4TN-1	3/8"	1/2"	1/4"	0.15	3.37	1.73	1.84	1.64
CF-UT8TN-1	1/2"	1/2"	1/2"	0.38	3.68	1.84	1.84	1.84
CF-UT8T-8T-4TN-1	1/2"	1/2"	1/4"	0.15	3.48	1.84	1.84	1.64
CF-UT8T-12T-8TN-1	1/2"	3/4"	1/2"	0.38	3.68	1.84	2.13	1.84
CF-UT12TN-1	3/4"	3/4"	3/4"	0.63	4.26	2.13	2.13	2.13
CF-UT12T-6T-12TN-1	3/4"	3/8"	3/4"	0.25	4.26	2.13	1.73	2.13
CF-UT12T-8T-12TN-1	3/4"	1/2"	3/4"	0.38	4.23	2.13	1.84	2.13
CF-UT12T-12T-8TN-1	3/4"	3/4"	1/2"	0.38	3.97	2.13	2.13	1.84
CF-UT16TN-1	1"	1"	1"	0.88	5.48	2.74	2.74	2.74

For D Dimension: 4T=0.66, 6T=0.68, 8T=0.73, 12T=0.87, 16T=1.27



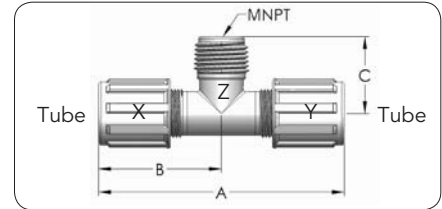
### Male Run Tee Inches

Item No.	Tube X	Tube Y	MNPT Z	Orifice	A	B
CF-MRT44-2N-1	1/4"	1/4"	1/8"	0.15	2.72	1.68
CF-MRT44-4N-1	1/4"	1/4"	1/4"	0.15	2.72	1.68
CF-MRT44-6N-1	1/4"	1/4"	3/8"	0.15	2.72	1.68
CF-MRT66-2N-1	3/8"	3/8"	1/8"	0.17	2.83	1.76
CF-MRT66-4N-1	3/8"	3/8"	1/4"	0.25	2.83	1.76
CF-MRT66-6N-1	3/8"	3/8"	3/8"	0.25	2.83	1.76
CF-MRT66-8N-1	3/8"	3/8"	1/2"	0.25	2.83	1.76
CF-MRT88-6N-1	1/2"	1/2"	3/8"	0.38	2.96	1.87
CF-MRT88-8N-1	1/2"	1/2"	1/2"	0.38	3.04	1.87
CF-MRT1212-6N-1	3/4"	3/4"	3/8"	0.38	3.45	2.22
CF-MRT1212-8N-1	3/4"	3/4"	1/2"	0.49	3.56	2.22
CF-MRT1212-12N-1	3/4"	3/4"	3/4"	0.63	3.59	2.22
CF-MRT1616-16N-1	1"	1"	1"	0.88	4.50	2.70

# ChemFlare™ PFA Fittings



## Flare Fittings



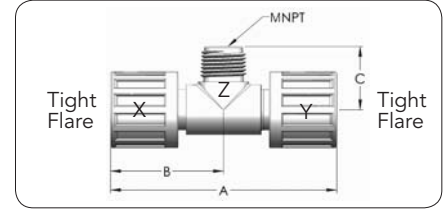
### Male Branch Tee Inches

Item No.	Tube X	Tube Y	MNPT Z	Orifice	A	B	C
CF-MBT44-2N-1	1/4"	1/4"	1/8"	0.15	3.32	1.66	1.07
CF-MBT44-4N-1	1/4"	1/4"	1/4"	0.15	3.32	1.66	1.07
CF-MBT44-8N-1	1/4"	1/4"	1/2"	0.15	3.32	1.66	1.17
CF-MBT64-4N-1	3/8"	1/4"	1/4"	0.15	3.42	1.76	1.07
CF-MBT64-6N-1	3/8"	1/4"	3/8"	0.15	3.52	1.76	1.07
CF-MBT66-2N-1	3/8"	3/8"	1/8"	0.25	3.52	1.76	1.07
CF-MBT66-4N-1	3/8"	1/4"	1/4"	0.25	3.52	1.76	1.07
CF-MBT66-8N-1	3/8"	3/8"	3/8"	0.25	3.52	1.76	1.07
CF-MBT66-6N-1	3/8"	3/8"	1/2"	0.25	3.52	1.76	1.17
CF-MBT84-8N-1	1/2"	1/4"	1/2"	0.15	3.53	1.77	1.17
CF-MBT86-6N-1	1/2"	3/8"	3/8"	0.25	3.64	1.82	1.08
CF-MBT86-8N-1	1/2"	3/8"	1/2"	0.25	3.64	1.82	1.17
CF-MBT88-4N-1	1/2"	1/2"	1/4"	0.25	3.74	1.87	1.07
CF-MBT88-6N-1	1/2"	1/2"	3/8"	0.38	3.74	1.87	1.08
CF-MBT88-8N-1	1/2"	1/2"	1/2"	0.38	3.74	1.87	1.17
CF-MBT88-12N-1	1/2"	1/2"	3/4"	0.38	4.74	1.87	1.35
CF-MBT1212-4N-1	3/4"	3/4"	1/4"	0.25	4.44	2.22	1.27
CF-MBT1212-8N-1	3/4"	3/4"	1/2"	0.49	4.44	2.22	1.35
CF-MBT1212-12N-1	3/4"	3/4"	3/4"	0.63	4.44	2.22	1.35
CF-MBT1616-4N-1	1"	1"	1/4"	0.25	5.40	2.70	1.57
CF-MBT1616-6N-1	1"	1"	3/8"	0.38	5.40	2.70	1.57
CF-MBT1616-8N-1	1"	1"	1/2"	0.49	5.40	2.70	1.63
CF-MBT1616-12N-1	1"	1"	3/4"	0.69	5.40	2.70	1.63
CF-MBT1616-16N-1	1"	1"	1"	0.88	5.40	2.70	1.81

# ChemFlare™ PFA Fittings

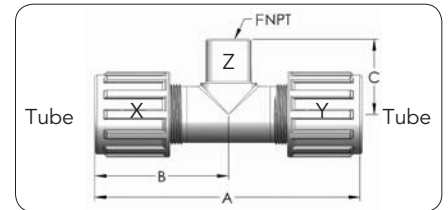


## Flare Fittings



### Tight Flare Male Branch Tee Inches

Item No.	Tight Flare X	Tight Flare Y	MNPT Z	Orifice	A	B	C
CF-MBT12T-12T-8N-1	3/4"	3/4"	1/2"	0.49	4.24	2.12	1.35

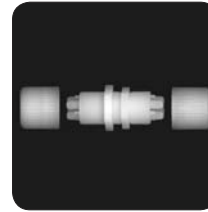
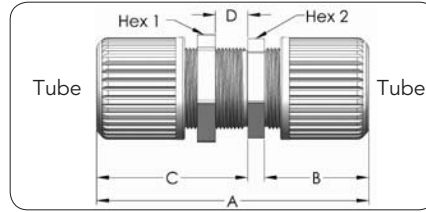


### Female Branch Tee Inches

Item No.	Tube X	Tube Y	FNPT Z	Orifice	A	B	C
CF-FBT1212-4N-1	3/4"	3/4"	1/4"	0.25	4.44	2.22	1.43
CF-FBT1616-4N-1	1"	1"	1/4"	0.25	5.40	2.70	1.43
CF-FBT1616-8N-1	1"	1"	1/2"	0.49	5.40	2.70	1.38

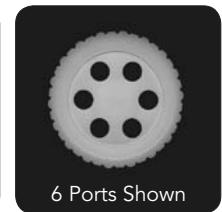
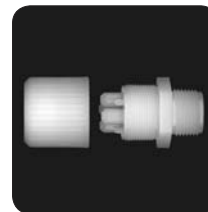
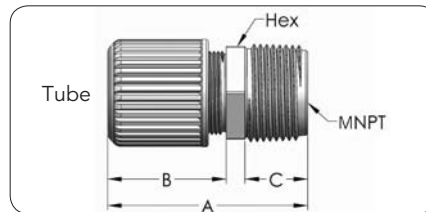
# ChemFlare™ PFA Fittings

## Flare Fittings



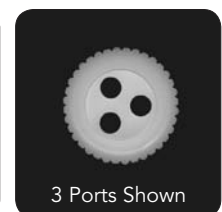
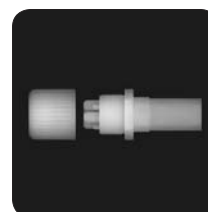
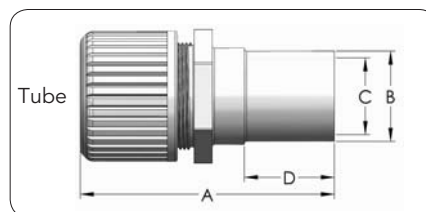
### PVDF Multi-Flare Panel Mount Inches

Item No.	Tube	Ports	Orifice	A	B	C	D (Max)	HEX 1	HEX 2	Hole Size Required
CF-MSUPM4-2	1/4"	2	0.15	4.13	1.60	2.30	0.50	1-3/8"	1-1/4"	1-1/8"
CF-MSUPM4-3	1/4"	3	0.15	4.13	1.60	2.30	0.50	1-3/8"	1-1/4"	1-1/8"
CF-MSUPM4-4	1/4"	4	0.15	4.13	1.60	2.30	0.50	1-1/2"	1-3/8"	1-1/4"
CF-MSUPM4-6	1/4"	6	0.15	4.13	1.60	2.30	0.50	1-3/4"	1-5/8"	1-1/2"



### PVDF Multi-Flare Male Connector Inches

Item No.	Tube	MNPT	Ports	Orifice	A	B	C	HEX
CF-MMC4-8-2	1/4"	1/2"	2	0.15	2.49	1.60	0.66	1-1/4"
CF-MMC4-8-3	1/4"	1/2"	3	0.15	2.49	1.60	0.66	1-1/4"
CF-MMC4-12-2	1/4"	3/4"	2	0.15	2.50	1.60	0.67	1-1/4"
CF-MMC4-12-3	1/4"	3/4"	3	0.15	2.50	1.60	0.67	1-1/4"
CF-MMC4-12-4	1/4"	3/4"	4	0.15	2.50	1.60	0.67	1-3/8"
CF-MMC4-16-3	1/4"	1"	3	0.15	2.68	1.60	0.85	1-1/4"
CF-MMC4-16-4	1/4"	1"	4	0.15	2.68	1.60	0.85	1-3/8"
CF-MMC4-16-6	1/4"	1"	6	0.15	2.68	1.60	0.85	1-5/8"

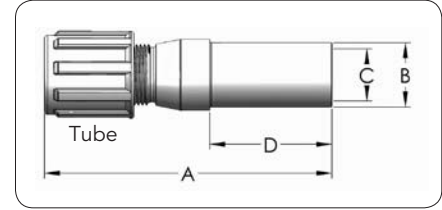


### PVDF Multi-Flare Transition Fitting Inches

Item No.	Tube	Pipe	Ports	Orifice	A	B	C	D	HEX
CF-MTSF4-20MM-2	1/4"	20mm	2	0.15	3.75	0.79	0.64	1.50	1-1/4"
CF-MTSF4-20MM-3	1/4"	20mm	3	0.15	3.75	0.79	0.64	1.50	1-1/4"
CF-MTSF4-25MM-2	1/4"	25mm	2	0.15	3.75	0.98	0.82	1.50	1-1/4"
CF-MTSF4-25MM-3	1/4"	25mm	3	0.15	3.75	0.98	0.82	1.50	1-1/4"
CF-MTSF4-25MM-4	1/4"	25mm	4	0.15	3.75	0.98	0.82	1.50	1-3/8"
CF-MTSF4-32MM-3	1/4"	32mm	3	0.15	3.75	1.26	1.07	1.50	1-1/4"
CF-MTSF4-32MM-4	1/4"	32mm	4	0.15	3.75	1.26	1.07	1.50	1-3/8"
CF-MTSF4-32MM-6	1/4"	32mm	6	0.15	3.75	1.26	1.07	1.50	1-5/8"

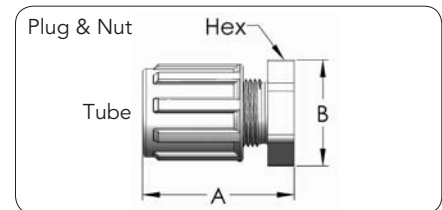
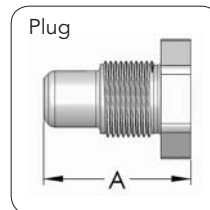
# ChemFlare™ PFA Fittings

## Flare Fittings



### PVDF Transition Fitting – Tube x Metric Pipe Inches

Item No.	Tube	Pipe	A	B	C	D
CF-TSF4-20MM	1/4"	20mm	3.30	0.79	0.64	1.50
CF-TSF4-25MM	1/4"	25mm	3.30	0.98	0.82	1.50
CF-TSF6-20MM	3/8"	20mm	3.40	0.79	0.64	1.50
CF-TSF6-25MM	3/8"	25mm	3.40	0.98	0.82	1.50
CF-TSF8-20MM	1/2"	20mm	3.50	0.79	0.64	1.50
CF-TSF8-25MM	1/2"	25mm	3.50	0.98	0.82	1.50
CF-TSF8-32MM	1/2"	32mm	3.50	1.26	1.07	1.50
CF-TSF8-40MM	1/2"	40mm	3.50	1.57	1.38	1.50
CF-TSF12-20MM	3/4"	20mm	3.64	0.79	0.64	1.50
CF-TSF12-25MM	3/4"	25mm	3.64	0.98	0.82	1.50
CF-TSF12-32MM	3/4"	32mm	3.64	1.26	1.07	1.50
CF-TSF12-40MM	3/4"	40mm	3.64	1.57	1.38	1.50
CF-TSF16-25MM	1"	25mm	3.80	0.98	0.82	1.50
CF-TSF16-32MM	1"	32mm	3.80	1.26	1.07	1.50
CF-TSF16-40MM	1"	40mm	3.80	1.57	1.38	1.50
CF-TSF16-50MM	1"	50mm	3.90	1.97	1.73	1.48
CF-TSF16-63MM	1"	63mm	3.90	2.48	2.24	1.48
CF-TSF20-40MM	1-1/4"	40mm	4.16	1.57	1.38	1.50
CF-TSF20-50MM	1-1/4"	50mm	4.16	1.97	1.73	1.50
CF-TSF20-63MM	1-1/4"	63mm	4.16	2.48	2.24	1.48

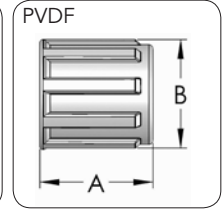
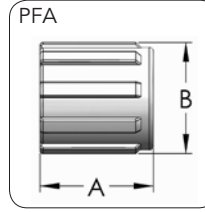


### Flare Plug & PVDF Nut Inches

Flare Plug Only Item No.	Tube	A	HEX	Plug & Nut Item No.	Tube	A	B	HEX
CF-FP4	1/4"	1.25	5/8"	CF-FP4N-1	1/4"	1.47	0.73	5/8"
CF-FP6	3/8"	1.34	13/16"	CF-FP6N-1	3/8"	1.57	0.85	13/16"
CF-FP8	1/2"	1.43	15/16"	CF-FP8N-1	1/2"	1.67	1.00	15/16"
CF-FP12	3/4"	1.58	1-3/16"	CF-FP12N-1	3/4"	1.79	1.32	1-3/16"
CF-FP16	1"	1.75	1-7/16"	CF-FP16N-1	1"	2.01	1.76	1-7/16"

# ChemFlare™ PFA Fittings

## Flare Fittings

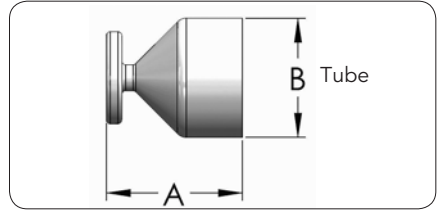


### PFA Nut Inches

Item No.	Tube	A	B
CF-N4-3	1/4"	1.02	0.84
CF-N6-3	3/8"	1.03	0.99
CF-N8-3	1/2"	1.12	1.07
CF-N12-3	3/4"	1.27	1.41
CF-N16-3	1"	1.51	1.85

### PVDF Nut Inches

Item No.	Tube	A	B
CF-N4-1	1/4"	1.00	0.73
CF-N6-1	3/8"	1.01	0.85
CF-N8-1	1/2"	1.09	1.00
CF-N12-1	3/4"	1.25	1.32
CF-N16-1	1"	1.49	1.76



### Flare Cap Inches

Item No.	Tube	A	B
CF-FCAP4	1/4"	0.93	0.39
CF-FCAP6	3/8"	1.01	0.53
CF-FCAP8	1/2"	1.03	0.68
CF-FCAP12	3/4"	1.10	0.93
CF-FCAP16	1"	1.28	1.26



### Flange Adaptors – Flange to ChemFlare™

Item No.	PVC Flange	Tube
CF-FA.005-A8N-1	1/2"	1/2"
CF-FA.007-A12N-1	3/4"	3/4"
CF-FA.010-A16N-1	1"	1"

### Pump Adaptors – Pump Outlets to ChemFlare™

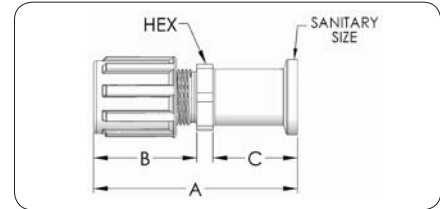
Item No.	PVC Thread	Tube
CF-PA.FM20-A4N-1	Female M20	1/4"
CF-PA.FM20-A6N-1	Female M20	3/8"
CF-PA.FM20-A8N-1	Female M20	1/2"
CF-PA.MM20-A4N-1	Male M20	1/4"
CF-PA.MM20-A6N-1	Male M20	3/8"
CF-PA.MM20-A8N-1	Male M20	1/2"
CF-PA.STF003-A4N-1	3/8" Straight Female	1/4"
CF-PA.STF003-A6N-1	3/8" Straight Female	3/8"
CF-PA.STM001-A6N-1	1/8" Straight Male	3/8"
CF-PA.STM003-A4N-1	3/8" Straight Male	1/4"
CF-PA.STM003-A6N-1	3/8" Straight Male	3/8"

### Pipe Adaptors – Pipe End to ChemFlare™

Item No.	PVC Socket	Tube
CF-PIPEADAPT005-A6N-1	1/2" Female	3/8"
CF-PIPEADAPT005-A8N-1	1/2" Female	1/2"
CF-PIPEADAPT007-A12N-1	3/4" Female	3/4"
CF-PIPEADAPT010-A12N-1	1" Female	3/4"
CF-PIPEADAPT010-A16N-1	1" Female	1"

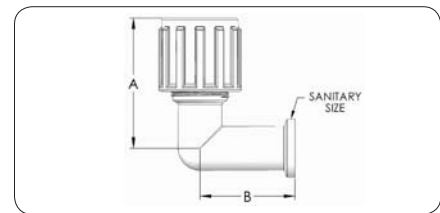
### Spigot Adaptors – Socket Adaptors to ChemFlare™

Item No.	PVC Spigot	Tube
CF-SPIGOT-005-A8N-1	1/2" Male	1/2"
CF-SPIGOT-010-A12N-1	1" Male	3/4"
CF-SPIGOT-015-A12N-1	1-1/2" Male	3/4"



### Male Connector x Sanitary End Inches

Item No.	Tube O.D.	Sanitary Size	Orifice	A	B	C	HEX
CF-MC4-MINI	1/4"	MINI	0.15	2.49	1.16	1.12	7/8"
CF-MC6-MINI	3/8"	MINI	0.25	2.58	1.25	1.12	7/8"
CF-MC8-MINI	1/2"	MINI	0.38	2.70	1.37	1.12	7/8"
CF-MC8-MAXI	1/2"	MAXI	0.38	2.83	1.37	1.25	1-3/16"
CF-MC12-MINI	3/4"	MINI	0.56	2.72	1.39	1.12	1-1/8"
CF-MC12-MAXI	3/4"	MAXI	0.63	2.99	1.39	1.25	1-3/16"
CF-MC16-MINI	1"	MINI	0.56	2.92	1.59	1.12	1-7/16"
CF-MC16-MAXI	1"	MAXI	0.86	3.04	1.59	1.25	1-7/16"



### Union Elbow x Sanitary End Inches

Item No.	Tube O.D.	Sanitary Size	Orifice	A	B
CF-UE12-MINI	3/4"	MINI	0.56	2.22	1.63
CF-UE12-MAXI	3/4"	MAXI	0.63	2.22	1.95
CF-UE16-MINI	1"	MINI	0.56	2.71	1.63
CF-UE16-MAXI	1"	MAXI	0.63	2.71	1.95

### Tube Cutters

Item No.	Tube Size Range
213-14	1/16" to 1/2"
213-16	1/16" to 3/4"
213-30	1/8" to 1-1/2"

### Flare Tools

Item No.	Tube Size
213-58	1/4" Tube
213-59	3/8" Tube
213-60	1/2" Tube
213-61	3/4" Tube
213-82	1" Tube
213-73	Grip Tool – Rubber pad to help grip the tube for manual flaring
213-81	Universal Tool – Includes 1/4", 3/8", 1/2" and 3/4" tube sizes
213-79	Hot Air Gun Tube Heater 115VAC/60Hz





# PFA Fluid Handling System

ChemFlare™ PFA Tube & Fittings

**CHEMLINE**  **PLASTICS**  
SUPERIOR FLOW SOLUTIONS

ISO 9001:2008 Certified

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