



# Water & Beverage Connectors Products & Custom Solutions

Catalog 3525LQ1 | February 2018



**WARNING**

The products described in this catalog can expose you to chemicals including Lead, Titanium Dioxide, Carbon Black and Nickel which are known to the State of California to cause cancer, and Lead which are known to cause birth defects or other reproductive harm. For more information go to [www.P4Warnings.ca.gov](http://www.P4Warnings.ca.gov)

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### **⚠ WARNING – USER RESPONSIBILITY**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

### **Offer of Sale**

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

### **Safe Drinking Water Act**

In accordance with 42 USC § 300g-6, parts in this catalog are to be used exclusively for nonpotable services such as manufacturing, industrial processing, irrigation, outdoor watering, or any other uses where the water is not anticipated to be used for human consumption. The only exceptions are parts described explicitly as "low lead" or suitable for potable water.



# Directives and Regulations



**REACH regulation: no. 1907/2006**

As product manufacturer, we are subject to article 33 of the regulation which defines a duty to inform when a candidate substance is present at more than 0.1% weight for weight.



**European RoHS directives: 2011/65/EC**

Relating to the limitation of the use of 6 hazardous substances in electrical and electronic equipment (mercury, lead, cadmium, hexavalent chromium, PBB and PBDE).



**CFR 21: Code of Federal Regulation  
Title 21: Food and Drugs**

This code consists of lists of prohibited substances for materials intended to come into contact with foodstuffs.



**Regulation 1935/2004**

This framework regulation relates to materials and objects designed to come into contact with foodstuffs. It describes specific measures per product group (Art. 5).



**NSF 51: NSF / ANSI-51**

Fittings and tubes complying with this standard are tested and approved by NSF for contact with drinks and foodstuffs.



**NSF 61: NSF / ANSI-61**

Fittings and tubes complying with this standard are tested and approved by NSF for contact with drinking water.



**Gold Seal Program**

Fittings comply with the ANSI standards and approved by WQA for contact with drinks and foodstuffs.

**NSF/ANSI 51 Certified by WQA  
NSF/ANSI 61 Certified by WQA  
NSF/ANSI 372 Certified by WQA**



# Product Selector

Product	Connection Technology	Body Material	Seal Material	Working Pressure at 73° F (22.8° C) PSI (bar) (1/4 Burst Pressure)				Temperature Range °F (°C)
				1/4"	5/16"	3/8"	1/2"	
<b>Water &amp; Beverage</b>								
<b>LIQUIfit® Fractional Inch</b>	Gripping Ring	Bio-sourced Nylon 11	EPDM	230	230	190	160	+35° to +200° (+1.6° to +93.3°)
	Push Button Release			(15.8)	(15.8)	(13.1)	(11)	
<b>LIQUIfit® Metric</b>	Gripping Ring	Bio-sourced Nylon 11	EPDM	<b>4mm- 6mm</b>	<b>8mm</b>	<b>10mm</b>	<b>12mm</b>	+35° to +200° (+1.6° to +93.3°)
	Push Button Release			230	230	190	160	
<b>TrueSeal™</b>	Collet Push Button Release	Acetal	EPDM	300	300	300	250	-20° to +180° (-28.8° to +82.2°)
		Polypropylene	EPDM	150	N/A	150	150	0° to +225° (-17.7° to +107.2°)
		Kynar	Fluorocarbon	300	300	300	250	0° to +275° (-17.7° to +135°)
<b>Fast &amp; Tite®</b>	Gripping Ring Compression	Polypropylene	Nitrile	300	300	250	200	0° to +212° (-17.7° to +100°)
		Nylon	Nitrile	300	300	250	200	-40° to +200° (-40° to +93.3°)
<b>Par-Barb®</b>	Barb	Polypropylene	None	125	125	125	125	-20° to +220° (-28.8° to +104.4°)
		Nylon	None	125	125	125	125	-40° to +200° (-40° to +93.3°)
<b>Quick Couplings</b>	Quick Disconnect	Acetal	Nitrile	120	120	120	N/A	-40° to +180° (-40° to + 82.2°)
<b>TrueSeal™ Ball Valves</b>	Collet Push Button Release	Polypropylene	Nitrile & EPDM	150	150	150	150	+35° to +200° (+1.6° to +93.3°)
<b>LIQUIfit® Ball Valves</b>	Gripping Ring Push Button Release	Polypropylene	Nitrile & EPDM	150	150	150	150	+35° to +200° (+1.6° to +93.3°)
<b>Par-Barb® Ball Valves</b>	Barb	Polypropylene	Nitrile & EPDM	150	NA	150	150	+35° to +200° (+1.6° to +93.3°)
<b>TrueSeal™ Check Valves</b>	Collet Push Button Release	Acetal	EPDM	150	150	150	150	+35° to +200° (+1.6° to +93.3°)
<b>TrueSeal™ Kynar Check Valves</b>	Collet Push Button Release	Kynar®	Fluorocarbon	300	300	300	300	0° to +250° (-17.7° to +121.1°)

Product specifications vary with fitting configurations.

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LIQUIfit® Ball Valves

TrueSeal™ Fittings  
TrueSeal™ Ball Valves  
Fast & Tite® Fittings

Par-Barb® Fittings  
Par-Barb® Ball Valves  
Polypropylene Ball Valves



## Cartridges

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LIQUIfit® Cartridges

TrueSeal™ Cartridges



## Water & Beverage: Tubing & Accessories

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Polyethylene Tubing  
Polypropylene Tubing

Antimicrobial Tubing  
PVDF Tubing

Polyvinylidene Fluoride  
Tubing Accessories



# LIQUIfit Fittings



Parker's LIQUIfit Fittings offers an "eco-designed" innovative alternative for water applications; no fluid contamination occurs and environmental protection is guaranteed.

## Product Features:

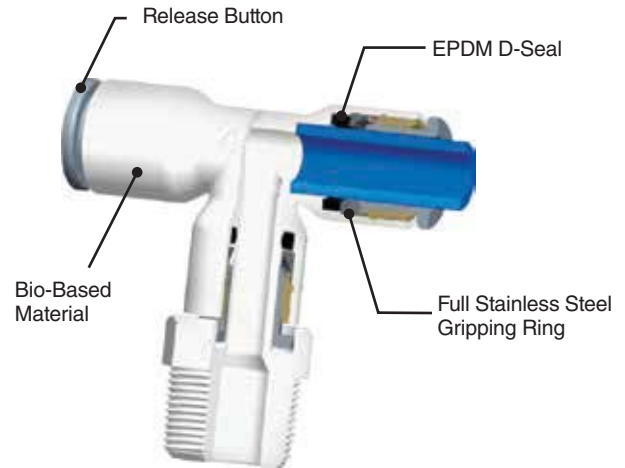
- Stainless steel grab ring
- Bio-sourced nylon 11
- EPDM D – seal
- FDA compliant, NSF/ANSI 51 and NSF/ANSI 61
- Silicone free
- 100% leak tested in production
- Date coding to guarantee quality and traceability

## Markets:

- Water Filtration
- Beverage Dispensing
- Life Science
- Bottling
- Semi-Conductor

## Applications:

- Water
- Beverages
- Food
- CO<sub>2</sub>
- Vacuum



## Specifications:

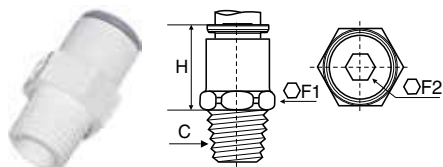
**Pressure Range** Up to 230 PSI (16 bar)

**Temperature Range** +35° to +200° F (+1.7° to +93.3° C)

**Note:** The working specification depends on the type and wall thickness of the tube, the type of fluid, fluid Temperature and ambient temperature

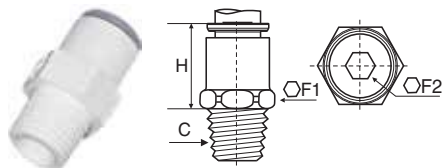
## Compatible Tubing:

- Polyethylene



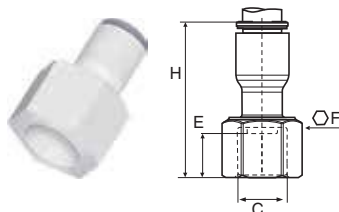
### 6505 Male Connector Inch Tube to NPTF

PART NO.	TUBE SIZE IN	C NPTF	F1	F2	H
6505 56 11WP2	1/4	1/8	1/2	5/32	.67
6505 56 14WP2	1/4	1/4	9/16	5/32	.67
6505 56 18WP2	1/4	3/8	3/4	1/4	.85
6505 60 11WP2	3/8	1/8	3/4	5/32	.87
6505 60 14WP2	3/8	1/4	3/4	1/4	.87
6505 60 18WP2	3/8	3/8	3/4	1/4	.87
6505 60 22WP2	3/8	1/2	15/16	1/4	1.06
6505 62 18WP2	1/2	3/8	15/16	3/8	1.10
6505 62 22WP2	1/2	1/2	15/16	3/8	1.10



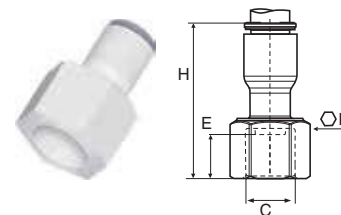
### 6505 Male Connector Metric Tube to BSPT

PART NO.	TUBE SIZE MM	C BSPT	F1	F2	H
6505 04 10WP2	4	1/8	11	3	18.00
6505 04 13WP2	4	1/4	14	3	18.00
6505 06 10WP2	6	1/8	11	4	18.00
6505 06 13WP2	6	1/4	14	4	18.00
6505 08 10WP2	8	1/8	17	6	20.00
6505 08 13WP2	8	1/4	17	6	20.00
6505 08 17WP2	8	3/8	17	6	20.00
6505 10 13WP2	10	1/4	17	7	21.50
6505 10 17WP2	10	3/8	19	7	21.50
6505 10 21WP2	10	1/2	22	7	21.50
6505 12 17WP2	12	3/8	19	9	24.50
6505 12 21WP2	12	1/2	22	9	24.50



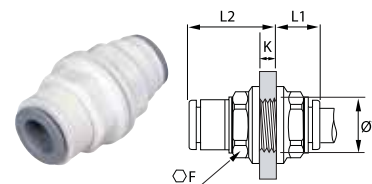
### 6315 Female Connector Inch Tube to NPTF

PART NO.	TUBE SIZE IN	C NPTF	E	F	H
6315 56 14WP2	1/4	1/4	14	11/16	1.18
6315 60 18WP2	3/8	3/8	14	3/16	1.42



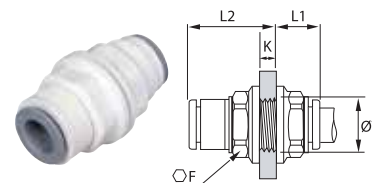
### 6315 Female Connector Metric Tube to BSPT

PART NO.	TUBE SIZE MM	C BSPT	E	F	H
6315 06 10WP2	6	1/8	11	13	32.00
6315 06 13WP2	6	1/4	14	16	33.00
6315 08 13WP2	8	1/4	14	16	33.50
6315 08 17WP2	8	3/8	14	20	36.00



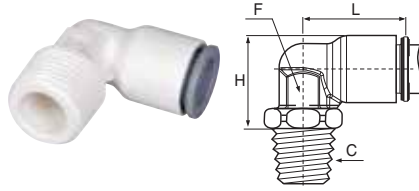
### 6316 Bulkhead Union Inch Tube

PART NO.	TUBE SIZE IN	F	K MAX	L1	L2	T MIN
6316 04 00WP2	5/32	.51	.22	.41	.61	.41
6316 56 00WP2	1/4	.59	.33	.39	.79	.49
6316 08 00WP2	5/16	.71	.57	.41	1.06	.61
6316 60 00WP2	3/8	.87	.57	.49	1.16	.73
6316 62 00WP2	1/2	1.41	.81	.67	1.59	1.00



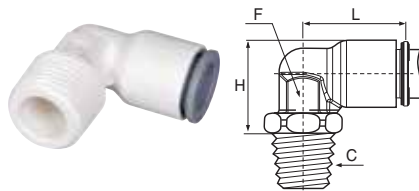
### 6316 Bulkhead Union Metric Tube

PART NO.	TUBE SIZE MM	F	K MAX	L1	L2	T MIN
6316 04 00WP2	4	13	5.50	10.50	15.50	10.50
6316 06 00WP2	6	15	8.50	10.00	20.00	12.50
6316 08 00WP2	8	18	14.50	10.50	27.00	15.50
6316 10 00WP2	10	22	14.50	13.00	30.00	18.50
6316 12 00WP2	12	26	18.50	15.50	35.00	22.50



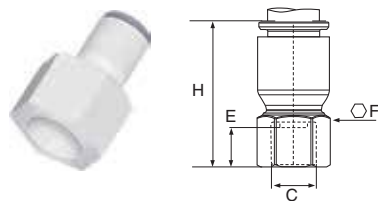
**6579 Fixed Elbow Inch Tube to NPTF**

PART NO.	TUBE SIZE IN	C NPTF	F	H	L
6579 56 11WP2	1/4	1/8	3/8	.87	.71
6579 56 14WP2	1/4	1/4	3/8	1.03	.71
6579 56 18WP2	1/4	3/8	3/8	1.04	.71
6579 60 14WP2	3/8	1/4	1/2	1.26	1.02
6579 60 18WP2	3/8	3/8	1/2	1.26	1.02



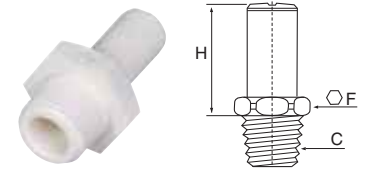
**6579 Fixed Elbow Metric Tube to BSPT**

PART NO.	TUBE SIZE MM	C BSPT	F	H	L
6579 06 10WP2	6	1/8	10	14	19
6579 06 13WP2	6	1/4	10	14	19
6579 06 17WP2	6	3/8	10	14	19



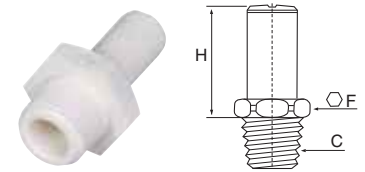
**6325 Faucet Connector Inch Tube to UNS**

PART NO.	TUBE SIZE IN	C UNS	E	F	H
6325 56 133WP2	1/4	7/16-24	27	9/16	1.22
6325 60 133WP2	3/8	7/16-24	27	9/16	1.26



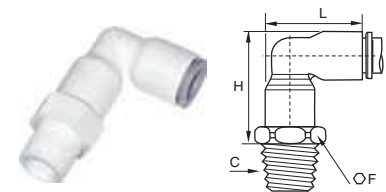
**6521 Stem Adapter Inch Tube to NPTF**

PART NO.	TUBE SIZE IN	C NPTF	F	H
6521 56 11WP2	1/4	1/8	1/2	.75
6521 56 14WP2	1/4	1/4	1/2	.75
6521 56 18WP2	1/4	3/8	3/4	.77
6521 60 14WP2	3/8	1/4	3/4	.98
6521 60 18WP2	3/8	3/8	3/4	.98
6521 62 18WP2	1/2	3/8	15/16	1.22
6521 62 22WP2	1/2	1/2	15/16	1.28



**6521 Stem Adapter Metric Tube to BSPT**

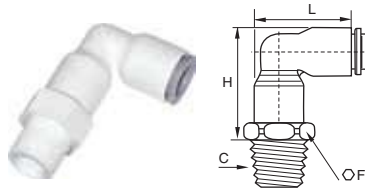
PART NO.	TUBE SIZE MM	C BSPT	F	H
6521 06 10WP2	6	1/8	13	19
6521 06 13WP2	6	1/4	14	19
6521 06 17WP2	6	3/8	17	19
6521 08 10WP2	8	1/8	19	23
6521 08 13WP2	8	1/4	19	23
6521 08 17WP2	8	3/8	19	23
6521 10 13WP2	10	1/4	19	25
6521 10 17WP2	10	3/8	19	25
6521 10 21WP2	10	1/2	22	25
6521 12 17WP2	12	3/8	22	28
6521 12 21WP2	12	1/2	22	28



**6509 Swivel Elbow Inch Tube to NPTF**

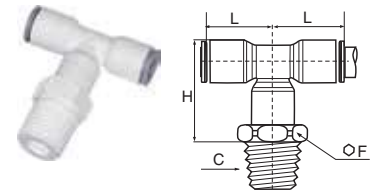
PART NO.	TUBE SIZE IN	C NPTF	F	H	L
6509 56 11WP2	1/4	1/8	1/2	1.10	.93
6509 56 14WP2	1/4	1/4	9/16	1.10	.93
6509 56 18WP2	1/4	3/8	3/4	1.12	.93
6509 60 14WP2	3/8	1/4	3/4	1.50	1.34
6509 60 18WP2	3/8	3/8	3/4	1.50	1.34
6509 62 18WP2	1/2	3/8	15/16	1.99	1.83
6509 62 22WP2	1/2	1/2	15/16	1.99	1.83





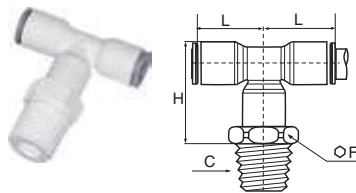
### 6509 Swivel Elbow Metric Tube to BSPT

PART NO.	TUBE SIZE MM	C BSPT	F	H	L
6509 06 10WP2	6	1/8	13	28	24.00
6509 06 13WP2	6	1/4	14	28	24.00
6509 06 17WP2	6	3/8	17	28	24.00
6509 08 10WP2	8	1/8	19	34	29.50
6509 08 13WP2	8	1/4	19	34	29.50
6509 08 17WP2	8	3/8	19	34	29.50
6509 10 13WP2	10	1/4	19	38	34.50
6509 10 17WP2	10	3/8	19	38	34.50
6509 10 21WP2	10	1/2	22	38	34.50
6509 12 17WP2	12	3/8	22	44	40.00
6509 12 21WP2	12	1/2	22	44	40.00



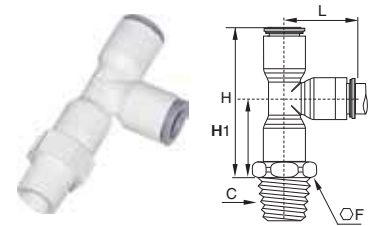
### 6508 Swivel Branch Tee Metric Tube to BSPT

PART NO.	TUBE SIZE MM	C BSPT	F	H	L
6508 06 10WP2	6	1/8	13	28.00	18.00
6508 06 13WP2	6	1/4	14	28.00	18.00
6508 06 17WP2	6	3/8	17	28.00	18.00
6508 08 10WP2	8	1/8	19	34.00	23.00
6508 08 13WP2	8	1/4	19	34.00	23.00
6508 08 17WP2	8	3/8	19	34.00	23.00
6508 10 13WP2	10	1/4	19	38.00	26.50
6508 10 17WP2	10	3/8	19	38.00	26.50
6508 10 21WP2	10	1/2	22	38.00	26.50
6508 12 17WP2	12	3/8	22	44.00	31.00
6508 12 21WP2	12	1/2	22	44.00	31.00



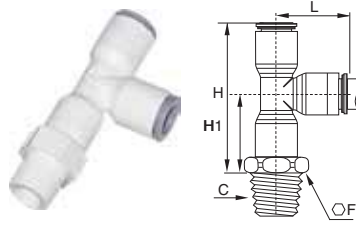
### 6508 Swivel Branch Tee Inch Tube to NPTF

PART NO.	TUBE SIZE IN	C NPTF	F	H	L
6508 56 11WP2	1/4	1/8	1/2	1.10	.71
6508 56 14WP2	1/4	1/4	9/16	1.10	.71
6508 56 18WP2	1/4	3/8	3/4	1.10	.71
6508 60 14WP2	3/8	1/4	3/4	1.50	1.02
6508 60 18WP2	3/8	3/8	3/4	1.50	1.02
6508 62 18WP2	1/2	3/8	15/16	1.97	1.40
6508 62 22WP2	1/2	1/2	15/16	2.00	1.40



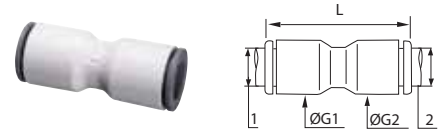
### 6503 Swivel Run Tee Inch Tube to NPTF

PART NO.	TUBE SIZE IN	C NPTF	F	H	H1	L
6503 56 11WP2	1/4	1/8	1/2	1.60	.88	.71
6503 56 14WP2	1/4	1/4	9/16	1.60	.88	.71
6503 56 18WP2	1/4	3/8	3/4	1.63	.90	.71
6503 60 14WP2	3/8	1/4	3/4	1.63	1.18	1.02
6503 60 18WP2	3/8	3/8	3/4	1.63	1.18	1.02
6503 62 18WP2	1/2	3/8	15/16	2.29	1.55	1.40
6503 62 22WP2	1/2	1/2	15/16	2.99	1.59	1.40



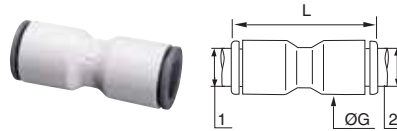
### 6503 Swivel Run Tee Metric Tube to BSPT

PART NO.	TUBE SIZE MM	C BSPT	F	H	H1	L
6503 06 10WP2	6	1/8	13	40.00	22.00	18.50
6503 06 13WP2	6	1/4	14	40.00	22.00	18.50
6503 06 17WP2	6	3/8	17	40.00	22.00	18.50
6503 08 10WP2	8	1/8	19	50.00	27.00	23.00
6503 08 13WP2	8	1/4	19	50.00	27.00	23.00
6503 08 17WP2	8	3/8	19	50.00	27.00	23.00
6503 10 13WP2	10	1/4	19	56.50	30.00	26.50
6503 10 17WP2	10	3/8	19	56.50	30.00	26.50
6503 10 21WP2	10	1/2	22	56.50	30.00	26.50
6503 12 17WP2	12	3/8	22	65.50	34.50	31.00
6503 12 21WP2	12	1/2	22	65.50	34.50	31.00



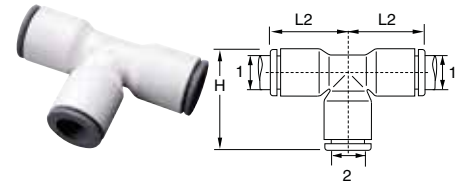
### 6306 Union Connector Metric Tube

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	G1	G2	L
6306 04 00WP2	4	4	8.50	8.50	26.50
6306 06 00WP2	6	6	10.50	10.50	30.00
6306 08 00WP2	8	8	13.50	13.50	37.00
6306 10 00WP2	10	10	16.00	16.00	42.00
6306 12 00WP2	12	12	19.00	19.00	50.50
6306 04 06WP2	4	6	8.50	10.50	29.00
6306 04 08WP2	4	8	13.50	13.50	37.00
6306 06 08WP2	6	8	13.50	13.50	37.00
6306 06 10WP2	6	10	16.00	16.00	42.00
6306 08 10WP2	8	10	16.00	16.00	42.00
6306 08 12WP2	8	12	19.00	19.00	50.00
6306 10 12WP2	10	12	19.00	19.00	50.00



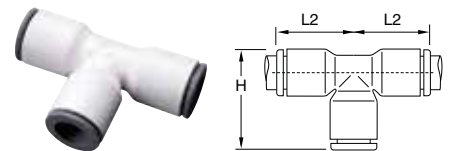
### 6306 Union Connector Inch Tube

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	G	L
6306 56 00WP2	1/4	1/4	.43	1.18
6306 08 00WP2	5/16	5/16	.53	1.46
6306 60 00WP2	3/8	3/8	.63	1.65
6306 62 00WP2	1/2	1/2	.87	2.24
6306 56 60WP2	1/4	3/8	.63	1.61
6306 56 08WP2	1/4	5/16	.53	1.46
6306 08 60WP2	5/16	3/8	.63	1.65
6306 08 62WP2	5/16	1/2	.87	2.16
6306 60 62WP2	3/8	1/2	.87	2.20



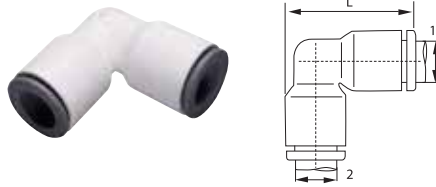
### 6304 Union Tee Inch Tube

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	H	L2
6304 04 00WP2	5/32	5/32	.79	.61
6304 56 00WP2	1/4	1/4	.94	.71
6304 08 00WP2	5/16	5/16	1.14	.89
6304 60 00WP2	3/8	3/8	1.34	1.02
6304 62 00WP2	1/2	1/2	1.85	1.42
6304 60 56WP2	3/8	1/4	1.34	1.02
6304 62 60WP2	1/2	3/8	1.85	1.42



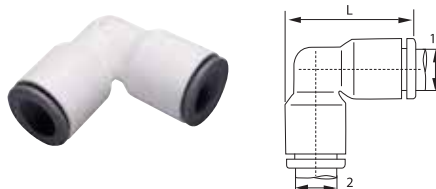
### 6304 Union Tee Metric Tube

PART NO.	TUBE SIZE MM	H	L2
6304 04 00WP2	4	20.00	15.50
6304 06 00WP2	6	23.00	18.00
6304 08 00WP2	8	29.00	22.50
6304 10 00WP2	10	34.50	26.50
6304 12 00WP2	12	40.00	31.00



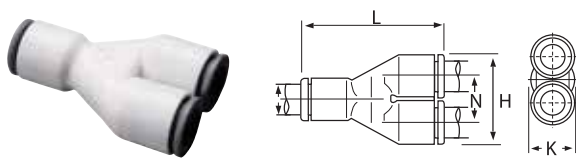
### 6302 Union Elbow Inch Tube

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	L
6302 04 00WP2	5/32	5/32	.75
6302 56 00WP2	1/4	1/4	.94
6302 08 00WP2	5/16	5/16	1.16
6302 60 00WP2	3/8	3/8	1.34
6302 62 00WP2	1/2	1/2	1.79
6302 56 08WP2	1/4	5/16	1.16
6302 08 60WP2	5/16	3/8	1.34
6302 56 60WP2	3/8	1/4	1.30
6302 60 62WP2	3/8	1/2	1.83



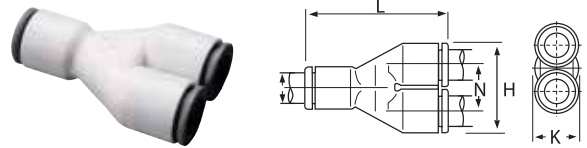
### 6302 Union Elbow Metric Tube

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	L
6302 04 00WP2	4	4	19.50
6302 06 00WP2	6	6	24.00
6302 08 00WP2	8	8	29.50
6302 10 00WP2	10	10	34.50
6302 12 00WP2	12	12	40.50
6302 04 06WP2	4	6	24.00
6302 06 08WP2	6	8	29.50
6302 08 10WP2	8	10	34.50
6302 10 12WP2	10	12	40.50



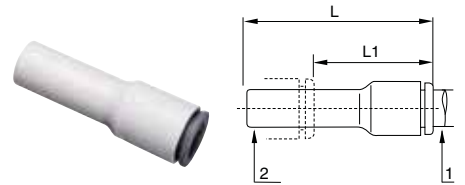
### 6340 Union Y Connector Inch Tube

PART NO.	TUBE SIZE IN	H	K	L	N
6340 04 00WP2	5/32	.69	.33	1.18	.35
6340 56 00WP2	1/4	.87	.43	1.42	.45
6340 08 00WP2	5/16	1.10	.53	1.75	.57
6340 60 00WP2	3/8	1.30	.63	2.08	.67
6340 62 00WP2	1/2	1.77	.87	2.64	.91



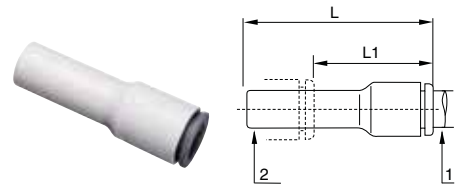
### 6340 Union Y Connector Metric Tube

PART NO.	TUBE SIZE MM	H	K	L	N
6340 04 00WP2	4	17.50	8.50	30.00	9.00
6340 06 00WP2	6	21.50	10.50	36.50	11.00
6340 08 00WP2	8	28.00	13.50	44.50	14.50
6340 10 00WP2	10	33.00	16.00	53.00	17.00
6340 12 00WP2	12	39.00	19.00	60.50	20.00



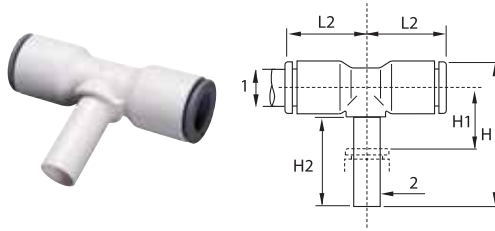
### 6366 Reducer Inch Tube to Stem

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	L	L1
6366 56 08WP2	1/4	5/16	1.61	.89
6366 56 60WP2	1/4	3/8	1.61	.81
6366 08 60WP2	5/16	3/8	1.91	1.14
6366 08 62WP2	5/16	1/2	1.91	.87
6366 60 62WP2	3/8	1/2	2.01	1.18



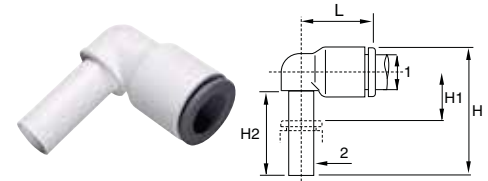
### 6366 Reducer Metric Tube to Stem

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	L	L1
6366 04 06WP2	4	6	38.00	23.50
6366 04 08WP2	4	8	38.00	19.00
6366 06 08WP2	6	8	38.00	20.00
6366 06 10WP2	6	10	39.00	17.50
6366 08 10WP2	8	10	48.50	28.50
6366 08 12WP2	8	12	48.50	24.50
6366 10 12WP2	10	12	52.00	33.50
6366 10 14WP2	10	14	53.00	33.50
6366 12 14WP2	12	14	55.50	33.50



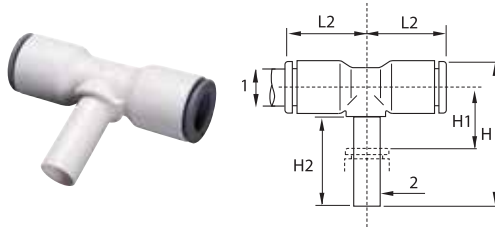
**6388 Plug-In Tee Inch Tube to Stem**

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	H	H1	H2	L2
6388 56 00WP2	1/4	1/4	1.20	.43	.79	.71
6388 08 00WP2	5/16	5/16	1.32	.31	.85	.90
6388 60 00WP2	3/8	3/8	1.65	.49	.98	.98
6388 62 00WP2	1/2	1/2	2.01	.51	1.14	1.26



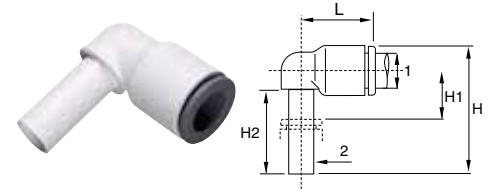
**6382 Plug-In Elbow Inch Tube to Stem**

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	H	H1	H2	L
6382 56 00WP2	1/4	1/4	1.20	.43	.71	.71
6382 08 00WP2	5/16	5/16	1.32	.31	.85	.88
6382 60 00WP2	3/8	3/8	1.53	.35	.96	1.04
6382 56 60WP2	1/4	3/8	1.93	.51	1.12	1.42
6382 60 56WP2	3/8	1/4	1.26	.43	.71	1.04



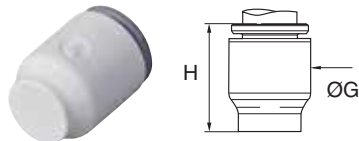
**6388 Plug-In Tee Metric Tube to Stem**

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	H	H1	H2	L2
6388 04 00WP2	4	4	25.00	6.00	15.50	15.00
6388 06 00WP2	6	6	28.50	7.00	17.00	16.00
6388 08 00WP2	8	8	33.50	8.00	21.50	23.00
6388 10 00WP2	10	10	41.00	9.50	24.50	26.50



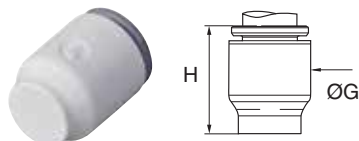
**6382 Plug-In Elbow Metric Tube to Stem**

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	H	H1	H2	L
6382 04 00WP2	4	4	23.00	6.00	15.50	15.00
6382 06 00WP2	6	6	26.50	7.00	17.00	17.00
6382 08 00WP2	8	8	33.00	8.00	21.50	22.50
6382 10 00WP2	10	10	39.00	9.50	24.50	26.50
6382 12 00WP2	12	12	44.50	10.00	27.00	31.00
6382 04 06WP2	4	6	26.50	7.00	17.00	16.50
6382 06 04WP2	6	4	25.00	7.00	15.50	17.00
6382 06 08WP2	6	8	33.50	8.00	21.50	22.50
6382 08 10WP2	8	10	39.00	9.50	24.50	26.00
6382 10 12WP2	10	12	44.50	10.00	27.00	30.00



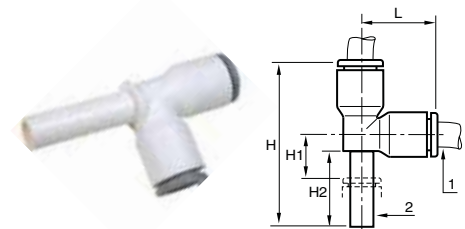
**6351 End Stop Inch Tube**

PART NO.	TUBE SIZE IN	G	H
6351 04 00WP2	5/32	.33	.59
6351 56 00WP2	1/4	.43	.63
6351 08 00WP2	5/16	.53	.85
6351 60 00WP2	3/8	.63	.88



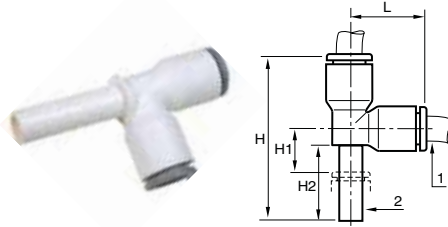
**6351 End Stop Metric Tube**

PART NO.	TUBE SIZE MM	G	H
6351 04 00WP2	4	8.50	15.00
6351 06 00WP2	6	10.50	17.00
6351 08 00WP2	8	13.50	21.50
6351 10 00WP2	10	16.00	22.00
6351 12 00WP2	12	19.00	27.50



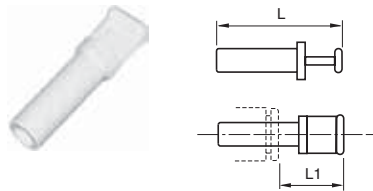
**6383 Plug-In Run Tee Inch Tube to Stem**

PART NO.	TUBE 1 SIZE IN	TUBE 2 SIZE IN	H	H1	H2	L
6383 56 00WP2	1/4	1/4	1.20	.43	.71	.71
6383 60 00WP2	3/8	3/8	2.24	.43	.96	1.04
6383 62 00WP2	1/2	1/2	1.93	.71	1.12	1.42



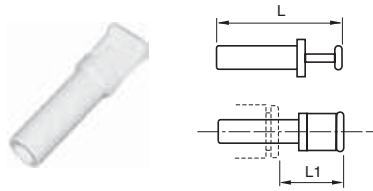
### 6383 Plug-In Run Tee Metric Tube to Stem

PART NO.	TUBE 1 SIZE MM	TUBE 2 SIZE MM	H	H1	H2	L
6383 04 00WP2	4	4	33.00	6.00	15.50	15.00
6383 06 00WP2	6	6	38.50	7.00	17.00	18.00
6383 08 00WP2	8	8	49.00	8.00	21.50	23.00
6383 10 00WP2	10	10	57.00	10.50	25.50	26.50



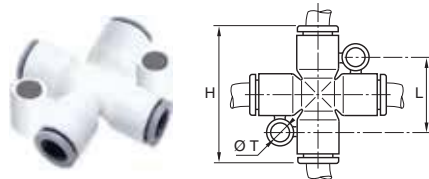
### 6326 Plug Inch

PART NUMBER	STEM SIZE IN	L	L1
6326 56 00WP2	1/4	1.44	.87
6326 08 00WP2	5/16	1.38	.69
6326 60 00WP2	3/8	1.67	.87
6326 62 00WP2	1/2	1.91	.85



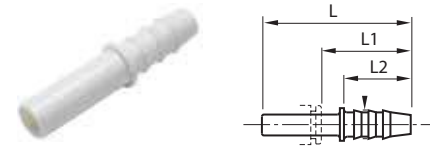
### 6326 Plug Metric

PART NUMBER	STEM SIZE MM	L	L1
6326 04 00WP2	4	30	15.5
6326 06 00WP2	6	33	16.5
6326 08 00WP2	8	33	17.5
6326 10 00WP2	10	42	21.0
6326 12 00WP2	12	45	22.0



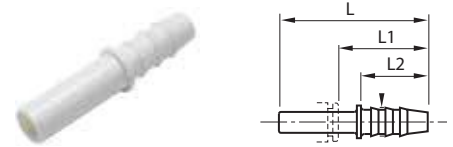
### 6307 Cross Metric

PART NUMBER	TUBE SIZE MM	H	L	T
6307 06 00WP2	6	46	22.5	4.2
6307 08 00WP2	8	46	22.5	4.2



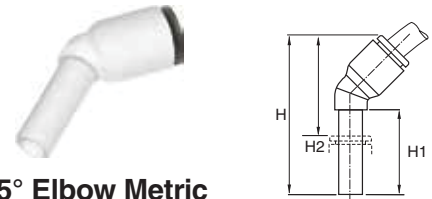
### 6322 Stem to Hose Barb Inch

PART NUMBER	STEM SIZE IN	HOSE BARB	L	L1	L2
6322 56 56WP2	1/4	1/4	1.65	1.00	.67
6322 60 56WP2	3/8	1/4	1.97	1.16	.87
6322 60 08WP2	3/8	5/16	1.97	1.16	.87
6322 60 60WP2	3/8	3/8	1.97	1.16	.87
6322 62 60WP2	1/2	3/8	2.05	1.30	1.07



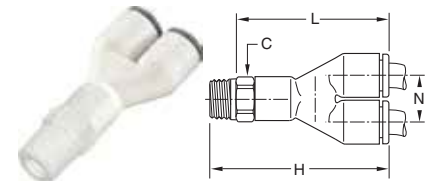
### 6322 Stem to Hose Barb Metric

PART NUMBER	STEM SIZE MM	HOSE BARB	L	L1	L2
6322 06 04WP2	6	4	37.0	25.0	17
6322 08 06WP2	8	6	39.5	21.0	17
6322 10 07WP2	10	7	50.0	29.5	22



### 6380 Plug-in 45° Elbow Metric

PART NUMBER	TUBE SIZE MM	STEM SIZE MM	H	H1	H2
6380 04 00WP2	4	4	33.5	19.0	13.0
6380 06 00WP2	6	6	39.0	21.0	14.5
6380 08 00WP2	8	8	44.0	21.5	19.5
6380 10 00WP2	10	10	53.0	27.0	23.0
6380 12 00WP2	12	12	58.5	27.5	26.5



### 6548 Swivel Y Connector Inch Tube to NPTF

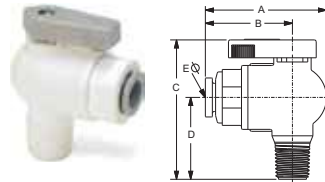
PART NUMBER	TUBE SIZE IN	NPTF	C HEX	L	H	N
6548 56 11WP2	1/4	1/8	1/2	1.59	.88	.45
6548 56 14WP2	1/4	1/4	1/2	1.59	.88	.45
6548 56 18WP2	1/4	3/8	3/4	1.62	.88	.45
6548 60 14WP2	3/8	1/4	3/4	2.24	1.30	.66
6548 60 18WP2	3/8	3/8	3/4	2.24	1.30	.66
6548 62 18WP2	1/2	3/8	15/16	2.80	1.78	.91
6548 62 22WP2	1/2	1/2	15/16	2.84	1.78	.91

## LIQUIfit Polypropylene Ball Valves

This range of valves offers an innovative solution in the treatment of water and the handling of beverages while protecting health. LIQUIfit's corrosion-resistant, all plastic design makes them ideal for water filtration units, coffee and beverage machines and a wide variety of other fluid applications. The polypropylene material meets all FDA and NSF-51 requirements for food contact.

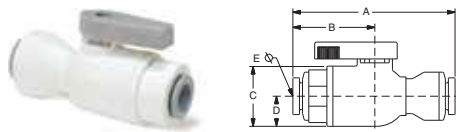
### Assembly Instructions:

1. Inspect the mating threads for debris or damage. Remove any old fluoropolymer tape or sealant on previously used threads. If threads are damaged, replace with new adapter before proceeding.
2. Apply 2 to 3 wraps of fluoropolymer tape, or an NSF/FDA approved silicone sealant. Do not use Plumbers Putty or Pipe Dope. These chemically react with plastic materials and could cause a failure.
3. Align ball valve onto mating thread to ensure cross threading does not occur.
4. Screw ball valve onto mating thread 3 to 5 turns. This should be sufficient to properly seal the threads.
5. Pressurize system and check for leaks.



### VME - Valve Male Elbow

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VME2	1/4	1/8	1.74	1.21	2.00	1.10	.19
LFPP4VME4	1/4	1/4	1.74	1.21	2.18	1.28	.19
LFPP4VME6	1/4	3/8	1.74	1.21	2.18	1.28	.19
LFPP4VME8	1/4	1/2	1.74	1.21	2.37	1.47	.19
LFPP6VME2	3/8	1/8	1.85	1.32	2.00	1.10	.25
LFPP6VME4	3/8	1/4	1.85	1.32	2.18	1.28	.25
LFPP6VME6	3/8	3/8	1.85	1.32	2.18	1.28	.25
LFPP6VME8	3/8	1/2	1.85	1.32	2.37	1.47	.25
LFPP8VME8	1/2	1/2	2.73	1.74	2.38	1.47	.37



### VUC - Valve Union Connector

PART NO.	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUC4	1/4	1/4	2.55	1.22	1.0	.5	.19
LFPP4VUC6	1/4	3/8	2.57	1.30	1.0	.5	.19
LFPP6VUC6	3/8	3/8	2.67	1.32	1.4	.5	.25
LFPP8VUC8	1/2	1/2	3.50	1.74	1.4	.5	.37

### Features/Benefits:

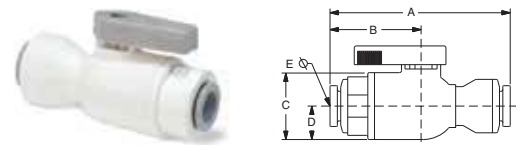
- Full-flow self-cleaning ball maintains the cleanliness of the circuit
- Sealing technology using EPDM D seal
- High temperature, scale-resistant Polysulfone ball
- Tube retention with gripping ring prevents pumping effect
- Push-in connection and disconnection
- FDA compliant

### Specifications:

- Temperature range: +35° F to +200° F (+1° C to +93° C)
- O-ring seal material: EPDM
- NSF-51 Listed
- Pressure rated to 150 psi

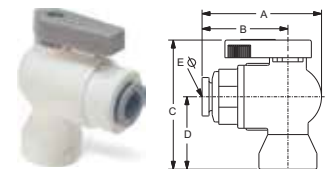
### Advantages:

- Reduce costs – Built-in LIQUIfit connection eliminates the need for a secondary fitting
- Save space – Low profile design allows for easy assembly and access where space is at a premium.



### VUC - Valve Union Connector Metric

PART NO.	1 TUBE SIZE MM	2 TUBE SIZE MM	A MM	B MM	C MM	D MM	ØE THRU HOLE MIN. MM
LFPP6MVUC6M	6	6	.57	.27	.36	.13	.19
LFPP8MVUC8M	8	8	.60	.27	.36	.13	.25
LFPP10MVUC10M	10	10	.70	.33	.36	.13	.33
LFPP12MVUC12M	12	12	.88	.43	.36	.13	.37

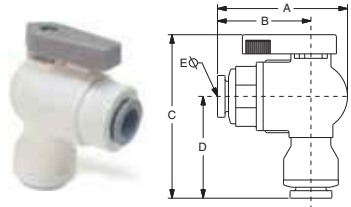


### VFE - Valve Female Elbow

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VFE2	1/4	1/8	1.74	1.21	1.82	.92	.19
LFPP4VFE4	1/4	1/4	1.74	1.21	2.05	1.15	.19
LFPP4VFE6	1/4	3/8	1.74	1.21	2.18	1.28	.19
LFPP6VFE2	3/8	1/8	1.85	1.32	1.82	.92	.25
LFPP6VFE4	3/8	1/4	1.85	1.32	2.05	1.15	.25
LFPP6VFE6	3/8	3/8	1.85	1.32	2.18	1.28	.25

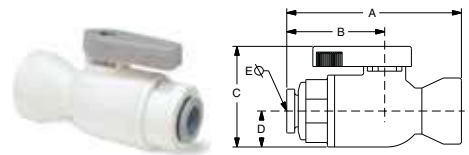
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.





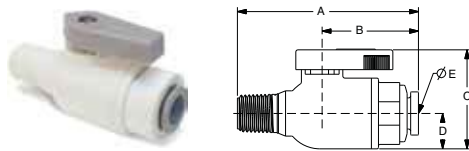
### VEU - Valve Elbow Union

PART NO.	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VEU4	1/4	1/4	1.75	1.22	2.33	1.42	.19
LFPP4VEU6	1/4	3/8	1.75	1.22	2.33	1.42	.11
LFPP6VEU4	3/8	1/4	1.83	1.30	2.32	1.40	.19
LFPP6VEU6	3/8	3/8	1.85	1.32	2.34	1.44	.25



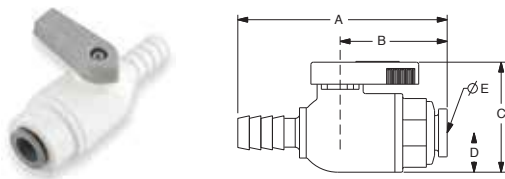
### VFC - Valve Female Connector

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VFC2	1/4	1/8	2.04	1.21	1.4	.5	.19
LFPP4VFC4	1/4	1/4	2.27	1.21	1.4	.5	.19
LFPP4VFC6	1/4	3/8	2.40	1.21	1.4	.5	.19
LFPP6VFC2	3/8	1/8	2.15	1.32	1.4	.5	.25
LFPP6VFC4	3/8	1/4	2.38	1.32	1.4	.5	.25
LFPP6VFC6	3/8	3/8	2.51	1.32	1.4	.5	.25



### VMC - Valve Male Connector

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VMC2	1/4	1/8	2.22	1.21	1.4	.5	.19
LFPP4VMC4	1/4	1/4	2.40	1.21	1.4	.5	.19
LFPP4VMC6	1/4	3/8	2.40	1.21	1.4	.5	.19
LFPP4VMC8	1/4	1/2	2.59	1.21	1.4	.5	.19
LFPP6VMC2	3/8	1/8	2.33	1.32	1.4	.5	.25
LFPP6VMC4	3/8	1/4	2.51	1.32	1.4	.5	.25
LFPP6VMC6	3/8	3/8	2.51	1.32	1.4	.5	.25
LFPP6VMC8	3/8	1/2	2.70	1.32	1.4	.5	.25
LFPP8VMC8	1/2	1/2	3.14	1.74	1.4	.5	.37



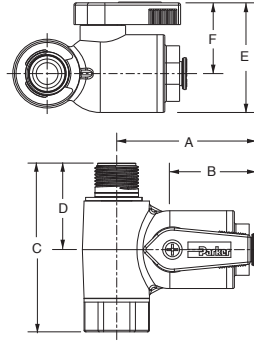
### VUCPB - Valve Union Connector Barbed x Tube

PART NO.	HOSE ID	TUBE OD	OD	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUCPB4	1/4	1/4	.31	2.40	1.08	1.42	.50	.15
LFPP6VUCPB6	3/8	3/8	.43	2.63	1.32	1.42	.50	.19

NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.

### VAS - Valve Angle Stop

PART NO.	TUBE O.D.	MALE THD.	FEMALE THD.	A	B	C	D	E	F
LFPP4VAS6	1/4	3/8	3/8	1.95	1.24	2.17	1.11	1.41	.91
LFPP4VAS8	1/4	3/8	1/2	1.95	1.24	2.40	1.11	1.41	.91
LFPP6VAS6	3/8	3/8	3/8	2.06	1.35	2.17	1.11	1.41	.91
LFPP6VAS8	3/8	3/8	1/2	2.06	1.35	2.40	1.11	1.41	.91



### VAS Assembly Instructions:

1. Shut off water supply at brass/chrome supply valve. Disconnect riser from brass/chrome supply valve. Ensure that the sealing gasket is fully seated into the Angle Stop Valve female thread.



2. Install Angle Stop Adapter Valve on supply valve. Connect the riser to the Angle Stop Adapter Valve.



3. Fully insert tubing into the side of the valve. Open valves and check for leaks.



Do not use thread sealant. Do not over tighten.



# TrueSeal™ Fittings

Parker's TrueSeal Fittings are lightweight, field attachable and connect to tubing without the use of tools. These all plastic push-to-connect fittings are manufactured from FDA compliant materials.

## Product Features:

- Available in Acetal, Polypropylene and Kynar materials
- Acetal and Polypropylene (EPDM seals)
- Kynar (Fluorocarbon (FKM) seals)
- Gripping ring with stainless steel bite edge or with an engineered thermoplastic bite edge
- FDA compliant, NSF/ANSI 51
- Gray acetal NSF/ANSI 61

## Markets:

- Food
- Potable Water
- Chemical
- Filtration

## Applications:

- Air
- Water
- Soft Drinks
- Beer
- Wine
- Dyes

## Specifications:

### Pressure Range

Acetal and Kynar: 1/4", 5/16", 3/8" Vacuum to 300 PSI (20.7 bar)  
1/2" Vacuum to 250 PSI (17.2 bar)

Polypropylene: 1/4", 3/8", 1/2" Vacuum to 150 PSI (10.3 bar)

\*Vacuum rating to 28 inches of Hg at room temperature

### Temperature Range

Acetal: -20° to +180° F (-28.9° to +82.2° C)

Polypropylene: 0° to +225° F (-17.8° to +107.2° C)

Kynar: 0° to +275° F (-17.8° to +135° C)

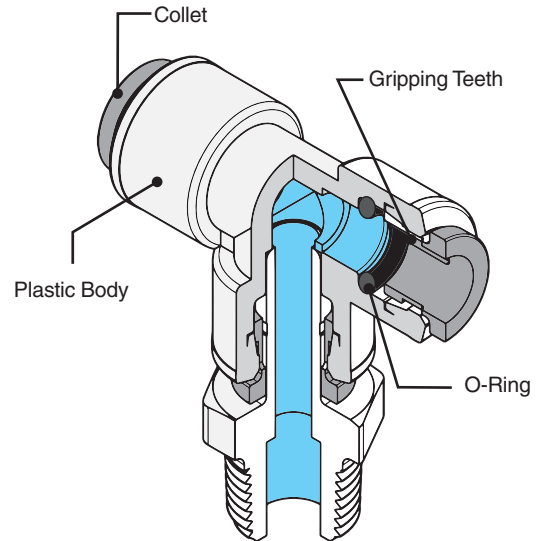
## Compatible Tubing:

- Polyethylene
- Polypropylene\*\*
- Nylon\*\*
- Vinyl
- Fluoropolymer\*\*
- Polyurethane<sup>+</sup>
- \*Kynar®

\* Registered trademark of The Arkema Group.

\*\* Metal gripper required (-MG suffix).

+ Tube Support required.



## Assembly Instructions

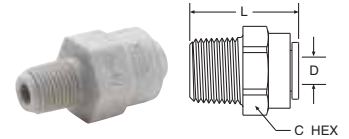
1. Cut tubing square and clean. (Use a Parker plastic tube cutter, Part No. PTC.)
2. Mark from end of tube length of insertion (see table right).
3. Push tube into the fitting until it bottoms out.
4. To remove, depress collet and pull tubing out.

TUBE SIZE	O.D. TOLERANCE	INSERTION DEPTH
5/32	±.005	9/16
1/4	±.005	11/16
5/16	±.005	13/16
3/8	±.005	3/4
1/2	±.005	7/8



## MC - Male Connector

Tube-to-Pipe

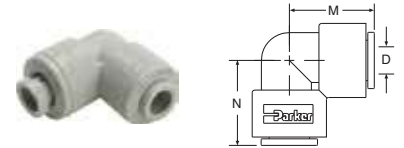


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A4MC2-MG	PPB4MC2-MG	PP4MC2	F4MC2	1/4	1/8	11/16	1.28	.175
A4MC4-MG	PPB4MC4-MG	PP4MC4	F4MC4	1/4	1/4	11/16	1.14	.175
A4MC6-MG	PPB4MC6-MG	PP4MC6	F4MC6	1/4	3/8	11/16	1.18	.175
A5MC2-MG			F5MC2	5/16	1/8	13/16	1.46	.175
A5MC4-MG			F5MC4	5/16	1/4	13/16	1.41	.188
A5MC6-MG				5/16	3/8	13/16	1.27	.188
A6MC2-MG			F6MC2	3/8	1/8	13/16	1.46	.175
A6MC4-MG	PPB6MC4-MG	PP6MC4	F6MC4	3/8	1/4	13/16	1.41	.250
A6MC6-MG	PPB6MC6-MG	PP6MC6	F6MC6	3/8	3/8	13/16	1.27	.250
A6MC8-MG			F6MC8	3/8	1/2	15/16	1.45	.250
A8MC6-MG	PPB8MC6-MG	PP8MC6	F8MC6	1/2	3/8	15/16	1.65	.360
A8MC8-MG	PPB8MC8-MG	PP8MC8	F8MC8	1/2	1/2	15/16	1.46	.375

For nonstandard plastic collet, remove -MG suffix.

## EU - Elbow Union

Tube-to-Tube

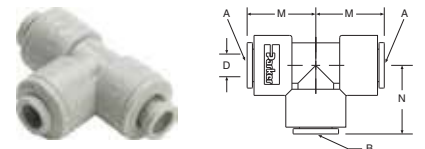


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	M	N	FLOW DIA. D
A4EU4-MG	PPB4EU4-MG	PP4EU4	F4EU4	1/4	.87	.87	.175
A5EU4-MG				5/16-1/4	1.052	.90	.175
A5EU5-MG			F5EU5	5/16	1.02	1.02	.188
A6EU4-MG		PP6EU4	F6EU4	3/8-1/4	1.02	.90	.212
A6EU5-MG				3/8-5/16	1.02	1.02	.175
A6EU6-MG	PPB6EU6-MG	PP6EU6	F6EU6	3/8	1.02	1.02	.250
A8EU6-MG	PPB8EU6-MG			1/2-3/8	1.20	1.20	.250
A8EU8-MG	PPB8EU8-MG	PP8EU8	F8EU8	1/2	1.20	1.20	.375

For nonstandard plastic collet, remove -MG suffix.

## TU - Tee Union

Tube-to-Tube

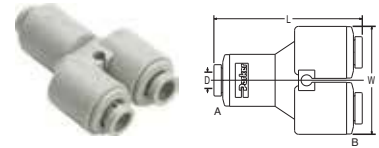


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.		M	N	FLOW DIA. D
				TUBE A RUN	TUBE B STEM			
A4TU4-MG	PPB4TU4-MG	PP4TU4	F4TU4	1/4	1/4	.81	.85	.175
A5TU5-MG			F5TU5	5/16	5/16	1.02	1.02	.188
A6TU4-MG	PPB6TU4-MG	PP6TU4	F6TU4	3/8	1/4	1.02	1.03	.175
A6TU6-MG	PPB6TU6-MG	PP6TU6	F6TU6	3/8	3/8	1.02	1.02	.290
A8TU8-MG	PPB8TU8-MG	PP8TU8	F8TU8	1/2	1/2	1.20	1.20	.375

For nonstandard plastic collet, remove -MG suffix.

### WY - "Y" Union

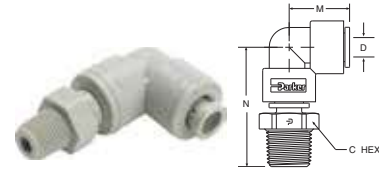
Tube-to-Tube



GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.		L	W	FLOW DIA. D
			INLET TUBE A RUN	OUTLET TUBE B STEM			
A5WY5-MG			5/16	5/16	2.250	1.75	0.190
A6WY4-MG			3/8	1/4	2.100	1.43	0.190
A6WY5-MG			3/8	5/16	2.200	1.75	0.190
A6WY6-MG			3/8	3/8	2.175	1.75	0.250

### MES - Male Elbow Swivel

Tube-to-Pipe

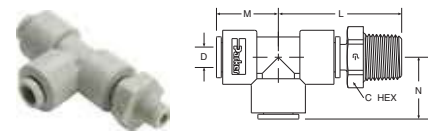


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	M	N	FLOW DIA. D
A4MES2-MG	PPB4MES2-MG	PP4MES2	F4MES2	1/4	1/8	9/16	.87	1.60	.175
A4MES4-MG	PPB4MES4-MG	PP4MES4	F4MES4	1/4	1/4	11/16	.87	1.71	.175
A4MES6-MG		PP4MES6	F4MES6	1/4	3/8	13/16	.90	1.91	.212
A5MES2-MG				5/16	1/8	9/16	1.02	1.78	.188
A5MES4-MG				5/16	1/4	11/16	1.02	1.90	.188
A5MES6-MG				5/16	3/8	13/16	1.02	1.90	.188
A6MES2-MG			F6MES2	3/8	1/8	9/16	1.02	1.65	.175
A6MES4-MG	PPB6MES4-MG	PP6MES4	F6MES4	3/8	1/4	13/16	1.02	1.90	.250
A6MES6-MG	PPB6MES6-MG	PP6MES6	F6MES6	3/8	3/8	13/16	1.02	1.90	.250
A8MES4-MG				1/2	1/4	13/16	1.20	2.10	.240
A8MES6-MG		PP8MES6		1/2	3/8	13/16	1.20	2.10	.375
A8MES8-MG		PP8MES8		1/2	1/2	1	1.20	2.32	.375

\* Part consists of elbow union and tube stem adaptor.  
 Note: Assemblies with metal gripper collets are permanent. Assemblies with plastic collets can be taken apart.

### MRS - Male Run Tee Swivel

Tube-to-Pipe

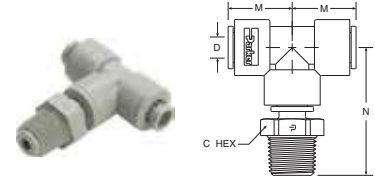


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	L	M	N	D THRU HOLE MIN.
A4MRS2-MG	PPB4MRS2	PP4MRS2	F4MRS2	1/4	1/8	9/16	1.55	.81	0.85	.175
A4MRS4-MG	PPB4MRS4-MG	PP4MRS4	F4MRS4	1/4	1/4	11/16	1.67	.81	0.85	.175
A5MRS2-MG				5/16	1/8	9/16	1.78	1.02	1.02	.188
A5MRS4-MG				5/16	1/4	11/16	1.90	1.02	1.02	.188
A5MRS6-MG				5/16	3/8	13/16	1.90	1.02	1.02	.188
A6MRS4-MG	PPB6MRS4-MG	PP6MRS4	F6MRS4	3/8	1/4	13/16	1.90	1.02	1.02	.250
A6MRS6-MG	PPB6MRS6-MG	PP6MRS6	F6MRS6	3/8	3/8	13/16	1.90	1.02	1.02	.250
A8MRS4-MG				1/2	1/4	13/16	2.10	1.20	1.20	.240
A8MRS6-MG		PP8MRS6		1/2	3/8	13/16	2.10	1.20	1.20	.375
A8MRS8-MG		PP8MRS8		1/2	1/2	1	2.32	1.20	1.20	.375

\*Part consists of tee union and tube stem adaptor.  
 Note: Assemblies with metal gripper collets are permanent. Assemblies with plastic collets can be taken apart.

### MTS - Male Tee Swivel

Tube-to-Pipe



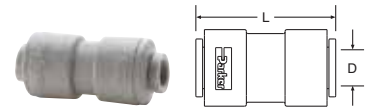
GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	M	N	FLOW DIA. D
A4MTS2-MG	PPB4MTS2	PP4MTS2	F4MTS2	1/4	1/8	9/16	.81	1.60	.175
A4MTS4-MG	PPB4MTS4-MG	PP4MTS4	F4MTS4	1/4	1/4	11/16	.81	1.71	.175
A5MTS2-MG				5/16	1/8	9/16	1.02	1.78	.188
A5MTS4-MG				5/16	1/4	11/16	1.02	1.90	.188
A5MTS6-MG				5/16	3/8	13/16	1.02	1.90	.188
A6MTS2-MG			F6MTS2	3/8	1/8	9/16	1.02	1.75	.175
A6MTS4-MG	PPB6MTS4-MG	PP6MTS4	F6MTS4	3/8	1/4	13/16	1.02	1.90	.250
A6MTS6-MG	PPB6MTS6-MG	PP6MTS6	F6MTS6	3/8	3/8	13/16	1.02	1.90	.250
A8MTS4-MG				1/2	1/4	13/16	1.20	2.10	.240
A8MTS6-MG		PP8MTS6		1/2	3/8	13/16	1.20	2.10	.375
A8MTS8-MG		PP8MTS8		1/2	1/2	1	1.20	2.32	.375

\* Part consists of tee union and tube stem adaptor.

Note: Assemblies with metal gripper collets are permanent. Assemblies with plastic collets can be taken apart.

### UC - Union Connector

Tube-to-Tube

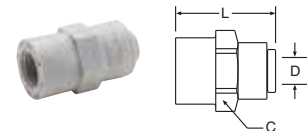


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	L OVERALL LENGTH	FLOW DIA. D
A4UC4-MG	PPB4UC4-MG	PP4UC4	F4UC4	1/4	1.49	.175
A5UC4-MG				5/16-1/4	1.70	.175
A5UC5-MG			F5UC5	5/16	1.70	.188
A6UC4-MG	PPB6UC4-MG	PP6UC4	F6UC4	3/8-1/4	1.70	.175
A6UC5-MG				3/8-5/16	1.70	.188
A6UC6-MG	PPB6UC6-MG	PP6UC6	F6UC6	3/8	1.70	.250
A8UC5-MG				1/2-5/16	1.90	.188
A8UC6-MG	PPB8UC6-MG	PP8UC6		1/2-3/8	1.90	.250
A8UC8-MG	PPB8UC8-MG	PP8UC8	F8UC8	1/2	1.91	.375

For nonstandard plastic collet, remove -MG suffix.

### FA - Faucet Adapter

Tube-to-Faucet



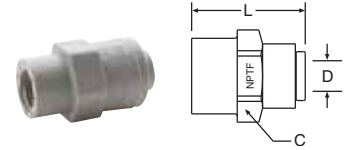
GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	UNS-2B THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A4FA7-MG	PPB4FA7-MG	PP4FA7	F4FA7	1/4	7/16-24	23/32	1.32	.190
A5FA7-MG				5/16	7/16-24	13/16	1.41	.190
A6FA7-MG	PPB6FA7-MG	PP6FA7	F6FA7	3/8	7/16-24	13/16	1.41	.190

For nonstandard plastic collet, remove -MG suffix.



## FC - Female Connector

Tube-to-Pipe

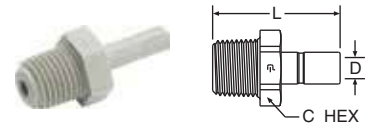


GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O. D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A4FC2-MG	PPB4FC2-MG	PP4FC2	F4FC2	1/4	1/8	11/16	1.20	.175
A4FC4-MG	PPB4FC4-MG	PP4FC4	F4FC4	1/4	1/4	23/32	1.32	.175
A5FC4-MG			F5FC4	5/16	1/4	13/16	1.41	.188
A5FC6-MG				5/16	3/8	1	1.50	.188
A6FC4-MG	PPB6FC4-MG	PP6FC4	F6FC4	3/8	1/4	13/16	1.41	.250
A6FC6-MG	PPB6FC6-MG	PP6FC6	F6FC6	3/8	3/8	1	1.50	.250
A6FC8-MG				3/8	1/2	1-1/8	1.52	.250
A8FC6-MG		PP8FC6	F8FC6	1/2	3/8	1-1/8	1.60	.375
A8FC8-MG		PP8FC8	F8FC8	1/2	1/2	1-1/8	1.75	.375

For nonstandard plastic collet, remove -MG suffix.

## TMC - Tube Stem Adapter

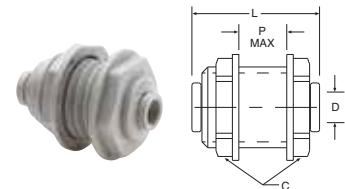
Tube Stem-to-Pipe



GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O. D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A4TMC2	PPB4TMC2	PP4TMC2	F4TMC2	1/4	1/8	9/16	1.44	.175
A4TMC4	PPB4TMC4	PP4TMC4	F4TMC4	1/4	1/4	11/16	1.56	.175
A5TMC2				5/16	1/8	9/16	1.5	.188
A5TMC4			F5TMC4	5/16	1/4	11/16	1.67	.188
A5TMC6				5/16	3/8	13/16	1.67	.188
A6TMC4	PPB6TMC4	PP6TMC4	F6TMC4	3/8	1/4	13/16	1.70	.250
A6TMC6	PPB6TMC6	PP6TMC6	F6TMC6	3/8	3/8	13/16	1.70	.250
A8TMC4				1/2	1/4	13/16	1.82	.240
A8TMC6		PP8TMC6		1/2	3/8	13/16	1.82	.375
A8TMC8		PP8TMC8		1/2	1/2	1	2.04	.375

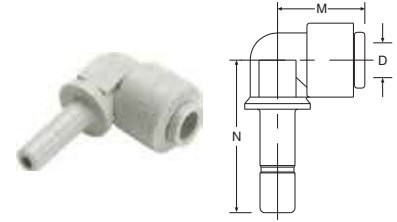
## BU - Bulkhead Union

Tube-to-Tube



GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O. D.	C1 HEX	C2 HEX	L OVERALL LENGTH	P MAX. WALL THICKNESS	FLOW DIA. D	BKHD HOLE DRILL SIZE
A4BU4-MG	PPB4BU4-MG	PP4BU4	F4BU4	1/4	15/16	15/16	1.50	.50	.175	7/8
A5BU5-MG			F5BU5	5/16	1-1/16	1-1/16	1.75	.62	.188	1
A6BU4-MG	PPB6BU4-MG	PP6BU4		3/8-1/4	1-1/16	1-1/16	1.75	.62	.175	1
A6BU6-MG	PPB6BU6-MG	PP6BU6	F6BU6	3/8	1-1/16	1-1/16	1.75	.62	.250	1
A8BU8-MG			F8BU8	1/2	1-1/4	1-1/4	2.04	.70	.375	1-1/8

For nonstandard plastic collet, remove -MG suffix.



## TEU - Tube Elbow Union

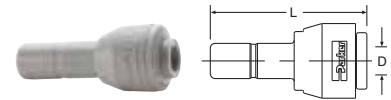
Tube-to-Tube Stem

GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	M	N	FLOW DIA. D
A4TEU4-MG	PPB4TEU4-MG	PP4TEU4	F4TEU4	1/4	1/4	.84	1.21	.125
A4TEU6-MG			F4TEU6	1/4	3/8	.84	1.35	.125
A5TEU5-MG			F5TEU5	5/16	5/16	1.03	1.40	.188
A6TEU4-MG			F6TEU4	3/8	1/4	1.03	1.29	.125
A6TEU6-MG	PPB6TEU6	PP6TEU6	F6TEU6	3/8	3/8	1.03	1.64	.250
A8TEU8-MG	PPB8TEU8-MG	PP8TEU8	F8TEU8	1/2	1/2	1.21	1.64	.380

For nonstandard plastic collet, remove -MG suffix.

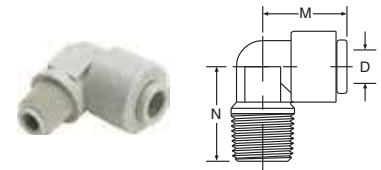
## RD - Tube Reducer

Tube-to-Tube Stem



GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	L	FLOW DIA. D
A4RD5-MG		PP4RD5		1/4	5/16	1.62	.18
A4RD6-MG	PPB4RD6-MG	PP4RD6		1/4	3/8	1.62	.18
A5RD6-MG				5/16	3/8	1.78	.25
A5RD8-MG				5/16	1/2	1.90	.25
A6RD8-MG				3/8	1/2	1.90	.25

For nonstandard plastic collet, remove -MG suffix.

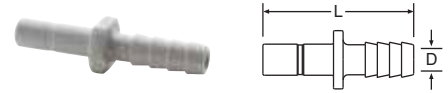


## ME - Male Elbow

Tube-to-Pipe

GRAY ACETAL EPDM SEAL	BLACK PPL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	M	N	FLOW DIA. D
A4ME2-MG	PPB4ME2-MG	PP4ME2	F4ME2	1/4	1/8	.84	.94	.175
A4ME4-MG	PPB4ME4-MG	PP4ME4	F4ME4	1/4	1/4	.84	.94	.175
A4ME6-MG	PPB4ME6-MG	PP4ME6	F4ME6	1/4	3/8	.84	1.04	.175
A5ME4-MG			F5ME4	5/16	1/4	1.03	1.08	.175
A5ME6-MG				5/16	3/8	1.03	1.06	.188
A6ME4-MG		PP6ME4	F6ME4	3/8	1/4	1.03	1.08	.250
A6ME6-MG	PPB6ME6-MG	PP6ME6	F6ME6	3/8	3/8	1.03	1.06	.250

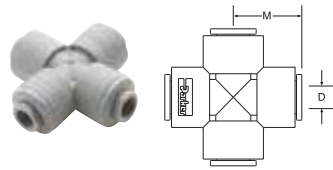
For nonstandard plastic collet, remove -MG suffix.



### TCB - Tube-to-Barb Connector

GRAY ACETAL	BLACK PPL EPDM SEAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	TUBE I.D.	L OVERALL LENGTH	FLOW DIA. D
A4TCB4		PP4TCB4	F4TCB4	1/4	1/4	1.67	.140
A6TCB4			F6TCB4	3/8	1/4	1.82	.140
A6TCB6	PPB6TCB6-MG	PP6TCB6	F6TCB6	3/8	3/8	1.98	.250
A8TCB6				1/2	3/8	2.10	.250
A8TCB8			F8TCB8	1/2	1/2	2.10	.375

### CU - Cross Union

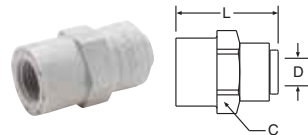


Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	M	FLOW DIA. D
A4CU4-MG			1/4	.91	.175
A6CU6-MG			3/8	1.08	.250

For nonstandard plastic collet, remove -MG suffix.

### FF - 45° Female Flare



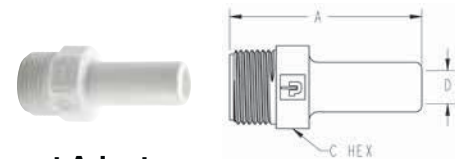
Tube-to-Flare

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	UNF-2B THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A4FF4-MG	PP4FF4	F4FF4	1/4	7/16-20	23/32	1.32	.190
A6FF4-MG		F6FF4	3/8	7/16-20	13/16	1.41	.190
A6FF6-MG	PP6FF6	F6FF6	3/8	5/8-18	1	1.50	.250

For nonstandard plastic collet, remove -MG suffix.

### TAF - Tube Faucet Adapter

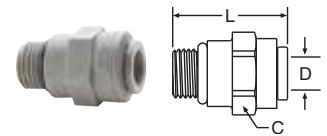
(Male Thread)



WHITE ACETAL	TUBE STEM O.D.	THREAD SIZE	A	C HEX	D MIN.
AW6TAF7-MG	3/8	7/16-24	1.41	.50	.22
AW6TAF8-MG	3/8	1/2-14 NPSM	1.65	.88	.22
AW6TAF9-MG	3/8	9/16-24	1.45	.63	.22

### ST - Straight Thread

Tube-to-Male O-Ring Boss

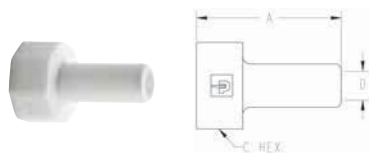


GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	UNF-2B THD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
A6ST9-MG		F6ST9 (+)	3/8	9/16-18	13/16	1.39	.250

For nonstandard plastic collet, remove -MG suffix.

### TFA - Tube Faucet Adapter

(Female Thread)



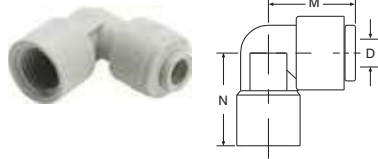
WHITE ACETAL	TUBE STEM O.D.	THREAD SIZE	A	C HEX	D MIN.
AW6TFA7-MG	3/8	7/16-24	1.25	.69	.17
AW6TFA8-MG	3/8	1/2-14 NPSM	1.45	1.06	.22
AW6TFA9-MG	3/8	9/16-24	1.25	.75	.22

### CAP - Tube Cap



GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	L OVERALL LENGTH
A4CAP-MG	PP4CAP	F4CAP	1/4	.77
A6CAP-MG	PP6CAP		3/8	0.88

For nonstandard plastic collet, remove -MG suffix.

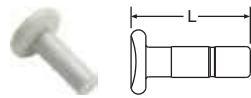


### FE - Female Elbow

Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE PPL EPDM SEAL	NATURAL KYNAR FKM SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	M	N	FLOW DIA. D
A4FE4-MG			1/4	1/4	.84	1.00	.18
A6FE4-MG			3/8	1/4	1.03	1.00	.25
A6FE6-MG			3/8	3/8	1.03	1.00	.25

For nonstandard plastic collet, remove -MG suffix.



### TPL - Plug

GRAY ACETAL	BLACK PPL	WHITE PPL	NATURAL KYNAR	FITTING SIZE	L OVERALL LENGTH
A4TPL	PPB4TPL	PP4TPL	F4TPL	1/4	0.88
A6TPL	PPB6TPL-MG	PP6TPL	F6TPL	3/8	1.45
A8TPL	PPB8TPL	PP8TPL		1/2	1.50



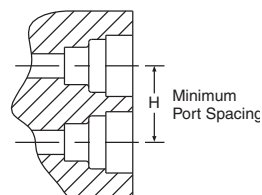
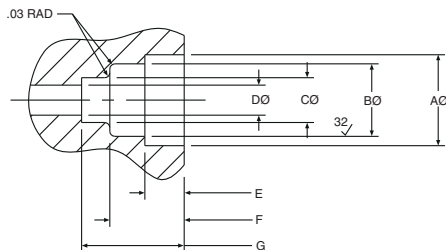
### TEB - Tube Elbow Barb Connector

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	TUBE I.D.	M	N	FLOW DIA. D
A4TEB4	PP4TEB4	F4TEB4	1/4	1/4	.89	1.00	.140
A6TEB4	PP6TEB4	F6TEB4	3/8	1/4	1.335	1.055	.375
A6TEB6	PP6TEB6	F6TEB6	3/8	3/8	1.34	1.21	.250
A8TEB8			1/2	1/2	1.30	1.30	.390



### TSC - Cartridge Insert

PART NUMBER WITH EPDM SEAL	NOM. TUBE O.D.	A* DIAMETER ±002	B DIAMETER ±003	C DIAMETER ±003	D DIAMETER MAXIMUM	E DEPTH ±002	F DEPTH ±002	G DEPTH ±002	H* CENTERLINE OF PORTS MINIMUM
ATSC4-MG	1/4	.528	.421	.260	.19	.230	.435	.600	.670
ATSC6-MG	3/8	.632	.545	.385	.31	.280	.455	.705	.790
ATSC8-MG	1/2	.774	.668	.510	.41	.315	.510	.810	1.250



#### Parker TrueSeal™ Cartridge Inserts:

Allow you to machine or mold a tube connection into your equipment or components. By using cartridge inserts, you will reduce your material and assembly costs, reduce potential leak paths, and give your equipment a new, clean profile by eliminating the need for threaded connections. TSC Cartridge Inserts consist of 1 o-ring, 1 cartridge, and 1 collet.

\*Cartridge inserts are rated at 150 PSI in ports dimensioned as above and having Noryl as the receiving material. Other materials may have different ratings and require different port dimensions. Consult the Fluid System Connectors Division when using polypropylene, unfilled polypropylene, ABS or Nylon.

#### Assembly Instructions:

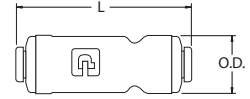
1. Machine or mold the receiving orifice as per the above dimensions.
2. Place the cartridge insert squarely onto the prepared port opening making sure that the barbs of the cartridge are going into the hole and the lettering on the face of the cartridge is visible.
3. Using a rubber mallet or press, insert the cartridge into the first gland orifice until its face is flush with the top surface of the port.
4. Insert the o-ring into the cartridge and seat it evenly into the second gland orifice.
5. Insert the collet into the cartridge opening.
6. Insert tubing.

## TrueSeal Check Valves

Push-to-Connect check valves that ensures protection against reversal of flow. The valves have an arrow molded into the body to indicate the direction of flow. Valves are designed for connection with either thermoplastic or soft metal tubing and are intended for use with liquids only.

### Materials of Construction

<b>Body</b>	Acetal
<b>O-ring</b>	EPDM
<b>Metal Grip Edge</b>	300 Stainless
<b>Working Pressure</b>	Up to 150 PSI (10.3 bar) depending on tubing being used
<b>Temperature Range</b>	+34° to +150° F (+1° to +65° C)
<b>Cracking Pressure</b>	1/3 PSI (0.02 bar)



### VC – Check Valve

PART NO.	TUBE SIZE	L	O.D.
A4VC4-MG	1/4	2.00	.66
A5VC5-MG	5/16	2.10	.70
A6VC6-MG	3/8	2.15	.80
A8VC8-MG	1/2	2.68	.91

NORYL® is a registered trademark of the General Electric Co.

## PVDF Check Valves

### Materials of Construction

<b>Body</b>	Kynar®
<b>O-ring</b>	Fluorocarbon
<b>Metal Grip Edge</b>	Stainless Steel
<b>Working Pressure</b>	Up to 300 PSI (20.7 bar)
<b>Temperature Range</b>	0° to +250° F (-17.8° to +121° C)



### MCVC Kynar® Check Valves

PART NUMBER	TUBE O.D.	NPTF THREAD	L	C HEX	CRACKING PRESSURE PSI
FB6MCVC4-HBLK-05	3/8	1/4	1.40	13/16	.5
FB6MCVC4-HBLU-15	3/8	1/4	1.40	13/16	1.5
FB6MCVC4-HRED-30	3/8	1/4	1.40	13/16	3.0
FB6MCVC4-HGRN-40	3/8	1/4	1.40	13/16	4.0

Note: For check valve to function properly tubing needs to be installed



## Polypropylene Ball Valves

For proven leak-free performance, specify Polypropylene Ball Valves. Their corrosion-resistant, all-plastic design makes them ideal for water filtration units, coffee and beverage machines and a wide variety of other fluid applications. Polypropylene material meets all FDA and NSF-51 requirements for food contact.

### Features/Benefits:

- Precision molded, all-plastic design is leak free and corrosion resistant.
- Polypropylene material offers a wider chemical acceptance range, as well as a wide temperature range.
- Bi-directional flow maximizes productivity.
- Full flow design reduces pressure drop across the valve.
- Special o-ring seal ensures a reliable leak-tight connection.
- TrueSeal™ connection reduces potential leaks.

### Specifications:

- Temperature range: 0°F to +225°F (-18°C to +107°C).
- O-ring seal material: EPDM.
- NSF/ANSI 51 listed.
- Pressure rated to 150 PSI (10.3 bar) with a 600 PSI (41.4 bar) burst pressure. Actual working pressures will be lower at elevated temperatures.

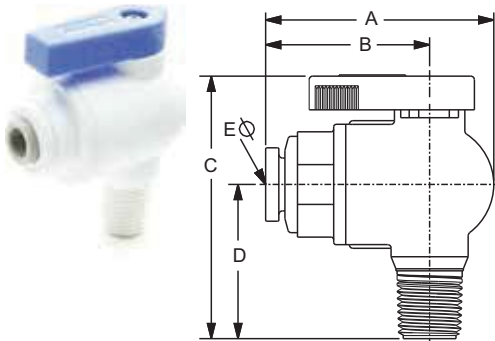
### Advantages:

- Reduce costs—Built-in TrueSeal™ connection eliminates the need for a secondary fitting.
- Save space—Low-profile design allows for easy assembly and access where space is at a premium.

### Assembly Instructions:

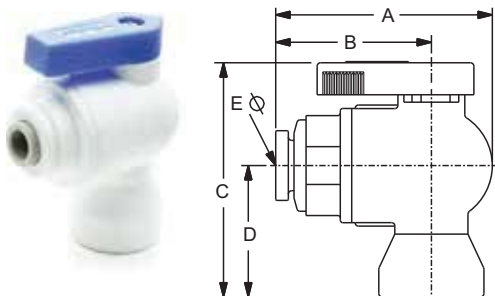
1. Inspect the mating threads for debris or damage. Remove any old fluoropolymer tape or sealant on previously used threads. If threads are damaged, replace with new adapter before proceeding.
2. Apply 2 to 3 wraps of fluoropolymer tape, or an NSF/FDA approved silicon sealant. Do not use Plumbers Putty or Pipe Dope. These chemically react with plastic materials and could cause a failure.
3. Align ball valve to mating thread to ensure cross threading does not occur.
4. Screw ball valve onto mating thread 3 to 5 turns. This should be sufficient to properly seal the threads.
5. Pressurize system and check for leaks.

## VME - Valve Male Elbow



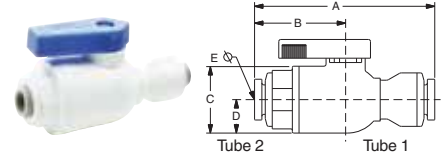
PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VME2-MG (+)	1/4	1/8	1.74	1.21	2.00	1.10	.19
PP4VME4-MG	1/4	1/4	1.74	1.21	2.18	1.28	.19
PP4VME6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP4VME8-MG (+)	1/4	1/2	1.74	1.21	2.37	1.47	.19
PP6VME2-MG (+)	3/8	1/8	1.85	1.32	2.00	1.10	.25
PP6VME4-MG	3/8	1/4	1.85	1.32	2.18	1.28	.25
PP6VME6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25
PP6VME8-MG	3/8	1/2	1.85	1.32	2.37	1.47	.25

## VFE - Valve Female Elbow



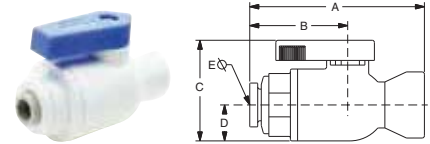
PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VFE2-MG (+)	1/4	1/8	1.74	1.21	1.82	.92	.19
PP4VFE4-MG	1/4	1/4	1.74	1.21	2.05	1.15	.19
PP4VFE6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP6VFE2-MG (+)	3/8	1/8	1.85	1.32	1.82	.92	.25
PP6VFE4-MG	3/8	1/4	1.85	1.32	2.05	1.15	.25
PP6VFE6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25

(+) Non Standard.



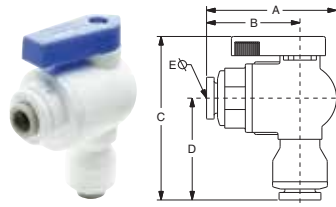
### VUC - Valve Union Connector

BLACK POLYPROPYLENE	WHITE POLYPROPYLENE	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PPB4VUC4-MG	PP4VUC4-MG	1/4	1/4	2.55	1.22	1.0	.5	.19
	PP4VUC6-MG	1/4	3/8	2.55	1.22	1.0	.5	.19
	PP6VUC4-MG	3/8	1/4	2.57	1.30	1.0	.5	.19
PPB6VUC6-MG	PP6VUC6-MG	3/8	3/8	2.67	1.32	1.4	.5	.25



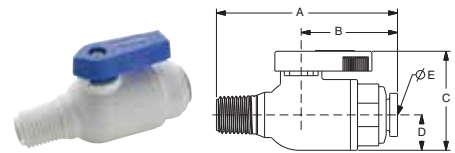
### VFC - Valve Female Connector

BLACK POLYPROPYLENE	WHITE POLYPROPYLENE	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
	PP4VFC2-MG	1/4	1/8	2.04	1.21	1.4	.5	.19
	PP4VFC4-MG	1/4	1/4	2.27	1.21	1.4	.5	.19
	PP4VFC6-MG	1/4	3/8	2.40	1.21	1.4	.5	.19
	PP6VFC2-MG	3/8	1/8	2.15	1.32	1.4	.5	.25
	PP6VFC4-MG	3/8	1/4	2.38	1.32	1.4	.5	.25
PPB6VFC6-MG	PP6VFC6-MG	3/8	3/8	2.51	1.32	1.4	.5	.25



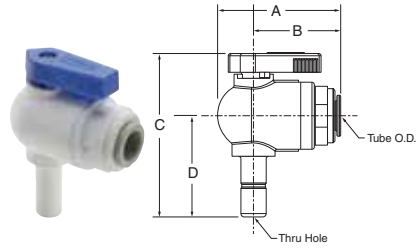
### VEU - Valve Elbow Union

PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VEU4-MG	1/4	1/4	1.75	1.22	2.33	1.42	.19
PP4VEU6-MG	1/4	3/8	1.75	1.22	2.33	1.42	.11
PP6VEU4-MG	3/8	1/4	1.83	1.30	2.32	1.40	.19
PP6VEU6-MG	3/8	3/8	1.85	1.32	2.34	1.44	.25



### VMC - Valve Male Connector

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VMC2-MG (+)	1/4	1/8	2.22	1.21	1.4	.5	.19
PP4VMC4-MG	1/4	1/4	2.40	1.21	1.4	.5	.19
PP4VMC6-MG	1/4	3/8	2.40	1.21	1.4	.5	.19
PP4VMC8-MG (+)	1/4	1/2	2.59	1.21	1.4	.5	.19
PP6VMC2-MG (+)	3/8	1/8	2.33	1.32	1.4	.5	.25
PP6VMC4-MG	3/8	1/4	2.51	1.32	1.4	.5	.25
PP6VMC6-MG	3/8	3/8	2.51	1.32	1.4	.5	.25
PP6VMC8-MG (+)	3/8	1/2	2.70	1.32	1.4	.5	.25



**VTEU - Valve Tube Elbow Union**

PART NUMBER	NOM. TUBE O.D.	STEM	A	B	C	D	ØE THRU HOLE MIN.
PP4VTEU6-MG	1/4	3/8	1.75	1.22	2.43	1.50	.17
PP6VTEU6-MG	3/8	3/8	1.83	1.30	2.43	1.50	.25



**TS - Tube Supports**

NYLON PART NUMBER	PPL PART NUMBER
N4TS3	P4TS3
N5TS3	P5TS3
N6TS4	P6TS4
N8TS6	P8TS6

To be used with soft durometer tubing.



**SC - Safety Clip**

(Patent No. 6,065,779)

PART NUMBER	PART NUMBER	FOR NOMINAL TUBE O.D.
SC-4	SC-4-B	1/4
SC-5	SC-5-B	5/16
SC-6	SC-6-B	3/8
SC-8	SC-8-B	1/2

**AQRT - Quick Release Tool**

Makes disconnection of tube adapters and tubing a breeze.



# Fast & Tite® Fittings



Parker's Fast & Tite Fittings are a compression style fitting that installs in seconds without tools and provides a tight, sure, leak proof seal without clamps or adjustments. A unique grab ring for tube retention, coupled with a Nitrile o-ring creates a positive seal and assures good tube retention with only hand tight assembly.

## Product Features:

- Available in white polypropylene, black polypropylene and white nylon
- 302 stainless steel grab ring
- Nitrile O-ring
- FDA compliant material
- NSF/ANSI 51

## Markets:

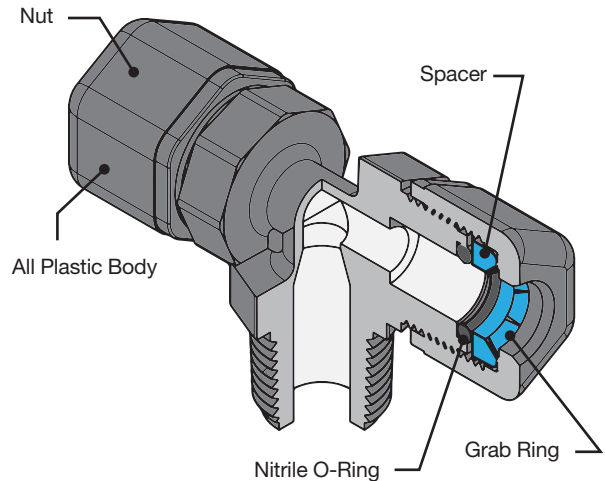
- Water Filtration
- Beverage Dispensing
- Life Science
- Bottling
- Semi-Conductor

## Applications:

- Water
- Beverages
- Food
- Cooling Systems

## Compatible Tubing:

- Thermoplastic
- Soft Metal
- Glass



## Specifications:

### Air-Oil-Water Pressure in PSI (bar)

TUBE O. D. IN.	UP TO 75° F	76° TO 125° F	126° TO 175° F
1/4	300 (20.7)	300 (20.7)	300 (20.7)
5/16	300 (20.7)	300 (20.7)	300 (20.7)
3/8	250 (17.2)	250 (17.2)	150 (10.3)
1/2	200 (13.8)	200 (13.8)	150 (10.3)
5/8	150 (10.3)	100 (6.9)	50 (3.5)

## Temperature Range

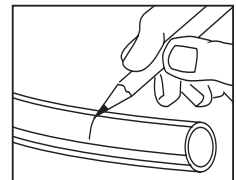
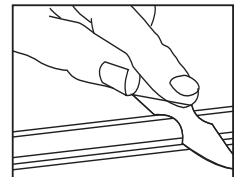
Nylon: -40° to +200° F (-40° to +93.3° C)

Polypropylene: 0° to +212° F (-17.8° to +100° C)

TUBE O. D. (IN.)	INSERTION LENGTH
1/4	5/8
5/16	5/8
3/8	13/16
1/2	7/8
5/8	1

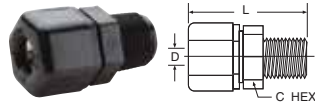
## Assembly Instructions

1. Cut the tube squarely and remove any burrs.
2. Mark from end of tube the length of insertion. If using a tube support, insert fully into tube before marking. (See insertion length table left)
3. Loosen nut on fitting until three threads are visible. Fittings for glass tubes must be disassembled and the grab ring removed. If the fitting has been disassembled the components are to be placed in the following order: fitting body, o-ring, spacer, grab ring and nut. Assemble the nut until three threads are showing on the body before inserting tube.
4. Moisten end of the tube with water. Push the tube straight into fitting until it bottoms on the fitting's shoulder. Tighten nut by hand. Additional tightening should not be necessary, but 1/4 additional turn may be added if desired. Do not overtighten nut as the threads will strip and the fitting will not function properly. A proper assembly will not show the insertion mark extending beyond the nut. If the insertion mark is visible, then steps 1 thru 4 must be repeated.
5. Whenever a Fast & Tite® fitting is assembled for service or reuse the stainless steel grab ring should be replaced for maximum tubing retention.



Note: Provide adequate fail-safe mechanisms such as leakage detection sensors, automatic shut-off controls or other industry and code appropriate fail-safe devices in the design of your water-handling appliance to protect against personal injury and property damage. Plastic fittings containing an o-ring have a finite life depending on the environment, media and severity of the application. Frequent inspections and replacement of the fitting when anomalies are found is recommended.

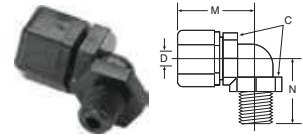
### MC - Male Connector



Tube to male pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	FLOW DIA. D
W4MC2	P4MC2	N4MC2	1/4	1/8	11/16	1.28	.170
W4MC4	P4MC4	N4MC4	1/4	1/4	11/16	1.51	.170
W4MC6 (+)	P4MC6 (+)	N4MC6 (+)	1/4	3/8	11/16	.148	.170
W5MC2 (+)	P5MC2	N5MC2	5/16	1/8	11/16	1.38	.170
W5MC4 (+)	P5MC4	N5MC4	5/16	1/4	11/16	1.50	.250
W6MC2 (+)	P6MC2	N6MC2	3/8	1/8	13/16	1.50	.170
W6MC4	P6MC4	N6MC4	3/8	1/4	13/16	1.67	.250
W6MC6	P6MC6	N6MC6	3/8	3/8	13/16	1.67	.250
W6MC8 (+)	P6MC8	N6MC8	3/8	1/2	1	1.78	.250
W6MC12	P6MC12	N6MC12	3/8	3/4	1	1.84	.250
W8MC2 (+)	P8MC2	N8MC2	1/2	1/8	1	1.61	.170
W8MC4 (+)	P8MC4	N8MC4	1/2	1/4	1	1.74	.250
W8MC6	P8MC6	N8MC6	1/2	3/8	1	1.74	.375
W8MC8	P8MC8	N8MC8	1/2	1/2	1	1.87	.375
W8MC12 (+)	P8MC12	N8MC12	1/2	3/4	1	1.89	.375
W10MC2 (+)	P10MC2	N10MC2	5/8	1/8	1-1/8	1.75	.170
W10MC4 (+)	P10MC4	N10MC4	5/8	1/4	1-1/8	1.90	.250
W10MC6 (+)	P10MC6	N10MC6	5/8	3/8	1-1/8	1.90	.375
W10MC8 (+)	P10MC8	N10MC8	5/8	1/2	1-1/8	2.01	.500
W10MC12 (+)	P10MC12	N10MC12	5/8	3/4	1-1/8	2.04	.500

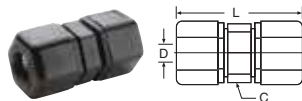
### ME - Male Elbow



Tube to male pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	FLOW DIA. D
W4ME2	P4ME2	N4ME2	1/4	1/8	3/4	1.06	0.81	.170
W4ME4	P4ME4	N4ME4	1/4	1/4	3/4	1.06	1.02	.170
W4ME6	P4ME6	N4ME6	1/4	3/8	3/4	1.06	1.02	.170
W5ME2 (+)	P5ME2	N5ME2	5/16	1/8	3/4	1.06	0.81	.193
W5ME4 (+)	P5ME4	N5ME4	5/16	1/4	3/4	1.06	1.02	.193
W5ME6 (+)	P5ME6	N5ME6	5/16	3/8	3/4	1.06	1.02	.193
W6ME4	P6ME4	N6ME4	3/8	1/4	7/8	1.28	1.12	.250
W6ME6	P6ME6	N6ME6	3/8	3/8	7/8	1.28	1.12	.250
W6ME8	P6ME8	N6ME8	3/8	1/2	1	1.28	1.34	.250
W6ME12 (+)	P6ME12	N6ME12	3/8	3/4	1-3/16	1.59	1.40	.250
W8ME4 (+)	P8ME4	N8ME4 (+)	1/2	1/4	1-1/16	1.48	1.22	.250
W8ME6	P8ME6	N8ME6	1/2	3/8	1-1/16	1.56	1.21	.375
W8ME8	P8ME8	N8ME8	1/2	1/2	1-1/16	1.56	1.34	.375
W8ME12 (+)	P8ME12 (+)	N8ME12 (+)	1/2	3/4	1-1/8	1.50	1.40	.375
W10ME8 (+)	P10ME8	N10ME8	5/8	1/2	1-3/16	1.72	1.40	.500

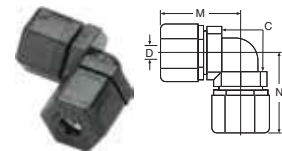
### UC - Union Connector



Tube to tube

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	L OVERALL LENGTH	FLOW DIA. D
W4UC4	P4UC4	N4UC4	1/4	11/16	1.62	.170
W5UC4 (+)	P5UC4	N5UC4	5/16-1/4	11/16	1.62	.170
W5UC5 (+)	P5UC5	N5UC5	5/16	11/16	1.62	.190
W6UC4	P6UC4	N6UC4	3/8-1/4	13/16	1.80	.170
W6UC5 (+)	P6UC5	N6UC5	3/8-5/16	13/16	1.80	.190
W6UC6	P6UC6	N6UC6	3/8	13/16	1.92	.250
W8UC6	P8UC6	N8UC6	1/2-3/8	1	1.95	.250
W8UC8	P8UC8	N8UC8	1/2	1	2.03	.375
W10UC6 (+)	P10UC6	N10UC6	5/8-3/8	1-1/8	2.19	.250
W10UC8 (+)	P10UC8	N10UC8	5/8-1/2	1-1/8	2.24	.375
W10UC10 (+)	P10UC10	N10UC10	5/8	1-1/8	2.40	.500

### EU - Elbow Union



Tube to tube

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	M	N	FLOW DIA. D
W4EU4	P4EU4	N4EU4	1/4	3/4	1.06	1.06	.170
W5EU4 (+)	P5EU4	N5EU4	5/16-1/4	3/4	1.06	1.06	.170
W5EU5 (+)	P5EU5	N5EU5	5/16	3/4	1.06	1.06	.193
W6EU4	P6EU4	N6EU4	3/8-1/4	7/8	1.06	1.28	.170
W6EU5 (+)	P6EU5	N6EU5	3/8-5/16	7/8	1.06	1.28	.170
W6EU6	P6EU6	N6EU6	3/8	7/8	1.28	1.28	.250
W8EU6	P8EU6	N8EU6	1/2-3/8	1-1/16	1.37	1.56	.250
W8EU8	P8EU8	N8EU8	1/2	1-1/16	1.56	1.56	.375
W10EU10 (+)	P10EU10	N10EU10	5/8	1-3/16	1.72	1.72	.500

(+) Non-standard



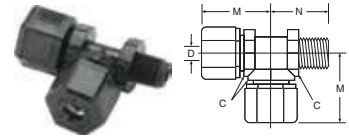
### BU - Bulkhead Union



Tube to tube

WHITE PPL PART NUMBER	BLACK PPL PART NO.	WHITE NYLON PART NO.	NOM TUBE O.D.	A REF.	C HEX	L OVERALL LENGTH	P MAX	FLOW DIA. D	BLKHD HOLE DRILL SIZE
W4BU4	P4BU4	N4BU4	1/4	1/4	13/16	2-11/64	3/8	.170	21/32
W5BU5 (+)	P5BU5	N5BU5	5/16	1/4	13/16	2-11/64	3/8	.187	21/32
W6BU6	P6BU6	N6BU6	3/8	9/32	15/16	2-39/64	1/2	.250	25/32
W8BU8	P8BU8	N8BU8	1/2	5/16	1-5/32	2-3/4	1/2	.375	31/32

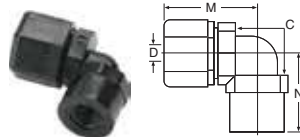
### MR - Male Run Tee



Tube to male pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	FLOW DIA. D
W4MR2	P4MR2	N4MR2	1/4	1/8	11/16	1.09	0.89	.170
W6MR4	P6MR4	N6MR4	3/8	1/4	13/16	1.30	1.17	.250
W8MR6	P8MR6	N8MR6	1/2	3/8	1	1.46	1.28	.375
W10MR8 (+)	P10MR8	N10MR8	5/8	1/2	1-1/8	1.68	1.50	.500

### FE - Female Elbow



Tube to female pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	FLOW DIA. D
W4FE2	P4FE2	N4FE2	1/4	1/8	11/16	1.10	0.84	.170
W4FE4	P4FE4	N4FE4	1/4	1/4	11/16	1.10	0.94	.170
W5FE2 (+)	P5FE2	N5FE2	5/16	1/8	11/16	1.10	0.84	.193
W6FE4	P6FE4	N6FE4	3/8	1/4	13/16	1.30	1.06	.250
W6FE6	P6FE6	N6FE6	3/8	3/8	13/16	1.30	1.03	.250
W8FE6 (+)	P8FE6	N8FE6	1/2	3/8	1	1.50	1.16	.375
W8FE8	P8FE8	N8FE8	1/2	1/2	1	1.50	1.27	.375
W10FE8 (+)	P10FE8	N10FE8	5/8	1/2	1-1/8	1.70	1.34	.500

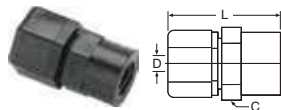
### TU - Tee Union



Tube to tube

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	M	N	FLOW DIA. D
W4TU4	P4TU4	N4TU4	1/4	11/16	1.09	1.09	.170
W5TU5 (+)	P5TU5	N5TU5	5/16	11/16	1.09	1.09	.187
W6TU6	P6TU6	N6TU6	3/8	13/16	1.30	1.30	.250
W8TU6 (+)	P8TU6	N8TU6	1/2-3/8	1	1.46	1.39	.250
W8TU8	P8TU8	N8TU8	1/2	1	1.46	1.46	.375
W10TU6 (+)	P10TU6	N10TU6	5/8-3/8	1-1/8	1.68	1.46	.250
W10TU10 (+)	P10TU10	N10TU10	5/8	1-3/16	1.68	1.68	.500

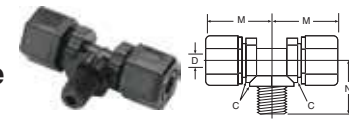
### FC - Female Connector



Tube to female pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	L	FLOW DIA. D
W4FC2	P4FC2	N4FC2	1/4	1/8	11/16	1.31	.170
W4FC4	P4FC4	N4FC4	1/4	1/4	11/16	1.44	.170
W6FC4	P6FC4	N6FC4	3/8	1/4	13/16	1.61	.250
W6FC6	P6FC6	N6FC6	3/8	3/8	13/16	1.64	.250
W6FC8	P6FC8	N6FC8	3/8	1/2	13/16	1.75	.250
W8FC6 (+)	P8FC6	N8FC6	1/2	3/8	1	1.70	.375
W8FC8	P8FC8	N8FC8	1/2	1/2	1	1.85	.375
W10FC8 (+)	P10FC8	N10FC8	5/8	1/2	1-1/8	1.96	.500

### MT - Male Branch Tee



Tube to male pipe

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	FLOW DIA. D
W4MT2	P4MT2	N4MT2	1/4	1/8	11/16	1.09	0.89	.170
W4MT4	P4MT4	N4MT4	1/4	1/4	11/16	1.09	1.06	.170
W5MT2 (+)	P5MT2	N5MT2	5/16	1/8	11/16	1.09	0.89	.170
W5MT4 (+)	P5MT4	N5MT4	5/16	1/4	11/16	1.09	1.06	.187
W6MT4	P6MT4	N6MT4	3/8	1/4	13/16	1.30	1.12	.250
W6MT6	P6MT6	N6MT6	3/8	3/8	13/16	1.30	1.10	.250
W8MT6	P8MT6	N8MT6	1/2	3/8	1	1.46	1.22	.375
W8MT8	P8MT8	N8MT8	1/2	1/2	1	1.46	1.43	.375
W10MT8 (+)	P10MT8	N10MT8	5/8	1/2	1-1/8	1.68	1.41	.500

(+) Non-standard

## GR - Grab Ring



(Stainless or Plastic)

STAINLESS GRAB RING PART NUMBER	PLASTIC GRAB RING PART NUMBER	FOR NOM. TUBE O. D.
4GR	4GRP	1/4
5GR	5GRP	5/16
6GR	6GRP	3/8
8GR	8GRP	1/2
10GR	10GRP	5/8

## NS - Nut and Spacer Sets



WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PARTNUMBER	FOR NOM. TUBE O. D.
W4NS	P4NS	N4NS	1/4
W5NS	P5NS	N5NS	5/16
W6NS	P6NS	N6NS	3/8
W8NS	P8NS	N8NS	1/2
W10NS	P10NS	N10NS	5/8

## TS - Tube Support



POLYPROPYLENE PART NUMBER	NYLON PART NUMBER	FOR TUBE PART NUMBER
P4TS3	N4TS3	PV43
P5TS3	N5TS3	PV53
P6TS4	N6TS3	PV64
P8TS6	N8TS6	PV86
P10TS8	N10TS8	PV108

## OR - O-Ring



FOR NOM. TUBE O. D.	NITRILE O-RING	FLUOROCARBON O-RING	EPDM O-RING
1/4	4OR	4OR-V	4OR-EPDM
5/16	5OR	5OR-V	5OR-EPDM
3/8	6OR	6OR-V	6OR-EPDM
1/2	8OR	8OR-V	8OR-EPDM
5/8	10OR	10OR-V	10OR-EPDM

# Par-Barb® Fittings



Parker's Par-Barb Fittings are injection molded from high strength chemically inert, thermoplastic materials. The multiple barb design generates the maximum gripping and sealing power when combined with a hose clamp.

## Product Features:

- Available in black polypropylene and white nylon
- FDA compliant material
- NSF/ANSI 51
- Uniprene washer
- Up to 1 1/2" sizes

## Markets:

- Water
- Beverage Dispensing
- Bottling
- Semi-Conductor

## Applications:

- Water
- Beverages
- Cooling Systems



## Specifications:

**Pressure Range** Up to 125 psi PSI (8.6 bar)

### Temperature Range

Nylon: -40° to +200° F (-40° to +93.3° C)

Polypropylene: 0° to +212° F (-12.2° to +100° C)

## Compatible Tubing:

- Vinyl
- Polyurethane
- Rubber hose

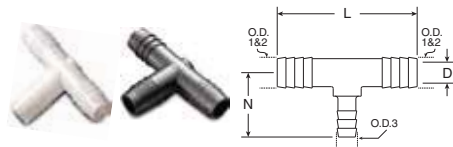




### Union Connector 322HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D. 1	TUBE OR HOSE I.D. 2	O.D. 1	O.D. 2	L	FLOW DIA. D
322HB-2N*	322HB-2PP*	1/8	1/8	.18	.18	.66	.09
322HB-3N	322HB-3PP	3/16	3/16	.25	.25	1.61	.12
322HB-4-2N	322HB-4-2PP	1/4	1/8	.31	.21	1.61	.08
322HB-4-3N	322HB-4-3PP	1/4	3/16	.31	.25	1.61	.13
322HB-4-4N	322HB-4-4PP	1/4	1/4	.31	.31	1.61	.16
322HB-5N	322HB-5PP	5/16	5/16	.37	.37	1.61	.22
322HB-6-4N	322HB-6-4PP	3/8	1/4	.43	.31	1.61	.15
322HB-6-5N	322HB-6-5PP	3/8	5/16	.43	.37	1.62	.22
322HB-6-6N	322HB-6-6PP	3/8	3/8	.43	.43	1.61	.25
322HB-8-4N	322HB-8-4PP	1/2	1/4	.55	.31	1.73	.15
322HB-8-6N	322HB-8-6PP	1/2	3/8	.55	.43	1.73	.25
322HB-8-8N	322HB-8-8PP	1/2	1/2	.56	.56	1.74	.38
322HB-10-6N	322HB-10-6PP	5/8	3/8	.66	.43	1.73	.25
322HB-10-8N	322HB-10-8PP	5/8	1/2	.66	.55	1.73	.37
322HB-10N	322HB-10PP	5/8	5/8	.67	.67	1.73	.47
322HB-12-8N	322HB-12-8PP	3/4	1/2	.81	.55	2.99	.38
322HB-12N	322HB-12PP	3/4	3/4	.80	.80	2.97	.58
322HB-16N		1	1	1.08	1.08	3.12	.82
322HB-20N		1-1/4	1-1/4	1.26	1.26	3.58	1.00
322HB-24N		1-1/2	1-1/2	1.51	1.51	3.58	1.25

\*Note: 1/8" tube connections contain one barb.



### Union Tee 364HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D. 1-2	TUBE OR HOSE I.D. 3	O.D. 1-2	O.D. 3	L	N	FLOW DIA. D
364HBM-2N*		1/8	1/8	.15	.15	1.19	.60	.08
364HB-3N	364HB-3PP	3/16	3/16	.25	.25	1.49	.75	.12
364HB-4N	364HB-4PP	1/4	1/4	.32	.32	1.92	.96	.16
364HB-4-6N		1/4	3/8	.32	.44	1.92	1.18	.16
364HB-5N	364HB-5PP	5/16	5/16	.36	.36	2.22	1.17	.22
364HB-6-3N	364HB-6-3PP	3/8	3/16	.43	.24	2.23	1.04	.09
364HB-6-4N	364HB-6-4PP	3/8	1/4	.44	.32	1.92	1.18	.16
364HB-6-6N	364HB-6-6PP	3/8	3/8	.43	.43	2.22	1.18	.25
364HB-6-8N	364HB-6-8PP	3/8	1/2	.43	.56	2.22	1.27	.25
364HB-8-6N	364HB-8-6PP	1/2	3/8	.55	.43	2.52	1.27	.25
364HB-8-8N	364HB-8-8PP	1/2	1/2	.56	.56	2.52	1.27	.37
364HB-10N	364HB-10PP	5/8	5/8	.66	.66	2.74	1.37	.46
364HB-12N		3/4	3/4	.81	.81	2.98	1.50	.58
364HB-16N		1	1	1.06	1.06	3.10	1.55	.81
364HB-20N		1-1/4	1-1/4	1.25	1.25	5.29	2.64	1.00
364HB-24N		1-1/2	1-1/2	1.51	1.51	5.48	2.74	1.25

\*Note: 1/8" tube connections contain one barb.



### Union Elbow 365HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D. 1	TUBE OR HOSE I.D. 2	O.D. 1	O.D. 2	M	N	FLOW DIA. D
365HB-3N	365HB-3PP	3/16	3/16	.25	.25	.75	.75	.12
365HB-4N	365HB-4PP	1/4	1/4	.31	.31	1.13	1.13	.15
365HB-5N	365HB-5PP	5/16	5/16	.38	.37	1.19	1.19	.22
365HB-6N	365HB-6PP	3/8	3/8	.43	.43	1.26	1.26	.25
365HB-8-4N	365HB-8-4PP	1/2	1/4	.55	.31	1.26	1.24	.16
365HB-8-6N	365HB-8-6PP	1/2	3/8	.55	.43	1.26	1.27	.25
365HB-8-8N	365HB-8-8PP	1/2	1/2	.55	.55	1.26	1.26	.37
365HB-10N	365HB-10PP	5/8	5/8	.66	.66	1.37	1.37	.46
365HB-12N	365HB-12PP	3/4	3/4	.80	.80	1.48	1.48	.57
365HB-16N		1	1	1.07	1.07	1.50	1.50	.81
365HB-20N		1-1/4	1-1/4	1.25	1.25	2.63	2.63	1.00
365HB-24N		1-1/2	1-1/2	1.50	1.50	2.74	2.74	1.25



### Hex Plug 318P

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	NPT PIPE THREAD	C HEX	L
318P-2N	318P-2PP	1/8	7/16	.62
318P-4N	318P-4PP	1/4	9/16	.75
318P-6N	318P-6PP	3/8	11/16	.74
318P-8N	318P-8PP	1/2	7/8	.87
318P-12N	318P-12PP	3/4	1-1/8	.86
318P-16N	318P-16PP	1	1-3/8	1.05
318P-20N	318P-20PP	1-1/4	1-1/2	1.44
318P-24N	318P-24PP	1-1/2	1-3/4	1.61



### Reducer Bushing 309P

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	EXTERNAL NPT PIPE THREAD	INTERNAL NPT PIPE THREAD	C HEX	L
309P-4-2N	309P-4-2PP	1/4	1/8	9/16	.75
309P-6-2N	309P-6-2PP	3/8	1/8	11/16	.74
309P-6-4N	309P-6-4PP	3/8	1/4	11/16	.75
309P-8-2N	309P-8-2PP	1/2	1/8	7/8	.88
309P-8-4N	309P-8-4PP	1/2	1/4	7/8	.87
309P-8-6N	309P-8-6PP	1/2	3/8	7/8	.87
309P-12-2N	309P-12-2PP	3/4	1/8	1-1/8	.86
309P-12-4N	309P-12-4PP	3/4	1/4	1-1/8	.75
309P-12-6N	309P-12-6PP	3/4	3/8	1-1/8	.85
309P-12-8N	309P-12-8PP	3/4	1/2	1-1/8	.87



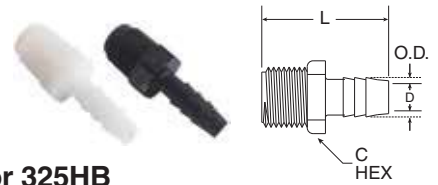
### Hex Nipple 316P

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	NPT PIPE THREAD SIDE 1	NPT PIPE THREAD SIDE 2	C HEX	L	FLOW DIA. D
316P-2N	316P-2PP	1/8	1/8	7/16	.99	.22
316P-4-2N	316P-4-2PP	1/4	1/8	9/16	1.13	.22
316P-4N	316P-4PP	1/4	1/4	9/16	1.24	.31
316P-6-2N	316P-6-2PP	3/8	1/8	11/16	1.11	.22
316P-6-4N	316P-6-4PP	3/8	1/4	11/16	1.25	.31
316P-6N	316P-6PP	3/8	3/8	11/16	1.23	.43
316P-8-2N	316P-8-2PP	1/2	1/8	7/8	1.23	.22
316P-8-4N	316P-8-4PP	1/2	1/4	7/8	1.36	.31
316P-8-6N	316P-8-6PP	1/2	3/8	7/8	1.35	.43
316P-8N	316P-8PP	1/2	1/2	7/8	1.45	.59
316P-12-6N	316P-12-6PP	3/4	3/8	1- 1/8	1.36	.43
316P-12-8N	316P-12-8PP	3/4	1/2	1- 1/8	1.47	.59
316P-12N	316P-12PP	3/4	3/4	1- 1/8	1.48	.74
316P-16N	316P-16PP	1	1	1- 3/8	1.85	.98



### Female Connector 326HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THREAD	O.D.	C HEX	L	FLOW DIA. D
326HB-3-2N	326HB-3-2PP	3/16	1/8	.25	5/8	1.29	.12
326HB-3-4N	326HB-3-4PP	3/16	1/4	.25	3/4	1.31	.13
326HB-4-2N	326HB-4-2PP	1/4	1/8	.31	5/8	1.51	.16
326HB-4-4N	326HB-4-4PP	1/4	1/4	.31	3/4	1.52	.15
326HB-4-6N	326HB-4-6PP	1/4	3/8	.31	1	1.73	.15
326HB-4-8N	326HB-4-8PP	1/4	1/2	.31	1-1/8	1.74	.15
326HB-6-2N	326HB-6-2PP	3/8	1/8	.44	5/8	1.51	.25
326HB-6-4N	326HB-6-4PP	3/8	1/4	.43	3/4	1.52	.25
326HB-6-6N	326HB-6-6PP	3/8	3/8	.43	1	1.73	.25
326HB-6-8N	326HB-6-8PP	3/8	1/2	.43	1-1/8	1.74	.25
326HB-8-4N	326HB-8-4PP	1/2	1/4	.55	3/4	1.52	.37
326HB-8-6N	326HB-8-6PP	1/2	3/8	.55	1	1.74	.37
326HB-8-8N	326HB-8-8PP	1/2	1/2	.56	1- 1/8	1.74	.37
326HB-10-6N	326HB-10-6PP	5/8	3/8	.66	1	1.61	.46
326HB-10-8N	326HB-10-8PP	5/8	1/2	.66	1- 1/8	1.73	.46
326HB-12-8N	326HB-12-8PP	3/4	1/2	.80	1- 1/8	1.86	.62
326HB-12-12N	326HB-12-12PP	3/4	3/4	.80	1- 1/8	1.85	.62



### Male Connector 325HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	L	FLOW DIA. D
325HB-3-2N	325HB-3-2PP	3/16	1/8	.25	7/16	1.49	.12
325HB-3-4N	325HB-3-4PP	3/16	1/4	.25	9/16	1.61	.13
325HB-4-2N	325HB-4-2PP	1/4	1/8	.31	7/16	1.50	.15
325HB-4-4N	325HB-4-4PP	1/4	1/4	.31	9/16	1.60	.16
325HB-4-6N		1/4	3/8	.31	11/16	1.62	.16
325HB-4-8N	325HB-4-8PP	1/4	1/2	.31	7/8	1.73	.15
325HB-4-12N		1/4	3/4	.31	1- 1/8	1.74	.16
325HB-5-2N		5/16	1/8	.37	7/16	1.50	.22
325HB-5-4N		5/16	1/4	.37	9/16	1.62	.22
325HB-5-6N	325HB-5-6PP	5/16	3/8	.37	11/16	1.60	.21
325HB-6-2N	325HB-6-2PP	3/8	1/8	.43	7/16	1.49	.25
325HB-6-4N	325HB-6-4PP	3/8	1/4	.43	9/16	1.62	.25
325HB-6-6N	325HB-6-6PP	3/8	3/8	.43	11/16	1.61	.25
325HB-6-8N	325HB-6-8PP	3/8	1/2	.43	7/8	1.73	.25
325HB-6-12N	325HB-6-12PP	3/8	3/4	.43	1- 1/8	1.72	.25
325HB-8-4N	325HB-8-4PP	1/2	1/4	.55	9/16	1.61	.35
325HB-8-6N	325HB-8-6PP	1/2	3/8	.55	11/16	1.60	.37
325HB-8-8N	325HB-8-8PP	1/2	1/2	.55	7/8	1.73	.37
325HB-8-12N	325HB-8-12PP	1/2	3/4	.55	1- 1/8	1.72	.37
325HB-10-6N	325HB-10-6PP	5/8	3/8	.66	11/16	1.61	.46
325HB-10-8N	325HB-10-8PP	5/8	1/2	.66	7/8	1.73	.46
325HB-10-12N	325HB-10-12PP	5/8	3/4	.67	1- 1/8	1.82	.46
325HB-12-8N	325HB-12-8PP	3/4	1/2	.80	7/8	1.86	.62
325HB-12-12N	325HB-12-12PP	3/4	3/4	.80	1- 1/8	1.85	.62
325HB-12-16N		3/4	1	.82	1- 3/8	2.35	.59
325HB-12-20N		3/4	1- 1/4	.86	1- 1/2	3.47	.59
325HB-12-24N		3/4	1- 1/2	.86	1- 3/4	3.66	.59
325HB-16-8N		1	1/2	1.08	1- 1/8	2.49	.77
325HB-16-12N		1	3/4	1.07	1- 1/8	2.30	.81
325HB-16-16N		1	1	1.07	1- 3/8	2.35	.81
325HB-16-20N		1	1- 1/4	1.11	1- 1/2	3.45	.78
325HB-16-24N		1	1- 1/2	1.11	1- 3/4	3.63	.78
325HB-20-20N		1- 1/4	1- 1/4	1.36	1- 1/2	3.47	1.04
325HB-20-24N		1- 1/4	1- 1/2	1.36	1- 3/4	3.64	1.04
325HB-24-20N		1- 1/2	1- 1/4	1.60	1- 1/2	3.45	1.28
325HB-24-24N		1- 1/2	1- 1/2	1.61	1- 3/4	3.63	1.28



### Male Branch Tee 372HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	L	N	FLOW DIA. D
372HB-3-2N		3/16	1/8	.25	7/16	1.94	1.06	.13
372HB-3-4N		3/16	1/4	.24	9/16	1.93	1.17	.13
372HB-4-2N	372HB-4-2PP	1/4	1/8	.32	7/16	1.92	1.06	.16
372HB-4-4N	372HB-4-4PP	1/4	1/4	.32	9/16	1.92	1.16	.16
372HB-4-6N	372HB-4-6PP	1/4	3/8	.32	11/16	1.92	1.18	.16
372HB-6-4N	372HB-6-4PP	3/8	1/4	.43	9/16	2.22	1.18	.25
372HB-6-6N	372HB-6-6PP	3/8	3/8	.43	11/16	2.22	1.17	.25
372HB-6-8N	372HB-6-8PP	3/8	1/2	.43	7/8	2.22	1.29	.25
372HB-8-4N	372HB-8-4PP	1/2	1/4	.55	9/16	2.52	1.17	.37
372HB-8-6N	372HB-8-6PP	1/2	3/8	.56	11/16	2.52	1.17	.37
372HB-8-8N	372HB-8-8PP	1/2	1/2	.55	7/8	2.52	1.30	.37
372HB-12-12N	372HB-12-12PP	3/4	3/4	.81	1-1/8	2.97	1.92	.58
372HB-16-8N		1	1/2	1.07	7/8	3.10	1.74	.81
372HB-16-12N		1	3/4	1.07	1-1/8	3.10	1.92	.81
372HB-16-16N		1	1	1.07	1-3/8	3.11	1.98	.81



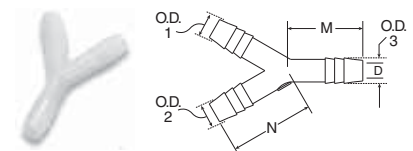
### Female Elbow 370HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	M	N	FLOW DIA. D
370HB-4-2N	370HB-4-2PP	1/4	1/8	.31	5/8	1.19	1.07	.16
370HB-4-4N	370HB-4-4PP	1/4	1/4	.31	3/4	1.18	1.08	.16
370HB-4-6N	370HB-4-6PP	1/4	3/8	.31	1	1.16	1.30	.16
370HB-4-8N	370HB-4-8PP	1/4	1/2	.31	1-1/8	1.18	1.30	.15
370HB-6-2N	370HB-6-2PP	3/8	1/8	.43	5/8	1.18	1.06	.25
370HB-6-4N	370HB-6-4PP	3/8	1/4	.44	3/4	1.18	1.06	.25
370HB-6-6N	370HB-6-6PP	3/8	3/8	.43	1	1.18	1.29	.25
370HB-6-8N	370HB-6-8PP	3/8	1/2	.43	1-1/8	1.18	1.29	.25
370HB-8-4N	370HB-8-4PP	1/2	1/4	.55	3/4	1.25	1.22	.37
370HB-8-6N	370HB-8-6PP	1/2	3/8	.55	1	1.25	1.44	.37
370HB-8-8N	370HB-8-8PP	1/2	1/2	.55	1-1/8	1.25	1.45	.37
370HB-8-12N	370HB-8-12PP	1/2	3/4	.55	1-3/8	1.26	1.72	.37
370HB-12-12N	370HB-12-12PP	3/4	3/4	.80	1-3/8	1.38	1.84	.59



### Male Elbow 329HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	M	N	FLOW DIA. D
329HB-3-2N	329HB-3-2PP	3/16	1/8	.25	7/16	.76	1.06	.12
329HB-3-4N		3/16	1/4	.25	9/16	.76	1.17	.13
329HB-4-2N	329HB-4-2PP	1/4	1/8	.31	7/16	1.18	1.04	.16
329HB-4-4N	329HB-4-4PP	1/4	1/4	.31	9/16	1.18	1.16	.22
329HB-4-6N	329HB-4-6PP	1/4	3/8	.31	11/16	1.18	1.17	.15
329HB-4-8N	329HB-4-8PP	1/4	1/2	.32	7/8	1.18	1.30	.15
329HB-5-2N		5/16	1/8	.37	7/16	1.18	1.06	.22
329HB-6-2N	329HB-6-2PP	3/8	1/8	.43	7/16	1.18	1.05	.25
329HB-6-4N	329HB-6-4PP	3/8	1/4	.43	9/16	1.18	1.16	.25
329HB-6-6N	329HB-6-6PP	3/8	3/8	.43	11/16	1.17	1.17	.25
329HB-6-8N	329HB-6-8PP	3/8	1/2	.43	7/8	1.18	1.28	.25
329HB-8-4N	329HB-8-4PP	1/2	1/4	.55	9/16	1.27	1.16	.37
329HB-8-6N	329HB-8-6PP	1/2	3/8	.56	11/16	1.26	1.16	.37
329HB-8-8N	329HB-8-8PP	1/2	1/2	.55	7/8	1.25	1.29	.37
329HB-8-12N	329HB-8-12PP	1/2	3/4	.55	1-1/8	1.30	1.89	.37
329HB-10-6N		5/8	3/8	.67	11/16	1.27	1.18	.47
329HB-10-8N	329HB-10-8PP	5/8	1/2	.68	7/8	1.30	1.73	.48
329HB-10-12N	329HB-10-12PP	5/8	3/4	.69	1-1/8	1.32	1.92	.49
329HB-12-8N	329HB-12-8PP	3/4	1/2	.81	7/8	1.51	1.74	.58
329HB-12-12N	329HB-12-12PP	3/4	3/4	.81	1-1/8	1.50	1.91	.58
329HB-12-16N		3/4	1	.82	1-3/8	1.49	1.98	.58
329HB-12-20N		3/4	1-1/4	.86	1-1/2	1.52	2.39	.59
329HB-12-24N		3/4	1-1/2	.85	1-1/2	2.26	3.09	.59
329HB-16-8N		1	1/2	1.12	7/8	1.58	1.78	.86
329HB-16-12N		1	3/4	1.11	1-1/8	1.58	1.93	.86
329HB-16-16N		1	1	1.08	1-3/8	1.55	1.98	.81
329HB-16-20N		1	1-1/4	1.12	1-1/2	2.28	2.93	.84
329HB-16-24N		1	1-1/2	1.12	1-1/2	2.27	3.11	.84
329HB-20-20N		1-1/4	1-1/4	1.25	1-1/2	2.63	2.94	1.00
329HB-20-24N		1-1/4	1-1/2	1.36	1-1/2	2.63	3.11	1.08
329HB-24-20N		1-1/2	1-1/4	1.60	1-1/2	2.77	2.93	1.30
329HB-24-24N		1-1/2	1-1/2	1.60	1-1/2	2.77	3.10	1.30



### Union Y 362HB

WHITE NYLON PART NO.	TUBE OR HOSE I.D. 1 & 2	TUBE OR HOSE I.D. 3	O.D. 1 & 2	O.D. 3	M	N	FLOW DIA. D
362HB-4N	1/4	1/4	.31	.31	1.13	1.13	.16
362HB-6N	3/8	3/8	.43	.43	1.25	1.40	.25
362HB-8N	1/2	1/2	.55	.55	1.25	1.50	.38



### Ball Nose Hose Barb Stem 328HB

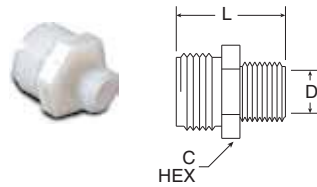
WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	SWIVEL NUT NPT PIPE THREAD	O.D.	L	FLOW DIA. D
328HB-4BN	328HB-4BPP	1/4	1/4 *	.30	1.19	.19
328HB-4-8BN	328HB-4-8BPP	1/4	1/2 *	.30	1.29	.15
328HB-6BN	328HB-6BPP	3/8	3/8 *	.56	1.41	.25
328HB-8BN	328HB-8BPP	1/2	1/2 *	.67	1.30	.37

\*Use with hose barb swivel nut (31HB-XX) for desired NPT thread.



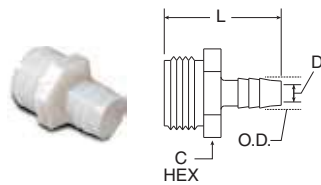
### Hose Barb Swivel Nut 31HB

WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	NPT PIPE THREAD	C HEX	L
31HB-4N	31HB-4PP	1/4	3/4	.62
31HB-6N	31HB-6PP	3/8	7/8	.63
31HB-8N	31HB-8PP	1/2	1- 1/16	.75



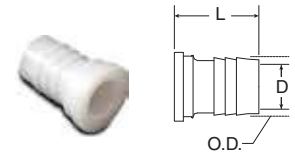
### Male Garden Hose - Male Pipe Adapter 316GH

WHITE NYLON PART NO.	GARDEN HOSE THREAD	NPT PIPE THREAD	C HEX	L	FLOW DIA. D
316GH-12-6N	3/4	3/8	1- 1/8	1.33	.44
316GH-12-8N	3/4	1/2	1- 1/8	1.44	.59
316GH-12-12N	3/4	3/4	1- 1/8	1.48	.75



### Male Garden Hose - Hose Barb 325GH

WHITE NYLON PART NO.	TUBE OR HOSE I.D.	GARDEN HOSE THREAD	O.D.	C HEX	L	FLOW DIA. D
325GH-4-12N	1/4	3/4	.31	1- 1/8	1.70	.16
325GH-6-12N	3/8	3/4	.44	1- 1/8	1.69	.25
325GH-8-12N	1/2	3/4	.55	1- 1/8	1.68	.38
325GH-10-12N	5/8	3/4	.64	1- 1/8	1.70	.47
325GH-12-12N	3/4	3/4	.81	1- 1/8	1.70	.62



### Garden Hose Swivel Hose Barb Stem 325GHSV

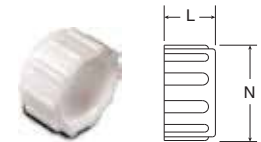
WHITE NYLON PART NO.	TUBE OR HOSE I.D.	GARDEN HOSE THREAD	O.D.	L	FLOW DIA. D
325GHSV-4-12BN*	1/4	3/4	.31	1.16	.16
325GHSV-6-12BN*	3/8	3/4	.44	1.17	.25
325GHSV-8-12BN*	1/2	3/4	.56	1.17	.38
325GHSV-10-12BN*	5/8	3/4	.64	1.18	.47
325GHSV-12-12BN*	3/4	3/4	.81	1.18	.62

\*Use with Garden Hose washer (30GH-12) and Garden Hose Nut (31GH-12N)



### Garden Hose Nut 31GH

WHITE NYLON PART NO.	GARDEN HOSE THREAD	L	DIA. N
31GH-12N	3/4	.74	1.38



### Garden Hose Cap 313GH

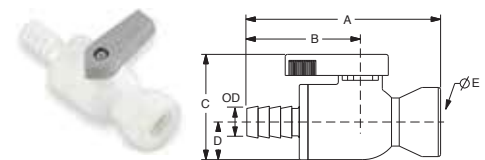
WHITE NYLON PART NO.	GARDEN HOSE THREAD	L	DIA. N
313GH-12N**	3/4	.74	1.38

\*\*Use with Garden Hose Washer (30GH-12)



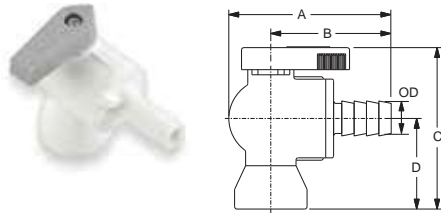
### Garden Hose Washer 30GH

WHITE TPE PART NO.	GARDEN HOSE THREAD	L
30GH-12	3/4	.13



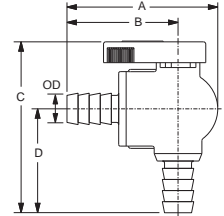
### VFC - Valve Barbed Female Connector

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VFC4	1/4	1/4	.31	2.76	1.60	1.41	.50	.15
PBPP6VFC6	3/8	3/8	.43	2.79	1.60	1.41	.50	.19



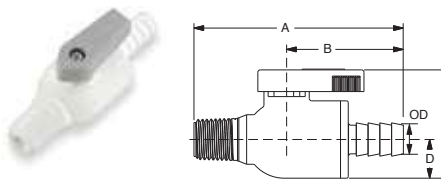
**VFE - Valve Barbed Female Elbow**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VFE4	1/4	1/4	.31	2.13	1.60	2.05	1.15	.15
PBPP6VFE4	3/8	1/4	.43	2.13	1.60	2.05	1.15	.15
PBPP6VFE6	3/8	3/8	.43	2.13	1.60	2.18	1.28	.19



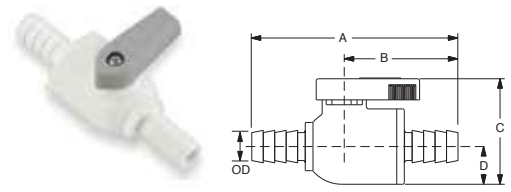
**VEU - Parbarb Elbow Ball Valve**

PART NO.	HOSE I.D.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VEU4	1/4	.31	2.13	1.57	2.32	1.40	.15
PBPP6VEU6	3/8	.43	2.13	1.60	2.32	1.40	.25
PBPP8VEU8	1/2	.55	2.13	1.60	2.32	1.40	.25



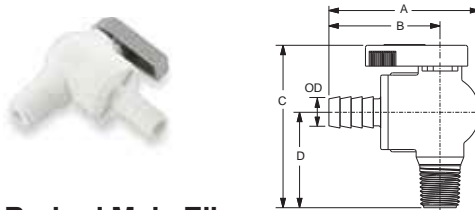
**VMC - Valve Barbed Male Connector**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VMC4	1/4	1/4	.31	2.79	1.60	1.42	.50	.15
PBPP6VMC6	3/8	3/8	.43	2.79	1.60	1.42	.50	.19



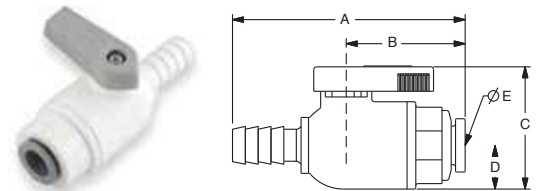
**VUC - Valve Barbed Union Connector**

PART NO.	HOSE I.D.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VUC4	1/4	.31	2.91	1.60	1.42	.50	.15
PBPP6VUC6	3/8	.43	2.91	1.60	1.42	.50	.19
PBPP8VUC8	1/2	.55	2.91	1.60	1.42	.50	.25



**VME - Valve Barbed Male Elbow**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VME4	1/4	1/4	.31	2.13	1.60	2.18	1.28	.15
PBPP6VME6	3/8	3/8	.43	2.13	1.60	2.18	1.28	.19



**VUCPB - Valve Union Connector Barbed x Tube**

PART NO.	HOSE ID	TUBE OD	OD	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUCPB4	1/4	1/4	.31	2.40	1.08	1.42	.50	.15
LFPP6VUCPB6	3/8	3/8	.43	2.63	1.32	1.42	.50	.19



# Ball Valves Polypropylene

Parker's Polypropylene Ball Valves offers a corrosion-resistant, all plastic design making them ideal for water filtration units, coffee and beverage machines and a wide variety of other fluid applications.

## Product Features:

- Wide chemical acceptance range
- Bi-directional flow maximizes productivity
- Full flow reduces pressure drop across valve
- EPDM seals
- Push-in and barbed connections
- Meets FDA and NSF/ANSI 51 requirements for food contact

## Advantages:

- Reduce costs – Built in LIQUIfit, TrueSeal and Par-Barb connections eliminates the need for a secondary fitting.
- Save Space – Low-profile design allows for easy assembly and access where space is at a premium.

## Type:

- LFPP – LIQUIfit
- PP – TrueSeal
- PBPP – Par-Barb

## Specifications:

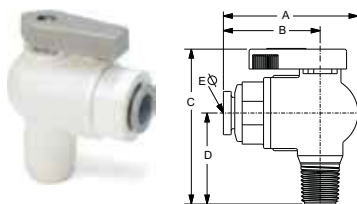
**Pressure Range** Up to 150 PSI (10.3 bar)

### Temperature Range

LIQUIfit: 35° to +200° F (+1.7° to +93.3° C)

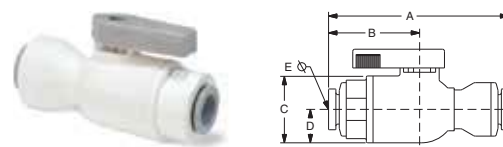
Par-Barb: 35° to +200° F (+1.7° to +93.3° C)

TrueSeal: 0° to +225° F (-17.8° to +107.2° C)



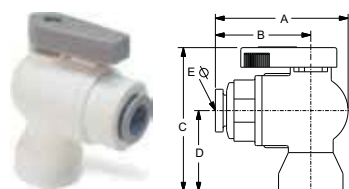
**VME - Valve Male Elbow**

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VME2	1/4	1/8	1.74	1.21	2.00	1.10	.19
LFPP4VME4	1/4	1/4	1.74	1.21	2.18	1.28	.19
LFPP4VME6	1/4	3/8	1.74	1.21	2.18	1.28	.19
LFPP4VME8	1/4	1/2	1.74	1.21	2.37	1.47	.19
LFPP6VME2	3/8	1/8	1.85	1.32	2.00	1.10	.25
LFPP6VME4	3/8	1/4	1.85	1.32	2.18	1.28	.25
LFPP6VME6	3/8	3/8	1.85	1.32	2.18	1.28	.25
LFPP6VME8	3/8	1/2	1.85	1.32	2.37	1.47	.25



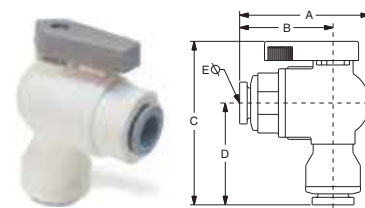
**VUC - Valve Union Connector Metric**

PART NO.	1 TUBE SIZE MM	2 TUBE SIZE MM	A MM	B MM	C MM	D MM	ØE THRU HOLE MIN. MM
LFPP6MVUC6M	6	6	.57	.27	.36	.13	.19
LFPP8MVUC8M	8	8	.60	.27	.36	.13	.25
LFPP10MVUC10M	10	10	.70	.33	.36	.13	.33
LFPP12MVUC12M	12	12	.88	.43	.36	.13	.37



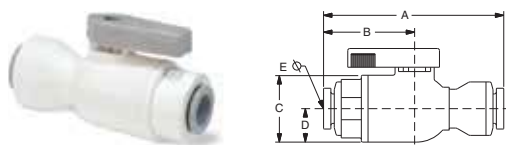
**VFE - Valve Female Elbow**

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VFE2	1/4	1/8	1.74	1.21	1.82	.92	.19
LFPP4VFE4	1/4	1/4	1.74	1.21	2.05	1.15	.19
LFPP4VFE6	1/4	3/8	1.74	1.21	2.18	1.28	.19
LFPP6VFE2	3/8	1/8	1.85	1.32	1.82	.92	.25
LFPP6VFE4	3/8	1/4	1.85	1.32	2.05	1.15	.25
LFPP6VFE6	3/8	3/8	1.85	1.32	2.18	1.28	.25



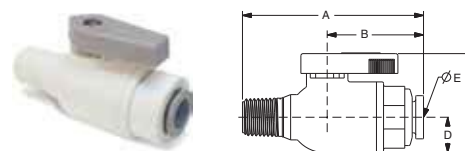
**VEU - Valve Elbow Union**

PART NO.	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VEU4	1/4	1/4	1.75	1.22	2.33	1.42	.19
LFPP4VEU6	1/4	3/8	1.75	1.22	2.33	1.42	.11
LFPP6VEU4	3/8	1/4	1.83	1.30	2.32	1.40	.19
LFPP6VEU6	3/8	3/8	1.85	1.32	2.34	1.44	.25



**VUC - Valve Union Connector**

PART NO.	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUC4	1/4	1/4	2.55	1.22	1.0	.5	.19
LFPP4VUC6	1/4	3/8	2.57	1.30	1.0	.5	.19
LFPP6VUC6	3/8	3/8	2.67	1.32	1.4	.5	.25

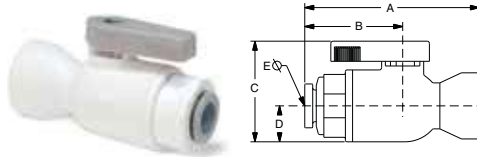


**VMC - Valve Male Connector**

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VMC2	1/4	1/8	2.22	1.21	1.4	.5	.19
LFPP4VMC4	1/4	1/4	2.40	1.21	1.4	.5	.19
LFPP4VMC6	1/4	3/8	2.40	1.21	1.4	.5	.19
LFPP4VMC8	1/4	1/2	2.59	1.21	1.4	.5	.19
LFPP6VMC2	3/8	1/8	2.33	1.32	1.4	.5	.25
LFPP6VMC4	3/8	1/4	2.51	1.32	1.4	.5	.25
LFPP6VMC6	3/8	3/8	2.51	1.32	1.4	.5	.25
LFPP6VMC8	3/8	1/2	2.70	1.32	1.4	.5	.25

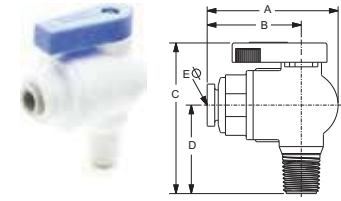
NOTE: PPL refers to Polypropylene. FCB refers to Fluorocarbon.





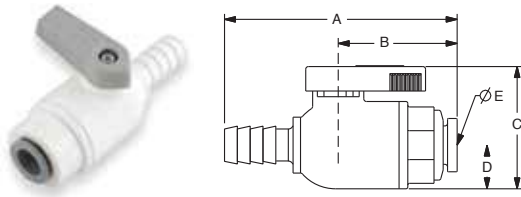
**VFC - Valve Female Connector**

PART NO.	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VFC2	1/4	1/8	2.04	1.21	1.4	.5	.19
LFPP4VFC4	1/4	1/4	2.27	1.21	1.4	.5	.19
LFPP4VFC6	1/4	3/8	2.40	1.21	1.4	.5	.19
LFPP6VFC2	3/8	1/8	2.15	1.32	1.4	.5	.25
LFPP6VFC4	3/8	1/4	2.38	1.32	1.4	.5	.25
LFPP6VFC6	3/8	3/8	2.51	1.32	1.4	.5	.25



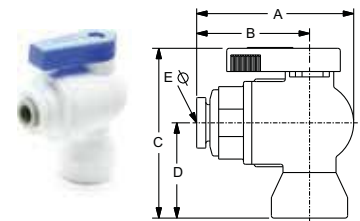
**VME - Valve Male Elbow**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VME2-MG (+)	1/4	1/8	1.74	1.21	2.00	1.10	.19
PP4VME4-MG	1/4	1/4	1.74	1.21	2.18	1.28	.19
PP4VME6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP4VME8-MG (+)	1/4	1/2	1.74	1.21	2.37	1.47	.19
PP6VME2-MG (+)	3/8	1/8	1.85	1.32	2.00	1.10	.25
PP6VME4-MG	3/8	1/4	1.85	1.32	2.18	1.28	.25
PP6VME6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25
PP6VME8-MG	3/8	1/2	1.85	1.32	2.37	1.47	.25



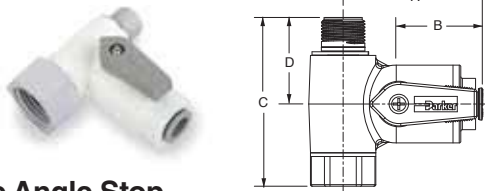
**VUCPB - Valve Union Connector Barbed x Tube**

PART NO.	HOSE ID	TUBE OD	OD	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUCPB4	1/4	1/4	.31	2.40	1.08	1.42	.50	.15
LFPP6VUCPB6	3/8	3/8	.43	2.63	1.32	1.42	.50	.19



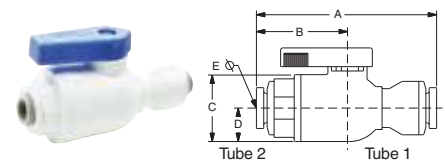
**VFE - Valve Female Elbow**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VFE2-MG (+)	1/4	1/8	1.74	1.21	1.82	.92	.19
PP4VFE4-MG	1/4	1/4	1.74	1.21	2.05	1.15	.19
PP4VFE6-MG	1/4	3/8	1.74	1.21	2.18	1.28	.19
PP6VFE2-MG (+)	3/8	1/8	1.85	1.32	1.82	.92	.25
PP6VFE4-MG	3/8	1/4	1.85	1.32	2.05	1.15	.25
PP6VFE6-MG	3/8	3/8	1.85	1.32	2.18	1.28	.25



**VAS - Valve Angle Stop**

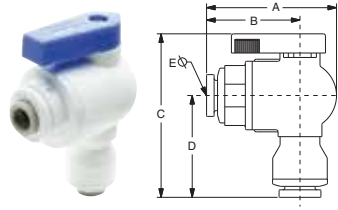
PART NO.	TUBE O.D.	MALE THD.	FEMALE THD.	A	B	C	D	E	F
LFPP4VAS6	1/4	3/8	3/8	1.95	1.24	2.17	1.11	1.41	.91
LFPP4VAS8	1/4	3/8	1/2	1.95	1.24	2.40	1.11	1.41	.91
LFPP6VAS6	3/8	3/8	3/8	2.06	1.35	2.17	1.11	1.41	.91
LFPP6VAS8	3/8	3/8	1/2	2.06	1.35	2.40	1.11	1.41	.91



**VUC - Valve Union Connector**

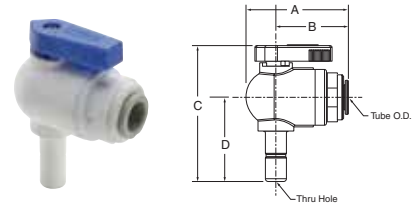
PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VUC4-MG	1/4	1/4	2.55	1.22	1.0	.5	.19
PP4VUC6-MG	1/4	3/8	2.55	1.22	1.0	.5	.19
PP6VUC4-MG	3/8	1/4	2.57	1.30	1.0	.5	.19
PP6VUC6-MG	3/8	3/8	2.67	1.32	1.4	.5	.25





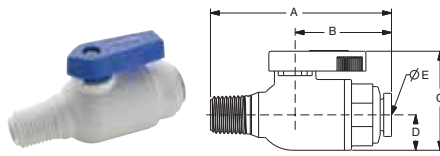
**VEU - Valve Elbow Union**

PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VEU4-MG	1/4	1/4	1.75	1.22	2.33	1.42	.19
PP4VEU6-MG	1/4	3/8	1.75	1.22	2.33	1.42	.11
PP6VEU4-MG	3/8	1/4	1.83	1.30	2.32	1.40	.19
PP6VEU6-MG	3/8	3/8	1.85	1.32	2.34	1.44	.25



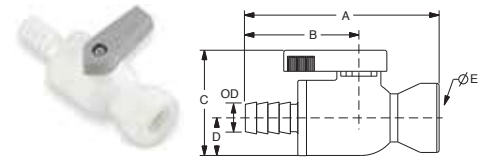
**VTEU - Valve Tube Elbow Union**

PART NUMBER	NOM. TUBE O.D.	STEM	A	B	C	D	ØE THRU HOLE MIN.
PP4VTEU6-MG	1/4	3/8	1.75	1.22	2.43	1.50	.17
PP6VTEU6-MG	3/8	3/8	1.83	1.30	2.43	1.50	.25



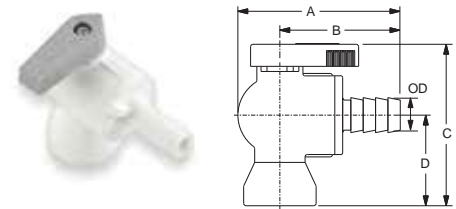
**VMC - Valve Male Connector**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VMC2-MG (+)	1/4	1/8	2.22	1.21	1.4	.5	.19
PP4VMC4-MG	1/4	1/4	2.40	1.21	1.4	.5	.19
PP4VMC6-MG	1/4	3/8	2.40	1.21	1.4	.5	.19
PP4VMC8-MG (+)	1/4	1/2	2.59	1.21	1.4	.5	.19
PP6VMC2-MG (+)	3/8	1/8	2.33	1.32	1.4	.5	.25
PP6VMC4-MG	3/8	1/4	2.51	1.32	1.4	.5	.25
PP6VMC6-MG	3/8	3/8	2.51	1.32	1.4	.5	.25
PP6VMC8-MG (+)	3/8	1/2	2.70	1.32	1.4	.5	.25



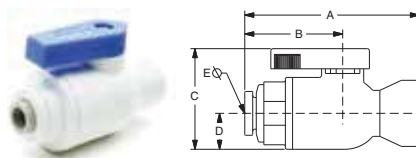
**VFC - Valve Barbed Female Connector**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VFC4	1/4	1/4	.31	2.76	1.60	1.41	.50	.15
PBPP6VFC6	3/8	3/8	.43	2.79	1.60	1.41	.50	.19



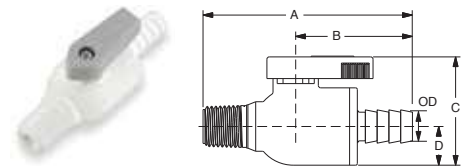
**VFE - Valve Barbed Female Elbow**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VFE4	1/4	1/4	.31	2.13	1.60	2.05	1.15	.15
PBPP6VFE4	3/8	1/4	.43	2.13	1.60	2.05	1.15	.15
PBPP6VFE6	3/8	3/8	.43	2.13	1.60	2.18	1.28	.19



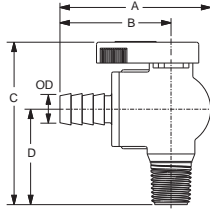
**VFC - Valve Female Connector**

PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
PP4VFC2-MG	1/4	1/8	2.04	1.21	1.4	.5	.19
PP4VFC4-MG	1/4	1/4	2.27	1.21	1.4	.5	.19
PP4VFC6-MG	1/4	3/8	2.40	1.21	1.4	.5	.19
PP6VFC2-MG	3/8	1/8	2.15	1.32	1.4	.5	.25
PP6VFC4-MG	3/8	1/4	2.38	1.32	1.4	.5	.25
PP6VFC6-MG	3/8	3/8	2.51	1.32	1.4	.5	.25



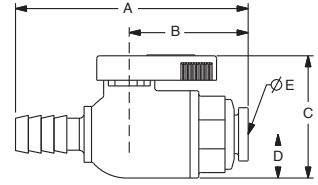
**VMC - Valve Barbed Male Connector**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VMC4	1/4	1/4	.31	2.79	1.60	1.42	.50	.15
PBPP6VMC6	3/8	3/8	.43	2.79	1.60	1.42	.50	.19



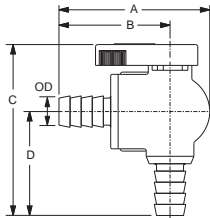
**VME - Valve Barbed Male Elbow**

PART NO.	HOSE I.D.	NPTF THD.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VME4	1/4	1/4	.31	2.13	1.60	2.18	1.28	.15
PBPP6VME6	3/8	3/8	.43	2.13	1.60	2.18	1.28	.19



**VUCPB - Valve Union Connector Barbed x Tube**

PART NO.	HOSE ID	TUBE OD	OD	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VUCPB4	1/4	1/4	.31	2.40	1.08	1.42	.50	.15
LFPP6VUCPB6	3/8	3/8	.43	2.63	1.32	1.42	.50	.19

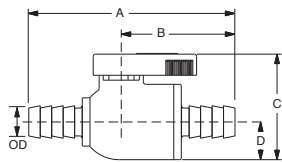
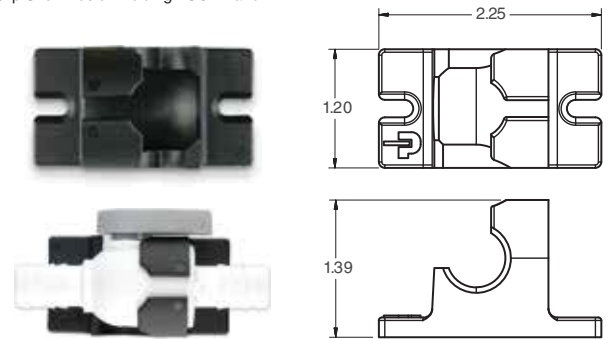


**VEU - Parbarb Elbow Ball Valve**

PART NO.	HOSE I.D.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VEU4	1/4	.31	2.13	1.57	2.32	1.40	.15
PBPP6VEU6	3/8	.43	2.13	1.60	2.32	1.40	.25
PBPP8VEU8	1/2	.55	2.13	1.60	2.32	1.40	.25

**BVC Ball Valve Clip**

BV-Clip Shown below holding VUCPB and VME



**VUC - Valve Barbed Union Connector**

PART NO.	HOSE I.D.	O.D.	A	B	C	D	ØE THRU HOLE MIN.
PBPP4VUC4	1/4	.31	2.91	1.60	1.42	.50	.15
PBPP6VUC6	3/8	.43	2.91	1.60	1.42	.50	.19
PBPP8VUC8	1/2	.55	2.91	1.60	1.42	.50	.25

# Cartridges



Parker has developed a range of cartridges guaranteeing the integrity of the sealing system before and after assembly in non-threaded cavities. The compact design of the one-piece cartridges enables automation of your manufacturing process and improves the reliability of your system.

## Product Features:

- Self-centering of the cartridge in the cavity
- Push-in connection
- Designed for automation assembly process
- SAE & NSF cartridges available

## Markets:

- Industrial
- Pneumatic
- Filtration
- Semi-Conductor
- Life Science
- Automation
- Heavy Duty Truck

## Applications:

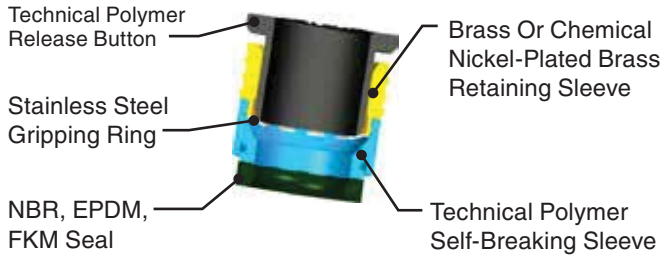
- Air
- Water
- Beverage Dispensing
- Cab Controls
- Packaging
- Labeling

## Specifications:

	Pressure	Temperature
<b>Carstick</b>	Up to 290 PSI (20 bar)	-4° to +175° F (-20° to +79.4° C)
<b>PLM/PLS</b>	Up to 435 PSI (30 bar)	-4° to +302° F (-20° to +150° C)
<b>LIQUIfit</b>	Up to 230 PSI (15.9 bar)	35° to +200° F (+1.7° to +93.3° C)
<b>TrueSeal</b>	Up to 150 PSI (10.3 bar)	-20° to +180° F (-28.9° to +82.2° C)
<b>SAE Encapsulated</b>	Up to 250 PSI (17.2 bar)	-40° to +200° F (-40° to +93.3° C)

# Carstick® Cartridges

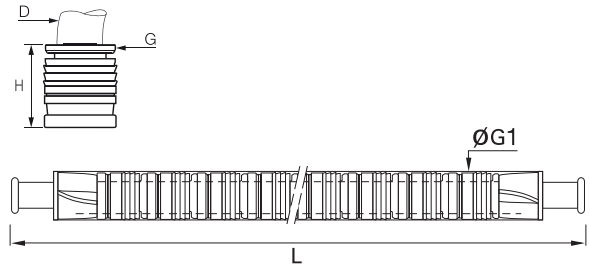
## Component Materials



### 3100 Carstick® Cartridge Brass

PART NO.	OD	G	G1	H	L	KG
3100 04 00	4	8	11	10	554	.001
3100 06 00	6	10	14.5	11.5	629	.002
3100 08 00	8	13	15	15	794	.002
3100 10 00	10	15.5	19.5	17	930	.005
3100 12 00	12	19.5	21	19.5	1038	.010

50 cartridges per Carstick®



### 3100 Carstick® Cartridge Nickel-Plated Brass Inch

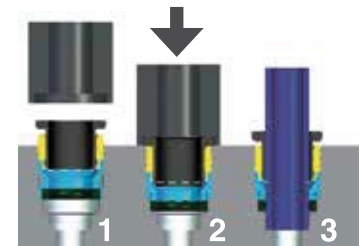
PART NO.	OD	G	G1	H	L	KG
3100 53 00 99	1/8	7	10	9	508	.002
3100 56 00 99	1/4	10.5	14.5	12	600	.003
3100 60 00 99	3/8	15.5	19	16.5	930	.006

50 cartridges per Carstick®  
5/32" (4mm) and 5/16" (8mm) also available



## Installation

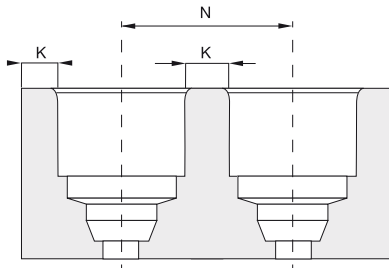
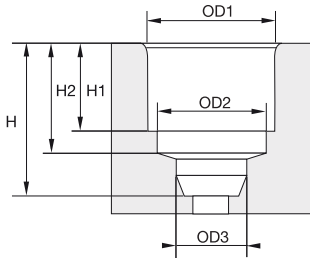
1. Self-centering of the cartridge in the cavity.
2. The seal protection is broken. The seal slides into the cavity. The cartridge is in place.
3. Tube connection.



Assembly Tool: For details on the assembly tool, please contact us.



# Carstick® Cavity Dimensions



Please consult us for detailed drawings of cavity dimensions and tolerances. All our dimensions are in millimeters.

## Carstick® & Quick Fitting Metric

CAVITY	OD3	H	H1	H2
4	4.1	10	6	8.15
6	6.1	12	7.5	9.65
8	8.15	15.5	9.9	12.45
10	10.25	19	11.7	14.35
12	12.17	22	13.9	16.75

## Carstick® Inch

CAVITY	OD3	H	H1	H2
1/8	3.25	9.5	5.3	7.45
5/32 *	4.1	10	6	8.15
1/4	6.45	12.5	8	10.15
5/16 *	8.15	15.5	9.9	12.45
3/8	9.65	19	11.7	14.35

## Polyamide Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.05	9.8	1.5
6	10.2	9.15	12.2	2
8	12.15	10.85	14.2	2
10	14.8	13.2	16.8	2
12	17.5	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.05	6.02	8.6	1.5
5/32*	8.25	7.05	9.75	1.5
1/4	10.55	9.35	12.6	2
5/16*	12.15	10.85	14.2	2
3/8	14.8	13.1	16.8	2

## Aluminum Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.5	11.5	3
6	10.3	9.15	13.5	3
8	12.2	10.85	15.2	3
10	15.05	13.2	17.1	2
12	17.5	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	11.25	3
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	15.2	3
3/8	15.05	13.1	17.1	2

## Brass Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.05	10.25	2
6	10.25	9.1	12.25	2
8	12.2	10.85	14.25	2
10	15.05	13.2	17.1	2
12	17.65	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	10.25	2
1/4	10.6	9.35	12.65	2
5/16*	12/2	10.85	14.25	2
3/8	10.05	13.1	17.1	2

\* Carstick®

\*5/32"=4mm and 5/16"=8mm

# LIQUIfit® Cartridges



## 6300 LIQUIfit Cartridge Brass

PART NO.	OD	G	G1	H	L	KG
6300 04 00	4	8	11	10	554	.002
6300 06 00	6	10	14.5	11.5	629	.002
6300 08 00	8	13	15	15	794	.003
6300 10 00	10	15.5	19.5	17	930	.005
6300 12 00	12	18.5	21	19.5	1038	.010

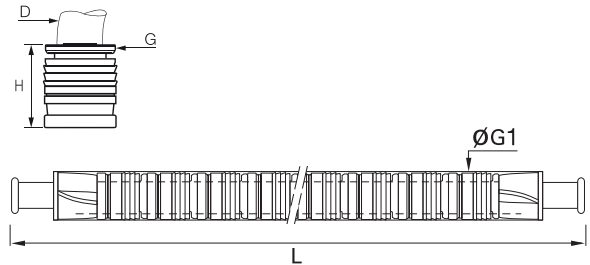
50 cartridges per Carstick®



## 6300 LIQUIfit Cartridge Nickel-Plated Brass

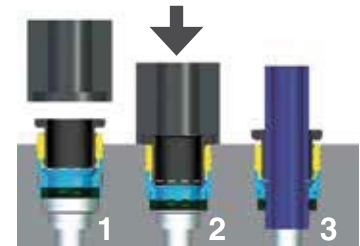
PART NO.	OD	G	G1	H	L	KG
6300 56 00	1/4	10.5	14.5	12.5	600	.002
6300 60 00	3/8	15.5	19	17	930	.005
6300 62 00	1/2	22	25	23	1038	.011

50 cartridges per Carstick®  
5/32" (4mm) and 5/16" (8mm) also available



## Installation

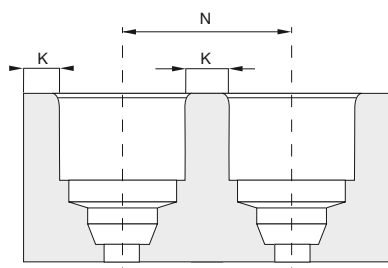
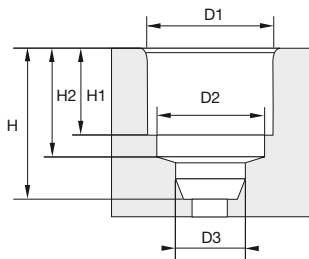
1. Self-centering of the cartridge in the cavity.
2. The seal protection is broken. The seal slides into the cavity. The cartridge is in place.
3. Tube connection.



Assembly Tool: For details on the assembly tool, please contact us.



# LIQUIfit® Carstick® Cavity Dimensions



Please consult us for detailed drawings of cavity dimensions and tolerances. All our dimensions are in millimeters.

## LIQUIfit® Carstick® Metric

CAVITY	OD3	H	H1	H2
4	4.1	10	6	8.15
6	6.1	12	7.5	9.65
8	8.15	15.5	9.9	12.45
10	10.25	19	11.7	14.35
12	12.17	22	13.9	16.75

## LIQUIfit® Carstick® Inch

CAVITY	OD3	H	H1	H2
1/8	3.25	7.45	5.3	9.5
5/32*	4.1	8.15	6	10
1/4	6.45	10.15	8	12.5
5/16*	8.15	12.45	9.9	15.5
3/8	9.65	14.35	11.7	19

## Polyamide Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.05	9.8	1.5
6	10.2	9.15	12.2	2
8	12.15	10.85	14.2	2
10	14.8	13.2	16.8	2
12	17.5	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.05	6.02	8.6	1.5
5/32*	8.25	7.05	9.75	1.5
1/4	10.55	9.35	12.6	2
5/16*	12.15	10.85	14.2	2
3/8	14.8	13.1	16.8	2

## Aluminum Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.5	11.5	3
6	10.3	9.15	13.5	3
8	12.2	10.85	15.2	3
10	15.05	13.2	17.1	2
12	17.5	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	11.25	3
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	15.2	3
3/8	15.05	13.1	17.1	2

## Brass Cavity

CAVITY	OD1	OD2	N*	K
4	8.25	7.05	10.25	2
6	10.25	9.1	12.25	2
8	12.2	10.85	14.25	2
10	15.05	13.2	17.1	2
12	17.65	15.5	20	2.5

CAVITY	OD1	OD2	N	K
1/8	7.1	6.2	8.6	1.5
5/32*	8.25	7.05	10.25	2
1/4	10.6	9.35	12.65	2
5/16*	12.2	10.85	14.25	2
3/8	10.05	13.1	17.1	2

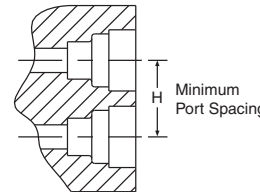
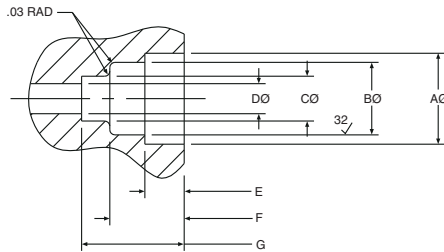
\*5/32"=4mm and 5/16"=8mm

# TrueSeal™ Cartridges



## TSC - Cartridge Insert

PART NUMBER WITH EPDM SEAL	NOM. TUBE O.D.	A* DIAMETER ±002	B DIAMETER ±003	C DIAMETER ±003	D DIAMETER MAXIMUM	E DEPTH ±002	F DEPTH ±002	G DEPTH ±002	H* CENTERLINE OF PORTS MINIMUM
ATSC4-MG	1/4	.528	.421	.260	.19	.230	.435	.600	.670
ATSC6-MG	3/8	.632	.545	.385	.31	.280	.455	.705	.790
ATSC8-MG	1/2	.774	.668	.510	.41	.315	.510	.810	1.250



### Parker TrueSeal™ Cartridge Inserts:

Allow you to machine or mold a tube connection into your equipment or components. By using cartridge inserts, you will reduce your material and assembly costs, reduce potential leak paths, and give your equipment a new, clean profile by eliminating the need for threaded connections. TSC Cartridge Inserts consist of 1 o-ring, 1 cartridge, and 1 collet.

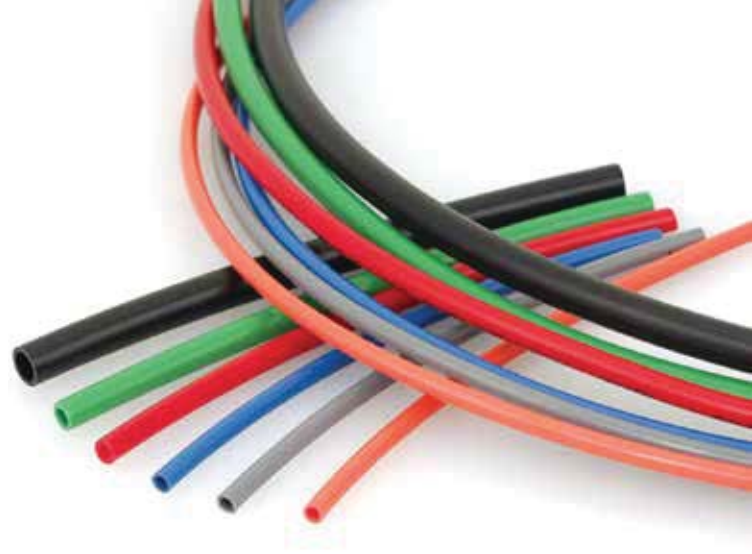
\*Cartridge inserts are rated at 150 PSI in ports dimensioned as above and having Noryl as the receiving material. Other materials may have different ratings and require different port dimensions. Consult the Fluid System Connectors Division when using polypropylene, unfilled polypropylene, ABS or Nylon.

### Assembly Instructions:

1. Machine or mold the receiving orifice as per the above dimensions.
2. Place the cartridge insert squarely onto the prepared port opening making sure that the barbs of the cartridge are going into the hole and the lettering on the face of the cartridge is visible.
3. Using a rubber mallet or press, insert the cartridge into the first gland orifice until its face is flush with the top surface of the port.
4. Insert the o-ring into the cartridge and seat it evenly into the second gland orifice.
5. Insert the collet into the cartridge opening.
6. Insert tubing.







# Polyethylene Tubing

**Series E: Instrument Grade – FDA, NSF Listed**

**Series EB: Ultraviolet Light Resistant**

## Product Features:

- Made from 100% virgin resin material
- Chemically resistant and flexible
- High molecular weight resin provides increased dimensional stability, uniformity and long-term strength
- Economical system solution

## Certifications

- FDA compliant for food contact
- ASTM D-1693 (10% IGEPAL) for stress crack resistance
- NSF/ANSI 51
- NSF/ANSI 61

## Applications/Markets

- Potable water
- Chemical transfer
- Low-pressure pneumatics

## Notes

- FDA compliant, NSF/ANSI 51 and NSF/ANSI 61 black polyethylene tubing is also available. Add -NSF suffix to the EB part number (ie. EB-64-0500-NSF)
- E series natural and colored tubing meet FDA and NSF/ANSI 51 requirements for food contact applications and NSF/ANSI 61 for potable water
- Resistant to environmental stress cracking exceeding that of ordinary polyethylene tubing as measured by ASTM D-1693 (10% IGEPAL)
- Black (EB) tubing contains an ultraviolet inhibitor which is recommended for use in sunlit areas and in close proximity to high ultraviolet light sources
- All tubing conforms to ASTM D-1248, Type I, Class A, Category 4, Grade E5
- The recommended operating temperature range for service at rated pressures with compatible fluids is -80° to +150° F (-62° to +66° C)

## Colors

- See Color Code Table

## Polyethylene Tubing

PART NUMBER NATURAL	PART NUMBER BLACK	TUBE O.D.		TUBE I.D.		AVERAGE WALL THICKNESS		WORKING PRESSURE AT 73°F /23°C		MINIMUM BURST AT 73°F /23°C		PACKAGE QUANTITY	MINIMUM BEND RADIUS		WEIGHT	
		INCH	MM	INCH	MM	INCH	MM	PSI	BAR	PSI	BAR		FEET	INCH	MM	LBS./FT.
E-43-XXXX	EB-43-XXXX	1/4	6.4	.170	4.3	.040	1.0	120	8.3	480	33.1	0100, 0500, 1000	1.00	25.4	.011	.016
E-53-XXXX	EB-53-XXXX	5/16	7.9	.187	4.8	.062	1.6	145	10.0	580	40.0	0100, 0500	1.13	28.7	.020	.030
E-64-XXXX	EB-64-XXXX	3/8	9.5	.250	6.4	.062	1.6	125	8.6	500	34.5	0100, 0500	1.25	31.8	.025	.037
E-86-XXXX	EB-86-XXXX	1/2	12.7	.375	9.5	.062	1.6	90	6.2	360	24.8	0100, 0500	2.50	63.5	.034	.051
E-108-XXXX	EB-108-XXXX	5/8	15.9	.500	12.7	.062	1.6	70	4.8	280	19.3	0100	4.00	101.6	.044	.065

STANDARD BLACK IS NOT NSF APPROVED.

## Order Information

**Example: E-64-Y-0500**

**E-64-Y-0500 – Polyethylene**

E-64-Y-0500 – **Tube O.D.** in sixteenths of an inch (3/8")

E-64-Y-0500 – **Tube I.D.** in sixteenths of an inch (.250")

E-64-Y-0500 – **Color**, i.e. Yellow (Omit for Natural and Black)

**E-64-0500 – Natural Polyethylene**

**EB-64-0500 – Black Polyethylene**

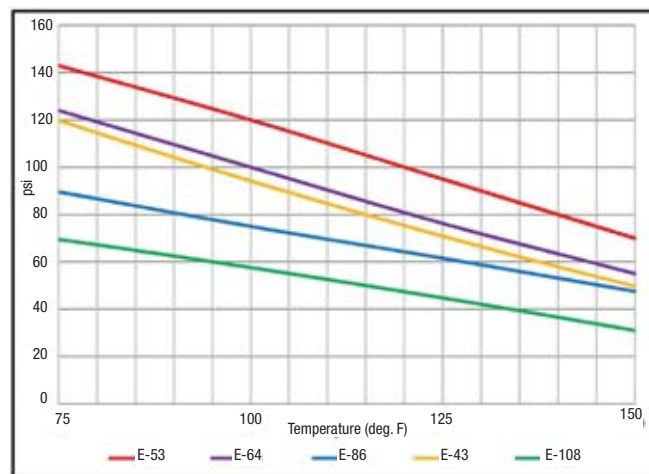
**E-64-Y-0500 – Package Quantity** in feet (500')

COLOR CODE		
●	E	NATURAL
●	EB	BLACK
●	B	BLUE
●	G	GREEN
●	O	ORANGE
●	P	PURPLE
●	R	RED
●	GRA	GRAY
●	Y	YELLOW
○	WHT	WHITE

Available in black as well as nine other colors, as recommended by the Instrument Society of America

## Polyethylene Tubing (Series E)

### Maximum Working Pressure (psig)



# Polypropylene Tubing



**Series PP: Laboratory Grade – FDA, NSF Listed**

**Series PPB: Ultraviolet Light Resistant**

## Product Features:

- Acid and chemically resistant
- May be used in higher temperatures and working pressures than polyethylene tubing
- Excellent compatibility with high temperature water
- Low water absorption (less than .01%)
- Good compatibility with vegetable oils
- Excellent resistance to environmental stress cracking

## FSC Product Families:

- Compression
- Compress-Align®
- Poly-Tite
- Hi-Duty
- Fast & Tite
- Prestolok Brass
- TrueSeal™

A tube support should be used with this tubing for maximum holding power where end loading, vibration or pressure spikes may occur.

## Notes

- NSF black polypropylene tubing is available upon special request. Add -FDA suffix to PPB part number
- Suggested operating temperature range for service at rated pressures with compatible fluids is 0° to +200° F (-18° to +93° C)

## Colors

- White
- Black

## Certifications

- FDA compliant
- NSF/ANSI 51

(Both in white; NSF also in special black part numbers)

## Applications/Markets

- Food contact - White only
- Chemical transfer
- Chlorinated water

### Polypropylene Tubing

PART NUMBER WHITE	PART NUMBER BLACK	TUBE O.D.		TUBE I.D.		AVERAGE WALL THICKNESS		WORKING PRESSURE AT 73°F / 23°C		MINIMUM BURST AT 73°F / 23°C		REEL LENGTH	MINIMUM BEND RADIUS		WEIGHT	
		INCH	MM	INCH	MM	INCH	MM	PSI	BAR	PSI	BAR	FEET	INCH	MM	LBS./FT.	KG./MTR.
PP-21-1000	PPB-21-1000	1/8	3.2	.079	2.0	.023	0.58	350	24.1	1400	96.4	1000	.50	12.7	.003	.005
PP-32-0500	PPB-32-0500	3/16	4.8	.120	3.1	.034	0.86	350	24.1	1400	96.4	0500	.75	14.4	.006	.009
PP-43-0500	PPB-43-0500	1/4	6.4	.170	4.3	.040	1.0	300	20.7	1200	82.7	0500	1.00	25.4	.010	.019
PP-53-0500	PPB-53-0500	5/16	7.9	.188	4.8	.062	1.6	350	24.1	1400	96.4	0500	1.25	31.8	.019	.028
PP-64-0500	PPB-64-0500	3/8	9.5	.250	6.4	.062	1.6	300	20.7	1200	82.7	0500	1.25	31.8	.024	.036
PP-86-0250	PPB-86-0250	1/2	12.7	.375	9.5	.062	1.6	225	15.5	900	62.1	0250	2.50	63.5	.033	.049
PP-108-0100	PPB-108-0100	5/8	15.9	.500	12.7	.062	1.6	175	12.1	700	48.3	0100	4.00	101.6	.042	.062

### Order Information

**Example: PP-86-0250**

PP-86-0250 – Polypropylene

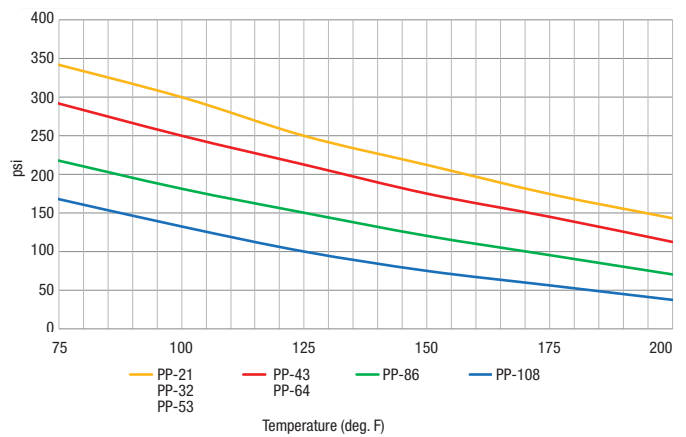
PP-86-0250 – Tube O.D. in sixteenths of an inch (1/2")

PP-86-0250 – Tube I.D. in sixteenths of an inch (.375")

PP-86-0250 – Package Quantity in feet (250')

### Polypropylene Tubing (Series PP & PPB)

#### Maximum Working Pressure (psig)



### SC - Safety Clip

(Patent No. 6,065,779)



PART NUMBER	PART NUMBER	FOR NOMINAL TUBE O.D.
SC-4	SC-4-B	1/4
SC-5	SC-5-B	5/16
SC-6	SC-6-B	3/8
SC-8	SC-8-B	1/2

### TS - Tube Supports



NYLON PART NUMBER	PPL PART NUMBER
N4TS3	P4TS3
N5TS3	P5TS3
N6TS4	P6TS4
N8TS6	P8TS6

To be used with soft durometer tubing.

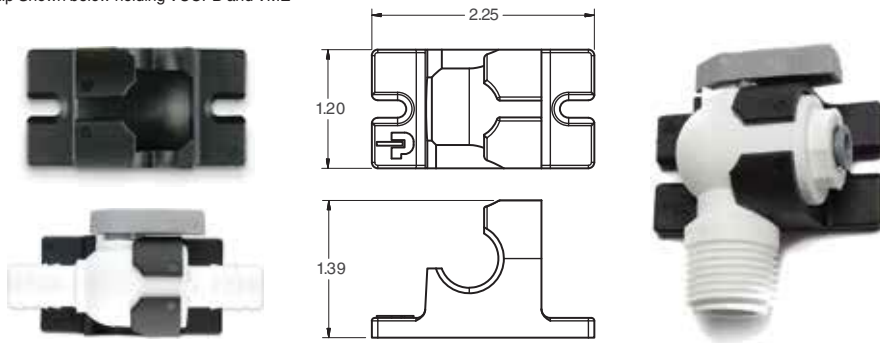


### AQRT - Quick Release Tool

Makes disconnection of tube adapters and tubing a breeze.

### BVC Ball Valve Clip

BV-Clip Shown below holding VUCPB and VME



## LIQUIfit® 92 Piece Service Kit

- Part number 92WATKIT
- Products available in most common tube diameters: 1/4" and 3/8"
- 1/4" and 3/8" NPT threads
- Service Kit contains a selection of 92 configurations of our most used products











## Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories

Parker Publication No. 4400-B.1

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**WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies or related accessories (“Products”) can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:**

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocutation from high voltage electric powerlines.
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any of these Products, it is important that you read and follow the instructions below. Only Hose from Parker’s Stratoflex Products Division is approved for in flight aerospace applications, and no other Hose can be used for such in flight applications.

### 1.0 GENERAL INSTRUCTIONS

- 1.1 Scope:** This safety guide provides instructions for selecting and using (including assembling, installing, and maintaining) these Products. For convenience, all rubber and/or thermoplastic products commonly called “hose” or “tubing” are called “Hose” in this safety guide. All assemblies made with Hose are called “Hose Assemblies”. All products commonly called “fittings” or “couplings” are called “Fittings”. All related accessories (including crimping and swaging machines and tooling) are called “Related Accessories”. This safety guide is a supplement to and is to be used with, the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use.
- 1.2 Fail-Safe:** Hose, and Hose Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the Hose or Hose Assembly or Fitting will not endanger persons or property.
- 1.3 Distribution:** Provide a copy of this safety guide to each person that is responsible for selecting or using Hose and Fitting products. Do not select or use Parker Hose or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.4 User Responsibility:** Due to the wide variety of operating conditions and applications for Hose and Fittings, Parker and its distributors do not represent or warrant that any particular Hose or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
- Making the final selection of the Hose and Fitting.
  - Assuring that the user’s requirements are met and that the application presents no health or safety hazards.
  - Providing all appropriate health and safety warnings on the equipment on which the Hose and Fittings are used.
  - Assuring compliance with all applicable government and industry standards.

- 1.5 Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to [www.parker.com](http://www.parker.com), for telephone numbers of the appropriate technical service department.

### 2.0 HOSE AND FITTING SELECTION INSTRUCTIONS

- 2.1 Electrical Conductivity:** Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fitting and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.
- The electrical conductivity or nonconductivity of Hose and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose, age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors.
- The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.
- 2.1.1 Electrically Nonconductive Hose:** Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain electrical isolation. For these applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fitting for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked “nonconductive”, and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose and Fitting for such use.
- 2.1.2 Electrically Conductive Hose:** Parker manufacturers special Hose for certain applications that require electrically conductive Hose.
- Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled “Electrically Conductive Airless Paint Spray Hose” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage.
- Parker manufactures a special Hose for certain compressed natural gas (“CNG”) applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with AGA

Requirements 1-93, “Hoses for Natural Gas Vehicles and Fuel Dispensers”. This Hose is labeled “Electrically Conductive for CNG Use” on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in, for example, high velocity CNG dispensing or transfer. Do not use any other Hose for CNG applications where static charge buildup may occur, even if electrically conductive. Use of other Hoses in CNG applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Care must also be taken to protect against CNG permeation through the Hose wall. See section 2.6, Permeation, for more information. Parker CNG Hose is intended for dispenser and vehicle use at a maximum temperature of 180°F. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding 180°F. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per AGA 1-93. Parker manufacturers special Hose for aerospace in flight applications. Aerospace in flight applications employing Hose to transmit fuel, lubricating fluids and hydraulic fluids require a special Hose with a conductive inner tube. This Hose for in flight applications is available only from Parker’s Stratoflex Products Division. Do not use any other Parker Hose for in flight applications, even if electrically conductive. Use of other Hoses for in flight applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. These Hose assemblies for in flight applications must meet all applicable aerospace industry, aircraft engine, and aircraft requirements.

- 2.2 Pressure:** Hose selection must be made so that the published maximum recommended working pressure of the Hose is equal to or greater than the maximum system pressure. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.
- 2.3 Suction:** Hoses used for suction applications must be selected to insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.
- 2.4 Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose. Temperatures below and above the recommended limit can degrade Hose to a point where a failure may occur and release fluid. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.
- 2.5 Fluid Compatibility:** Hose Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, and Fittings with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis.
- Hose that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals.
- 2.6 Permeation:** Permeation (that is, seepage through the Hose) will occur from inside the Hose to outside when Hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose Assembly.
- Permeation of moisture from outside the Hose to inside the Hose will also occur in Hose assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used.
- 2.7 Size:** Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.
- 2.8 Routing:** Attention must be given to optimum routing to minimize inherent problems (kinking or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources).

- 2.9 Environment:** Care must be taken to insure that the Hose and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals, and air pollutants can cause degradation and premature failure.
- 2.10 Mechanical Loads:** External forces can significantly reduce Hose life or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Unusual applications may require special testing prior to Hose selection.
- 2.11 Physical Damage:** Care must be taken to protect Hose from wear, snagging, kinking, bending smaller than minimum bend radius, and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged, should be removed and discarded.
- 2.12 Proper End Fitting:** See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.
- 2.13 Length:** When establishing a proper Hose length, motion absorption, Hose length changes due to pressure, and Hose and machine tolerances and movement must be considered.
- 2.14 Specifications and Standards:** When selecting Hose and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.
- 2.15 Hose Cleanliness:** Hose components may vary in cleanliness levels. Care must be taken to insure that the Hose Assembly selected has an adequate level of cleanliness for the application.
- 2.16 Fire Resistant Fluids:** Some fire resistant fluids that are to be conveyed by Hose require use of the same type of Hose as used with petroleum base fluids. Some such fluids require a special Hose, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.
- 2.17 Radiant Heat:** Hose can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose.
- 2.18 Welding or Brazing:** When using a torch or arc-welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing, or soldering may emit deadly gases.
- 2.19 Atomic Radiation:** Atomic radiation affects all materials used in Hose assemblies. Since the long-term effects may be unknown, do not expose Hose assemblies to atomic radiation.
- 2.20 Aerospace Applications:** The only Hose and Fittings that may be used for in flight aerospace applications are those available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.
- 2.21 Unlocking Couplings:** Ball locking couplings or other couplings with disconnect sleeves can unintentionally disconnect if they are dragged over obstructions or if the sleeve is bumped or moved enough to cause disconnect. Threaded couplings should be considered where there is a potential for accidental uncoupling.
- 3.0 HOSE AND FITTING ASSEMBLY AND INSTALLATION INSTRUCTIONS**
- 3.1 Component Inspection:** Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness, obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.
- 3.2 Hose and Fitting Assembly:** Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturer's Hose or a Parker Hose on another manufacturer's Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4. The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at [www.parker.com](http://www.parker.com).
- 3.3 Related Accessories:** Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturer's Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.4 Parts:** Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.
- 3.5 Reusable/Permanent:** Do not reuse any field attachable (reusable) Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.
- 3.6 Pre-Installation Inspection:** Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. Do NOT use any Hose Assembly that displays any signs of nonconformance.
- 3.7 Minimum Bend Radius:** Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.
- 3.8 Twist Angle and Orientation:** Hose Assembly installation must be such that relative motion of machine components does not produce twisting.
- 3.9 Securement:** In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.
- 3.10 Proper Connection of Ports:** Proper physical installation of the Hose Assembly requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use.
- 3.11 External Damage:** Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage, or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.
- 3.12 System Checkout:** All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.
- 3.13 Routing:** The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame, or sparks, a fire or explosion may occur. See section 2.4.
- 4.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS**
- 4.1** Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.7.
- 4.2 Visual Inspection Hose/Fitting:** Any of the following conditions require immediate shut down and replacement of the Hose Assembly:
- Fitting slippage on Hose,
  - Damaged, cracked, cut or abraded cover (any reinforcement exposed);
  - Hard, stiff, heat cracked, or charred Hose;
  - Cracked, damaged, or badly corroded Fittings;
  - Leaks at Fitting or in Hose;
  - Kinked, crushed, flattened or twisted Hose; and
  - Blistered, soft, degraded, or loose cover.
- 4.3 Visual Inspection All Other:** The following items must be tightened, repaired, corrected or replaced as required:
- Leaking port conditions;
  - Excess dirt buildup;
  - Worn clamps, guards or shields; and
  - System fluid level, fluid type, and any air entrapment.
- 4.4 Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.
- 4.5 Replacement Intervals:** Hose assemblies and elastomeric seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2.
- 4.6 Hose Inspection and Failure:** Hydraulic power is accomplished by utilizing high-pressure fluids to transfer energy and do work. Hoses, Fittings, and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear, or failure to perform proper maintenance. When Hoses fail, generally the high-pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by "feeling" with their hands or any other part of their body. High-pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid.
- If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely. Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information.
- Never touch or examine a failed Hose Assembly unless it is obvious that the Hose no longer contains fluid under pressure. The high-pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.
- 4.7 Elastomeric seals:** Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.
- 4.8 Refrigerant gases:** Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.
- 4.9 Compressed natural gas (CNG):** Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per AGA 1-93 Section 4.2 "Visual Inspection Hose/Fitting". The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage.
- Caution: Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.

## PARKER-HANNIFIN CORPORATION OFFER OF SALE

1. **Definitions.** As used herein, the following terms have the meanings indicated.

Buyer:	means any customer receiving a Quote for Products from Seller.
Goods:	means any tangible part, system or component to be supplied by the Seller.
Products:	means the Goods, Services and/or Software as described in a Quote provided by the Seller.
Quote:	means the offer or proposal made by Seller to Buyer for the supply of Products.
Seller:	means Parker-Hannifin Corporation, including all divisions and businesses thereof.
Services:	means any services to be supplied by the Seller.
Software:	means any software related to the Products, whether embedded or separately downloaded.
Terms:	means the terms and conditions of this Offer of Sale or any newer version of the same as published by Seller electronically at <a href="http://www.parker.com/saleterms">www.parker.com/saleterms</a> .

2. **Terms.** All sales of Products by Seller are contingent upon, and will be governed by, these Terms and, these Terms are incorporated into any Quote provided by Seller to any Buyer. Buyer's order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other electronic commerce, shall constitute acceptance of these Terms. Seller objects to any contrary or additional terms or conditions of Buyer. Reference in Seller's order acknowledgement to Buyer's purchase order or purchase order number shall in no way constitute an acceptance of any of Buyer's terms of purchase. No modification to these Terms will be binding on Seller unless agreed to in writing and signed by an authorized representative of Seller.
3. **Price; Payment.** The Products set forth in Seller's Quote are offered for sale at the prices indicated in Seller's Quote. Unless otherwise specifically stated in Seller's Quote, prices are valid for thirty (30) days and do not include any sales, use, or other taxes or duties. Seller reserves the right to modify prices at any time to adjust for any raw material price fluctuations. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2010). All sales are contingent upon credit approval and payment for all purchases is due thirty (30) days from the date of invoice (or such date as may be specified in the Quote). Unpaid invoices beyond the specified payment date incur interest at the rate of 1.5% per month or the maximum allowable rate under applicable law.
4. **Shipment; Delivery; Title and Risk of Loss.** All delivery dates are approximate. Seller is not responsible for damages resulting from any delay. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the shipment carrier at Seller's facility. Unless otherwise agreed, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyers' request beyond the respective indicated shipping date will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.
5. **Warranty.** The warranty related to the Products is as follows: (i) Goods are warranted against defects in material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of use, whichever occurs first; (ii) Services shall be performed in accordance with generally accepted practices and using the degree of care and skill that is ordinarily exercised and customary in the field to which the Services pertain and are warranted for a period of six (6) months from the completion of the Services by Seller; and (iii) Software is only warranted to perform in accordance with applicable specifications provided by Seller to Buyer for ninety (90) days from the date of delivery or, when downloaded by a Buyer or end-user, from the date of the initial download. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer:

**DISCLAIMER OF WARRANTY: THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE SOFTWARE IS ERROR-FREE OR FAULT-TOLERANT, OR THAT**

**BUYER'S USE THEREOF WILL BE SECURE OR UNINTERRUPTED. BUYER AGREES AND ACKNOWLEDGES THAT UNLESS OTHERWISE AUTHORIZED IN WRITING BY SELLER THE SOFTWARE SHALL NOT BE USED IN CONNECTION WITH HAZARDOUS OR HIGH RISK ACTIVITIES OR ENVIRONMENTS. EXCEPT AS EXPRESSLY STATED HEREIN, ALL PRODUCTS ARE PROVIDED "AS IS".**

6. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to the Seller within ten (10) days of delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the non-conformance is or should have been discovered by Buyer. Any claim or action against Seller based upon breach of contract or any other theory, including tort, negligence, or otherwise must be commenced within twelve (12) months from the date of the alleged breach or other alleged event, without regard to the date of discovery.
7. **LIMITATION OF LIABILITY.** IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING PRODUCT, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. **IN NO EVENT IS SELLER LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON- DELIVERY, SERVICING, NON-COMPLETION OF SERVICES, USE, LOSS OF USE OF, OR INABILITY TO USE THE PRODUCTS OR ANY PART THEREOF, LOSS OF DATA, IDENTITY, PRIVACY, OR CONFIDENTIALITY, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, WHETHER BASED IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS.**
8. **Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which are or become Buyer's property, will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the Products manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.
9. **Special Tooling.** Special Tooling includes but is not limited to tooling, jigs, fixtures and associated manufacturing equipment acquired or necessary to manufacture Products. A tooling charge may be imposed for any Special Tooling. Such Special Tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in Special Tooling belonging to Seller that is utilized in the manufacture of the Products, even if such Special Tooling has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller has the right to alter, discard or otherwise dispose of any Special Tooling or other property in its sole discretion at any time.
10. **Security Interest.** To secure payment of all sums due, Seller retains a security interest in all Products delivered to Buyer and, Buyer's acceptance of these Terms is deemed to be a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.
11. **User Responsibility.** The Buyer through its own analysis and testing, is solely responsible for making the final selection of the Products and assuring that all performance, endurance, maintenance, safety and warning requirements of the application of the Products are met. The Buyer must analyze all aspects of the application and follow applicable industry standards, specifications, and other technical information provided with the Product. If Seller provides Product options based upon data or specifications provided by the Buyer, the Buyer is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products. In the event the Buyer is not the end-user, Buyer will ensure such end-user complies with this paragraph.
12. **Use of Products, Indemnity by Buyer.** Buyer shall comply with all instructions, guides and specifications provided by Seller with the Products. Unauthorized Uses. If Buyer uses or resells the Products for any uses prohibited in Seller's instructions, guides or specifications, or Buyer otherwise fails to comply with Seller's instructions, guides and specifications, Buyer acknowledges that any such use, resale, or non-

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compliance is at Buyer's sole risk. Buyer shall indemnify, defend, and hold Seller harmless from any losses, claims, liabilities, damages, lawsuits, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products provided by Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, tooling, equipment, plans, drawings, designs or specifications or other information or things furnished by Buyer; (d) damage to the Products from an external cause, repair or attempted repair by anyone other than Seller, failure to follow instructions, guides and specifications provided by Seller, use with goods not provided by Seller, or opening, modifying, deconstructing or tampering with the Products for any reason; or (e) Buyer's failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

- 13. Cancellations and Changes.** Buyer may not cancel or modify any order for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller, at any time, may change Product features, specifications, designs and availability.
- 14. Limitation on Assignment.** Buyer may not assign its rights or obligations without the prior written consent of Seller.
- 15. Force Majeure.** Seller does not assume the risk and is not liable for delay or failure to perform any of Seller's obligations by reason of events or circumstances beyond its reasonable control ("Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.
- 16. Waiver and Severability.** Failure to enforce any provision of these Terms will not invalidate that provision; nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of these Terms by legislation or other rule of law shall not invalidate any other provision herein and, the remaining provisions will remain in full force and effect.
- 17. Termination.** Seller may terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or one if filed by a third party (d) makes an assignment for the benefit of creditors; or (e) dissolves its business or liquidates all or a majority of its assets.
- 18. Ownership of Software.** Seller retains ownership of all Software supplied to Buyer hereunder. In no event shall Buyer obtain any greater right in and to the Software than a right in the nature of a license limited to the use thereof and subject to compliance with any other terms provided with the Software.
- 19. Indemnity for Infringement of Intellectual Property Rights.** Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights ("Intellectual Property Rights") except as provided in this Section. Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on a third party claim that one or more of the Products sold hereunder infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by the Seller to the Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products sold hereunder is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products so as to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer; or (ii) directed to any Products provided hereunder for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products provided hereunder. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for such claims of infringement of Intellectual Property Rights.
- 20. Governing Law.** These Terms and the sale and delivery of all Products are deemed to have taken place in, and shall be governed and construed in accordance with, the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive

jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

- 21. Entire Agreement.** These Terms, along with the terms set forth in the main body of any Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. In the event of a conflict between any term set forth in the main body of a Quote and these Terms, the terms set forth in the main body of the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. These Terms may not be modified unless in writing and signed by an authorized representative of Seller.
- 22. Compliance with Laws.** Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer acknowledges that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Product from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws.

# Parker's Motion & Control Product Groups

**At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 1 800 G-Parker (1 800 272 7537).**



## Aerospace

### Key Markets

Aftermarket services  
Commercial transports  
Engines  
General & business aviation  
Helicopters  
Launch vehicles  
Military aircraft  
Missiles  
Power generation  
Regional transports  
Unmanned aerial vehicles

### Key Products

Control systems & actuation products  
Engine systems & components  
Fluid conveyance systems & components  
Fluid metering, delivery & atomization devices  
Fuel systems & components  
Fuel tank inerting systems  
Hydraulic systems & components  
Thermal management  
Wheels & brakes



## Automation

### Key Markets

Alternative energy  
Conveyor & material handling  
Factory automation  
Food & beverage  
Life sciences & medical  
Machine tools  
Packaging machinery  
Paper machinery  
Plastics machinery  
Primary metals  
Safety & security  
Semiconductor & electronics  
Transportation & automotive

### Key Products

AC/DC drives & systems  
Air preparation  
Electric actuators, gantry robots & slides  
Human machine interfaces  
Inverters  
Manifolds  
Miniature fluidics  
Pneumatic actuators & grippers  
Pneumatic valves & controls  
Rotary actuators  
Stepper motors, servo motors, drives & controls  
Structural extrusions  
Vacuum generators, cups & sensors



## Climate & Industrial Controls

### Key Markets

Agriculture  
Air conditioning  
Construction Machinery  
Food & beverage  
Industrial machinery  
Life sciences  
Oil & gas  
Precision cooling  
Process  
Refrigeration  
Transportation

### Key Products

Accumulators  
Advanced actuators  
CO<sub>2</sub> controls  
Electronic controllers  
Filter driers  
Hand shut-off valves  
Heat exchangers  
Hose & fittings  
Pressure regulating valves  
Refrigerant distributors  
Safety relief valves  
Smart pumps  
Solenoid valves  
Thermostatic expansion valves



## Filtration

### Key Markets

Aerospace  
Food & beverage  
Industrial plant & equipment  
Life sciences  
Marine  
Mobile equipment  
Oil & gas  
Power generation & renewable energy  
Process  
Transportation  
Water Purification

### Key Products

Analytical gas generators  
Compressed air filters & dryers  
Engine air, coolant, fuel & oil filtration systems  
Fluid condition monitoring systems  
Hydraulic & lubrication filters  
Hydrogen, nitrogen & zero air generators  
Instrumentation filters  
Membrane & fiber filters  
Microfiltration  
Sterile air filtration  
Water desalination & purification filters & systems



## Fluid Connectors

### Key Markets

Aerial lift  
Agriculture  
Bulk chemical handling  
Construction machinery  
Food & beverage  
Fuel & gas delivery  
Industrial machinery  
Life sciences  
Marine  
Mining  
Mobile  
Oil & gas  
Renewable energy  
Transportation

### Key Products

Check valves  
Connectors for low pressure fluid conveyance  
Deep sea umbilicals  
Diagnostic equipment  
Hose couplings  
Industrial hose  
Mooring systems & power cables  
PTFE hose & tubing  
Quick couplings  
Rubber & thermoplastic hose  
Tube fittings & adapters  
Tubing & plastic fittings



## Hydraulics

### Key Markets

Aerial lift  
Agriculture  
Alternative energy  
Construction machinery  
Forestry  
Industrial machinery  
Machine tools  
Marine  
Material handling  
Mining  
Oil & gas  
Power generation  
Refuse vehicles  
Renewable energy  
Truck hydraulics  
Turf equipment

### Key Products

Accumulators  
Cartridge valves  
Electrohydraulic actuators  
Human machine interfaces  
Hybrid drives  
Hydraulic cylinders  
Hydraulic motors & pumps  
Hydraulic systems  
Hydraulic valves & controls  
Hydrostatic steering  
Integrated hydraulic circuits  
Power take-offs  
Power units  
Rotary actuators  
Sensors



## Instrumentation

### Key Markets

Alternative fuels  
Biopharmaceuticals  
Chemical & refining  
Food & beverage  
Marine & shipbuilding  
Medical & dental  
Microelectronics  
Nuclear Power  
Offshore oil exploration  
Oil & gas  
Pharmaceuticals  
Power generation  
Pulp & paper  
Steel  
Water/wastewater

### Key Products

Analytical Instruments  
Analytical sample conditioning products & systems  
Chemical injection fittings & valves  
Fluoropolymer chemical delivery fittings, valves & pumps  
High purity gas delivery fittings, valves, regulators & digital flow controllers  
Industrial mass flow meters/controllers  
Permanent no-weld tube fittings  
Precision industrial regulators & flow controllers  
Process control double block & bleeds  
Process control fittings, valves, regulators & manifold valves



## Seal

### Key Markets

Aerospace  
Chemical processing  
Consumer  
Fluid power  
General industrial  
Information technology  
Life sciences  
Microelectronics  
Military  
Oil & gas  
Power generation  
Renewable energy  
Telecommunications  
Transportation

### Key Products

Dynamic seals  
Elastomeric o-rings  
Electro-medical instrument design & assembly  
EMI shielding  
Extruded & precision-cut, fabricated elastomeric seals  
High temperature metal seals  
Homogeneous & inserted elastomeric shapes  
Medical device fabrication & assembly  
Metal & plastic retained composite seals  
Shielded optical windows  
Silicone tubing & extrusions  
Thermal management  
Vibration dampening



ENGINEERING YOUR SUCCESS.

# Parker Fluid Connectors Group

## North American Divisions & Distribution Service Centers

**Your complete source** for quality tube fittings, hose & hose fittings, brass & composite fittings, quick-disconnect couplings, valves and assembly tools, locally available from a worldwide network of authorized distributors.

### **Fittings:**

Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon and thermoplastic.

### **Hose, Tubing and Bundles:**

Available in a wide variety of sizes and materials including rubber, wire-reinforced, thermoplastic, hybrid and custom compounds.

### **Worldwide Availability:**

Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe and Asia-Pacific.

**For information**, call toll free...

**1-800-C-PARKER**  
**(1-800-272-7537)**

## **North American Divisions**

### **Energy Products Division**

Stafford, TX  
phone 281 566 4500  
fax 281 582 5271

### **Fluid System Connectors Division**

Otsego, MI  
phone 269 692 6555  
fax 269 694 4614

### **Hose Products Division**

Wickliffe, OH  
phone 440 943 5700  
fax 440 943 3129

### **Industrial Hose Division**

Wickliffe, OH  
phone 440 833 2120  
fax 440 833 2230

### **Parflex Division**

Ravenna, OH  
phone 330 296 2871  
fax 330 296 8433

### **Quick Coupling Division**

Minneapolis, MN  
phone 763 544 7781  
fax 763 544 3418

### **Tube Fittings Division**

Columbus, OH  
phone 614 279 7070  
fax 614 279 7685

## **Distribution Service Centers**

### **Buena Park, CA**

phone 714 522 8840  
fax 714 994 1183

### **Conyers, GA**

phone 770 929 0330  
fax 770 929 0230

### **Louisville, KY**

phone 502 937 1322  
fax 502 937 4180

### **Portland, OR**

phone 503 283 1020  
fax 503 283 2201

### **Toledo, OH**

phone 419 878 7000  
fax 419 878 7001  
fax 419 878 7420  
(FCG Kit Operations)

### **Canada**

#### **Grimsby, ONT**

phone 905 945 2274  
fax 905 945 3945  
(Contact Grimsby for other Service Center locations.)

