

INTRODUCING

# LIQUIfit™



Optimum Performance  
Innovative Design  
Maximum Capability

## Water & Beverage Connectors

Products & Custom Solutions

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

# Product Specifications

Product Category	Connection Technology	Body Material	Seal Material	Working Pressure at 73° (psi) (1/4 Burst Pressure)				Temperature Range (F)
				1/4"	5/16"	3/8"	1/2"	
<b>LIQUIfit</b>	Full stainless steel gripping ring Push button release	Engineered High-Performance Nylon	EPDM	230†	N/A	190†	160†	+35° to +200°
<b>TrueSeal</b>	Collet	Acetal	EPDM	300†	300†	300†	N/A	-20° to +180°
		Polypropylene	EPDM	150†	N/A	150†	N/A	0° to +225°
	Push button release	Kynar	Fluorocarbon	300†	N/A	300†	N/A	0° to +275°
<b>Fast &amp; Tite</b>	Full stainless steel gripping ring	Polypropylene	Nitrile	300†	300†	250†	200†	0° to +212°
	Compression	Nylon	Nitrile	300†	300†	250†	200†	-40° to +200°
<b>Par-Barb</b>	Barb	Polyethylene	None	125†	125†	125†	125†	-65° to +190°
		Nylon	None	125†	125†	125†	125†	-40° to +200°
<b>Quick Couplings</b>	Quick Disconnect	Acetal	Nitrile	120†	120†	120†	N/A	-40° to +180°
<b>TrueSeal Ball Valves</b>	Collet	Polypropylene	EPDM	150†	N/A	150†	150†	0° to +255°
	Push button release							
<b>TrueSeal Check Valves</b>	Collet	Acetal	EPDM	150†	150†	150†	150†	34° to +150°
	Push button release							
<b>Unleaded Brass</b>	Push button release	Unleaded Brass	EPDM	†	†	†	†	0° to +200°
<b>LIQUIfit Tubing</b>		Polyethylene	N/A	120†	145†	125†	90†	-80° to +150°
		Polypropylene	N/A	300†	350†	300†	225†	0° to +200°
† Working pressure varies with application and temperature.								
Product specifications vary with fitting configurations.								

## 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.

**NEW!**

Fittings, Push-to-Connect

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**LIQUIfit™**



Fittings, Push-to-Connect

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**TrueSeal™**



Fittings, Compression

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**Fast & Tite™**



Fittings, Barb

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**Par-Barb**



**NEW!**

Fittings, Quick Disconnection

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**Quick Couplings**



Valves, Push-to-Connect

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**Ball Valves**



Valves, Push-to-Connect

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**Check Valves**



**NEW!**

Fittings, Push-to-Connect

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**Unleaded Brass**



Cartridges, Clips & Tube Supports

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**Accessories**



Tubing

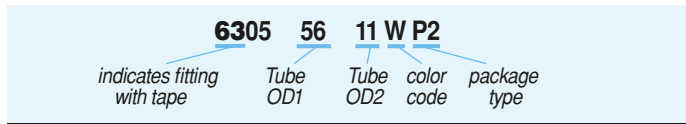
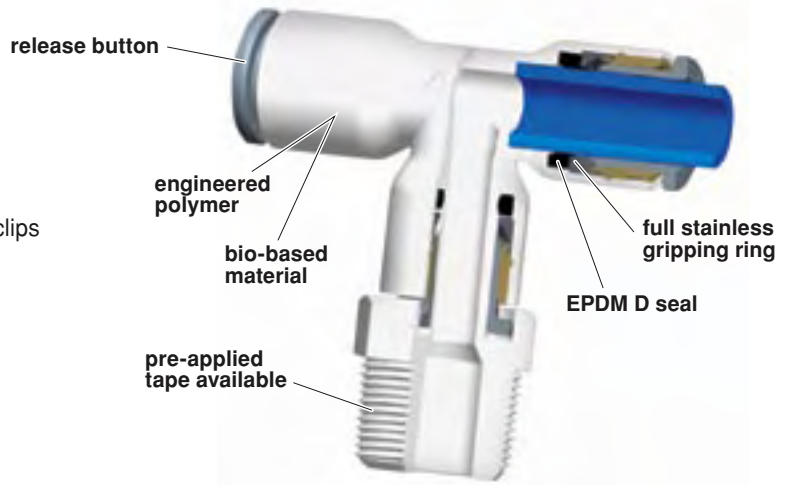
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**Polyethylene & Polypropylene**



# LIQUIfit™

- **EPDM D seal** secures connection with a larger surface area than standard O-rings
- **Engineered polymer** allows superior mechanical strength and chemical resistance
- **Full stainless gripping ring** eliminates the need for locking clips
- **Release button** protects and supports tubing
- **Bio-based body** utilizes renewable resources
- FDA compliant



## 6505 Male Connector – NPTF Thread



Tube OD	Thread	Part Number	Qty. per bag
1/4	1/8	6505 56 11WP2	10
1/4	1/4	6505 56 14WP2	10
3/8	1/4	6505 60 14WP2	10
3/8	3/8	6505 60 18WP2	10
1/2	3/8	6505 62 18WP2	5
1/2	1/2	6505 62 22WP2	5

## 6579 Fixed Elbow – NPTF Thread



Tube OD	Thread	Part Number	Qty. per bag
1/4	1/8	6579 56 11WP2	10
1/4	1/4	6579 56 14WP2	10
1/4	3/8	6579 56 18WP2	10
3/8	1/4	6579 60 14WP2	10
3/8	3/8	6579 60 18WP2	10

## 6315 Female Connector – NPTF Thread



Tube OD	Thread	Part Number	Qty. per bag
1/4	1/4	6315 56 14WP2	10
3/8	3/8	6315 60 18WP2	10

## 6325 Faucet Connector – UNS Thread



Tube OD	Thread	Part Number	Qty. per bag
1/4	7/16-24UNS	6325 56 133WP2	10
3/8	7/16-24UNS	6325 60 133WP2	10

## 6306 Union Connector



Tube OD1	Tube OD2	Part Number	Qty. per bag
1/4		6306 56 00WP2	10
1/4	3/8	6306 56 60WP2	10
1/4	5/16	6306 56 08WP2	10
5/16		6306 08 00WP2	10
5/16	3/8	6306 60 08WP2	10
3/8		6306 60 00WP2	10
3/8	1/2	6306 60 62WP2	5
1/2		6306 62 00WP2	5

## 6302 Union Elbow



Tube OD1	Tube OD2	Part Number	Qty. per bag
1/4		6302 56 00WP2	10
5/16		6302 08 62WP2	10
3/8		6302 60 00WP2	10
3/8	1/4	6302 56 60WP2	10
3/8	1/2	6302 60 62WP2	10
1/2		6302 62 00WP2	5

## 6304 Union Tee



Tube OD1	Tube OD2	Part Number	Qty. per bag
1/4		6304 56 00WP2	10
3/8		6304 60 00WP2	10
3/8	1/4	6304 60 56WP2	10
5/16		6304 08 00WP2	10
1/2		6304 62 00WP2	5

## 6340 Union Y Connector




Tube OD	Part Number	Qty. per bag
1/4	6340 56 00WP2	10
3/8	6340 60 00WP2	10
5/16	6340 08 00WP2	10
1/2	6340 62 00WP2	5

## 6316 Bulkhead Union




Tube OD	Part Number	Qty. per bag
1/4	6316 56 00WP2	10
3/8	6316 60 00WP2	10
1/2	6316 62 00WP2	5

## 6366 Reducer

	Tube OD	Stem	Part Number	Qty. per bag
	1/4	5/16	6366 56 08WP2	10
	1/4	3/8	6366 56 60WP2	10
	3/8	1/2	6366 60 62WP2	5


## 6388 Plug-in Tee

	Tube OD	Stem	Part Number	Qty. per bag
	1/4	1/4	6388 56 00WP2	10
	3/8	3/8	6388 60 00WP2	10
	1/2	1/2	6388 62 00WP2	5


## 6351 End Stop

	Tube OD	Part Number	Qty. per bag
	1/4	6351 56 00WP2	10
	3/8	6351 60 00WP2	10


## 6521 Stem Adapter – NPTF Thread

	Tube OD	Thread	Part Number	Qty. per bag
	1/4	1/8	6521 56 11WP2	10
	1/4	1/4	6521 56 14WP2	10
	1/4	3/8	6521 56 18WP2	10
	3/8	1/4	6521 60 14WP2	10
	3/8	3/8	6521 60 18WP2	10
	1/2	3/8	6521 62 18WP2	5
	1/2	1/2	6521 62 22WP2	5


## 6509 Swivel Elbow – NPTF Thread

	Tube OD	Thread	Part Number	Qty. per bag
	1/4	1/8	6509 56 11WP2	10
	1/4	1/4	6509 56 14WP2	10
	1/4	3/8	6509 56 18WP2	10
	3/8	1/4	6509 60 14WP2	10
	3/8	3/8	6509 60 18WP2	10
	1/2	3/8	6509 62 18WP2	4
	1/2	1/2	6509 62 22WP2	4


## 6508 Swivel Branch Tee – NPTF Thread

	Tube OD	Thread	Part Number	Qty. per bag
	1/4	1/8	6508 56 11WP2	10
	1/4	1/4	6508 56 14WP2	10
	1/4	3/8	6508 56 18WP2	10
	3/8	1/4	6508 60 14WP2	10
	3/8	3/8	6508 60 18WP2	10
	1/2	3/8	6508 62 18WP2	4
	1/2	1/2	6508 62 22WP2	4


## 6382 Plug-in Elbow

	Tube OD	Stem	Part Number	Qty. per bag
	1/4	1/4	6382 56 00WP2	10
	3/8	1/4	6382 56 60WP2	10
	3/8	3/8	6382 60 00WP2	10
	1/2	1/2	6382 62 00WP2	5


## 6383 Plug-in Male Run Tee

	Tube OD	Stem	Part Number	Qty. per bag
	1/4	1/4	6383 56 00WP2	10
	3/8	3/8	6383 60 00WP2	10
	1/2	1/2	6383 62 00WP2	5


## 6326 Plug

	Stem	Part Number	Qty. per bag
	1/4	6326 56 00WP2	10
	3/8	6326 60 00WP2	10
	1/2	6326 62 00WP2	5


## 6322 Tube to Hose Stem

	Tube OD	Hose Stem	Part Number	Qty. per bag
	1/4	1/4	6322 56 56WP2	10
	3/8	1/4	6322 60 56WP2	10
	3/8	5/16	6322 60 08WP2	10
	3/8	3/8	6322 60 60WP2	10
	1/2	3/8	6322 62 60WP2	10

## 6503 Swivel Male Run Tee – NPTF Thread

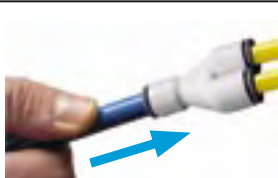
	Tube OD	Thread	Part Number	Qty. per bag
	1/4	1/8	6503 56 11WP2	10
	1/4	1/4	6503 56 14WP2	10
	1/4	3/8	6503 56 18WP2	10
	3/8	1/4	6503 60 14WP2	10
	3/8	3/8	6503 60 18WP2	10
	1/2	3/8	6503 62 18WP2	4
	1/2	1/2	6503 62 22WP2	4

## 6548 Male Y Connector – NPTF Thread

	Tube OD	Thread	Part Number	Qty. per bag
	1/4	1/8	6548 56 11WP2	10
	1/4	1/4	6548 56 14WP2	10
	1/4	3/8	6548 56 18WP2	10
	3/8	1/4	6548 60 14WP2	10
	3/8	3/8	6548 60 18WP2	10
	1/2	3/8	6548 62 18WP2	4
	1/2	1/2	6548 62 22WP2	4

### Connect

Simply push the tubing until it bottoms out. Holding and sealing is accomplished instantaneously.



### Disconnect

First, depress the manual release button, then pull the tubing out of the fitting.

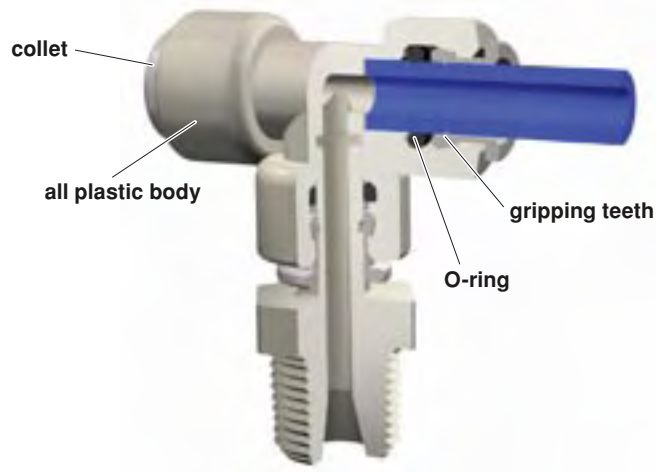
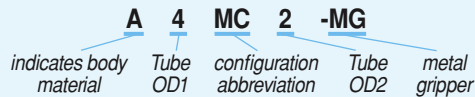


# TrueSeal™

- **Engineered O-ring** increases seal compression on tube
- **O-ring** available in EPDM, Nitrile, or Fluorocarbon
- **Body** available in Acetal, Polypropylene, or Kynar
- **Gripping teeth** available in Stainless Steel or engineered thermoplastic
- **Collet** available in Acetal, Kynar or engineered thermoplastic
- FDA compliant
- Gray acetal fittings are NSF listed



- NSF 51 - - C HOT -



\* For nonstandard plastic collet, remove -MG suffix.

## MC Male Connector – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4MC2-MG	PP4MC2	F4MC2
1/4	1/4	A4MC4-MG	PP4MC4	F4MC4
1/4	3/8	A4MC6-MG	PP4MC6	F4MC6
5/16	1/8	A5MC2-MG	PP5MC4	
5/16	1/4	A5MC4-MG		
5/16	3/8	A5MC6-MG		
3/8	1/8	A6MC2-MG		F6MC2
3/8	1/4	A6MC4-MG	PP6MC4	F6MC4
3/8	3/8	A6MC6-MG	PP6MC6	F6MC6
3/8	1/2	A6MC8-MG		F6MC8
1/2	3/8	A8MC6-MG	PP8MC6	
1/2	1/2	A8MC8-MG	PP8MC8	

## ME Male Elbow – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4ME2-MG	PP4ME2	F4ME2
1/4	1/4	A4ME4-MG	PP4ME4	F4ME4
1/4	3/8	A4ME6-MG	PP4ME6	F4ME4
5/16	1/4	A5ME4-MG		
5/16	3/8	A5ME6-MG		
3/8	1/4	A6ME4-MG	PP6ME4	F6ME4
3/8	3/8	A6ME6-MG	PP6ME6	F6ME6

## FC Female Connector – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4FC2-MG	PP4FC2	F4FC2
1/4	1/4	A4FC4-MG	PP4FC4	F4FC4
5/16	1/4	A5FC4-MG		
5/16	3/8	A5FC6-MG		
3/8	1/4	A6FC4-MG	PP6FC4	F6FC4
3/8	3/8	A6FC6-MG	PP6FC6	F6FC6
3/8	1/2	A6FC8-MG		
1/2	3/8	A8FC6-MG	PP8FC6	
1/2	1/2	A8FC8-MG	PP8FC8	

## FE Female Elbow – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4FE2-MG	PP4FE2	F4FE2
1/4	1/4	A4FE4-MG	PP4FE4	F4FE4
1/4	3/8	A4FE6-MG	PP4FE6	F4FE4
5/16	1/4	A5FE4-MG		
5/16	3/8	A5FE6-MG		
3/8	1/4	A6FE4-MG	PP6FE4	F6FE4
3/8	3/8	A6FE6-MG	PP6FE6	F6FE6

## UC Union\*

Tube OD1	Tube OD2	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4		A4UC4-MG	PP4UC4	F4UC4
5/16	1/4	A5UC4-MG		
5/16		A5UC5-MG		
3/8	1/4	A6UC4-MG	PP6UC4	F6UC4
3/8	5/16	A6UC5-MG		
3/8		A6UC6-MG	PP6UC6	F6UC6
1/2	5/16	A8UC5-MG		
1/2	3/8	A8UC6-MG	PP8UC6	
1/2		A8UC8-MG	PP8UC8	

## FA Faucet Adapter – UNS Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	7/16-24UNS	A4FA7-MG	PP4FA7	F4FA7
5/16	7/16-24UNS	A5FA7-MG		
3/8	7/16-24UNS	A6FA7-MG	PP6FA7	F6FA7

## EU Elbow Union\*

Tube OD1	Tube OD2	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4		A4EU4-MG	PP4EU4	F4EU4
5/16	1/4	A5EU4-MG		
5/16		A5EU5-MG		
3/8	1/4	A6EU4-MG	PP6EU4	F6EU4
3/8	5/16	A6EU5-MG		
3/8		A6EU6-MG	PP6EU6	F6EU6
1/2	3/8	A8EU6-MG		
1/2		A8EU8-MG	PP8EU8	

## TU Union Tee\*

Tube OD1	Tube OD2	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4		A4TU4-MG	PP4TU4	F4TU4
5/16		A5TU5-MG		
3/8	1/4	A6TU4-MG	PP6TU4	F6TU4
3/8		A6TU6-MG	PP6TU6	F6TU6
1/2		A8TU8-MG	PP8TU8	

## WY Y Union\*

Tube OD1	Tube OD2	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
5/16		A5WY5-MG		
3/8	1/4	A6WY4-MG		
3/8	5/16	A6WY5-MG		
3/8		A6WY6-MG		

## BU Bulkhead Union\*

Tube OD1	Tube OD2	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4		A4BU4-MG	PP4BU4	F4BU4
5/16		A5BU5-MG		
3/8	1/4	A6BU4-MG	PP6BU4	
3/8		A6BU6-MG	PP6BU6	F6BU6
1/2		A8BU8-MG		

## TEU Tube Elbow Union\*

Tube OD	Stem	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/4	A4TEU4-MG	PP4TEU4	F4TEU4
1/4	3/8	A4TEU6-MG		F4TEU6
5/16	5/16	A5TEU5-MG		
3/8	1/4	A6TEU4-MG		F6TEU4
3/8	3/8	A6TEU6-MG	PP6TEU6	F6TEU6
1/2	1/2	A8TEU8-MG	PP8TEU8	

## TPL Plug

Tube Stem OD	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	A4TPL	PP4TPL	F4TPL
3/8	A6TPL	PP6TPL	F6TPL
1/2	A8TPL	PP8TPL	

## TEB Tube Elbow Barb Connector

Tube Stem OD	Tube ID	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/4	A4TEB4	PP4TEB4	F4TEB4
3/8	3/8	A6TEB6	PP6TEB6	F6TEB6
1/2	1/2	A8TEB8		

## MES Male Elbow Swivel – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4MES2-MG	PP4MES2	F4MES2
1/4	1/4	A4MES4-MG	PP4MES4	F4MES4
1/4	3/8	A4MES6-MG	PP4MES6	F4MES6
5/16	1/8	A5MES2-MG		
5/16	1/4	A5MES4-MG		
5/16	3/8	A5MES6-MG		
3/8	1/8	A6MES2-MG		F6MES2
3/8	1/4	A6MES4-MG	PP6MES4	F6MES4
3/8	3/8	A6MES6-MG	PP6MES6	F6MES6
1/2	1/4	A8MES4-MG		
1/2	3/8	A8MES6-MG	PP8MES6	
1/2	1/2	A8MES8-MG	PP8MES8	

## MTS Male Tee Swivel – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4MTS2-MG	PP4MTS2	F4MTS2
1/4	1/4	A4MTS4-MG	PP4MTS4	F4MTS4
5/16	1/8	A5MTS2-MG		
5/16	1/4	A5MTS4-MG		
5/16	3/8	A5MTS6-MG		
3/8	1/8	A6MTS2-MG		F6MTS2
3/8	1/4	A6MTS4-MG	PP6MTS4	F6MTS4
3/8	3/8	A6MTS6-MG	PP6MTS6	F6MTS6
1/2	1/4	A8MTS4-MG		
1/2	3/8	A8MTS6-MG	PP8MTS6	
1/2	1/2	A8MTS8-MG	PP8MTS8	

## RD Tube Reducer\*

Tube OD	Stem	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	5/16	A4RD5	PP4RD5	
1/4	3/8	A4RD6	PP4RD6	
5/16	3/8	A5RD6		
5/16	1/2	A5RD8		
3/8	1/2	A6RD8		

## CAP Tube Cap\*

Tube OD	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	A4CAP-MG	PP4CAP	F4CAP
3/8	A6CAP-MG	PP6CAP	
1/2	A8CAP-MG		

## TCB Tube-to-Barb Connector

Tube Stem OD	Tube ID	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/4	A4TCB4	PP4TCB4	F4TCB4
3/8	1/4	A6TCB4		F6TCB4
3/8	3/8	A6TCB6	PP6TCB6	F6TCB6
1/2	3/8	A8TCB6		
1/2	1/2	A8TCB8		

## TMC Tube Stem Adapter

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4TMC2	PP4TMC2	F4TMC2
1/4	1/4	A4TMC4	PP4TMC4	F4TMC4
5/16	1/8	A5TMC2		
5/16	1/4	A5TMC4		
5/16	3/8	A5TMC6		
3/8	1/4	A6TMC4	PP6TMC4	F6TMC4
3/8	3/8	A6TMC6	PP6TMC6	F6TMC6
1/2	1/4	A8TMC4		
1/2	3/8	A8TMC6	PP8TMC6	
1/2	1/2	A8TMC8	PP8TMC8	

## MRS Male Run Swivel – NPTF Thread\*

Tube OD	Thread	Acetal Part Number	Polypropylene Part Number	Kynar Part Number
1/4	1/8	A4MRS2-MG	PP4MRS2	F4MRS2
1/4	1/4	A4MRS4-MG	PP4MRS4	F4MRS4
5/16	1/8	A5MRS2-MG		
5/16	1/4	A5MRS4-MG		
5/16	3/8	A5MRS6-MG		
3/8	1/4	A6MRS4-MG	PP6MRS4	F6MRS4
3/8	3/8	A6MRS6-MG	PP6MRS6	F6MRS6
1/2	1/4	A8MRS4-MG		
1/2	3/8	A8MRS6-MG	PP8MRS6	
1/2	1/2	A8MRS8-MG	PP8MRS8	

### Connect

Simply push the tubing until it bottoms out. Holding and sealing is accomplished instantaneously.



### Disconnect

First, depress the manual release button, then pull the tubing out of the fitting.

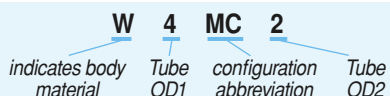
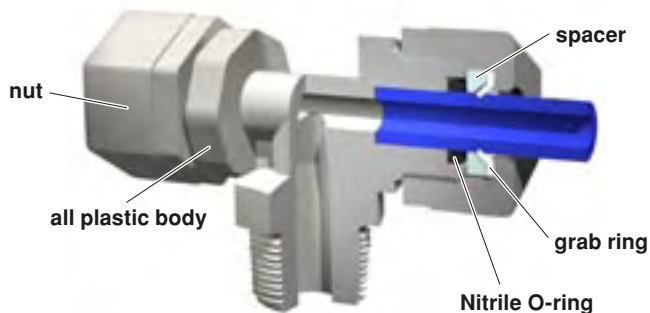


# Fast & Tite®

- **Body** available in Polypropylene or Nylon
- **Grab Ring** available in full Stainless Steel or engineered thermoplastic
- FDA compliant
- 0° to +212°F for Polypropylene
- -40° to +200°F for Nylon



- NSF 51 -



## Male Connector



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	1/4	W4MC4	P4MC4	N4MC4
5/16	1/4	W5MC4	P5MC4	N5MC4
3/8	1/4	W6MC4	P6MC4	N6MC4
3/8	3/8	W6MC6	P6MC6	N6MC6
1/2	3/8	W8MC6	P8MC6	N8MC6
1/2	1/2	W8MC8	P8MC8	N8MC8
5/8	1/2	W10MC8	P10MC8	N10MC8
5/8	3/4	W10MC12	P10MC12	N10MC12

## Male Elbow



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	1/4	W4ME4	P4ME4	N4ME4
5/16	1/4	W5ME4	P5ME4	N5ME4
3/8	1/4	W6ME4	P6ME4	N6ME4
3/8	3/8	W6ME6	P6ME6	N6ME6
1/2	3/8	W8ME6	P8ME6	N8ME6
1/2	1/2	W8ME8	P8ME8	N8ME8
5/8	1/2	W10ME8	P10ME8	N10ME8

## Female Connector



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	1/4	W4FC4	P4FC4	N4FC4
3/8	1/4	W6FC4	P6FC4	N6FC4
3/8	3/8	W6FC6	P6FC6	N6FC6
1/2	3/8	W8FC6	P8FC6	N8FC6
1/2	1/2	W8FC8	P8FC8	N8FC8
5/8	1/2	W10FC8	P10FC8	N10FC8

## Female Elbow



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	1/8	W4FE2	P4FE2	N4FE2
1/4	1/4	W4FE4	P4FE4	N4FE4
5/16	1/8	W5FE2	P5FE2	N5FE2
3/8	1/4	W6FE4	P6FE4	N6FE4
3/8	3/8	W6FE6	P6FE6	N6FE6
1/2	3/8	W8FE6	P8FE6	N8FE6
1/2	1/2	W8FE8	P8FE8	N8FE8
5/8	1/2	W10FE8	P10FE8	N10FE10

## Tee Union



Tube OD	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	W4TU4	P4TU4	N4TU4
5/16	W5TU5	P5TU5	N5TU5
3/8	W6TU6	P6TU6	N6TU6
1/2 x 3/8	W8TU6	P8TU6	N8TU6
1/2	W8TU8	P8TU8	N8TU8

## Union Connector



Tube OD	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	W4UC4	P4UC4	N4UC4
5/16 x 1/4	W5UC4	P5UC4	N5UC4
5/16	W5UC5	P5UC5	N5UC5
3/8 x 1/4	W6UC4	P6UC4	N6UC4
3/8	W6UC6	P6UC6	N6UC6
1/2 x 3/8	W8UC6	P8UC6	N8UC6
1/2	W8UC8	P8UC8	N8UC8
5/8 x 1/2	W10UC8	P10UC8	N10UC8
5/8	W10UC10	P10UC10	N10UC10

## Elbow Union



Tube OD	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	W4EU4	P4EU4	N4EU4
5/16 x 1/4	W5EU4	P5EU4	N5EU4
5/16	W5EU5	P5EU5	N5EU5
3/8 x 1/4	W6EU4	P6EU4	N6EU4
3/8 x 5/16	W6EU5	P6EU5	N6EU5
3/8	W6EU6	P6EU6	N6EU6
1/2 x 3/8	W8EU6	P8EU6	N8EU6
1/2	W8EU8	P8EU8	N8EU8
5/8	W10EU10	P10EU10	N10EU10

## Bulkhead Union



Tube OD	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	W4BU4	P4BU4	N4BU4
5/16	W5BU5	P5BU5	N5BU5
3/8	W6BU6	P6BU6	N6BU6
1/2	W8BU8	P8BU8	N8BU8

## Male Run Tee



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
3/8	1/4	W6MR4	P6MR4	N6MR4
1/2	3/8	W8MR6	P8MR6	N8MR6
5/8	1/2	W10MR8	P10MR8	N10MR8

## Male Branch Tee



Tube OD	Thread	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	1/4	W4MT4	P4MT4	N4MT4
3/8	1/4	W5MT4	P6MT4	N6MT4
3/8	1/4	W6MT4	P6MT4	N6MT4
3/8	3/8	W6MT6	P6MT6	N6MT6
1/2	3/8	W8MT6	P8MT6	N8MT6
1/2	1/2	W8MT8	P8MT8	N8MT8
5/8	1/2	W10MT8	P10MT8	N10MT8

## Grab Ring



Tube OD	Part Number
1/4	4GR
5/16	5GR
3/8	6GR
1/2	8GR
5/8	10GR

## O-Ring



Tube OD	Part Number
1/4	4OR
5/16	5OR
3/8	6OR
1/2	8OR
5/8	10OR

## Nut & Spacer Sets



Tube OD	White Polypropylene Part Number	Black Polypropylene Part Number	White Nylon Part Number
1/4	W4NS	P4NS	N4NS
5/16	W5NS	P5NS	N5NS
3/8	W6NS	P6NS	N6NS
1/2	W8NS	P8NS	N8NS
5/8	W10NS	P10NS	N10NS



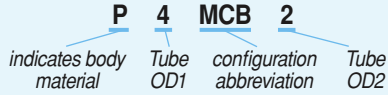
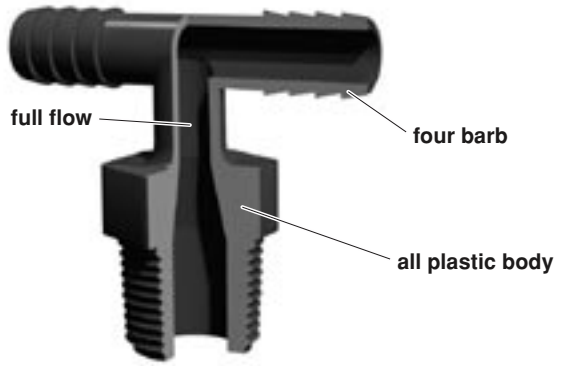
# Par-Barb

- **Body** available in Polyethylene or Nylon
- High strength, chemically inert
- FDA compliant
- -65° to +190°F for Polyethylene
- -40° to +200°F for Nylon



COMPONENT

- NSF 51 -



## Male Connector



Tube ID	Thread	Polyethylene Part Number	Nylon Part Number
3/16	1/8	P3MCB2	N3MCB2
1/4	1/4	P4MCB4	N4MCB4
5/16	1/4	P5MCB4	N5MCB4
3/8	1/4	P6MCB4	N6MCB4
3/8	3/8	P6MCB6	N6MCB6
1/2	3/8	P8MCB6	N8MCB6
1/2	1/2	P8MCB8	N8MCB8
1/2	3/4	P8MCB12	N8MCB12
5/8	1/2	P10MCB8	N10MCB8
5/8	3/4	P10MCB12	N10MCB12
3/4	1/2	P12MCB8	N12MCB8
3/4	3/4	P12MCB12	N12MCB12

## Hex Pipe Nipple



Thread	Polyethylene Part Number	Nylon Part Number
1/4	P4HPN4	N4HPN4
3/8 x 1/4	P6HPN4	N6HPN4
3/8	P6HPN6	N6HPN6
1/2 x 3/8	P8HPN6	N8HPN6
1/2	P8HPN8	N8HPN8
3/4 x 1/2	P12HPN8	N12HPN8
5/8 x 3/4	P10HPN12	N10HPN12

## Hex-Head Pipe Plug



Thread	Polyethylene Part Number	Nylon Part Number
1/8	P2HPL	N2HPL
1/4	P4HPL	N4HPL
3/8	P6HPL	N6HPL
1/2	P8HPL	N8HPL
3/4	P12HPL	N12HPL

## Tee Union



Tube ID	Polyethylene Part Number	Nylon Part Number
1/8	P2TUB2	N2TUB2
3/16	P3TUB3	N3TUB3
1/4 x 3/16	P4TUB3	N4TUB3
1/4	P4TUB4	N4TUB4
5/16	P5TUB5	N5TUB5
3/8 x 3/16	P6TUB3	N6TUB3
3/8 x 1/4	P6TUB4	N6TUB4
3/8	P6TUB6	N6TUB6
3/8 x 1/2	P6TUB8	N6TUB8
1/2 x 1/4	P8TUB4	N8TUB4
1/2 x 3/8	P8TUB6	N8TUB6
1/2	P8TUB8	N8TUB8
5/8 x 1/2	P10TUB8	N10TUB8
5/8	P10TUB10	N10TUB10

## Male Elbow



Tube ID	Thread	Polyethylene Part Number	Nylon Part Number
3/16	1/8	P3MEB2	N3MEB2
1/4	1/4	P4MEB4	N4MEB4
3/8	1/4	P6MEB4	N6MEB4
3/8	3/8	P6MEB6	N6MEB6
1/2	3/8	P8MEB6	N8MEB6
1/2	1/2	P8MEB8	N8MEB8
5/8	1/2	P10MEB8	N10MEB8
5/8	3/4	P10MEB12	N10MEB12
3/4	1/2	P12MEB8	N12MEB8

## Union Connector



Tube ID	Polyethylene Part Number	Nylon Part Number
3/16	P3UCB3	N3UCB3
1/4	P4UCB4	N4UCB4
5/16	P5UCB5	N5UCB5
3/8 x 1/4	P6UCB4	N6UCB4
3/8	P6UCB6	N6UCB6
1/2 x 3/8	P8UCB6	N8UCB6
1/2	P8UCB8	N8UCB8
5/8 x 1/2	P10UCB8	N10UCB8
5/8	P10UCB10	N10UCB10

## Elbow Union



Tube ID	Polyethylene Part Number	Nylon Part Number
1/4	P4EUB4	N4EUB4
3/8	P6EUB6	N6EUB6
1/2 x 1/4	P8EUB4	N8EUB4
1/2 x 3/8	P8EUB6	N8EUB6
1/2	P8EUB8	N8EUB8
5/8	P10EUB10	N10EUB10
3/4	P12EUB10	N12EUB10

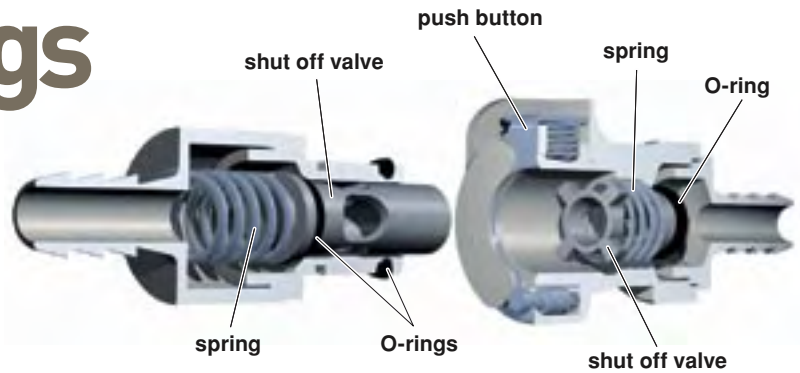
## Male Branch Tee



Tube ID	Thread	Polyethylene Part Number	Nylon Part Number
3/16	1/8	P3MTB2	N3MTB2
3/16	1/4	P3MTB4	N3MTB4
1/4	1/8	P4MTB2	N4MTB2
1/4	1/4	P4MTB4	N4MTB4
1/4	3/8	P4MTB6	N4MTB6
3/8	1/4	P6MTB4	N6MTB4
3/8	3/8	P6MTB6	N6MTB6
3/8	1/2	P6MTB8	N6MTB8
1/2	1/4	P8MTB4	N8MTB4
1/2	3/8	P8MTB6	N8MTB6
1/2	1/2	P8MTB8	N8MTB8
3/4	3/4	P12MTB12	N12MTB12

# Quick Couplings

- Easy-to-use Push-to-Connect design, with audible “CLICK” upon connection
- Push-button operation valved and non-valved options
- Various port configurations available including NPT, BSPT, Hose Barb, and Bulkhead
- Compact and lightweight ergonomic design
- Resistant to many chemicals
- Suitable for gas handling applications
- FDA approved materials
- 120 psi working pressure on all sizes



## Couplers – Male NPTF Thread

Body Size	Valved or Non-Valved	Port End	Part Number
1/8	Valved	1/8	PPM-121-2MP
1/8	Valved	1/4	PPM-121-4MP
1/8	Non	1/8	PPM-123-2MP
1/8	Non	1/4	PPM-123-4MP
1/4	Valved	1/4	PPL-251-4MP
1/4	Valved	3/8	PPL-251-6MP
1/4	Non	1/4	PPL-253-4MP
1/4	Non	3/8	PPL-253-6MP

## Nipples – Hose Barb, In-line

Body Size	Valved or Non-Valved	Hose Barb	Part Number
1/8	Valved	1/8	PPM-122-2HB
1/8	Valved	3/16	PPM-122-3HB
1/8	Valved	1/4	PPM-122-4HB
1/8	Non	1/8	PPM-124-2HB
1/8	Non	3/16	PPM-124-3HB
1/8	Non	1/4	PPM-124-4HB
1/4	Valved	1/4	PPL-252-4HB
1/4	Valved	5/16	PPL-252-5HB
1/4	Valved	3/8	PPL-252-6HB
1/4	Non	1/4	PPL-254-4HB
1/4	Non	5/16	PPL-254-5HB
1/4	Non	3/8	PPL-254-6HB

## Couplers – Hose Barb, In-line

Body Size	Valved or Non-Valved	Hose Barb	Part Number
1/8	Valved	1/8	PPM-121-2HB
1/8	Valved	3/16	PPM-121-3HB
1/8	Valved	1/4	PPM-121-4HB
1/8	Non	1/8	PPM-123-2HB
1/8	Non	3/16	PPM-123-3HB
1/8	Non	1/4	PPM-123-4HB
1/4	Valved	1/4	PPL-251-4HB
1/4	Valved	5/16	PPL-251-5HB
1/4	Valved	3/8	PPL-251-6HB
1/4	Non	1/4	PPL-253-4HB
1/4	Non	5/16	PPL-253-5HB
1/4	Non	3/8	PPL-253-6HB

## Nipples – Hose Barb, 90°

Body Size	Valved or Non-Valved	Hose Barb	Part Number
1/8	Valved	1/8	PPM-122-C2HB
1/8	Valved	1/4	PPM-122-C4HB
1/8	Non	1/8	PPM-124-C2HB
1/8	Non	1/4	PPM-124-C4HB
1/4	Valved	1/4	PPL-252-C4HB
1/4	Valved	3/8	PPL-252-C6HB
1/4	Non	1/4	PPL-254-C4HB
1/4	Non	3/8	PPL-254-C6HB

## Couplers – Bulkhead Hose Barb with Nut, In-line

Body Size	Valved or Non-Valved	Hose Barb	Part Number
1/8	Valved	1/8	PPM-121-H2HB
1/8	Valved	3/16	PPM-121-H3HB
1/8	Valved	1/4	PPM-121-H4HB
1/4	Valved	1/4	PPL-251-H4HB
1/4	Valved	3/8	PPL-251-H6HB

## Nipples – Panel Mount Hose Barb, In-line

Body Size	Valved or Non-Valved	Hose Barb	Part Number
1/8	Valved	1/8	PPM-122-H2HB
1/8	Valved	3/16	PPM-122-H3HB
1/8	Valved	1/4	PPM-122-H4HB
1/8	Non	3/16	PPL-124-H3HB
1/4	Valved	1/4	PPL-252-H4HB
1/4	Valved	3/8	PPL-252-H6HB

## Nipples – Male NPTF Thread

Body Size	Valved or Non-Valved	Port End	Part Number
1/8	Valved	1/8	PPM-122-2MP
1/8	Valved	1/4	PPM-122-4MP
1/8	Non	1/8	PPM-124-2MP
1/8	Non	1/4	PPM-124-4MP
1/4	Valved	1/4	PPL-252-4MP
1/4	Valved	3/8	PPL-252-6MP
1/4	Non	1/4	PPL-254-4MP
1/4	Non	3/8	PPL-254-6MP

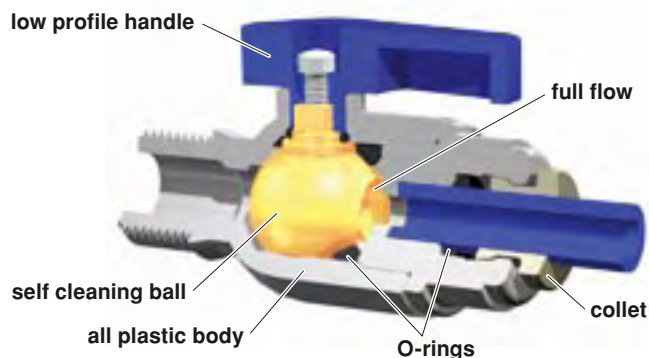


# Ball Valves

- **Engineered EPDM O-ring** increases seal compression on tube
- Full flow self cleaning ball
- High-temperature, scale-resistant Polysulfone ball
- Glass-reinforced Polypropylene body
- FDA compliant



COMPONENT  
- NSF 51 -



## VUC Valve Union Connector



Tube OD1	Tube OD2	Part Number
1/4	1/4	PP4VUC4-MG
1/4	3/8	PP4VUC6-MG
3/8	3/8	PP6VUC6-MG

## VMC Valve Male Connector



Tube OD	Thread	Part Number
1/4	1/8	PP4VMC2-MG
1/4	1/4	PP4VMC4-MG
1/4	3/8	PP4VMC6-MG
1/4	1/2	PP4VMC8-MG
3/8	1/8	PP6VMC2-MG
3/8	1/4	PP6VMC4-MG
3/8	3/8	PP6VMC6-MG
3/8	1/2	PP6VMC8-MG

## VFC Valve Female Connector



Tube OD	Thread	Part Number
1/4	1/8	PP4VFC2-MG
1/4	1/4	PP4VFC4-MG
1/4	3/8	PP4VFC6-MG
1/4	1/2	PP4VFC8-MG
3/8	1/8	PP6VFC2-MG
3/8	1/4	PP6VFC4-MG
3/8	3/8	PP6VFC6-MG
3/8	1/2	PP6VFC8-MG

## VTEU Valve Tube Elbow Union



Tube OD	Stem	Part Number
1/4	3/8	PP4VTEU6-MG
3/8	3/8	PP6VTEU6-MG

## VEU Valve Elbow Union



Tube OD (Side)	Tube OD (Bottom)	Part Number
1/4	1/4	PP4VEU4-MG
1/4	3/8	PP4VEU6-MG
3/8	1/4	PP6VEU4-MG
3/8	3/8	PP6VEU6-MG

## VME Valve Male Elbow



Tube OD	Thread	Part Number
1/4	1/8	PP4VME2-MG
1/4	1/4	PP4VME4-MG
1/4	3/8	PP4VME6-MG
1/4	1/2	PP4VME8-MG
3/8	1/8	PP6VME2-MG
3/8	1/4	PP6VME4-MG
3/8	3/8	PP6VME6-MG
3/8	1/2	PP6VME8-MG

## VFE Valve Female Elbow



Tube OD	Thread	Part Number
1/4	1/8	PP4VFE2-MG
1/4	1/4	PP4VFE4-MG
1/4	3/8	PP4VFE6-MG
3/8	1/8	PP6VFE2-MG
3/8	1/4	PP6VFE4-MG
3/8	3/8	PP6VFE6-MG

# Check Valves



Certified to  
NSF-ANSI 61  
- NSF 61 -

### Materials of Construction

**Body:** Acetal  
**O-ring:** EPDM  
**Metal Grip Edge:** 300 Stainless

### Working Pressure

+34°F (1°C) to +150°F (65°C)

### Temperature Range

Up to 150 PSI  
depending on tubing  
being used

### Cracking Pressure

1/3 PSI

## Check Valve



Tube OD	Acetal Part Number
1/4	A4VC4-MG
5/16	A5VC5-MG
3/8	A6VC6-MG

\* Intended for liquids only.

# Unleaded Brass

- Seal materials: EPDM
- Meets California and Vermont <0.25% lead requirements
- Additional configurations available for each type shown
- Custom products available



## Prestolok Female Flare Connector



Tube OD	Thread	Part Number
1/4	7/16-20	L66PLNF-4-4
3/8	7/16-20	L66PLNF-6-4
3/8	5/8-18	L66PLNF-6-6

## Compress-Align Union Connector



Tube OD	Part Number
1/4	L265CA-4
5/16	L265CA-5
3/8	L265CA-6
1/2	L265CA-8
5/8	L265CA-10
3/4	L265CA-12

## Prestolok Female Garden Hose Swivel



Tube OD	Hose Thread	Part Number
1/4	3/4	L66PLNGHSV-4-12
3/8	3/4	L66PLNGHSV-6-12

## Compress-Align Self-Piercing Needle Valve



Tube OD	Thread	Part Number
1/4	1/8	LSPV104C-KIT

# Accessories

## 3130 Tamper Resistant Locking Clip for LIQUIfit

NEW!



Tube OD	Part Number	Qty. per bag
1/4	3130 56 00WP2	20
3/8	3130 60 00WP2	20
1/2	3130 62 60WP2	20

## SC Safety Clip for TrueSeal



Tube OD	Black	Blue
1/4	SC-4	SC-4-B
5/16	SC-5	SC-5-B
3/8	SC-6	SC-6-B
1/2	SC-8	SC-8-B

## TSC Cartridge Insert



Tube OD	Part Number with EPDM Seal
1/4	ATSC4-MG
3/8	ATSC6-MG
1/2	ATSC8-MG

## Tube Supports



Tube OD	Polypropylene Part Number	Nylon Part Number
1/4	P4TS3	N4TS3
5/16	P5TS3	N5TS3
3/8	P6TS4	N6TS4
1/2	P8TS6	N8TS6
5/8	P10TS8	N10TS8

## CARSTICK® Cartridges



Tube OD	Part Number	Qty.
1/4	6300 56 00	50
3/8	6300 60 00	50
1/2	6300 62 00	50



# LIQUIfit™ Tubing



## Polyethylene

- Resistant to environmental stress cracking as measured by ASTM D-1693 (10% IGEPAL).
- All tubing is UV resistant, black tubing has additional UV protection.
- Chemically resistant and flexible.
- Extruded from high molecular weight resin for increased dimensional stability, uniformity and long-term strength.
- Working temperature: -80°F to +150°F.
- Custom lengths and colors are available.



- NSF 51 - - NSF 61 -

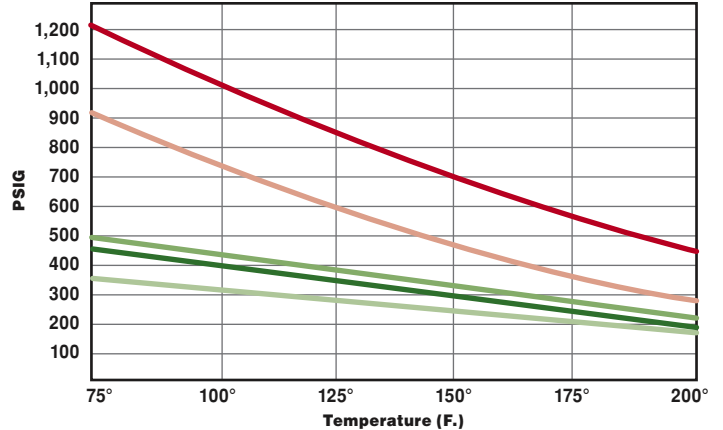
## Polypropylene

- Superior resistance to chlorine and ammonia.
- Resistance to hot water and hot corrosive acids.
- Has water absorption of less than .01%.
- Has excellent resistance to environmental stress cracking.
- PPB series tubing has superior ultraviolet resistance.
- May be used at higher temperatures and working pressures than polyethylene tubing.
- Working temperature: 0°F to +200°F.

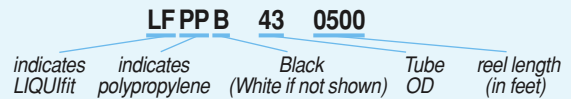
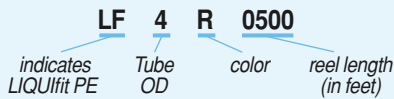


- NSF 51 -

## Burst Pressure Comparison Chart



Polyethylene ● 1/4 ● 3/8 ● 1/2 Polypropylene ● 1/4 and 3/8 ● 1/2



## Polyethylene

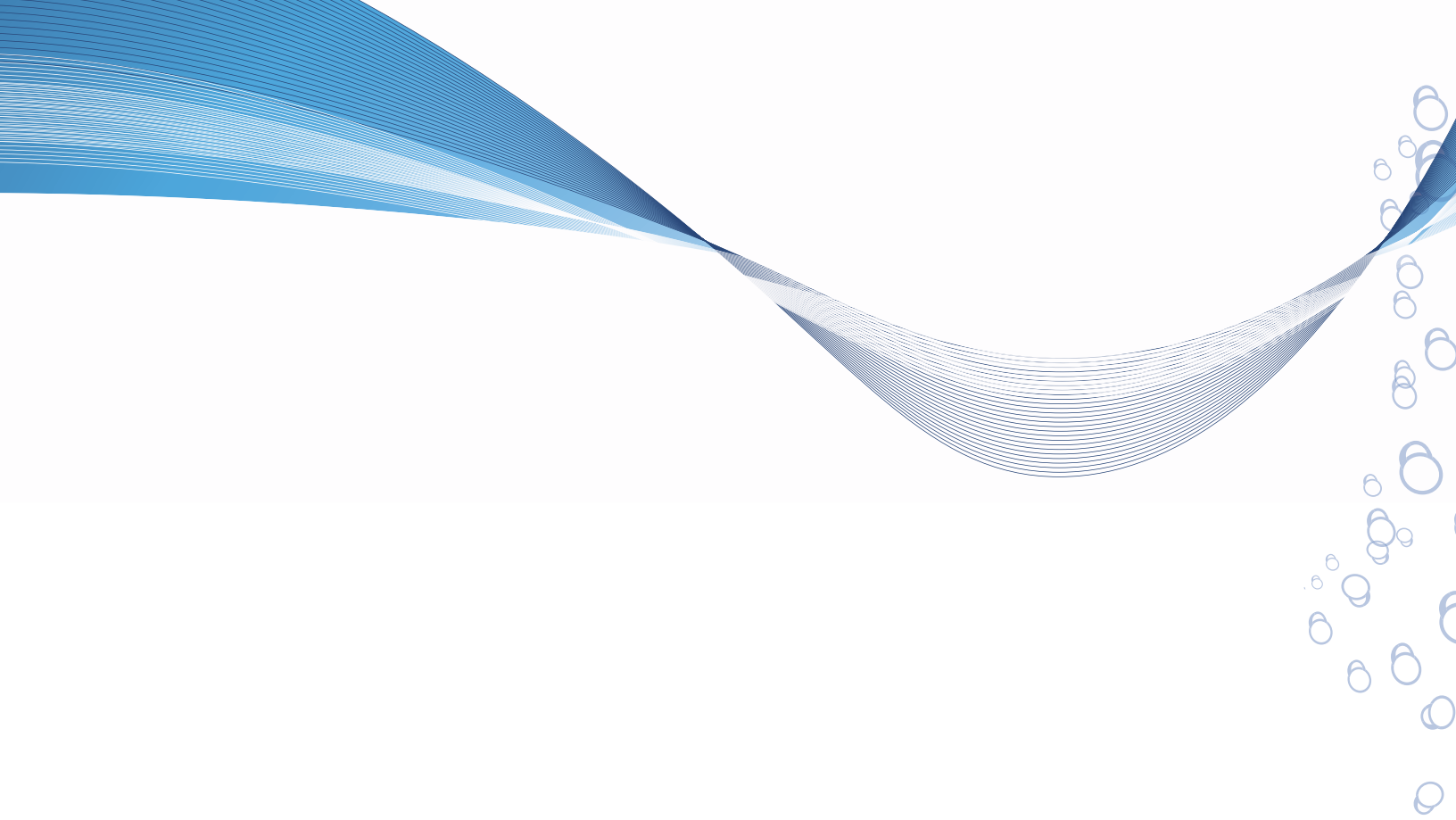
Part Number	Color	OD in.	ID in.	Working Pressure at 73°F PSI	Min. Burst Pressure at 73°F PSI	Min. Bend Radius in.
LF-4-0500	Natural	1/4	.170	120	480	1
LF-4-R-0500	Red	1/4	.170	120	480	1
LF-4-B-0500	Blue	1/4	.170	120	480	1
LF-4-O-0500	Orange	1/4	.170	120	480	1
LF-4-Y-0500	Yellow	1/4	.170	120	480	1
LF-4-P-0500	Purple	1/4	.170	120	480	1
LF-4-G-0500	Green	1/4	.170	120	480	1
LF-4-W-0500	White	1/4	.170	120	480	1
LF-4-BLK-0500	Black	1/4	.170	120	480	1
LF-5-0500	Natural	5/16	.187	145	580	1-1/8
LF-5-BLK-0500	Black	5/16	.187	145	580	1-1/8
LF-6-0500	Natural	3/8	.250	125	500	1-1/4
LF-6-R-0500	Red	3/8	.250	125	500	1-1/4
LF-6-B-0500	Blue	3/8	.250	125	500	1-1/4
LF-6-O-0500	Orange	3/8	.250	125	500	1-1/4
LF-6-Y-0500	Yellow	3/8	.250	125	500	1-1/4
LF-6-P-0500	Purple	3/8	.250	125	500	1-1/4
LF-6-G-0500	Green	3/8	.250	125	500	1-1/4
LF-6-W-0500	White	3/8	.250	125	500	1-1/4
LF-6-BLK-0500	Black	3/8	.250	125	500	1-1/4
LF-8-0250	Natural	1/2	.375	90	360	2-1/2
LF-8-W-0250	White	1/2	.375	90	360	2-1/2
LF-8-BLK-0250	Black	1/2	.375	90	360	2-1/2

## Polypropylene

Part Number	Color	OD in.	ID in.	Working Pressure at 73°F PSI	Min. Burst Pressure at 73°F PSI	Min. Bend Radius in.
LFPP-43-0500	White	1/4	.170	300	1200	1
LFPPB-43-0500	Black	1/4	.170	300	1200	1
LFPP-53-0500	White	5/16	.187	350	1400	1-1/4
LFPPB-53-0500	Black	5/16	.187	350	1400	1-1/4
LFPP-64-0500	White	3/8	.250	300	1200	1-1/4
LFPPB-64-0500	Black	3/8	.250	300	1200	1-1/4
LFPP-86-0250	White	1/2	.375	225	900	2-1/2
LFPPB-86-0250	Black	1/2	.375	225	900	2-1/2
LFPP-108-0100	White	5/8	.500	175	700	4
LFPPB-108-0100	Black	5/8	.500	175	700	4

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5. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 60 days after delivery or, in the case of an alleged breach of warranty, within 30 days after the date within the warranty period on which the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for any amount due to Seller from Buyer) must be commenced within thirteen months from the date of tender of delivery by Seller or, for a cause of action based upon an alleged breach of warranty, within thirteen months from the date within the warranty period on which the defect is or should have been discovered by Buyer.
6. **LIMITATION OF LIABILITY.** UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. **IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER’S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER’S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.**
7. **Contingencies.** Seller shall not be liable for any default or delay in performance if caused by circumstances beyond the reasonable control of Seller.
8. **User Responsibility.** The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product 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 and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.
9. **Loss to Buyer’s Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer’s property, may be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer placing an order for the items which are 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.
10. **Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. 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 apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.
11. **Buyer’s Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed 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. Seller shall have a security interest in, and lien upon, any property of Buyer in Seller’s possession as security for the payment of any amounts owed to Seller by Buyer.
12. **Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer’s employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller’s use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer’s failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.
13. **Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer 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 may change product features, specifications, designs and availability with notice to Buyer.
14. **Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.
15. **Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of the agreement. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.
16. **Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller’s right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.
17. **Termination.** This agreement may be terminated by Seller for any reason and at any time by giving Buyer thirty (30) days written notice of termination. In addition, Seller may by written notice immediately terminate this agreement for the following: (a) Buyer commits a breach of any provision of this agreement (b) the appointment of a trustee, receiver or custodian for all or any part of Buyer’s property (c) the filing of a petition for relief in bankruptcy of the other Party on its own behalf, or by a third party (d) an assignment for the benefit of creditors, or (e) the dissolution or liquidation of the Buyer.
18. **Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be 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 this agreement. Disputes between the parties shall not be settled by arbitration unless, after a dispute has arisen, both parties expressly agree in writing to arbitrate the dispute.
19. **Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (“Intellectual Property Rights”). 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 an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller’s obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller’s sole and exclusive liability and Buyer’s sole and exclusive remedy for infringement of Intellectual Property Rights.
20. **Taxes.** Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of Products.
21. **Equal Opportunity Clause.** For the performance of government contracts and where dollar value of the Products exceed \$10,000, the equal employment opportunity clauses in Executive Order 11246, VEVRAA, and 41 C.F.R. §§ 60-1.4(a), 60-741.5(a), and 60-250.4, are hereby incorporated.



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