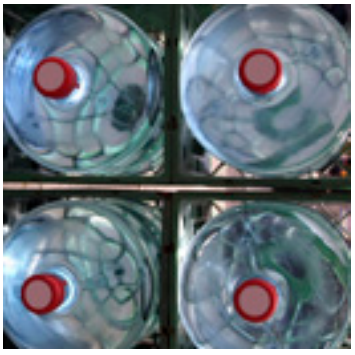
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Water & Beverage Connectors

Products & Custom Solutions

Parker

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"	
LIQUIfit Fractional Inch	Gripping Ring Push Button Release	Engineered High-Performance Nylon	EPDM	230†	230†	190†	160†	+35° to +200°
LIQUIfit Metric	Gripping Ring Push Button Release	Engineered High-Performance Nylon	EPDM	4MM	6MM	8MM	10MM	12MM	+35° to +200°
				230†	230†	230†	190†	160†	
TrueSeal	Collet Push Button Release	Acetal	EPDM	300†	300†	300†	250†	-20° to +180°
		Polypropylene	EPDM	150†	N/A	150†	150†	0° to +225°
		Kynar	Fluorocarbon	300†	N/A	300†	N/A	0° to +275°
Fast & Tite	Gripping Ring Compression	Polypropylene	Nitrile	300†	300†	250†	200†	0° to +212°
		Nylon	Nitrile	300†	300†	250†	200†	-40° to +200°
Par-Barb	Barb	Polypropylene	None	125†	125†	125†	125†	-65° to +190°
		Nylon	None	125†	125†	125†	125†	-40° to +200°
Quick Couplings	Quick Disconnect	Acetal	Nitrile	120†	120†	120†	N/A	-40° to +180°
TrueSeal Ball Valves	Collet Push Button Release	Polypropylene	EPDM	150†	150†	150†	150†	0° to +225°
LIQUIfit Ball Valves	Gripping Ring Push Button Release	Polypropylene	EPDM	150†	150†	150†	150†	+35° to +200°
TrueSeal Check Valves	Collet Push Button Release	Acetal	EPDM	150†	150†	150†	150†	+34° to +150°
Unleaded Brass	Push Button Release	Unleaded Brass	EPDM	†	†	†	†	0° to +200°
LIQUIfit Tubing		Polyethylene	N/A	120†	145†	125†	90†	-80° to +150°

† 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.

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Fluid System Connectors
Otsego, Michigan

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LIQUIfit™ Push-to-Connect Fittings

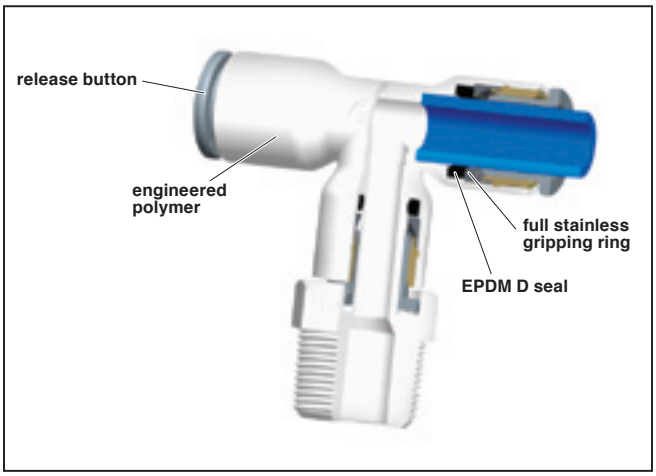
- EPDM D seal secures connection with a larger surface area than standard O-rings
- Engineered polymer allows superior mechanical strength and chemical resistance
- Full stainless gripping ring eliminates the need for locking clips
- Release button protects and supports tubing
- Bio-based body utilizes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

NSF ≤0.25% Lead

- NSF 51 - - C HOT -

6505 56 11 W P2

type of fitting | Tube OD1 | Tube OD2 | color code | package type



6505 - Male Connector

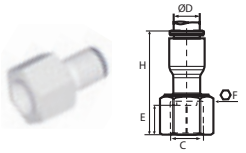
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F1 IN	F2 IN	H IN
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

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	F1 MM	F2 MM	H MM
6505 04 10WP2	4	R1/8	11	3	18
6505 04 13WP2	4	R1/4	14	3	18
6505 06 10WP2	6	R1/8	11	4	18
6505 06 13WP2	6	R1/4	14	4	18
6505 08 10WP2	8	R1/8	17	6	20
6505 08 13WP2	8	R1/4	17	6	20
6505 08 17WP2	8	R3/8	17	6	20
6505 10 13WP2	10	R1/4	17	7	21.5
6505 10 17WP2	10	R3/8	19	7	21.5
6505 10 21WP2	10	R1/2	22	7	21.5
6505 12 17WP2	12	R3/8	19	9	24.5
6505 12 21WP2	12	R1/2	22	9	24.5

6315 - Female Connector



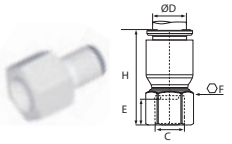
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	E IN	F IN	H IN
6315 56 14WP2	1/4	1/4	14	11/16	1.18
6315 60 18WP2	3/8	3/8	14	3/16	1.42

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	E MM	F MM	H MM
6315 06 10WP2	6	R1/8	11	13	32
6315 06 13WP2	6	R1/4	14	16	33
6315 08 13WP2	8	R1/4	14	16	33.5
6315 08 17WP2	8	R3/8	14	20	36

6325/6353 - Faucet Connector



Fractional Inch Tube-to-UNS

PART NUMBER	NOM TUBE O.D.	UNS THREAD SIZE	E IN	F IN	H IN
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

Metric Tube-to-BSPP

PART NUMBER	NOM TUBE O.D.	BSPP THREAD SIZE	E MM	F MM	H MM
6353 10 21WP2	10		27	9/16	

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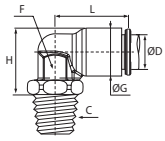
6579 - Fixed Elbow



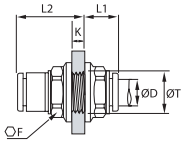
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	G IN	H IN	L IN
6579 56 11WP2	1/4	1/8	3/8	.43	.87	.71
6579 56 14WP2	1/4	1/4	3/8	.43	1.03	.71
6579 56 18WP2	1/4	3/8	3/8	.43	1.04	.71
6579 60 14WP2	3/8	1/4	1/2	.63	1.26	1.02
6579 60 18WP2	3/8	3/8	1/2	.63	1.26	1.02

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	G IN	H IN	L IN
6579 06 10WP2	6	R1/8	10	11	14	19
6579 06 13WP2	6	R1/4	10	11	14	19
6579 06 17WP2	6	R3/8	10	11	14	19

6316 - Bulkhead Union



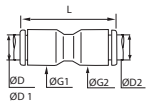
Fractional Inch Tube-to-Tube

PART NUMBER	NOM TUBE O.D.	F IN	K MAX IN	L1 IN	L2 IN	T MIN IN
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

Metric Tube-to-Tube

PART NUMBER	NOM TUBE O.D.	F MM	K MAX MM	L1 MM	L2 MM	T MIN MM
6316 04 00WP2	4	13	5.5	10.5	15.5	10.5
6316 06 00WP2	6	15	8.5	10	20	12.5
6316 08 00WP2	8	18	14.5	10.5	27	15.5
6316 10 00WP2	10	22	14.5	13	30	18.5
6316 12 00WP2	12	26	18.5	15.5	35	22.5

6306 - Union Connector



Fractional Inch Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G IN	L IN
6306 56 00WP2	1/4	.43	1.18
6306 08 00WP2	5/16	.53	1.46
6306 60 00WP2	3/8	.63	1.65
6306 62 00WP2	1/2	.87	2.24

Fractional Inch Tube-to-Tube (Unequal)

PART NUMBER	TUBE O.D. 1	TUBE O.D. 2	G IN	L IN
6306 56 60WP2	1/4	3/8	.63	1.61
6306 08 56WP2	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

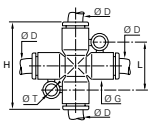
Metric Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G1 MM	G2 MM	L MM
6306 04 00WP2	4	8.5	8.5	26.5
6306 06 00WP2	6	10.5	10.5	30
6306 08 00WP2	8	13.5	13.5	37
6306 10 00WP2	10	16	16	42
6306 12 00WP2	12	19	19	50.5

Metric Tube-to-Tube (Unequal)

PART NUMBER	TUBE O.D. 1	TUBE O.D. 2	G1 MM	G2 MM	L MM
6306 04 06WP2	4	6	8.5	10.5	29
6306 04 08WP2	4	8	13.5	13.5	37
6306 06 08WP2	6	8	13.5	13.5	37
6306 06 10WP2	6	10	16	16	42
6306 08 10WP2	8	10	16	16	42
6306 08 12WP2	8	12	19	19	50
6306 10 12WP2	10	12	19	19	50

6307 - Cross



Metric Tube-to-Tube

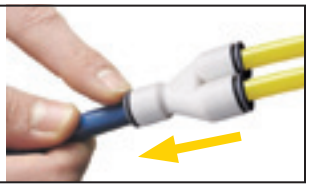
PART NUMBER	TUBE O.D.	H MM	L MM	T MM
6307 06 00WP2	6	46	22.5	4.2
6307 08 00WP2	8	46	22.5	4.2

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.



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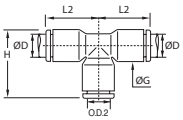
6304 - Union Tee



Fractional Inch Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G IN	H IN	L2 IN
6304 04 00WP2	5/32	.33	.79	.61
6304 56 00WP2	1/4	.43	.94	.71
6304 08 00WP2	5/16	.53	1.14	.89
6304 60 00WP2	3/8	.63	1.34	1.02
6304 62 00WP2	1/2	.87	1.85	1.42

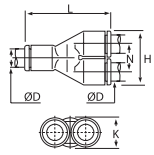
Fractional Inch Tube-to-Tube (Unequal)

PART NUMBER	TUBE O.D. 1	TUBE O.D. 2	G IN	L IN	L2 IN
6304 60 56WP2	3/8	1/4	.63	1.34	1.02
6304 62 60WP2	1/2	3/8	.87	1.85	1.42

Metric Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G MM	H MM	L2 MM
6304 04 00WP2	4	8.5	20	15.5
6304 06 00WP2	6	10.5	23	18
6304 08 00WP2	8	13.5	29	22.5
6304 10 00WP2	10	16	34.5	26.5
6304 12 00WP2	12	19	40	31

6340 - Union Y Connector



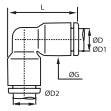
Fractional Inch Tube-to-Tube

PART NUMBER	NOM TUBE O.D.	H IN	K IN	L IN	N IN
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

Metric Tube-to-Tube

PART NUMBER	NOM TUBE O.D.	H MM	K MM	L MM	N MM
6340 04 00WP2	4	17.5	8.5	30	9
6340 06 00WP2	6	21.5	10.5	36.5	11
6340 08 00WP2	8	28	13.5	44.5	14.5
6340 10 00WP2	10	33	16	53	17
6340 12 00WP2	12	39	19	60.5	20

6302 - Union Elbow



Fractional Inch Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G IN	L IN
6302 04 00WP2	5/32	.33	.75
6302 56 00WP2	1/4	.43	.94
6302 08 00WP2	5/16	.53	1.16
6302 60 00WP2	3/8	.63	1.34
6302 62 00WP2	1/2	.87	1.83

Fractional Inch Tube-to-Tube (Unequal)

PART NUMBER	TUBE O.D. 1	TUBE O.D. 2	G IN	L IN
6302 56 08WP2	1/4	5/16	.53	1.16
6302 08 60WP2	5/16	3/8	.63	1.34
6302 56 60WP2	1/4	3/8	.63	1.30
6302 60 62WP2	3/8	1/2	.87	1.83

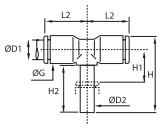
Metric Tube-to-Tube (Equal)

PART NUMBER	TUBE O.D.	G MM	L MM
6302 04 00WP2	4	8.5	19.5
6302 06 00WP2	6	10.5	24
6302 08 00WP2	8	13.5	29.5
6302 10 00WP2	10	16	34.5
6302 12 00WP2	12	19	40.5

Metric Tube-to-Tube (Unequal)

PART NUMBER	TUBE O.D. 1	TUBE O.D. 2	G MM	L MM
6302 04 06WP2	4	6	10.5	24
6302 06 08WP2	6	8	13.5	29.5
6302 08 10WP2	8	10	16	34.5
6302 10 12WP2	10	12	19	40.5

6388 - Plug-in Tee



Fractional Inch Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G IN	H IN	H1 IN	H2 IN	L2 IN
6388 56 00WP2	1/4	1/4	.43	1.20	.43	.79	.71
6388 08 00WP2	5/16	5/16	.53	1.32	.31	.85	.90
6388 60 00WP2	3/8	3/8	.63	1.65	.49	.98	.98
6388 62 00WP2	1/2	1/2	.87	2.01	.51	1.14	1.26

Metric Tube to Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G MM	H MM	H1 MM	H2 MM	L2 MM
6388 04 00WP2	4	4	8.5	25	6	15.5	15
6388 06 00WP2	6	6	10.5	28.5	7	17	16
6388 08 00WP2	8	8	13.5	33.5	8	21.5	23
6388 10 00WP2	10	10	16	41	9.5	24.5	26.5

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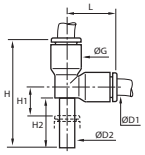
6383 - Plug-in Run Tee



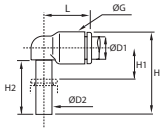
Fractional Inch Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G IN	H IN	H1 IN	H2 IN	L IN
6383 56 00WP2	1/4	1/4	.43	1.20	.43	.71	.71
6383 60 00WP2	3/8	3/8	.63	1.55	.43	.96	1.04
6383 62 00WP2	1/2	1/2	.87	1.93	.71	1.12	1.42

Metric Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G MM	H MM	H1 MM	H2 MM	L MM
6383 04 00WP2	4	4	8.5	33	6	15.5	15
6383 06 00WP2	6	6	10.5	38.5	7	17	18
6383 08 00WP2	8	8	13.5	49	8	21.5	23
6383 10 00WP2	10	10	16	57	10.5	25.5	26.5

6382 - Plug-in Elbow



Fractional Inch Tube-to-Stem (Equal)

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G IN	H IN	H1 IN	H2 IN	L IN
6382 56 00WP2	1/4	1/4	.43	1.20	.43	.71	.71
6382 08 00WP2	5/16	5/16	.53	1.32	.31	.85	.88
6382 60 00WP2	3/8	3/8	.63	1.53	.35	.96	1.04
6382 62 00WP2	1/2	1/2	.87	1.93	.51	1.12	1.42

Fractional Inch Tube-to-Stem (Unequal)

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G IN	H IN	H1 IN	H2 IN	L IN
6382 56 60WP2	1/4	3/8	.63	1.53	.35	.96	1.04
6382 60 56WP2	3/8	1/4	.63	1.26	.43	.71	1.04

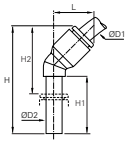
Metric Tube-to-Stem (Equal)

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G MM	H MM	H1 MM	H2 MM	L MM
6382 04 00WP2	4	4	8.5	23	6	15.5	15
6382 06 00WP2	6	6	10.5	26.5	7	17	17
6382 08 00WP2	8	8	13.5	33	8	21.5	22.5
6382 10 00WP2	10	10	16	39	9.5	24.5	26.5
6382 12 00WP2	12	12	19	44.5	10	27	31

Metric Tube-to-Stem (Unequal)

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G MM	H MM	H1 MM	H2 MM	L MM
6382 04 06WP2	4	6	10.5	26.5	7	17	16.5
6382 06 04WP2	6	4	10.5	25	7	15.5	17
6382 06 08WP2	6	8	13.5	33.5	8	21.5	22.5
6382 08 10WP2	8	10	16	39	9.5	24.5	26
6382 10 12WP2	10	12	19	44.5	10	27	30

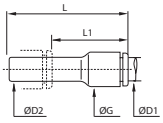
6380 - Plug-in 45° Elbow



Metric Tube-to-Stem

PART NUMBER	TUBE O.D.	STEM O.D.	H	H1	H2
6380 04 00WP2	4	4	33.5	19.0	13
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
6380 12 00WP2	12	12	58.5	27.5	26.5

6366 - Reducer



Fractional Inch Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G IN	L IN	L1 IN
6366 56 08WP2	1/4	5/16	.43	1.61	.89
6366 56 60WP2	1/4	3/8	.43	1.61	.81
6366 08 60WP2	5/16	3/8	.53	1.91	1.14
6366 08 62WP2	5/16	1/2	.63	1.91	.87
6366 60 62WP2	3/8	1/2	.63	2.01	1.18

Metric Tube-to-Stem

PART NUMBER	TUBE O.D. 1	STEM O.D. 2	G MM	L MM	L1 MM
6366 04 06WP2	4	6	8.5	38	23.5
6366 04 08WP2	4	8	8.5	38	19
6366 06 08WP2	6	8	10.5	38	20
6366 06 10WP2	6	10	10.5	39	17.5
6366 08 10WP2	8	10	13.5	48.5	28.5
6366 08 12WP2	8	12	13.5	48.5	24.5
6366 10 12WP2	10	12	16	52	33.5
6366 10 14WP2	10	14	16	53	33.5
6366 12 14WP2	12	14	19	55.5	33.5

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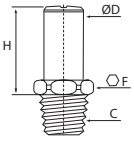
Otsego, Michigan

6521 - Stem Adapter



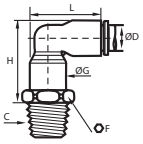
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	H IN
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

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	F IN	H IN
6521 06 10WP2	6	R1/8	13	19
6521 06 13WP2	6	R1/4	14	19
6521 06 17WP2	6	R3/8	17	19
6521 08 10WP2	8	R1/8	19	23
6521 08 13WP2	8	R1/4	19	23
6521 08 17WP2	8	R3/8	19	23
6521 10 13WP2	10	R1/4	19	25
6521 10 17WP2	10	R3/8	19	25
6521 10 21WP2	10	R1/2	22	25
6521 12 17WP2	12	R3/8	22	28
6521 12 21WP2	12	R1/2	22	28

6509 - Swivel Elbow



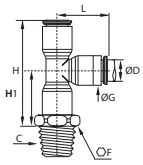
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	G IN	H IN	L IN
6509 56 11WP2	1/4	1/8	1/2	.43	1.10	.93
6509 56 14WP2	1/4	1/4	9/16	.43	1.10	.93
6509 56 18WP2	1/4	3/8	3/4	.43	1.12	.93
6509 60 14WP2	3/8	1/4	3/4	.63	1.50	1.34
6509 60 18WP2	3/8	3/8	3/4	.63	1.50	1.34
6509 62 18WP2	1/2	3/8	15/16	.87	1.99	1.83
6509 62 22WP2	1/2	1/2	15/16	.87	1.99	1.83

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	F MM	G MM	H MM	L MM
6509 06 10WP2	6	R1/8	13	10.5	28	24
6509 06 13WP2	6	R1/4	14	10.5	28	24
6509 06 17WP2	6	R3/8	17	10.5	28	24
6509 08 10WP2	8	R1/8	19	13.5	34	29.5
6509 08 13WP2	8	R1/4	19	13.5	34	29.5
6509 08 17WP2	8	R3/8	19	13.5	34	29.5
6509 10 13WP2	10	R1/4	19	16	38	34.5
6509 10 17WP2	10	R3/8	19	16	38	34.5
6509 10 21WP2	10	R1/2	22	16	38	34.5
6509 12 17WP2	12	R3/8	22	19	44	40
6509 12 21WP2	12	R1/2	22	19	44	40

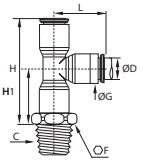
6503 - Swivel Run Tee



Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	F MM	G MM	H MM	H1 MM	L MM
6503 06 10WP2	6	R1/8	13	10.5	40	22	18.5
6503 06 13WP2	6	R1/4	14	10.5	40	22	18.5
6503 06 17WP2	6	R3/8	17	10.5	40	22	18.5
6503 08 10WP2	8	R1/8	19	13.5	50	27	23
6503 08 13WP2	8	R1/4	19	13.5	50	27	23
6503 08 17WP2	8	R3/8	19	13.5	50	27	23
6503 10 13WP2	10	R1/4	19	16	56.5	30	26.5
6503 10 17WP2	10	R3/8	19	16	56.5	30	26.5
6503 10 21WP2	10	R1/2	19	16	56.5	30	26.5
6503 12 17WP2	12	R3/8	22	19	65.5	34.5	31
6503 12 21WP2	12	R1/2	22	19	65.5	34.5	31

6503 - Swivel Run Tee



Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	G IN	H IN	H1 IN	L IN
6503 56 11WP2	1/4	1/8	1/2	.43	1.60	.88	.71
6503 56 14WP2	1/4	1/4	9/16	.43	1.60	.88	.71
6503 56 18WP2	1/4	3/8	3/4	.43	1.63	.90	.71
6503 60 14WP2	3/8	1/4	3/4	.63	1.63	1.18	1.02
6503 60 18WP2	3/8	3/8	3/4	.63	1.63	1.18	1.02
6503 62 18WP2	1/2	3/8	15/16	.87	2.29	1.55	1.40
6503 62 22WP2	1/2	1/2	15/16	.87	2.99	1.59	1.40

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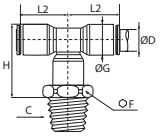
Otsego, Michigan

6508 - Swivel Branch Tee



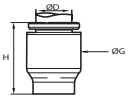
Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	F IN	G IN	H IN	L IN
6508 56 11WP2	1/4	1/8	1/2	.43	1.10	.71
6508 56 14WP2	1/4	1/4	9/16	.43	1.10	.71
6508 56 18WP2	1/4	3/8	3/4	.43	1.10	.71
6508 60 14WP2	3/8	1/4	3/4	.63	1.50	1.02
6508 60 18WP2	3/8	3/8	3/4	.63	1.50	1.02
6508 62 18WP2	1/2	3/8	15/16	.87	1.97	1.40
6508 62 22WP2	1/2	1/2	15/16	.87	2.00	1.40

Metric Tube-to-BSPT

PART NUMBER	NOM TUBE O.D.	BSPT THREAD SIZE	F MM	G MM	H MM	L MM
6508 06 10WP2	6	R1/8	13	10.5	28	18
6508 06 13WP2	6	R1/4	14	10.5	28	18
6508 06 17WP2	6	R3/8	17	10.5	28	18
6508 08 10WP2	8	R1/8	19	13.5	34	23
6508 08 13WP2	8	R1/4	19	13.5	34	23
6508 08 17WP2	8	R3/8	19	13.5	34	23
6508 10 13WP2	10	R1/4	19	16	38	26.5
6508 10 17WP2	10	R3/8	19	16	38	26.5
6508 10 21WP2	10	R1/2	19	16	38	26.5
6508 12 17WP2	12	R3/8	22	19	44	31
6508 12 21WP2	12	R1/2	22	19	44	31

6351 - End Stop



Fractional Inch Tube

PART NUMBER	TUBE O.D.	G IN	H IN
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

Metric Tube

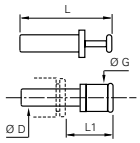
PART NUMBER	TUBE O.D.	G MM	H MM
6351 04 00WP2	4	8.5	15
6351 06 00WP2	6	10.5	17
6351 08 00WP2	8	13.5	21.5
6351 10 00WP2	10	16	22
6351 12 00WP2	12	19	27.5

6548 - Swivel Y Connector

Fractional Inch Tube-to-NPTF

PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX IN	L IN	H IN	N IN
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	2.8	1.78	.91
6548 62 22WP2	1/2	1/2	15/16	2.84	1.78	.91

6326 - Plug



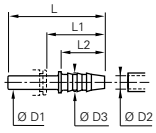
Fractional Inch Plug-to-Tube

PART NUMBER	STEM O.D.	L IN	L1 IN
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

Metric Plug-to-Tube

PART NUMBER	STEM O.D.	L MM	L1 MM
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

6322 - Stem Hose Barb



Fractional Inch Tube-to-Stem

PART NUMBER	STEM O.D.	HOSE BARB	L IN	L1 IN	L2 IN
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

Metric Tube-to-Stem

PART NUMBER	STEM O.D.	HOSE BARB	L IN	L1 IN	L2 IN
6322 06 00WP2	6	4	37.0	25.0	17
6322 08 00WP2	8	6	39.5	21.0	17
6322 10 00WP2	10	7	50.0	29.5	22

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

TrueSeal™ Thermoplastic Push-In Fittings

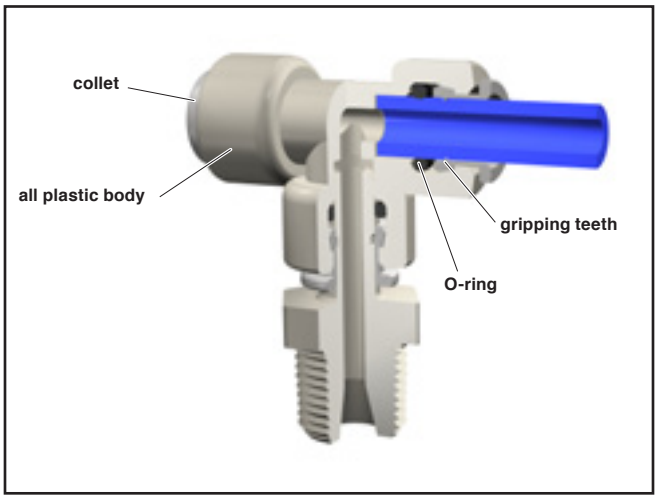
- Engineered O-ring increases seal compression on tube
- O-ring available in EPDM, Nitrile, or Fluorocarbon
- Body available in Acetal, Polypropylene, or Kynar
- Gripping teeth available in Stainless Steel or with an engineered thermoplastic bite edge
- Collet available in Acetal, Kynar or engineered thermoplastic
- FDA compliant
- All fittings are NSF-51 listed and gray acetal fittings are also NSF-61 listed

NSF ≤0.25% Lead

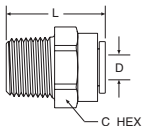
- NSF 51 -

A 4 MC 2 -MG

body material | Tube OD1 | configuration abbreviation | Tube OD2 | metal gripper



MC - Male Connector

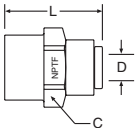


Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM TUBE O.D.	NPTF THD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4MC2-MG	PP4MC2	F4MC2	1/4	1/8	11/16	1.28	.175
A4MC4-MG	PP4MC4	F4MC4	1/4	1/4	11/16	1.14	.175
A4MC6-MG	PP4MC6	F4MC6	1/4	3/8	11/16	1.18	.175
A5MC2-MG			5/16	1/8	13/16	1.46	.175
A5MC4-MG			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	PP6MC4	F6MC4	3/8	1/4	13/16	1.41	.250
A6MC6-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	PP8MC6		1/2	3/8	15/16	1.65	.360
A8MC8-MG	PP8MC8		1/2	1/2	15/16	1.46	.375

For nonstandard plastic collet, remove -MG suffix.

FC - Female Connector

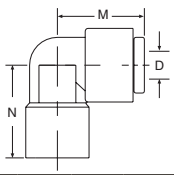


Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4FC2-MG	PP4FC2	F4FC2	1/4	1/8	11/16	1.20	.175
A4FC4-MG	PP4FC4	F4FC4	1/4	1/4	23/32	1.32	.175
A5FC4-MG			5/16	1/4	13/16	1.41	.188
A5FC6-MG			5/16	3/8	1	1.50	.188
A6FC4-MG	PP6FC4	F6FC4	3/8	1/4	13/16	1.41	.250
A6FC6-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		1/2	3/8	1-1/8	1.60	.375
A8FC8-MG	PP8FC8		1/2	1/2	1-1/8	1.75	.375

For nonstandard plastic collet, remove -MG suffix.

FE - Female Elbow



Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	M	N	D THRU HOLE MIN.
A4FE4-MG			1/4	1/4	0.84	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.

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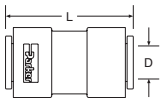
Otsego, Michigan

UC - Union Connector

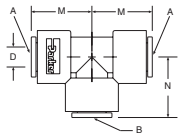


Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	L OVERALL LENGTH	D THRU HOLE MIN.
A4UC4-MG	PP4UC4	F4UC4	1/4	1.49	.175
A5UC4-MG			5/16-1/4	1.70	.175
A5UC5-MG			5/16	1.70	.188
A6UC4-MG	PP6UC4	F6UC4	3/8-1/4	1.70	.175
A6UC5-MG			3/8-5/16	1.70	.188
A6UC6-MG	PP6UC6	F6UC6	3/8	1.70	.250
A8UC5-MG			1/2-5/16	1.90	.188
A8UC6-MG	PP8UC6		1/2-3/8	1.90	.250
A8UC8-MG	PP8UC8		1/2	1.91	.375

For nonstandard plastic collet, remove -MG suffix.

TU - Tee Union

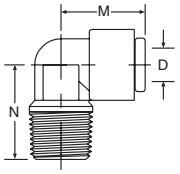


Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.		M	N	D THRU HOLE MIN.
			TUBE A	TUBE B			
A4TU4-MG	PP4TU4	F4TU4	1/4	1/4	0.81	0.85	.175
A5TU5-MG			5/16	5/16	1.02	1.02	.188
A6TU4-MG	PP6TU4	F6TU4	3/8	1/4	1.02	1.03	.175
A6TU6-MG	PP6TU6	F6TU6	3/8	3/8	1.02	1.02	.290
A8TU8-MG	PP8TU8		1/2	1/2	1.20	1.20	.375

For nonstandard plastic collet, remove -MG suffix.

ME - Male Elbow

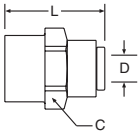


Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THD SIZE	M	N	D THRU HOLE MIN.
A4ME2-MG	PP4ME2	F4ME2	1/4	1/8	0.84	0.94	.175
A4ME4-MG	PP4ME4	F4ME4	1/4	1/4	0.84	0.94	.175
A4ME6-MG	PP4ME6	F4ME6	1/4	3/8	0.84	1.04	.175
A5ME4-MG			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	PP6ME6	F6ME6	3/8	3/8	1.03	1.06	.250

For nonstandard plastic collet, remove -MG suffix.

FA - Faucet Adapter

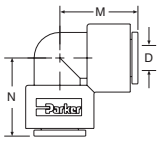


Tube-to-Faucet

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	UNS-2B THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4FA7-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	PP6FA7	F6FA7	3/8	7/16-24	13/16	1.41	.190

For nonstandard plastic collet, remove -MG suffix.

EU - Elbow Union

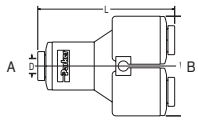


Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D. 1	NOM. TUBE O.D. 2	M	N	D THRU HOLE MIN.
A4EU4-MG	PP4EU4	F4EU4	1/4	1/4	0.87	0.87	.175
A5EU4-MG			5/16	1/4	1.052	0.90	.175
A5EU5-MG			5/16	5/16	1.02	1.02	.188
A6EU4-MG	PP6EU4	F6EU4	3/8	1/4	1.02	0.90	.212
A6EU5-MG			3/8	5/16	1.02	1.02	.175
A6EU6-MG	PP6EU6	F6EU6	3/8	3/8	1.02	1.02	.250
A8EU6-MG			1/2	3/8	1.20	1.20	.250
A8EU8-MG	PP8EU8		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 POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.		L	W	D THRU HOLE MIN.
			INLET TUBE A	OUTLET TUBE B			
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

For nonstandard plastic collet, remove -MG suffix.

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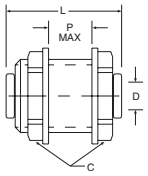
BU - Bulkhead Union

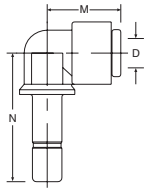


Tube-to-Tube

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	C1 HEX	C2 HEX	L OVERALL LENGTH	P MAX. WALL THK.	D THRU HOLE MIN.	BKHD HOLE DRILL SIZE
A4BU4-MG	PP4BU4	F4BU4	1/4	15/16	15/16	1.50	.50	.175	7/8
A5BU5-MG			5/16	1-1/16	1-1/16	1.75	.62	.188	1
A6BU4-MG	PP6BU4		3/8-1/4	1-1/16	1-1/16	1.75	.62	.175	1
A6BU6-MG	PP6BU6	F6BU6	3/8	1-1/16	1-1/16	1.75	.62	.250	1
A8BU8-MG			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

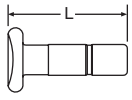


Tube-to-Stem

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	M	N	D THRU HOLE MIN.
A4TEU4-MG	PP4TEU4	F4TEU4	1/4	1/4	.84	1.21	.125
A4TEU6-MG		F4TEU6	1/4	3/8	.84	1.35	.125
A5TEU5-MG			5/16	5/16	1.03	1.40	.188
A6TEU4-MG		F6TEU4	3/8	1/4	1.03	1.29	.125
A6TEU6-MG	PP6TEU6	F6TEU6	3/8	3/8	1.03	1.64	.250
A8TEU8-MG	PP8TEU8		1/2	1/2	1.21	1.64	.380

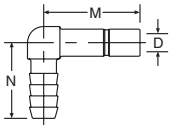
For nonstandard plastic collet, remove -MG suffix.

TPL - Plug



GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	FITTING SIZE	L OVERALL LENGTH
A4TPL	PP4TPL	F4TPL	1/4	0.88
A6TPL	PP6TPL	F6TPL	3/8	1.45
A8TPL	PP8TPL		1/2	1.50

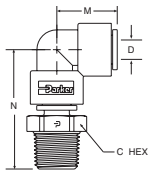
TEB - Tube Elbow Barb Connector



Tube-to-Barb

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	BARB I.D.	M	N	D THRU HOLE MIN.
A4TEB4	PP4TEB4	F4TEB4	1/4	1/4	0.89	1.00	.140
A6TEB6	PP6TEB6	F6TEB6	3/8	3/8	1.34	1.21	.250
A8TEB8			1/2	1/2	1.30	1.30	.390

MES - Male Elbow Swivel



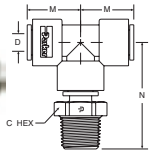
Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
A4MES2-MG	PP4MES2	F4MES2	1/4	1/8	9/16	0.87	1.60	.175
A4MES4-MG	PP4MES4	F4MES4	1/4	1/4	11/16	0.87	1.71	.175
A4MES6-MG	PP4MES6	F4MES6	1/4	3/8	13/16	0.90	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	PP6MES4	F6MES4	3/8	1/4	13/16	1.02	1.90	.250
A6MES6-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.

MTS - Male Tee Swivel



Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
A4MTS2-MG	PP4MTS2	F4MTS2	1/4	1/8	9/16	0.81	1.60	.175
A4MTS4-MG	PP4MTS4	F4MTS4	1/4	1/4	11/16	0.81	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	PP6MTS4	F6MTS4	3/8	1/4	13/16	1.02	1.90	.250
A6MTS6-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.

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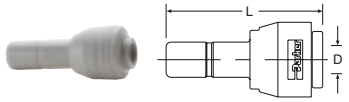
Otsego, Michigan

RD - Tube Reducer

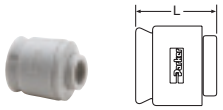


Tube-to-Tube Stem

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	TUBE STEM O.D.	L	D THRU HOLE MIN.
A4RD5-MG	PP4RD5		1/4	5/16	1.62	.18
A4RD6-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.

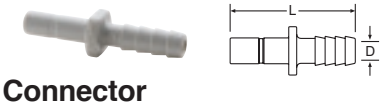
CAP - Tube Cap



GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	L OVERALL LENGTH
A4CAP-MG	PP4CAP	F4CAP	1/4	0.77
A6CAP-MG	PP6CAP		3/8	0.88

For nonstandard plastic collet, remove -MG suffix.

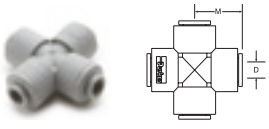
TCB - Tube-to-Barb Connector



Tube-to-Barb

GRAY ACETAL	WHITE POLYPROPYLENE	NATURAL KYNAR	TUBE STEM O.D.	BARB I.D.	L OVERALL LENGTH	D THRU HOLE MIN.
A4TCB4	PP4TCB4	F4TCB4	1/4	1/4	1.67	.140
A6TCB4		F6TCB4	3/8	1/4	1.82	.140
A6TCB6	PP6TCB6	F6TCB6	3/8	3/8	1.98	.250
A8TCB6			1/2	3/8	2.10	.250
A8TCB8			1/2	1/2	2.10	.375

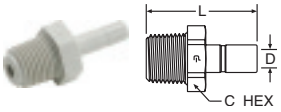
CU - Cross



Tube-to-Tube

GRAY ACETAL	NOM TUBE O.D.	M	D THRU HOLE MIN.
A4CU4-MG	1/4	.91	.175
A6CU6-MG	3/8	1.08	.250

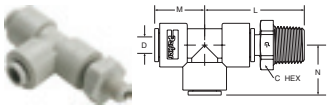
TMC - Tube Stem Adapter



Tube Stem-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FLUOROCARBON SEAL	NOM. TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
A4TMC2	PP4TMC2	F4TMC2	1/4	1/8	9/16	1.44	.175
A4TMC4	PP4TMC4	F4TMC4	1/4	1/4	11/16	1.56	.175
A5TMC2			5/16	1/8	9/16	1.5	.188
A5TMC4			5/16	1/4	11/16	1.67	.188
A5TMC6			5/16	3/8	13/16	1.67	.188
A6TMC4	PP6TMC4	F6TMC4	3/8	1/4	13/16	1.70	.250
A6TMC6	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

MRS - Male Run Swivel



Tube-to-Pipe

GRAY ACETAL EPDM SEAL	WHITE POLYPROPYLENE EPDM SEAL	NATURAL KYNAR FCB SEAL	NOM TUBE O.D.	NPTF THD SIZE	C HEX	L	M	N	D THRU HOLE MIN.
A4MRS2-MG	PP4MRS2	F4MRS2	1/4	1/8	9/16	1.55	0.81	0.85	.175
A4MRS4-MG	PP4MRS4	F4MRS4	1/4	1/4	11/16	1.67	0.81	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	PP6MRS4	F6MRS4	3/8	1/4	13/16	1.90	1.02	1.02	.250
A6MRS6-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.

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.

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

Fast & Tite® Thermoplastic Fittings

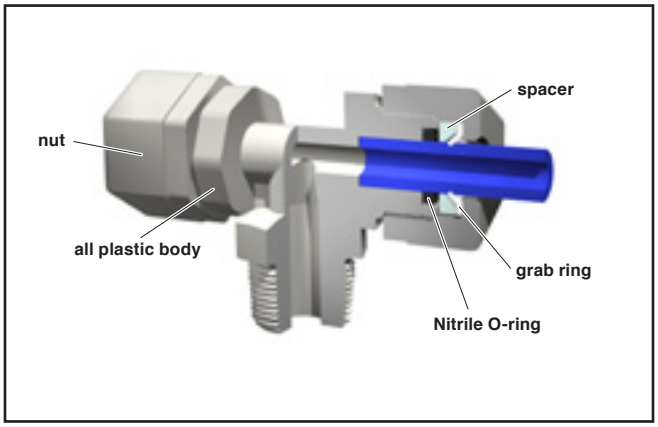
- Body available in Polypropylene or Nylon
- Grab Ring available in full Stainless Steel or engineered thermoplastic
- FDA compliant
- 0° to +212°F for Polypropylene
- -40° to +200°F for Nylon

NSF ≤0.25% Lead

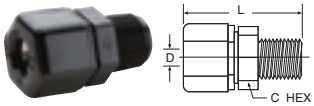
- NSF 51 -

W 4 MC 2

body material | Tube OD1 | configuration abbreviation | Tube OD2



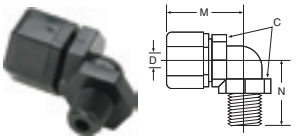
MC - Male Connector



Tube-to-Male pipe

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THREAD SIZE	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
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



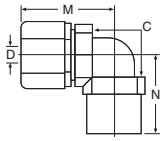
Tube-to-Male Pipe

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
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

NOTE: (+) non-standard

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

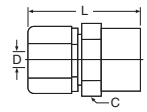
FE - Female Elbow



Tube-to-Female Pipe

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
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

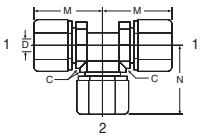
FC - Female Connector



Tube-to-Female Pipe

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4FC2	P4FC2	N4FC2	1/4	1/8	11/16	1.10	0.84	.170
W4FC4	P4FC4	N4FC4	1/4	1/4	11/16	1.10	0.94	.170
W5FC2 (+)	P5FC2	N5FC2	5/16	1/8	11/16	1.10	0.84	.193
W6FC4	P6FC4	N6FC4	3/8	1/4	13/16	1.30	1.06	.250
W6FC6	P6FC6	N6FC6	3/8	3/8	13/16	1.30	1.03	.250
W8FC6 (+)	P8FC6	N8FC6	1/2	3/8	1	1.50	1.16	.375
W8FC8	P8FC8	N8FC8	1/2	1/2	1	1.50	1.27	.375
W10FC8 (+)	P10FC8	N10FC8	5/8	1/2	1-1/8	1.70	1.34	.500

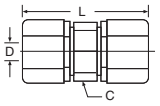
TU - Tee Union



Tube-to-tube

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.1	NOM. TUBE O.D.2	C HEX	M	N	D THRU HOLE MIN.
W4TU4	P4TU4	N4TU4	1/4	1/4	11/16	1.09	1.09	.170
W5TU5 (+)	P5TU5	N5TU5	5/16	5/16	11/16	1.09	1.09	.187
W6TU6	P6TU6	N6TU6	3/8	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	1/2	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	5/8	1-3/16	1.68	1.68	.500

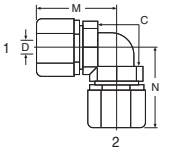
UC - Union Connector



Tube-to-Tube

WHITE PPL PART NUMBER	BLACK PPL PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	C HEX	L OVERALL LENGTH	D THRU HOLE MIN.
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



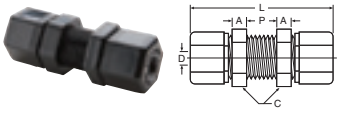
Tube-to-Tube

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.1	NOM. TUBE O.D.2	C HEX	M	N	D THRU HOLE MIN.
W4EU4	P4EU4	N4EU4	1/4	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	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	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	1/2	1-1/16	1.56	1.56	.375
W10EU10 (+)	P10EU10	N10EU10	5/8	5/8	1-3/16	1.72	1.72	.500

NOTE: (+) non-standard

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

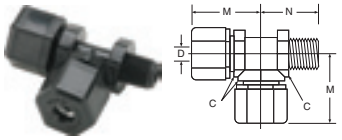
BU - Bulkhead Union



Tube-to-Tube

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	A REF.	C HEX	L OVERALL LENGTH	P MAX	D THRU HOLE MIN.	BULKHEAD 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

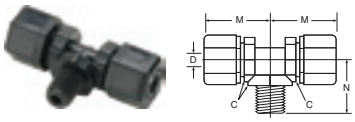
WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
W4MR2	P4MR2	N4MR2	1/4	1/8	11/16	1.09	0.89	.170
W6MR4	P6MR4	N6MR4	3/8	1/4	13/16	1.30	1.17	.250
W8MR6	P8MR6	N8MR6	1/2	3/8	1	1.46	1.28	.375
W10MR8 (+)	P10MR8	N10MR8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

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

MT - Male Branch Tee



Tube-to-Male Pipe

WHITE POLYPROPYLENE PART NUMBER	BLACK POLYPROPYLENE PART NUMBER	WHITE NYLON PART NUMBER	NOM. TUBE O.D.	NPTF THD SIZE	C HEX	M	N	D THRU HOLE MIN.
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

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

OR - O-Ring

O-RING PART NUMBER	FOR NOM. TUBE O.D.
4OR	1/4
5OR	5/16
6OR	3/8
8OR	1/2
10OR	5/8

NOTE: (+) non-standard

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

Par-Barb® Thermoplastic Fittings

MATERIALS OF CONSTRUCTION	
BODIES:	WHITE NYLON, BLACK POLYPROPYLENE
WASHER:	UNIPRENE

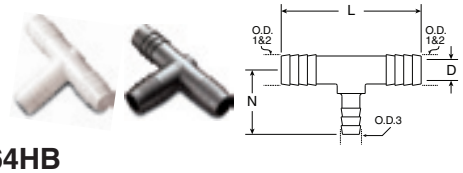
NOMENCLATURE	
EXAMPLE: 325HB-4-6N	**ATTRIBUTE:**
325	PLASTIC MALE PIPE CONNECTOR
HB	HOSE BARB
4	1/4 HOSE I.D.
6	3/8 NPT
N	WHITE NYLON

SPECIFICATIONS	
PRESSURE RANGE:	UP TO 125 PSI.
TEMPERATURE RANGE:	BLACK POLYPROPYLENE: 10°F (-12°C) TO +220°F (+104°C)
	WHITE NYLON: -40°F (-40°C) TO +200°F (+93°C)
TUBE MATERIAL:	VINYL, POLYURETHANE, RUBBER HOSE
TUBE I.D.:	1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 1, 1-1/4, 1-1/2
OPERATING FLUID:	AIR, WATER, OTHER FLUIDS COMPATIBLE WITH MATERIALS OF CONSTRUCTION
NOTE:	FOR OTHER TYPES OF FLUIDS OR GASSES, PLEASE CONSULT FACTORY

Par-Barb® fittings are injection molded from high strength, chemically inert , thermoplastic materials. These fittings meet FDA and NSF-51 specifications for food contact. The multiple barb design generates the maximum gripping and sealing power when combined with a hose clamp.

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-4N	322HB-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-6N	322HB-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-8N	322HB-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



Union Tee 364HB

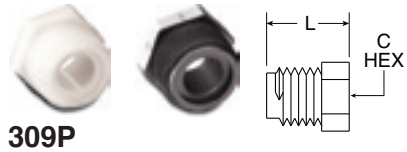
WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D. 1- 2	TUBE OR HOSE I.D. 3	O.D. 1 - 2	O.D. 3	L	N	FLOW DIA. D
364HBM-2N		1/8	1/8	.15	.15	1.19	.60	.08
364HB-3N	364HB-3PP	3/16	3/16	.25	.25	1.49	.75	.12
364HB-4N	364HB-4PP	1/4	1/4	.32	.32	1.92	.96	.16
364HB-4-6N		1/4	3/8	.32	.44	1.92	1.18	.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-6N	364HB-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-8N	364HB-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

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-8N	365HB-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		3/4	1/8	1– 1/8	.86
309P-12-4N		3/4	1/4	1– 1/8	.75
309P-12-6N		3/4	3/8	1– 1/8	.85
309P-12-8N		3/4	1/2	1– 1/8	.87

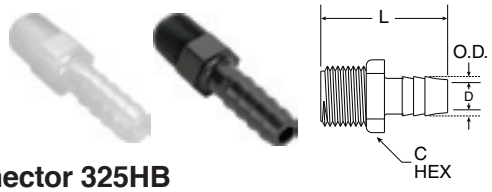
Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

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

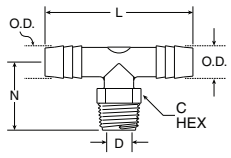
WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THREAD	O.D.	C HEX	L	FLOW DIA. D
326HB-3-2N	326HB-3-2PP	3/16	1/8	.25	5/8	1.29	.12
326HB-3-4N	326HB-3-4PP	3/16	1/4	.25	3/4	1.31	.13
326HB-4-2N	326HB-4-2PP	1/4	1/8	.31	5/8	1.51	.16
326HB-4-4N	326HB-4-4PP	1/4	1/4	.31	3/4	1.52	.15
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

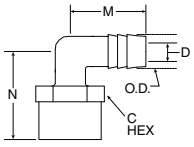
WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	L	FLOW DIA. D
325HB-3-2N	325HB-3-2PP	3/16	1/8	.25	7/16	1.49	.12
325HB-3-4N	325HB-3-4PP	3/16	1/4	.25	9/16	1.61	.13
325HB-4-2N	325HB-4-2PP	1/4	1/8	.31	7/16	1.50	.15
325HB-4-4N	325HB-4-4PP	1/4	1/4	.31	9/16	1.60	.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		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

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan



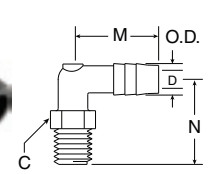
Male Branch Tee 372HB

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



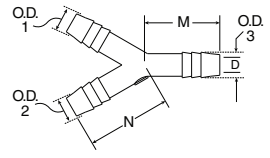
Female Elbow 370HB

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

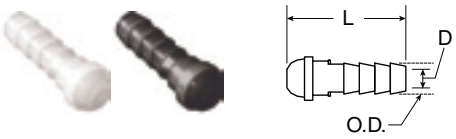
WHITE NYLON PART NO.	BLACK POLYPROPYLENE PART NO.	TUBE OR HOSE I.D.	NPT PIPE THD.	O.D.	C HEX	M	N	FLOW DIA. D
329HB-3-2N	329HB-3-2PP	3/16	1/8	.25	7/16	.76	1.06	.12
329HB-3-4N		3/16	1/4	.25	9/16	.76	1.17	.13
329HB-4-2N	329HB-4-2PP	1/4	1/8	.31	7/16	1.18	1.04	.16
329HB-4-4N	329HB-4-4PP	1/4	1/4	.31	9/16	1.18	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

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan



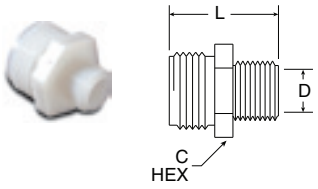
Ball Nose Hose Barb Stem 328HB

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.

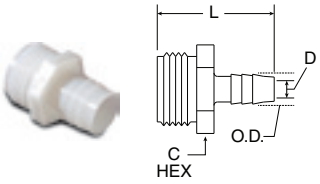
Hose Barb Swivel Nut 31HB

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



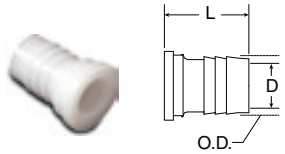
Male Garden Hose - Male Pipe Adapter 316GH

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

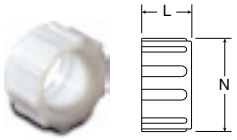
WHITE NYLON PART NO.	TUBE OR HOSE I.D.	GARDEN HOSE THREAD	O.D.	C HEX	L	FLOW DIA. D
325GH-4-12N	1/4	3/4	.31	1– 1/8	1.70	.16
325GH-6-12N	3/8	3/4	.44	1– 1/8	1.69	.25
325GH-8-12N	1/2	3/4	.55	1– 1/8	1.68	.38
325GH-10-12N	5/8	3/4	.64	1– 1/8	1.70	.47
325GH-12-12N	3/4	3/4	.81	1– 1/8	1.70	.62



Garden Hose Swivel Hose Barb Stem 325GHSV

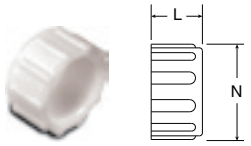
WHITE NYLON PART NO.	TUBE OR HOSE I.D.	GARDEN HOSE THREAD	O.D.	L	FLOW DIA. D
325GHSV-4-12BN+	1/4	3/4	.31	1.16	.16
325GHSV-6-12BN+	3/8	3/4	.44	1.17	.25
325GHSV-8-12BN+	1/2	3/4	.56	1.17	.38
325GHSV-10-12BN+	5/8	3/4	.64	1.18	.47
325GHSV-12-12BN+	3/4	3/4	.81	1.18	.62

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



Garden Hose Nut 31GH

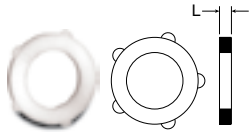
WHITE NYLON PART NO.	GARDEN HOSE THREAD	L	DIA. N
31GH-12N	3/4	.74	1.38



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)



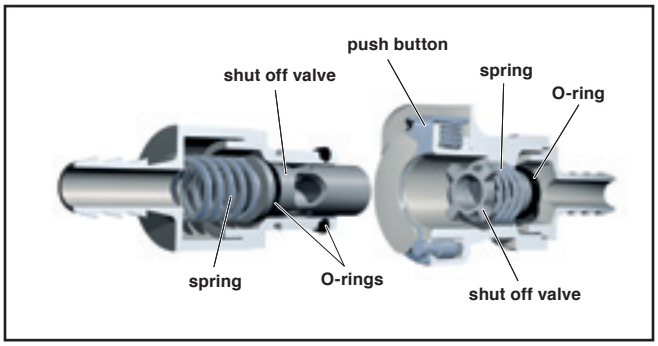
Garden Hose Washer 30GH

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

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

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

PART NUMBER	BODY SIZE	PORT END	VALVED OR NON-VALVED
PPM-121-2MP	1/8	1/8	VALVED
PPM-121-4MP	1/8	1/4	VALVED
PPM-123-2MP	1/8	1/8	NON
PPM-123-4MP	1/8	1/4	NON
PPL-251-4MP	1/4	1/4	VALVED
PPL-251-6MP	1/4	3/8	VALVED
PPL-253-4MP	1/4	1/4	NON
PPL-253-6MP	1/4	3/8	NON

Couplers - Bulkhead Hose Barb with Nut, In-line

PART NUMBER	BODY SIZE	HOSE BARB	VALVED OR NON-VALVED
PPM-121-H2HB	1/8	1/8	VALVED
PPM-121-H3HB	1/8	3/16	VALVED
PPM-121-H4HB	1/8	1/4	VALVED
PPL-251-H4HB	1/4	1/4	VALVED
PPL-251-H6HB	1/4	3/8	VALVED

PPM & PPL

PPA*

Couplers - Hose Barb, In-line

PART NUMBER	BODY SIZE	HOSE BARB	VALVED OR NON-VALVED
PPM-121-2HB	1/8	1/8	VALVED
PPM-121-3HB	1/8	3/16	VALVED
PPM-121-4HB	1/8	1/4	VALVED
PPM-123-2HB	1/8	1/8	NON
PPM-123-3HB	1/8	3/16	NON
PPM-123-4HB	1/8	1/4	NON
PPL-251-4HB	1/4	1/4	VALVED
PPL-251-5HB	1/4	5/16	VALVED
PPL-251-6HB	1/4	3/8	VALVED
PPL-253-4HB	1/4	1/4	NON
PPL-253-5HB	1/4	5/16	NON
PPL-253-6HB	1/4	3/8	NON
PPA-251-4HB	1/4	1/4	VALVED
PPA-251-6HB	1/4	3/8	VALVED
PPA-253-4HBSB	1/4	1/4	NON
PPA-253-6HBSB	1/4	3/8	NON

*PPA couplers are not interchangeable with PPM and PPL couplers.

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

Nipples - Male NPTF Thread

PART NUMBER	BODY SIZE	PORT END	VALVED OR NON-VALVED
PPM-122-2MP	1/8	1/8	VALVED
PPM-122-4MP	1/8	1/4	VALVED
PPM-124-2MP	1/8	1/8	NON
PPM-124-4MP	1/8	1/4	NON
PPL-252-4MP	1/4	1/4	VALVED
PPL-252-6MP	1/4	3/8	VALVED
PPL-254-4MP	1/4	1/4	NON
PPL-254-6MP	1/4	3/8	NON

Nipples - Hose Barb, 90°

PART NUMBER	BODY SIZE	HOSE BARB	VALVED OR NON-VALVED
PPM-122-C2HB	1/8	1/8	VALVED
PPM-122-C4HB	1/8	1/4	VALVED
PPM-124-C2HB	1/8	1/8	NON
PPM-124-C4HB	1/8	1/4	NON
PPL-252-C4HB	1/4	1/4	VALVED
PPL-252-C6HB	1/4	3/8	VALVED
PPL-254-C4HB	1/4	1/4	NON
PPL-254-C6HB	1/4	3/8	NON

PPM & PPL

PPA*

Nipples - Hose Barb, In-line

PART NUMBER	BODY SIZE	HOSE BARB	VALVED OR NON-VALVED
PPM-122-2HB	1/8	1/8	VALVED
PPM-122-3HB	1/8	3/16	VALVED
PPM-122-4HB	1/8	1/4	VALVED
PPM-124-2HB	1/8	1/8	NON
PPM-124-3HB	1/8	3/16	NON
PPM-124-4HB	1/8	1/4	NON
PPL-252-4HB	1/4	1/4	VALVED
PPL-252-5HB	1/4	5/16	VALVED
PPL-252-6HB	1/4	3/8	VALVED
PPL-254-4HB	1/4	1/4	NON
PPL-254-5HB	1/4	5/16	NON
PPL-254-6HB	1/4	3/8	NON
PPA-252-4HB	1/4	1/4	VALVED
PPA-252-6HB	1/4	3/8	VALVED
PPA-254-4HB	1/4	1/4	NON
PPA-254-6HB	1/4	3/8	NON

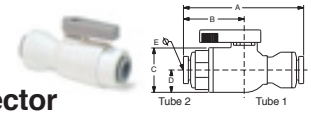
Nipples - Panel Mount Hose Barb, In-line

PART NUMBER	BODY SIZE	HOSE BARB	VALVED OR NON-VALVED
PPM-122-H2HB	1/8	1/8	VALVED
PPM-122-H3HB	1/8	3/16	VALVED
PPM-122-H4HB	1/8	1/4	VALVED
PPM-124-H3HB	1/8	3/16	NON
PPL-252-H4HB	1/4	1/4	VALVED
PPL-252-H6HB	1/4	3/8	VALVED

LIQUIfit™ Ball Valves

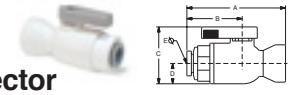
- Engineered EPDM D Seal increases seal compression on tube
- Full flow self cleaning ball
- High-temperature, scale-resistant Polysulfone ball
- Glass-reinforced Polypropylene body
- FDA compliant

- NSF 51 -



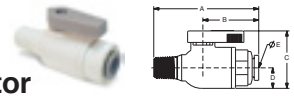
VUC - Valve Union Connector

PART NUMBER	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	0.5	.19
LFPP4VUC6	1/4	3/8	2.57	1.30	1.0	0.5	.19
LFPP6VUC6	3/8	3/8	2.67	1.32	1.4	0.5	.25



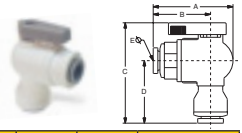
VFC - Valve Female Connector

PART NUMBER	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	0.5	.19
LFPP4VFC4	1/4	1/4	2.27	1.21	1.4	0.5	.19
LFPP4VFC6	1/4	3/8	2.40	1.21	1.4	0.5	.19
LFPP6VFC2	3/8	1/8	2.15	1.32	1.4	0.5	.25
LFPP6VFC4	3/8	1/4	2.38	1.32	1.4	0.5	.25
LFPP6VFC6	3/8	3/8	2.51	1.32	1.4	0.5	.25



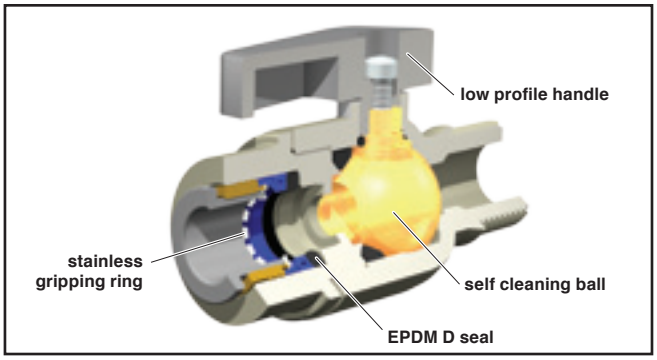
VMC - Valve Male Connector

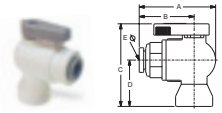
PART NUMBER	NOM. TUBE O.D.	NPTF THREAD SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VMC2	1/4	1/8	2.22	1.21	1.4	0.5	.19
LFPP4VMC4	1/4	1/4	2.40	1.21	1.4	0.5	.19
LFPP4VMC6	1/4	3/8	2.40	1.21	1.4	0.5	.19
LFPP4VMC8	1/4	1/2	2.59	1.21	1.4	0.5	.19
LFPP6VMC2	3/8	1/8	2.33	1.32	1.4	0.5	.25
LFPP6VMC4	3/8	1/4	2.51	1.32	1.4	0.5	.25
LFPP6VMC6	3/8	3/8	2.51	1.32	1.4	0.5	.25
LFPP6VMC8	3/8	1/2	2.70	1.32	1.4	0.5	.25



VEU - Valve Elbow Union

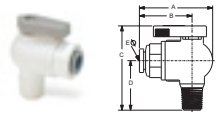
PART NUMBER	1 TUBE SIZE	2 TUBE SIZE	A	B	C	D	ØE THRU HOLE MIN.
LFPP4VEU4	1/4	1/4	1.75	1.22	2.33	1.42	.19
LFPP4VEU6	1/4	3/8	1.75	1.22	2.33	1.42	.11
LFPP6VEU4	3/8	1/4	1.83	1.30	2.32	1.40	.19
LFPP6VEU6	3/8	3/8	1.85	1.32	2.34	1.44	.25





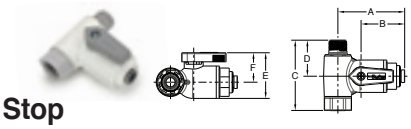
VFE - Valve Female Elbow

PART NUMBER	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	0.92	.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	0.92	.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



VME - Valve Male Elbow

PART NUMBER	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



VAS - Valve Angle Stop

PART NUMBER	TUBE O.D.	MALE THREAD	FEMALE THREAD	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

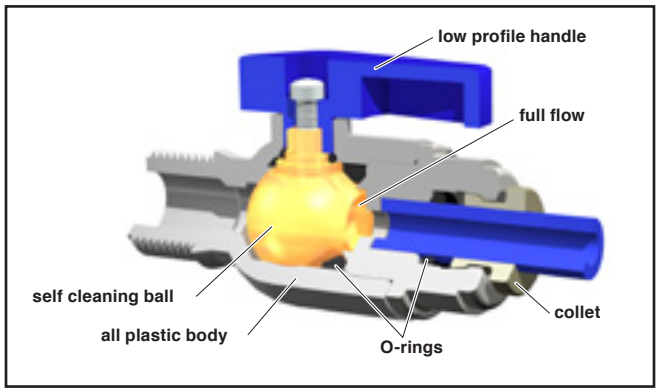
Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

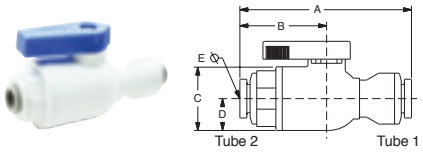
TrueSeal™ Ball Valves

- 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

NSF COMPONENT - NSF 51 -

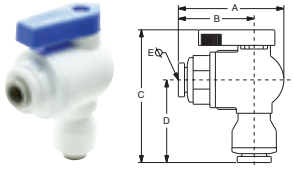
RoHS NSF ≤0.25% Lead





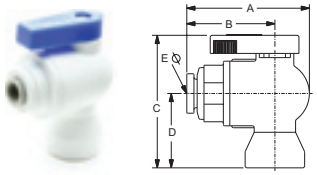
VUC - Valve Union Connector

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	0.5	.19
PP4VUC6-MG	1/4	3/8	2.55	1.22	1.0	0.5	.19
PP6VUC4-MG	3/8	1/4	2.57	1.30	1.0	0.5	.19
PP6VUC6-MG	3/8	3/8	2.67	1.32	1.4	0.5	.25



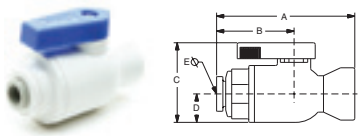
VEU - Valve Elbow Union

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



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	0.92	.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	0.92	.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

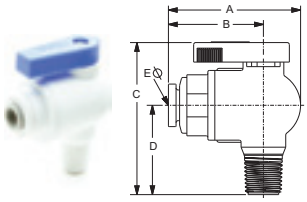


VFC - Valve Female Connector

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	0.5	.19
PP4VFC4-MG	1/4	1/4	2.27	1.21	1.4	0.5	.19
PP4VFC6-MG	1/4	3/8	2.40	1.21	1.4	0.5	.19
PP6VFC2-MG	3/8	1/8	2.15	1.32	1.4	0.5	.25
PP6VFC4-MG	3/8	1/4	2.38	1.32	1.4	0.5	.25
PP6VFC6-MG	3/8	3/8	2.51	1.32	1.4	0.5	.25

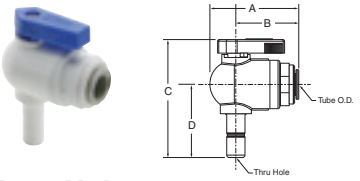
(+) Non Standard.

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



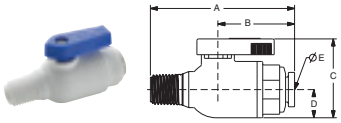
VME - Valve Male Elbow

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



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	0.5	.19
PP4VMC4-MG	1/4	1/4	2.40	1.21	1.4	0.5	.19
PP4VMC6-MG	1/4	3/8	2.40	1.21	1.4	0.5	.19
PP4VMC8-MG (+)	1/4	1/2	2.59	1.21	1.4	0.5	.19
PP6VMC2-MG (+)	3/8	1/8	2.33	1.32	1.4	0.5	.25
PP6VMC4-MG	3/8	1/4	2.51	1.32	1.4	0.5	.25
PP6VMC6-MG	3/8	3/8	2.51	1.32	1.4	0.5	.25
PP6VMC8-MG (+)	3/8	1/2	2.70	1.32	1.4	0.5	.25

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

Body: Acetal

O-ring: EPDM

Metal Grip Edge: 300 Stainless

Working Pressure

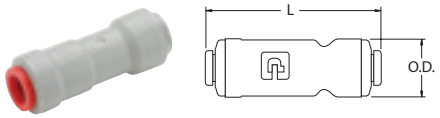
Up to 150 PSI depending on tubing being used

Temperature Range

+34°F (1° C) to +150°F (65°C)

Cracking Pressure

1/3 PSI



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

Low-lead Brass

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

RoHS NSF ≤0.25% Lead

Female Flare Connector

PART NUMBER	TUBE O.D.	THREAD
L66PLNF-4-4	1/4	7/16-20
L66PLNF-6-4	3/8	7/16-20
L66PLNF-6-6	3/8	5/8-18

Female Garden Hose Swivel

PART NUMBER	TUBE O.D.	THREAD
L66PLNGHSV-4-12	1/4	3/4
L66PLNGHSV-6-12	3/8	3/4

45° Flare-Male NPTF Connector

PART NUMBER	TUBE O.D.	THREAD
L48F-4-4	1/4	1/4
L48F-6-4	3/8	1/4
L48F-6-6	3/8	3/8
L48F-6-8	3/8	1/2
L48F-8-8	1/2	1/2
L48F-10-6	5/8	3/8
L48F-10-8	5/8	1/2
L48F-10-12	5/8	3/4

45° Flare-Male NPTF Elbow

PART NUMBER	TUBE O.D.	THREAD
L249F-6-4	3/8	1/4
L249F-6-6	3/8	3/8
L249F-6-8	3/8	1/2
L249F-8-4	1/2	1/4
L249F-8-6	1/2	3/8
L249F-10-6	5/8	3/8
L249F-10-8	5/8	1/2

Accessories

3130 - Tamper Resistant Locking Clip for LIQUIfit

Fractional Inch

TUBE O.D.	PART NUMBER (BLACK)	PART NUMBER (GREEN)	PART NUMBER (RED)	PART NUMBER (BLUE)	PART NUMBER (YELLOW)	PART NUMBER (WHITE)
1/4	3130 56 01 (+)	3130 56 02 (+)	3130 56 03	3130 56 04 (+)	3130 56 05 (+)	3130 56 10 (+)
5/16	3130 08 01 (+)	3130 08 02 (+)	3130 08 03	3130 08 04 (+)	3130 08 05 (+)	3130 08 10 (+)
3/8	3130 60 01 (+)	3130 60 02 (+)	3130 60 03	3130 60 04 (+)	3130 60 05 (+)	3130 60 10 (+)
1/2	3130 62 01 (+)	3130 62 02 (+)	3130 62 03	3130 62 04 (+)	3130 62 05 (+)	3130 62 10 (+)

Metric

TUBE O.D.	PART NUMBER (BLACK)	PART NUMBER (GREEN)	PART NUMBER (RED)	PART NUMBER (BLUE)	PART NUMBER (YELLOW)	PART NUMBER (WHITE)
6	3130 06 01 (+)	3130 06 02 (+)	3130 06 03	3130 06 04 (+)	3130 06 05 (+)	3130 06 10 (+)
8	3130 08 01 (+)	3130 08 02 (+)	3130 08 03	3130 08 04 (+)	3130 08 05 (+)	3130 08 10 (+)
10	3130 10 01 (+)	3130 10 02 (+)	3130 10 03	3130 10 04 (+)	3130 10 05 (+)	3130 10 10 (+)
12	3130 12 01 (+)	3130 12 02 (+)	3130 12 03	3130 12 04 (+)	3130 12 05 (+)	3130 12 10 (+)

(+) Non Standard.

Temperature Range: from -20°C to +150°C / -4°F to +302°F
Fluid Compatibility: air, grease, cleaning agents
Materials: polyamide 6-6 reinforced with fiberglass

Connect
1 assemble clip
2 connect tube

Disconnect
1 cut clip
2 remove clip
3 release tube

6300 - Carstick® Cartridges

PART NUMBER	TUBE O.D.
6300 56 00	1/4
6300 60 00	3/8
6300 62 00	1/2

SC - Safety Clip for TrueSeal

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

TS - Tube Supports

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

To be used with soft durometer tubing.

TSC - Cartridge Insert

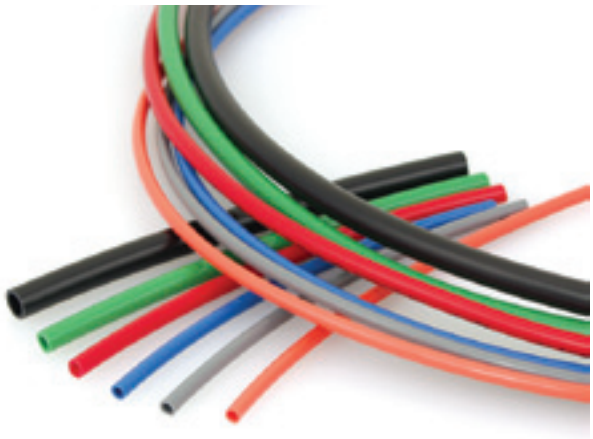
PART NUMBER WITH EPDM SEAL	NOM. TUBE O.D.	A* DIAMETER ±002	B DIAMETER ±003	C DIAMETER ±003	D DIAMETER MAXIMUM	E DEPTH ±002	F DEPTH ±002	G DEPTH ±002	H* CENTERLINE OF PORTS MINIMUM
ATSC4-MG	1/4	.528	.421	.260	.19	.230	.435	.600	.670
ATSC6-MG	3/8	.632	.545	.385	.31	.280	.455	.705	.790
ATSC8-MG	1/2	.774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

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

LIQUIfit™ Tubing

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 - 51
- NSF - 61



E 64 Y 0500

- **E** – Polyethylene
- **64** – Tube OD (in sixteenths of an inch)
- **Y** – Tube ID (in inches)
- **0500** – Package Quantity (in feet)
- Color (Omit for Natural and Black)
  - **E**-64-Y-0500 – Natural Polyethylene
  - **EB**-64-Y-0500 – Black Polyethylene

Polyethylene

PART NUMBER	PART NUMBER	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	
NATURAL	BLACK	INCH	MM	INCH	MM	INCH	MM	PSI	BAR	PSI	BAR	FOOT	INCH	MM	LBS/FT	LBS/MTR
E-43-X-XXXX	EB-43-X-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-X-XXXX	EB-53-X-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-X-XXXX	EB-64-X-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-X-XXXX	EB-86-X-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-X-XXXX	EB-108-X-XXXX	5/8	15.9	.500	12.7	.062	16	70	4.8	280	19.3	0100	4.00	101.6	.044	.065

Standard black is not NSF approved.

COLOR CODE		
	–	Natural
	–	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.

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

LIQUIfit™ Tubing – Metric

Features

- Made from 100% virgin resin material
- Chemically resistant and flexible.
- High molecular weight resin provides increased dimensional stability, uniformity and long-term strength.
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- FDA compliant for food contact
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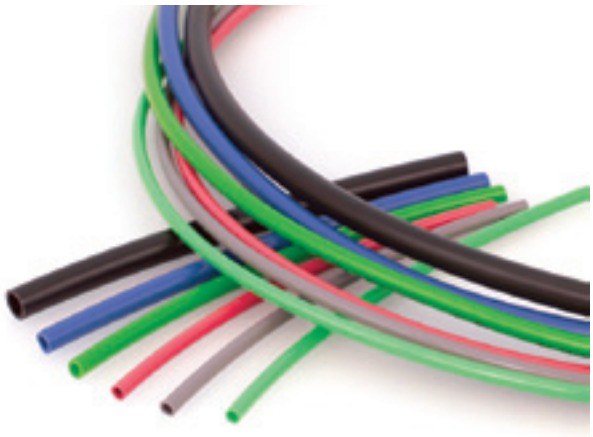

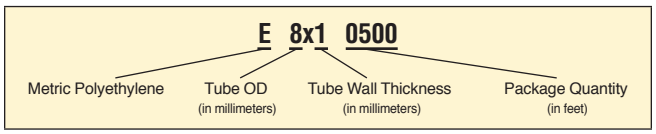

Polyethylene

PART NUMBER	PART NUMBER	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	
NATURAL	BLACK	MM	INCH	MM	INCH	MM	INCH	BAR	PSI	BAR	PSI	FOOT	MM	INCH	KG/MTR	LBS/FT
E-6X1-0100	EB-6X1-0100	6	.236	4	.157	1.00	.039	8.6	125	34.5	500	0100	25	1.00	.019	.013
E-8X1-0100	EB-8X1-0100	8	.315	6	.236	1.00	.039	6.9	100	27.6	400	0100	38	1.50	.021	.014
E-10X1.5-0100	EB-10X1.5-0100	10	.393	7	.276	1.50	.059	8.6	125	34.5	500	0100	38	1.50	.039	.026
E-12X1.5-0100	EB-12X1.5-0100	12	.472	9	.354	1.50	.059	6.2	100	24.8	400	0100	63	2.50	.048	.032

Standard black is not NSF approved.

COLORS	
	Natural
	Black

Parker Hannifin Corporation
Fluid System Connectors
Otsego, Michigan

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1. Terms and Conditions. Seller's willingness to offer Products, or accept an order for Products, to or from Buyer is expressly conditioned on Buyer's assent to these Terms and Conditions and to the terms and conditions found on-line at www.parker.com/saleterms/. Seller objects to any contrary or additional term or condition of Buyer's order or any other document issued by Buyer.

2. Price Adjustments; Payments. Prices stated on the reverse side or preceding pages of this document are valid for 30 days. After 30 days, Seller may change prices to reflect any increase in its costs resulting from state, federal or local legislation, price increases from its suppliers, or any change in the rate, charge, or classification of any carrier. The prices stated on the reverse or preceding pages of this document do not include any sales, use, or other taxes unless so stated specifically. Unless otherwise specified by Seller, all prices are F.O.B. Seller's facility, and payment is due 30 days from the date of invoice. After 30 days, Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.

3. Delivery Dates; Title and Risk; Shipment. All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon tender to the carrier at Seller's facility (i.e., when it's on the truck, it's yours). Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyers' request beyond the respective dates indicated 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 changes in shipping, product specifications or in accordance with Section 13, herein.

4. Warranty. Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. This warranty is made only to Buyer and does not extend to anyone to whom Products are sold after purchased from Seller. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer:
DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

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.

1/09

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