



TECNI-AR
Seu caminho
Para automação

Instrument Pipe & ISO Conversion Fittings

Catalog 4260
Revised, February 1999



Instrument Pipe Fittings

Instrument Pipe Fittings

Introduction

Parker Instrumentation Pipe Fittings are designed as leak-free connections for process, power, instrumentation and general plumbing applications. They are manufactured to the highest quality standards and are available in broad ranges of sizes, materials and configurations.

Parker Instrumentation Pipe fittings are made at the Instrumentation Connectors Division of Parker Hannifin in Huntsville, Alabama where strict adherence to quality control programs are maintained. These quality standards are incorporated in a total efficiency program called Parker Targets.

The Parker Targets Program is a measure of the efficiency with which the company transforms materials, employee efforts, machinery and information into customer-satisfying products and services. Consequently, Instrumentation Pipe fittings as products of Parker Targets effectively guarantee to customers that they are receiving the highest quality fittings available.

Material

Parker Pipe Fittings are standard in steel and brass. Other materials may be special ordered within the Parker Quick Response Department. Straight fittings are manufactured from applicable ASTM bar stock specifications shaped fittings are manufactured from close grain forgings.

ISO Conversion Fittings

Introduction

Parker ISO Conversion Fittings are designed to the highest quality standards to allow connections between components and systems which use both NPT and ISO Thread configurations. Conversion fittings are maintained under strict quality control programs.

Design

Parker ISO Conversion Fittings are designed to the most commonly used ISO thread forms. These thread forms are used where pressure tight joints are either made on threads utilizing a thread sealant or where pressure tight joints utilize a peripheral seal on the face of the mating component.

Material

Parker ISO Conversion Fittings are standard in stainless steel and brass. Other materials may be special ordered within the Parker Quick Response Department. Straight fittings are manufactured from applicable ASTM bar stock specifications shaped fittings are manufactured from close grain forgings.



WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS 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 and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

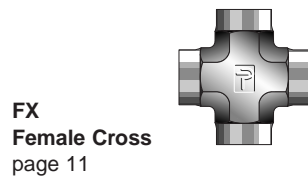
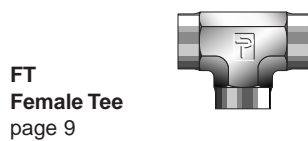
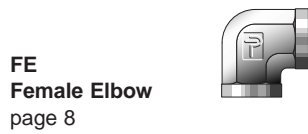
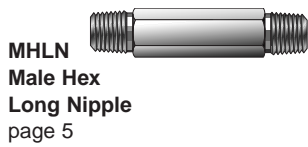
The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

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

Visual Index

Pipe Fittings



Straight Thread Adapters



Thread and Tube End Size Charts
page 27, 28, 29

Engineering Report Heat Code Traceability
page 30

Visual Index for ISO Conversion Fittings on page 14.

Instrument Pipe Fittings

Features and Technical Data

Parker Instrument Pipe Fittings are precision machined from forgings for elbows, tees and crosses and from bar stock for straight connectors. They are designed to be used for process control and instrumentation connections between pipe sizes and tube sizes.

Features

- Quality engineered for instrumentation applications
- Packaged in sealed, clear plastic shrink wrapped boxes for cleanliness
- Working pressures calculated in accordance with Power Piping Code ANSI B31.1 and Refiner Piping Code ANSI B31.3.
- All pipe threads are National Pipe Taper (NPT) and exceed the requirements of ANSI B1.20.1.

- Rolled male threads for extra strength
- Straight bodies machined from applicable ASTM bar stock specifications
- Shapes machined from close grain forgings
- Size ranges from 1/16" through 2" NPT
- Materials – 316 Stainless Steel, Brass and Steel. (Other materials by special order)
- All exposed threads protected to prevent damage

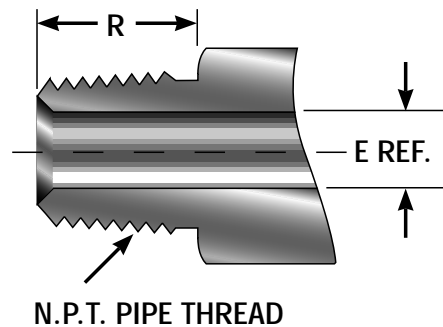
Nomenclature

Parker Instrument Pipe Fittings part numbers are constructed from symbols that identify the size and style of the fitting and material used.

Example: The part number shown below is for a male hex nipple for 3/8" NPT male pipe and 1/4" NPT male pipe in 316 stainless steel.

Pipe Dimensions

Pipe Size	N.P.T. Pipe Thread	R	E Ref.
1/16	1/16 – 27	.38	.11
1/8	1/8 – 27	.38	.19
1/4	1/4 – 18	.56	.28
3/8	3/8 – 18	.56	.41
1/2	1/2 – 14	.75	.50
3/4	3/4 – 14	.75	.62
1	1 – 11-1/2	.94	.94
1-1/4	1-1/4 – 11-1/2	.97	1.25
1-1/2	1-1/2 – 11-1/2	1.00	1.50
2	2 – 11-1/2	1.03	1.94

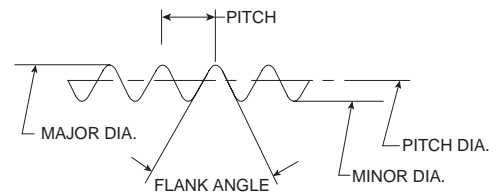


NPT Threads

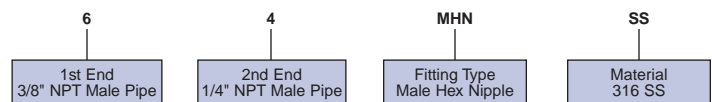
The National Pipe Taper (NPT) thread has a thread flank angle of 60° inclusive, and is mainly used in the petrochemical and process industries.

NPT – National Pipe Taper threads for connections where pressure-tight joints are made on the threads utilizing a thread sealant.

Generic Thread



How To Order



Parker Instrument Pipe Fittings are ordered by part number as listed in this catalog.

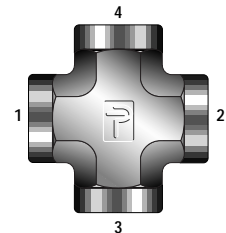
Size: Pipe thread sizes are designated by the number of sixteenths of an inch. (3/8 NPT pipe=6/16=6)

Thread Type: All pipe threads are National Pipe Taper (NPT) unless otherwise designated.

Straights and Elbows: Call out the largest pipe end first followed by the smaller pipe size. See MHN example on page 6.

Tees and Crosses: For tees that are the same pipe sizes on all ends the size designation is as follows: 6-6-6 FT-B would be a 3/8" NPT Female Tee in brass.

A 1/4" NPT Female Cross in 316 SS would be a 4 FX-SS.



If a reducing tee or cross were specified, each size must be in sequence. First size the largest run (1 to 2) and then the branch (3 to 4).

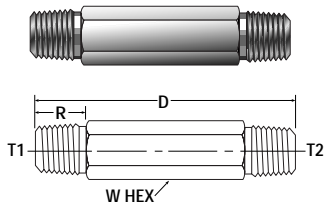
Example: 6-6-6-4 FX-SS

Material: Basic Material Type (B=Brass, SS=316 Stainless Steel, S=Steel)

Special Fittings: If there is any question as to the fitting desired, particularly for special fitting configurations, it is suggested that a customer print be submitted with the fitting request for quote.

Availability: Items priced in current price list 4260 are carried in stock. Price and delivery for non-standard items quoted on request through the quick response department.

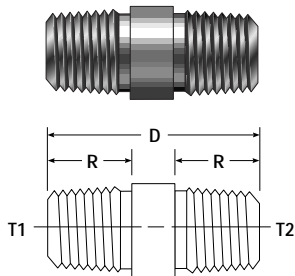
Male Hex Long Nipple MHLN



PARKER PART NO.	NPT THREAD MALE		W HEX	D in.	R in.	Working Pressures (PSIG)		
	T ₁	T ₂				Brass	Stainless Steel	Steel
1-1 MHLN-(*)	1/16	1/16	7/16	*	.38	6000	10000	10500
2-2 MHLN-(*)	1/8	1/8	7/16	*	.38	5600	9100	9700
2-2 MHLN-1½	1/8	1/8	7/16	1.50	.38	5600	9100	9700
2-2 MHLN-2	1/8	1/8	7/16	2.00	.38	5600	9100	9700
2-2 MHLN-2½	1/8	1/8	7/16	2.50	.38	5600	9100	9700
4-4 MHLN-(*)	1/4	1/4	5/8	*	.56	4100	7500	8000
4-4 MHLN-2	1/4	1/4	5/8	2.00	.56	4100	7500	8000
4-4 MHLN-2½	1/4	1/4	5/8	2.50	.56	4100	7500	8000
4-4 MHLN-3	1/4	1/4	5/8	3.00	.56	4100	7500	8000
4-4 MHLN-4	1/4	1/4	5/8	4.00	.56	4100	7500	8000
6-6 MHLN-(*)	3/8	3/8	3/4	*	.56	4000	7200	7600
8-8 MHLN-(*)	1/2	1/2	7/8	*	.75	3900	6600	7000
8-8 MHLN-2	1/2	1/2	7/8	2.00	.75	3900	6600	7000
8-8 MHLN-3	1/2	1/2	7/8	3.00	.75	3900	6600	7000

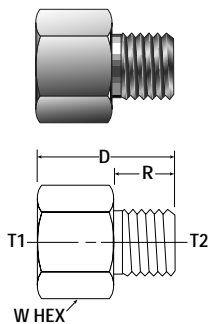
*Specify Length

Male Close Nipple MCN



PARKER PART NO.	NPT THREAD MALE	D	R	Working Pressures (PSIG)		
				Brass	Stainless Steel	Steel
1-1 MCN	1/16	.75	.34	6000	10000	10500
2-2 MCN	1/8	.75	.34	5600	9100	9700
4-4 MCN	1/4	1.13	.49	4100	7500	8000
6-6 MCN	3/8	1.13	.48	4000	7200	7600
8-8 MCN	1/2	1.50	.66	3900	6600	7000
12-12 MCN	3/4	1.50	.66	3800	6400	6800
16-16 MCN	1	1.88	.84	2700	4600	4900

Adapter RA

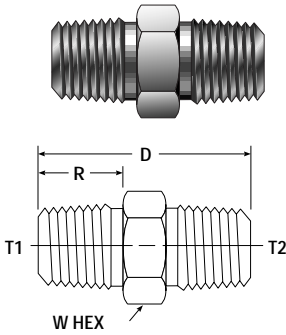


PARKER PART NO.	NPT THREAD		W HEX	D	R	Working Pressures (PSIG)		
	FEMALE T ₁	MALE T ₂				Brass	Stainless Steel	Steel
2-1 RA	1/8	1/16	5/8	1.03	.38	4000	6400	6800
2-2 RA	1/8	1/8	5/8	1.03	.38	4000	6400	6800
4-1 RA	1/4	1/16	3/4	1.20	.38	4300	6600	7000
4-2 RA	1/4	1/8	3/4	1.20	.38	4300	6600	7000
4-4 RA	1/4	1/4	3/4	1.39	.56	4300	6600	7000
6-1 RA	3/8	1/16	7/8	1.25	.38	3500	5300	5600
6-2 RA	3/8	1/8	7/8	1.25	.38	3500	5300	5600
6-4 RA	3/8	1/4	7/8	1.44	.56	3500	5300	5600
6-6 RA	3/8	3/8	7/8	1.44	.56	3500	5300	5600
8-2 RA	1/2	1/8	1-1/8	1.50	.38	3600	5200	5500
8-4 RA	1/2	1/4	1-1/8	1.69	.56	3600	5200	5500
8-6 RA	1/2	3/8	1-1/8	1.69	.56	3600	5200	5500
8-8 RA	1/2	1/2	1-1/8	1.88	.75	3600	5200	5500
12-2 RA	3/4	1/8	1-3/8	1.56	.38	3000	4300	4600
12-4 RA	3/4	1/4	1-3/8	1.75	.56	3000	4300	4600
12-6 RA	3/4	3/8	1-3/8	1.75	.56	3000	4300	4600
12-8 RA	3/4	1/2	1-3/8	1.94	.75	3000	4300	4600
16-2 RA	1	1/8	1-5/8	1.81	.38	3100	4500	4800
16-4 RA	1	1/4	1-5/8	2.00	.56	3100	4500	4800
16-6 RA	1	3/8	1-5/8	2.00	.56	3100	4500	4800
16-8 RA	1	1/2	1-5/8	2.19	.75	3100	4500	4800
16-12 RA	1	3/4	1-5/8	2.19	.75	3100	4500	4800
16-16 RA	1	1	1-5/8	2.38	.94	3100	4500	4800
20-16 RA	1-1/4	1	2	2.47	.94	2300	3500	3700

Dimensions for reference only, subject to change.

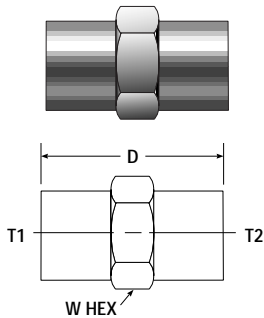
Instrument Pipe Fittings

Male Hex Nipple MHN



PARKER PART NO.	NPT THREAD MALE		W HEX	D in.	R in.	Working Pressures (PSIG)		
	T ₁	T ₂				Brass	Stainless Steel	Steel
1-1 MHN	1/16	1/16	7/16	1.06	.38	6000	10000	10500
2-1 MHN	1/8	1/16	7/16	1.06	.38	5600	9100	9700
2-2 MHN	1/8	1/8	7/16	1.06	.38	5600	9100	9700
4-1 MHN	1/4	1/16	5/8	1.25	.56/.38	4100	7500	8000
4-2 MHN	1/4	1/8	5/8	1.25	.56/.38	4100	7500	8000
4-4 MHN	1/4	1/4	5/8	1.45	.56	4100	7500	8000
6-1 MHN	3/8	1/16	3/4	1.27	.56/.38	4000	7200	7600
6-2 MHN	3/8	1/8	3/4	1.27	.56/.38	4000	7200	7600
6-4 MHN	3/8	1/4	3/4	1.45	.56	4000	7200	7600
6-6 MHN	3/8	3/8	3/4	1.45	.56	4000	7200	7600
8-2 MHN	1/2	1/8	7/8	1.52	.75/.38	3900	6600	7000
8-4 MHN	1/2	1/4	7/8	1.70	.75/.56	3900	6600	7000
8-6 MHN	1/2	3/8	7/8	1.70	.75/.56	3900	6600	7000
8-8 MHN	1/2	1/2	7/8	1.89	.75	3900	6600	7000
12-2 MHN	3/4	1/8	1-1/8	1.59	.75/.38	3800	6400	6800
12-4 MHN	3/4	1/4	1-1/8	1.78	.75/.56	3800	6400	6800
12-6 MHN	3/4	3/8	1-1/8	1.78	.75/.56	3800	6400	6800
12-8 MHN	3/4	1/2	1-1/8	1.97	.75	3800	6400	6800
12-12 MHN	3/4	3/4	1-1/8	1.97	.75	3800	6400	6800
16-2 MHN	1	1/8	1-3/8	1.78	.94/.38	2700	4600	4900
16-4 MHN	1	1/4	1-3/8	1.97	.94/.56	2700	4600	4900
16-6 MHN	1	3/8	1-3/8	1.97	.94/.56	2700	4600	4900
16-8 MHN	1	1/2	1-3/8	2.16	.94/.75	2700	4600	4900
16-12 MHN	1	3/4	1-3/8	2.09	.94/.75	2700	4600	4900
16-16 MHN	1	1	1-3/8	2.34	.94	2700	4600	4900
20-16 MHN	1-1/4	1	1-3/4	2.45	.97/.94	2000	3500	3700
20-20 MHN	1-1/4	1-1/4	1-3/4	2.48	.97	2000	3500	3700
24-24 MHN	1-1/2	1-1/2	2	2.61	1.00	1800	2900	3100

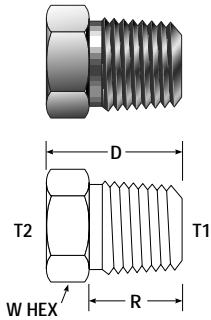
Female Hex Coupling FHC



PARKER PART NO.	NPT THREAD FEMALE		W HEX	D	Working Pressures (PSIG)		
	T ₁	T ₂			Brass	Stainless Steel	Steel
1-1 FHC	1/16	1/16	1/2	.75	4500	7500	8000
2-1 FHC	1/8	1/16	5/8	.75	4000	6400	6800
2-2 FHC	1/8	1/8	5/8	.75	4000	6400	6800
4-1 FHC	1/4	1/16	3/4	.92	4300	6600	7000
4-2 FHC	1/4	1/8	3/4	.94	4300	6600	7000
4-4 FHC	1/4	1/4	3/4	1.13	4300	6600	7000
6-1 FHC	3/8	1/16	7/8	.95	3500	5300	5600
6-2 FHC	3/8	1/8	7/8	1.03	3500	5300	5600
6-4 FHC	3/8	1/4	7/8	1.13	3500	5300	5600
6-6 FHC	3/8	3/8	7/8	1.13	3500	5300	5600
8-2 FHC	1/2	1/8	1-1/8	1.22	3600	5200	5500
8-4 FHC	1/2	1/4	1-1/8	1.38	3600	5200	5500
8-6 FHC	1/2	3/8	1-1/8	1.50	3600	5200	5500
8-8 FHC	1/2	1/2	1-1/8	1.50	3600	5200	5500
12-2 FHC	3/4	1/8	1-3/8	1.39	3000	4300	4600
12-4 FHC	3/4	1/4	1-3/8	1.55	3000	4300	4600
12-6 FHC	3/4	3/8	1-3/8	1.69	3000	4300	4600
12-8 FHC	3/4	1/2	1-3/8	1.88	3000	4300	4600
12-12 FHC	3/4	3/4	1-3/8	1.53	3000	4300	4600
16-2 FHC	1	1/8	1-5/8	1.44	3100	4500	4800
16-4 FHC	1	1/4	1-5/8	1.63	3100	4500	4800
16-6 FHC	1	3/8	1-5/8	1.63	3100	4500	4800
16-8 FHC	1	1/2	1-5/8	1.77	3100	4500	4800
16-12 FHC	1	3/4	1-5/8	1.72	3100	4500	4800
16-16 FHC	1	1	1-5/8	1.89	3100	4500	4800
20-16 FHC	1-1/4	1	2	1.94	2300	3500	3700
20-20 FHC	1-1/4	1-1/4	2	1.94	2300	3500	3700
24-24 FHC	1-1/2	1-1/2	2-3/8	1.94	2100	3200	3400

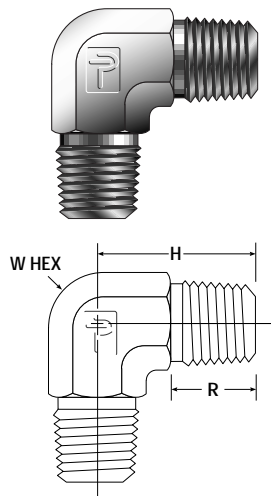
Dimensions for reference only, subject to change.

Reducing Bushing RB



PARKER PART NO.	NPT THREAD		W HEX	D	R	Working Pressures (PSIG)		
	MALE T ₁	FEMALE T ₂				Brass	Stainless Steel	Steel
2-1 RB	1/8	1/16	7/16	.63	.38	2900	6400	6800
4-1 RB	1/4	1/16	5/8	.86	.56	4100	7500	8000
4-2 RB	1/4	1/8	5/8	.86	.56	3600	6000	6400
6-1 RB	3/8	1/16	3/4	.86	.56	4000	7200	7600
6-2 RB	3/8	1/8	3/4	.86	.56	4000	6400	6800
6-4 RB	3/8	1/4	3/4	.86	.56	3000	5300	5600
8-2 RB	1/2	1/8	7/8	1.11	.75	3900	6600	6800
8-4 RB	1/2	1/4	7/8	1.11	.75	3900	6400	7000
8-6 RB	1/2	3/8	7/8	1.11	.75	2800	4600	4900
12-2 RB	3/4	1/8	1-1/8	1.17	.75	3800	6400	6800
12-4 RB	3/4	1/4	1-1/8	1.17	.75	3800	6400	6800
12-6 RB	3/4	3/8	1-1/8	1.17	.75	3500	5300	5600
12-8 RB	3/4	1/2	1-1/8	1.17	.75	2800	4900	5200
16-2 RB	1	1/8	1-3/8	1.36	.94	2700	4600	4900
16-4 RB	1	1/4	1-3/8	1.36	.94	2700	4600	4900
16-6 RB	1	3/8	1-3/8	1.36	.94	2700	4600	4900
16-8 RB	1	1/2	1-3/8	1.36	.94	2700	4600	4900
16-12 RB	1	3/4	1-3/8	1.36	.94	2500	4200	4500
20-12 RB	1-1/4	3/4	1-3/4	1.47	.97	2000	3500	3700
20-16 RB	1-1/4	1	1-3/4	1.47	.97	2000	3500	3700
24-16 RB	1-1/2	1	2	1.58	1.00	1800	2900	3100
24-20 RB	1-1/2	1-1/4	2	1.58	1.00	1700	2700	2800

Male Elbow ME

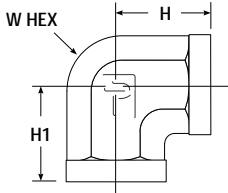


PARKER PART NO.	NPT THREAD MALE	W HEX	H	R	Working Pressures (PSIG)		
					Brass	Stainless Steel	Steel
1-1 ME	1/16	3/8	.66	.38	5500	9500	10100
2-2 ME	1/8	7/16	.76	.38	5000	9100	9700
4-4 ME	1/4	9/16	1.09	.56	4100	7500	8000
6-6 ME	3/8	3/4	1.22	.56	4000	7200	7600
8-8 ME	1/2	7/8	1.47	.75	3100	5800	6200
12-12 ME	3/4	1-1/16	1.59	.75	3400	6400	6800
16-16 ME	1	1-5/16	1.97	.94	2700	4600	4900

Dimensions for reference only, subject to change.

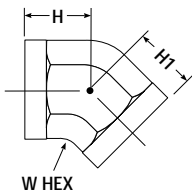
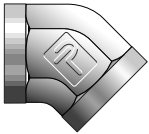
Instrument Pipe Fittings

Female Elbow FE



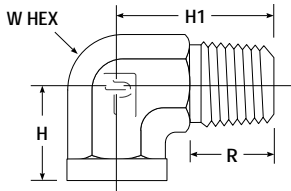
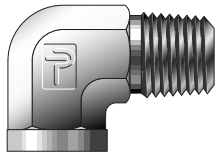
PARKER PART NO.	NPT THREAD FEMALE	W HEX	H	H1	Working Pressures (PSIG)		
					Brass	Stainless Steel	Steel
1-1 FE	1/16	7/16	.50	.50	3800	7000	7500
2-1 FE	1/8 - 1/16	9/16	.66	.66	2900	5500	5900
2-2 FE	1/8	9/16	.66	.66	2900	5500	5900
4-2 FE	1/4 - 1/8	3/4	.88	.88	2900	5500	5900
4-4 FE	1/4	3/4	.88	.88	3000	5600	6000
6-6 FE	3/8	7/8	1.02	1.02	2700	5000	5300
8-8 FE	1/2	1-1/16	1.23	1.23	2500	4500	4800
12-12 FE	3/4	1-5/16	1.36	1.36	2000	3500	3700
16-16 FE	1	1-5/8	1.63	1.63	2300	3900	4200
20-20 FE	1-1/4	1-7/8	1.70	1.70	1900	3100	3300
24-24 FE	1-1/2	2-1/2	2.08	2.08	1700	2500	2600

Female Elbow 45° FVE



PARKER PART NO.	NPT THREAD FEMALE	W HEX	H	H1	Working Pressures (PSIG)		
					Brass	Stainless Steel	Steel
1-1 FVE	1/16	7/16	.47	.47	3800	7000	7500
2-2 FVE	1/8	9/16	.47	.47	2900	5500	5900
4-4 FVE	1/4	3/4	.69	.69	3000	5600	6000
6-6 FVE	3/8	7/8	.75	.75	2700	5000	5300
8-8 FVE	1/2	1-1/16	.94	.94	2500	4500	4800
12-12 FVE	3/4	1-5/16	1.00	1.00	2000	3500	3700
16-16 FVE	1	1-5/8	1.19	1.19	2300	3900	4200

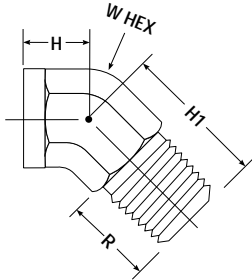
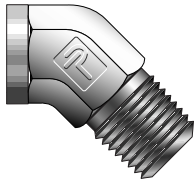
Street Elbow SE



PARKER PART NO.	NPT THREAD		W HEX	H	H1	R	Working Pressures (PSIG)		
	MALE	FEMALE					Brass	Stainless Steel	Steel
1-1 SE	1/16	1/16	9/16	.66	.72	.38	3800	7000	7500
2-1 SE	1/8	1/16	9/16	.66	.78	.38	3800	7000	7500
2-2 SE	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-1 SE	1/4	1/16	9/16	.66	1.09	.56	3800	7000	7500
4-2 SE	1/4	1/8	9/16	.66	1.09	.56	2900	5500	5900
4-4 SE	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-1 SE	3/8	1/16	3/4	.88	1.09	.56	3800	7000	7500
6-2 SE	3/8	1/8	3/4	.88	1.22	.58	2900	5500	5900
6-4 SE	3/8	1/4	3/4	.88	1.22	.56	3000	5500	6000
6-6 SE	3/8	3/8	7/8	1.02	1.22	.56	2700	5600	5300
8-2 SE	1/2	1/8	7/8	.95	1.47	.75	2900	5000	5900
8-4 SE	1/2	1/4	7/8	.95	1.47	.75	3000	5600	6000
8-6 SE	1/2	3/8	7/8	1.23	1.47	.75	2700	5000	5300
8-8 SE	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-2 SE	3/4	1/8	1-1/16	1.00	1.59	.75	2900	5500	5900
12-4 SE	3/4	1/4	1-1/16	1.00	1.59	.75	3000	5600	6000
12-6 SE	3/4	3/8	1-1/16	1.23	1.59	.75	2700	5000	5300
12-8 SE	3/4	1/2	1-1/16	1.23	1.59	.75	2500	4500	4800
12-12 SE	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-2 SE	1	1/8	1-5/16	1.63	1.97	.94	2700	5500	5900
16-4 SE	1	1/4	1-5/16	1.63	1.97	.94	2700	5600	6000
16-6 SE	1	3/8	1-5/16	1.50	1.97	.94	2700	5000	5300
16-8 SE	1	1/2	1-5/16	1.63	1.97	.94	2500	4500	4800
16-12 SE	1	3/4	1-5/16	1.36	1.97	.94	2000	3500	3700
16-16 SE	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200
20-20 SE	1-1/4	1-1/4	1-7/8	1.70	2.38	.97	1900	3100	3300

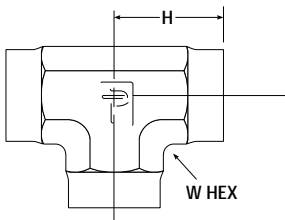
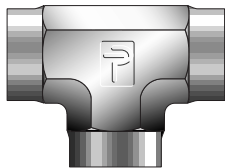
Dimensions for reference only, subject to change.

Street Elbow 45° SVE



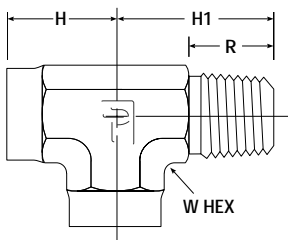
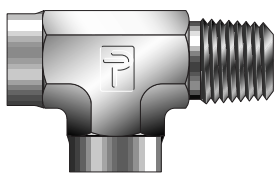
PARKER PART NO.	NPT THREAD		W HEX	H	H1	R	Working Pressures (PSIG)		
	MALE	FEMALE					Brass	Stainless Steel	Steel
1-1 SVE	1/16	1/16	7/16	.47	.66	.38	3800	7000	7500
2-2 SVE	1/8	1/8	9/16	.47	.72	.38	2900	5500	5900
4-4 SVE	1/4	1/4	3/4	.63	1.05	.56	3000	5600	6000
6-6 SVE	3/8	3/8	7/8	.72	1.06	.56	2700	5000	5300
8-8 SVE	1/2	1/2	1-1/16	.91	1.34	.75	2500	4500	4800
12-12 SVE	3/4	3/4	1-5/16	.97	1.38	.75	2000	3500	3700
16-16 SVE	1	1	1-5/8	1.13	1.72	.94	2300	3900	4200

Female Tee FT



PARKER PART NO.	NPT THREAD FEMALE	W HEX	H	Working Pressures (PSIG)		
				Brass	Stainless Steel	Steel
1-1-1 FT	1/16	7/16	.50	3800	7000	7500
2-2-2 FT	1/8	9/16	.66	2900	5500	5900
4-4-4 FT	1/4	3/4	.88	3000	5600	6000
6-6-6 FT	3/8	7/8	1.02	2700	5000	5300
8-8-8 FT	1/2	1-1/16	1.23	2500	4500	4800
12-12-12 FT	3/4	1-5/16	1.36	2000	3500	3700
16-16-16 FT	1	1-5/8	1.63	2300	3900	4200
20-20-20 FT	1-1/4	1-7/8	1.70	1900	3100	3300
24-24-24 FT	1-1/2	2-1/2	2.08	1700	2500	3600

Street Tee ST

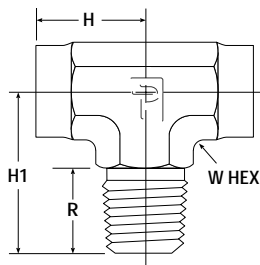
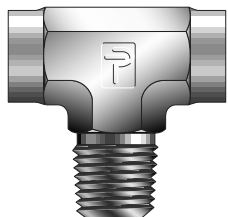


PARKER PART NO.	NPT THREAD		W HEX	H	H1	R	Working Pressures (PSIG)		
	MALE	FEMALE					Brass	Stainless Steel	Steel
1-1-1 ST	1/16	1/16	7/16	.50	.72	.38	3800	7000	7500
2-2-2 ST	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-4-4 ST	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-6-6 ST	3/8	3/8	7/8	1.02	1.22	.56	2700	5000	5300
8-8-8 ST	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-12-12 ST	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-16-16 ST	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200

Dimensions for reference only, subject to change.

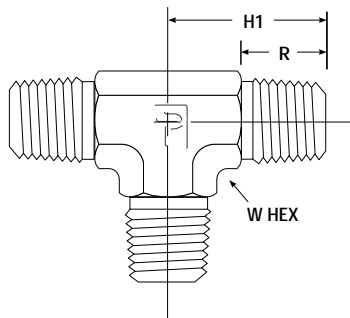
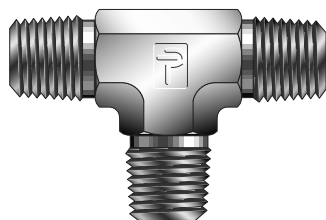
Instrument Pipe Fittings

Male Branch Tee MBT



PARKER PART NO.	NPT THREAD		W HEX	H	H1	R	Working Pressures (PSIG)		
	MALE	FEMALE					Brass	Stainless Steel	Steel
1-1-1 MBT	1/16	1/16	7/16	.50	.72	.38	3800	7000	7500
2-2-2 MBT	1/8	1/8	9/16	.66	.78	.38	2900	5500	5900
4-4-4 MBT	1/4	1/4	3/4	.88	1.09	.56	3000	5600	6000
6-6-6 MBT	3/8	3/8	7/8	1.02	1.22	.56	2700	5000	5300
8-8-8 MBT	1/2	1/2	1-1/16	1.23	1.47	.75	2500	4500	4800
12-12-12 MBT	3/4	3/4	1-5/16	1.36	1.59	.75	2000	3500	3700
16-16-16 MBT	1	1	1-5/8	1.63	1.97	.94	2300	3900	4200

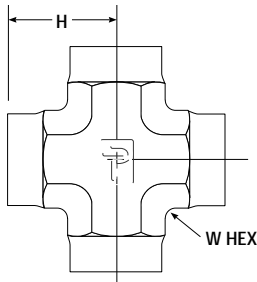
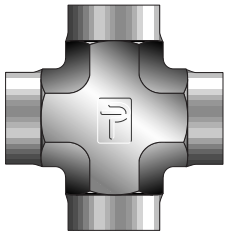
Male Tee MT



PARKER PART NO.	NPT THREAD MALE	W HEX	H1	R	Working Pressures (PSIG)		
					Brass	Steel	Stainless Steel
1-1-1 MT	1/16	5/16	.72	.38	5500	9500	10100
2-2-2 MT	1/8	7/16	.76	.38	5000	9100	9700
4-4-4 MT	1/4	9/16	1.09	.56	4100	7500	8000
6-6-6 MT	3/8	3/4	1.22	.56	4000	7200	7600
8-8-8 MT	1/2	7/8	1.47	.75	3100	5800	6200
12-12-12 MT	3/4	1-1/16	1.59	.75	3400	6400	6800
16-16-16 MT	1	1-5/16	1.97	.94	2700	4600	4900
20-20-20 MT	1-1/4	1-5/8	2.22	.97	2000	3500	3700
24-24-24 MT	1-1/2	1-7/8	2.64	1.00	1800	2900	3100

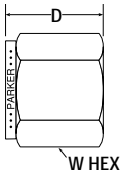
Dimensions for reference only, subject to change.

Female Cross FX



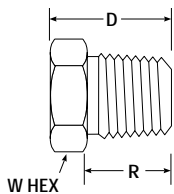
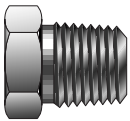
PARKER PART NO.	NPT THREAD FEMALE	W HEX	H	Working Pressures (PSIG)		
				Brass	Stainless Steel	Steel
1 FX	1/16	7/16	.50	3800	7000	7500
2 FX	1/8	9/16	.66	2900	5500	5900
4 FX	1/4	3/4	.88	3000	5600	6000
6 FX	3/8	7/8	1.06	2700	5000	5300
8 FX	1/2	1-1/16	1.23	2500	4500	4800
12 FX	3/4	1-5/16	1.36	2000	3500	3700
16 FX	1	1-5/8	1.63	2300	3900	4200

Pipe Cap CP



PARKER PART NO.	NPT THREAD FEMALE	W HEX	D	Working Pressures (PSIG)		
				Brass	Stainless Steel	Steel
1 CP	1/16	7/16	.50	4500	7500	8000
2 CP	1/8	9/16	.75	4000	6400	6800
4 CP	1/4	3/4	.91	4300	6600	7000
6 CP	3/8	7/8	1.03	3500	5300	5600
8 CP	1/2	1-1/16	1.34	3600	5200	5500
12 CP	3/4	1-1/4	1.44	3000	4300	4600
16 CP	1	1-5/8	1.63	3100	4500	4800

Hex Head Plug PH

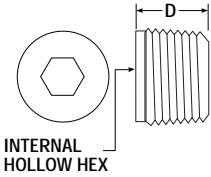


PARKER PART NO.	NPT THREAD MALE	W HEX	D	R	Working Pressures (PSIG)		
					Brass	Steel	Stainless Steel
1 PH	1/16	3/8	.54	.38	6000	10000	10500
2 PH	1/8	7/16	.56	.38	5600	9100	9700
4 PH	1/4	9/16	.75	.56	4100	7500	8000
6 PH	3/8	11/16	.78	.56	4000	7200	7600
8 PH	1/2	7/8	.97	.75	3900	6600	7000
12 PH	3/4	1-1/16	1.06	.75	3800	6400	6800
16 PH	1	1-5/16	1.25	.94	2700	4600	4900

Dimensions for reference only, subject to change.

Instrument Pipe Fittings

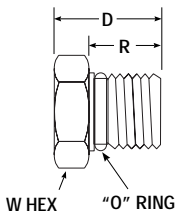
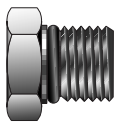
Hollow Hex Plug PHH



PARKER PART NO.	NPT THREAD FEMALE	W INTERNAL HEX	D	Working Pressures (PSIG)		
				Brass	Stainless Steel	Steel
1 PHH	1/16	5/32	.30	6000	10000	10500
2 PHH	1/8	3/16	.30	5600	9100	9700
4 PHH	1/4	1/4	.47	4100	7500	8000
6 PHH	3/8	5/16	.47	4000	7200	7600

Straight Thread Adapters

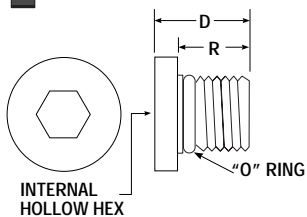
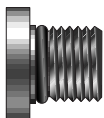
Hex Head Plug P5ON



PARKER PART NO.	INTER- CHANGES WITH	PORT THD UN/UNF-2A	W HEX	D	R	*D2 DRILL	*L2	O-RING
4 P5ON	4 PST	7/16-20	9/16	0.67	0.36	0.203	0.41	3-904
6 P5ON	6 PST	9/16-18	11/16	0.73	0.39	0.297	0.44	3-906
8 P5ON	8 PST	3/4-16	7/8	0.80	0.44	0.422	0.44	3-908
12 P5ON	12 PST	1-1/16-12	1-1/4	1.09	0.59	0.656	0.59	3-912
16 P5ON	16 PST	1-5/16-12	1-1/2	1.13	0.59	0.875	0.50	3-916

*D2 drill and L2 depth are optional manufacturing method per SAE.

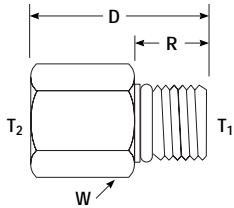
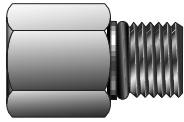
Hollow Hex Plug HP5ON



PARKER PART NO.	INTER- CHANGES WITH	PORT THD UN/UNF-2A	INTERNAL HEX	R	D	X DIA.	O-RING
4 HP5ON	4 HPST	7/16-20	3/16	0.36	0.47	0.56	3-904
6 HP5ON	6 HPST	9/16-18	1/4	0.39	0.50	0.69	3-906
8 HP5ON	8 HPST	3/4-16	5/16	0.44	0.58	0.88	3-908
12 HP5ON	12 HPST	1-1/16-12	9/16	0.59	0.77	1.25	3-912
16 HP5ON	16 HPST	1-5/16-12	5/8	0.59	0.77	1.50	3-916

Dimensions for reference only, subject to change.

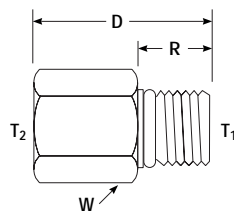
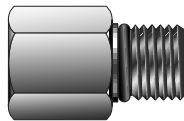
Straight Thread Reducer/Expander F5OG5



PARKER PART NO.	INTER-CHANGES WITH	T2 PORT THD UN/UNF-2B	T1 PORT THD UN/UNF-2A	W HEX	D2 DRILL	D	R	O-RING
6-4 F5OG5	6-RBST-4	7/16-20	9/16-18	11/16	.297	1.03	.36	3-904
8-4 F5OG5	8-RBST-4	7/16-20	3/4-16	7/8	.375	1.09	.36	3-904
12-8 F5OG5	12-RBST-8	3/4-16	1-1/16-12	1-1/4	.625	1.00	.44	3-908
16-12 F5OG5	16-RBST-12	1-1/16-12	1-5/16-12	1-1/2	.750	1.75	.59	3-912

*D2 drill is optional manufacturing method per SAE.

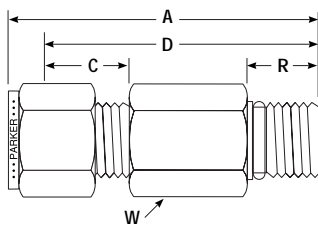
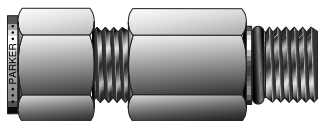
Male SAE Straight Thread to Female NPT Thread GOA



PARKER PART NO.	INTER-CHANGES WITH	T1 STRAIGHT THREAD SIZE	T2 - NPT FEMALE PIPE SIZE	D	R	E MINIMUM OPENING	W HEX	ST O-RING UNIFORM SIZE #
4-4 GOA	4SAE-7-4	7/16-20	1/4	1.19	.36	.20	3/4	3-904
6-6 GOA	6SAE-7-6	9/16-18	3/8	1.26	.39	.30	7/8	3-906
8-8 GOA	8- SAE-7-8	3/4-16	1/2	1.50	.44	.39	1-1/8	3-908
12-12 GOA	12- SAE-7-12	1-1/16-12	3/4	1.83	.59	.66	1-1/4	3-912
16-16 GOA	16- SAE-7-16	1-5/16-12	1	1.88	.59	.88	1-5/8	3-916

Includes "O"-ring.

Male Connector to SAE Straight Thread



PARKER CPI™ PART NO.	PARKER A-LOK® PART NO.	INTER-CHANGES WITH	TUBE O.D.	STRAIGHT THREAD SIZE	W HEX	†A	†C	D	R	O-RING DASH NO.
4-4 ZH3BA	4-4 ZH3LA	400-IL-4ST	1/4	7/16-20	9/16	2.26	.70	1.97	.36	3-904
5-5 ZH3BA	5-5 ZH3LA	500-IL-5ST	5/16	1/2-20	5/8	2.32	.73	2.03	.36	3-905
6-6 ZH3BA	6-6 ZH3LA	600-IL-6ST	3/8	9/16-18	11/16	2.48	.76	2.19	.39	3-906
8-8 ZH3BA	8-8 ZH3LA	810-IL-8ST	1/2	3/4-16	7/8	2.99	.87	2.58	.44	3-908
10-10 ZH3BA	10-10 ZH3LA	1010-IL-10ST	5/8	7/8-14	1	3.34	.87	2.94	.50	3-910
12-12 ZH3BA	12-12 ZH3LA	1210-IL-12ST	3/4	1-1/16-12	1-1/4	3.88	.87	3.48	.59	3-912
14-14 ZH3BA	14-14 ZH3LA	1410-IL-14ST	7/8	1-3/16-12	1-3/8	4.07	.87	3.67	.59	3-914
16-16 ZH3BA	16-16 ZH3LA	1610-IL-16ST	1	1-5/16-12	1-1/2	4.35	1.05	3.86	.59	3-916

Includes body, nut, ferrule and "O"-ring.

†Average value.

"O"-Ring Seals

All standard "O"-Rings are Buna-N material 70 Durometer hardness. For other materials state material after part number.

Dimensions for reference only, subject to change.

Visual Index

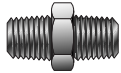
ISO Fitting Nomenclature
page 15

Typical Fastening Threads
page 16

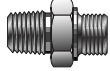
BSP Thread Forms
page 17

ISO Conversion Fittings

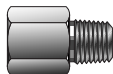
NPT Male/
BSP Taper Male
page 18



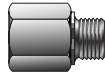
NPT Male/
BSPP Male
page 18



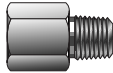
NPT Female/
BSP Taper Male
page 18



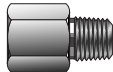
NPT Female/
BSPP Male
page 19



BSP Taper
Female/
NPT Male
page 19



BSPP Female/
NPT Male
page 19



BSP Taper
Male Hex Pipe Plug
page 20

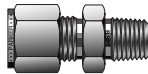


BSPP Parallel
Male Hex Pipe Plug
page 20

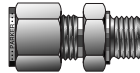


ISO Thread/Fractional Tube Connectors

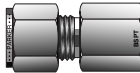
BSP Taper
Male Connector
page 21



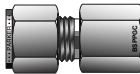
BSPP Male
Connector
page 21



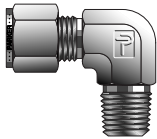
BSP Taper
Female Connector
page 21



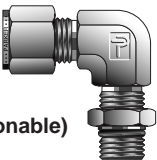
BSPP Female
Gauge Connector
page 22



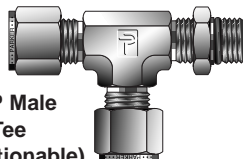
BSP Taper
Male Elbow
page 22



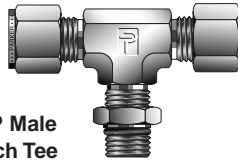
BSPP Male
Elbow (Positionable)
page 23



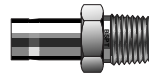
BSPP Male
Run Tee
(Positionable)
page 23



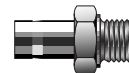
BSPP Male
Branch Tee
(Positionable)
page 24



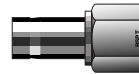
BSP Taper
Male Adapter
page 24



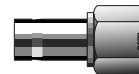
BSPP Male
Adapter
page 25



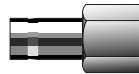
BSP Taper
Female Adapter
page 25



BSPP Female
Adapter
page 25



BSPP Female
Gauge Adapter
page 26



Sealing Washers

Bonded Seals
(Stainless)
page 26



Copper
Washers/Male
page 26



Copper
Washers/Female
page 26



Thread and Tube End
Size Charts
page 27, 28, 29

Engineering Report Heat
Code Traceability
page 30

Visual Index for Instrument Pipe Fittings on page 3.

Parker ISO Fitting Nomenclature

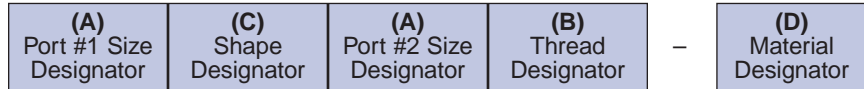
Parker ISO Adapters utilize the same basic part numbering system that you are already familiar with from our CPI™ and A-LOK® Catalogs.

To specify a Parker Instrumentation Connector with an ISO thread form, simply suffix the **size designator** with the **thread form designator** as illustrated.

Build a **CPI™** or **PIPE** part number by filling in the following boxes:



Build an **A-LOK®** part number by filling in the following boxes:



(A) Port Size Designators:

Port sizes are incremented by 1/16" and only the numerator is required to specify a size in a part number.

1 = 1/16"	6 = 3/8"
2 = 1/8"	8 = 1/2"
3 = 3/16"	10 = 5/8"
4 = 1/4"	12 = 3/4"
5 = 5/16"	16 = 1" (larger sizes available)

(B) Thread Type Designators:

Leave **Blank**: Fractional Tube Size

N¹ = NPT per ANSI B1.20.1

K = ISO Taper per; ISO 7/1, BS21, JIS B0203, DIN 2999

R = ISO Parallel per; ISO 228/1+2, DIN 3852 Form A, BS2779 (BSPP), JIS B0202

BR = ISO Parallel per; ISO 228/1+2, DIN 3852 Form B, BS2779 (BSPP), JIS B0202

GC = ISO Parallel, Female Gauge connector

¹N thread type designator is only required for A-LOK® nomenclature

(C) Body Shape Designator:

FBZ = CPI™ Male Connector

MSC = A-LOK® Male Connector

RA = Pipe Reducing Adapter

MHN = Pipe Male Hex Nipple

See Catalog for further detail

(D) Material Designators:

SS = Stainless Steel for CPI™ and Pipe Fittings

316 = Stainless Steel for A-LOK®

B = Brass

Material	Standard
Stainless Steel	ASTM A276 ASME SA 479
Brass	ASTM B16 ASTM B 453

Sealing

BSP Taper threads require the use of a thread sealant.

BSPP threads require a sealing washer. This washer may either be a metal (copper is standard) gasket or a "Bonded Seal" (elastomer bonded to a metal retaining washer).

The **BSPP**, form "A" requires the use of a bonded seal. (Page 26)

The **BSPP**, form "B" (cutting face) may be used with or without a sealing washer.

For applications where the cutting face may not seal or where galling is a potential problem, the use of a washer is suggested.

Example: The Thread Form Designators have been highlighted in the following examples for easy recognition.

4-4 K FBZ-SS	1/4" CPI™ Tube Fitting by 1/4" BSPT Pipe Thread
6-4 R RA-SS	3/8" Female NPT by 1/4" BSPP (form A) Reducing Adapter A Bonded Seal should be used with this fitting. (Page 26)
6MSC4 BR -316	3/8" A-LOK® Tube Fitting by 1/4" BSPP (form B) A Copper Washer should be used with this fitting. (Page 26)

Typical Fastening Threads

BSP threads

BSPP Parallel and BSP Taper threads have a thread flank angle of 55° inclusive.

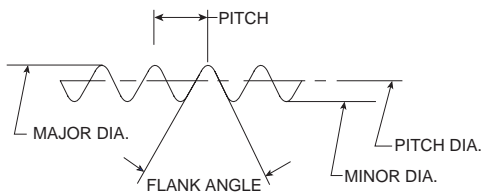
BSPP – British Standard Pipe Parallel threads for tubes and fittings where pressure-tight joints are not made on the thread, i.e., a peripheral seal is used.

BSP Taper – British Standard Pipe Taper threads for tubes and fittings where pressure-tight joints are made on the threads.

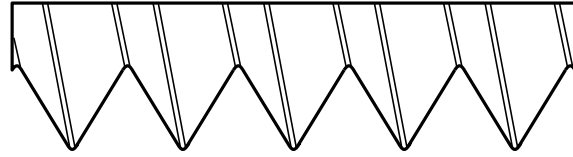
Comparison of Thread Forms

NPT Thread Size	Threads per Inch	BSPP	BSPT	Threads per Inch
		Thread Size		
1/8	27	1/8	1/8	28
1/4	18	1/4	1/4	19
3/8	18	3/8	3/8	19
1/2	14	1/2	1/2	14
3/4	14	3/4	3/4	14
1	11 1/2	1	1	11
1 1/4	11 1/2	1 1/4	1 1/4	11
1 1/2	11 1/2	1 1/2	1 1/2	11

Generic Thread



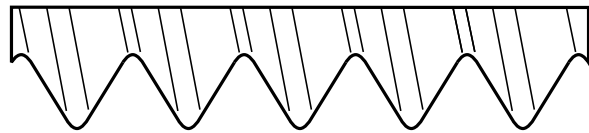
American Standard Pipe Thread (NPT)



- 60° inclusive thread flank angle
- Pitch measured in inches
- Truncation of root and crest are flat
- Taper angle 1°47'

(ISO 7/1)

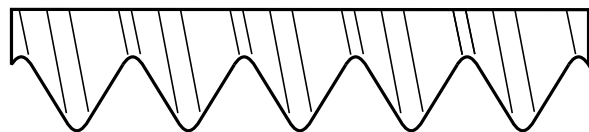
BSPT



- 55° inclusive thread flank angle
- Pitch measured in inches
- Truncation of root and crest are round
- Taper angle 1°47'

(ISO 228/1)

BSPP

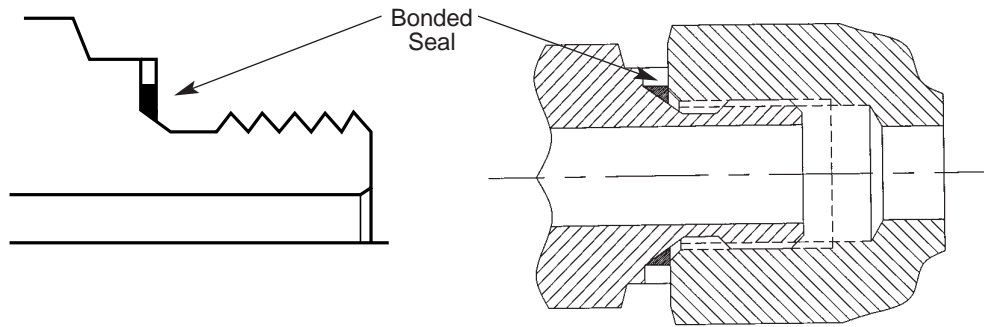


- 55° inclusive thread flank angle
- Pitch measured in inches
- Truncation of root and crest are round
- Diameter measured in inches

BSPP Thread Forms

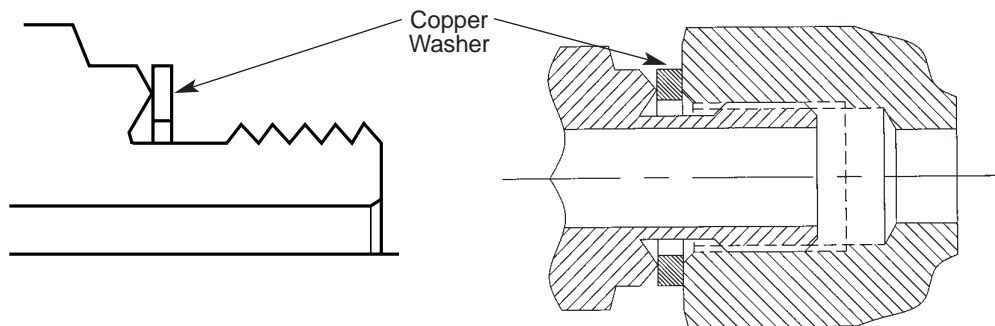
Form A

A self centering taper is used at the hex which centers a "Bonded" washer (usually metal and elastomer) to seal to the surface surrounding the female thread.

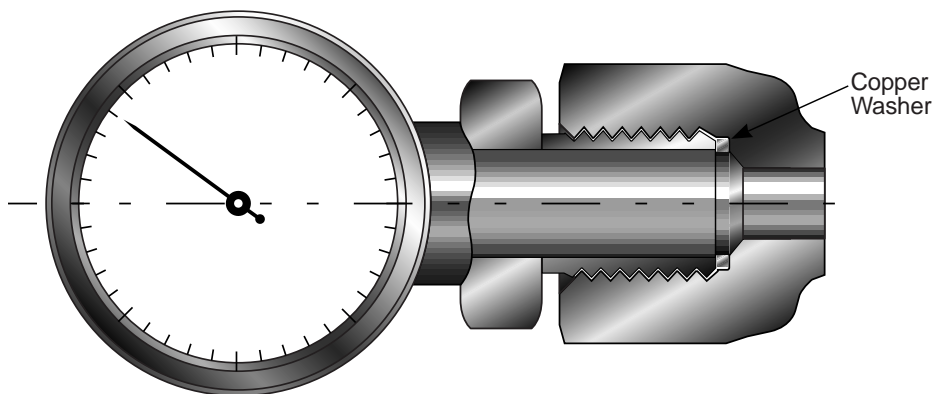


Form B

A metal gasket (usually copper) performs the seal between the face of the body and the face of the female threaded component. For Form "B" replace "R" in P/N with "BR".

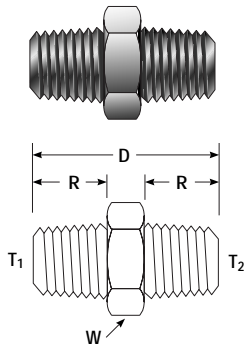


Gauge Port BSPP (Female)



ISO Conversion Fittings

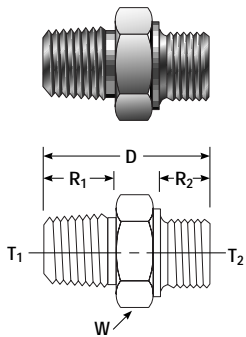
Male Hex Nipple NPT to BSP Taper



PARKER PART NO.	NPT THREAD T ₁	BSPT THREAD T ₂	W HEX	D	R	Working Pressure			
						Brass		Stainless Steel	
						PSI	BAR	PSI	BAR
2-2K MHN	1/8-27	1/8-28	7/16	1.06	.38	5600	390	9100	630
4-4K MHN	1/4-18	1/4-19	5/8	1.45	.56	4100	280	7500	520
6-6K MHN	3/8-18	3/8-19	3/4	1.45	.56	4000	280	7200	500
8-8K MHN	1/2-14	1/2-14	7/8	1.89	.75	3900	270	6600	460
12-12K MHN	3/4-14	3/4-14	1 1/8	1.97	.75	3800	260	6400	440
16-16K MHN	1-11 1/2	1-11	1 3/8	2.34	.94	2700	190	4600	320

Used to connect a female NPT and a female BSPT threaded component.

Male Hex Nipple NPT to BSPP



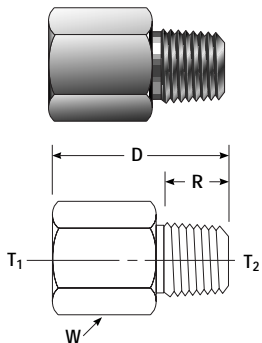
PARKER PART NO.	NPT THREAD T ₁	BSPP THREAD T ₂	W HEX	D	R ₁	R ₂	Working Pressure			
							Brass		Stainless Steel	
							PSI	BAR	PSI	BAR
2-2R MHN	1/8-27	1/8-28	9/16	1.07	.38	.28	5000	340	9100	630
4-4R MHN	1/4-18	1/4-19	3/4	1.44	.56	.44	4000	280	7500	520
6-6R MHN	3/8-18	3/8-19	7/8	1.47	.56	.44	3900	270	7200	500
8-8R MHN	1/2-14	1/2-14	1 1/16	1.78	.75	.56	3800	260	6600	460
12-12R MHN	3/4-14	3/4-14	1 5/16	1.95	.75	.63	3600	250	6400	440
16-16R MHN	1-11 1/2	1-11	1 5/8	2.26	.94	.72	2600	180	4600	320

Used to connect a female NPT and a female BSPP threaded component.

NOTE: Bonded seal, page 26, must be used on BSPP end shown.

Please note the pressure ratings are based on taper threaded ends. The pressure rating for the BSPP ends are dependent on the type of sealing washer used.

Female NPT to Male BSP Taper Adapter

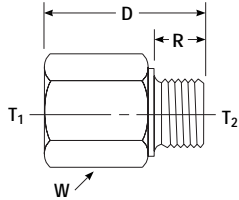
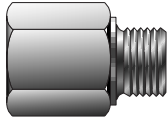


PARKER PART NO.	NPT THREAD T ₁	BSPT THREAD T ₂	W HEX	D	R	Working Pressure			
						Brass		Stainless Steel	
						PSI	BAR	PSI	BAR
2-2K RA	1/8-27	1/8-28	9/16	1.09	.38	3200	220	6100	420
4-4K RA	1/4-18	1/4-19	3/4	1.42	.56	3300	230	6200	430
6-6K RA	3/8-18	3/8-19	7/8	1.49	.56	2600	180	5000	340
8-8K RA	1/2-14	1/2-14	1 1/16	1.94	.75	2400	160	4600	320
12-12K RA	3/4-14	3/4-14	1 5/16	2.00	.75	2300	160	4300	300
16-16K RA	1-11 1/2	1-11	1 5/8	2.28	.94	2200	150	4100	280

Used to connect a male NPT and a female BSPT threaded component.

Dimensions for reference only, subject to change.

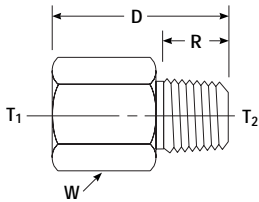
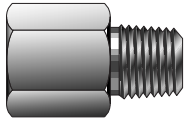
Female NPT to Male BSPP Adapter



PARKER PART NO.	NPT THREAD T ₁	BSPP THREAD T ₂	W HEX	D	R	Working Pressure			
						Brass		Stainless Steel	
						PSI	BAR	PSI	BAR
2-2R RA	1/8-27	1/8-28	9/16	.99	.28	3200	220	6100	420
4-4R RA	1/4-18	1/4-19	3/4	1.31	.44	3300	230	6200	430
6-6R RA	3/8-18	3/8-19	7/8	1.41	.44	2600	180	5000	340
8-8R RA	1/2-14	1/2-14	1 1/8	1.74	.56	2400	160	4600	320
12-12R RA	3/4-14	3/4-14	1 5/16	2.00	.63	2300	160	4300	300
16-16R RA	1-11 1/2	1-11	1 5/8	2.10	.72	2200	150	4100	280

Used to connect a male NPT and a female BSPP threaded component.
NOTE: Bonded Seal, page 26, must be used with BSPP end shown.

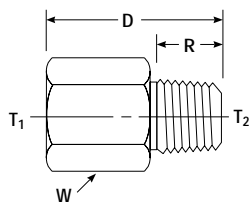
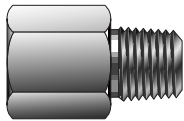
Female BSP Taper to Male NPT Adapter



PARKER PART NO.	BSPT THREAD T ₁	NPT THREAD T ₂	W HEX	D	R	Working Pressure			
						Brass		Stainless Steel	
						PSI	BAR	PSI	BAR
2K-2 RA	1/8-28	1/8-27	9/16	1.09	.38	3200	220	6100	420
4K-4 RA	1/4-19	1/4-18	3/4	1.42	.56	3300	230	6200	430
6K-6 RA	3/8-19	3/8-18	7/8	1.49	.56	2600	180	5000	340
8K-8 RA	1/2-14	1/2-14	1 1/8	1.94	.75	2400	160	4600	320
12K-12 RA	3/4-14	3/4-14	1 5/16	2.00	.75	2300	160	4300	300
16K-16 RA	1-11	1-11 1/2	1 5/8	2.28	.94	2200	150	4100	280

Used to connect a male BSPT and a female NPT threaded component.

Female BSPP to Male NPT Adapter



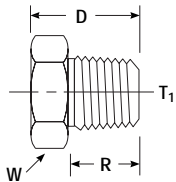
PARKER PART NO.	BSPP THREAD T ₁	NPT THREAD T ₂	W HEX	D	R	Working Pressure			
						Brass		Stainless Steel	
						PSI	BAR	PSI	BAR
2R-2 RA	1/8-28	1/8-27	3/4	1.09	.38	3200	220	6100	420
4R-4 RA	1/4-19	1/4-18	7/8	1.50	.56	3300	230	6200	430
6R-6 RA	3/8-19	3/8-18	1 1/16	1.49	.56	2600	180	5000	340
8R-8 RA	1/2-14	1/2-14	1 1/8	1.88	.75	2400	160	4600	320
12R-12 RA	3/4-14	3/4-14	1 5/16	2.00	.75	2300	160	4300	300
16R-16 RA	1-11	1-11 1/2	1 5/8	2.28	.94	2200	150	4100	280

Used to connect a male BSPP and a female NPT threaded component.

Dimensions for reference only, subject to change.

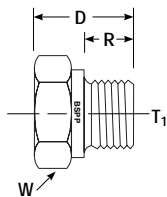
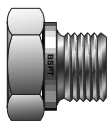
ISO Conversion Pipe Fittings

BSP Taper Male Hex Pipe Plug



PARKER PART NO.	BSPT THREAD T ₁	W HEX	D	R	Working Pressure			
					Brass		Stainless Steel	
					PSI	BAR	PSI	BAR
2K PH	1/8-28	7/16	.59	.38	3200	220	6100	420
4K PH	1/4-19	5/8	.81	.56	3300	230	6200	430
6K PH	3/8-19	3/4	.81	.56	2600	180	5000	340
8K PH	1/2-14	7/8	1.06	.75	2400	160	3600	320
12K PH	3/4-14	1 1/8	1.13	.75	2300	160	4300	300
16K PH	1-11	1 3/8	1.31	.94	2200	150	4100	280

BSPP Parallel Male Hex Pipe Plug



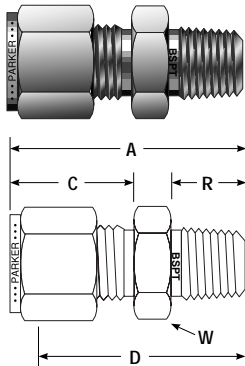
PARKER PART NO.	BSPT THREAD T ₁	W HEX	D	R	Working Pressure			
					Brass		Stainless Steel	
					PSI	BAR	PSI	BAR
2R PH	1/8-28	9/16	.55	.28	5000	340	9100	630
4R PH	1/4-19	3/4	.78	.44	4000	280	7500	520
6R PH	3/8-19	7/8	.78	.44	3900	270	7200	500
8R PH	1/2-14	1-1/16	.99	.56	3800	260	6600	460
12R PH	3/4-14	1-5/16	1.13	.63	3600	250	6400	440
16R PH	1-11	1-5/8	1.21	.72	2600	180	4600	320

Note: Bonded seal page 26 must be used on BSPP end shown.
Please note the pressure ratings are based on taper threaded ends. The pressure rating for the BSPP ends are dependent on the type of sealing washer used.

Dimensions for reference only, subject to change.

ISO Threaded to Fractional Tube Connectors

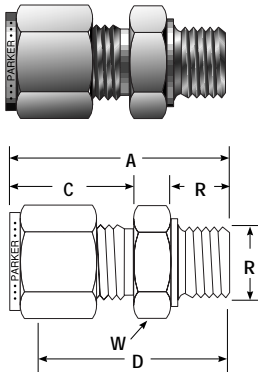
BSP Taper Male Connector



TUBE O. D. INCH	BSP TR. THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	A INCH	C INCH	D INCH	R INCH	W HEX
1/8	1/8-28	2-2K FBZ	2MSC2K	1.20	.60	.94	.38	7/16
1/8	1/4-19	2-4K FBZ	2MSC4K	1.40	.60	1.14	.56	9/16
1/4	1/8-28	4-2K FBZ	4MSC2K	1.30	.70	1.00	.38	1/2
1/4	1/4-19	4-4K FBZ	4MSC4K	1.50	.70	1.20	.56	9/16
1/4	3/8-19	4-6K FBZ	4MSC6K	1.52	.70	1.22	.56	11/16
1/4	1/2-14	4-8K FBZ	4MSC8K	1.76	.70	1.44	.75	7/8
5/16	1/8-28	5-2K FBZ	5MSC2K	1.34	.73	1.05	.38	9/16
5/16	1/4-19	5-4K FBZ	5MSC4K	1.53	.73	1.23	.56	9/16
3/8	1/8-28	6-2K FBZ	6MSC2K	1.39	.76	1.09	.38	5/8
3/8	1/4-19	6-4K FBZ	6MSC4K	1.59	.76	1.28	.56	5/8
3/8	3/8-19	6-6K FBZ	6MSC6K	1.59	.76	1.28	.56	11/16
3/8	1/2-14	6-8K FBZ	6MSC8K	1.82	.76	1.53	.75	7/8
1/2	1/4-19	8-4K FBZ	8MSC4K	1.75	.87	1.31	.56	13/16
1/2	3/8-19	8-6K FBZ	8MSC6K	1.75	.87	1.31	.56	13/16
1/2	1/2-14	8-8K FBZ	8MSC8K	1.93	.87	1.53	.75	7/8

Connects fractional tube to female ISO taper thread.

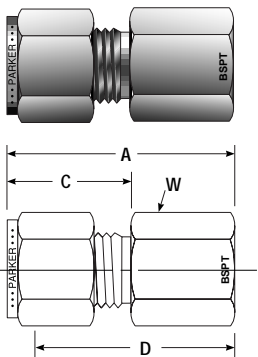
BSPP Male Connector



TUBE O. D. INCH	BSP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	A INCH	C INCH	D INCH	R INCH	W HEX
1/8	1/8-28	2-2R FBZ	2MSC2R	1.18	.60	0.92	.28	9/16
1/8	1/4-19	2-4R FBZ	2MSC4R	1.38	.60	1.13	.44	3/4
1/8	3/8-19	2-6R FBZ	2MSC6R	1.43	.60	1.17	.44	7/8
1/4	1/8-28	4-2R FBZ	4MSC2R	1.28	.70	0.98	.28	9/16
1/4	1/4-19	4-4R FBZ	4MSC4R	1.49	.70	1.19	.44	3/4
1/4	3/8-19	4-6R FBZ	4MSC6R	1.55	.70	1.25	.44	7/8
1/4	1/2-14	4-8R FBZ	4MSC8R	1.77	.70	1.47	.56	1 1/16
3/8	1/8-28	6-2R FBZ	6MSC2R	1.37	.76	1.06	.28	5/8
3/8	1/4-19	6-4R FBZ	6MSC4R	1.57	.76	1.25	.44	3/4
3/8	3/8-19	6-6R FBZ	6MSC6R	1.59	.76	1.30	.44	7/8
3/8	1/2-14	6-8R FBZ	6MSC8R	1.84	.76	1.53	.56	1 1/16
1/2	1/4-19	8-4R FBZ	8MSC4R	1.71	.87	1.28	.44	13/16
1/2	3/8-19	8-6R FBZ	8MSC6R	1.74	.87	1.30	.44	7/8
1/2	1/2-14	8-8R FBZ	8MSC8R	1.96	.87	1.53	.56	1 1/16
3/4	1/2-14	12-8R FBZ	12MSC8R	1.93	.87	1.53	.56	1 1/16
3/4	3/4-19	12-12R FBZ	12MSC12R	2.10	.87	1.69	.63	1 3/8
1	1/2-14	16-8R FBZ	16MSC8R	2.21	1.05	1.72	.56	1 3/8
1	1-11	16-16R FBZ	16MSC16R	2.37	1.05	1.88	.72	1 5/8

Connects fractional tube to female ISO parallel thread.
NOTE: Bonded Seal, page 26, must be used with BSPP end shown.

BSP Taper Female Connector



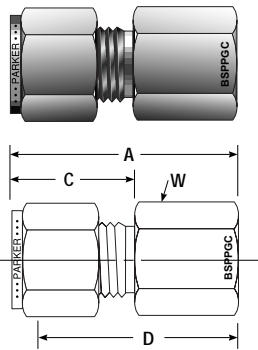
TUBE O. D. INCH	BSPT THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	A INCH	C INCH	D INCH	W HEX
1/4	1/8-28	4-2K GBZ	4FSC2K	1.23	.70	.94	9/16
1/4	1/4-19	4-4K GBZ	4FSC4K	1.42	.70	1.13	3/4
1/4	3/8-19	4-6K GBZ	4FSC6K	1.48	.70	1.19	7/8
1/4	1/2-14	4-8K GBZ	4FSC8K	1.67	.70	1.38	1 1/16
3/8	1/4-19	6-4K GBZ	6FSC4K	1.48	.76	1.19	3/4
3/8	3/8-19	6-6K GBZ	6FSC6K	1.54	.76	1.25	7/8
3/8	1/2-14	6-8K GBZ	6FSC8K	1.73	.76	1.44	1 1/16
1/2	1/4-19	8-4K GBZ	8FSC4K	1.59	.87	1.19	13/16
1/2	3/8-19	8-6K GBZ	8FSC6K	1.65	.87	1.25	7/8
1/2	1/2-14	8-8K GBZ	8FSC8K	1.84	.87	1.44	1 1/16

Connects fractional tube to male ISO taper thread.

Dimensions for reference only, subject to change.

ISO Threaded to Fractional Tube Connectors

BSPP Female Gauge Connector

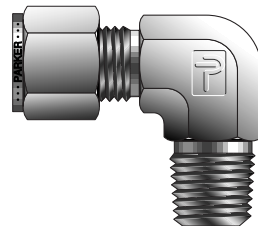


TUBE O.D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	A INCH	C INCH	D INCH	W HEX
1/4	1/4-19	4-4GC GBZ	4FSC4GC	1.48	.70	1.19	3/4
1/4	3/8-19	4-6GC GBZ	4FSC6GC	1.48	.70	1.19	15/16
1/4	1/2-14	4-8GC GBZ	4FSC8GC	1.72	.70	1.42	1 1/16
5/16	1/4-19	5-4GC GBZ	5FSC4GC	1.51	.73	1.22	3/4
5/16	1/2-14	5-8GC GBZ	5FSC8GC	1.61	.73	1.32	1 1/16
3/8	1/4-19	6-4GC GBZ	6FSC4GC	1.54	.76	1.25	3/4
3/8	3/8-19	6-6GC GBZ	6FSC6GC	1.53	.76	1.23	15/16
3/8	1/2-14	6-8GC GBZ	6FSC8GC	1.65	.76	1.36	1 1/16
1/2	3/8-19	8-6GC GBZ	8FSC6GC	1.75	.87	1.35	15/16
1/2	1/2-14	8-8GC GBZ	8FSC8GC	1.90	.87	1.50	1 1/16

Connects fractional tube to male ISO parallel (gauge).

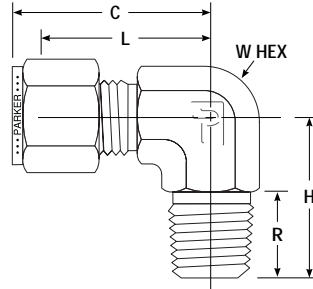
NOTE: Copper Washer, page 26, for female thread sealing, must be used on BSPP female end shown.

BSP Taper Male Elbow



TUBE O.D. INCH	BSPT THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	C INCH	H INCH	L INCH	R INCH	W HEX
1/4	1/8-28	4-2K CBZ	4MSEL2K	1.06	.74	.77	.38	1/2
1/4	1/4-19	4-4K CBZ	4MSEL4K	1.08	1.00	.78	.56	9/16
1/4	3/8-19	4-6K CBZ	4MSEL6K	1.17	1.13	.88	.56	3/4
1/4	1/2-14	4-8K CBZ	4MSEL8K	1.26	1.31	.97	.75	7/8
5/16	1/4-19	5-4K CBZ	5MSEL4K	1.11	1.00	.81	.56	5/8
3/8	1/8-28	6-2K CBZ	6MSEL2K	1.20	.82	.91	.38	5/8
3/8	1/4-19	6-4K CBZ	6MSEL4K	1.20	1.01	.91	.56	5/8
3/8	3/8-19	6-6K CBZ	6MSEL6K	1.26	1.13	.97	.56	3/4
1/2	3/8-19	8-6K CBZ	8MSEL6K	1.42	1.15	1.02	.56	13/16
1/2	1/2-14	8-8K CBZ	8MSEL8K	1.42	1.30	1.02	.75	7/8

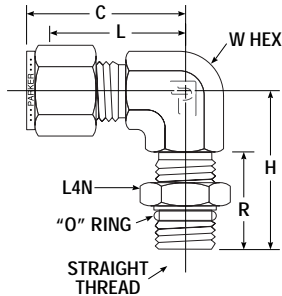
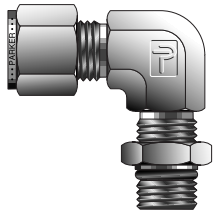
Connects fractional tube to female ISO taper thread.



Dimensions for reference only, subject to change.

ISO Threaded to Fractional Tube Connectors

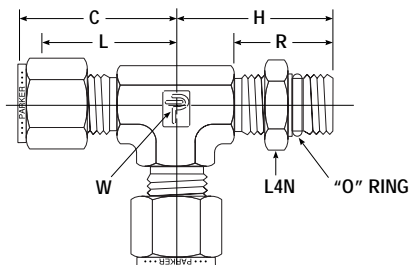
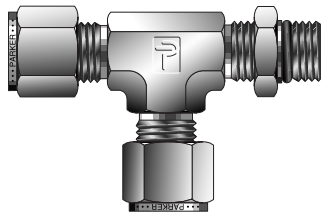
BSPP Male Elbow (Positionable)



TUBE O. D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	C INCH	H INCH	L INCH	R INCH	W HEX
1/4	1/8-28	4-2R CBZ	4MSEL2R	1.06	1.04	.77	.63	9/16
1/4	1/4-19	4-4R CBZ	4MSEL4R	1.14	1.27	.85	.79	9/16
3/8	1/4-19	6-4R CBZ	6MSEL4R	1.14	1.27	.85	.79	9/16
3/8	3/8-19	6-6R CBZ	6MSEL6R	1.50	1.46	1.02	.79	3/4
1/2	1/4-19	8-4R CBZ	8MSEL4R	1.50	1.38	1.10	.79	7/8
1/2	3/8-19	8-6R CBZ	8MSEL6R	1.50	1.46	1.10	.79	7/8
1/2	1/2-14	8-8R CBZ	8MSEL8R	1.50	1.71	1.10	1.03	7/8
5/8	1/2-14	10-8R CBZ	10MSEL8R	1.50	1.81	1.10	1.03	1 1/16
3/4	1/2-14	12-8R CBZ	12MSEL8R	1.57	1.81	1.17	1.03	1 1/16
3/4	3/4-14	12-12R CBZ	12MSEL12R	1.57	1.92	1.17	1.03	1 1/16
1	3/4-14	16-12R CBZ	16MSEL12R	1.94	2.11	1.45	1.03	1 5/16
1	1-11	16-16R CBZ	16MSEL16R	1.94	2.11	1.45	1.20	1 5/16

Connects fractional tube to female ISO parallel thread.

BSPP Male Run Tee (Positionable)



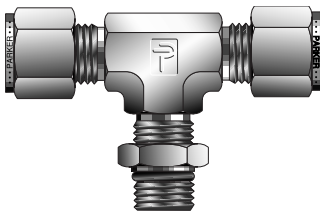
TUBE O. D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	C INCH	H INCH	L INCH	R INCH	W HEX
1/4	1/8-28	4-2R-4 RBZ	4MRT2R	1.06	1.04	.77	.63	9/16
1/4	1/4-19	4-4R-4 RBZ	4MRT4R	1.14	1.27	.85	.79	9/16
3/8	1/4-19	6-4R-6 RBZ	6MRT6R	1.20	1.27	.91	.79	9/16
1/2	3/8-19	8-6R-8 RBZ	8MRT8R	1.50	1.46	1.10	.79	7/8
1/2	1/2-14	8-8R-8 RBZ	8MRT8R	1.50	1.71	1.10	1.03	7/8
5/8	1/2-14	10-8R-10 RBZ	10MRT8R	1.50	1.81	1.10	1.03	1 1/16
3/4	1/2-14	12-8R-12 RBZ	12MRT8R	1.57	1.81	1.17	1.03	1 1/16
3/4	3/4-14	12-12R-12 RBZ	12MRT12R	1.57	1.92	1.17	1.03	1 1/16
1	1-11	16-16R-16 RBZ	16MRT16R	1.94	2.11	1.45	1.20	1 5/16

Connects fractional tube to female ISO parallel thread.

Dimensions for reference only, subject to change.

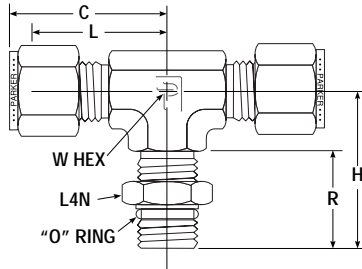
ISO Threaded to Fractional Tube Connectors

BSPP Male Branch Tee (Positionable)

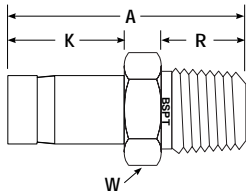
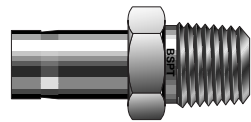


TUBE O. D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	C INCH	H INCH	L INCH	R INCH	W HEX
1/4	1/8-28	4-4-2R SBZ	4MBT2R	1.06	1.04	.77	.63	9/16
1/4	1/4-19	4-4-4R SBZ	4MBT4R	1.14	1.27	.85	.79	9/16
3/8	1/4-19	6-6-4R SBZ	6MBT4R	1.14	1.27	.85	.79	9/16
1/2	3/8-19	8-8-6R SBZ	8MBT6R	1.50	1.46	1.10	.79	7/8
1/2	1/2-14	8-8-8R SBZ	8MBT8R	1.50	1.71	1.10	1.03	7/8
5/8	1/2-14	10-10-8R SBZ	10MBT8R	1.50	1.81	1.10	1.03	1 1/16
3/4	1/2-14	12-12-8R SBZ	12MBT8R	1.57	1.81	1.17	1.03	1 1/16
3/4	3/4-14	12-12-12R SBZ	12MBT12R	1.57	1.92	1.17	1.03	1 1/16
1	1-11	16-16-16R SBZ	16MBT16R	1.94	2.11	1.45	1.20	1 5/16

Connects fractional tube to female ISO parallel thread.



BSP Taper Male Adapter



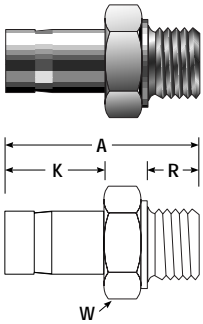
TUBE O. D. INCH	BSPT THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	CPI™		A-LOK®		R INCH	W HEX	MIN. BORE INCH
				A INCH	K INCH	A INCH	K INCH			
1/8	1/8-28	2-2K T2HF	2MA2K	1.16	0.54	1.16	.54	.38	7/16	.078
1/8	1/4-19	2-4K T2HF	2MA4K	1.39	0.54	1.39	.54	.56	9/16	.281
1/4	1/8-28	4-2K T2HF	4MA2K	1.27	0.64	1.25	.63	.38	7/16	.156
1/4	1/4-19	4-4K T2HF	4MA4K	1.49	0.64	1.46	.63	.56	9/16	.078
5/16	1/8-28	5-2K T2HF	5MA2K	1.32	0.68	1.28	.66	.38	7/16	.219
5/16	1/4-19	5-4K T2HF	5MA4K	1.53	0.68	1.49	.66	.56	9/16	.219
3/8	1/4-19	6-4K T2HF	6MA4K	1.57	0.72	1.53	.69	.56	9/16	.281
3/8	3/8-19	6-6K T2HF	6MA6K	1.61	0.72	1.56	.69	.56	11/16	.281
3/8	1/2-14	6-8K T2HF	6MA8K	1.82	0.72	1.78	.69	.75	7/8	.281
1/2	1/4-19	8-4K T2HF	8MA4K	1.84	0.98	1.75	.91	.75	9/16	.281
1/2	3/8-19	8-6K T2HF	8MA6K	1.87	0.98	1.78	.91	.56	11/16	.375
1/2	1/2-14	8-8K T2HF	8MA8K	2.09	0.98	2.00	.91	.75	7/8	.375
5/8	3/8-19	10-6K T2HF	10MA6K	1.91	1.03	1.84	.97	.56	11/16	.469
5/8	1/2-14	10-8K T2HF	10MA8K	2.14	1.03	2.06	.97	.75	7/8	.469
3/4	3/4-14	12-12K T2HF	12MA12K	2.14	1.03	2.06	.97	.75	1 1/16	.594
1	1-11	16-16K T2HF	16MA16K	2.68	1.30	2.60	1.22	.94	1 3/8	.813

Connects fractional tube to female ISO taper thread.
Generic, annealed tube stub for effective ferrule sealing.

Dimensions for reference only, subject to change.

ISO Threaded to Fractional Tube Connectors

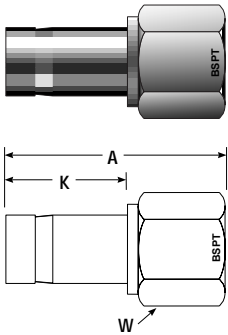
BSPP Male Adapter



TUBE O.D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	CPI™		A-LOK®		R INCH	W HEX	MIN. BORE INCH
				A INCH	K INCH	A INCH	K INCH			
1/8	1/8-28	2-2R T2HF	2MA2R	1.16	.54	1.16	.54	.28	9/16	.078
1/8	1/4-19	2-4R T2HF	2MA4R	1.37	.54	1.37	.54	.44	3/4	.078
1/4	1/8-28	4-2R T2HF	4MA2R	1.26	.64	1.31	.63	.28	9/16	.156
1/4	1/4-19	4-4R T2HF	4MA4R	1.48	.64	1.50	.63	.44	3/4	.156
3/8	1/4-19	6-4R T2HF	6MA4R	1.56	.72	1.57	.69	.44	3/4	.281
3/8	3/8-19	6-6R T2HF	6MA6R	1.59	.72	1.60	.69	.44	7/8	.281
1/2	1/4-19	8-4R T2HF	8MA4R	1.81	.98	1.79	.91	.44	3/4	.375
1/2	3/8-19	8-6R T2HF	8MA6R	1.85	.98	1.82	.91	.44	7/8	.375
1/2	1/2-14	8-8R T2HF	8MA8R	2.10	.98	1.94	.91	.44	1-1/8	.375
3/4	3/4-14	12-12R T2HF	12MA12R	2.22	1.03	2.16	.97	.63	1-3/8	.594
1	1-11	16-16R T2HF	16MA16R	2.67	1.30	2.54	1.22	.72	1-3/4	.813

Connects fractional tube end to female ISO parallel thread.
NOTE: Bonded Seal, page 21 must be used on BSPP end shown.
Generic, annealed tube stub for effective sealing.

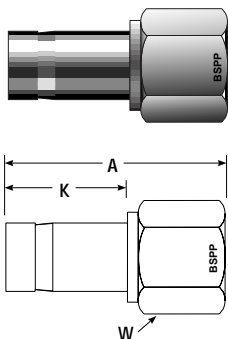
BSP Taper Female Adapter



TUBE O.D. INCH	BSPT THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	CPI™		A-LOK®		W HEX	MIN. BORE INCH
				A INCH	K INCH	A INCH	K INCH		
1/4	1/8-28	4-2K T2HG	4FA2K	1.31	.64	1.30	.63	9/16	.156
1/4	1/4-19	4-4K T2HG	4FA4K	1.48	.64	1.45	.63	3/4	.156
3/8	1/4-19	6-4K T2HG	6FA4K	1.56	.72	1.50	.69	3/4	.281
3/8	3/8-19	6-6K T2HG	6FA6K	1.63	.72	1.59	.69	7/8	.281
1/2	1/4-19	8-4K T2HG	8FA4K	1.83	.98	1.71	.91	3/4	.375
1/2	3/8-19	8-6K T2HG	8FA6K	1.89	.98	1.80	.91	7/8	.375
1/2	1/2-14	8-8K T2HG	8FA8K	2.14	.98	2.05	.91	1-1/16	.375

Connects fractional tube end to male ISO taper thread.
NOTE: Tube stub is pre-grooved as standard. Generic (non-grooved) can be ordered through Quick Response.

BSPP Female Adapter



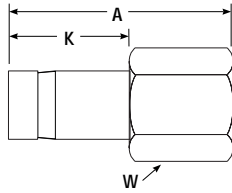
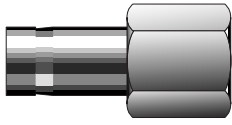
TUBE O.D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	CPI™		A-LOK®		W HEX	MIN. BORE INCH
				A INCH	K INCH	A INCH	K INCH		
1/8	1/8-28	2-2R T2HG	2FA2R	1.21	.54	1.21	.54	9/16	.078
1/4	1/8-28	4-2R T2HG	4FA2R	1.31	.64	1.25	.63	9/16	.156
1/4	1/4-19	4-4R T2HG	4FA4R	1.48	.64	1.50	.63	3/4	.156
3/8	1/4-19	6-4R T2HG	6FA4R	1.56	.72	1.55	.69	3/4	.281
3/8	3/8-19	6-6R T2HG	6FA6R	1.63	.72	1.57	.69	7/8	.281
1/2	3/8-19	8-6R T2HG	8FA6R	1.89	.98	1.78	.91	7/8	.375
1/2	1/2-14	8-8R T2HG	8FA8R	2.14	.98	1.95	.91	1-1/16	.375

Connects fractional tube end to male ISO parallel thread.
NOTE: Tube stub is pre-grooved as standard. Generic (non-grooved) can be ordered through Quick Response.

Dimensions for reference only, subject to change.

ISO Threaded to Fractional Tube Connectors

BSPP Female Gauge Adapter



TUBE O.D. INCH	BSPP THREAD	PARKER CPI™ PART NUMBER	PARKER A-LOK® PART NUMBER	CPI™		A-LOK®		W HEX	MIN. BORE INCH
				A INCH	K INCH	A INCH	K INCH		
1/4	1/4-19	4-4GC T2HG	4FA4GC	1.48	.64	1.34	.63	3/4	.156
3/8	3/8-19	6-6GC T2HG	6FA6GC	1.63	.72	1.55	.69	15/16	.281
1/2	1/2-14	8-8GC T2HG	8FA8GC	2.14	.98	1.92	.91	1 1/16	.375

Connects fractional tube end to male ISO parallel thread (gauge).

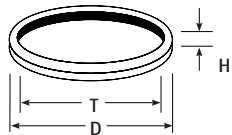
NOTE: Copper Washer, page 26, for female thread sealing, must be used on BSPP female end shown.

NOTE: Tube stub is pre-grooved as standard. Generic (non-grooved) can be ordered through Quick Response.

Sealing Washers

Bonded Seals

Consists of an outer stainless steel ring with a bonded Viton® inner ring used to seal a male ISO parallel thread.

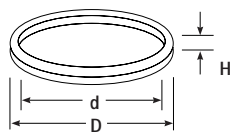


PART NO.	"T" BSPP THREAD	D	H	PRESSURE RATINGS FOR SEALING WASHERS		
				THREAD SIZE	PSI	BAR
M30201-SS	1/8	.63	.08	1/8	5300	370
M30202-SS	1/4	.81	.08	1/4	5500	380
M30203-SS	3/8	.94	.08	3/8	4400	300
M30204-SS	1/2	1.12	.10	1/2	4000	280
M30206-SS	3/4	1.38	.10	3/4	3700	260
M30208-SS	1	1.69	.10	1	2800	190

These seals are also available in steel with a Nitrile inner ring.

Simply replace Suffix SS with S

Copper Washers



For BSPP male thread sealing

PART NO.	THREAD	D	d	H
M28329	1/8	.71	.39	.09
M28330	1/4	.87	.55	.09
M28331	3/8	.94	.67	.09
M28332	1/2	1.18	.87	.10
M28334	3/4	1.38	1.06	.09
M28336	1	1.65	1.34	.09

For BSPP female thread sealing

PART NO.	THREAD	D	d	H
M25179	1/8	0.322	0.218	0.062
M25180	1/4	0.436	0.312	0.062
M25181	3/8	0.574	0.437	0.062
M25182	1/2	0.719	0.562	0.062
M25184	3/4	0.935	0.812	0.062
M25186	1	1.178	1	0.093

Used to provide a seal with male or female parallel ISO threads.

Please note the pressure ratings are based on taper threaded ends. The pressure rating for the BSPP ends are dependent on the type of sealing washer used.

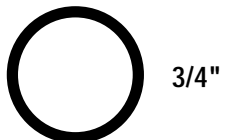
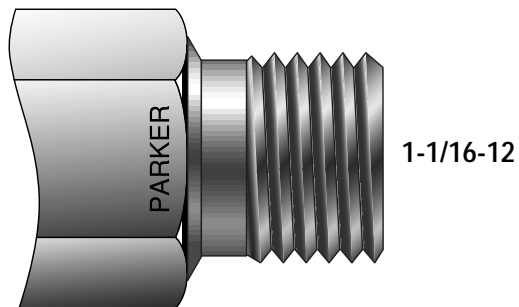
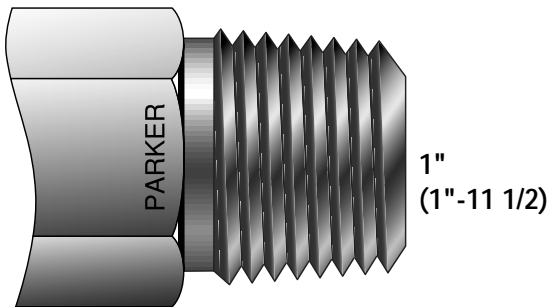
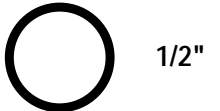
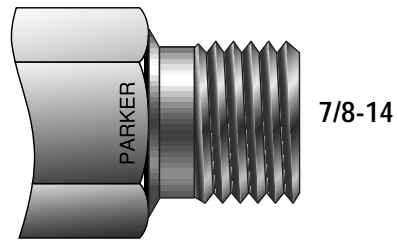
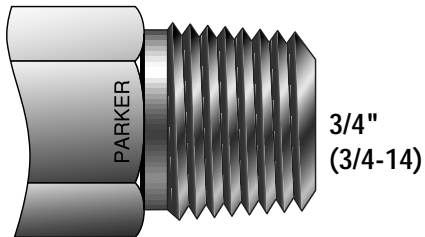
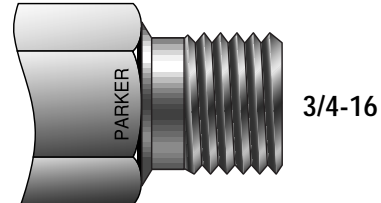
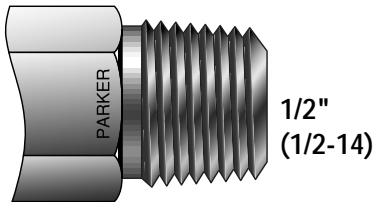
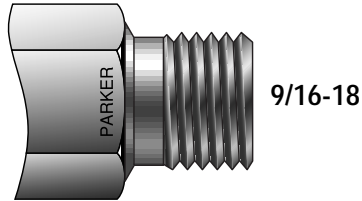
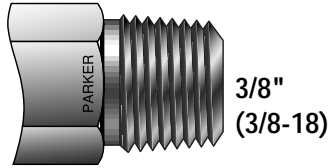
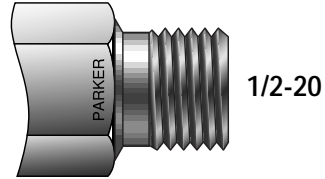
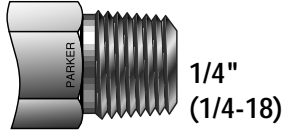
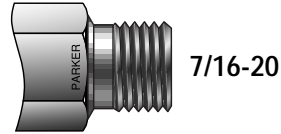
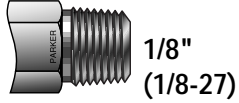
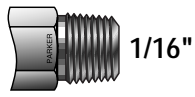
Dimensions for reference only, subject to change.

Thread and Tube End Size Chart (U.S.A.)

NPT Thread

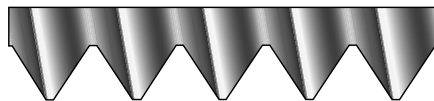
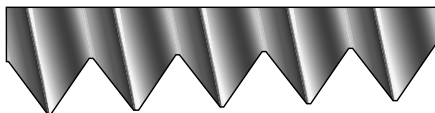
Straight Thread

Tubing O.D. Size



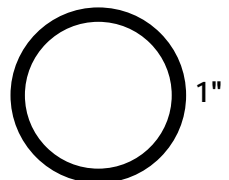
American Standard Pipe Thread (NPT)

American Standard Unified Thread (Straight)



60° thread angle • Pitch measured in inches
 • Truncation of root and crest are flat
 • Taper angle 1°47'

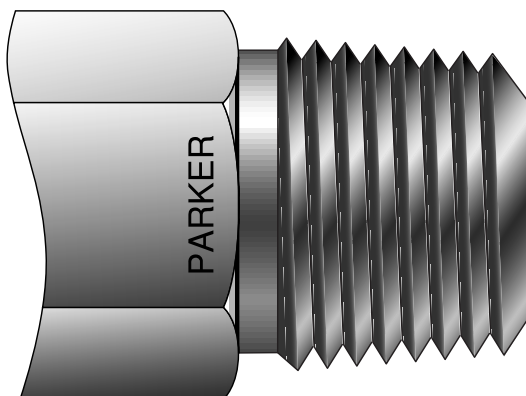
60° thread angle • Pitch measured in inches
 • Truncation of root and crest are flat
 • Diameter measured in inches



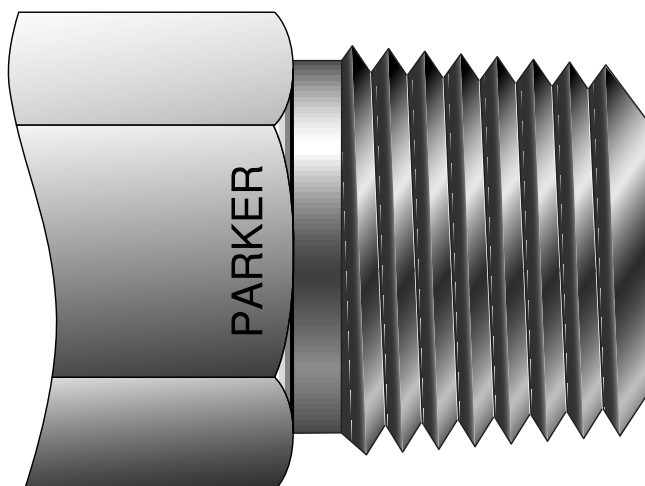
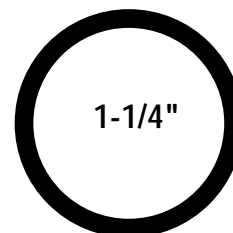
Pipe and Tube End Size Chart (U.S.A.)

NPT Thread

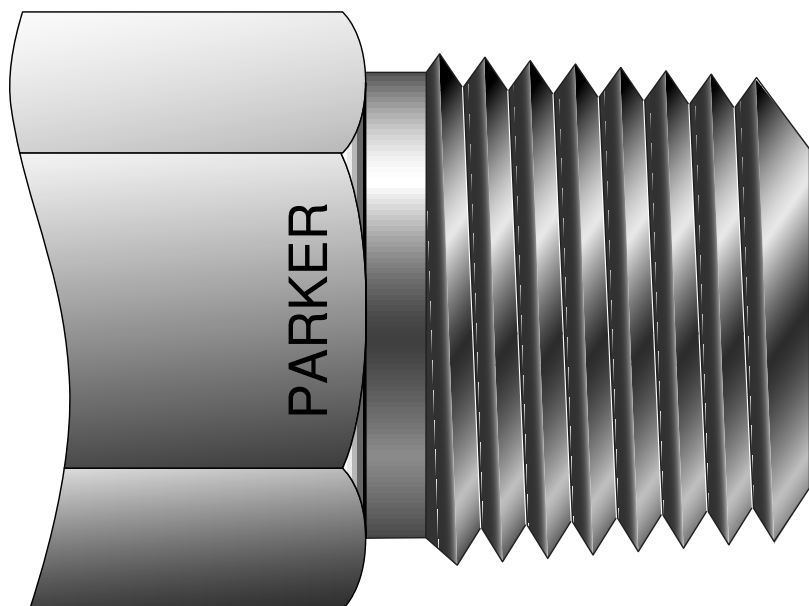
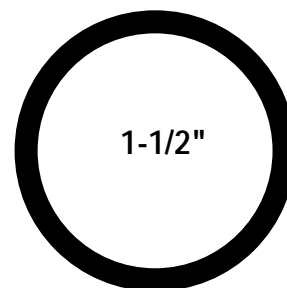
Tubing O.D. Size



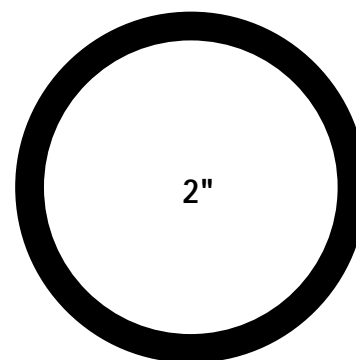
1-1/4"



1-1/2"

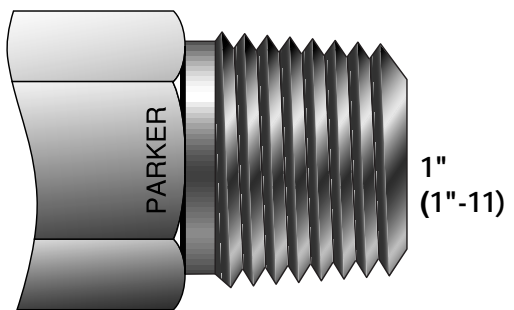
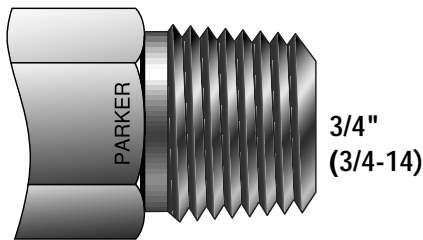
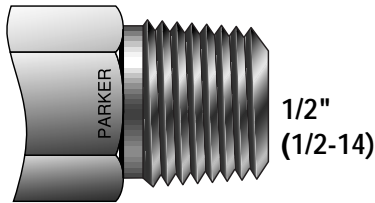
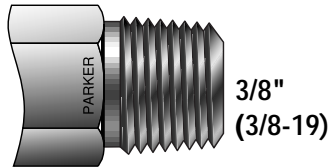
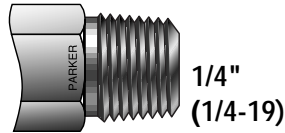
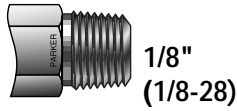


2"

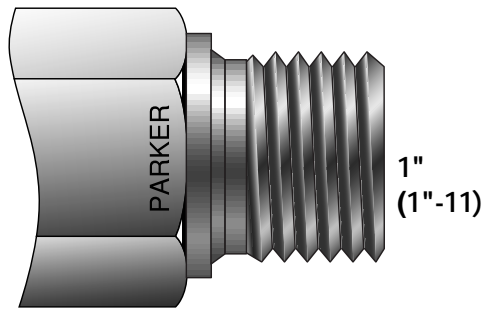
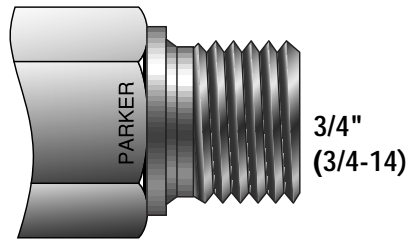
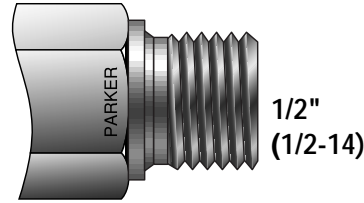
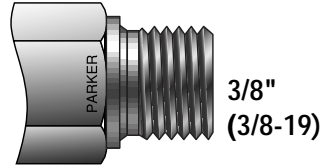
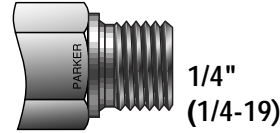
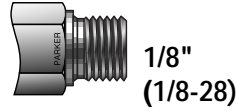


Thread and Tube End Size Chart (International)

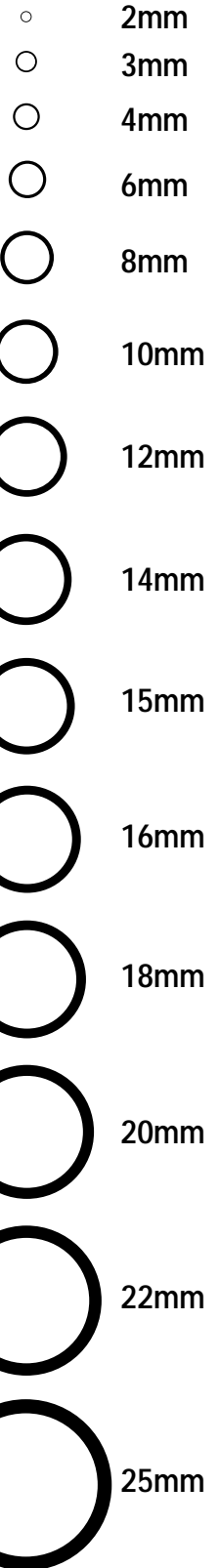
BSPT Tapered Thread



BSPF Parallel Thread

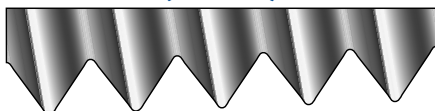


Tubing O.D. Size



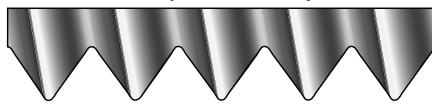
International Organization for Standards

(ISO 7/1)



- 55° thread angle • Pitch measured in inches
- Truncation of root and crest are round
- Taper angle 1°47'

(ISO 228/1)



- 55° thread angle • Pitch measured in inches
- Truncation of root and crest are round
- Diameter measured in inches

Heat Code Traceability

Parker Hannifin's Instrumentation Connectors Division offers Heat Code Traceability (HCT) on CPI™, A-LOK®, Instrumentation Pipe, and Weld-Lok fittings.

HCT refers to the fact that a specific part can be traced back to the original mill heat of metal from which it was made. Beginning with the original melt, a package of documents is created which completely describes the metal in physical and chemical terms. The end result is that a number, which is permanently stamped to the part, refers back to the document package.

The HCT number is stamped on the material (bar stock or forging) prior to manufacturing. The concept is useful because it provides a method for complete material accountability for the manufacturer and end customer.

HCT offers these advantages:

- Raw materials for manufacture must meet code requirements. This can be verified through documentation so that the customer is certain that what is ordered is received.
- HCT provides a record of chemical analysis with the raw material. Thus, in areas requiring welding, the correct welding technique is applied.

- HCT relieves the user of Parker instrumentation tube fittings of any doubts. It acts as an assurance for today and for tomorrow.

The material used in Parker Hannifin instrumentation fitting components is 316 or 316L (welded products) stainless steel as specified and referenced in Section III of the ASME Boiler and Pressure Vessel code.

The American Society of Mechanical Engineers (ASME) Boiler and Vessel Code, Section III, latest issue, entitled Rules for Construction of Nuclear Power Plant Components, is the principal document covering this type of fitting in the nuclear field. ANSI Standard B.31.1.0, Power Piping, and ANSI Standard B.31.7, Nuclear Power Piping, are also important documents in the field.

In addition to the documentation of chemical and physical properties, great care is taken throughout the manufacture of Parker's tube fittings to ensure that potential stress corrosion will not be a problem in normal usage of the parts. Manufacturing processes avoid exposure of the parts to mercury or halogens, and control of thermal treatment avoids the condition known as continuous grain boundary carbide precipitation.

For additional information please contact your local authorized Parker Instrumentation distributor or call Parker Instrumentation Connectors Division and ask for Bulletin 4230-B15.



TECNI-AR
Seu caminho
Para automação

VacuSeal™ Fittings

Catalog 4245-VacuSeal
May 2006



Parker
uhp

Introduction

Parker UHP products are designed as leak-free components for critical applications where ultra-high pure conditions are required. VacuSeal™ products, with their mating gasket and toroid design, provide a metal-to-metal seal with leak-free service from vacuum to positive pressure.

Featured Products (see page 14)

- **TorqTite™** gasket to seal damaged toroids and virtually eliminate loosening of componentry due to thermocycling and vibration.
- **High-Purity Nickel and Hastelloy C-22®** glands for extremely corrosive applications.
- **Non-Rotational Female Nut** to prevent transmission of torque during make-up and therefore minimize twist of componentry which causes stress concentration.
- **Anti-Galling Female Nut** to ensure consistent make-up without plating or lubrication.

Materials

Typical Raw Material Specifications

FITTING MATERIAL	BAR STOCK	FORGINGS	RECOMMENDED TUBING SPECIFICATIONS
Stainless Steel 316	ASTM A276, ASME SA479	ASME SA182	ASME SA213, ASTM A213, ASTM A249
Stainless Steel 316L	ASTM A276, ASME SA479	ASME SA182	ASME SA213, ASTM A213, ASTM A249
Stainless Steel 316L VAR (Vacuum Arc Remelt)	ASTM A276, ASME SA479	ASME SA182	ASTM A269, MIL T8504, MIL T8506
Stainless Steel 316L VIM/VAR (Vacuum Induction Melt/Vacuum Arc Remelt)	ASTM A276, ASME SA479	ASME SA182	ASTM A269, MIL T8504, MIL T8506

Material is marked with heat code to ensure raw material traceability.

Gaskets Typical Raw Material Specifications

MATERIAL SPECIFICATIONS	
Nickel	ASTM B162 (unplated)
Stainless Steel	ASTM A167 (Silver plated)

Hastelloy C-22® is a registered trademark of Haynes International, Inc.



Specifications

- **Pressure Ratings** are based upon tests conducted on VacuSeal™ assemblies. All ratings comply with calculations per ANSI Code for Pressure Piping B31.3. **Working Pressures** are rated at ambient temperature and are based on a 4 to 1 design factor. To determine pressure ratings in accordance with ANSI B31.1, multiply **Working Pressure** by 0.94.
- **Temperature Ratings**
Fittings:
Stainless Steel 316, 316L, 316L VAR, 316L VIM/VAR
1000°F (537°C)
Gaskets:
High-Purity Nickel
600°F (315°C)
Silver plated Stainless Steel
1000°F (537°C)
- **Dimensions** are for reference only and are subject to change. Tube ends conform to the dimensional requirements of ASTM A269.
- **Plating:** VacuSeal™ Female Nuts are Silver plated with an enhanced plating process. Avoid aggressive chemical processes used for cleaning, electropolishing and passivation that will remove plating. Removal or damage to plating will cause threads to gall, damaging fitting components and preventing a proper seal.
- **Testing:** VacuSeal™ products are rated to a Helium leak rate of 1 X 10⁻⁹ STD cc/sec.
- **Internal Surface Finishes:** VacuSeal™ components are available with controlled surface finishes and electropolished internal surfaces.
- **Cleaning and Packaging:** Ultra-High Purity 'OMEGA' cleaning and packaging in a Class 100 Clean Room environment validated per Federal Standard 209E, is standard for all electropolished VacuSeal™ components.

For Make-Up Instructions see page 15.

For Ordering Instructions see page 17.

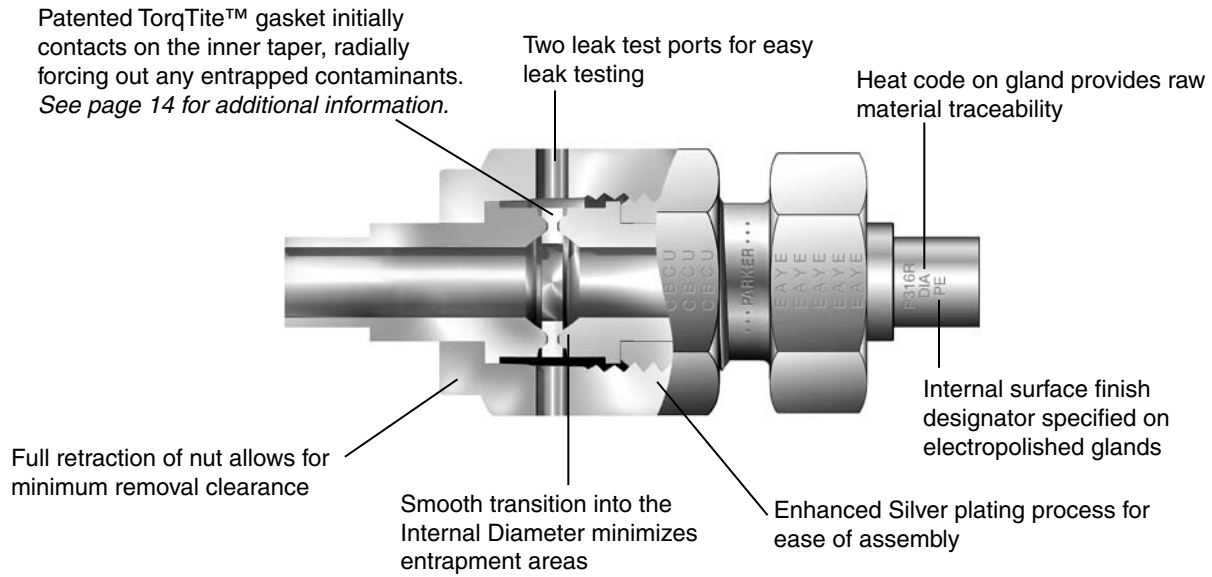
Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale" located on page 18.

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS 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 and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.



Index

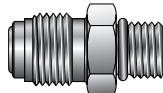
Glands

Pages 4, 5, 6



Bodies

Pages 6, 7, 8, 9



Welded Assemblies

Page 10



Welded Modules

Page 11



Gaskets

Page 12



Nuts, Caps, and Plugs

Page 13



Hi-Flo Products

Pages 14,15



Featured Products

Page 15



Make-Up Instructions

Page 16

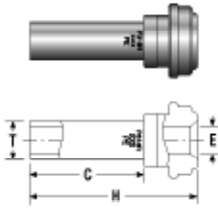
Ordering Instructions

Page 17

Offer of Sale

Page 18

Glands



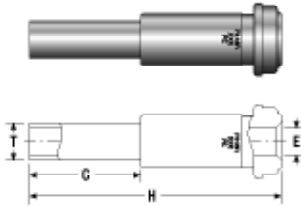
Short Tube Butt Weld

T Tube O.D.	Ordering Number	C		E		H		Normal Wall Thickness	Working Pressure	
		in.	mm	in.	mm	in.	mm		psi	bar
fractional										
1/8	2-2 V1T3-* 1.08	0.75	19.0	0.07	1.8	1.08	27.4	0.028	8500	580
1/4	^4-4 V1M-* .60	0.25	6.3	0.18	4.6	0.60	15.2	0.035	5100	350
1/4	4-4 V1TW-* .72	0.38	9.7	0.18	4.6	0.72	18.3	0.035	5100	350
1/4	4-4 V1T3-* 1.10	0.75	19.0	0.18	4.6	1.10	27.9	0.035	5100	350
1/4	8-4 V1T3-* 1.12	0.75	19.0	0.18	4.6	1.12	28.4	0.035	3500	240
3/8	8-6 V1M-* .62	0.25	6.3	0.31	7.9	0.62	15.7	0.035	3300	220
3/8	8-6 V1T3-* 1.12	0.75	19.0	0.31	7.9	1.12	28.4	0.035	3300	220
1/2	^^8-8 V1M-* .62	0.25	6.3	0.40	10.2	0.62	15.7	0.049	3500	240
1/2	8-8 V1TW-* .74	0.38	9.7	0.40	10.2	0.74	18.8	0.049	3500	240
1/2	8-8 V1T3-* 1.12	0.75	19.0	0.40	10.2	1.12	28.4	0.049	3500	240
metric										
6 mm	4-6M V1T3-* -1.16	0.75	19.0	0.16	4.1	1.16	29.5	1.0 mm	6800	460
8 mm	4-8M V1T3-* -1.16	0.75	19.0	0.24	6.1	1.16	29.5	1.0 mm	4900	330
10 mm	8-10M V1T3-* -1.16	0.75	19.0	0.31	7.9	1.16	29.5	1.0 mm	3500	240
12 mm	8-12M V1T3-* -1.16	0.75	19.0	0.39	9.9	1.16	29.5	1.0 mm	3100	210
18 mm	12-18M V1T3-* -1.22	0.75	19.0	0.59	15.0	1.22	31.0	1.5 mm	3000	200

^Old Part Number 4-4 V1M-* .035

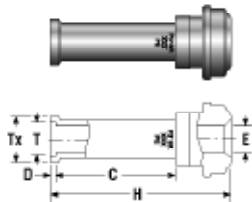
^^Old Part Number 8-8 V1M-* .049

Long Tube Weld



T Tube O.D.	Ordering Number	C		E		H		Normal Wall Thickness	Working Pressure	
		in.	mm	in.	mm	in.	mm		psi	bar
fractional										
1/8	2-2 V1T3-* 1.42	0.75	19.0	0.07	1.8	1.42	36.1	0.028	8500	580
1/4	4-4 V1M-* 1.20	0.25	6.3	0.18	4.6	1.20	30.5	0.035	5100	350
1/4	4-4 V1T3-*	0.40	10.2	0.18	4.6	1.31	33.3	0.035	5100	350
1/4	4-4 V1TW-* 1.32	0.38	9.7	0.18	4.6	1.32	33.5	0.035	5100	350
1/4	4-4 V1T3-* 1.70	0.75	19.0	0.18	4.6	1.70	43.2	0.035	5100	350
1/4	8-4 V1T3-* 1.79	0.75	19.0	0.18	4.6	1.80	45.7	0.035	3500	240
3/8	8-6 V1M-* 1.29	0.25	6.3	0.31	7.9	1.29	32.8	0.035	3300	220
3/8	8-6 V1T3-* 1.79	0.75	19.0	0.31	7.9	1.79	45.5	0.035	3300	220
1/2	8-8 V1M-* 1.29	0.25	6.3	0.40	10.2	1.29	32.8	0.049	3500	240
1/2	8-8 V1TW-* 1.41	0.38	9.7	0.40	10.2	1.41	35.8	0.049	3500	240
1/2	8-8 V1T3-* 1.79	0.75	19.0	0.40	10.2	1.79	45.5	0.049	3500	240
3/4	12-12 V1T3-* 2.03	0.75	19.0	0.65	16.5	2.03	51.6	0.049	2400	160
1	16-16 V1T3-* 2.32	0.75	19.0	0.87	22.1	2.32	58.9	0.065	2400	160
metric										
6 mm	4-6M V1T3-* 1.70	0.75	19.0	0.16	4.1	1.70	43.2	1.0 mm	6800	460
8 mm	4-8M V1T3-* 1.70	0.75	19.0	0.24	6.1	1.70	43.2	1.0 mm	4900	330
10 mm	8-10M V1T3-* 1.79	0.75	19.0	0.31	7.9	1.79	45.5	1.0 mm	3500	240
12 mm	8-12M V1T3-* 1.79	0.75	19.0	0.39	9.9	1.79	45.5	1.0 mm	3100	210
18 mm	12-18M V1T3-* 2.03	0.75	19.0	0.59	15.0	2.03	51.6	1.5 mm	3000	200

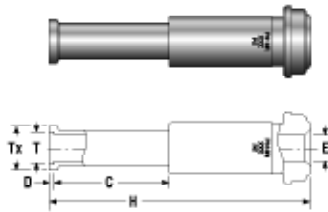
Short Automatic Tube Butt Weld



T Tube Size	Ordering Number	C		D		E		H		Tx		Normal Wall Thickness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		psi	bar
fractional														
1/4	4-4 V1Y3-* 1.12	0.75	19.0	0.02	0.5	0.18	4.6	1.12	28.4	0.29	7.4	0.035	5100	250
1/2	8-8 V1Y3-* 1.16	0.75	19.0	0.04	1.0	0.40	10.2	1.16	29.5	0.55	14.0	0.049	3500	240
3/8	8-6 V1Y3-* 1.15	0.75	19.0	0.03	0.8	0.30	7.6	1.15	29.2	0.41	10.4	0.035	3300	220
metric														
6 mm	4-6M V1Y3-* 1.18	0.75	19.0	0.02	0.5	0.16	4.1	1.18	30.0	0.27	6.9	1.0 mm	6800	460
8 mm	4-8M V1Y3-* 1.19	0.75	19.0	0.03	0.8	0.24	6.1	1.19	30.2	0.35	8.9	1.0 mm	4900	330
10 mm	8-10M V1Y3-* 1.22	0.75	19.0	0.03	0.8	0.31	7.9	1.22	31.0	0.43	10.9	1.0 mm	3500	240
12 mm	8-12M V1Y3-* 1.20	0.75	19.0	0.04	1.0	0.39	9.9	1.20	30.5	0.52	13.2	1.0 mm	3100	210

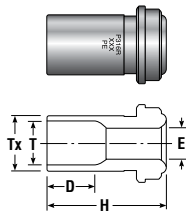
Glands (Continued)

Long Automatic Tube Butt Weld



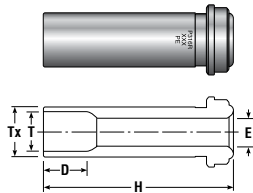
T Tube Size	Ordering Number	C		D		E		H		Tx		Normal Wall Thickness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		psig	bar
fractional														
1/4	4-4 V1Y3-* 1.72	0.75	19.0	0.02	0.5	0.18	4.6	1.72	43.7	0.29	7.4	0.035	5100	350
1/4	8-4 V1Y3-* 1.82	0.75	19.0	0.02	0.5	0.18	4.6	1.82	46.2	0.29	7.4	0.035	5100	350
3/8	8-6 V1Y3-* 1.82	0.75	19.0	0.03	0.8	0.31	7.9	1.82	46.2	0.41	10.4	0.035	3300	220
1/2	8-8 V1Y3-* 1.83	0.75	19.0	0.04	1.0	0.40	10.2	1.83	46.5	0.55	14.0	0.049	3500	240
3/4	12-12 V1Y3-* 2.07	0.75	19.0	0.04	1.0	0.65	16.5	2.07	52.6	0.80	20.3	0.049	2400	160
1	16-16 V1Y3-* 2.57	0.96	24.4	0.04	1.0	0.87	22.1	2.57	65.3	1.06	26.9	0.065	2400	160
metric														
6 mm	4-6M V1Y3-* 1.72	0.75	19.0	0.02	0.5	0.16	4.1	1.72	43.7	0.27	6.9	1.0 mm	6800	460
12 mm	8-12M V1Y3-* 1.83	0.75	19.0	0.04	1.0	0.39	9.9	1.83	46.5	0.52	13.2	1.0 mm	3100	210
18 mm	12-18M V1Y3-* 2.07	0.75	19.0	0.04	1.0	0.59	15.0	2.07	52.6	0.76	19.3	1.5 mm	3000	200

Short Socket Weld



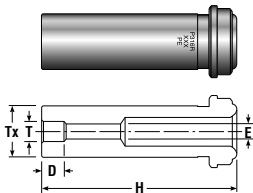
T Tube Socket	Ordering Number	D		E		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/4	4-4 V1W-* .50	0.28	7.1	0.19	4.8	0.50	12.7	0.35	8.9	5500	370
1/4	4-4 V1W-* .75	0.28	7.1	0.19	4.8	0.75	19.0	0.35	8.9	5500	370

Socket Weld



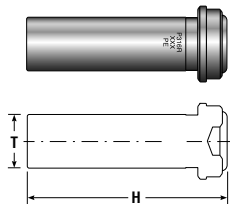
T Tube Socket	Ordering Number	D		E		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/16	1-1 V1W-* ①	0.10	2.5	0.05	1.3	0.70	17.8	0.13	3.3	9000	620
1/8	2-2 V1W-* .70	0.10	2.5	0.09	2.3	0.70	17.8	0.20	5.1	7100	480
1/4	4-4 V1W-*	0.28	7.1	0.19	4.6	1.31	33.3	0.35	8.9	5500	370
3/8	8-6 V1W-*	0.31	7.9	0.28	7.1	1.50	38.1	0.60	15.2	3500	240
1/2	8-8 V1W-*	0.38	9.7	0.40	10.2	1.50	38.1	0.60	15.2	3000	200
3/4	12-12 V1W-*	0.44	11.2	0.62	15.7	2.00	50.8	0.88	22.4	2800	190
1	16-16 V1W-*	0.62	15.7	0.87	22.1	2.22	56.4	1.19	30.2	2400	160

Reducing Socket Weld



T Tube Socket	Ordering Number	D		E		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/8	4-2 V1W-* 1.31	0.16	4.1	0.09 ②	2.3	1.31	33.3	0.35	8.9	8000	550
1/4	8-4 V1W-*	0.25	6.3	0.19	4.8	1.50	38.1	0.60	15.2	3500	240

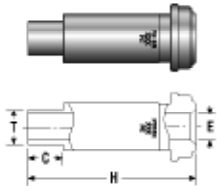
Blind (undrilled) Gland



T Tube O.D.	Ordering Number	H	
		in.	mm
fractional			
1/8	2-2 V1W-* -BL	0.70	17.8
1/4	4-4 V1W-* -BL	1.31	33.3
1/2	8-8 V1W-* -BL	1.50	38.1
3/4	12-12 V1W-* -BL	2.00	50.8
1	16-16 V1W-* -BL	2.22	56.4

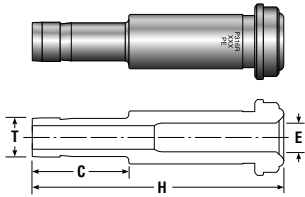
- ① Uses 2 BV-SS and 2 BVI-SS nuts
- ② May contain internal transitions
- ③ O-rings fluorocarbon is standard. Contact local Parker representative for other available materials

Glands (Continued)



Male Weld

T Tube O.D.	Ordering Number	C		E		H		Working Pressure		
		in.	mm	in.	mm	in.	mm	psig	bar	
fractional										
1/8	2-2 V1T3-* .70 .035	0.28	7.1	0.06	2	1.5	0.70	17.8	9000	620
1/8	4-2 V1T3-* 1.31 .035	0.28	7.1	0.06	2	1.5	1.31	33.3	8000	550
1/4	4-4 V1T3-* 1.31 .065	0.41	10.4	0.12		3.0	1.31	33.3	8000	550
1/4	8-4 V1T3-* D970351	0.41	10.4	0.12		3.0	1.50	38.1	3500	240
3/8	8-6 V1T3-* 1.50 .049	0.41	10.4	0.28		7.1	1.50	38.1	3500	240
1/2	8-8 V1T3-*	0.50	12.7	0.40		10.2	1.50	38.1	3500	240
3/4	12-12 V1T3-* 2.00 .109	0.62	15.7	0.53		13.5	2.00	50.8	3000	200
1	16-16 V1T3-* 2.22 .120	0.81	20.6	0.75		19.0	2.22	56.4	2400	160

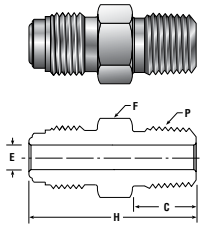


Tube Adapter (A-LOK®)

T Tube O.D.	Ordering Number	C		E		H		Working Pressure		
		in.	mm	in.	mm	in.	mm	psig	bar	
fractional										
1/4	4-4 V1TU-*	0.62	15.7	0.16		4.1	1.62	41.1	8000	550
3/8	8-6 V1TU-*	0.69	17.5	0.28	2	7.1	1.81	46.0	3500	240
1/2	8-8 V1TU-*	0.91	23.1	0.39		9.9	1.78	45.2	3500	240

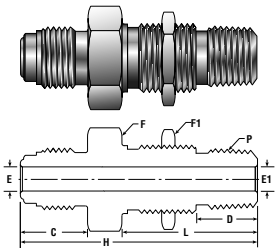
Replace 'U' with a '2' to designate groove for CPI™ Fitting.

Bodies



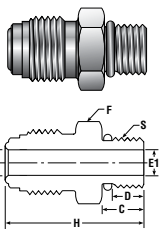
Male NPT Connector

P Male NPT Size	Ordering Number	C		E		F Hex Flat	H		Working Pressure		
		in.	mm	in.	mm		in.	mm	psig	bar	
fractional											
1/16	2-1 FV-SS	0.38	9.6	0.09	2	2.3	3/8	1.07	27.2	9000	620
1/8	2-2 FV-SS	0.38	9.6	0.09	2	2.3	7/16	1.07	27.2	9000	620
1/8	4-2 FV-SS	0.38	9.6	0.19		4.8	5/8	1.28	32.5	8000	550
1/4	4-4 FV-SS	0.57	14.5	0.25		.64	5/8	1.49	37.8	8000	550
3/8	8-6 FV-SS	0.57	14.5	0.38		9.6	15/16	1.62	41.1	3500	240
1/2	8-8 FV-SS	0.76	19.3	0.41		10.4	15/16	1.81	46.0	3500	240
3/4	12-12 FV-SS	0.76	19.3	0.62		15.7	1 15/16	2.19	55.6	3000	200
1	16-16 FV-SS	0.95	24.1	0.87		22.1	1 15/16	2.47	62.7	2400	160



Male Bulkhead Connector

P Male NPT Size	Ordering Number	C		D		E		E1	F Hex Flat	F1 Hex Flat	H		L		Panel Hole Size	Max. Panel Thick- ness	Working Pressure		
		in.	mm	in.	mm	in.	mm				in.	mm	in.	mm			psig	bar	
fractional																			
1/4	4-4 VH2BF-SS	0.62	15.7	0.57	14.5	0.25	6.4	0.25	6.4	13/16	13/16	2.21	56.134	1.24	31.5	21/32	0.38	8000	550
1/4	8-4 VH2BF-SS	0.75	19.1	0.57	14.5	0.41	10.4	0.28	7.1	15/16	13/16	2.34	59.436	1.24	31.5	21/32	0.38	3500	240

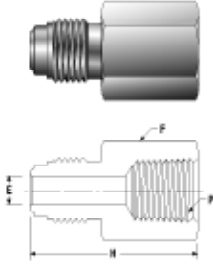


Straight Thread O-Ring Seal Male Connector 3

S Straight Thread Size	Ordering Number	C		D		E		E1	F Hex Flat	H		Uniform O-Ring Size	Working Pressure		
		in.	mm	in.	mm	in.	mm			in.	mm		psig	bar	
fractional															
9/16-18	4-6 VHOA-SS	0.39	9.9	0.25	6.4	0.18	4.6	0.28	7.1	3/4	1.33	33.78	Fluorocarbon 906	4500	310
7/8-14	8-10 VHOA-SS	0.50	12.7	0.4	10.2	0.28	7.1	0.59	15.0	1	1.66	42.16	Fluorocarbon 910	3500	240
9/16-18	8-6 VHOA-SS	0.39	9.9	0.39	9.9	0.28	7.1	0.28	7.1	15/16	1.48	7.59	Fluorocarbon 906	3500	240

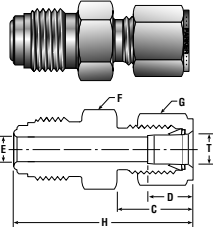
Bodies (Continued)

Female NPT Connector



P Female NPT Size	Ordering Number	E		F Hex Flat	H		Working Pressure	
		in.	mm		in.	mm	psig	bar
fractional								
1/16	2-1 GV-SS	0.09	2.3	7/16	1.1	27.9	6700	460
1/8	2-2 GV-SS	0.09	2.3	9/16	1.19	30.2	6500	440
1/8	4-2 GV-SS	0.18	4.6	5/8	1.41	35.8	8000	550
1/4	4-4 GV-SS	0.25	6.4	3/4	1.44	36.6	6600	450
3/8	8-6 GV-SS	0.41	10.4	15/16	1.62	41.1	3500	240
1/2	8-8 GV-SS	0.41	10.4	1 1/16	1.91	48.5	3500	240
3/4	12-12 GV-SS	0.62	15.7	1 5/16	2.36	59.9	3000	200
1	16-16 GV-SS	0.87	22.1	1 5/8	2.51	63.8	2400	160

Compression Tube Fitting Connector (A-LOK®)

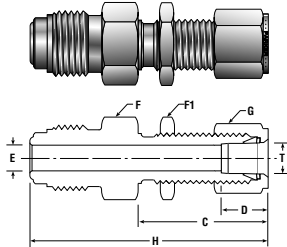


T Tube O.D.	Ordering Number	C		D		E		F Hex Flat	G Hex Flat	H		Working Pressure	
		in.	mm	in.	mm	in.	mm			in.	mm	psig	bar
fractional													
1/8	2-2 VHLZ-SS	0.60	15.2	0.50	12.7	0.09	2.3	5/8	7/16	1.53	38.86	8000	550
1/4	4-4 VHLZ-SS	0.70	17.8	0.60	15.2	0.19	4.8	5/8	9/16	1.62	41.15	8000	550
3/8	8-6 VHLZ-SS	0.76	19.3	0.66	16.8	0.28	7.1	15/16	11/16	1.84	46.74	3500	240
1/2	8-8 VHLZ-SS	0.87	22.1	0.90	22.9	0.41	10.4	15/16	7/8	1.95	49.53	3500	240

Dimensions - C, D, H are typical finger-tight.
Change "L" to a "B" to select CPI™ one ferrule connector.

For maximum pressure ratings reference the Instrument
Tubing Selection Guide, found in the Technical Section of
your Parker Instrumentation Master Binder.

Compression Tube Fitting Bulkhead Connector (A-LOK®)

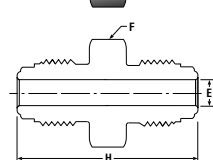


T Tube O.D.	Ordering Number	C		D		E		F Hex Flat	F1 Hex Flat	G Hex Flat	H		Panel Hole Size	Max. Panel Thick- ness	Working Pressure	
		in.	mm	in.	mm	in.	mm				in.	mm			psig	bar
fractional																
1/4	4-4 VH2LZ-SS	1.32	33.5	0.60	15.2	0.18	4.6	5/8	5/8	9/16	2.25	57.2	15/32	0.40	8000	550
1/4	4-4 VH2LZ-SS 1.88	1.05	26.7	0.60	15.2	0.18	4.6	5/8	5/8	9/16	1.88	47.8	15/32	0.13	8000	550
3/8	8-6 VH2LZ-SS	1.45	36.8	0.66	16.8	0.28	7.1	15/16	3/4	11/16	2.54	64.5	19/32	0.44	3500	240
1/2	8-8 VH2LZ-SS	1.65	41.9	0.90	22.9	0.41	10.4	15/16	15/16	7/8	2.74	69.6	25/32	0.50	3500	240

Dimensions - C, D, H are typical finger-tight.
Change "L" to a "B" to select CPI™ one ferrule connector.

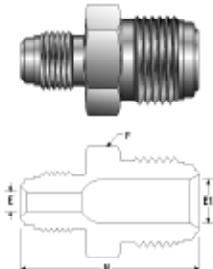
For maximum pressure ratings reference the Instrument
Tubing Selection Guide, found in the Technical Section of
your Parker Instrumentation Master Binder.

Double Male Union



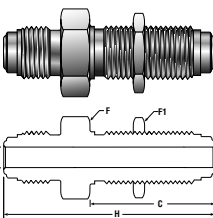
Size	Ordering Number	E		F Hex Flat	H		Working Pressure	
		in.	mm		in.	mm	psig	bar
1/8	2-2 HV-SS	0.09	2.3	3/8	1.13	28.7	9000	620
1/4	4-4 HV-SS	0.25	6.4	5/8	1.53	38.9	8000	550
1/2	8-8 HV-SS	0.41	10.4	15/16	1.84	46.7	3500	240
3/4	12-12 HV-SS	0.62	15.7	1 5/16	2.44	62.0	3000	200
1	16-16 HV-SS	0.87	22.1	1 5/8	2.59	65.8	2400	160

Double Male Reducing Union



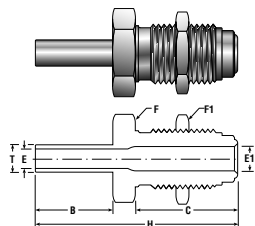
Size	Ordering Number	E		E1		F Hex Flat	H		Working Pressure	
		in.	mm	in.	mm		in.	mm	psig	bar
1/4x1/8	4-2 HV-SS	0.09	2.3	0.18	4.6	5/8	1.37	34.8	8000	550
1/2x1/4	8-4 HV-SS	0.18	4.6	0.41	10.4	15/16	1.71	43.4	3500	240

Bulkhead Union



Size	Ordering Number	C		E		F Hex Flat	F1 Hex Flat	H		Panel Hole Size	Max. Panel Thick- ness	Working Pressure	
		in.	mm	in.	mm			in.	mm			psig	bar
1/4	4-4 WBV-SS 2.23	1.30	33.0	0.25	6.4	3/4	3/4	2.23	56.6	19/32	0.44	8000	550
1/4	4-4 WBV-SS 1.82	0.99	25.1	0.25	6.4	3/4	3/4	1.82	46.2	19/32	0.13	8000	550
1/2	8-8 WBV-SS 2.57	1.45	36.8	0.41	10.4	1 1/16	1 1/16	2.57	65.3	29/32	0.50	3500	240
1/2	8-8 WBV-SS 2.14	1.11	28.2	0.41	10.4	1 1/16	1 1/16	2.14	54.4	29/32	0.13	3500	240

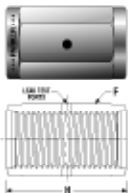
Bodies (Continued)



Tube Butt Weld Bulkhead Connector

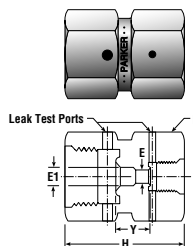
T Tube O.D. Size	Ordering Number	B		C		E		E1		F Hex Flat	F1 Hex Flat	H		Panel Hole Size	Max. Panel Thick- ness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm			in.	mm			psig	bar
fractional																	
1/4	4-4 T3H2BV-* 2.36	0.75	19.1	1.30	33.0	0.18	4.6	0.22	5.6	3/4	3/4	2.36	59.9	19/32	0.44	5100	350
1/4	4-4 T3H2BV-* 1.95	0.75	19.1	0.99	25.1	0.18	4.6	0.22	5.6	3/4	3/4	1.95	49.5	19/32	0.13	5100	350

Coupling



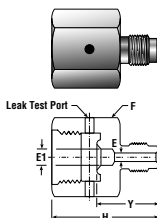
Size	Ordering Number	F Hex Flat	H	
			in.	mm
1/8	2 VHC-SS	7/16	0.66	16.8
1/4	4 VHC-SS	3/4	1.19	30.2
1/2	8 VHC-SS	1 1/16	1.31	33.3
3/4	12 VHC-SS	1 1/2	1.68	42.7
1	16 VHC-SS	1 3/4	2.04	51.8

Double Female Reducing Union



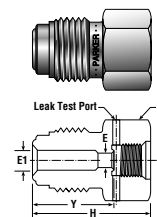
Size	Ordering Number	E		E1		F Hex Flat	H		Y		Working Pressure	
		in.	mm	in.	mm		in.	mm	in.	mm	psig	bar
1/4x1/8	4-2 HV7-SS	0.13	3.3	.25	6.4	3/4	1.16	29.5	0.36	9.1	8000	550
1/2x1/4	8-4 HV7-SS	0.25	6.4	.41	10.3	1 1/16	1.41	35.8	0.35	8.9	3500	240

Reducing Adapter



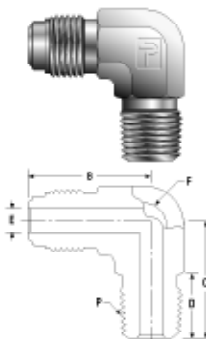
Size	Ordering Number	E		E1		F Hex Flat	H		Y		Working Pressure	
		in.	mm	in.	mm		in.	mm	in.	mm	psig	bar
1/8x1/4	4-2 V7HV-SS	0.09	2.3	.25	6.4	3/4	1.19	30.2	0.69	17.5	8000	550
1/4x1/2	8-4 V7HV-SS	0.18	4.6	.41	10.3	1 1/16	1.41	35.8	0.85	21.6	3500	240

Reducing Bushing



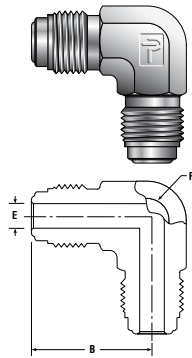
Size	Ordering Number	E		E1		F Hex Flat	H		Y		Working Pressure	
		in.	mm	in.	mm		in.	mm	in.	mm	psig	bar
1/4x1/8	4-2 VHV7-SS	0.13	3.3	.18	4.6	5/8	1.06	26.9	0.76	19.3	8000	550
1/2x1/4	8-4 VHV7-SS	0.25	6.4	.41	10.3	15/16	1.41	35.8	0.91	23.1	3500	240

VacuSeal™ To Male NPT Elbow



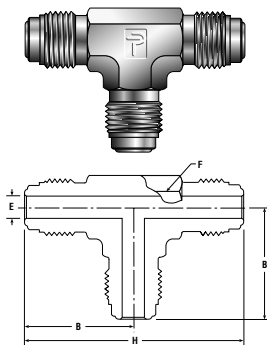
P Male NPT Size	Ordering Number	B		C		D		E		F Hex Flat	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm		psig	bar
1/8	2-2 CV-SS	1.07	27.2	0.87	22.1	0.38	9.6	0.18	4.6	9/16	8000	550
1/4	4-4 CV-SS	1.13	28.7	1.06	26.9	0.57	14.5	0.25	6.4	9/16	8000	550
3/8	8-6 CV-SS	1.45	36.8	1.26	32.0	0.57	14.5	0.40	10.2	7/8	3500	240
1/2	8-8 CV-SS	1.31	33.3	1.31	33.3	0.76	19.3	0.41	10.4	7/8	3500	240

Bodies (Continued)



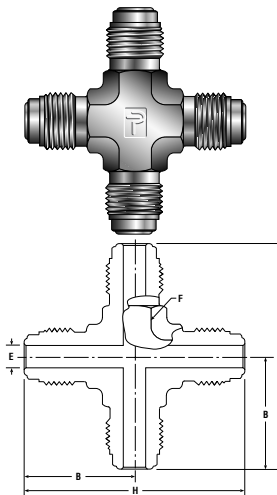
Union Elbow

Size	Ordering Number	B		E		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm		psig	bar
1/8	2-2 EV-SS	0.89	22.6	0.09	2.3	7/16	9000	620
1/4	4-4 EV-SS	1.13	28.7	0.25	6.4	9/16	8000	550
1/2	8-8 EV-SS	1.31	33.3	0.41	10.4	7/8	3500	240
3/4	12-12 EV-SS	1.92	48.8	0.62	15.7	1 1/4	3000	200
1	16-16 EV-SS	2.00	50.8	0.87	22.1	1 5/8	2400	160



Union Tee

Size	Ordering Number	B		E		H		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm	in.	mm		psig	bar
1/8	2-2-2 JV-SS	0.89	22.6	0.09	2.3	1.78	45.21	7/16	9000	620
1/4	4-4-4 JV-SS	1.13	28.7	0.25	6.4	2.25	57.15	9/16	8000	550
1/2	8-8-8 JV-SS	1.31	33.3	0.41	10.4	2.62	66.55	7/8	3500	240
3/4	12-12-12 JV-SS	1.92	48.8	0.62	15.7	3.84	97.54	1 1/4	3000	200
1	16-16-16 JV-SS	2.00	50.8	0.87	22.1	4.00	101.6	1 5/8	2400	160

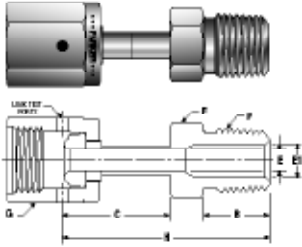


Union Cross

Size	Ordering Number	B		E		H		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm	in.	mm		psig	bar
1/8	2 KV-SS	0.89	22.6	0.09	2.3	1.78	45.21	7/16	9000	620
1/4	4 KV-SS	1.13	28.7	0.25	6.4	2.25	57.15	9/16	8000	550
1/2	8 KV-SS	1.45	36.8	0.41	10.4	2.90	73.66	7/8	3500	240
3/4	12 KV-SS	1.92	48.8	0.62	15.7	3.84	97.54	1 1/4	3000	200
1	16 KV-SS	2.00	50.8	0.87	22.1	4.00	101.6	1 5/8	2400	160

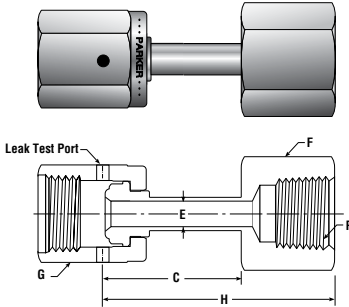
Welded Assemblies

Male NPT Connector



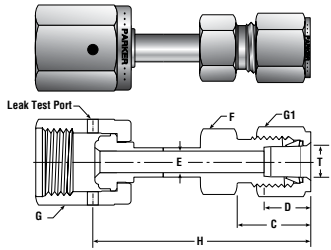
P Male NPT Size	Ordering Number	B		C		E		E1		F Hex Flat	G Hex Flat	H		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional															
1/8	2-2 V1HBF-*	.38	9.6	0.95	24.1	0.18	4.6	0.19	4.8	7/16	3/4	1.58	40.1	8000	550
1/4	4-4 V1HBF-*	.57	14.5	0.93	23.6	0.18	4.6	0.28	7.1	9/16	3/4	1.79	45.5	5100	350
3/8	8-6 V1HBF-*	.57	14.5	1.00	25.4	0.40	10.2	0.41	10.3	1 1/16	1 1/16	1.89	48.0	3500	240
1/2	8-8 V1HBF-*	.76	19.3	1.01	25.6	0.40	10.2	0.53	13.5	7/8	1 1/16	2.09	53.1	3500	240

Female NPT Connector



P Female NPT Size	Ordering Number	C		E		F Hex Flat	G Hex Flat	H		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/4	4-4 V1HBG-*	1.05	26.7	0.18	4.6	3/4	3/4	1.77	45.0	5100	350
3/8	8-6 V1HBG-*	1.06	26.9	0.40	10.2	7/8	1 1/16	1.95	49.5	3500	240
1/2	8-8 V1HBG-*	1.04	26.4	0.40	10.2	1 1/16	1 1/16	2.18	55.4	3500	240

Compression Tube Fitting Connector (A-LOK)

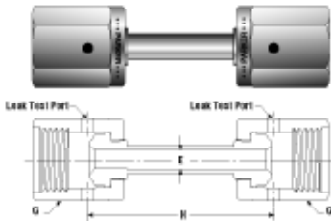


T Tube O.D.	Ordering Number	C		D		E		F Hex Flat	G Hex Flat	G1 Hex Flat	H		Working Pressure		
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	psig	bar		
fractional															
1/4	4-4 V1HLZ-*	0.70	17.8	0.60	15.2	0.18	4.6	1/2	3/4	9/16	1.94	49.3	5100	350	
3/8	4-6 V1HLZ-*	0.76	19.3	0.67	17.0	0.18	4.6	5/8	3/4	11/16	1.97	50.0	5100	350	
1/2	8-8 V1HLZ-*	0.87	22.1	0.90	22.9	0.40	10.2	13/16	1 1/16	1 7/8	2.23	56.6	3500	240	

Dimensions - C, D, H are typical finger-tight.
Change "L" to a "B" to select CPI™ one ferrule connector.

For maximum pressure ratings reference the Instrument Tubing Selection Guide, found in the Technical Section of your Parker Instrumentation Master Binder.

Rotating Female Union



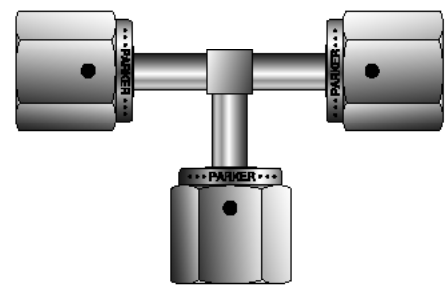
Size	Ordering Number	E		G Hex Flat	H		Working Pressure	
		in.	mm	in.	mm	psig	bar	
1/4	4-4 V1HBV1-*	.18	4.6	3/4	1.35	34.3	5100	350
1/4	4-4 V1HBV1-* 1.70	.18	4.6	3/4	1.70	43.2	5100	350
1/2	8-8 V1HBV1-*	.40	10.2	1 1/16	1.25	31.8	3500	240
1/2	8-8 V1HBV1-* 1.84	.40	10.2	1 1/16	1.84	46.7	3500	240

Female Elbow



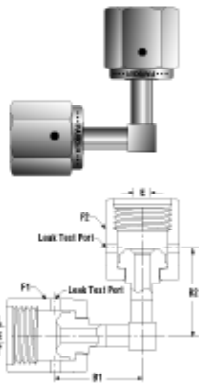
Ordering Number:
MEM-44-*VFVF

Female Tee



Ordering Number:
MJM-44-*VFVFVF

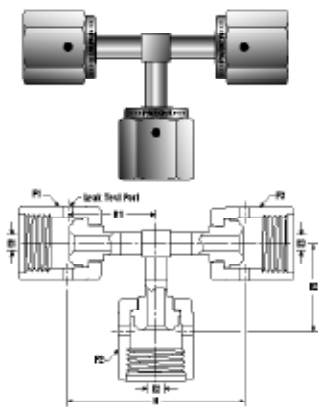
Welded Modules



Elbow Modules

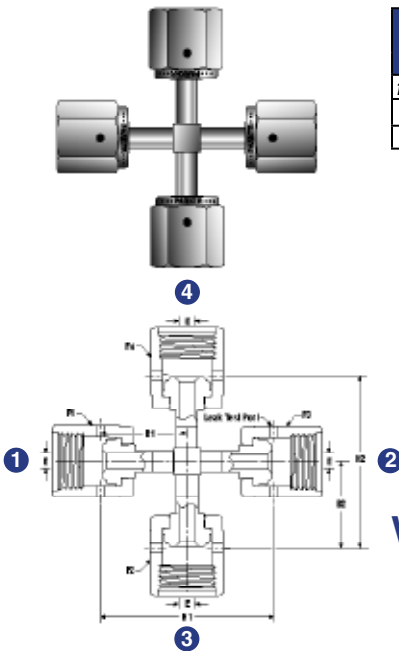
Size	Ordering Number	B1		B2		E		F1 Hex Flat	F2 Hex Flat	Working Pressure		
		in.	mm	in.	mm	in.	mm			psig	bar	
fractional												
1/4	MEM-44*VMSVF	1.60	40.6	1.00	25.4	0.18	4.6	5/8	3/4	5100	350	
1/4	MEM-44*VMSVMS	1.60	40.6	1.60	40.6	0.18	4.6	5/8	5/8	5100	350	
1/4	MEM-44*VFVF	1.00	25.4	1.00	25.4	0.18	4.6	3/4	3/4	5100	350	
1/2	MEM-88*VFVF	1.17	29.7	1.17	29.7	0.18	4.6	1 1/16	1 1/16	3500	240	

Tee Modules



Size	Ordering Number	B1		B2		H		E1		E2		E3		F1 Hex Flat	F2 Hex Flat	F3 Hex Flat	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm				psig	bar
fractional																		
1/4	MJM-444*VFVFMVS	1.00	25.4	1.00	25.4	2.60	66.0	0.18	4.6	0.18	4.6	0.18	4.6	3/4	3/4	5/8	5100	350
1/4	MJM-444*VFVMSVMS	1.00	25.4	1.60	40.6	2.60	66.0	0.18	4.6	0.18	4.6	0.18	4.6	3/4	5/8	5/8	5100	350
1/4	MJM-444*VFVVF	1.00	25.4	1.00	25.4	2.00	50.8	0.18	4.6	0.18	4.6	0.18	4.6	3/4	3/4	3/4	5100	350
1/4	MJM-444*VMSVMSVMS	1.60	40.6	1.60	40.6	3.20	81.3	0.18	4.6	0.18	4.6	0.18	4.6	5/8	5/8	5/8	5100	350
1/2x1/4	MJM-884*VFVMSVF	1.17	29.7	1.12	28.4	3.20	81.3	0.40	10.2	0.18	4.6	0.40	10.2	1 1/16	3/4	15/16	3500	240

Cross Modules



Size	Ordering Number	B1		B2		H1		H2		E		F1	F2	F3	F4	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm					psig	bar
fractional																	
1/4	MKM-4444*VMSVFVFVF	1.60	40.6	1.00	25.4	2.60	66.0	2.00	50.8	0.18	4.6	5/8	3/4	3/4	3/4	5100	350
1/4	MKM-4444*VFVFVFVF	1.00	25.4	1.00	25.4	2.00	50.8	2.00	50.8	0.18	4.6	3/4	3/4	3/4	3/4	5100	350

Welded Module Ordering Information:

MKM - 4 4 4 4
 Type Size

2
 Stainless Steel 316L

VF VF VF VF
 End Connections

VF = Female VacuSeal™ Swivel

VMS = Male VacuSeal™ Swivel

Replace asterisk with 2 to specify Stainless Steel 316L.

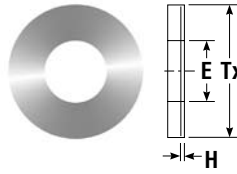
For additional configurations and sizes contact your local Parker Representative.

Gaskets

VacuSeal™ gaskets are compatible with other high quality gasket face seal fittings.

Non-Retained Flat Style

Size	Ordering Number	E		H		Tx	
		in.	mm	in.	mm	in.	mm
1/8	2 VG-*	0.09	2.3	0.02	0.5	0.26	6.6
1/4	4 VG-*	0.22	5.5	0.03	0.8	0.47	11.9
1/2	8 VG-*	0.44	11.1	0.03	0.8	0.78	19.9
3/4	12 VG-*	0.66	16.8	0.03	0.8	1.14	28.9
1	16 VG-*	0.89	22.7	0.03	0.8	1.41	35.7

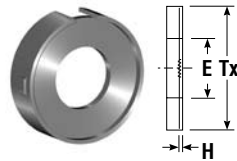


Retained Flat Style

Retainer and gasket must be used as an assembly.

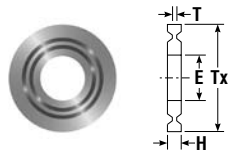
Note: Nickel Retained Flat Style Gaskets utilize a Stainless Steel Retainer

Size	Ordering Number	E		H		Tx	
		in.	mm	in.	mm	in.	mm
1/4	4 VGR-*	0.23	5.8	0.03	0.8	0.50	12.7
1/2	8 VGR-*	0.44	11.2	0.03	0.8	0.79	20.1
3/4	12 VGR-*	0.66	16.8	0.03	0.7	1.14	29.0
1	16 VGR-*	0.89	22.6	0.03	0.7	1.40	35.6



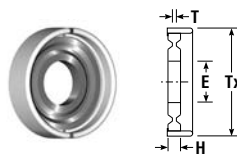
Non-Retained Grooved Style (TorqTite™ Gasket)

Size	Ordering Number	E		H		Tx		T	
		in.	mm	in.	mm	in.	mm	in.	mm
1/4	4 GVG-*	0.21	5.3	0.06	1.6	0.50	12.6	0.03	0.8
1/2	8 GVG-*	0.43	10.9	0.06	1.6	0.78	19.8	0.03	0.8



Retained Grooved Style (Retained TorqTite™ Gasket)

Size	Ordering Number	E		H		Tx		T	
		in.	mm	in.	mm	in.	mm	in.	mm
1/4	4 GVGR-*	0.21	1.3	0.06	1.6	0.49	12.4	0.03	0.8
1/2	8 GVGR-*	0.43	2.7	0.06	1.6	0.79	20.1	0.03	0.8



Gasket Ordering Information

Specify gasket material by replacing asterisk with appropriate Ordering Number Designator.

MATERIAL	ORDERING NUMBER DESIGNATOR	EXAMPLE
High-Purity Nickel (electropolished)	N	4 VGR-N
Stainless Steel3	SS	4 VGR-SS
Kel-F®12	K	4 VG-K
Teflon®12	T	4 VG-T

Blind (undrilled) gaskets are available by adding a -BL suffix at the end of the part number.

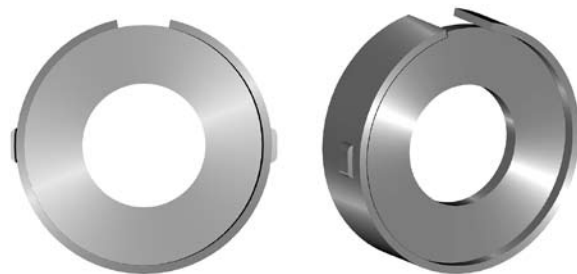
Example: 4 VG-N-BL

- 1 Parker uses Kel-F 81® or equal PCTFE Polymer
Parker uses Teflon® or equal PTFE Polymer
- 2 Kel-F 81® and Teflon® are only available for Non-Retained Flat Style gaskets
- 3 Stainless Steel gaskets are Silver plated

Kel-F 81® is a registered trademark of 3M Company
Teflon® is a registered trademark of Dupont Company

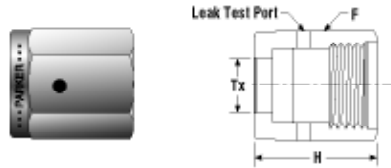
The retainer of Parker's patented Retained Flat Gasket helps to both locate the gasket over the toroid of the gland and hold the gasket in place during assembly, therefore minimizing radial damage to the toroids of the connection.

The unique design of the retainer minimizes potential scratches or nicks to the critical toroid surfaces during placement onto the gland.



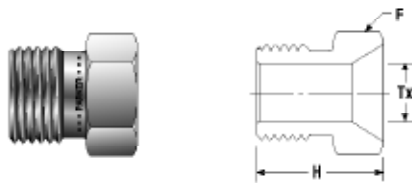
Note: All gaskets must be ordered in increments of 10

Nuts, Caps, and Plugs



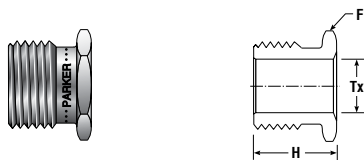
Female Nut

Ordering Number	Size	F Hex Flat	H		Tx	
			in.	mm	in.	mm
2 BV-SS	1/8	7/16	0.53	13.5	0.21	5.3
4 BV-SS-D	1/4	3/4	0.82	20.8	0.36	9.1
8 BV-SS	1/2	1 1/16	0.88	22.4	0.61	15.5
12 BV-SS	3/4	1 1/2	1.12	28.4	0.89	22.6
16 BV-SS	1	1 3/4	1.34	34.0	1.20	30.5



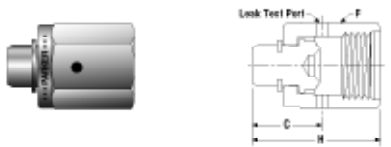
Male Nut

Ordering Number	Size	F Hex Flat	H		Tx	
			in.	mm	in.	mm
2-BVI-SS	1/8	3/8	0.50	12.7	0.21	5.3
4 BVI-SS ⁴	1/4	5/8	0.72	18.3	0.36	9.1
8-BVI-SS	1/2	15/16	0.81	20.6	0.61	15.5
12-BVI-SS	3/4	1 5/16	1.00	25.4	0.89	22.6
16-BVI-SS	1	1 5/8	1.19	30.2	1.20	30.5



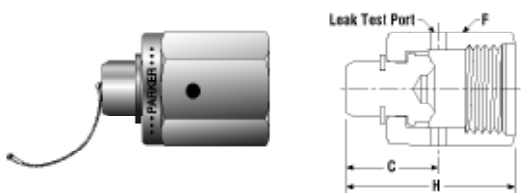
Short Male Nut

Ordering Number	Size	F Hex Flat	H		Tx	
			in.	mm	in.	mm
4 BVI .54-SS	1/4	5/8	0.54	13.7	0.36	9.1
4 BVI .65-SS	1/4	5/8	0.65	16.5	0.36	9.1



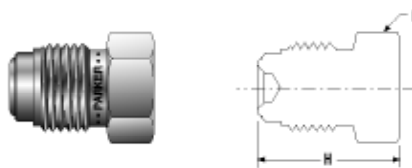
Cap

Ordering Number	Size	C		F Hex Flat	H	
		in.	mm		in.	mm
4 FNV-SS	1/4	0.59	15.0	3/4	1.00	25.4
8 FNV-SS	1/2	0.59	15.0	1 1/16	1.07	27.2
12 FNV-SS	3/4	0.66	16.8	1 1/2	1.31	33.3
16 FNV-SS	1	0.63	16.0	1 3/4	1.53	38.9



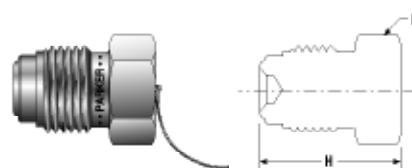
Cap With Lanyard

Ordering Number	Size	C		F Hex Flat	H		Lanyard Length	
		in.	mm		in.	mm	in.	mm
4 FNV-SS-L	1/4	0.59	15.0	3/4	1.00	25.4	6	152.4
8 FNV-SS-L	1/2	0.59	15.0	1 1/16	1.07	27.2	6	152.4



Plug

Ordering Number	Size	F Hex Flat	H	
			in.	mm
2 PNV-SS	1/8	3/8	0.68	17.3
4 PNV-SS	1/4	5/8	0.91	23.1
8 PNV-SS	1/2	15/16	1.08	27.4
12 PNV-SS	3/4	1 5/16	1.43	36.3
16 PNV-SS	1	1 5/8	1.52	38.6



Plug With Lanyard

Ordering Number	Size	F Hex Flat	H		Lanyard Length	
			in.	mm	in.	mm
4 PNV-SS-L	1/4	5/8	0.91	23.1	6	152.4
8 PNV-SS-L	1/2	15/16	1.08	27.4	6	152.4

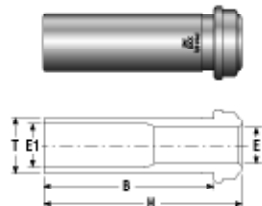
Protective Shipping Cap

Ordering Number	Size
C-VacuSeal	1/4

⁴ Taper in the back of nut allows mobility around 90° bends

Hi-Flo Products

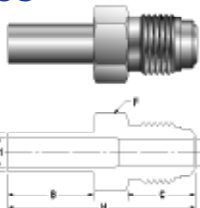
Glands



Tube Butt Weld

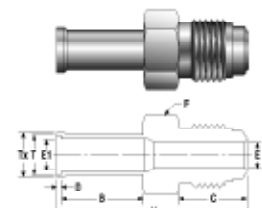
T Tube O.D.	Ordering Number	B		E		E1		H		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
3/8	4-6 VH1T3-*.60	0.41	10.4	0.25	6.4	0.30	7.6	0.60	15.2	3300	220
3/8	4-6 VH1T3-*	1.00	25.4	0.25	6.4	0.30	7.6	1.19	30.2	3300	220
3/8	4-6 VH1T3-* 1.31	1.12	28.4	0.25	6.4	0.30	7.6	1.31	33.3	3300	220

Bodies



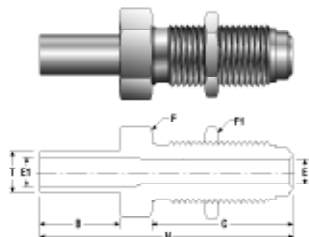
Tube Butt Weld

T Tube O.D.	Ordering Number	B		C		E		E1		F Hex Flat		H		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	psig	bar		
fractional															
3/8	4-6 VHT3-*1.68	0.75	19.1	0.62	15.7	0.25	6.4	0.30	7.6	5/8	1.68	42.7	3300	220	



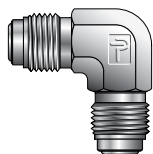
Automatic Tube Weld

T Tube O.D.	Ordering Number	B		C		D		E		E1		F Hex Flat		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional																			
3/8	4-6 VHY3-* 1.71	0.75	19.1	0.62	15.7	0.03	0.8	0.25	6.4	0.30	7.6	5/8	1.71	43.4	0.41	10.4	3300	220	



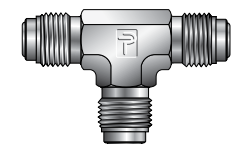
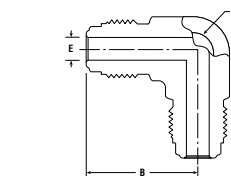
Bulkhead Connector

T Tube O.D.	Ordering Number	B		C		E		E1		F Hex Flat		F1 Hex Flat		H		Panel Hole Size	Max. Panel Thick- ness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	psig	bar				
fractional																			
3/8	6-4 T3H2BV-* 2.36	0.75	19.1	1.30	33.0	0.23	5.8	0.30	7.6	3/4	3/4	2.36	60	19/32	0.44	3300	220		



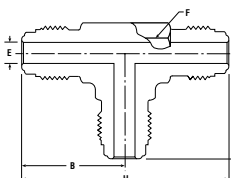
Union Elbow

Size	Ordering Number	B		E		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm		psig	bar
3/8	4-4 EV-SS	1.13	28.7	0.25	6.4	0.56	8000	550

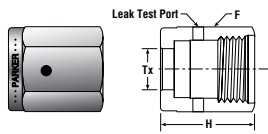


Union Tee

Size	Ordering Number	B		E		H		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm	in.	mm		psig	bar
3/8	4-4-4 JV-SS	1.13	28.7	0.25	6.4	2.25	57.2	1/2	8000	550

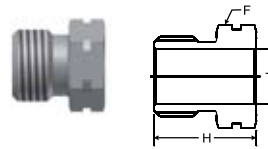


Nuts



Female Nut

Size	Ordering Number	F Hex Flat	H		Tx	
			in.	mm	in.	mm
3/8	4 BVH-SS	3/4	0.82	20.8	0.39	9.9

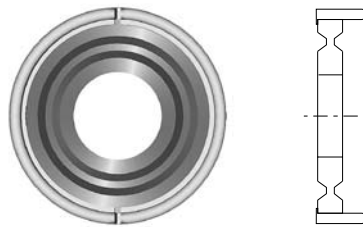


Male Nut

Size	Ordering Number	F Hex Flat	H		Tx	
			in.	mm	in.	mm
3/8	4 BVHI-SS	5/8	0.72	18.3	0.39	9.9

Featured Products

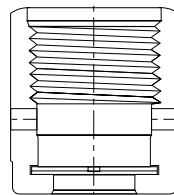
TorqTite™



Check out the patented TorqTite™ Self-Aligning Face Seal Gasket

- Needs no installation tools
- Virtually eliminates loosening of components due to thermocycling and vibration (i.e. transportation)
- Seals even on damaged toroids
- Allows for higher torque without damaging sealing surfaces
- Easy open clean room bag requires no cutting
- Color coded retainers for material recognition
- Minimizes particle generation

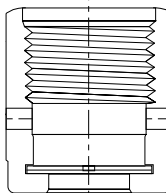
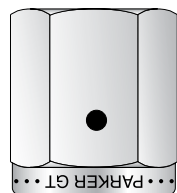
*Non-Rotational Female Nut



Ordering Number: 4 BV-SS-NR

Use Parker's Non-Rotational Female Nut to prevent transmission of torque during make-up and therefore minimize twist of componentry which causes stress concentration.

Anti-Galling Female Nut



Ordering Number: 4 BV-GT

Use Parker's Anti-Galling Female Nut to ensure consistent makes and remakes without plating or lubrication on Female threads.

* Patented

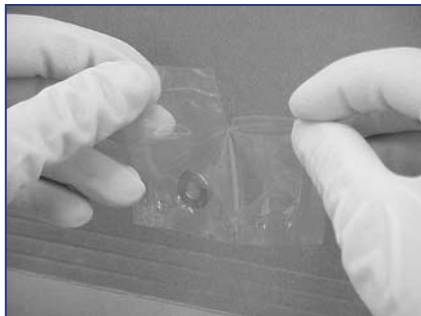
Note: Outside dimensions of the Non-Rotational Female Nut and Anti-Galling Female Nut match the 4-BV-SS-D on Page 12.

Make-Up Instructions

Flat and Grooved Gasket Assembly

Step 1

Remove gasket from packaging.



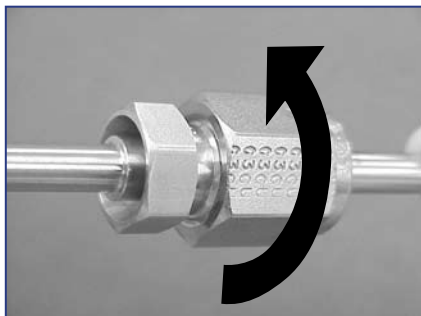
Step 2

Place gasket into female VacuSeal™ nut.



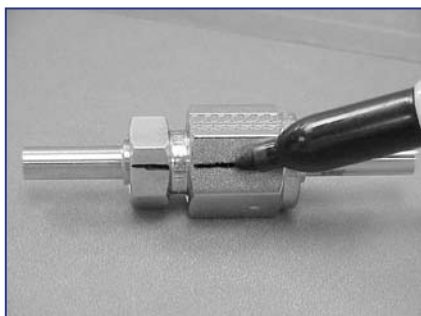
Step 3

Assemble components and snug to fingertight.



Step 4

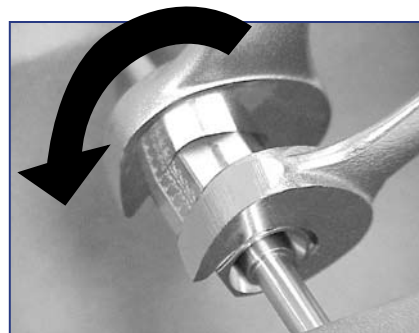
Scribe the hex flat of both the male and female nuts.



Step 5

Holding the backup wrench stationary, tighten the female nut 1/8 turn past fingertight.

Warning: Extreme over tightening will damage toroid surface and cause potential leakage.



Flat Gasket Remake

Upon remake of flat VacuSeal™ gasket, a new gasket must be installed for each remake, follow procedures for initial make-up.



Retained Gaskets Assembly

Guide retained gaskets over gland face, then continue step 3 of Flat and Grooved Gasket Assembly for completion of make-up.

Protective Shipping Cap

Metallic protector caps are available to protect critical toroid surface from damage see page 12.



Ordering Instructions

How To Order

Parker VacuSeal™ components are ordered by Ordering Number, as listed in this catalog. Replace the asterisk within each Ordering Number with the corresponding material designator listed below.

Assembly Example:

If your system requires a VacuSeal™ assembly connecting from 1/4" O.D. tubing to 1/4" O.D. tubing, you may order the following parts.

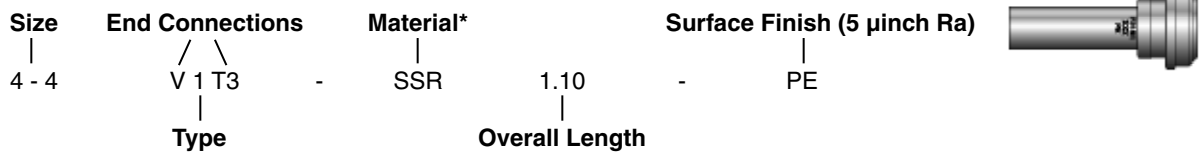


Note: Each component must be ordered separately.

Nomenclature

Part numbers of Parker VacuSeal™ components are constructed from symbols that identify the size, configuration and material of each component.

Component Example:



Size: Tube and Pipe are designated by the number of sixteenths of an inch. (i.e. 1/4" Pipe Thread = 4/16" = 4)
Metric Tube O.D. is designated in millimeters with the suffix "M".
(i.e. 4-6M V1T3-SSR 1.16)

Type: Designate shape of component.
(i.e. 1=gland, E=elbow, J=tee, K=cross, etc.)

***Material:** Replace asterisks in Part Number to specify material:
SS = Stainless Steel 316 (All non-welded bodies and components)
SSR = Stainless Steel 316L VAR
SSV = Stainless Steel 316L VIM/VAR
Nickel and Hastelloy C-22® available upon request.
Forged product will be offered as a 15 RA EP or a standard.

Size: End Connections: Specify VacuSeal™ end first, followed by other corresponding ends:
V = VacuSeal™
M = Butt weld with .25" tube stub length
T3 = Butt weld with .75" tube stub length
TW = Butt weld with various tube stub length
Y3 = Butt weld with End Collar
W = Socket Weld

Overall Length: Specify length of component in inches.

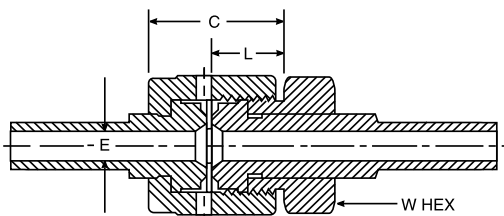
Note: Contact Parker representative for information on additional materials.

VacuSeal End Data Information

Size	VacuSeal Thread	*L in.	**C in.	H Hex in.	E Dia. in.
4	9/16-18	.62	.97	5/8	.19
6	7/8-14	.75	1.10	15/16	.28
8	7/8-14	.75	1.10	15/16	.41
12	1-1/4-18	1.00	1.40	1-5/16	.53

*Average Value

**Dimension C is shown in the finger tight position



Additional Products



Parker offers a full line of MiniButtweld™ products to complement the VacuSeal™ product line. Please refer to Catalog 4280-MiniButtweld™ and Catalog 4245-UltraSeal™ Fittings for additional information.



TECNI-AR
Seu caminho
Para automação

UltraSeal™ Fittings

Catalog 4245-UltraSeal
June 2006



Parker
uhp

Introduction

Parker UHP products are designed as leak-free connections where ultra-high pure conditions are required. UltraSeal™ products, with their o-ring face seal design, and optional metal o-ring, provide a leak-free seal from vacuum to positive pressure.

Cleaning and Packing

Ultra-High Purity 'OMEGA' cleaning and packing in a class 100 clean room environment validated per Federal Standard 209E, is standard for all electropolished UltraSeal™ components.

Performance

Parker High Purity Components are rated to a helium leak rate of 1 x

10⁻⁹ cc/sec utilizing a helium mass spectrometer. Temperature ratings are governed by the choice of o-ring seal materials.

321 Stainless Steel (Silver or Nickel plated): -350° to +1000° F (-212° to +538° C)
 Fluorocarbon: -15° to +400° F (-26° to +204° C)
 PTFE: -50° to +400° F (-46° to +232° C)

Pressure

Pressure ratings will be governed by the gland selected for a particular system. Working pressures are rated at room temperature based on a 4-to-1 design factor. Pressure ratings are calculated in accordance with A.N.S.I. Power Piping Code B31.1.










Materials










UltraSeal components are available in standard 316L, 316L VAR, and 316L VIM/VAR Stainless Steels. Consult your local Parker distributor or factory for details. Refer to tables 1 and 2 for respective material specifications of gaskets and o-rings.








Interior (I.D.) Surface Finishes

Parker High Purity components can be supplied with extremely low Ra internal surface finishes to meet requirements of ultra-high purity tubing systems. Electropolished internal surfaces can also be provided. Consult your local Parker distributor or the factory for more information.

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Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale" located on page 18.

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS 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 and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

Make-Up

For Leak-tight UltraSeal

Assemblies: A positive seal is achieved by advancing the nut no less than 1/4 turn from finger-tight position. When a sharp rise in torque is felt, the sealing faces have met and the o-ring seal is compressed into its groove.

UltraSeal is capable of repeated remakes; advance the nut to a finger-tight position and wrench until a sharp rise in torque is felt. No axial clearance is needed to remove components from a system; therefore, other system components are not disturbed.

Design

The UltraSeal coupling is designed to effect a helium leak-tight seal when the face of the gland makes full metal-to-metal contact with the face of the body, compressing the o-ring in the body groove.

The UltraSeal gland face and body o-ring groove are precision machined to accept either metallic (S.S.) or synthetic o-ring seals.

UltraSeal virtually eliminates turbulence and dead zones within the fitting. The bore diameter of body

and gland are matched in all sizes, providing a smoother flow path. At no point does the O-ring seal intrude into the flow path.

Disassembly

Position the o-ring UltraSeal Removal Tool against the seated o-ring and advance the nut to fingertight position. Continue to advance the nut until a sharp rise in torque is felt. The removal tool shoulder will seal against the body face preventing any over torque damage. The o-ring will "pinch" and release from the sealing groove.

TABLE 1

TYPICAL RAW Material SPECIFICATIONS			
FITTING Material	BAR STOCK	FORGINGS	RECOMMENDED TUBING SPECIFICATIONS
Stainless Steel 316 Stainless Steel 316L	ASTM A-276 TYPE 316 ASME SA-479 TYPE 316	ASME SA-182 GRADE F316	ASME SA-213 ASTM A-213 ASTM A-249
Stainless Steel 316L (VAR) Stainless Steel 316L (VIM/VAR)	ASME SA-479 TYPE 316L	ASME SA-182 GRADE F316L	ASTM A-269 MIL T-8504 MIL T-8506

MATERIAL IS MARKED WITH HEAT CODE TO ENSURE MATERIAL TRACEABILITY

TABLE 2

O-RINGS TYPICAL RAW Material SPECIFICATIONS / TEMPERATURE RATINGS		
	Material SPECIFICATIONS	TEMPERATURE RATINGS
Metal O-Rings	SAE AMS-5570 TYPE 321-SS (silver plated) SAE AMS-5576 TYPE 321-SS (silver plated)	(-350° to + 1000° F) (-212° to + 538° C)
Metal O-Rings	SAE AMS-5570 TYPE 321-SS (nickel plated) SAE AMS-5576 TYPE 321-SS (nickel plated)	(-350° to + 1000° F) (-212° to + 538° C)
Fluorocarbon O-Rings	MIL-R-25897 TYPE 1	(-15° to + 400° F) (-26° to + 204° C)
PTFE	SAE AMS-2651	(-50° to + 400° F) (-46° to + 232° C)

WARNING

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

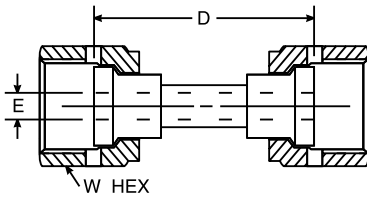
This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

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

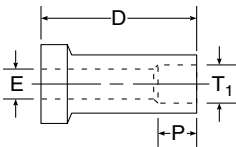
UltraSeal Gland Union (Welded) Q1HBQ1



Part No.	Inches		
	W Hex	D	*E Bore
4-4 Q1HBQ1	11/16	1.33	.18
6-6 Q1HBQ1	7/8	1.25	.25
8-8 Q1HBQ1	1	1.25	.31

*Note: Machined bore diameters to match machined bore in body.

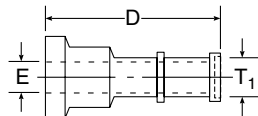
UltraSeal Gland to Weld-lok Socket Q1W



Part No.	T ₁ Tube OD	Inches			Working Pressure
		D	P	*E Bore	
4-2 Q1W	1/8	1	.16	.09	10,000
4-4 Q1W	1/4	1	.25	.18	7,700
6-4 Q1W	1/4	1	.28	.18	10,000
6-6 Q1W	3/8	1	.31	.25	5,000
8-4 Q1W	1/4	1	.25	.18	10,000
8-6 Q1W	3/8	1	.34	.31	9,500
8-8 Q1W	1/2	1	.41	.38	4,300
12-12 Q1W	3/4	1.50	.50	.50	4,600

*Note: Machined bore diameters to match machined bore in body.

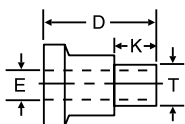
UltraSeal Gland to Automatic Buttweld Q1Y



Part No.	T ₁	Inches		**Auto Buttweld Wall Size	Working Pressure
		D	*E Bore		
4-4 Q1Y	1/4	1.13	.18	.035	7,700
6-4 Q1Y	1/4	1.19	.18	.035	7,700
6-6 Q1Y	3/8	1.19	.31	.035	4,900
8-4 Q1Y	1/4	1.19	.18	.035	7,700
8-6 Q1Y	3/8	1.19	.31	.035	4,900
8-8 Q1Y	1/2	1.34	.41	.049	5,000
12-12 Q1Y	3/4	1.50	.50	.065	3,900

*Note: Machine bore diameters to match machined bore in body.

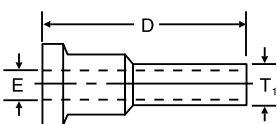
UltraSeal Gland to MiniButtweld Q1M



Part No.	Inches				Working Pressure
	D	*E Bore	T	K	
4-4 Q1M	.60	.18	.25	.25	5,400
6-6 Q1M	.62	.25	.38	.25	4,300
8-8 Q1M	.62	.31	.50	.25	3,600

*Note: Machined bore diameters to match machined bore in body.

UltraSeal Gland to Tube Stub Adapter Q1T2/Q1TU

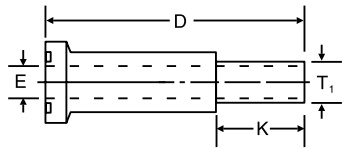


Part No.	Inches			Working Pressure
	T ₁	D	*E Bore	
4-4 Q1T2 (CPI™)	1/4	1.25	.18	4,500
6-6 Q1T2	3/8	1.38	.25	6,700
8-8 Q1T2	1/2	1.68	.31	6,250
12-12 Q1T2	3/4	2.31	.50	6,250
4-4 Q1TU (A-lok®)	1/4	1.21	.18	4,500
6-6 Q1TU	3/8	1.38	.25	6,700
8-8 Q1TU	1/2	1.56	.31	6,250
12-12 Q1TU	3/4	2.25	.50	6,250

*Note: Machined bore diameters to match machined bore in body.

UltraSeal Inverted Gland to Male Tube Weld

Q1RT3

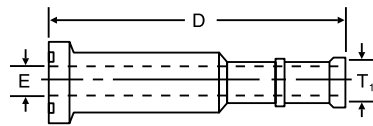


Part No.	Inches			
	D	E	T ₁	K
4-4 Q1RT3	1.70	.18	.25	.75

*Note: Machined bore diameters to match machined bore in body.

UltraSeal Inverted Gland to Automatic Butt weld

Q1RY

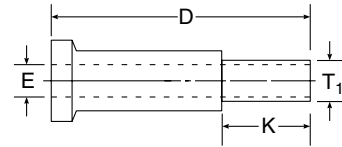


Part No.	Inches			**Auto Butt weld Wall Size	Working Pressure
	T ₁	D	*E Bore		
4-4 Q1RY	1/4	1.72	.18	.035	7,700

*Note: Machine bore diameters to match machined bore in body.

UltraSeal Gland to Male Tube Weld

Q1T3

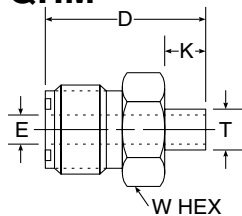


Part No.	Inches			
	D	E	T ₁	K
4-4 Q1T3	1.25	.18	.25	.75
8-6 Q1T3	1.50	.31	.38	.75
8-8 Q1T3	1.50	.41	.50	.75
12-12 Q1T3	1.22	.50	.75	.75

*Note: Machined bore diameters to match machined bore in body.

UltraSeal Body to MiniButt weld

QHM

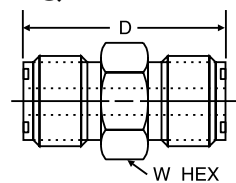


Part No.	Inches				
	T	D	K	*E Bore	W Hex
4-4 QHM .035	.25	1.00	.25	.18	5/8
6-6 QHM .035	.38	1.03	.25	.25	15/16
8-8 QHM .049	.50	1.00	.25	.31	15/16

*Note: Machined bore diameters to match machined bore in body.

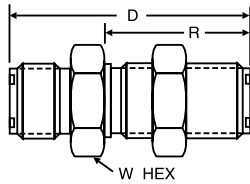
UltraSeal Union

HQ



Part No.	Inches	
	W Hex	D
4-4 HQ	5/8	1.19
6-4 HQ	13/16	1.22
6-6 HQ	13/16	1.22
8-4 HQ	15/16	1.25
8-8 HQ	15/16	1.25
12-12 HQ	1-3/8	1.59

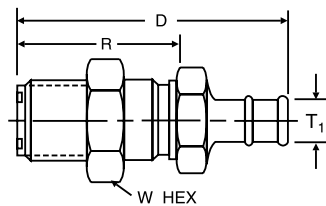
UltraSeal to Bulkhead Connector WBQ



Part No.	Inches		
	W Hex	D	R
4-4 WBQ	3/4	1.59	.88
6-6 WBQ	15/16	2.00	.88
8-8 WBQ	1-1/16	1.69	.91
12-12 WBQ	1-9/16	2.09	1.06

Note: Fitting includes WLZ bulkhead lock nut.

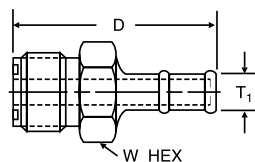
UltraSeal Bulkhead to Automatic Butt Weld Connector YH2BQ



Part No.	Inches			
	W Hex	D	T ₁	R
4-4 YH2BQ	3/4	2.11	1/4	.88
6-6 YH2BQ	15/16	1.91	3/8	.88
8-8 YH2BQ	1-1/16	2.13	1/2	.91

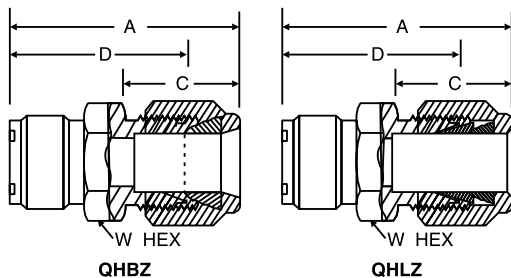
Note: Fitting includes WLZ bulkhead lock nut.

UltraSeal to Automatic Butt Weld Connector QHY



Part No.	Inches			*Auto Butt Weld Wall Size
	T ₁	W Hex	D	
4-4 QHY	1/4	5/8	1.47	.035
6-4 QHY	1/4	13/16	1.50	.035
6-6 QHY	3/8	13/16	1.53	.049
8-4 QHY	1/4	15/16	1.66	.035
8-6 QHY	3/8	15/16	1.53	.035
8-8 QHY	1/2	15/16	1.66	.049
12-12 QHY	3/4	1-3/8	2.03	.065

UltraSeal to Compression Tube Union QHBZ/QHLZ

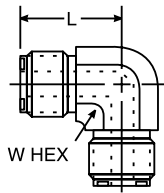


Part No.	Inches				
	Tube O.D.	W Hex	C	A	D
4-4 QHBZ (CPI™)	1/4	5/8	.70	1.42	1.13
6-4 QHBZ	1/4	13/16	.70	1.45	1.16
6-6 QHBZ	3/8	13/16	.76	1.51	1.22
8-4 QHBZ	1/4	15/16	.70	1.48	1.19
8-6 QHBZ	3/8	15/16	.76	1.55	1.25
8-8 QHBZ	1/2	15/16	.87	1.65	1.25
12-12 QHBZ	3/4	1-3/8	.87	1.89	1.49

Part No.	Inches				
	Tube O.D.	W Hex	C	A	D
4-4 QHLZ (A-lok®)	1/4	5/8	.70	1.42	1.13
6-4 QHLZ	1/4	13/16	.70	1.45	1.16
6-6 QHLZ	3/8	13/16	.76	1.51	1.22
8-4 QHLZ	1/4	15/16	.70	1.48	1.19
8-6 QHLZ	3/8	15/16	.76	1.55	1.25
8-8 QHLZ	1/2	15/16	.87	1.65	1.25
12-12 QHLZ	3/4	1-3/8	.87	1.89	1.49

UltraSeal Union Elbow

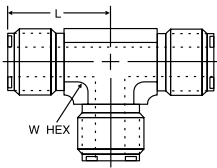
EQ



Part No.	Inches	
	W Hex	L
4-4 EQ	9/16	.84
6-6 EQ	3/4	.97
8-8 EQ	7/8	1.03
12-12 EQ	1-3/8	1.46

UltraSeal Union Tee

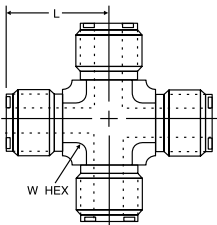
JQ



Part No.	Inches	
	W Hex	L
4-4-4 JQ	9/16	.84
6-6-6 JQ	3/4	.97
8-8-8 JQ	7/8	1.03
12-12-12 JQ	1-5/16	1.31

UltraSeal Union Cross

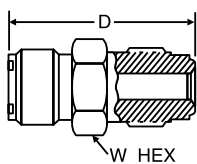
KQ



Part No.	Inches	
	W Hex	L
4 KQ	9/16	.84
6 KQ	3/4	.97
8 KQ	7/8	1.03

UltraSeal to VacuSeal

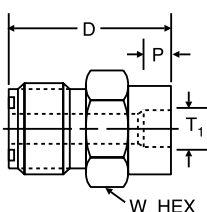
VHQ



Part No.	Inches	
	W Hex	D
4-4 VHQ	5/8	1.39
8-8 VHQ	15/16	1.55

UltraSeal to Socket Weld Connector

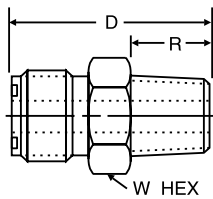
QHW



Part No.	Inches			
	T ₁ Tube O.D.	W Hex	D	P
4-2 QHW	1/8	5/8	1.02	.16
4-4 QHW	1/4	5/8	1.09	.25
6-4 QHW	1/4	13/16	1.06	.28
6-6 QHW	3/8	13/16	1.16	.31
8-4 QHW	1/4	15/16	1.03	.25
8-6 QHW	3/8	15/16	1.13	.34
8-8 QHW	1/2	15/16	1.19	.41
12-12 QHW	3/4	1-3/8	1.53	.50

UltraSeal to Male Pipe Connector

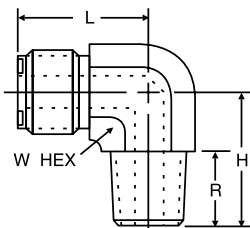
FQ



Part No.	Inches			
	Pipe Thread	W Hex	D	R
4-2 FQ	1/8	5/8	1.09	.38
4-4 FQ	1/4	5/8	1.28	.56
6-4 FQ	1/4	13/16	1.31	.56
6-6 FQ	3/8	13/16	1.31	.56
8-4 FQ	1/4	15/16	1.34	.56
8-6 FQ	3/8	15/16	1.34	.56
8-8 FQ	1/2	15/16	1.53	.75
12-8 FQ	1/2	1-3/8	1.78	.75
12-12 FQ	3/4	1-3/8	1.78	.75

UltraSeal to Male Elbow

CQ

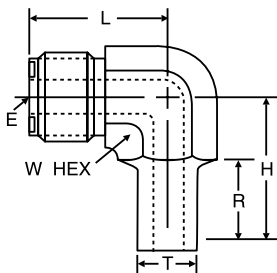


Part No.	Inches				
	Pipe Thread	W Hex	H	L	R
4-4 CQ	1/4	9/16	1.00	.84	.56
6-4 CQ	1/4	3/4	1.13	.97	.56
6-6 CQ	3/8	3/4	1.13	.97	.56
8-6 CQ	3/8	7/8	1.25	1.03	.56
8-8 CQ	1/2	7/8	1.31	1.03	.75
12-12 CQ	3/4	1-5/16	1.66	1.31	.75

UltraSeal to Tube Stub Weld

Elbow

QET3

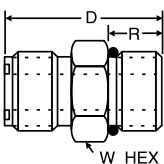


Part No.	Inches					
	H	*E Bore	L	R	W Hex	T
4-4 QET3	1.03	.18	.84	.65	9/16	.25

UltraSeal to Male Connector

Straight Thread

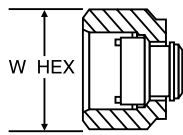
QHAO



Part No.	Inches			
	Straight Thread Size	W Hex	D	R
4-2 QHAO*	5/16-24	5/8	1.03	.30
4-4 QHAO	7/16-20	5/8	1.09	.36
4-6 QHAO	9/16-18	11/16	1.13	.39
6-6 QHAO	9/16-18	7/8	1.14	.39
6-8 QHAO	3/4-16	7/8	1.19	.44
8-8 QHAO	3/4-16	15/16	1.31	.47

*Note: Mass flow controller fitting with .125" orifice in straight thread end. Fitting is assembled with Fluorocarbon O-Ring. Other materials are available upon request.

UltraSeal O-Ring Removal Tool

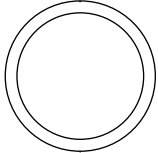


Part No.	Inches	
	W	Hex
4 O-Ring Removal Tool	11/16	
6 O-Ring Removal Tool	7/8	
8 O-Ring Removal Tool	1	

Note: For O-Ring removal instructions, see page 3.

UltraSeal O-Rings

QO



Stainless Steel

Part No.	Material
4QO-SS	321 (SILVER PLATED)
6QO-SS	321 (SILVER PLATED)
8QO-SS	321 (SILVER PLATED)
12QO-SS	321 (SILVER PLATED)

Fluorocarbon Rubber

Part No.	Material Compound
4QO-VI	FLUOROCARBON
6QO-VI	FLUOROCARBON
8QO-VI	FLUOROCARBON
12QO-VI	FLUOROCARBON

Nickel

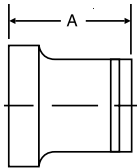
Part No.	Material
4QO-SS-NIC	321 (NICKEL PLATED)
6QO-SS-NIC	321 (NICKEL PLATED)
8QO-SS-NIC	321 (NICKEL PLATED)

PTFE

Part No.	Material Compound
4QO-TE	PTFE
6QO-TE	PTFE
8QO-TE	PTFE
12QO-TE	PTFE

UltraSeal Plug

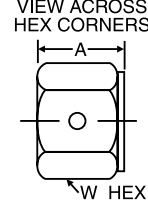
FNQ1



Part No.	Inches	
	A	
4 FNQ1	.69	
6 FNQ1	.81	
8 FNQ1	.84	
12 FNQ1	1.00	

UltraSeal Nuts

BQ



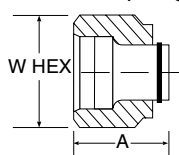
Part No.	Inches		
	W Hex	A	Straight Thread Size
4 BQ	11/16	.56	9/16-20
6 BQ	7/8	.69	3/4-20
8 BQ	1	.69	7/8-20
12 BQ	1-1/2	.81	1-5/16-20

Note: UltraSeal nuts are silver plated (I.D.) only to provide for lubrication during assembly.

UltraSeal Plug Assembly

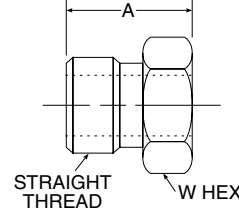
FNQ

Assembly includes plug, nut and snap ring



Part No.	Inches	
	A	W Hex
4 FNQ	1.02	11/16
6 FNQ	1.19	7/8
8 FNQ	1.21	1
12 FNQ	1/42	1-1/2

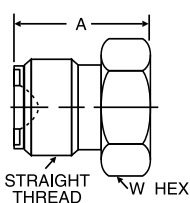
BQ1*



Part No.	Inches		
	W Hex	A	Straight Thread Size
4 BQ1*	5/8	.65	9/16-20

*For use with Q1RY inverted glands.

PNQ



Part No.	Inches		
	W Hex	A	Straight Thread Size
4 PNQ	5/8	.72	9/16-20
6 PNQ	13/16	.75	3/4-20
8 PNQ	15/16	.81	7/8-20

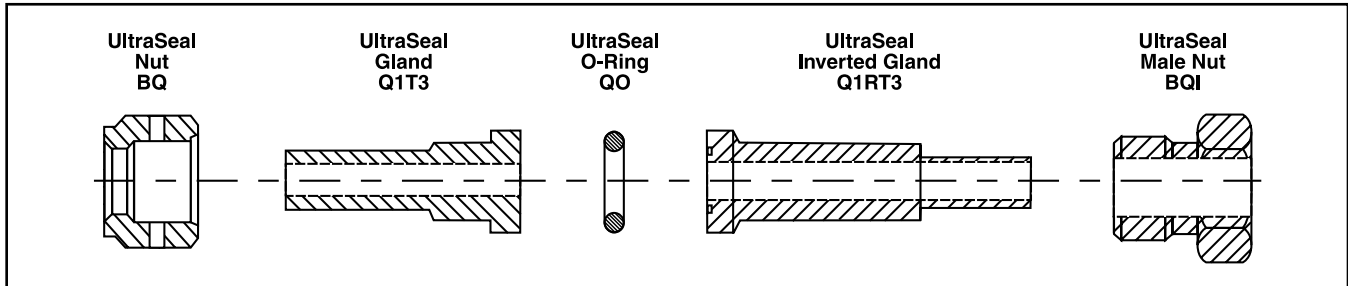
Nomenclature

UltraSeal coupler part numbers are constructed from symbols that identify the size and configuration of the fitting and material used.

How To Order

Parker UltraSeal components are ordered by part number, as listed in this catalog. Note: Each component must be ordered separately.

Example: If your system requires an UltraSeal coupler going from 1/4" tubing to 1/4" tubing, you would order the following part. (Keep in mind that you must order each component separately.)



To Order:

- 4 BQ-SS Size 4 UltraSeal Nut Stainless Steel
- 4-4 Q1T3-SSR Size 4 UltraSeal Gland to Size 4 Male Tube Weld – Stainless Steel
- 4 QO-SS Size 4 Stainless Steel O-Ring
- 4-4 Q1RT3-SSR.035 Size 4 UltraSeal Inverted Gland to Size 4 Male Tube – Stainless Steel
- 4 BQI-SS Size 4 UltraSeal Male Nut Weld

Size: Tube and Pipe Thread sizes are designated by the number of sixteenths of an inch (1/4" Pipe Thread = 4/16" = 4).

Straights, Elbows and Tees: Call out the UltraSeal end first, followed by the corresponding Pipe Thread size or Weld-lok end.

Type: A letter or combination of letters and numbers are used to designate the type of UltraSeal fitting (i.e., F = Male Connector, H = Union, etc.). See Visual Index for other type fittings.

Special Fittings: If there is any question as to the fitting desired, particularly for special fitting configurations, it is suggested that a customer print be submitted with the request for quote.

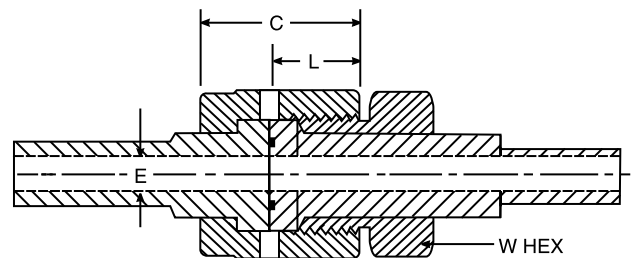
Availability: Only items as standard are carried in stock. Non-standard items can be quoted on request for quantities or materials specified.

UltraSeal End Data Information

Size	UltraSeal Straight Thread	Inches			
		*L	**C	W Hex	E Diameter
4	9/16-20	.46	.73	11/16	.18
8	7/8-20	.47	.85	1	.31
12	1-5/16-20	.57	1.05	1-3/8	.50

*Average Value

**Dimension C is shown in the finger tight position





TECNI-AR
Seu caminho
Para automação

Performance Stainless
Sanitary Fittings & Flow Components

Catalog 4270 - Sanitary Fittings
January 2005



Performance
Stainless! 

If your processing system demands high performance flow components...

Your system deserves Parker Performance Stainless.



As a global leader in the motion and control industry, Parker Hannifin understands the pressures of running a modern production facility. Each function is critical, and breakdowns cost money. The last thing you need to be concerned about are products or equipment that do not perform as expected. Parker is committed to

supplying sanitary fluid processors with world class flow components, at a price that is affordable. Our only commitment is to your satisfaction.

A part is only as good as the whole!

At Parker, we believe our components are only a part of the team it takes to service our customers. We rely on a highly-technical and dedicated worldwide group of distributors and agents referred to as the Performance Team. They deliver the extra value that sets us apart from the pack. Our people lead the race in quality service.

As a customer, we want you to be a lifelong member of the Performance Team, and we welcome your continued feedback about our performance. We want this to be the best flow components company in the world, and your role in our success is important. If you are in need of a special part or component, or some other service, please contact us or one of our Performance Team members.



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Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the Parker Performance Stainless Catalog 4270.

⚠ WARNING

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

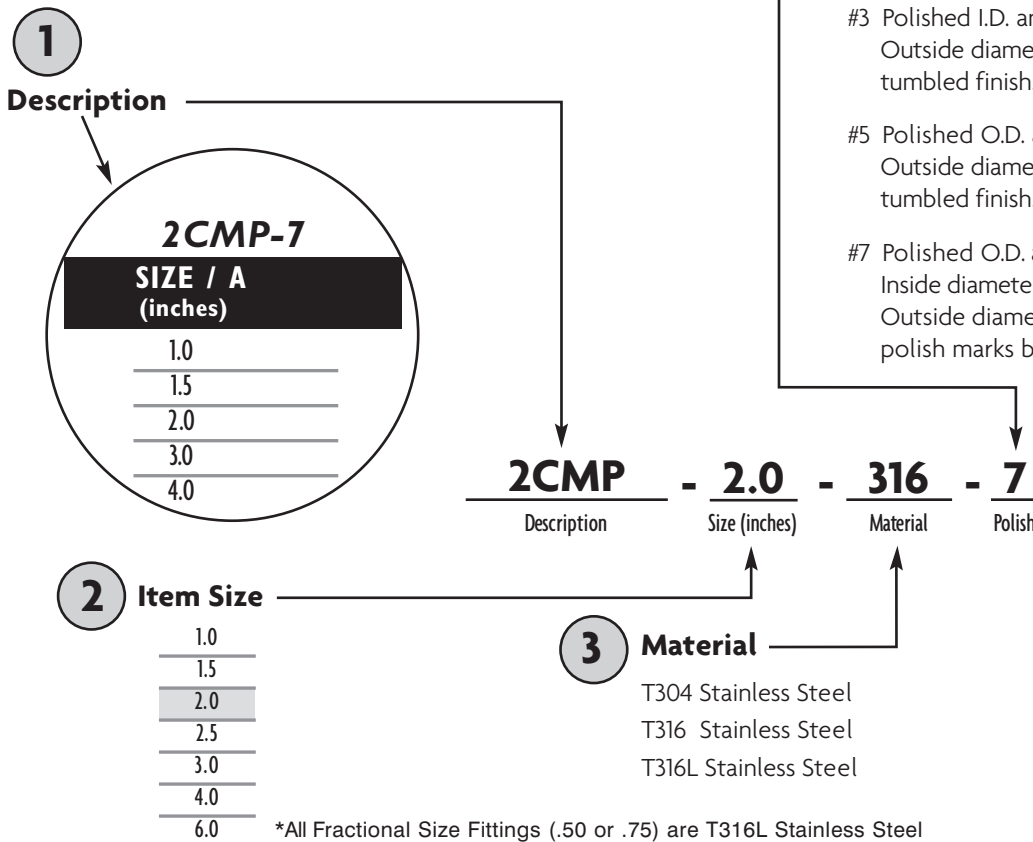
This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

To specify the part completely, start with the description and select each of the additional options shown below. Be sure to denote the material and polish combination. See the example below.

PART NUMBER EXAMPLE

① ② ③ ④
2CMP - 2.0 - 316 - 7



BPE SIZE ONLY (Item Meets ASME - BPE Size Only Specifications)

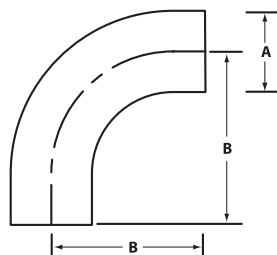
- Notes about the Dimension Tables**
- All Dimension are in inches.
 - Wall Thickness:
 - Fittings in 1.0-3.0 sizes are manufactured with 16 gauge (.065) wall thickness.
 - Fittings in 4.0 tube size are manufactured with 14 gauge (.083) wall thickness.

QUALITY STATEMENT:

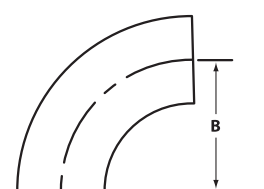
All fittings shall be manufactured using high quality T-304 or T-316L Stainless Steel with an A-269 minimum wall tubing. Fittings shall be free of crevices and manufactured within close, industry accepted tolerances. Standard polish shall be 180 grit ID and 150 grit OD, with capabilities up to 320 grit. Fittings shall meet 3A standards where applicable. Full heat traceability shall be made available on all 316L material. Fittings .50 through 3.0 shall have a uniform .065 gauge, size 4.0 shall be .083 and size 6.0 shall be .109.



L2S



2WCL



L2S - 90° Tube Bend "Long"

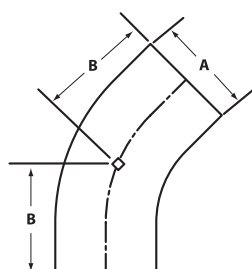
SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
1.0	2.062	.065
1.5	2.937	.065
2.0	4.062	.065
2.5	5.187	.065
3.0	6.312	.065
4.0	8.312	.083
6.0	9.000	.109

2WCL - 90° Tube Bend "Short"

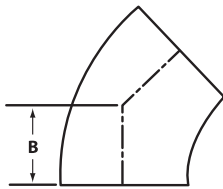
B (inches)	NOMINAL WALL THICKNESS
1.50	.065
2.25	.065
3.00	.065
3.75	.065
4.50	.065
6.00	.083
9.00	.109



L2KS



2WK

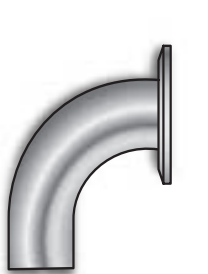


L2KS - 45° Tube Bend "Long"

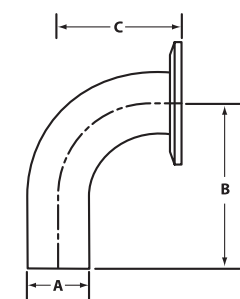
SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
1.0	1.187	.065
1.5	1.625	.065
2.0	2.312	.065
2.5	3.000	.065
3.0	3.687	.065
4.0	4.812	.083
6.0	3.750	.109

2WK - 45° Tube Bend "Short"

B (inches)	NOMINAL WALL THICKNESS
.625	.065
.938	.065
1.250	.065
1.563	.065
1.875	.065
2.500	.083
3.750	.109



L2CM

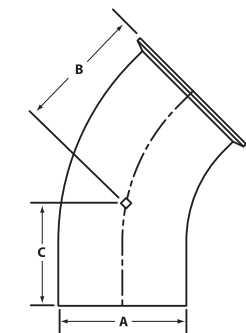


L2CM - 90° Clamp One End

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.0	2.062	2.562	.065
1.5	2.937	3.437	.065
2.0	4.062	4.562	.065
2.5	5.187	5.687	.065
3.0	6.312	6.812	.065
4.0	8.312	8.937	.083
6.0	9.000	9.750	.109

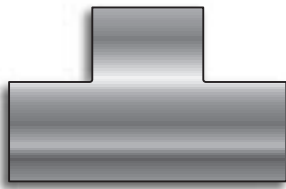


L2KM

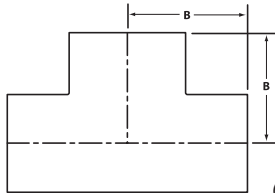
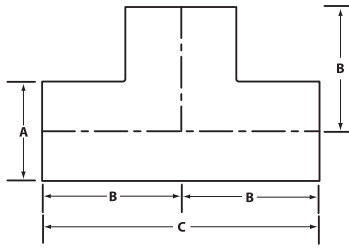


L2KM - 45° Clamp One End

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.0	1.687	1.187	.065
1.5	2.125	1.625	.065
2.0	3.812	2.312	.065
2.5	3.500	3.000	.065
3.0	4.187	3.687	.065
4.0	5.437	4.812	.083
6.0	4.500	3.750	.109



L7WWW



7W "SHORT"

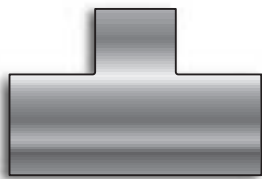
(TUMBLE FINISH ONLY)

L7WWW - Tee

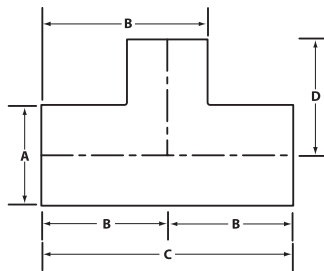
SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.0	1.875	3.75	.065
1.5	2.250	4.50	.065
2.0	3.000	6.00	.065
2.5	3.000	6.00	.065
3.0	3.250	6.50	.065
4.0	3.875	7.75	.083
6.0	5.625	11.25	.109

7W - Tee "Short"

SIZE (inches)	B (inches)	NOM. WALL THICKNESS
1.0	1.125	.065
1.5	1.656	.065
2.0	2.062	.065
2.5	2.344	.065
3.0	2.594	.065
4.0	3.438	.083

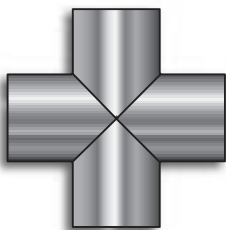


L7RW

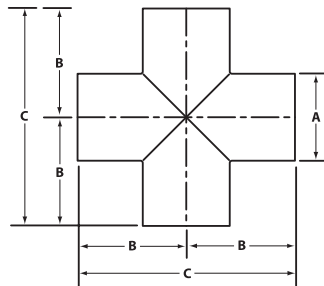


L7RW - Reducing Tee (Reduction on Branch)

SIZE A (inches)	B (inches)	C (inches)	D (inches)	NOMINAL WALL THICKNESS
1.5 x 1.0	1.5	3.00	3.312	.065
2.0 x 1.0	2.0	4.00	4.125	.065
2.0 x 1.5	2.0	4.00	4.125	.065
2.5 x 1.0	2.5	5.00	4.687	.065
2.5 x 1.5	2.5	5.00	4.687	.065
2.5 x 2.0	2.5	5.00	4.687	.065
3.0 x 1.0	3.0	6.00	5.187	.065
3.0 x 1.5	3.0	6.00	5.187	.065
3.0 x 2.0	3.0	6.00	5.187	.065
3.0 x 2.5	3.0	6.00	5.187	.065
4.0 x 1.0	4.0	8.00	9.250	.083
4.0 x 1.5	4.0	8.00	9.250	.083
4.0 x 2.0	4.0	8.00	9.250	.083



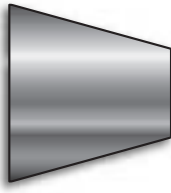
L9W



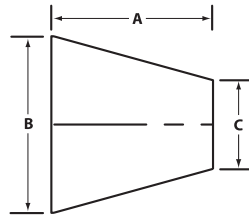
L9W - Cross

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.0	1.125	2.250	.065
1.5	1.656	3.312	.065
2.0	2.062	4.125	.065
2.5	2.343	4.687	.065
3.0	2.593	5.187	.065
4.0	3.437	6.875	.083
6.0	5.000	10.00	.109

Butt Weld Fittings: REDUCERS

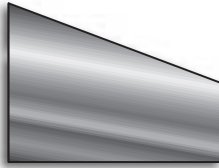


L31

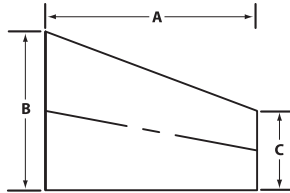


L31 - Concentric Reducers

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.5 x 1.0	2.000	1.500	.065
2.0 x 1.0	2.000	2.000	.065
2.0 x 1.5	2.000	2.000	.065
2.5 x 1.5	4.000	2.500	.065
2.5 x 2.0	2.000	2.500	.065
3.0 x 1.5	6.000	3.000	.065
3.0 x 2.0	4.000	3.000	.065
3.0 x 2.5	2.000	3.000	.065
4.0 x 1.5	10.00	4.000	.083
4.0 x 2.0	8.000	4.000	.083
4.0 x 2.5	6.000	4.000	.083
4.0 x 3.0	4.000	4.000	.083
6.0 x 4.0	9.000	6.000	.109



L32



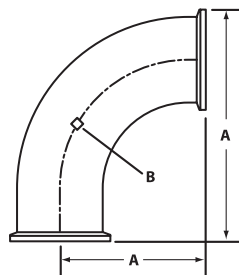
L32 - Eccentric Reducers

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
1.5 x 1.0	2.000	1.500	.065
2.0 x 1.0	4.000	2.000	.065
2.0 x 1.5	2.000	2.000	.065
2.5 x 1.5	4.000	2.500	.065
2.5 x 2.0	2.000	2.500	.065
3.0 x 1.5	6.000	3.000	.065
3.0 x 2.0	4.000	3.000	.065
3.0 x 2.5	2.000	3.000	.065
4.0 x 1.5	10.00	4.000	.083
4.0 x 2.0	8.000	4.000	.083
4.0 x 2.5	6.000	4.000	.083
4.0 x 3.0	4.000	4.000	.083
6.0 x 4.0	5.500	6.000	.109

Clamp Fittings: ELBOWS

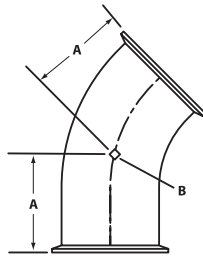


2CMP



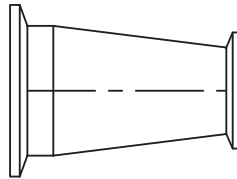
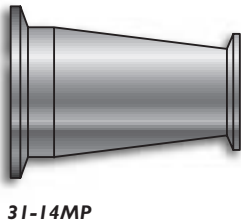
2CMP - 90° EII BPE SIZE ONLY

SIZE (inches)	A (inches)	B (inches)
1.0	2.000	1.500
1.5	2.750	2.250
2.0	3.500	3.000
2.5	4.250	3.750
3.0	5.000	4.500
4.0	6.625	6.000
6.0	9.750	9.000



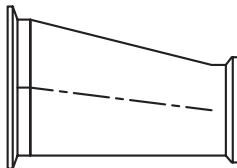
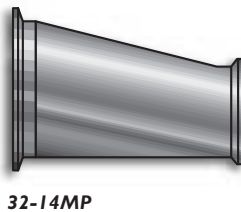
2KMP - 45° ELL BPE SIZE ONLY

SIZE (inches)	A (inches)	B (inches)
1.0	1.125	1.500
1.5	1.437	2.250
2.0	1.750	3.000
2.5	2.062	3.750
3.0	2.375	4.500
4.0	3.125	6.000
6.0	4.500	9.000



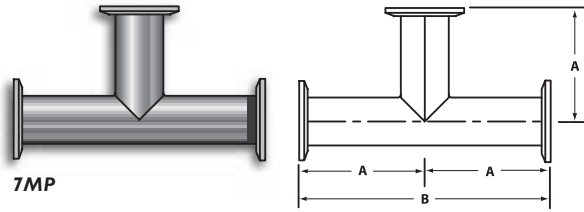
31-14MP - Concentric Reducer BPE SIZE ONLY

SIZE (inches)	OVERALL LENGTH
1.5 x 1.0	3.000
2.0 x 1.0	5.000
2.0 x 1.5	3.000
2.5 x 1.5	5.000
2.5 x 2.0	3.000
3.0 x 1.5	7.000
3.0 x 2.0	5.000
3.0 x 2.5	3.000
4.0 x 1.5	11.125
4.0 x 2.0	9.125
4.0 x 2.5	7.125
4.0 x 3.0	5.125
6.0 x 4.0	10.500



32-14MP - Eccentric Reducers BPE SIZE ONLY

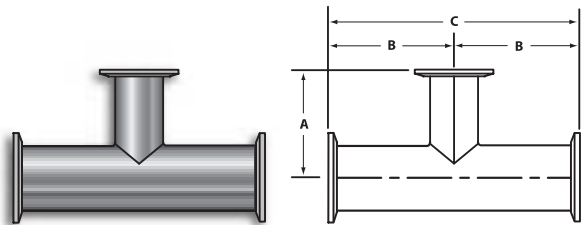
SIZE (inches)	OVERALL LENGTH
1.5 x 1.0	3.000
2.0 x 1.0	5.000
2.0 x 1.5	3.000
2.5 x 1.5	5.000
2.5 x 2.0	3.000
3.0 x 1.5	7.000
3.0 x 2.0	5.000
3.0 x 2.5	3.000
4.0 x 1.5	11.125
4.0 x 2.0	9.125
4.0 x 2.5	7.125
4.0 x 3.0	5.125
6.0 x 4.0	10.500



7MP

7MP - Tee

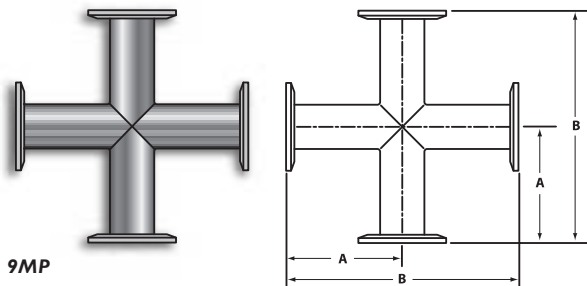
SIZE (inches)	A (inches)	B (inches)
1.0	2.375	4.750
1.5	2.750	5.500
2.0	3.500	7.000
2.5	3.500	7.000
3.0	3.750	7.500
4.0	4.500	9.000
6.0	7.150	14.300



7RMP - Size Reduced on Branch

7RMP - Reducing Tee

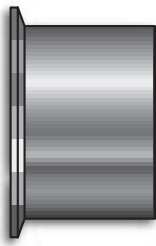
SIZE (inches)	A (inches)	B (inches)	C (inches)
1.5 x 1.0	1.875	2.156	4.312
2.0 x 1.0	2.125	2.562	5.125
2.0 x 1.5	2.406	2.562	5.125
2.5 x 1.0	2.812	2.843	5.687
2.5 x 1.5	2.656	2.844	5.688
2.5 x 2.0	2.812	2.843	5.687
3.0 x 1.0	3.062	3.093	6.187
3.0 x 1.5	3.062	3.093	6.187
3.0 x 2.0	3.062	3.093	6.187
3.0 x 2.5	3.093	3.093	6.187
4.0 x 1.0	4.875	4.062	8.125
4.0 x 1.5	4.875	4.062	8.125
4.0 x 2.0	4.875	4.062	8.125
4.0 x 2.5	4.875	4.062	8.125
4.0 x 3.0	4.875	4.062	8.125
6.0 x 2.0	5.500	5.750	11.500
6.0 x 2.5	5.500	5.750	11.500
6.0 x 3.0	5.500	5.750	11.500
6.0 x 4.0	5.625	5.750	11.500



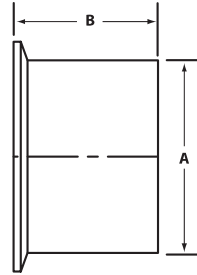
9MP

9MP - Cross

SIZE (inches)	A (inches)	B (inches)
1.0	2.375	4.750
1.5	2.750	5.500
2.0	3.500	7.000
2.5	3.500	7.000
3.0	3.750	7.500
4.0	4.500	9.000
6.0	5.750	11.500

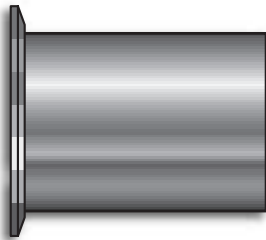


LI4AM

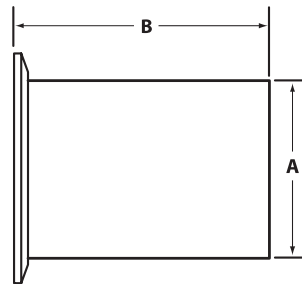


LI4AM - Butt Welding Ferrule

SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
1.0	1.125	.065
1.5	1.125	.065
2.0	1.125	.065
2.5	1.125	.065
3.0	1.125	.065
4.0	1.125	.083
6.0	1.500	.109

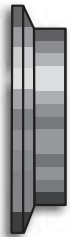


TLI4AM

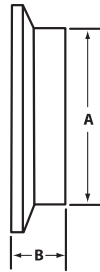


TLI4AM - Butt Welding Ferrule BPE SIZE ONLY

SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
0.50	1.750	.065
0.75	1.750	.065
1.00	1.750	.065
1.50	1.750	.065
2.00	2.250	.065
2.50	2.250	.065
3.00	2.250	.065
4.00	2.250	.083



I4WMP

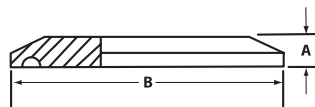


I4WMP - Short Welding Ferrule

SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
1.0	0.500	.065
1.5	0.500	.065
2.0	0.500	.065
2.5	0.500	.065
3.0	0.500	.065
4.0	0.625	.083
6.0	0.750	.109

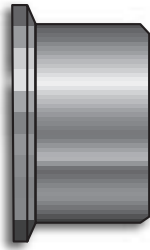


I6AMP

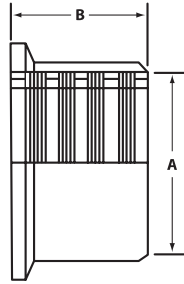


I6AMP - Solid End Cap

SIZE (TUBE O.D.) (inches)	A (inches)	B (inches)
0.50 / .75	0.250	0.993
1.0 / 1.5	0.250	1.984
2.0	0.250	2.516
2.5	0.250	3.047
3.0	0.250	3.579
4.0	0.312	4.682
6.0	0.500	6.570

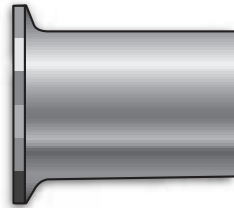


I4RMP

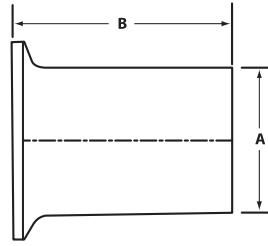


I4RMP - Recessless Ferrule

SIZE A (inches)	B (inches)
1.0	0.750
1.5	1.125
2.0	1.312
2.5	1.375
3.0	1.437
4.0	1.500



I4WLMP

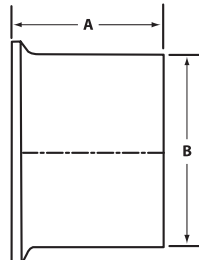


I4WLMP - Tank Welding Spud-Light

SIZE A (inches)	B (inches)	NOMINAL WALL THICKNESS
1.0	3.000	.065
1.5	3.000	.065
2.0	3.000	.065
2.5	3.000	.065
3.0	4.000	.065
4.0	4.000	.083
6.0	6.000	.109
8.0	6.000	.109
10.0	6.000	.140
12.0	6.000	.140

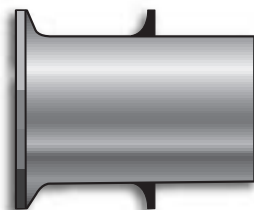


I4MPW

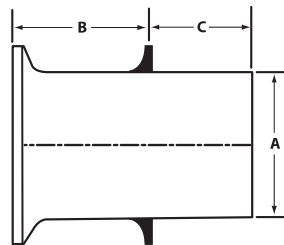


I4MPW - Tank Welding Ferrule

SIZE (inches)	A (inches)	B (inches)	NOMINAL WALL THICKNESS
0.50	2.125	0.500	.065
0.75	2.125	0.750	.065
1.00	1.625	1.160	.145
1.50	1.625	1.676	.153
2.00	1.750	2.192	.161
2.50	1.750	2.708	.169
3.00	1.812	3.224	.177
4.00	2.125	4.256	.211
6.00	2.125	6.000	.217
8.00	2.125	8.000	.217

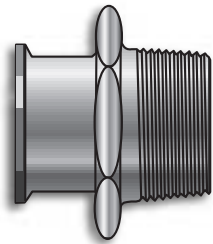


FLVI4AM

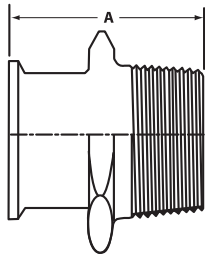


FLVI4AM - Flowverter Ferrule

SIZE A (inches)	B (inches)	C (inches)	NOMINAL WALL THICKNESS
0.50	1.125	1.000	.065
0.75	1.125	1.000	.065
1.00	1.625	1.000	.065
1.50	1.625	1.000	.065
2.00	1.625	1.000	.065
2.50	1.625	1.000	.065
3.00	1.625	1.000	.065
4.00	1.625	1.000	.083



2IMP



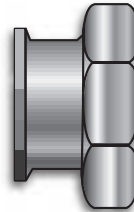
BPE SIZE ONLY

* = No Hex Head Reduction on NPT

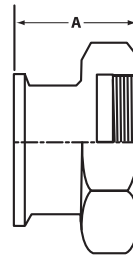
2IMP - Adapter

(N.P.T. Male Threads)

SIZE (T/C x NPT) (inches)	A (inches)
0.50 x 0.125*	2.000
0.50 x 0.250*	2.000
0.50 x 0.375*	2.000
0.50 x 0.500*	2.000
0.50 x 0.750*	2.000
0.75 x 0.125*	2.000
0.75 x 0.250*	2.000
0.75 x 0.375*	2.000
0.75 x 0.500*	2.000
0.75 x 0.750*	2.000
0.75 x 1.000*	2.250
1.00 x 0.125*	2.187
1.00 x 0.250*	2.161
1.00 x 0.375*	2.187
1.00 x 0.500*	2.187
1.00 x 0.750*	2.187
1.00 x 1.000	2.250
1.00 x 1.500	2.437
1.00 x 2.000	2.625
1.00 x 3.000*	2.625
1.50 x 0.750*	2.187
1.50 x 1.000	2.312
1.50 x 1.250	2.437
1.50 x 1.500	2.437
1.50 x 2.000	2.625
1.50 x 2.500*	3.281
2.00 x 1.000	2.468
2.00 x 1.500	2.468
2.00 x 2.000	2.656
2.00 x 2.500*	3.125
2.00 x 3.000*	3.500
2.00 x 4.000*	3.500
2.50 x 1.000*	2.781
2.50 x 1.500*	2.781
2.50 x 2.000*	2.781
2.50 x 2.500*	3.281
2.50 x 3.000*	3.690
3.00 x 1.000*	3.000
3.00 x 1.500*	3.000
3.00 x 2.000*	3.000
3.00 x 2.500*	3.500
3.00 x 3.000*	3.500
3.00 x 4.000*	3.500
4.00 x 1.500*	3.812
4.00 x 2.000*	3.812
4.00 x 2.500*	3.812
4.00 x 3.000*	3.812
4.00 x 4.000*	3.812
6.00 x 6.000*	4.500



22MP



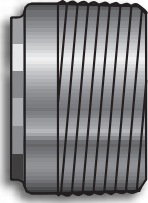
BPE SIZE ONLY

* = No Hex Head Reduction on NPT

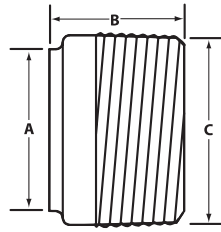
22MP - Adapter

(N.P.T. Female Threads)

SIZE (T/C x NPT) (inches)	A (inches)
0.50 x 0.125*	1.250
0.50 x 0.250*	1.500
0.50 x 0.375*	1.500
0.50 x 0.500*	1.500
0.50 x 0.750*	1.625
0.50 x 1.000*	1.625
0.50 x 1.500*	2.250
0.50 x 2.000*	2.250
0.75 x 0.125*	1.250
0.75 x 0.250*	1.500
0.75 x 0.375*	1.500
0.75 x 0.500*	1.500
0.75 x 0.750*	1.625
0.75 x 1.000*	1.625
1.00 x 0.750*	1.625
1.00 x 1.000	1.625
1.00 x 1.500	2.250
1.00 x 2.000	2.250
1.00 x 2.500*	2.500
1.50 x 0.750*	1.625
1.50 x 1.000	1.625
1.50 x 1.250	2.250
1.50 x 1.500	2.250
1.50 x 2.000	2.250
1.50 x 2.500*	2.500
1.50 x 3.000*	2.500
2.00 x 1.000	2.500
2.00 x 1.250	1.687
2.00 x 1.500	1.687
2.00 x 2.000	2.343
2.00 x 2.500*	2.406
2.00 x 3.000*	2.406
2.00 x 4.000*	3.000
2.50 x 1.000*	1.312
2.50 x 1.500*	1.656
2.50 x 2.000*	1.718
2.50 x 2.500*	2.093
2.50 x 3.000*	2.187
3.00 x 1.000*	2.187
3.00 x 1.500*	2.187
3.00 x 2.000*	2.187
3.00 x 2.500*	2.187
3.00 x 3.000*	2.187
4.00 x 1.500*	2.187
4.00 x 2.000*	2.187
4.00 x 2.500*	2.187
4.00 x 3.000*	2.187
4.00 x 4.000*	2.625
4.00 x 6.000*	3.250

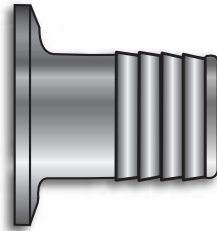


I9WB

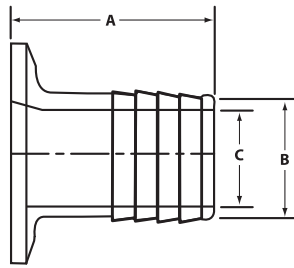


I9WB - Weld x Male NPT

SIZE A (inches)	B (inches)	C (inches)	NOMINAL TUBE SIZE
0.50	1.500	.8400	.650
0.75	1.625	1.050	.650
1.00	1.750	1.315	.650
1.50	1.750	1.660	.650
2.00	1.812	1.900	.650
2.50	2.312	2.375	.650
3.00	2.500	3.500	.650
4.00	2.562	4.500	.083
6.00	4.000	6.625	.109



I4MPHR

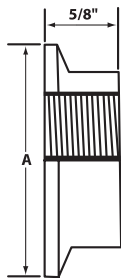


I4MPHR - Rubber Hose Adapter

SIZE (inches)	A (inches)	B (inches)	C (inches)
1.0 x 1.0	1.687	1.000	0.812
1.5 x 1.5	1.687	1.500	1.312
1.5 x 1.0	1.687	1.000	0.875
2.0 x 2.0	2.312	2.000	1.810
2.0 x 1.5	2.312	1.500	1.312
2.5 x 2.5	2.343	2.500	2.312
3.0 x 3.0	3.093	3.000	2.834
4.0 x 4.0	3.406	4.000	3.834
6.0 x 6.0	3.406	6.000	5.728
8.0 x 8.0	3.406	8.000	7.728

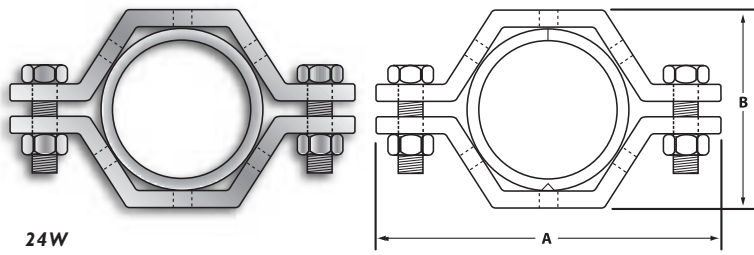


23BMP



23BMP - Thermometer Cap

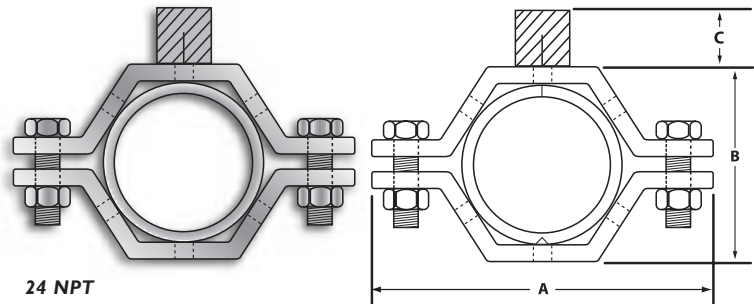
SIZE (inches)	A (inches)
1.0	1.984
1.5	1.984
2.0	2.516
2.5	3.047
3.0	3.579
4.0	4.682



24W

24W - Hanger

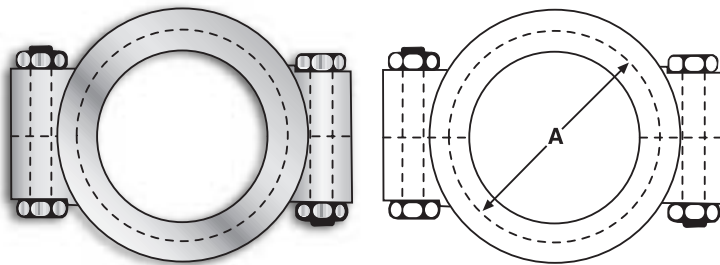
SIZE (TUBE O.D.) (inches)	A (inches)	B (inches)
1.00	3.375	1.625
1.50	4.000	2.125
2.00	4.500	2.500
2.50	4.750	3.125
3.00	5.000	3.750
4.00	6.750	4.750



24 NPT

24NPT - Hanger (Includes 3/8" NPT Coupler)

SIZE (TUBE O.D.) (inches)	A (inches)	B (inches)	C (inches)
1.00	3.375	1.625	.75
1.50	4.000	2.125	.75
2.00	4.500	2.500	.75
2.50	4.750	3.125	.75
3.00	5.000	3.750	.75
4.00	6.750	4.750	.75

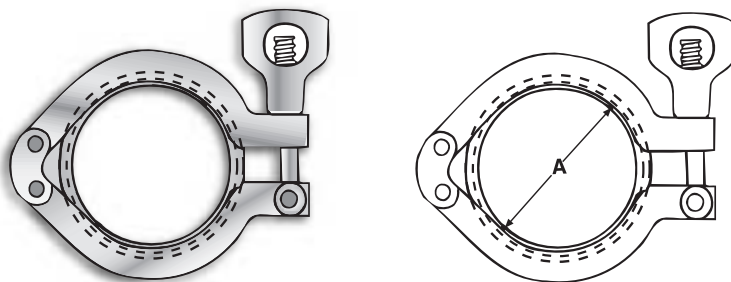


13MHP

13MHP - High Pressure Bolted Clamp

SIZE (TUBE O.D.) (inches)	A (inches)
0.50 / 0.75	1.141
1.0 / 1.5	2.046
2.0	2.578
2.5	3.110
3.0	3.640
4.0	4.744
6.0	6.632
8.0	8.632

Size Range: .50 to 8.00 Tube O.D.



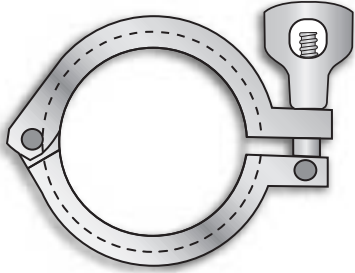
13MHHM

13MHHM - Heavy Duty Clamp Double Pin Hinge

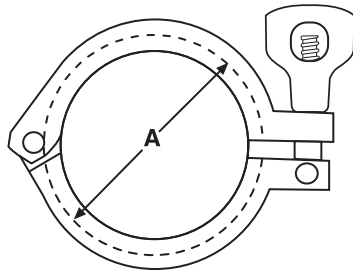
SIZE (TUBE O.D.) (inches)	A (inches)
1.0/1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776
6.0	6.695
8.0	8.695
10.0	10.695
12.0	12.695

Size Range: 1.00 to 12.00 Tube O.D.

Clamp Fittings: CLAMPS



13MHM



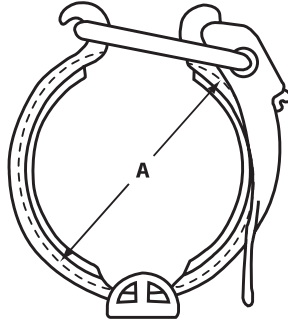
13MHM - Heavy Duty Clamp Single Pin Hinge

Size Range: .50 to 10.00 Tube O.D.

SIZE (TUBE O.D.) (inches)	A (inches)
0.50 / 0.75	1.109
1.0 / 1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776
6.0	6.695
8.0	8.695
10.0	10.695



13MHLA

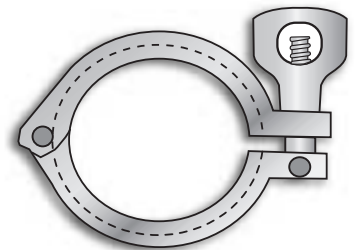


13MHLA - Adjustable Clamp

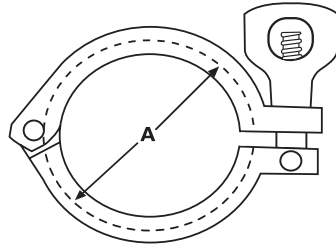
Size Range: 1.00 to 4.00 Tube O.D.

SIZE (TUBE O.D.) (inches)	A (inches)
1.0 / 1.5	2.140
2.0	2.610
2.5	3.141
3.0	3.673
4.0	4.776

Bevel Seat Fittings: CLAMPS



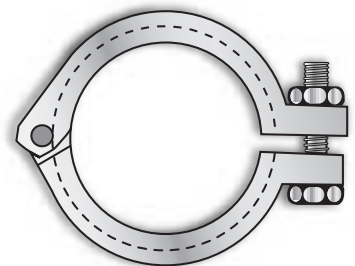
13IS



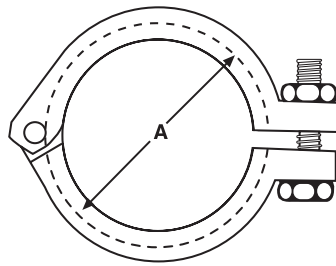
13IS - TI-LINE Heavy Duty Clamp

Size Range: .50 to 12.00 Tube O.D.

SIZE (TUBE O.D.) (inches)	A (inches)
0.50 / 0.75	
1.0 / 1.5	2.102
2.0	2.842
2.5	3.468
3.0	4.031
4.0	5.031
6.0	7.688



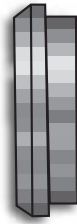
13ILB



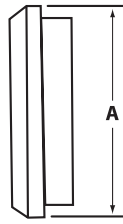
13ILB - TI-LINE Bolted Clamp

Size Range: .50 to 12.00 Tube O.D.

SIZE (TUBE O.D.) (inches)	A (inches)
0.50 / 0.75	
1.0 / 1.5	1.06
2.0	1.41
2.5	1.75
3.0	2.03
4.0	2.50
6.0	



16A

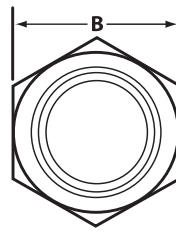


16A - Solid End Cap

SIZE (inches)	A (inches)
1.0	1.312
1.5	1.843
2.0	2.375
2.5	2.906
3.0	3.437
4.0	4.500

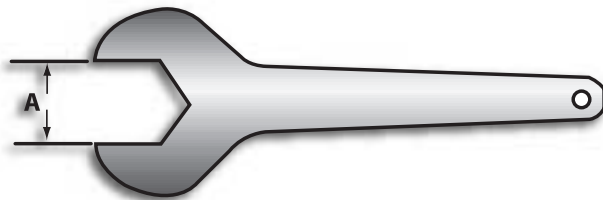


13H



13H - Hex Union Nut

SIZE (inches)	A (inches)	B (inches)
1.0	0.906	1.812
1.5	0.968	2.406
2.0	1.062	3.000
2.5	1.187	3.593
3.0	1.281	4.187
4.0	1.500	5.437



25H

25H Aluminum Hex - Wrench Single End

SIZE / A (inches)
1.0
1.5
2.0
2.5
3.0
4.0

GASKETS & O-RINGS

Parker Performance Stainless supplies high-quality sanitary gaskets and o-rings for use with the Food, Beverage, Dairy and Pharmaceutical processing industries. These gaskets and o-rings are precision manufactured from specially formulated elastomer compounds, including Buna-N, EPDM, Viton®, Silicone and PTFE.

All gaskets and o-rings are certified to meet the specifications of FDA, 3-A Sanitary Standards and USP Class VI for pharmaceutical manufacturing.



PRODUCT LISTING

CLAMP GASKETS

40MPU	(BUNA)
40MPUW	(BUNA-White)
40MPX	(Silicone-White)
40MPXC	(Silicone-Clear)
40MPG	(PTFE)
40MPE	(EPDM)
40MPSFY	(SFY)
40MPFU	(BUNA-Flanged)
40MPFE	(EPDM-Flanged)
40MPFX	(Silicone-White-Flanged)
40MPFXC	(Silicone-Clear-Flanged)
40MPFSFY	(SFY-Flanged)
A40MPGR	(PTFE-Envelope)

ORIFICE GASKETS

A80MPU	(BUNA-Std 1/8" Orifice)
A80MPE	(EPDM-Std 1/8" Orifice)
A80MPSFY	(SFY-Std 1/8" Orifice)

SCREEN GASKETS

40MPSU	(Std #10 Mesh*)
40MPUP	(Std #33 Perforated*)

*Other Mesh Sizes Available

BEVEL SEAT GASKETS

40BSO	(BUNA)
40BSS-(TM)	(PTFE)
DHR(T)	(PTFE-Medium)
DH(XT)	(PTFE-Extra Thin)
40BSH(THD)	(PTFE-Heavy Duty)
40BSF	(Flat)

I-LINE GASKETS

40IH	(BUNA)
40IE	(EPDM)
40IT	(PTFE)
40IV	(SFY)

JOHN PERRY GASKETS

40JPU	(BUNA)
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Q-LINE GASKETS

40QH	(BUNA)
40QT	(PTFE)

APC GASKETS

101H	(Gray)
101HX	(Black)

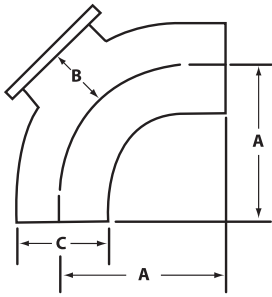
GASKET MATERIAL REFERENCE CHART

Gasket material is selected based upon a number of factors [temperature, product type, pressure, etc.] The following guide is offered as a reference to assist in the selection of the appropriate elastomer for your application.

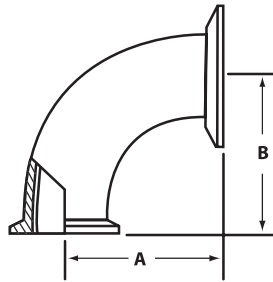
Original Physical Property Characteristics	Buna-N (U)	EPDM (E)	Fluoro-elastomer (SFY)	Silicone (X)	PTFE (G)
Temperature Range	-65 to 200°F	-60 to 300°F	-20 to 350°F	-40 to 450°F	-40 to 200°F
Tensile Strength, psi	1875	1650	1212	1340	—
Elongation, %	340	317	272	260	—
Hardness, Shore A	70	70	70	70	—
Acid Resistance	Good	Good/Excellent	Good/Excellent	Poor/Good	Good/Excellent
Resistance to Fats/Oils	Good/Excellent	Poor	Good/Excellent	Poor/Good	Excellent
Alkali Resistance	Fair/Good	Good/Excellent	Poor/Good	Poor/Fair	Excellent
Abrasion Resistance	Excellent	Good	Good/Excellent	Poor	Fair
Compression Set Resistance	Good	Fair	Good/Excellent	Good/Excellent	Cold Flows

Miscellaneous Flow Components & Adapters

L2CP7-90° Inspection Elbow



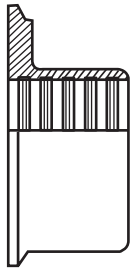
2CMP-31-90° Concentric Reducing Ell



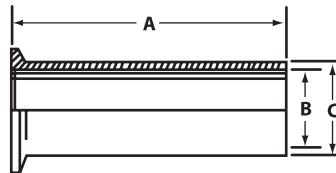
31 RMP-Reducing Ferrule-Concentric (3A)



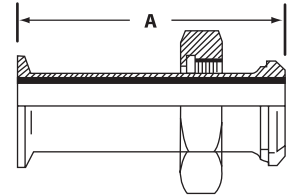
32 RMP-Reducing Ferrule-Concentric (3A)



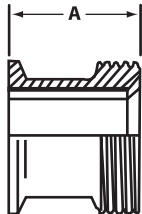
14MPHT - Tygon Hose Adapter



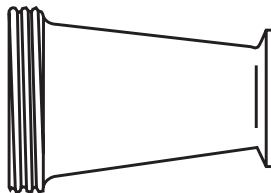
17MP-14 - Adapter (3A)



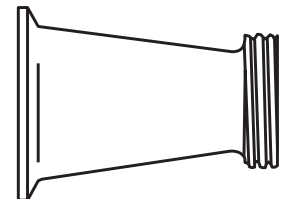
17MP-15 - Adapter (3A)



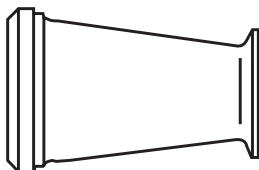
31 TMP-Adapter-Reducer-Concentric (3A)



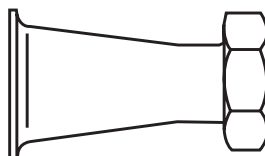
31 MPT-Adapter-Reducer-Concentric (3A)



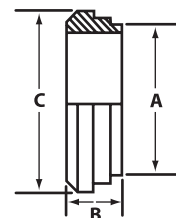
31 PMP-Reducing Ferrule-Concentric (3A)



32 MMP-Adapter-Reducer-Concentric (3A)

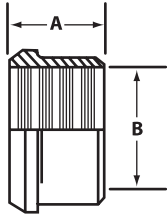


14PRF Short Weld Ferrule (3A)

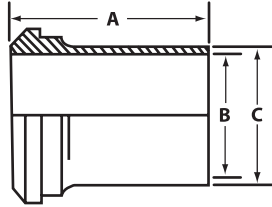


Miscellaneous Flow Components & Adapters

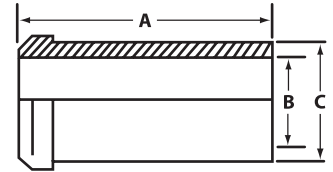
I4R Plain Recessless Ferrule (3A)



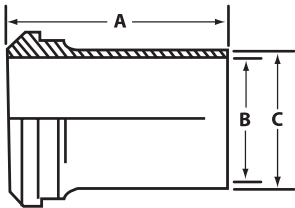
L14A7 - Plain Tube Ferrule (3A)



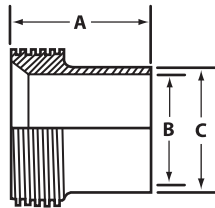
I4-W Plain Ferrule Tank Spud (Heavy) (3A)



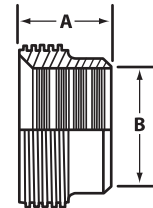
I5-W Threaded Ferrule Tank Spud (Heavy) (3A)



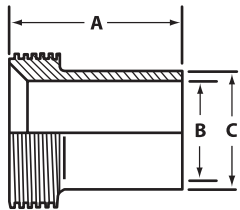
L15A7 Threaded Tube Ferrule (3A)



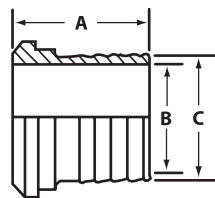
I5R-Threaded Recessless Ferrule (3A)



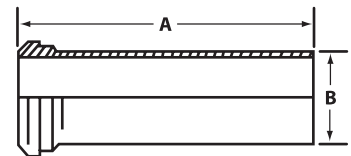
I5WL-Threaded Ferrule Tank Spud (Light) (3A)



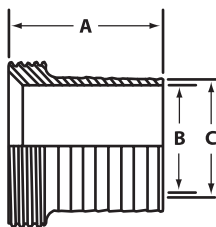
I4AHR Rubber Hose Adapter



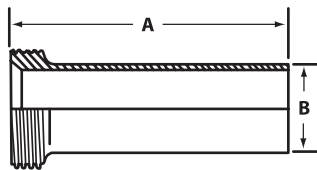
I4AHT-Tygon Hose Adapters



I5AHR Rubber Hose Adapter



I5AHT-Tygon Hose Adapters



Fittings for the Pharmaceutical and Biotech Industries



Parker will be launching a line of ASME BPE fittings for use within the Pharmaceutical and Biotech Industries. Fittings are offered in sizes from 1/2" through 6" in both butt-weld and clamp connections to ASME BPE standards.

I.D. finishes will be available in 25RA through 10RA. Special O.D. finishes will be available upon request. I.D. finishes may be provided in mechanical polish, or with Electropolishing per ASME BPE specifications.

Material and Traceability

Parker offers fittings to BPE dimensions in 316L. All fittings are permanently marked with original heat numbers for full traceability back to the original stainless steel supplier. MTR information is provided with each fitting. All tubular materials meet ASTM A269 / A270 requirements and all machined components meet the requirements of ASTM A479.

Heat Treatment

Parker fittings are solution annealed and quenched in a vacuum furnace. This treatment relieves stresses caused by cold forming operations used in the manufacturing process, thereby removing the potential for stress corrosion and improving the dimensional stability of fittings.

Polish Options

Parker BPE fittings are manufactured with standard polished #7 O.D. with up to a 10 RA I.D. finish. Optional finishes and treatment available upon request.

Fittings Marking

Each fitting is marked with the following:

- Parker logo and Parker BPE
- Heat Number
- Material Alloy
- ASME BPE
- Surface Designation per ASME BPE



Inspection Procedures

All fittings are 100% visually inspected for surface finish imperfections as mentioned in table SF-3 in the ASME BPE 2002 specification.

All dimensional characteristics are inspected 100% to the tolerances listed in table DT-5 in the ASME BPE 2002 specification. As a part of rigorous inspection standard, heat number traceability is verified for accuracy and chemical composition, per table DT-3, before the fittings are packaged for shipment. Testing includes:

- Roundness
- Wall Thickness
- Squareness of Face
- Off Angle
- Off Plane
- Height

Packaging

The ends are capped to prevent damage and contamination. All fittings are packaged in bags. All bags are labeled with Parker Part Number, Heat Number(s), ASME BPE, and the appropriate ASME BPE Surface Finish Designation for reorder, traceability and tracking purposes.

Performance Stainless Product Family

Parker Performance Stainless offers a wide variety of sanitary flow components for use within the Food, Beverage, Dairy and Pharmaceutical processing industries. For additional information on any of the products shown below, contact your Parker distributor, or call 256-881-2040.



BALL VALVES

3-Piece ball valves come standard in 316L and with PTFE cavity filler. Valves may be ordered with customized Parker Actuation for a variety of product applications.



DIAPHRAGM VALVES

Parker will be launching a line of diaphragm valves for a variety of applications. Valves will feature class VI seat elastomers, and will offer full traceability with heat numbers.



CHECK VALVES

Disk-style check valves are machined from heat-traced 316L stainless, and are available in both sanitary clamp and butt weld versions. EPDM gaskets are standard (Viton® and Silicone special order).



BUTTERFLY VALVES

Butterfly valves will be available in both 4-position and 12-position handle configurations, and may be ordered with customized Parker Actuation. Several seat elastomers are available with platinum cured silicon standard.



SANITARY GAUGES

Sanitary gauges meet 3A standards and are filled with FDA approved glycerine. Sanitary clamp connection is standard, and a variety of options is available for pressure and temperature ranges.



SIGHT GLASSES

Sanitary sight glasses feature Pyrex glass and offer a visual inspection of product flow. Available in sanitary clamp and butt weld connections. Heat-traced 316L and EPDM gaskets are furnished as standard.



GASKETS/O-RINGS

Parker will offer a wide variety of gaskets and o-rings in materials such as Buna, Silicon, PTFE, EPDM and more. Speciality items such as screen gaskets will also be available. Gaskets meet 3A and other regulatory standards.



INLINE STRAINER

Inline Strainers are manufactured for easy interchange with other brands, and feature a variety of filter and screen options for a wide range of process applications.



SANITARY TUBING

Sanitary tubing is manufactured in accordance with A-270, A-269, A-249 or BPE standards. Tubing is available in a variety of polish configurations.



SANITARY FITTINGS

Sanitary fittings are available in 304SS or heat-traced 316L in both polished and tumble finishes. Call for special finish options or for details on BPE-Compliant fittings for your all processing applications.

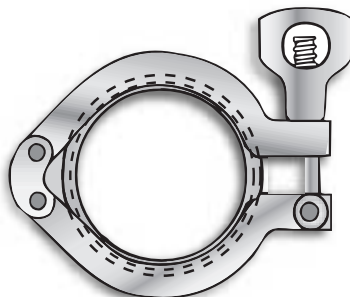
Clamp Service Rating Chart in PSI

Size Tube OD	1/2" & 3/4"	1" & 1-1/2"	2"	2-1/2"	3"	4"	6"
13MHLA - Screw tightened to maximum							
at 70°F	—	150	150	150	150	150	—
at 250°F	—	125	125	125	125	125	—
13HHM - Wing nut tightened to 25 in. lb. of torque							
at 70°F	—	500	450	400	350	350	150
at 250°F	—	300	300	200	195	195	75
13MHP - Bolts tightened to 20 ft. lb. of torque							
at 70°F	—	1500	1000	1000	1000	1000	300
at 250°F	—	1200	800	800	800	800	200
A13MHM - Wing nut tightened to 25 in. lb. of torque							
at 70°F	—	500	450	400	350	350	150
at 250°F	—	300	250	200	175	175	75

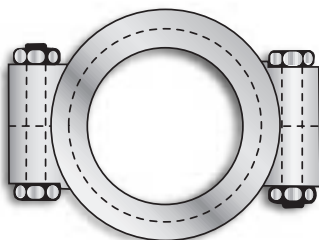
*PSI ratings based on hydrostatic test using standard gaskets molded from Buna-N. Ratings assume proper installation of ferrules, joint assembly and the absence of any shock pressure. Please contact Parker Hannifin for ratings at higher temperatures or utilizing other materials. For temperatures above 250°F, only 13MHP clamps are recommended.



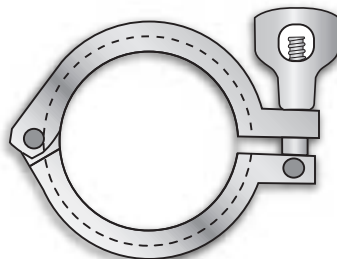
13MHLA



13HHM



13MHP



A13MHM

Clamp Gasket Materials Reference Chart

Original Physical Property Characteristics	Buna-N (U)	EPDM (E)	Fluoro-elastomer (SFY)	Silicone (X)	PTFE (G)
Temperature Range	-65 to 200°F	-60 to 300°F	-20 to 350°F	-40 to 450°F	-40 to 200°F
Tensile Strength, psi	1875	1650	1212	1340	—
Elongation, %	340	317	272	260	—
Hardness, Shore A	70	70	70	70	—
Acid Resistance	Good	Good/Excellent	Good/Excellent	Poor/Good	Good/Excellent
Resistance to Fats/Oils	Good/Excellent	Poor	Good/Excellent	Poor/Good	Excellent
Alkali Resistance	Fair/Good	Good/Excellent	Poor/Good	Poor/Fair	Excellent
Abrasion Resistance	Excellent	Good	Good/Excellent	Poor	Fair
Compression Set Resistance	Good	Fair	Good/Excellent	Good/Excellent	Cold Flows

Dimensions of Clamp Connections for OD-Tubing

OD Outer Diameter (inches)	ID Inner Diameter (inches)	Wall Thickness (inches/gauge)	A Ferrule Face (inches)
1/2	0.37	0.065 / 16ga.	0.984
3/4	0.62	0.065 / 16ga.	0.984
1	0.87	0.065 / 16ga.	1.984
1-1/2	1.37	0.065 / 16ga.	1.984
2	1.87	0.065 / 16ga.	2.516
2-1/2	2.37	0.065 / 16ga.	3.047
3	2.87	0.065 / 16ga.	3.579
4	3.87	0.083 / 14ga.	4.682

Surface Finish Reference Chart

Polishing Code	Inside Diameter [ID] / Product Contact Surface			Polish Method	OD / Product Noncontact Surface
	Maximum Surface Roughness (RA)				
	Micrometers (µm)	Micrometers (µm)	ASME BPE Finish Code		
1	32	0.8	—	Unpolished	Unpolished
3	32	0.8	—	Mechanical Polished	Unpolished
7	32	0.8	—	Mechanical Polished	Polished to Ra, 32 µ-inch/0.8um
PC	20	0.5	SFF1	Mechanical Polished	Unpolished
PD	15	0.4	SFF4	Mechanical Polished and Electropolished	Unpolished
PL	20	0.5	SFF1	Mechanical Polished	Polished to Ra, 32 µ-inch/0.8um
PM	15	0.4	SFF4	Mechanical Polished and Electropolished	Polished to Ra, 32 µ-inch/0.8um