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)

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.

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

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.

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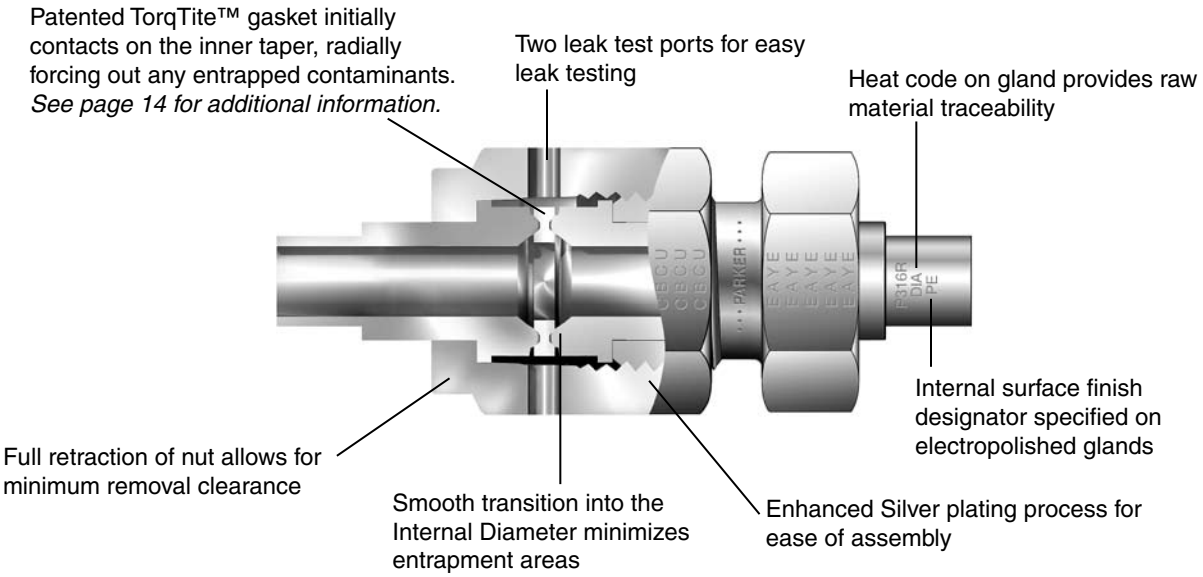

Index

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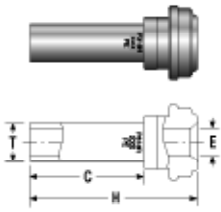
Glands

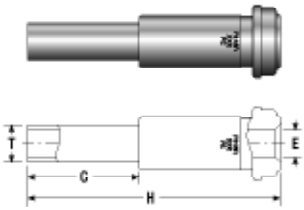
Short Tube Butt Weld



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

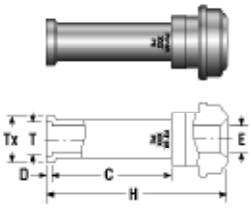
^Old Part Number 4-4 V1M-* .035
^^Old Part Number 8-8 V1M-* .049

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-* 170	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

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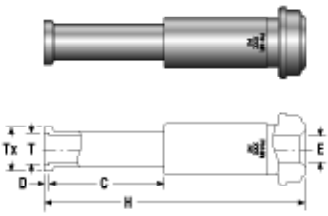
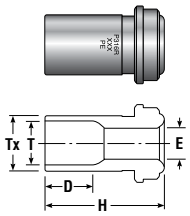
Glands (Continued)

Long Automatic Tube Butt Weld



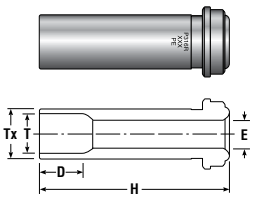
T Tube Size	Ordering Number	C		D		E		H		Tx		Normal Wall Thickness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		psig	bar
fractional														
1/4	4-4 V1Y3-* 1.72	0.75	19.0	0.02	0.5	0.18	4.6	1.72	43.7	0.29	7.4	0.035	5100	350
1/4	8-4 V1Y3-* 1.82	0.75	19.0	0.02	0.5	0.18	4.6	1.82	46.2	0.29	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



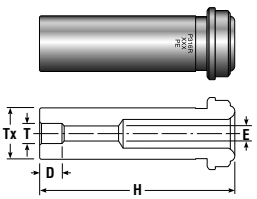
T Tube Socket	Ordering Number	D		E		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/4	4-4 V1W-* .50	0.28	7.1	0.19	4.8	0.50	12.7	0.35	8.9	5500	370
1/4	4-4 V1W-* .75	0.28	7.1	0.19	4.8	0.75	19.0	0.35	8.9	5500	370

Socket Weld



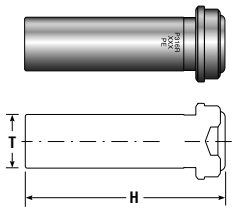
T Tube Socket	Ordering Number	D		E		H		Tx		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
1/16	1-1 V1W-* (1)	0.10	2.5	0.05	1.3	0.70	17.8	0.13	3.3	9000	620
1/8	2-2 V1W-* .70	0.10	2.5	0.09	2.3	0.70	17.8	0.20	5.1	7100	480
1/4	4-4 V1W-*	0.28	7.1	0.19	4.6	1.31	33.3	0.35	8.9	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

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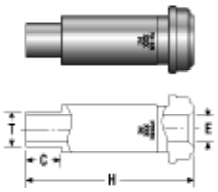
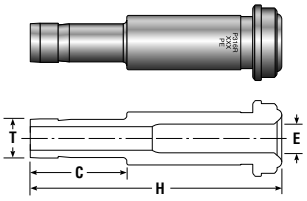
Glands (Continued)



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

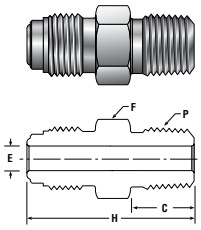
Tube Adapter (A-LOK®)



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

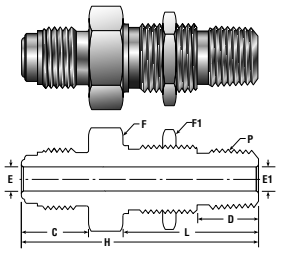
Replace 'U' with a '2' to designate groove for CPI™ Fitting.

Bodies



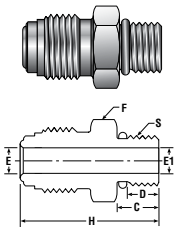
Male NPT Connector

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	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		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

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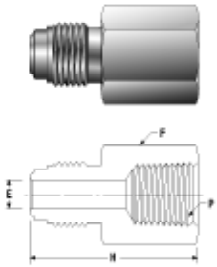
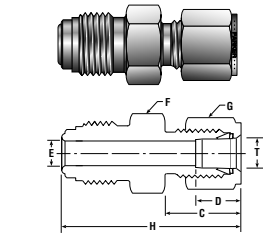
Bodies (Continued)

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®)

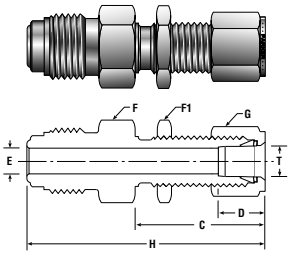


T Tube O.D.	Ordering Number	C		D		E		F Hex Flat	G Hex Flat	H		Working Pressure	
		in.	mm	in.	mm	in.	mm			in.	mm	psig	bar
fractional													
1/8	2-2 VHLZ-SS	0.60	15.2	0.50	12.7	0.09 ②	2.3	5/8	7/16	1.53	38.86	8000	550
1/4	4-4 VHLZ-SS	0.70	17.8	0.60	15.2	0.19	4.8	5/8	9/16	1.62	41.15	8000	550
3/8	8-6 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®)

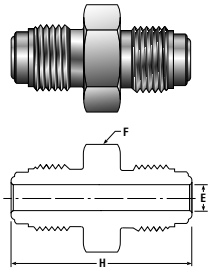


T Tube O.D.	Ordering Number	C		D		E		F Hex Flat	F1 Hex Flat	G Hex Flat	H		Panel Hole Size	Max. Panel Thick-ness	Working Pressure	
		in.	mm	in.	mm	in.	mm				in.	mm			psig	bar
fractional																
1/4	4-4 VH2LZ-SS	1.32	33.5	0.60	15.2	0.18	4.6	5/8	5/8	9/16	2.25	57.2	15/32	0.40	8000	550
1/4	4-4 VH2LZ-SS 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.

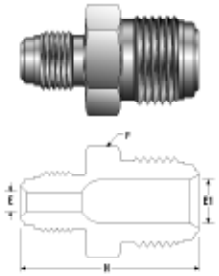
For maximum pressure ratings reference the Instrument Tubing Selection Guide, found in the Technical Section of your Parker Instrumentation Master Binder.

Double Male Union



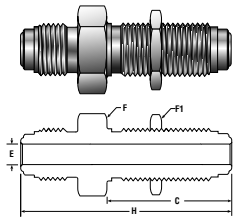
Size	Ordering Number	E		F Hex Flat	H		Working Pressure	
		in.	mm		in.	mm	psig	bar
1/8	2-2 HV-SS	0.09	2.3	3/8	1.13	28.7	9000	620
1/4	4-4 HV-SS	0.25	6.4	5/8	1.53	38.9	8000	550
1/2	8-8 HV-SS	0.41	10.4	15/16	1.84	46.7	3500	240
3/4	12-12 HV-SS	0.62	15.7	1 5/16	2.44	62.0	3000	200
1	16-16 HV-SS	0.87	22.1	1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

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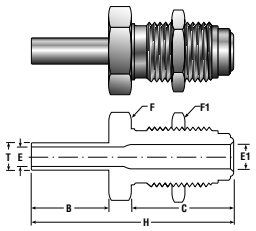
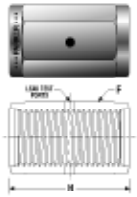
Bodies (Continued)

Tube Butt Weld Bulkhead Connector



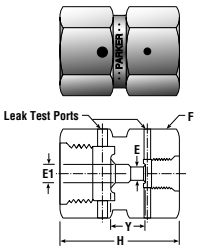
T Tube O.D. Size	Ordering Number	B		C		E		E1		F Hex Flat	F1 Hex Flat	H		Panel Hole Size	Max. Panel Thick-ness	Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm			in.	mm			psig	bar
fractional																	
1/4	4-4 T3H2BV-* 2.36	0.75	19.1	1.30	33.0	0.18	4.6	0.22	5.6	3/4	3/4	2.36	59.9	19/32	0.44	5100	350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



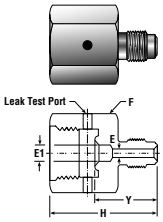
Size	Ordering Number	F Hex Flat	H	
			in.	mm
1/8	2 VHC-SS	7/16	0.66	16.8
1/4	4 VHC-SS	3/4	1.19	30.2
1/2	8 VHC-SS	1 1/16	1.31	33.3
3/4	12 VHC-SS	1 1/2	1.68	42.7
1	16 VHC-SS	1 3/4	2.04	51.8

Double Female Reducing Union



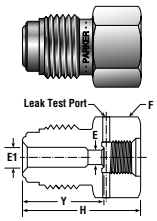
Size	Ordering Number	E		E1		F Hex Flat	H		Y		Working Pressure	
		in.	mm	in.	mm		in.	mm	in.	mm	psig	bar
1/4x1/8	4-2 HV7-SS	0.13	3.3	.25	6.4	3/4	1.16	29.5	0.36	9.1	8000	550
1/2x1/4	8-4 HV7-SS	0.25	6.4	.41	10.3	1 1/16	1.41	35.8	0.35	8.9	3500	240

Reducing Adapter



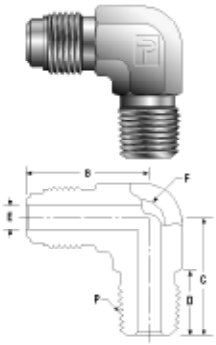
Size	Ordering Number	E		E1		F Hex Flat	H		Y		Working Pressure	
		in.	mm	in.	mm		in.	mm	in.	mm	psig	bar
1/8x1/4	4-2 V7HV-SS	0.09	2.3	.25	6.4	3/4	1.19	30.2	0.69	17.5	8000	550
1/4x1/2	8-4 V7HV-SS	0.18	4.6	.41	10.3	1 1/16	1.41	35.8	0.85	21.6	3500	240

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

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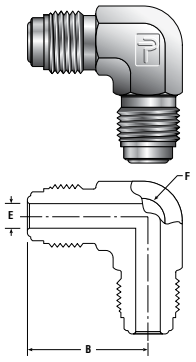
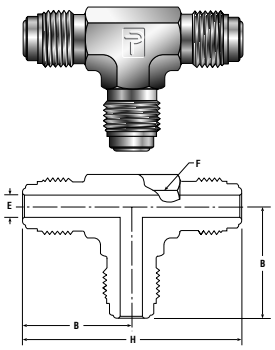
Bodies (Continued)

Union Elbow



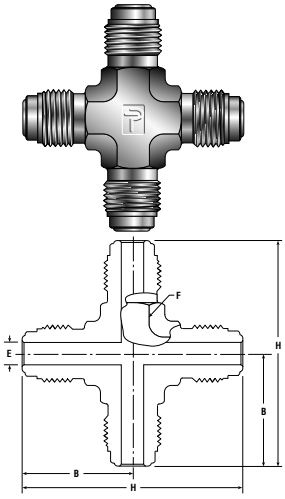
Size	Ordering Number	B		E		F Wrench Flat	Working Pressure	
		in.	mm	in.	mm		psig	bar
1/8	2-2 EV-SS	0.89	22.6	0.09	2.3	7/16	9000	620
1/4	4-4 EV-SS	1.13	28.7	0.25	6.4	9/16	8000	550
1/2	8-8 EV-SS	1.31	33.3	0.41	10.4	7/8	3500	240
3/4	12-12 EV-SS	1.92	48.8	0.62	15.7	1 1/4	3000	200
1	16-16 EV-SS	2.00	50.8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

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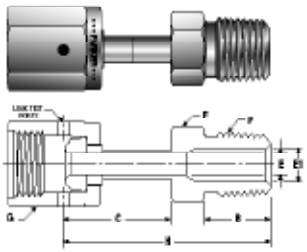
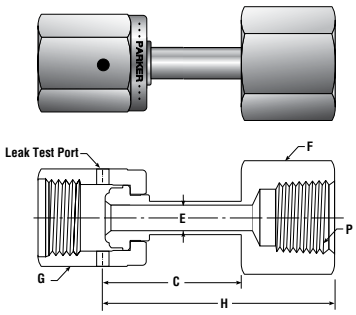
Welded Assemblies



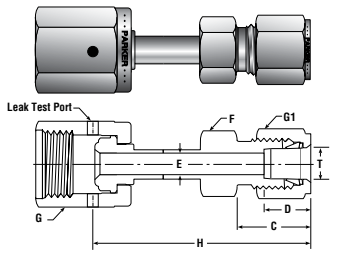
Male NPT Connector

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	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	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

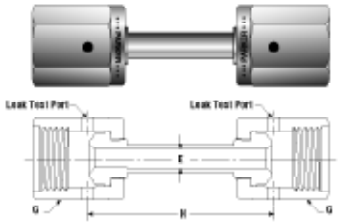


Compression Tube Fitting Connector (A-LOK)

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	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.



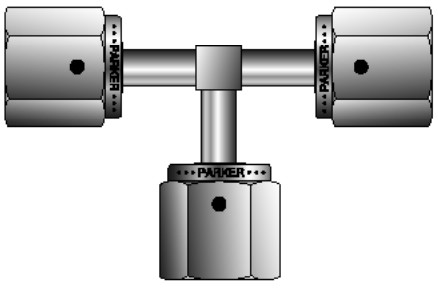
Rotating Female Union

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-444-*VFVFVF

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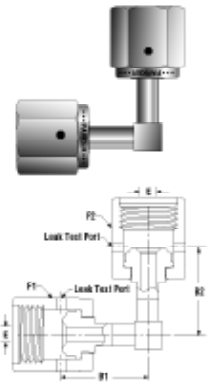
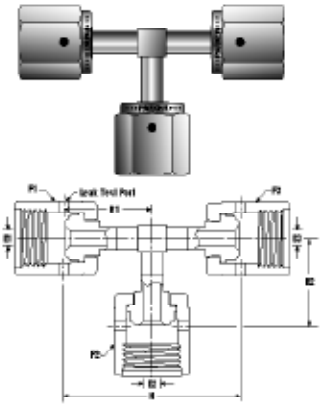
Welded Modules



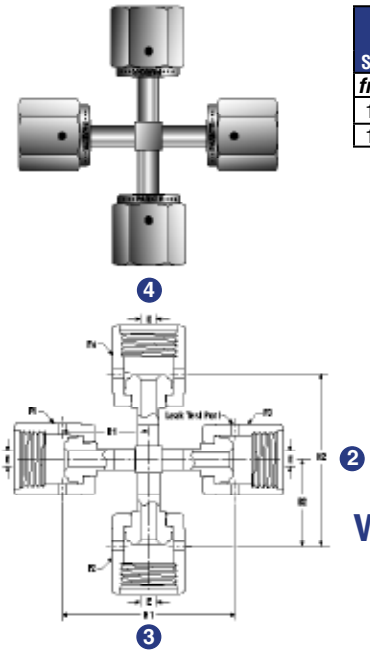
Elbow Modules

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*VFVFVMS	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*VFVFVF	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 2 VF VF VF VF

Type — **Size** — **Stainless Steel 316L** — **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.

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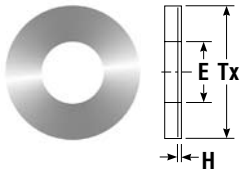
Gaskets

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

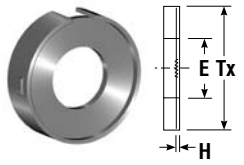


Retained Flat Style

Retainer and gasket must be used as an assembly.

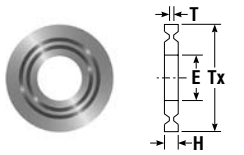
Note: *Nickel Retained Flat Style Gaskets utilize a Stainless Steel Retainer*

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



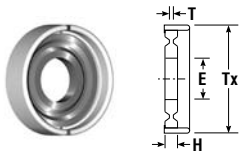
Non-Retained Grooved Style *(TorqTite™ Gasket)*

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

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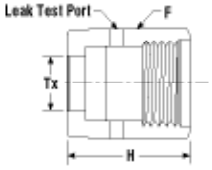
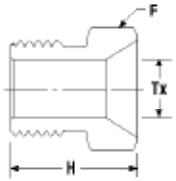
Nuts, Caps, and Plugs



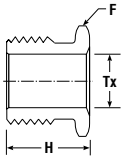
Female Nut

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



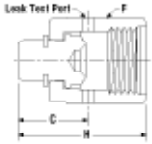
Male Nut

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



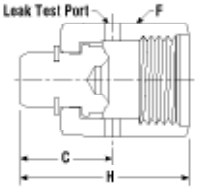
Short Male Nut

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



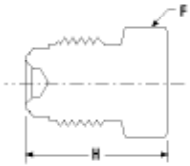
Cap

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



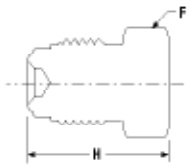
Cap With Lanyard

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

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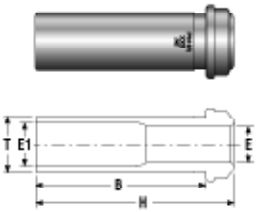
Hi-Flo Products

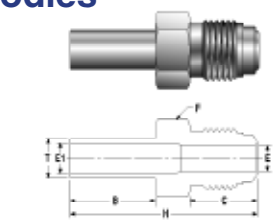
Glands



Tube Butt Weld

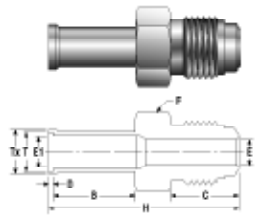
T Tube O.D.	Ordering Number	B		E		E1		H		Working Pressure	
		in.	mm	in.	mm	in.	mm	in.	mm	psig	bar
fractional											
3/8	4-6 VH1T3-*.60	0.41	10.4	0.25	6.4	0.30	7.6	0.60	15.2	3300	220
3/8	4-6 VH1T3-*	1.00	25.4	0.25	6.4	0.30	7.6	1.19	30.2	3300	220
3/8	4-6 VH1T3-* 1.31	1.12	28.4	0.25	6.4	0.30	7.6	1.31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

Bodies



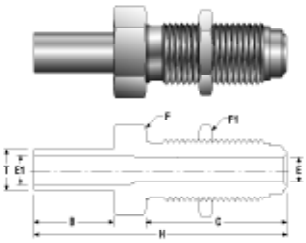
Tube Butt Weld

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



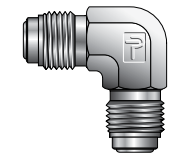
Automatic Tube Weld

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	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



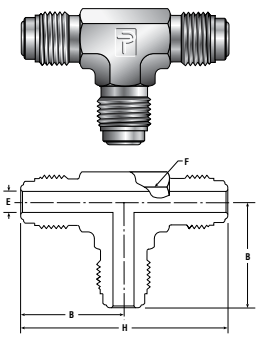
Bulkhead Connector

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			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

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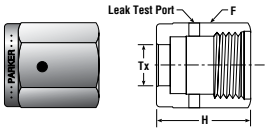
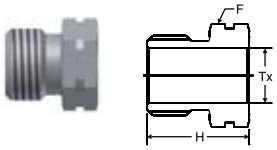
Huntsville, AL USA
http://www.parker.com/ipdus

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

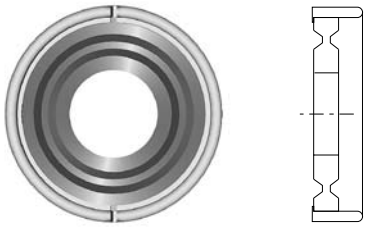


Male Nut

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

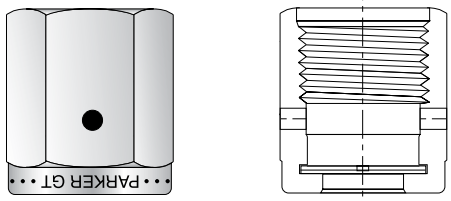
- Needs no installation tools
- Virtually eliminates loosening of components due to thermocycling and vibration (i.e. transportation)
- Seals even on damaged toroids
- Allows for higher torque without damaging sealing surfaces
- Easy open clean room bag requires no cutting
- Color coded retainers for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

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Huntsville, AL USA
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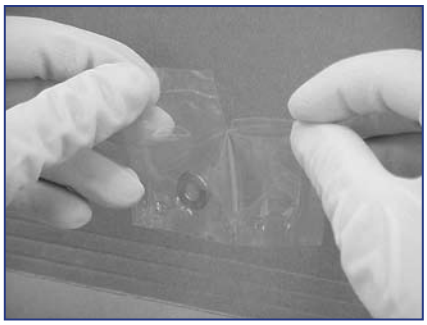
Make-Up Instructions

Flat and Grooved Gasket Assembly

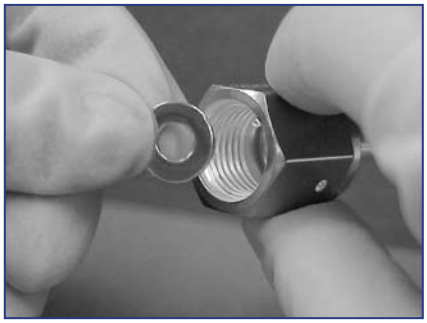
Step 1

Remove gasket from packaging.



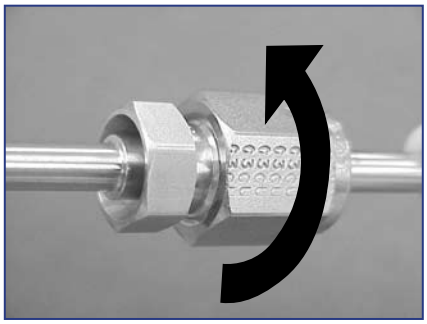
Step 2

Place gasket into female VacuSeal™ nut.



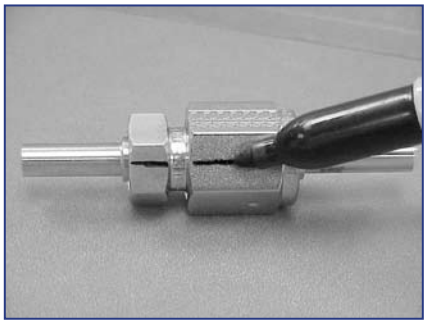
Step 3

Assemble components and snug to fingertight.



Step 4

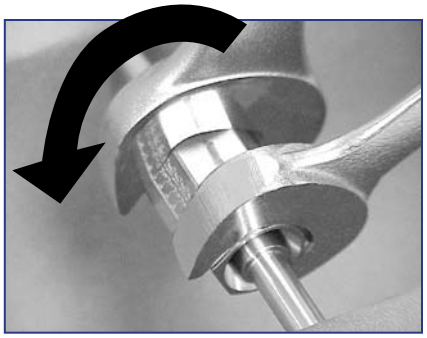
Scribe the hex flat of both the male and female nuts.



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.

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Instrumentation Products Division
Huntsville, AL USA
http://www.parker.com/ipdus

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.

VacuSeal™ Female Nut
4 BV-SS-D

VacuSeal™ Gland
4-4 V1T3-SSR 1.10-PE

VacuSeal™ Gasket
4 VG-N

VacuSeal™ Long Gland
4-4 V1T3-SSR 1.70-PE

VacuSeal™ Male Nut
4 BVI-SS

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	End Connections		Material*		Surface Finish (5 µinch Ra)
4 - 4	V 1 T3	-	SSR	1.10 -	PE
	Type			Overall Length	

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 = Buttweld with .25" tube stub length
T3 = Buttweld with .75" tube stub length
TW = Buttweld with various tube stub length
Y3 = Buttweld with End Collar
W = Socket Weld

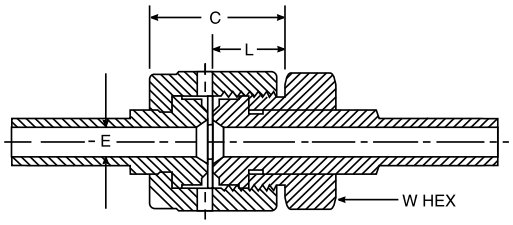
Overall Length: Specify length of component in inches.

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

MiniButtwelds™

UltraSeal™ Fittings

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.

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3. Delivery: Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

4. Warranty: Seller warrants that items sold hereunder shall be free from defects in material or workmanship. **THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION of ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.**

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6. Changes, Reschedules and Cancellations: Buyer may request to modify the designs or specifications for the items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of this order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.

7. Special Tooling: A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and not withstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

8. Buyer's Property: Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property, Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. Taxes: Unless otherwise indicated on the face hereof, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefore upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, together with any interest or penalties thereon which may be assessed if the items are held to be taxable.

10. Indemnity For Infringement of Intellectual Property Rights: Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. Patents, U.S. Trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgments resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

11. Force Majeure: Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.

12. Entire Agreement/Governing Law: The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

11/98-P

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Parker Hannifin Corporation

About Parker Hannifin Corporation

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Parker's Charter

To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

Product Information

North American customers seeking product information, the location of a nearby distributor, or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In Europe, call 00800-C-PARKER-H (00800-2727-5374).

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