




















UltraSeal™ Fittings

February 2011

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

UltraSeal™ Components









Index

	UltraSeal Gland Union (Welded)	Q1HBQ1 pg 4
	UltraSeal Gland to Weld-lok Socket	Q1W pg 4
	UltraSeal Gland to Automatic Buttweld	Q1Y pg 4
	UltraSeal Gland to MiniButtweld	Q1M pg 4
	UltraSeal Gland to Tube Stub Adapter	Q1T2/Q1TU pg 4
	UltraSeal Inverted Gland	Q1RT3 pg 5
	UltraSeal Body to MiniButtweld	QHM pg 5
	UltraSeal Union	HQ pg 5
	UltraSeal to Bulkhead Connector	WBQ pg 6
	UltraSeal Bulkhead to Automatic Buttweld Connector	YH2BQ pg 6
	UltraSeal to Automatic Buttweld Connector	QHY pg 6
	UltraSeal to Compression Tube Union	QHBZ pg 6
	UltraSeal Union Elbow	EQ pg 7
	UltraSeal Union Tee	JQ pg 7
	UltraSeal Union Cross	KQ pg 7
	UltraSeal to VacuSeal	VHQ pg 7
	UltraSeal to Socket Weld Connector	QHW pg 7

Parker Veriflo Division



Richmond, California

	UltraSeal to Male Pipe Connector	FQ pg 8
	UltraSeal to Male Elbow	CQ pg 8
	UltraSeal Tube Stub Weld Elbow	QET3 pg 8
	UltraSeal to Male Connector Straight Thread	QHA0 pg 8
	UltraSeal O-Ring Removal Tool	pg 9
	UltraSeal O-Rings	QO pg 9
	UltraSeal Plug	FNQ1 pg 9
	UltraSeal Nuts	BQ pg 9
HOW TO ORDER UltraSeal		pg 10

⚠ WARNING – USER RESPONSIBILITY

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

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

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

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

Proposition 65 Warning: This product contains chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.

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 detailed "Offer of Sale" elsewhere in this document or available at www.parker.com/veriflo.

© Copyright 2009 Parker Hannifin Corporation. All Rights Reserved.

Introduction

Parker UHP fittings 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 cleaning and packing in a class 100 clean room environment, is standard for all UHP UltraSeal™ components.

Performance

Parker High Purity Components are rated to a helium leak rate of 1×10^{-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. Consult your local Parker distributor or the factory for more information.

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

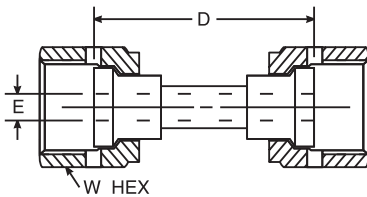
MATERIAL IS MARKED WITH HEAT CODE TO ENSURE MATERIAL TRACEABILITY

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)	(-350° to + 1000° F) (-212° to + 538° C)
	SAE AMS-5576 TYPE 321-SS (silver plated)	
Metal O-Rings	SAE AMS-5570 TYPE 321-SS (nickel plated)	(-350° to + 1000° F) (-212° to + 538° C)
	SAE AMS-5576 TYPE 321-SS (nickel plated)	
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)

UltraSeal™ Components

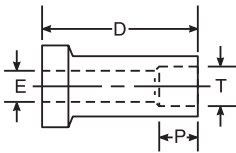
UltraSeal Gland Union (Welded) Q1HBQ1



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	.38

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

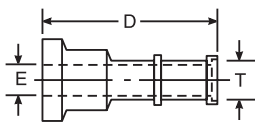
UltraSeal Gland to Weld-lok Socket Q1W



Part No.	T	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.

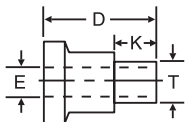
UltraSeal Gland to Automatic Buttweld Q1Y



Part No.	T	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	.38	.049	5,000
12-12 Q1Y	3/4	1.50	.50	.065	3,900

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

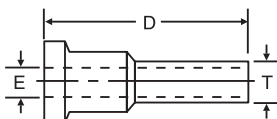
UltraSeal Gland to MiniButtweld Q1M



Part No.	Inches				Working Pressure
	D	*E Bore	T	K	
4-4 Q1M	.60	.180	.25	.25	5,400
6-6 Q1M	.62	.250	.38	.25	4,300
8-8 Q1M	.62	.380	.50	.25	3,600

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

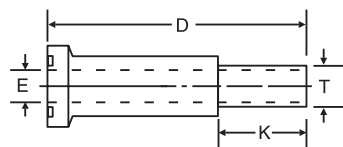
UltraSeal Gland to Tube Stub Adapter Q1T2/Q1TU



Part No.	Inches			Working Pressure
	T	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	.38	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	.38	6,250
12-12 Q1TU	3/4	2.25	.50	6,250

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

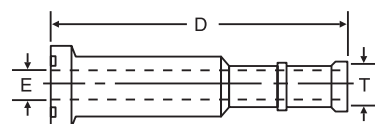
UltraSeal Inverted Gland to Male Tube Weld Q1RT3



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

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

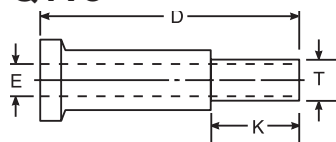
UltraSeal Inverted Gland to Automatic Butt weld Q1RY



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

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

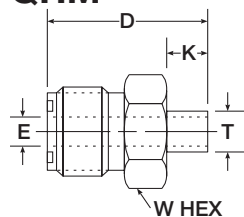
UltraSeal Gland to Male Tube Weld Q1T3



Part No.	Inches			
	D	E	Wall Thickness T	K
4-4 Q1T3	1.25	.18	.25	.75
8-6 Q1T3	1.50	.31	.38	.75
8-8 Q1T3	1.79	.38	.50	.75
12-12 Q1T3	1.22	.50	.75	.75

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

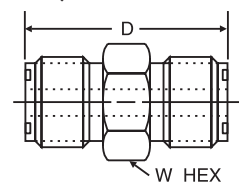
UltraSeal Body to MiniButt weld QHM



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.

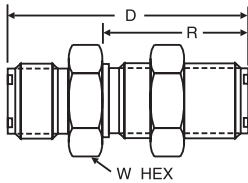
UltraSeal Union HQ



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™ Components

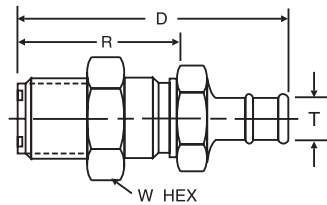
UltraSeal to Bulkhead Connector WBQ



Part No.	Inches		
	W Hex	D	R
4-4 WBQ	3/4	1.59	.88
6-6 WBQ	15/16	1.63	.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.

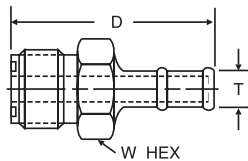
UltraSeal Bulkhead to Automatic Butt weld Connector YH2BQ



Part No.	Inches			
	W Hex	D	T	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

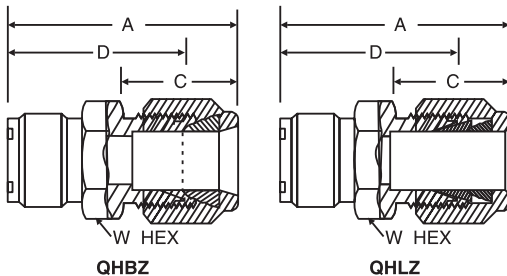
Note: Fitting includes WLZ bulkhead lock nut.

UltraSeal to Automatic Butt weld Connector QHY



Part No.	Inches			*Auto Butt weld Wall Size
	T	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

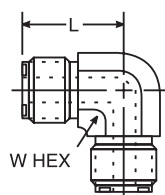
UltraSeal to Compression Tube Union QHBZ/QHLZ



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

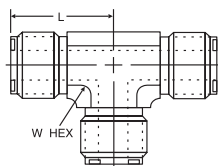
Part No.	Inches				
	Tube O.D.	W Hex	C	A	D
4-4 QHLZ (A-lok®)	1/4	5/8	.70	1.42	1.13
6-4 QHLZ	1/4	13/16	.70	1.45	1.16
6-6 QHLZ	3/8	13/16	.76	1.51	1.22
8-4 QHLZ	1/4	15/16	.70	1.48	1.19
8-6 QHLZ	3/8	15/16	.76	1.55	1.25
8-8 QHLZ	1/2	15/16	.87	1.65	1.25
12-12 QHLZ	3/4	1-3/8	.87	1.89	1.49

UltraSeal Union Elbow EQ



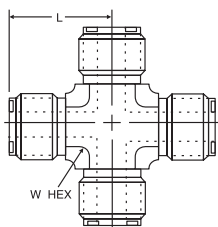
Part No.	Inches	
	W Hex	L
4-4 EQ	9/16	.84
6-6 EQ	3/4	.97
8-8 EQ	7/8	1.03
12-12 EQ	1-3/8	1.46

UltraSeal Union Tee JQ



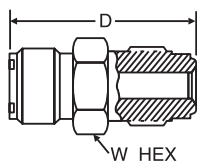
Part No.	Inches	
	W Hex	L
4-4-4 JQ	9/16	.84
6-6-6 JQ	3/4	.97
8-8-8 JQ	7/8	1.03
12-12-12 JQ	1-5/16	1.31

UltraSeal Union Cross KQ



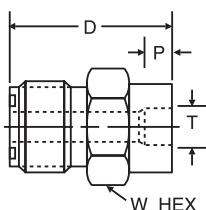
Part No.	Inches	
	W Hex	L
4 KQ	9/16	.84
6 KQ	3/4	.97
8 KQ	7/8	1.03

UltraSeal to VacuSeal VHQ



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

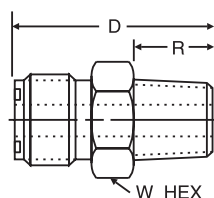
UltraSeal to Socket Weld Connector QHW



Part No.	Inches			
	T 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

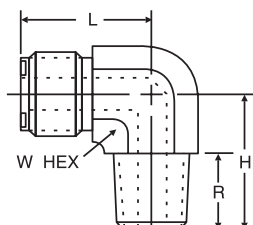
UltraSeal™ Components

UltraSeal to Male Pipe Connector FQ



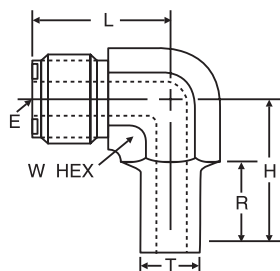
Part No.	Inches			
	Pipe Thread	W Hex	D	R
4-2 FQ	1/8	5/8	1.09	.38
4-4 FQ	1/4	5/8	1.28	.56
6-4 FQ	1/4	13/16	1.31	.56
6-6 FQ	3/8	13/16	1.31	.56
8-4 FQ	1/4	15/16	1.34	.56
8-6 FQ	3/8	15/16	1.34	.56
8-8 FQ	1/2	15/16	1.53	.75
12-8 FQ	1/2	1-3/8	1.78	.75
12-12 FQ	3/4	1-3/8	1.78	.75

UltraSeal to Male Elbow CQ



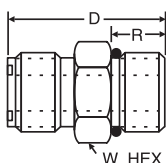
Part No.	Inches				
	Pipe Thread	W Hex	H	L	R
4-4 CQ	1/4	9/16	1.00	.84	.56
6-4 CQ	1/4	3/4	1.13	.97	.56
6-6 CQ	3/8	3/4	1.13	.97	.56
8-6 CQ	3/8	7/8	1.25	1.03	.56
8-8 CQ	1/2	7/8	1.31	1.03	.75
12-12 CQ	3/4	1-5/16	1.66	1.31	.75

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

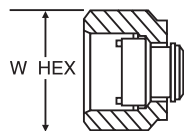
UltraSeal to Male Connector Straight Thread QHAO



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.

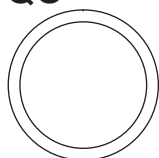
UltraSeal O-Ring Removal Tool



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

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

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

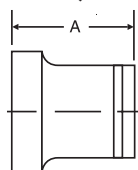
Nickel

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

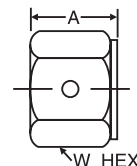
UltraSeal Plug FNQ1



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

UltraSeal Nuts BQ

VIEW ACROSS
HEX CORNERS

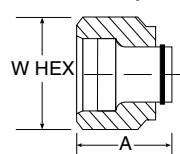


Part No.	Inches		
	W Hex	A	Straight Thread Size
4 BQ	11/16	.56	9/16-20
6 BQ	7/8	.69	3/4-20
8 BQ	1	.69	7/8-20
12 BQ	1-1/2	.81	1-5/16-20

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

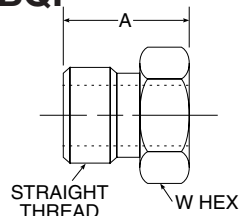
UltraSeal Plug Assembly FNQ

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	1.25	1
12 FNQ	1/42	1-1/2

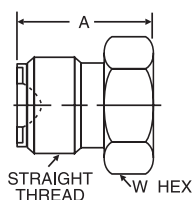
BQI*



Part No.	Inches		
	W Hex	A	Straight Thread Size
4 BQI*	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

How to Order UltraSeal™

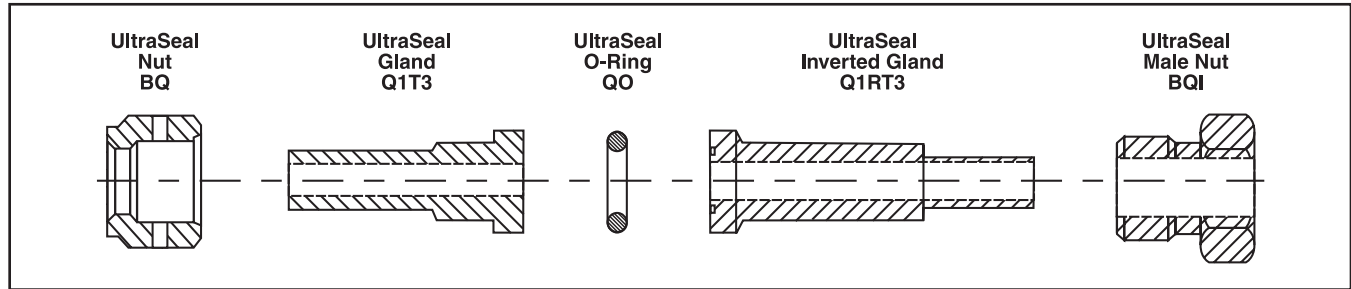
Nomenclature

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.

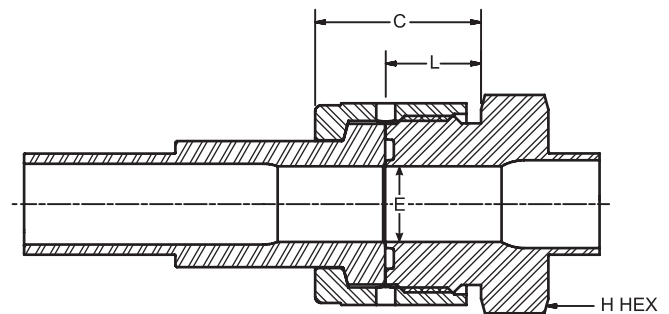
Availability: Only items as standard are carried in stock. Non-standard items can be quoted on request for quantities or materials specified.

UltraSeal End Data Information

Size	UltraSeal Straight Thread	Inches			
		*L	**C	W Hex	E Diameter
4	9/16-20	.46	.73	11/16	.18
6	3/4-20	.47	.82	7/8	.25
8	7/8-20	.47	.85	1	.38
12	1-5/16-20	.57	1.05	1-3/8	.50

*Average Value

**Dimension C is shown in the finger tight position



Parker's Motion & Control Technologies

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



AEROSPACE

Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



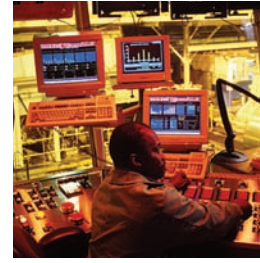
CLIMATE CONTROL

Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

Key Products

- CO₂ controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



ELECTROMECHANICAL

Key Markets

- Aerospace
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

Key Products

- AC/DC drives & systems
- Electric actuators, gantry robots & slides
- Electrohydraulic actuation systems
- Electromechanical actuation systems
- Human machine interface
- Linear motors
- Stepper motors, servo motors, drives & controls
- Structural extrusions



FILTRATION

Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



FLUID & GAS HANDLING

Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



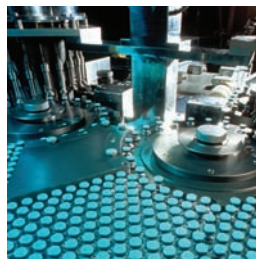
HYDRAULICS

Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



PNEUMATICS

Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

Key Products

- Air preparation
- Brass fittings & valves
- Manifolds
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves & controls
- Quick disconnects
- Rotary actuators
- Rubber & thermoplastic hose & couplings
- Structural extrusions
- Thermoplastic tubing & fittings
- Vacuum generators, cups & sensors



PROCESS CONTROL

Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



SEALING & SHIELDING

Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

Parker Hannifin Corporation
Veriflo Division
250 Canal Blvd
Richmond, California 94804

phone 510 235 9590
fax 510 232 7396
veriflo.sales@parker.com

www.parker.com/veriflo

Parker Hannifin Corporation
Veriflo Division
Partek Operation
7075 East Southpoint Road
Tucson, Arizona 85706

phone 520 574 2600
fax 520 574 2700
partek.sales@parker.com

www.parker.com/partek

