

GUYSON

Quick Seal



FS 28046



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Basic Sealing Methods



End Seal — Seals on End of Tube

- General purpose leak testing
- For air, water, refrigerant



Inside Diameter (I.D.) Seal

- Works well with all test media including helium, air, an most refrigerants and gases
- I.D. sealing usually done with inexpensive, easy to replace O-rings



Outside Diameter (O.D.) Seal

- Full flow, minimal restrictions
- Seals on smooth surface
- Seals have minimal exposure to test medium, last longer in hazardous duty
- Seals are larger and longer for better sealing

QUICK SEAL® Reference Guide

Tube Connector Part	PR	TC	RTC	OTC	MTC
Standard Tube Sizes (inches)	1/4 thru 7/8	1/8 thru 2-1/4	1/4 thru 1	.060 thru 3/8	N/A
Metric Tube Sizes (mm)	7 mm thru 22 mm	3 mm thru 57 mm	7 mm thru 25 mm	2 mm thru 9 mm	4 mm thru 54 mm
Maximum Pressure PSI (BAR)	650 (44)	650 (44)	650 (44)	650 (44)	650 (44)
Vaccum (MICRONS)	10	**	**	**	**
*Sealing Method	O.D.	E	E	O.D.	E

Tube Type

Straight



Expanded



Test Plug/Filling Connector Part	H	K
Standard Bore Sizes (inches)	0.343 thru 4.250	0.343 thru 4.250
Metric Bore Sizes (mm)	9 mm thru 108 mm	9 mm thru 108 mm
Maximum Pressure		
Smooth Bore - PSI (BAR)	50 (3.4)	50 (3.4)
Treaded Bore - PSI (BAR)	100 (6.8)	100 (6.8)
*Sealing Method	I.D.	I.D.

Opening Type

Smooth Bore



Threaded Bore



* Sealing Method: E = End Seal I.D. = Seal on Inside Diameter O.D. = Seal on Outside Diameter

** Not recommended for vacuum applications

For special applications, consult factory

QUICK SEAL®

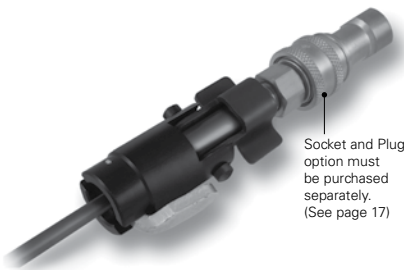
Tube Connectors – Straight Tube

For pressure testing, vacuum dehydrating and other applications requiring a quick, leak-free connection.

PR

1/4" to 7/8" O.D. (7 mm to 22 mm)

Pressures to 650 PSI (44 BAR)

**Automatic Self-Locking Retention**

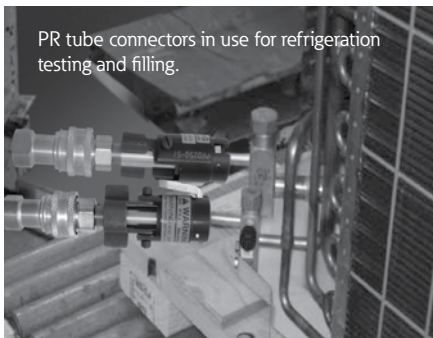
No adjustments other than routine maintenance by the operator are ever necessary.

Single 1/4" Long Seal

Lasts longer and provides a greater sealing surface which enables it to withstand the sensitivity of helium leak testing.

Independent Locking and Sealing Actuation

Allows the operator to safely release pressure before removing the connector from the tube.



PR tube connectors in use for refrigeration testing and filling.

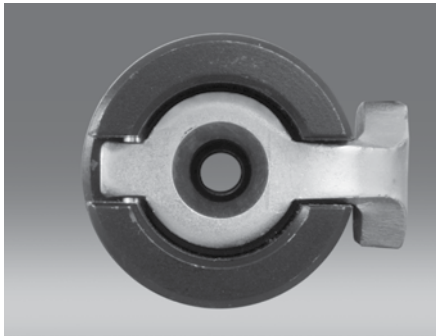
Designed to provide the sealing necessary for the greater sensitivity of today's demanding leak detection techniques.

- Specially designed for nitrogen, water, helium* and most refrigerants (R12, R22, R134A, R407, R409A, R410, AZ220, AZ250).
- Capable of sealing a 10 micron vacuum, pressures to 650 PSI (44 BAR).
- Exclusive design eliminates need for lubrication, allows easy seal replacement.
- Withstands temperatures from -20° to 250° F (-29° to 121° C).

*Helium leak rate less than 1×10^{-7} cc/sec @ 150 PSI (10 BAR)

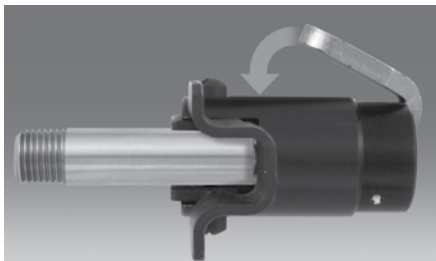
QUICK SEAL® Tube Connectors

Straight Tube

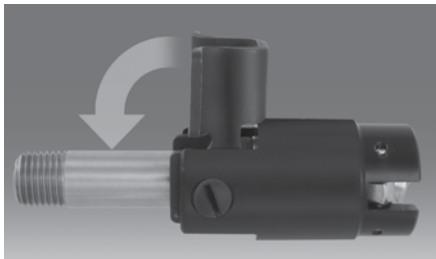


Design allows full flow for quick evacuation and charging. No restrictive small seal or plunger.

Two locking positions for highest possible secured seal:



Lock Lever



Locking Cam Lever – compresses seal around O.D. of tube.

Series HK Socket and Plug Option



PR Connectors

The PR Tube Connectors feature the Danfoss automatic self-locking device, which instantly connects seal pressure and vacuum lines to straight end tubing creating a leak-free seal. These units work on the push-on, pull-off principle – the higher the pressure, the tighter the hold.

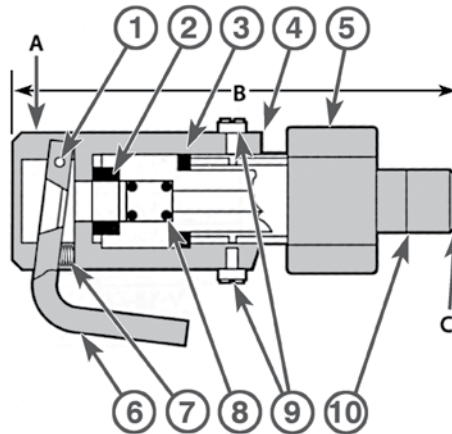
Connection to tube is instantaneous. Just connect unit to service line, depress the lock lever, push on over tubing, pressing firmly to stop position and actuate cam lever. This automatically locks the tube in place for a leak-free seal, ready for pressure testing, vacuum dehydrating or charging with refrigerant. To disconnect from tubing, relieve test pressure, actuate cam lever 90°, depress lock lever and pull off. It's that simple

Simplified design eliminates lubrication requirements and allows easy seal

replacement, which can be done in seconds. The seal is compressed around the O.D. of tube and actuated by the cam lever independent of the locking mechanism. Since it's not an end type seal, the surface condition of the tube's cutoff end does not affect the seal. It lasts longer and has a greater sealing area to withstand the sensitivity of helium and freon testing.

A quick disconnect can be assembled directly to the male pipe thread inlet port without the need of a short nipple or adapter.

Recommended for a range of services including helium, air, water, vacuum and most refrigerants. The PR is constructed with a heat treated and plated steel lock lever and neoprene seal suitable for temperatures from -20° to 250° F (-29° to 121° C).



PART material

- ① LEVER PIN hardened and plated steel
- ② SEAL neoprene
- ③ WEAR WASHER hardened and plated steel
- ④ BODY anodized aluminium
- ⑤ CAM LEVER hardened and plated steel
- ⑥ LOCK LEVER hardened and plated steel
- ⑦ LEVER SPRING stainless steel
- ⑧ SPRING stainless steel
- ⑨ SCREWS hardened and plated steel
- ⑩ PISTON stainless steel

Part Number*	Tube Size	Minimum Tube Length	Connector Dimensions		
			O.D. (A)	Length (B)	Inlet (C)
PR Series					
PR0250-57	1/4"	1.00"	1.13" rd.	3.50"	1/4" NPT
PR0312-57	5/16"				
PR0375-57	3/8"				
PR0437-57	7/16"	1.13"	1.38" rd.	3.63"	1/4" NPT
PR0500-57	1/2"				
PR0625-57	5/8"				
PR0750-57	3/4"	1.38"	2.00" hex	5.25"	3/4" NPT
PR0875-57	7/8"				

* When ordering, please specify part number, tube O.D., minimum available tube length, test pressure, media and media temperature. Tube O.D. tolerance must be +.003/-0.005 maximum.

QUICK SEAL®

Tube Connectors – Straight Tube Single Motion/High Speed Leak Test Tool

TC/MTC/RTC/OTC

Pressure to 650 PSI (44 BAR)



AMER region

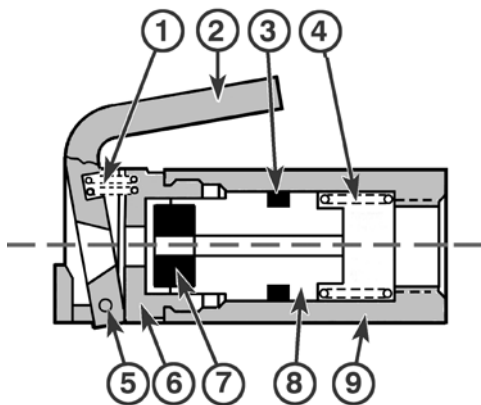
This self-sealing, automatic locking device works on a push-on, pull-off principle. Instantly connects and seals pressure lines.

TC Tube Connectors
1/8" to 2-1/4" O.D. (3 to 57 mm)

The TC Tube Connectors were originally developed for production line use on refrigeration coils, but have also earned overwhelming acceptance for use on compressor units, heat exchangers and any other assemblies which require a quick, easy and efficient way to attach pressure lines to straight end tubing.

RTC Tube Connectors
For short length tubes 1/4" to 1" O.D. (7 to 25 mm)

The RTC Tube Connectors have been specially designed for use in applications where only a short length of tube is available for engagement. Just attach the connector to the service line, depress the lock lever and push on over the tubing, until the spring loaded seat and plunger assembly is depressed a minimum of 1/8 inch.



PART material

- ① LEVER SPRING stainless steel
- ② LOCK LEVER hardened and plated steel
- ③ QUAD RING neoprene
- ④ COMPRESSION SPRING stainless steel
- ⑤ LEVER PIN hardened and plated steel
- ⑥ HEAD anodized aluminum
- ⑦ TUBE SEAL neoprene
- ⑧ PLUNGER anodized aluminum
- ⑨ CYLINDER anodized aluminum

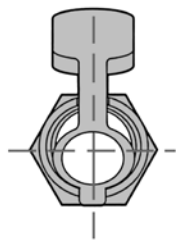
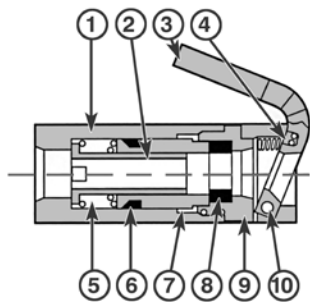
QUICK SEAL® Tube Connectors

Straight Tube Single Motion/High Speed Leak Test Tool

OTC with Outside Diameter Type Seal 0.060" to 3/8" O.D. (2 mm to 9 mm)

The OTC Tube Connectors have been designed specifically for use in those applications where there are advantages to making the tube connector's seal on the outside diameter of the tube – for example, where connection has to be made to smooth tubes which do not have square cut ends. They feature a "Full Flow" design with an internal tube stop. A seal is compressed around

the tube by the plunger as it is actuated by the test pressure. In 1500 Series OTC connectors for capillary tubes, a leak-free seal is created by an O-ring which is compressed around the tube by the plunger as it is actuated by the test pressure. A lock lever grips the tube for positive hold.



PART material

- ① CYLINDER anodized aluminum
- ② STOP SLEEVE stainless steel
- ③ LOCK LEVER hardened and plated steel
- ④ LEVER SPRING stainless steel
- ⑤ COMPRESSION SPRING stainless steel
- ⑥ QUAD RING neoprene
- ⑦ PLUNGER anodized aluminum
- ⑧ SEAL neoprene
- ⑨ HEAD anodized aluminum
- ⑩ LEVER PIN stainless steel

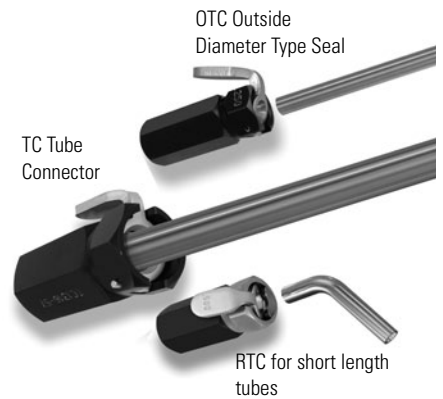


to 121° C) and are standard; other seal and quad ring materials are available. Also available are STC connectors with stainless steel construction (except the lock lever).

Danfoss TC, RTC and OTC Connectors are recommended for a wide variety of services with air, water and most refrigerants.

Connection to tubing is instantaneous. Just attach the connector to the service line, depress the lock lever and push on over tubing, pressing firmly to the stop position. This automatically locks the tube into place

for a leak-free seal, ready for pressure testing or charging with refrigerant. To disconnect the tubing, relieve the test pressure and then press the lock lever and pull off. It's that simple.



TC, RTC & OTC Connectors

Standard TC, RTC and OTC Connectors are of aluminum construction with a heat treated and plated steel lock lever. Neoprene seals and packing are suitable for temperatures from -20° to 250° F (-29°



QUICK SEAL® Tube Connectors

Straight Tube Single Motion/High Speed Leak Test Tool

AMER region

Part Number*	Tube Size	Connector Dimensions			
		Minimum Tube Length	Across Flats	Length	Inlet
TC Series					
TC1300-57*	1/8"	1.25"	0.88"	2.38"	1/4" NPT
TC1301-57*	3/16"				
TC1302-57	1/4"	1.00"	0.88"	2.38"	1/4" NPT
TC1303-57	5/16"				
TC1304-57	3/8"				
TC1305-57	1/8" pipe	1.25"	1.25"	3.00"	1/4" NPT
TC1306-57	7/16"				
TC1307-57	1/2"				
TC1308-57	1/4" pipe				
TC1309-57	9/16"				
TC1310-57	5/8"				
TC1311-57	3/8" pipe	1.50"	1.75"	3.88"	3/8" NPT
TC1312-57	11/16"				
TC1313-57	3/4"				
TC1314-57	13/16"				
TC1314-57	13/16"				
TC1316-57"	7/8"				
TC1317-57"	15/16"				
TC1000-57	1"	1.88"	2.25"	5.06"	1/2" NPT
TC1319-57	3/4" pipe				
TC1321-57	1-1/8"				
TC1322-57	1-3/16"				
TC1323-57	1-1/4"				
TC1324-57	1-5/16"				
TC1326-57"	1-3/8"				
TC1327-57"	1-1/2"				
MTC Series					
MTC5060-57	6 mm	25 mm	0.88"	2.38"	1/4" NPT
MTC5070-57	7 mm				
MTC5090-57	9 mm				
MTC5100-57	10 mm				
MTC5120-57	12 mm	32 mm	1.25"	3.00"	1/4" NPT
MTC5150-57	15 mm				
MTC5160-57	16 mm				
MTC5180-57	18 mm	38 mm	1.75"	3.88"	3/8" NPT
MTC5200-57	20 mm				
MTC5220-57	22 mm				
MTC5280-57	28 mm	48 mm	2.25"	5.06"	1/2" NPT
MTC5540-57"	54 mm	57 mm	3.00"	6.13"	3/4" NPT

Part Number*	Tube Size	Connector Dimensions			
		Minimum Tube Length	Across Flats	Length	Inlet
RTC Series					
RTC1602-57	1/4"	0.69"	0.88"	2.38"	1/4" NPT
RTC1603-57	5/16"				
RTC1604-57	3/8"				
RTC1605-57	1/8" pipe	0.88"	1.25"	3.00"	1/4" NPT
RTC1606-57	7/16"				
RTC1607-57	1/2"				
RTC1609-57	9/16"				
RTC1610-57	5/8"				
RTC1616-57	7/8"				
OTC Series					
OTC2502-57	1/4"	1.00"	0.88"	2.38"	1/4" NPT
OTC2503-57	5/16"				
OTC2504-57	3/8"				
OTC1500-57	.060 – .063"	1.00"	0.88"	2.38"	1/4" NPT
OTC1501-57	.072 – .078"				
OTC1502-57	.081 – .087"				
OTC1503-57	.093 – .099"				
OTC1504-57	.106 – .112"				

* Seal on O.D. of tube

** Pressures to 500 PSI only

*** Pressures to 300 PSI only

♦ When ordering, please specify part number, tube O.D., minimum available length, test pressure, media and media temperature. Tolerance of tube O.D. must be +.003/- .005 maximum.

• For OTC: Tolerance of tube O.D. must be +.002/- .002 maximum.

QUICK SEAL®

Connecto-Valves For Gas Leak Detection

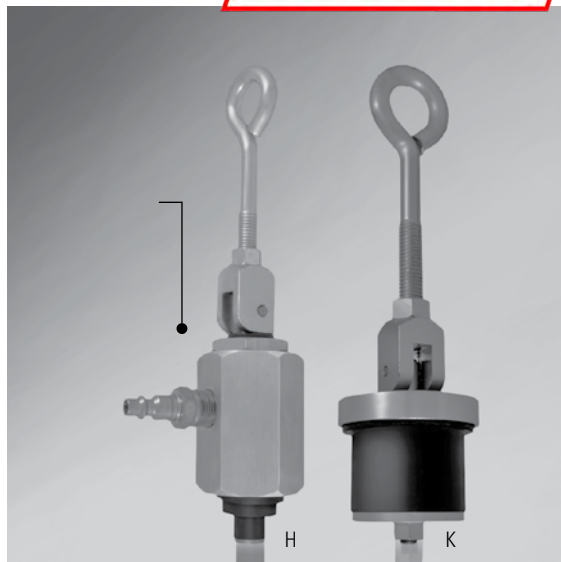
0.343" to 4.25" (9 mm to 108 mm) Bores
 Threaded Holes – Pressures to 100 PSI (6.8 BAR)
 Smooth Bore Holes – Pressures to 50 PSI (3.4 BAR)

H

Expanding Seal Filling Connectors

K

Expanding Seal Test Plugs



H expanding seal filling connector shown servicing an automotive radiator.



The H, K, and Connecto-Valve seal expansion is adjustable.

H Expanding Seal Filling Connectors

H Expanding Seal Filling Connectors are widely used for adapting and connecting pressure lines to tanks, drums, castings, etc., during leak testing. These tools effectively seal flanges, couplings, blind holes, deep openings or holes with restricted clearance. Actuation of the hand cam lever expands the seal firmly inside an opening, creating a dependable To remove the connector, relieve test pressure and lift cam lever. leak-free connection. Inlet openings are pipe tapped for connecting pressure lines.

Construction materials are aluminum, stainless steel, and plated carbon steel. Neoprene seals are standard.

The connectors are suitable for operation from -20° to 250° F (-29° to 121° C).

K Expanding Seal Test Plugs

K Test Plugs use the same sealing principle, materials of construction and action as the type H filling connector, but do not have an inlet port. They are frequently used in pressure testing rough castings. Seals are made of tough long-wearing neoprene and are easily replaced.

All expanding seal plugs and connectors are ruggedly built to assure long, trouble-free service.

Part Number*	Piped Tapped	Opening To Be Sealed		
		Bore	Min. Depth	Inlet
H2075-57	1/8" NPT	0.339"	0.59"	1/4" NPT
H2076-57	1/4" NPT	0.438"	0.72"	1/4" NPT
H2077-57	3/8" NPT	0.578"	0.72"	1/4" NPT
H2078-57	1/2" NPT	0.719"	0.88"	3/8" NPT
H2079-57	3/4" NPT	0.922"	1.13"	3/8" NPT
H2080-57	1" NPT	1.156"	1.38"	1/2" NPT
H2081-57	1-1/4" NPT	1.500"	1.38"	1/2" NPT
H2082-57	1-1/2" NPT	1.734"	1.69"	1/2" NPT
H2083-57	2" NPT	2.219"	1.69"	1/2" NPT

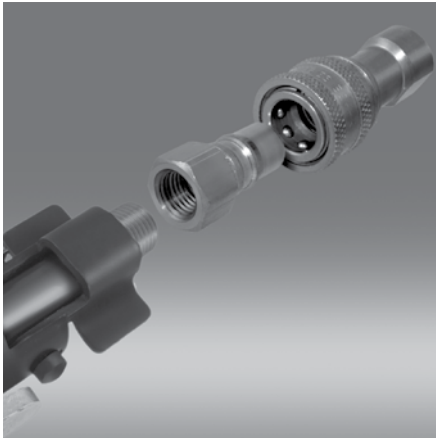
* To order, specify thread size, depth of hole, test pressure and test media.

Part Number*	Piped Tapped	Opening To Be Sealed	
		Bore	Min. Depth
K2063-57	1/8" NPT	0.339"	0.59"
K2064-57	1/4" NPT	0.438"	0.72"
K2065-57	3/8" NPT	0.578"	0.72"
K2066-57	1/2" NPT	0.719"	0.88"
K2067-57	3/4" NPT	0.922"	1.13"
K2068-57	1" NPT	1.156"	1.38"
K2069-57	1-1/4" NPT	1.500"	1.38"
K2070-57	1-1/2" NPT	1.734"	1.69"
K2071-57	2" NPT	2.219"	1.69"
K9072-57	2-1/2" NPT	2.625"	1.56"
K9073-57	3" NPT	3.250"	1.56"

* To order, specify thread size, depth of hole, test pressure and test media.

Accessories

HK Series



HK Series ISO 7241-1B

HK Series Couplings are designed for general purpose hydraulic service. Some are suitable for use with various liquids, chemicals, steam, gases and vacuum. HK Series couplings conform to the dimensional requirements of the ISO 7241-1 Series B standard.

Body sizes in the chart below range from 1/8" to 1". See our QDC section for the complete product line

Features

- End connections are female NPTF (BSPP also available)

Standard Materials

- Zinc-plated steel construction (also available in brass and stainless steel)
- Stainless steel springs, balls and retaining rings
- Buna-N (Nitrile) seals
- PTFE back-up rings in 1-HK through 8-HK steel sockets

Options

- Bleeder-style plug
- Sleeve lock
- Seals: Ask about availability

Series HK Accessories

- Dust caps and dust plugs



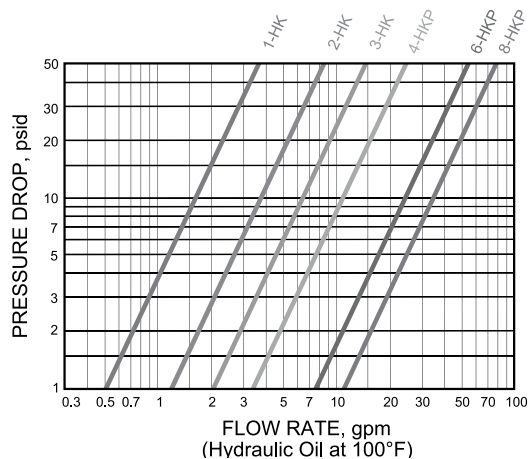
- Release clamp with chain



Rated Pressure and Flow Capacity

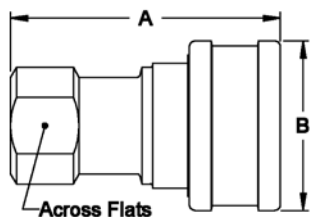
Series	Body Size	PSI	BAR
1HK	1/8"	4,000	275
2HK	1/4"	5,000	345
3HK	3/8"	4,000	275
4HKP	1/2"	5,000	345
6HKP	3/4"	4,000	275
8HKP	1"	4,000	275"

Other sizes available.



Accessories

HK Series

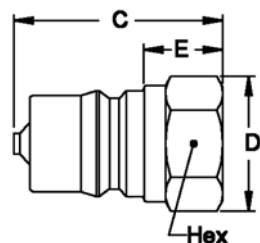


SOCKET

Steel Construction
(also available in brass and stainless steel)

Body Size (inch)	Part Number	Thread Size Female NPTF	Dimensions (inches)		
			A	B	Across Flats
1/8	1H11	1/8-27	1.91	0.98	0.56
1/4	2H16	1/4-18	2.26	1.17	0.75
3/8	3H21	3/8-18	2.56	1.42	0.88
1/2	4HP26	1/2-14	2.96	1.86	1.13
3/4	6HP31	3/4-14	3.48	2.22	1.31
1	8HP36	1-11 1/2	4.13	2.61	1.75

A = Overall length B = Maximum diameter



PLUG

Steel Construction
(also available in brass and stainless steel)

Body Size (inch)	Part Number	Thread Size Female NPTF	Dimensions (inches)			
			C	D	E	Hex
1/8	1K11	1/8-27	1.26	0.65	0.44	0.56
1/4	2K16	1/4-18	1.52	0.87	0.56	0.75
3/8	3K21	3/8-18	1.76	1.01	0.61	0.88
1/2	4KP26	1/2-14	2.03	1.30	0.76	1.13
3/4	6KP31	3/4-14	2.36	1.52	0.71	1.31
1	8KP36	1-11 1/2	2.85	1.88	0.97	1.63

C = Overall length D = Maximum diameter E = Exposed length when connected

More plug and socket configurations are available – see our coupling catalog for the complete product line.