



Hanley Controls Clonmel Ltd
 Gortnafleur, Clonmel, Co. Tipperary
 Tel:+353 (0)52 6122722
 e-mail: info@hccl.ie
 web: www.hccl.ie



Fittings, Materials and Tubing Guide

Instrumentation Products

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



ENGINEERING YOUR SUCCESS.

Fittings, Materials and Tubing Guide

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
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High Pressure 10k Pipe Fittings

Features and Technical Data

Parker High Pressure 10k Pipe Fittings are precision machined from bar stock. They are designed to be used for process control connections between pipe sizes.

Features

- Quality engineered for high pressure applications
- Packaged in sealed boxes for cleanliness
- Working pressures calculated in accordance with Power Piping Code ANSI B31.1 and Refinery Piping Code ANSI B31.3.
- All pipe threads are National Pipe Taper (NPT) and exceed the requirements of ANSI B1.20.1.
- Fittings machined from applicable ASTM bar stock specifications

Pipe Dimensions

Pipe Size	N.P.T. Pipe Thread	R	E Ref.
1/8	1/8 - 27	.38	.157
1/4	1/4 - 18	.56	.216
3/8	3/8 - 18	.56	.303
1/2	1/2 - 14	.75	.390

NPT Threads

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

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

System Temperature

Operating temperatures could be a factor resulting in a lower pressure rating being applied to these 10k psi rated High Pressure Pipe Fittings. The 10,000-psi (690 bar) pressure rating is based on ambient temperatures (22°C/72°F). For elevated temperature conditions a derating factor should be applied as listed in the table below.

Simply locate the correct factor and multiply by 10,000 to establish the appropriate elevated temperature working pressure.

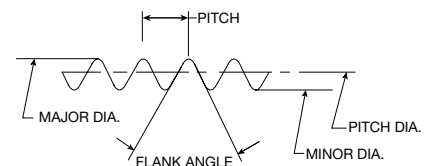
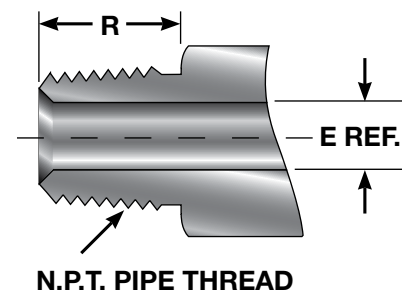
The recommended temperature range for AISI 316L Stainless Steel is -255°C to 649°C (425°F to 1,200°F) but consideration should be given to media for operating temperatures above 427°C (800°F) as 300 series Stainless Steels are susceptible to carbide precipitation, which may lead to intergranular corrosion at elevated temperatures.

- Size ranges from 1/8" through 1/2" NPT. (Other sizes may be available upon request.)
- Materials 316L Stainless Steel. (Other materials by special order)
- All exposed threads protected to prevent damage

Nomenclature

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

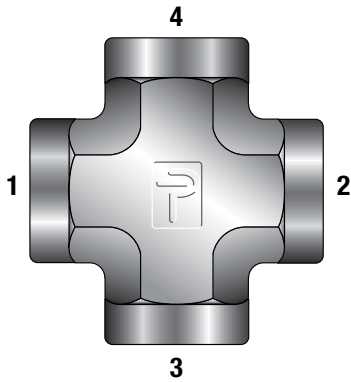
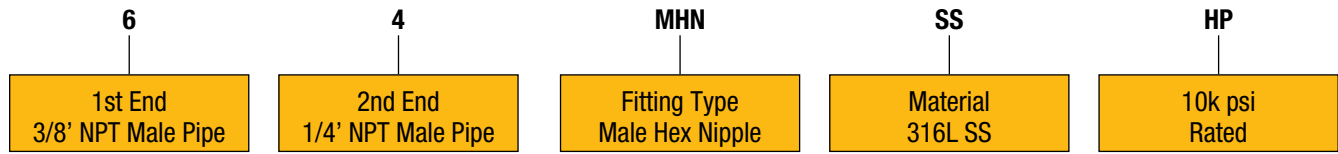
Example: The part number shown below is for a male hex nipple for 3/8" NPT male pipe and 1/4" NPT male pipe in 316 stainless steel.



Temperature Derating Factors for 316L Stainless Steel		
Temperature °C	Temperature °F	Derating Factor
150 and below	300 and below	1.00
204	400	0.97
260	500	0.90
316	600	0.85
371	700	0.82
427	800	0.80
486	900	0.78
538	1000	0.77
593	1100	0.62
649	1200	0.37

High Pressure 10k Pipe Fittings

How to Order example



Parker High Pressure 10k Pipe Fittings are ordered by part number as listed in this catalog.

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

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

Straights and Elbows: Call out the largest pipe end first followed by the smaller pipe size. See MHN example on page 138.

Tees and Crosses: For tees that are the same pipe sizes on all ends the size designation is as follows: 6-6-6 FT would be

a 3/8" NPT Female Tee.

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

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

Example: 6-6-6-4 FX-SSHP

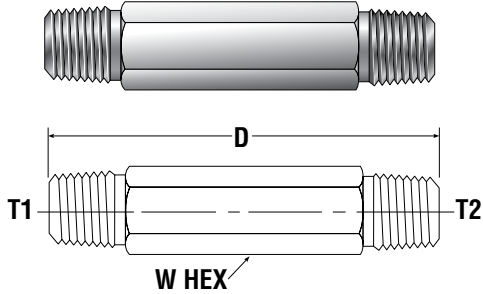
Material: Basic Material Type (SS=316L Stainless Steel)

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

Dimensions for reference only, subject to change.

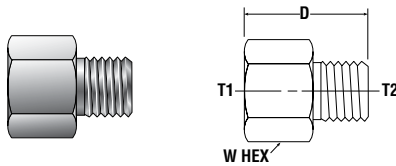
High Pressure 10k Pipe Fittings

Male Hex Long Nipple MHLN



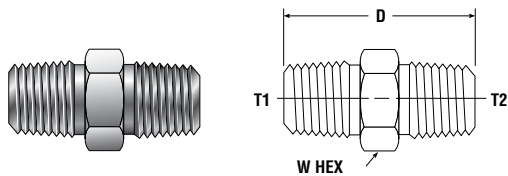
Parker Part No.	NPT THREAD MALE			
	T ₁	T ₂	W Hex	D ins.
4-4 MHLN-3-SSHP	1/4	1/4	5/8	3.00
4-4 MHLN-4-SSHP	1/4	1/4	5/8	4.00
6-6 MHLN-3.0-SSHP	3/8	3/8	3/4	3.00
6-6 MHLN-4.0-SSHP	3/8	3/8	7/8	4.00
8-8 MHLN-2-SSHP	1/2	1/2	7/8	2.00
8-8 MHLN-3	1/2	1/2	7/8	3.00

Adapter RA



Parker Part No.	NPT THREAD MALE			
	Female T ₁	Male T ₂	W Hex	D ins.
4-2 RA-SSHP	1/4	1/8	3/4	1.20
4-4 RA-SSHP	1/4	1/4	3/4	1.39
6-2 RA-SSHP	3/8	1/8	7/8	1.25
6-4 RA-SSHP	3/8	1/4	7/8	1.44
6-6 RA-SSHP	3/8	3/8	7/8	1.44
8-4 RA-SSHP	1/2	1/4	1-1/8	1.69
8-6 RA-SSHP	1/2	3/8	1-1/8	1.69
8-8 RA-SSHP	1/2	1/2	1-1/8	1.88

Male Hex Nipple MHN

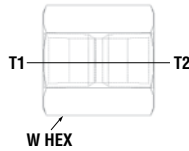


Parker Part No.	NPT THREAD MALE			
	T ₁	T ₂	W Hex	D ins.
2-2 MHN-SSHP	1/8	1/8	7/16	1.06
4-2 MHN-SSHP	1/4	1/8	5/8	1.25
4-4 MHN-SSHP	1/4	1/4	5/8	1.45
6-2 MHN-SSHP	3/8	1/8	3/4	1.27
6-4 MHN-SSHP	3/8	1/4	3/4	1.45
6-6 MHN-SSHP	3/8	3/8	3/4	1.45
8-2 MHN-SSHP	1/2	1/8	7/8	1.52
8-4 MHN-SSHP	1/2	1/4	7/8	1.70
8-6 MHN-SSHP	1/2	3/8	7/8	1.70
8-8 MHN-SSHP	1/2	1/2	7/8	1.89

Dimensions for reference only, subject to change.

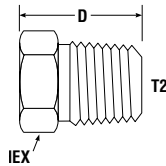
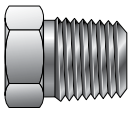
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Female Hex Coupling FHC



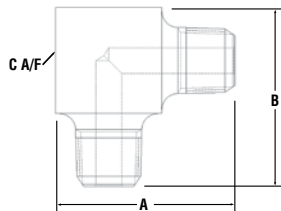
Parker Part No.	NPT THREAD FEMALE			
	T ₁	T ₂	W Hex	D ins.
2-2 FHC-SSHP	1/8	1/8	5/8	.75
4-2 FHC-SSHP	1/4	1/8	3/4	.94
4-4 FHC-SSHP	1/4	1/4	3/4	1.13
6-2 FHC-SSHP	3/8	1/8	7/8	1.03
6-4 FHC-SSHP	3/8	1/4	7/8	1.13
6-6 FHC-SSHP	3/8	3/8	7/8	1.13
8-2 FHC-SSHP	1/2	1/8	1-1/8	1.22
8-4 FHC-SSHP	1/2	1/4	1-1/8	1.38
8-6 FHC-SSHP	1/2	3/8	1-1/8	1.50
8-8 FHC-SSHP	1/2	1/2	1-1/8	1.50

Reducing Bushing RB



Parker Part No.	NPT THREAD			
	Female T ₁	Male T ₂	W Hex	D ins.
4-2 RB-SSHP	1/4	1/8	5/8	.86
6-4 RB-SSHP	3/8	1/4	3/4	.86
8-2 RB-SSHP	1/2	1/8	7/8	1.11
8-4 RB-SSHP	1/2	1/4	7/8	1.11
8-6 RB-SSHP	1/2	3/8	7/8	1.11
12-4 RB-SSHP	3/4	1/4	1-1/8	1.17
16-4 RB-SSHP	1	1/4	1-3/8	1.36

Male Elbow ME

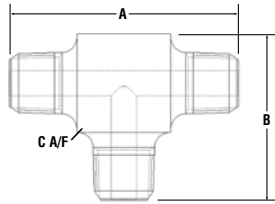


Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2-2ME-SSHP	1/8"	0.69	0.69	0.63
4-4ME-SSHP	1/4"	0.94	0.94	0.75
6-6ME-SSHP	3/8"	0.97	0.97	0.75
8-8ME-SSHP	1/2"	1.31	1.31	1.00

Dimensions for reference only, subject to change.

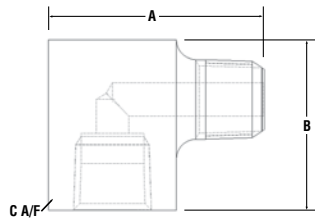
High Pressure 10k Pipe Fittings

Male Tee MT



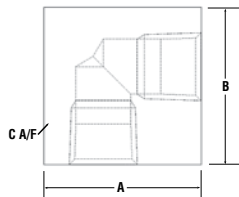
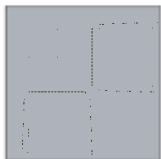
Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2-2-2MT-SSHP	1/8"	1.38	0.69	0.63
4-4-4MT-SSHP	1/4"	1.88	0.94	0.75
6-6-6MT-SSHP	3/8"	1.94	0.97	0.75
8-8-8MT-SSHP	1/2"	2.62	1.31	1.00

Street Elbow SE



Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2-2SE-SSHP	1/8" x 1/8"	1.20	0.90	0.75
4-4SE-SSHP	1/4" x 1/4"	1.30	1.00	1.00
6-6SE-SSHP	3/8" x 3/8"	1.40	1.10	1.25
8-8SE-SSHP	1/2" x 1/2"	1.60	1.25	1.50

Female Elbow FE

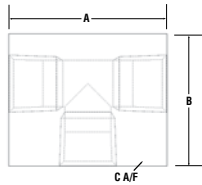
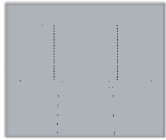


Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2-2FE-SSHP	1/8"	1.12	1.12	0.75
4-4FE-SSHP	1/4"	1.50	1.50	1.00
6-6FE-SSHP	3/8"	1.95	1.95	1.25
8-8FE-SSHP	1/2"	2.00	2.00	1.50

Dimensions for reference only, subject to change.

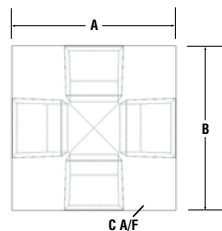
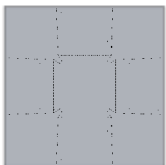
High Pressure 10k Pipe Fittings

Female Tee FT



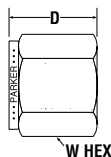
Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2-2-2FT-SSHP	1/8"	1.50	1.12	0.75
4-4-4FT-SSHP	1/4"	2.00	1.50	1.00
6-6-6FT-SSHP	3/8"	2.50	1.95	1.25
8-8-8FT-SSHP	1/2"	2.50	2.00	1.50

Female Cross FX



Part No.	Thread Size	A ins.	B ins.	C A/F ins.
2FX-SSHP	1/8"	1.50	1.50	0.75
4FX-SSHP	1/4"	2.00	2.00	1.00
6FX-SSHP	3/8"	2.50	2.50	1.25
8FX-SSHP	1/2"	2.50	2.50	1.50

Pipe Cap CP



Parker Part No.	NPT Thread Female	W Hex	D ins.
2 CP-SSHP	1/8	.710	.625
4 CP-SSHP	1/4	.945	.875
6 CP-SSHP	3/8	1.181	1.000
8 CP-SSHP	1/2	1.500	1.350

Dimensions for reference only, subject to change.