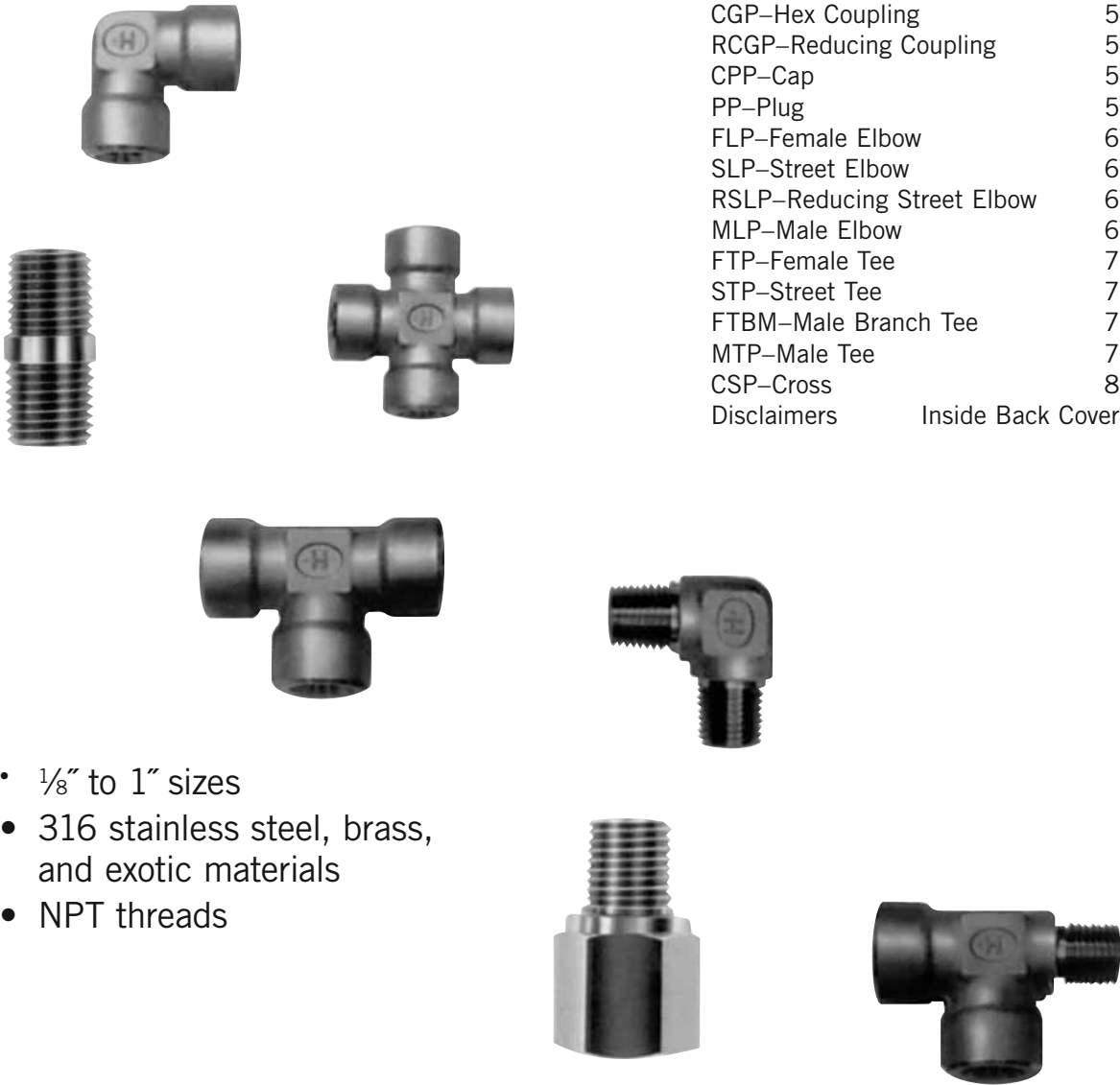




# Precision Pipe Fittings

## Index

Safety Warning	Inside Front Cover
CNP—Close Nipple	3
NP—Hex Nipple	3
RNP—Hex Reducing Nipple	3
LNP—Hex Long Nipple	3
AP—Adapter	4
RAP—Reducing Adapter	4
RBP—Reducing Bushing	4
CGP—Hex Coupling	5
RCGP—Reducing Coupling	5
CPP—Cap	5
PP—Plug	5
FLP—Female Elbow	6
SLP—Street Elbow	6
RSLP—Reducing Street Elbow	6
MLP—Male Elbow	6
FTP—Female Tee	7
STP—Street Tee	7
FTBM—Male Branch Tee	7
MTP—Male Tee	7
CSP—Cross	8
Disclaimers	Inside Back Cover



- 1/8" to 1" sizes
- 316 stainless steel, brass, and exotic materials
- NPT threads

precision pipe fittings



CRANE Instrumentation & Sampling, HOKE®  
PO Box 4866 • Spartanburg, SC 29305-4866  
(864) 574-7966 • www.hoke.com

## **For Your Safety**

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It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

Contact your authorized HOKE® sales and service representative for information about additional sizes and special alloys.

## **SAFETY WARNING:**

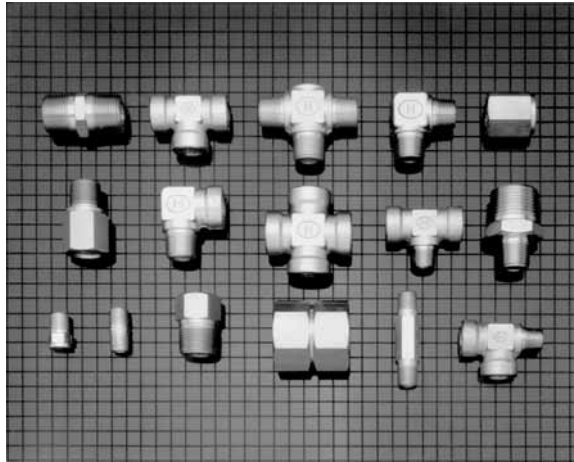
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HOKE® products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.



# HOKE® Precision Instrument Pipe Fittings

HOKE® Precision Instrument Pipe Fittings are manufactured with high quality NPT tapered threads in a wide variety of configurations to provide broad application capabilities.



precision pipe fittings

## Threads

Threads utilized on HOKE® Precision Instrument Pipe fittings are National Pipe Taper (NPT) which exceed the requirements of ANSI B1.20.1.

## Pressure Ratings

Pressure ratings for temperatures up to 100° F are identified for each individual pipe fitting in the dimensional data charts.

## Temperature\*

Temperatures noted below apply to basic fitting capabilities. In all cases consideration must also be given to the type of thread sealant used. For example, PTFE tape has a maximum temperature rating of 450° F.

316 stainless steel: -325° F to +1200° F  
(-198° C to +648° C)  
Brass: -325° F to +400° F  
(-198° C to +204° C)

## Materials

HOKE® Precision Pipe Fittings are available as standard in Brass and 316 Stainless Steel. HOKE® pipe fittings can also be supplied in other materials including, MONEL®, HASTELLOY® C, INCONEL® and Titanium and in special shapes. Specifications for standard materials are:

316 Stainless Steel Forgings	ASTM A-182
316 Stainless Steel Bar Stock	ASTM A-479
Brass Forgings, Alloy 377	QQ-B-626
Brass Bar Stock, Alloy 353	ASTM B-453
Brass Bar Stock, Alloy 360	QQ-B-626

## Heat Traceability

HOKE®'s 316 Stainless Steel Precision Instrument Pipe Fittings are heat code traceable. To obtain certified material test reports (CMTR'S) for these components, place separate orders for such items and specify "CMTR'S required".

*\* Prolonged exposure to temperature over 800° F is not recommended.*

# Precision Instrument Pipe Fittings

## HOKE® Pipe Fitting Part Numbering

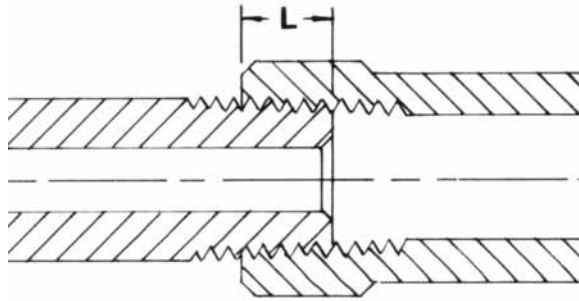
The part numbering system for HOKE® Precision Instrument Pipe Fittings is completely descriptive and easily understood.

Example:

PIPE SIZE IN SIXTEENTHS OF AN INCH	PIPE FITTING TYPE	PIPE SIZE (IF DIFFERENT) IN SIXTEENTHS OF AN INCH	MATERIAL BRASS – BR 316 SS – 316 EXAMPLE: 4RAP2316
4	RAP	2	316
¼ NPT	Reducing Adapter	½ NPT	316 Stainless Steel

## Assembly Instructions

To ensure a leak-tight seal, the use of a pipe thread sealant is recommended. One commonly utilized technique is PTFE Tape. The chart below provides information regarding the recommended tape width and the approximate number of threads which should be wrapped

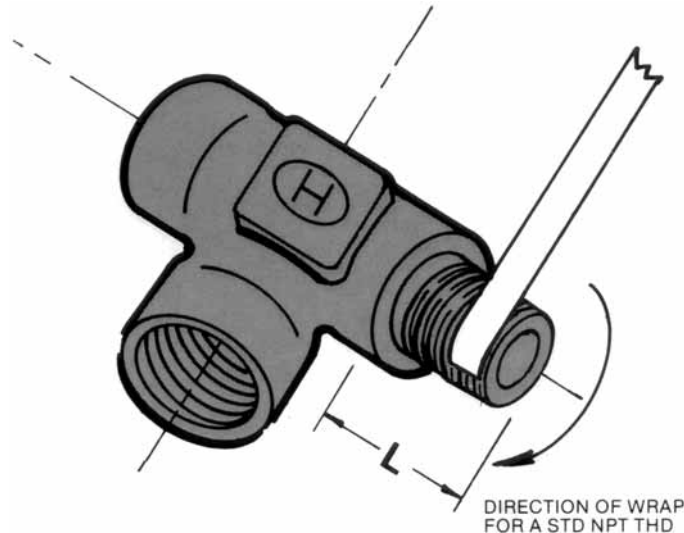


NOMINAL PIPE SIZE	RECOMMENDED TAPE WIDTH	EFFECTIVE THREAD LENGTH (EXTERNAL) L*	APPROX. # OF THREADS
⅛	⅛–¼	¼	7
¼	¼	⅜	7½
⅜	¼	⅜	7½
½	¼–½	½	7½
¾	¼–½	⅝	7½
1	¼–½	1⅛	8

\* ISA Handbook of Control Valves. Note: Dimensions are in inches. The Pipe Thread Sealants may have lower temperature capabilities than the basic fitting.

Example: For a ¼ NPT, "L" = ⅜"

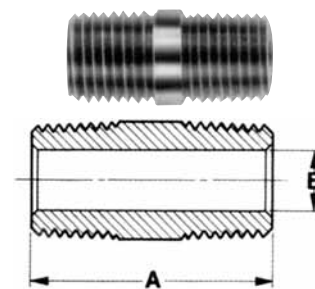
Approximate number of threads which should be wrapped = 7½



# Precision Instrument Pipe Fittings

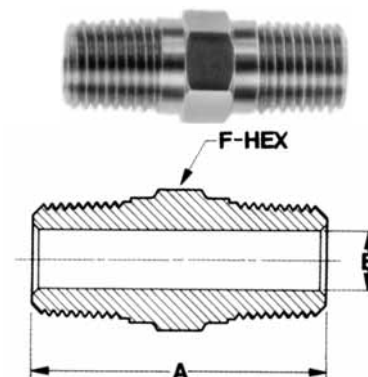
## CNP Close Nipple (male NPT both ends)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS		WORKING PRESSURE (PSIG)	
	MALE	A	E (MIN. OPENING)	BRASS	316SS	
4CNP - [ ]	¼	1.13	.28	6600	8600	
6CNP - [ ]	⅜	1.13	.37	6100	8000	
8CNP - [ ]	½	1.50	.42	7100	9300	
12CNP - [ ]	¾	1.50	.62	5500	7300	



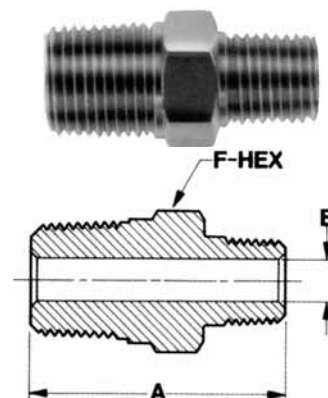
## NP Hex Nipple (male NPT both ends)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE	A	E MIN	F HEX	BRASS	316SS	
1NP - [ ]	⅛	1.20	.09	⅜	10,900	14,200	
2NP - [ ]	¼	1.20	.18	⅞	7900	10,300	
4NP - [ ]	½	1.58	.28	⅞	6600	8600	
6NP - [ ]	¾	1.61	.37	1½	6100	8000	
8NP - [ ]	1	1.98	.46	⅞	6100	7900	
12NP - [ ]	1½	2.01	.62	1½	5500	7300	
16NP - [ ]	2	2.28	.87	1¾	4200	5500	



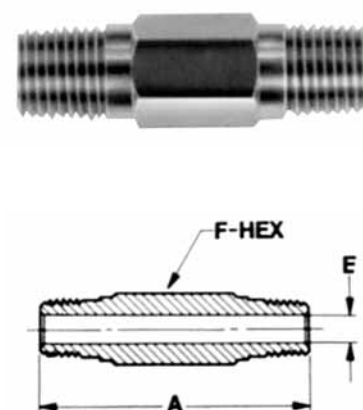
## RNP Hex Reducing Nipple (male NPT to reduced male NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE	REDUCED MALE	A	E MIN	F HEX	BRASS	316SS
2RNP1 - [ ]	¼	⅛	1.11	.09	⅜	10,900	14,200
4RNP2 - [ ]	½	¼	1.32	.18	⅞	7900	10,300
6RNP4 - [ ]	¾	¼	1.50	.28	1½	6600	8600
8RNP4 - [ ]	1	¼	1.69	.28	⅞	6600	8600
8RNP6 - [ ]	1	⅜	1.69	.37	⅞	6100	8000
12RNP6 - [ ]	1½	⅜	1.72	.37	1½	6100	8000
12RNP8 - [ ]	1½	½	1.90	.43	1½	6800	8900
16RNP8 - [ ]	2	½	2.17	.43	1¾	6800	8900
16RNP12 - [ ]	2	¾	2.27	.62	1¾	5500	7300

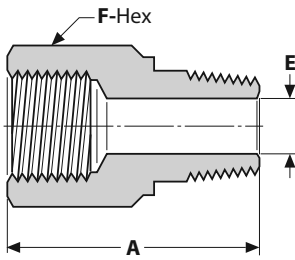
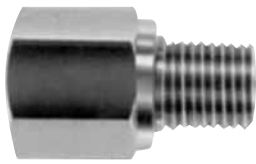


## LNP Hex Long Nipple (male NPT both ends)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE	A	E MIN	F HEX	BRASS	316SS	
2LNP - [ ]/200	⅛	2.0	.18	⅜	7900	10,300	
2LNP - [ ]/250	⅛	2.5	.18	⅜	7900	10,300	
4LNP - [ ]/200	¼	2.0	.28	⅞	6600	8600	
4LNP - [ ]/250	¼	2.5	.28	⅞	6600	8600	
4LNP - [ ]/300	¼	3.0	.28	⅞	6600	8600	
4LNP - [ ]/400	¼	4.0	.28	⅞	6600	8600	
6LNP - [ ]/200	⅜	2.0	.37	1½	6100	8000	
6LNP - [ ]/250	⅜	2.5	.37	1½	6100	8000	
6LNP - [ ]/400	⅜	4.0	.37	1½	6100	8000	
8LNP - [ ]/300	½	3.0	.46	⅞	6000	7900	
12LNP - [ ]/300	¾	3.0	.62	1½	5500	7300	
16LNP - [ ]/300	1	3.0	.87	1¾	4200	5500	
16LNP - [ ]/400	1	4.0	.87	1¾	4200	5500	

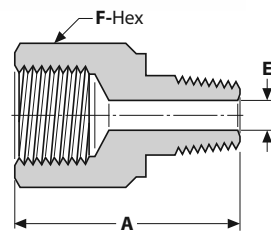


# Precision Instrument Pipe Fittings



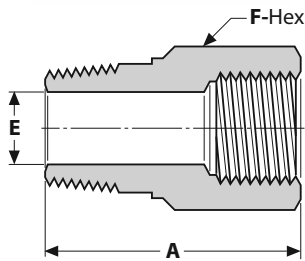
AP Adapter (female NPT same size male NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE		A	E MIN	F HEX	BRASS	316SS
2AP - [ ]	1/8		1.00	.18	7/16	5100	6700
4AP - [ ]	1/4		1.37	.28	3/4	5300	6900
6AP - [ ]	3/8		1.56	.37	7/8	4200	5500
8AP - [ ]	1/2		1.90	.46	1 1/16	3900	5100
12AP - [ ]	3/4		1.96	.65	1 1/4	3000	3900



RAP Reducing Adapter (female NPT to reduced male NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	FEMALE	MALE	A	E MIN	F HEX	BRASS	316SS
4RAP2 - [ ]	1/4	1/8	1.25	.18	3/4	5300	6900
6RAP2 - [ ]	3/8	1/8	1.31	.18	7/8	4200	5500
6RAP4 - [ ]	3/8	1/4	1.50	.28	7/8	4200	5500
8RAP4 - [ ]	1/2	1/4	1.75	.28	1 1/16	3900	5100
8RAP6 - [ ]	1/2	3/8	1.75	.37	1 1/16	3900	5100
12RAP4 - [ ]	3/4	1/4	1.83	.28	1 1/4	3000	3900
12RAP6 - [ ]	3/4	3/8	1.83	.37	1 1/4	3000	3900
12RAP8 - [ ]	3/4	1/2	2.00	.46	1 1/4	3000	3900
16RAP8 - [ ]	1	1/2	2.37	.46	1 5/8	3400	4500
16RAP12 - [ ]	1	3/4	2.37	.62	1 5/8	3400	4500



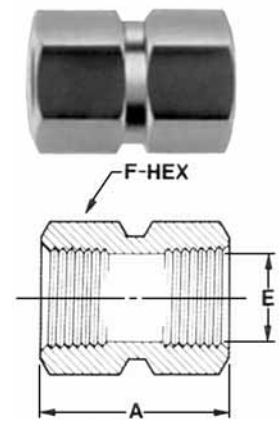
RBP Reducing Bushing (male NPT to reduced female NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE	FEMALE	A	E MIN	F HEX	BRASS	316SS
2RBP1 - [ ]	1/8	1/16	1.00	.24	7/16	5500	7200
4RBP2 - [ ]	1/4	1/8	1.00	.33	9/16	4900	6400
6RBP2 - [ ]	3/8	1/8	1.12	.33	3/4	7600	9900
6RBP4 - [ ]	3/8	1/4	1.12	.43	3/4	4700	6100
8RBP4 - [ ]	1/2	1/4	1.16	.43	7/8	6900	9100
8RBP6 - [ ]	1/2	3/8	1.16	.56	7/8	3900	5200
12RBP4 - [ ]	3/4	1/4	1.22	.43	1 1/16	8700	11,400
12RBP6 - [ ]	3/4	3/8	1.56	.56	1 1/16	6400	8400
12RBP8 - [ ]	3/4	1/2	1.56	.69	1 1/16	3900	5100
16RBP8 - [ ]	1	1/2	1.56	.69	1 3/8	6900	9000
16RBP12 - [ ]	1	3/4	1.75	.90	1 3/8	3900	5100

# Precision Instrument Pipe Fittings

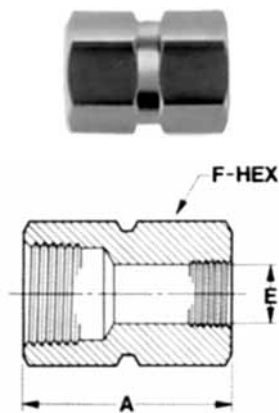
## CGP Hex Coupling (female NPT both ends)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	FEMALE		A	E MIN	F HEX	BRASS	316SS
2CGP - [ ]	1/8		.81	.33	9/16	5100	6700
4CGP - [ ]	1/4		1.13	.43	3/4	5300	6900
6CGP - [ ]	3/8		1.25	.56	7/8	4200	5500
8CGP - [ ]	1/2		1.50	.69	1 1/16	3900	5100
12CGP - [ ]	3/4		1.63	.90	1 1/4	3000	3900
16CGP - [ ]	1		2.00	1.13	1 5/8	3400	4500



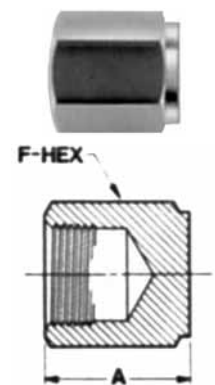
## RCGP Reducing Coupling (female NPT to reduced female NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS			WORKING PRESSURE (PSIG)	
	FEMALE	FEMALE	A	E MIN	F HEX	BRASS	316SS
4RCGP2 - [ ]	1/4	1/8	1.13	.33	3/4	5300	6900
6RCGP4 - [ ]	3/8	1/4	1.37	.43	7/8	4200	5500
8RCGP4 - [ ]	1/2	1/4	1.50	.43	1 1/16	3900	5100
8RCGP6 - [ ]	1/2	3/8	1.50	.56	1 1/16	3900	5100
12RCGP4 - [ ]	3/4	1/4	1.72	.43	1 1/4	3000	3900
12RCGP6 - [ ]	3/4	3/8	1.72	.56	1 1/4	3000	3900
12RCGP8 - [ ]	3/4	1/2	1.72	.69	1 1/4	3000	3900
16RCGP8 - [ ]	1	1/2	2.31	.69	1 5/8	3400	4500
16RCGP12 - [ ]	1	3/4	2.37	.90	1 5/8	3400	4500



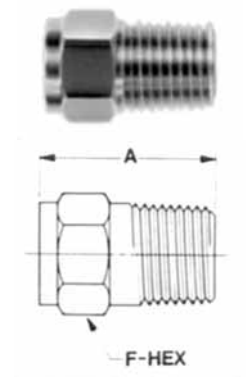
## CPP Cap (female NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS		WORKING PRESSURE (PSIG)	
	FEMALE		A	F HEX	BRASS	316SS
2CPP - [ ]	1/8		.69	9/16	5100	6700
4CPP - [ ]	1/4		.88	3/4	5300	6900
6CPP - [ ]	3/8		1.03	7/8	4200	5500
8CPP - [ ]	1/2		1.25	1 1/16	3900	5100
12CPP - [ ]	3/4		1.43	1 1/4	3000	3900
16CPP - [ ]	1		1.62	1 5/8	3400	4500

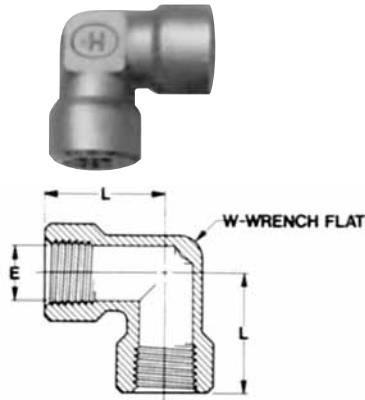


## PP Plug (male NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS	
	MALE		A	F HEX
1PP - [ ]	1/16		.73	9/16
2PP - [ ]	1/8		.75	7/16
4PP - [ ]	1/4		.94	9/16
6PP - [ ]	3/8		1.00	1 1/16
8PP - [ ]	1/2		1.25	7/8
12PP - [ ]	3/4		1.31	1 1/16
16PP - [ ]	1		1.72	1 3/8

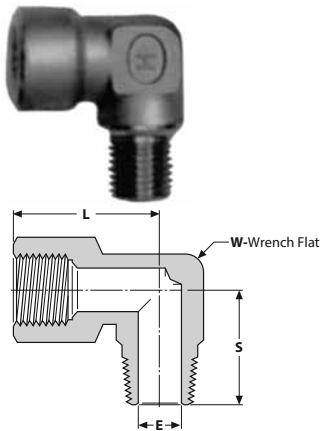


# Precision Instrument Pipe Fittings



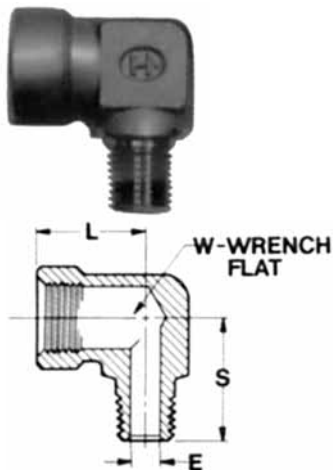
FLP Female Elbow (female NPT both ends)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS			WORKING PRESSURE (PSIG)	
	FEMALE	L	E MIN	W	BRASS	316SS
2FLP - [ ]	1/8	.75	.33	.50	3200	4200
4FLP - [ ]	1/4	.84	.43	.68	4000	5300
6FLP - [ ]	3/8	1.00	.56	.81	3200	4200
8FLP - [ ]	1/2	1.13	.69	1.00	3100	4100
12FLP - [ ]	3/4	1.25	.90	1.26	3000	3900



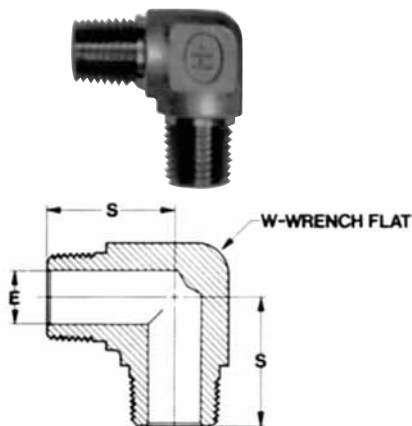
SLP Street Elbow (female to male NPT)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS				WORKING PRESSURE (PSIG)	
	FEMALE	L	S	E MIN	W	BRASS	316SS
1SLP - [ ]	1/16	.75	.71	.12	.43	5500	7200
2SLP - [ ]	1/8	.75	.87	.18	.50	3200	4200
4SLP - [ ]	1/4	.84	1.13	.28	.68	4000	5300
6SLP - [ ]	3/8	.84	1.25	.37	.81	3200	4200
8SLP - [ ]	1/2	1.13	1.50	.50	1.00	3100	4100
12SLP - [ ]	3/4	1.25	1.56	.62	1.25	3000	3900



RSLP Reducing Street Elbow (female NPT reduced male NPT)

ORDER BY PART NUMBER	PIPE SIZE		DIMENSIONS				WORKING PRESSURE (PSIG)	
	FEMALE	REDUCED MALE	L	S	E MIN	W	BRASS	316SS
6RSLP4 - [ ]	3/8	1/4	.91	1.13	.28	.81	3200	4200
8RSLP4 - [ ]	1/2	1/4	1.13	1.40	.28	1.00	3100	4100
8RSLP6 - [ ]	1/2	3/8	1.13	1.25	.37	1.00	3100	4100



MLP Male Elbow (male NPT both ends)

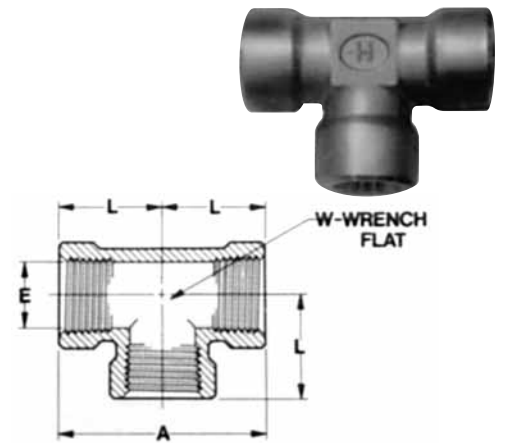
ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS			WORKING PRESSURE (PSIG)	
	MALE	S	E MIN	W	BRASS	316SS
2MLP - [ ]	1/8	.72	.18	.43	7900	10,300
4MLP - [ ]	1/4	1.00	.28	.68	6600	8600
6MLP - [ ]	3/8	1.00	.37	.68	6100	8000
8MLP - [ ]	1/2	1.18	.50	1.00	5300	7000
12MLP - [ ]	3/4	1.50	.62	1.25	5500	7300



# Precision Instrument Pipe Fittings

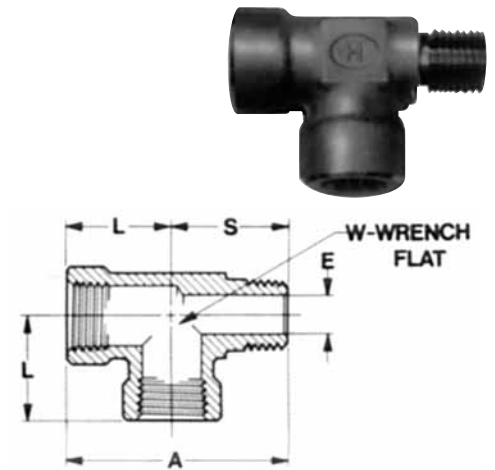
## FTP Female Tee (female NPT all ports)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS				WORKING PRESSURE (PSIG)	
	FEMALE	A	L	E MIN	W	BRASS	316SS
2FTP - [ ]	1/8	1.50	.75	.33	.50	5300	6900
4FTP - [ ]	1/4	1.68	.84	.43	.68	5900	7700
6FTP - [ ]	3/8	2.00	1.00	.56	.81	4700	6200
8FTP - [ ]	1/2	2.26	1.13	.69	1.00	4700	6200
12FTP - [ ]	3/4	2.76	1.38	.90	1.38	4200	5500



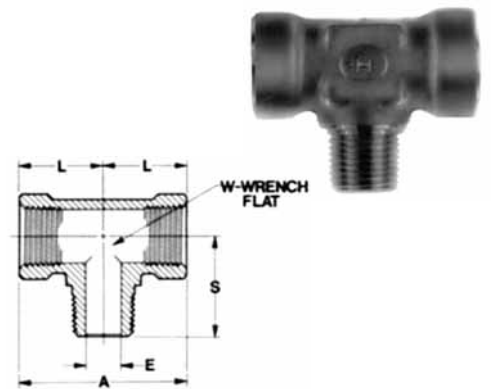
## STP Street Tee (female by male run/female branch)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS					WORKING PRESSURE (PSIG)	
		A	L	S	E MIN	W	BRASS	316SS
2STP - [ ]	1/8	1.53	.75	.78	.18	.50	3500	4600
4STP - [ ]	1/4	1.86	.84	1.02	.28	.68	4000	5300
6STP - [ ]	3/8	2.13	1.00	1.13	.37	.81	3200	4200
8STP - [ ]	1/2	2.47	1.13	1.34	.50	1.00	3100	4100
12STP - [ ]	3/4	3.16	1.44	1.72	.62	1.69	6500	8500



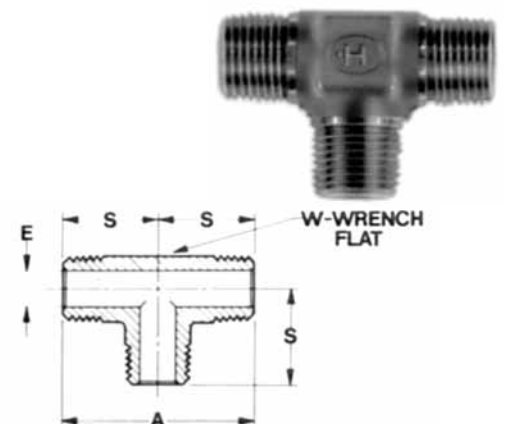
## FTBM Male Branch Tee (female run/male branch)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS					WORKING PRESSURE (PSIG)	
		A	L	S	E MIN	W	BRASS	316SS
2FT/BM2 - [ ]	1/8	1.68	.84	.82	.18	.69	7100	9300
4FT/BM4 - [ ]	1/4	1.68	.84	1.00	.28	.69	4000	5300
6FT/BM6 - [ ]	3/8	2.00	1.00	1.13	.37	.81	3200	4200
8FT/BM8 - [ ]	1/2	2.25	1.13	1.39	.50	1.00	3100	4100

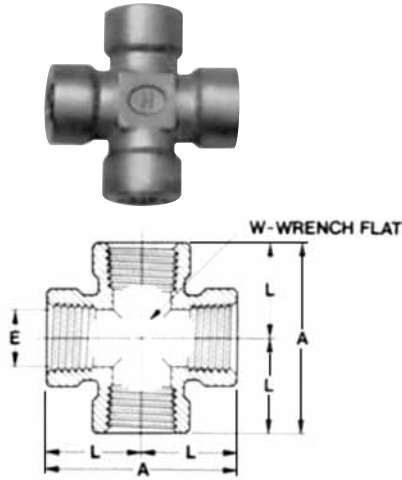


## MTP Male Tee (male NPT all ports)

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS				WORKING PRESSURE (PSIG)	
	MALE	A	S	E MIN	W	BRASS	316SS
2MTP - [ ]	1/8	1.50	.75	.18	.43	7900	10,300
4MTP - [ ]	1/4	2.00	1.00	.28	.68	6600	8600
6MTP - [ ]	3/8	2.00	1.00	.37	.68	6100	8000
8MTP - [ ]	1/2	2.44	1.22	.50	1.00	5300	7000
12MTP - [ ]	3/4	3.00	1.50	.62	1.25	5500	7300



# Precision Instrument Pipe Fittings

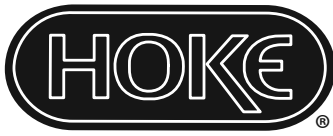


CSP Cross

ORDER BY PART NUMBER	PIPE SIZE	DIMENSIONS				WORKING PRESSURE (PSIG)	
	FEMALE	A	L	E MIN	W	BRASS	316SS
2CSP - [ ]	1/8	1.50	.75	.34	.62	6200	8100
4CSP - [ ]	1/4	1.68	.84	.44	.68	6100	8000
6CSP - [ ]	3/8	2.00	1.00	.58	1.06	6400	8400
8CSP - [ ]	1/2	2.25	1.13	.72	1.06	3800	5000

## Safety Instructions

1. Do not tighten or loosen any part of a fitting or valve when the system is pressurized. Make sure the system is not pressurized when tightening or loosening a fitting or valve connection.
2. Do not loosen GYROLOK® nut or any product component in order to relieve or bleed down system pressure.
3. Do not exceed pressure-temperature specifications stated in the appropriate catalog.
4. When the application involves use of a toxic or hazardous fluid, exercise extra caution during operation and maintenance.
5. Before assembling new, unused GYROLOK® tube fitting ends, loosen the GYROLOK® nut before inserting the tube to allow full insertion of the tube to the base of the body bore.
6. Always use tubing that is compatible with the fitting or valve material. Tubing appropriate for use with HOKE® products is described in HOKE®'s Tubing Data Charts. For example, use 316 Stainless Steel fittings with 316 Stainless Steel tubing.
7. Always leave a length of straight tube between the tube bend and the fitting. A tube bent too close to the fitting connection may be a source of leakage.
8. During assembly of the GYROLOK® tube end, always hold the fitting or valve body with one wrench while separately wrench tightening the GYROLOK® nut. Follow the same precaution when disassembling.
9. Always use a HOKE® tube insert (basic part number "T1") when assembling a GYROLOK® fitting to soft, pliable plastic tubing.
10. Always use proper thread lubricants or sealants on tapered pipe threads. Note that thread sealants may have lower temperature ratings than the basic fitting.
11. When installing an NPT ended valve, hold the valve body near the connection with one wrench, while separately wrench tightening the mating pipe. Turn the pipe, not the valve. Follow the same precaution when disconnecting.
12. Do not hold the valve handle when tightening an end connection.
13. Do not use excessive force to open or close a Ball Valve, e.g., Do not use a handle extension.
14. On initial installation, valves may require an adjustment of the packing nut due to storage variations, systems parameters, and cold flow properties of TFE.



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## The Small Bore Instrumentation Specialists

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