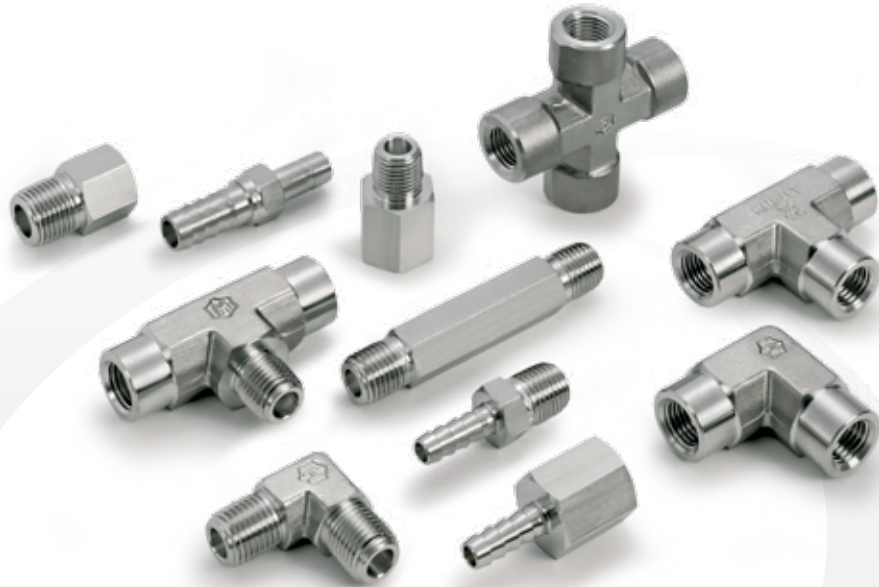


HAM-LET PRECISION INSTRUMENT PIPE FITTINGS **PIPELINE**



GENERAL

HAM-LET® Group is pleased to introduce its line of Precision Instrument Pipe Fittings. The Pipeline range of connectors is manufactured for typical applications in chemical and petrochemical processing plants, as well as oil, gas and power generation industries. This fully illustrated catalog contains detailed engineering information, dimensional data and part numbering system.

FEATURE

- Sizes range from 1/16" to 2".
- Fittings are properly packaged with the exposed threads protected to ensure they are not damaged during delivery.
- All pipe threads meet the requirements of **ASME/ANSI B1.20.1** (1983) for tapered pipe threads (NPT).
- Working pressures are calculated in accordance with Power Piping Code **ANSI B 31.1**, Refiner Piping Code **ASME/ANSI B 31.3** and section VIII of **ASME** Boiler & Pressure Vessel Code.

PRESSURE RATINGS (PSI)				
NPT or BSPT/ISO size	STAINLESS STEEL 316		BRASS	
	inch	male	female	male
1/16	11000	6700	5500	3300
1/8	10000	6500	5000	3200
1/4	8000	6600	4000	3300
3/8	7800	5300	3900	2600
1/2	7700	4900	3800	2400
3/4	7300	4600	3600	2300
1	5300	4400	2600	2200
1 1/4	6000	5000	3000	2500
1 1/2	5000	4600	2500	2300
2	3900	3900	1900	1900

MATERIALS		
MATERIAL	Specifications	
	Barstock	Forgings
STAINLESS STEEL 316	ASTM A-276	ASTM A-182
	ASTM A-479	
BRASS	ASTM B-453	ASME B-283
	ASTM B-16	
	DIN 176.60	

INSTALLATION INSTRUCTIONS

To ensure a leak-tight seal, HAM-LET® recommends the use of a pipe thread sealant on all NPT threads. The most effective sealing method is teflon tape. Tape should be used only on male tapered pipe threads.


Do not use tape on flared, coned or tube fitting ends!

Clean both male and female tapered threads. Wrap tape in the direction of the male tapered thread spiral.


Note: Two wraps are suggested for stainless steel tapered pipe threads. Make sure tape does not overhang the first thread, as the tape might shred and enter the fluid system. Cut off excess tape. The connection is now ready for proper makeup.

ORDERING INFORMATION			
EXAMPLE:	120H	Material Description	1/2 x 1/4
		SS - Stainless Steel 316	
		B - Brass	
All orders should include ordering information and material description.			


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HOLLOW HEX PLUGS _____ 100
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122HNOB 


CLOSE NIPPLE _____ 108
122HCN 


REDUCING NIPPLE _____ 109
123H 

BRANCH TEE _____ 109
3600H 

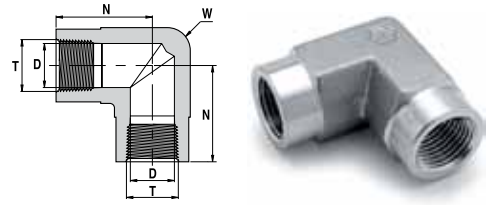
STRAIGHT TEE _____ 110
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130HF 

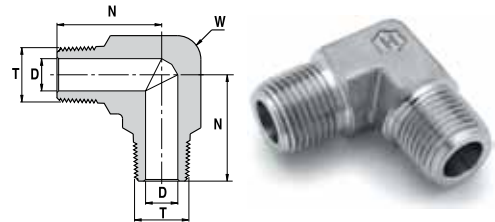
TUBE TO HOSE CONNECTOR _____ 111
130LT 

**100 H
ELBOW**



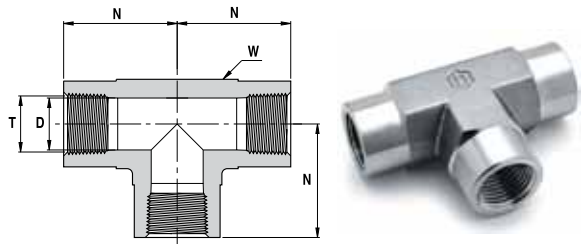
Ordering Information	T Female NPT size	N		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch
100H _ 1/8	1/8	1.04	26.4	0.34	8.6	5/8
100H _ 1/4	1/4	1.17	29.7	0.45	11.4	13/16
100H _ 3/8	3/8	1.42	36.1	0.59	15.0	15/16
100H _ 1/2	1/2	1.56	39.6	0.73	18.5	1 1/8
100H _ 3/4	3/4	1.92	48.8	0.94	23.9	1 3/8
100H _ 1	1	1.91	48.5	1.17	29.7	1 11/16

**100 HM
MALE ELBOW**



Ordering Information	T Male NPT Size	N		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch
100HM _ 1/8	1/8	0.88	22.4	0.19	4.8	1/2
100HM _ 1/4	1/4	1.05	26.7	0.28	7.1	5/8
100HM _ 3/8	3/8	1.17	29.7	0.38	9.6	13/16
100HM _ 1/2	1/2	1.45	36.8	0.47	11.9	15/16

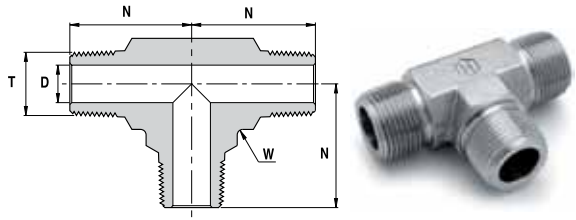
**101 H
TEE**



Ordering Information	A Female NPT Size	N		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch
101H _ 1/8	1/8	1.04	26.4	0.34	8.6	5/8
101H _ 1/4	1/4	1.17	29.7	0.45	11.4	13/16
101H _ 3/8	3/8	1.42	36.1	0.59	15.0	15/16
101H _ 1/2	1/2	1.56	39.6	0.73	18.5	1 1/8
101H _ 3/4	3/4	1.92	48.8	0.94	23.9	1 3/8
101H _ 1	1	1.91	48.5	1.17	29.7	1 11/16

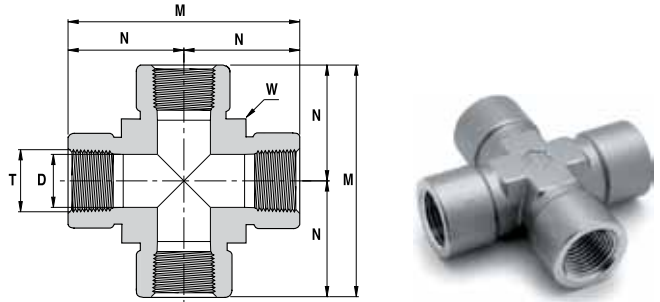
Dimensions are for reference only, and are subject to change without notice.

**101 HM
MALE TEE**



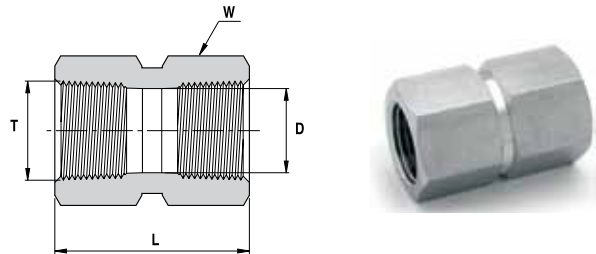
Ordering Information	T Male NPT Size	N		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch
101HM_ 1/8	1/8	0.88	22.4	0.19	4.8	1/2
101HM_ 1/4	1/4	1.05	26.7	0.28	7.1	5/8
101HM_ 3/8	3/8	1.17	29.7	0.38	9.6	13/16
101HM_ 1/2	1/2	1.45	36.8	0.47	11.9	15/16

**102 H
CROSS**



Ordering Information	T Female NPT Size	N		M		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch	mm	inch
102H_ 1/8	1/8	1.04	26.4	2.08	52.8	0.34	8.6	5/8
102H_ 1/4	1/4	1.17	29.7	2.34	59.4	0.45	11.4	13/16
102H_ 3/8	3/8	1.42	36.1	2.84	72.2	0.59	15.0	15/16
102H_ 1/2	1/2	1.56	39.6	3.12	79.2	0.73	18.5	1 1/8
102H_ 3/4	3/4	1.92	48.8	3.84	97.6	0.94	23.9	1 3/8
102H_ 1	1	1.91	48.5	3.82	97.0	1.17	29.7	1 11/16

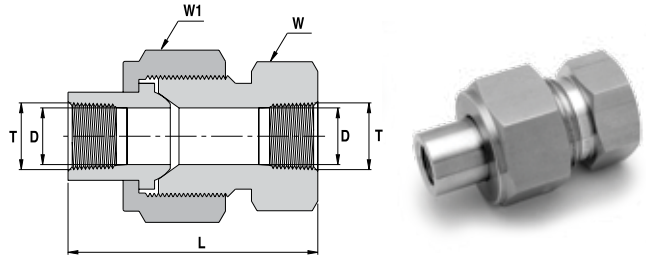
**103 H
HEX COUPLING**



Ordering Information	T Female NPT size	L		D Min. Opening		W Hex. Flat
		inch	mm	inch	mm	inch
103H_ 1/8	1/8	0.81	20.6	0.34	8.6	9/16
103H_ 1/4	1/4	1.19	30.2	0.45	11.4	3/4
103H_ 3/8	3/8	1.31	33.3	0.59	15.0	7/8
103H_ 1/2	1/2	1.56	39.6	0.73	18.5	1 1/16
103H_ 3/4	3/4	1.62	41.1	0.94	23.9	1 5/16
103H_ 1	1	2.00	50.8	1.17	29.7	1 5/8

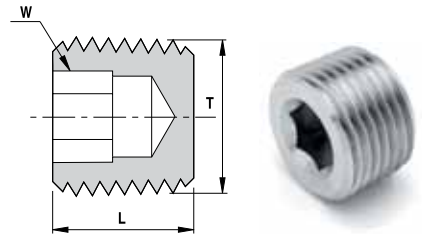
Dimensions are for reference only, and are subject to change without notice.

**104 H
UNION RECORD**



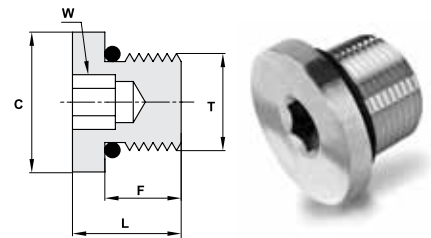
Ordering Information	T Female NPT Size	L		D Min. Opening		W Hex. Flat		W1 Hex. Flat
		inch	mm	inch	mm	inch	mm	
104H _ 1/8	1/8	1.81	46.0	0.27	6.9	15/16	23.81	1 1/8
104H _ 1/4	1/4	2.34	59.4	0.36	9.1	1 3/16	30.16	1 3/8
104H _ 3/8	3/8	2.50	63.5	0.52	13.2	1 5/16	33.34	1 1/2
104H _ 1/2	1/2	2.69	68.3	0.62	15.7	1 5/8	41.28	1 3/4
104H _ 3/4	3/4	3.12	79.2	0.88	22.4	1 7/8	47.63	2
104H _ 1	1	3.56	90.4	1.03	26.2	2 3/8	60.33	2 1/2

**107 H
HOLLOW HEX PLUGS**



Ordering Information	T Female NPT Size	L		W Hex. Flat
		inch	mm	inch
107H _ 1/8	1/8	0.29	7.4	3/16
107H _ 1/4	1/4	0.44	11.3	1/4
107H _ 3/8	3/8	0.44	11.3	5/16
107H _ 1/2	1/2	0.61	15.5	3/8

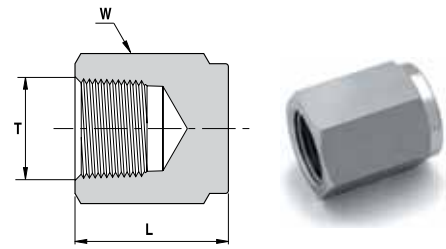
**107HOB
HOLLOW HEX PLUG SAE/MS
STRAIGHT THREAD BOSS ***



Ordering Information	T Straight Thread UN	L		F		C		W Hex. Flat	O-Ring**
		inch	mm	inch	mm	inch	mm		
107HOB _ 7/16-20	7/16-20	0.45	11.4	0.36	9.1	0.56	14.2	3/16	-904
107HOB _ 1/2-20	1/2-20	0.45	11.4	0.36	9.1	0.63	15.9	3/16	-905
107HOB _ 9/16-18	9/16-18	0.48	12.2	0.39	9.9	0.69	17.5	1/4	-906
107HOB _ 3/4-16	3/4-16	0.56	14.2	0.44	11.2	0.88	22.4	5/16	-908

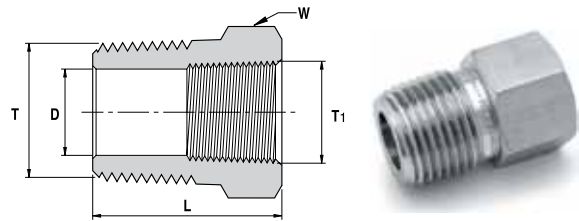
* Per SAE J1926 and MS 16142. See page 77 for mounting dimensions.
 ** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.
 Dimensions are for reference only, and are subject to change without notice.

**108 H
PIPE CAP**



Ordering Information	T Female NPT Size	L		W Hex. Flat
		inch	mm	inch
108H_ 1/8	1/8	0.75	19.1	9/16
108H_ 1/4	1/4	0.91	23.1	3/4
108H_ 3/8	3/8	1.03	26.2	7/8
108H_ 1/2	1/2	1.34	34.0	1 1/16
108H_ 3/4	3/4	1.44	36.6	1 5/16
108H_ 1	1	1.62	41.1	1 5/8

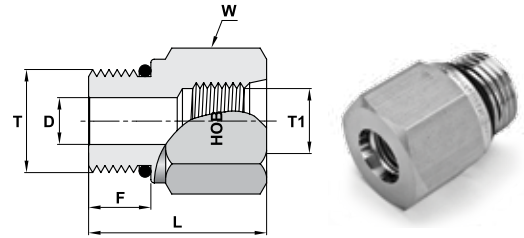
**110 H
REDUCING BUSHING**



Ordering Information	T Male NPT Size	T1 Female NPT Size	L		D Min. Opening		W Hex. Flat
			inch	mm	inch	mm	inch
110H_ 1/8 X 1/16	1/8	1/16	1.03	26.2	0.19	4.8	7/16
110H_ 1/4 X 1/8	1/4	1/8	1.06	26.9	0.28	7.1	9/16
110H_ 3/8 X 1/8	3/8	1/8	0.86	21.8	0.34	8.6	11/16
110H_ 3/8 X 1/4	3/8	1/4	1.19	30.2	0.37	9.5	3/4
110H_ 1/2 X 1/8	1/2	1/8	1.08	27.4	0.34	8.6	7/8
110H_ 1/2 X 1/4	1/2	1/4	1.08	27.4	0.45	11.4	7/8
110H_ 1/2 X 3/8	1/2	3/8	1.41	35.8	0.47	11.9	7/8
110H_ 3/4 X 1/4	3/4	1/4	1.08	27.4	0.45	11.4	1 1/16
110H_ 3/4 X 3/8	3/4	3/8	1.08	27.4	0.59	15.0	1 1/16
110H_ 3/4 X 1/2	3/4	1/2	1.63	41.4	0.62	15.7	1 1/16
110H_ 1 X 1/4	1	1/4	1.37	34.8	0.45	11.4	1 3/8
110H_ 1 X 3/8	1	3/8	1.37	34.8	0.59	15.0	1 3/8
110H_ 1 X 1/2	1	1/2	1.37	34.8	0.73	18.5	1 3/8
110H_ 1 X 3/4	1	3/4	1.85	47.0	0.88	22.4	1 3/8
110H_ 1 1/4 X 1/2	1 1/4	1/2	1.46	37.1	0.73	18.5	1 3/4
110H_ 1 1/4 X 3/4	1 1/4	3/4	1.47	37.3	0.94	23.9	1 3/4
110H_ 1 1/4 X 1	1 1/4	1	1.94	49.3	1.17	29.7	1 3/4
110H_ 1 1/2 X 1/2	1 1/2	1/2	1.61	40.9	0.73	18.5	2 1/8
110H_ 1 1/2 X 3/4	1 1/2	3/4	1.61	40.9	0.94	23.9	2 1/8
110H_ 1 1/2 X 1	1 1/2	1	1.61	40.9	1.17	29.7	2 1/8
110H_ 1 1/2 X 1 1/4	1 1/2	1 1/4	2.31	58.7	1.50	38.1	2 1/8
110H_ 2 X 1/2	2	1/2	1.83	46.5	0.73	18.5	2 3/4
110H_ 2 X 3/4	2	3/4	1.83	46.5	0.94	23.9	2 3/4
110H_ 2 X 1	2	1	1.83	46.5	1.17	29.7	2 3/4
110H_ 2 X 1 1/4	2	1 1/4	1.83	46.5	1.50	38.1	2 3/4
110H_ 2 X 1 1/2	2	1 1/2	1.83	46.5	1.73	43.9	2 3/4

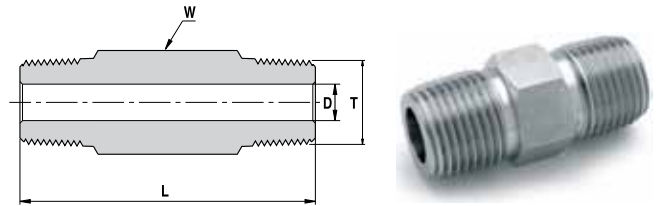
Dimensions are for reference only, and are subject to change without notice.

**110HOB
REDUCING BUSHING SAE/MS
STRAIGHT THREAD BOSS ***



Ordering Information	T Straight Thread UN	T1 Straight Thread UN	D		L		F		W Hex. Flat inch	O-Ring**
			inch	mm	inch	mm	inch	mm		
110HOB _ 9/16-18 X 7/16-20	9/16-18	7/16-20	0.28	7.1	1.12	28.4	0.36	9.1	13/16	-906
110HOB _ 3/4-16 X 7/16-20	3/4-16	7/16-20	0.24	6.0	0.98	24.9	0.44	11.2	15/16	-908
110HOB _ 3/4-16 X 9/16-18	3/4-16	9/16-18	0.42	10.7	1.19	30.2	0.44	11.2	1	-908
110HOB _ 3/4-16 X 7/8-14	3/4-16	7/8-14	0.42	10.7	1.60	40.6	0.44	11.2	1 1/2	-908
110HOB _ 7/8-14 X 9/16-18	7/8-14	9/16-18	0.50	12.7	1.10	27.9	0.50	12.7	1	-910
110HOB _ 7/8-14 X 3/4-16	7/8-14	3/4-16	0.50	12.7	1.42	36.1	0.50	12.7	1 3/16	-910
110HOB _ 1 1/16-12 X 3/4-16	1 1/16-12	3/4-16	0.65	16.5	1.27	32.3	0.59	15.0	1 1/4	-912
110HOB _ 1 5/16-12 X 1 1/16-12	1 5/16-12	1 1/16-12	0.87	22.1	1.61	40.9	0.59	15.0	1 5/8	-916
110HOB _ 1 5/8-12 X 1 5/16-12	1 5/8-12	1 5/16-12	1.09	27.7	1.98	50.3	0.59	15.0	2 1/8	-920
110HOB _ 1 7/8-12 X 1 5/16-12	1 7/8-12	1 5/16-12	1.23	31.2	1.27	32.3	0.59	15.0	2 1/8	-924

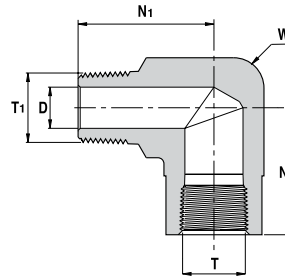
**113 H
HEX LONG NIPPLE**



Ordering Information	T Male NPT Size	L Available Lengths (inch)						D Min. Opening		W Hex. Flat inch
		1.50	2.00	2.50	3.00	4.00	6.00	inch	mm	
113H _ 1/8 X 1.5 / 2 / 2.5 / 3	1/8	✓	✓	✓	✓	-	-	0.19	4.8	7/16
113H _ 1/4 X 1.5 / 2 / 2.5 / 3 / 4	1/4	✓	✓	✓	✓	✓	-	0.28	7.1	9/16
113H _ 3/8 X 1.5 / 2 / 2.5 / 3 / 4	3/8	✓	✓	✓	✓	✓	-	0.38	9.6	11/16
113H _ 1/2 X 2 / 3 / 4	1/2	-	✓	-	✓	✓	✓	0.47	11.9	7/8
113H _ 3/4 X 2 / 3 / 4	3/4	-	✓	-	✓	✓	-	0.62	15.8	1 1/16
113H _ 1 X 3 / 4	1	-	-	-	✓	✓	-	0.88	22.4	1 3/8

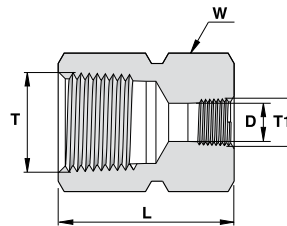
* Per SAE J1926 and MS 16142. See page 77 for mounting dimensions.
 ** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.
 Dimensions are for reference only, and are subject to change without notice.

**116 H
STRAIGHT ELBOW**



Ordering Information	T Female NPT Size	T1 Male NPT Size	N		N1		D Min. Opening		W Wrench Flat
			inch	mm	inch	mm	inch	mm	inch
116H _ 1/16 X 1/16	1/16	1/16	0.86	21.8	0.88	22.4	0.12	3.10	7/16
116H _ 1/8 X 1/16	1/8	1/16	1.04	26.4	0.87	22.1	0.12	3.10	5/8
116H _ 1/8 X 1/8	1/8	1/8	1.04	26.4	0.87	22.1	0.19	4.80	5/8
116H _ 1/4 X 1/8	1/4	1/8	1.17	29.7	1.00	25.4	0.19	4.80	13/16
116H _ 1/4 X 1/4	1/4	1/4	1.17	29.7	1.17	29.7	0.28	7.10	13/16
116H _ 3/8 X 1/4	3/8	1/4	1.42	36.1	1.26	32.0	0.28	7.10	15/16
116H _ 3/8 X 3/8	3/8	3/8	1.42	36.1	1.26	32.0	0.38	9.60	15/16
116H _ 1/2 X 1/4	1/2	1/4	1.56	39.6	1.38	35.1	0.28	7.10	1 1/8
116H _ 1/2 X 3/8	1/2	3/8	1.56	39.6	1.38	35.1	0.38	9.60	1 1/8
116H _ 1/2 X 1/2	1/2	1/2	1.56	39.6	1.56	39.6	0.47	11.9	1 1/8
116H _ 3/4 X 3/4	3/4	3/4	1.92	48.8	1.67	42.4	0.62	15.8	1 3/8
116H _ 1 X 1	1	1	1.91	48.5	1.94	49.3	0.88	22.4	1 11/16

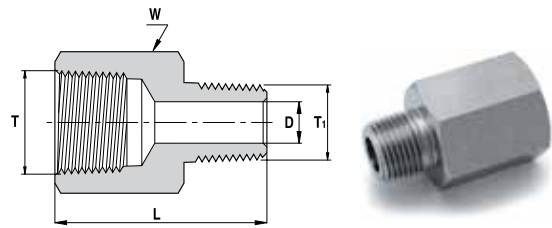
**119 H
HEX REDUCING COUPLING**



Ordering Information	T Female NPT Size	T1 Female NPT Size	L		D Min. opening		W Hex. Flat
			inch	mm	inch	mm	inch
119H _ 1/4 X 1/8	1/4	1/8	1.22	31.0	0.34	8.6	3/4
119H _ 3/8 X 1/4	3/8	1/4	1.38	35.1	0.45	11.4	7/8
119H _ 1/2 X 1/8	1/2	1/8	1.56	39.6	0.34	8.6	1 1/16
119H _ 1/2 X 1/4	1/2	1/4	1.75	44.5	0.45	11.4	1 1/16
119H _ 1/2 X 3/8	1/2	3/8	1.78	45.2	0.59	15.0	1 1/16
119H _ 3/4 X 1/4	3/4	1/4	1.81	46.0	0.45	11.4	1 5/16
119H _ 3/4 X 1/2	3/4	1/2	2.06	52.3	0.73	18.5	1 5/16
119H _ 1 X 1/2	1	1/2	2.19	55.6	0.73	18.5	1 5/8
119H _ 1 X 3/4	1	3/4	2.25	57.2	0.94	23.9	1 5/8

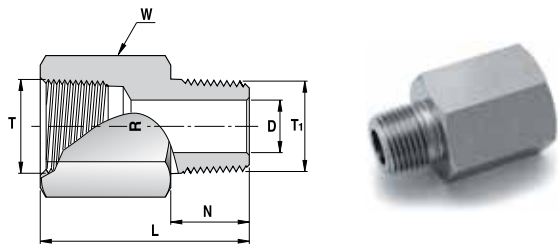
Dimensions are for reference only, and are subject to change without notice.

**120 H
ADAPTER NPT**



Ordering Information	T Female NPT Size	T1 Male NPT Size	L		D Min. Opening		W Hex. Flat
			inch	mm	inch	mm	
120H _ 1/8 X 1/16	1/8	1/16	1.09	27.7	0.12	3.0	9/16
120H _ 1/8 X 1/8	1/8	1/8	1.10	27.9	0.19	4.8	9/16
120H _ 1/4 X 1/8	1/4	1/8	1.26	32.0	0.19	4.8	3/4
120H _ 1/4 X 1/4	1/4	1/4	1.40	35.6	0.28	7.1	3/4
120H _ 3/8 X 1/8	3/8	1/8	1.33	33.8	0.19	4.8	7/8
120H _ 3/8 X 1/4	3/8	1/4	1.50	38.1	0.28	7.1	7/8
120H _ 3/8 X 3/8	3/8	3/8	1.51	38.4	0.38	9.6	7/8
120H _ 1/2 X 1/8	1/2	1/8	1.58	40.1	0.19	4.8	1 1/16
120H _ 1/2 X 1/4	1/2	1/4	1.76	44.7	0.28	7.1	1 1/16
120H _ 1/2 X 3/8	1/2	3/8	1.75	44.5	0.37	9.5	1 1/16
120H _ 1/2 X 1/2	1/2	1/2	1.94	49.3	0.47	11.9	1 1/16
120H _ 3/4 X 1/4	3/4	1/4	1.82	46.2	0.28	7.1	1 5/16
120H _ 3/4 X 3/8	3/4	3/8	1.82	46.2	0.37	9.5	1 5/16
120H _ 3/4 X 1/2	3/4	1/2	2.02	51.3	0.47	11.9	1 5/16
120H _ 3/4 X 3/4	3/4	3/4	2.02	51.3	0.62	15.8	1 5/16
120H _ 1 X 1/4	1	1/4	1.96	49.8	0.28	7.1	1 5/8
120H _ 1 X 1/2	1	1/2	2.16	54.9	0.47	11.9	1 5/8
120H _ 1 X 3/4	1	3/4	2.17	55.1	0.62	15.7	1 5/8
120H _ 1 X 1	1	1	2.28	57.9	0.88	22.4	1 5/8

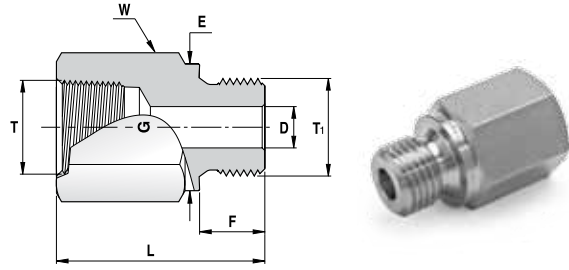
**120 HNR
ADAPTER NPT TO BSPT**



Ordering Information	T Female NPT Size	T1 Male BSPT ISO 7/1, BS21 Size	L		N		D Min. Opening		W Hex. Flat
			inch	mm	inch	mm	inch	mm	
120HNR _ 1/8	1/8	1/8-28	1.09	27.7	0.38	9.7	0.19	4.8	9/16
120HNR _ 1/4	1/4	1/4-19	1.42	36.1	0.56	14.2	0.28	7.1	3/4
120HNR _ 3/8	3/8	3/8-19	1.50	38.1	0.56	14.2	0.38	9.6	7/8
120HNR _ 1/2	1/2	1/2-14	1.94	49.3	0.75	19.0	0.47	11.9	1 1/16
120HNR _ 3/4	3/4	3/4-14	2.02	51.3	0.75	19.0	0.62	15.8	1 5/16
120HNR _ 1	1	1-11	2.30	58.4	0.94	23.9	0.88	22.4	1 5/8

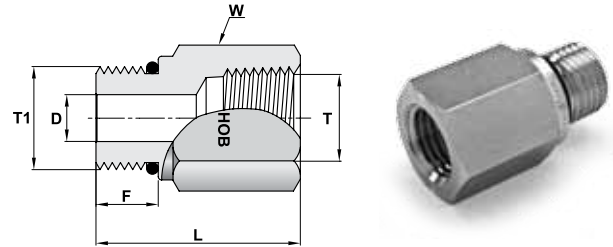
Dimensions are for reference only, and are subject to change without notice.

**120 HNG
ADAPTER NPT TO BSPP**



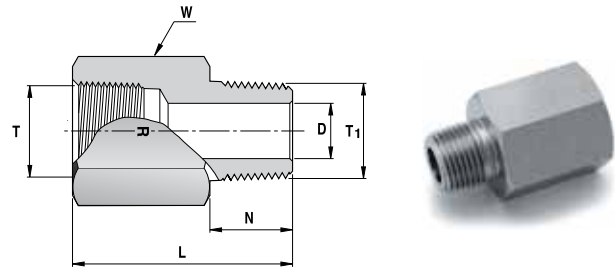
Ordering Information	T Female NPT Size	T1 Male BSPP ISO 228/1, BS 2779	L		F		E Dia.		D Min. Opening		W Hex. Flat inch
			inch	mm	inch	mm	inch	mm	inch	mm	
120HNG _ 1/8	1/8	1/8-28	0.99	25.1	0.28	7.1	0.54	13.8	0.16	4.1	9/16
120HNG _ 1/4	1/4	1/4-19	1.32	33.5	0.44	11.2	0.70	18.0	0.23	5.8	3/4
120HNG _ 3/8	3/8	3/8-19	1.41	35.8	0.44	11.2	0.85	21.8	0.31	7.9	7/8
120HNG _ 1/2	1/2	1/2-14	1.74	44.2	0.56	14.2	1.02	26.0	0.47	11.9	1 1/16
120HNG _ 3/4	3/4	3/4-14	1.89	48.0	0.62	15.7	1.26	32.0	0.62	15.7	1 5/16
120HNG _ 1	1	1-11	2.10	53.3	0.72	18.3	1.53	39.0	0.78	19.8	1 5/8

**120HNOB
ADAPTER NPT TO SAE/MS
STRAIGHT THREAD BOSS ***



Ordering Information	T Female NPT Size	T1 Straight Thread UN	D		L		F		W Hex. Flat inch	O-Ring**
			inch	mm	inch	mm	inch	mm		
120HNOB _ 1/4 X 7/16-20	1/4	7/16-20	0.20	5.1	1.32	33.5	0.36	9.1	3/4	-904
120HNOB _ 3/8 X 9/16-18	3/8	9/16-18	0.28	7.1	1.39	35.3	0.39	9.9	15/16	-906
120HNOB _ 1/2 X 3/4-16	1/2	3/4-16	0.42	10.7	1.76	44.7	0.44	11.2	1 1/16	-908
120HNOB _ 3/4 X 1 1/16-12	3/4	1 1/16-12	0.66	16.7	1.99	50.5	0.59	15.0	1 3/8	-912
120HNOB _ 1 X 1 5/16-12	1	1 5/16-12	0.88	22.3	2.12	53.8	0.59	15.0	1 5/8	-916

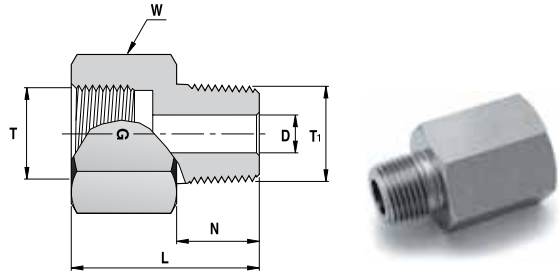
**120 HRN
ADAPTER BSPT TO NPT**



Ordering Information	T Female BSPT ISO 7/1, BS21	T1 Male NPT size	L		N		D Min. Opening		W Hex. Flat inch
			inch	mm	inch	mm	inch	mm	
120HRN _ 1/4	1/4-19	1/4	1.43	36.3	0.56	14.2	0.28	7.1	3/4
120HRN _ 3/8	3/8-19	3/8	1.51	38.4	0.56	14.2	0.38	9.6	7/8
120HRN _ 1/2	1/2-14	1/2	1.96	49.8	0.75	19.1	0.47	11.9	1 1/16

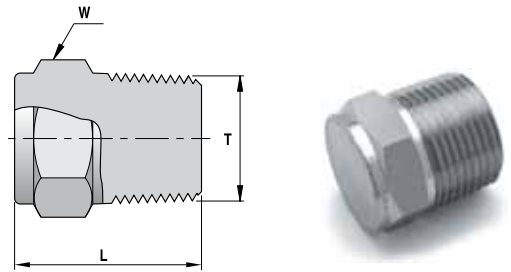
* Per SAE J1926 and MS 16142. See page 77 for mounting dimensions.
 ** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.
 Dimensions are for reference only, and are subject to change without notice.

**120 HGN
GAUGE ADAPTER BSPP TO NPT**



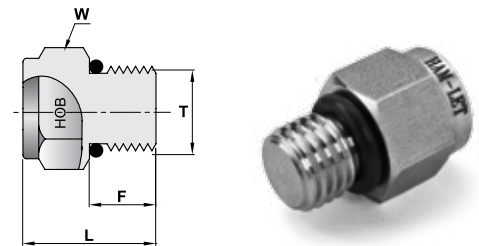
Ordering Information	T Female BSPP ISO 228/1, BS 2779 Size	T1 Male NPT Size	L		N		D Min. Opening		W Hex. Flat inch
			inch	mm	inch	mm	inch	mm	
120HGN _ 1/4	1/4-19	1/4	1.08	27.4	0.56	14.2	0.22	5.6	3/4
120HGN _ 3/8	3/8-19	3/8	1.27	32.3	0.56	14.2	0.26	6.6	15/16
120HGN _ 1/2	1/2-14	1/2	1.65	41.9	0.75	19.0	0.28	7.1	1 1/16

**121 H
PIPE PLUG NPT**



Ordering Information	T Male NPT Size	L		W Hex. Flat inch
		inch	mm	
121H _ 1/16	1/16	0.75	19.0	5/16
121H _ 1/8	1/8	0.75	19.0	7/16
121H _ 1/4	1/4	0.96	24.4	9/16
121H _ 3/8	3/8	0.99	25.2	11/16
121H _ 1/2	1/2	1.21	30.7	7/8
121H _ 3/4	3/4	1.21	30.7	1 1/16
121H _ 1	1	1.50	38.1	1 3/8

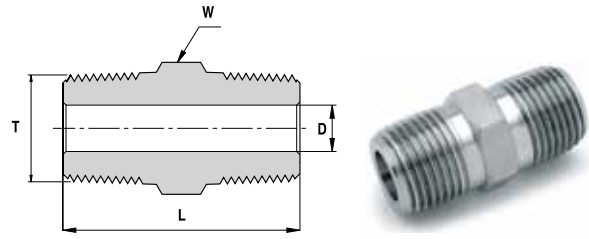
**121HOB
HEX HEAD PLUG SAE/MS
STRAIGHT THREAD BOSS***



Ordering Information	T Straight Thread UN	L		F		W Hex. Flat inch	O-Ring**
		inch	mm	inch	mm		
121HOB _ 5/16-24	5/16-24	0.70	17.8	0.30	7.6	7/16	-902
121HOB _ 7/16-20	7/16-20	0.76	19.3	0.36	9.1	9/16	-904
121HOB _ 9/16-18	9/16-18	0.82	20.8	0.39	9.9	11/16	-906
121HOB _ 3/4-16	3/4-16	0.89	22.6	0.44	11.2	7/8	-908
121HOB _ 1 1/16-12	1 1/16-12	1.12	28.4	0.59	15.0	1 1/4	-912
121HOB _ 1 5/16-12	1 5/16-12	1.18	30.0	0.59	15.0	1 1/2	-916

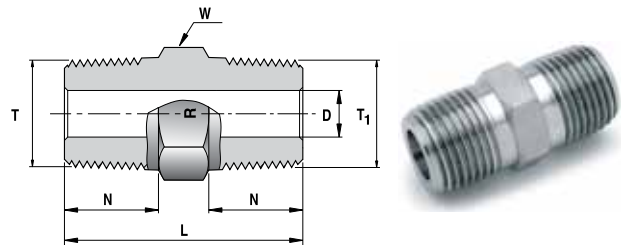
* Per SAE J1926 and MS 16142. See page 77 for mounting dimensions.
 ** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.
 Dimensions are for reference only, and are subject to change without notice.

**122 H
HEX NIPPLE**



Ordering Information	T Male NPT Size	L		D Min. Opening		W Hex. Flat
		inch	mm	inch	mm	inch
122H _ 1/16	1/16	1.01	25.7	0.12	3.0	5/16
122H _ 1/8	1/8	1.01	25.7	0.19	4.8	7/16
122H _ 1/4	1/4	1.40	35.6	0.28	7.1	9/16
122H _ 3/8	3/8	1.43	36.3	0.38	9.6	11/16
122H _ 1/2	1/2	1.84	46.7	0.47	11.9	7/8
122H _ 3/4	3/4	1.84	46.7	0.62	15.8	1 1/16
122H _ 1	1	2.32	58.9	0.88	22.4	1 3/8

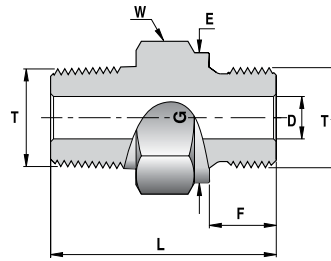
**122 HNR
HEX NIPPLE NPT TO BSPT**



Ordering Information	T Male NPT Size	T1 Male BSPT ISO 7/1, BS21 Size	L		N		D Min. Opening		W Hex. Flat
			inch	mm	inch	mm	inch	mm	inch
122HNR _ 1/8	1/8	1/8-28	1.01	25.6	0.38	9.7	0.19	4.8	7/16
122HNR _ 1/4	1/4	1/4-19	1.40	35.6	0.56	14.2	0.28	7.1	9/16
122HNR _ 3/8	3/8	3/8-19	1.43	36.3	0.56	14.2	0.38	9.6	11/16
122HNR _ 1/2	1/2	1/2-14	1.84	46.7	0.75	19.0	0.47	11.9	7/8
122HNR _ 3/4	3/4	3/4-14	1.84	46.7	0.75	19.0	0.62	15.8	1 1/16
122HNR _ 1	1	1-11	2.32	58.9	0.94	23.9	0.88	22.4	1 3/8

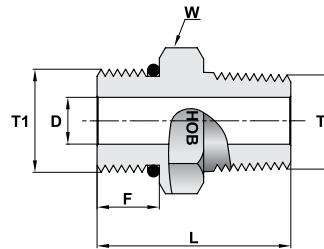
Dimensions are for reference only, and are subject to change without notice.

**122 HNG
HEX NIPPLE
NPT TO BSPP**



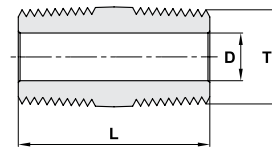
Ordering Information	T Male NPT Size	T1 Male BSPP ISO 228/1, BS 2779	L		F		E		D Min. Opening		W Hex. Flat inch
			inch	mm	inch	mm	inch	mm	inch	mm	
122HNG _ 1/8	1/8	1/8-28	1.07	27.2	0.28	7.1	0.54	13.8	0.16	4.1	9/16
122HNG _ 1/4	1/4	1/4-19	1.44	36.3	0.44	11.2	0.71	18.0	0.23	5.8	3/4
122HNG _ 3/8	3/8	3/8-19	1.47	37.3	0.44	11.2	0.85	21.8	0.31	7.9	7/8
122HNG _ 1/2	1/2	1/2-14	1.78	45.2	0.56	14.2	1.02	26.0	0.47	11.9	1 1/16
122HNG _ 3/4	3/4	3/4-14	1.95	49.5	0.62	15.7	1.26	32.0	0.62	15.8	1 5/16
122HNG _ 1	1	1-11	2.26	57.4	0.72	18.3	1.53	39.0	0.78	19.8	1 5/8

**122HNOB
HEX NIPPLE NPT TO SAE/MS
STRAIGHT THREAD BOSS ***



Ordering Information	T Male NPT Size	T1 Straight Thread UN	D		L		F		W Hex. Flat inch	O-Ring**
			inch	mm	inch	mm	inch	mm		
122HNOB _ 1/4 X 7/16-20	1/4	7/16-20	0.20	5.1	1.20	30.5	0.36	9.1	9/16	9/16
122HNOB _ 3/8 X 9/16-18	3/8	9/16-18	0.28	7.1	1.26	32.0	0.39	9.9	11/16	11/16
122HNOB _ 1/2 X 3/4-16	1/2	3/4-16	0.42	10.7	1.53	38.9	0.44	11.2	7/8	7/8
122HNOB _ 3/4 X 1 1/16-12	3/4	1 1/16-12	0.62	15.7	1.75	44.4	0.59	15.0	1 1/4	1 1/4
122HNOB _ 1 X 1 5/16-12	1	1 5/16-12	0.88	22.4	2.00	50.8	0.59	15.0	1 1/2	1 1/2

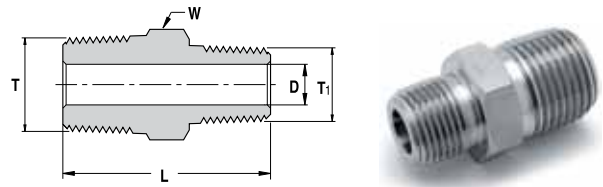
**122HCN
CLOSE NIPPLE**



Ordering Information	T Male NPT Size	D		L	
		inch	mm	inch	mm
122HCN _ 1/8	1/8	0.19	4.8	0.75	19.1
122HCN _ 1/4	1/4	0.28	7.1	1.12	28.4
122HCN _ 3/8	3/8	0.38	9.6	1.12	28.4
122HCN _ 1/2	1/2	0.47	11.9	1.50	38.1
122HCN _ 3/4	3/4	0.62	15.7	1.50	38.1
122HCN _ 1	1	0.88	22.4	1.88	47.8

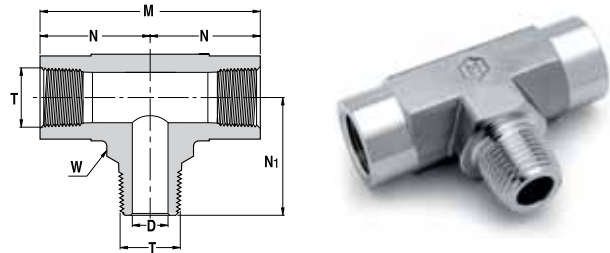
* Per SAE J1926 and MS 16142. See page 77 for mounting dimensions.
 ** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.
 Dimensions are for reference only, and are subject to change without notice.

**123 H
REDUCING NIPPLE**



Ordering Information	T Male NPT Size	T1 Male NPT Size	L		D Min. Opening		W Hex. Flat
			inch	mm	inch	mm	
123H _ 1/8 X 1/16	1/8	1/16	1.01	25.7	0.12	3.0	7/16
123H _ 1/4 X 1/8	1/4	1/8	1.22	31.0	0.19	4.8	9/16
123H _ 3/8 X 1/8	3/8	1/8	1.25	31.8	0.19	4.8	11/16
123H _ 3/8 X 1/4	3/8	1/4	1.43	36.3	0.28	7.1	11/16
123H _ 1/2 X 1/8	1/2	1/8	1.47	37.3	0.19	4.8	7/8
123H _ 1/2 X 1/4	1/2	1/4	1.65	41.9	0.28	7.1	7/8
123H _ 1/2 X 3/8	1/2	3/8	1.65	41.9	0.38	9.6	7/8
123H _ 3/4 X 1/4	3/4	1/4	1.65	41.9	0.28	7.1	1 1/16
123H _ 3/4 X 1/2	3/4	1/2	1.84	46.7	0.47	11.9	1 1/16
123H _ 1 X 1/2	1	1/2	2.13	54.1	0.47	11.9	1 3/8
123H _ 1 X 3/4	1	3/4	2.13	54.1	0.62	15.8	1 3/8

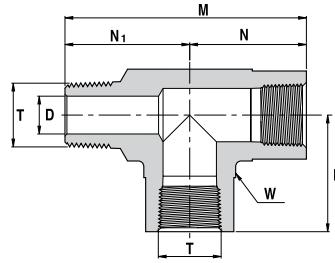
**3600 H
BRANCH TEE**



Ordering Information	T Male & Female NPT	M		N		N1		D		W Wrench Flat
		inch	mm	inch	mm	inch	mm	inch	mm	
3600H _ 1/8	1/8	2.08	52.8	1.04	26.4	0.87	22.1	0.19	4.8	5/8
3600H _ 1/4	1/4	2.34	59.4	1.17	29.7	1.17	29.7	0.28	7.1	13/16
3600H _ 3/8	3/8	2.68	68.1	1.42	36.1	1.26	32.0	0.38	9.6	15/16
3600H _ 1/2	1/2	3.12	79.2	1.56	39.6	1.56	39.6	0.47	11.9	1 1/8

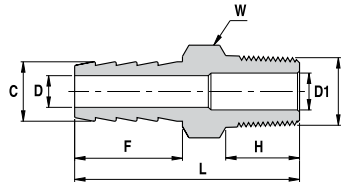
Dimensions are for reference only, and are subject to change without notice.

**3750 H
STRAIGHT TEE**



Ordering Information	T Male & Female NPT	M		N		N1		D Min. Opening		W Wrench Flat
		inch	mm	inch	mm	inch	mm	inch	mm	inch
3750H _ 1/8	1/8	1.91	48.5	1.04	26.4	0.87	22.1	0.19	4.8	5/8
3750H _ 1/4	1/4	2.34	59.4	1.17	29.7	1.17	29.7	0.28	7.1	13/16
3750H _ 3/8	3/8	2.68	68.1	1.42	36.1	1.26	32.0	0.38	9.6	15/16
3750H _ 1/2	1/2	3.12	79.2	1.56	39.6	1.56	39.6	0.47	11.9	1 1/8

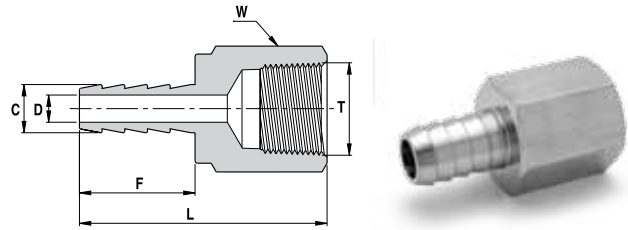
**130 HM
MALE TO HOSE
CONNECTOR**



Ordering Information	Hose I.D.	T Male NPT Size	C		D		D1		F		H		L		W Hex. Flat
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
130HM _ 1/8 X 1/8	1/8	1/8	0.15	3.80	0.08	2.0	0.19	4.80	0.40	10.2	0.38	9.70	1.08	27.4	7/16
130HM _ 1/8 X 1/4	1/8	1/4	0.15	3.80	0.08	2.0	0.28	7.10	0.40	10.2	0.56	14.2	1.26	32.0	9/16
130HM _ 3/16 X 1/8	3/16	1/8	0.23	5.84	0.12	3.0	0.12	3.00	0.59	15.0	0.38	9.70	1.27	32.3	7/16
130HM _ 3/16 X 1/4	3/16	1/4	0.23	5.84	0.12	3.0	0.28	7.10	0.59	15.0	0.56	14.2	1.45	36.8	9/16
130HM _ 1/4 X 1/8	1/4	1/8	0.30	7.62	0.19	4.8	0.19	4.80	0.79	20.1	0.38	9.70	1.47	37.3	7/16
130HM _ 1/4 X 1/4	1/4	1/4	0.30	7.62	0.19	4.8	0.19	4.80	0.79	20.1	0.56	14.2	1.65	41.9	9/16
130HM _ 1/4 X 3/8	1/4	3/8	0.30	7.62	0.19	4.8	0.19	4.80	0.79	20.1	0.56	14.2	1.66	42.2	11/16
130HM _ 1/4 X 1/2	1/4	1/2	0.30	7.62	0.19	4.8	0.47	11.9	0.79	20.1	0.75	19.0	1.85	47.0	7/8
130HM _ 5/16 X 1/8	5/16	1/8	0.38	9.65	0.19	4.8	0.19	4.80	0.87	22.1	0.38	9.70	1.55	39.4	7/16
130HM _ 5/16 X 1/4	5/16	1/4	0.38	9.65	0.19	4.8	0.19	4.80	0.87	22.1	0.56	14.2	1.73	43.9	9/16
130HM _ 5/16 X 3/8	5/16	3/8	0.38	9.65	0.19	4.8	0.19	4.80	0.87	22.1	0.56	14.2	1.74	44.2	11/16
130HM _ 5/16 X 1/2	5/16	1/2	0.38	9.65	0.19	4.8	0.47	11.9	0.87	22.1	0.75	19.0	1.96	49.8	7/8
130HM _ 3/8 X 1/4	3/8	1/4	0.45	11.43	0.30	7.6	0.30	7.60	0.87	22.1	0.56	14.2	1.73	43.9	9/16
130HM _ 3/8 X 3/8	3/8	3/8	0.45	11.43	0.30	7.6	0.30	7.60	0.87	22.1	0.56	14.2	1.74	44.2	11/16
130HM _ 3/8 X 1/2	3/8	1/2	0.45	11.43	0.30	7.6	0.30	7.60	0.87	22.1	0.75	19.0	1.96	49.8	7/8
130HM _ 1/2 X 1/4	1/2	1/4	0.60	15.24	0.37	9.5	0.28	7.10	0.94	23.8	0.56	14.2	1.80	45.7	11/16
130HM _ 1/2 X 3/8	1/2	3/8	0.60	15.24	0.37	9.5	0.37	9.50	0.94	23.8	0.56	14.2	1.81	46.0	11/16
130HM _ 1/2 X 1/2	1/2	1/2	0.60	15.24	0.37	9.5	0.37	9.50	0.94	23.8	0.75	19.0	2.03	51.6	7/8
130HM _ 5/8 X 1/2	5/8	1/2	0.75	19.10	0.47	11.9	0.47	11.9	0.98	24.9	0.75	19.0	2.07	52.6	1 1/16
130HM _ 5/8 X 3/4	5/8	3/4	0.75	19.10	0.50	12.7	0.63	16.0	0.98	24.9	0.75	19.0	2.07	52.6	1 1/16
130HM _ 3/4 X 1/2	3/4	1/2	0.90	22.86	0.63	16.0	0.47	11.9	1.05	26.7	0.75	19.0	2.14	54.4	1 1/16
130HM _ 3/4 X 3/4	3/4	3/4	0.90	22.86	0.63	16.0	0.63	16.0	1.05	26.7	0.75	19.0	2.14	54.4	1 1/16
130HM _ 3/4 X 1	3/4	1	0.90	22.86	0.63	16.0	0.88	22.4	1.05	26.7	0.94	23.9	2.43	61.7	1 3/8
130HM _ 1 X 3/4	1	3/4	1.2	30.48	0.88	22.4	0.63	16.0	1.19	30.2	0.75	19.0	2.38	60.5	1 3/8
130HM _ 1 X 1	1	1	1.2	30.48	0.88	22.4	0.88	22.4	1.19	30.2	0.94	23.9	2.57	65.3	1 3/8

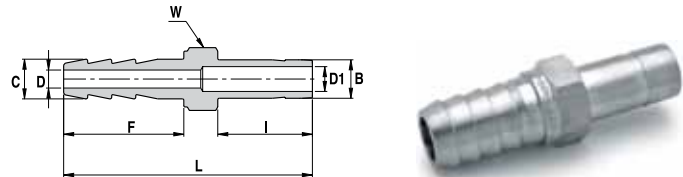
Dimensions are for reference only, and are subject to change without notice.

**130 HF
FEMALE HOSE
CONNECTOR**



Ordering Information	Hose I.D.	T NPT Size	C		D		F		L		W Hex. Flat
			inch	mm	inch	mm	inch	mm	inch	mm	inch
130HF_ 1/8 X 1/8	1/8	1/8	0.15	3.80	0.08	2.00	0.40	10.2	1.11	28.2	9/16
130HF_ 1/8 X 1/4	1/8	1/4	0.15	3.80	0.08	2.00	0.40	10.2	1.26	32.0	3/4
130HF_ 3/16 X 1/8	3/16	1/8	0.23	5.84	0.12	3.00	0.59	15.0	1.29	32.8	9/16
130HF_ 3/16 X 1/4	3/16	1/4	0.23	5.84	0.12	3.00	0.59	15.0	1.44	36.6	3/4
130HF_ 1/4 X 1/8	1/4	1/8	0.30	7.62	0.19	4.80	0.79	20.1	1.47	37.3	9/16
130HF_ 1/4 X 1/4	1/4	1/4	0.30	7.62	0.19	4.80	0.79	20.1	1.64	41.7	3/4
130HF_ 1/4 X 3/8	1/4	3/8	0.30	7.62	0.19	4.80	0.79	20.1	1.71	43.4	7/8
130HF_ 5/16 X 1/4	5/16	1/4	0.38	9.65	0.19	4.80	0.87	22.1	1.73	43.9	3/4
130HF_ 5/16 X 3/8	5/16	3/8	0.38	9.65	0.19	4.80	0.87	22.1	1.82	46.2	7/8
130HF_ 3/8 X 1/4	3/8	1/4	0.45	11.43	0.30	7.60	0.87	22.1	1.69	42.9	3/4
130HF_ 3/8 X 3/8	3/8	3/8	0.45	11.43	0.30	7.60	0.87	22.1	1.78	45.2	7/8
130HF_ 3/8 X 1/2	3/8	1/2	0.45	11.43	0.30	7.60	0.87	22.1	2.03	51.6	1 1/16
130HF_ 1/2 X 1/2	1/2	1/2	0.60	15.24	0.38	9.70	0.94	23.9	2.13	54.1	1 1/16

**130 LT
TUBE TO
HOSE CONNECTOR**



Ordering Information	Hose I.D.	B Tube Size	C		D		D1		F		I		L		W Hex. Flat
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
130LT_ 1/8 X 1/8	1/8	1/8	0.15	3.80	0.08	2.00	0.09	2.30	0.40	10.2	0.53	13.5	1.35	34.3	5/16
130LT_ 1/8 X 1/4	1/8	1/4	0.15	3.80	0.08	2.00	0.19	4.80	0.40	10.2	0.62	15.7	1.44	36.6	3/8
130LT_ 1/4 X 1/4	1/4	1/4	0.30	7.62	0.19	4.80	0.19	4.80	0.79	20.1	0.62	15.7	1.83	46.5	7/16
130LT_ 1/4 X 3/8	1/4	3/8	0.30	7.62	0.19	4.80	0.28	7.10	0.79	20.1	0.69	17.5	1.90	48.3	7/16
130LT_ 1/4 X 6 MM	1/4	6mm	0.30	7.62	0.19	4.80	0.18	4.60	0.79	20.1	0.62	15.7	1.86	47.2	7/16
130LT_ 5/16 X 1/4	5/16	1/4	0.37	9.40	0.19	4.80	0.19	4.80	0.87	22.1	0.62	15.7	1.91	48.5	7/16
130LT_ 3/8 X 3/8	3/8	3/8	0.45	11.43	0.30	7.60	0.28	7.10	0.87	22.1	0.69	17.5	1.98	50.3	9/16
130LT_ 3/8 X 1/2	3/8	1/2	0.45	11.43	0.30	7.60	0.39	9.90	0.87	22.1	0.91	23.1	2.20	55.9	5/8
130LT_ 1/2 X 3/8	1/2	3/8	0.60	15.24	0.38	9.70	0.28	7.10	0.94	23.9	0.69	17.5	2.05	52.1	11/16
130LT_ 1/2 X 1/2	1/2	1/2	0.60	15.24	0.38	9.70	0.39	9.90	0.94	23.9	0.91	23.1	2.27	57.7	11/16
130LT_ 3/4 X 3/4	3/4	3/4	0.90	22.86	0.63	16.0	0.59	15.0	1.05	26.7	0.97	24.6	2.44	62.0	1 1/16

Dimensions are for reference only, and are subject to change without notice.

