

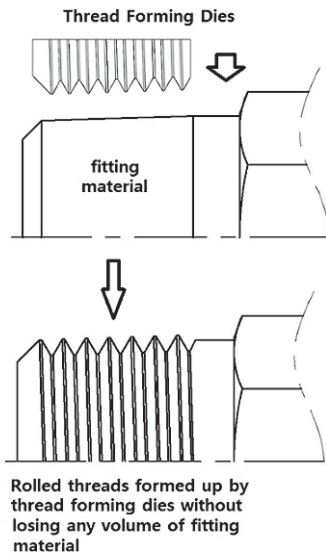
## Instrument M Pipe Fittings

### Features

- Rolled male thread with bright clean flank ensures sealing performance and minimizes galling for maximum thread engagement.
- Wrench flat design on body allows hex-wrench assembly.
- Attractive appearance fits the precision equipment.
- Compact design fitting for high pressure application.
- Marking of heat code traceability (HCT) and thread designator on SS316 fitting.
- Marking of thread designator on brass and carbon steel fitting.
- Male pipe threads are capped for protection from damage.



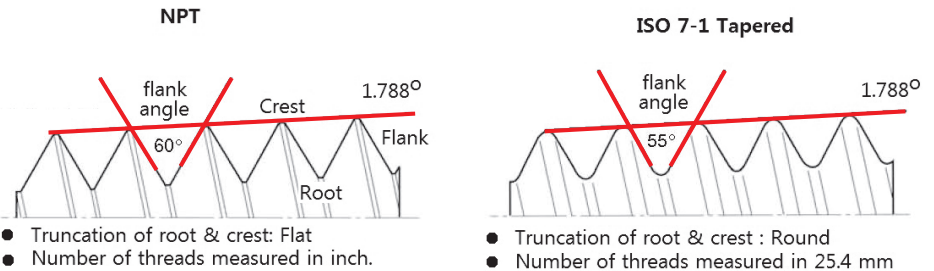
### Rolled Pipe Threads



HSME's roll threading is a method of producing high quality male pipe threads by "cold" working, reforming the fitting material into the shape of thread required, rather than cutting off the fitting material in the conventional cut thread production.

The end result is a thread that is approximately 30% stronger than a comparable cut thread. Cold working the metal "work hardens" the metal, providing a higher strength thread that can handle higher loads than standard cut thread does.

These become very important features since they use an interference fit to achieve a seal. A rolled thread can be visually identified by the bright clean flanks that enhance the sealing performance and minimize galling. It can also be identified by the rough crests as compared to a cut thread which tends to have a sharp crest.



### Threads

Table 1. Thread Designator and Standards

Designator	Description in catalog	Industrial Symbol	Thread Profile	Standards
N	NPT	NPT	Tapered Pipe Thread	ANSI/ASME B1.20.1, SAE AS71051
R	ISO Tapered	BSPT, PT		ISO 7-1, DIN 2999, BS21(BSPT), JIS B0203 (PT)
G	ISO Parallel	BSPP, PF	Parallel Pipe Thread	ISO 228-1, BS 2779 (BSPP), JIS B0202 (PF)
GG	Gauge ISO Parallel	BSPP, PF		
U	Female SAE Straight Thread	UNF, SAE	Unified Thread	ASME B1.1
UF	Male SAE Straight Thread	UNF, SAE	Unified Thread	ASME B1.1

Note: "G" male thread is constructed on Form A stud end (DIN3852 Form A) unless otherwise specified.

Table 2. Pipe Thread Size Designator

Nominal Pipe Size, in.	1/16	1/8	1/4	3/8	1/2	3/4	1
Size Designator	1	2	4	6	8	12	16
NPT	1N	2N	4N	6N	8N	12N	16N
ISO Tapered	1R	2R	4R	6R	8R	12R	16R
ISO Parallel	-	2G	4G	6G	8G	12G	16G
Gauge ISO Parallel	-	-	4GG	6GG	8GG	-	-

# Instrument M Pipe Fittings

Table 3. SAE Straight Thread Designator / Applicable O-Ring Number

SAE Thread Size, in.	Corresponding Tube OD, in.	Male			Female Designator
		Male JIC(AN) Tube Flare Port	Male SAE Straight Thread with O-Ring	AS568 O-Ring Number	
		Designator			
5/16-24	1/8	2T	2UF	902	2U
7/16-20	1/4	4T	4UF	904	4U
1/2-20	5/16	5T	5UF	905	5U
9/16-20	3/8	6T	6UF	906	6U
3/4-16	1/2	8T	8UF	908	8U
1 1/16-12	3/4	12T	12UF	912	12U
1 5/16-12	1	16T	16UF	916	16U

## Materials of Construction

Table 4.

Material Designator	Material	Bar Stock	Forgings
SS	Stainless Steel 316	ASTM A479, A276 Type 316	ASTM A182 F316
C	Carbon Steel	ASTM A108, JIS G4051 S20C - S45C	ASTM A105, JIS G3201 SF440A
B	Brass	ASTM B16 C36000, JIS H3250 C3604	ASTM B283 C37700, JIS H3250 C3771
SD	Super Duplex SAF 2507™	ASTM A479 S32750	ASTM A182 F51
C276	Hastelloy C276	ASTM B574 N10276	ASTM B564 N10276

## Temperature Ratings

Fittings with O-ring, or Gasket may be limited in temperature ratings.

Table 5. Fitting Materials

Fitting Material	Maximum Temperature, °C (°F)
Stainless Steel 316	537 (1000)
Carbon Steel	204 (400)
Brass	190 (375)
Super Duplex	600 (316)
Hastelloy C276	1250 (677)

Table 6. O-Ring and Gasket Materials

Component	Material	Temperature, °C (°F)	
		Min.	Max.
SAE O-Rings	FKM	-28 (-20)	204 (400)
Bonded Seal Gasket	NBR	-25 (-13)	110 (230)
	FKM	-15 (5)	204 (400)
Copper Gasket	Copper	-198 (-325)	204 (400)

## Temperature De-rating Factor

The de-rating factors for the allowable working pressure at a specific temperature are as per the requirements of ASME B31.3 process piping code.

Table 7.

Temperature	°C	38	93	149	204	260	316	371	427	482	537
	°F	100	200	300	400	500	600	700	800	900	1000
De-rating Factors	Stainless Steel 316	1.00	1.00	1.00	0.97	0.90	0.85	0.82	0.80	0.78	0.77
	Carbon Steel	1.00	0.94	0.90	0.86	-	-	-	-	-	-
	Brass	1.00	0.78	0.69	0.13	-	-	-	-	-	-
	Super Duplex	1	1	0.86	0.82	0.81	0.81	-	-	-	-
	Hastelloy C276	1	1	1	1	0.99	0.93	0.88	0.84	0.82	0.80

## How to use the factor

Example: A SS316 fitting of 10 000 psig working pressure at 260 °C (500 °F), 10 000 psig x 0.90 (factor) = 9000 psig.

## Fitting Cleaning and Surface Protection

Fittings are cleaned to remove surface contamination, loose particles, iron particles out of cutting tools, and oil from cutting fluid.

Fittings are further processed for the surface protection to enhance corrosion-resistance.

Material	Surface Protection
Stainless Steel 316	Passivation
Carbon Steel	White Zinc Plating
Brass	Acid cleaning

## Pressure Ratings

Pressure ratings in each fitting table are at ambient temperature of 37 °C (100 °F).

The pressure ratings of M Pipe & Weld fittings meet the requirements of ASME B31.3 process piping code.

## Dimensions

- "O" dimension in the dimensional table refers to the minimum opening of the fitting.
- Dimensions are for reference only and subject to change.

**Instrument M Pipe Fittings**

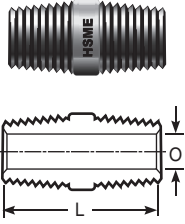
- Nipples
  - Close Nipples
    - Male NPT
  - Hex Nipples
    - Male NPT
    - Male NPT to Male ISO Tapered
    - Male ISO Tapered
    - Male NPT to Male ISO Parallel
  - Hex Reducing Nipples
    - Male NPT
    - Male ISO Tapered
  - Hex Long Nipples
    - Male NPT
- Adapters
  - Female to Male NPT
  - Female to Male ISO Tapered
  - Female NPT to Male ISO Parallel
    - ISO Parallel Gasket
  - Female NPT to Male ISO Tapered
  - Female NPT to Male SAE Straight Thread
  - Male NPT to Female ISO Tapered
  - Male NPT to Male SAE Straight Thread
  - Male NPT to Male JIC (AN)
  - Male SAE Straight Thread to Male JIC (AN)
- Reducing Adapters
  - Female to Male NPT
  - Female to Male ISO Tapered
- Hex Reducing Bushing
  - Male to Female NPT
  - Male to Female ISO Tapered
- Reducer
  - Male to Female SAE Straight Thread
- Gauge Adapters
  - Female Gauge ISO Parallel to Male NPT
    - Gauge Adapter Gasket
- Hex Coupling
  - Hex Coupling
    - Female NPT
    - Female ISO Tapered
  - Hex Reducing Coupling
    - Female NPT
    - Female ISO Tapered
- Elbows
  - Elbows
    - Female NPT
    - Female ISO Tapered
  - Street Elbows
    - Female to Male NPT
  - Reducing Street Elbows
    - Female to Male NPT
  - Male Elbows
    - Male NPT

- Tees
  - Tees
    - Female NPT
    - Female ISO Tapered
  - Run Tees
    - Female to Male NPT
  - Branch Tees
    - Female to Male NPT
  - Male Tees
    - Male NPT
- Crosses
  - Female NPT
- Union Ball Joint
  - Female NPT
- Pipe Caps
  - Female NPT
- Pipe Plugs
  - Pipe Plugs
    - Male NPT
  - Hollow Hex Plugs
    - Male NPT
    - Male SAE Straight Thread
  - Hex Head Plugs
    - Male SAE Straight Thread

**Instrument M Weld Fittings**

- Union
  - Tube Socket Weld
  - Tube Socket Weld to Tube Butt Weld
  - Tube Socket Weld to Pipe Butt Weld
- Union Elbow
  - Tube Socket Weld
- Union Tee
  - Tube Socket Weld
  - Pipe Butt Weld / Tube Socket Weld
- Union Cross
  - Tube Socket Weld
- Male Connector
  - Tube Socket Weld to Male NPT
- Male Elbow
  - Tube Socket Weld to Male NPT
- Female Connector
  - Tube Socket Weld to Female NPT
- Female Elbow
  - Tube Socket Weld to Female NPT

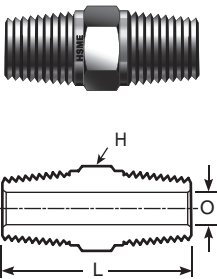
## Close Nipple



### MCN-N Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)		Pressure Ratings, bar (psig)	
		L	O	SS, C	B
1/8	MCN-2N-	19.1 (0.75)	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MCN-4N-	28.4 (1.12)	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MCN-6N-	28.4 (1.12)	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MCN-8N-	38.1 (1.50)	11.9 (0.47)	530 (7700)	261 (3800)
3/4	MCN-12N-	38.1 (1.50)	15.7 (0.62)	502 (7300)	248 (3600)
1	MCN-16N-	47.8 (1.88)	22.4 (0.88)	365 (5300)	179 (2600)

## Hex Nipple



### MHN-N Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/16	MHN-1N-	25.6 (1.01)	5/16	3.0 (0.12)	757 (11 000)	378 (5500)
1/8	MHN-2N-	25.6 (1.01)	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MHN-4N-	35.6 (1.40)	9/16	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MHN-6N-	36.3 (1.43)	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MHN-8N-	46.7 (1.84)	7/8	11.9 (0.47)	530 (7700)	261 (3800)
3/4	MHN-12N-	46.7 (1.84)	1 1/16	15.7 (0.62)	502 (7300)	248 (3600)
1	MHN-16N-	58.9 (2.32)	1 3/8	22.4 (0.88)	365 (5300)	179 (2600)
<b>Heavy Wall 10 000 psig</b>						
1/4	MHN10K-4N-SS	35.6 (1.40)	9/16	5.8 (0.23)	689 (10 000)	-
1/2	MHN10K-8N-SS	46.7 (1.84)	7/8	9.9 (0.39)	689 (10 000)	-

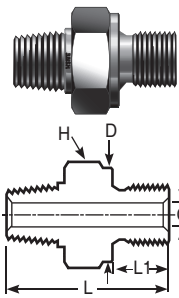
### MHN-N/R Male NPT to Male ISO Tapered

NPT in.	ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
			L	H	O	SS, C	B
1/8	1/8	MHN-2N2R-	25.6 (1.01)	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	1/4	MHN-4N4R-	35.6 (1.40)	9/16	7.1 (0.28)	551 (8000)	275 (4000)
3/8	3/8	MHN-6N6R-	36.3 (1.43)	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	1/2	MHN-8N8R-	46.7 (1.84)	7/8	11.9 (0.47)	530 (7700)	261 (3800)
3/4	3/4	MHN-12N12R-	46.7 (1.84)	1 1/16	15.7 (0.62)	502 (7300)	248 (3600)
1	1	MHN-16N16R-	58.9 (2.32)	1 3/8	22.4 (0.88)	365 (5300)	179 (2600)

### MHN-R Male ISO Tapered

ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	MHN-2R-	25.6 (1.01)	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MHN-4R-	35.6 (1.40)	9/16	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MHN-6R-	36.3 (1.43)	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MHN-8R-	46.7 (1.84)	7/8	11.9 (0.47)	530 (7700)	261 (3800)

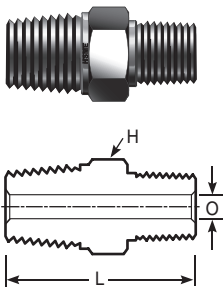
**Hex Nipple**



**MHN-N/G** Male NPT to Male ISO Parallel

NPT in.	ISO Parallel in.	Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)	
			L	L1	D	H	O	SS, C	B
1/8	1/8	MHN-2N2G-	27.7 (1.09)	8.1 (0.32)	13.7 (0.54)	9/16	4.1 (0.16)	785 (11 400)	392 (5700)
1/4	1/4	MHN-4N4G-	36.8 (1.45)	11.9 (0.47)	17.8 (0.70)	3/4	5.8 (0.23)	709 (10 300)	351 (5100)
3/8	3/8	MHN-6N6G-	37.6 (1.48)	11.9 (0.47)	21.8 (0.86)	7/8	7.9 (0.31)	709 (10 300)	351 (5100)
1/2	1/2	MHN-8N8G-	44.4 (1.75)	14.0 (0.55)	25.9 (1.02)	1 1/16	11.9 (0.47)	523 (7600)	261 (3800)
3/4	3/4	MHN-12N12G-	49.0 (1.93)	16.0 (0.63)	31.8 (1.25)	1 5/16	15.7 (0.62)	502 (7300)	248 (3600)
1	1	MHN-16N16G-	56.6 (2.23)	18.0 (0.71)	38.9 (1.53)	1 5/8	19.8 (0.78)	502 (7300)	254 (3700)

**Hex Reducing Nipple**



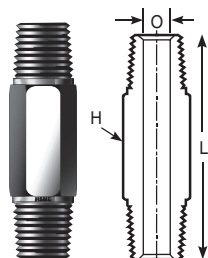
**MHRN-N** Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)		
		L	H	O	SS, C	B	
1/8	1/16	MHRN-2N1N-	25.6 (1.01)	7/16	3.0 (0.12)	757 (11 000)	378 (5500)
1/4	1/8	MHRN-4N2N-	31.0 (1.22)	9/16	4.8 (0.19)	689 (10 000)	344 (5000)
3/8	1/8	MHRN-6N2N-	31.8 (1.25)	11/16	4.8 (0.19)	689 (10 000)	344 (5000)
3/8	1/4	MHRN-6N4N-	36.3 (1.43)	11/16	7.1 (0.28)	551 (8000)	275 (4000)
1/2	1/8	MHRN-8N2N-	37.3 (1.47)	7/8	4.8 (0.19)	530 (7700)	261 (3800)
1/2	1/4	MHRN-8N4N-	41.9 (1.65)	7/8	7.1 (0.28)	551 (8000)	275 (4000)
1/2	3/8	MHRN-8N6N-	41.9 (1.65)	7/8	9.6 (0.38)	537 (7800)	268 (3900)
3/4	1/4	MHRN-12N4N-	41.9 (1.65)	1 1/16	7.1 (0.28)	551 (8000)	275 (4000)
3/4	1/2	MHRN-12N8N-	46.7 (1.84)	1 1/16	11.9 (0.47)	530 (7700)	261 (3800)
1	1/4	MHRN-16N4N-	49.3 (1.94)	1 3/8	7.1 (0.28)	365 (5300)	179 (2600)
1	1/2	MHRN-16N8N-	54.1 (2.13)	1 3/8	11.9 (0.47)	530 (7700)	261 (3800)
1	3/4	MHRN-16N12N-	54.1 (2.13)	1 3/8	15.7 (0.62)	502 (7300)	248 (3600)
<b>Heavy Wall 10 000 psig</b>							
1/2	1/4	MHRN10K-8N4N-SS	41.9 (1.65)	7/8	5.8 (0.23)	689 (10 000)	-

**MHRN-R** Male ISO Tapered

ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)		
		L	H	O	SS, C	B	
3/8	1/4	MHRN-6R4R-	36.3 (1.43)	11/16	7.1 (0.28)	551 (8000)	275 (4000)
1/2	1/8	MHRN-8R2R-	37.3 (1.47)	7/8	4.8 (0.19)	530 (7700)	261 (3800)
1/2	3/8	MHRN-8R6R-	41.9 (1.65)	7/8	9.6 (0.38)	537 (7800)	268 (3900)

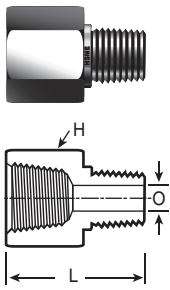
**Hex Long Nipple**



**MHLN-N** Male NPT

NPT in.	Basic Part Number	L in.						Dimensions mm (in.)		Pressure Ratings, bar (psig)	
		1.5	2	2.5	3	4	6	H	O	SS, C	B
1/8	MHLN-2N-	O	O	O	O	-	-	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MHLN-4N-	O	O	O	O	O	-	9/16	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MHLN-6N-	O	O	O	O	O	-	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MHLN-8N-	-	O	-	O	O	O	7/8	11.9 (0.47)	530 (7700)	261 (3800)
3/4	MHLN-12N-	-	O	-	O	O	-	1 1/16	15.7 (0.62)	502 (7300)	248 (3600)
1	MHLN-16N-	-	-	-	O	O	-	1 3/8	22.4 (0.88)	365 (5300)	179 (2600)

## Adapter



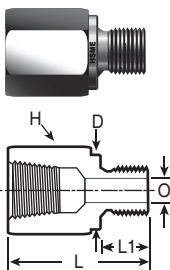
### MAFM-N Female to Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	MAFM-2N-	27.9 (1.10)	9/16	4.8 (0.19)	447 (6500)	220 (3200)
1/4	MAFM-4N-	35.6 (1.40)	3/4	7.1 (0.28)	454 (6600)	227 (3300)
3/8	MAFM-6N-	38.4 (1.51)	7/8	9.6 (0.38)	365 (5300)	179 (2600)
1/2	MAFM-8N-	49.3 (1.94)	1 1/16	11.9 (0.47)	337 (4900)	165 (2400)
3/4	MAFM-12N-	51.3 (2.02)	1 5/16	15.7 (0.62)	316 (4600)	158 (2300)
1	MAFM-16N-	57.9 (2.28)	1 5/8	22.4 (0.88)	303 (4400)	151 (2200)
<b>Heavy Wall 10 000 psig</b>						
1/4	MAFM10K-4N-SS	36.3 (1.43)	1	5.8 (0.23)	689 (10 000)	-
1/2	MAFM10K-8N-SS	51.3 (2.02)	1 1/2	9.9 (0.39)	689 (10 000)	-

### MAFM-R Female to Male ISO Tapered

ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	MAFM-2R-	27.7 (1.09)	9/16	4.8 (0.19)	447 (6500)	220 (3200)
1/4	MAFM-4R-	36.1 (1.42)	3/4	7.1 (0.28)	454 (6600)	227 (3300)
3/8	MAFM-6R-	38.1 (1.50)	7/8	9.6 (0.38)	365 (5300)	179 (2600)
1/2	MAFM-8R-	49.5 (1.95)	1 1/16	11.9 (0.47)	337 (4900)	165 (2400)

### MAFM-N/G Female NPT to Male ISO Parallel



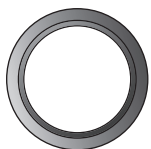
NPT in.	ISO Parallel in.	Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)	
			L	L1	D	H	O	SS, C	B
1/8	1/8	MAFM-2N2G-	25.1 (0.99)	8.1 (0.32)	13.7 (0.54)	9/16	4.1 (0.16)	447 (6500)	220 (3200)
1/4	1/4	MAFM-4N4G-	33.5 (1.32)	11.9 (0.47)	17.8 (0.70)	3/4	5.8 (0.23)	454 (6600)	227 (3300)
3/8	3/8	MAFM-6N6G-	35.8 (1.41)	11.9 (0.47)	21.8 (0.86)	7/8	7.9 (0.31)	365 (5300)	179 (2600)
1/2	1/2	MAFM-8N8G-	44.2 (1.74)	14.0 (0.55)	25.9 (1.02)	1 1/16	11.9 (0.47)	337 (4900)	165 (2400)
3/4	3/4	MAFM-12N12G-	48.0 (1.89)	16.0 (0.63)	31.8 (1.25)	1 5/16	15.7 (0.62)	316 (4600)	158 (2300)
1	1	MAFM-16N16G-	53.3 (2.10)	18.0 (0.71)	38.9 (1.53)	1 5/8	19.8 (0.78)	303 (4400)	151 (2200)

## ISO Parallel Gasket

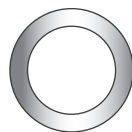
Pipe Fitting's ISO Parallel male thread is constructed on Form A stud end (DIN 3852 Form A). The fitting with the male ISO parallel thread (Thread designator - G) requires either a bonded gasket or a copper gasket to achieve a seal.

The bonded gasket is available in NBR inner ring bonded to a steel outer ring and FKM inner ring bonded to a stainless steel outer ring.

### Gasket Ordering Number



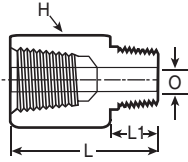
Bonded Gasket



Copper Gasket

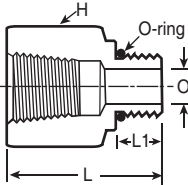
ISO Parallel Thread	Thread Designator	Bonded Gasket		Copper Gasket
		NBR bonded to a Steel Outer Ring	FKM bonded to a SS Outer Ring	
1/8	2G	9PBN-2G-C	9PBV-2G-SS	9PP-2G-CU
1/4	4G	9PBN-4G-C	9PBV-4G-SS	9PP-4G-CU
3/8	6G	9PBN-6G-C	9PBV-6G-SS	9PP-6G-CU
1/2	8G	9PBN-8G-C	9PBV-8G-SS	9PP-8G-CU
3/4	12G	9PBN-12G-C	9PBV-12G-SS	9PP-12G-CU
1	16G	9PBN-16G-C	9PBV-16G-SS	9PP-16G-CU

## Adapter



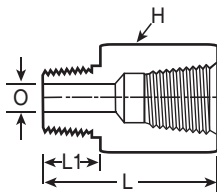
### MAFM-N/R Female NPT to Male ISO Tapered

NPT in.	ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
			L	L1	H	O	SS, C	B
1/8	1/8	MAFM-2N2R-	27.7 (1.09)	9.6 (0.38)	9/16	4.8 (0.19)	447 (6500)	220 (3200)
1/4	1/4	MAFM-4N4R-	36.1 (1.42)	14.2 (0.56)	3/4	7.1 (0.28)	454 (6600)	227 (3300)
3/8	3/8	MAFM-6N6R-	38.1 (1.50)	14.2 (0.56)	7/8	9.6 (0.38)	365 (5300)	179 (2600)
1/2	1/2	MAFM-8N8R-	49.3 (1.94)	19.1 (0.75)	1 1/16	11.9 (0.47)	337 (4900)	165 (2400)
3/4	3/4	MAFM-12N12R-	51.3 (2.02)	19.1 (0.75)	1 5/16	15.7 (0.62)	316 (4600)	158 (2300)
1	1	MAFM-16N16R-	58.4 (2.30)	23.9 (0.94)	1 5/8	22.4 (0.88)	303 (4400)	151 (2200)



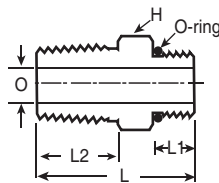
### MAFM-N/UF Female NPT to Male SAE Straight Thread

NPT in.	Male SAE Straight Thread			Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
	Size in.	Designator	O-Ring size		L	L1	H	O	
1/4	7/16-20	4UF	904	MAFM-4N4UF-	33.5 (1.32)	9.1 (0.36)	3/4	5.1 (0.20)	310 (4500)
3/8	9/16-18	6UF	906	MAFM-6N6UF-	35.3 (1.39)	9.9 (0.39)	15/16	7.1 (0.28)	310 (4500)
1/2	3/4-16	8UF	908	MAFM-8N8UF-	44.7 (1.76)	11.2 (0.44)	1 1/16	10.7 (0.42)	310 (4500)
3/4	1 1/16-12	12UF	912	MAMF-8N12UF-	50.5 (1.99)	15.0 (0.59)	1 3/8	16.7 (0.66)	248 (3600)
1	1 5/16-12	16UF	916	MAMF-16N16UF-	53.8 (2.12)	15.0 (0.59)	1 5/8	22.4 (0.88)	199 (2900)



### MAMF-N/R Male NPT to Female ISO Tapered

NPT in.	ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
			L	L1	H	O	SS, C	B
1/4	1/4	MAMF-4N4R-	36.3 (1.43)	14.2 (0.56)	3/4	7.1 (0.28)	454 (6600)	227 (3300)
3/8	3/8	MAMF-6N6R-	38.4 (1.51)	14.2 (0.56)	7/8	9.6 (0.38)	365 (5300)	179 (2600)
1/2	1/2	MAMF-8N8R-	49.8 (1.96)	19.1 (0.75)	1 1/16	11.9 (0.47)	337 (4900)	165 (2400)



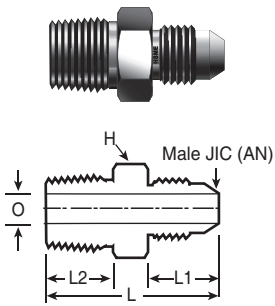
### MA-N/UF Male NPT to Male SAE Straight Thread

NPT in.	Male SAE Straight Thread			Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
	Size	Designator	O-Ring Size		L	L1	L2	H	O	
1/4	7/16-20	4UF	904	MA-4N4UF-	30.5 (1.20)	9.1 (0.36)	14.2 (0.56)	9/16	5.1 (0.20)	310 (4500)
3/8	9/16-18	6UF	906	MA-6N6UF-	32.0 (1.26)	9.9 (0.39)	14.2 (0.56)	11/16	7.1 (0.28)	310 (4500)
1/2	3/4-16	8UF	908	MA-8N8UF-	38.9 (1.53)	11.2 (0.44)	19.1 (0.75)	7/8	10.7 (0.42)	310 (4500)
3/4	1 1/16-12	12UF	912	MA-8N8UF-	44.4 (1.75)	15.0 (0.59)	19.21 (0.75)	1 1/4	15.7 (0.62)	248 (3600)
1	1 5/16-12	16UF	916	MA-16N16UF-	50.8 (2.00)	15.0 (0.59)	23.9 (0.94)	1 1/2	22.4 (0.88)	199 (2900)



# Instrument M Pipe Fittings

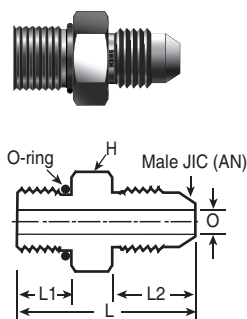
## Adapter



**MA-N/T** Male NPT to Male JIC (AN)

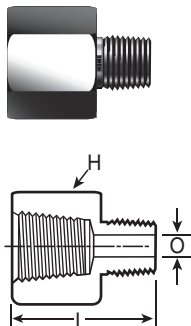
NPT in.	Male JIC (AN)		Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
	Tube OD	JIC Thread		L	L1	L2	H	O	
1/4	1/4	7/16-20	MA-4N4T-	35.6 (1.40)	13.0 (0.55)	14.2 (0.56)	9/16	4.3 (0.17)	344 (5000)
1/4	3/8	9/16-18	MA-4N6T-	36.3 (1.43)	14.2 (0.56)	14.2 (0.56)	5/8	7.1 (0.28)	344 (5000)
3/8	3/8	9/16-18	MA-8N6T-	36.3 (1.43)	14.2 (0.56)	14.2 (0.56)	11/16	7.6 (0.30)	344 (5000)
1/2	1/2	3/4-16	MA-8N8T-	44.4 (1.75)	16.8 (0.66)	19.0 (0.75)	7/8	9.9 (0.39)	310 (4500)
3/4	3/4	1 1/16-12	MA-12N12T-	50.5 (1.99)	21.8 (0.86)	19.0 (0.75)	1 1/8	15.5 (0.61)	241 (3500)
1	1	1 5/16-12	MA-16N16T-	58.4 (2.30)	23.1 (0.91)	23.9 (0.94)	1 3/8	21.3 (0.84)	206 (3000)

**MA-UF/T** Male SAE Straight Thread to Male JIC (AN)



Male SAE Straight Thread			Male JIC (AN)		Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
Size	Desig- nator	O-Ring Size	Tube OD	JIC Thread		L	L1	L2	H	O	
7/16-20	4UF	904	1/4	7/16-20	MA-4UF4T-	30.2 (1.19)	9.1 (0.36)	14.0 (0.55)	9/16	4.3 (0.17)	310 (4500)
9/16-18	6UF	906	3/8	9/16-18	MA-6UF6T-	32.0 (1.26)	9.9 (0.39)	14.2 (0.56)	11/16	7.4 (0.29)	310 (4500)
3/4-16	8UF	908	1/2	3/4-16	MA-8UF8T-	36.6 (1.44)	11.2 (0.44)	16.8 (0.66)	7/8	9.9 (0.39)	310 (4500)
1 1/16-12	12UF	912	3/4	1 1/16-12	MA-12UF12T-	47.5 (1.87)	15.0 (0.59)	21.8 (0.86)	1 1/4	15.5 (0.61)	241 (3500)
1 5/16-12	16UF	916	1	1 5/16-12	MA-16UF16T-	50.3 (1.98)	15.0 (0.59)	23.1 (0.91)	1 1/2	21.3 (0.84)	199 (2900)

## Reducing Adapter

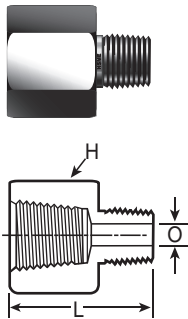


**MRAFM-N** Female to Male NPT

Female NPT in.	Male NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
			L	H	O	SS, C	B
1/8	1/16	MRAFM-2N1N-	27.7 (1.09)	9/16	3.0 (0.12)	447 (6500)	220 (3200)
1/4	1/8	MRAFM-4N2N-	32.0 (1.26)	3/4	4.8 (0.19)	454 (6600)	227 (3300)
3/8	1/8	MRAFM-6N2N-	33.8 (1.33)	7/8	4.8 (0.19)	(365) 5300	179 (2600)
3/8	1/4	MRAFM-6N4N-	38.1 (1.50)	7/8	7.1 (0.28)	(365) 5300	179 (2600)
1/2	1/8	MRAFM-8N2N-	40.1 (1.58)	1 1/16	4.8 (0.19)	337 (4900)	165 (2400)
1/2	1/4	MRAFM-8N4N-	44.7 (1.76)	1 1/16	7.1 (0.28)	337 (4900)	165 (2400)
1/2	3/8	MRAFM-8N6N-	44.4 (1.75)	1 1/16	9.6 (0.38)	337 (4900)	165 (2400)
3/4	1/4	MRAFM-12N4N-	47.0 (1.85)	1 5/16	7.1 (0.28)	316 (4600)	158 (2300)
3/4	3/8	MRAFM-12N6N-	46.2 (1.82)	1 5/16	9.6 (0.38)	316 (4600)	158 (2300)
3/4	1/2	MRAFM-12N8N-	51.3 (2.02)	1 5/16	11.9 (0.47)	316 (4600)	158 (2300)
1	1/4	MRAFM-16N4N-	49.8 (1.96)	1 5/8	7.1 (0.28)	303 (4400)	151 (2200)
1	1/2	MRAFM-16N8N-	54.9 (2.16)	1 5/8	11.9 (0.47)	303 (4400)	151 (2200)
1	3/4	MRAFM-16N12N-	55.1 (2.17)	1 5/8	15.7 (0.62)	303 (4400)	151 (2200)
<b>Heavy Wall 10 000 psig</b>							
1/2	1/4	MRAFM10K-8N4N-SS	46.0 (1.81)	1 1/2	5.8 (0.23)	689 (10 000)	-



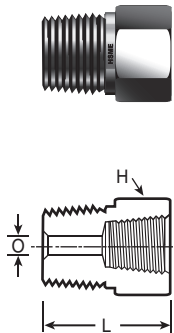
**Reducing Adapter**



**MRAFM-R Female to Male ISO Tapered**

Female ISO Tapered in.	Male ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
			L	H	O	SS, C	B
1/4	1/8	MRAFM-4R2R-	32.0 (1.26)	3/4	4.8 (0.19)	454 (6600)	227 (3300)
3/8	1/4	MRAFM-6R4R-	38.1 (1.50)	7/8	7.1 (0.28)	365 (5300)	179 (2600)
1/2	1/4	MRAFM-8R4R-	44.7 (1.76)	1 1/16	7.1 (0.28)	337 (4900)	165 (2400)
1/2	3/8	MRAFM-8R6R-	44.4 (1.75)	1 1/16	9.6 (0.38)	337 (4900)	165 (2400)

**Hex Reducing Bushing**



**MHRB-N Male to Female NPT**

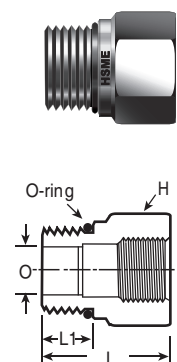
Male NPT in.	Female NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
			L	H	O	SS, C	B
1/8	1/16	MHRB-2N1N-	26.2 (1.03)	7/16	4.8 (0.19)	461 (6700)	227 (3300)
1/4	1/8	MHRB-4N2N-	26.9 (1.06)	9/16	7.1 (0.28)	447 (6500)	227 (3300)
3/8	1/8	MHRB-6N2N-	21.8 (0.86)	11/16	8.6 (0.34)	633 (9200)	323 (4700)
	1/4	MHRB-6N4N-	30.2 (1.19)	3/4	9.6 (0.38)	454 (6600)	227 (3300)
1/2	1/8	MHRB-8N2N-	27.4 (1.08)	7/8	8.6 (0.34)	840 (12 200)	427 (6200)
	1/4	MHRB-8N4N-			11.4 (0.45)	571 (8300)	303 (4400)
	3/8	MHRB-8N6N-			11.9 (0.47)	365 (5300)	179 (2600)
3/4	1/4	MHRB-12N4N-	27.4 (1.08)	1 1/16	11.4 (0.45)	826 (12 000)	413 (6000)
	3/8	MHRB-12N6N-			15.0 (0.59)	564 (8200)	296 (4300)
	1/2	MHRB-12N8N-			15.7 (0.62)	337 (4900)	165 (2400)
1	1/4	MHRB-16N4N-	34.8 (1.37)	1 3/8	11.4 (0.45)	999 (14 500)	509 (7400)
	3/8	MHRB-16N6N-			15.0 (0.59)	799 (11 600)	406 (5900)
	1/2	MHRB-16N8N-			18.5 (0.73)	592 (8600)	296 (4300)
	3/4	MHRB-16N12N-			22.4 (0.88)	365 (5300)	179 (2600)

**MHRB-R Male to Female ISO Tapered**

Male ISO Tapered in.	Female ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
			L	H	O	SS, C	B
1/4	1/8	MHRB-4R2R-	26.9 (1.06)	9/16	7.1 (0.28)	447 (6500)	220 (3200)
3/8	1/4	MHRB-6R4R-	30.2 (1.19)	3/4	9.6 (0.38)	454 (6600)	227 (3300)
1/2	1/4	MHRB-8R4R-	27.4 (1.08)	7/8	11.2 (0.44)	571 (8300)	303 (4400)
	3/8	MHRB-8R6R-	35.8 (1.41)	7/8	11.9 (0.47)	365 (5300)	179 (2600)

# Instrument M Pipe Fittings

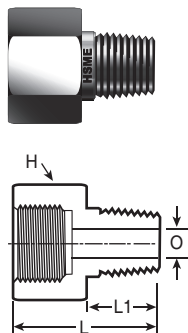
## Reducer



### MR-UF/U Male to Female SAE Straight Thread

Male SAE Straight Thread			Female SAE Straight Thread		Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
Size	Designator	O-Ring Size	Size	Designator		L	L1	H	O	
9/16-18	6UF	906	7/16 - 20	4U	MR-6UF4U-	28.4 (1.12)	9.9 (0.39)	13/16	7.1 (0.28)	310 (4500)
3/4-16	8UF	908	7/16 - 20	4U	MR-8UF4U-	24.9 (0.98)	11.2 (0.44)	7/8	9.9 (0.39)	310 (4500)
3/4-16	8UF	908	9/16 - 18	6U	MR-8UF6U-	30.2 (1.19)	11.2 (0.44)	1	10.7 (0.42)	310 (4500)
7/8 - 14	10UF	910	9/16 - 18	6U	MR-10UF6U-	27.9 (1.10)	12.7 (0.50)	1	12.7 (0.50)	248 (3600)
7/8 - 14	10UF	910	3/4 - 16	8U	MR-10UF8U-	36.1 (1.42)	2.7 (0.50)	1 3/16	12.7 (0.50)	248 (3600)
1 1/16-12	12UF	912	3/4 - 16	8U	MR-12UF8U-	32.3 (1.27)	15.0 (0.59)	1 1/4	16.5 (0.65)	248 (3600)
1 5/16-12	16UF	916	1 1/16-12	12U	MR-16UF12U-	40.9 (1.61)	15.0 (0.59)	1 5/8	22.1 (0.87)	199 (2900)
1 5/8 - 12	20UF	920	1 5/16 - 12	16U	MR-20UF16U-	50.3 (1.98)	15.0 (0.59)	2 1/8	27.7 (1.09)	158 (2300)
1 7/8 - 12	24UF	924	1 5/16 - 12	16U	MR-24UF16U-	32.3 (1.27)	15.0 (0.59)	2 1/8	31.2 (1.23)	158 (2300)

## Gauge Adapter



### MGAFM-GG/N Female Gauge ISO Parallel to Male NPT

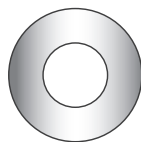
Gauge ISO Parallel	NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
			L	L1	H	O	
1/4	1/4	MGAFM-4GG4N-	30.2 (1.19)	14.2 (0.56)	3/4	5.6 (0.22)	392 (5700)
3/8	3/8	MGAFM-6GG6N-	32.2 (1.27)	14.2 (0.56)	15/16	6.6 (0.26)	392 (5700)
1/2	1/2	MGAFM-8GG8N-	42.7 (1.68)	19.1 (0.75)	1 1/16	7.1 (0.28)	268 (3900)

## Gauge Adapter Gasket

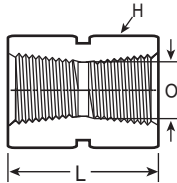
The copper gasket is dropped into the flat bottom of the gauge adapter's female thread (GG). The face of the pressure gauge male thread exerts a load on the gasket to seal.

### Copper Gasket Ordering Number

ISO Parallel Thread	Thread Designator	Ordering Number
1/4	4GG	9PP-4GG-CU
3/8	6GG	9PP-6GG-CU
1/2	8GG	9PP-8GG-CU



Hex Coupling



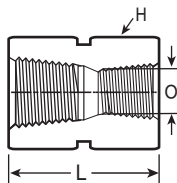
MHC-N Female NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	MHC-2N-	20.6 (0.81)	9/16	8.6 (0.34)	447 (6500)	220 (3200)
1/4	MHC-4N-	30.2 (1.19)	3/4	11.4 (0.45)	454 (6600)	227 (3300)
3/8	MHC-6N-	33.3 (1.31)	7/8	15.0 (0.59)	365 (5300)	179 (2600)
1/2	MHC-8N-	39.6 (1.56)	1 1/16	18.5 (0.73)	337 (4900)	165 (2400)
3/4	MHC-12N-	41.1 (1.62)	1 5/16	23.9 (0.94)	316 (4600)	158 (2300)
1	MHC-16N-	50.8 (2.00)	1 5/8	29.7 (1.17)	303 (4400)	151 (2200)
<b>Heavy Wall 10 000 psig</b>						
1/4	MHC10K-4N-SS	30.2 (1.19)	1	11.4 (0.45)	689 (10 000)	-
1/2	MHC10K-8N-SS	39.6 (1.56)	1 1/2	18.5 (0.73)	689 (10 000)	-

MHC-R Female ISO Tapered

ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	MHC-2R-	20.6 (0.81)	9/16	8.4 (0.33)	447 (6500)	220 (3200)
1/4	MHC-4R-	30.2 (1.19)	3/4	11.2 (0.44)	454 (6600)	227 (3300)
3/8	MHC-6R-	33.3 (1.31)	7/8	14.7 (0.58)	365 (5300)	179 (2600)
1/2	MHC-8R-	39.6 (1.56)	1 1/16	18.3 (0.72)	337 (4900)	165 (2400)

Hex Reducing Coupling



MHRC-N Female NPT

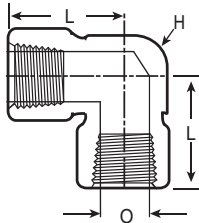
NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)		
		L	H	O	SS, C	B	
1/4	1/8	MHRC-4N2N-	31.0 (1.22)	3/4	8.6 (0.34)	454 (6600)	227 (3300)
3/8	1/4	MHRC-6N4N-	35.1 (1.38)	7/8	11.4 (0.45)	365 (5300)	179 (2600)
1/2	1/8	MHRC-8N2N-	39.6 (1.56)	1 1/16	8.6 (0.34)	337 (4900)	165 (2400)
1/2	1/4	MHRC-8N4N-	44.4 (1.75)	1 1/16	11.4 (0.45)	337 (4900)	165 (2400)
1/2	3/8	MHRC-8N6N-	45.2 (1.78)	1 1/16	15.0 (0.59)	337 (4900)	165 (2400)
3/4	1/4	MHRC-12N4N-	46.0 (1.81)	1 5/16	11.4 (0.45)	316 (4600)	158 (2300)
3/4	1/2	MHRC-12N8N-	52.3 (2.06)	1 5/16	18.5 (0.73)	316 (4600)	158 (2300)
1	1/2	MHRC-16N8N-	55.6 (2.19)	1 5/8	18.5 (0.73)	303 (4400)	151 (2200)
1	3/4	MHRC-16N12N-	57.2 (2.25)	1 5/8	23.9 (0.94)	303 (4400)	151 (2200)
<b>Heavy Wall 10 000 psig</b>							
1/2	1/4	MHRC10K-8N4N-SS	44.4 (1.75)	1 1/2	11.4 (0.45)	689 (10 000)	-

MHRC-R Female ISO Tapered

ISO Tapered in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)		
		L	H	O	SS, C	B	
3/8	1/4	MHRC-6R4R-	35.1 (1.38)	7/8	11.2 (0.44)	365 (5300)	179 (2600)
1/2	1/4	MHRC-8R4R-	44.4 (1.75)	1 1/16	11.2 (0.44)	337 (4900)	165 (2400)
1/2	3/8	MHRC-8R6R-	45.2 (1.78)	1 1/16	14.7 (0.58)	337 (4900)	165 (2400)

# Instrument M Pipe Fittings

## Elbow



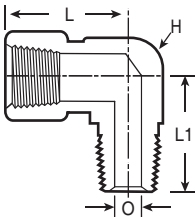
### ML-N Female NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/8	ML-2N-	26.4 (1.04)	1/2	8.6 (0.34)	427 (6200)	213 (3100)
1/4	ML-4N-	29.7 (1.17)	11/16	11.4 (0.45)	496 (7200)	248 (3600)
3/8	ML-6N-	36.1 (1.42)	13/16	15.0 (0.59)	385 (5600)	192 (2800)
1/2	ML-8N-	39.6 (1.56)	1	18.5 (0.73)	385 (5600)	192 (2800)
3/4	ML-12N-	48.8 (1.92)	1 1/4	23.9 (0.94)	351 (5100)	172 (2500)
1	ML-16N-	48.5 (1.91)	1 11/16	29.7 (1.17)	440 (6400)	220 (3200)
<b>Heavy Wall 10 000 psig</b>						
1/4	ML10K-4N-SS	39.6 (1.56)	1	11.4 (0.45)	689 (10 000)	
1/2	ML10K-8N-SS	50.0 (1.97)	1 11/16	18.5 (0.73)	689 (10 000)	

### ML-R Female ISO Tapered

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS, C	B
1/4	ML-4R-	29.7 (1.17)	11/16	11.2 (0.44)	496 (7200)	248 (3600)
3/8	ML-6R-	36.1 (1.42)	13/16	14.7 (0.58)	385 (5600)	192 (2800)
1/2	ML-8R-	39.6 (1.56)	1	18.3 (0.72)	385 (5600)	192 (2800)

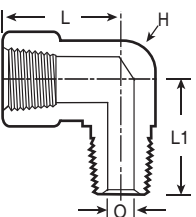
## Street Elbow



### MSL-N Female to Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
		L	L1	H	O	SS,C	B
1/16	MSL-1N-	21.8 (0.86)	22.4 (0.88)	7/16	3.0 (0.12)	633 (9200)	316 (4600)
1/8	MSL-2N-	26.4 (1.04)	22.1 (0.87)	1/2	4.8 (0.19)	427 (6200)	213 (3100)
1/4	MSL-4N-	29.7 (1.17)	29.7 (1.17)	11/16	7.1 (0.28)	496 (7200)	248 (3600)
3/8	MSL-6N-	36.1 (1.42)	32.0 (1.26)	13/16	9.6 (0.38)	385 (5600)	192 (2800)
1/2	MSL-8N-	39.6 (1.56)	39.6 (1.56)	1	11.9 (0.47)	385 (5600)	192 (2800)
3/4	MSL-12N-	48.8 (1.92)	42.4 (1.67)	1 1/4	15.7 (0.62)	351 (5100)	172 (2500)
1	MSL-16N-	48.5 (1.91)	49.3 (1.94)	1 11/16	22.4 (0.88)	365 (5300)	179 (2600)

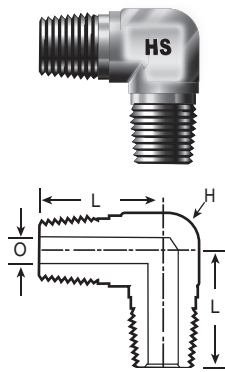
## Reducing Street Elbow



### MRSL-N Female to Male NPT

Female NPT in.	Male NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
			L	L1	H	O	SS,C	B
1/8	1/16	MRSL-2N1N-	26.4 (1.04)	22.1 (0.87)	1/2	3.0 (0.12)	427 (6200)	213 (3100)
1/4	1/8	MRSL-4N2N-	29.7 (1.17)	25.4 (1.00)	11/16	4.8 (0.19)	496 (7200)	248 (3600)
3/8	1/4	MRSL-6N4N-	36.1 (1.42)	32.0 (1.26)	13/16	7.1 (0.28)	385 (5600)	192 (2800)
1/2	1/4	MRSL-8N4N-	39.6 (1.56)	35.1 (1.38)	1	7.1 (0.28)	385 (5600)	192 (2800)
1/2	3/8	MRSL-8N6N-	39.6 (1.56)	35.1 (1.38)	1	9.6 (0.38)	385 (5600)	192 (2800)

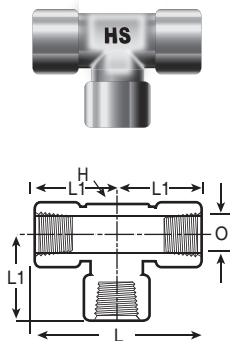
**Male Elbow**



**MML-N Male NPT**

NPT in.	Basic Part Number	Dimensions, mm (in.)			Pressure Ratings, bar (psig)	
		L	H	O	SS,C	B
1/8	MML-2N-	22.4 (0.88)	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MML-4N-	26.7 (1.05)	1/2	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MML-6N-	29.7 (1.17)	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MML-8N-	36.8 (1.45)	13/16	11.9 (0.47)	530 (7700)	261 (3800)

**Tee**



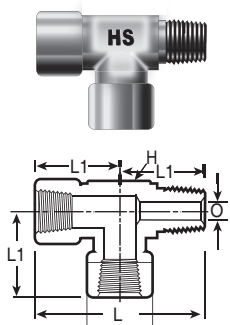
**MT-N Female NPT**

NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
		L	L1	H	O	SS,C	B
1/8	MT-2N-	52.8 (2.08)	26.4 (1.04)	1/2	8.6 (0.34)	427 (6200)	213 (3100)
1/4	MT-4N-	59.4 (2.34)	29.7 (1.17)	11/16	11.4 (0.45)	496 (7200)	248 (3600)
3/8	MT-6N-	72.1 (2.84)	36.1 (1.42)	13/16	15.0 (0.59)	385 (5600)	192 (2800)
1/2	MT-8N-	79.2 (3.12)	39.6 (1.56)	1	18.5 (0.73)	385 (5600)	192 (2800)
3/4	MT-12N-	97.5 (3.84)	48.8 (1.92)	1 1/4	23.9 (0.94)	351 (5100)	172 (2500)
1	MT-16N-	97.0 (3.82)	48.5 (1.91)	1 11/16	29.7 (1.17)	440 (6400)	220 (3200)
<b>Heavy Wall 10 000 psig</b>							
1/4	MT10K-4N-SS	79.2 (3.12)	39.6 (1.56)	1	11.4 (0.45)	689 (10 000)	-
1/2	MT10K-8N-SS	100.0 (3.94)	50.0 (1.97)	1 11/16	18.5 (0.73)	689 (10 000)	-

**MT-R Female ISO Tapered**

NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
		L	L1	H	O	SS,C	B
1/4	MT-4R-	59.4 (2.34)	29.7 (1.17)	11/16	11.2 (0.44)	496 (7200)	248 (3600)
3/8	MT-6R-	72.1 (2.84)	36.1 (1.42)	13/16	14.7 (0.58)	385 (5600)	192 (2800)
1/2	MT-8R-	79.2 (3.12)	39.6 (1.56)	1	18.3 (0.72)	385 (5600)	192 (2800)

**Run Tee**

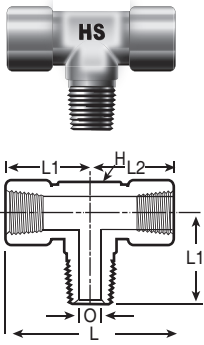


**MRT-N Male and Female NPT**

NPT in.	Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)	
		L	L1	L2	H	O	SS,C	B
1/8	MRT-2N-	48.5 (1.91)	26.4 (1.04)	22.1 (0.87)	1/2	4.8 (0.19)	427 (6200)	213 (3100)
1/4	MRT-4N-	59.4 (2.34)	29.7 (1.17)	29.7 (1.17)	11/16	7.1 (0.28)	496 (7200)	248 (3600)
3/8	MRT-6N-	68.1 (2.68)	36.1 (1.42)	32.0 (1.26)	13/16	9.6 (0.38)	385 (5600)	192 (2800)
1/2	MRT-8N-	79.2 (3.12)	39.6 (1.56)	39.6 (1.56)	1	11.9 (0.47)	385 (5600)	192 (2800)
3/4	MRT-12N-	91.2 (3.59)	48.8 (1.92)	42.4 (1.67)	1 1/4	15.7 (0.62)	351 (5100)	172 (2500)

# Instrument M Pipe Fittings

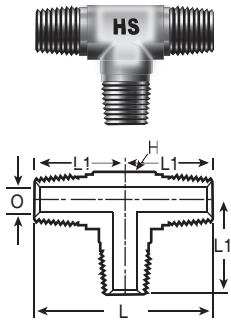
## Branch Tee



**MBT-N** Female to Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)	
		L	L1	L2	H	O	SS,C	B
1/8	MBT-2N-	52.8 (2.08)	22.1 (0.87)	26.4 (1.04)	1/2	4.8 (0.19)	427 (6200)	213 (3100)
1/4	MBT-4N-	59.4 (2.34)	29.7 (1.17)	29.7 (1.17)	11/16	7.1 (0.28)	496 (7200)	248 (3600)
3/8	MBT-6N-	72.1 (2.84)	32.0 (1.26)	36.1 (1.42)	13/16	9.6 (0.38)	385 (5600)	192 (2800)
1/2	MBT-8N-	79.2 (3.12)	39.6 (1.56)	39.6 (1.56)	1	11.9 (0.47)	385 (5600)	192 (2800)

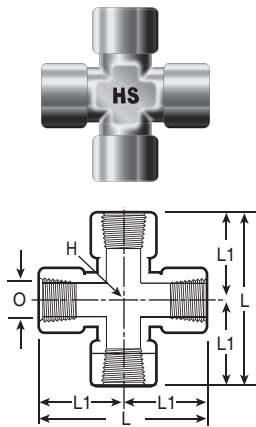
## Male Tee



**MMT-N** Male NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
		L	L1	H	O	SS, C	B
1/8	MMT-2N-	44.7 (1.76)	22.4 (0.88)	7/16	4.8 (0.19)	689 (10 000)	344 (5000)
1/4	MMT-4N-	53.3 (2.10)	26.7 (1.05)	1/2	7.1 (0.28)	551 (8000)	275 (4000)
3/8	MMT-6N-	59.4 (2.34)	29.7 (1.17)	11/16	9.6 (0.38)	537 (7800)	268 (3900)
1/2	MMT-8N-	73.7 (2.90)	36.8 (1.45)	13/16	11.9 (0.47)	530 (7700)	261 (3800)

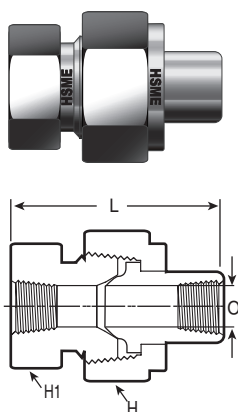
## Cross



**MX-N** Female NPT

NPT in.	Basic Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
		L	L1	H	O	SS, C	B
1/8	MX-2N-	52.8 (2.08)	26.4 (1.04)	1/2	8.6 (0.34)	427 (6200)	213 (3100)
1/4	MX-4N-	59.4 (2.34)	29.7 (1.17)	11/16	11.4 (0.45)	496 (7200)	248 (3600)
3/8	MX-6N-	72.1 (2.84)	36.1 (1.42)	13/16	15.0 (0.59)	385 (5600)	192 (2800)
1/2	MX-8N-	79.2 (3.12)	39.6 (1.56)	1	18.5 (0.73)	385 (5600)	192 (2800)
3/4	MX-12N-	97.5 (3.84)	48.8 (1.92)	1 1/4	23.9 (0.94)	351 (5100)	172 (2500)
1	MX-16N-	97.0 (3.82)	48.5 (1.91)	1 11/16	29.7 (1.17)	440 (6400)	220 (3200)

## Union Ball Joints

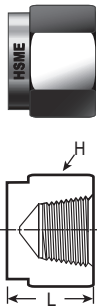


**MBJ-N** Female NPT

NPT in.	Complete Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
		L	H	H1	O	SS, C
1/8	MBJ-2N-SSA	46.0 (1.81)	1 1/8	15/16	6.8 (0.27)	578 (8400)
1/4	MBJ-4N-SSA	59.4 (2.34)	1 3/8	1 3/16	9.1 (0.36)	454 (6600)
3/8	MBJ-6N-SSA	63.5 (2.50)	1 1/2	1 5/16	13.2 (0.52)	365 (5300)
1/2	MBJ-8N-SSA	68.3 (2.69)	1 3/4	1 5/8	15.7 (0.62)	413 (6000)
3/4	MBJ-12N-SSA	79.2 (3.12)	2 1/8	1 7/8	22.4 (0.88)	316 (4600)
1	MBJ-16N-SSA	90.4 (3.56)	2 1/2	2 3/8	26.2 (1.03)	468 (6800)



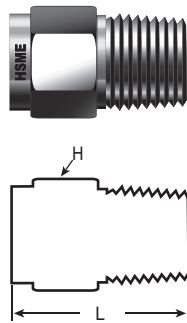
**Pipe Cap**



**MPC-N Female NPT**

NPT in.	Basic Part Number	Dimensions, mm (in.)	
		L	H
1/8	MPC-2N-	19.1 (0.75)	9/16
1/4	MPC-4N-	23.1 (0.91)	3/4
3/8	MPC-6N-	26.2 (1.03)	7/8
1/2	MPC-8N-	34.0 (1.34)	1 1/16
3/4	MPC-12N-	36.6 (1.44)	1 5/16
1	MPC-16N-	41.1 (1.62)	1 5/8
<b>Heavy Wall 10 000 psig</b>			
1/4	MPC10K-4N-SS	28.2 (1.11)	1
1/2	MPC10K-8N-SS	40.1 (1.58)	1 1/2

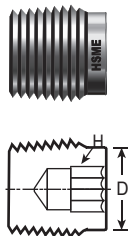
**Pipe Plug**



**MPP-N Male NPT**

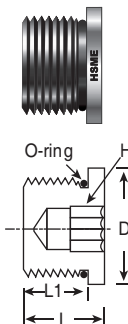
NPT in.	Basic Part Number	Dimensions, mm (in.)	
		L	H
1/16	MPP-1N-	19.1 (0.75)	5/16
1/8	MPP-2N-	19.1 (0.75)	7/16
1/4	MPP-4N-	24.4 (0.96)	9/16
3/8	MPP-6N-	25.1 (0.99)	11/16
1/2	MPP-8N-	30.7 (1.21)	7/8
3/4	MPP-12N-	30.7 (1.21)	1 1/16
1	MPP-16N-	38.1 (1.50)	1 3/8

**Hollow Hex Plug**



**MHP-N Male NPT**

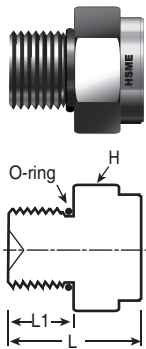
NPT in.	Complete Part Number	Dimensions, mm (in.)			
		L	L1	D	H
1/8	MHP-2N-SS	10.4 (0.41)	7.4 (0.29)	9.4 (0.37)	3/16
1/4	MHP-4N-SS	15.5 (0.61)	12.4 (0.49)	12.1 (0.48)	1/4
3/8	MHP-6N-SS	15.0 (0.59)	11.9 (0.47)	15.7 (0.62)	5/16
1/2	MHP-8N-SS	19.3 (0.76)	16.2 (0.64)	19.3 (0.76)	3/8



**MHP-UF Male SAE Straight Thread**

Male SAE Straight Thread			Basic Part Number	Dimensions, mm (in.)			
Size in.	Desig- nator	O-Ring size		L	L1	D	H
7/16-20	4UF	904	MHP-4UF-	11.4 (0.45)	9.1 (0.36)	14.2 (0.56)	3/16
9/16-18	6UF	906	MHP-6UF-	12.2 (0.48)	9.9 (0.39)	17.5 (0.69)	1/4
3/4-16	8UF	908	MHP-8UF-	14.2 (0.56)	11.2 (0.44)	22.4 (0.88)	5/16
1 1/16-12	12UF	912	MHP-12UF-	19.1 (0.75)	15.0 (0.59)	31.8 (1.25)	9/16
1 5/16-12	16UF	916	MHP-16UF-	19.1 (0.75)	15.0 (0.59)	38.1 (1.50)	5/8

## Hex Head Plug



### MHHP-UF Male SAE Straight Thread

Male SAE Straight Thread			Basic Part Number	Dimensions, mm (in.)		
Size in.	Designator	O-Ring size		L	L1	H
7/16-20	4UF	904	MHHP-4UF-	19.3 (0.76)	9.1 (0.36)	9/16
9/16-18	6UF	906	MHHP-6UF-	20.8 (0.82)	9.9 (0.39)	11/16
3/4-16	8UF	908	MHHP-8UF-	22.6 (0.89)	11.2 (0.44)	7/8
1 1/16-12	12UF	912	MHHP-12UF-	28.4 (1.12)	15.0 (0.59)	1 1/4
1 5/16-12	16UF	916	MHHP-16UF-	30.0 (1.18)	15.0 (0.59)	1 1/2

## Pipe Fitting Assembly Instructions

### A) Thread Sealants

Two popular thread sealants are PTFE tape and liquid sealants containing a lubricant. PTFE tape typically has a temperature limitation up to 230°C (450°F). Consider the use of a high temperature sealant for application beyond 230°C (450°F).

### B) Application of PTFE tape on Male Thread



1. Clean male and female threads.
2. Use the right size PTFE tape on male thread. See table below.
3. Wrap PTFE tape from the first male thread. Do not overhang the first thread as the tape may get into the fluid system.
4. Draw the tape tightly around the threads.
5. Wrap the tape clockwise in the direction of the thread (NPT is right hand thread)
6. Apply PTFE tape firmly into threads, particularly in the overlap area.
  - 1.5 layer wraps on each thread is recommended.
7. Minimum seven (7) threads on any size should be wrapped.

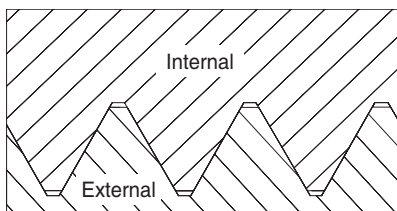
Male NPT Size	PTFE Tape Size	Thread Number for PTFE tape
1/8, 1/4, and 3/8 in.	1/4 in. (6.4mm)	7
1/2 in. and larger	1/2 in. (12.7mm)	

### C) Final Assembly

1. Hand-tighten the male thread fitting onto the mating female thread.
2. Wrench-tighten the hex of the male thread fitting by holding the hex of the female fitting in a vise or with a backup wrench.
3. Wrench-tight thread engagement is recommended to be the numbers shown below.

NPT Size, in.	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Wrench-tight turns beyond hand-tight	2.0 - 3.0					1.5 - 2.5		

Note : The number of wrench tight thread may vary depending on the method for producing the thread in conjunction with the elasticity and/or ductility or the mating parts and the resultant conformance at assembly.



Wrench-Tight NPT: No Crest-Root contacts, Flanks contact only

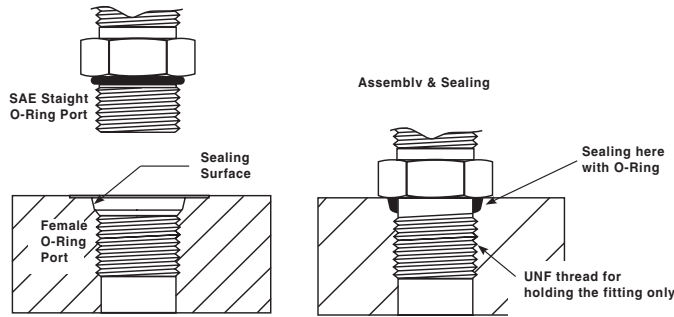
### NPT Pipe Thread Sealing

A thread tape acts as a lubricant allowing more thread engagement, preventing galling, and filling the gap between the crests and roots of mating threads.

When threads are brought to a wrench tight, the thread flanks are drawn together and the flanks shall be in full face contact. NPT threads when assembled with no sealant leave a spiral leak path at the crest-root junction as shown in the illustration.

Complete mating profile makes a leak-proof connection with a sealing compound.

## SAE Straight Thread (UNF) Sealing



The sealing and holding function are separated in SAE Straight Thread Sealing Connection.

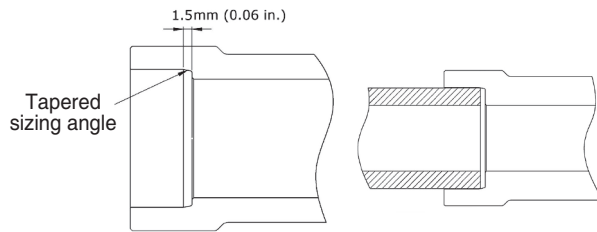
The UNF threads have only the holding function and sealing is achieved with a high durometer O-Ring seated in a chamfer at the top of the female port thread.

## Plated Threads

If plating is desired, it may be necessary to modify the threads since the same final gaging requirements must be satisfied for plated part.

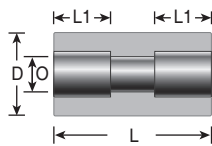
## Instrument M Weld Fittings

The inside diameter of the tube socket port is tapered at the bottom so that prior to welding, the tubing inserted will lock in and have approximately 1.5 mm (0.06 in.) welding gap as specified in ANSI/ASME B16.11 standard. The tapered sizing angle eliminates welder's effort in attempt to have the gap physically in the fitting.



The feature allows consistent welding assembly as well as pre-assembly of many tubing-runs before welding.

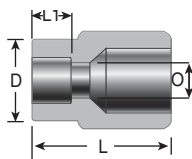
## Union



### MSWU-T Tube Socket Weld

Tube OD	Complete Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
		L	L1	D	O	
1/4	MSWU-4T-SS	19.0 (0.75)	7.1 (0.28)	12.2 (0.48)	4.8 (0.19)	737 (10 700)
3/8	MSWU-6T-SS	22.4 (0.88)	7.9 (0.31)	15.2 (0.60)	7.1 (0.28)	558 (8100)
1/2	MSWU-8T-SS	26.9 (1.06)	9.7 (0.38)	18.5 (0.73)	10.4 (0.41)	454 (6600)
3/4	MSWU-12T-SS	33.3 (1.31)	11.2 (0.44)	26.4 (1.04)	16.0 (0.63)	406 (5900)
1	MSWU-16T-SS	36.6 (1.44)	15.7 (0.62)	34.5 (1.36)	22.4 (0.88)	385 (5600)

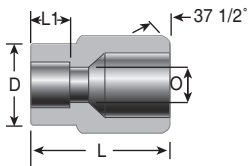
### MSWBWU-T Tube Socket Weld to Tube Butt Weld



Socket Weld Tube OD	Butt Weld		Complete Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)
	Tube OD	Tube Wall Thickness mm (in.)		L	L1	D	O	
1/8	1/4	2.0 (0.08)	MSWBWU-2T4T-SS	14.2 (0.56)	2.5 (0.10)	7.4 (0.29)	2.3 (0.09)	868 (12 600)
1/4	3/8	1.8 (0.07)	MSWBWU-4T6T-SS	19.0 (0.75)	7.1 (0.28)	12.2 (0.48)	4.8 (0.19)	564 (8200)
1/4	1/2	2.2 (0.09)	MSWBWU-4T8T-SS	22.4 (0.88)		12.7 (0.50)		516 (7500)
3/8			MSWBWU-6T8T-SS		7.9 (0.31)	15.2 (0.60)	8.3 (0.33)	516 (7500)
1/2	3/4	2.8 (0.11)	MSWBWU-8T12T-SS	28.4 (1.12)	9.7 (0.38)	19.0 (0.75)	10.4 (0.41)	434 (6300)
1/2	1	3.2 (0.13)	MSWBWU-8T16T-SS	35.1 (1.38)		18.5 (0.73)		365 (5300)

# Instrument M Weld Fittings

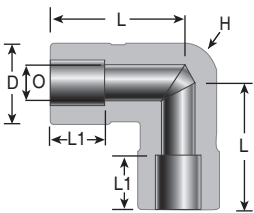
## Union



### MSWBWU-T/P Tube Socket Weld to Pipe Butt Weld

Tube OD	Pipe OD Sch 80	Complete Part Number	Dimensions, mm (in.)				Pressure Ratings, bar (psig)	
			L	L1	D	O		
1/4	1/4	MSWBWU-4T4P-SS	22.4 (0.88)	7.1 (0.28)	12.2 (0.48)	4.8 (0.19)	709 (10 300)	
	1/2	MSWBWU-4T8P-SS	28.4 (1.12)				537 (7800)	
3/8	3/8	MSWBWU-6T6P-SS	26.2 (1.03)	7.9 (0.31)	15.2 (0.60)	7.1 (0.28)	558 (8100)	
	1/2	MSWBWU-6T8P-SS	28.4 (1.12)				537 (7800)	
	3/4	MSWBWU-6T12P-SS	38.1 (1.50)				454 (6600)	
	1	MSWBWU-6T16P-SS	35.1 (1.38)				413 (6000)	
1/2	3/8	MSWBWU-8T6P-SS	25.4 (1.00)	9.7 (0.38)	18.5 (0.73)	10.7 (0.42)	454 (6600)	
	1/2	MSWBWU-8T8P-SS	30.2 (1.19)				10.4 (0.41)	454 (6600)
	3/4	MSWBWU-8T12P-SS	38.1 (1.50)				10.3 (0.41)	454 (6600)
	1	MSWBWU-8T16P-SS	39.6 (1.56)				9.7 (0.38)	413 (6000)
3/4	3/4	MSWBWU-12T12P-SS	38.1 (1.50)	11.2 (0.44)	26.7 (1.05)	15.7 (0.62)	406 (5900)	

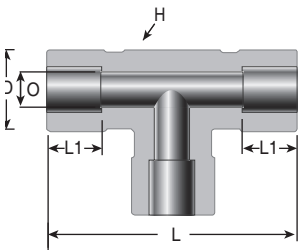
## Union Elbow



### MSWL-T Tube Socket Weld

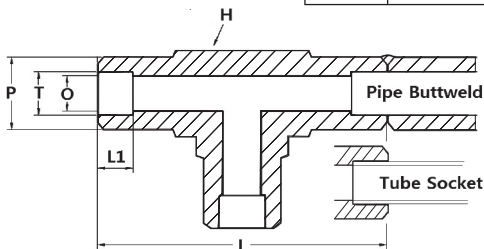
Tube OD	Complete Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
		L	L1	D	O	H	
1/4	MSWL-4T-SS	21.8 (0.86)	7.1 (0.28)	13.5 (0.53)	4.8 (0.19)	7/16	737 (10 700)
3/8	MSWL-6T-SS	26.4 (1.04)	7.9 (0.31)	16.3 (0.64)	7.1 (0.28)	1/2	558 (8100)
1/2	MSWL-8T-SS	29.7 (1.17)	9.7 (0.38)	20.6 (0.81)	10.4 (0.41)	11/16	454 (6600)
3/4	MSWL-12T-SS	39.6 (1.56)	11.2 (0.44)	28.4 (1.12)	16.0 (0.63)	1	406 (5900)
1	MSWL-16T-SS	48.8 (1.92)	15.7 (0.62)	36.6 (1.44)	22.4 (0.88)	1 1/4	385 (5600)

## Union Tee



### MSWT-T Tube Socket Weld

Tube OD	Complete Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
		L	L1	D	O	H	
1/8	MSWT-2T-SS	30.0 (1.18)	2.5 (0.10)	7.4 (0.29)	2.3 (0.09)	7/16	868 (12 600)
1/4	MSWT-4T-SS	43.7 (1.72)	7.1 (0.28)	13.5 (0.53)	4.8 (0.19)	7/16	737 (10 700)
3/8	MSWT-6T-SS	52.8 (2.08)	7.9 (0.31)	16.3 (0.64)	7.1 (0.28)	1/2	558 (8100)
1/2	MSWT-8T-SS	59.4 (2.34)	9.7 (0.38)	20.6 (0.81)	10.4 (0.41)	11/16	454 (6600)
3/4	MSWT-12T-SS	79.2 (3.12)	11.2 (0.44)	26.4 (1.04)	16.0 (0.63)	1	406 (5900)
1	MSWT-16T-SS	97.5 (3.84)	15.7 (0.62)	36.8 (1.45)	22.4 (0.88)	1 1/4	385 (5600)



### Dual Functioning End Port

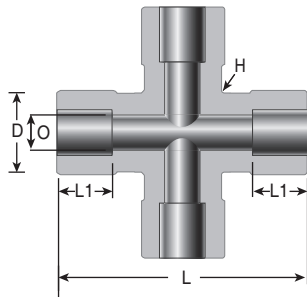
MBWSWT Fitting Port permits either "Pipe Buttweld" or "Tube Socket Weld" connection with no necessity of carrying the two different fittings.

The dual functioning port is applicable to any configuration of M Weld fitting

### MBWSWT-T/P Pipe Buttweld / Tube Socket Weld

Pipe OD	Tube OD	Complete Part Number	Dimensions, mm (in.)						Pressure Ratings, bar (psig)
			P	T	L	L1	O	H	
1/2	1/2	MBWSWT-8PT-SS	21.3 (0.84)	12.85 (0.51)	79.2 (3.12)	9.7 (0.38)	10.4 (0.41)	1	454 (6600)
1	1/2	MBWSWT-16P8T-SS	33.7 (1.33)		97.5 (3.84)			1 1/4	

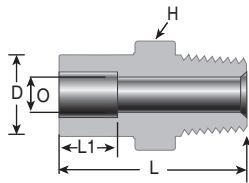
**Union Cross**



**MSWX-T** Tube Socket Weld

Tube OD	Complete Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
		L	L1	D	O	H	
1/4	MSWX-4T-SS	43.7 (1.72)	7.1 (0.28)	13.5 (0.53)	4.8 (0.19)	7/16	737 (10 700)
3/8	MSWX-6T-SS	52.8 (2.08)	7.9 (0.31)	16.3 (0.64)	7.1 (0.28)	1/2	558 (8100)
1/2	MSWX-8T-SS	59.4 (2.34)	9.7 (0.38)	20.6 (0.81)	10.4 (0.41)	11/16	454 (6600)
3/4	MSWX-12T-SS	79.2 (3.12)	11.2 (0.44)	30.5 (1.20)	16.0 (0.63)	1	406 (5900)
1	MSWX-16T-SS	97.5 (3.84)	15.7 (0.62)	36.8 (1.45)	22.4 (0.88)	1 1/4	385 (5600)

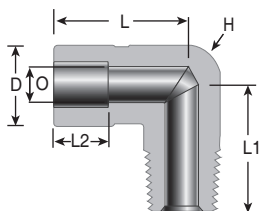
**Male Connector**



**MSWMC-T/N** Tube Socket Weld to Male NPT

Tube OD	Male NPT	Complete Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
			L	L1	D	H	O	
1/4	1/4	MSWMC-4T4N-SS	29.2 (1.15)	7.1 (0.28)	12.2 (0.48)	9/16	4.8 (0.19)	551 (8000)
3/8	1/4	MSWMC-6T4N-SS	31.8 (1.25)	7.9 (0.31)	15.2 (0.60)	5/8	7.1 (0.28)	551 (8000)
	3/8	MSWMC-6T6N-SS	37.3 (1.47)			11/16		537 (7800)
	1/2	MSWMC-6T8N-SS	33.3 (1.31)			7/8		530 (7700)
1/2	1/4	MSWMC-8T4N-SS	38.9 (1.53)	9.7 (0.38)	18.5 (0.73)	3/4	7.1 (0.28)	454 (6600)
	3/8	MSWMC-8T6N-SS					9.7 (0.38)	
	1/2	MSWMC-8T8N-SS					10.4 (0.41)	

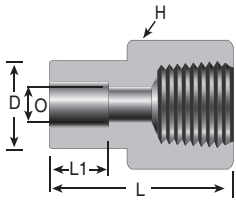
**Male Elbow**



**MSWML-T/N** Tube Socket Weld to Male NPT

Tube OD	Male NPT	Complete Part Number	Dimensions, mm (in.)						Pressure Ratings, bar (psig)
			L	L1	L2	D	H	O	
1/4	1/4	MSWML-4T4N-SS	20.1 (0.79)	26.7 (1.05)	7.1 (0.28)	12.2 (0.48)	1/2	4.8 (0.19)	551 (8000)
3/8	1/4	MSWML-6T4N-SS	26.4 (1.04)	26.7 (1.05)	7.9 (0.31)	16.3 (0.64)	1/2	7.1 (0.28)	551 (8000)
	3/8	MSWML-6T6N-SS	24.6 (0.97)	29.7 (1.17)		15.2 (0.60)	11/16		537 (7800)
	1/2	MSWML-6T8N-SS	25.9 (1.02)	36.8 (1.45)		15.2 (0.60)	13/16		530 (7700)
1/2	1/2	MSWML-8T8N-SS	27.4 (1.08)	36.8 (1.45)	9.7 (0.38)	18.5 (0.73)	13/16	10.4 (0.41)	454 (6600)

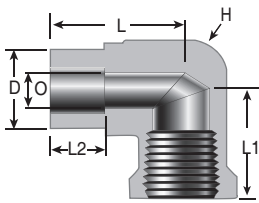
## Female Connector



### MSWFC-T/N Tube Socket Weld to Female NPT

Tube OD	Female NPT	Complete Part Number	Dimensions, mm (in.)					Pressure Ratings, bar (psig)
			L	L1	D	H	O	
1/8	1/8	MSWFC-2T2N-SS	21.1 (0.83)	2.5 (0.10)	7.4 (0.29)	9/16	2.3 (0.09)	447 (6500)
1/4	1/8	MSWFC-4T2N-SS	26.7 (1.05)	7.1 (0.28)	12.2 (0.48)	9/16	4.8 (0.19)	447 (6500)
	1/4	MSWFC-4T4N-SS	30.0 (1.18)			3/4		454 (6600)
3/8	1/4	MSWFC-6T4N-SS	31.5 (1.24)	7.9 (0.31)	15.2 (0.60)	3/4	7.1 (0.28)	454 (6600)
1/2	3/8	MSWFC-8T6N-SS	34.5 (1.36)	9.7 (0.38)	18.5 (0.73)	7/8	10.4 (0.41)	365 (5300)
	1/2	MSWFC-8T8N-SS	40.4 (1.59)			1 1/16		337 (4900)
3/4	3/4	MSWFC-12T12N-SS	43.9 (1.73)	11.2 (0.44)	26.4 (1.04)	1 5/16	16.0 (0.63)	316 (4600)

## Female Elbow



### MSWFL-T/N Tube Socket Weld to Female NPT

Tube OD	Female NPT	Complete Part Number	Dimensions, mm (in.)						Pressure Ratings, bar (psig)
			L	L1	L2	D	H	O	
1/4	1/4	MSWFL-4T4N-SS	22.9 (0.90)	29.7 (1.17)	7.1 (0.28)	12.2 (0.48)	11/16	4.8 (0.19)	509 (7400)
3/8	1/4	MSWFL-6T4N-SS	25.1 (0.99)	29.7 (1.17)	7.9 (0.31)	15.2 (0.60)	11/16	7.1 (0.28)	509 (7400)
	1/2	MSWFL-6T8N-SS	28.7 (1.13)	39.6 (1.56)			1		392 (5700)
1/2	1/2	MSWFL-8T8N-SS	30.2 (1.19)	39.6 (1.56)	9.7 (0.38)	18.5 (0.73)	1	10.4 (0.41)	392 (5700)

## Ordering Information

To complete the ordering number, suffix the material designator in the part number.


Example: ML-6N-SS

Designator	Material
SS	Stainless Steel 316
C	Carbon Steel
B	Brass

- SAE straight thread fittings are not available in Brass.

## Component Selection

The selection of component for any application or system design must be considered to ensure safe performance. Component function, material compatibility, component pressure and temperature rating, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HSME Corporation accepts no liability for any improper selection, installation, operation or maintenance.

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