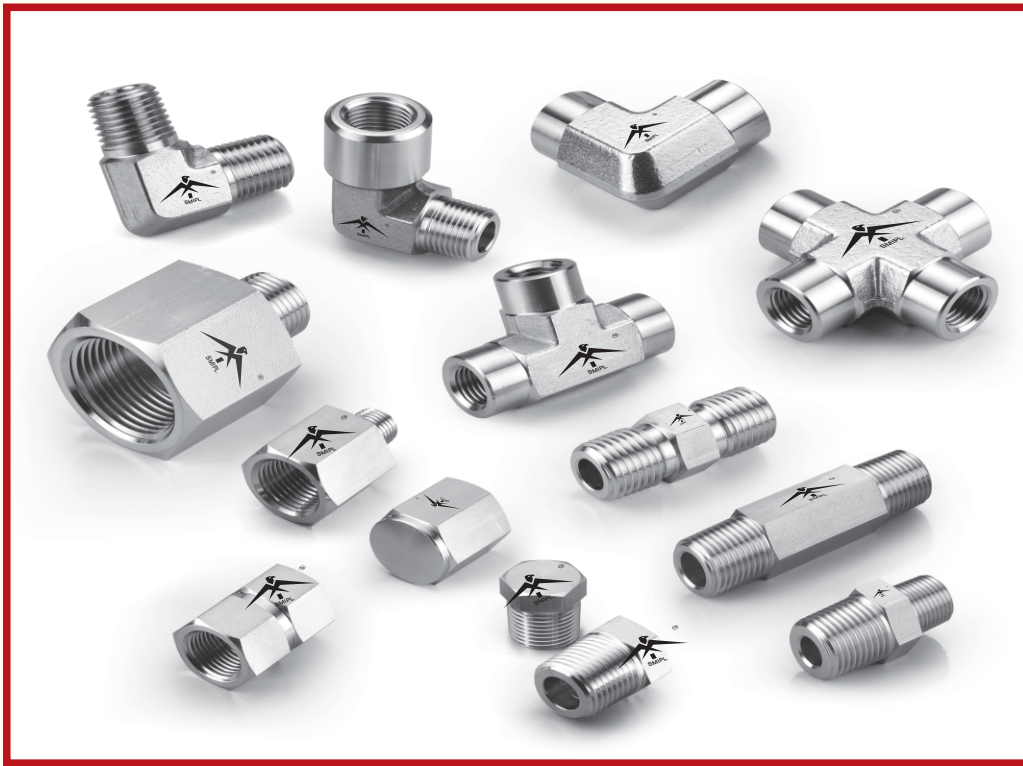


**Complete Range of Instrumentation Fitting,  
Valves Automation Systems & Process Accessories.**  
Valves Manifolds & Tube Fittings Ball Valve Needle Valves Pressure Gauge Accessories

# Instrument Pipe Fittings

316 stainless steel ranging from 1/8 to 1 inch sizes



**SHREEMARUTI INSTRUMENTS PVT. LTD.**

*Quality at core with Technology at Time...*

## Instrument Pipe Fittings

### Features

- Used for process control and instrumentation connections.
- Precision machined from forgings for shaped fittings and from bar stock for straight connectors.
- Size ranges from 1/8"NPT through 1"NPT.
- NPT threads are based on requirements of ANSI B1.20.1.
- A pipe thread sealant or PTFE tape are always used when assembling tapered thread.
- Male threads are capped for protection.

### Pressure Ratings

| Size Designator | NPT Size | 316 Stainless steel |     |        |     |
|-----------------|----------|---------------------|-----|--------|-----|
|                 |          | Male                |     | Female |     |
|                 |          | psi                 | bar | psi    | bar |
| 2               | 1/8"     | 10000               | 689 | 6500   | 447 |
| 4               | 1/4"     | 8000                | 551 | 6600   | 454 |
| 6               | 3/8"     | 7800                | 537 | 5300   | 365 |
| 8               | 1/2"     | 7700                | 530 | 4900   | 337 |
| 12              | 3/4"     | 7300                | 502 | 4600   | 316 |
| 16              | 1"       | 5300                | 365 | 4400   | 303 |

- Working pressures calculated are for reference only.
- Ratings are based on ASME Code for Pressure Piping B31.3 with allowable stress value 20,000 psi (1378 bar) and pressure ratings are calculated in accordance with Power Piping Code ANSI B31.1
- Pressure ratings of female threads are lower than male threads due to larger outer diameter.

### Temperature Ratings

System temperatures may be limited by the thread sealant or PTFE tape to 450°F (232°C).

| Material            | Maximum Temperature °F (°C) |
|---------------------|-----------------------------|
| 316 stainless steel | 1000°F (537°C)              |

### Ordering Information

Example :

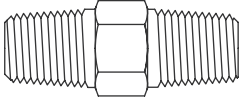
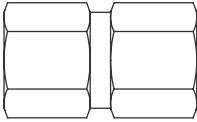
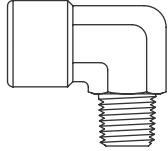
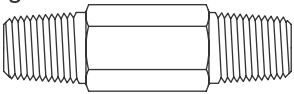
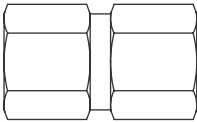
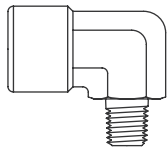
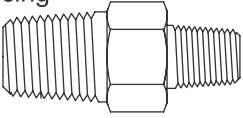
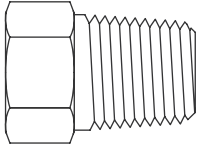
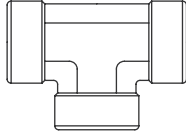
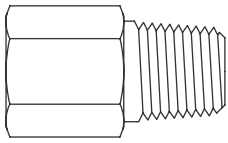
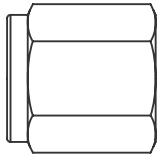
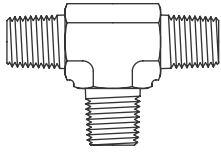
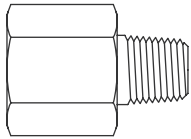
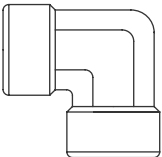
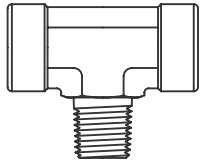
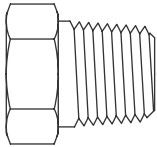
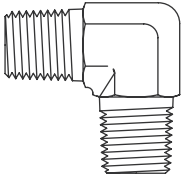
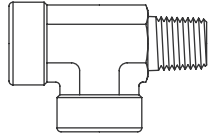
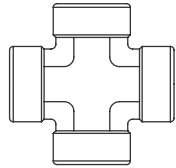
| HRN             | 8  | - | 2  |
|-----------------|--|---|--|
| Name of fitting | 1 <sup>st</sup> End<br>1/2"NPT male pipe |   | 2 <sup>nd</sup> End<br>1/8"NPT male pipe |

- Pipe size are designated by the number of sixteenths of an inch.

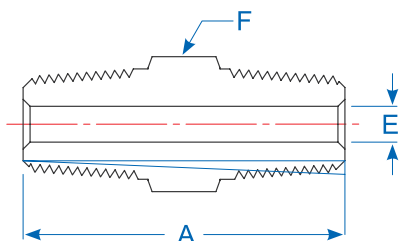
For example, 1/2"NPT = 8/16=8

- All pipe threads are NPT unless otherwise designated with BSPT or BSPP.

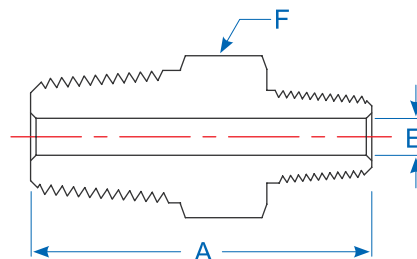
# Visual Index

|  |   |   |
|--|---|---|
| <p><b>HN</b><br/>Hex Nipple</p>  <p><b>4</b></p>            | <p><b>HC</b><br/>Hex Coupling</p>  <p><b>6</b></p>           | <p><b>E_MF</b><br/>Street Elbow</p>  <p><b>7</b></p>           |
| <p><b>HLN</b><br/>Hex Long Nipple</p>  <p><b>4</b></p>      | <p><b>HRC</b><br/>Hex Reducing Coupling</p>  <p><b>6</b></p> | <p><b>E_M_F</b><br/>Reducing Street Elbow</p>  <p><b>7</b></p> |
| <p><b>HRN</b><br/>Hex Reducing Nipple</p>  <p><b>4</b></p> | <p><b>PP</b><br/>Pipe Plug</p>  <p><b>6</b></p>             | <p><b>T_F</b><br/>Female Tee</p>  <p><b>8</b></p>             |
| <p><b>A</b><br/>Adapter</p>  <p><b>5</b></p>              | <p><b>PC</b><br/>Pipe Cap</p>  <p><b>6</b></p>             | <p><b>T_M</b><br/>Male Tee</p>  <p><b>8</b></p>              |
| <p><b>RA</b><br/>Reducing Adapter</p>  <p><b>5</b></p>    | <p><b>E_F</b><br/>Female Elbow</p>  <p><b>7</b></p>        | <p><b>T_FMF</b><br/>Male Branch Tee</p>  <p><b>8</b></p>     |
| <p><b>RB</b><br/>Reducing Bushing</p>  <p><b>5</b></p>    | <p><b>E_M</b><br/>Male Elbow</p>  <p><b>7</b></p>          | <p><b>T_MFF</b><br/>Street Tee</p>  <p><b>9</b></p>          |
|  |   | <p><b>C_F</b><br/>Cross</p>  <p><b>9</b></p>                 |

**HEX NIPPLE**



**HEX REDUCING NIPPLE**



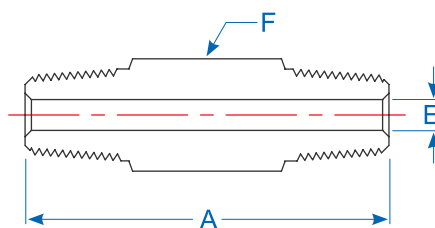
**Male NPT Threads**

| PIPE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|----------|---------------------|------|--------|
|             |          | A                   | E    | F      |
| 1/8         | HN2      | 1.01                | 0.19 | 7/16   |
| 1/4         | HN4      | 1.40                | 0.28 | 9/16   |
| 3/8         | HN6      | 1.43                | 0.38 | 11/16  |
| 1/2         | HN8      | 1.84                | 0.47 | 7/8    |
| 3/4         | HN12     | 1.84                | 0.62 | 1-1/16 |
| 1           | HN16     | 2.32                | 0.88 | 1-3/8  |

**Male NPT Threads**

| PIPE THREAD | MALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|-------------|----------|---------------------|------|--------|
|             |             |          | A                   | E    | F      |
| 1/4         | 1/8         | HRN4-2   | 1.22                | 0.19 | 9/16   |
| 3/8         | 1/8         | HRN6-2   | 1.25                | 0.19 | 11/16  |
| 3/8         | 1/4         | HRN6-4   | 1.43                | 0.28 | 11/16  |
| 1/2         | 1/8         | HRN8-2   | 1.47                | 0.19 | 7/8    |
| 1/2         | 1/4         | HRN8-4   | 1.65                | 0.28 | 7/8    |
| 1/2         | 3/8         | HRN8-6   | 1.65                | 0.38 | 7/8    |
| 3/4         | 1/4         | HRN12-4  | 1.65                | 0.28 | 1-1/16 |
| 3/4         | 1/2         | HRN12-8  | 1.84                | 0.47 | 1-1/16 |
| 1           | 1/2         | HRN16-8  | 2.13                | 0.47 | 1-3/8  |
| 1           | 3/4         | HRN16-12 | 2.13                | 0.62 | 1-3/8  |

**HEX LONG NIPPLE**



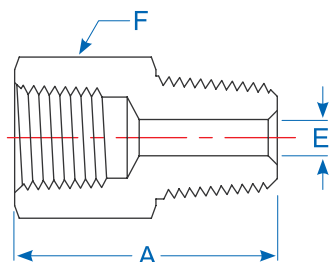
**Male NPT Threads**

| PIPE THREAD | PART NO. | Available Lengths, inch |      |      |      |      | Dimensions ( inch ) |        |
|-------------|----------|-------------------------|------|------|------|------|---------------------|--------|
|             |          | A                       |      |      |      |      | E                   | F      |
|             |          | 1.50                    | 2.00 | 2.50 | 3.00 | 4.00 |                     |        |
| 1/8         | HLN2     | V                       | V    | V    | V    | —    | 0.19                | 7/16   |
| 1/4         | HLN4     | V                       | V    | V    | V    | V    | 0.28                | 9/16   |
| 3/8         | HLN6     | V                       | V    | V    | V    | V    | 0.38                | 11/16  |
| 1/2         | HLN8     | —                       | V    | —    | V    | V    | 0.47                | 7/8    |
| 3/4         | HLN12    | —                       | V    | —    | V    | V    | 0.62                | 1-1/16 |
| 1           | HLN16    | —                       | —    | —    | V    | V    | 0.88                | 1-3/8  |

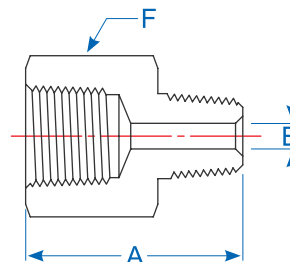
Dimensions for reference only, subject to change

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**ADAPTER**



**REDUCING ADAPTER**



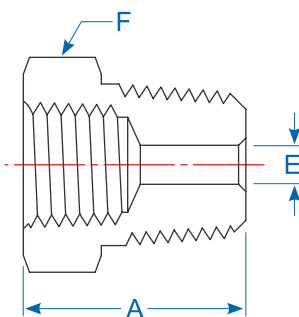
**Female to Male NPT Threads**

| PIPE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|----------|---------------------|------|--------|
|             |          | A                   | E    | F      |
| 1/8         | A2       | 1.10                | 0.19 | 9/16   |
| 1/4         | A4       | 1.40                | 0.28 | 3/4    |
| 3/8         | A6       | 1.51                | 0.38 | 7/8    |
| 1/2         | A8       | 1.85                | 0.47 | 1-1/16 |
| 3/4         | A12      | 1.85                | 0.62 | 1-3/8  |
| 1           | A16      | 2.20                | 0.88 | 1-5/8  |

**Female to Male NPT Threads**

| FEMALE THREAD | MALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|---------------|-------------|----------|---------------------|------|--------|
|               |             |          | A                   | E    | F      |
| 1/4           | 1/8         | RA4-2    | 1.26                | 0.19 | 3/4    |
| 3/8           | 1/8         | RA6-2    | 1.33                | 0.19 | 7/8    |
| 3/8           | 1/4         | RA6-4    | 1.50                | 0.28 | 7/8    |
| 1/2           | 1/8         | RA8-2    | 1.49                | 0.19 | 1-1/16 |
| 1/2           | 1/4         | RA8-4    | 1.66                | 0.28 | 1-1/16 |
| 1/2           | 3/8         | RA8-6    | 1.66                | 0.38 | 1-1/16 |
| 3/4           | 1/4         | RA12-4   | 1.66                | 0.28 | 1-3/8  |
| 3/4           | 3/8         | RA12-6   | 1.66                | 0.38 | 1-3/8  |
| 3/4           | 1/2         | RA12-8   | 1.85                | 0.47 | 1-3/8  |
| 1             | 1/4         | RA16-4   | 1.96                | 0.28 | 1-5/8  |
| 1             | 1/2         | RA16-8   | 2.16                | 0.47 | 1-5/8  |
| 1             | 3/4         | RA16-12  | 2.17                | 0.62 | 1-5/8  |

**REDUCING BUSHING**



**Male to Female NPT Threads**

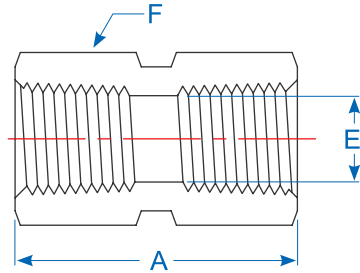
| MALE THREAD | FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|---------------|----------|---------------------|------|--------|
|             |               |          | A                   | E    | F      |
| 1/4         | 1/8           | RB4-2    | 1.06                | 0.28 | 9/16   |
| 3/8         | 1/8           | RB6-2    | 0.86                | 0.34 | 11/16  |
| 3/8         | 1/4           | RB6-4    | 1.19                | 0.38 | 3/4    |
| 1/2         | 1/8           | RB8-2    | 1.08                | 0.34 | 7/8    |
| 1/2         | 1/4           | RB8-4    | 1.08                | 0.45 | 7/8    |
| 1/2         | 3/8           | RB8-6    | 1.41                | 0.47 | 7/8    |
| 3/4         | 1/4           | RB12-4   | 1.08                | 0.45 | 1-1/16 |

| MALE THREAD | FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|---------------|----------|---------------------|------|--------|
|             |               |          | A                   | E    | F      |
| 3/4         | 3/8           | RB12-6   | 1.08                | 0.59 | 1-1/16 |
| 3/4         | 1/2           | RB12-8   | 1.63                | 0.62 | 1-1/16 |
| 1           | 1/4           | RB16-4   | 1.37                | 0.45 | 1-3/8  |
| 1           | 3/8           | RB16-6   | 1.37                | 0.59 | 1-3/8  |
| 1           | 1/2           | RB16-8   | 1.37                | 0.73 | 1-3/8  |
| 1           | 3/4           | RB16-12  | 1.85                | 0.88 | 1-3/8  |

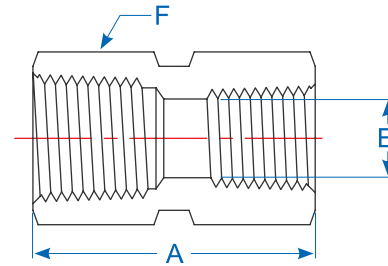
Dimensions for reference only, subject to change

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**HEX COUPLING**



**HEX REDUCING COUPLING**



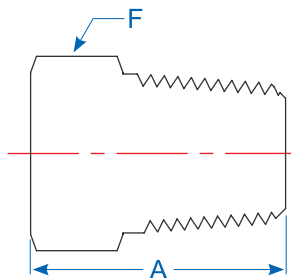
**Female NPT Threads**

| PIPE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|----------|---------------------|------|--------|
|             |          | A                   | E    | F      |
| 1/8         | HC2      | 0.81                | 0.34 | 9/16   |
| 1/4         | HC4      | 1.19                | 0.45 | 3/4    |
| 3/8         | HC6      | 1.31                | 0.59 | 7/8    |
| 1/2         | HC8      | 1.56                | 0.73 | 1-1/16 |
| 3/4         | HC12     | 1.62                | 0.94 | 1-3/8  |
| 1           | HC16     | 2.00                | 1.17 | 1-5/8  |

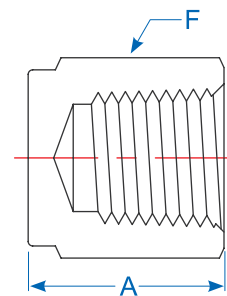
**Female NPT Threads**

| FEMALE THREAD | FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|---------------|---------------|----------|---------------------|------|--------|
|               |               |          | A                   | E    | F      |
| 1/4           | 1/8           | HRC4-2   | 0.99                | 0.34 | 3/4    |
| 3/8           | 1/4           | HRC6-4   | 1.25                | 0.45 | 7/8    |
| 1/2           | 1/8           | HRC8-2   | 1.22                | 0.34 | 1-1/16 |
| 1/2           | 1/4           | HRC8-4   | 1.42                | 0.45 | 1-1/16 |
| 1/2           | 3/8           | HRC8-6   | 1.42                | 0.59 | 1-1/16 |
| 3/4           | 1/4           | HRC12-4  | 1.45                | 0.45 | 1-3/8  |
| 3/4           | 1/2           | HRC12-8  | 1.61                | 0.73 | 1-3/8  |
| 1             | 1/2           | HRC16-8  | 1.77                | 0.73 | 1-5/8  |
| 1             | 3/4           | HRC16-12 | 1.77                | 0.94 | 1-5/8  |

**PIPE PLUG**



**PIPE CAP**



**Male NPT Threads**

| MALE THREAD | PART NO. | Dimensions ( inch ) |        |
|-------------|----------|---------------------|--------|
|             |          | A                   | F      |
| 1/8         | PP2      | 0.63                | 7/16   |
| 1/4         | PP4      | 0.80                | 9/16   |
| 3/8         | PP6      | 0.80                | 11/16  |
| 1/2         | PP8      | 1.05                | 7/8    |
| 3/4         | PP12     | 1.13                | 1-1/16 |
| 1           | PP16     | 1.32                | 1-3/8  |

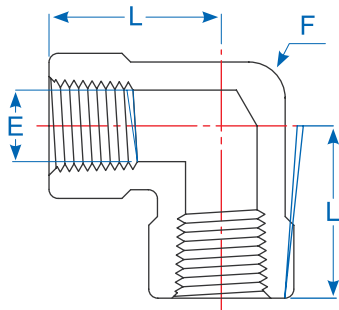
**Female NPT Threads**

| FEMALE THREAD | PART NO. | Dimensions ( inch ) |        |
|---------------|----------|---------------------|--------|
|               |          | A                   | F      |
| 1/8           | PC2      | 0.71                | 9/16   |
| 1/4           | PC4      | 0.87                | 3/4    |
| 3/8           | PC6      | 0.91                | 7/8    |
| 1/2           | PC8      | 1.18                | 1-1/16 |
| 3/4           | PC12     | 1.18                | 1-3/8  |
| 1             | PC16     | 1.42                | 1-5/8  |

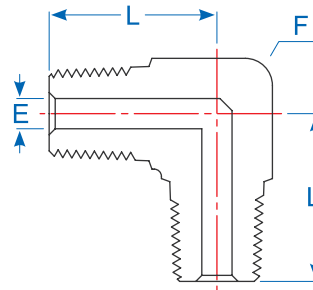
Dimensions for reference only, subject to change

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**FEMALE ELBOW**



**MALE ELBOW**



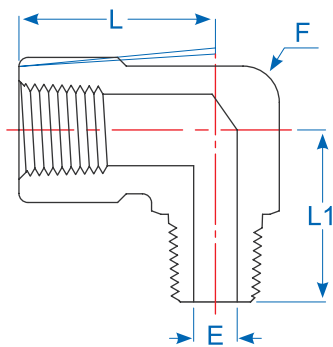
**Female NPT Threads**

| FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |         |
|---------------|----------|---------------------|------|---------|
|               |          | L                   | E    | F       |
| 1/8           | E2F      | 1                   | 0.19 | 9/16    |
| 1/4           | E4F      | 1.14                | 0.28 | 13/16   |
| 3/8           | E6F      | 1.38                | 0.38 | 7/8     |
| 1/2           | E8F      | 1.38                | 0.47 | 1-1/16  |
| 3/4           | E12F     | 1.93                | 0.61 | 1-3/8   |
| 1             | E16F     | 1.92                | 0.86 | 1-11/16 |

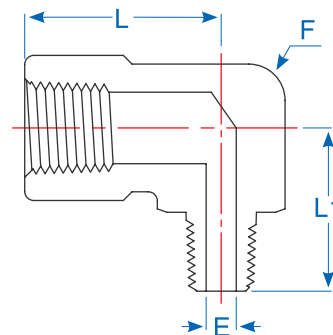
**Male NPT Threads**

| MALE THREAD | PART NO. | Dimensions ( inch ) |      |        |
|-------------|----------|---------------------|------|--------|
|             |          | L                   | E    | F      |
| 1/8         | E2M      | 0.69                | 0.19 | 1/2    |
| 1/4         | E4M      | 0.98                | 0.28 | 5/8    |
| 3/8         | E6M      | 1.02                | 0.38 | 11/16  |
| 1/2         | E8M      | 1.36                | 0.47 | 7/8    |
| 3/4         | E12M     | 1.38                | 0.61 | 1-1/16 |
| 1           | E16M     | 1.91                | 0.86 | 1-3/8  |

**STREET ELBOW**



**REDUCING STREET ELBOW**



**Female to Male NPT**

| FEMALE THREAD | MALE THREAD | PART NO. | Dimensions ( inch ) |      |      |         |
|---------------|-------------|----------|---------------------|------|------|---------|
|               |             |          | L                   | L1   | E    | F       |
| 1/8           | 1/8         | E2MF     | 1.04                | 0.69 | 0.19 | 1/2     |
| 1/4           | 1/4         | E4MF     | 1.16                | 1.04 | 0.28 | 11/16   |
| 3/8           | 3/8         | E6MF     | 1.33                | 1.14 | 0.38 | 13/16   |
| 1/2           | 1/2         | E8MF     | 1.38                | 1.38 | 0.47 | 1-1/16  |
| 3/4           | 3/4         | E12MF    | 1.93                | 1.81 | 0.61 | 1-3/8   |
| 1             | 1           | E16MF    | 1.92                | 1.94 | 0.86 | 1-11/16 |

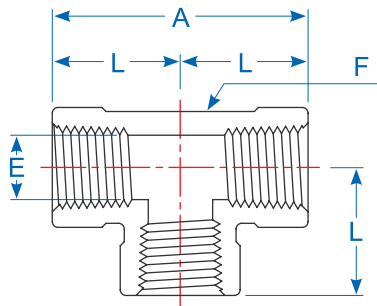
**Female to Male NPT**

| FEMALE THREAD | MALE THREAD | PART NO. | Dimensions ( inch ) |      |      |       |
|---------------|-------------|----------|---------------------|------|------|-------|
|               |             |          | L                   | L1   | E    | F     |
| 1/4           | 1/8         | E2M4F    | 1.16                | 0.92 | 0.19 | 11/16 |
| 3/8           | 1/4         | E4M6F    | 1.33                | 1.16 | 0.28 | 13/16 |
| 1/2           | 1/4         | E4M8F    | 1.50                | 1.28 | 0.28 | 1     |
| 1/2           | 3/8         | E6M8F    | 1.50                | 1.28 | 0.38 | 1     |

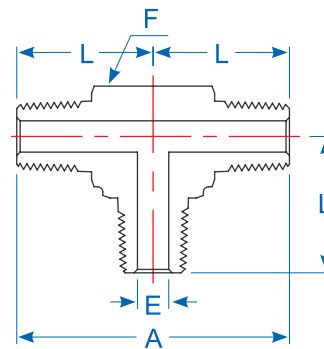
Dimensions for reference only, subject to change

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**FEMALE TEE**



**MALE TEE**



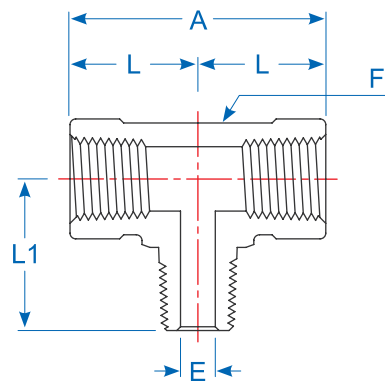
**Female NPT Threads**

| FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |      |         |
|---------------|----------|---------------------|------|------|---------|
|               |          | A                   | L    | E    | F       |
| 1/8           | T2F      | 1.85                | 0.93 | 0.34 | 5/8     |
| 1/4           | T4F      | 2.20                | 1.10 | 0.44 | 13/16   |
| 3/8           | T6F      | 2.75                | 1.37 | 0.57 | 7/8     |
| 1/2           | T8F      | 2.90                | 1.45 | 0.70 | 1-1/16  |
| 3/4           | T12F     | 3.80                | 1.90 | 0.86 | 1-3/8   |
| 1             | T16F     | 3.84                | 1.92 | 1.10 | 1-11/16 |

**Male NPT Threads**

| MALE THREAD | PART NO. | Dimensions ( inch ) |      |      |        |
|-------------|----------|---------------------|------|------|--------|
|             |          | A                   | L    | E    | F      |
| 1/8         | T2M      | 1.38                | 0.69 | 0.19 | 1/2    |
| 1/4         | T4M      | 1.97                | 0.98 | 0.28 | 9/16   |
| 3/8         | T6M      | 2.09                | 1.04 | 0.38 | 11/16  |
| 1/2         | T8M      | 2.72                | 1.36 | 0.47 | 7/8    |
| 3/4         | T12M     | 2.76                | 1.38 | 0.61 | 1-1/16 |
| 1           | T16M     | 3.82                | 1.91 | 0.86 | 1-3/8  |

**MALE BRANCH TEE**



**Male & Female NPT Threads**

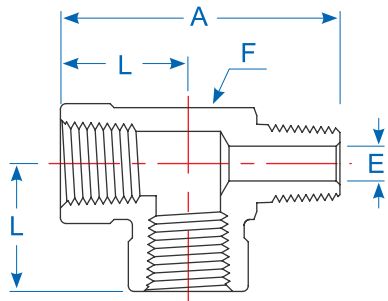
| MALE THREAD | FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |      |      |         |
|-------------|---------------|----------|---------------------|------|------|------|---------|
|             |               |          | A                   | L    | L1   | E    | F       |
| 1/8         | 1/8           | T2FMF    | 2.04                | 1.02 | 0.91 | 0.19 | 9/16    |
| 1/4         | 1/4           | T4FMF    | 2.09                | 1.03 | 1.04 | 0.28 | 13/16   |
| 3/8         | 3/8           | T6FMF    | 2.67                | 1.33 | 1.14 | 0.38 | 7/8     |
| 1/2         | 1/2           | T8FMF    | 2.76                | 1.38 | 1.38 | 0.47 | 1-1/16  |
| 3/4         | 3/4           | T12FMF   | 3.86                | 1.93 | 1.81 | 0.61 | 1-3/8   |
| 1           | 1             | T16FMF   | 3.84                | 1.92 | 1.93 | 0.86 | 1-11/16 |

Dimensions for reference only, subject to change

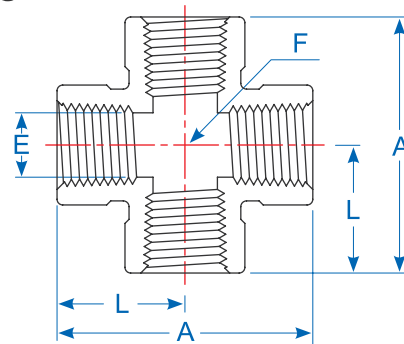
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**STREET TEE**



**CROSS**



**Male & Female NPT Threads**

| FEMALE THREAD | MALE THREAD | PART NO. | Dimensions ( inch ) |      |      |         |
|---------------|-------------|----------|---------------------|------|------|---------|
|               |             |          | A                   | L    | E    | F       |
| 1/8           | 1/8         | T2MFF    | 1.93                | 1.02 | 0.19 | 9/16    |
| 1/4           | 1/4         | T4MFF    | 2.09                | 1.04 | 0.28 | 13/16   |
| 3/8           | 3/8         | T6MFF    | 2.48                | 1.33 | 0.38 | 7/8     |
| 1/2           | 1/2         | T8MFF    | 2.76                | 1.38 | 0.47 | 1-1/16  |
| 3/4           | 3/4         | T12MFF   | 3.74                | 1.93 | 0.61 | 1-3/8   |
| 1             | 1           | T16MFF   | 3.84                | 1.92 | 0.86 | 1-11/16 |

**Female NPT Threads**

| FEMALE THREAD | PART NO. | Dimensions ( inch ) |      |      |         |
|---------------|----------|---------------------|------|------|---------|
|               |          | A                   | L    | E    | F       |
| 1/8           | C2F      | 1.97                | 0.98 | 0.34 | 9/16    |
| 1/4           | C4F      | 2.09                | 1.04 | 0.44 | 13/16   |
| 3/8           | C6F      | 2.72                | 1.36 | 0.57 | 7/8     |
| 1/2           | C8F      | 2.76                | 1.38 | 0.70 | 1-1/16  |
| 3/4           | C12F     | 3.82                | 1.91 | 0.86 | 1-3/8   |
| 1             | C16F     | 3.83                | 1.91 | 1.10 | 1-11/16 |

Dimensions for reference only, subject to change

**SHREEMARUTI INSTRUMENTS PVT. LTD.**

*Quality at core with Technology at Time...*



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