



# Adaptors



# BASICS ON FITTINGS - ADAPTORS

## Basics on adaptors. Threads and types

### Threads

- 1** Metric threads
- 2** Imperial threads
  - 2.1** BSP
  - 2.2** NPT
  - 2.3** UTS
  - 2.4** JIS

### Adaptors

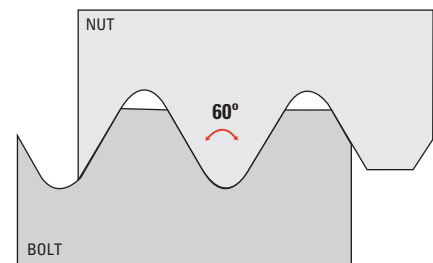
- 3** Flareless Bite type
  - 3.1** DIN Adaptors
- 4** Flare type
  - 4.1** BSP Adaptors
  - 4.2** SAE JIC 37° Adaptors
  - 4.3** JIS Adaptors
  - 4.4** NPT Adaptors
  - 4.5** SAE 45° Adaptor
- 5** Other types
  - 5.1** ORFS
  - 5.2** ORB
  - 5.3** Staplelock
  - 5.4** Flange connections
  - 5.5** Komatsu 30° flare

### 1 Metric threads

Designated by M and defined by ISO. Consist of a V-shape thread with a 60° angle. The pitch is defined as the distance in millimeters between two adjacent crests or roots of the thread ridges. There are two versions the coarse and fine thread, the latter has thinner pitch for the same diameter than the coarse. Standard ISO 68-1.

#### Metric taper thread DIN 158 & 158-1

According the old Standard DIN 158, internal and external threads are tapered. According to the Standard DIN 158-1 only the external threads is tapered (1:16) while the internal thread is cylindrical. Flank angle is 60°.



#### Coarse thread

Pitch can be displayed or omitted after thread size

| THREAD SIZE | MAJOR DIA | MINOR DIA | PITCH |
|-------------|-----------|-----------|-------|
| mm          | mm        | mm        | mm    |
| M3          | 2,981     | 2,459     | 0,5   |
| M6          | 3,978     | 3,242     | 0,7   |
| M5          | 4,976     | 4,134     | 0,8   |
| M6          | 5,974     | 4,917     | 1     |
| M8          | 7,974     | 6,917     | 1     |
| M10         | 9,968     | 8,376     | 1,5   |
| M12         | 11,97     | 10,106    | 1,75  |
| M16         | 15,96     | 13,835    | 2     |
| M15         |           |           |       |
| M20         | 19,96     | 17,294    | 2,5   |
| M24         | 23,95     | 20,752    | 3     |

#### Fine thread

Pitch must be displayed after thread size

| THREAD SIZE | MAJOR DIA | MINOR DIA | PITCH |
|-------------|-----------|-----------|-------|
| mm          | mm        | mm        | mm    |
| M3x0,35     | 2,981     | 2,621     | 0,35  |
| M4x0,5      | 3,978     | 3,242     | 0,50  |
| M5x0,5      | 4,98      | 4,459     | 0,50  |
| M6x0,75     | 5,978     | 5,188     | 0,75  |
| M8x0,75     | 7,978     | 7,188     | 0,75  |
| M10x0,75    | 9,978     | 9,188     | 0,75  |
| M10x1       | 9,974     | 8,917     | 1,00  |
| M10x1,25    | 9,972     | 8,647     | 1,25  |
| M12x1       | 11,97     | 10,917    | 1,00  |
| M12x1,25    | 11,97     | 10,647    | 1,25  |
| M12x1,5     | 11,97     | 10,376    | 1,50  |
| M16x1       | 15,97     | 14,917    | 1,00  |
| M16x1,5     | 15,97     | 14,376    | 1,50  |
| M20x1       | 19,97     | 18,917    | 1,00  |
| M20x1,5     | 19,97     | 18,376    | 1,50  |
| M20x2       | 19,96     | 17,835    | 2,00  |
| M24x1       | 23,97     | 22,917    | 1,00  |
| M24x1,5     | 23,97     | 22,376    | 1,50  |

## 2 Imperial threads

### 2.1 Imperial thread system

The thread form is according British Standard Whitworth consisting of a V-shape thread with a 55° angle between flanks. The pitch is defined by the number of thread ridges in an inch, tpi.

Defined as well as G to indicate external parallel:

- R** defines external taper
- Rp** defines internal parallel
- Rc** defines internal taper

#### BSPP. British Standard Pipe Parallel

Male and female threads are both parallel.

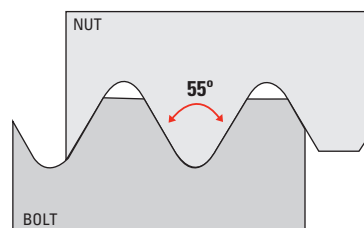
#### BSPT. British Standard Pipe Taper

Male thread is taper and female is parallel.

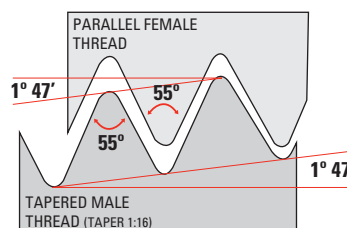
Male and female threads are taper (Rc), which is very uncommon.

Taper of 3/4" in one foot (1 in 16 on the diameter).

Conicity of 1° 47' 24".



BSPP



BSPT

#### BSPP (G)

| THREAD SIZE | MAJOR DIA | MINOR DIA | Tpi |
|-------------|-----------|-----------|-----|
| inch        | mm        | mm        |     |
| G1/16"      | 7,723     | 6,561     | 28  |
| G1/8"       | 9,728     | 8,566     | 28  |
| G1/4"       | 13,157    | 11,445    | 19  |
| G3/8"       | 16,662    | 14,950    | 19  |
| G1/2"       | 20,955    | 18,631    | 14  |
| G3/4"       | 26,441    | 24,117    | 14  |
| G1"         | 33,249    | 30,291    | 11  |
| G2"         | 59,614    | 56,656    | 11  |

#### BSPT (R/Rp)

| THREAD SIZE | FEMALE THREAD SIZE | MAJOR DIA | MINOR FEMALE DIA | Tpi |
|-------------|--------------------|-----------|------------------|-----|
| inch        | inch               | mm        | mm               |     |
| R1/16"      | Rp1/16"            | 7,723     | 6,490            | 28  |
| R1/8"       | Rp1/8"             | 9,728     | 8,495            | 28  |
| R1/4"       | Rp1/4"             | 13,157    | 11,410           | 19  |
| R3/8"       | Rp3/8"             | 16,662    | 14,846           | 19  |
| R1/2"       | Rp1/2"             | 20,955    | 18,849           | 14  |
| R3/4"       | Rp3/4"             | 26,441    | 23,975           | 14  |
| R1"         | Rp1"               | 33,249    | 30,111           | 11  |
| R2"         | Rp2"               | 59,614    | 56,476           | 11  |

## 2.2 NPT. National Pipe Thread

The thread form is a V-shape with a 60° angle between flanks. The pitch is defined by the number of thread ridges in an inch, tpi.

The male and female are tapered 1 in 16 or 3/4" per foot. Conicity of 1° 47' 24".

### NPTF. National Pipe Thread Fuel

As well known as Dryseal American National Standard Taper Pipe Thread.

Has the same basic than NPT form with crest and root heights adjusted. The difference resides in the minor and major diameters which slightly differ. In the case of NPT threads once wrenching minor spaces are left so that the assembly will leak and a sealant will be needed. The threads in the case of NPTF when wrenching threads crush to produce a leak-proof mechanical seal:

**NPT** ANSI B1.20.1

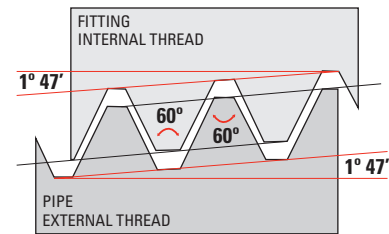
**NPTF** ANSI B1.20.3

### NPSM. National Standard Free-Fitting Straight Mechanical Pipe Thread.

Also known as NPS.

Refers to a same thread than NPT but not tapered with the result that does not seal as effectively as the NPT thread.

BSP and NPT threads are not compatible due first to the difference in V-shape form, 55° with rounded crests and roots the former and 60° with flat crests and roots the latter and second due to that most of diametrical sizes have a different pitch.



### NPT/NPTF

| THREAD SIZE  | MAJOR DIA | Tpi  |
|--------------|-----------|------|
| inch         | mm        |      |
| 1/16"-27NPT  | 7,938     | 27   |
| 1/8"-27NPT   | 10,287    | 27   |
| 1/4"-18NPT   | 13,716    | 18   |
| 3/8"-18NPT   | 17,145    | 18   |
| 1/2"-14NPT   | 21,336    | 14   |
| 3/4"-14NPT   | 26,67     | 14   |
| 1"-11 1/2NPT | 33,401    | 11,5 |
| 2"-11 1/2NPT | 60,325    | 11,5 |

**NPT** threads are also referred to as

**MIP** (Male Iron Pipe)

**FIP** (Female Iron Pipe)

**IPT** (Iron Pipe Thread)

**FPT** (Female Pipe Thread)

**MPT** (Male Pipe Thread)

## 2.3 UTS. Unified Thread Standard

The thread form is a V-shape of 60° like the ISO Metric V-shape with the difference that all the dimensions are measured in inches rather than millimeter as in ISO Metric threads. The pitch is defined by the number of thread ridges per inch, tpi. Standard ASME/ANSI B1.1 - 2003.

It is referred usually to UNC, UNF or UNEF indicating, C for Coarse, F for Fine and EF extrafine.

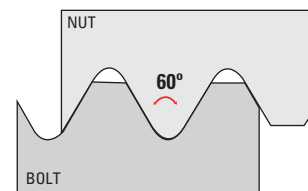
NOTE: In the catalogue we identify the threads assigning a key letter whereas:

**G** for BSP threads

**R** for BSPT threads

**Z** for NPT threads

**-** for UTS threads



### Unified thread come in three different classes:

1A (external) & 1B (internal). Applications with low tolerance requirement.

### UNC (2A)

| NOMINAL DIA | MAJOR DIA | MINOR DIA | Tpi |
|-------------|-----------|-----------|-----|
| inch        | mm        | mm        |     |
| 1/4"x20UNC  | 6,322     | 4,978     | 20  |
| 5/16"x18UNC | 7,907     | 6,401     | 18  |
| 3/8"x16UNC  | 9,491     | 7,798     | 16  |
| 7/16"x14UNC | 11,076    | 9,144     | 14  |
| 1/2"x13UNC  | 12,661    | 10,592    | 13  |
| 5/8"x11UNC  | 15,834    | 13,386    | 11  |
| 3/4"x10UNC  | 19,004    | 16,307    | 10  |
| 7/8"x9UNC   | 22,176    | 19,177    | 9   |
| 1"x 8UNC    | 25,349    | 21,971    | 8   |
| 2"x4,5UNC   | 50,276    | 44,679    | 4,5 |

2A (external) & 2B (internal). General application.

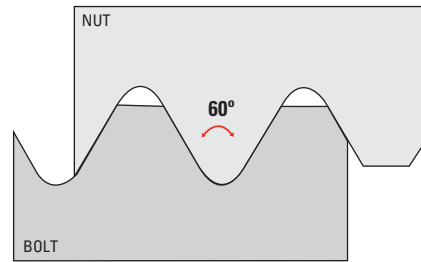
3A (external) & 3B (internal). Applications where tight fit is important.

### UNF (2A)

| THREAD SIZE | MAJOR DIA | MINOR DIA | Tpi |
|-------------|-----------|-----------|-----|
| mm          | mm        | mm        |     |
| 1/4"x28UNF  | 6,325     | 5,36      | 28  |
| 5/16"x24UNF | 7,91      | 6,782     | 24  |
| 3/8"x24UNF  | 9,497     | 8,382     | 24  |
| 7/16"x20UNF | 11,079    | 9,728     | 20  |
| 1/2"x20UNF  | 12,667    | 11,328    | 20  |
| 5/8"x18UNF  | 15,839    | 14,351    | 18  |
| 3/4"x16UNF  | 19,012    | 17,323    | 16  |
| 7/8"x14UNF  | 22,184    | 20,269    | 16  |
| 1"x12UNF    | 25,354    | 23,114    | 12  |

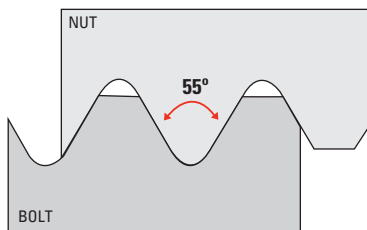
## 2.4 JIS. Japanese Industrial Standards

**1 Metric type.** The thread form is a V-shape of  $60^\circ$  between flanks like the ISO Metric. The pitch is defined as the distance in millimetres between two adjacent crests or roots. Has two versions the coarse and the fine. Standard JIS B0205 Coarse and JIS B0207 Fine. The symbol used is M.



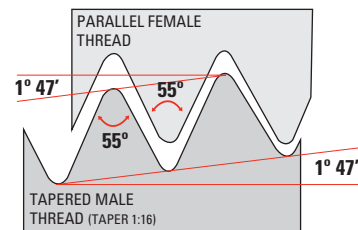
**2 Inch type.** The thread form is a V-shape of  $60^\circ$  between flanks like the ISO Metric but the major diameter of external threads is measured in inches. Has two versions the coarse and the fine. JIS B0206 Coarse and JIS B0208 Fine. The symbol used is U.

**3 Inch type.** Like Whitworth, with V-shape of  $55^\circ$  between flanks and rounded crests and roots. The pitch is defined by thread ridges per inch, tpi. Standard JIS B0202. The symbol used is G (PF). Equivalent to BSPP.



**BSPP**

**4 Inch type.** Like Whitworth, with V-shape of  $55^\circ$  between flanks and rounded crests and roots. The pitch is defined by thread ridges per inch, tpi. Standard JIS B0203. The male and female are tapered 1 in 16 or  $3/4''$  per foot. Conicity of  $1^\circ 47' 24''$ . The symbol used is R.Rc (PT). Equivalent to BSPT.



**BSPT**

## 3 Flareless bite type

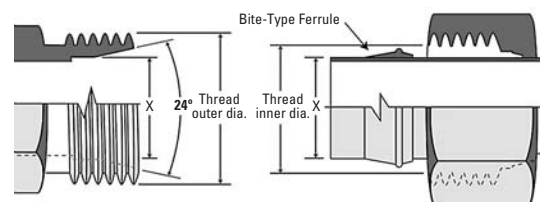
Flareless bite type tube fittings consist of ferrule, progressing ring or retaining nut which bites the outer surface of the tube when compressed thus making a leakproof union. There is a wide availability of sizes to meet practically any requirement.

### 3.1 SAE & DIN Adaptors

They use sealing seat angles of  $24^\circ$  and  $60^\circ$ , metal to metal or combining with O-rings.

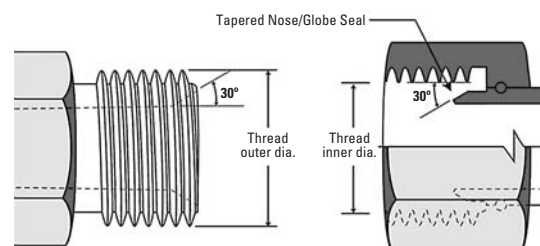
#### SAE J514 $24^\circ$ Cone

The male of the flareless tube has a  $24^\circ$  seat and a straight thread. The female half has a compression leev and a straight thread. In addition to the sleeve, a female nut and a tube form part of the female connection. On the male, the seal takes place between the  $24^\circ$  seat and the compression sleeve. On the female, the seal takes place between the tubing and the compression sleeve.



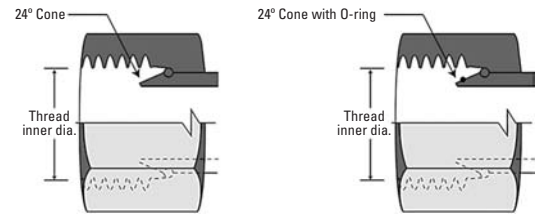
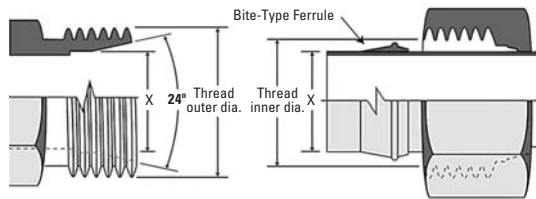
#### DIN 7631. Metric $60^\circ$ Cone

The male of the metric  $60^\circ$  Cone connection has a  $60^\circ$  recessed cone and a straight thread. The female half has a globeseal seat and a straight thread. The seal takes place between the  $60^\circ$  recessed cone and the tapered nose of the female.



### DIN 2353. Metric tube compression. 24° Cone

The male has a 24° Cone and a straight thread. The three female connectors have straight threads and a sealing surface. The seal is obtained by the male connector and the sealing areas of the females. There are two versions DIN 2353 L (Light) and DIN 2353 S (heavy).



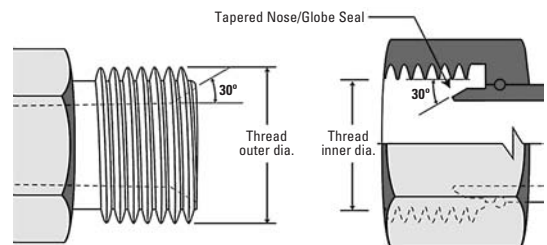
## 4 Flare type

### 4.1 BSP Adaptors

They use angle seats of 30° metal to metal or combined with O-ring. The threads available are BSPP, BSPT and BSPFS.

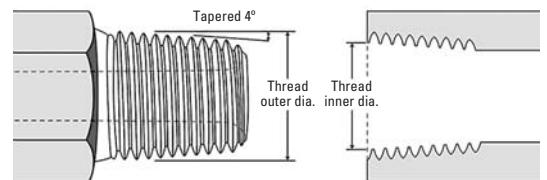
#### BSPP

The male end has a 30° seat. The tapered nose of the female swivel seals on the 30° set of the male. (Not interchangeable with NPSM).



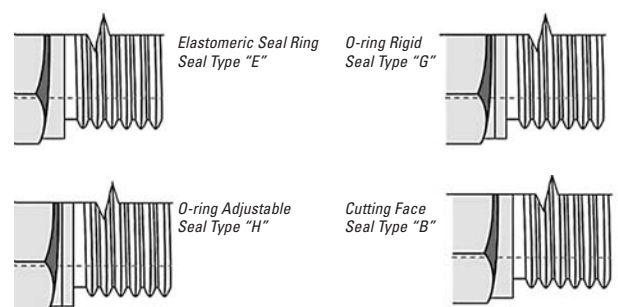
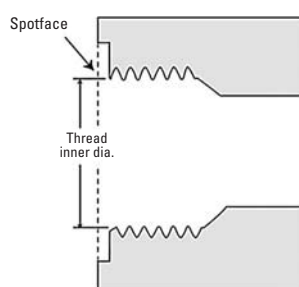
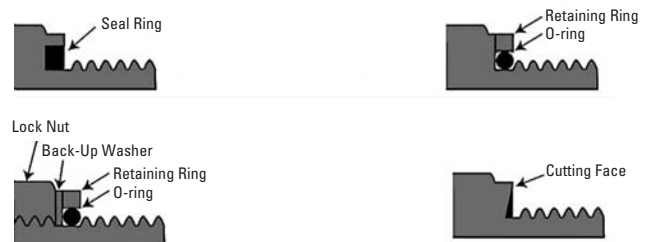
#### BSPT

The tapered male of the BSPT mates with the tapered female. The seal is made by the threads. (Not interchangeable with NPTF).



#### BSPFS

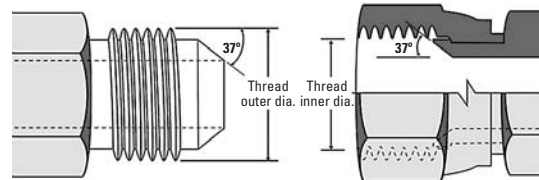
The parallel threads form a seal using a variety of sealing rings or washers. The sealing is obtained between the male end and the machined flat surface of the female.



## 4.2 SAE JIC 37° Adaptors

### SAE J514

Male and female use straight threads and 37° flare seat. The male and female flare seats seal when the straight threads are engaged.

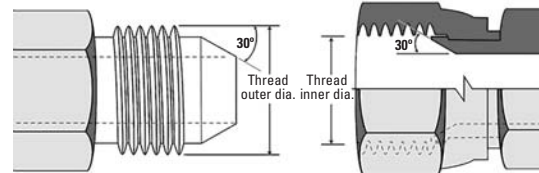


## 4.3 JIS Adaptors

Use sealing angle cones of 60°, metal to metal.

The threads used are Metric, BSPP or BSPT.

The male has a 30° seat and a straight thread. The female half has 30° seat and straight thread.



## 4.4 NPT Adaptors

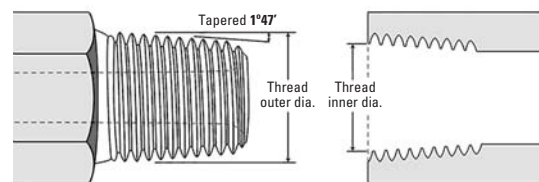
### NPT

The tapered male of the NPT mates with the tapered female.

The seal is made by the threads.

### NPTF

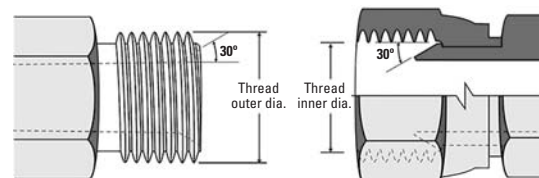
Is not recommended for hydraulic as the seal is made by the crushing threads which may produce deformation.



### NPSM

The male and female threads of the NSPM connection are straight.

The male has a 30° internal chamfer while the female has an inverted 30° seat.

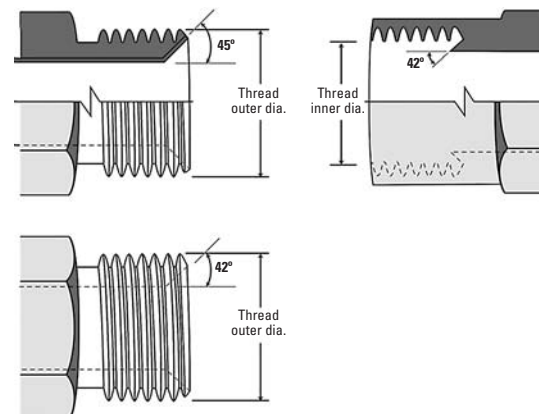


## 4.5 SAE 45° Adaptors

### Inverted Flare SAE J512.

Use a 90° sealing cone, metal to metal.

The male has a 42° seat. The flared male tubing has a 45° seat. The female end of the inverted flare has a 42° seat that provides a sealing surface.



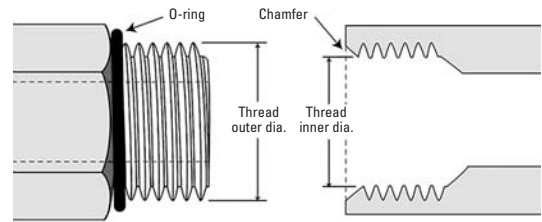
## 5 Other type

### 5.1 ORB Adaptors

**SAE J1626-1** and ISO 11296-1.

ORB Adaptors use an O-ring inserted in a groove in the male. Threads are UNC.

The male connector of the O-ring Boss has an O-ring and a straight thread. The female has a chamfer and a straight thread. The O-ring is compressed to form a seal.

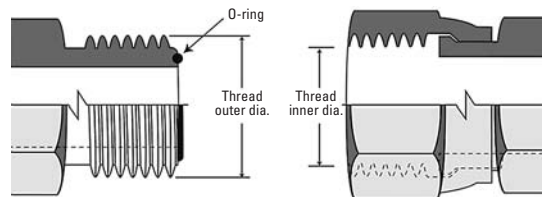


### 5.2 ORBFS Adaptors

**SAE J1453**

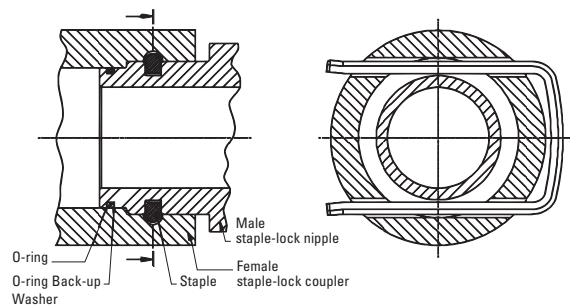
O-ring face seal. The male has a flat surface with a groove where the O-ring is inserted. Threads are UNF.

The male contact has an O-ring and a straight thread. The female contact has a flat surface and a straight thread. The seal is formed when the O-ring in the face of the male end is compressed on to the machined flat surface of the female seat.



### 5.3 Staplelock

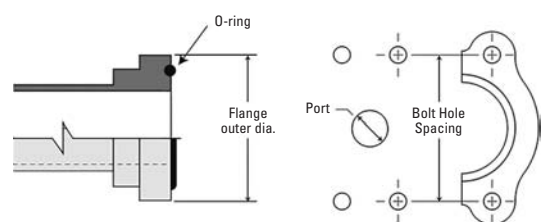
Used mainly in mining applications. The male consists of an outer radial groove at the root, a back up ring and an O-ring at the tip. The female consists of a swivel with two bores where to insert the staple which lodges in the groove of the male and a smooth bore where it fits the O-ring.



### 5.4 Flange connections

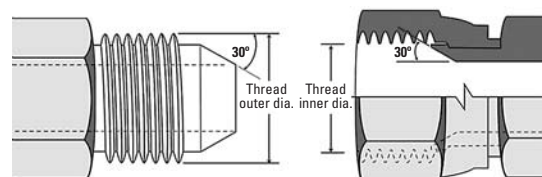
They conform to SAE J518 and ISO 6162-1. Used in applications where pressures are high and for large sizes. To fix the tubing to the flange, clamps are used of which are available two versions, one piece or the split version in two.

The O-ring seats on the ring groove of the male. The seal is obtained between the O-ring on the male and the smooth face of the female port. Four bolts and two clamp halves hold the connection in place.



### 5.5 Komatsu 30° flare

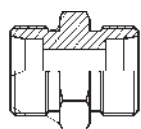
Has parallel metric threads and 30° seat. This connection is used mainly in Komatsu equipment.



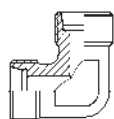


# ADAPTORS INDEX

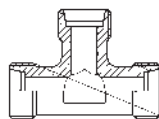
## Flareless - bite - type tube fitting adaptors



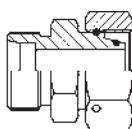
TL-1C  
TL-1D  
PAG. F1



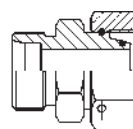
TL-1C9  
TL-1D9  
PAG. F1



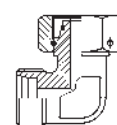
TL-AC  
TL-AD  
PAG. F2



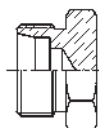
TL-2C  
TL-2C-RN  
PAG. F3



TL-2D  
TL-2D-RN  
PAG. F4



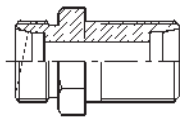
TL-2C9  
TL-2D9  
PAG. F5



TL-4C  
TL-P4D  
PAG. F5



TL-9C  
TL-9D  
PAG. F6



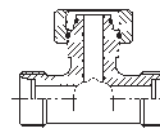
TL-6C  
TL-6D  
PAG. F6



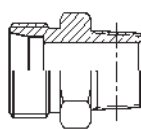
TL-6C9  
TL-6D9  
PAG. F7



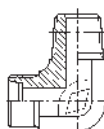
TL-8C  
PAG. F7



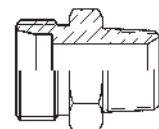
TL-BC  
TL-BD  
PAG. F8



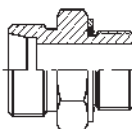
TL-1CN  
TL-1DN  
PAG. F9



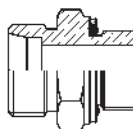
TL-1CN9  
TL-1DN9  
PAG. F10



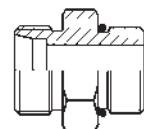
TL-1CT-SP  
TL-1DT-SP  
PAG. F11



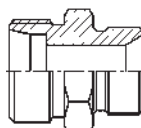
TL-1CH  
TL-1DH  
PAG. F12



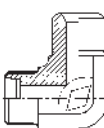
TL-1CG  
TL-1DG  
PAG. F13



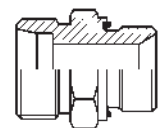
TL-1C0  
TL-1D0  
PAG. F14



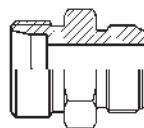
TL-1CB  
TL-1DB  
PAG. F15



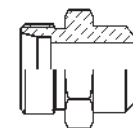
TL-1CB9  
TL-1DB9  
PAG. F16



TL-1CB-WD  
TL-1DB-WD  
PAG. F17



TL-1CJ  
TL-1DJ  
PAG. F18



TL-1CW  
TL-1DW  
PAG. F19



TL-NL  
PAG. F19T

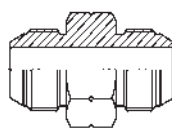


TL-NS  
PAG. F20

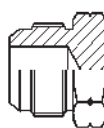


TL-RL  
TL-RS  
PAG. F20

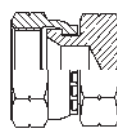
## Flare - type - tube - fitting adaptors



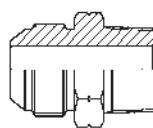
TL-1S  
PAG. F21



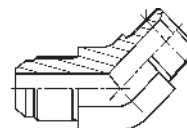
TL-4S  
PAG. F21



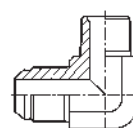
TL-9S  
PAG. F21



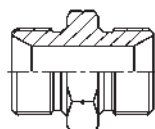
TL-1ST-SP  
PAG. F22



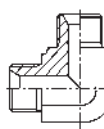
TL-1ST4-SP  
PAG. F22



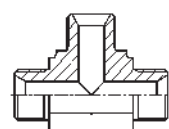
TL-1ST9-SP  
PAG. F23



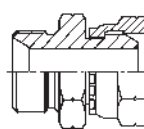
TL-1B  
PAG. F23



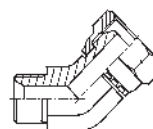
TL-1B9  
PAG. F24



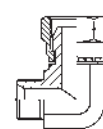
TL-AB  
PAG. F25



TL-2B  
PAG. F25

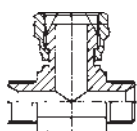


TL-2B4  
PAG. F26

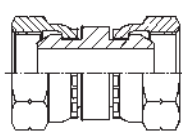


TL-2B9  
PAG. F26

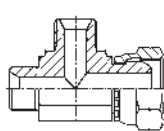
## Flare - type - tube - fitting adaptors



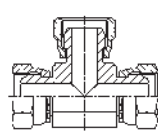
TL-BB  
PAG. F27



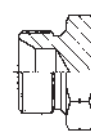
TL-3B  
PAG. F27



TL-CB  
PAG. F28



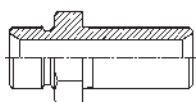
TL-DB  
PAG. F28



TL-4B  
PAG. F28



TL-9B  
PAG. F29



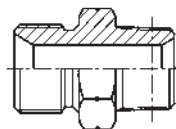
TL-6B  
TL-6B-LN  
PAG. F29



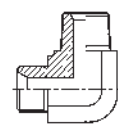
TL-6B9  
TL-6B9-LN  
PAG. F30



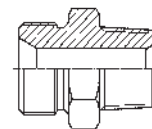
TL-8B  
PAG. F30



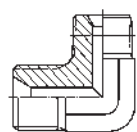
TL-1BT-SP  
PAG. F31



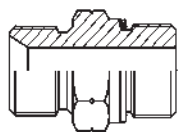
TL-1BT9-SP  
PAG. F32



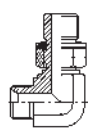
TL-1BN  
PAG. F33



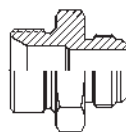
TL-1BN9  
PAG. F33



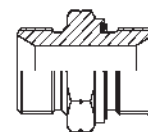
TL-1BG  
PAG. F34



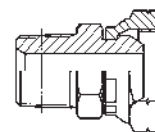
TL-1BG9-OG  
PAG. F34



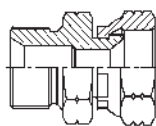
TL-1BJ  
PAG. F35



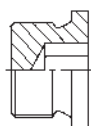
TL-1B-WD  
PAG. F35



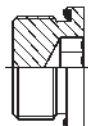
TL-2NB  
PAG. F36



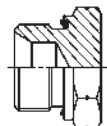
TL-2BJ  
PAG. F36



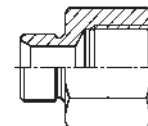
TL-4BN  
PAG. F37



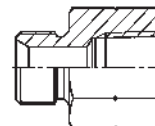
TL-4BN-WD  
PAG. F37



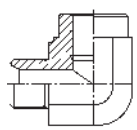
TL-4B-WD  
PAG. F37



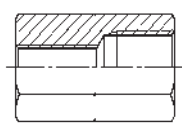
TL-5B  
PAG. F38



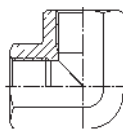
TL-5BT  
PAG. F38



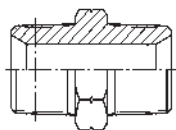
TL-5B9  
PAG. F39



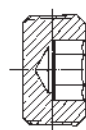
TL-7B  
PAG. F39



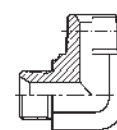
TL-7B9-PK  
PAG. F40



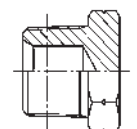
TL-1T-SP  
PAG. F40



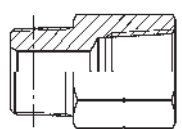
TL-4TN  
PAG. F40



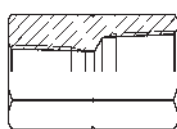
TL-1T9-SP  
PAG. F41



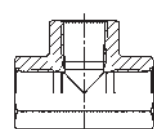
TL-4T-SP  
PAG. F41



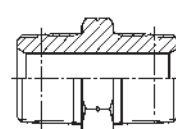
TL-5T-SP  
PAG. F42



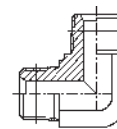
TL-7T  
PAG. F43



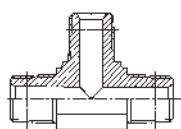
TL-GT-PK  
PAG. F43



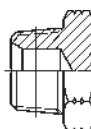
TL-1N  
PAG. F44



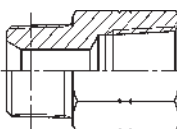
TL-1N9  
PAG. F45



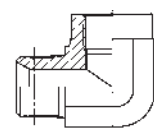
TL-AN  
PAG. F45



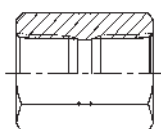
TL-4N  
PAG. F45



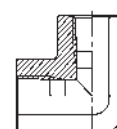
TL-5N  
PAG. F46



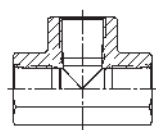
TL-5N9  
PAG. F47



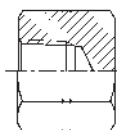
TL-7N  
PAG. F47



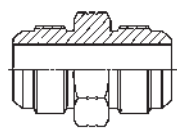
TL-7N9-PK  
PAG. F48



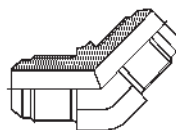
TL-GN-PK  
PAG. F48



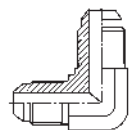
TL-9N-CAP  
PAG. F48



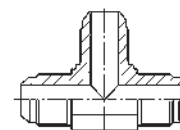
TL-1J  
PAG. F49



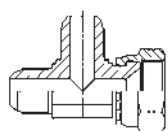
TL-1J4  
PAG. F50



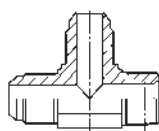
TL-1J9  
PAG. F50



TL-AJ  
PAG. F51



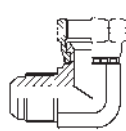
TL-CJ  
PAG. F51



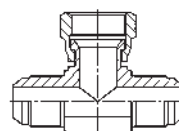
TL-AJJN  
PAG. F52



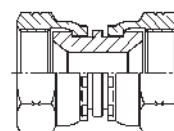
TL-2J  
PAG. F52



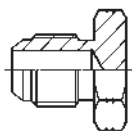
TL-2J9  
PAG. F53



TL-BJ  
PAG. F53



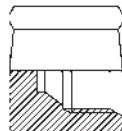
TL-3J  
PAG. F54



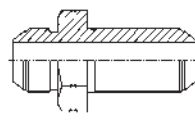
TL-4J  
PAG. F54



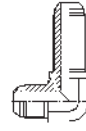
TL-9J  
PAG. F54



TL-9J-CAP  
PAG. F55



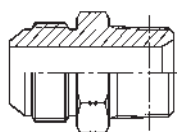
TL-6J  
TL-6J-LN  
PAG. F55



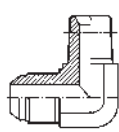
TL-6J9-  
TL-6J9-LN  
PAG. F56



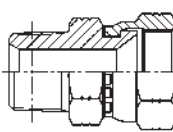
TL-8J  
PAG. F56



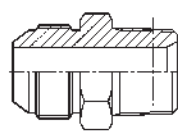
TL-1JN  
PAG. F57



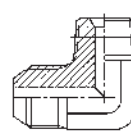
TL-1JN9  
PAG. F58



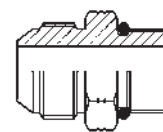
TL-2NJ  
PAG. F59



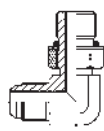
TL-1JT-SP  
PAG. F60



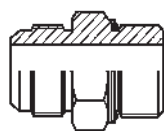
TL-1JT9-SP  
PAG. F61



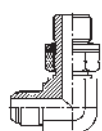
TL-1JO  
PAG. F62



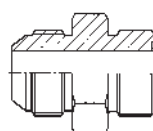
TL-1JO9-OG  
PAG. F63



TL-1JG  
PAG. F64



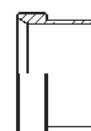
TL-1JG9-OG  
PAG. F65



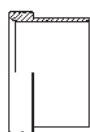
TL-1JF  
PAG. F65



TL-NB200  
PAG. F66

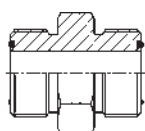


TL-NB300  
PAG. F66

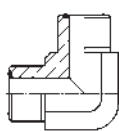


TL-NB500  
PAG. F67

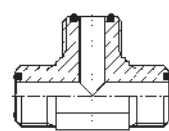
## ORFS fitting adaptor



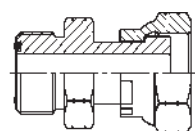
TL-1F  
PAG. F67



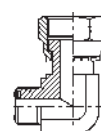
TL-1F9  
PAG. F68



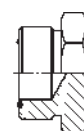
TL-AF  
PAG. F68



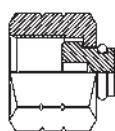
TL-2F  
PAG. F69



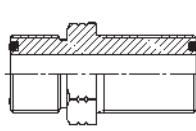
TL-2F9  
PAG. F69



TL-4F  
PAG. F70



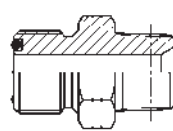
TL-9F  
PAG. F70



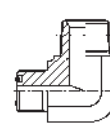
TL-6F  
TL-6F-LN  
PAG. F70



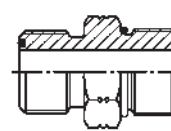
TL-8F  
PAG. F71



TL-1FN  
PAG. F71

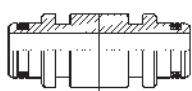


TL-1FN9  
PAG. F72

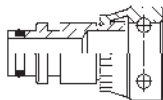


TL-1F0  
PAG. F72

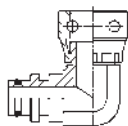
## Staplelock fitting adaptor



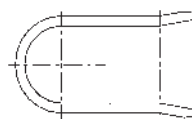
TL-1Y  
PAG. F73



TL-2Y  
PAG. F73

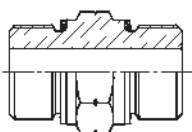


TL-2Y9  
PAG. F73

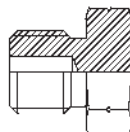


TL-U-Y  
PAG. F74

## Special fitting adaptors



TL-1G  
PAG. F74



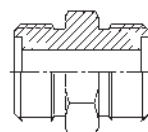
TL-4G  
PAG. F74



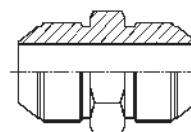
TL-4HN  
PAG. F75



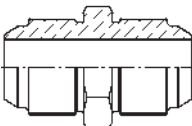
TL-40  
PAG. F75



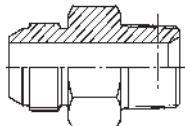
TL-1E  
PAG. F76



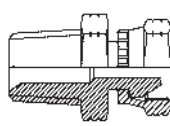
TL-1Q  
TL-1Q-RN  
PAG. F76



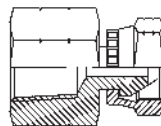
TL-1K  
PAG. F77



TL-1KT-SP  
PAG. F77

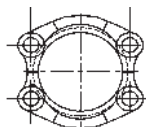


TL-2NU  
PAG. F78

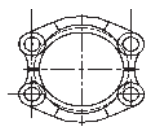


TL-7NU-S  
PAG. F78

## Flange connections



TL-PFL  
PAG. F79



TL-PFS  
PAG. F79

# TORQUE RECOMMENDATIONS FOR ADAPTORS

| SAE 37° & 45° |    |       |         |     |     |     |         |     |     |     |
|---------------|----|-------|---------|-----|-----|-----|---------|-----|-----|-----|
| SIZE          |    |       | STEEL   |     |     |     | BRASS   |     |     |     |
|               |    |       | Ft. Lbs |     | mN  |     | Ft. Lbs |     | mN  |     |
| dash          | DN | inch  | min     | max | min | max | min     | max | min | max |
| -4            | 6  | 1/4   | 10      | 11  | 13  | 15  | 5       | 6   | 7   | 9   |
| -5            | 8  | 5/16  | 13      | 15  | 18  | 20  | 7       | 9   | 10  | 13  |
| -6            | 10 | 3/8   | 17      | 19  | 23  | 26  | 12      | 15  | 17  | 20  |
| -8            | 12 | 1/2   | 34      | 38  | 47  | 52  | 20      | 24  | 28  | 33  |
| -10           | 16 | 5/8   | 50      | 56  | 69  | 76  | 34      | 40  | 47  | 55  |
| -12           | 20 | 3/4   | 70      | 78  | 96  | 106 | 53      | 60  | 73  | 82  |
| -16           | 25 | 1     | 94      | 104 | 127 | 141 | 74      | 82  | 101 | 111 |
| -20           | 32 | 1 1/4 | 124     | 138 | 169 | 188 | 75      | 83  | 101 | 113 |
| -24           | 38 | 1 1/2 | 156     | 173 | 212 | 235 | 79      | 87  | 107 | 118 |
| -32           | 50 | 2     | 219     | 243 | 296 | 329 | 158     | 175 | 214 | 237 |

| ORFS |    |       |       |     |
|------|----|-------|-------|-----|
| SIZE |    |       | STEEL |     |
|      |    |       | mN    |     |
| dash | DN | inch  | min   | max |
| -4   | 6  | 1/4   | 14    | 16  |
| -6   | 10 | 3/8   | 24    | 27  |
| -8   | 12 | 1/2   | 43    | 54  |
| -10  | 16 | 5/8   | 60    | 75  |
| -12  | 20 | 3/4   | 90    | 110 |
| -14  | 22 | 7/8   | 90    | 110 |
| -16  | 25 | 1     | 125   | 240 |
| -20  | 32 | 1 1/4 | 170   | 190 |
| -24  | 38 | 1 1/2 | 200   | 245 |

| BSP 30° INVERTED CONE |    |       |         |     |     |     |
|-----------------------|----|-------|---------|-----|-----|-----|
| SIZE                  |    |       | Ft. Lbs |     | mN  |     |
|                       |    |       | min     | max | min | max |
| dash                  | DN | inch  |         |     |     |     |
| -2                    | 3  | 1/8   | 7       | 9   | 9   | 12  |
| -4                    | 6  | 1/4   | 11      | 18  | 15  | 22  |
| -6                    | 10 | 3/8   | 19      | 28  | 26  | 38  |
| -8                    | 12 | 1/2   | 30      | 36  | 41  | 49  |
| -10                   | 16 | 5/8   | 37      | 44  | 50  | 60  |
| -12                   | 20 | 3/4   | 50      | 60  | 68  | 61  |
| -16                   | 25 | 1     | 79      | 95  | 107 | 129 |
| -20                   | 32 | 1 1/4 | 127     | 152 | 170 | 200 |
| -24                   | 38 | 1 1/2 | 167     | 190 | 225 | 250 |
| -32                   | 50 | 2     | 262     | 314 | 355 | 420 |

| DIN 12°, 30°, UNIVERSAL INVERTED CONE |        |         |     |     |     |
|---------------------------------------|--------|---------|-----|-----|-----|
| LIGHT                                 | HEAVY  | Ft. Lbs |     | mN  |     |
| OD mm                                 | metric | min     | max | min | max |
| 6                                     | M12    | 7       | 15  | 10  | 20  |
| 8                                     | M14    | 15      | 26  | 20  | 35  |
| 10                                    | 8      | M16     | 18  | 30  | 40  |
| 12                                    | 10     | M18     | 22  | 33  | 45  |
| 14                                    | 12     | M20     | 26  | 37  | 50  |
| 15                                    | 14     | M22     | 30  | 52  | 70  |
|                                       | 16     | M24     | 30  | 52  | 70  |
| 18                                    |        | M26     | 44  | 74  | 100 |
| 22                                    | 20     | M30     | 59  | 89  | 120 |
| 28                                    | 25     | M36     | 74  | 111 | 150 |
|                                       | 30     | M42     | 74  | 162 | 220 |
| 35                                    |        | M45     | 133 | 184 | 250 |
| 42                                    | 38     | M52     | 148 | 221 | 300 |

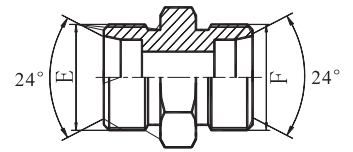
# FLARELESS BITE TYPE-TUBE-FITTING-ADAPTORS

## TL-1C • TL-1D

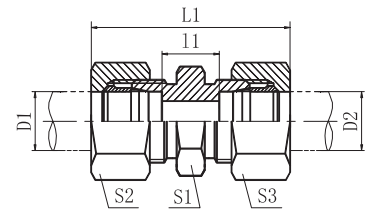
Straight. Metric-Metric. 24° Tapered throat

| PART NO. | THREAD  |         | TUBE O.D. |    | DIMENSIONS |    |    |    |    | MPa    |
|----------|---------|---------|-----------|----|------------|----|----|----|----|--------|
|          | E       | F       | D1        | D2 | I1         | L1 | S1 | S2 | S3 |        |
| TL-1C-12 | M12X1.5 | M12X1.5 | 6         | 6  | 12         | 39 | 12 | 14 | 14 | 31.5 L |
| TL-1C-14 | M14X1.5 | M14X1.5 | 8         | 8  | 15         | 40 | 14 | 17 | 17 |        |
| TL-1C-16 | M16X1.5 | M16X1.5 | 10        | 10 | 15.5       | 42 | 17 | 19 | 19 |        |
| TL-1C-18 | M18X1.5 | M18X1.5 | 12        | 12 | 15.5       | 43 | 19 | 22 | 22 |        |
| TL-1C-22 | M22X1.5 | M22X1.5 | 15        | 15 | 17         | 46 | 24 | 27 | 27 |        |
| TL-1C-26 | M26X1.5 | M26X1.5 | 18        | 18 | 17         | 48 | 27 | 32 | 32 | 16 L   |
| TL-1C-30 | M30X2   | M30X2   | 22        | 22 | 23         | 52 | 32 | 36 | 36 |        |
| TL-1C-36 | M36X2   | M36X2   | 28        | 28 | 28         | 54 | 41 | 41 | 41 |        |
| TL-1C-45 | M45X2   | M45X2   | 35        | 35 | 29         | 63 | 46 | 50 | 50 |        |
| TL-1C-52 | M52X2   | M52X2   | 42        | 42 | 31         | 66 | 55 | 60 | 60 |        |
| TL-1D-14 | M14X1.5 | M14X1.5 | 6         | 6  | 17         | 45 | 14 | 17 | 17 | 63 S   |
| TL-1D-16 | M16X1.5 | M16X1.5 | 8         | 8  | 17.5       | 47 | 17 | 19 | 19 |        |
| TL-1D-18 | M18X1.5 | M18X1.5 | 10        | 10 | 16.5       | 49 | 19 | 22 | 22 |        |
| TL-1D-2C | M20X1.5 | M20X1.5 | 12        | 12 | 17         | 51 | 22 | 24 | 24 |        |
| TL-1D-22 | M22X1.5 | M22X1.5 | 14        | 14 | 21         | 57 | 24 | 27 | 27 |        |
| TL-1D-24 | M24X1.5 | M24X1.5 | 16        | 16 | 21         | 57 | 27 | 30 | 30 | 40 S   |
| TL-1D-30 | M30X2   | M30X2   | 20        | 20 | 24         | 66 | 32 | 36 | 36 |        |
| TL-1D-36 | M36X2   | M36X2   | 25        | 25 | 26         | 74 | 41 | 46 | 46 |        |
| TL-1D-42 | M42X2   | M42X2   | 30        | 30 | 27         | 80 | 46 | 50 | 50 |        |
| TL-1D-52 | M52X2   | M52X2   | 38        | 38 | 27         | 90 | 55 | 60 | 60 | 31.5 S |

**Note:** In case if you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1C-30RN.



**TL-1C  
TL-1D**



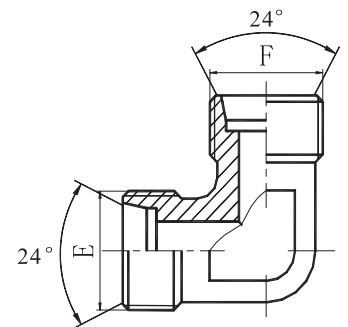
**TL-1C-RN  
TL-1D-RN**

## TL-1C9 • TL-1D9

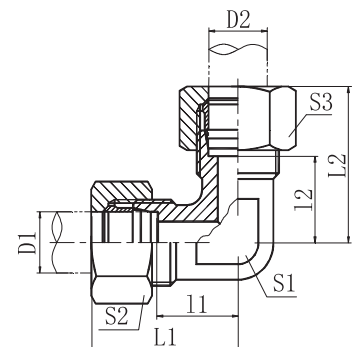
Elbow 90°. Metric-Metric. 24° Tapered throat

| PART NO.  | THREAD  |         | TUBE O.D. |    | DIMENSIONS |        |    |        | MPa    |
|-----------|---------|---------|-----------|----|------------|--------|----|--------|--------|
|           | E       | F       | D1        | D2 | I1, I2     | L1, L2 | S1 | S2, S3 |        |
| TL-1C9-12 | M12X1.5 | M12X1.5 | 6         | 6  | 11         | 27     | 12 | 14     | 31.5 L |
| TL-1C9-14 | M14X1.5 | M14X1.5 | 8         | 8  | 14         | 29     | 12 | 17     |        |
| TL-1C9-16 | M16X1.5 | M16X1.5 | 10        | 10 | 15         | 30     | 14 | 19     |        |
| TL-1C9-18 | M18X1.5 | M18X1.5 | 12        | 12 | 17         | 32     | 17 | 22     |        |
| TL-1C9-22 | M22X1.5 | M22X1.5 | 15        | 15 | 19         | 36     | 19 | 27     |        |
| TL-1C9-26 | M26X1.5 | M26X1.5 | 18        | 18 | 23.5       | 40     | 24 | 32     | 16 L   |
| TL-1C9-30 | M30X2   | M30X2   | 22        | 22 | 27.5       | 44     | 27 | 36     |        |
| TL-1C9-36 | M36X2   | M36X2   | 28        | 28 | 30.5       | 47     | 36 | 41     |        |
| TL-1C9-45 | M45X2   | M45X2   | 35        | 35 | 34.5       | 56     | 41 | 50     |        |
| TL-1C9-52 | M52X2   | M52X2   | 42        | 42 | 40         | 63     | 50 | 60     |        |
| TL-1D9-14 | M14X1.5 | M14X1.5 | 6         | 6  | 16         | 31     | 12 | 17     | 63 S   |
| TL-1D9-16 | M16X1.5 | M16X1.5 | 8         | 8  | 17         | 32     | 14 | 19     |        |
| TL-1D9-18 | M18X1.5 | M18X1.5 | 10        | 10 | 17.5       | 34     | 17 | 22     |        |
| TL-1D9-2C | M20X1.5 | M20X1.5 | 12        | 12 | 21.5       | 38     | 17 | 24     |        |
| TL-1D9-22 | M22X1.5 | M22X1.5 | 14        | 14 | 22         | 40     | 19 | 27     |        |
| TL-1D9-24 | M24X1.5 | M24X1.5 | 16        | 16 | 24.5       | 43     | 24 | 30     | 40 S   |
| TL-1D9-30 | M30X2   | M30X2   | 20        | 20 | 26.5       | 48     | 27 | 36     |        |
| TL-1D9-36 | M36X2   | M36X2   | 25        | 25 | 33         | 54     | 36 | 46     |        |
| TL-1D9-42 | M42X2   | M42X2   | 30        | 30 | 35.5       | 62     | 41 | 50     |        |
| TL-1D9-52 | M52X2   | M52X2   | 38        | 38 | 41         | 72     | 50 | 60     | 31.5 S |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1C9-30RN.



**TL-1C9  
TL-1D9**



**TL-1C9-RN  
TL-1D9-RN**

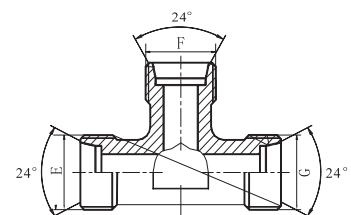
# TL-AC · TL-AD

Equal Tee. Metric-Metric-Metric.

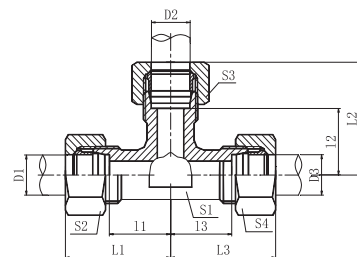
24° Tapered throat

| PART NO.  | THREAD  | TUBE O.D. | DIMENSIONS |            |    |            | MPa    |
|-----------|---------|-----------|------------|------------|----|------------|--------|
|           |         |           | I1, I2, I3 | L1, L2, L3 | S1 | S2, S3, S4 |        |
| TL-AC-08  | M8X1    | 4         | 11         | 21         | 9  | 10         | 10 L   |
| TL-AC-10  | M10X1   | 5         | 9.5        | 21         | 9  | 12         |        |
| TL-AC-10A | M10X1   | 6         | 9.5        | 21         | 9  | 12         |        |
| TL-AC-12A | M12X1   | 8         | 11.5       | 23         | 12 | 14         |        |
| TL-AC-12  | M12X1.5 | 6         | 12         | 27         | 12 | 14         | 25 L   |
| TL-AC-14  | M14X1.5 | 8         | 14         | 29         | 12 | 17         |        |
| TL-AC-16  | M16X1.5 | 10        | 15         | 30         | 14 | 19         |        |
| TL-AC-18  | M18X1.5 | 12        | 17         | 32         | 17 | 22         |        |
| TL-AC-22  | M22X1.5 | 15        | 21         | 36         | 19 | 27         | 16 L   |
| TL-AC-26  | M26X1.5 | 18        | 23.5       | 40         | 24 | 32         |        |
| TL-AC-30  | M30X2   | 22        | 27.5       | 44         | 27 | 36         |        |
| TL-AC-36  | M36X2   | 28        | 30.5       | 47         | 36 | 41         |        |
| TL-AC-45  | M45X2   | 35        | 34.5       | 56         | 41 | 50         | 63 S   |
| TL-AC-52  | M52X2   | 42        | 40         | 63         | 50 | 60         |        |
| TL-AD-14  | M14X1.5 | 6         | 16         | 31         | 12 | 17         |        |
| TL-AD-16  | M16X1.5 | 8         | 17         | 32         | 14 | 19         |        |
| TL-AD-18  | M18X1.5 | 10        | 17         | 34         | 17 | 22         | 40 S   |
| TL-AD-20  | M20X1.5 | 12        | 21.5       | 38         | 17 | 24         |        |
| TL-AD-22  | M22X1.5 | 14        | 22         | 40         | 19 | 27         |        |
| TL-AD-24  | M24X1.5 | 16        | 24.5       | 43         | 24 | 30         |        |
| TL-AD-30  | M30X2   | 20        | 26.5       | 48         | 27 | 36         | 31.5 S |
| TL-AD-36  | M36X2   | 25        | 30         | 54         | 36 | 46         |        |
| TL-AD-42  | M42X2   | 30        | 35.5       | 62         | 41 | 50         |        |
| TL-AD-52  | M52X2   | 38        | 41         | 72         | 50 | 60         |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-AC-22RN.



TL-AC  
TL-AD



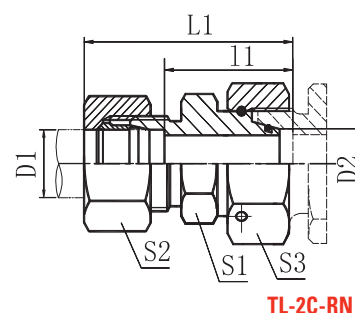
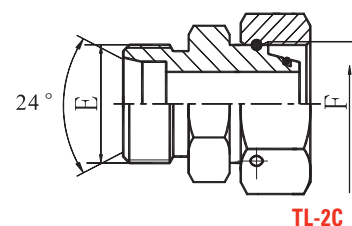
TL-AC-RN  
TL-AD-RN

# TL-2C, TL-2C-RN

Straight. Reducer. Swivel nut. Metric-Metric.  
24° Tapered throat

| PART NO.    | THREAD  |         | TUBE O.D. |    | DIMENSIONS |    |    |    |    | MPa    |
|-------------|---------|---------|-----------|----|------------|----|----|----|----|--------|
|             | E       | F       | D1        | D2 | l1         | L1 | S1 | S2 | S3 |        |
| TL-2C-12-14 | M12X1.5 | M14X1.5 | 6         | 8  | 23.5       | 38 | 14 | 14 | 17 | 31.5 L |
| TL-2C-12-16 | M12X1.5 | M16X1.5 | 6         | 10 | 25         | 40 | 17 | 14 | 19 |        |
| TL-2C-14-16 | M14X1.5 | M16X1.5 | 8         | 10 | 25         | 40 | 17 | 17 | 19 |        |
| TL-2C-12-18 | M12X1.5 | M18X1.5 | 6         | 12 | 25         | 40 | 17 | 14 | 22 |        |
| TL-2C-14-18 | M14X1.5 | M18X1.5 | 8         | 12 | 25         | 40 | 17 | 17 | 22 |        |
| TL-2C-16-18 | M16X1.5 | M18X1.5 | 10        | 12 | 26         | 41 | 17 | 19 | 22 |        |
| TL-2C-12-22 | M12X1.5 | M22X1.5 | 6         | 15 | 28.5       | 43 | 22 | 14 | 27 |        |
| TL-2C-14-22 | M14X1.5 | M22X1.5 | 8         | 15 | 28.5       | 43 | 22 | 17 | 27 |        |
| TL-2C-16-22 | M16X1.5 | M22X1.5 | 10        | 15 | 29.5       | 44 | 22 | 19 | 27 |        |
| TL-2C-18-22 | M18X1.5 | M22X1.5 | 12        | 15 | 29.5       | 44 | 22 | 22 | 27 |        |
| TL-2C-12-26 | M12X1.5 | M26X1.5 | 6         | 18 | 28         | 43 | 24 | 14 | 32 |        |
| TL-2C-14-26 | M14X1.5 | M26X1.5 | 8         | 18 | 28         | 43 | 24 | 17 | 32 |        |
| TL-2C-16-26 | M16X1.5 | M26X1.5 | 10        | 18 | 29         | 44 | 24 | 19 | 32 |        |
| TL-2C-18-26 | M18X1.5 | M26X1.5 | 12        | 18 | 29         | 44 | 24 | 22 | 32 |        |
| TL-2C-22-26 | M22X1.5 | M26X1.5 | 15        | 18 | 30         | 45 | 24 | 27 | 32 |        |
| TL-2C-12-30 | M12X1.5 | M30X2   | 6         | 22 | 32         | 47 | 30 | 14 | 36 | 16 L   |
| TL-2C-14-30 | M14X1.5 | M30X2   | 8         | 22 | 32         | 47 | 30 | 17 | 36 |        |
| TL-2C-16-30 | M16X1.5 | M30X2   | 10        | 22 | 33         | 48 | 30 | 19 | 36 |        |
| TL-2C-18-30 | M18X1.5 | M30X2   | 12        | 22 | 33         | 48 | 30 | 22 | 36 |        |
| TL-2C-22-30 | M22X1.5 | M30X2   | 15        | 22 | 34         | 49 | 30 | 27 | 36 |        |
| TL-2C-26-30 | M26X1.5 | M30X2   | 18        | 22 | 33.5       | 50 | 30 | 32 | 36 |        |
| TL-2C-12-36 | M12X1.5 | M36X2   | 6         | 28 | 34         | 49 | 36 | 14 | 41 |        |
| TL-2C-14-36 | M14X1.5 | M36X2   | 8         | 28 | 34         | 49 | 36 | 17 | 41 |        |
| TL-2C-16-36 | M16X1.5 | M36X2   | 10        | 28 | 35         | 50 | 36 | 19 | 41 |        |
| TL-2C-18-36 | M18X1.5 | M36X2   | 12        | 28 | 35         | 50 | 36 | 22 | 41 |        |
| TL-2C-22-36 | M22X1.5 | M36X2   | 15        | 28 | 36         | 51 | 36 | 27 | 41 |        |
| TL-2C-26-36 | M26X1.5 | M36X2   | 18        | 28 | 35.5       | 52 | 36 | 32 | 41 |        |
| TL-2C-30-36 | M30X2   | M36X2   | 22        | 28 | 37.5       | 54 | 36 | 36 | 41 |        |
| TL-2C-12-45 | M12X1.5 | M45X2   | 6         | 35 | 37         | 52 | 46 | 14 | 50 |        |
| TL-2C-14-45 | M14X1.5 | M45X2   | 8         | 35 | 37         | 52 | 46 | 17 | 50 |        |
| TL-2C-16-45 | M16X1.5 | M45X2   | 10        | 35 | 38         | 53 | 46 | 19 | 50 |        |
| TL-2C-18-45 | M18X1.5 | M45X2   | 12        | 35 | 38         | 53 | 46 | 22 | 50 |        |
| TL-2C-22-45 | M22X1.5 | M45X2   | 15        | 35 | 39         | 54 | 46 | 27 | 50 |        |
| TL-2C-26-45 | M26X1.5 | M45X2   | 18        | 35 | 38.5       | 55 | 46 | 32 | 50 |        |
| TL-2C-30-45 | M30X2   | M45X2   | 22        | 35 | 40.5       | 57 | 46 | 36 | 50 |        |
| TL-2C-36-45 | M36X2   | M45X2   | 28        | 35 | 40.5       | 57 | 46 | 41 | 50 |        |
| TL-2C-12-52 | M12X1.5 | M52X2   | 6         | 42 | 40.5       | 55 | 50 | 14 | 60 |        |
| TL-2C-14-52 | M14X1.5 | M52X2   | 8         | 42 | 40.5       | 55 | 50 | 17 | 60 |        |
| TL-2C-16-52 | M16X1.5 | M52X2   | 10        | 42 | 41.5       | 56 | 50 | 19 | 60 |        |
| TL-2C-18-52 | M18X1.5 | M52X2   | 12        | 42 | 41.5       | 56 | 50 | 22 | 60 |        |
| TL-2C-22-52 | M22X1.5 | M52X2   | 15        | 42 | 42.5       | 58 | 50 | 27 | 60 |        |
| TL-2C-26-52 | M26X1.5 | M52X2   | 18        | 42 | 42         | 58 | 50 | 32 | 60 |        |
| TL-2C-30-52 | M30X2   | M52X2   | 22        | 42 | 44         | 60 | 50 | 36 | 60 |        |
| TL-2C-36-52 | M36X2   | M52X2   | 28        | 42 | 44         | 61 | 50 | 41 | 60 |        |
| TL-2C-45-52 | M45X2   | M52X2   | 35        | 42 | 43         | 65 | 50 | 50 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-2C-30-52RN.



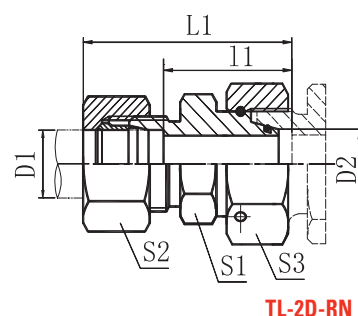
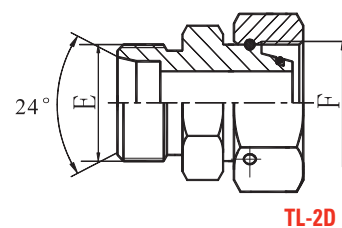


# TL-2D, TL-2D-RN

Straight. Reducer. Swivel nut. Metric-Metric.  
24° Tapered throat

| PART NO.    | THREAD  |         | TUBE O.D. |    | DIMENSIONS |    |    |    |    | MPa    |
|-------------|---------|---------|-----------|----|------------|----|----|----|----|--------|
|             | E       | F       | D1        | D2 | l1         | L1 | S1 | S2 | S3 |        |
| TL-2D-14-16 | M14X1.5 | M16X1.5 | 6         | 8  | 27         | 42 | 17 | 17 | 19 | 63 S   |
| TL-2D-14-18 | M14X1.5 | M18X1.5 | 6         | 10 | 27.5       | 42 | 17 | 17 | 22 |        |
| TL-2D-14-20 | M14X1.5 | M20X1.5 | 6         | 12 | 29         | 44 | 17 | 17 | 24 |        |
| TL-2D-14-22 | M14X1.5 | M22X1.5 | 6         | 14 | 31.5       | 46 | 19 | 17 | 27 |        |
| TL-2D-16-18 | M16X1.5 | M18X1.5 | 8         | 10 | 27.5       | 42 | 17 | 19 | 22 |        |
| TL-2D-16-20 | M16X1.5 | M20X1.5 | 8         | 12 | 29         | 44 | 17 | 19 | 24 |        |
| TL-2D-16-22 | M16X1.5 | M22X1.5 | 8         | 14 | 31.5       | 46 | 19 | 19 | 27 |        |
| TL-2D-18-20 | M18X1.5 | M20X1.5 | 10        | 12 | 31         | 46 | 19 | 22 | 24 |        |
| TL-2D-18-22 | M18X1.5 | M22X1.5 | 10        | 14 | 31         | 47 | 19 | 22 | 27 |        |
| TL-2D-20-22 | M20X1.5 | M22X1.5 | 12        | 14 | 31         | 47 | 22 | 24 | 27 |        |
| TL-2D-14-24 | M14X1.5 | M24X1.5 | 6         | 16 | 32         | 47 | 24 | 17 | 30 | 40 S   |
| TL-2D-14-30 | M14X1.5 | M30X2   | 6         | 20 | 36         | 51 | 30 | 17 | 36 |        |
| TL-2D-14-36 | M14X1.5 | M36X2   | 6         | 25 | 38.5       | 53 | 36 | 17 | 46 |        |
| TL-2D-14-42 | M14X1.5 | M42X2   | 6         | 30 | 44         | 59 | 41 | 17 | 50 |        |
| TL-2D-16-24 | M16X1.5 | M24X1.5 | 8         | 16 | 32         | 47 | 24 | 19 | 30 |        |
| TL-2D-16-30 | M16X1.5 | M30X2   | 8         | 20 | 36         | 51 | 30 | 19 | 36 |        |
| TL-2D-16-36 | M16X1.5 | M36X2   | 8         | 25 | 38.5       | 53 | 36 | 19 | 46 |        |
| TL-2D-16-42 | M16X1.5 | M42X2   | 8         | 30 | 44         | 59 | 41 | 19 | 50 |        |
| TL-2D-18-24 | M18X1.5 | M24X1.5 | 10        | 16 | 31.5       | 48 | 24 | 22 | 30 |        |
| TL-2D-18-30 | M18X1.5 | M30X2   | 10        | 20 | 35.5       | 52 | 30 | 22 | 36 |        |
| TL-2D-18-36 | M18X1.5 | M36X2   | 10        | 25 | 38         | 54 | 36 | 22 | 46 | 40 S   |
| TL-2D-18-42 | M18X1.5 | M42X2   | 10        | 30 | 43.5       | 60 | 41 | 22 | 50 |        |
| TL-2D-20-24 | M20X1.5 | M24X1.5 | 12        | 16 | 33.5       | 50 | 24 | 24 | 30 |        |
| TL-2D-20-30 | M20X1.5 | M30X2   | 12        | 20 | 35.5       | 52 | 30 | 24 | 36 |        |
| TL-2D-20-36 | M20X1.5 | M36X2   | 12        | 25 | 38         | 54 | 36 | 24 | 46 |        |
| TL-2D-20-42 | M20X1.5 | M42X2   | 12        | 30 | 43.5       | 60 | 41 | 24 | 50 |        |
| TL-2D-22-24 | M22X1.5 | M24X1.5 | 14        | 16 | 33         | 51 | 24 | 27 | 30 |        |
| TL-2D-22-30 | M22X1.5 | M30X2   | 14        | 20 | 37         | 55 | 30 | 27 | 36 |        |
| TL-2D-22-36 | M22X1.5 | M36X2   | 14        | 25 | 39.5       | 57 | 36 | 27 | 46 |        |
| TL-2D-22-42 | M22X1.5 | M42X2   | 14        | 30 | 45         | 63 | 41 | 27 | 50 |        |
| TL-2D-24-30 | M24X1.5 | M30X2   | 16        | 20 | 37.5       | 55 | 30 | 30 | 36 | 31.5 S |
| TL-2D-24-36 | M24X1.5 | M36X2   | 16        | 25 | 39         | 57 | 36 | 30 | 46 |        |
| TL-2D-24-42 | M24X1.5 | M42X2   | 16        | 30 | 44.5       | 63 | 41 | 30 | 50 |        |
| TL-2D-30-36 | M30X2   | M36X2   | 20        | 25 | 39         | 61 | 36 | 36 | 46 |        |
| TL-2D-30-42 | M30X2   | M42X2   | 20        | 30 | 44.5       | 66 | 41 | 36 | 50 |        |
| TL-2D-36-42 | M36X2   | M42X2   | 25        | 30 | 44         | 69 | 41 | 46 | 50 |        |
| TL-2D-14-52 | M14X1.5 | M52X2   | 6         | 38 | 47.5       | 62 | 50 | 17 | 60 |        |
| TL-2D-16-52 | M16X1.5 | M52X2   | 8         | 38 | 47.5       | 62 | 50 | 19 | 60 |        |
| TL-2D-18-52 | M18X1.5 | M52X2   | 10        | 38 | 47         | 63 | 50 | 22 | 60 |        |
| TL-2D-20-52 | M20X1.5 | M52X2   | 12        | 38 | 47         | 63 | 50 | 24 | 60 |        |
| TL-2D-22-52 | M22X1.5 | M52X2   | 14        | 38 | 48.5       | 66 | 50 | 27 | 60 | 31.5 S |
| TL-2D-24-52 | M24X1.5 | M52X2   | 16        | 38 | 48         | 66 | 50 | 30 | 60 |        |
| TL-2D-30-52 | M30X2   | M52X2   | 20        | 38 | 48         | 70 | 50 | 36 | 60 |        |
| TL-2D-36-52 | M36X2   | M52X2   | 25        | 38 | 48.5       | 73 | 50 | 46 | 60 |        |
| TL-2D-42-52 | M42X2   | M52X2   | 30        | 38 | 49         | 76 | 50 | 50 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-2D-30-52RN.

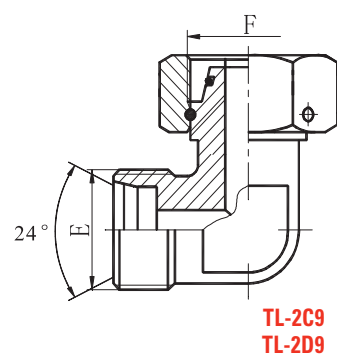


## TL-2C9 • TL-2D9

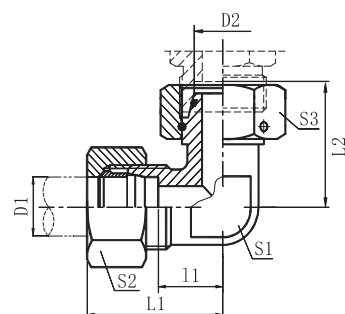
Elbow 90°. Reducer. Swivel nut. Metric-Metric.  
24° Tapered throat

| PART NO.  | THREAD  |         | TUBE O.D. |    | DIMENSIONS |    |      |    |    |    | MPa    |
|-----------|---------|---------|-----------|----|------------|----|------|----|----|----|--------|
|           | E       | F       | D1        | D2 | I1         | L1 | L2   | S1 | S2 | S3 |        |
| TL-2C9-12 | M12X1.5 | M12X1.5 | 6         | 6  | 12         | 27 | 26   | 12 | 14 | 14 | 25 L   |
| TL-2C9-14 | M14X1.5 | M14X1.5 | 8         | 8  | 15         | 29 | 27.5 | 12 | 17 | 17 |        |
| TL-2C9-16 | M16X1.5 | M16X1.5 | 10        | 10 | 15         | 30 | 29   | 14 | 19 | 19 |        |
| TL-2C9-18 | M18X1.5 | M18X1.5 | 12        | 12 | 17         | 32 | 29.5 | 17 | 22 | 22 |        |
| TL-2C9-22 | M22X1.5 | M22X1.5 | 15        | 15 | 19         | 36 | 32.5 | 19 | 27 | 27 |        |
| TL-2C9-26 | M26X1.5 | M26X1.5 | 18        | 18 | 23.5       | 40 | 35.5 | 24 | 32 | 32 | 16 L   |
| TL-2C9-30 | M30X2   | M30X2   | 22        | 22 | 27.5       | 44 | 38.5 | 27 | 36 | 36 |        |
| TL-2C9-36 | M36X2   | M36X2   | 28        | 28 | 30.5       | 47 | 41.5 | 36 | 41 | 41 |        |
| TL-2C9-45 | M45X2   | M45X2   | 35        | 35 | 34.5       | 56 | 51   | 41 | 50 | 50 |        |
| TL-2C9-52 | M52X2   | M52X2   | 42        | 42 | 40         | 63 | 56   | 50 | 60 | 60 |        |
| TL-2D9-14 | M14X1.5 | M14X1.5 | 6         | 6  | 16         | 31 | 27   | 12 | 17 | 17 | 63 S   |
| TL-2D9-16 | M16X1.5 | M16X1.5 | 8         | 8  | 15         | 32 | 27.5 | 14 | 19 | 19 |        |
| TL-2D9-18 | M18X1.5 | M18X1.5 | 10        | 10 | 17.5       | 34 | 30   | 17 | 22 | 22 |        |
| TL-2D9-20 | M20X1.5 | M20X1.5 | 12        | 12 | 21.5       | 38 | 31   | 17 | 24 | 24 |        |
| TL-2D9-22 | M22X1.5 | M22X1.5 | 14        | 14 | 22         | 40 | 35   | 19 | 27 | 27 |        |
| TL-2D9-24 | M24X1.5 | M24X1.5 | 16        | 16 | 24.5       | 43 | 36.5 | 24 | 30 | 30 | 40 S   |
| TL-2D9-30 | M30X2   | M30X2   | 20        | 20 | 28         | 48 | 44.5 | 27 | 36 | 36 |        |
| TL-2D9-36 | M36X2   | M36X2   | 25        | 25 | 30         | 54 | 50   | 36 | 46 | 46 |        |
| TL-2D9-42 | M42X2   | M42X2   | 30        | 30 | 35.5       | 62 | 55   | 41 | 50 | 50 |        |
| TL-2D9-52 | M52X2   | M52X2   | 38        | 38 | 41         | 72 | 63   | 50 | 60 | 60 | 31.5 S |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-2C9-30RN.



TL-2C9  
TL-2D9



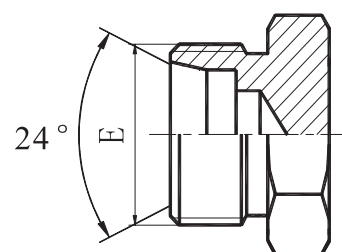
TL-2C9-RN  
TL-2D9-RN

## TL-4C • TL-4D

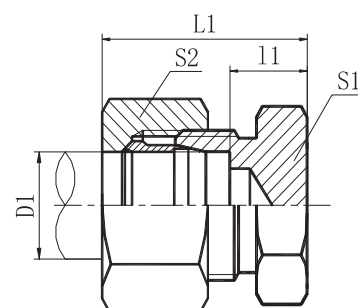
Plug. Male. Metric. 24° Tapered throat

| PART NO. | THREAD  | TUBE O.D. | DIMENSIONS |    |    |    | MPa    |
|----------|---------|-----------|------------|----|----|----|--------|
|          | E       | D1        | I1         | L1 | S1 | S2 |        |
| TL-4C-12 | M12X1.5 | 6         | 9          | 22 | 12 | 14 | 31.5 L |
| TL-4C-14 | M14X1.5 | 8         | 10         | 23 | 14 | 17 |        |
| TL-4C-16 | M16X1.5 | 10        | 10         | 24 | 17 | 19 |        |
| TL-4C-18 | M18X1.5 | 12        | 10.5       | 25 | 19 | 22 |        |
| TL-4C-22 | M22X1.5 | 15        | 12.5       | 26 | 24 | 27 |        |
| TL-4C-26 | M26X1.5 | 18        | 13         | 28 | 27 | 32 | 16 L   |
| TL-4C-30 | M30X2   | 22        | 17         | 30 | 32 | 36 |        |
| TL-4C-36 | M36X2   | 28        | 19         | 31 | 41 | 41 |        |
| TL-4C-45 | M45X2   | 35        | 21.5       | 36 | 46 | 50 |        |
| TL-4C-52 | M52X2   | 42        | 24         | 39 | 55 | 60 |        |
| TL-4D-14 | M14X1.5 | 6         | 11         | 26 | 14 | 17 | 63 S   |
| TL-4D-16 | M16X1.5 | 8         | 11.5       | 28 | 17 | 19 |        |
| TL-4D-18 | M18X1.5 | 10        | 12         | 29 | 19 | 22 |        |
| TL-4D-20 | M20X1.5 | 12        | 13         | 31 | 22 | 24 |        |
| TL-4D-22 | M22X1.5 | 14        | 14.5       | 34 | 24 | 27 |        |
| TL-4D-24 | M24X1.5 | 16        | 14.5       | 34 | 27 | 30 | 40 S   |
| TL-4D-30 | M30X2   | 20        | 18         | 39 | 32 | 36 |        |
| TL-4D-36 | M36X2   | 25        | 20         | 44 | 38 | 46 |        |
| TL-4D-42 | M42X2   | 30        | 20.5       | 47 | 46 | 50 |        |
| TL-4D-52 | M52X2   | 38        | 20         | 54 | 55 | 60 | 31.5 S |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-4C-30RN.



TL-4C  
TL-4D

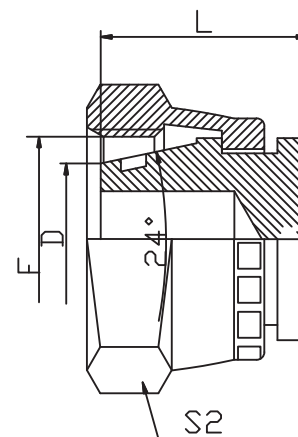


TL-4C-RN  
TL-4D-RN

## TL-9C • TL-9D

Plug. Female. Swivel end. Metric. 24° Tapered throat

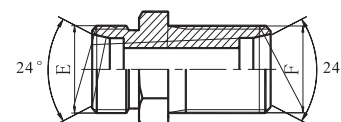
| PART NO. | THREAD  | TUBE O.D. | DIMENSIONS |      |    | MPa    |
|----------|---------|-----------|------------|------|----|--------|
|          | F       | D         | L          | L1   | S2 |        |
| TL-9C-12 | M12X1.5 | 6         | 16.5       | 17.5 | 14 | 31.5 L |
| TL-9C-14 | M14X1.5 | 8         | 18         | 18   | 17 |        |
| TL-9C-16 | M16X1.5 | 10        | 18.5       | 18   | 19 |        |
| TL-9C-18 | M18X1.5 | 12        | 19         | 19.5 | 22 |        |
| TL-9C-22 | M22X1.5 | 15        | 20.5       | 20   | 27 |        |
| TL-9C-26 | M26X1.5 | 18        | 23.5       | 22   | 32 |        |
| TL-9C-30 | M30X2   | 22        | 24.5       | 22.5 | 36 | 16 L   |
| TL-9C-36 | M36X2   | 28        | 25         | 24.5 | 41 |        |
| TL-9C-45 | M45X2   | 35        | 29.5       | 29   | 55 |        |
| TL-9C-52 | M52X2   | 42        | 30.5       | 31.5 | 60 |        |
| TL-9D-14 | M14X1.5 | 6         | 18         | 18   | 17 | 63 S   |
| TL-9D-16 | M16X1.5 | 8         | 18.5       | 18.5 | 19 |        |
| TL-9D-18 | M18X1.5 | 10        | 19.5       | 20   | 22 |        |
| TL-9D-20 | M20X1.5 | 12        | 19.5       | 20.5 | 24 |        |
| TL-9D-22 | M22X1.5 | 14        | 20.5       | 21.5 | 27 |        |
| TL-9D-24 | M24X1.5 | 16        | 21.5       | 21.5 | 30 |        |
| TL-9D-30 | M30X2   | 20        | 24         | 25   | 36 | 40 S   |
| TL-9D-36 | M36X2   | 25        | 26.5       | 28.5 | 46 |        |
| TL-9D-42 | M42X2   | 30        | 28         | 32   | 50 |        |
| TL-9D-52 | M52X2   | 38        | 28.5       | 36   | 60 | 31.5 S |



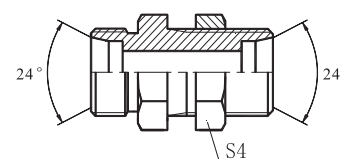
## TL-6C • TL-6D

Straight. Bulkhead. Metric-Metric. 24° Tapered throat

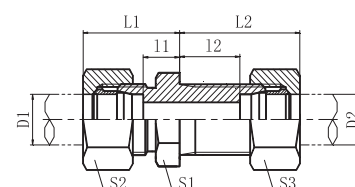
| PART NO. | THREAD  |         | TUBE O.D. |    | DIMENSIONS |      |    |    |    |        |    | MPa    |
|----------|---------|---------|-----------|----|------------|------|----|----|----|--------|----|--------|
|          | E       | F       | D1        | D2 | I1         | I2   | L1 | L2 | S1 | S2, S3 | S4 |        |
| TL-6C-12 | M12X1.5 | M12X1.5 | 6         | 6  | 11         | 27   | 22 | 42 | 17 | 14     | 17 | 31.5 L |
| TL-6C-14 | M14X1.5 | M14X1.5 | 8         | 8  | 10         | 27   | 23 | 42 | 19 | 17     | 19 |        |
| TL-6C-16 | M16X1.5 | M16X1.5 | 10        | 10 | 10         | 28   | 25 | 43 | 22 | 19     | 22 |        |
| TL-6C-18 | M18X1.5 | M18X1.5 | 12        | 12 | 10         | 29   | 25 | 44 | 24 | 22     | 24 |        |
| TL-6C-22 | M22X1.5 | M22X1.5 | 15        | 15 | 12.5       | 31   | 27 | 46 | 27 | 27     | 27 |        |
| TL-6C-26 | M26X1.5 | M26X1.5 | 18        | 18 | 13.5       | 32.5 | 30 | 49 | 32 | 32     | 32 |        |
| TL-6C-30 | M30X2   | M30X2   | 22        | 22 | 16.5       | 34.5 | 33 | 51 | 36 | 36     | 36 | 16 L   |
| TL-6C-36 | M36X2   | M36X2   | 28        | 28 | 18.5       | 35.5 | 35 | 52 | 41 | 41     | 41 |        |
| TL-6C-45 | M45X2   | M45X2   | 35        | 35 | 18.5       | 36.5 | 40 | 58 | 50 | 50     | 55 |        |
| TL-6C-52 | M52X2   | M52X2   | 42        | 42 | 19         | 36   | 42 | 59 | 60 | 60     | 60 |        |
| TL-6D-14 | M14X1.5 | M14X1.5 | 6         | 6  | 12         | 29   | 27 | 44 | 19 | 17     | 19 | 63 S   |
| TL-6D-16 | M16X1.5 | M16X1.5 | 8         | 8  | 13         | 29   | 28 | 44 | 22 | 19     | 22 |        |
| TL-6D-18 | M18X1.5 | M18X1.5 | 10        | 10 | 14.5       | 29.5 | 31 | 46 | 24 | 22     | 24 |        |
| TL-6D-20 | M20X1.5 | M20X1.5 | 12        | 12 | 14.5       | 30.5 | 31 | 47 | 27 | 24     | 27 |        |
| TL-6D-22 | M22X1.5 | M22X1.5 | 14        | 14 | 17         | 32   | 35 | 50 | 30 | 27     | 27 |        |
| TL-6D-24 | M24X1.5 | M24X1.5 | 16        | 16 | 16.5       | 31.5 | 35 | 50 | 32 | 30     | 30 |        |
| TL-6D-30 | M30X2   | M30X2   | 20        | 20 | 17.5       | 33.5 | 39 | 55 | 41 | 36     | 30 | 40 S   |
| TL-6D-36 | M36X2   | M36X2   | 25        | 25 | 20         | 35   | 44 | 59 | 46 | 46     | 41 |        |
| TL-6D-42 | M42X2   | M42X2   | 30        | 30 | 21.5       | 37.5 | 48 | 64 | 50 | 50     | 50 |        |
| TL-6D-52 | M52X2   | M52X2   | 38        | 38 | 22         | 37   | 53 | 68 | 65 | 60     | 60 | 31.5 S |



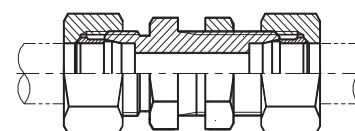
TL-6C  
TL-6D



TL-6C-LN  
TL-6D-LN



TL-6C-RN  
TL-6D-RN



TL-6C-LN-RN  
TL-6D-LN-RN

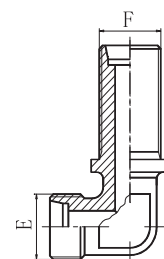
**Note:** If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number for example TL-6C-30LN, order the adapter with cutting ring and nut, insert suffix "RN" after our part number for example TL-6C-30LN, order the adapter with lock nut, cutting ring and nut, insert suffix "LN/RN" after our part number for example TL-6C-30LN/RN.

# TL-6C9 • TL-6D9

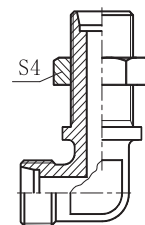
Elbow 90°. Bulkhead. Metric-Metric. 24° Tapered throat

| PART NO.  | THREAD  |         | TUBE O.D. |    | DIMENSIONS |      |    |    |    |    |        |    | MPa    |
|-----------|---------|---------|-----------|----|------------|------|----|----|----|----|--------|----|--------|
|           | E       | F       | D1        | D2 | I1         | I2   | I3 | L1 | L2 | S1 | S2, S3 | S4 |        |
| TL-6C9-12 | M12X1.5 | M12X1.5 | 6         | 6  | 11         | 12   | 14 | 42 | 27 | 12 | 14     | 17 | 31.5 L |
| TL-6C9-14 | M14X1.5 | M14X1.5 | 8         | 8  | 14         | 14   | 17 | 42 | 29 | 12 | 17     | 19 |        |
| TL-6C9-16 | M16X1.5 | M16X1.5 | 10        | 10 | 15         | 15   | 18 | 43 | 30 | 14 | 19     | 22 |        |
| TL-6C9-18 | M18X1.5 | M18X1.5 | 12        | 12 | 17         | 17   | 20 | 44 | 32 | 17 | 22     | 24 |        |
| TL-6C9-22 | M22X1.5 | M22X1.5 | 15        | 15 | 21         | 21   | 23 | 46 | 36 | 19 | 27     | 27 |        |
| TL-6C9-26 | M26X1.5 | M26X1.5 | 18        | 18 | 23.5       | 23.5 | 24 | 49 | 40 | 24 | 32     | 32 | 16 L   |
| TL-6C9-30 | M30X2   | M30X2   | 22        | 22 | 27.5       | 27.5 | 30 | 51 | 44 | 27 | 36     | 36 |        |
| TL-6C9-36 | M36X2   | M36X2   | 28        | 28 | 30.5       | 30.5 | 34 | 52 | 47 | 36 | 41     | 41 |        |
| TL-6C9-45 | M45X2   | M45X2   | 35        | 35 | 34.5       | 34.5 | 39 | 58 | 56 | 41 | 50     | 55 |        |
| TL-6C9-52 | M52X2   | M52X2   | 42        | 42 | 40         | 40   | 43 | 59 | 63 | 50 | 60     | 60 |        |
| TL-6D9-14 | M14X1.5 | M14X1.5 | 6         | 6  | 16         | 16   | 17 | 44 | 31 | 12 | 17     | 19 | 63 S   |
| TL-6D9-16 | M16X1.5 | M16X1.5 | 8         | 8  | 17         | 17   | 18 | 44 | 32 | 14 | 19     | 22 |        |
| TL-6D9-18 | M18X1.5 | M18X1.5 | 10        | 10 | 17.5       | 17.5 | 20 | 46 | 34 | 17 | 22     | 24 |        |
| TL-6D9-20 | M20X1.5 | M20X1.5 | 12        | 12 | 21.5       | 21.5 | 21 | 47 | 38 | 17 | 24     | 27 |        |
| TL-6D9-22 | M22X1.5 | M22X1.5 | 14        | 14 | 22         | 22   | 23 | 50 | 40 | 19 | 27     | 27 |        |
| TL-6D9-24 | M24X1.5 | M24X1.5 | 16        | 16 | 24.5       | 24.5 | 24 | 50 | 43 | 24 | 30     | 30 | 40 S   |
| TL-6D9-30 | M30X2   | M30X2   | 20        | 20 | 26.5       | 26.5 | 30 | 55 | 48 | 27 | 36     | 36 |        |
| TL-6D9-36 | M36X2   | M36X2   | 25        | 25 | 30         | 30   | 34 | 59 | 54 | 36 | 46     | 41 |        |
| TL-6D9-42 | M42X2   | M42X2   | 30        | 30 | 35.5       | 35.5 | 39 | 64 | 62 | 41 | 50     | 50 |        |
| TL-6D9-52 | M52X2   | M52X2   | 38        | 38 | 41         | 41   | 43 | 68 | 72 | 50 | 60     | 60 | 31.5 S |

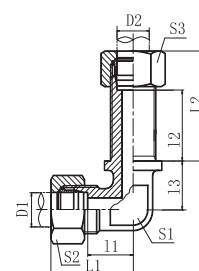
**Note:** If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number for example TL-6C9-30LN, order the adapter with cutting ring and nut, insert suffix "RN" after our part number for example TL-6C9-30RN, order the adapter with lock nut, cutting ring and nut, insert suffix "LN/RN" after our part number for example TL-6C9-30LN/RN.



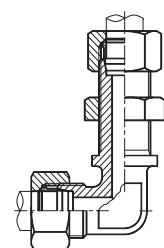
TL-6C9  
TL-6D9



TL-6C9-LN  
TL-6D9-LN



TL-6C9-RN  
TL-6D9-RN

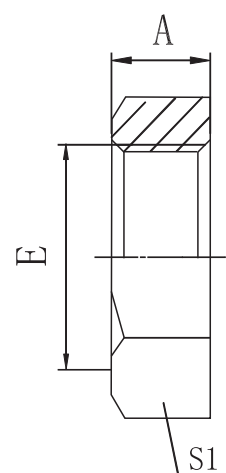


TL-6C9-LN  
TL-6D9-LN

## TL-8C

Female. Metric. Lock nut

| PART NO.  | THREAD  | DIMENSIONS |    |
|-----------|---------|------------|----|
|           | E       | A          | S1 |
| TL-8C-10  | M10X1   | 6          | 14 |
| TL-8C-12  | M12X1.5 | 7.5        | 17 |
| TL-8C-14  | M14X1.5 | 7.5        | 19 |
| TL-8C-16  | M16X1.5 | 7.5        | 22 |
| TL-8C-18  | M18X1.5 | 7.5        | 24 |
| TL-8C-20  | M20X1.5 | 8          | 27 |
| TL-8C-22  | M22X1.5 | 8          | 27 |
| TL-8C-24  | M24X1.5 | 8          | 30 |
| TL-8C-26  | M26X1.5 | 8          | 32 |
| TL-8C-27D | M27X1.5 | 10         | 32 |
| TL-8C-30  | M30X2   | 10         | 36 |
| TL-8C-30D | M30X1.5 | 10         | 36 |
| TL-8C-33  | M33X2   | 10         | 41 |
| TL-8C-36  | M36X2   | 10         | 41 |
| TL-8C-39  | M39X2   | 10         | 46 |
| TL-8C-42  | M42X2   | 10         | 50 |
| TL-8C-45  | M45X2   | 10         | 55 |
| TL-8C-52  | M52X2   | 10         | 60 |

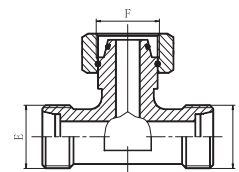


# TL-BC · TL-BD

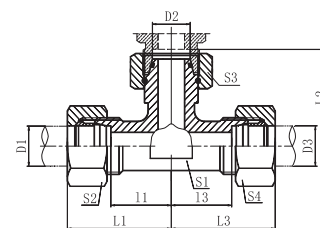
Branch Tee. Metric-Metric-24° Tapered throat.  
Metric Swivel nut

| PART NO. | THREAD  |         | TUBE O.D. |    | DIMENSIONS |        |      |    |        |    | MPa    |
|----------|---------|---------|-----------|----|------------|--------|------|----|--------|----|--------|
|          | E, G    | F       | D1, D3    | D2 | I1, I3     | L1, L3 | L2   | S1 | S2, S4 | S3 |        |
| TL-BC-12 | M12X1.5 | M12X1.5 | 6         | 6  | 12         | 27     | 26   | 12 | 14     | 14 | 31.5 L |
| TL-BC-14 | M14X1.5 | M14X1.5 | 8         | 8  | 14         | 29     | 27.5 | 12 | 17     | 17 |        |
| TL-BC-16 | M16X1.5 | M16X1.5 | 10        | 10 | 15         | 30     | 27.7 | 14 | 19     | 19 |        |
| TL-BC-18 | M18X1.5 | M18X1.5 | 12        | 12 | 17         | 32     | 31.6 | 17 | 22     | 22 |        |
| TL-BC-22 | M22X1.5 | M22X1.5 | 15        | 15 | 21         | 36     | 34.4 | 19 | 27     | 27 |        |
| TL-BC-26 | M26X1.5 | M26X1.5 | 18        | 18 | 23.5       | 40     | 38   | 24 | 32     | 32 |        |
| TL-BC-30 | M30X2   | M30X2   | 22        | 22 | 27.5       | 44     | 38.5 | 27 | 36     | 36 | 16 L   |
| TL-BC-36 | M36X2   | M36X2   | 28        | 28 | 30.5       | 47     | 41.5 | 36 | 41     | 41 |        |
| TL-BC-45 | M45X2   | M45X2   | 35        | 35 | 34.5       | 56     | 51   | 41 | 50     | 50 |        |
| TL-BC-52 | M52X2   | M52X2   | 42        | 42 | 40         | 63     | 56   | 50 | 60     | 60 |        |
| TL-BD-14 | M14X1.5 | M14X1.5 | 6         | 6  | 16         | 31     | 27   | 12 | 17     | 17 | 63 S   |
| TL-BD-16 | M16X1.5 | M16X1.5 | 8         | 8  | 17         | 32     | 27.5 | 14 | 19     | 19 |        |
| TL-BD-18 | M18X1.5 | M18X1.5 | 10        | 10 | 17.5       | 34     | 30   | 17 | 22     | 22 |        |
| TL-BD-20 | M20X1.5 | M20X1.5 | 12        | 12 | 21.5       | 38     | 31   | 17 | 24     | 24 |        |
| TL-BD-22 | M22X1.5 | M22X1.5 | 14        | 14 | 22         | 40     | 35   | 19 | 27     | 27 | 40 S   |
| TL-BD-24 | M24X1.5 | M24X1.5 | 16        | 16 | 24.5       | 43     | 38   | 24 | 30     | 30 |        |
| TL-BD-30 | M30X2   | M30X2   | 20        | 20 | 26.5       | 48     | 44.5 | 27 | 36     | 36 |        |
| TL-BD-36 | M36X2   | M36X2   | 25        | 25 | 30         | 54     | 50   | 36 | 46     | 46 |        |
| TL-BD-42 | M42X2   | M42X2   | 30        | 30 | 35.5       | 62     | 55   | 41 | 50     | 50 | 31.5 S |
| TL-BD-52 | M52X2   | M52X2   | 38        | 38 | 41         | 72     | 63   | 50 | 60     | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-BC-30RN.



TL-BC  
TL-BD



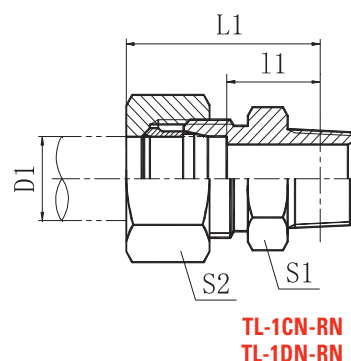
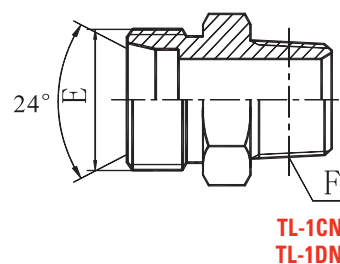
TL-BC-RN  
TL-BD-RN

# TL-1CN • TL-1DN

Straight. Male. Metric. 24° Tapered throat.  
Male NPT

| PART NO.     | THREAD  |              | TUBE O.D. | DIMENSIONS |      |    |    | MPa  |
|--------------|---------|--------------|-----------|------------|------|----|----|------|
|              | E       | F            |           | l1         | L1   | S1 | S2 |      |
| TL-1CN-12-02 | M12X1.5 | Z1/8"X27     | 6         | 13.4       | 28.4 | 12 | 14 | 25 L |
| TL-1CN-12-04 | M12X1.5 | Z1/4"X18     | 6         | 17.2       | 32.2 | 17 | 14 |      |
| TL-1CN-14-04 | M14X1.5 | Z1/4"X18     | 8         | 17.2       | 32.2 | 14 | 17 |      |
| TL-1CN-16-04 | M16X1.5 | Z1/4"X18     | 10        | 18.2       | 33.2 | 17 | 19 |      |
| TL-1CN-16-06 | M16X1.5 | Z3/8"X18     | 10        | 19.9       | 53   | 19 | 19 |      |
| TL-1CN-18-04 | M18X1.5 | Z1/4"X18     | 12        | 19.2       | 34.2 | 19 | 22 |      |
| TL-1CN-18-06 | M18X1.5 | Z3/8"X18     | 12        | 19.9       | 34.9 | 19 | 22 |      |
| TL-1CN-18-08 | M18X1.5 | Z1/2"X14     | 12        | 21.4       | 36.4 | 22 | 22 |      |
| TL-1CN-22-08 | M22X1.5 | Z1/2"X14     | 15        | 22.4       | 37.4 | 24 | 27 |      |
| TL-1CN-22-20 | M22X1.5 | Z1.1/4"X11.5 | 15        | 29.8       | 37.4 | 46 | 27 | 16 L |
| TL-1CN-26-08 | M26X1.5 | Z1/2"X14     | 18        | 22.9       | 39.4 | 27 | 32 |      |
| TL-1CN-26-12 | M26X1.5 | Z3/4"X14     | 18        | 22.4       | 38.9 | 30 | 32 |      |
| TL-1CN-30-08 | M30X2   | Z1/2"X14     | 22        | 24.4       | 40.5 | 32 | 36 |      |
| TL-1CN-30-12 | M30X2   | Z3/4"X14     | 22        | 24.4       | 40.9 | 32 | 36 |      |
| TL-1CN-36-16 | M36X2   | Z1"X11.5     | 28        | 29.8       | 46.3 | 41 | 41 |      |
| TL-1CN-36-20 | M36X2   | Z1.1/4"X11.5 | 28        | 31.3       | 46.3 | 46 | 41 |      |
| TL-1CN-45-20 | M45X2   | Z1.1/4"X11.5 | 35        | 30.3       | 51.8 | 46 | 50 |      |
| TL-1CN-52-20 | M52X2   | Z1.1/4"X11.5 | 42        | 31.8       | 55.8 | 55 | 60 |      |
| TL-1CN-52-24 | M52X2   | Z1.1/2"X11.5 | 42        | 32.8       | 55.8 | 55 | 60 | 40 S |
| TL-1DN-14-04 | M14X1.5 | Z1/4"X18     | 6         | 22.2       | 37.2 | 17 | 17 |      |
| TL-1DN-16-04 | M16X1.5 | Z1/4"X18     | 8         | 22.2       | 37.2 | 17 | 19 |      |
| TL-1DN-18-04 | M18X1.5 | Z1/4"X18     | 10        | 21.7       | 38.2 | 19 | 22 |      |
| TL-1DN-18-06 | M18X1.5 | Z3/8"X18     | 10        | 22.4       | 38.9 | 19 | 22 |      |
| TL-1DN-20-04 | M20X1.5 | Z1/4"X18     | 12        | 23.7       | 40.2 | 22 | 24 |      |
| TL-1DN-20-06 | M20X1.5 | Z3/8"X18     | 12        | 24.4       | 40.9 | 22 | 24 |      |
| TL-1DN-20-08 | M20X1.5 | Z1/2"X14     | 12        | 25.9       | 42.4 | 22 | 24 |      |
| TL-1DN-22-08 | M22X1.5 | Z1/2"X14     | 14        | 27.4       | 45.4 | 24 | 27 |      |
| TL-1DN-24-08 | M24X1.5 | Z1/2"X14     | 16        | 26.9       | 45.4 | 27 | 30 |      |
| TL-1DN-30-12 | M30X2   | Z3/4"X14     | 20        | 28.4       | 49.9 | 32 | 36 | 25 S |
| TL-1DN-36-12 | M36X2   | Z3/4"X14     | 25        | 30.9       | 34   | 41 | 46 |      |
| TL-1DN-36-16 | M36X2   | Z1"X11.5     | 25        | 35.3       | 59.3 | 41 | 46 |      |
| TL-1DN-42-16 | M42X2   | Z1"X11.5     | 25        | 35.8       | 59.3 | 46 | 46 |      |
| TL-1DN-42-20 | M42X2   | Z1.1/4"X11.5 | 30        | 36.3       | 62.8 | 46 | 50 |      |
| TL-1DN-52-24 | M52X2   | Z1.1/2"X11.5 | 38        | 39.8       | 70.8 | 55 | 60 |      |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DN-30-12RN.

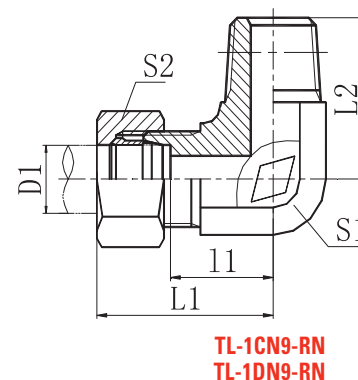
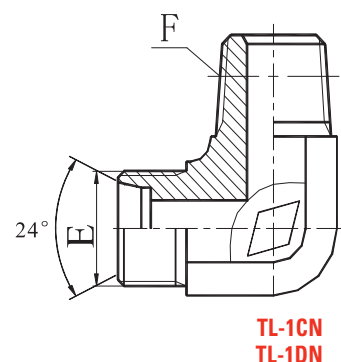


# TL-1CN9 • TL-1DN9

Elbow 90°. Male. Metric. 24° Tapered throat.  
Male NPT

| PART NO.      | THREAD  |              | TUBE O.D. | DIMENSIONS |      |      |    |    | MPa  |
|---------------|---------|--------------|-----------|------------|------|------|----|----|------|
|               | E       | F            |           | II         | L1   | L2   | S1 | S2 |      |
| TL-1CN9-12-02 | M12X1.5 | Z1/8"X27     | 6         | 13         | 28   | 21   | 11 | 14 | 25 L |
| TL-1CN9-12-04 | M12X1.5 | Z1/4"X18     | 6         | 15.5       | 30.5 | 25.5 | 14 | 14 |      |
| TL-1CN9-14-04 | M14X1.5 | Z1/4"X18     | 8         | 15.5       | 30.5 | 25.5 | 14 | 17 |      |
| TL-1CN9-16-06 | M16X1.5 | Z3/8"X18     | 10        | 17.5       | 32.5 | 29.5 | 16 | 19 |      |
| TL-1CN9-18-04 | M18X1.5 | Z1/4"X18     | 12        | 19         | 34   | 28   | 19 | 22 |      |
| TL-1CN9-18-06 | M18X1.5 | Z3/8"X18     | 12        | 19         | 34   | 31   | 19 | 22 |      |
| TL-1CN9-18-08 | M18X1.5 | Z1/2"X14     | 12        | 21         | 36   | 36.7 | 22 | 22 |      |
| TL-1CN9-22-06 | M22X1.5 | Z3/8"X18     | 15        | 22         | 37   | 32.5 | 22 | 27 |      |
| TL-1CN9-22-08 | M22X1.5 | Z1/2"X14     | 15        | 22         | 37   | 36.5 | 22 | 27 |      |
| TL-1CN9-26-08 | M26X1.5 | Z1/2"X14     | 18        | 25.5       | 42   | 40   | 27 | 32 | 16 L |
| TL-1CN9-26-12 | M26X1.5 | Z3/4"X14     | 18        | 25.5       | 42   | 44   | 27 | 32 |      |
| TL-1CN9-30-12 | M30X2   | Z3/4"X14     | 22        | 29         | 45.8 | 45   | 30 | 36 |      |
| TL-1CN9-30-16 | M30X2   | Z1"X11.5     | 22        | 32         | 48.5 | 50   | 33 | 36 |      |
| TL-1CN9-36-16 | M36X2   | Z1"X11.5     | 28        | 33.3       | 49.8 | 51.5 | 36 | 41 |      |
| TL-1CN9-45-20 | M45X2   | Z1.1/4"X11.5 | 35        | 39.5       | 60.7 | 63   | 48 | 50 |      |
| TL-1CN9-52-24 | M52X2   | Z1.1/2"X11.5 | 42        | 44.8       | 67.8 | 65   | 57 | 60 |      |
| TL-1DN9-14-04 | M14X1.5 | Z1/4"X18     | 6         | 17.5       | 32.5 | 25.5 | 14 | 17 | 40 S |
| TL-1DN9-16-04 | M16X1.5 | Z1/4"X18     | 8         | 18.5       | 33.7 | 26.5 | 16 | 19 |      |
| TL-1DN9-18-06 | M18X1.5 | Z3/8"X18     | 10        | 19.5       | 36   | 31   | 19 | 22 |      |
| TL-1DN9-20-04 | M20X1.5 | Z1/4"X18     | 12        | 19.5       | 36   | 28   | 19 | 24 |      |
| TL-1DN9-20-06 | M20X1.5 | Z3/8"X18     | 12        | 19.5       | 36   | 31   | 19 | 24 |      |
| TL-1DN9-22-06 | M22X1.5 | Z3/8"X18     | 14        | 23         | 41   | 32.5 | 22 | 27 |      |
| TL-1DN9-22-08 | M22X1.5 | Z1/2"X14     | 14        | 24         | 41   | 36.7 | 22 | 27 |      |
| TL-1DN9-24-06 | M24X1.5 | Z3/8"X18     | 16        | 24         | 42.5 | 33.5 | 24 | 30 |      |
| TL-1DN9-24-08 | M24X1.5 | Z1/2"X14     | 16        | 24.5       | 42.5 | 37.5 | 24 | 30 |      |
| TL-1DN9-30-08 | M30X2   | Z1/2"X14     | 20        | 28         | 49.8 | 41   | 30 | 36 | 25 S |
| TL-1DN9-30-12 | M30X2   | Z3/4"X14     | 20        | 28.5       | 49.8 | 45   | 30 | 36 |      |
| TL-1DN9-36-12 | M36X2   | Z3/4"X14     | 25        | 32.8       | 56.8 | 49   | 36 | 46 |      |
| TL-1DN9-36-16 | M36X2   | Z1"X11.5     | 25        | 32.8       | 56.8 | 51.5 | 36 | 46 |      |
| TL-1DN9-42-16 | M42X2   | Z1"X11.5     | 30        | 36.2       | 62.7 | 54.5 | 41 | 50 |      |
| TL-1DN9-42-20 | M42X2   | Z1.1/4"X11.5 | 30        | 36.2       | 62.7 | 54.5 | 41 | 50 |      |
| TL-1DN9-52-20 | M52X2   | Z1.1/4"X11.5 | 38        | 45.8       | 76.8 | 65   | 57 | 60 |      |
| TL-1DN9-52-24 | M52X2   | Z1.1/4"X11.5 | 38        | 45.8       | 76.8 | 65   | 57 | 60 |      |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1CN-30-12RN.

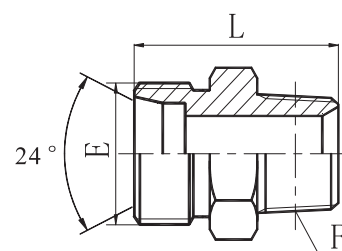


# TL-1CT-SP · TL-1DT-SP

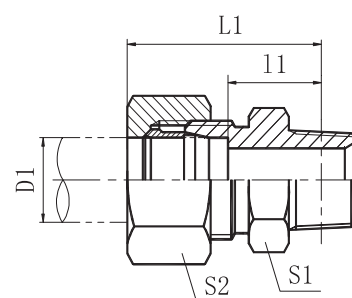
Straight. Male. Metric. 24° Tapered throat.  
Male BSPT

| PART NO.       | THREAD  |            | TUBE O.D. | DIMENSIONS |      |    |    |      | MPa  |
|----------------|---------|------------|-----------|------------|------|----|----|------|------|
|                | E       | F          |           | I1         | L1   | S1 | S2 | L    |      |
| TL-1CT-12-02SP | M12X1.5 | R1/8"X28   | 6         | 13         | 28   | 12 | 14 | 26   | 25 L |
| TL-1CT-12-04SP | M12X1.5 | R1/4"X19   | 8         | 8          |      | 14 | 14 | 30   |      |
| TL-1CT-14-04SP | M14X1.5 | R1/4"X19   | 8         | 16.5       | 31.5 | 14 | 17 | 31.5 |      |
| TL-1CT-14-06SP | M14X1.5 | R3/8"X19   | 8         | 17.6       | 32.6 | 19 | 17 | 32   |      |
| TL-1CT-16-04SP | M16X1.5 | R1/4"X19   | 10        | 17.5       | 32.5 | 17 | 19 | 32   |      |
| TL-1CT-16-06SP | M16X1.5 | R3/8"X19   | 10        | 18.6       | 33.6 | 19 | 19 | 33   |      |
| TL-1CT-16-08SP | M16X1.5 | R1/2"X14   | 10        | 21.8       | 36.8 | 22 | 19 | 33   |      |
| TL-1CT-16-12SP | M16X1.5 | R3/4"X14   | 10        | 21.5       | 36.5 | 30 | 19 | 33   |      |
| TL-1CT-18-04SP | M18X1.5 | R1/4"X19   | 12        | 18.5       | 33.5 | 19 | 22 | 33   |      |
| TL-1CT-18-06SP | M18X1.5 | R3/8"X19   | 12        | 18.6       | 33.6 | 19 | 22 | 33.5 |      |
| TL-1CT-18-08SP | M18X1.5 | R1/2"X14   | 12        | 21.8       | 36.8 | 22 | 22 | 39   |      |
| TL-1CT-22-08SP | M22X1.5 | R1/2"X14   | 15        | 22.8       | 37.8 | 24 | 27 | 40   |      |
| TL-1CT-26-08SP | M26X1.5 | R1/2"X14   | 18        | 23.3       | 39.8 | 27 | 32 | 40   |      |
| TL-1CT-26-12SP | M26X1.5 | R3/4"X14   | 18        | 22         | 38.5 | 30 | 32 | 40   |      |
| TL-1CT-30-12SP | M30X2   | R3/4"X14   | 22        | 24         | 40.5 | 32 | 36 | 45   |      |
| TL-1CT-36-16SP | M36X2   | R1"X11     | 28        | 29.6       | 46.1 | 38 | 41 |      | 16 L |
| TL-1CT-36-20SP | M36X2   | R1.1/4"X11 | 28        | 29.3       | 45.8 | 46 | 41 |      |      |
| TL-1CT-45-16SP | M45X2   | R1"X11     | 35        | 29.6       | 51.1 | 46 | 50 |      |      |
| TL-1CT-45-20SP | M45X2   | R1.1/4"X11 | 35        | 28.3       | 49.8 | 46 | 50 |      |      |
| TL-1CT-52-20SP | M52X2   | R1.1/4"X11 | 42        | 29.8       | 52.8 | 55 | 60 |      |      |
| TL-1CT-52-24SP | M52X2   | R1.1/2"X11 | 42        | 29.8       | 52.8 | 55 | 60 |      |      |
| TL-1DT-14-04SP | M14X1.5 | R1/4"X19   | 6         | 13         | 36.5 | 17 | 17 | 34   |      |
| TL-1DT-16-04SP | M16X1.5 | R1/4"X19   | 8         | 21.5       | 36.5 | 17 | 19 |      |      |
| TL-1DT-18-04SP | M18X1.5 | R1/4"X19   | 10        | 21         | 37.5 | 19 | 22 |      | 40 S |
| TL-1DT-20-04SP | M20X1.5 | R1/4"X19   | 12        | 23         | 39.5 | 22 | 24 |      |      |
| TL-1DT-20-06SP | M20X1.5 | R3/8"X19   | 12        | 23.1       | 39.6 | 22 | 24 |      |      |
| TL-1DT-22-06SP | M22X1.5 | R3/8"X19   | 14        | 24.6       | 42.6 | 24 | 27 | 37   |      |
| TL-1DT-22-08SP | M22X1.5 | R1/2"X14   | 14        | 27.8       | 45.8 | 24 | 27 |      |      |
| TL-1DT-24-06SP | M24X1.5 | R3/8"X19   | 16        | 24.1       | 42.6 | 27 | 30 |      |      |
| TL-1DT-24-08SP | M24X1.5 | R1/2"X14   | 16        | 27.3       | 45.8 | 27 | 30 | 42   |      |
| TL-1DT-30-12SP | M30X2   | R3/4"X14   | 20        | 28         | 49.5 | 32 | 30 | 47   |      |
| TL-1DT-36-12SP | M36X2   | R3/4"X14   | 25        | 29.5       | 53.5 | 38 | 46 |      | 25 S |
| TL-1DT-36-16SP | M36X2   | R1"X11     | 25        | 34.1       | 58.1 | 38 | 46 |      |      |
| TL-1DT-42-16SP | M42X2   | R1"X11     | 30        | 35.6       | 62.1 | 46 | 50 |      |      |
| TL-1DT-42-20SP | M42X2   | R1.1/4"X11 | 30        | 34.3       | 60.8 | 46 | 50 |      |      |
| TL-1DT-52-20SP | M52X2   | R1.1/4"X11 | 38        | 36.8       | 67.8 | 55 | 60 |      |      |
| TL-1DT-52-24SP | M52X2   | R1.1/2"X11 | 38        | 36.8       | 67.8 | 55 | 60 |      |      |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DT-22-08SP/RN.



TL-1CT-SP  
TL-1DT-SP



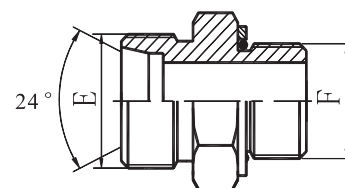
TL-1CT-SP/RN  
TL-1DT-SP/RN



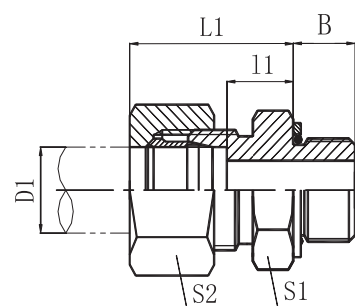
# TL-1CH · TL-1DH

Straight. Male. Metric. 24° Tapered throat.  
Male ISO 6149

| PART NO.     | THREAD  |         | TUBE O.D. | O-RING    | DIMENSIONS |      |      |    |    | MPa    |
|--------------|---------|---------|-----------|-----------|------------|------|------|----|----|--------|
|              | E       | F       |           |           | B          | l1   | L1   | S1 | S2 |        |
| TL-1CH-12-10 | M12X1.5 | M10X1   | 6         | O08.1X1.6 | 8.5        | 10.5 | 23   | 14 | 14 | 31.5 L |
| TL-1CH-14    | M14X1.5 | M14X1.5 | 8         | O11.3X2.4 | 11         | 10.5 | 25   | 19 | 17 |        |
| TL-1CH-14-12 | M14X1.5 | M12X1.5 | 8         | O09.3X2.4 | 11         | 10   | 25   | 17 | 17 |        |
| TL-1CH-16-14 | M16X1.5 | M14X1.5 | 10        | O11.3X2.4 | 11         | 10.5 | 26   | 19 | 19 |        |
| TL-1CH-18-14 | M18X1.5 | M14X1.5 | 12        | O11.3X2.4 | 11         | 11   | 25.5 | 19 | 22 |        |
| TL-1CH-14-18 | M14X1.5 | M18X1.5 | 8         | O15.3X2.4 | 12.5       | 12   | 26.5 | 24 | 17 |        |
| TL-1CH-16    | M16X1.5 | M16X1.5 | 10        | O13.3X2.4 | 11.5       | 12.5 | 28   | 22 | 19 |        |
| TL-1CH-16-18 | M16X1.5 | M18X1.5 | 10        | O15.3X2.4 | 12.5       | 12.5 | 28   | 24 | 19 |        |
| TL-1CH-18-16 | M18X1.5 | M16X1.5 | 12        | O13.3X2.4 | 11.5       | 12.5 | 27   | 22 | 22 |        |
| TL-1CH-22-16 | M22X1.5 | M16X1.5 | 12        | O13.3X2.4 | 11.5       | 13.5 | 29.5 | 24 | 27 |        |
| TL-1CH-22-18 | M22X1.5 | M18X1.5 | 15        | O15.3X2.4 | 12.5       | 12.5 | 29   | 24 | 27 |        |
| TL-1CH-16-22 | M16X1.5 | M22X1.5 | 10        | O19.3X2.4 | 13         | 14   | 29.5 | 27 | 19 |        |
| TL-1CH-22-20 | M22X1.5 | M20X1.5 | 15        | O17.3X2.4 | 12         | 15   | 30.5 | 27 | 27 |        |
| TL-1CH-22    | M22X1.5 | M22X1.5 | 12        | O19.3X2.4 | 13         | 15   | 31   | 27 | 27 |        |
| TL-1CH-26-22 | M26X1.5 | M22X1.5 | 18        | O19.3X2.4 | 13         | 14.5 | 31   | 27 | 32 |        |
| TL-1CH-26    | M26X1.5 | M26X1.5 | 18        | O23.5X3.0 | 13.5       | 13.5 | 31   | 32 | 32 | 16 L   |
| TL-1CH-26-27 | M26X1.5 | M27X2   | 18        | O23.5X3.0 | 16         | 14.5 | 32   | 32 | 32 |        |
| TL-1CH-26-33 | M26X1.5 | M33X2   | 18        | O29.5X3.0 | 16         | 15.5 | 33   | 41 | 32 |        |
| TL-1CH-30-22 | M30X2   | M22X1.5 | 22        | O19.3X2.4 | 13         | 17.5 | 33   | 32 | 41 |        |
| TL-1CH-30-27 | M30X2   | M27X2   | 22        | O23.5X3.0 | 16         | 16.5 | 33   | 32 | 36 |        |
| TL-1CH-30    | M30X2   | M30X2   | 22        | O26.5X3.0 | 16         | 17.5 | 33   | 36 | 36 |        |
| TL-1CH-36-27 | M36X2   | M27X2   | 28        | O23.5X3.0 | 16         | 17.5 | 34   | 41 | 41 |        |
| TL-1CH-36-33 | M36X2   | M33X2   | 28        | O29.5X3.0 | 16         | 17.5 | 34   | 41 | 41 |        |
| TL-1CH-36-42 | M36X2   | M42X2   | 28        | O38.5X3.0 | 16         | 18.5 | 35   | 50 | 41 |        |
| TL-1CH-45-33 | M45X2   | M33X2   | 35        | O29.5X3.0 | 16         | 17.5 | 37   | 46 | 50 |        |
| TL-1CH-45-42 | M45X2   | M42X2   | 35        | O38.5X3.0 | 16         | 17.5 | 37   | 50 | 50 |        |
| TL-1CH-52-48 | M52X2   | M48X2   | 42        | O44.5X3.0 | 17.5       | 21   |      | 55 | 60 |        |
| TL-1DH-14    | M14X1.5 | M14X1.5 | 6         | O11.3X2.4 | 11         | 15   | 28   | 19 | 17 | 63 S   |
| TL-1DH-14-12 | M14X1.5 | M12X1.5 | 6         | O09.3X2.4 | 11         | 13   | 28   | 17 | 17 |        |
| TL-1DH-16-14 | M16X1.5 | M14X1.5 | 8         | O11.3X2.4 | 11         | 15   | 30   | 19 | 19 |        |
| TL-1DH-18-16 | M18X1.5 | M16X1.5 | 10        | O13.3X2.4 | 11.5       | 15   | 31   | 22 | 22 |        |
| TL-1DH-20-14 | M20X1.5 | M14X1.5 | 12        | O11.3X2.4 | 11         | 15   | 31   | 22 | 24 |        |
| TL-1DH-20-16 | M20X1.5 | M16X1.5 | 12        | O13.3X2.4 | 11.5       | 15   | 31   | 22 | 24 |        |
| TL-1DH-20-18 | M20X1.5 | M18X1.5 | 12        | O15.3X2.4 | 12.5       | 17   | 33   | 24 | 24 |        |
| TL-1DH-20-22 | M20X1.5 | M22X1.5 | 12        | O19.3X2.4 | 13         | 17.5 | 35   | 27 | 30 |        |
| TL-1DH-24-22 | M24X1.5 | M22X1.5 | 16        | O19.3X2.4 | 13         | 18.5 | 37   | 27 | 30 | 40 S   |
| TL-1DH-30    | M30X2   | M30X2   | 20        | O26.5X3.0 | 16         | 20.5 | 42   | 36 | 36 |        |
| TL-1DH-30-27 | M30X2   | M27X2   | 20        | O23.5X3.0 | 16         | 20.5 | 42   | 32 | 36 |        |
| TL-1DH-30-33 | M30X2   | M33X2   | 20        | O29.5X3.0 | 16         | 22.5 | 42   | 41 | 36 |        |
| TL-1DH-36-27 | M36X2   | M27X2   | 25        | O23.5X3.0 | 16         | 23   | 47   | 41 | 46 |        |
| TL-1DH-36-33 | M36X2   | M33X2   | 25        | O29.5X3.0 | 16         | 23   | 47   | 41 | 46 |        |
| TL-1DH-42    | M42X2   | M42X2   | 30        | O38.5X3.0 | 16         | 23.5 | 50   | 50 | 50 |        |
| TL-1DH-42-48 | M42X2   | M48X2   | 30        | O44.5X3.0 | 17.5       | 26.5 | 52   | 55 | 50 |        |



TL-1CH  
TL-1DH



TL-1CH-RN  
TL-1DH-RN

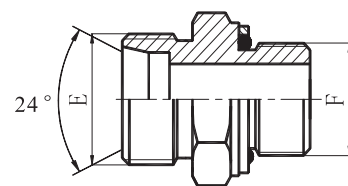
**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DH-20-18RN.

# TL-1CG · TL-1DG

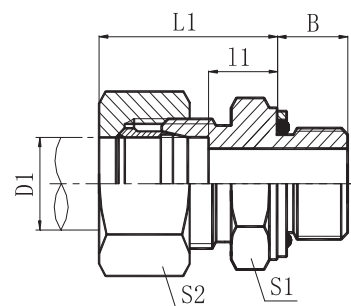
Straight. Male. Metric. 24° Tapered throat.  
Male BSPP. O-ring

| PART NO.     | THREAD  |            | TUBE O.D. | DIMENSIONS |      |      |    |    | MPa    |
|--------------|---------|------------|-----------|------------|------|------|----|----|--------|
|              | E       | F          |           | B          | l1   | L1   | S1 | S2 |        |
| TL-1CG-12-02 | M12X1.5 | G1/8"X28   | 6         | 9.5        | 11.5 | 23   | 14 | 14 | 31.5 L |
| TL-1CG-12-04 | M12X1.5 | G1/4"X19   | 6         | 10         | 13.5 | 25   | 19 | 14 |        |
| TL-1CG-14-04 | M14X1.5 | G1/4"X19   | 8         | 10         | 10   | 25   | 19 | 17 |        |
| TL-1CG-14-06 | M14X1.5 | G3/8"X19   | 8         | 11.5       | 12.5 | 26   | 22 | 17 |        |
| TL-1CG-14-08 | M14X1.5 | G1/2"X14   | 8         | 14         | 15.5 | 27.5 | 27 | 34 |        |
| TL-1CG-16-04 | M16X1.5 | G1/4"X19   | 10        | 10         | 11.5 | 26   | 19 | 19 |        |
| TL-1CG-16-06 | M16X1.5 | G3/8"X19   | 10        | 11.5       | 13.5 | 27   | 22 | 19 |        |
| TL-1CG-16-08 | M16X1.5 | G1/2"X14   | 10        | 14         | 15   | 29   | 27 | 19 |        |
| TL-1CG-18-06 | M18X1.5 | G3/8"X19   | 12        | 11.5       | 12.5 | 27   | 22 | 22 |        |
| TL-1CG-18-08 | M18X1.5 | G1/2"X14   | 12        | 14         | 15   | 28   | 27 | 22 |        |
| TL-1CG-22-06 | M22X1.5 | G3/8"X19   | 15        | 11.5       | 15   | 29   | 24 | 27 |        |
| TL-1CG-22-08 | M22X1.5 | G1/2"X14   | 15        | 14         | 16   | 29   | 27 | 27 |        |
| TL-1CG-22-12 | M22X1.5 | G3/4"X14   | 15        | 15.5       | 16.5 | 30   | 32 | 32 | 16 L   |
| TL-1CG-26-08 | M26X1.5 | G1/2"X14   | 18        | 14         | 16   | 31   | 27 | 32 |        |
| TL-1CG-26-12 | M26X1.5 | G3/4"X14   | 18        | 15.5       | 16.5 | 32   | 32 | 32 |        |
| TL-1CG-30-12 | M30X2   | G3/4"X14   | 22        | 15.5       | 19   | 33   | 32 | 36 |        |
| TL-1CG-30-16 | M30X2   | G1"X11     | 22        | 18         | 19   | 35   | 41 | 36 |        |
| TL-1CG-36-16 | M36X2   | G1"X11     | 28        | 18         | 20   | 34   | 41 | 41 |        |
| TL-1CG-45-20 | M45X2   | G1.1/4"X11 | 35        | 20         | 23.5 | 39   | 50 | 50 |        |
| TL-1CG-52-20 | M52X2   | G1.1/4"X11 | 42        | 20         | 24   | 42   | 55 | 60 |        |
| TL-1CG-52-24 | M52X2   | G1.1/2"X11 | 42        | 21.5       | 24   | 42   | 55 | 60 |        |
| TL-1CG-52-32 | M52X2   | G2"X11     | 42        | 24.5       | 28   | 44   | 70 | 60 |        |
| TL-1DG-14-04 | M14X1.5 | G1/4"X19   | 6         | 10         | 13.5 | 28   | 19 | 17 | 63 S   |
| TL-1DG-16-04 | M16X1.5 | G1/4"X19   | 8         | 10         | 13.5 | 31   | 19 | 19 |        |
| TL-1DG-18-04 | M18X1.5 | G1/4"X19   | 10        | 10         | 13.5 | 31   | 19 | 22 |        |
| TL-1DG-18-06 | M18X1.5 | G3/8"X19   | 10        | 11.5       | 14.5 | 31   | 22 | 22 |        |
| TL-1DG-20-06 | M20X1.5 | G3/8"X19   | 12        | 11.5       | 14.5 | 32   | 22 | 24 |        |
| TL-1DG-20-08 | M20X1.5 | G1/2"X14   | 12        | 14         | 16.5 | 34   | 27 | 24 |        |
| TL-1DG-22-06 | M22X1.5 | G3/8"X19   | 14        | 11.5       | 16   | 37   | 24 | 27 |        |
| TL-1DG-22-08 | M22X1.5 | G1/2"X14   | 14        | 14         | 18   | 37   | 27 | 27 |        |
| TL-1DG-24-04 | M24X1.5 | G1/4"X19   | 16        | 11         | 16   | 37   | 27 | 30 |        |
| TL-1DG-24-08 | M24X1.5 | G1/2"X14   | 16        | 14         | 18   | 37   | 27 | 30 |        |
| TL-1DG-30-12 | M30X2   | G3/4"X14   | 20        | 15.5       | 19.5 | 42   | 32 | 36 |        |
| TL-1DG-36-12 | M36X2   | G3/4"X14   | 25        | 15.5       | 20   | 47   | 41 | 46 | 25 S   |
| TL-1DG-36-16 | M36X2   | G1"X11     | 25        | 18         | 20   | 47   | 41 | 46 |        |
| TL-1DG-42-16 | M42X2   | G1"X11     | 30        | 18         | 23.5 | 48   | 46 | 50 |        |
| TL-1DG-42-20 | M42X2   | G1.1/4"X11 | 30        | 20         | 26   | 50   | 50 | 50 |        |
| TL-1DG-52-24 | M52X2   | G1.1/2"X11 | 38        | 21.5       | 26   | 57   | 55 | 60 | 31.5 S |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DG-20-08RN.



**TL-1CG  
TL-1DG**



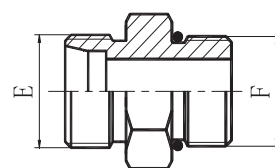
**TL-1CG-RN  
TL-1DG-RN**

# TL-1CO • TL-1DO

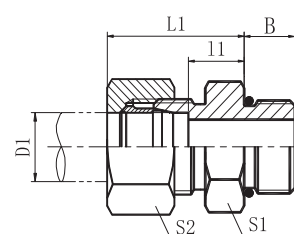
Straight. Male. Metric. 24° Tapered throat.  
Male UNC. UNF. O-ring

| PART NO.     | THREAD  |            | TUBE O.D. | DIMENSIONS |       |      |    |    | MPa    |
|--------------|---------|------------|-----------|------------|-------|------|----|----|--------|
|              | E       | F          |           | D1         | B     | I1   | L1 | S1 |        |
| TL-1CO-14-04 | M14X1.5 | 7/16"X20   | 8         | 9          | 11.5  | 25   | 17 | 17 | 31.5 L |
| TL-1CO-16-04 | M16X1.5 | 7/16"X20   | 10        | 9          | 11    | 26   | 17 | 19 |        |
| TL-1CO-18-06 | M18X1.5 | 9/16"X18   | 12        | 10         | 11.5  | 26   | 19 | 22 |        |
| TL-1CO-18-08 | M18X1.5 | 3/4"X16    | 12        | 11         | 13    | 28   | 24 | 22 |        |
| TL-1CO-18-10 | M18X1.5 | 7/8"X14    | 12        | 12.7       | 14.3  | 29   | 27 | 22 |        |
| TL-1CO-22-08 | M22X1.5 | 3/4"X16    | 15        | 11         | 13.5  | 29   | 24 | 27 |        |
| TL-1CO-22-10 | M22X1.5 | 7/8"X14    | 15        | 12.7       | 14.3  | 30   | 27 | 27 |        |
| TL-1CO-22-12 | M22X1.5 | 1.1/16"X12 | 15        | 15.09      | 11.91 | 30   | 32 | 27 |        |
| TL-1CO-26-08 | M26X1.5 | 3/4"X16    | 18        | 11         | 14.5  | 31   | 27 | 32 |        |
| TL-1CO-26-10 | M26X1.5 | 7/8"X14    | 18        | 12.7       | 14.3  | 31   | 27 | 32 |        |
| TL-1CO-30-08 | M30X2   | 3/4"X16    | 18        | 11.13      | 13.87 | 33   | 32 | 36 | 16 L   |
| TL-1CO-30-10 | M30X2   | 7/8"X14    | 22        | 12.7       | 16.8  | 33   | 32 | 36 |        |
| TL-1CO-30-12 | M30X2   | 1.1/16"X12 | 22        | 15         | 16    | 33   | 32 | 36 |        |
| TL-1CO-30-16 | M30X2   | 1.5/16"X12 | 22        | 15         | 17.5  | 34   | 41 | 36 |        |
| TL-1CO-36-12 | M36X2   | 1.1/16"X12 | 28        | 15.09      | 14.41 | 34   | 41 | 41 |        |
| TL-1CO-36-16 | M36X2   | 1.5/16"X12 | 28        | 15         | 17.5  | 34   | 41 | 41 |        |
| TL-1CO-45-16 | M45X2   | 1.5/16"X12 | 35        | 15         | 17.5  | 39   | 46 | 50 |        |
| TL-1CO-45-20 | M45X2   | 1.5/8"X12  | 35        | 15.09      | 16.41 | 39   | 50 | 50 |        |
| TL-1CO-52-20 | M52X2   | 1.5/8"X12  | 42        | 15.09      | 15.91 | 42   | 55 | 60 |        |
| TL-DO-16-04  | M16X1.5 | 7/16"X20   | 8         | 9          | 15    | 30   | 17 | 19 | 63 S   |
| TL-DO-18-06  | M18X1.5 | 9/16"X18   | 10        | 10         | 14.5  | 31   | 19 | 22 |        |
| TL-DO-20-06  | M20X1.5 | 9/16"X18   | 12        | 10         | 14.5  | 31   | 22 | 24 |        |
| TL-DO-20-08  | M20X1.5 | 3/4"X16    | 12        | 11         | 17.5  | 34   | 24 | 24 |        |
| TL-DO-24-08  | M24X1.5 | 3/4"X16    | 16        | 11         | 15.5  | 34   | 24 | 30 |        |
| TL-DO-24-10  | M24X1.5 | 7/8"X14    | 16        | 12.7       | 18.8  | 37   | 27 | 30 |        |
| TL-DO-30-08  | M30X2   | 3/4"X16    | 20        | 11         | 20.5  | 49   | 32 | 36 | 40 S   |
| TL-DO-30-10  | M30X2   | 7/8"X14    | 20        | 12.7       | 20.8  | 49   | 32 | 36 |        |
| TL-DO-30-12  | M30X2   | 1.1/16"X12 | 20        | 15         | 20.5  | 49   | 32 | 36 |        |
| TL-DO-36-12  | M36X2   | 1.1/16"X12 | 25        | 15.09      | 19.91 | 47   | 41 | 46 |        |
| TL-DO-36-16  | M36X2   | 1.5/16"X12 | 25        | 15         | 23    | 47   | 41 | 46 |        |
| TL-DO-42-16  | M42X2   | 1.5/16"X12 | 30        | 15         | 23.5  | 50   | 46 | 50 |        |
| TL-DO-42-20  | M42X2   | 1.5/8"X12  | 30        | 15         | 23.5  | 50   | 50 | 50 | 31.5 S |
| TL-DO-52-20  | M52X2   | 1.5/8"X12  | 38        | 15.09      | 22.9  | 53.9 | 55 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DO-30-12RN.



TL-1CO  
TL-1DO



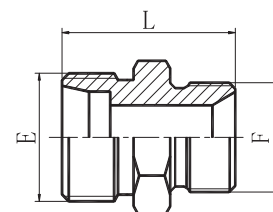
TL-1CO-RN  
TL-1DO-RN

# TL-1CB · TL-1DB

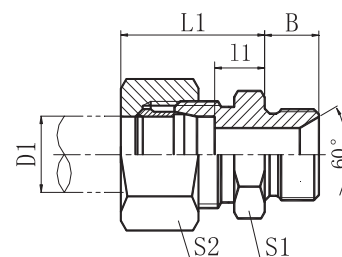
Straight. Male. Metric. 24° Tapered throat.  
Male BSPP. 60° Cone seal/Bonded stud end

| PART NO.     | THREAD  |            | TUBE O.D. | DIMENSIONS |      |    |      |    |    | MPa    |
|--------------|---------|------------|-----------|------------|------|----|------|----|----|--------|
|              | E       | F          |           | D1         | B    | I1 | L1   | L2 | S1 |        |
| TL-1CB-12-02 | M12X1.5 | G1/8"X28   | 6         | 10         | 8    | 23 | 24   | 14 | 14 | 31.5 L |
| TL-1CB-12-04 | M12X1.5 | G1/4"X19   | 6         | 12         | 9    | 24 | 28   | 19 | 14 |        |
| TL-1CB-14-02 | M14X1.5 | G1/8"X28   | 8         | 10         | 8    | 23 | 25   | 14 | 17 |        |
| TL-1CB-14-04 | M14X1.5 | G1/4"X19   | 8         | 12         | 9    | 25 | 28   | 19 | 17 |        |
| TL-1CB-14-06 | M14X1.5 | G3/8"X19   | 8         | 13.5       | 9    | 24 | 28.5 | 22 | 17 |        |
| TL-1CB-16-04 | M16X1.5 | G1/4"X19   | 10        | 12         | 10   | 25 | 28   | 19 | 19 |        |
| TL-1CB-16-06 | M16X1.5 | G3/8"X19   | 10        | 13.5       | 12.5 | 25 | 33   | 22 | 19 |        |
| TL-1CB-16-08 | M16X1.5 | G1/2"X14   | 10        | 16         | 11   | 26 | 32   | 27 | 19 |        |
| TL-1CB-18-04 | M18X1.5 | G1/4"X19   | 12        | 12         | 10   | 25 | 29   | 19 | 22 |        |
| TL-1CB-18-06 | M18X1.5 | G3/8"X19   | 12        | 13.5       | 10   | 25 | 30.5 | 22 | 22 |        |
| TL-1CB-18-08 | M18X1.5 | G1/2"X14   | 12        | 16         | 11   | 26 | 33   | 27 | 22 |        |
| TL-1CB-22-06 | M22X1.5 | G3/8"X19   | 15        | 13.5       | 11   | 26 | 31.5 | 24 | 27 |        |
| TL-1CB-22-08 | M22X1.5 | G1/2"X14   | 15        | 16         | 12   | 27 | 34   | 27 | 27 |        |
| TL-1CB-26-08 | M26X1.5 | G1/2"X14   | 18        | 16         | 11.5 | 28 | 35   | 27 | 32 |        |
| TL-1CB-26-12 | M26X1.5 | G3/4"X14   | 18        | 18.5       | 11.5 | 28 | 35.5 | 32 | 32 |        |
| TL-1CB-30-12 | M30X2   | G3/4"X14   | 22        | 18.5       | 13.5 | 30 | 39.5 | 32 | 36 |        |
| TL-1CB-36-16 | M36X2   | G1"X11     | 28        | 20.5       | 14.5 | 31 | 42.5 | 41 | 41 |        |
| TL-1CB-45-20 | M45X2   | G1.1/4"X11 | 35        | 20.5       | 15.5 | 37 | 45.5 | 50 | 50 |        |
| TL-1CB-52-24 | M52X2   | G1.1/2"X11 | 42        | 23         | 16   | 39 | 50   | 55 | 60 |        |
| TL-1DB-14-04 | M14X1.5 | G1/4"X19   | 6         | 12         | 13   | 28 | 30   | 19 | 17 |        |
| TL-1DB-16-04 | M16X1.5 | G1/4"X19   | 8         | 12         | 13   | 28 | 32   | 19 | 19 |        |
| TL-1DB-16-06 | M16X1.5 | G3/8"X19   | 8         | 13.5       | 15   | 32 | 35.5 | 22 | 19 |        |
| TL-1DB-18-04 | M18X1.5 | G1/4"X19   | 10        | 12         | 12.5 | 29 | 32   | 19 | 22 |        |
| TL-1DB-18-06 | M18X1.5 | G3/8"X19   | 10        | 13.5       | 14.5 | 31 | 33.5 | 22 | 22 |        |
| TL-1DB-18-08 | M18X1.5 | G1/2"X19   | 10        | 16         | 14.5 | 31 | 36   | 27 | 22 |        |
| TL-1DB-20-04 | M20X1.5 | G1/4"X19   | 12        | 12         | 14.5 | 31 | 34   | 22 | 24 |        |
| TL-1DB-20-06 | M20X1.5 | G3/8"X19   | 12        | 13.5       | 14.5 | 31 | 35.5 | 22 | 24 |        |
| TL-1DB-20-08 | M20X1.5 | G1/2"X14   | 12        | 16         | 14.5 | 31 | 38   | 27 | 24 |        |
| TL-1DB-22-08 | M22X1.5 | G1/2"X14   | 14        | 16         | 16   | 34 | 40   | 27 | 27 |        |
| TL-1DB-24-06 | M24X1.5 | G3/8"X19   | 16        | 13.5       | 15.5 | 34 | 37.5 | 27 | 30 |        |
| TL-1DB-24-08 | M24X1.5 | G1/2"X14   | 16        | 16         | 15.5 | 34 | 40   | 27 | 30 |        |
| TL-1DB-24-12 | M24X1.5 | G3/4"X14   | 16        | 18.5       | 17.5 | 36 | 44.5 | 32 | 30 |        |
| TL-1DB-30-12 | M30X2   | G3/4"X14   | 20        | 18.5       | 17.5 | 39 | 48.5 | 32 | 36 |        |
| TL-1DB-36-08 | M36X2   | G1/2"X14   | 25        | 16         | 19   | 43 | 48   | 38 | 46 |        |
| TL-1DB-36-12 | M36X2   | G3/4"X14   | 25        | 18.5       | 19   | 43 | 50.5 | 38 | 46 |        |
| TL-1DB-36-16 | M36X2   | G1"X11     | 25        | 20.5       | 20   | 44 | 52.5 | 41 | 46 |        |
| TL-1DB-42-20 | M42X2   | G1.1/4"X11 | 30        | 20.5       | 21.5 | 48 | 54.5 | 50 | 50 |        |
| TL-1DB-52-24 | M52X2   | G1.1/2"X11 | 38        | 23         | 23   | 54 | 62   | 55 | 60 |        |
|              |         |            |           |            |      |    |      |    |    | 31.5 S |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DB-20-08RN.



TL-1CB  
TL-1DB



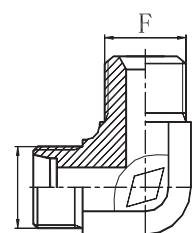
TL-1CB-RN  
TL-1DB-RN

# TL-1CB9 • TL-1DB9

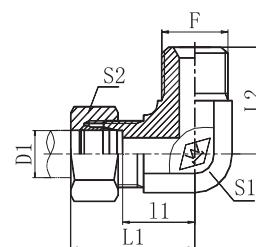
Straight. Male. Metric. 24° Tapered throat.  
Male BSPP. 60° Cone seal

| PART NO.      | THREAD  |            | TUBE O.D. | DIMENSIONS |      |      |    |    | MPa    |
|---------------|---------|------------|-----------|------------|------|------|----|----|--------|
|               | E       | F          |           | D1         | L1   | L2   | S1 | S2 |        |
| TL-1GB9-12-04 | M12X1.5 | G1/4"X19   | 6         | 15.5       | 30.5 | 24.5 | 14 | 14 | 31.5 L |
| TL-1GB9-14-04 | M14X1.5 | G1/4"X19   | 8         | 15.5       | 30.5 | 24.5 | 14 | 17 |        |
| TL-1GB9-14-06 | M14X1.5 | G3/8"X19   | 8         | 16.5       | 31.5 | 27.5 | 16 | 17 |        |
| TL-1GB9-16-04 | M16X1.5 | G1/4"X19   | 10        | 17.5       | 32.5 | 26.5 | 16 | 19 |        |
| TL-1GB9-16-06 | M16X1.5 | G3/8"X19   | 10        | 17.5       | 32.5 | 27.5 | 16 | 19 |        |
| TL-1GB9-16-08 | M16X1.5 | G1/2"X14   | 10        | 21         | 36   | 34.5 | 22 | 19 |        |
| TL-1GB9-18-04 | M18X1.5 | G1/4"X19   | 12        | 19         | 34   | 27.5 | 19 | 22 |        |
| TL-1GB9-18-06 | M18X1.5 | G3/8"X19   | 12        | 19         | 36   | 28.5 | 19 | 22 |        |
| TL-1GB9-18-08 | M18X1.5 | G1/2"X14   | 12        | 21         | 35.5 | 34.5 | 22 | 22 |        |
| TL-1GB9-22-06 | M22X1.5 | G3/8"X19   | 15        | 22         | 37   | 31   | 22 | 27 |        |
| TL-1GB9-22-08 | M22X1.5 | G1/2"X14   | 15        | 22         | 37   | 34.5 | 22 | 27 |        |
| TL-1GB9-26-08 | M26X1.5 | G1/2"X14   | 18        | 25.5       | 49   | 37.5 | 27 | 32 | 16 L   |
| TL-1GB9-30-12 | M30X2   | G3/4"X14   | 22        | 29.5       | 46   | 41   | 30 | 36 |        |
| TL-1GB9-36-16 | M36X2   | G1"X11     | 28        | 33.3       | 49.8 | 47.5 | 36 | 41 |        |
| TL-1GB9-45-20 | M45X2   | G1.1/4"X11 | 35        | 39.2       | 60.7 | 54.5 | 48 | 50 |        |
| TL-1GB9-52-24 | M52X2   | G1.1/2"X11 | 42        | 44.8       | 67.8 | 63   | 55 | 60 | 63 S   |
| TL-1DB9-14-04 | M14X1.5 | G1/4"X19   | 6         | 17.5       | 32.5 | 24.5 | 14 | 17 |        |
| TL-1DB9-16-04 | M16X1.5 | G1/4"X19   | 8         | 18.7       | 33.7 | 26.5 | 16 | 19 |        |
| TL-1DB9-16-06 | M16X1.5 | G3/8"X19   | 8         | 18.7       | 33.7 | 27.5 | 16 | 19 |        |
| TL-1DB9-18-04 | M18X1.5 | G1/4"X19   | 10        | 19.5       | 36   | 27.5 | 19 | 22 |        |
| TL-1DB9-18-06 | M18X1.5 | G3/8"X19   | 10        | 19.5       | 36   | 28.5 | 19 | 22 |        |
| TL-1DB9-18-08 | M18X1.5 | G1/2"X14   | 10        | 21.5       | 38   | 34.5 | 22 | 22 |        |
| TL-1DB9-20-04 | M20X1.5 | G1/4"X19   | 12        | 19.5       | 36   | 27.5 | 19 | 24 |        |
| TL-1DB9-20-06 | M20X1.5 | G3/8"X19   | 12        | 19.5       | 36   | 28.5 | 19 | 24 |        |
| TL-1DB9-20-08 | M20X1.5 | G1/2"X14   | 12        | 21.5       | 38   | 34.5 | 22 | 24 |        |
| TL-1DB9-22-08 | M22X1.5 | G1/2"X14   | 14        | 23         | 41   | 34.5 | 22 | 27 |        |
| TL-1DB9-24-06 | M24X1.5 | G3/8"X19   | 16        | 24         | 42.5 | 32   | 24 | 30 | 40 S   |
| TL-1DB9-24-08 | M24X1.5 | G1/2"X14   | 16        | 24         | 42.5 | 35   | 24 | 30 |        |
| TL-1DB9-24-12 | M24X1.5 | G3/4"X14   | 16        | 26         | 44.5 | 40   | 27 | 30 |        |
| TL-1DB9-30-12 | M30X2   | G3/4"X14   | 20        | 28.3       | 49.8 | 41   | 30 | 36 |        |
| TL-1DB9-36-08 | M36X2   | G1/2"X14   | 25        | 32.8       | 56.8 | 42.5 | 36 | 46 | 31.5 S |
| TL-1DB9-36-12 | M36X2   | G3/4"X14   | 25        | 32.8       | 56.8 | 43.5 | 36 | 46 |        |
| TL-1DB9-36-16 | M36X2   | G1"X11     | 25        | 32.8       | 56.8 | 47.5 | 36 | 46 |        |
| TL-1DB9-42-20 | M42X2   | G1.1/4"X11 | 30        | 36.2       | 62.7 | 50.5 | 41 | 50 |        |
| TL-1DB9-52-24 | M52X2   | G1.1/2"X11 | 38        | 45.8       | 76.8 | 63   | 55 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DB9-24-12RN.



**TL-1CB9  
TL-1DB9**

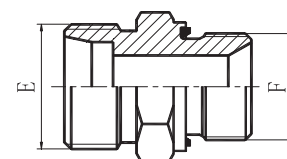


**TL-1CB9-RN  
TL-1DB9-RN**

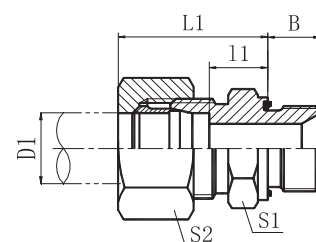
# TL-1CB-WD • TL-1DB-WD

Straight. Male. Metric. 24° Tapered throat.  
Male BSPP. 60° Cone seal. Captive seal

| PART NO.       | THREAD  |            | TUBE O.D. | DIMENSIONS |      |      |    |    | MPa |
|----------------|---------|------------|-----------|------------|------|------|----|----|-----|
|                | E       | F          |           | B          | I1   | L1   | S1 | S2 |     |
| TL-1CB-12-02WD | M12X1.5 | G1/8"X28   | 6         | 8          | 11   | 23.5 | 14 | 14 |     |
| TL-1CB-12-04WD | M12X1.5 | G1/4"X19   | 6         | 12         | 11   | 25   | 19 | 14 |     |
| TL-1CB-12-06WD | M12X1.5 | G3/8"X19   | 6         | 12         | 13   | 26.5 | 22 | 14 |     |
| TL-1CB-14-02WD | M14X1.5 | G1/8"X28   | 8         | 8          | 11   | 24   | 14 | 17 |     |
| TL-1CB-14-04WD | M14X1.5 | G1/4"X19   | 8         | 12         | 12   | 24   | 19 | 17 |     |
| TL-1CB-14-06WD | M14X1.5 | G3/8"X19   | 8         | 12         | 12   | 26   | 22 | 17 |     |
| TL-1CB-16-04WD | M16X1.5 | G1/4"X19   | 10        | 12         | 12   | 24.5 | 19 | 19 |     |
| TL-1CB-16-06WD | M16X1.5 | G3/8"X19   | 10        | 13.5       | 12.5 | 26   | 22 | 19 |     |
| TL-1CB-16-08WD | M16X1.5 | G1/2"X14   | 10        | 14         | 14   | 28   | 27 | 19 |     |
| TL-1CB-18-04WD | M18X1.5 | G1/4"X19   | 12        | 12         | 12   | 27   | 19 | 22 |     |
| TL-1CB-18-06WD | M18X1.5 | G3/8"X19   | 12        | 13.5       | 12.5 | 26   | 22 | 22 |     |
| TL-1CB-18-08WD | M18X1.5 | G1/2"X14   | 12        | 14         | 14   | 28   | 27 | 22 |     |
| TL-1CB-22-04WD | M22X1.5 | G1/4"X19   | 15        | 12         | 13   | 28   | 24 | 27 |     |
| TL-1CB-22-06WD | M22X1.5 | G3/8"X19   | 15        | 13.5       | 13   | 28   | 24 | 27 |     |
| TL-1CB-22-08WD | M22X1.5 | G1/2"X14   | 15        | 14         | 14.5 | 29   | 27 | 27 |     |
| TL-1CB-22-12WD | M22X1.5 | G3/4"X14   | 15        | 16         | 17   | 29   | 32 | 27 |     |
| TL-1CB-26-08WD | M26X1.5 | G1/2"X14   | 18        | 14         | 14.5 | 31   | 27 | 32 |     |
| TL-1CB-26-12WD | M26X1.5 | G3/4"X14   | 18        | 16         | 17   | 31   | 32 | 32 |     |
| TL-1CB-30-12WD | M30X2   | G3/4"X14   | 22        | 16         | 19.5 | 33   | 32 | 36 |     |
| TL-1CB-36-16WD | M36X2   | G1"X11     | 28        | 18         | 23   | 34   | 41 | 41 |     |
| TL-1CB-45-20WD | M45X2   | G1.1/4"X11 | 35        | 20         | 22.5 | 39   | 50 | 50 |     |
| TL-1CB-52-24WD | M52X2   | G1.1/2"X11 | 42        | 22.5       | 24.5 | 42   | 55 | 60 |     |
| TL-1DB-14-04WD | M14X1.5 | G1/4"X19   | 6         | 12         | 15   | 30   | 19 | 17 |     |
| TL-1DB-16-04WD | M16X1.5 | G1/4"X19   | 8         | 12         | 15   | 30   | 19 | 19 |     |
| TL-1DB-16-06WD | M16X1.5 | G3/8"X19   | 8         | 12         | 15.5 | 30   | 22 | 19 |     |
| TL-1DB-18-04WD | M18X1.5 | G1/4"X19   | 10        | 12         | 14.5 | 31   | 19 | 22 |     |
| TL-1DB-18-06WD | M18X1.5 | G3/8"X19   | 10        | 12         | 14.5 | 31   | 22 | 22 |     |
| TL-1DB-18-08WD | M18X1.5 | G1/2"X14   | 10        | 14         | 17.5 | 34   | 27 | 22 |     |
| TL-1DB-20-04WD | M20X1.5 | G1/4"X19   | 12        | 12         | 16.5 | 33   | 22 | 24 |     |
| TL-1DB-20-06WD | M20X1.5 | G3/8"X19   | 12        | 13.5       | 15   | 33   | 22 | 24 |     |
| TL-1DB-20-08WD | M20X1.5 | G1/2"X14   | 12        | 14         | 15   | 34   | 27 | 24 |     |
| TL-1DB-22-08WD | M22X1.5 | G1/2"X14   | 14        | 14         | 19   | 37   | 27 | 27 |     |
| TL-1DB-24-06WD | M24X1.5 | G3/8"X19   | 16        | 12         | 18   | 36.5 | 27 | 30 |     |
| TL-1DB-24-08WD | M24X1.5 | G1/2"X14   | 16        | 14         | 18.5 | 37   | 27 | 30 |     |
| TL-1DB-24-12WD | M24X1.5 | G3/4"X14   | 16        | 16         | 20.5 | 39   | 32 | 30 |     |
| TL-1DB-30-12WD | M30X2   | G3/4"X14   | 20        | 16         | 20.5 | 42   | 32 | 36 |     |
| TL-1DB-36-08WD | M36X2   | G1/2"X14   | 25        | 14         | 23   | 47   | 41 | 46 |     |
| TL-1DB-36-12WD | M36X2   | G3/4"X14   | 25        | 16         | 23   | 47   | 41 | 46 |     |
| TL-1DB-36-16WD | M36X2   | G1"X11     | 25        | 18         | 23   | 47   | 41 | 46 |     |
| TL-1DB-42-20WD | M42X2   | G1.1/4"X11 | 30        | 20         | 23.5 | 50   | 50 | 50 |     |
| TL-1DB-52-24WD | M52X2   | G1.1/2"X11 | 38        | 22         | 26   | 57   | 55 | 60 |     |



TL-1CB-WD  
TL-1DB-WD



TL-1CB-WD/RN  
TL-1DB-WD/RN

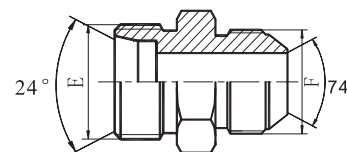
**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DB-20-08WD/RN.

# TL-1CJ • TL-1DJ

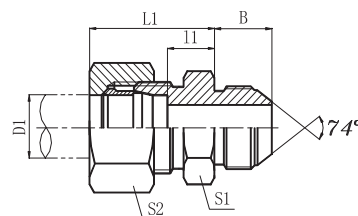
Straight. Male. Metric. 24° Tapered throat.  
Male BSPP. 74° Cone seal JIC

| PART NO.     | THREAD  |            | TUBE O.D. | DIMENSIONS |      |    |    |    | MPa    |
|--------------|---------|------------|-----------|------------|------|----|----|----|--------|
|              | E       | F          |           | D1         | B    | I1 | L1 | S1 |        |
| TL-1CJ-12-04 | M12X1.5 | 7/16"X20   | 6         | 14         | 9    | 24 | 14 | 14 | 31.5 L |
| TL-1CJ-14-04 | M14X1.5 | 7/16"X20   | 8         | 14         | 11   | 23 | 14 | 17 |        |
| TL-1CJ-14-06 | M14X1.5 | 9/16"X18   | 8         | 14         | 10.5 | 23 | 16 | 17 |        |
| TL-1CJ-16-06 | M16X1.5 | 9/16"X18   | 10        | 14         | 10.5 | 24 | 17 | 19 |        |
| TL-1CJ-18-06 | M18X1.5 | 9/16"X18   | 12        | 14         | 11.5 | 25 | 19 | 22 |        |
| TL-1CJ-18-08 | M18X1.5 | 3/4"X16    | 12        | 16.7       | 12.3 | 25 | 22 | 22 |        |
| TL-1CJ-22-08 | M22X1.5 | 3/4"X16    | 15        | 16.7       | 12.3 | 26 | 24 | 27 |        |
| TL-1CJ-22-10 | M22X1.5 | 7/8"X14    | 15        | 19.5       | 12.5 | 26 | 24 | 27 |        |
| TL-1CJ-26-10 | M26X1.5 | 7/8"X14    | 18        | 19.5       | 12.5 | 28 | 27 | 32 |        |
| TL-1CJ-26-12 | M26X1.5 | 1.1/16"X12 | 18        | 21.9       | 11.6 | 28 | 30 | 32 | 16 L   |
| TL-1CJ-30-12 | M30X2   | 1.1/16"X12 | 22        | 21.9       | 13.5 | 30 | 32 | 36 |        |
| TL-1CJ-36-16 | M36X2   | 1.5/16"X12 | 28        | 23.1       | 14.5 | 31 | 41 | 41 |        |
| TL-1CJ-45-20 | M45X2   | 1.5/8"X12  | 35        | 24.5       | 12.5 | 36 | 46 | 50 |        |
| TL-1CJ-52-20 | M52X2   | 1.5/8"X12  | 42        | 24.3       | 16   | 39 | 55 | 60 |        |
| TL-1CJ-52-24 | M52X2   | 1.7/8"X12  | 42        | 27.5       | 16   | 39 | 55 | 60 |        |
| TL-1DJ-14-04 | M14X1.5 | 7/16"X20   | 6         | 14         | 11   | 26 | 14 | 14 | 63 S   |
| TL-1DJ-16-04 | M16X1.5 | 7/16"X20   | 8         | 14         | 13   | 28 | 17 | 19 |        |
| TL-1DJ-16-06 | M16X1.5 | 9/16"X18   | 8         | 14.1       | 12.9 | 28 | 17 | 34 |        |
| TL-1DJ-18-04 | M18X1.5 | 7/16"X20   | 10        | 14         | 12.5 | 29 | 19 | 22 |        |
| TL-1DJ-18-06 | M18X1.5 | 9/16"X18   | 10        | 14.1       | 12.5 | 29 | 19 | 22 |        |
| TL-1DJ-20-06 | M20X1.5 | 9/16"X18   | 12        | 14.1       | 14.5 | 31 | 22 | 24 |        |
| TL-1DJ-20-08 | M20X1.5 | 3/4"X16    | 12        | 16.7       | 14.3 | 31 | 22 | 24 |        |
| TL-1DJ-22-08 | M22X1.5 | 3/4"X16    | 14        | 16.7       | 16   | 34 | 24 | 27 |        |
| TL-1DJ-24-08 | M24X1.5 | 3/4"X16    | 16        | 16.7       | 15.5 | 34 | 27 | 30 |        |
| TL-1DJ-24-10 | M24X1.5 | 7/8"X16    | 16        | 19.3       | 15.5 | 34 | 27 | 30 |        |
| TL-1DJ-30-12 | M30X2   | 1.1/16"X12 | 20        | 21.9       | 17.5 | 39 | 32 | 36 | 40 S   |
| TL-1DJ-36-12 | M36X2   | 1.1/16"X12 | 25        | 21.9       | 19   | 43 | 38 | 46 |        |
| TL-1DJ-36-16 | M36X2   | 1.5/16"X12 | 25        | 23.1       | 19   | 43 | 38 | 46 |        |
| TL-1DJ-42-20 | M42X2   | 1.5/8"X12  | 30        | 24.3       | 20.5 | 47 | 46 | 50 | 31.5 S |
| TL-1DJ-52-24 | M52X2   | 1.7/8"X12  | 38        | 27.5       | 23   | 54 | 55 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DJ-20-08RN.



TL-1CJ  
TL-1DJ



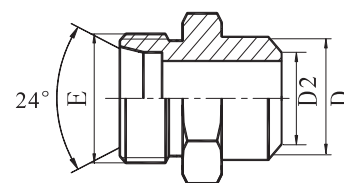
TL-1CJ-RN  
TL-1DJ-RN

# TL-1CW • TL-1DW

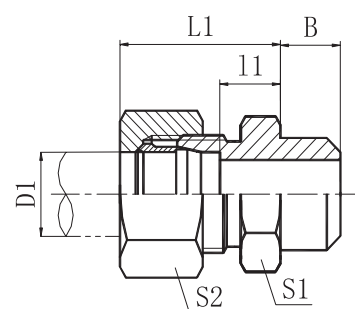
Straight. Male. Metric. 24° Tapered throat. Male. Weld

| PART NO.     | THREAD  | TUBE O.D. |    | DIMENSIONS |    |      |    |    |    | MPa    |
|--------------|---------|-----------|----|------------|----|------|----|----|----|--------|
|              | E       | D1        | D2 | B          | D  | l1   | L1 | S1 | S2 |        |
| TL-1CW-12-06 | M12X1.5 | 6         | 6  | 7          | 10 | 7    | 22 | 12 | 14 | 31.5 L |
| TL-1CW-14-08 | M14X1.5 | 8         | 8  | 8          | 12 | 8    | 23 | 14 | 17 |        |
| TL-1CW-16-10 | M16X1.5 | 10        | 10 | 8          | 14 | 10.5 | 24 | 17 | 19 |        |
| TL-1CW-18-12 | M18X1.5 | 12        | 12 | 8          | 16 | 14   | 25 | 19 | 22 |        |
| TL-1CW-22-15 | M22X1.5 | 15        | 15 | 10         | 19 | 12.5 | 26 | 22 | 27 |        |
| TL-1CW-26-18 | M26X1.5 | 18        | 18 | 10         | 22 | 12.5 | 28 | 27 | 32 |        |
| TL-1CW-26-22 | M26X1.5 | 18        | 22 | 10         | 27 | 13.5 | 28 | 27 | 32 | 16 L   |
| TL-1CW-30-22 | M30X2   | 22        | 22 | 12         | 27 | 16   | 30 | 32 | 36 |        |
| TL-1CW-30-25 | M30X2   | 22        | 25 | 12         | 31 | 13.5 | 30 | 32 | 36 |        |
| TL-1CW-36-28 | M36X2   | 28        | 28 | 12         | 32 | 20   | 33 | 38 | 41 |        |
| TL-1CW-45-35 | M45X2   | 35        | 35 | 14         | 40 | 19.5 | 36 | 46 | 50 | 63 S   |
| TL-1CW-52-42 | M52X2   | 42        | 42 | 16         | 46 | 22   | 39 | 55 | 60 |        |
| TL-1DW-14-06 | M14X1.5 | 6         | 6  | 7          | 11 | 11   | 26 | 14 | 17 |        |
| TL-1DW-16-08 | M16X1.5 | 8         | 8  | 8          | 13 | 13   | 28 | 17 | 19 |        |
| TL-1DW-18-10 | M18X1.5 | 10        | 10 | 8          | 15 | 12.5 | 29 | 19 | 22 |        |
| TL-1DW-20-12 | M20X1.5 | 12        | 12 | 10         | 17 | 14.5 | 31 | 22 | 24 |        |
| TL-1DW-22-14 | M22X1.5 | 14        | 14 | 10         | 19 | 16   | 34 | 24 | 27 | 40 S   |
| TL-1DW-24-16 | M24X1.5 | 16        | 16 | 10         | 21 | 15.5 | 34 | 27 | 30 |        |
| TL-1DW-30-20 | M30X2   | 20        | 20 | 12         | 26 | 17.5 | 39 | 32 | 36 |        |
| TL-1DW-36-25 | M36X2   | 25        | 25 | 12         | 31 | 20   | 44 | 41 | 46 |        |
| TL-1DW-42-30 | M42X2   | 30        | 30 | 14         | 36 | 20.5 | 47 | 46 | 50 | 31.5 S |
| TL-1DW-52-38 | M52X2   | 38        | 38 | 16         | 44 | 23   | 54 | 55 | 60 |        |

**Note:** If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DW-20-12RN.



TL-1CW  
TL-1DW

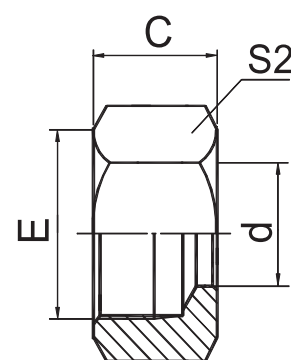


TL-1CW-RN  
TL-1DW-RN

## TL-NL

Female. Metric. Tube nut

| PART NO. | THREAD  | TUBE O.D. | DIMENSIONS |      |    | MPa |
|----------|---------|-----------|------------|------|----|-----|
|          | E       |           | C          | d    | S2 |     |
| TL-NL-12 | M12X1.5 | 6         | 14.5       | 6.1  | 14 | L   |
| TL-NL-14 | M14X1.5 | 8         | 14.5       | 8.1  | 17 |     |
| TL-NL-16 | M16X1.5 | 10        | 15.5       | 10.1 | 19 |     |
| TL-NL-18 | M18X1.5 | 12        | 15.5       | 12.1 | 22 |     |
| TL-NL-22 | M22X1.5 | 15        | 17         | 15.1 | 27 |     |
| TL-NL-26 | M26X1.5 | 18        | 18         | 18.1 | 32 |     |
| TL-NL-30 | M30X2   | 22        | 20         | 22.1 | 36 |     |
| TL-NL-36 | M36X2   | 28        | 21         | 28.1 | 41 |     |
| TL-NL-45 | M45X2   | 35        | 24         | 35.2 | 50 |     |
| TL-NL-52 | M52X2   | 42        | 24         | 42.2 | 60 |     |

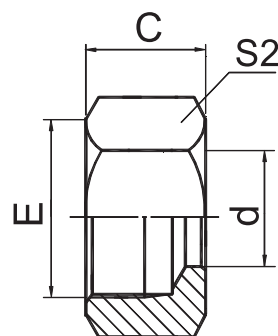




## TL-NS

Female. Metric. Tube nut

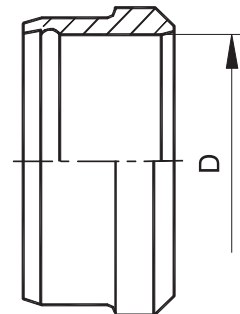
| PART NO. | THREAD  | TUBE O.D. | DIMENSIONS |      |    | MPa |
|----------|---------|-----------|------------|------|----|-----|
|          | E       |           | C          | d    | S2 |     |
| TL-NS-14 | M14X1.5 | 6         | 16.5       | 6.1  | 17 | S   |
| TL-NS-16 | M16X1.5 | 8         | 16.5       | 8.1  | 19 |     |
| TL-NS-18 | M18X1.5 | 10        | 17.5       | 10.1 | 22 |     |
| TL-NS-20 | M20X1.5 | 12        | 17.5       | 12.1 | 24 |     |
| TL-NS-22 | M22X1.5 | 14        | 20.5       | 14.1 | 27 |     |
| TL-NS-24 | M24X1.5 | 16        | 20.5       | 16.3 | 30 |     |
| TL-NS-30 | M30X2   | 20        | 24         | 20.1 | 36 |     |
| TL-NS-36 | M36X2   | 25        | 27         | 25.1 | 46 |     |
| TL-NS-42 | M42X2   | 30        | 29         | 30.2 | 50 |     |
| TL-NS-52 | M52X2   | 38        | 32.5       | 38.2 | 60 |     |



## TL-RL · TL-RS

Cutting ring

| PART NO. | TUBE O.D. | MPa |
|----------|-----------|-----|
| TL-RL-06 | 6         | L/S |
| TL-RL-08 | 8         |     |
| TL-RL-10 | 10        |     |
| TL-RL-12 | 12        |     |
| TL-RL-15 | 15        |     |
| TL-RL-18 | 18        | L   |
| TL-RL-22 | 22        |     |
| TL-RL-28 | 28        |     |
| TL-RL-35 | 35        |     |
| TL-RL-42 | 42        |     |
| TL-RS-06 | 6         | S   |
| TL-RS-08 | 8         |     |
| TL-RS-10 | 10        |     |
| TL-RS-12 | 12        |     |
| TL-RS-14 | 14        |     |
| TL-RS-16 | 16        |     |
| TL-RS-20 | 20        |     |
| TL-RS-25 | 25        |     |
| TL-RS-30 | 30        |     |
| TL-RS-38 | 38        |     |

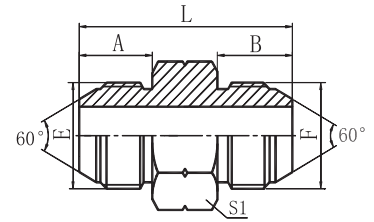


# FLARE TYPE TUBE FITTING ADAPTORS

## TL-1S

JIS. Male Gas BSPP. 60° Flare. Male Gas BSPP. 60° Flare

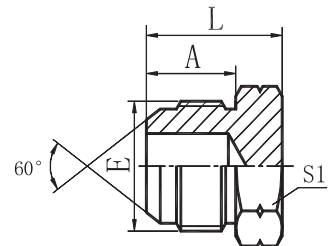
| PART NO. | THREAD     |            | DIMENSIONS |    |    |    |
|----------|------------|------------|------------|----|----|----|
|          | E          | F          | A          | B  | L  | S1 |
| TL-1S-02 | G1/8"X28   | G1/8"X28   | 12         | 12 | 30 | 14 |
| TL-1S-04 | G1/4"X19   | G1/4"X19   | 16         | 16 | 38 | 17 |
| TL-1S-06 | G3/8"X19   | G3/8"X19   | 18         | 18 | 42 | 19 |
| TL-1S-08 | G1/2"X14   | G1/2"X14   | 20         | 20 | 48 | 22 |
| TL-1S-12 | G3/4"X14   | G3/4"X14   | 22         | 22 | 54 | 30 |
| TL-1S-16 | G1"X11     | G1"X11     | 24         | 24 | 59 | 36 |
| TL-1S-20 | G1.1/4"X11 | G1.1/4"X11 | 27         | 27 | 67 | 46 |
| TL-1S-24 | G1.1/2"X11 | G1.1/2"X11 | 27         | 27 | 69 | 50 |
| TL-1S-32 | G2"X11     | G2"X11     | 30         | 30 | 77 | 65 |



## TL-4S

JIS. male gas BSPP. 60° flare. male gas BSPP. 60° flare

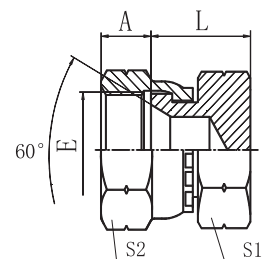
| PART NO. | THREAD   | DIMENSIONS |    |    |
|----------|----------|------------|----|----|
|          | E        | A          | L  | S1 |
| TL-4S-04 | G1/4"X19 | 16         | 24 | 17 |
| TL-4S-06 | G3/8"X19 | 18         | 24 | 19 |
| TL-4S-08 | G1/2"X14 | 20         | 28 | 22 |
| TL-4S-12 | G3/4"X14 | 22         | 32 | 30 |
| TL-4S-16 | G1"X11   | 24         | 35 | 36 |



## TL-9S

JIS. female gas BSPP. 60° flare plug

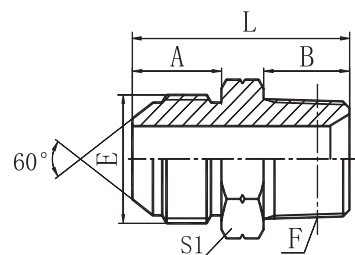
| PART NO. | THREAD     | DIMENSIONS |      |    |    |
|----------|------------|------------|------|----|----|
|          | E          | A          | L    | S2 | S1 |
| TL-9S-04 | G1/4"X19   | 7.5        | 14.5 | 17 | 19 |
| TL-9S-06 | G3/8"X19   | 9.5        | 15.5 | 19 | 22 |
| TL-9S-08 | G1/2"X14   | 11.3       | 19   | 22 | 27 |
| TL-9S-12 | G3/4"X14   | 13         | 23.5 | 32 | 32 |
| TL-9S-16 | G1"X11     | 15         | 25   | 36 | 41 |
| TL-9S-20 | G1.1/4"X11 | 18.5       | 29.5 | 50 | 50 |
| TL-9S-24 | G1.1/2"X11 | 19         | 29.5 | 55 | 55 |
| TL-9S-32 | G2"X11     | 23         | 32   | 70 | 70 |



## TL-1ST-SP

JIS. Male Gas BSPP. 60° Flare. Male BSPT

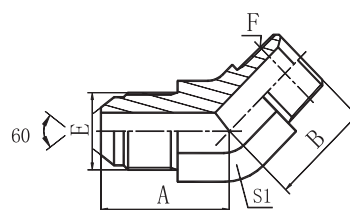
| PART NO.       | THREAD     |            | DIMENSIONS |      |      |    |
|----------------|------------|------------|------------|------|------|----|
|                | E          | F          | A          | B    | L    | S1 |
| TL-1ST-02SP    | G1/8"X28   | R1/8"X28   | 12         | 10   | 28   | 14 |
| TL-1ST-02-04SP | G1/8"X28   | R1/4"X19   | 12         | 14.5 | 32.5 | 17 |
| TL-1ST-04SP    | G1/4"X19   | R1/4"X19   | 16         | 14.5 | 36.5 | 17 |
| TL-1ST-04-02SP | G1/4"X19   | R1/8"X28   | 16         | 10   | 32   | 17 |
| TL-1ST-04-06SP | G1/4"X19   | R3/8"X19   | 16         | 15   | 37   | 19 |
| TL-1ST-04-08SP | G1/4"X19   | R1/2"X14   | 16         | 20   | 44   | 22 |
| TL-1ST-06SP    | G3/8"X19   | R3/8"X19   | 18         | 15   | 39   | 19 |
| TL-1ST-06-04SP | G3/8"X19   | R1/4"X19   | 18         | 14.5 | 40.5 | 22 |
| TL-1ST-06-08SP | G3/8"X19   | R1/2"X14   | 18         | 20   | 46   | 22 |
| TL-1ST-08SP    | G1/2"X14   | R1/2"X14   | 20         | 20   | 48   | 22 |
| TL-1ST-08-04SP | G1/2"X14   | R1/4"X19   | 20         | 14.5 | 42.5 | 22 |
| TL-1ST-08-06SP | G1/2"X14   | R3/8"X19   | 20         | 15   | 45   | 22 |
| TL-1ST-08-12SP | G1/2"X14   | R3/4"X14   | 20         | 20   | 50   | 27 |
| TL-1ST-12SP    | G3/4"X14   | R3/4"X14   | 22         | 20   | 53   | 30 |
| TL-1ST-12-08SP | G3/4"X14   | R1/2"X14   | 22         | 20   | 52   | 30 |
| TL-1ST-12-16SP | G3/4"X14   | R1"X11     | 22         | 25.5 | 58.5 | 36 |
| TL-1ST-16SP    | G1"X11     | R1"X11     | 24         | 25.5 | 62.5 | 41 |
| TL-1ST-16-12SP | G1"X11     | R3/4"X14   | 24         | 20   | 57   | 41 |
| TL-1ST-20SP    | G1.1/4"X11 | R1.1/4"X11 | 27         | 26.5 | 66   | 46 |
| TL-1S14-24SP   | G1.1/2"X11 | R1.1/2"X11 | 27         | 26.5 | 67.5 | 50 |
| TL-1ST-32SP    | G2"X11     | R2"X11     | 30         | 30   | 77   | 65 |



## TL-1ST4-SP

JIS. Elbow 45°. Male Gas BSPP. 60° Flare. Male BSPT

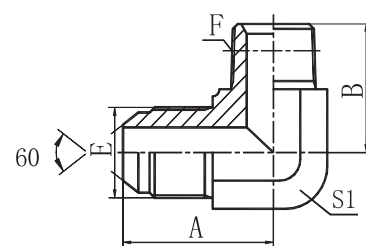
| PART NO.        | THREAD     |            | DIMENSIONS |      |    |
|-----------------|------------|------------|------------|------|----|
|                 | E          | F          | A          | B    | S1 |
| TL-1ST4-02SP    | G1/8"X28   | R1/8"X28   | 19         | 17   | 11 |
| TL-1ST4-02-04SP | G1/8"X28   | R1/4"X19   | 19.8       | 21   | 14 |
| TL-1ST4-04SP    | G1/4"X19   | R1/4"X19   | 24         | 21   | 14 |
| TL-1ST4-04-02SP | G1/4"X19   | R1/8"X28   | 24.5       | 17.5 | 14 |
| TL-1ST4-04-06SP | G1/4"X19   | R3/8"X19   | 24.5       | 23   | 16 |
| TL-1ST4-04-08SP | G1/4"X19   | R1/2"X14   | 26.5       | 29.5 | 22 |
| TL-1ST4-06SP    | G3/8"X19   | R3/8"X19   | 26         | 23   | 16 |
| TL-1ST4-06-04SP | G3/8"X19   | R1/4"X19   | 26         | 21   | 16 |
| TL-1ST4-06-08SP | G3/8"X19   | R1/2"X14   | 28.5       | 29.5 | 22 |
| TL-1ST4-08SP    | G1/2"X14   | R1/2"X14   | 31         | 29.5 | 22 |
| TL-1ST4-08-06SP | G1/2"X14   | R3/8"X19   | 30.5       | 25   | 22 |
| TL-1ST4-12SP    | G3/4"X14   | R3/4"X14   | 34.5       | 30.5 | 27 |
| TL-1ST4-12-08SP | G3/4"X14   | R1/2"X14   | 34         | 30   | 27 |
| TL-1ST4-16SP    | G1"X11     | R1"X11     | 37.5       | 38   | 33 |
| TL-1ST4-16-12SP | G1"X11     | R3/4"X14   | 37.5       | 32   | 33 |
| TL-1ST4-20SP    | G1.1/4"X11 | R1.1/4"X11 | 44.5       | 43   | 41 |
| TL-1ST4-24SP    | G1.1/2"X11 | R1.1/2"X11 | 47.5       | 47   | 48 |
| TL-1ST4-32SP    | G2"X11     | R2"X11     | 54         | 53   | 63 |



## TL-1ST9-SP

JIS. Elbow 90°. Male Gas BSPP. 60° Flare.  
Male BSPT

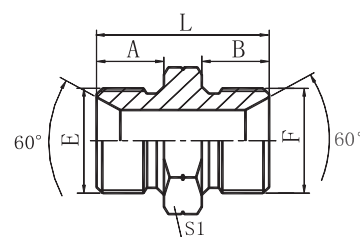
| PART NO.        | THREAD     |            | DIMENSIONS |      |    |
|-----------------|------------|------------|------------|------|----|
|                 | E          | F          | A          | B    | S1 |
| TL-1ST9-02SP    | G1/8"X28   | R1/8"X28   | 21.8       | 21   | 11 |
| TL-1ST9-02-04SP | G1/8"X28   | R1/4"X19   | 24.3       | 25.5 | 14 |
| TL-1ST9-04SP    | G1/4"X19   | R1/4"X19   | 29         | 25.5 | 14 |
| TL-1ST9-04-02SP | G1/4"X19   | R1/8"X28   | 29         | 23.5 | 14 |
| TL-1ST9-04-06SP | G1/4"X19   | R3/8"X19   | 30         | 28.5 | 16 |
| TL-1ST9-06SP    | G3/8"X19   | R3/8"X19   | 31.5       | 28.5 | 17 |
| TL-1ST9-06-04SP | G3/8"X19   | R1/4"X19   | 31.5       | 26.5 | 16 |
| TL-1ST9-06-08SP | G3/8"X19   | R1/2"X14   | 36         | 36   | 22 |
| TL-1ST9-08SP    | G1/2"X14   | R1/2"X14   | 38         | 36   | 22 |
| TL-1ST9-08-06SP | G1/2"X14   | R3/8"X19   | 38         | 32.5 | 22 |
| TL-1ST9-08-12SP | G1/2"X14   | R3/4"X14   | 41         | 43.5 | 27 |
| TL-1ST9-12SP    | G3/4"X14   | R3/4"X14   | 43         | 43.5 | 27 |
| TL-1ST9-12-08SP | G3/4"X14   | R1/2"X14   | 43         | 39.5 | 27 |
| TL-1ST9-12-16SP | G3/4"X14   | R1"X11     | 47         | 50   | 33 |
| TL-1ST9-16SP    | G1"X11     | R1"X11     | 48.5       | 50   | 33 |
| TL-1ST9-20SP    | G1.1/4"X11 | R1.1/4"X11 | 57         | 56.5 | 41 |
| TL-1ST9-24SP    | G1.1/2"X11 | R1.1/2"X11 | 61         | 62.5 | 48 |
| TL-1ST9-32SP    | G2"X1      | R2"X11     | 73.2       | 74.2 | 63 |



## TL-1B

Straight. Male BSPP. 60° seat/Bonded seal.  
Male BSPP. 60° seat/Bonded seal

| PART NO.    | THREAD   |          | DIMENSIONS |      |      |    |
|-------------|----------|----------|------------|------|------|----|
|             | E        | F        | A          | B    | L    | S1 |
| TL-1B-02    | G1/8"X28 | G1/8"X28 | 10         | 10   | 26   | 14 |
| TL-1B-02-04 | G1/8"X28 | G1/4"X19 | 10         | 12   | 28   | 19 |
| TL-1B-02-06 | G1/8"X28 | G3/8"X19 | 10         | 13.5 | 31.5 | 22 |
| TL-1B-02-08 | G1/8"X28 | G1/2"X14 | 10         | 16   | 36   | 27 |
| TL-1B-04    | G1/4"X19 | G1/4"X19 | 12         | 12   | 30   | 19 |
| TL-1B-04-06 | G1/4"X19 | G3/8"X19 | 12         | 13.5 | 33.5 | 22 |
| TL-1B-04-08 | G1/4"X19 | G1/2"X14 | 12         | 16   | 38   | 27 |
| TL-1B-04-10 | G1/4"X19 | G5/8"X14 | 12         | 17.5 | 39.5 | 30 |
| TL-1B-06    | G3/8"X19 | G3/8"X19 | 13.5       | 13.5 | 33   | 22 |
| TL-1B-06-08 | G3/8"X19 | G1/2"X14 | 13.5       | 16   | 39.5 | 27 |
| TL-1B-06-10 | G3/8"X19 | G5/8"X14 | 13.5       | 17.5 | 41   | 30 |
| TL-1B-06-12 | G3/8"X19 | G3/4"X14 | 13.5       | 18.5 | 43   | 32 |
| TL-1B-08    | G1/2"X14 | G1/2"X14 | 16         | 16   | 42   | 27 |
| TL-1B-08-10 | G1/2"X14 | G5/8"X14 | 16         | 17.5 | 43.5 | 30 |
| TL-1B-08-12 | G1/2"X14 | G3/4"X14 | 16         | 18.5 | 45.5 | 32 |
| TL-1B-10    | G5/8"X14 | G5/8"X14 | 17.5       | 17.5 | 45   | 30 |
| TL-1B-10-12 | G5/8"X14 | G3/4"X14 | 17.5       | 18.5 | 47   | 32 |
| TL-1B-10-16 | G5/8"X14 | G1"X11   | 17.5       | 20.5 | 51.5 | 41 |



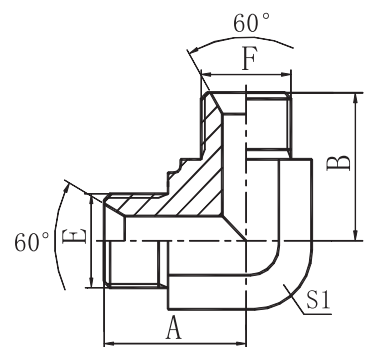
NEXT >

| PART NO.    | THREAD     |            | DIMENSIONS |      |      |     |
|-------------|------------|------------|------------|------|------|-----|
|             | E          | F          | A          | B    | L    | S1  |
| TL-1B-12    | G3/4"X14   | G3/4"X14   | 18.5       | 18.5 | 48   | 32  |
| TL-1B-12-16 | G3/4"X14   | G1"X11     | 18.5       | 20.5 | 52.5 | 41  |
| TL-1B-12-20 | G3/4"X14   | G1.1/4"X11 | 18.5       | 20.5 | 56   | 50  |
| TL-1B-16    | G1"X11     | G1"X11     | 20.5       | 20.5 | 54   | 41  |
| TL-1B-16-20 | G1"X11     | G1.1/4"X11 | 20.5       | 20.5 | 58   | 50  |
| TL-1B-16-24 | G1"X11     | G1.1/2"X11 | 20.5       | 23   | 60.5 | 55  |
| TL-1B-20    | G1.1/4"X11 | G1.1/4"X11 | 20.5       | 20.5 | 58   | 50  |
| TL-1B-20-24 | G1.1/4"X11 | G1.1/2"X11 | 20.5       | 23   | 60.5 | 55  |
| TL-1B-24    | G1.1/2"X11 | G1.1/2"X11 | 23         | 23   | 63   | 55  |
| TL-1B-24-32 | G1.1/2"X11 | G2"X11     | 23         | 25.5 | 66.5 | 70  |
| TL-1B-32    | G2"X1      | G2"X11     | 25.5       | 25.5 | 68   | 70  |
| TL-1B-40    | G2.1/2"X11 | G2.1/2"X11 | 32         | 32   | 81   | 90  |
| TL-1B-48    | G3"X11     | G3"X11     | 36         | 36   | 92   | 100 |

## TL-1B9

Elbow 90°. Male BSPP. 60° seat/Bonded seal.  
Male BSPP. 60° seat/Bonded seal

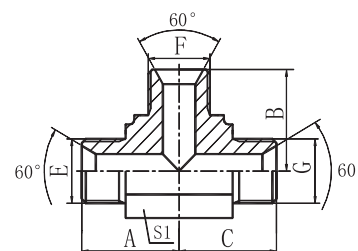
| PART NO.     | THREAD     |            | DIMENSIONS |      |    |  |
|--------------|------------|------------|------------|------|----|--|
|              | E          | F          | A          | B    | S1 |  |
| TL-1B9-02    | G1/8"X28   | G1/8"X28   | 19.8       | 19.8 | 11 |  |
| TL-1B9-02-04 | G1/8"X28   | G1/4"X19   | 23         | 25   | 14 |  |
| TL-1B9-04    | G1/4"X19   | G1/4"X19   | 24.5       | 24.5 | 14 |  |
| TL-1B9-04-06 | G1/4"X19   | G3/8"X19   | 26.5       | 27.5 | 16 |  |
| TL-1B9-06    | G3/8"X19   | G3/8"X19   | 27.5       | 27.5 | 16 |  |
| TL-1B9-06-08 | G3/8"X19   | G1/2"X14   | 31         | 34.5 | 22 |  |
| TL-1B9-08    | G1/2"X14   | G1/2"X14   | 34.5       | 34.5 | 22 |  |
| TL-1B9-08-12 | G1/2"X14   | G3/4"X14   | 37.5       | 40   | 27 |  |
| TL-1B9-10    | G5/8"X14   | G5/8"X14   | 35         | 35   | 22 |  |
| TL-1B9-10-12 | G5/8"X14   | G3/4"X14   | 37.5       | 40   | 27 |  |
| TL-1B9-12    | G3/4"X14   | G3/4"X14   | 40         | 40   | 27 |  |
| TL-1B9-12-16 | G3/4"X14   | G1"X11     | 43.5       | 46   | 33 |  |
| TL-1B9-16    | G1"X11     | G1"X11     | 46         | 46   | 33 |  |
| TL-1B9-16-20 | G1"X11     | G1.1/4"X11 | 50.5       | 50.5 | 41 |  |
| TL-1B9-20    | G1.1/4"X11 | G1.1/4"X11 | 50.5       | 50.5 | 41 |  |
| TL-1B9-20-24 | G1.1/4"X11 | G1.1/2"X11 | 54.5       | 57.5 | 48 |  |
| TL-1B9-24    | G1.1/2"X11 | G1.1/2"X11 | 57.5       | 57.5 | 48 |  |
| TL-1B9-32    | G2"X11     | G2"X11     | 68         | 68   | 63 |  |



## TL-AB

Branch Tee. Male BSPP. 60° seat. Male BSPP. 60° seat.  
Male BSPP. 60° seat

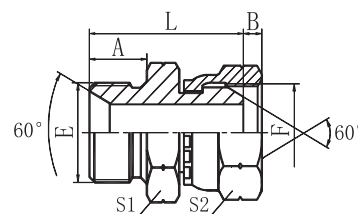
| PART NO.       | THREAD     |            |            | DIMENSIONS |      |      |    |
|----------------|------------|------------|------------|------------|------|------|----|
|                | E          | F          | G          | A          | B    | C    | S1 |
| TL-AB-02       | G1/8"X28   | G1/8"X28   | G1/8"X28   | 19.8       | 19.8 | 19.8 | 11 |
| TL-AB-04       | G1/4"X19   | G1/4"X19   | G1/4"X19   | 24.5       | 24.5 | 24.5 | 14 |
| TL-AB-04-06-04 | G1/4"X19   | G3/8"X19   | G1/4"X19   | 26.5       | 27.5 | 26.5 | 16 |
| TL-AB-06-04-06 | G3/8"X19   | G1/4"X19   | G3/8"X19   | 27.5       | 26.5 | 27.5 | 16 |
| TL-AB-06       | G3/8"X19   | G3/8"X19   | G3/8"X19   | 27.5       | 27.5 | 27.5 | 16 |
| TL-AB-06-08-06 | G3/8"X19   | G1/2"X14   | G3/8"X19   | 31         | 34.5 | 31   | 22 |
| TL-AB-08-06-08 | G1/2"X14   | G3/8"X19   | G1/2"X14   | 34.5       | 31   | 34.5 | 22 |
| TL-AB-08       | G1/2"X14   | G1/2"X14   | G1/2"X14   | 34.5       | 34.5 | 34.5 | 22 |
| TL-AB-10       | G5/8"X14   | G5/8"X14   | G5/8"X14   | 35         | 35   | 35   | 22 |
| TL-AB-12       | G3/4"X14   | G3/4"X14   | G3/4"X14   | 40         | 40   | 40   | 27 |
| TL-AB-12-16-12 | G3/4"X14   | G1"X11     | G3/4"X14   | 43.5       | 46   | 43.5 | 33 |
| TL-AB-16-12-16 | G1"X11     | G3/4"X14   | G1"X11     | 46         | 43.5 | 46   | 33 |
| TL-AB-16       | G1"X11     | G1"X11     | G1"X11     | 46         | 46   | 46   | 33 |
| TL-AB-20       | G1.1/4"X11 | G1.1/4"X11 | G1.1/4"X11 | 50.5       | 50.5 | 50.5 | 41 |
| TL-AB-24       | G1.1/2"X11 | G1.1/2"X11 | G1.1/2"X11 | 57.5       | 57.5 | 57.5 | 48 |
| TL-AB-32       | G2"X11     | G2"X11     | G2"X11     | 72.5       | 72.5 | 72.5 | 63 |



## TL-2B

Straight. Male BSPP. 60° seat/Bonded seal.  
Female BSPP. 60°

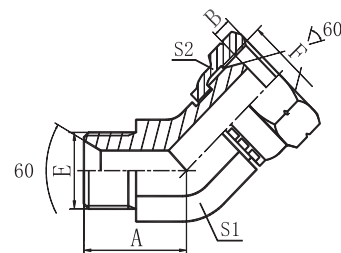
| PART NO.    | THREAD     |            | DIMENSIONS |      |      |    |    |
|-------------|------------|------------|------------|------|------|----|----|
|             | E          | F          | A          | B    | L    | S1 | S2 |
| TL-2B-02    | G1/8"X28   | G1/8"X28   | 10         | 6    | 25   | 14 | 14 |
| TL-2B-02-04 | G1/8"X28   | G1/4"X19   | 10         | 5    | 27   | 14 | 19 |
| TL-2B-04    | G1/4"X19   | G1/4"X19   | 12         | 5    | 29   | 19 | 19 |
| TL-2B-04-06 | G1/4"X19   | G3/8"X19   | 12         | 6.5  | 30.5 | 19 | 22 |
| TL-2B-04-08 | G1/4"X19   | G1/2"X14   | 12         | 7.8  | 32   | 19 | 27 |
| TL-2B-06    | G3/8"X19   | G3/8"X19   | 13.5       | 6.5  | 34   | 22 | 22 |
| TL-2B-06-08 | G3/8"X19   | G1/2"X14   | 13.5       | 7.8  | 35.5 | 22 | 27 |
| TL-2B-06-10 | G3/8"X19   | G5/8"X14   | 13.5       | 9    | 36   | 22 | 30 |
| TL-2B-08    | G1/2"X14   | G1/2"X14   | 16         | 7.8  | 40   | 27 | 27 |
| TL-2B-08-06 | G1/2"X14   | G3/8"X19   | 16         | 6.5  | 38.5 | 27 | 22 |
| TL-2B-08-12 | G1/2"X14   | G3/4"X14   | 16         | 10.5 | 41   | 27 | 32 |
| TL-2B-10    | G5/8"X14   | G5/8"X14   | 17.5       | 9    | 42   | 30 | 30 |
| TL-2B-10-08 | G5/8"X14   | G1/2"X14   | 17.5       | 7.8  | 41.5 | 30 | 27 |
| TL-2B-10-12 | G5/8"X14   | G3/4"X14   | 17.5       | 10.5 | 42.5 | 30 | 32 |
| TL-2B-12    | G3/4"X14   | G3/4"X14   | 18.5       | 10.5 | 44.5 | 32 | 32 |
| TL-2B-12-10 | G3/4"X14   | G5/8"X14   | 18.5       | 9    | 44   | 32 | 30 |
| TL-2B-12-16 | G3/4"X14   | G1"X11     | 18.5       | 11   | 46   | 32 | 41 |
| TL-2B-16    | G1"X11     | G "X11     | 20.5       | 11   | 50   | 41 | 41 |
| TL-2B-16-12 | G1"X11     | G3/4"X14   | 20.5       | 10.5 | 48   | 41 | 32 |
| TL-2B-16-20 | G1"X11     | G1.1/4"X11 | 20.5       | 11.5 | 53   | 41 | 50 |
| TL-2B-20    | G1.1/4"X11 | G1.1/4"X11 | 20.5       | 11.5 | 55   | 50 | 50 |
| TL-2B-20-16 | G1.1/4"X11 | G1"X11     | 20.5       | 11   | 52   | 50 | 41 |
| TL-2B-20-24 | G1.1/4"X11 | G1.1/2"X11 | 20.5       | 12.5 | 55.5 | 50 | 55 |
| TL-2B-24    | G1.1/2"X11 | G1.1/2"X11 | 23         | 12.5 | 58   | 55 | 55 |
| TL-2B-32    | G2"X11     | G2"X11     | 25.5       | 16   | 66   | 70 | 70 |



## TL-2B4

Elbow 45°. Male BSPP. 60° seat/Bonded seal.  
Female BSPP. 60° inverted cone

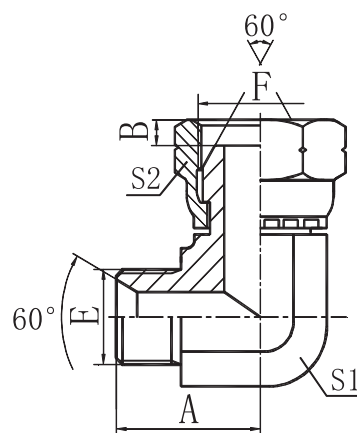
| PART NO.     | THREAD     |            | DIMENSIONS |      |    |    |
|--------------|------------|------------|------------|------|----|----|
|              | E          | F          | A          | B    | S1 | S2 |
| TL-2B4-04    | G1/4"X19   | G1/4"X19   | 20.5       | 5    | 14 | 19 |
| TL-2B4-04-06 | G1/4"X19   | G3/8"X19   | 20.5       | 6.5  | 14 | 22 |
| TL-2B4-06    | G3/8"X19   | G3/8"X19   | 22         | 6.5  | 16 | 22 |
| TL-2B4-06-04 | G3/8"X19   | G1/4"X19   | 22         | 5    | 16 | 19 |
| TL-2B4-08    | G1/2"X14   | G1/2"X14   | 27         | 7.8  | 22 | 27 |
| TL-2B4-08-06 | G1/2"X14   | G3/8"X19   | 27         | 6.5  | 22 | 22 |
| TL-2B4-10    | G5/8"X14   | G5/8"X14   | 28.5       | 9    | 22 | 30 |
| TL-2B4-10-08 | G5/8"X14   | G1/2"X14   | 28.5       | 7.8  | 22 | 27 |
| TL-2B4-12    | G3/4"X14   | G3/4"X14   | 31         | 10.5 | 27 | 32 |
| TL-2B4-16    | G1"X11     | G1"X11     | 35         | 11   | 33 | 41 |
| TL-2B4-20    | G1.1/4"X11 | G1.1/4"X11 | 38.5       | 11.5 | 41 | 50 |
| TL-2B4-24    | G1.1/2"X11 | G1.1/2"X11 | 44         | 12.5 | 48 | 55 |
| TL-2B4-32    | G2"X11     | G2"X11     | 51         | 16   | 63 | 70 |



## TL-2B9

Elbow 90°. Male BSPP. 60° seat/Bonded seal.  
Female BSPP. 60° inverted cone

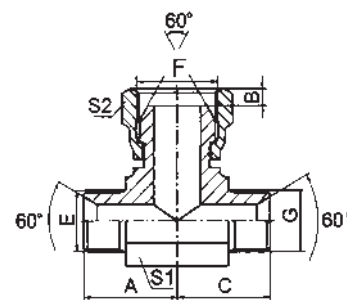
| PART NO.     | THREAD     |            | DIMENSIONS |      |    |    |
|--------------|------------|------------|------------|------|----|----|
|              | E          | F          | A          | B    | S1 | S2 |
| TL-2B9-02    | G1/8"X28   | G1/8"X28   | 19.8       | 6    | 11 | 14 |
| TL-2B9-04    | G1/4"X19   | G1/4"X19   | 24.5       | 5    | 14 | 19 |
| TL-2B9-04-06 | G1/4"X19   | G3/8"X19   | 25         | 6.5  | 14 | 22 |
| TL-2B9-06    | G3/8"X19   | G3/8"X19   | 27.5       | 6.5  | 16 | 22 |
| TL-2B9-06-04 | G3/8"X19   | G1/4"X19   | 27.5       | 5    | 16 | 19 |
| TL-2B9-08    | G1/2"X14   | G1/2"X14   | 34.5       | 7.8  | 22 | 27 |
| TL-2B9-08-06 | G1/2"X14   | G3/8"X19   | 34.5       | 6.5  | 22 | 22 |
| TL-2B9-10    | G5/8"X14   | G5/8"X14   | 35         | 9    | 22 | 30 |
| TL-2B9-10-08 | G5/8"X14   | G1/2"X14   | 35         | 7.8  | 22 | 27 |
| TL-2B9-12    | G3/4"X14   | G3/4"X14   | 40         | 10.5 | 27 | 32 |
| TL-2B9-16    | G1"X11     | G1"X11     | 46         | 11   | 33 | 41 |
| TL-2B9-20    | G1.1/4"X11 | G1.1/4"X11 | 50.5       | 11.5 | 41 | 50 |
| TL-2B9-24    | G1.1/2"X11 | G1.1/2"X11 | 57.5       | 12.5 | 48 | 55 |
| TL-2B9-32    | G2"X11     | G2"X11     | 72.5       | 16   | 63 | 70 |



## TL-BB

Branch Tee. Male BSPP. 60° seat. Male BSPP. 60° seat.  
Female BSPP. 60° inverted cone

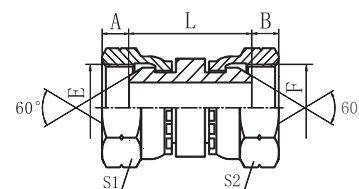
| PART NO. | THREAD     |            |            | DIMENSIONS |      |      |    |    |
|----------|------------|------------|------------|------------|------|------|----|----|
|          | E          | F          | G          | A          | B    | C    | S1 | S2 |
| TL-BB-02 | G1/8"X28   | G1/8"X28   | G1/8"X28   | 19.8       | 6    | 19.8 | 11 | 14 |
| TL-BB-04 | G1/4"X19   | G1/4"X19   | G1/4"X19   | 24.5       | 5    | 24.5 | 14 | 19 |
| TL-BB-06 | G3/8"X19   | G3/8"X19   | G3/8"X19   | 27.5       | 6.5  | 27.5 | 16 | 22 |
| TL-BB-08 | G1/2"X14   | G1/2"X14   | G1/2"X14   | 34.5       | 7.8  | 34.5 | 22 | 27 |
| TL-BB-12 | G3/4"X14   | G3/4"X14   | G3/4"X14   | 40         | 10.5 | 40   | 27 | 32 |
| TL-BB-16 | G1"X11     | G1"X11     | G1"X11     | 46         | 11   | 46   | 33 | 41 |
| TL-BB-20 | G1.1/4"X11 | G1.1/4"X11 | G1.1/4"X11 | 50.5       | 11.5 | 50.5 | 41 | 50 |
| TL-BB-24 | G1.1/2"X11 | G1.1/2"X11 | G1.1/2"X11 | 57.5       | 12.5 | 57.5 | 48 | 55 |
| TL-BB-32 | G2"X11     | G2"X11     | G2"X11     | 72.5       | 16   | 72.5 | 63 | 70 |



## TL-3B

Straight. Female. BSPP 60° seat. Female. BSPP 60° seat.  
Female. BSPP 60°

| PART NO.     | THREAD     |            | DIMENSIONS |      |      |    |    |
|--------------|------------|------------|------------|------|------|----|----|
|              | E          | F          | A          | B    | L    | S1 | S2 |
| TL-P3B-02    | G1/8"X28   | G1/8"X28   | 6          | 6    | 20.5 | 14 | 14 |
| TL-P3B-02-04 | G1/8"X28   | G1/4"X19   | 6          | 5    | 23   | 14 | 19 |
| TL-P3B-04    | G1/4"X19   | G1/4"X19   | 5          | 5    | 25   | 19 | 19 |
| TL-P3B-04-06 | G1/4"X19   | G3/8"X19   | 5          | 6.5  | 27   | 19 | 22 |
| TL-P3B-04-08 | G1/4"X19   | G1/2"X14   | 5          | 7.8  | 28.5 | 19 | 27 |
| TL-P3B-06    | G3/8"X19   | G3/8"X19   | 6.5        | 6.5  | 29   | 22 | 22 |
| TL-P3B-06-08 | G3/8"X19   | G1/2"X14   | 6.5        | 7.8  | 30.5 | 22 | 27 |
| TL-P3B-08    | G1/2"X14   | G1/2"X14   | 7.8        | 7.8  | 31.5 | 27 | 27 |
| TL-P3B-08-10 | G1/2"X14   | G5/8"X14   | 7.8        | 9    | 32.5 | 27 | 30 |
| TL-P3B-08-12 | G1/2"X14   | G3/4"X14   | 7.8        | 10.5 | 32.5 | 27 | 32 |
| TL-P3B-10    | G5/8"X14   | G5/8"X14   | 9          | 9    | 33   | 30 | 30 |
| TL-P3B-10-12 | G5/8"X14   | G3/4"X14   | 9          | 10.5 | 33   | 30 | 32 |
| TL-P3B-12    | G3/4"X14   | G3/4"X14   | 10.5       | 10.5 | 33.5 | 32 | 32 |
| TL-P3B-12-16 | G3/4"X14   | G1"X11     | 10.5       | 11   | 35   | 32 | 41 |
| TL-P3B-16    | G1"X11     | G1"X11     | 11         | 11   | 36.5 | 41 | 41 |
| TL-P3B-16-20 | G1"X11     | G1.1/4"X11 | 11         | 11.5 | 38   | 41 | 50 |
| TL-P3B-20    | G1.1/4"X11 | G1.1/4"X11 | 11.5       | 11.5 | 41   | 50 | 50 |
| TL-P3B-24    | G1.1/2"X11 | G1.1/2"X11 | 12.5       | 12.5 | 43   | 55 | 55 |
| TL-P3B-32    | G2"X11     | G2"X11     | 16         | 16   | 51   | 70 | 70 |

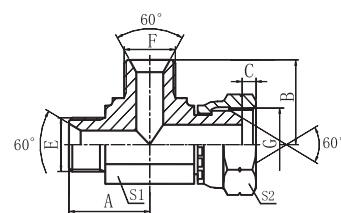




## TL-CB

Branch Tee. Male BSPP. 60° seat. Male BSPP. 60° seat.  
Female BSPP 60°

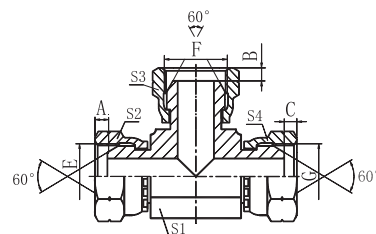
| PART NO.       | THREAD     |            |            | DIMENSIONS |      |      |    |    |
|----------------|------------|------------|------------|------------|------|------|----|----|
|                | E          | F          | G          | A          | B    | C    | S1 | S2 |
| TL-CB-04       | G1/4"X19   | G1/4"X19   | G1/4"X19   | 25         | 25   | 5    | 14 | 19 |
| TL-CB-06       | G3/8"X19   | G3/8"X19   | G3/8"X19   | 27.5       | 27.5 | 6.5  | 16 | 22 |
| TL-CB-08       | G1/2"X14   | G1/2"X14   | G1/2"X14   | 34.5       | 34.5 | 7.8  | 22 | 27 |
| TL-CB-08-06-08 | G1/2"X14   | G3/8"X19   | G1/2"X14   | 34.5       | 31   | 7.8  | 22 | 27 |
| TL-CB-10       | G5/8"X14   | G5/8"X14   | G5/8"X14   | 34.5       | 34.5 | 9    | 22 | 30 |
| TL-CB-12       | G3/4"X14   | G3/4"X14   | G3/4"X14   | 40         | 40   | 10.5 | 27 | 32 |
| TL-CB-12-06-12 | G3/4"X14   | G3/8"X19   | G3/4"X14   | 40         | 34.5 | 10.5 | 27 | 32 |
| TL-CB-12-08-12 | G3/4"X14   | G1/2"X14   | G3/4"X14   | 40         | 37.5 | 10.5 | 27 | 32 |
| TL-CB-16       | G1"X11     | G1"X11     | G1"X11     | 46         | 46   | 11   | 33 | 41 |
| TL-CB-20       | G1.1/4"X11 | G1.1/4"X11 | G1.1/4"X11 | 50.5       | 50.5 | 11.5 | 41 | 50 |
| TL-CB-24       | G1.1/2"X11 | G1.1/2"X11 | G1.1/2"X11 | 57.5       | 57.5 | 12.5 | 48 | 55 |



## TL-DB

Branch Tee. Female BSPP. 60° seat. Female BSPP. 60° seat.  
Female BSPP 60°.

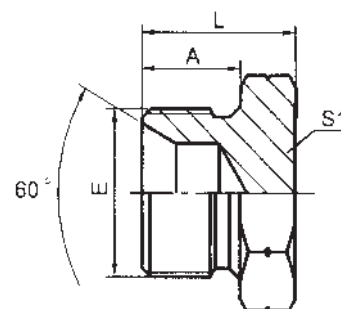
| PART NO.       | THREAD     |            |            | DIMENSIONS |      |    |        |    |
|----------------|------------|------------|------------|------------|------|----|--------|----|
|                | E          | F          | G          | A, C       | B    | S1 | S2, S4 | S3 |
| TL-DB-02       | G1/8"X28   | G1/8"X28   | G1/8"X28   | 6          | 6    | 11 | 14     | 14 |
| TL-DB-04       | G1/4"X19   | G1/4"X19   | G1/4"X19   | 5          | 5    | 11 | 19     | 19 |
| TL-DB-06       | G3/8"X19   | G3/8"X19   | G3/8"X19   | 6.5        | 6.5  | 14 | 22     | 22 |
| TL-DB-08       | G1/2"X14   | G1/2"X14   | G1/2"X14   | 7.8        | 7.8  | 19 | 27     | 27 |
| TL-DB-10       | G5/8"X14   | G5/8"X14   | G5/8"X14   | 9          | 9    | 22 | 30     | 30 |
| TL-DB-12       | G3/4"X14   | G3/4"X14   | G3/4"X14   | 10.5       | 10.5 | 24 | 32     | 32 |
| TL-DB-12-08-12 | G3/4"X14   | G1/2"X14   | G3/4"X14   | 10.5       | 7.8  | 24 | 32     | 27 |
| TL-DB-16       | G1"X11     | G1"X11     | G1"X11     | 11         | 11   | 30 | 41     | 41 |
| TL-DB-16-12-16 | G1"X11     | G3/4"X14   | G1"X11     | 11         | 10.5 | 30 | 41     | 32 |
| TL-DB-20       | G1.1/4"X11 | G1.1/4"X11 | G1.1/4"X11 | 11.5       | 11.5 | 36 | 50     | 50 |
| TL-DB-24       | G1.1/2"X11 | G1.1/2"X11 | G1.1/2"X11 | 12.5       | 12.5 | 48 | 55     | 55 |
| TL-DB-32       | G2"X11     | G2"X11     | G2"X11     | 16         | 16   | 55 | 70     | 70 |



## TL-4B

Male BSPP. 60° seat. Plug

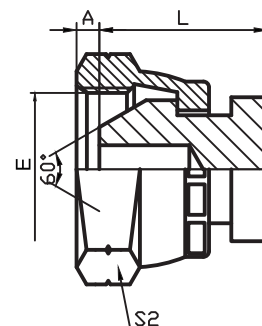
| PART NO. | THREAD     | DIMENSIONS |      |    |
|----------|------------|------------|------|----|
|          | E          | A          | B    | S1 |
| TL-4B-02 | G1/8"X28   | 10         | 16   | 14 |
| TL-4B-04 | G1/4"X19   | 12         | 18   | 19 |
| TL-4B-06 | G3/8"X19   | 13.5       | 21.5 | 22 |
| TL-4B-08 | G1/2"X14   | 16         | 26   | 27 |
| TL-4B-10 | G5/8"X14   | 17.5       | 27.5 | 30 |
| TL-4B-12 | G3/4"X14   | 18.5       | 29.5 | 32 |
| TL-4B-16 | G1"X11     | 20.5       | 34   | 41 |
| TL-4B-20 | G1.1/4"X11 | 20.5       | 37.5 | 50 |
| TL-4B-24 | G1.1/2"X11 | 23         | 40   | 55 |
| TL-4B-32 | G2"X11     | 25.5       | 43.5 | 70 |



## TL-9B

Female BSPP. 60° seat.  
Inverted cone

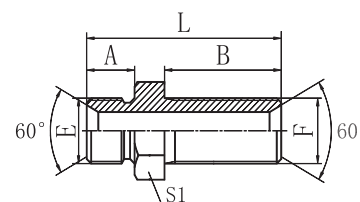
| PART NO. | THREAD     |  | DIMENSIONS |      |    |
|----------|------------|--|------------|------|----|
|          | E          |  | A          | L    | S2 |
| TL-9B-02 | G1/8"X28   |  | 6          | 12   | 14 |
| TL-9B-04 | G1/4"X19   |  | 5          | 14   | 19 |
| TL-9B-06 | G3/8"X19   |  | 6.5        | 16   | 22 |
| TL-9B-08 | G1/2"X14   |  | 7.8        | 17.5 | 27 |
| TL-9B-10 | G5/8"X14   |  | 9          | 18   | 30 |
| TL-9B-12 | G3/4"X14   |  | 10.5       | 18.5 | 32 |
| TL-9B-16 | G1"X11     |  | 11         | 20.5 | 41 |
| TL-9B-20 | G1.1/4"X11 |  | 11.5       | 22.5 | 50 |
| TL-9B-24 | G1.1/2"X11 |  | 12.5       | 23.5 | 55 |
| TL-9B-32 | G2"X11     |  | 16         | 28   | 70 |



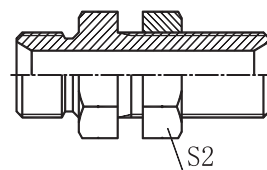
## TL-6B · TL-6B-LN

Male BSPP. 60° seat. Male BSP. 60° seat.  
Bulkhead

| PART NO.    | THREAD     |            | DIMENSIONS |    |      |    |    |
|-------------|------------|------------|------------|----|------|----|----|
|             | E          | F          | A          | B  | L    | S1 | S2 |
| TL-6B-02    | G1/8"X28   | G1/8"X28   | 10         | 33 | 49   | 14 | 14 |
| TL-6B-04    | G1/4"X19   | G1/4"X19   | 12         | 35 | 53   | 19 | 19 |
| TL-6B-04-06 | G1/4"X19   | G3/8"X 19  | 12         | 35 | 55   | 22 | 22 |
| TL-6B-06    | G3/8"X19   | G3/8"X19   | 13.5       | 35 | 56.5 | 22 | 22 |
| TL-6B-06-08 | G3/8"X19   | G1/2"X14   | 13.5       | 39 | 62.5 | 27 | 27 |
| TL-6B-08    | G1/2"X14   | G1/2"X14   | 16         | 39 | 65   | 27 | 27 |
| TL-6B-08-06 | G1/2"X14   | G3/8"X 19  | 16         | 35 | 61   | 27 | 22 |
| TL-6B-08-16 | G1/2"X14   | G1"X11     | 16         | 50 | 79   | 41 | 41 |
| TL-6B-10    | G5/8"X14   | G5/8"X14   | 17.5       | 40 | 67.5 | 30 | 30 |
| TL-6B-12    | G3/4"X14   | G3/4"X14   | 18.5       | 42 | 71.5 | 32 | 32 |
| TL-6B-12-08 | G3/4"X14   | G1/2"X14   | 18.5       | 39 | 68.5 | 32 | 27 |
| TL-6B-12-16 | G3/4"X14   | G1"X11     | 18.5       | 50 | 82   | 41 | 41 |
| TL-6B-16    | G1"X11     | G1"X11     | 20.5       | 50 | 84   | 41 | 41 |
| TL-6B-20    | G1.1/4"X11 | G1.1/4"X11 | 20.5       | 52 | 89.5 | 50 | 50 |
| TL-6B-24    | G1.1/2"X11 | G1.1/2"X11 | 23         | 55 | 93   | 55 | 55 |
| TL-6B-32    | G2"X11     | G2"X11     | 25.5       | 55 | 97.5 | 70 | 70 |



TL-6B



TL-6B-LN

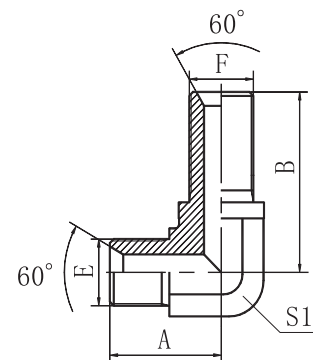
**Note:** If you are interested to order the adapter in complete set with lock nut, it is necessary to insert suffix "LN" after our part number for example TL-6B-16LN.

## TL-6B9 · TL-6B9-LN

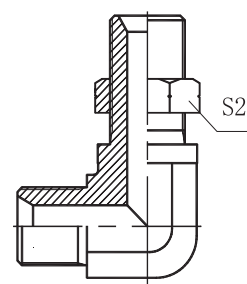
Elbow 90°. Male BSPP. 60° seat. Male BSPP. 60° seat.  
Bulkhead

| PART NO.  | THREAD   |          | DIMENSIONS |      |    |    |
|-----------|----------|----------|------------|------|----|----|
|           | E        | F        | A          | B    | S1 | S2 |
| TL-6B9-04 | G1/4"X19 | G1/4"X19 | 25         | 51   | 16 | 19 |
| TL-6B9-06 | G3/8"X19 | G3/8"X19 | 29         | 53.5 | 19 | 22 |
| TL-6B9-08 | G1/2"X14 | G1/2"X14 | 34.5       | 58.5 | 22 | 27 |
| TL-6B9-12 | G3/4"X14 | G3/4"X14 | 41         | 64   | 30 | 32 |
| TL-6B9-16 | G1"X11   | G1"X11   | 47.5       | 71   | 33 | 41 |

**Note:** If you are interested to order the adapter in complete set with lock nut, it is necessary to insert suffix "LN" after our part number for example TL-6B9-16LN. The lock nut number is 8B.



**TL-6B9**

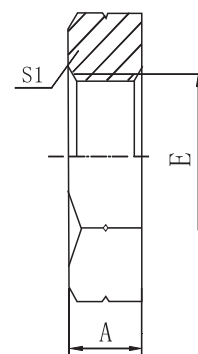


**TL-6B9-LN**

## TL-8B

Female. BSPP Lock nut

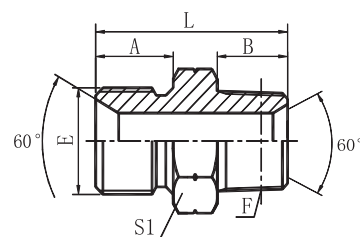
| PART NO. | THREAD     |      | DIMENSIONS |  |
|----------|------------|------|------------|--|
|          | E          | A    | S1         |  |
| TL-8B-02 | G1/8"X28   | 5.5  | 14         |  |
| TL-8B-04 | G1/4"X19   | 6.5  | 19         |  |
| TL-8B-06 | G3/8"X19   | 7    | 22         |  |
| TL-8B-08 | G1/2"X14   | 9    | 27         |  |
| TL-8B-10 | G5/8"X14   | 9    | 30         |  |
| TL-8B-12 | G3/4"X14   | 10.5 | 32         |  |
| TL-8B-16 | G1"X11     | 10.5 | 41         |  |
| TL-8B-20 | G1.1/4"X11 | 10.5 | 50         |  |
| TL-8B-24 | G1.1/2"X11 | 10.5 | 55         |  |
| TL-8B-32 | G2"X11     | 10.5 | 70         |  |



# TL-1BT-SP

Straight. Male BSPP. 60° seat.  
Male BSPT. 60°seat

| PART NO.       | THREAD     |            | DIMENSIONS |      |      |     |
|----------------|------------|------------|------------|------|------|-----|
|                | E          | F          | A          | B    | L    | S1  |
| TL-1BT-02SP    | G1/8"X28   | R1/8"X28   | 10         | 10   | 26   | 14  |
| TL-1BT-02-04SP | G1/8"X28   | R1/4"X19   | 10         | 14.5 | 30.5 | 14  |
| TL-1BT-04SP    | G1/4"X19   | R1/4"X19   | 12         | 14.5 | 32   | 19  |
| TL-1BT-04-02SP | G1/4"X19   | R1/8"X28   | 12         | 10   | 28   | 19  |
| TL-1BT-04-06SP | G1/4"X19   | R3/8"X19   | 12         | 15   | 32   | 19  |
| TL-1BT-04-08SP | G1/4"X19   | R1/2"X14   | 12         | 20   | 40   | 24  |
| TL-1BT-06SP    | G3/8"X19   | R3/8"X19   | 13.5       | 15   | 35.5 | 22  |
| TL-1BT-06-04SP | G3/8"X19   | R1/4"X19   | 13.5       | 14.5 | 35.5 | 22  |
| TL-1BT-06-08SP | G3/8"X19   | R1/2"X14   | 13.5       | 20   | 40.5 | 24  |
| TL-1BT-08SP    | G1/2"X14   | R1/2"X14   | 16         | 20   | 45   | 24  |
| TL-1BT-08-04SP | G1/2"X14   | R1/4"X19   | 16         | 14.5 | 40.5 | 27  |
| TL-1BT-08-06SP | G1/2"X14   | R3/8"X19   | 16         | 15   | 40.5 | 27  |
| TL-1BT-08-12SP | G1/2"X14   | R3/4"X14   | 16         | 20   | 45   | 30  |
| TL-1BT-10-06SP | G5/8"X14   | R3/8"X19   | 17.5       | 15   | 41.5 | 30  |
| TL-1BT-10-08SP | G5/8"X14   | R1/2"X14   | 17.5       | 20   | 46.5 | 30  |
| TL-1BT-10-12SP | G5/8"X14   | R3/4"X14   | 17.5       | 20   | 46.5 | 30  |
| TL-1BT-10-16SP | G5/8"X14   | R1"X11     | 17.5       | 25.5 | 54   | 36  |
| TL-1BT-12SP    | G3/4"X14   | R3/4"X14   | 18.5       | 20   | 48.5 | 32  |
| TL-1BT-12-08SP | G3/4"X14   | R1/2"X14   | 18.5       | 20   | 49.5 | 32  |
| TL-1BT-12-16SP | G3/4"X14   | R1"X11     | 18.5       | 25.5 | 53.5 | 36  |
| TL-1BT-12-20SP | G3/4"X14   | R1.1/4"X11 | 18.5       | 26.5 | 58   | 46  |
| TL-1BT-16SP    | G1"X11     | R1"X11     | 20.5       | 25.5 | 58   | 41  |
| TL-1BT-16-12SP | G1"X11     | R3/4"X14   | 20.5       | 20   | 53   | 41  |
| TL-1BT-16-20SP | G1"X11     | R1.1/4"X11 | 20.5       | 26.5 | 60   | 46  |
| TL-1BT-20SP    | G1.1/4"X11 | R1.1/4"X11 | 20.5       | 26.5 | 62   | 50  |
| TL-1BT-20-12SP | G1.1/4"X11 | R3/4"X14   | 20.5       | 20   | 55.5 | 50  |
| TL-1BT-20-16SP | G1.1/4"X11 | R1"X11     | 20.5       | 25.5 | 61   | 50  |
| TL-1BT-20-24SP | G1.1/4"X11 | R1.1/2"X11 | 20.5       | 26.5 | 62   | 50  |
| TL-1BT-24SP    | G1.1/2"X11 | R1.1/2"X11 | 23         | 26.5 | 64.5 | 55  |
| TL-1BT-24-16SP | G1.1/2"X11 | R1"X11     | 23         | 25.5 | 63.5 | 55  |
| TL-1BT-24-20SP | G1.1/2"X11 | R1.1/4"X11 | 23         | 26.5 | 64.5 | 55  |
| TL-1BT-24-32SP | G1.1/2"X11 | R2"X11     | 23         | 30   | 70   | 65  |
| TL-1BT-32SP    | G2"X11     | R2"X11     | 25.5       | 30   | 72.5 | 70  |
| TL-1BT-32-20SP | G2"X11     | R1.1/4"X11 | 25.5       | 26.5 | 68.5 | 70  |
| TL-1BT-32-24SP | G2"X11     | R1.1/2"X11 | 25.5       | 26.5 | 68.5 | 70  |
| TL-1BT-40SP    | G2.1/2"X11 | R2.1/2"X11 | 32         | 34   | 83   | 90  |
| TL-1BT-48SP    | G3"X11     | G3"X11     | 36         | 38   | 94   | 100 |

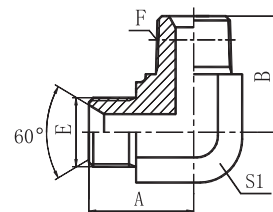


## TL-1BT9-SP

Elbow 90°. Male BSPP. 60° seat.

Male. BSPT. 60° seat

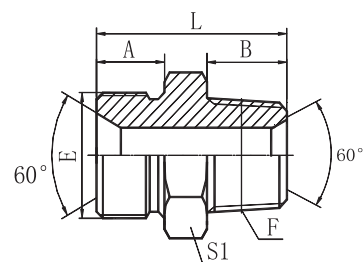
| PART NO.        | THREAD     |            | DIMENSIONS |      |    |
|-----------------|------------|------------|------------|------|----|
|                 | E          | F          | A          | B    | S1 |
| APC1BT9-02SP    | G1/8"X28   | R1/8"X28   | 19.8       | 21   | 11 |
| TL-1BT9-02-04SP | G1/8"X28   | R1/4"X19   | 22.3       | 25.5 | 14 |
| TL-1BT9-04SP    | G1/4"X19   | R1/4"X19   | 24.5       | 25.5 | 14 |
| TL-1BT9-04-02SP | G1/4"X19   | R1/8"X28   | 25         | 23.5 | 14 |
| TL-1BT9-04-06SP | G1/4"X19   | R3/8"X19   | 25         | 28.5 | 16 |
| TL-1BT9-04-08SP | G1/4"X19   | R1/2"X14   | 30         | 36   | 22 |
| TL-1BT9-06SP    | G3/8"X19   | R3/8"X19   | 27.5       | 28.5 | 16 |
| TL-1BT9-06-04SP | G3/8"X19   | R1/4"X19   | 27.5       | 26.5 | 16 |
| TL-1BT9-06-08SP | G3/8"X19   | R1/2"X14   | 31         | 36   | 22 |
| TL-1BT9-08SP    | G1/2"X14   | R1/2"X14   | 34.5       | 36   | 22 |
| TL-1BT9-08-04SP | G1/2"X14   | R1/4"X19   | 34.5       | 30.5 | 22 |
| TL-1BT9-08-06SP | G1/2"X14   | R3/8"X19   | 34.5       | 32.5 | 22 |
| TL-1BT9-08-12SP | G1/2"X14   | R3/4"X14   | 37.5       | 43.5 | 27 |
| TL-1BT9-08-16SP | G1/2"X14   | R1"X11     | 41         | 50   | 33 |
| TL-1BT9-10-08SP | G5/8"X14   | R1/2"X14   | 35         | 36   | 22 |
| TL-1BT9-10-12SP | G5/8"X14   | R3/4"X14   | 39         | 43.5 | 27 |
| TL-1BT9-12SP    | G3/4"X14   | R3/4"X14   | 40         | 43.5 | 27 |
| TL-1BT9-12-06SP | G3/4"X14   | R3/8"X19   | 40         | 36   | 27 |
| TL-1BT9-12-08SP | G3/4"X14   | R1/2"X14   | 40         | 39.5 | 27 |
| TL-1BT9-12-16SP | G3/4"X14   | R1"X11     | 43.5       | 50   | 33 |
| TL-1BT9-12-20SP | G3/4"X14   | R1.1/4"X11 | 48         | 56.5 | 41 |
| TL-1BT9-16SP    | G1"X11     | R1"X11     | 46         | 50   | 33 |
| TL-1BT9-16-08SP | G1"X11     | R1/2"X14   | 46         | 43   | 33 |
| TL-1BT9-16-12SP | G1"X11     | R3/4"X14   | 46         | 47.5 | 33 |
| TL-1BT9-16-20SP | G1"X11     | R1.1/4"X11 | 50.5       | 56.5 | 41 |
| TL-1BT9-20SP    | G1.1/4"X11 | R1.1/4"X11 | 52         | 59   | 41 |
| TL-1BT9-20-12SP | G1.1/4"X11 | R3/4"X14   | 50.5       | 52   | 41 |
| TL-1BT9-20-16SP | G1.1/4"X11 | R1"X11     | 52         | 56.5 | 41 |
| TL-1BT9-20-24SP | G1.1/4"X11 | R1.1/2"X11 | 54.5       | 62.5 | 48 |
| TL-1BT9-24SP    | G1.1/2"X11 | R1.1/2"X11 | 57.5       | 62.5 | 48 |
| TL-1BT9-24-20SP | G1.1/2"X11 | R1.1/4"X11 | 57.5       | 62   | 48 |
| TL-1BT9-24-32SP | G1.1/2"X11 | R2"X11     | 65         | 75   | 63 |
| TL-1BT9-32SP    | G2"X11     | R2"X11     | 67         | 75   | 63 |
| TL-1BT9-32-24SP | G2"X11     | R1.1/2"X11 | 67         | 75   | 63 |



# TL-1BN

Straight. Male. BSPP. 60° seat. Male. NPT. 60° seat

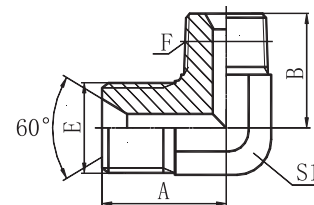
| PART NO.     | THREAD     |              | DIMENSIONS |      |      |    |
|--------------|------------|--------------|------------|------|------|----|
|              | E          | F            | A          | B    | L    | S1 |
| TL-1BN-02    | G1/8"X28   | Z1/8"X27     | 10         | 10.5 | 26   | 14 |
| TL-1BN-02-04 | G1/8"X28   | Z1/4"X18     | 10         | 15   | 31   | 17 |
| TL-1BN-04    | G1/4"X19   | Z1/4"X18     | 12         | 15   | 33   | 19 |
| TL-1BN-04-02 | G1/4"X19   | Z1/8"X27     | 12         | 10.5 | 28   | 19 |
| TL-1BN-04-06 | G1/4"X19   | Z3/8"X18     | 12         | 16   | 34   | 19 |
| TL-1BN-04-08 | G1/4"X19   | Z1/2"X14     | 12         | 19.5 | 39.5 | 22 |
| TL-1BN-06    | G3/8"X19   | Z3/8"X18     | 13.5       | 16   | 37.5 | 22 |
| TL-1BN-06-04 | G3/8"X19   | Z1/4"X19     | 13.5       | 15   | 36   | 22 |
| TL-1BN-06-08 | G3/8"X19   | Z1/2"X14     | 13.5       | 19.5 | 41   | 22 |
| TL-1BN-06-12 | G3/8"X19   | Z3/4"X14     | 13.5       | 19.5 | 43   | 30 |
| TL-1BN-08    | G1/2"X14   | Z1/2"X14     | 16         | 19.5 | 45.5 | 27 |
| TL-1BN-08-06 | G1/2"X14   | Z3/8"X18     | 16         | 16   | 42   | 27 |
| TL-1BN-08-12 | G1/2"X14   | Z3/4"X14     | 16         | 19.5 | 45.5 | 30 |
| TL-1BN-08-16 | G1/2"X14   | Z1"X11.5     | 16         | 25.5 | 52.5 | 36 |
| TL-1BN-10-08 | G5/8"X14   | Z1/2"X14     | 17.5       | 19.5 | 47   | 30 |
| TL-1BN-10-12 | G5/8"X14   | Z3/4"X14     | 17.5       | 19.5 | 47   | 30 |
| TL-1BN-12    | G3/4"X14   | Z3/4"X14     | 18.5       | 19.5 | 49   | 32 |
| TL-1BN-12-06 | G3/4"X14   | Z3/8"X18     | 18.5       | 16   | 45.5 | 32 |
| TL-1BN-12-08 | G3/4"X14   | Z1/2"X14     | 18.5       | 19.5 | 49   | 32 |
| TL-1BN-12-16 | G3/4"X14   | Z1"X11.5     | 18.5       | 25.5 | 55   | 36 |
| TL-1BN-16    | G1"X11     | Z1"X11.5     | 20.5       | 25.5 | 59   | 41 |
| TL-1BN-16-12 | G1"X11     | Z3/4"X14     | 20.5       | 19.5 | 53   | 41 |
| TL-1BN-16-20 | G1"X11     | Z1.1/4"X11.5 | 20.5       | 26.5 | 60   | 46 |
| TL-1BN-20    | G1.1/4"X11 | Z1.1/4"X11.5 | 20.5       | 26.5 | 62   | 50 |
| TL-1BN-20-16 | G1.1/4"X11 | Z1"X11.5     | 20.5       | 25.5 | 61   | 50 |
| TL-1BN-20-24 | G1.1/4"X11 | Z1.1/2"X11.5 | 20.5       | 27.5 | 63   | 50 |
| TL-1BN-24    | G1.1/2"X11 | Z1.1/2"X11.5 | 23         | 27.5 | 65.5 | 55 |
| TL-1BN-24-20 | G1.1/2"X11 | Z1.1/4"X11.5 | 23         | 26.5 | 64.5 | 55 |
| TL-1BN-24-32 | G1.1/2"X11 | Z2"X11.5     | 23         | 27.5 | 67.5 | 65 |
| TL-1BN-32    | G2"X11     | Z2"X11.5     | 25.5       | 27.5 | 70   | 70 |
| TL-1BN-32-20 | G2"X11     | Z1.1/4"X1.51 | 25.5       | 26.5 | 69   | 70 |
| TL-1BN-32-24 | G2"X11     | Z1.1/2"X1.51 | 25.5       | 27.5 | 70   | 70 |



# TL-1BN9

Elbow 90°. Male. BSPP. 60° seat. Male. NPT. 60° seat

| PART NO.      | THREAD   |          | DIMENSIONS |      |    |
|---------------|----------|----------|------------|------|----|
|               | E        | F        | A          | B    | S1 |
| TL-1BN9-04    | G1/4"X19 | Z1/4"X18 | 24.5       | 25.5 | 14 |
| TL-1BN9-04-02 | G1/4"X19 | Z1/8"X27 | 24.5       | 23.5 | 14 |
| TL-1BN9-06    | G3/8"X19 | Z3/8"X18 | 28.5       | 31   | 19 |
| TL-1BN9-06-04 | G3/8"X19 | Z1/4"X18 | 27.5       | 26.5 | 16 |
| TL-1BN9-06-08 | G3/8"X19 | Z1/2"X14 | 31         | 36.7 | 22 |
| TL-1BN9-06-12 | G3/8"X19 | Z3/4"X14 | 34.5       | 44   | 27 |
| TL-1BN9-08    | G1/2"X14 | Z1/2"X14 | 34.5       | 37.5 | 22 |
| TL-1BN9-08-06 | G1/2"X14 | Z3/8"X18 | 34.5       | 33   | 22 |
| TL-1BN9-12    | G3/4"X14 | Z3/4"X14 | 38         | 43.5 | 27 |
| TL-1BN9-12-08 | G3/4"X14 | Z1/2"X14 | 40         | 40   | 27 |
| TL-1BN9-12-16 | G3/4"X14 | Z1"X11.5 | 41         | 50   | 33 |
| TL-1BN9-16    | G1"X11   | Z1"X11.5 | 46         | 50   | 33 |
| TL-1BN9-16-12 | G1"X11   | Z3/4"X14 | 46         | 45.2 | 33 |

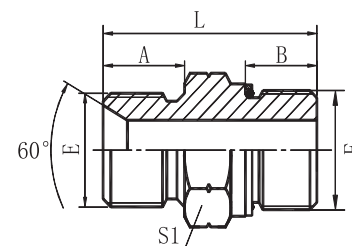


## TL-1BG

Straight. Male BSPP. 60° seat/Bonded seal.  
Male. BSPP. O-ring

| PART NO.     | THREAD     |            | O-RING | DIMENSIONS |      |      |    |
|--------------|------------|------------|--------|------------|------|------|----|
|              | E          | F          |        | A          | B    | L    | S1 |
| TL-1BG-02    | G1/8"X28   | G1/8"X28   | O011   | 10         | 9.5  | 27   | 14 |
| TL-1BG-04    | G1/4"X19   | G1/4"X19   | O111   | 12         | 11   | 31   | 19 |
| TL-1BG-04-06 | G1/4"X19   | G3/8"X19   | O113   | 12         | 11.5 | 32   | 22 |
| TL-1BG-06    | G3/8"X19   | G3/8"X19   | O113   | 13.5       | 11.5 | 33   | 22 |
| TL-1BG-06-04 | G3/8"X19   | G1/4"X19   | O111   | 13.5       | 11   | 32.5 | 22 |
| TL-1BG-06-08 | G3/8"X19   | G1/2"X14   | O115   | 13.5       | 14   | 38.5 | 27 |
| TL-1BG-08    | G1/2"X14   | G1/2"X14   | O115   | 16         | 14   | 41   | 27 |
| TL-1BG-08-06 | G1/2"X14   | G3/8"X19   | O113   | 16         | 11.5 | 36   | 27 |
| TL-1BG-08-12 | G1/2"X14   | G3/4"X14   | O119   | 16         | 15.5 | 45.5 | 32 |
| TL-1BG-10-08 | G5/8"X14   | G1/2"X14   | O115   | 17.5       | 14   | 44.5 | 27 |
| TL-1BG-12    | G3/4"X14   | G3/4"X14   | O119   | 18.5       | 15.5 | 46   | 32 |
| TL-1BG-12-08 | G3/4"X14   | G1/2"X14   | O115   | 18.5       | 14   | 45.5 | 32 |
| TL-1BG-16-08 | G1"X11     | G1/2"X14   | O115   | 20.5       | 14   | 50.5 | 41 |
| TL-1BG-16    | G1"X11     | G1"X11     | O217   | 20.5       | 18   | 53   | 41 |
| TL-1BG-16-12 | G1"X11     | G3/4"X14   | O119   | 20.5       | 15.5 | 52   | 41 |
| TL-1BG-20    | G1.1/4"X11 | G1.1/4"X11 | O222   | 20.5       | 20   | 58.5 | 50 |
| TL-1BG-24    | G1.1/2"X11 | G1.1/2"X11 | O224   | 23         | 23   | 62.5 | 55 |

Note: F end is connected with DIN3852 port.

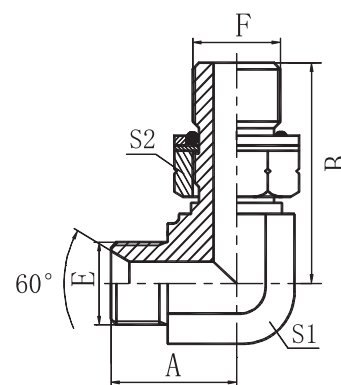


## TL-1BG9-0G

Elbow 90°. Male. BSPP. 60° seat.  
Male. BSPP. O-ring and washer. Adjustable stud end

| PART NO.        | THREAD     |            | TUBE O.D. | DIMENSIONS |      |    |    |
|-----------------|------------|------------|-----------|------------|------|----|----|
|                 | E          | F          |           | A          | B    | S1 | S2 |
| TL-1BG9-040G    | G1/4"X19   | G1/4"X19   | O111      | 25         | 33   | 14 | 19 |
| TL-1BG9-04-060G | G1/4"X19   | G3/8"X19   | O113      | 26.5       | 36.8 | 16 | 22 |
| TL-1BG9-060G    | G3/8"X19   | G3/8"X19   | O113      | 28         | 37   | 16 | 22 |
| TL-1BG9-06-080G | G3/8"X19   | G1/2"X14   | O115      | 31         | 43.2 | 22 | 27 |
| TL-1BG9-080G    | G1/2"X14   | G1/2"X14   | O115      | 34.5       | 43.5 | 22 | 27 |
| TL-1BG9-08-120G | G1/2"X14   | G3/4"X14   | O119      | 40         | 49.3 | 27 | 32 |
| TL-1BG9-120G    | G3/4"X14   | G3/4"X14   | O119      | 40         | 49.5 | 27 | 32 |
| TL-1BG9-12-160G | G3/4"X14   | G1"X11     | O217      | 45         | 53   | 33 | 41 |
| TL-1BG9-160G    | G1"X11     | G1"X11     | O217      | 46         | 55   | 33 | 41 |
| TL-1BG9-20-160G | G1.1/4"X11 | G1"X11     | O217      | 50.5       | 58   | 41 | 41 |
| TL-1BG9-200G    | G1.1/4"X11 | G1.1/4"X11 | O222      | 51.5       | 58   | 41 | 50 |
| TL-1BG9-240G    | G1.1/2"X11 | G1.1/2"X11 | O224      | 58.5       | 63   | 48 | 55 |

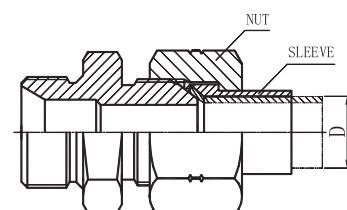
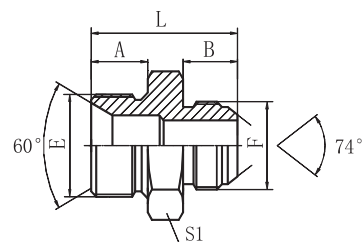
Note: F end is connected with DIN3852 port.



## TL-1BJ

Male BSPP. 60° seat. Male JIC 74° Flare. Bulkhead

| PART NO.     | THREAD     |            | DIMENSIONS |      |      |    |
|--------------|------------|------------|------------|------|------|----|
|              | E          | F          | A          | B    | L    | S1 |
| TL-1BJ-02-04 | G1/8"X28   | 7/16"X20   | 10         | 14   | 30   | 14 |
| TL-1BJ-02-05 | G1/8"X28   | 1/2"X20    | 10         | 14   | 30   | 14 |
| TL-1BJ-04    | G1/4"X19   | 7/16"X20   | 12         | 14   | 32   | 19 |
| TL-1BJ-04-05 | G1/4"X19   | 1/2"X20    | 12         | 14   | 32   | 19 |
| TL-1BJ-06    | G3/8"X19   | 9/16"X18   | 13.5       | 14   | 35.5 | 22 |
| TL-1BJ-06-05 | G3/8"X19   | 1/2"X20    | 13.5       | 14   | 35.5 | 22 |
| TL-1BJ-06-08 | G3/8"X19   | 3/4"X16    | 13.5       | 16.7 | 38.5 | 22 |
| TL-1BJ-08    | G1/2"X14   | 3/4"X16    | 16         | 16.7 | 43   | 27 |
| TL-1BJ-08-06 | G1/2"X14   | 9/16"X18   | 16         | 14   | 40   | 27 |
| TL-1BJ-08-10 | G1/2"X14   | 7/8"X14    | 16         | 19.5 | 45.5 | 27 |
| TL-1BJ-10    | G5/8"X14   | 7/8"X14    | 17.5       | 19.5 | 47   | 30 |
| TL-1BJ-10-08 | G5/8"X14   | 3/4"X16    | 17.5       | 16.7 | 44   | 30 |
| TL-1BJ-10-12 | G5/8"X14   | 1.1/16"X12 | 17.5       | 22   | 49.5 | 30 |
| TL-1BJ-12    | G3/4"X14   | 1.1/16"X12 | 18.5       | 22   | 51.5 | 32 |
| TL-1BJ-12-10 | G3/4"X14   | 7/8"X14    | 18.5       | 19.5 | 49   | 32 |
| TL-1BJ-12-14 | G3/4"X14   | 1.3/16"X12 | 18.5       | 22.5 | 52   | 32 |
| TL-1BJ-16    | G1"X11     | 1.5/16"X12 | 20.5       | 23   | 57   | 41 |
| TL-1BJ-16-14 | G1"X11     | 1.3/16"X12 | 20.5       | 22.5 | 56   | 41 |
| TL-1BJ-16-20 | G1"X11     | 1.5/8"X12  | 20.5       | 24.5 | 58   | 46 |
| TL-1BJ-20    | G1.1/4"X11 | 1.5/8"X12  | 20.5       | 24.5 | 62   | 50 |
| TL-1BJ-20-16 | G1.1/4"X11 | 1.5/16"X12 | 20.5       | 23   | 60.5 | 50 |
| TL-1BJ-20-24 | G1.1/4"X11 | 1.7/8"X12  | 20.5       | 27.5 | 63   | 50 |
| TL-1BJ-24-20 | G1.1/2"X11 | 1.5/8"X12  | 23         | 24.5 | 62.5 | 55 |
| TL-1BJ-24    | G1.1/2"X11 | 1.7/8"X12  | 23         | 27.5 | 67.5 | 55 |
| TL-1BJ-24-32 | G1.1/2"X11 | 2.1/2"X12  | 23         | 34   | 74   | 65 |
| TL-1BJ-32    | G2"X11     | 2.1/2"X12  | 25.5       | 34   | 77.5 | 70 |
| TL-1BJ-32-24 | G2"X11     | 1.7/8"X12  | 25.5       | 27.5 | 70   | 70 |

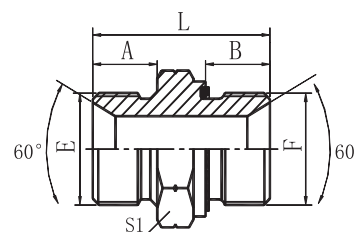


## TL-1B-TWD

Male BSPP. 60° seat/Bonded seal.

Male BSPP. 60° seat. Captive seal

| PART NO.      | THREAD     |            | TUBE O.D. | DIMENSIONS |    |      |    |
|---------------|------------|------------|-----------|------------|----|------|----|
|               | E          | F          |           | A          | B  | L    | S1 |
| TL-1B-04WD    | G1/4"X19   | G1/4"X19   | WD-B04    | 12         | 12 | 32   | 19 |
| TL-1B-04-06WD | G1/4"X19   | G3/8"X19   | WD-B06    | 12         | 12 | 34.5 | 22 |
| TL-1B-04-08WD | G1/4"X19   | G1/2"X14   | WD-B08    | 12         | 14 | 39   | 27 |
| TL-1B-06WD    | G3/8"X19   | G3/8"X19   | WD-B06    | 13.5       | 12 | 34   | 22 |
| TL-1B-06-08WD | G3/8"X19   | G1/2"X14   | WD-B08    | 13.5       | 14 | 40.5 | 27 |
| TL-1B-08WD    | G1/2"X14   | G1/2"X14   | WD-B08    | 16         | 14 | 43   | 27 |
| TL-1B-08-12WD | G1/2"X14   | G3/4"X14   | WD-B12    | 16         | 16 | 46   | 32 |
| TL-1B-12WD    | G3/4"X14   | G3/4"X14   | WD-B12    | 18.5       | 16 | 46.5 | 32 |
| TL-1B-12-16WD | G3/4"X14   | G1"X11     | WD-B16    | 18.5       | 18 | 52.5 | 41 |
| TL-1B-16WD    | G1"X11     | G1"X11     | WD-B16    | 20.5       | 18 | 54.5 | 41 |
| TL-1B-16-20WD | G1"X11     | G1.1/4"X11 | WD-B20    | 20.5       | 20 | 58.5 | 50 |
| TL-1B-20WD    | G1.1/4"X11 | G1.1/4"X11 | WD-B20    | 20.5       | 20 | 58.5 | 50 |

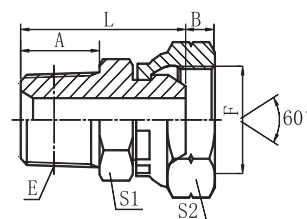




## TL-2NB

Male NPT. 60° seat. Female. BSPP. 60° inverted seat

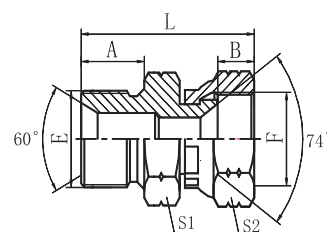
| PART NO.     | THREAD       |            | DIMENSIONS |      |      |    |    |
|--------------|--------------|------------|------------|------|------|----|----|
|              | E            | F          | A          | B    | L    | S1 | S2 |
| TL-2NB-02    | Z1/8"X27     | G1/8"X28   | 10.5       | 5.5  | 25.5 | 12 | 14 |
| TL-2NB-02-04 | Z1/8"X27     | G1/4"X19   | 10.5       | 5.5  | 27   | 14 | 19 |
| TL-2NB-04-02 | Z1/4"X18     | G1/8"X28   | 15         | 5.5  | 30   | 17 | 14 |
| TL-2NB-04    | Z1/4"X18     | G1/4"X19   | 15         | 5    | 31   | 17 | 19 |
| TL-2NB-04-06 | Z1/4"X18     | G3/8"X19   | 15         | 6.5  | 35   | 17 | 22 |
| TL-2NB-04-08 | Z1/4"X18     | G1/2"X14   | 15         | 7.8  | 36   | 19 | 27 |
| TL-2NB-06    | Z3/8"X18     | G3/8"X19   | 16         | 6.5  | 33.5 | 19 | 22 |
| TL-2NB-06-04 | Z3/8"X18     | G1/4"X19   | 16         | 5.5  | 33   | 19 | 19 |
| TL-2NB-06-08 | Z3/8"X18     | G1/2"X14   | 16         | 7.5  | 36   | 19 | 27 |
| TL-2NB-08    | Z1/2"X14     | G1/2"X14   | 19.5       | 7.8  | 41   | 22 | 27 |
| TL-2NB-08-04 | Z1/2"X14     | G1/4"X19   | 19.5       | 5.5  | 38.5 | 22 | 19 |
| TL-2NB-08-06 | Z1/2"X14     | G3/8"X19   | 19.5       | 6.3  | 39.5 | 22 | 24 |
| TL-2NB-08-12 | Z1/2"X14     | G3/4"X14   | 19.5       | 10.9 | 44.5 | 27 | 32 |
| TL-2NB-12    | Z3/4"X14     | G3/4"X14   | 19.5       | 10.5 | 44.5 | 30 | 32 |
| TL-2NB-12-06 | Z3/4"X14     | G3/8"X19   | 19.5       | 6.3  | 41.7 | 30 | 22 |
| TL-2NB-12-08 | Z3/4"X14     | G1/2"X14   | 19.5       | 7.5  | 43.5 | 30 | 27 |
| TL-2NB-12-16 | Z3/4"X14     | G1"X11     | 19.5       | 11   | 46.5 | 32 | 41 |
| TL-2NB-16-12 | Z1"X11.5     | G3/4"X14   | 21.5       | 10.9 | 51.5 | 36 | 32 |
| TL-2NB-16    | Z1"X11.5     | G1"X11     | 25.5       | 11   | 52.5 | 36 | 41 |
| TL-2NB-20    | Z1.1/4"X11.5 | G1.1/4"X11 | 26.5       | 11.5 | 60.5 | 46 | 50 |
| TL-2NB-24    | Z1.1/2"X11.5 | G1.1/2"X11 | 27.5       | 12.5 | 62   | 50 | 55 |
| TL-2NB-32    | Z2"X11.5     | G2"X11     | 27.5       | 16   | 66   | 65 | 70 |



## TL-2BJ

Male BSPP. 60° seat. Female. JIC 74° seat

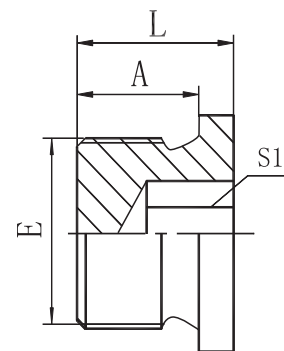
| PART NO.     | THREAD     |            | DIMENSIONS |      |      |    |    |
|--------------|------------|------------|------------|------|------|----|----|
|              | E          | F          | A          | B    | L    | S1 | S2 |
| TL-2BJ-02-04 | G1/8"X28   | 7/16"X20   | 10         | 9    | 24   | 14 | 15 |
| TL-2BJ-02-06 | G1/8"X28   | 9/10"X18   | 10         | 10.5 | 24.5 | 14 | 19 |
| TL-2BJ-04    | G1/4"X19   | 7/16"X20   | 12         | 8    | 26.5 | 19 | 15 |
| TL-2BJ-04-05 | G1/4"X19   | 1/2"X20    | 12         | 9.5  | 26.5 | 19 | 17 |
| TL-2BJ-04-06 | G1/4"X19   | 9/10"X18   | 12         | 9.5  | 27.5 | 19 | 19 |
| TL-2BJ-04-08 | G1/4"X19   | 3/4"X16    | 12         | 11   | 29   | 19 | 24 |
| TL-2BJ-06    | G3/8"X19   | 9/16"X18   | 13.5       | 9.5  | 29   | 22 | 19 |
| TL-2BJ-06-08 | G3/8"X19   | 3/4"X16    | 13.5       | 10.8 | 32.5 | 22 | 24 |
| TL-2BJ-06-10 | G3/8"X19   | 7/8"X14    | 13.5       | 12   | 33   | 22 | 27 |
| TL-2BJ-08    | G1/2"X14   | 3/4"X16    | 16         | 10.8 | 37   | 27 | 24 |
| TL-2BJ-08-06 | G1/2"X14   | 9/10"X18   | 16         | 10.5 | 35   | 27 | 19 |
| TL-2BJ-08-10 | G1/2"X14   | 7/8"X14    | 16         | 12   | 37.5 | 27 | 27 |
| TL-2BJ-10    | G5/8"X14   | 7/8"X14    | 17.5       | 14   | 41.5 | 30 | 27 |
| TL-2BJ-12    | G3/4"X14   | 1.1/16"X12 | 18.5       | 15   | 42   | 32 | 32 |
| TL-2BJ-12-08 | G3/4"X14   | 3/4"X16    | 18.5       | 11   | 40   | 32 | 24 |
| TL-2BJ-12-10 | G3/4"X14   | 7/8"X14    | 18.5       | 13   | 41   | 32 | 27 |
| TL-2BJ-12-16 | G3/4"X14   | 1.5/16"X12 | 18.5       | 14   | 43   | 32 | 41 |
| TL-2BJ-16    | G1"X11     | 1.5/16"X12 | 20.5       | 14   | 46   | 41 | 41 |
| TL-2BJ-16-20 | G1"X11     | 1.5/8"X12  | 20.5       | 17   | 50   | 41 | 50 |
| TL-2BJ-20    | G1.1/4"X11 | 1.5/8"X12  | 20.5       | 15   | 49.5 | 50 | 50 |
| TL-2BJ-20-24 | G1.1/4"X11 | 1.7/8"X12  | 20.5       | 20   | 50   | 50 | 55 |
| TL-2BJ-24    | G1.1/2"X11 | 1.7/8"X12  | 23         | 19   | 54.5 | 55 | 55 |
| TL-2BJ-32    | G2"X11     | 2.1/2"X12  | 25.5       | 24.5 | 57.5 | 70 | 70 |



## TL-4BN

Male BSPT. Hex hollow plug

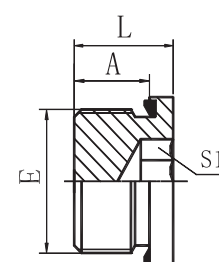
| PART NO.  | THREAD   | DIMENSIONS |    |    |
|-----------|----------|------------|----|----|
|           | E        | A          | L  | S1 |
| TL-4BN-02 | G1/8"X28 | 8          | 11 | 5  |
| TL-4BN-04 | G1/4"X19 | 12         | 15 | 6  |
| TL-4BN-06 | G3/8"X19 | 12         | 15 | 8  |
| TL-4BN-08 | G1/2"X14 | 14         | 18 | 10 |
| TL-4BN-12 | G3/4"X14 | 16         | 20 | 12 |
| TL-4BN-16 | G1"X11   | 16         | 21 | 17 |



## TL-4BN-WD

Male BSPP. Captive seal. Hollow hex plug

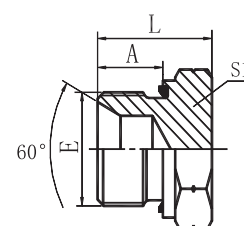
| PART NO.    | THREAD     | CAPTIVE | DIMENSIONS |      |    |
|-------------|------------|---------|------------|------|----|
|             | E          | E       | A          | L    | S1 |
| TL-4BN-02WD | G1/8"X28   | WD-B02  | 8          | 12.2 | 5  |
| TL-4BN-04WD | G1/4"X19   | WD-B04  | 12         | 17.2 | 6  |
| TL-4BN-06WD | G3/8"X19   | WD-B06  | 12         | 17.2 | 8  |
| TL-4BN-08WD | G1/2"X14   | WD-B08  | 14         | 19.2 | 10 |
| TL-4BN-12WD | G3/4"X14   | WD-B12  | 16         | 21.2 | 12 |
| TL-4BN-16WD | G1"X11     | WD-B16  | 16         | 22.8 | 17 |
| TL-4BN-20WD | G1.1/4"X11 | WD-B20  | 16         | 22.8 | 22 |
| TL-4BN-24WD | G1.1/2"X11 | WD-B24  | 16         | 22.8 | 24 |



## TL-4B-WD

Male BSPP. Captive seal plug

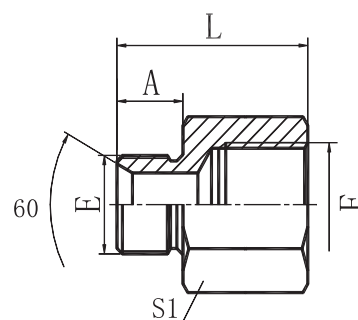
| PART NO.   | THREAD     | CAPTIVE | DIMENSIONS |      |    |
|------------|------------|---------|------------|------|----|
|            | E          | E       | A          | L    | S1 |
| TL-4B-02WD | G1/8"X28   | WD-B02  | 8          | 15.5 | 14 |
| TL-4B-04WD | G1/4"X19   | WD-B04  | 12         | 20   | 19 |
| TL-4B-06WD | G3/8"X19   | WD-B06  | 12         | 99   | 22 |
| TL-4B-08WD | G1/2"X14   | WD-B08  | 14         | 26   | 27 |
| TL-4B-12WD | G3/4"X14   | WD-B12  | 16         | 29   | 32 |
| TL-4B-16WD | G1"X11     | WD-B16  | 18         | 35   | 41 |
| TL-4B-20WD | G1.1/4"X11 | WD-B20  | 20         | 37   | 50 |
| TL-4B-24WD | G1.1/2"X11 | WD-B24  | 22         | 39   | 55 |
| TL-4B-32WD | G2"X11     | WD-B32  | 20         | 40   | 75 |



## TL-5B

Male BSPP. 60° seat/Bonded seal. Female BSPP ISO 1179

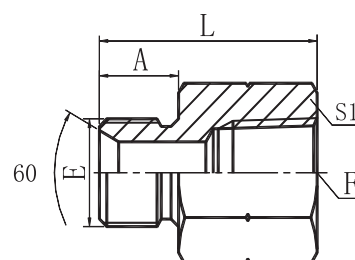
| PART NO.    | THREAD     |            | DIMENSIONS |      |    |
|-------------|------------|------------|------------|------|----|
|             | E          | F          | A          | L    | S1 |
| TL-5B-02-04 | G1/8"X28   | G1/4"X19   | 11         | 29   | 19 |
| TL-5B-04-02 | G1/4"X19   | G1/8"X28   | 12         | 28   | 19 |
| TL-5B-04    | G1/4"X19   | G1/4"X19   | 12         | 33   | 19 |
| TL-5B-04-06 | G1/4"X19   | G3/8"X19   | 12         | 36   | 22 |
| TL-5B-06-04 | G3/8"X19   | G1/4"X19   | 13.5       | 37.5 | 22 |
| TL-5B-06    | G3/8"X19   | G3/8"X19   | 13.5       | 37.5 | 22 |
| TL-5B-06-08 | G3/8"X19   | G1/2"X14   | 13.5       | 42.5 | 27 |
| TL-5B-08-06 | G1/2"X14   | G3/8"X19   | 16         | 38   | 27 |
| TL-5B-08    | G1/2"X14   | G1/2"X14   | 16         | 45   | 27 |
| TL-5B-08-10 | G1/2"X14   | G5/8"X14   | 16         | 46   | 30 |
| TL-5B-08-12 | G1/2"X14   | G3/4"X14   | 16         | 46   | 36 |
| TL-5B-10-08 | G5/8"X14   | G1/2"X14   | 16         | 47.5 | 30 |
| TL-5B-12-08 | G3/4"X14   | G1/2"X14   | 18.5       | 44.5 | 32 |
| TL-5B-12    | G3/4"X14   | G3/4"X14   | 18.5       | 48   | 36 |
| TL-5B-12-16 | G3/4"X14   | G1"X11     | 18.5       | 53.5 | 41 |
| TL-5B-16-12 | G1"X11     | G3/4"X14   | 20.5       | 47.5 | 41 |
| TL-5B-16    | G1"X11     | G1"X11     | 20.5       | 52   | 41 |
| TL-5B-16-20 | G1"X11     | G1.1/4"X11 | 20.5       | 56.5 | 50 |
| TL-5B-20-16 | G1.1/4"X11 | G1"X11     | 20.5       | 49   | 50 |
| TL-5B-20    | G1.1/4"X11 | G1.1/4"X11 | 20.5       | 52.5 | 50 |
| TL-5B-20-24 | G1.1/4"X11 | G1.1/2"X11 | 20.5       | 57.5 | 55 |
| TL-5B-24    | G1.1/2"X11 | G1.1/2"X11 | 23         | 58   | 55 |
| TL-5B-32-24 | G2"X11     | G1.1/2"X11 | 26         | 59.5 | 70 |
| TL-5B-32    | G2"X11     | G2"X11     | 25.5       | 63   | 70 |



## TL-5BT

Male BSPP. 60° seat/Bonded seal. Female BSPT

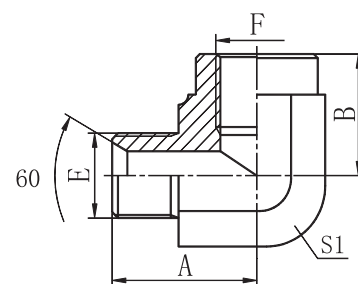
| PART NO.     | THREAD     |             | DIMENSIONS |      |    |
|--------------|------------|-------------|------------|------|----|
|              | E          | F           | A          | L    | S1 |
| TL-5BT-04-02 | G1/4"X19   | Rc1/8"X28   | 12         | 28   | 19 |
| TL-5BT-04    | G1/4"X19   | Rc1/4"X19   | 12         | 33.5 | 19 |
| TL-5BT-04-06 | G1/4"X19   | Rc3/8"X19   | 12         | 34   | 22 |
| TL-5BT-04-08 | G1/4"X19   | Rc1/2"X14   | 12         | 41   | 27 |
| TL-5BT-06-04 | G3/8"X19   | Rc1/4"X19   | 13.5       | 35   | 22 |
| TL-5BT-06    | G3/8"X19   | Rc3/8"X19   | 13.5       | 34   | 22 |
| TL-5BT-08-06 | G1/2"X14   | Rc3/8"X19   | 16         | 39.5 | 27 |
| TL-5BT-08    | G1/2"X14   | Rc1/2"X14   | 16         | 45   | 27 |
| TL-5BT-10-08 | G5/8"X14   | Rc1/2"X14   | 17.5       | 43.5 | 30 |
| TL-5BT-12-08 | G3/4"X14   | Rc1/2"X14   | 18.5       | 47.5 | 32 |
| TL-5BT-12    | G3/4"X14   | Rc3/4"X14   | 18.5       | 49   | 36 |
| TL-5BT-16-12 | G1"X11     | Rc3/4"X14   | 20.5       | 47.5 | 41 |
| TL-5BT-16    | G1"X11     | Rc1"X11     | 20.5       | 57   | 41 |
| TL-5BT-20    | G1.1"X11   | Rc1.1/4"X11 | 20.5       | 58.5 | 50 |
| TL-5BT-24    | G1.1/2"X11 | Rc1.1/2"X11 | 23         | 61   | 55 |



## TL-5B9

Elbow 90°. Male BSPT. 60° seat. Female. BSPP

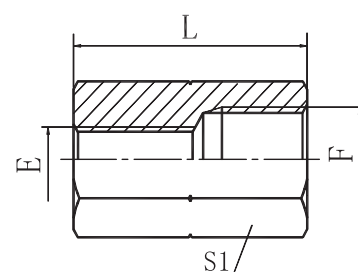
| PART NO.  | THREAD     |            | DIMENSIONS |    |    |
|-----------|------------|------------|------------|----|----|
|           | E          | F          | A          | B  | S1 |
| TL-5B9-02 | G1/8"X28   | G1/8"X28   | 22.5       | 20 | 16 |
| TL-5B9-04 | G1/4"X19   | G1/4"X19   | 25.5       | 22 | 19 |
| TL-5B9-06 | G3/8"X19   | G3/8"X19   | 30.5       | 26 | 24 |
| TL-5B9-08 | G1/2"X14   | G1/2"X14   | 39         | 31 | 30 |
| TL-5B9-12 | G3/4"X14   | G3/4"X14   | 43.5       | 37 | 33 |
| TL-5B9-16 | G1"X11     | G1"X11     | 50.5       | 43 | 41 |
| TL-5B9-20 | G1.1/4"X11 | G1.1/4"X11 | 55         | 46 | 50 |



## TL-7B

Female BSPP. Female BSPP

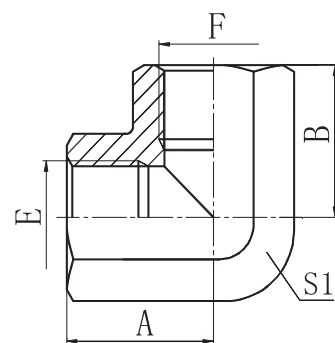
| PART NO.    | THREAD     |            | DIMENSIONS |    |
|-------------|------------|------------|------------|----|
|             | E          | F          | L          | S1 |
| TL-7B-02    | G1/8"X28   | G1/8"X28   | 22         | 14 |
| TL-7B-02-04 | G1/8"X28   | G1/4"X19   | 24         | 19 |
| TL-7B-04    | G1/4"X19   | G1/4"X19   | 24         | 19 |
| TL-7B-04-06 | G1/4"X19   | G3/8"X19   | 29         | 22 |
| TL-7B-06    | G3/8"X19   | G3/8"X19   | 26         | 22 |
| TL-7B-06-08 | G3/8"X19   | G1/2"X14   | 33         | 27 |
| TL-7B-08    | G1/2"X14   | G1/2"X14   | 32         | 27 |
| TL-7B-08-10 | G1/2"X14   | G5/8"X14   | 36         | 30 |
| TL-7B-10    | G5/8"X14   | G5/8"X14   | 36         | 30 |
| TL-7B-12    | G3/4"X14   | G3/4"X14   | 36         | 32 |
| TL-7B-12-16 | G3/4"X14   | G1"X11     | 43         | 41 |
| TL-7B-16    | G1"X11     | G1"X11     | 40         | 41 |
| TL-7B-16-20 | G1"X11     | G1.1/4"X11 | 46         | 50 |
| TL-7B-20    | G1.1/4"X11 | G1.1/4"X11 | 44         | 50 |
| TL-7B-20-24 | G1.1/4"X11 | G1.1/2"X11 | 48         | 55 |
| TL-7B-24    | G1.1/2"X11 | G1.1/2"X11 | 45         | 55 |
| TL-7B-24-32 | G1.1/2"X11 | G2"X11     | 56         | 70 |
| TL-7B-32    | G2"X11     | G2"X11     | 54         | 70 |



## TL-7B9-PK

Elbow 90°. Female BSPP. Female BSPP

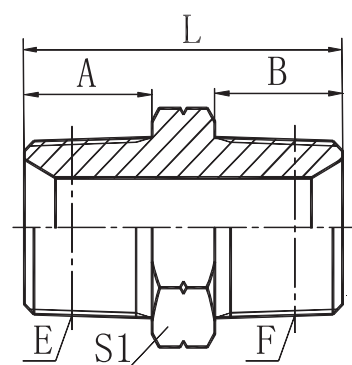
| PART NO.    | THREAD     |            | DIMENSIONS |      |    |
|-------------|------------|------------|------------|------|----|
|             | E          | F          | A          | B    | S1 |
| TL-7B9-02PK | G1/8"X28   | G1/8"X28   | 20         | 20   | 16 |
| TL-7B9-04PK | G1/4"X19   | G1/4"X19   | 22.5       | 22.5 | 19 |
| TL-7B9-06PK | G3/8"X19   | G3/8"X19   | 26         | 26   | 24 |
| TL-7B9-08PK | G1/2"X14   | G1/2"X14   | 31         | 31   | 27 |
| TL-7B9-12PK | G3/4"X14   | G3/4"X14   | 34         | 34   | 33 |
| TL-7B9-16PK | G1"X11     | G1"X11     | 42         | 42   | 41 |
| TL-7B9-20PK | G1.1/4"X11 | G1.1/4"X11 | 48         | 48   | 50 |
| TL-7B9-24PK | G1.1/2"X11 | G1.1/2"X11 | 53         | 53   | 60 |
| TL-7B9-32PK | G2"X11     | G2"X11     | 62         | 62   | 70 |



## TL-1T-SP

Straight. Male BSPT. 60° seat. Male BSPT. 60° seat

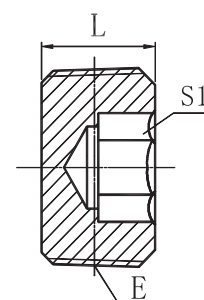
| PART NO.      | THREAD     |            | DIMENSIONS |      |      |    |
|---------------|------------|------------|------------|------|------|----|
|               | E          | F          | A          | B    | L    | S1 |
| TL-1T-02SP    | R1/8"X28   | R1/8"X28   | 10         | 10   | 26   | 12 |
| TL-1T-02-04SP | R1/8"X28   | R1/4"X19   | 10         | 14.5 | 30.5 | 14 |
| TL-1T-02-06SP | R1/8"X28   | R3/8"X19   | 10         | 15   | 31   | 17 |
| TL-1T-04SP    | R1/4"X19   | R1/4"X19   | 14.5       | 14.5 | 34   | 14 |
| TL-1T-04-06SP | R1/4"X19   | R3/8"X19   | 14.5       | 15   | 35   | 17 |
| TL-1T-04-08SP | R1/4"X19   | R1/2"X14   | 14.5       | 20   | 43   | 22 |
| TL-1T-06SP    | R3/8"X19   | R3/8"X19   | 15         | 15   | 36   | 17 |
| TL-1T-06-08SP | R3/8"X19   | R1/2"X14   | 15         | 20   | 43   | 22 |
| TL-1T-08SP    | R1/2"X14   | R1/2"X14   | 20         | 20   | 46   | 22 |
| TL-1T-08-12SP | R1/2"X14   | R3/4"X14   | 20         | 20   | 48   | 27 |
| TL-1T-12SP    | R3/4"X14   | R3/4"X14   | 20         | 20   | 48   | 27 |
| TL-1T-12-16SP | R3/4"X14   | R1"X11     | 20         | 25.5 | 55.5 | 36 |
| TL-1T-16SP    | R1"X11     | R1"X11     | 25.5       | 25.5 | 61   | 36 |
| TL-1T-16-20SP | R1"X11     | R1.1/4"X11 | 25.5       | 26.5 | 64.5 | 46 |
| TL-1T-20SP    | R1.1/4"X11 | R1.1/4"X11 | 26.5       | 26.5 | 65.5 | 46 |
| TL-1T-20-24SP | R1.1/4"X11 | R1.1/2"X11 | 26.5       | 26.5 | 67   | 50 |
| TL-1T-24SP    | R1.1/2"X11 | R1.1/2"X11 | 26.5       | 26.5 | 67   | 50 |
| TL-1T-24-32SP | R1.1/2"X11 | R2"X11     | 26.5       | 30   | 71.5 | 65 |
| TL-1T-32SP    | R2"X11     | R2"X11     | 30         | 30   | 75   | 65 |



## TL-4TN

Male BSPT. Hex hollow plug

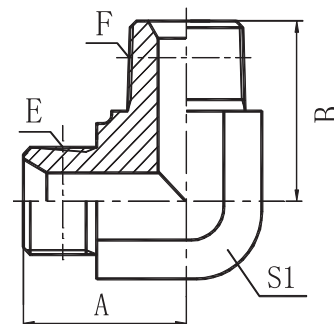
| PART NO.  | THREAD   | DIMENSIONS |    |
|-----------|----------|------------|----|
|           | E        | L          | S1 |
| TL-4TN-02 | R1/8"X28 | 8          | 5  |
| TL-4TN-04 | R1/4"X19 | 10         | 6  |
| TL-4TN-06 | R3/8"X19 | 12         | 8  |
| TL-4TN-08 | R1/2"X14 | 15         | 10 |
| TL-4TN-12 | R3/4"X14 | 18         | 12 |
| TL-4TN-16 | R1"X11   | 20         | 17 |



## TL-1T9-SP

Elbow 90°. Male BSPT. 60° seat. Male BSPT 60° seat

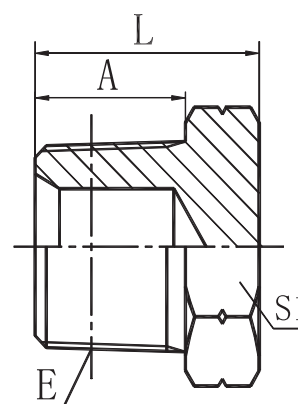
| PART NO.       | THREAD     |            | DIMENSIONS |      |    |
|----------------|------------|------------|------------|------|----|
|                | E          | F          | A          | B    | S1 |
| TL-1T9-02SP    | R1/8"X28   | R1/8"X28   | 21         | 21   | 11 |
| TL-1T9-02-04SP | R1/8"X28   | R1/4"X19   | 23.5       | 25.5 | 14 |
| TL-1T9-04SP    | R1/4"X19   | R1/4"X19   | 25.5       | 25.5 | 14 |
| TL-1T9-04-06SP | R1/4"X19   | R3/8"X19   | 26.5       | 28.5 | 16 |
| TL-1T9-04-08SP | R1/4"X19   | R1/2"X14   | 30.5       | 36   | 22 |
| TL-1T9-06SP    | R3/8"X19   | R3/8"X19   | 28.5       | 28.5 | 16 |
| TL-1T9-06-08SP | R3/8"X19   | R1/2"X14   | 32.5       | 36   | 22 |
| TL-1T9-08SP    | R1/2"X14   | R1/2"X14   | 36         | 36   | 22 |
| TL-1T9-08-12SP | R1/2"X14   | R3/4"X14   | 39.5       | 43.5 | 27 |
| TL-1T9-12SP    | R3/4"X14   | R3/4"X14   | 43.5       | 43.5 | 27 |
| TL-1T9-12-16SP | R3/4"X14   | R1"X11     | 48         | 50   | 33 |
| TL-1T9-16SP    | R1"X11     | R1"X11     | 50         | 50   | 33 |
| TL-1T9-16-20SP | R1"X11     | R1.1/4"X11 | 56.5       | 57.5 | 41 |
| TL-1T9-20SP    | R1.1/4"X11 | R1.1/4"X11 | 57.5       | 57.5 | 41 |
| TL-1T9-24SP    | R1.1/2"X11 | R1.1/2"X11 | 62.5       | 62.5 | 48 |
| TL-1T9-32SP    | R2"X11     | R2"X11     | 68         | 68   | 63 |



## TL-4T-SP

BSPT. 60° seat. Male plug

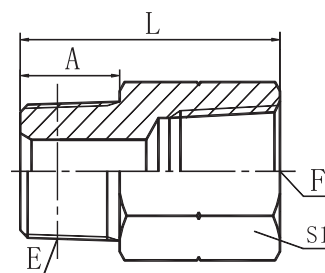
| PART NO.   | THREAD     | DIMENSIONS |      |    |
|------------|------------|------------|------|----|
|            | E          | A          | L    | S1 |
| TL-4T-02SP | R1/8"X28   | 10         | 16   | 12 |
| TL-4T-04SP | R1/4"X19   | 14.5       | 20   | 14 |
| TL-4T-06SP | R3/8"X19   | 15         | 21   | 17 |
| TL-4T-08SP | R1/2"X14   | 20         | 27   | 22 |
| TL-4T-12SP | R3/4"X14   | 20         | 29   | 27 |
| TL-4T-16SP | R1"X11     | 25.5       | 36.5 | 36 |
| TL-4T-20SP | R1.1/4"X11 | 26.5       | 38.5 | 46 |
| TL-4T-24SP | R1.1/2"X11 | 26.5       | 42   | 50 |
| TL-4T-32SP | R2"X11     | 30         | 47   | 65 |



# TL-5T-SP

BSPT. Male. BSPT. Female

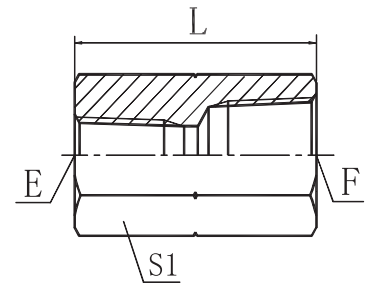
| PART NO.      | THREAD     |             | DIMENSIONS |      |    |
|---------------|------------|-------------|------------|------|----|
|               | E          | F           | A          | L    | S1 |
| TL-5T-02-04SP | R1/8"X28   | Rc1/4"X19   | 11         | 32.5 | 19 |
| TL-5T-04-02SP | R1/4"X19   | Rc1/8"X28   | 14.5       | 20.5 | 14 |
| TL-5T-04SP    | R1/4"X19   | Rc1/4"X19   | 14.5       | 36   | 19 |
| TL-5T-04-06SP | R1/4"X19   | Rc3/8"X19   | 14.5       | 38   | 22 |
| TL-5T-06-02SP | R3/8"X19   | Rc1/8"X28   | 15         | 23   | 19 |
| TL-5T-06-04SP | R3/8"X19   | Rc1/4"X19   | 15         | 23   | 19 |
| TL-5T-06SP    | R3/8"X19   | Rc3/8"X19   | 15         | 38.5 | 22 |
| TL-5T-06-08SP | R3/8"X19   | Rc1/2"X14   | 15         | 44   | 27 |
| TL-5T-08-04SP | R1/2"X14   | Rc1/4"X19   | 20         | 30   | 24 |
| TL-5T-08-06SP | R1/2"X14   | Rc3/8"X19   | 20         | 30   | 24 |
| TL-5T-08SP    | R1/2"X14   | Rc1/2"X14   | 20         | 49   | 27 |
| TL-5T-08-12SP | R1/2"X14   | Rc3/4"X14   | 20         | 51   | 36 |
| TL-5T-12-04SP | R3/4"X14   | Rc1/4"X19   | 20         | 31   | 30 |
| TL-5T-12-06SP | R3/4"X14   | Rc3/8"X19   | 20         | 31   | 30 |
| TL-5T-12-08SP | R3/4"X14   | Rc1/2"X14   | 20         | 31   | 30 |
| TL-5T-12SP    | R3/4"X14   | Rc3/4"X14   | 20         | 51   | 41 |
| TL-5T-12-16SP | R3/4"X14   | Rc1"X11     | 20         | 56.5 | 41 |
| TL-5T-16-04SP | R1"X11     | Rc1/4"X19   | 25.5       | 37   | 36 |
| TL-5T-16-06SP | R1"X11     | Rc3/8"X19   | 25.5       | 37   | 36 |
| TL-5T-16-08SP | R1"X11     | Rc1/2"X14   | 25.5       | 37   | 36 |
| TL-5T-16-12SP | R1"X11     | Rc3/4"X14   | 25.5       | 37   | 36 |
| TL-5T-16SP    | R1"X11     | Rc1"X11     | 25.5       | 60   | 41 |
| TL-5T-16-20SP | R1"X11     | Rc1.1/4"X11 | 25.5       | 64   | 50 |
| TL-5T-20-04SP | R1.1/4"X11 | Rc1/4"X19   | 26.5       | 38   | 46 |
| TL-5T-20-08SP | R1.1/4"X11 | Rc1/2"X14   | 26.5       | 36   | 46 |
| TL-5T-20-12SP | R1.1/4"X11 | Rc3/4"X14   | 26.5       | 38   | 46 |
| TL-5T-20-16SP | R1.1/4"X11 | Rc1"X11     | 26.5       | 38   | 46 |
| TL-5T-20SP    | R1.1/4"X11 | Rc1.1/4"X11 | 26.5       | 64.5 | 50 |
| TL-5T-24-12SP | R1.1/2"X11 | Rc3/4"X14   | 26.5       | 41   | 50 |
| TL-5T-24-16SP | R1.1/2"X11 | Rc1"X11     | 26.5       | 41   | 50 |
| TL-5T-24-20SP | R1.1/2"X11 | Rc1.1/4"X11 | 26.5       | 41   | 50 |
| TL-5T-32-16SP | R2"X11     | Rc1"X11     | 30         | 45   | 65 |
| TL-5T-32-20SP | R2"X11     | Rc1.1/4"X11 | 30         | 45   | 65 |
| TL-5T-32-24SP | R2"X11     | Rc1.1/2"X11 | 30         | 45   | 65 |



# TL-7T

BSPT. Female

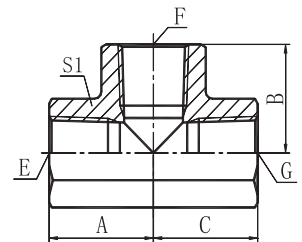
| PART NO.    | THREAD     |            | DIMENSIONS |    |
|-------------|------------|------------|------------|----|
|             | E          | F          | L          | S1 |
| TL-7T-02    | R1/8"X28   | R1/8"X28   | 20         | 14 |
| TL-7T-02-04 | R1/8"X28   | R1/4"X19   | 30         | 19 |
| TL-7T-04    | R1/4"X19   | R1/4"X19   | 30         | 19 |
| TL-7T-04-06 | R1/4"X19   | R3/8"X19   | 30         | 22 |
| TL-7T-04-08 | R1/4"X19   | R1/2"X14   | 40         | 27 |
| TL-7T-06    | R3/8"X19   | R3/8"X19   | 30         | 22 |
| TL-7T-06-08 | R3/8"X19   | R1/2"X14   | 40         | 27 |
| TL-7T-06-12 | R3/8"X19   | R3/4"X14   | 37         | 36 |
| TL-7T-08    | R1/2"X14   | R1/2"X14   | 40         | 27 |
| TL-7T-08-12 | R1/2"X14   | R3/4"X14   | 42         | 36 |
| TL-7T-12    | R3/4"X14   | R3/4"X14   | 42         | 36 |
| TL-7T-12-16 | R3/4"X14   | R1"X11     | 50         | 41 |
| TL-7T-16    | R1"X11     | R1"X11     | 50         | 41 |
| TL-7T-16-20 | R1"X11     | R1.1/4"X11 | 52         | 50 |
| TL-7T-20    | R1.1/4"X11 | R1.1/4"X11 | 55         | 50 |
| TL-7T-24    | R1.1/2"X11 | R1.1/2"X11 | 55         | 55 |
| TL-7T-32    | R2"X11     | R2"X11     | 65         | 70 |



# TL-GT-PK

Tee. Female BSPT (Rc). Female BSPT (Rc). Female BSPT (Rc)

| PART NO.   | THREAD       |             |             | DIMENSIONS |      |      |    |
|------------|--------------|-------------|-------------|------------|------|------|----|
|            | E            | F           | G           | A          | B    | C    | S1 |
| TL-GT-02PK | Rc1/8"X28    | Rc1/8"X28   | Rc1/8"X28   | 20         | 20   | 20   | 16 |
| TL-GT-04PK | Rc1/4"X19    | Rc1/4"X19   | Rc1/4"X19   | 22.5       | 22.5 | 22.5 | 19 |
| TL-GT-06PK | Rc3/8"X19    | Rc3/8"X19   | Rc3/8"X19   | 26         | 26   | 26   | 24 |
| TL-GT-08PK | Rc1/2"X14    | Rc1/2"X14   | Rc1/2"X14   | 31         | 31   | 31   | 27 |
| TL-GT-12PK | Rc3/4"X14    | Rc3/4"X14   | Rc3/4"X14   | 34         | 34   | 34   | 33 |
| TL-GT-16PK | Rc1"X11      | Rc1"X11     | Rc1"X11     | 42         | 42   | 42   | 41 |
| TL-GT-20PK | Rc 1.1/4"X11 | Rc1.1/4"X11 | Rc1.1/4"X11 | 48         | 48   | 48   | 50 |
| TL-GT-24PK | Rc 1.1/2"X11 | Rc1.1/2"X11 | Rc1.1/2"X11 | 53         | 53   | 53   | 60 |
| TL-GT-32PK | Rc2"X11      | Rc2"X11     | Rc2"X11     | 62         | 62   | 62   | 70 |

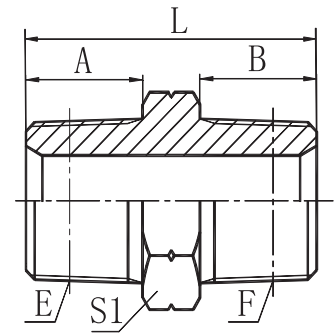




# TL-1N

Male NPT. Male NPT

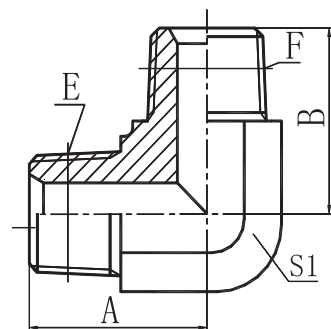
| PART NO.    | THREAD       |              | DIMENSIONS |      |      |    |
|-------------|--------------|--------------|------------|------|------|----|
|             | E            | F            | A          | B    | L    | S1 |
| TL-1N-02    | Z1/8"X27     | Z1/8"X27     | 10.5       | 10.5 | 27   | 12 |
| TL-1N-02-04 | Z1/8"X27     | Z1/4"X18     | 10.5       | 15   | 31   | 17 |
| TL-1N-02-06 | Z1/8"X27     | Z3/8"X18     | 10.5       | 16   | 32   | 19 |
| TL-1N-04    | Z1/4"X18     | Z1/4"X18     | 15         | 15   | 35   | 17 |
| TL-1N-04-06 | Z1/4"X18     | Z3/8"X18     | 15         | 16   | 37   | 19 |
| TL-1N-04-08 | Z1/4"X18     | Z1/2"X14     | 15         | 19.5 | 41.5 | 22 |
| TL-1N-06    | Z3/8"X18     | Z3/8"X18     | 16         | 16   | 38   | 19 |
| TL-1N-06-08 | Z3/8"X18     | Z1/2"X14     | 16         | 19.5 | 43.5 | 22 |
| TL-1N-06-12 | Z3/8"X18     | Z3/4"X14     | 16         | 19.5 | 45.5 | 27 |
| TL-1N-08    | Z1/2"X14     | Z1/2"X14     | 19.5       | 19.5 | 47   | 22 |
| TL-1N-08-12 | Z1/2"X14     | Z3/4"X14     | 19.5       | 19.5 | 49   | 27 |
| TL-1N-08-16 | Z1/2"X14     | Z1"X11.5     | 19.5       | 25.5 | 55   | 36 |
| TL-1N-12    | Z3/4"X14     | Z3/4"X14     | 19.5       | 19.5 | 49   | 27 |
| TL-1N-12-16 | Z3/4"X14     | Z1"X11.5     | 19.5       | 25.5 | 55   | 36 |
| TL-1N-12-20 | Z3/4"X14     | Z1.1/4"X11.5 | 19.5       | 26.5 | 59   | 46 |
| TL-1N-16    | Z1"X11.5     | Z1"X11.5     | 25.5       | 25.5 | 61   | 36 |
| TL-1N-16-20 | Z1"X11.5     | Z1.1/4"X11.5 | 25.5       | 26.5 | 64   | 46 |
| TL-1N-16-24 | Z1"X11.5     | Z1.1/2"X11.5 | 25.5       | 27.5 | 68   | 50 |
| TL-1N-20    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 26.5       | 26.5 | 65   | 46 |
| TL-1N-20-24 | Z1.1/4"X11.5 | Z1.1/2"X11.5 | 26.5       | 27.5 | 68   | 50 |
| TL-1N-24    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 27.5       | 27.5 | 70   | 50 |
| TL-1N-24-32 | Z1.1/2"X11.5 | Z2"X11.5     | 27.5       | 27.5 | 71   | 65 |
| TL-1N-32    | Z2"X11.5     | Z2"X11.5     | 27.5       | 27.5 | 71   | 65 |



## TL-1N9

Elbow 90°. Male NPT. Male NPT

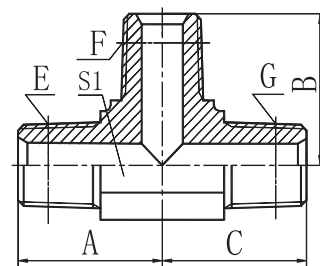
| PART NO.     | THREAD       |              | DIMENSIONS |      |    |
|--------------|--------------|--------------|------------|------|----|
|              | E            | F            | A          | B    | S1 |
| TL-1N9-02    | Z1/8"X27     | Z1/8"X27     | 21         | 21   | 11 |
| TL-1N9-02-04 | Z1/8"X27     | Z1/4"X18     | 23.5       | 25.5 | 14 |
| TL-1N9-04    | Z1/4"X18     | Z1/4"X18     | 25.5       | 25.5 | 14 |
| TL-1N9-04-06 | Z1/4"X18     | Z3/8"X18     | 28         | 31   | 19 |
| TL-1N9-04-08 | Z1/4"X18     | Z1/2"X14     | 30.5       | 36.5 | 22 |
| TL-1N9-06    | Z3/8"X18     | Z3/8"X18     | 31         | 31   | 19 |
| TL-1N9-06-08 | Z3/8"X18     | Z1/2"X14     | 33.8       | 37.3 | 22 |
| TL-1N9-08    | Z1/2"X14     | Z1/2"X14     | 37.3       | 37.3 | 22 |
| TL-1N9-08-12 | Z1/2"X14     | Z3/4"X14     | 40         | 44   | 27 |
| TL-1N9-19    | Z3/4"X14     | Z3/4"X14     | 44         | 44   | 27 |
| TL-1N9-12-16 | Z3/4"X14     | Z1"X11.5     | 46.5       | 50   | 33 |
| TL-1N9-16    | Z1"X11.5     | Z1"X11.5     | 50         | 50   | 33 |
| TL-1N9-20    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 53         | 53   | 41 |
| TL-1N9-24    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 63         | 63   | 48 |
| TL-1N9-32    | Z2"X11.5     | Z2"X11.5     | 68         | 68   | 63 |



## TL-AN

Branch Tee. Male NPT. Male NPT. Male NPT

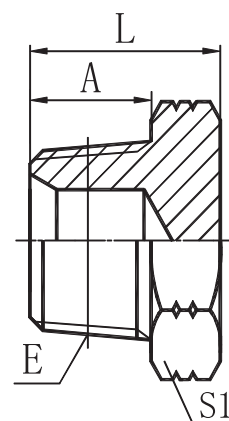
| PART NO. | THREAD       |              |              | DIMENSIONS |      |      |    |
|----------|--------------|--------------|--------------|------------|------|------|----|
|          | E            | F            | G            | A          | B    | C    | S1 |
| TL-AN-02 | Z1/8"X27     | Z1/8"X27     | Z1/8"X27     | 21         | 21   | 21   | 11 |
| TL-AN-04 | Z1/4"X18     | Z1/4"X18     | Z1/4"X18     | 25.5       | 25.5 | 25.5 | 14 |
| TL-AN-06 | Z3/8"X18     | Z3/8"X18     | Z3/8"X18     | 31         | 31   | 31   | 19 |
| TL-AN-08 | Z1/2"X14     | Z1/2"X14     | Z1/2"X14     | 36.7       | 36.7 | 36.7 | 22 |
| TL-AN-12 | Z3/4"X14     | Z3/4"X14     | Z3/4"X14     | 44         | 44   | 44   | 27 |
| TL-AN-16 | Z1"X11.5     | Z1"X11.5     | Z1"X11.5     | 50         | 50   | 50   | 33 |
| TL-AN-20 | Z1.1/4"X11.5 | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 54.5       | 54.5 | 54.5 | 41 |
| TL-AN-24 | Z1.1/2"X11.5 | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 59.5       | 59.5 | 59.5 | 48 |



## TL-4N

Male NPT. Plug

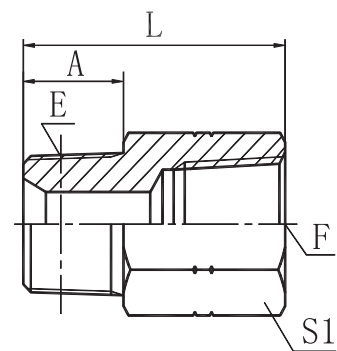
| PART NO. | THREAD       | DIMENSIONS |      |    |
|----------|--------------|------------|------|----|
|          | E            | A          | L    | S1 |
| TL-4N-02 | Z1/8"X27     | 10.5       | 16   | 12 |
| TL-4N-04 | Z1/4"X18     | 15         | 20   | 17 |
| TL-4N-06 | Z3/8"X18     | 16         | 21   | 19 |
| TL-4N-08 | Z1/2"X14     | 19.5       | 27   | 22 |
| TL-4N-12 | Z3/4"X14     | 19.5       | 29.5 | 27 |
| TL-4N-16 | Z1"X11.5     | 25.5       | 36.5 | 36 |
| TL-4N-20 | Z1.1/4"X11.5 | 26.5       | 38.5 | 46 |
| TL-4N-24 | Z1.1/2"X11.5 | 27.5       | 43   | 50 |
| TL-4N-32 | Z2"X11.5     | 27.5       | 43.5 | 65 |



# TL-5N

Male NPT.Female NPT

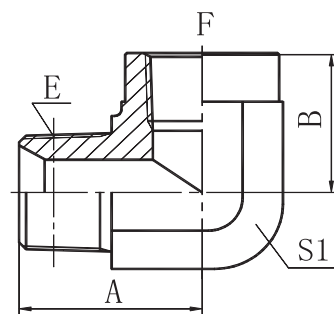
| PART NO.    | THREAD       |              | DIMENSIONS |      |    |
|-------------|--------------|--------------|------------|------|----|
|             | E            | F            | A          | L    | S1 |
| TL-5N-02    | Z1/8"X27     | Z1/8"X27     | 10.5       | 25.5 | 17 |
| TL-5N-02-04 | Z1/8"X27     | Z1/4"X18     | 10.5       | 31   | 19 |
| TL-5N-02-06 | Z1/8"X27     | Z3/8"X18     | 11         | 31   | 24 |
| TL-5N-04-02 | Z1/4"X18     | Z1/8"X27     | 15         | 22   | 17 |
| TL-5N-04    | Z1/4"X18     | Z1/4"X18     | 15         | 35   | 19 |
| TL-5N-04-06 | Z1/4"X18     | Z3/8"X18     | 15         | 36.6 | 24 |
| TL-5N-04-08 | Z1/4"X18     | Z1/2"X14     | 15         | 43   | 30 |
| TL-5N-06-02 | Z3/8"X18     | Z1/8"X27     | 16         | 22   | 19 |
| TL-5N-06-04 | Z3/8"X18     | Z1/4"X18     | 16         | 22   | 19 |
| TL-5N-06    | Z3/8"X18     | Z3/8"X18     | 16         | 36.6 | 22 |
| TL-5N-06-08 | Z3/8"X18     | Z1/2"X14     | 16         | 44   | 30 |
| TL-5N-06-12 | Z3/8"X18     | Z3/4"X14     | 16         | 45   | 36 |
| TL-5N-08-04 | Z1/2"X14     | Z1/4"X18     | 19.5       | 28   | 22 |
| TL-5N-08-06 | Z1/2"X14     | Z3/8"X18     | 19.5       | 28   | 22 |
| TL-5N-08    | Z1/2"X14     | Z1/2"X14     | 19.5       | 47.5 | 30 |
| TL-5N-08-12 | Z1/2"X14     | Z3/4"X14     | 19.5       | 49   | 36 |
| TL-5N-12-06 | Z3/4"X14     | Z3/8"X18     | 19.5       | 30.5 | 27 |
| TL-5N-12-08 | Z3/4"X14     | Z1/2"X14     | 19.5       | 30.5 | 27 |
| TL-5N-12    | Z3/4"X14     | Z3/4"X14     | 19.5       | 49   | 36 |
| TL-5N-12-16 | Z3/4"X14     | Z1"X11.5     | 19.5       | 55.5 | 41 |
| TL-5N-16-08 | Z1"X11.5     | Z1/2"X14     | 25.5       | 35.5 | 36 |
| TL-5N-16-12 | Z1"X11.5     | Z3/4"X14     | 25.5       | 34.5 | 36 |
| TL-5N-16    | Z1"X11.5     | Z1"X11.5     | 25.5       | 61   | 41 |
| TL-5N-16-20 | Z1"X11.5     | Z1.1/4"X11.5 | 25.5       | 62.5 | 50 |
| TL-5N-20-12 | Z1.1/4"X11.5 | Z3/4"X14     | 26.5       | 38.5 | 46 |
| TL-5N-20-16 | Z1.1/4"X11.5 | Z1"X11.5     | 26.5       | 41   | 46 |
| TL-5N-20    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 26.5       | 61.5 | 50 |
| TL-5N-20-24 | Z1.1/4"X11.5 | Z1.1/2"X11.5 | 26.5       | 62.5 | 60 |
| TL-5N-24-16 | Z1.1/2"X11.5 | Z1"X11.5     | 27.5       | 40   | 50 |
| TL-5N-24-20 | Z1.1/2"X11.5 | Z1.1/4"X11.5 | 27.5       | 40   | 50 |
| TL-5N-24    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 27.5       | 62.5 | 60 |
| TL-5N-24-32 | Z1.1/2"X11.5 | Z2"X11.5     | 27.5       | 66.5 | 70 |
| TL-5N-32-20 | Z2"X11.5     | Z1.1/4"X11.5 | 27.5       | 44.5 | 65 |
| TL-5N-32-24 | Z2"X11.5     | Z1.1/2"X11.5 | 27.5       | 45   | 65 |
| TL-5N-32    | Z2"X11.5     | Z2"X11.5     | 27.5       | 62.5 | 70 |



## TL-5N9

Elbow 90°. Male NPT. 60° seat. Female NPT

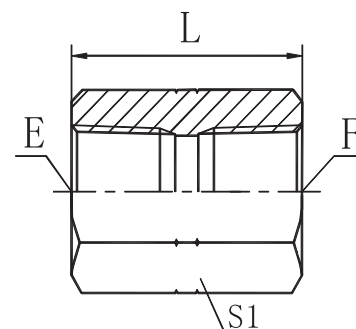
| PART NO.     | THREAD       |              | DIMENSIONS |      |    |
|--------------|--------------|--------------|------------|------|----|
|              | E            | F            | A          | B    | S1 |
| TL-5N9-02    | Z1/8"X27     | Z1/8"X27     | 24.5       | 17.8 | 16 |
| TL-5N9-04-02 | Z1/4"X18     | Z1/8"X27     | 26.5       | 16.8 | 16 |
| TL-5N9-04    | Z1/4"X18     | Z1/4"X18     | 28         | 22.4 | 19 |
| TL-5N9-04-06 | Z1/4"X18     | Z3/8"X18     | 31         | 25   | 24 |
| TL-5N9-06-04 | Z3/8"X18     | Z1/4"X18     | 31         | 22.4 | 19 |
| TL-5N9-06    | Z3/8"X18     | Z3/8"X18     | 33.5       | 25   | 24 |
| TL-5N9-08    | Z1/2"X14     | Z1/2"X14     | 41.2       | 31.2 | 30 |
| TL-5N9-12-08 | Z3/4"X14     | Z1/2"X14     | 45         | 31.2 | 30 |
| TL-5N9-12    | Z3/4"X14     | Z3/4"X14     | 45.2       | 34.5 | 33 |
| TL-5N9-16    | Z1"X11.5     | Z1"X11.5     | 54.5       | 41.1 | 41 |
| TL-5N9-20    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 63         | 43.2 | 48 |
| TL-5N9-24    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 71.5       | 52.8 | 63 |
| TL-5N9-32    | Z2"X11.5     | Z2"X11.5     | 73.5       | 62   | 65 |



## TL-7N

Female NPT

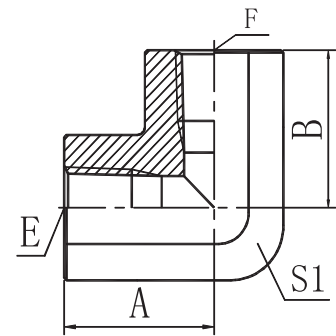
| PART NO.    | THREAD       |              | DIMENSIONS |    |
|-------------|--------------|--------------|------------|----|
|             | E            | F            | L          | S1 |
| TL-7N-02    | Z1/8"X27     | Z1/8"X27     | 24         | 17 |
| TL-7N-02-04 | Z1/8"X27     | Z1/4"X18     | 27         | 19 |
| TL-7N-02-06 | Z1/8"X27     | Z3/8"X18     | 30         | 22 |
| TL-7N-04    | Z1/4"X18     | Z1/4"X18     | 29         | 19 |
| TL-7N-04-06 | Z1/4"X18     | Z3/8"X18     | 29         | 22 |
| TL-7N-04-08 | Z1/4"X18     | Z1/2"X14     | 35         | 30 |
| TL-7N-06    | Z3/8"X18     | Z3/8"X18     | 29         | 22 |
| TL-7N-06-08 | Z3/8"X18     | Z1/2"X14     | 38         | 30 |
| TL-7N-06-12 | Z3/8"X18     | Z3/4"X14     | 40         | 36 |
| TL-7N-08    | Z1/2"X14     | Z1/2"X14     | 38         | 30 |
| TL-7N-08-12 | Z1/2"X14     | Z3/4"X14     | 43         | 36 |
| TL-7N-12    | Z3/4"X14     | Z3/4"X14     | 39         | 36 |
| TL-7N-12-16 | Z3/4"X14     | Z1"X11.5     | 45.5       | 41 |
| TL-7N-16    | Z1"X11.5     | Z1"X11.5     | 48         | 41 |
| TL-7N-20    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 49         | 50 |
| TL-7N-24    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 49         | 60 |
| TL-7N-32    | Z2"X11.5     | Z2"X11.5     | 50         | 70 |



## TL-7N9-PK

Elbow 90°. Female NPT. Female NPT

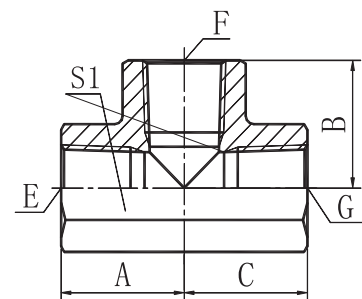
| PART NO.       | THREAD       |              | DIMENSIONS |      |    |
|----------------|--------------|--------------|------------|------|----|
|                | E            | F            | A          | B    | S1 |
| TL-7N9-02PK    | Z1/8"X27     | Z1/8"X27     | 20         | 20   | 16 |
| TL-7N9-04PK    | Z1/4"X18     | Z1/4"X18     | 22.5       | 22.5 | 19 |
| TL-7N9-04-06PK | Z1/4"X18     | Z3/8"X18     | 25         | 26   | 24 |
| TL-7N9-06PK    | Z3/8"X18     | Z3/8"X18     | 26         | 26   | 24 |
| TL-7N9-08PK    | Z1/2"X14     | Z1/2"X14     | 31         | 31   | 27 |
| TL-7N9-12PK    | Z3/4"X14     | Z3/4"X14     | 34         | 34   | 33 |
| TL-7N9-16PK    | Z1"X11.5     | Z1"X11.5     | 42         | 42   | 41 |
| TL-7N9-20PK    | Z1.1/4"X11.5 | Z1.1/4"X11.5 | 48         | 48   | 50 |
| TL-7N9-24PK    | Z1.1/2"X11.5 | Z1.1/2"X11.5 | 53         | 53   | 60 |
| TL-7N9-32PK    | Z2"X11.5     | Z2"X11.5     | 62         | 62   | 70 |



## TL-GN-PK

Tee. Female NPT. Female NPT. Female NPT

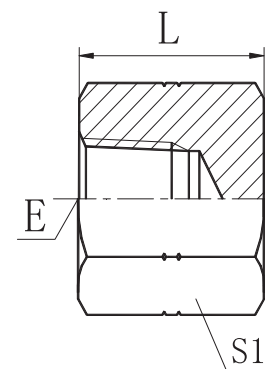
| PART NO.   | THREAD       | DIMENSIONS |      |      |    |
|------------|--------------|------------|------|------|----|
|            | E, F, G      | A          | B    | C    | S1 |
| TL-GN-02PK | Z1/8"X27     | 20         | 20   | 20   | 16 |
| TL-GN-04PK | Z1/4"X18     | 22.5       | 22.5 | 22.5 | 19 |
| TL-GN-06PK | Z3/8"X18     | 26         | 26   | 26   | 24 |
| TL-GN-08PK | Z1/2"X14     | 31         | 31   | 31   | 27 |
| TL-GN-12PK | Z3/4"X14     | 34         | 34   | 34   | 33 |
| TL-GN-16PK | Z1"X11.5     | 42         | 42   | 42   | 41 |
| TL-GN-20PK | Z1.1/4"X11.5 | 48         | 48   | 48   | 50 |
| TL-GN-24PK | Z1.1/2"X11.5 | 53         | 53   | 53   | 60 |
| TL-GN-32PK | Z2"X11.5     | 62         | 62   | 62   | 70 |



## TL-9N-CAP

NPT. Female plug

| PART NO.    | THREAD       | DIMENSIONS |    |
|-------------|--------------|------------|----|
|             | E            | L          | S1 |
| TL-9N-02CAP | Z1/8"X27     | 17.5       | 17 |
| TL-9N-04CAP | Z1/4"X18     | 23         | 19 |
| TL-9N-06CAP | Z3/8"X18     | 24         | 24 |
| TL-9N-08CAP | Z1/2"X14     | 28         | 30 |
| TL-9N-12CAP | Z3/4"X14     | 28         | 36 |
| TL-9N-16CAP | Z1"X11.5     | 34         | 46 |
| TL-9N-20CAP | Z1.1/4"X11.5 | 37         | 55 |
| TL-9N-24CAP | Z1.1/2"X11.5 | 37         | 65 |
| TL-9N-32CAP | Z2"X11.5     | 40.5       | 75 |

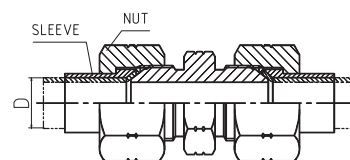
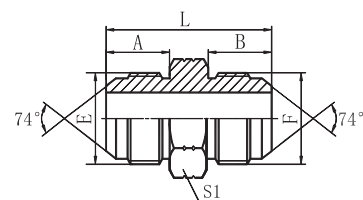


# TL-1J

JIC. Male 74° Flare. Male 74° Flare

| PART NO.    | THREAD     |            | DIMENSIONS |      |      |    |
|-------------|------------|------------|------------|------|------|----|
|             | E          | F          | A          | B    | L    | S1 |
| TL-1J-02    | 5/16"X24   | 5/16"X24   | 11.4       | 11.4 | 29   | 12 |
| TL-1J-02-03 | 5/16"X24   | 3/8"X24    | 11.4       | 12.2 | 29.5 | 12 |
| TL-1J-03    | 3/8"X24    | 3/8"X24    | 12.2       | 12.2 | 30.5 | 12 |
| TL-1J-04    | 7/16"X20   | 7/16"X20   | 14         | 14   | 34   | 12 |
| TL-1J-04-05 | 7/16"X20   | 1/2"X20    | 14         | 14   | 34   | 14 |
| TL-1J-04-06 | 7/16"X20   | 9/16"X18   | 14         | 14   | 34   | 17 |
| TL-1J-04-08 | 7/16"X20   | 3/4"X16    | 14         | 16.7 | 38.5 | 22 |
| TL-1J-05    | 1/2"X20    | 1/2"X20    | 14         | 14   | 34   | 14 |
| TL-1J-05-06 | 1/2"X20    | 9/16"X18   | 14         | 14   | 34   | 17 |
| TL-1J-05-08 | 1/2"X20    | 3/4"X16    | 14         | 16.7 | 38.5 | 22 |
| TL-1J-05-10 | 1/2"X20    | 7/8"X14    | 14         | 19.5 | 41   | 24 |
| TL-1J-06    | 9/16"X18   | 9/16"X18   | 14         | 14   | 34.2 | 17 |
| TL-1J-06-08 | 9/16"X18   | 3/4"X16    | 14         | 16.7 | 38.5 | 22 |
| TL-1J-06-10 | 9/16"X18   | 7/8"X14    | 14         | 19.5 | 41   | 24 |
| TL-1J-06-12 | 9/16"X18   | 1.1/16"X12 | 14         | 22   | 46   | 30 |
| TL-1J-08    | 3/4"X16    | 3/4"X16    | 16.7       | 16.7 | 42   | 22 |
| TL-1J-08-10 | 3/4"X16    | 7/8"X14    | 16.7       | 19.5 | 44   | 24 |
| TL-1J-08-12 | 3/4"X16    | 1.1/16"X12 | 16.7       | 22   | 48.5 | 30 |
| TL-1J-08-16 | 3/4"X16    | 1.5/16"X12 | 16.7       | 23   | 51   | 36 |
| TL-1J-10    | 7/8"X14    | 7/8"X14    | 19.5       | 19.5 | 46.5 | 24 |
| TL-1J-10-12 | 7/8"X14    | 1.1/16"X12 | 19.5       | 22   | 51   | 30 |
| TL-1J-10-16 | 7/8"X14    | 1.5/16"X12 | 19.5       | 23   | 53.5 | 36 |
| TL-1J-12    | 1.1/16"X12 | 1.1/16"X12 | 22         | 22   | 54   | 30 |
| TL-1J-12-14 | 1.1/16"X12 | 1.3/16"X12 | 22         | 22.5 | 55.5 | 32 |
| TL-1J-12-16 | 1.1/16"X12 | 1.5/16"X12 | 22         | 23   | 56   | 36 |
| TL-1J-14    | 1.3/16"X12 | 1.3/16"X12 | 22.5       | 22.5 | 56   | 32 |
| TL-1J-14-16 | 1.3/16"X12 | 1.5/16"X12 | 22.5       | 23   | 56.5 | 36 |
| TL-1J-16    | 1.5/16"X12 | 1.5/16"X12 | 23         | 23   | 57   | 36 |
| TL-1J-16-20 | 1.5/16"X12 | 1.5/8"X12  | 23         | 24.5 | 60.5 | 46 |
| TL-1J-16-24 | 1.5/16"X12 | 1.7/8"X12  | 23         | 27.5 | 65.5 | 50 |
| TL-1J-20    | 1.5/8"X12  | 1.5/8"X12  | 24.5       | 24.5 | 62   | 46 |
| TL-1J-20-24 | 1.5/8"X12  | 1.7/8"X12  | 24.5       | 27.5 | 67   | 50 |
| TL-1J-20-32 | 1.5/8"X12  | 2.1/2"X12  | 24.3       | 34   | 75   | 65 |
| TL-1J-24    | 1.7/8"X12  | 1.7/8"X12  | 27.5       | 27.5 | 70   | 50 |
| TL-1J-24-32 | 1.7/8"X12  | 2.1/2"X12  | 27.5       | 34   | 78.5 | 65 |
| TL-1J-32    | 2.1/2"X12  | 2.1/2"X12  | 34         | 34   | 85   | 65 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

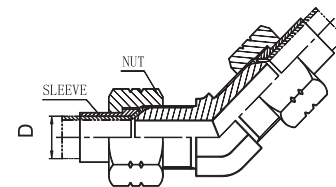
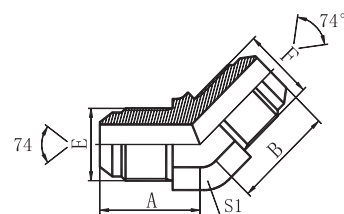


## TL-1J4

Elbow 45. °JIC. Male 74° Flare. Male 74° Flare

| PART NO.  | THREAD     |            | DIMENSIONS |      |    |
|-----------|------------|------------|------------|------|----|
|           | E          | F          | A          | B    | S1 |
| TL-1J4-04 | 7/16"X20   | 7/16"X20   | 21.5       | 21.5 | 11 |
| TL-1J4-05 | 1/2"X20    | 1/2"X20    | 23         | 23   | 14 |
| TL-1J4-06 | 9/16"X18   | 9/16"X18   | 22.8       | 22.8 | 14 |
| TL-1J4-08 | 3/4"X16    | 3/4"X16    | 26.8       | 26.8 | 19 |
| TL-1J4-10 | 7/8"X14    | 7/8"X14    | 31         | 31   | 22 |
| TL-1J4-12 | 1.1/16"X12 | 1.1/16"X12 | 35.5       | 35.5 | 27 |
| TL-1J4-16 | 1.5/16"X12 | 1.5/16"X12 | 38.5       | 38.5 | 33 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

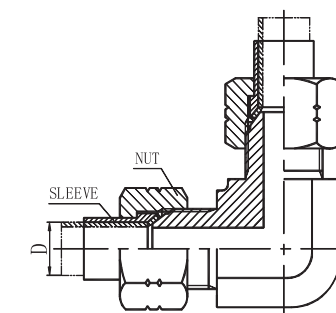
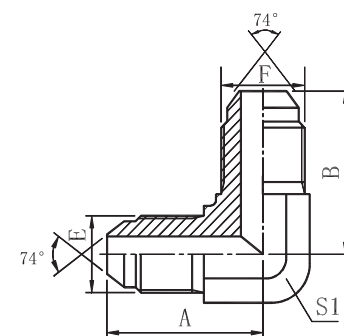


## TL-1J9

Elbow 90°. JIC. Male 74° Flare. Male 74° Flare

| PART NO.     | THREAD     |            | DIMENSIONS |      |    |
|--------------|------------|------------|------------|------|----|
|              | E          | F          | A          | B    | S1 |
| TL-1J9-02    | 5/16"X24   | 5/16"X24   | 20.5       | 20.5 | 11 |
| TL-1J9-03    | 3/8"X24    | 3/8"X24    | 22         | 22   | 11 |
| TL-1J9-04    | 7/16"X20   | 7/16"X20   | 24.5       | 24.5 | 11 |
| TL-1J9-05    | 1/2"X20    | 1/2"X20    | 26.6       | 26.6 | 14 |
| TL-1J9-05-06 | 1/2"X20    | 9/16"X18   | 26.6       | 26.9 | 14 |
| TL-1J9-06    | 9/16"X18   | 9/16"X18   | 26.9       | 26.9 | 14 |
| TL-1J9-06-08 | 9/16"X18   | 3/4"X16    | 30         | 32   | 19 |
| TL-1J9-06-10 | 9/16"X18   | 7/8"X14    | 32         | 37.8 | 22 |
| TL-1J9-08    | 3/4"X16    | 3/4"X16    | 32         | 32   | 19 |
| TL-1J9-08-10 | 3/4"X16    | 7/8"X14    | 34.8       | 37.8 | 22 |
| TL-1J9-10    | 7/8"X14    | 7/8"X14    | 37.8       | 37.8 | 22 |
| TL-1J9-10-12 | 7/8"X14    | 1.1/16"X12 | 41         | 44.2 | 27 |
| TL-1J9-12    | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 44.2 | 27 |
| TL-1J9-14    | 1.3/16"X12 | 1.3/16"X12 | 47.5       | 47.5 | 30 |
| TL-1J9-16    | 1.5/16"X12 | 1.5/16"X12 | 49         | 49   | 33 |
| TL-1J9-20    | 1.5/8"X12  | 1.5/8"X12  | 55.5       | 55.5 | 41 |
| TL-1J9-24    | 1.7/8"X12  | 1.7/8"X12  | 62.5       | 62.5 | 48 |
| TL-1J9-32    | 2.1/2"X12  | 2.1/2"X12  | 78         | 78   | 63 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

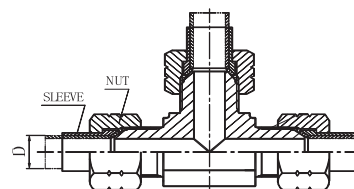
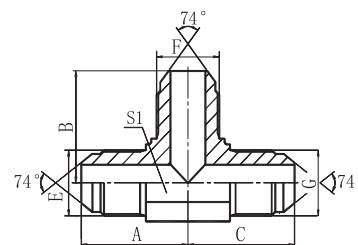


## TL-AJ

JIC Tee. Male 74° Flare. Male 74° Flare. Male 74° Flare

| PART NO.       | THREAD     |            |            | DIMENSIONS |      |      |    |
|----------------|------------|------------|------------|------------|------|------|----|
|                | E          | F          | G          | A          | B    | C    | S1 |
| TL-AJ-04       | 7/16"X20   | 7/16"X20   | 7/16"X20   | 24.5       | 24.5 | 24.5 | 11 |
| TL-AJ-04-06-04 | 7/16"X20   | 9/16"X18   | 7/16"X20   | 26.6       | 26.6 | 26.6 | 14 |
| TL-AJ-05       | 1/2"X20    | 1/2"X20    | 1/2"X20    | 26         | 26   | 26   | 14 |
| TL-AJ-06-04-06 | 9/16"X18   | 7/16"X20   | 9/16"X18   | 26.9       | 26.9 | 26.9 | 14 |
| TL-AJ-06       | 9/16"X18   | 9/16"X18   | 9/16"X18   | 26.9       | 26.9 | 26.9 | 14 |
| TL-AJ-08       | 3/4"X16    | 3/4"X16    | 3/4"X16    | 32         | 32   | 32   | 19 |
| TL-AJ-08-06-08 | 3/4"X16    | 9/16"X18   | 3/4"X16    | 32         | 32   | 32   | 19 |
| TL-AJ-10       | 7/8"X14    | 7/8"X14    | 7/8"X14    | 37.8       | 37.8 | 37.8 | 22 |
| TL-AJ-12       | 1.1/16"X12 | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 44.2 | 44.2 | 27 |
| TL-AJ-16       | 1.5/16"X12 | 1.5/16"X12 | 1.5/16"X12 | 49         | 49   | 49   | 33 |
| TL-AJ-16-12-16 | 1.5/16"X12 | 1.1/16"X12 | 1.5/16"X12 | 49         | 49   | 49   | 33 |
| TL-AJ-20       | 1.5/8"X12  | 1.5/8"X12  | 1.5/8"X12  | 56.5       | 56.5 | 56.5 | 41 |
| TL-AJ-24       | 1.7/8"X12  | 1.7/8"X12  | 1.7/8"X12  | 63         | 63   | 63   | 48 |
| TL-AJ-32       | 2.1/2"X11  | 2.1/2"X11  | 2.1/2"X11  | 78         | 78   | 78   | 63 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

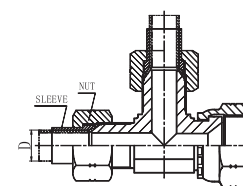
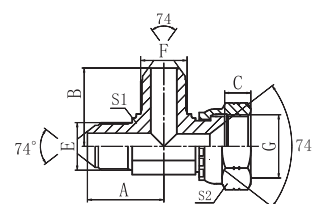


## TL-CJ

JIC Tee. Male 74° Flare. Male 74° Flare. Male 74° Female

| PART NO.       | THREAD     |            |            | DIMENSIONS |      |      |    |    |
|----------------|------------|------------|------------|------------|------|------|----|----|
|                | E          | F          | G          | A          | B    | C    | S1 | S2 |
| TL-CJ-04       | 7/16"X20   | 7/16"X20   | 7/16"X20   | 24.5       | 24.5 | 8    | 11 | 15 |
| TL-CJ-05       | 1/2"X20    | 1/2"X20    | 1/2"X20    | 26.6       | 26.6 | 9    | 14 | 17 |
| TL-CJ-06       | 9/16"X18   | 9/16"X18   | 9/16"X18   | 26.9       | 26.9 | 9.5  | 14 | 19 |
| TL-CJ-08       | 3/4"X16    | 3/4"X16    | 3/4"X16    | 32         | 32   | 10.8 | 19 | 24 |
| TL-CJ-10       | 7/8"X14    | 7/8"X14    | 7/8"X14    | 37.8       | 37.8 | 12   | 22 | 27 |
| TL-CJ-10-08-10 | 7/8"X14    | 7/8"X14    | 7/8"X14    | 37.8       | 34.8 | 12   | 22 | 27 |
| TL-CJ-12       | 1.1/16"X12 | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 44.2 | 15   | 27 | 32 |
| TL-CJ-12-08-12 | 1.1/16"X12 | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 37.9 | 15   | 27 | 32 |
| TL-CJ-16       | 1.5/16"X12 | 1.5/16"X12 | 1.5/16"X12 | 49         | 49   | 14   | 33 | 41 |
| TL-CJ-20       | 1.5/8"X12  | 1.5/8"X12  | 1.5/8"X12  | 55.5       | 55.5 | 15   | 41 | 50 |
| TL-CJ-24       | 1.7/8"X12  | 1.7/8"X12  | 1.7/8"X12  | 63         | 63   | 19   | 48 | 55 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



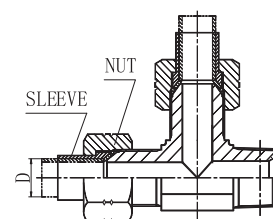
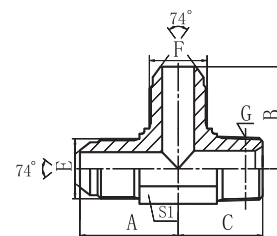


# TL-AJJN

JIC Tee. Male 74° Flare. Male 74° Flare. Female NPT

| PART NO.         | THREAD     |            |              | DIMENSIONS |      |      |    |
|------------------|------------|------------|--------------|------------|------|------|----|
|                  | E          | F          | G            | A          | B    | C    | S1 |
| TL-AJJN-04       | 7/16"X20   | 7/16"X20   | Z1/4"X18     | 26.6       | 26.6 | 25.5 | 14 |
| TL-AJJN-04-04-02 | 7/16"X20   | 7/16"X20   | Z1/8"X27     | 24.5       | 24.5 | 21   | 11 |
| TL-AJJN-05-05-02 | 1/2"X20    | 1/2"X20    | Z1/8"X27     | 26.6       | 26.6 | 23.5 | 14 |
| TL-AJJN-06       | 9/16"X18   | 9/16"X18   | Z3/8"X18     | 30         | 30   | 31   | 19 |
| TL-AJJN-06-04-06 | 9/16"X18   | 7/16"X20   | Z3/8"X18     | 30         | 29.5 | 31   | 19 |
| TL-AJJN-06-06-04 | 9/16"X18   | 9/16"X18   | Z1/4"X18     | 26.9       | 26.9 | 25.5 | 14 |
| TL-AJJN-08       | 3/4"X16    | 3/4"X16    | Z1/2"X14     | 34.8       | 34.8 | 36.7 | 22 |
| TL-AJJN-08-08-06 | 3/4"X16    | 3/4"X16    | Z3/8"X18     | 32         | 32   | 31   | 19 |
| TL-AJJN-10-10-08 | 7/8"X14    | 7/8"X14    | Z1/2"X14     | 37.8       | 37.8 | 36.7 | 22 |
| TL-AJJN-10-10-12 | 7/8"X14    | 7/8"X14    | Z3/4"X14     | 41         | 41   | 44   | 27 |
| TL-AJJN-12       | 1.1/16"X12 | 1.1/16"X12 | Z3/4"X14     | 44.2       | 44.2 | 44   | 27 |
| TL-AJJN-16       | 1.5/16"X12 | 1.5/16"X12 | Z1"X11.5     | 49         | 49   | 50   | 33 |
| TL-AJJN-20       | 1.5/8"X12  | 1.5/8"X12  | Z1.1/4"X11.5 | 55.5       | 55.5 | 54.5 | 41 |
| TL-AJJN-24       | 1.7/8"X12  | 1.7/8"X12  | Z1.1/2"X11.5 | 62.5       | 62.5 | 60   | 48 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

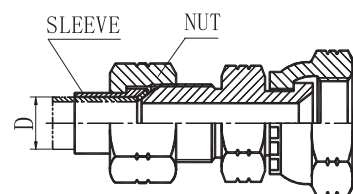
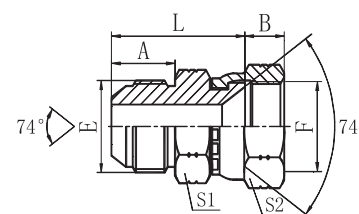


# TL-2J

Straight. JIC. Male 74° Flare. Female 74° seat

| PART NO.    | THREAD     |            | DIMENSIONS |      |      |    |    |
|-------------|------------|------------|------------|------|------|----|----|
|             | E          | F          | A          | B    | L    | S1 | S2 |
| TL-2J-04    | 7/16"X20   | 7/16"X20   | 14         | 8    | 28   | 12 | 17 |
| TL-2J-04-05 | 7/16"X20   | 1/2"X20    | 14         | 9    | 28.5 | 12 | 19 |
| TL-2J-04-06 | 7/16"X20   | 9/16"X18   | 14         | 9.5  | 29.5 | 14 | 19 |
| TL-2J-04-08 | 7/16"X20   | 3/4"X16    | 14         | 10.8 | 30.5 | 19 | 24 |
| TL-2J-05    | 1/2"X20    | 1/2"X20    | 14         | 9    | 29   | 14 | 19 |
| TL-2J-05-06 | 1/2"X20    | 9/16"X18   | 14         | 9.5  | 29.5 | 14 | 19 |
| TL-2J-05-08 | 1/2"X20    | 3/4"X16    | 14         | 10.8 | 30.5 | 19 | 24 |
| TL-2J-06    | 9/16"X18   | 9/16"X18   | 14         | 9.5  | 29   | 17 | 19 |
| TL-2J-06-08 | 9/16"X18   | 3/4"X16    | 14         | 10.8 | 31   | 19 | 24 |
| TL-2J-06-10 | 9/16"X18   | 7/8"X14    | 14.1       | 12   | 33.5 | 22 | 27 |
| TL-2J-08    | 3/4"X16    | 3/4"X16    | 16.7       | 10.8 | 36   | 22 | 24 |
| TL-2J-08-06 | 3/4"X16    | 9/16"X18   | 16.7       | 9.5  | 34   | 22 | 19 |
| TL-2J-08-10 | 3/4"X16    | 7/8"X14    | 16.7       | 12   | 36.5 | 22 | 27 |
| TL-2J-08-12 | 3/4"X16    | 1.1/16"X12 | 16.7       | 15   | 39.5 | 27 | 32 |
| TL-2J-10    | 7/8"X14    | 7/8"X14    | 19.5       | 12   | 39   | 24 | 27 |
| TL-2J-10-08 | 7/8"X14    | 3/4"X16    | 19.5       | 10.8 | 38   | 24 | 24 |
| TL-2J-10-12 | 7/8"X14    | 1.1/16"X12 | 19.5       | 15   | 42   | 27 | 32 |
| TL-2J-12    | 1.1/16"X12 | 1.1/16"X12 | 22         | 15   | 44.5 | 30 | 32 |
| TL-2J-12-10 | 1.1/16"X12 | 7/8"X14    | 22         | 12   | 43.5 | 30 | 27 |
| TL-2J-12-16 | 1.1/16"X12 | 1.5/16"X12 | 22         | 14   | 45.5 | 36 | 41 |
| TL-2J-16    | 1.5/16"X12 | 1.5/16"X12 | 23         | 14   | 46.5 | 36 | 41 |
| TL-2J-16-20 | 1.5/16"X12 | 1.5/8"X12  | 23         | 15   | 53   | 41 | 50 |
| TL-2J-20    | 1.5/8"X12  | 1.5/8"X12  | 24.5       | 15   | 54.5 | 46 | 50 |
| TL-2J-20-24 | 1.5/8"X12  | 1.7/8"X12  | 24.5       | 19   | 55   | 46 | 55 |
| TL-2J-24    | 1.7/8"X12  | 1.7/8"X12  | 27.5       | 19   | 58   | 50 | 55 |
| TL-2J-24-32 | 1.7/8"X12  | 2.1/2"X12  | 27.5       | 23.5 | 63   | 65 | 75 |
| TL-2J-32    | 2.1/2"X12  | 2.1/2"X12  | 34         | 23.5 | 69.5 | 65 | 75 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

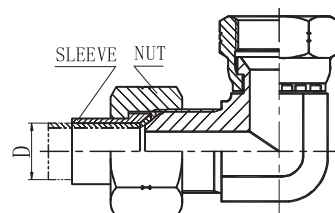
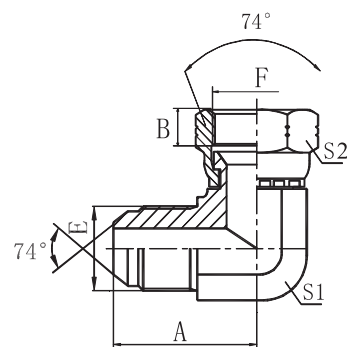


## TL-2J9

Elbow 90°. JIC. Male 74° Flare. Female 74° sea

| PART NO.     | THREAD     |            | DIMENSIONS |      |    |    |
|--------------|------------|------------|------------|------|----|----|
|              | E          | F          | A          | B    | S1 | S2 |
| TL-2J9-02    | 5/16"X24   | 5/16"X24   | 21         | 5.6  | 11 | 12 |
| TL-2J9-03    | 3/8"X24    | 3/8"X24    | 22         | 5    | 11 | 14 |
| TL-2J9-04    | 7/16"X20   | 7/16"X20   | 24.5       | 8    | 11 | 17 |
| TL-2J9-05    | 1/2"X20    | 1/2"X20    | 26.5       | 7    | 14 | 19 |
| TL-2J9-06    | 9/16"X18   | 9/16"X18   | 26.9       | 9.5  | 14 | 19 |
| TL-2J9-06-08 | 9/16"X18   | 3/4"X16    | 28.5       | 10.8 | 16 | 24 |
| TL-2J9-08-06 | 3/4"X16    | 9/16"X18   | 32         | 9.5  | 19 | 19 |
| TL-2J9-08    | 3/4"X16    | 3/4"X16    | 32         | 10.8 | 19 | 24 |
| TL-2J9-08-10 | 3/4"X16    | 7/8"X14    | 32         | 12   | 19 | 27 |
| TL-2J9-10    | 7/8"X14    | 7/8"X14    | 37.8       | 12   | 22 | 27 |
| TL-2J9-10-08 | 7/8"X14    | 3/4"X16    | 37.8       | 10.8 | 22 | 24 |
| TL-2J9-10-12 | 7/8"X14    | 1.1/16"X12 | 39.5       | 15   | 24 | 32 |
| TL-2J9-12    | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 15   | 27 | 32 |
| TL-2J9-12-10 | 1.1/16"X12 | 7/8"X14    | 44.2       | 12   | 27 | 27 |
| TL-2J9-12-16 | 1.1/16"X12 | 1.5/16"X12 | 46         | 14   | 30 | 41 |
| TL-2J9-14    | 1.3/16"X12 | 1.3/16"X12 | 47.5       | 15   | 30 | 36 |
| TL-2J9-16    | 1.5/16"X12 | 1.5/16"X12 | 48.8       | 14   | 33 | 41 |
| TL-2J9-16-20 | 1.5/16"X12 | 1.5/8"X12  | 54         | 15   | 41 | 50 |
| TL-2J9-20-16 | 1.5/8"X12  | 1.5/16"X12 | 55.5       | 14   | 41 | 41 |
| TL-2J9-20    | 1.5/8"X12  | 1.5/8"X12  | 55.5       | 15   | 41 | 50 |
| TL-2J9-20-24 | 1.5/8"X12  | 1.7/8"X12  | 59.5       | 19   | 48 | 55 |
| TL-2J9-24-20 | 1.7/8"X12  | 1.5/8"X12  | 62.5       | 15   | 48 | 50 |
| TL-2J9-24    | 1.7/8"X12  | 1.7/8"X12  | 62.5       | 19   | 48 | 55 |
| TL-2J9-32    | 2.1/2"X12  | 2.1/2"X12  | 75.5       | 23.5 | 63 | 75 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

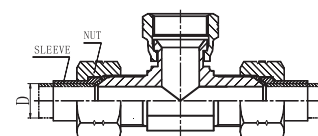
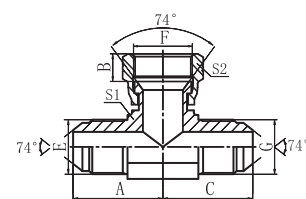


## TL-BJ

Tee. JIC. Male 74° Flare. Female 74° seat. Male 74° Flare

| PART NO. | THREAD     |            |            | DIMENSIONS |      |      |    |    |
|----------|------------|------------|------------|------------|------|------|----|----|
|          | E          | F          | G          | A          | B    | C    | S1 | S2 |
| TL-BJ-04 | 7/16"X20   | 7/16"X20   | 7/16"X20   | 24.5       | 8    | 24.5 | 11 | 15 |
| TL-BJ-05 | 1/2"X20    | 1/2"X20    | 1/2"X20    | 26.5       | 9    | 26.5 | 14 | 17 |
| TL-BJ-06 | 9/16"X18   | 9/16"X18   | 9/16"X18   | 26.9       | 9.5  | 26.9 | 14 | 19 |
| TL-BJ-08 | 3/4"X16    | 3/4"X16    | 3/4"X16    | 32         | 10.8 | 32   | 19 | 24 |
| TL-BJ-10 | 7/8"X14    | 7/8"X14    | 7/8"X14    | 37.8       | 12   | 37.8 | 22 | 27 |
| TL-BJ-12 | 1.1/16"X12 | 1.1/16"X12 | 1.1/16"X12 | 44.2       | 15   | 44.2 | 27 | 32 |
| TL-BJ-16 | 1.5/16"X12 | 1.5/16"X12 | 1.5/16"X12 | 49         | 14   | 49   | 33 | 41 |
| TL-BJ-20 | 1.5/8"X12  | 1.5/8"X12  | 1.5/8"X12  | 56         | 15   | 56   | 41 | 50 |
| TL-BJ-24 | 1.7/8"X12  | 1.7/8"X12  | 1.7/8"X12  | 63.5       | 19   | 63.5 | 48 | 55 |

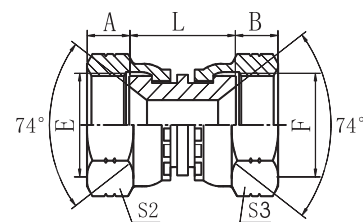
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



## TL-3J

Straight. JIC. Female 74° seat. Female 74° seat

| PART NO.    | THREAD     |            | DIMENSIONS |      |      |    |    |
|-------------|------------|------------|------------|------|------|----|----|
|             | E          | F          | A          | B    | L    | S2 | S3 |
| TL-3J-04    | 7/16"X20   | 7/16"X20   | 8          | 8    | 19.5 | 17 | 17 |
| TL-3J-05    | 1/2"X20    | 1/2"X20    | 9.5        | 9    | 21   | 17 | 17 |
| TL-3J-06    | 9/16"X18   | 9/16"X18   | 9.5        | 9.5  | 21   | 19 | 19 |
| TL-3J-06-08 | 9/16"X18   | 3/4"X16    | 10.5       | 10.8 | 23   | 19 | 24 |
| TL-3J-08    | 3/4"X16    | 3/4"X16    | 10.8       | 10.8 | 24   | 24 | 24 |
| TL-3J-10    | 7/8"X14    | 7/8"X14    | 12         | 12   | 26.5 | 27 | 27 |
| TL-3J-12    | 1.1/16"X12 | 1.1/16"X12 | 15         | 15   | 27.5 | 32 | 32 |
| TL-3J-16    | 1.5/16"X12 | 1.5/16"X12 | 14         | 14   | 30.5 | 41 | 41 |
| TL-3J-20    | 1.5/8"X12  | 1.5/8"X12  | 17         | 15   | 35   | 50 | 50 |
| TL-3J-24    | 1.7/8"X12  | 1.7/8"X12  | 20         | 19   | 37   | 55 | 55 |

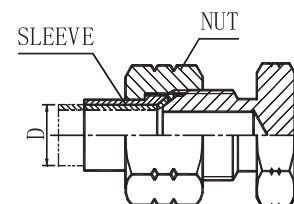
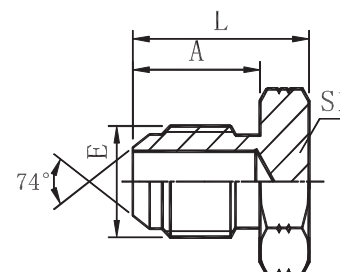


## TL-4J

JIC. Male 74° Flare plug

| PART NO. | THREAD     |      | DIMENSIONS |    |  |
|----------|------------|------|------------|----|--|
|          | E          | A    | L          | S1 |  |
| TL-4J-04 | 7/16"X20   | 14   | 20         | 12 |  |
| TL-4J-05 | 1/2"X20    | 14   | 20         | 14 |  |
| TL-4J-06 | 9/16"X18   | 14   | 20         | 17 |  |
| TL-4J-08 | 3/4"X16    | 16.7 | 25         | 22 |  |
| TL-4J-10 | 7/8"X14    | 19.5 | 27.5       | 24 |  |
| TL-4J-12 | 1.1/16"X12 | 22   | 32         | 30 |  |
| TL-4J-14 | 1.3/16"X12 | 22.5 | 33.5       | 32 |  |
| TL-4J-16 | 1.5/16"X12 | 23   | 34         | 36 |  |
| TL-4J-20 | 1.5/8"X12  | 24.5 | 38         | 46 |  |
| TL-4J-24 | 1.7/8"X12  | 27.5 | 44.5       | 50 |  |
| TL-4J-32 | 2.1/2"X12  | 34   | 51         | 65 |  |

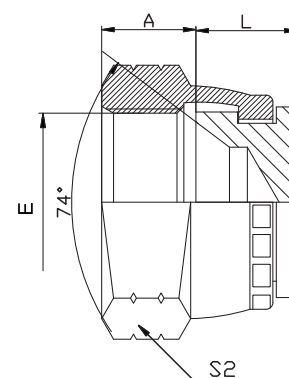
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



## TL-9J

JIC. Female. 74° seat plug

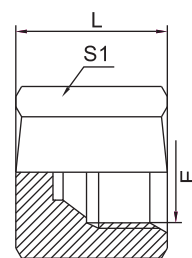
| PART NO. | THREAD     |      | DIMENSIONS |    |  |
|----------|------------|------|------------|----|--|
|          | E          | A    | L          | S2 |  |
| TL-9J-04 | 7/16"X20   | 8    | 10.5       | 12 |  |
| TL-9J-05 | 1/2"X20    | 9    | 11         | 19 |  |
| TL-9J-06 | 9/16"X18   | 9.5  | 12         | 19 |  |
| TL-9J-08 | 3/4"X16    | 10.8 | 13         | 24 |  |
| TL-9J-10 | 7/8"X14    | 12   | 14.5       | 27 |  |
| TL-9J-12 | 1.1/16"X12 | 15   | 15.5       | 32 |  |
| TL-9J-14 | 1.3/16"X12 | 15   | 16         | 36 |  |
| TL-9J-16 | 1.5/16"X12 | 14   | 17         | 41 |  |
| TL-9J-20 | 1.5/8"X12  | 15   | 19         | 50 |  |
| TL-9J-24 | 1.7/8"X12  | 19   | 19.5       | 55 |  |
| TL-9J-32 | 2.1/2"X12  | 23.5 | 21.5       | 75 |  |



## TL-9J-CAP

JIC. Female. 74° seat plug

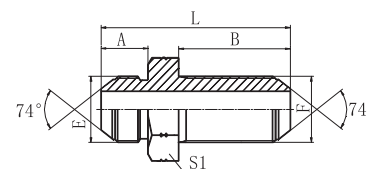
| PART NO.    | THREAD     | DIMENSIONS |    |
|-------------|------------|------------|----|
|             |            | E          | S1 |
| TL-9J-04CAP | 7/16"X20   | 15         | 14 |
| TL-9J-05CAP | 1/2"X20    | 15.5       | 17 |
| TL-9J-06CAP | 9/16"X18   | 16         | 19 |
| TL-9J-08CAP | 3/4"X16    | 19         | 24 |
| TL-9J-10CAP | 7/8"X14    | 21.5       | 27 |
| TL-9J-12CAP | 1.1/16"X12 | 23         | 32 |
| TL-9J-16CAP | 1.5/16"X12 | 25.8       | 41 |
| TL-9J-20CAP | 1.5/8"X12  | 27         | 50 |
| TL-9J-24CAP | 1.7/8"X12  | 30.5       | 60 |
| TL-9J-32CAP | 2.1/2"X12  | 36.5       | 75 |



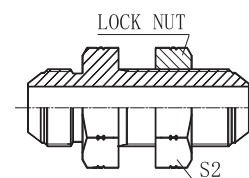
## TL-6J • TL-6J-LN

JIC. Male 74° Flare. Male 74° Flare. Bulkhead

| PART NO. | THREAD     |            | DIMENSIONS |      |       |    |    |
|----------|------------|------------|------------|------|-------|----|----|
|          | E          | F          | A          | B    | L     | S1 | S2 |
| TL-6J-04 | 7/16"X20   | 7/16"X20   | 14         | 32.5 | 52.5  | 17 | 17 |
| TL-6J-05 | 1/2"X20    | 1/2"X20    | 14         | 32.5 | 52.5  | 19 | 19 |
| TL-6J-06 | 9/16"X18   | 9/16"X18   | 14         | 32.5 | 54.5  | 22 | 22 |
| TL-6J-08 | 3/4"X16    | 3/4"X16    | 16.7       | 36.5 | 61.5  | 24 | 24 |
| TL-6J-10 | 7/8"X14    | 7/8"X14    | 19.5       | 40   | 69.5  | 30 | 30 |
| TL-6J-12 | 1.1/16"X12 | 1.1/16"X12 | 22         | 44.5 | 78.5  | 36 | 36 |
| TL-6J-14 | 1.3/16"X12 | 1.3/16"X12 | 22.5       | 44.5 | 79.2  | 38 | 38 |
| TL-6J-16 | 1.5/16"X12 | 1.5/16"X12 | 23         | 44.5 | 80    | 41 | 41 |
| TL-6J-20 | 1.5/8"X12  | 1.5/8"X12  | 24.5       | 45.7 | 84    | 50 | 50 |
| TL-6J-24 | 1.7/8"X12  | 1.7/8"X12  | 27.5       | 46   | 89.5  | 55 | 55 |
| TL-6J-32 | 2.1/2"X12  | 2.1/2"X12  | 34         | 53   | 106.7 | 70 | 70 |

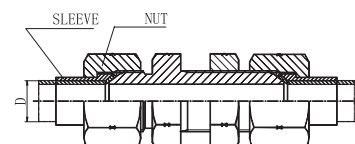


TL-6J



TL-6J-LN

**Note:** If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number, for example TL-6J-12LN. Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

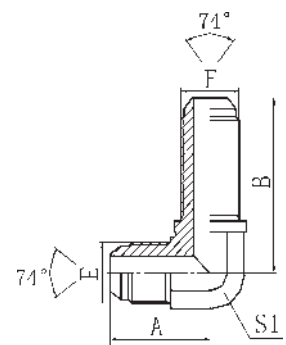


## TL-6J9 · TL-6J9-LN

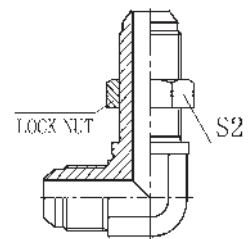
Elbow 90°. JIC. Male 74° Flare. Male 74° Flare

| PART NO.  | THREAD     |            | DIMENSIONS |      |    |    |
|-----------|------------|------------|------------|------|----|----|
|           | E          | F          | A          | B    | S1 | S2 |
| TL-6J9-04 | 7/16"X20   | 7/16"X20   | 24.5       | 41   | 11 | 17 |
| TL-6J9-05 | 1/2"X20    | 1/2"X20    | 26.6       | 43.7 | 14 | 19 |
| TL-6J9-06 | 9/16"X18   | 9/16"X18   | 27.7       | 46   | 14 | 22 |
| TL-6J9-08 | 3/4"X16    | 3/4"X16    | 34.5       | 53.5 | 19 | 24 |
| TL-6J9-10 | 7/8"X14    | 7/8"X14    | 39.6       | 60.7 | 22 | 30 |
| TL-6J9-12 | 1.1/16"X12 | 1.1/16"X12 | 45.2       | 67.8 | 27 | 36 |
| TL-6J9-14 | 1.3/16"X12 | 1.3/16"X12 | 48.2       | 69.5 | 30 | 38 |
| TL-6J9-16 | 1.5/16"X12 | 1.5/16"X12 | 50         | 71   | 33 | 41 |
| TL-6J9-20 | 1.5/8"X12  | 1.5/8"X12  | 57.5       | 79.2 | 41 | 50 |

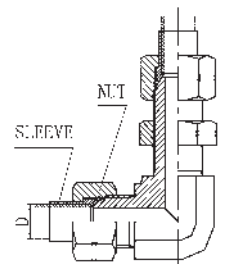
**Note:** If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number, for example TL-6J9-12LN. Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



TL-6J9



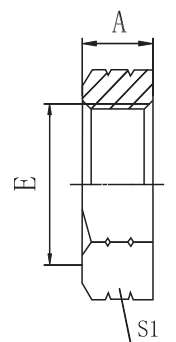
TL-6J9-LN



## TL-8J

JIC Lock nut

| PART NO. | THREAD     |      | DIMENSIONS |  |
|----------|------------|------|------------|--|
|          | E          | L    | S1         |  |
| TL-8J-04 | 7/16"X20   | 7    | 17         |  |
| TL-8J-05 | 1/2"X20    | 7    | 19         |  |
| TL-8J-06 | 9/16"X18   | 7    | 22         |  |
| TL-8J-08 | 3/4"X16    | 8    | 24         |  |
| TL-8J-10 | 7/8"X14    | 9    | 30         |  |
| TL-8J-12 | 1.1/16"X12 | 10.5 | 36         |  |
| TL-8J-14 | 1.3/16"X12 | 10.5 | 38         |  |
| TL-8J-16 | 1.5/16"X12 | 10.5 | 41         |  |
| TL-8J-20 | 1.5/8"X12  | 10.5 | 50         |  |
| TL-8J-24 | 1.7/8"X12  | 10.5 | 55         |  |
| TL-8J-32 | 2.1/2"X12  | 10.5 | 70         |  |

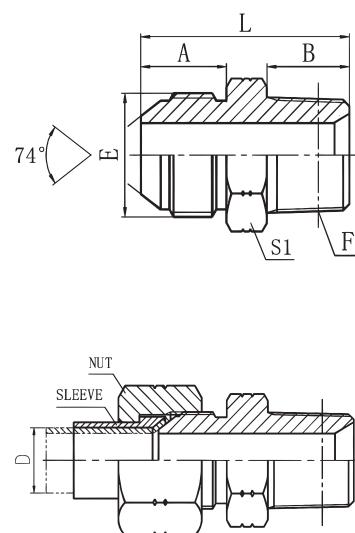


# TL-1JN

Straight. JIC. Male 74° Flare. Male NPT

| PART NO.     | THREAD     |              | DIMENSIONS |      |      |    |
|--------------|------------|--------------|------------|------|------|----|
|              | E          | F            | A          | B    | L    | S1 |
| TL-1JN-02    | 5/16"X24   | Z1/8"X27     | 11.4       | 10.5 | 28   | 12 |
| TL-1JN-04-02 | 7/16"X20   | Z1/8"X27     | 14         | 10.5 | 30.5 | 12 |
| TL-1JN-04    | 7/16"X20   | Z1/4"X18     | 14         | 15   | 35   | 17 |
| TL-1JN-04-06 | 7/16"X20   | Z3/8"X18     | 14         | 16   | 36   | 19 |
| TL-1JN-04-08 | 7/16"X20   | Z1/2"X14     | 14         | 19.5 | 41.5 | 24 |
| TL-1JN-05-04 | 1/2"X20    | Z1/4"X18     | 14         | 15   | 35   | 17 |
| TL-1JN-05-06 | 1/2"X20    | Z3/8"X18     | 14         | 16   | 36   | 19 |
| TL-1JN-05-08 | 1/2"X20    | Z1/2"X14     | 14         | 19.5 | 41.5 | 24 |
| TL-1JN-06-04 | 9/16"X18   | Z1/4"X18     | 14         | 15   | 35   | 17 |
| TL-1JN-06    | 9/16"X18   | Z3/8"X18     | 14         | 16   | 36   | 19 |
| TL-1JN-06-08 | 9/16"X18   | Z1/2"X14     | 14         | 19.5 | 41.5 | 24 |
| TL-1JN-08-04 | 3/4"X16    | Z1/4"X18     | 16.7       | 15   | 39   | 22 |
| TL-1JN-08-06 | 3/4"X16    | Z3/8"X18     | 16.7       | 16   | 40   | 22 |
| TL-1JN-08    | 3/4"X16    | Z1/2"X14     | 16.7       | 19.5 | 44   | 24 |
| TL-1JN-08-12 | 3/4"X16    | Z3/4"X18     | 16.7       | 19.5 | 46.5 | 30 |
| TL-1JN-10-06 | 7/8"X14    | Z3/8"X18     | 19.5       | 16   | 43.5 | 24 |
| TL-1JN-10-08 | 7/8"X14    | Z1/2"X14     | 19.5       | 19.5 | 47   | 24 |
| TL-1JN-10-12 | 7/8"X14    | Z3/4"X14     | 19.5       | 19.5 | 49   | 30 |
| TL-1JN-12-08 | 1.1/16"X12 | Z1/2"X14     | 22         | 19.5 | 51   | 30 |
| TL-1JN-12    | 1.1/16"X12 | Z3/4"X14     | 22         | 19.5 | 51.5 | 30 |
| TL-1JN-12-16 | 1.1/16"X12 | Z1"X11.5     | 22         | 25.5 | 58.5 | 36 |
| TL-1JN-12-20 | 1.1/16"X12 | Z1.1/4"X11.5 | 22         | 26.5 | 61.5 | 46 |
| TL-1JN-14-12 | 1.3/16"X12 | Z3/4"X14     | 22.5       | 19.5 | 53   | 32 |
| TL-1JN-16-12 | 1.5/16"X12 | Z3/4"X14     | 23         | 19.5 | 53.5 | 36 |
| TL-1JN-16    | 1.5/16"X12 | Z1"X11.5     | 23         | 25.5 | 58.5 | 36 |
| TL-1JN-16-20 | 1.5/16"X12 | Z1.1/4"X11.5 | 23         | 26.5 | 62.5 | 46 |
| TL-1JN-16-24 | 1.5/16"X12 | Z1.1/2"X11.5 | 23         | 27.5 | 65.5 | 50 |
| TL-1JN-20-16 | 1.5/8"X12  | Z1"X11.5     | 24.5       | 25.5 | 63   | 46 |
| TL-1JN-20    | 1.5/8"X12  | Z1.1/4"X11.5 | 24.5       | 26.5 | 63.5 | 46 |
| TL-1JN-20-24 | 1.5/8"X12  | Z1.1/2"X11.5 | 24.5       | 27.5 | 67   | 50 |
| TL-1JN-24-20 | 1.7/8"X12  | Z1.1/4"X11.5 | 27.5       | 26.5 | 69   | 50 |
| TL-1JN-24    | 1.7/8"X12  | Z1.1/2"X11.5 | 27.5       | 27.5 | 70   | 50 |
| TL-1JN-24-32 | 1.7/8"X12  | Z2"X11.5     | 27.5       | 27.5 | 72   | 65 |
| TL-1JN-32    | 2.1/2"X12  | Z2"X11.5     | 34         | 27.5 | 78.5 | 65 |
| TL-1JN-32-24 | 2.1/2"X12  | Z1.1/2"X11.5 | 34         | 27.5 | 78.5 | 65 |

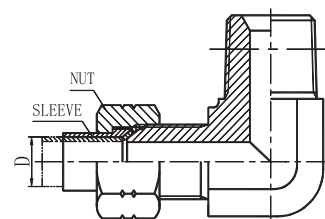
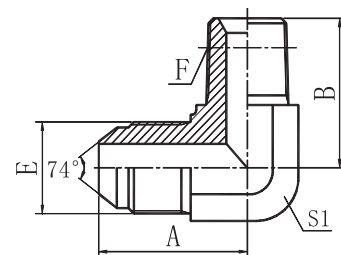
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



# TL-1JN9

Elbow 90°. JIC.Male 74° Flare. Male NPT

| PART NO.      | THREAD     |              | DIMENSIONS |      |    |
|---------------|------------|--------------|------------|------|----|
|               | E          | F            | A          | B    | S1 |
| TL-1JN9-02    | 5/16"X24   | Z1/8"X27     | 21         | 21   | 11 |
| TL-1JN9-03-02 | 3/8"X24    | Z1/8"X27     | 22         | 21   | 11 |
| TL-1JN9-04    | 7/16"X20   | Z1/4"X18     | 26.6       | 25.5 | 14 |
| TL-1JN9-04-02 | 7/16"X20   | Z1/8"X27     | 24.5       | 21   | 14 |
| TL-1JN9-04-06 | 7/16"X20   | Z3/8"X18     | 29.5       | 31   | 19 |
| TL-1JN9-05-02 | 1/2"X20    | Z1/8"X27     | 24.5       | 21   | 14 |
| TL-1JN9-05-04 | 1/2"X20    | Z1/4"X18     | 26.6       | 25.5 | 14 |
| TL-1JN9-05-06 | 1/2"X20    | Z3/8"X18     | 29.5       | 31   | 19 |
| TL-1JN9-06    | 9/16"X18   | Z3/8"X18     | 30         | 31   | 19 |
| TL-1JN9-06-04 | 9/16"X18   | Z1/4"X18     | 26.9       | 25.5 | 14 |
| TL-1JN9-06-08 | 9/16"X18   | Z1/2"X14     | 32         | 36.7 | 22 |
| TL-1JN9-08    | 3/4"X16    | Z1/2"X14     | 34.8       | 37.3 | 22 |
| TL-1JN9-08-04 | 3/4"X16    | Z1/4"X18     | 32         | 28.5 | 19 |
| TL-1JN9-08-12 | 3/4"X16    | Z3/8"X18     | 32         | 31   | 19 |
| TL-1JN9-08-08 | 3/4"X16    | Z3/4"X14     | 37.9       | 44   | 27 |
| TL-1JN9-10-06 | 7/8"X14    | Z3/8"X18     | 37.8       | 32.5 | 22 |
| TL-1JN9-10-08 | 7/8"X14    | Z1/2"X14     | 37.8       | 37.3 | 22 |
| TL-1JN9-10-12 | 7/8"X14    | Z3/4"X14     | 41         | 44   | 27 |
| TL-1JN9-10-16 | 7/8"X14    | Z1"X11.5     | 44.5       | 50   | 33 |
| TL-1JN9-12    | 1.1/16"X12 | Z3/4"X14     | 44.2       | 44   | 27 |
| TL-1JN9-12-08 | 1.1/16"X12 | Z1/2"X14     | 44.2       | 40   | 27 |
| TL-1JN9-12-16 | 1.1/16"X12 | Z1"X11.5     | 49         | 50   | 33 |
| TL-1JN9-12-20 | 1.1/16"X12 | Z1.1/4"X11.5 | 52.5       | 54.5 | 41 |
| TL-1JN9-14-12 | 1.3/16"X12 | Z3/4"X14     | 47.5       | 45   | 30 |
| TL-1JN9-14-16 | 1.3/16"X12 | Z1"X11.5     | 48.7       | 50   | 33 |
| TL-1JN9-16    | 1.5/16"X12 | Z1"X11.5     | 49         | 50   | 33 |
| TL-1JN9-16-12 | 1.5/16"X12 | Z3/4"X14     | 49         | 45.5 | 33 |
| TL-1JN9-16-20 | 1.5/16"X12 | Z1.1/4"X11.5 | 54         | 60.5 | 41 |
| TL-1JN9-16-24 | 1.5/16"X12 | Z1.1/2"X11.5 | 59.4       | 59.5 | 48 |
| TL-1JN9-20    | 1.5/8"X12  | Z1.1/4"X11.5 | 55.5       | 54.5 | 41 |
| TL-1JN9-20-16 | 1.5/8"X12  | Z1"X11.5     | 55.5       | 54.5 | 41 |
| TL-1JN9-20-24 | 1.5/8"X12  | Z1.1/2"X11.5 | 59.4       | 63   | 48 |
| TL-1JN9-24    | 1.7/8"X12  | Z1.1/2"X11.5 | 62.5       | 63   | 48 |
| TL-1JN9-24-20 | 1.7/8"X12  | Z1.1/4"X11.5 | 62.5       | 63   | 48 |
| TL-1JN9-32-24 | 2.1/2"X12  | Z1.1/2"X11.5 | 75.4       | 70   | 63 |
| TL-1JN9-32    | 2.1/2"X12  | Z2"X11.5     | 75.4       | 67.5 | 63 |

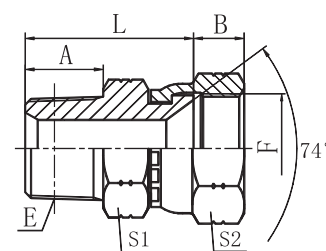


**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

# TL-2NJ

Male NPT. JIC Female 74° seat

| PART NO.     | THREAD       |            | DIMENSIONS |      |      |    |    |
|--------------|--------------|------------|------------|------|------|----|----|
|              | E            | F          | A          | B    | L    | S1 | S2 |
| TL-2NJ-02-04 | Z1/8"X27     | 7/16"X20   | 10.5       | 8    | 24.5 | 12 | 17 |
| TL-2NJ-02-05 | Z1/8"X27     | 1/2"X20    | 10.5       | 9    | 25   | 12 | 17 |
| TL-2NJ-04    | Z1/4"X18     | 7/16"X20   | 15         | 8    | 29   | 17 | 17 |
| TL-2NJ-04-05 | Z1/4"X18     | 1/2"X20    | 15         | 9    | 29.5 | 17 | 17 |
| TL-2NJ-04-06 | Z1/4"X18     | 9/16"X18   | 15         | 9.5  | 29.5 | 17 | 19 |
| TL-2NJ-04-08 | Z1/4"X18     | 3/4"X16    | 15         | 10.8 | 31.5 | 19 | 24 |
| TL-2NJ-06    | Z3/8"X18     | 9/16"X18   | 16         | 9.5  | 32   | 19 | 19 |
| TL-2NJ-06-08 | Z3/8"X18     | 3/4"X16    | 16         | 10.8 | 32.5 | 19 | 24 |
| TL-2NJ-06-10 | Z3/8"X18     | 7/8"X14    | 16         | 12   | 35   | 22 | 27 |
| TL-2NJ-08    | Z1/2"X14     | 3/4"X16    | 19.5       | 10.8 | 38   | 22 | 24 |
| TL-2NJ-08-06 | Z1/2"X14     | 9/16"X18   | 19.5       | 9.5  | 36   | 22 | 19 |
| TL-2NJ-08-10 | Z1/2"X14     | 7/8"X14    | 19.5       | 12   | 38   | 22 | 27 |
| TL-2NJ-08-12 | Z1/2"X14     | 1.1/16"X12 | 19.5       | 15   | 42   | 27 | 32 |
| TL-2NJ-12    | Z3/4"X14     | 1.1/16"X12 | 19.5       | 15   | 42   | 30 | 32 |
| TL-2NJ-12-08 | Z3/4"X14     | 3/4"X16    | 19.5       | 10.8 | 40   | 30 | 24 |
| TL-2NJ-12-10 | Z3/4"X14     | 7/8"X14    | 19.5       | 12   | 40.5 | 30 | 27 |
| TL-2NJ-12-16 | Z3/4"X14     | 1.5/16"X12 | 19.5       | 16   | 42.5 | 32 | 41 |
| TL-2NJ-16    | Z1"X11.5     | 1.5/16"X12 | 25.5       | 16   | 50   | 36 | 41 |
| TL-2NJ-16-12 | Z1"X11.5     | 1.1/16"X12 | 25.5       | 15   | 49   | 36 | 32 |
| TL-2NJ-16-20 | Z1"X11.5     | 1.5/8"X12  | 25.5       | 15   | 52.5 | 41 | 50 |
| TL-2NJ-20    | Z1.1/4"X11.5 | 1.5/8"X12  | 26.5       | 15   | 52.5 | 46 | 50 |
| TL-2NJ-20-24 | Z1.1/4"X11.5 | 1.7/8"X12  | 26.5       | 19   | 54   | 46 | 60 |
| TL-2NJ-24-20 | Z1.1/2"X11.5 | 1.5/8"X12  | 27.5       | 15   | 56.5 | 50 | 50 |
| TL-2NJ-24    | Z1.1/2"X11.5 | 1.7/8"X12  | 27.5       | 19   | 57   | 50 | 60 |



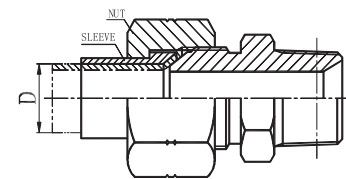
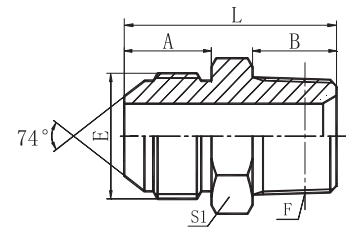


# TL-1JT-SP

Straight. JIC. Male 74° Flare. Female BSPT

| PART NO.       | THREAD     |            | DIMENSIONS |      |      |    |
|----------------|------------|------------|------------|------|------|----|
|                | E          | F          | A          | B    | L    | S1 |
| APC1JT-04-02SP | 7/16"X20   | R1/8"X28   | 14         | 10   | 30   | 12 |
| TL-1JT-04SP    | 7/16"X20   | R1/4"X19   | 14         | 14.5 | 34   | 14 |
| TL-1JT-04-06SP | 7/16"X20   | R3/8"X19   | 14         | 15   | 34   | 17 |
| TL-1JT-05-02SP | 1/2"X20    | R1/8"X28   | 14         | 10.5 | 30.5 | 14 |
| TL-1JT-05-04SP | 1/2"X20    | R1/4"X19   | 14         | 14.5 | 34   | 14 |
| TL-1JT-05-06SP | 1/2"X20    | R3/8"X19   | 14         | 15   | 35   | 19 |
| TL-1JT-06-02SP | 9/16"X18   | R1/8"X28   | 14         | 10.5 | 30.5 | 17 |
| TL-1JT-06-04SP | 9/16"X18   | R1/4"X19   | 14         | 14.5 | 34   | 17 |
| TL-1JT-06SP    | 9/16"X18   | R3/8"X19   | 14         | 15   | 34   | 17 |
| TL-1JT-06-08SP | 9/16"X18   | R1/2"X14   | 14         | 20   | 41   | 22 |
| TL-1JT-08-06SP | 3/4"X16    | R3/8"X19   | 16.7       | 15   | 39   | 22 |
| TL-1JT-08SP    | 3/4"X16    | R1/2"X14   | 16.7       | 20   | 44.5 | 22 |
| TL-1JT-08-12SP | 3/4"X16    | R3/4"X14   | 16.7       | 20   | 46   | 30 |
| TL-1JT-10-06SP | 7/8"X14    | R3/8"X19   | 19.3       | 15   | 42.5 | 24 |
| TL-1JT-10-08SP | 7/8"X14    | R1/2"X14   | 19.5       | 20   | 46.5 | 24 |
| TL-1JT-10-12SP | 7/8"X14    | R3/4"X14   | 19.3       | 20   | 48.5 | 30 |
| TL-1JT-12-08SP | 1.1/16"X12 | R1/2"X14   | 22         | 20   | 51   | 30 |
| TL-1JT-12SP    | 1.1/16"X12 | R3/4"X14   | 22         | 20   | 51   | 30 |
| TL-1JT-12-16SP | 1.1/16"X12 | R1"X11     | 22         | 25.5 | 57.5 | 36 |
| TL-1JT-14-12SP | 1.3/16"X12 | R3/4"X14   | 22.6       | 20   | 52.5 | 32 |
| TL-1JT-14-16SP | 1.3/16"X12 | R1"X11     | 22.6       | 25.5 | 57.5 | 36 |
| TL-1JT-16-12SP | 1.5/16"X12 | R3/4"X14   | 23         | 20   | 53   | 36 |
| TL-1JT-16SP    | 1.5/16"X12 | R1"X11     | 23         | 25.5 | 59   | 36 |
| TL-1JT-16-20SP | 1.5/16"X12 | R1.1/4"X11 | 23.1       | 26.5 | 61.5 | 46 |
| TL-1JT-20-16SP | 1.5/8"X12  | R1"X11     | 24.3       | 25.5 | 62.5 | 46 |
| TL-1JT-20-SP   | 1.5/8"X12  | R1.1/4"X11 | 24.5       | 26.5 | 63   | 46 |
| TL-1JT-20-24SP | 1.5/8"X12  | R1.1/2"X14 | 24.5       | 26.5 | 66.5 | 50 |
| TL-1JT-24-20SP | 1.7/8"X12  | R1.1/4"X11 | 27.5       | 26.5 | 67.5 | 50 |
| TL-1JT-24-SP   | 1.7/8"X12  | R1.1/2"X11 | 27.5       | 26.5 | 69.5 | 50 |
| TL-1JT-24-32SP | 1.7/8"X12  | R2"X11     | 27.5       | 30   | 74.5 | 65 |
| TL-1JT-32-24SP | 2.1/2"X12  | R1.1/2"X11 | 33.9       | 26.5 | 77.5 | 65 |
| TL-1JT-32SP    | 2.1/2"X12  | R2"X11     | 34         | 30   | 80   | 65 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

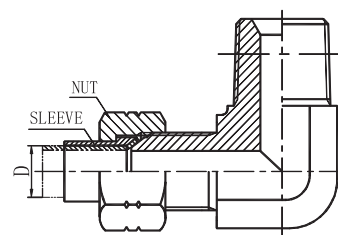
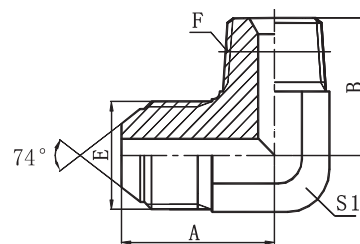


# TL-1JT9-SP

Elbow 90°. JIC. Male 74° Flare. Female BSPT

| PART NO.        | THREAD     |            | DIMENSIONS |      |    |
|-----------------|------------|------------|------------|------|----|
|                 | E          | F          | A          | B    | S1 |
| TL-1JT9-02SP    | 5/16"X24   | R1/8"X28   | 20.5       | 21   | 11 |
| TL-1JT9-04-02SP | 7/16"X20   | R1/8"X28   | 24.5       | 21   | 11 |
| TL-1JT9-04SP    | 7/16"X20   | R1/4"X19   | 26.6       | 25.5 | 14 |
| TL-1JT9-04-06SP | 7/16"X20   | R3/8"X19   | 27.5       | 28   | 16 |
| TL-1JT9-05-02SP | 1/2"X20    | R1/8"X28   | 26.6       | 23.5 | 14 |
| TL-1JT9-05-04SP | 1/2"X20    | R1/4"X19   | 26.6       | 25.5 | 14 |
| TL-1JT9-05-06SP | 1/2"X20    | R3/8"X19   | 27.5       | 28   | 16 |
| TL-1JT9-06-02SP | 9/16"X18   | R1/8"X28   | 26.9       | 23.5 | 14 |
| TL-1JT9-06-04SP | 9/16"X18   | R1/4"X19   | 27         | 25.5 | 14 |
| TL-1JT9-06SP    | 9/16"X18   | R3/8"X19   | 28.5       | 28.5 | 16 |
| TL-1JT9-06-08SP | 9/16"X18   | R1/2"X14   | 32         | 36   | 22 |
| TL-1JT9-08-04SP | 3/4"X16    | R1/4"X19   | 32         | 28   | 19 |
| TL-1JT9-08-06SP | 3/4"X16    | R3/8"X19   | 32         | 30.5 | 19 |
| TL-1JT9-08SP    | 3/4"X16    | R1/2"X14   | 34.8       | 36   | 22 |
| TL-1JT9-08-12SP | 3/4"X16    | R3/4"X14   | 38         | 43.5 | 27 |
| TL-1JT9-10-06SP | 7/8"X14    | R3/8"X19   | 38         | 32   | 22 |
| TL-1JT9-10-08SP | 7/8"X14    | R1/2"X14   | 37.8       | 36   | 22 |
| TL-1JT9-10-12SP | 7/8"X14    | R3/4"X14   | 41         | 43.5 | 27 |
| TL-1JT9-12-08SP | 1.1/16"X12 | R1/2"X14   | 44.2       | 40   | 27 |
| TL-1JT9-12SP    | 1.1/16"X12 | R3/4"X14   | 44.2       | 43.5 | 27 |
| TL-1JT9-12-16SP | 1 1/16"X12 | R1"X11     | 49         | 50   | 33 |
| TL-1JT9-16-12SP | 1.5/16"X12 | R3/4"X14   | 49         | 47.5 | 33 |
| TL-1JT9-16SP    | 1.5/16"X12 | R1"X11     | 49         | 50   | 33 |
| TL-1JT9-16-20SP | 1.5/16"X12 | R1.14"X11  | 54         | 56.5 | 41 |
| TL-1JT9-20-16SP | 1.5/8"X12  | R1"X11     | 55.5       | 56.5 | 41 |
| TL-1JT9-20SP    | 1.5/8"X12  | R1.1/4"X11 | 55.5       | 56.5 | 41 |
| TL-1JT9-24-20SP | 1.7/8"X12  | R1.1/4"X11 | 62.5       | 61   | 48 |
| TL-1JT9-24SP    | 1.7/8"X12  | R1.1/2"X11 | 62.5       | 62.5 | 48 |
| TL-1JT9-24-32SP | 1.7/8"X12  | R2"X11     | 74.5       | 67   | 63 |
| TL-1JT9-32SP    | 2.1/2"X12  | R2"X11     | 75.4       | 67   | 63 |

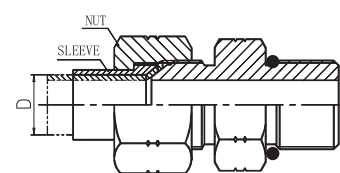
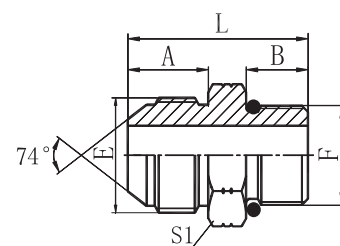
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



# TL-1JO

Straight. JIC. Male 74° Flare. Male SAE ORB. ISO 11926-3

| PART NO.     | THREAD     |            | O-RING | DIMENSIONS |      |      |    |
|--------------|------------|------------|--------|------------|------|------|----|
|              | E          | F          |        | A          | B    | L    | S1 |
| TL-1JO-04-02 | 7/16"X20   | 5/16"X24   | O902   | 14         | 7.54 | 27.5 | 14 |
| TL-1JO-04-03 | 7/16"X20   | 3/8"X24    | O903   | 14         | 7.54 | 27.5 | 14 |
| TL-1JO-04    | 7/16"X20   | 7/16"X20   | O904   | 14         | 9    | 29   | 14 |
| TL-1JO-04-05 | 7/16"X20   | 1/2"X20    | O905   | 14         | 9    | 29   | 17 |
| TL-1JO-04-06 | 7/16"X20   | 9/16"X18   | O906   | 14         | 10   | 30   | 17 |
| TL-1JO-04-08 | 7/16"X20   | 3/4"X16    | O908   | 14         | 11   | 33   | 22 |
| TL-1JO-05    | 1/2"X20    | 1/2"X20    | O905   | 14         | 9    | 29   | 17 |
| TL-1JO-05-04 | 1/2"X20    | 7/16"X20   | O904   | 14         | 9    | 29   | 14 |
| TL-1JO-05-06 | 1/2"X20    | 9/16"X18   | O906   | 14         | 10   | 30   | 17 |
| TL-1JO-05-08 | 1/2"X20    | 3/4"X16    | O908   | 14         | 11   | 33   | 22 |
| TL-1JO-06    | 9/16"X18   | 9/16"X18   | O906   | 14         | 10   | 30   | 17 |
| TL-1JO-06-04 | 9/16"X18   | 7/16"X20   | O904   | 14         | 9    | 29   | 17 |
| TL-1JO-06-05 | 9/16"X18   | 1/2"X20    | O905   | 14         | 9    | 29.5 | 17 |
| TL-1JO-06-08 | 9/16"X18   | 3/4"X16    | O908   | 14         | 11   | 33   | 22 |
| TL-1JO-06-10 | 9/16"X18   | 7/8"X14    | O910   | 14         | 12.7 | 37   | 27 |
| TL-1JO-06-12 | 9/16"X18   | 1.1/16"X12 | O912   | 14         | 15   | 40   | 32 |
| TL-1JO-08    | 3/4"X16    | 3/4"X16    | O908   | 16.7       | 11   | 36   | 22 |
| TL-1JO-08-04 | 3/4"X16    | 7/16"X20   | O904   | 16.7       | 9    | 34   | 22 |
| TL-1JO-08-06 | 3/4"X16    | 9/16"X18   | O906   | 16.7       | 10   | 35   | 22 |
| TL-1JO-08-10 | 3/4"X16    | 7/8"X14    | O910   | 16.7       | 12.7 | 40   | 27 |
| TL-1JO-08-12 | 3/4"X16    | 1.1/16"X12 | O912   | 16.7       | 15   | 43   | 32 |
| TL-1JO-08-14 | 3/4"X16    | 1.3/16"X12 | O914   | 16.7       | 15   | 43   | 36 |
| TL-1JO-10    | 7/8"X14    | 7/8"X14    | O910   | 19.5       | 12.7 | 42.5 | 27 |
| TL-1JO-10-08 | 7/8"X14    | 3/4"X16    | O908   | 19.5       | 11   | 39   | 24 |
| TL-1JO-10-12 | 7/8"X14    | 1.1/16"X12 | O912   | 19.5       | 15   | 45.5 | 32 |
| TL-1JO-10-14 | 7/8"X14    | 1.3/16"X12 | O914   | 19.5       | 15   | 45.5 | 36 |
| TL-1JO-12    | 1.1/16"X12 | 1.1/16"X12 | O912   | 22         | 15   | 48   | 32 |
| TL-1JO-12-08 | 1.1/16"X12 | 3/4"X16    | O908   | 22         | 11   | 43   | 30 |
| TL-1JO-12-10 | 1.1/16"X12 | 7/8"X14    | O910   | 22         | 12.7 | 45   | 30 |
| TL-1JO-12-14 | 1.1/16"X12 | 1.3/16"X12 | O914   | 22         | 15   | 48   | 36 |
| TL-1JO-12-16 | 1.1/16"X12 | 1.5/16"X12 | O916   | 22         | 15   | 48   | 38 |
| TL-1JO-14    | 1.3/16"X12 | 1.3/16"X12 | O914   | 22.5       | 15   | 48.5 | 36 |
| TL-1JO-14-12 | 1.3/16"X12 | 1.1/16"X12 | O912   | 22.5       | 15   | 48.5 | 32 |
| TL-1JO-14-16 | 1.3/16"X12 | 1.5/16"X12 | O916   | 22.5       | 15   | 50.5 | 38 |
| TL-1JO-16    | 1.5/16"X12 | 1.5/16"X12 | O916   | 23         | 15   | 49   | 38 |
| TL-1JO-16-12 | 1.5/16"X12 | 1.1/16"X12 | O912   | 23.1       | 15.1 | 49   | 36 |
| TL-1JO-16-14 | 1.5/16"X12 | 1.3/16"X12 | O914   | 23.1       | 15   | 49   | 36 |
| TL-1JO-16-20 | 1.5/16"X12 | 1.5/8"X12  | O920   | 23.1       | 15   | 53   | 50 |
| TL-1JO-20    | 1.5/8"X12  | 1.5/8"X12  | O920   | 24.5       | 15   | 54.5 | 50 |
| TL-1JO-20-16 | 1.5/8"X12  | 1.5/16"X12 | O916   | 24.5       | 15   | 52.5 | 46 |
| TL-1JO-20-24 | 1.5/8"X12  | 1.7/8"X12  | O924   | 24.5       | 15   | 54.5 | 55 |
| TL-1JO-24    | 1.7/8"X12  | 1.7/8"X12  | O924   | 27.5       | 15   | 57.5 | 55 |
| TL-1JO-24-20 | 1.7/8"X12  | 1.5/8"X12  | O920   | 27.5       | 15   | 57.5 | 50 |
| TL-1JO-24-32 | 1.7/8"X12  | 2.1/2"X11  | O932   | 27.5       | 15   | 59.5 | 70 |
| TL-1JO-32    | 2.1/2"X11  | 2.1/2"X11  | O932   | 34         | 15   | 66   | 70 |



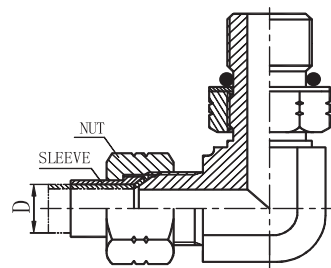
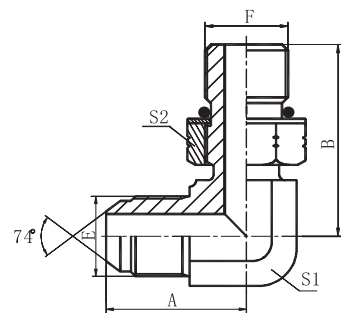
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

# TL-1J09-OG

Elbow 90°. JIC. Male 74° Flare. Male SAE ORB. ISO 11926-3

| PART NO.        | THREAD     |            | O-RING | DIMENSIONS |      |    |    |
|-----------------|------------|------------|--------|------------|------|----|----|
|                 | E          | F          |        | A          | B    | S1 | S2 |
| TL-1J09-04-030G | 7/16"X20   | 3/8"X24    | O903   | 24.5       | 28   | 11 | 14 |
| TL-1J09-040G    | 7/16"X20   | 7/16"X20   | O904   | 24.5       | 30   | 11 | 17 |
| TL-1J09-04-050G | 7/16"X20   | 1/2"X20    | O905   | 26.6       | 29.9 | 14 | 17 |
| TL-1J09-04-060G | 7/16"X20   | 9/16"X18   | O906   | 26.6       | 32   | 14 | 19 |
| TL-1J09-05-040G | 1/2"X20    | 7/16"X20   | O904   | 26.6       | 30   | 14 | 17 |
| TL-1J09-050G    | 1/2"X20    | 1/2"X20    | O905   | 26.6       | 29   | 14 | 17 |
| TL-1J09-05-060G | 1/2"X20    | 9/16"X18   | O906   | 26.6       | 31.8 | 14 | 19 |
| TL-1J09-06-040G | 9/16"X18   | 7/16"X20   | O904   | 26.9       | 30   | 14 | 17 |
| TL-1J09-06-050G | 9/16"X18   | 1/2"X20    | O905   | 26.9       | 29.9 | 14 | 17 |
| TL-1J09-060G    | 9/16"X18   | 9/16"X18   | O906   | 27         | 32   | 14 | 19 |
| TL-1J09-06-080G | 9/16"X18   | 3/4"X16    | O908   | 30         | 36.8 | 19 | 24 |
| TL-1J09-08-040G | 3/4"X16    | 7/16"X20   | O904   | 32         | 33   | 19 | 17 |
| TL-1J09-08-060G | 3/4"X16    | 9/16"X18   | O906   | 33         | 34.5 | 19 | 19 |
| TL-1J09-080G    | 3/4"X16    | 3/4"X16    | O908   | 33         | 36.8 | 19 | 24 |
| TL-1J09-08-100G | 3/4"X16    | 7/8"X14    | O910   | 34.8       | 44   | 22 | 27 |
| TL-1J09-08-120G | 3/4"X16    | 1.1/16"X12 | O912   | 38         | 51   | 27 | 32 |
| TL-1J09-10-080G | 7/8"X14    | 3/4"X16    | O908   | 38         | 40   | 22 | 27 |
| TL-1J09-100G    | 7/8"X14    | 7/8"X14    | O910   | 37.8       | 44   | 22 | 27 |
| TL-1J09-10-120G | 7/8"X14    | 1.1/16"X12 | O912   | 41         | 51   | 27 | 32 |
| TL-1J09-12-080G | 1.1/16"X12 | 3/4"X16    | O908   | 45         | 44   | 27 | 24 |
| TL-1J09-12-100G | 1.1/16"X12 | 7/8"X14    | O910   | 44.2       | 47   | 27 | 27 |
| TL-1J09-120G    | 1.1/16"X12 | 1.1/16"X12 | O912   | 44.2       | 51   | 27 | 32 |
| TL-1J09-12-160G | 1.1/16"X12 | 1.5/16"X12 | O916   | 47.8       | 54.5 | 33 | 41 |
| TL-1J09-140G    | 1.3/16"X12 | 1.3/16"X12 | O914   | 47.5       | 53   | 30 | 36 |
| TL-1J09-14-160G | 1.3/16"X12 | 1.5/16"X12 | O916   | 48.5       | 54.5 | 33 | 41 |
| TL-1J09-16-120G | 1.5/16"X12 | 1.1/16"X12 | O912   | 48.8       | 54.5 | 33 | 32 |
| TL-1J09-16-140G | 1.5/16"X12 | 1.3/16"X12 | O914   | 49         | 56   | 33 | 36 |
| TL-1J09-160G    | 1.5/16"X12 | 1.5/16"X12 | O916   | 49         | 55.5 | 33 | 41 |
| TL-1J09-16-200G | 1.5/16"X12 | 1.5/8"X12  | O920   | 53.8       | 59   | 41 | 50 |
| TL-1J09-20-160G | 1.5/8"X12  | 1.5/16"X12 | O916   | 55.5       | 59.5 | 41 | 41 |
| TL-1J09-200G    | 1.5/8"X12  | 1.5/8"X12  | O920   | 55.3       | 59   | 41 | 50 |
| TL-1J09-20-240G | 1.5/8"X12  | 1.7/8"X12  | O924   | 59.4       | 63   | 48 | 55 |
| TL-1J09-240G    | 1.7/8"X12  | 1.7/8"X12  | O924   | 62.5       | 63   | 48 | 55 |
| TL-1J09-320G    | 2.1/2"X12  | 2.1/2"X12  | O932   | 80         | 76   | 63 | 70 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

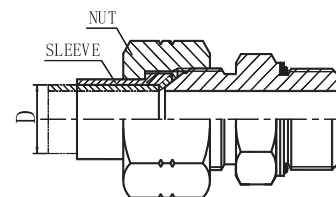
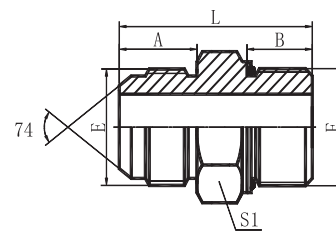


# TL-1JG

Straight. JIC. Male 74° Flare. Male BSPP. O-ring

| PART NO.     | THREAD     |            | O-RING | DIMENSIONS |      |      |    |
|--------------|------------|------------|--------|------------|------|------|----|
|              | E          | F          |        | A          | B    | L    | S1 |
| TL-1JG-04-02 | 7/16"X20   | G1/8"X28   | O011   | 14         | 9.5  | 31   | 14 |
| TL-1JG-04    | 7/16"X20   | G1/4"X19   | O111   | 14         | 10   | 32.5 | 19 |
| TL-1JG-04-06 | 7/16"X20   | G3/8"X19   | O113   | 14         | 11.5 | 34   | 22 |
| TL-1JG-04-08 | 7/16"X20   | G1/2"X14   | O115   | 14         | 14   | 39   | 27 |
| TL-1JG-05-04 | 1/2"X20    | G1/4"X19   | O111   | 14         | 10   | 33   | 19 |
| TL-1JG-05-06 | 1/2"X20    | G3/8"X19   | O113   | 14         | 11.5 | 36   | 22 |
| TL-1JG-05-08 | 1/2"X20    | G1/2"X14   | O115   | 14         | 14   | 39   | 27 |
| TL-1JG-06-04 | 9/16"X18   | G1/4"X19   | O111   | 14         | 11   | 32.5 | 19 |
| TL-1JG-06    | 9/16"X18   | G3/8"X19   | O113   | 14         | 11.5 | 34   | 22 |
| TL-1JG-06-08 | 9/16"X18   | G1/2"X14   | O115   | 14         | 14   | 39   | 27 |
| TL-1JG-08-04 | 3/4"X16    | G1/4"X19   | O111   | 16.7       | 10   | 36   | 22 |
| TL-1JG-08-06 | 3/4"X16    | G3/8"X19   | O113   | 16.7       | 11.5 | 37   | 22 |
| TL-1JG-08    | 3/4"X16    | G1/2"X14   | O115   | 16.7       | 14   | 42   | 27 |
| TL-1JG-08-12 | 3/4"X16    | G3/4"X14   | O119   | 16.7       | 15.5 | 44   | 32 |
| TL-1JG-10-06 | 7/8"X14    | G3/8"X19   | O113   | 19.5       | 11.5 | 39.5 | 24 |
| TL-1JG-10-08 | 7/8"X14    | G1/2"X14   | O115   | 19.5       | 14   | 44.5 | 27 |
| TL-1JG-10-12 | 7/8"X14    | G3/4"X14   | O119   | 19.5       | 15.5 | 48.5 | 32 |
| TL-1JG-12-08 | 1.1/16"X12 | G1/2"X14   | O115   | 22         | 14   | 49   | 30 |
| TL-1JG-12    | 1.1/16"X12 | G3/4"X14   | O119   | 22         | 15.5 | 49.5 | 32 |
| TL-1JG-12-16 | 1.1/16"X12 | G1"X11     | O217   | 22         | 18   | 54   | 41 |
| TL-1JG-2-20  | 1.1/16"X12 | G1.1/4"X11 | O222   | 22         | 20   | 57   | 50 |
| TL-1JG-16-12 | 1.5/16"X12 | G3/4"X14   | O119   | 23         | 15.5 | 52.5 | 36 |
| TL-1JG-16    | 1.5/16"X12 | G1"X11     | O217   | 23         | 18   | 55   | 41 |
| TL-1JG-16-20 | 1.5/16"X12 | G1.1/4"X11 | O222   | 23         | 20   | 58   | 50 |
| TL-1JG-20-16 | 1.5/8"X12  | G1"X11     | O217   | 24.5       | 18   | 58   | 46 |
| TL-1JG-20    | 1.5/8"X12  | G1.1/4"X11 | O222   | 24.5       | 20   | 59.5 | 50 |
| TL-1JG-24-16 | 1.7/8"X12  | G1"X11     | O217   | 27.5       | 18   | 63.5 | 50 |
| TL-1JG-24-20 | 1.7/8"X12  | G1.1/4"X11 | O222   | 27.5       | 20   | 65.5 | 50 |
| TL-1JG-24    | 1.7/8"X12  | G1.1/2"X11 | O224   | 27.5       | 21.5 | 64   | 55 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

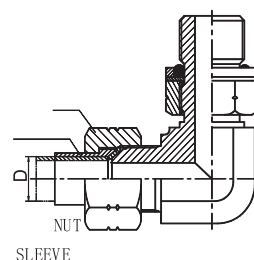
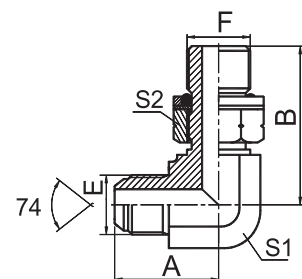


# TL-1JG9-OG

Elbow 90°. JIC. Male 74° Flare. Male BSPP. O-ring

| PART NO.        | THREAD     |            | O-RING     | DIMENSIONS |      |    |    |
|-----------------|------------|------------|------------|------------|------|----|----|
|                 | E          | F          |            | A          | B    | S1 | S2 |
| TL-1JG9-040G    | 7/16"X20   | G1/4"X19   | 10.77X2.62 | 26.5       | 34   | 14 | 19 |
| TL-1JG9-04-020G | 7/16"X20   | G1/8"X28   | 7.65X1.78  | 24.5       | 26.2 | 11 | 14 |
| TL-1JG9-04-060G | 7/16"X20   | G3/8"X19   | 13.94X2.62 | 27.5       | 36.8 | 16 | 22 |
| TL-1JG9-05-040G | 1/2"X20    | G1/4"X19   | 10.77X2.62 | 26.5       | 31.8 | 14 | 19 |
| TL-1JG9-05-060G | 1/2"X20    | G3/8"X19   | 13.94X2.62 | 27.5       | 35.8 | 16 | 22 |
| TL-1JG9-05-080G | 1/2"X20    | G1/2"X14   | 17.12X2.62 | 31.5       | 43.2 | 22 | 27 |
| TL-1JG9-060G    | 9/16"X18   | G3/8"X19   | 13.94X2.62 | 28.5       | 36.8 | 16 | 22 |
| TL-1JG9-06-040G | 9/16"X18   | G1/4"X19   | 10.77X2.62 | 27         | 34   | 14 | 19 |
| TL-1JG9-06-080G | 9/16"X18   | G1/2"X14   | 17.12X2.62 | 32.5       | 43.2 | 22 | 27 |
| TL-1JG9-080G    | 3/4"X16    | G1/2"X14   | 17.12X2.62 | 34.8       | 43.2 | 22 | 27 |
| TL-1JG9-08-040G | 3/4"X16    | G1/4"X19   | 10.77X2.62 | 32         | 33.5 | 19 | 19 |
| TL-1JG9-08-060G | 3/4"X16    | G3/8"X19   | 13.94X2.62 | 32         | 38   | 19 | 22 |
| TL-1JG9-08-120G | 3/4"X16    | G3/4"X14   | 23.47X2.62 | 37.9       | 49.3 | 27 | 32 |
| TL-1JG9-100G    | 7/8"X14    | G5/8"X14   | 19.18X2.62 | 36.8       | 44.5 | 22 | 30 |
| TL-1JG9-10-040G | 7/8"X14    | G1/4"X19   | 10.77X2.62 | 36.8       | 36   | 22 | 19 |
| TL-1JG9-10-060G | 7/8"X14    | G3/8"X19   | 13.94X2.62 | 37.8       | 39.2 | 22 | 22 |
| TL-1JG9-10-080G | 7/8"X14    | G1/2"X14   | 17.12X2.62 | 37.8       | 43.2 | 22 | 27 |
| TL-1JG9-10-120G | 7/8"X14    | G3/4"X14   | 23.47X2.62 | 41         | 49.3 | 27 | 32 |
| TL-1JG9-120G    | 1.1/16"X12 | G3/4"X14   | 23.47X2.62 | 44.2       | 49.5 | 27 | 32 |
| TL-1JG9-12-080G | 1.1/16"X12 | G1/2"X14   | 17.12X2.62 | 44.2       | 46.5 | 27 | 27 |
| TL-1JG9-12-160G | 1.1/16"X12 | G1"X11     | 29.74X2.62 | 48         | 53   | 33 | 41 |
| TL-1JG9-160G    | 1.5/16"X12 | G1"X11     | 29.74X2.62 | 49         | 53   | 33 | 41 |
| TL-1JG9-16-120G | 1.5/16"X12 | G3/4"X14   | 23.47X2.62 | 49         | 54   | 33 | 32 |
| TL-1JG9-16-200G | 1.5/16"X12 | G1.1/4"X11 | 37.69X3.53 | 53.8       | 58   | 41 | 50 |
| TL-1JG9-200G    | 1.5/8"X12  | G1.1/4"X11 | 37.69X3.53 | 55.5       | 58   | 41 | 50 |
| TL-1JG9-20-160G | 1.5/8"X12  | G1"X11     | 29.74X3.53 | 55.5       | 58   | 41 | 41 |
| TL-1JG9-24-160G | 1.7/8"X12  | G1"X11     | 29.74X3.53 | 62.5       | 63   | 48 | 41 |
| TL-1JG9-24-200G | 1.7/8"X12  | G1.1/4"X11 | 37.69X3.53 | 62.5       | 63   | 48 | 50 |
| TL-1JG9-240G    | 1.7/8"X12  | G1.1/2"X11 | 44.04X3.53 | 62.5       | 63   | 48 | 55 |

**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

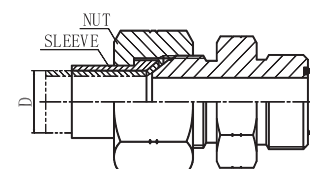
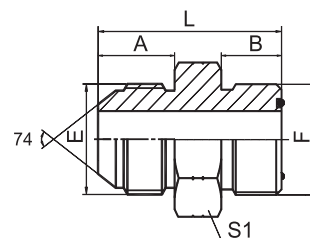


# TL-1JF

Straight. JIC. Male 74° Flare. Male ORFS

| PART NO.     | THREAD     |             | O-RING     | DIMENSIONS |      |      |    |
|--------------|------------|-------------|------------|------------|------|------|----|
|              | E          | F           |            | A          | B    | L    | S1 |
| TL-1JF-04    | 7/16"X20   | 9/16"X18    | 7.65X1.78  | 14         | 10   | 29.5 | 17 |
| TL-1JF-05-06 | 1/2"X20    | 11/16"X16   | 9.25X1.78  | 14         | 11   | 31   | 19 |
| TL-1JF-06    | 9/16"X18   | 11/16"X16   | 9.25X1.78  | 14         | 11   | 31   | 19 |
| TL-1JF-08    | 3/4"X16    | 13/16"X16   | 12.42X1.78 | 16.7       | 13   | 37.5 | 22 |
| TL-1JF-10    | 7/8"X14    | 1"X14       | 15.5X1.78  | 19.5       | 15.5 | 44.5 | 27 |
| TL-1JF-12    | 1.1/16"X12 | 1.3/16"X12  | 18.77X1.78 | 22         | 17   | 50   | 32 |
| TL-1JF-16    | 1.5/16"X12 | 1.7/16"X12  | 23.52X1.78 | 23         | 17.5 | 51.5 | 38 |
| TL-1JF-20    | 1.5/8"X12  | 1.11/16"X12 | 29.87X1.78 | 24.5       | 17.5 | 54.5 | 46 |
| TL-1JF-24    | 1.7/8"X12  | 2"X12       | 37.82X1.78 | 27.5       | 17.5 | 60   | 55 |

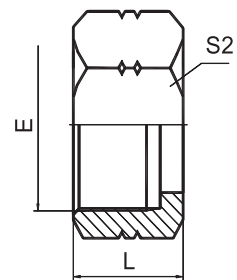
**Note:** Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



## TL-NB200

JIC Triple lock nut

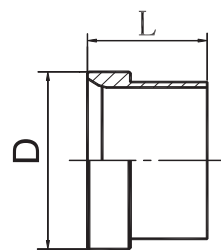
| PART NO.     | THREAD     | TUBE O.D. & SLEEVE |             |    |               | DIMENSIONS |       |
|--------------|------------|--------------------|-------------|----|---------------|------------|-------|
|              | E          | In.                | INCH SLEEVE | mm | METRIC SLEEVE | L          | S2    |
| TL-NB200-04  | 7/16"X20   | 1/4"               | NB300-04    | 6  | NB500-06      | 15.8       | 12.7  |
| TL-NB200-05  | 1/2"X20    | 5/16"              | NB300-05    | 8  | NB500-08      | 17.3       | 14.28 |
| TL-NB200-06  | 9/16"X18   | 3/8"               | NB300-06    | 10 | NB500-10      | 18.5       | 19    |
| TL-NB200-08  | 3/4"X16    | 1/2"               | NB300-08    | 12 | NB500-12      | 21.6       | 22.2  |
| TL-NB200-10  | 7/8"X14    |                    |             | 14 | NB500-14      | 24.9       | 27    |
| TL-NB200-10  | 7/8"X14    |                    |             | 15 | NB500-15      | 24.9       | 27    |
| TL-NB200-10  | 7/8"X14    | 5/8"               | NB300-10    | 16 | NB500-16      | 24.9       | 27    |
| TL-NB200-12  | 1.1/16"X12 | 3/4"               | NB300-12    | 18 | NB500-18      | 26.2       | 30.16 |
| TL-NB200-12A | 1.1/16"X12 |                    |             | 20 | NB500-20A     | 26.2       | 30.16 |
| TL-NB200-14  | 1.3/16"X12 |                    |             | 20 | NB500-20      | 27.7       | 33.33 |
| TL-NB200-14  | 1.3/16"X12 | 7/8"               | NB300-14    | 22 | NB500-22      | 27.7       | 33.33 |
| TL-NB200-16  | 1.5/16"X12 | 1"                 | NB300-16    | 25 | NB500-25      | 28.7       | 36.5  |
| TL-NB200-20  | 1.5/8"X12  |                    |             | 28 | NB500-28      | 31.2       | 47.6  |
| TL-NB200-20  | 1.5/8"X12  |                    |             | 30 | NB500-30      | 31.2       | 47.6  |
| TL-NB200-20  | 1.5/8"X12  | 1.1/4"             | NB300-20    | 32 | NB500-32      | 31.2       | 47.6  |
| TL-NB200-24  | 1.7/8"X12  |                    |             | 35 | NB500-35      | 36.1       | 60    |
| TL-NB200-24  | 1.7/8"X12  | 1.1/2"             | NB300-24    | 38 | NB500-38      | 36.1       | 60    |
| TL-NB200-32  | 2.1/2"X12  | 2"                 | NB300-32    | 50 | NB500-50      | 44.5       | 75    |



## TL-NB300

JIC Inch sleeve

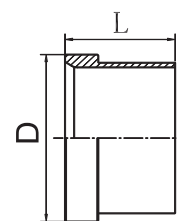
| PART NO.    | THREAD     | TUBE O.D. | DIMENSIONS |      |
|-------------|------------|-----------|------------|------|
|             | E          | In.       | D          | L    |
| TL-NB300-04 | 7/16"X20   | 1/4"      | 9.73       | 10.4 |
| TL-NB300-05 | 1/2"X20    | 5/16"     | 11.3       | 11.2 |
| TL-NB300-06 | 9/16"X18   | 3/8"      | 12.75      | 12.7 |
| TL-NB300-08 | 3/4"X16    | 1/2"      | 17.32      | 14.2 |
| TL-NB300-10 | 7/8"X14    | 5/8"      | 20.24      | 16.8 |
| TL-NB300-12 | 1.1/16"X12 | 3/4"      | 24.69      | 17.3 |
| TL-NB300-14 | 1.3/16"X12 | 7/8"      | 27.86      | 19.3 |
| TL-NB300-16 | 1.5/16"X12 | 1"        | 31.04      | 19.8 |
| TL-NB300-20 | 1.5/8"X12  | 1.1/4"    | 38.96      | 23.1 |
| TL-NB300-24 | 1.7/8"X12  | 1.1/2"    | 45.31      | 28.4 |
| TL-NB300-32 | 2.1/2"X12  | 2"        | 61.19      | 30.2 |



# TL-NB500

JIC Metric sleeve

| PART NO.    | THREAD  |     | TUBE O.D. | DIMENSIONS |      |
|-------------|---------|-----|-----------|------------|------|
|             | E       |     | mm        | D          | L    |
| TL-NB500-06 | 7/16"   | X20 | 6         | 9.7        | 10.4 |
| TL-NB500-08 | 1/2"    | X20 | 8         | 11.3       | 11.2 |
| TL-NB500-10 | 9/16"   | X18 | 10        | 12.7       | 12.7 |
| TL-NB500-12 | 3/4"    | X16 | 12        | 17.3       | 14.2 |
| TL-NB500-14 | 7/8"    | X14 | 14        | 20.2       | 16.8 |
| TL-NB500-15 | 7/8"    | X14 | 15        | 20.2       | 16.8 |
| TL-NB500-16 | 7/8"    | X14 | 16        | 20.2       | 16.8 |
| TL-NB500-18 | 1.1/16" | X12 | 18        | 24.7       | 17.3 |
| TL-NB500-20 | 1.3/16" | X12 | 20        | 27.8       | 19.3 |
| TL-NB500-22 | 1.3/16" | X12 | 22        | 27.8       | 19.3 |
| TL-NB500-25 | 1.5/16" | X12 | 25        | 31         | 19.8 |
| TL-NB500-28 | 1.5/8"  | X12 | 28        | 38.9       | 23.1 |
| TL-NB500-30 | 1.5/8"  | X12 | 30        | 38.9       | 23.1 |
| TL-NB500-32 | 1.5/8"  | X12 | 32        | 38.9       | 23.1 |
| TL-NB500-35 | 1.7/8"  | X12 | 35        | 45.3       | 28.4 |
| TL-NB500-38 | 1.7/8"  | X12 | 38        | 45.3       | 28.4 |
| TL-NB500-50 | 2.1/2"  | X12 | 50        | 61.2       | 30.2 |

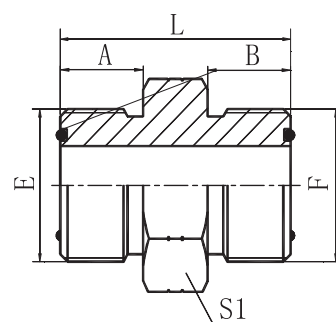


## ORFS FITTING ADAPTOR

### TL-1F

Straight. Male ORFS. Male ORFS

| PART NO.    | THREAD   |     | O-RING |      | DIMENSIONS |      |      |    |
|-------------|----------|-----|--------|------|------------|------|------|----|
|             | E        | F   | E      | F    | A          | B    | L    | S1 |
| TL-1F-04    | 9/16"    | X18 | O011   | O011 | 10         | 10   | 27.5 | 17 |
| TL-1F-04-06 | 9/16"    | X18 | O011   | O012 | 10         | 11   | 30   | 19 |
| TL-1F-04-08 | 9/16"    | X18 | O011   | O014 | 9.8        | 12.8 | 32.5 | 22 |
| TL-1F-06    | 11/16"   | X16 | O012   | O012 | 11         | 11   | 31   | 19 |
| TL-1F-06-08 | 11/16"   | X16 | O012   | O014 | 11         | 13   | 33.5 | 22 |
| TL-1F-06-10 | 11/16"   | X16 | O012   | O016 | 11.2       | 15.5 | 38   | 27 |
| TL-1F-08    | 13/16"   | X16 | O014   | O014 | 13         | 13   | 35.5 | 22 |
| TL-1F-08-10 | 13/16"   | X16 | O014   | O016 | 13         | 15.5 | 40   | 27 |
| TL-1F-08-12 | 13/16"   | X16 | O014   | O018 | 12.8       | 17   | 43   | 32 |
| TL-1F-10    | 1"       | X14 | O016   | O016 | 15.5       | 15.5 | 42.5 | 27 |
| TL-1F-10-12 | 1"       | X14 | O016   | O018 | 15.5       | 17   | 45.5 | 32 |
| TL-1F-12    | 1.3/16"  | X12 | O018   | O018 | 17         | 17   | 47   | 32 |
| TL-1F-12-16 | 1.3/16"  | X12 | O018   | O021 | 17         | 17.5 | 45.5 | 38 |
| TL-1F-12-20 | 1.3/16"  | X12 | O018   | O025 | 17         | 17.5 | 50.5 | 46 |
| TL-1F-16    | 1.7/16"  | X12 | O021   | O021 | 17.5       | 17.5 | 49   | 38 |
| TL-1F-16-20 | 1.7/16"  | X12 | O021   | O025 | 17.5       | 17.5 | 51.3 | 46 |
| TL-1F-16-24 | 1.7/16"  | X12 | O021   | O029 | 17.5       | 17.5 | 53   | 55 |
| TL-1F-20    | 1.11/16" | X12 | O025   | O025 | 17.5       | 17.5 | 51   | 46 |
| TL-1F-20-24 | 1.11/16" | X12 | O025   | O029 | 17.5       | 17.5 | 53   | 55 |
| TL-1F-24    | 2"       | X12 | O029   | O029 | 17.5       | 17.5 | 53   | 55 |

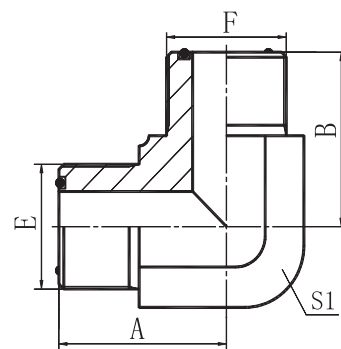




## TL-1F9

Elbow 90°. Male ORFS. Male ORFS

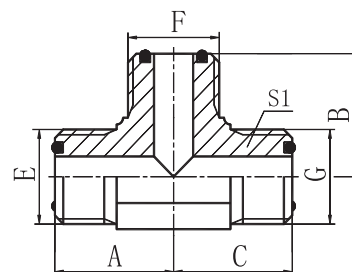
| PART NO.     | THREAD      |             | O-RING |      | DIMENSIONS |      |    |
|--------------|-------------|-------------|--------|------|------------|------|----|
|              | E           | F           | E      | F    | A          | B    | S1 |
| TL-1F9-04    | 9/16"X18    | 9/16"X18    | O011   | O011 | 23         | 23   | 14 |
| TL-1F9-04-06 | 9/16"X18    | 11/16"X16   | O011   | O012 | 25.5       | 27   | 19 |
| TL-1F9-06    | 11/16"X16   | 11/16"X16   | O012   | O012 | 27.5       | 27.5 | 19 |
| TL-1F9-06-08 | 11/16"X16   | 13/16"X16   | O012   | O014 | 29         | 31   | 22 |
| TL-1F9-08    | 13/16"X16   | 13/16"X16   | O014   | O014 | 31         | 31   | 22 |
| TL-1F9-08-12 | 13/16"X16   | 1.3/16"X12  | O014   | O018 | 35.5       | 40.3 | 30 |
| TL-1F9-10    | 1"X14       | 1"X14       | O016   | O016 | 36.5       | 36.5 | 27 |
| TL-1F9-12    | 1.3/16"X12  | 1.3/16"X12  | O018   | O018 | 41         | 41   | 30 |
| TL-1F9-16    | 1.7/16"X12  | 1.7/16"X12  | O021   | O021 | 44.5       | 44.5 | 36 |
| TL-1F9-20    | 1.11/16"X12 | 1.11/16"X12 | O025   | O025 | 47.5       | 47.5 | 41 |
| TL-1F9-24    | 2"X12       | 2"X12       | O029   | O029 | 53.5       | 53.5 | 50 |



## TL-AF

Tee. Male ORFS. Male ORFS. Male ORFS

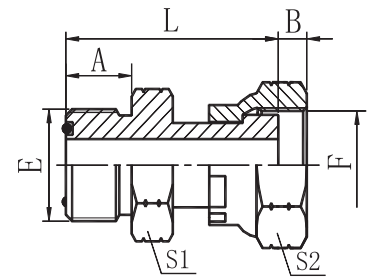
| PART NO. | THREAD      |             |             | O-RING |      |      | DIMENSIONS |      |      |    |
|----------|-------------|-------------|-------------|--------|------|------|------------|------|------|----|
|          | E           | F           | G           | E      | F    | G    | A          | B    | C    | S1 |
| TL-AF-04 | 9/16"X18    | 9/16"X18    | 9/16"X18    | O011   | O011 | O011 | 23         | 23   | 23   | 14 |
| TL-AF-06 | 11/16"X16   | 11/16"X16   | 11/16"X16   | O012   | O012 | O012 | 27         | 27   | 27   | 19 |
| TL-AF-08 | 13/16"X16   | 13/16"X16   | 13/16"X16   | O014   | O014 | O014 | 31         | 31   | 31   | 22 |
| TL-AF-10 | 1"X14       | 1"X14       | 1"X14       | O016   | O016 | O016 | 36.5       | 36.5 | 36.5 | 27 |
| TL-AF-12 | 1.3/16"X12  | 1.3/16"X12  | 1.3/16"X12  | O018   | O018 | O018 | 40.5       | 40.3 | 40.3 | 30 |
| TL-AF-16 | 1.7/16"X12  | 1.7/16"X12  | 1.7/16"X12  | O021   | O021 | O021 | 44.5       | 44.5 | 44.5 | 36 |
| TL-AF-20 | 1.11/16"X12 | 1.11/16"X12 | 1.11/16"X12 | O025   | O025 | O025 | 47.5       | 47.5 | 47.5 | 41 |
| TL-AF-24 | 2"X12       | 2"X12       | 2"X12       | O029   | O029 | O029 | 53.5       | 53.5 | 53.5 | 50 |



## TL-2F

Male ORFS. Female ORFS

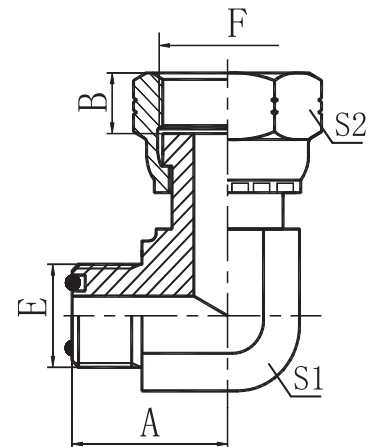
| PART NO.    | THREAD      |             | O-RING | DIMENSIONS |      |      |    |    |
|-------------|-------------|-------------|--------|------------|------|------|----|----|
|             | E           | F           |        | A          | B    | L    | S1 | S2 |
| TL-2F-04    | 9/16"X18    | 9/16"X18    | O011   | 9.8        | 8.5  | 33   | 17 | 19 |
| TL-2F-04-06 | 9/16"X18    | 11/16"X16   | O011   | 10         | 9.5  | 36   | 17 | 22 |
| TL-2F-04-08 | 9/16"X18    | 13/16"X16   | O011   | 9.8        | 11.5 | 36.5 | 19 | 27 |
| TL-2F-06-04 | 11/16"X16   | 9/16"X18    | O012   | 11         | 8.5  | 35.5 | 19 | 19 |
| TL-2F-06    | 11/16"X16   | 11/16"X16   | O012   | 11.2       | 9.5  | 38.5 | 19 | 22 |
| TL-2F-06-08 | 11/16"X16   | 13/16"X16   | O012   | 11         | 11.5 | 40.5 | 19 | 27 |
| TL-2F-06-10 | 11/16"X16   | 1"X14       | O012   | 11.2       | 12.5 | 43.7 | 24 | 30 |
| TL-2F-08-06 | 13/16"X16   | 11/16"X16   | O014   | 13         | 9.5  | 41   | 22 | 22 |
| TL-2F-08    | 13/16"X16   | 13/16"X16   | O014   | 13         | 11.5 | 43   | 22 | 27 |
| TL-2F-08-10 | 13/16"X16   | 1"X14       | O014   | 13         | 12.5 | 47   | 24 | 32 |
| TL-2F-08-12 | 13/16"X16   | 1.3/16"X12  | O014   | 13         | 15   | 49   | 30 | 36 |
| TL-2F-10-08 | 1"X14       | 13/16"X16   | O016   | 15.5       | 11.5 | 47.5 | 27 | 27 |
| TL-2F-10    | 1"X14       | 1"X14       | O016   | 15.5       | 12.5 | 51.5 | 27 | 30 |
| TL-2F-10-12 | 1"X14       | 1.3/16"X12  | O016   | 15.5       | 15   | 51.5 | 30 | 36 |
| TL-2F-10-16 | 1"X14       | 1.7/16"X12  | O016   | 15.5       | 14.5 | 56   | 36 | 41 |
| TL-2F-12-08 | 1.3/16"X12  | 13/16"X16   | O018   | 17         | 11.5 | 50.5 | 32 | 27 |
| TL-2F-12-10 | 1.3/16"X12  | 1"X14       | O018   | 17         | 12.5 | 54.5 | 32 | 30 |
| TL-2F-12    | 1.3/16"X12  | 1.3/16"X12  | O018   | 17         | 15   | 56   | 32 | 36 |
| TL-2F-12-16 | 1.3/16"X12  | 1.7/16"X12  | O018   | 17         | 14.5 | 58   | 36 | 41 |
| TL-2F-16-12 | 1.7/16"X12  | 1.3/16"X12  | O021   | 17.5       | 15   | 58   | 38 | 36 |
| TL-2F-16    | 1.7/16"X12  | 1.7/16"X12  | O021   | 17.5       | 14.5 | 60   | 38 | 41 |
| TL-2F-16-20 | 1.7/16"X12  | 1.11/16"X12 | O021   | 17.5       | 15   | 62   | 41 | 50 |
| TL-2F-20-16 | 1.11/16"X12 | 1.7/16"X12  | O025   | 17.5       | 14.5 | 58.5 | 46 | 41 |
| TL-2F-20    | 1.11/16"X12 | 1.11/16"X12 | O025   | 17.5       | 15   | 62   | 46 | 50 |
| TL-2F-20-24 | 1.11/16"X12 | 2"X12       | O025   | 17.5       | 17   | 65.5 | 50 | 60 |
| TL-2F-24-20 | 2"X12       | 1.11/16"X12 | O029   | 17.5       | 15   | 64   | 55 | 50 |
| TL-2F-24    | 2"X12       | 2"X12       | O029   | 17.5       | 17   | 64   | 55 | 60 |



## TL-2F9

Elbow 90°. Male ORFS. Female ORFS

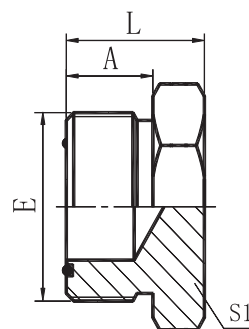
| PART NO.     | THREAD      |             | O-RING | DIMENSIONS |      |    |    |
|--------------|-------------|-------------|--------|------------|------|----|----|
|              | E           | F           |        | A          | B    | S1 | S2 |
| TL-2F9-04    | 9/16"X18    | 9/16"X18    | O011   | 23         | 8.5  | 14 | 19 |
| TL-2F9-04-06 | 9/16"X18    | 11/16"X16   | O011   | 23         | 9.5  | 14 | 22 |
| TL-2F9-06-04 | 11/16"X16   | 9/16"X18    | O012   | 27.5       | 8.5  | 19 | 19 |
| TL-2F9-06    | 11/16"X16   | 11/16"X16   | O012   | 27.5       | 9.5  | 19 | 22 |
| TL-2F9-06-08 | 11/16"X16   | 13/16"X16   | O012   | 27         | 11.5 | 19 | 27 |
| TL-2F9-08-06 | 13/16"X16   | 11/16"X16   | O014   | 31         | 9.5  | 22 | 22 |
| TL-2F9-08    | 13/16"X16   | 13/16"X16   | O014   | 31         | 11.5 | 22 | 27 |
| TL-2F9-10-08 | 1"X14       | 13/16"X16   | O016   | 36.5       | 11.5 | 27 | 27 |
| TL-2F9-10    | 1"X14       | 1"X14       | O016   | 36.5       | 12.5 | 27 | 32 |
| TL-2F9-10-12 | 1"X14       | 1.3/16"X12  | O016   | 36.5       | 15   | 27 | 36 |
| TL-2F9-12    | 1.3/16"X12  | 1.3/16"X12  | O018   | 41         | 15   | 30 | 36 |
| TL-2F9-12-16 | 1.3/16"X12  | 1.7/16"X12  | O018   | 42.5       | 14.5 | 33 | 41 |
| TL-2F9-16-12 | 1.7/16"X12  | 1.3/16"X12  | O021   | 44.5       | 15   | 36 | 36 |
| TL-2F9-16    | 1.7/16"X12  | 1.7/16"X12  | O021   | 44.5       | 14.5 | 36 | 41 |
| TL-2F9-20    | 1.11/16"X12 | 1.11/16"X12 | O025   | 44.5       | 15   | 41 | 50 |
| TL-2F9-24    | 2"X12       | 2"X12       | O029   | 53.5       | 17   | 50 | 60 |



## TL-4F

Male. ORFS plug

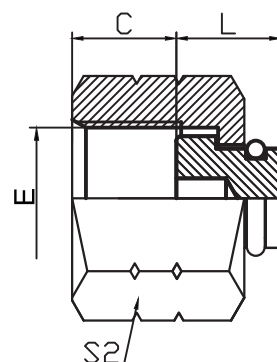
| PART NO. | THREAD      | O-RING     | DIMENSIONS |      |    |
|----------|-------------|------------|------------|------|----|
|          | E           | E          | A          | L    | S1 |
| TL-4F-04 | 9/16"X18    | 7.65X1.78  | 10         | 16   | 17 |
| TL-4F-06 | 11/16"X16   | 9.25X1.78  | 11         | 19   | 19 |
| TL-4F-08 | 13/16"X16   | 12.42X1.78 | 13         | 22   | 22 |
| TL-4F-10 | 1"X14       | 15.6X1.78  | 15.5       | 26   | 27 |
| TL-4F-12 | 1.3/16"X12  | 18.77X1.78 | 17         | 27.5 | 32 |
| TL-4F-16 | 1.7/16"X12  | 23.52X1.78 | 17.5       | 28   | 38 |
| TL-4F-20 | 1.11/16"X12 | 29.87X1.78 | 17.5       | 28   | 46 |
| TL-4F-24 | 2"X12       | 37.82X1.78 | 17.5       | 28   | 55 |



## TL-9F

Female. ORFS plug

| PART NO. | THREAD      | DIMENSIONS |      |    |
|----------|-------------|------------|------|----|
|          | E           | A          | L    | S2 |
| TL-9F-04 | 9/16"X18    | 8          | 11.5 | 19 |
| TL-9F-06 | 11/16"X16   | 9          | 13   | 22 |
| TL-9F-08 | 13/16"X16   | 11         | 14   | 27 |
| TL-9F-10 | 1"X14       | 12.5       | 15   | 30 |
| TL-9F-12 | 1.3/16"X12  | 14         | 16   | 36 |
| TL-9F-16 | 1.7/16"X12  | 15         | 18   | 41 |
| TL-9F-20 | 1.11/16"X12 | 15         | 18.5 | 50 |
| TL-9F-24 | 2"X12       | 15         | 21   | 60 |

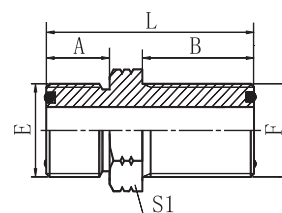


## TL-6F • TL-6F-LN

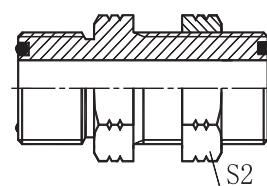
Straight. Male. ORFS Bulkhead

| PART NO. | THREAD      |             | O-RING     |            | DIMENSIONS |      |      |    |    |
|----------|-------------|-------------|------------|------------|------------|------|------|----|----|
|          | E           | F           | E          | F          | A          | B    | L    | S1 | S2 |
| TL-6F-04 | 9/16"X18    | 9/16"X18    | 7.65X1.78  | 7.65X1.78  | 10         | 31.5 | 48.5 | 22 | 22 |
| TL-6F-06 | 11/16"X16   | 11/16"X16   | 9.25X1.78  | 9.25X1.78  | 11         | 34   | 53   | 27 | 27 |
| TL-6F-08 | 13/16"X16   | 13/16"X16   | 12.42X1.78 | 12.42X1.78 | 13         | 36.5 | 58.5 | 30 | 30 |
| TL-6F-10 | 1"X14       | 1"X14       | 15.6X1.78  | 15.6X1.78  | 15.5       | 40.5 | 66.5 | 36 | 36 |
| TL-6F-12 | 1.3/16"X12  | 1.3/16"X12  | 18.77X1.78 | 18.77X1.78 | 17         | 41.5 | 69   | 38 | 38 |
| TL-6F-16 | 1.7/16"X12  | 1.7/16"X12  | 23.52X1.78 | 23.52X1.78 | 17.5       | 42   | 70   | 46 | 46 |
| TL-6F-20 | 1.11/16"X12 | 1.11/16"X12 | 29.87X1.78 | 29.87X1.78 | 17.5       | 42.2 | 70.2 | 50 | 50 |
| TL-6F-24 | 2"X12       | 2"X12       | 37.82X1.78 | 37.82X1.78 | 17.5       | 42   | 70   | 60 | 60 |

**Note:** In case if you are interested to order the adapter in complete set with lock nut, it is necessary to insert suffix "LN" after our part number, for example TL-6B-16LN.



TL-6F

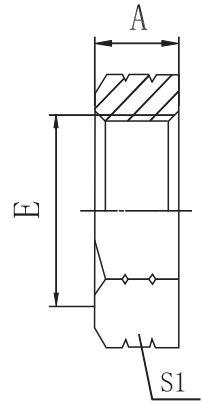


TL-6F-LN

## TL-8F

### ORFS Lock nut

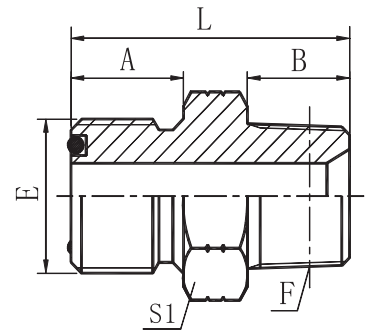
| PART NO. | THREAD      | DIMENSIONS |    |
|----------|-------------|------------|----|
|          |             | E          | S1 |
| TL-8F-04 | 9/16"X18    | 7          | 22 |
| TL-8F-06 | 11/16"X16   | 8          | 27 |
| TL-8F-08 | 13/16"X16   | 9          | 30 |
| TL-8F-10 | 1"X14       | 10.5       | 36 |
| TL-8F-12 | 1.3/16"X12  | 10.5       | 38 |
| TL-8F-16 | 1.7/16"X12  | 10.5       | 46 |
| TL-8F-20 | 1.11/16"X12 | 10.4       | 50 |
| TL-8F-24 | 2"X12       | 10.4       | 60 |



## TL-1FN

### Straight. Male. ORFS. Male NPT

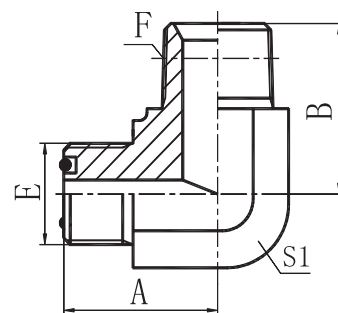
| PART NO.     | THREAD      |              | O-RING | DIMENSIONS |      |      |    |
|--------------|-------------|--------------|--------|------------|------|------|----|
|              | E           | F            |        | A          | B    | L    | S1 |
| TL-1FN-04-02 | 9/16"X18    | Z1/8"X27     | O011   | 10         | 10.5 | 26.5 | 17 |
| TL-1FN-04    | 9/16"X18    | Z1/4"X18     | O011   | 10         | 15   | 30.5 | 17 |
| TL-1FN-04-06 | 9/16"X18    | Z3/8"X18     | O011   | 10         | 16   | 31.5 | 19 |
| TL-1FN-06-04 | 11/16"X16   | Z1/4"X18     | O012   | 11         | 15   | 32   | 19 |
| TL-1FN-06    | 11/16"X16   | Z3/8"X18     | O012   | 11         | 16   | 33.5 | 19 |
| TL-1FN-06-08 | 11/16"X16   | Z1/2"X14     | O012   | 11         | 19.5 | 39   | 24 |
| TL-1FN-08-04 | 13/16"X16   | Z1/4"X18     | O014   | 13         | 15   | 36   | 22 |
| TL-1FN-08-06 | 13/16"X16   | Z3/8"X18     | O014   | 13         | 16   | 36.5 | 22 |
| TL-1FN-08    | 13/16"X16   | Z1/2"X14     | O014   | 13         | 19.5 | 40   | 24 |
| TL-1FN-08-12 | 13/16"X16   | Z3/4"X14     | O014   | 13         | 19.5 | 42.5 | 30 |
| TL-1FN-10-08 | 1"X14       | Z1/2"X14     | O016   | 15.5       | 19.5 | 45   | 27 |
| TL-1FN-10-12 | 1"X14       | Z3/4"X14     | O016   | 15.5       | 19.5 | 45   | 30 |
| TL-1FN-12-08 | 1.3/16"X12  | Z1/2"X14     | O018   | 17         | 19.5 | 46.5 | 32 |
| TL-1FN-12    | 1.3/16"X12  | Z3/4"X14     | O018   | 17         | 19.5 | 47   | 32 |
| TL-1FN-12-16 | 1.3/16"X12  | Z1"X11.5     | O018   | 17         | 25.5 | 53.5 | 36 |
| TL-1FN-16-12 | 1.7/16"X12  | Z3/4"X14     | O021   | 17.5       | 19.5 | 48   | 38 |
| TL-1FN-16    | 1.7/16"X12  | Z1"X11.5     | O021   | 17.5       | 25.5 | 53.5 | 38 |
| TL-1FN-16-20 | 1.7/16"X12  | Z1.1/4"X11.5 | O021   | 17.5       | 26.5 | 57   | 46 |
| TL-1FN-20-16 | 1.11/16"X12 | Z1"X11.5     | O025   | 17.5       | 25.5 | 56   | 46 |
| TL-1FN-20    | 1.11/16"X12 | Z1.1/4"X11.5 | O025   | 17.5       | 26.5 | 56.5 | 46 |
| TL-1FN-20-24 | 1.11/16"X12 | Z1.1/2"X11.5 | O025   | 17.5       | 27.5 | 60   | 50 |
| TL-1FN-24    | 2"X12       | Z1.1/2"X11.5 | O029   | 17.5       | 27.5 | 61   | 55 |



## TL-1FN9

Elbow 90°. Male. ORFS. Male NPT

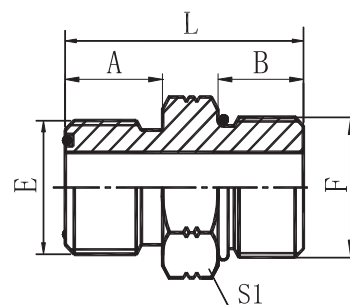
| PART NO.      | THREAD      |              | O-RING | DIMENSIONS |      |    |
|---------------|-------------|--------------|--------|------------|------|----|
|               | E           | F            |        | A          | B    | S1 |
| TL-1FN9-04-02 | 9/16"X18    | Z1/8"X27     | O011   | 23         | 24   | 14 |
| TL-1FN9-04    | 9/16"X18    | Z1/4"X18     | O011   | 23         | 25.5 | 14 |
| TL-1FN9-06-04 | 11/16"X16   | Z1/4"X18     | O012   | 27         | 28.5 | 19 |
| TL-1FN9-06    | 11/16"X16   | Z3/8"X18     | O012   | 27.5       | 31   | 19 |
| TL-1FN9-06-08 | 11/16"X16   | Z1/2"X14     | O012   | 29         | 36.7 | 22 |
| TL-1FN9-08-06 | 13/16"X16   | Z3/8"X18     | O014   | 31         | 33.5 | 22 |
| TL-1FN9-08    | 13/16"X16   | Z1/2"X14     | O014   | 31         | 37.3 | 22 |
| TL-1FN9-08-12 | 13/16"X16   | Z3/4"X14     | O014   | 34.5       | 44   | 27 |
| TL-1FN9-10-08 | 1"X14       | Z1/2"X14     | O016   | 36.5       | 40   | 27 |
| TL-1FN9-10-12 | 1"X14       | Z3/4"X14     | O016   | 36.5       | 44   | 27 |
| TL-1FN9-12-08 | 1.3/16"X12  | Z1/2"X14     | O018   | 40.5       | 41.5 | 30 |
| TL-1FN9-12    | 1.3/16"X12  | Z3/4"X14     | O018   | 41         | 45.5 | 30 |
| TL-1FN9-12-16 | 1.3/16"X12  | Z1"X11.5     | O018   | 43         | 50   | 33 |
| TL-1FN9-16-12 | 1.7/16"X12  | Z3/4"X14     | O021   | 44.5       | 49   | 36 |
| TL-1FN9-16    | 1.7/16"X12  | Z1"X11.5     | O021   | 44.5       | 51.5 | 36 |
| TL-1FN9-20-16 | 1.11/16"X12 | Z1"X11.5     | O025   | 47.5       | 54.5 | 41 |
| TL-1FN9-20    | 1.11/16"X12 | Z1.1/4"X11.5 | O025   | 47.5       | 54.5 | 41 |
| TL-1FN9-24    | 2"X12       | Z1.1/2"X11.5 | O029   | 53.5       | 61   | 50 |



## TL-1FO

Straight. Male ORFS. Male SAE ORB. ISO 11926-2

| PART NO.     | THREAD      |            | O-RING |      | DIMENSIONS |      |      |    |
|--------------|-------------|------------|--------|------|------------|------|------|----|
|              | E           | F          | E      | F    | A          | B    | L    | S1 |
| TL-1FO-04    | 9/16"X18    | 7/16"X20   | O011   | O904 | 10         | 11   | 28.5 | 17 |
| TL-1FO-04-05 | 9/16"X18    | 1/2"X20    | O011   | O905 | 10         | 11   | 28.5 | 17 |
| TL-1FO-04-06 | 9/16"X18    | 9/16"X18   | O011   | O906 | 10         | 12   | 29.5 | 17 |
| TL-1FO-04-08 | 9/16"X18    | 3/4"X16    | O011   | O908 | 10         | 14   | 33.5 | 22 |
| TL-1FO-06-04 | 11/16"X16   | 7/16"X20   | O012   | O904 | 11         | 11   | 31   | 19 |
| TL-1FO-06-05 | 11/16"X16   | 1/2"X20    | O012   | O905 | 11.2       | 11   | 30.9 | 19 |
| TL-1FO-06    | 11/16"X16   | 9/16"X18   | O012   | O906 | 11         | 12   | 32   | 19 |
| TL-1FO-06-08 | 11/16"X16   | 3/4"X16    | O012   | O908 | 11         | 14   | 35   | 22 |
| TL-1FO-06-10 | 11/16"X16   | 7/8"X14    | O012   | O910 | 11         | 16   | 38.5 | 27 |
| TL-1FO-08-06 | 13/16"X16   | 9/16"X18   | O014   | O906 | 13         | 12   | 34.5 | 22 |
| TL-1FO-08    | 13/16"X16   | 3/4"X16    | O014   | O908 | 13         | 14   | 36.5 | 22 |
| TL-1FO-08-10 | 13/16"X16   | 7/8"X14    | O014   | O910 | 13         | 16   | 40.5 | 27 |
| TL-1FO-08-12 | 13/16"X16   | 1.1/16"X12 | O014   | O912 | 13         | 18.5 | 44.5 | 32 |
| TL-1FO-10    | 1"X14       | 7/8"X14    | O016   | O910 | 15.5       | 16   | 43   | 27 |
| TL-1FO-10-08 | 1"X14       | 3/4"X16    | O016   | O908 | 15.5       | 14   | 41   | 27 |
| TL-1FO-10-12 | 1"X14       | 1.1/16"X12 | O016   | O912 | 15.5       | 18.5 | 47   | 32 |
| TL-1FO-12-10 | 1.3/16"X12  | 7/8"X14    | O018   | O910 | 17         | 16   | 46   | 32 |
| TL-1FO-12    | 1.3/16"X12  | 1.1/16"X12 | O018   | O912 | 17         | 18.5 | 48.5 | 32 |
| TL-1FO-12-16 | 1.3/16"X12  | 1.5/16"X12 | O018   | O916 | 17         | 18.5 | 50   | 38 |
| TL-1FO-16-12 | 1.7/16"X12  | 1.1/16"X12 | O021   | O912 | 17.5       | 18.5 | 50   | 38 |
| TL-1FO-16    | 1.7/16"X12  | 1.5/16"X12 | O021   | O916 | 17.5       | 18.5 | 50.5 | 38 |
| TL-1FO-16-20 | 1.7/16"X12  | 1.5/8"X12  | O021   | O920 | 17.5       | 18.5 | 52   | 50 |
| TL-1FO-20-16 | 1.11/16"X12 | 1.5/16"X12 | O025   | O916 | 17.5       | 18.5 | 52   | 46 |
| TL-1FO-20    | 1.11/16"X12 | 1.5/8"X12  | O025   | O920 | 17.5       | 18.5 | 52.5 | 50 |
| TL-1FO-24-20 | 2"X12       | 1.5/8"X12  | O029   | O920 | 17.5       | 18.5 | 54   | 55 |
| TL-1FO-24    | 2"X12       | 1.7/8"X12  | O029   | O924 | 17.5       | 18.5 | 54   | 55 |



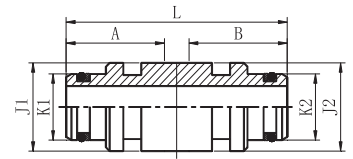
Note: F end is connected with ISO 11926-1 port.

# STAPLELOCK FITTING ADAPTOR

## TL-1Y

Male. Stecko. Male Stecko

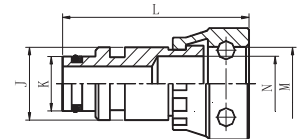
| PART NO.    | STECKO SIZE |        | DIMENSIONS |      |      |      |      |      |    |
|-------------|-------------|--------|------------|------|------|------|------|------|----|
|             | LEFT        | RIGHT  | A          | B    | J1   | K1   | J2   | K2   | L  |
| TL-1Y-04    | 1/4"        | 1/4"   | 28         | 28   | 14.9 | 9.9  | 14.9 | 9.9  | 57 |
| TL-1Y-06-04 | 3/8"        | 1/4"   | 28         | 28   | 19.9 | 13.9 | 14.9 | 9.9  | 57 |
| TL-1Y-06    | 3/8"        | 3/8"   | 28         | 28   | 19.9 | 13.9 | 19.9 | 13.9 | 57 |
| TL-1Y-08-04 | 1/2"        | 1/4"   | 28         | 28   | 23.9 | 17.9 | 14.9 | 9.9  | 57 |
| TL-1Y-08-06 | 1/2"        | 3/8"   | 28         | 28   | 23.9 | 17.9 | 19.9 | 13.9 | 57 |
| TL-1Y-08    | 1/2"        | 1/2"   | 28         | 28   | 23.9 | 17.9 | 23.9 | 17.9 | 57 |
| TL-1Y-12-06 | 3/4"        | 3/8"   | 28         | 28   | 28.9 | 23.9 | 19.9 | 13.9 | 57 |
| TL-1Y-12-08 | 3/4"        | 1/2"   | 28         | 28   | 28.9 | 23.9 | 23.9 | 17.9 | 57 |
| TL-1Y-12    | 3/4"        | 3/4"   | 28         | 28   | 28.9 | 23.9 | 28.9 | 23.9 | 57 |
| TL-1Y-16-08 | 1"          | 1/2"   | 33.5       | 28   | 38.8 | 30.9 | 23.9 | 17.9 | 62 |
| TL-1Y-16-12 | 1"          | 3/4"   | 33.5       | 28   | 38.8 | 30.9 | 28.9 | 23.9 | 62 |
| TL-1Y-16    | 1"          | 1"     | 33.5       | 33.5 | 38.8 | 30.9 | 38.8 | 30.9 | 68 |
| TL-1Y-20-12 | 1.1/4"      | 3/4"   | 33.5       | 28   | 45.9 | 37.9 | 28.9 | 23.9 | 62 |
| TL-1Y-20-16 | 1.1/4"      | 1"     | 33.5       | 33.5 | 45.9 | 37.9 | 38.8 | 30.9 | 68 |
| TL-1Y-20    | 1.1/4"      | 1.1/4" | 33.5       | 33.5 | 45.9 | 37.9 | 45.9 | 37.9 | 68 |
| TL-1Y-24    | 1.1/2"      | 1.1/2" | 37         | 37   | 54.9 | 46.9 | 54.9 | 46.9 | 76 |
| TL-1Y-32-24 | 2"          | 1.1/2" | 37         | 37   | 63.9 | 55.9 | 54.9 | 46.9 | 76 |
| TL-1Y-32    | 2"          | 2"     | 37         | 37   | 63.9 | 55.9 | 63.9 | 55.9 | 76 |



## TL-2Y

Male. Stecko. Female. Stecko

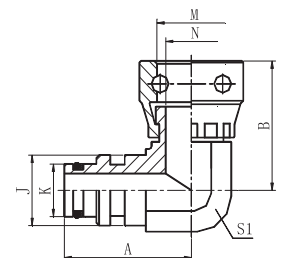
| PART NO.    | STECKO SIZE |       | DIMENSIONS |      |    |       |       |
|-------------|-------------|-------|------------|------|----|-------|-------|
|             | LEFT        | RIGHT | J          | K    | L  | M     | N     |
| TL-2Y-06-04 | 3/8"        | 1/4"  | 19.9       | 13.9 | 60 | 15.16 | 10.03 |
| TL-2Y-08-04 | 1/2"        | 1/4"  | 23.9       | 17.9 | 60 | 15.16 | 10.03 |
| TL-2Y-08-06 | 1/2"        | 3/8"  | 23.9       | 17.9 | 60 | 20.17 | 14.02 |
| TL-2Y-12-08 | 3/4"        | 1/2"  | 28.9       | 23.9 | 60 | 24.16 | 18.03 |
| TL-2Y-16-12 | 1"          | 3/4"  | 38.8       | 30.9 | 65 | 29.16 | 24.03 |
| TL-2Y-20-12 | 1.1/4"      | 3/4"  | 45.9       | 37.9 | 72 | 29.16 | 24.03 |
| TL-2Y-20-16 | 1.1/4"      | 1"    | 45.9       | 37.9 | 78 | 39.12 | 31.01 |



## TL-2Y9

Elbow 90°. Male Stecko. Female. Stecko

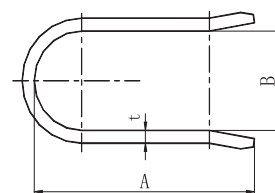
| PART NO.     | STECKO SIZE |        | DIMENSIONS |      |      |      |       |       |    |
|--------------|-------------|--------|------------|------|------|------|-------|-------|----|
|              | LEFT        | RIGHT  | A          | B    | J    | K    | M     | N     | S1 |
| TL-2Y9-04    | 1/4"        | 1/4"   | 40.5       | 38   | 14.9 | 9.9  | 15.16 | 10.03 | 16 |
| TL-2Y9-06-04 | 3/8"        | 1/4"   | 44         | 42   | 19.9 | 13.9 | 15.16 | 10.03 | 22 |
| TL-2Y9-06    | 3/8"        | 3/8"   | 44         | 42.5 | 19.9 | 13.9 | 20.17 | 14.02 | 22 |
| TL-2Y9-06-08 | 3/8"        | 1/2"   | 46.5       | 46   | 19.9 | 13.9 | 24.16 | 18.03 | 27 |
| TL-2Y9-08    | 1/2"        | 1/2"   | 46.5       | 46   | 23.9 | 17.9 | 24.16 | 18.03 | 27 |
| TL-2Y9-12    | 3/4"        | 3/4"   | 52         | 51.5 | 28.9 | 23.9 | 29.16 | 24.03 | 36 |
| TL-2Y9-16-12 | 1"          | 3/4"   | 60         | 53   | 38.8 | 30.9 | 39.12 | 31.01 | 41 |
| TL-2Y9-16    | 1"          | 1"     | 64         | 63.5 | 38.8 | 30.9 | 39.12 | 31.01 | 48 |
| TL-2Y9-20    | 1.1/4"      | 1.1/4" | 64         | 63.5 | 45.9 | 37.9 | 46.15 | 38.02 | 48 |



## TL-U-Y

### Staple

| PART NO. | STECKO SIZE | DIMENSIONS |      |   |
|----------|-------------|------------|------|---|
|          |             | A          | B    | t |
| TL-U-Y04 | 1/4"        | 34         | 7.7  | 4 |
| TL-U-Y06 | 3/8"        | 37         | 12.5 | 4 |
| TL-U-Y08 | 1/2"        | 44         | 16.5 | 4 |
| TL-U-Y12 | 3/4"        | 52         | 20.8 | 4 |
| TL-U-Y16 | 1"          | 69         | 27.2 | 6 |
| TL-U-Y20 | 1.1/4"      | 77.5       | 34.8 | 6 |
| TL-U-Y24 | 1.1/2"      | 78.8       | 46.1 | 6 |
| TL-U-Y32 | 2"          | 100        | 58   | 6 |

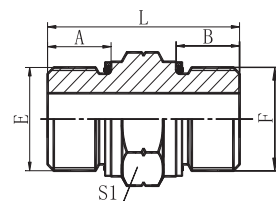


## SPECIAL FITTING ADAPTORS

### TL-1G

Straight. Male. BSPP. O-ring. Male. BSPP. O-ring

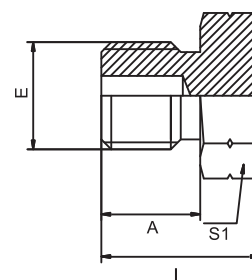
| PART NO. | THREAD     |            | O-RING     |            | DIMENSIONS |      |      |    |
|----------|------------|------------|------------|------------|------------|------|------|----|
|          | E          | F          | E          | F          | A          | B    | L    | S1 |
| TL-1G-02 | G1/8"X28   | G1/8"X28   | 7.65X1.78  | 7.65X1.78  | 9.5        | 9.5  | 28.5 | 14 |
| TL-1G-04 | G1/4"X19   | G1/4"X19   | 10.77X2.62 | 10.77X2.62 | 10         | 10   | 30   | 19 |
| TL-1G-06 | G3/8"X19   | G3/8"X19   | 13.94X2.62 | 13.94X2.62 | 11.5       | 11.5 | 33.5 | 22 |
| TL-1G-08 | G1/2"X14   | G1/2"X14   | 17.12X2.62 | 17.12X2.62 | 14         | 14   | 42   | 27 |
| TL-1G-12 | G3/4"X14   | G3/4"X14   | 23.47X2.62 | 23.47X2.62 | 15.5       | 15.5 | 46   | 32 |
| TL-1G-16 | G1"X11     | G1"X11     | 29.74X3.53 | 29.74X3.53 | 18         | 18   | 54.5 | 41 |
| TL-1G-20 | G1.1/4"X11 | G1.1/4"X11 | 37.69X3.53 | 37.69X3.53 | 20         | 20   | 61   | 50 |
| TL-1G-24 | G1.1/2"X11 | G1.1/2"X11 | 44.04X3.53 | 44.04X3.53 | 21.5       | 21.5 | 64   | 55 |



### TL-4G

Male. BSPP. O-ring plug

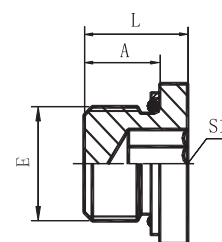
| PART NO. | THREAD   |      | O-RING | DIMENSIONS |      |    |
|----------|----------|------|--------|------------|------|----|
|          | E        | E    |        | A          | L    | S1 |
| TL-4G-04 | G1/4"X19 | O111 |        | 11         | 19   | 19 |
| TL-4G-06 | G3/8"X19 | O113 |        | 11.5       | 22   | 22 |
| TL-4G-08 | G1/2"X14 | O115 |        | 14         | 27   | 27 |
| TL-4G-12 | G3/4"X14 | O119 |        | 15.5       | 29.5 | 32 |
| TL-4G-16 | G1"X11   | O217 |        | 18         | 34   | 41 |



## TL-4HN

Male. Metric. O-ring. Hollow hex plug

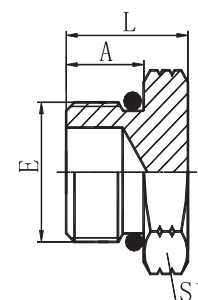
| PART NO.  | THREAD  | O-RING   | DIMENSIONS |      |    |
|-----------|---------|----------|------------|------|----|
|           | E       | E        | A          | L    | S1 |
| TL-4HN-10 | M10X1   | 8.1X1.6  | 8.5        | 11.5 | 5  |
| TL-4HN-12 | M12X1.5 | 9.3X2.4  | 11         | 14   | 6  |
| TL-4HN-14 | M14X1.5 | 11.3X2.4 | 11         | 14   | 6  |
| TL-4HN-16 | M16X1.5 | 13.3X2.4 | 11.5       | 14.5 | 8  |
| TL-4HN-18 | M18X1.5 | 15.3X2.4 | 12.5       | 16.5 | 8  |
| TL-4HN-22 | M22X1.5 | 19.3X2.4 | 13         | 17   | 10 |
| TL-4HN-26 | M26X1.5 | 23X3     | 14         | 18   | 12 |
| TL-4HN-27 | M27X2   | 23.5X3   | 16         | 20   | 12 |
| TL-4HN-33 | M33X2   | 29.2X3   | 16         | 20   | 17 |
| TL-4HN-42 | M42X2   | 38.5X3   | 16         | 20   | 21 |
| TL-4HN-48 | M48X2   | 44.5X3   | 17.5       | 21.5 | 24 |



## TL-40

Male. SAE ORB plug

| PART NO. | THREAD     | O-RING     | DIMENSIONS |      |    |
|----------|------------|------------|------------|------|----|
|          | E          | E          | A          | L    | S1 |
| TL-40-04 | 7/16"X20   | 8.92X1.83  | 9          | 16   | 14 |
| TL-40-05 | 1/2"X20    | 10.52X1.83 | 9          | 16   | 17 |
| TL-40-06 | 9/16"X18   | 11.89X1.98 | 10         | 17.5 | 17 |
| TL-40-08 | 3/4"X16    | 16.36X2.21 | 11         | 19.5 | 22 |
| TL-40-10 | 7/8"X14    | 19.18X2.46 | 12.7       | 23   | 27 |
| TL-40-12 | 1.1/16"X12 | 23.47X2.95 | 15         | 26.5 | 32 |
| TL-40-14 | 1.3/16"X12 | 26.62X2.95 | 15.1       | 27   | 36 |
| TL-40-16 | 1.5/16"X12 | 29.74X2.95 | 15         | 27.5 | 38 |
| TL-40-20 | 1.5/8"X12  | 37.46X3.00 | 15.1       | 30   | 50 |
| TL-40-24 | 1.7/8"X12  | 43.69X3.00 | 15.1       | 30   | 55 |
| TL-40-32 | 2.1/2"X12  | 59.36X3.00 | 15.1       | 32   | 70 |



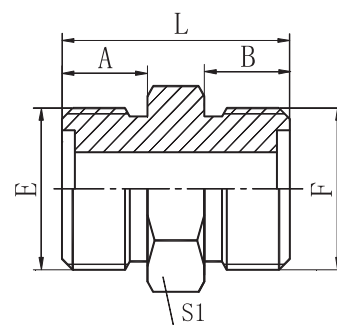


## TL-1E

Male. Metric. O-ring. Metric. Male. O-ring

| PART NO. | THREAD   |  | O-RING | DIMENSIONS |    |    |    |
|----------|----------|--|--------|------------|----|----|----|
|          | E, F     |  |        | A          | B  | L  | S1 |
| TL-1E-12 | M12X1.25 |  | 8X1.9  | 11         | 11 | 28 | 14 |
| TL-1E-14 | M14X1.5  |  | 10X1.9 | 11         | 11 | 28 | 17 |
| TL-1E-16 | M16X1.5  |  | 11X1.9 | 11         | 11 | 28 | 17 |
| TL-1E-18 | M18X1.5  |  | 13X1.9 | 11         | 11 | 28 | 19 |
| TL-1E-22 | M22X1.5  |  | 16X2.4 | 12         | 12 | 32 | 24 |
| TL-1E-27 | M27X1.5  |  | 20X2.4 | 13         | 13 | 36 | 30 |
| TL-1E-30 | M30X1.5  |  | 24X2.4 | 14         | 14 | 39 | 32 |
| TL-1E-36 | M36X2    |  | 30X3.1 | 16         | 16 | 43 | 38 |
| TL-1E-39 | M39X2    |  | 32X3.1 | 18         | 18 | 49 | 41 |
| TL-1E-42 | M42X2    |  | 35X3.1 | 20         | 20 | 53 | 46 |
| TL-1E-45 | M45X2    |  | 38X3.1 | 21         | 21 | 55 | 46 |
| TL-1E-52 | M52X2    |  | 40X3.1 | 22         | 22 | 59 | 55 |
| TL-1E-60 | M60X2    |  | 45X3.1 | 24         | 24 | 65 | 65 |
| TL-1E-64 | M64X2    |  | 50X3.1 | 27         | 27 | 71 | 70 |

**Note:** The parameter of E end O-ring is ring outside diameter and ring width.

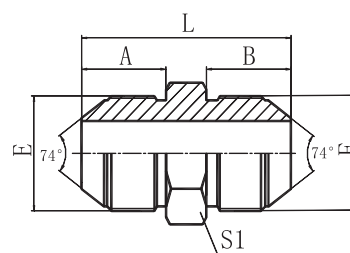


## TL-1Q · TL-1Q-RN

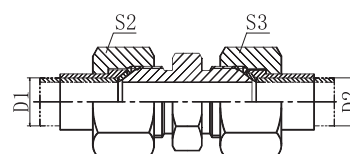
Straight. Male. Metric. 74° Flare. Male. Metric. 74° Flare

| PART NO.  | THREAD  |         | HOSE BORE | DIMENSIONS |      |      |    |        |
|-----------|---------|---------|-----------|------------|------|------|----|--------|
|           | E       | F       |           | A          | B    | L    | S1 | S2, S3 |
| TL-1Q-10  | M10X1   | M10X1   | 5         | 12         | 12   | 30   | 12 | 14     |
| TL-1Q-12  | M12X1.5 | M12X1.5 | 6         | 15.7       | 15.7 | 37.5 | 14 | 14     |
| TL-1Q-14  | M14X1.5 | M14X1.5 | 8         | 17         | 17   | 40   | 17 | 17     |
| TL-1Q-16  | M16X1.5 | M16X1.5 | 10        | 18         | 18   | 42   | 17 | 19     |
| TL-1Q-18  | M18X1.5 | M18X1.5 | 12        | 18         | 18   | 42   | 19 | 22     |
| TL-1Q-22  | M22X1.5 | M22X1.5 | 14        | 19.5       | 19.5 | 47   | 24 | 27     |
| TL-1Q-24  | M24X1.5 | M24X1.5 | 16        | 20         | 20   | 50   | 27 | 30     |
| TL-1Q-27  | M27X1.5 | M27X1.5 | 18        | 20         | 20   | 50   | 30 | 32     |
| TL-1Q-30  | M30X1.5 | M30X1.5 | 20        | 23         | 23   | 57   | 32 | 36     |
| TL-1Q-30E | M30X2   | M30X2   | 20        | 26         | 26   | 63   | 32 | 36     |
| TL-1Q-33  | M33X2   | M33X2   | 22        | 26         | 26   | 63   | 36 | 38     |
| TL-1Q-36  | M36X2   | M36X2   | 25        | 26         | 26   | 63   | 38 | 41     |
| TL-1Q-39  | M39X2   | M39X2   | 28        | 26         | 26   | 65   | 41 | 46     |
| TL-1Q-42  | M42X2   | M42X2   | 32        | 28.5       | 28.5 | 70   | 46 | 50     |
| TL-1Q-45  | M45X2   | M45X2   | 34        | 28.5       | 28.5 | 70   | 46 | 55     |

**Note:** If you are interested to order the adapter in complete set with sleeve and nut, it is necessary to insert suffix "RN" after our part number, for example TL-1Q-18NR. The sleeve number is NB500-Q and the nut number is NB200-Q.



TL-1Q

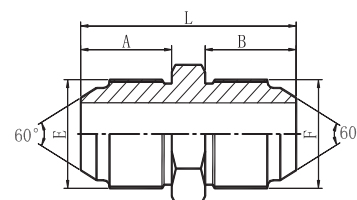


TL-1Q-RN

## TL-1K

Straight. JIC. Male. Metric. 60° Flare. Male. Metric. 60° Flare

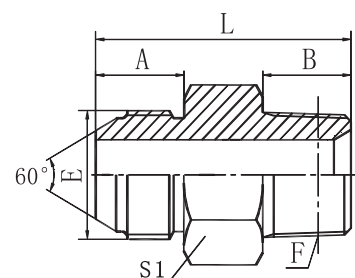
| PART NO. | THREAD  |         | DIMENSIONS |      |    |    |
|----------|---------|---------|------------|------|----|----|
|          | E       | F       | A          | B    | L  | S1 |
| TL-1K-14 | M14X1.5 | M14X1.5 | 17         | 17   | 40 | 17 |
| TL-1K-16 | M16X1.5 | M16X1.5 | 18         | 18   | 42 | 17 |
| TL-1K-18 | M18X1.5 | M18X1.5 | 18         | 18   | 42 | 19 |
| TL-1K-20 | M20X1.5 | M20X1.5 | 20         | 20   | 48 | 22 |
| TL-1K-22 | M22X1.5 | M22X1.5 | 20         | 20   | 48 | 24 |
| TL-1K-24 | M24X1.5 | M24X1.5 | 21.5       | 21.5 | 53 | 27 |
| TL-1K-30 | M30X1.5 | M30X1.5 | 26         | 26   | 63 | 32 |
| TL-1K-33 | M33X1.5 | M33X1.5 | 30         | 30   | 71 | 36 |
| TL-1K-36 | M36X1.5 | M36X1.5 | 33         | 33   | 79 | 41 |
| TL-1K-42 | M42X1.5 | M42X1.5 | 36         | 36   | 85 | 46 |



## TL-1KT-SP

Straight. Male. Metric. 60° Flare. Male. BSPT

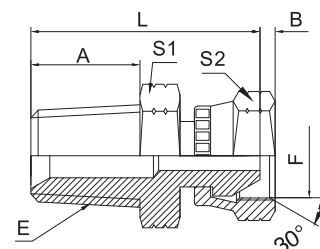
| PART NO.       | THREAD  |            | DIMENSIONS |      |      |    |
|----------------|---------|------------|------------|------|------|----|
|                | E       | F          | A          | B    | L    | S1 |
| TL-1KT-14-04SP | M14X1.5 | R1/4"X19   | 17         | 14.5 | 37.5 | 17 |
| TL-1KT-14-06SP | M14X1.5 | R3/8"X19   | 17         | 15   | 38   | 19 |
| TL-1KT-16-06SP | M16X1.5 | R3/8"X19   | 18         | 15   | 39   | 19 |
| TL-1KT-18-06SP | M18X1.5 | R3/8"X19   | 18         | 15   | 39   | 19 |
| TL-1KT-20-06SP | M20X1.5 | R3/8"X19   | 20         | 15   | 43   | 22 |
| TL-1KT-22-06SP | M22X1.5 | R3/8"X19   | 20         | 15   | 43   | 24 |
| TL-1KT-22-08SP | M22X1.5 | R1/2"X14   | 20         | 20   | 48   | 24 |
| TL-1KT-24-08SP | M24X1.5 | R1/2"X14   | 21.5       | 20   | 51.5 | 27 |
| TL-1KT-24-12SP | M24X1.5 | R3/4"X 14  | 21.5       | 20   | 51.5 | 30 |
| TL-1KT-30-12SP | M30X1.5 | R3/4"X14   | 26         | 20   | 57   | 32 |
| TL-1KT-33-16SP | M33X1.5 | R1"X11     | 30         | 25.5 | 66.5 | 36 |
| TL-1KT-36-20SP | M36X1.5 | R1.1/4"X11 | 33         | 26.5 | 72.5 | 46 |
| TL-1KT-42-24SP | M42X1.5 | R1.1/2"X11 | 36         | 26.5 | 77.5 | 50 |



## TL-2NU

Male. NPT. Female. NPSM. 60° seat

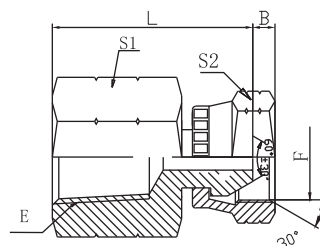
| PART NO.     | THREAD       |             | DIMENSIONS |      |      |    |    |
|--------------|--------------|-------------|------------|------|------|----|----|
|              | E            | F           | A          | B    | L    | S1 | S2 |
| TL-2NU-02    | Z1/8"X27     | 1/8"X27     | 10.5       | 6    | 25.5 | 12 | 15 |
| TL-2NU-02-04 | Z1/8"X27     | 1/4"X18     | 10.5       | 5    | 27.5 | 12 | 19 |
| TL-2NU-04-02 | Z1/4"X18     | 1/8"X27     | 15         | 6    | 30   | 14 | 15 |
| TL-2NU-04    | Z1/4"X18     | 1/4"X18     | 15         | 5    | 32   | 17 | 19 |
| TL-2NU-04-06 | Z1/4"X18     | 3/8"X18     | 15         | 6.5  | 33   | 17 | 22 |
| TL-2NU-04-08 | Z1/4"X18     | 1/2"X14     | 15         | 7.8  | 35   | 19 | 27 |
| TL-2NU-06    | Z3/8"X18     | 3/8"X18     | 16         | 6.5  | 34.5 | 19 | 22 |
| TL-2NU-06-04 | Z3/8"X18     | 1/4"X18     | 16         | 5    | 33   | 19 | 19 |
| TL-2NU-06-08 | Z3/8"X18     | 1/2"X14     | 16         | 7.8  | 36   | 19 | 27 |
| TL-2NU-08    | Z1/2"X14     | 1/2"X14     | 19.5       | 7.8  | 41.5 | 22 | 27 |
| TL-2NU-08-04 | Z1/2"X14     | 1/4"X18     | 19.5       | 5    | 38.5 | 22 | 19 |
| TL-2NU-08-06 | Z1/2"X14     | 3/8"X18     | 19.5       | 6.5  | 39.5 | 22 | 22 |
| TL-2NU-12    | Z3/4"X14     | 3/4"X14     | 19.5       | 10.5 | 44.5 | 30 | 32 |
| TL-2NU-12-06 | Z3/4"X14     | 3/8"X18     | 19.5       | 6.5  | 41.5 | 30 | 22 |
| TL-2NU-12-08 | Z3/4"X14     | 1/2"X14     | 19.5       | 7.8  | 43.5 | 30 | 27 |
| TL-2NU-12-16 | Z3/4"X14     | 1"X11.5     | 19.5       | 11   | 46.5 | 32 | 41 |
| TL-2NU-16-12 | Z1"X11.5     | 3/4"X14     | 21.5       | 10.5 | 51.5 | 36 | 32 |
| TL-2NU-16    | Z1"X11.5     | 1"X11.5     | 25.5       | 11   | 52.5 | 36 | 41 |
| TL-2NU-16-20 | Z1"X11.5     | 1.1/4"X11.5 | 25.5       | 11.5 | 58.5 | 41 | 50 |
| TL-2NU-20-16 | Z1.1/4"X11.5 | 1"X11.5     | 26.5       | 11   | 57.5 | 36 | 41 |
| TL-2NU-20    | Z1.1/4"X11.5 | 1.1/4"X11.5 | 26.5       | 11.5 | 59.5 | 46 | 50 |
| TL-2NU-20-24 | Z1.1/4"X11.5 | 1.1/2"X11.5 | 26.5       | 11.2 | 59.5 | 46 | 55 |
| TL-2NU-24-20 | Z1.1/2"X11.5 | 1.1/4"X11.5 | 27.5       | 11.5 | 62.5 | 50 | 50 |
| TL-2NU-24    | Z1.1/2"X11.5 | 1.1/2"X11.5 | 27.5       | 11.2 | 62.5 | 50 | 55 |
| TL-2NU-32    | Z2"X11.5     | 2"X11.5     | 27.5       | 16   | 64.5 | 65 | 70 |



## TL-7NU-S

Female. NPT. Female NPSM. 60° seat

| PART NO.      | THREAD       |             | DIMENSIONS |      |    |    |
|---------------|--------------|-------------|------------|------|----|----|
|               | E            | F           | B          | L    | S1 | S2 |
| TL-7NU-02S    | Z1/8"X27     | 1/8"X27     | 6          | 24   | 17 | 15 |
| TL-7NU-04-02S | Z1/4"X18     | 1/4"X18     | 6          | 29   | 19 | 15 |
| TL-7NU-04S    | Z1/4"X18     | 1/4"X18     | 5          | 31.5 | 19 | 19 |
| TL-7NU-04-06S | Z1/4"X18     | 1/4"X18     | 6.5        | 33   | 19 | 22 |
| TL-7NU-06S    | Z3/8"X18     | 3/8"X18     | 6.5        | 34   | 22 | 22 |
| TL-7NU-06-08S | Z3/8"X18     | 3/8"X18     | 7.8        | 35   | 22 | 27 |
| TL-7NU-08-06S | Z1/2"X14     | 1/2"X14     | 6.5        | 39   | 30 | 22 |
| TL-7NU-08S    | Z1/2"X14     | 1/2"X14     | 7.8        | 41   | 30 | 27 |
| TL-7NU-12S    | Z3/4"X14     | 3/4"X14     | 10.5       | 44   | 36 | 32 |
| TL-7NU-16S    | Z1"X11.5     | 1"X11.5     | 10.5       | 51.5 | 41 | 41 |
| TL-7NU-20S    | Z1.1/4"X11.5 | 1.1/4"X11.5 | 11.5       | 55   | 50 | 50 |
| TL-7NU-24S    | Z1.1/2"X11.5 | 1.1/2"X11.5 | 12.5       | 55.5 | 60 | 55 |
| TL-7NU-32S    | Z2"X11.5     | 2"X11.5     | 16         | 57   | 70 | 70 |



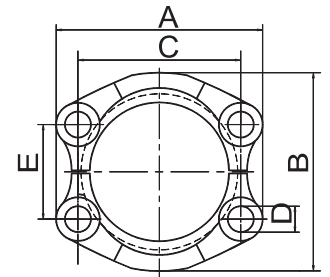
# FLANGE CONNECTIONS

## TL-PFL

SAE Flange. Split clamp. 3000 Psi  
ISO6162-SAE J518

| PART NO.  | FLANGE SIZE | DIMENSIONS |      |      |      |      | BOLT   | MPa  |
|-----------|-------------|------------|------|------|------|------|--------|------|
|           |             | A          | B    | C    | D    | E    |        |      |
| TL-PFL-08 | 1/2"        | 53.8       | 46.1 | 38.1 | 9    | 17.5 | M8X25  | 34.5 |
| TL-PFL-12 | 3/4"        | 65         | 52.4 | 47.6 | 11   | 22.2 | M10X30 |      |
| TL-PFL-16 | 1"          | 69.9       | 58.7 | 52.4 | 11   | 26.2 | M10X30 |      |
| TL-PFL-20 | 1.1/4"      | 79.2       | 73   | 58.7 | 11   | 30.2 | M10X30 | 27.6 |
| TL-PFL-24 | 1.1/2"      | 93.7       | 82.6 | 69.9 | 13.5 | 35.7 | M12X35 | 20.7 |
| TL-PFL-32 | 2"          | 101.6      | 96.8 | 77.8 | 13.5 | 42.9 | M12X35 |      |
| TL-PFL-40 | 2.1/2"      | 114        | 109  | 88.9 | 13.5 | 50.8 | M12X40 | 10   |

**Note:** 1. Bolt should be ordered another.

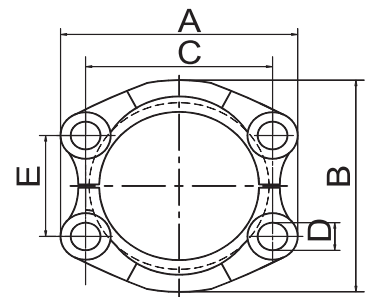


## TL-PFS

SAE Flange. Split clamp. 3000 Psi  
ISO6162-SAE J518

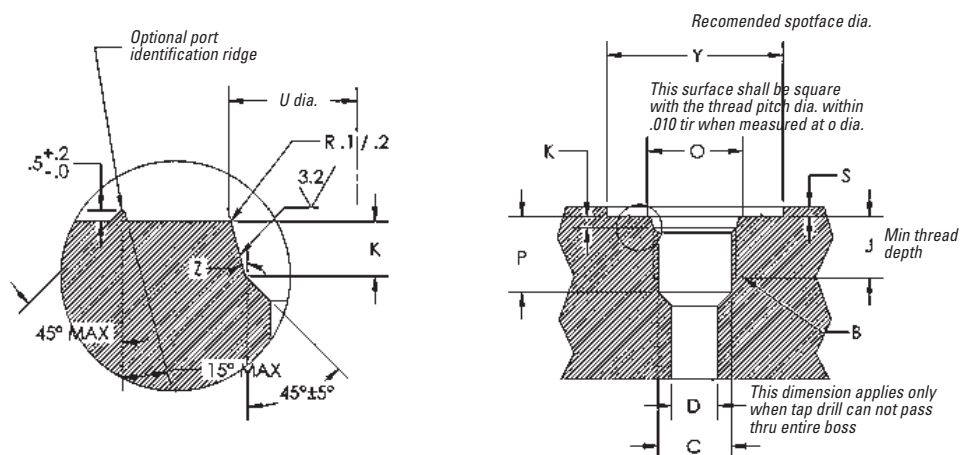
| PART NO.  | FLANGE SIZE | DIMENSIONS |       |      |    |      | BOLT   | MPa |
|-----------|-------------|------------|-------|------|----|------|--------|-----|
|           |             | A          | B     | C    | D  | E    |        |     |
| TL-PFS-08 | 1/2"        | 56.3       | 49.2  | 40.5 | 9  | 18.2 | M8X30  | 42  |
| TL-PFS-12 | 3/4"        | 71.4       | 61.8  | 50.8 | 11 | 23.8 | M10X35 |     |
| TL-PFS-16 | 1"          | 81         | 71.4  | 57.2 | 13 | 27.8 | M12X45 |     |
| TL-PFS-20 | 1.1/4"      | 95.3       | 79.2  | 66.7 | 15 | 31.8 | M14X50 |     |
| TL-PFS-24 | 1.1/2"      | 112.8      | 96.8  | 79.4 | 17 | 36.6 | M16X55 |     |
| TL-PFS-32 | 2"          | 133.4      | 115.6 | 96.8 | 21 | 44.4 | M20X70 |     |

**Note:** 1. Bolt should be ordered another.



# PLUG THREADS AND PORTS FOR TUBE CONNECTIONS

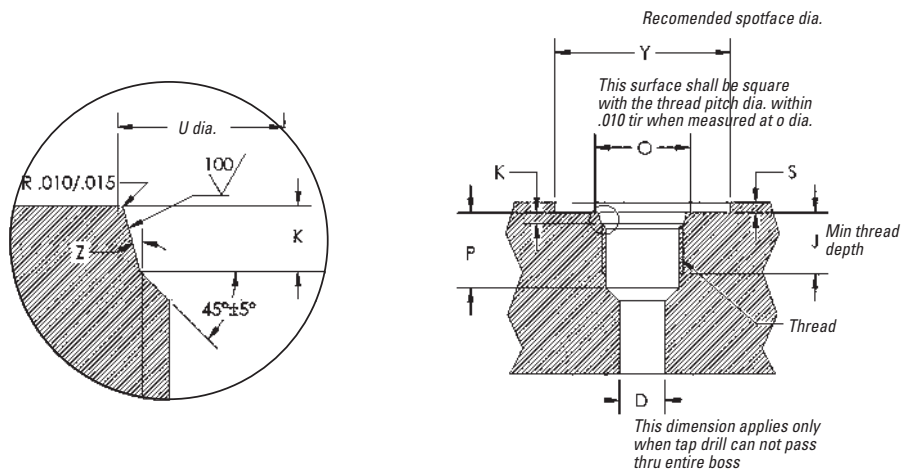
## ISO 6149-1 Metric straight thread port dimensions



| TUBE OD<br>Dia mm | B           | C     |       | D     | J     | O     | P     | S    | Y     | Z     |
|-------------------|-------------|-------|-------|-------|-------|-------|-------|------|-------|-------|
|                   | thread size | min   | max   | min   | depth | min   | min   | max  | dia   | angle |
| 4                 | M8x1.0      | 6,92  | 7,15  | 3,00  | 10,00 | 11,00 | 11,50 | 1,00 | 17,00 | 12°   |
| 5                 | M10x1.0     | 8,92  | 9,15  | 4,00  | 10,00 | 13,00 | 11,50 | 1,00 | 20,00 | 12°   |
| 6                 | M12x1.5     | 10,38 | 10,68 | 6,00  | 11,50 | 16,00 | 14,00 | 1,50 | 22,00 | 15°   |
| 8                 | M14x1.5     | 12,38 | 12,68 | 7,50  | 11,50 | 18,00 | 14,00 | 1,50 | 25,00 | 15°   |
| 10                | M16x1.5     | 14,38 | 14,68 | 9,00  | 13,00 | 20,00 | 15,50 | 1,50 | 28,00 | 15°   |
| 12                | M18x1.5     | 16,38 | 16,68 | 11,00 | 14,50 | 22,00 | 16,50 | 2,00 | 29,00 | 15°   |
| 16                | M22x1.5     | 20,38 | 20,68 | 14,00 | 15,50 | 26,00 | 18,00 | 2,00 | 34,00 | 15°   |
| 20                | M27x2.0     | 24,84 | 25,21 | 16,00 | 19,00 | 32,00 | 22,00 | 2,00 | 40,00 | 15°   |
| 22                | M30x2.0     | 27,84 | 28,21 | 18,00 | 19,00 | 35,00 | 22,00 | 2,00 | 43,00 | 15°   |
| 25                | M33x2.0     | 30,84 | 31,21 | 22,00 | 19,00 | 38,00 | 22,00 | 2,50 | 49,00 | 15°   |
| 32                | M42x2.0     | 39,84 | 40,21 | 30,00 | 19,50 | 47,00 | 47,00 | 2,50 | 60,00 | 15°   |
| 38                | M48x2.0     | 45,84 | 46,21 | 36,00 | 19,50 | 53,00 | 53,00 | 2,50 | 66,00 | 15°   |
| 50                | M60x2.0     | 57,84 | 58,21 | 40,00 | 21,50 | 65,00 | 65,00 | 2,50 | 76,00 | 15°   |

All sizes in mm.

## SAE J1926 Straight Thread O-ring boss port dimensions

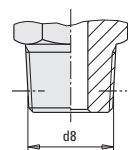


| NOMINAL TUBE OD |       |          | THREAD SIZE       | D       | J         | O       | P     | U     | Y     | ANGLE |
|-----------------|-------|----------|-------------------|---------|-----------|---------|-------|-------|-------|-------|
| dash            | in    | mm       | ANSI B1.1/ISO 263 | min dia | min depth | min dia | min   | dia   |       |       |
| -2              | 1/8   |          | 5/16-24 UNF-2B    | 0,062   | 0,39      | 0,438   | 0,468 | 0,358 | 0,672 | 12°   |
| -3              | 3/16  | 4        | 3/8-24 UNF 2B     | 0,125   | 0,39      | 0,5     | 0,468 | 0,421 | 0,75  | 12°   |
| -4              | 1/4   | 6        | 7/16-20 UNF-2B    | 0,172   | 0,454     | 0,563   | 0,547 | 0,487 | 0,828 | 12°   |
| -5              | 5/16  | 8        | 1/2-20 UNF-2B     | 0,234   | 0,454     | 0,625   | 0,547 | 0,55  | 0,906 | 12°   |
| -6              | 3/8   | 10       | 9/16-18 UNF-2B    | 0,297   | 0,5       | 0,688   | 0,609 | 0,616 | 0,969 | 12°   |
| -8              | 1/2   | 12       | 3/4-16 UNF-2B     | 0,391   | 0,5       | 0,875   | 0,688 | 0,811 | 1,188 | 15°   |
| -10             | 5/8   | 14-15-16 | 7/8-14 UNF-2B     | 0,484   | 0,562     | 1       | 0,781 | 0,942 | 1,344 | 15°   |
| -12             | 3/4   | 18-20    | 1 1/16-12 UN-2B   | 0,609   | 0,656     | 1,25    | 0,906 | 1,148 | 1,625 | 15°   |
| -14             | 7/8   | 22       | 1 3/16-12 UN-2B   | 0,719   | 0,75      | 1,375   | 0,906 | 1,273 | 1,765 | 15°   |
| -16             | 1     | 25-28    | 1 5/16-12 UN-2B   | 0,844   | 0,75      | 1,5     | 0,906 | 1,398 | 1,91  | 15°   |
| -20             | 1 1/4 | 30-32-35 | 1 5/8-12 UN-2B    | 1,078   | 0,75      | 1,875   | 0,906 | 1,713 | 2,27  | 15°   |
| -24             | 1 1/2 | 38-42    | 1 7/8-12 UN-2B    | 1,312   | 0,75      | 2,125   | 0,906 | 1,962 | 2,56  | 15°   |
| -32             | 2     | 50       | 2 1/2-12 UN-2B    | 1,781   | 0,75      | 2,75    | 0,906 | 2,587 | 3,48  | 15°   |

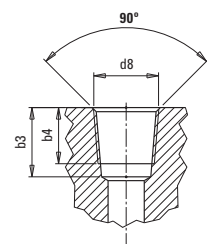
All dimensions are expressed in inches unless otherwise indicated.

## NPT Plugs & Ports

| TUBE OD | d1 in  | b1 | b2 |
|---------|--------|----|----|
| 4       | Z1/8   | 10 | 12 |
| 6       | Z1/8   | 10 | 12 |
| 8       | Z1/4   | 10 | 12 |
| 8       | Z1/4   | 14 | 17 |
| 10      | Z1/4   | 14 | 17 |
| 12      | Z3/8   | 14 | 17 |
| 15      | Z1/2   | 17 | 21 |
| 18      | Z1/2   | 17 | 21 |
| 20      | Z3/4   | 17 | 21 |
| 22      | Z3/4   | 17 | 21 |
| 25      | Z1     | 21 | 26 |
| 28      | Z1     | 21 | 26 |
| 30      | Z1 1/4 | 24 | 29 |
| 35      | Z1 1/4 | 24 | 29 |
| 38      | Z1 1/2 | 24 | 29 |
| 42      | Z1 1/2 | 24 | 29 |



**Plug thread NPT**  
ANSI / ASME B1.20.1-1983.  
Sealing by conical thread.

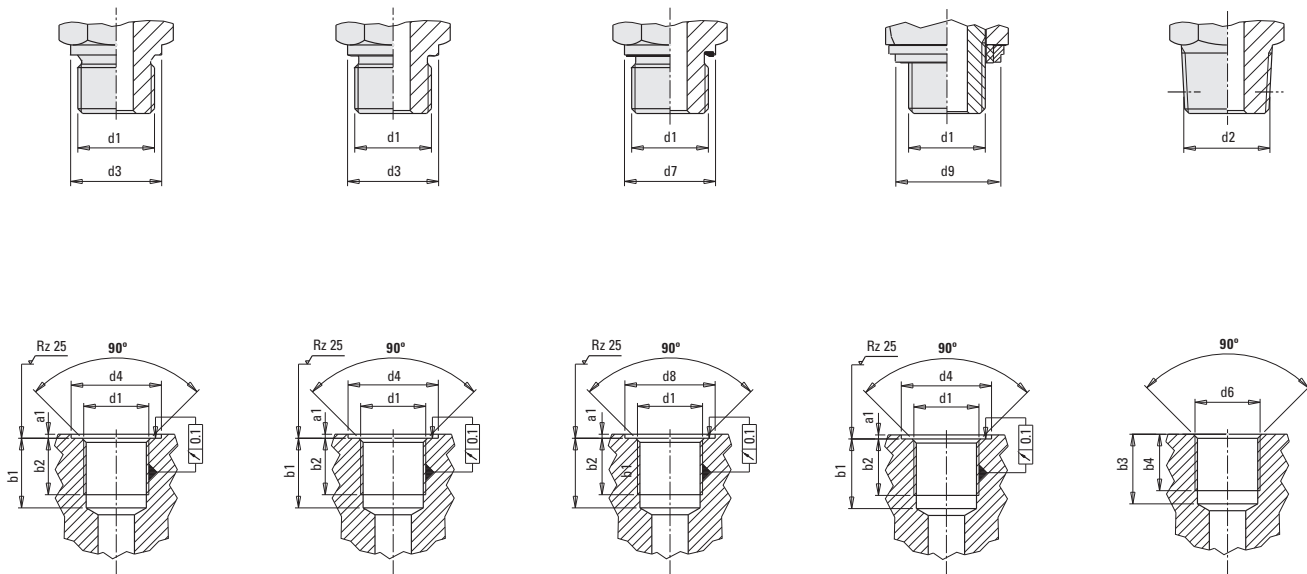


**Plug NPT**  
ANSI / ASME B1.20.1-1983.  
For conical thread.

All measurements in mm unless otherwise indicated.

## BSP and BSPT Plugs & Ports

BSP parallel DIN-ISO 228  
BSP taper DIN 3858

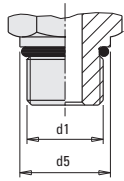


| TUBE OD | d1 in  | d2   | d3   | d4 | d5   | d6   | a1  | b1   | b2   | d7 in  | d8 in  | b3   | b4   |
|---------|--------|------|------|----|------|------|-----|------|------|--------|--------|------|------|
| 4       | G1/8   | 14,0 | 15,0 |    |      |      | 1,0 | 13,0 | 8,0  | R1/8   | G1/8   | 9,5  | 5,5  |
| 6       | G1/8   | 14,0 | 15,0 | 15 | 13,9 | 14,9 | 1,0 | 13,0 | 8,0  | R1/8   | G1/8   | 9,5  | 5,5  |
| 8       | G1/8   | 14,0 | 15,0 | 20 | 18,9 | 18,9 | 1,0 | 13,0 | 8,0  | R1/8   | G1/8   | 9,5  | 5,5  |
| 8       | G1/4   | 18,0 | 19,0 | 20 | 18,9 | 18,9 | 1,5 | 18,5 | 12,0 | R1/4   | G1/4   | 13,5 | 8,5  |
| 10      | G1/4   | 18,0 | 19,0 | 20 | 18,9 | 18,9 | 1,5 | 18,5 | 12,0 | R1/4   | G1/4   | 13,5 | 8,5  |
| 10      | G3/8   | 22,0 | 23,0 | 23 | 21,9 | 21,9 | 2,0 | 18,5 | 12,0 | R3/8   | G3/8   | 13,5 | 8,5  |
| 12      | G3/8   | 22,0 | 23,0 | 23 | 21,9 | 21,9 | 2,0 | 18,5 | 12,0 | R3/8   | G3/8   | 13,5 | 8,5  |
| 15      | G1/2   | 26,0 | 27,0 | 28 | 26,9 | 26,9 | 2,5 | 22,0 | 14,0 | R1/2   | G1/2   | 16,5 | 10,5 |
| 18      | G1/2   | 26,0 | 27,0 | 28 | 26,9 | 26,9 | 2,5 | 22,0 | 14,0 | R1/2   | G1/2   | 16,5 | 10,5 |
| 20      | G3/4   | 32,0 | 33,0 | 33 | 31,9 | 32,9 | 2,5 | 24,0 | 16,0 | R1/2   |        |      |      |
| 22      | G3/4   | 32,0 | 33,0 | 33 | 31,9 | 32,9 | 2,5 | 24,0 | 16,0 | R3/4   | G3/4   | 19,0 | 13,0 |
| 25      | G1     | 39,0 | 40,0 | 41 | 39,9 | 39,9 | 2,5 | 27,0 | 18,0 | R1     |        |      |      |
| 28      | G1     | 39,0 | 40,0 | 41 | 39,9 | 39,9 | 2,5 | 27,0 | 18,0 | R1 1/4 | G1     | 23,0 | 16,0 |
| 30      | G1 1/4 | 49,0 | 50,0 | 51 | 49,9 | 39,9 | 2,5 | 29,0 | 20,0 |        |        |      |      |
| 35      | G1 1/4 | 49,0 | 50,0 | 51 | 49,9 | 49,9 | 2,5 | 29,0 | 20,0 | R1 1/4 | G1 1/4 | 24,0 | 17,0 |
| 38      | G1 1/2 | 55,0 | 56,0 | 56 | 54,9 | 55,9 | 2,5 | 31,0 | 22,0 |        |        |      |      |
| 42      | G1 1/2 | 55,0 | 56,0 | 56 | 54,9 | 55,9 | 2,5 | 31,0 | 22,0 | R1 1/2 | G1 1/2 | 24,0 | 17,0 |

All measurements in mm unless otherwise indicated.

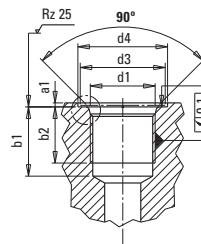
## UNF / UN parallel ISO 11926-1/-2/-3

O-ring sealing NBR (Perbunan); FKM upon request (Viton).

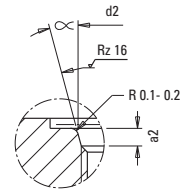


**Plug**  
DIN ISO 6149-2+3.  
Sealing by O-ring.

**Plug threads UNF and UN-2 A**  
ISO 11926-2+3.  
Sealing by O-ring.



**Port**  
DIN ISO 6149-1.  
For O-ring sealing.



**Port UNF and UN-2 B**  
ISO 11926-1.  
For O-ring sealing.

| d1<br>UNF/UN  | d5 | d2    | d3 | d4 | a1  | a2  | b1   | b2   | α   |
|---------------|----|-------|----|----|-----|-----|------|------|-----|
| 7/16 - 20 UNF | 14 | 12.45 | 15 | 21 | 1.6 | 2.4 | 14   | 11.5 | 12° |
| 9/16 - 18 UNF | 17 | 15.70 | 18 | 25 | 1.6 | 2.5 | 15.5 | 12.7 | 12° |
| 3/4 - 16 UNF  | 22 | 20.65 | 23 | 30 | 2.4 | 2.5 | 17.5 | 14.3 | 15° |
| 7/8 - 14 UNF  | 27 | 24.00 | 28 | 34 | 2.4 | 2.5 | 20   | 16.7 | 15° |
| 11/16 - 12 UN | 32 | 29.20 | 33 | 41 | 2.4 | 3.3 | 23   | 19.0 | 15° |
| 15/16 - 12 UN | 41 | 35.55 | 42 | 49 | 3.2 | 3.3 | 23   | 19.0 | 15° |
| 15/8 - 12 UN  | 50 | 43.55 | 51 | 58 | 3.2 | 3.3 | 23   | 19.0 | 15° |





Bearings | **Hydraulics** | Power Transmission

[www.translinkpt.com](http://www.translinkpt.com)