



Adaptors



BASICS ON FITTINGS - ADAPTORS

Basics on adaptors. Threads and types

Threads

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 - 2.2** NPT
 - 2.3** UTS
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Adaptors

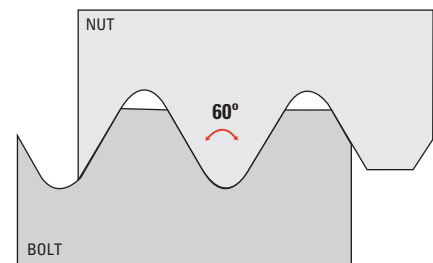
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1 Metric threads

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.

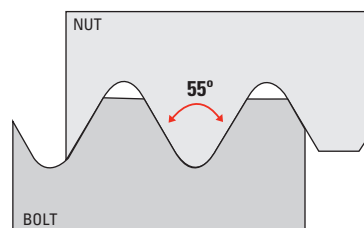
BSPT. British Standard Pipe Taper

Male thread is taper and female is parallel.

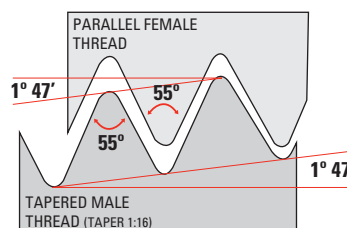
Male and female threads are taper (Rc), which is very uncommon.

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

Conicity of $1^\circ 47' 24''$.



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

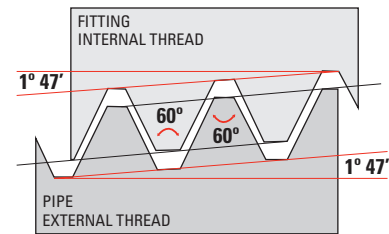
NPTF ANSI B1.20.3

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.

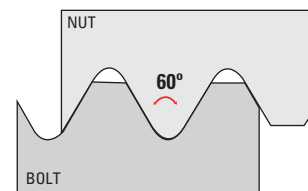
NOTE: In the catalogue we identify the threads assigning a key letter whereas:

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.

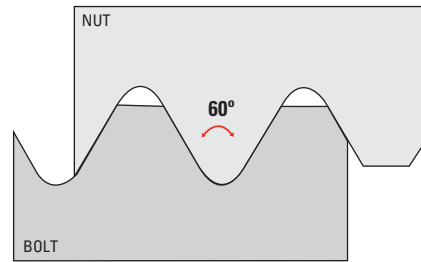
3A (external) & 3B (internal). Applications where tight fit is important.

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

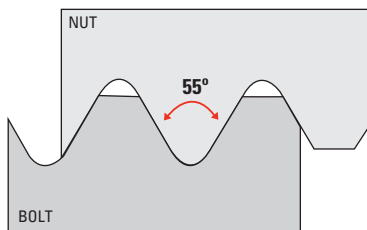
2.4 JIS. Japanese Industrial Standards

1 Metric type. The thread form is a V-shape of 60° 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.



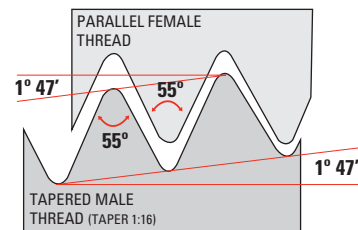
2 Inch type. The thread form is a V-shape of 60° between flanks like the ISO Metric but the major diameter of external threads is measured in inches. Has two versions the coarse and the fine. JIS B0206 Coarse and JIS B0208 Fine. The symbol used is U.

3 Inch type. Like Whitworth, with V-shape of 55° 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° 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

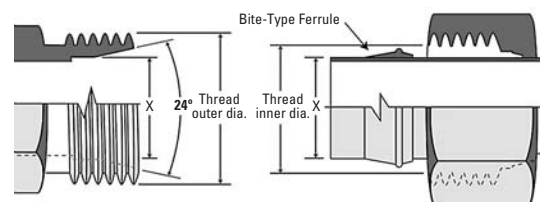
Flareless bite type tube fittings consist of ferrule, progressing ring or retaining nut which bites the outer surface of the tube when compressed thus making a leakproof union. There is a wide availability of sizes to meet practically any requirement.

3.1 SAE & DIN Adaptors

They use sealing seat angles of 24° and 60° , metal to metal or combining with O-rings.

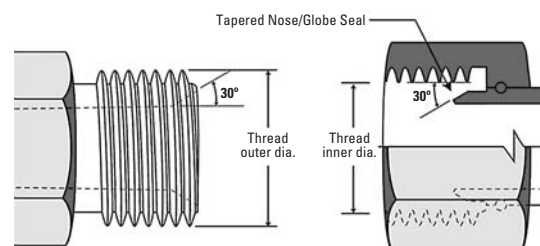
SAE J514 24° Cone

The male of the flareless tube has a 24° 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° seat and the compression sleeve. On the female, the seal takes place between the tubing and the compression sleeve.



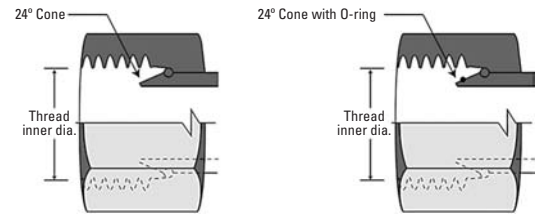
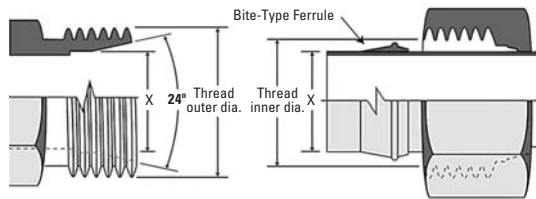
DIN 7631. Metric 60° Cone

The male of the metric 60° Cone connection has a 60° recessed cone and a straight thread. The female half has a globeseal seat and a straight thread. The seal takes place between the 60° 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).



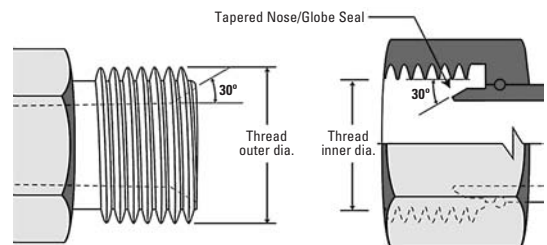
4 Flare type

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.

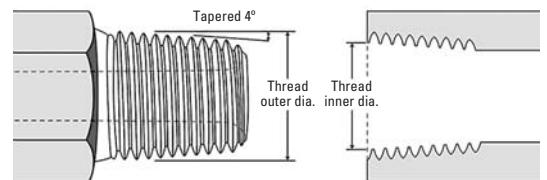
BSPP

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).



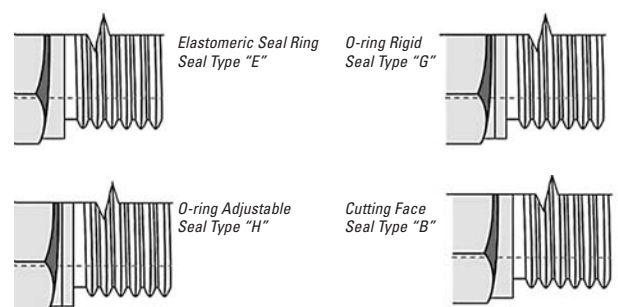
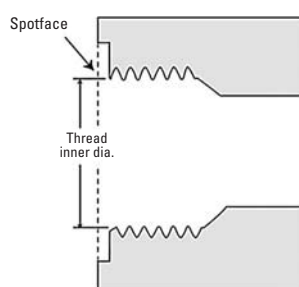
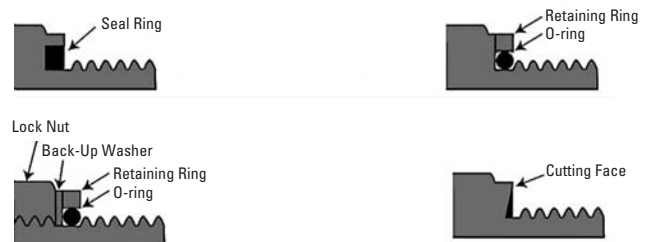
BSPT

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



BSPFS

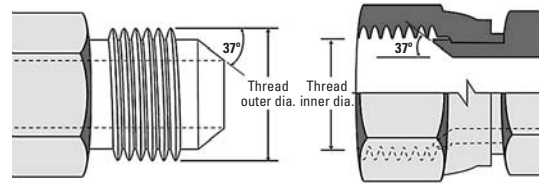
The parallel threads form a seal using a variety of sealing rings or washers. The sealing is obtained between the male end and the machined flat surface of the female.



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.

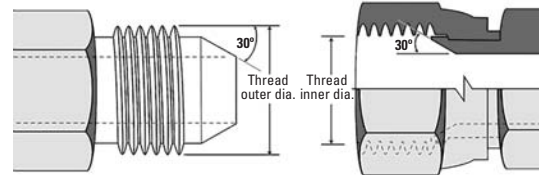


4.3 JIS Adaptors

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

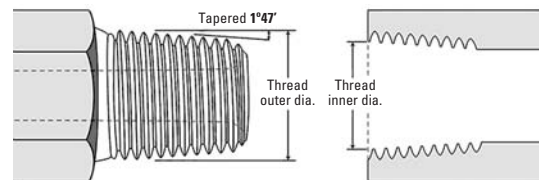
NPT

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

The seal is made by the threads.

NPTF

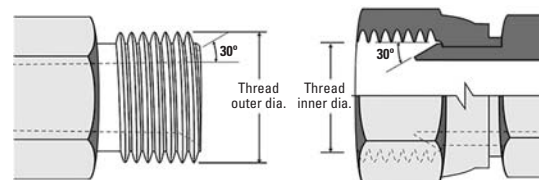
Is not recommended for hydraulic as the seal is made by the crushing threads which may produce deformation.



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.

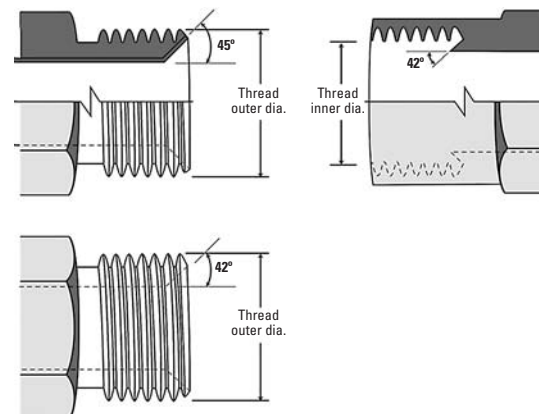


4.5 SAE 45° Adaptors

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.



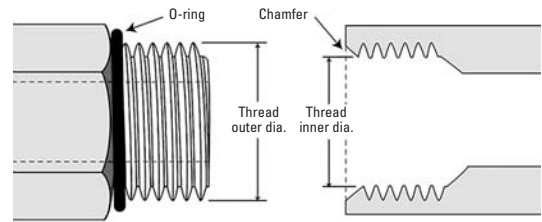
5 Other type

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.

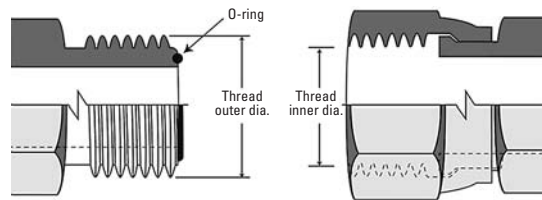


5.2 ORBFS Adaptors

SAE J1453

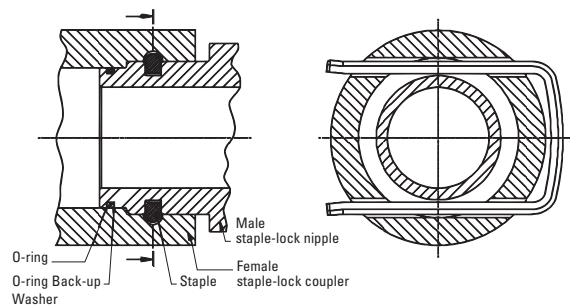
O-ring face seal. The male has a flat surface with a groove where the O-ring is inserted. Threads are UNF.

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

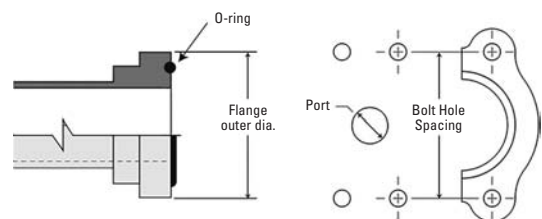
Used mainly in mining applications. The male consists of an outer radial groove at the root, a back up ring and an O-ring at the tip. The female consists of a swivel with two bores where to insert the staple which lodges in the groove of the male and a smooth bore where it fits the O-ring.



5.4 Flange connections

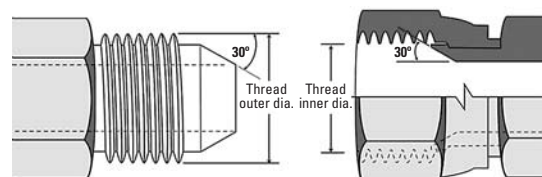
They conform to SAE J518 and ISO 6162-1. Used in applications where pressures are high and for large sizes. To fix the tubing to the flange, clamps are used of which are available two versions, one piece or the split version in two.

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.



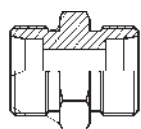
5.5 Komatsu 30° flare

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

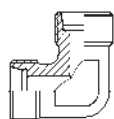


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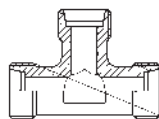
Flareless - bite - type tube fitting adaptors



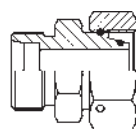
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TL-1D
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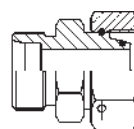
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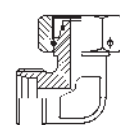
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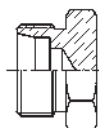
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TL-2D
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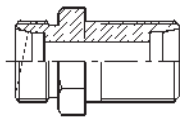
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TL-P4D
PAG. F5



TL-9C
TL-9D
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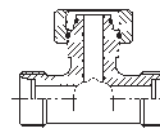
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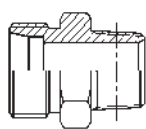
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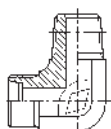
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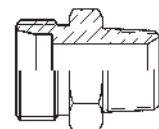
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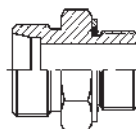
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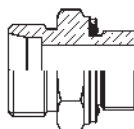
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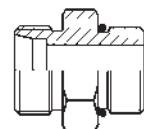
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TL-1DT-SP
PAG. F11



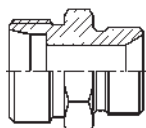
TL-1CH
TL-1DH
PAG. F12



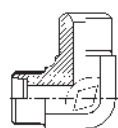
TL-1CG
TL-1DG
PAG. F13



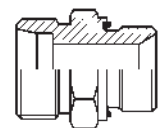
TL-1C0
TL-1D0
PAG. F14



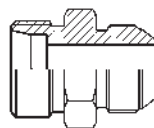
TL-1CB
TL-1DB
PAG. F15



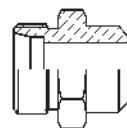
TL-1CB9
TL-1DB9
PAG. F16



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



TL-1CJ
TL-1DJ
PAG. F18



TL-1CW
TL-1DW
PAG. F19



TL-NL
PAG. F19T

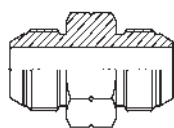


TL-NS
PAG. F20

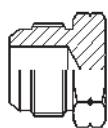


TL-RL
TL-RS
PAG. F20

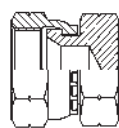
Flare - type - tube - fitting adaptors



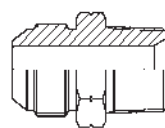
TL-1S
PAG. F21



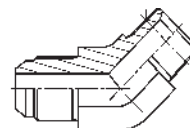
TL-4S
PAG. F21



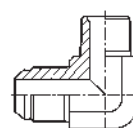
TL-9S
PAG. F21



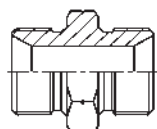
TL-1ST-SP
PAG. F22



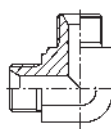
TL-1ST4-SP
PAG. F22



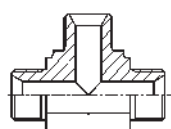
TL-1ST9-SP
PAG. F23



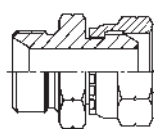
TL-1B
PAG. F23



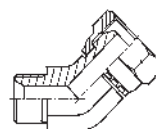
TL-1B9
PAG. F24



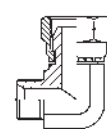
TL-AB
PAG. F25



TL-2B
PAG. F25

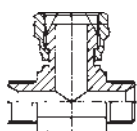


TL-2B4
PAG. F26

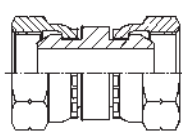


TL-2B9
PAG. F26

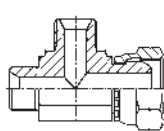
Flare - type - tube - fitting adaptors



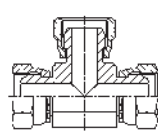
TL-BB
PAG. F27



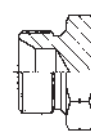
TL-3B
PAG. F27



TL-CB
PAG. F28



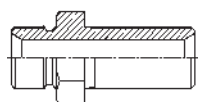
TL-DB
PAG. F28



TL-4B
PAG. F28



TL-9B
PAG. F29



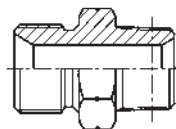
TL-6B
TL-6B-LN
PAG. F29



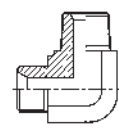
TL-6B9
TL-6B9-LN
PAG. F30



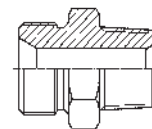
TL-8B
PAG. F30



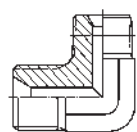
TL-1BT-SP
PAG. F31



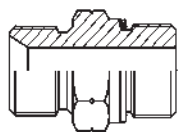
TL-1BT9-SP
PAG. F32



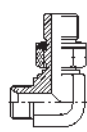
TL-1BN
PAG. F33



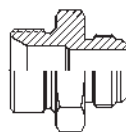
TL-1BN9
PAG. F33



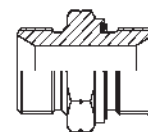
TL-1BG
PAG. F34



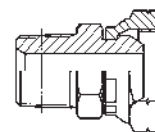
TL-1BG9-OG
PAG. F34



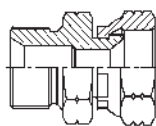
TL-1BJ
PAG. F35



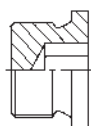
TL-1B-WD
PAG. F35



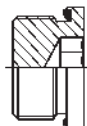
TL-2NB
PAG. F36



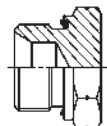
TL-2BJ
PAG. F36



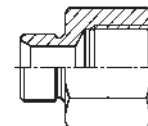
TL-4BN
PAG. F37



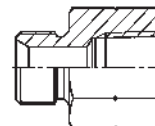
TL-4BN-WD
PAG. F37



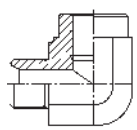
TL-4B-WD
PAG. F37



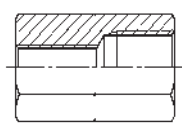
TL-5B
PAG. F38



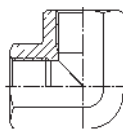
TL-5BT
PAG. F38



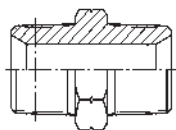
TL-5B9
PAG. F39



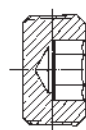
TL-7B
PAG. F39



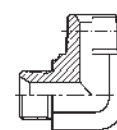
TL-7B9-PK
PAG. F40



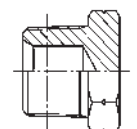
TL-1T-SP
PAG. F40



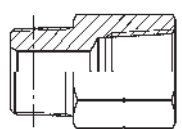
TL-4TN
PAG. F40



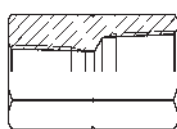
TL-1T9-SP
PAG. F41



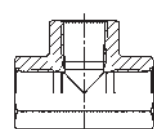
TL-4T-SP
PAG. F41



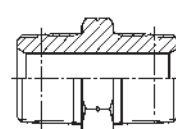
TL-5T-SP
PAG. F42



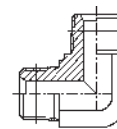
TL-7T
PAG. F43



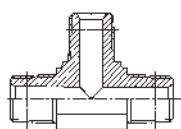
TL-GT-PK
PAG. F43



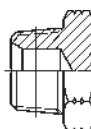
TL-1N
PAG. F44



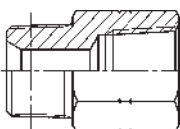
TL-1N9
PAG. F45



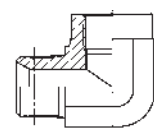
TL-AN
PAG. F45



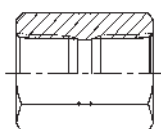
TL-4N
PAG. F45



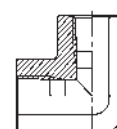
TL-5N
PAG. F46



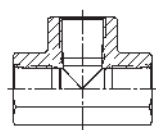
TL-5N9
PAG. F47



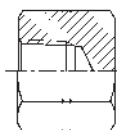
TL-7N
PAG. F47



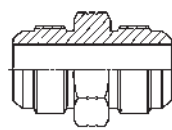
TL-7N9-PK
PAG. F48



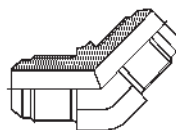
TL-GN-PK
PAG. F48



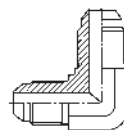
TL-9N-CAP
PAG. F48



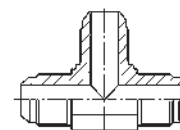
TL-1J
PAG. F49



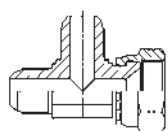
TL-1J4
PAG. F50



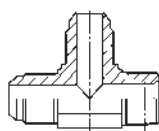
TL-1J9
PAG. F50



TL-AJ
PAG. F51



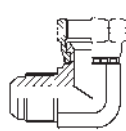
TL-CJ
PAG. F51



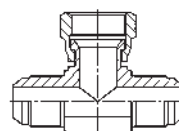
TL-AJJN
PAG. F52



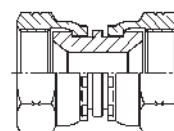
TL-2J
PAG. F52



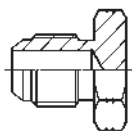
TL-2J9
PAG. F53



TL-BJ
PAG. F53



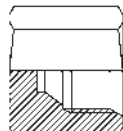
TL-3J
PAG. F54



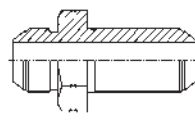
TL-4J
PAG. F54



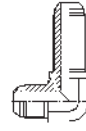
TL-9J
PAG. F54



TL-9J-CAP
PAG. F55



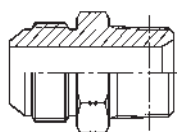
TL-6J
TL-6J-LN
PAG. F55



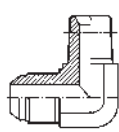
TL-6J9-
TL-6J9-LN
PAG. F56



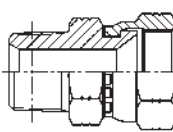
TL-8J
PAG. F56



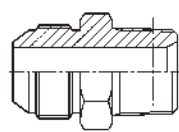
TL-1JN
PAG. F57



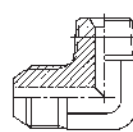
TL-1JN9
PAG. F58



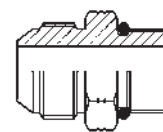
TL-2NJ
PAG. F59



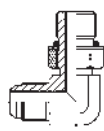
TL-1JT-SP
PAG. F60



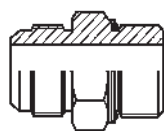
TL-1JT9-SP
PAG. F61



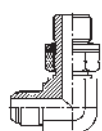
TL-1JO
PAG. F62



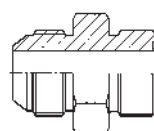
TL-1JO9-OG
PAG. F63



TL-1JG
PAG. F64



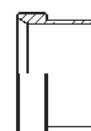
TL-1JG9-OG
PAG. F65



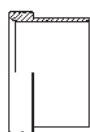
TL-1JF
PAG. F65



TL-NB200
PAG. F66

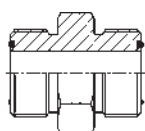


TL-NB300
PAG. F66

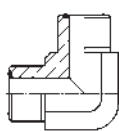


TL-NB500
PAG. F67

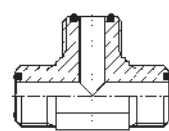
ORFS fitting adaptor



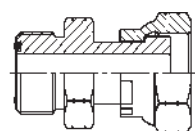
TL-1F
PAG. F67



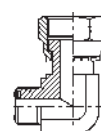
TL-1F9
PAG. F68



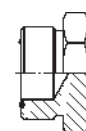
TL-AF
PAG. F68



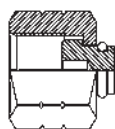
TL-2F
PAG. F69



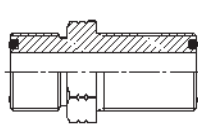
TL-2F9
PAG. F69



TL-4F
PAG. F70



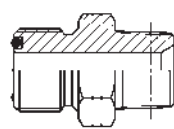
TL-9F
PAG. F70



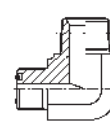
TL-6F
TL-6F-LN
PAG. F70



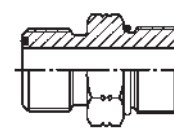
TL-8F
PAG. F71



TL-1FN
PAG. F71

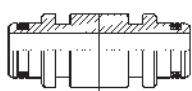


TL-1FN9
PAG. F72

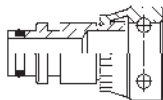


TL-1F0
PAG. F72

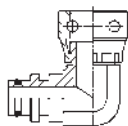
Staplelock fitting adaptor



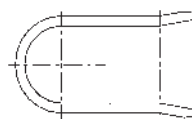
TL-1Y
PAG. F73



TL-2Y
PAG. F73

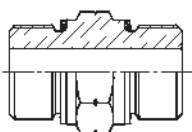


TL-2Y9
PAG. F73

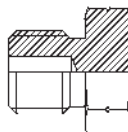


TL-U-Y
PAG. F74

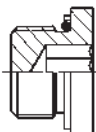
Special fitting adaptors



TL-1G
PAG. F74



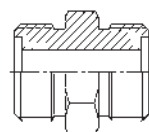
TL-4G
PAG. F74



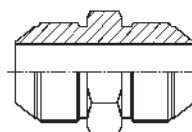
TL-4HN
PAG. F75



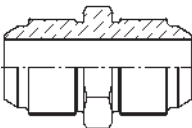
TL-40
PAG. F75



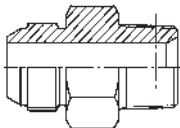
TL-1E
PAG. F76



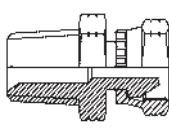
TL-1Q
TL-1Q-RN
PAG. F76



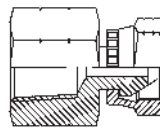
TL-1K
PAG. F77



TL-1KT-SP
PAG. F77

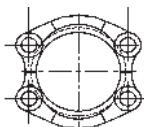


TL-2NU
PAG. F78

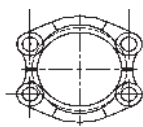


TL-7NU-S
PAG. F78

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	
dash	DN	inch	min	max	min	max
-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

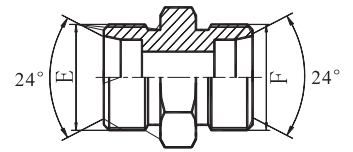
FLARELESS BITE TYPE-TUBE-FITTING-ADAPTORS

TL-1C • TL-1D

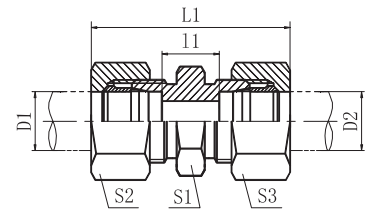
Straight. Metric-Metric. 24° Tapered throat

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



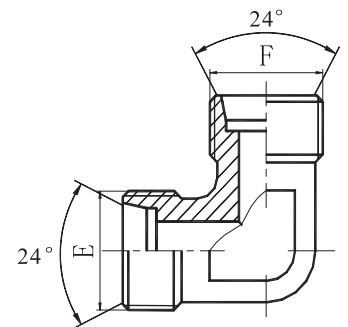
TL-1C-RN
TL-1D-RN

TL-1C9 • TL-1D9

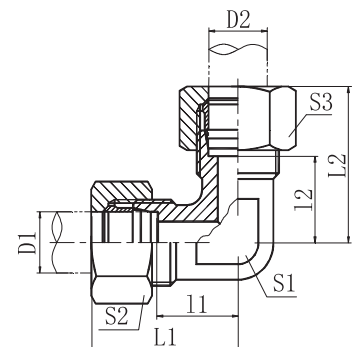
Elbow 90°. Metric-Metric. 24° Tapered throat

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

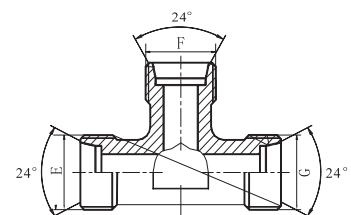
TL-AC · TL-AD

Equal Tee. Metric-Metric-Metric.

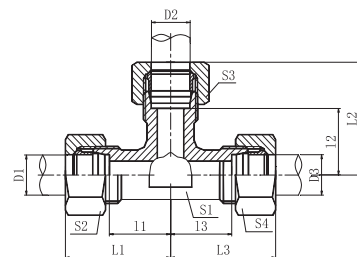
24° Tapered throat

PART NO.	THREAD	TUBE O.D.	DIMENSIONS				MPa
	E, F, G	D1, D2, D3	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



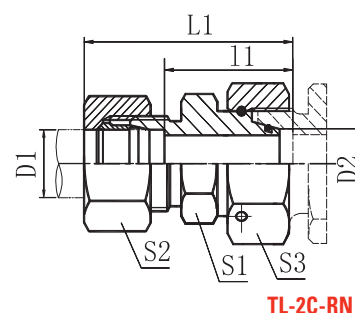
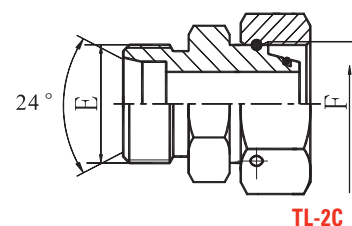
TL-AC-RN
TL-AD-RN

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	
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	16 L
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	

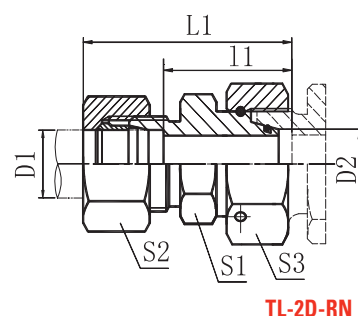
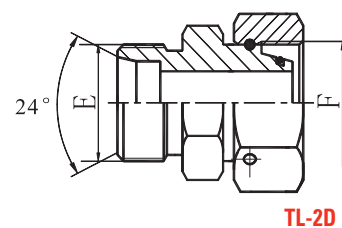
Note: If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-2C-30-52RN.



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	



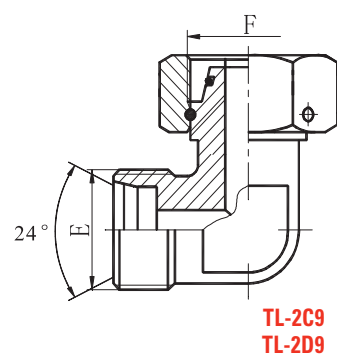
Note: If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-2D-30-52RN.

TL-2C9 • TL-2D9

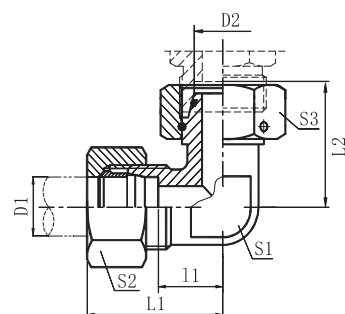
Elbow 90°. Reducer. Swivel nut. Metric-Metric.
24° Tapered throat

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



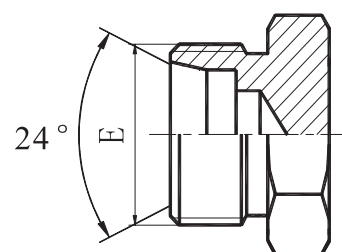
TL-2C9-RN
TL-2D9-RN

TL-4C • TL-4D

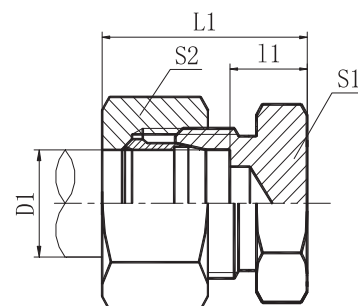
Plug. Male. Metric. 24° Tapered throat

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

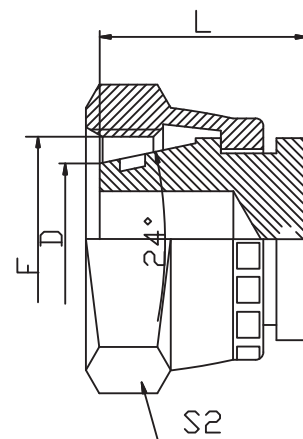


TL-4C-RN
TL-4D-RN

TL-9C • TL-9D

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

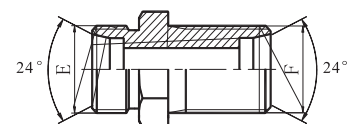
PART NO.	THREAD		TUBE O.D.	DIMENSIONS			MPa
	F	D		L	L1	S2	
TL-9C-12	M12X1.5	6	16.5	17.5	14	31.5 L	
TL-9C-14	M14X1.5	8	18	18	17		
TL-9C-16	M16X1.5	10	18.5	18	19		
TL-9C-18	M18X1.5	12	19	19.5	22		
TL-9C-22	M22X1.5	15	20.5	20	27		
TL-9C-26	M26X1.5	18	23.5	22	32		
TL-9C-30	M30X2	22	24.5	22.5	36	16 L	
TL-9C-36	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	



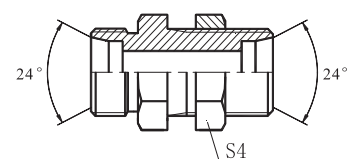
TL-6C • TL-6D

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

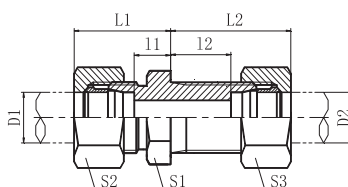
PART NO.	THREAD		TUBE O.D.		DIMENSIONS							MPa
	E	F	D1	D2	I1	I2	L1	L2	S1	S2, S3	S4	
TL-6C-12	M12X1.5	M12X1.5	6	6	11	27	22	42	17	14	17	31.5 L
TL-6C-14	M14X1.5	M14X1.5	8	8	10	27	23	42	19	17	19	
TL-6C-16	M16X1.5	M16X1.5	10	10	10	28	25	43	22	19	22	
TL-6C-18	M18X1.5	M18X1.5	12	12	10	29	25	44	24	22	24	
TL-6C-22	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



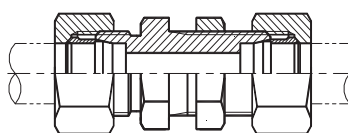
TL-6C
TL-6D



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



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



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

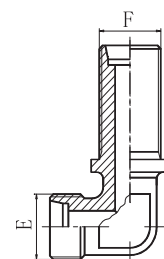
Note: If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number for example TL-6C-30LN, order the adapter with cutting ring and nut, insert suffix "RN" after our part number for example TL-6C-30LN, order the adapter with lock nut, cutting ring and nut,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

TL-6C9 • TL-6D9

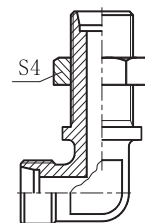
Elbow 90°. Bulkhead. Metric-Metric. 24° Tapered throat

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

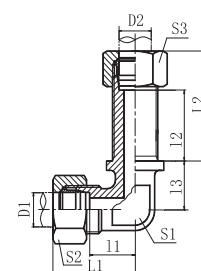
Note: If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number for example TL-6C9-30LN, order the adapter with cutting ring and nut, insert suffix "RN" after our part number for example TL-6C9-30RN, order the adapter with lock nut, cutting ring and nut,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



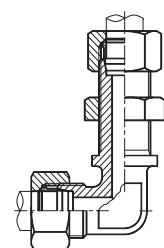
TL-6C9
TL-6D9



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



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

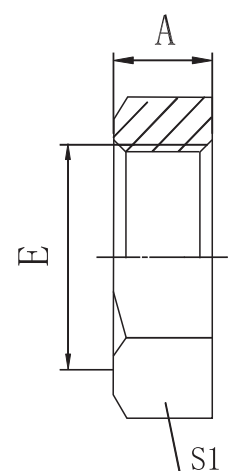


TL-6C9-LN
TL-6D9-LN

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

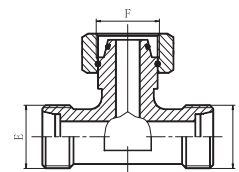


TL-BC · TL-BD

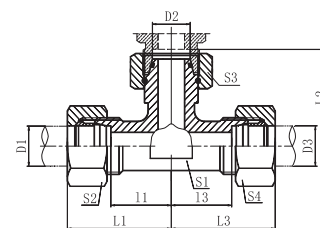
Branch Tee. Metric-Metric-24° Tapered throat.
Metric Swivel nut

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



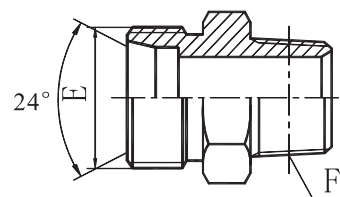
TL-BC-RN
TL-BD-RN

TL-1CN • TL-1DN

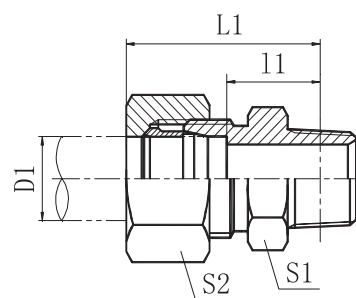
Straight. Male. Metric. 24° Tapered throat.
Male NPT

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-1CN
TL-1DN



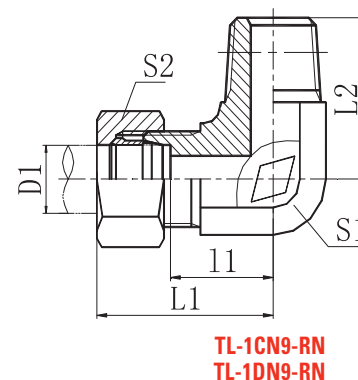
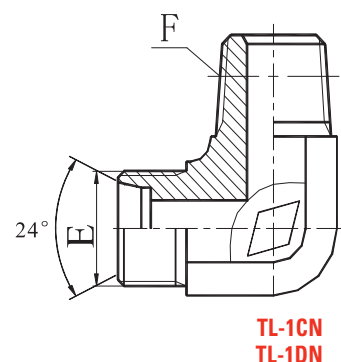
TL-1CN-RN
TL-1DN-RN

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.

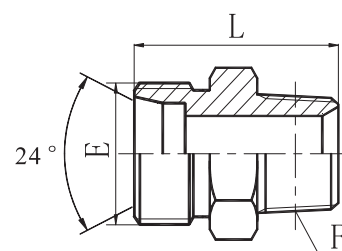


TL-1CT-SP · TL-1DT-SP

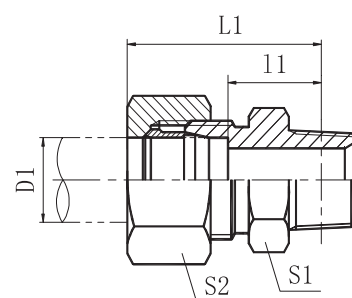
Straight. Male. Metric. 24° Tapered throat.
Male BSPT

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		40 S
TL-1DT-18-04SP	M18X1.5	R1/4"X19	10	21	37.5	19	22		
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	25 S
TL-1DT-36-12SP	M36X2	R3/4"X14	25	29.5	53.5	38	46		
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

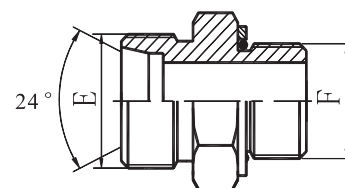


TL-1CT-SP/RN
TL-1DT-SP/RN

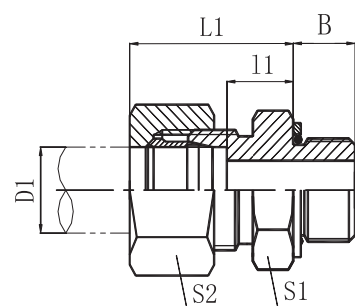
TL-1CH · TL-1DH

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

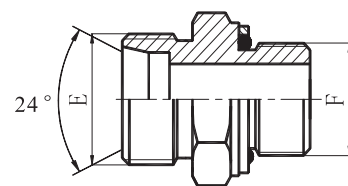
Note: If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DH-20-18RN.

TL-1CG · TL-1DG

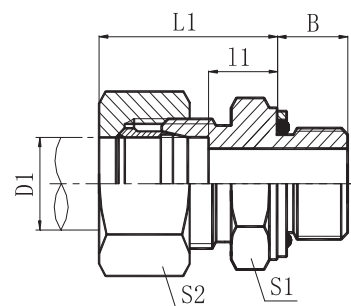
Straight. Male. Metric. 24° Tapered throat.
Male BSPP. O-ring

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	
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	16 L
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	63 S
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	
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	25 S
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	31.5 S
TL-1DG-36-12	M36X2	G3/4"X14	25	15.5	20	47	41	46	
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	31.5 S
TL-1DG-52-24	M52X2	G1.1/2"X11	38	21.5	26	57	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-1DG-20-08RN.



TL-1CG
TL-1DG



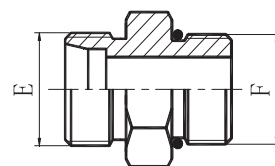
TL-1CG-RN
TL-1DG-RN

TL-1CO • TL-1DO

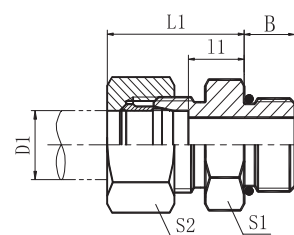
Straight. Male. Metric. 24° Tapered throat.
Male UNC. UNF. O-ring

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



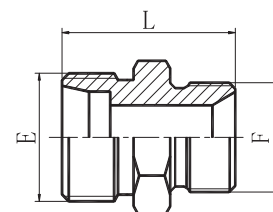
TL-1CO-RN
TL-1DO-RN

TL-1CB · TL-1DB

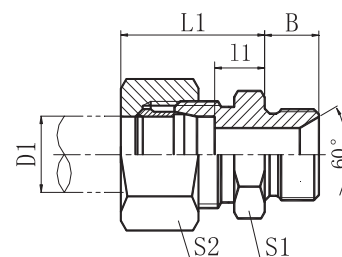
Straight. Male. Metric. 24° Tapered throat.
Male BSPP. 60° Cone seal/Bonded stud end

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



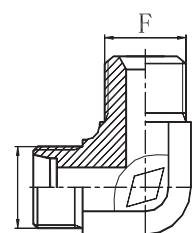
TL-1CB-RN
TL-1DB-RN

TL-1CB9 • TL-1DB9

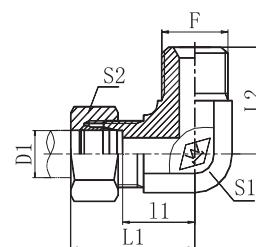
Straight. Male. Metric. 24° Tapered throat.
Male BSPP. 60° Cone seal

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	
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	31.5 S
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**

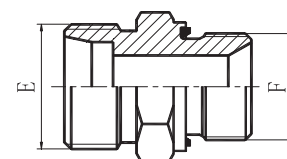


**TL-1CB9-RN
TL-1DB9-RN**

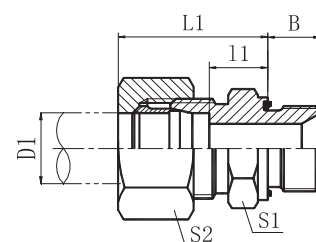
TL-1CB-WD • TL-1DB-WD

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

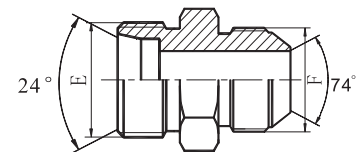
Note: If you are interested to order the adapter in complete set with cutting ring and nut, it is necessary to insert suffix "RN" after our part number for example TL-1DB-20-08WD/RN.

TL-1CJ • TL-1DJ

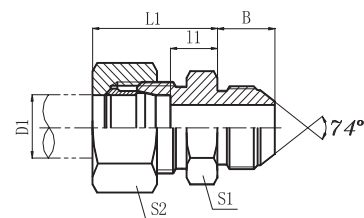
Straight. Male. Metric. 24° Tapered throat.
Male BSPP. 74° Cone seal JIC

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



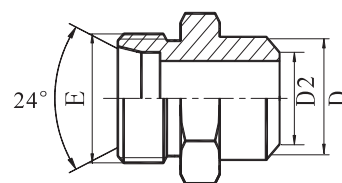
TL-1CJ-RN
TL-1DJ-RN

TL-1CW • TL-1DW

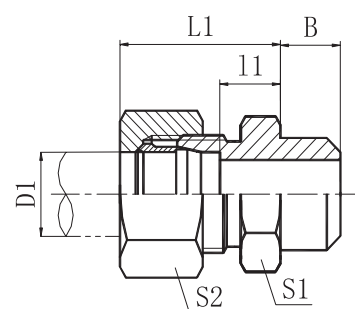
Straight. Male. Metric. 24° Tapered throat. Male. Weld

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

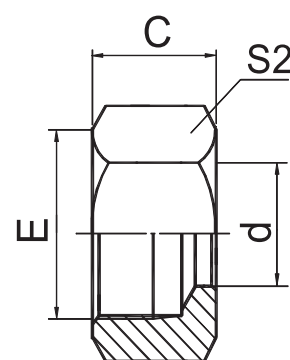


TL-1CW-RN
TL-1DW-RN

TL-NL

Female. Metric. Tube nut

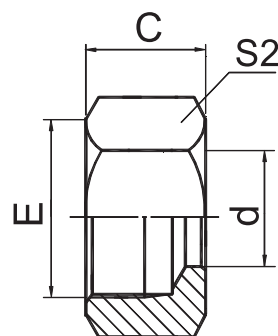
PART NO.	THREAD	TUBE O.D.	DIMENSIONS			MPa
	E		C	d	S2	
TL-NL-12	M12X1.5	6	14.5	6.1	14	L
TL-NL-14	M14X1.5	8	14.5	8.1	17	
TL-NL-16	M16X1.5	10	15.5	10.1	19	
TL-NL-18	M18X1.5	12	15.5	12.1	22	
TL-NL-22	M22X1.5	15	17	15.1	27	
TL-NL-26	M26X1.5	18	18	18.1	32	
TL-NL-30	M30X2	22	20	22.1	36	
TL-NL-36	M36X2	28	21	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

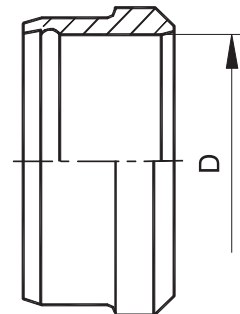
PART NO.	THREAD	TUBE O.D.	DIMENSIONS			MPa
	E		C	d	S2	
TL-NS-14	M14X1.5	6	16.5	6.1	17	S
TL-NS-16	M16X1.5	8	16.5	8.1	19	
TL-NS-18	M18X1.5	10	17.5	10.1	22	
TL-NS-20	M20X1.5	12	17.5	12.1	24	
TL-NS-22	M22X1.5	14	20.5	14.1	27	
TL-NS-24	M24X1.5	16	20.5	16.3	30	
TL-NS-30	M30X2	20	24	20.1	36	
TL-NS-36	M36X2	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	

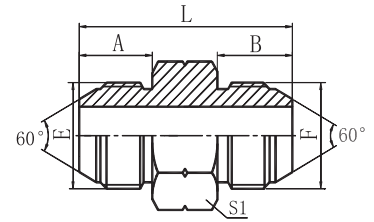


FLARE TYPE TUBE FITTING ADAPTORS

TL-1S

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

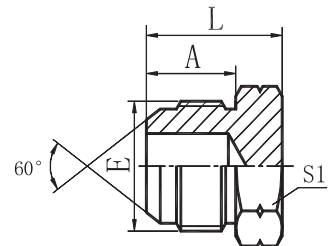
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1S-02	G1/8"X28	G1/8"X28	12	12	30	14
TL-1S-04	G1/4"X19	G1/4"X19	16	16	38	17
TL-1S-06	G3/8"X19	G3/8"X19	18	18	42	19
TL-1S-08	G1/2"X14	G1/2"X14	20	20	48	22
TL-1S-12	G3/4"X14	G3/4"X14	22	22	54	30
TL-1S-16	G1"X11	G1"X11	24	24	59	36
TL-1S-20	G1.1/4"X11	G1.1/4"X11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

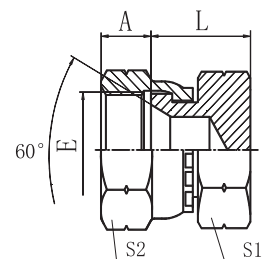
PART NO.	THREAD	DIMENSIONS		
	E	A	L	S1
TL-4S-04	G1/4"X19	16	24	17
TL-4S-06	G3/8"X19	18	24	19
TL-4S-08	G1/2"X14	20	28	22
TL-4S-12	G3/4"X14	22	32	30
TL-4S-16	G1"X11	24	35	36



TL-9S

JIS. female gas BSPP. 60° flare plug

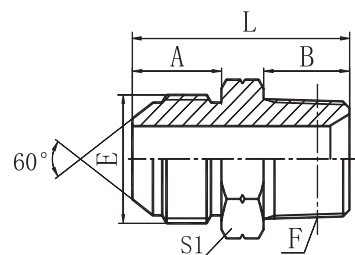
PART NO.	THREAD	DIMENSIONS			
	E	A	L	S2	S1
TL-9S-04	G1/4"X19	7.5	14.5	17	19
TL-9S-06	G3/8"X19	9.5	15.5	19	22
TL-9S-08	G1/2"X14	11.3	19	22	27
TL-9S-12	G3/4"X14	13	23.5	32	32
TL-9S-16	G1"X11	15	25	36	41
TL-9S-20	G1.1/4"X11	18.5	29.5	50	50
TL-9S-24	G1.1/2"X11	19	29.5	55	55
TL-9S-32	G2"X11	23	32	70	70



TL-1ST-SP

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

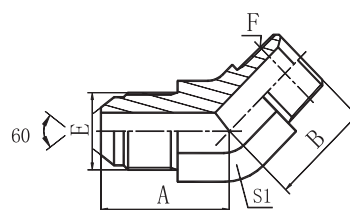
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1ST-02SP	G1/8"X28	R1/8"X28	12	10	28	14
TL-1ST-02-04SP	G1/8"X28	R1/4"X19	12	14.5	32.5	17
TL-1ST-04SP	G1/4"X19	R1/4"X19	16	14.5	36.5	17
TL-1ST-04-02SP	G1/4"X19	R1/8"X28	16	10	32	17
TL-1ST-04-06SP	G1/4"X19	R3/8"X19	16	15	37	19
TL-1ST-04-08SP	G1/4"X19	R1/2"X14	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

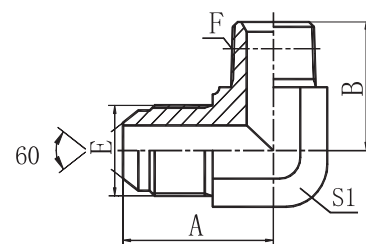
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-1ST4-02SP	G1/8"X28	R1/8"X28	19	17	11
TL-1ST4-02-04SP	G1/8"X28	R1/4"X19	19.8	21	14
TL-1ST4-04SP	G1/4"X19	R1/4"X19	24	21	14
TL-1ST4-04-02SP	G1/4"X19	R1/8"X28	24.5	17.5	14
TL-1ST4-04-06SP	G1/4"X19	R3/8"X19	24.5	23	16
TL-1ST4-04-08SP	G1/4"X19	R1/2"X14	26.5	29.5	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

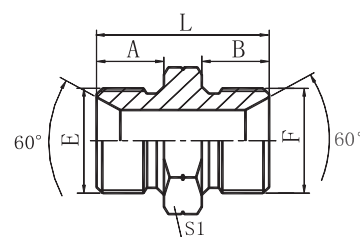
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-1ST9-02SP	G1/8"X28	R1/8"X28	21.8	21	11
TL-1ST9-02-04SP	G1/8"X28	R1/4"X19	24.3	25.5	14
TL-1ST9-04SP	G1/4"X19	R1/4"X19	29	25.5	14
TL-1ST9-04-02SP	G1/4"X19	R1/8"X28	29	23.5	14
TL-1ST9-04-06SP	G1/4"X19	R3/8"X19	30	28.5	16
TL-1ST9-06SP	G3/8"X19	R3/8"X19	31.5	28.5	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"X11	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



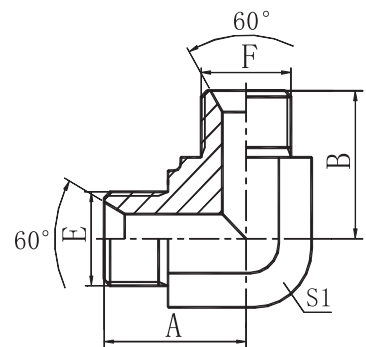
NEXT >

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

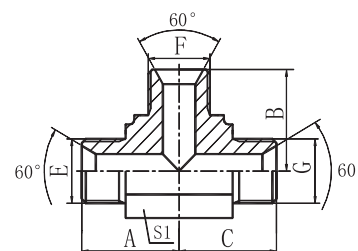
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	S1	
TL-1B9-02	G1/8"X28	G1/8"X28	19.8	19.8	11	
TL-1B9-02-04	G1/8"X28	G1/4"X19	23	25	14	
TL-1B9-04	G1/4"X19	G1/4"X19	24.5	24.5	14	
TL-1B9-04-06	G1/4"X19	G3/8"X19	26.5	27.5	16	
TL-1B9-06	G3/8"X19	G3/8"X19	27.5	27.5	16	
TL-1B9-06-08	G3/8"X19	G1/2"X14	31	34.5	22	
TL-1B9-08	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

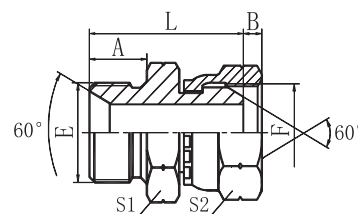
PART NO.	THREAD			DIMENSIONS			
	E	F	G	A	B	C	S1
TL-AB-02	G1/8"X28	G1/8"X28	G1/8"X28	19.8	19.8	19.8	11
TL-AB-04	G1/4"X19	G1/4"X19	G1/4"X19	24.5	24.5	24.5	14
TL-AB-04-06-04	G1/4"X19	G3/8"X19	G1/4"X19	26.5	27.5	26.5	16
TL-AB-06-04-06	G3/8"X19	G1/4"X19	G3/8"X19	27.5	26.5	27.5	16
TL-AB-06	G3/8"X19	G3/8"X19	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°

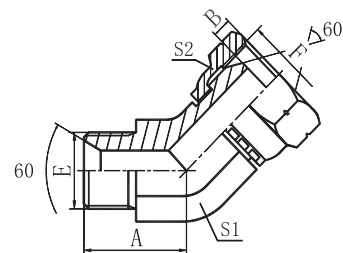
PART NO.	THREAD		DIMENSIONS				
	E	F	A	B	L	S1	S2
TL-2B-02	G1/8"X28	G1/8"X28	10	6	25	14	14
TL-2B-02-04	G1/8"X28	G1/4"X19	10	5	27	14	19
TL-2B-04	G1/4"X19	G1/4"X19	12	5	29	19	19
TL-2B-04-06	G1/4"X19	G3/8"X19	12	6.5	30.5	19	22
TL-2B-04-08	G1/4"X19	G1/2"X14	12	7.8	32	19	27
TL-2B-06	G3/8"X19	G3/8"X19	13.5	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

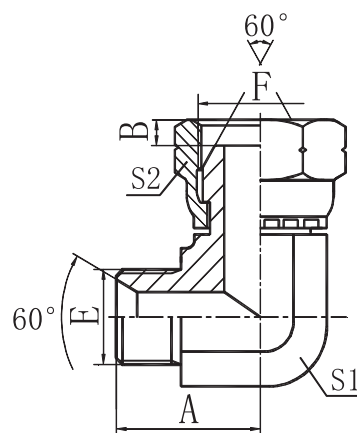
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	S1	S2
TL-2B4-04	G1/4"X19	G1/4"X19	20.5	5	14	19
TL-2B4-04-06	G1/4"X19	G3/8"X19	20.5	6.5	14	22
TL-2B4-06	G3/8"X19	G3/8"X19	22	6.5	16	22
TL-2B4-06-04	G3/8"X19	G1/4"X19	22	5	16	19
TL-2B4-08	G1/2"X14	G1/2"X14	27	7.8	22	27
TL-2B4-08-06	G1/2"X14	G3/8"X19	27	6.5	22	22
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

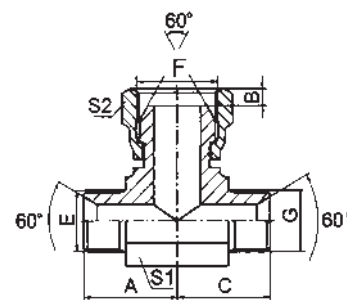
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	S1	S2
TL-2B9-02	G1/8"X28	G1/8"X28	19.8	6	11	14
TL-2B9-04	G1/4"X19	G1/4"X19	24.5	5	14	19
TL-2B9-04-06	G1/4"X19	G3/8"X19	25	6.5	14	22
TL-2B9-06	G3/8"X19	G3/8"X19	27.5	6.5	16	22
TL-2B9-06-04	G3/8"X19	G1/4"X19	27.5	5	16	19
TL-2B9-08	G1/2"X14	G1/2"X14	34.5	7.8	22	27
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

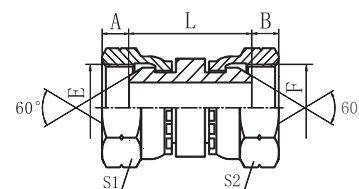
PART NO.	THREAD			DIMENSIONS				
	E	F	G	A	B	C	S1	S2
TL-BB-02	G1/8"X28	G1/8"X28	G1/8"X28	19.8	6	19.8	11	14
TL-BB-04	G1/4"X19	G1/4"X19	G1/4"X19	24.5	5	24.5	14	19
TL-BB-06	G3/8"X19	G3/8"X19	G3/8"X19	27.5	6.5	27.5	16	22
TL-BB-08	G1/2"X14	G1/2"X14	G1/2"X14	34.5	7.8	34.5	22	27
TL-BB-12	G3/4"X14	G3/4"X14	G3/4"X14	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°

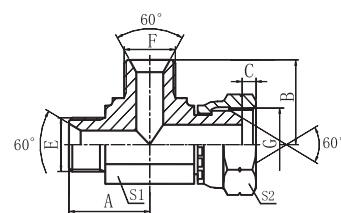
PART NO.	THREAD		DIMENSIONS				
	E	F	A	B	L	S1	S2
TL-P3B-02	G1/8"X28	G1/8"X28	6	6	20.5	14	14
TL-P3B-02-04	G1/8"X28	G1/4"X19	6	5	23	14	19
TL-P3B-04	G1/4"X19	G1/4"X19	5	5	25	19	19
TL-P3B-04-06	G1/4"X19	G3/8"X19	5	6.5	27	19	22
TL-P3B-04-08	G1/4"X19	G1/2"X14	5	7.8	28.5	19	27
TL-P3B-06	G3/8"X19	G3/8"X19	6.5	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°

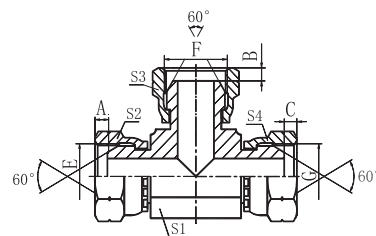
PART NO.	THREAD			DIMENSIONS				
	E	F	G	A	B	C	S1	S2
TL-CB-04	G1/4"X19	G1/4"X19	G1/4"X19	25	25	5	14	19
TL-CB-06	G3/8"X19	G3/8"X19	G3/8"X19	27.5	27.5	6.5	16	22
TL-CB-08	G1/2"X14	G1/2"X14	G1/2"X14	34.5	34.5	7.8	22	27
TL-CB-08-06-08	G1/2"X14	G3/8"X19	G1/2"X14	34.5	31	7.8	22	27
TL-CB-10	G5/8"X14	G5/8"X14	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°.

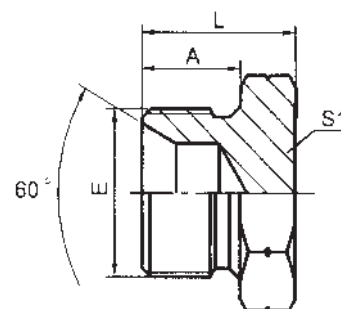
PART NO.	THREAD			DIMENSIONS				
	E	F	G	A, C	B	S1	S2, S4	S3
TL-DB-02	G1/8"X28	G1/8"X28	G1/8"X28	6	6	11	14	14
TL-DB-04	G1/4"X19	G1/4"X19	G1/4"X19	5	5	11	19	19
TL-DB-06	G3/8"X19	G3/8"X19	G3/8"X19	6.5	6.5	14	22	22
TL-DB-08	G1/2"X14	G1/2"X14	G1/2"X14	7.8	7.8	19	27	27
TL-DB-10	G5/8"X14	G5/8"X14	G5/8"X14	9	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

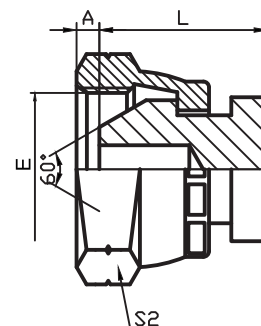
PART NO.	THREAD	DIMENSIONS		
	E	A	B	S1
TL-4B-02	G1/8"X28	10	16	14
TL-4B-04	G1/4"X19	12	18	19
TL-4B-06	G3/8"X19	13.5	21.5	22
TL-4B-08	G1/2"X14	16	26	27
TL-4B-10	G5/8"X14	17.5	27.5	30
TL-4B-12	G3/4"X14	18.5	29.5	32
TL-4B-16	G1"X11	20.5	34	41
TL-4B-20	G1.1/4"X11	20.5	37.5	50
TL-4B-24	G1.1/2"X11	23	40	55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



TL-9B

Female BSPP. 60° seat.
Inverted cone

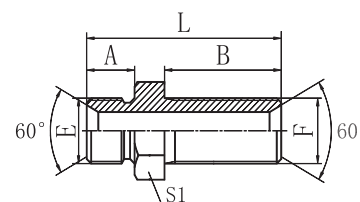
PART NO.	THREAD		DIMENSIONS		
	E		A	L	S2
TL-9B-02	G1/8"X28		6	12	14
TL-9B-04	G1/4"X19		5	14	19
TL-9B-06	G3/8"X19		6.5	16	22
TL-9B-08	G1/2"X14		7.8	17.5	27
TL-9B-10	G5/8"X14		9	18	30
TL-9B-12	G3/4"X14		10.5	18.5	32
TL-9B-16	G1"X11		11	20.5	41
TL-9B-20	G1.1/4"X11		11.5	22.5	50
TL-9B-24	G1.1/2"X11		12.5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



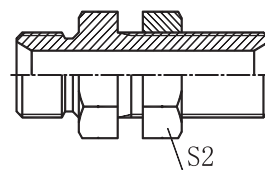
TL-6B · TL-6B-LN

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

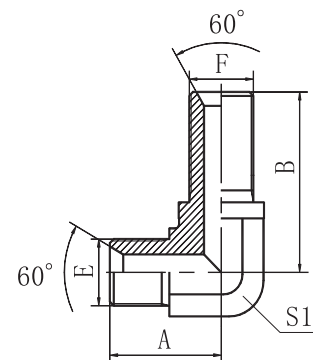
Note: If you are interested to order the adapter in complete set with lock nut, it is necessary to insert suffix "LN" after our part number for example TL-6B-16LN.

TL-6B9 · TL-6B9-LN

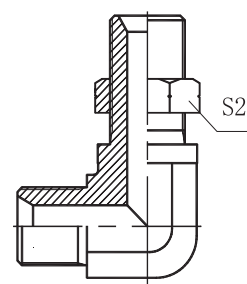
Elbow 90°. Male BSPP. 60° seat. Male BSPP. 60° seat.
Bulkhead

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

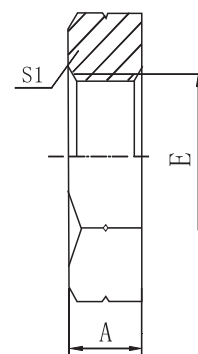


TL-6B9-LN

TL-8B

Female. BSPP Lock nut

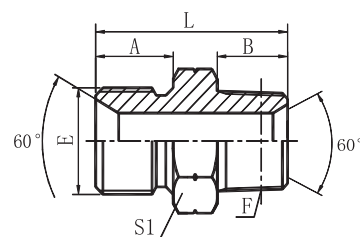
PART NO.	THREAD	DIMENSIONS	
	E	A	S1
TL-8B-02	G1/8"X28	5.5	14
TL-8B-04	G1/4"X19	6.5	19
TL-8B-06	G3/8"X19	7	22
TL-8B-08	G1/2"X14	9	27
TL-8B-10	G5/8"X14	9	30
TL-8B-12	G3/4"X14	10.5	32
TL-8B-16	G1"X11	10.5	41
TL-8B-20	G1.1/4"X11	10.5	50
TL-8B-24	G1.1/2"X11	10.5	55
TL-8B-32	G2"X11	10.5	70



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

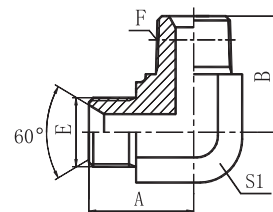


TL-1BT9-SP

Elbow 90°. Male BSPP. 60° seat.

Male. BSPT. 60° seat

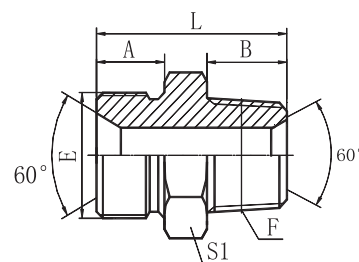
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
APC1BT9-02SP	G1/8"X28	R1/8"X28	19.8	21	11
TL-1BT9-02-04SP	G1/8"X28	R1/4"X19	22.3	25.5	14
TL-1BT9-04SP	G1/4"X19	R1/4"X19	24.5	25.5	14
TL-1BT9-04-02SP	G1/4"X19	R1/8"X28	25	23.5	14
TL-1BT9-04-06SP	G1/4"X19	R3/8"X19	25	28.5	16
TL-1BT9-04-08SP	G1/4"X19	R1/2"X14	30	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

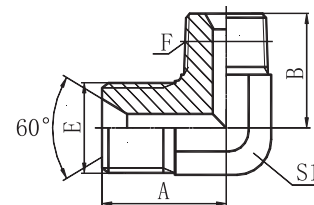
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1BN-02	G1/8"X28	Z1/8"X27	10	10.5	26	14
TL-1BN-02-04	G1/8"X28	Z1/4"X18	10	15	31	17
TL-1BN-04	G1/4"X19	Z1/4"X18	12	15	33	19
TL-1BN-04-02	G1/4"X19	Z1/8"X27	12	10.5	28	19
TL-1BN-04-06	G1/4"X19	Z3/8"X18	12	16	34	19
TL-1BN-04-08	G1/4"X19	Z1/2"X14	12	19.5	39.5	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



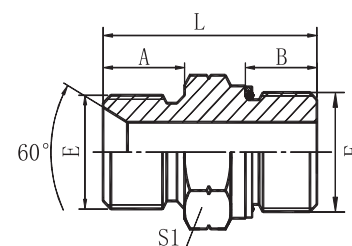
TL-1BG

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.



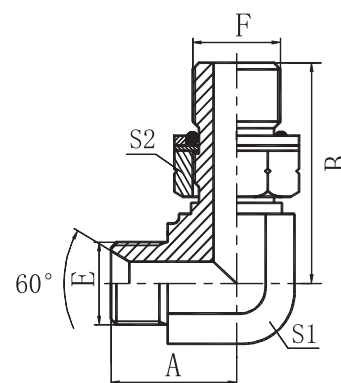
TL-1BG9-0G

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

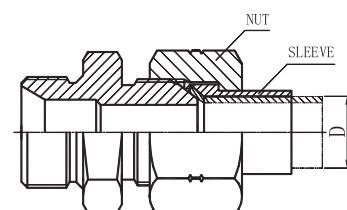
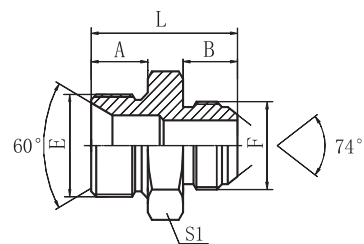
Note: F end is connected with DIN3852 port.



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

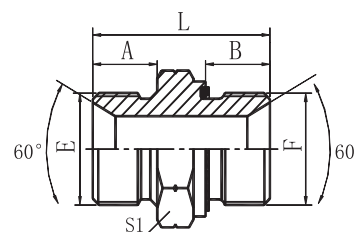


TL-1B-TWD

Male BSPP. 60° seat/Bonded seal.

Male BSPP. 60° seat. Captive seal

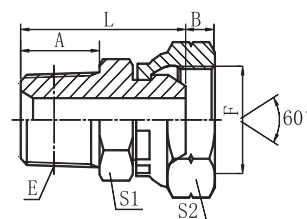
PART NO.	THREAD		TUBE O.D.	DIMENSIONS			
	E	F		A	B	L	S1
TL-1B-04WD	G1/4"X19	G1/4"X19	WD-B04	12	12	32	19
TL-1B-04-06WD	G1/4"X19	G3/8"X19	WD-B06	12	12	34.5	22
TL-1B-04-08WD	G1/4"X19	G1/2"X14	WD-B08	12	14	39	27
TL-1B-06WD	G3/8"X19	G3/8"X19	WD-B06	13.5	12	34	22
TL-1B-06-08WD	G3/8"X19	G1/2"X14	WD-B08	13.5	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

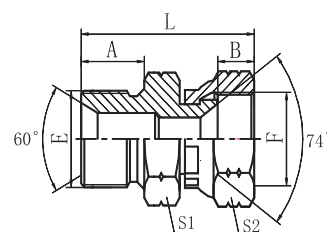
PART NO.	THREAD		DIMENSIONS				
	E	F	A	B	L	S1	S2
TL-2NB-02	Z1/8"X27	G1/8"X28	10.5	5.5	25.5	12	14
TL-2NB-02-04	Z1/8"X27	G1/4"X19	10.5	5.5	27	14	19
TL-2NB-04-02	Z1/4"X18	G1/8"X28	15	5.5	30	17	14
TL-2NB-04	Z1/4"X18	G1/4"X19	15	5	31	17	19
TL-2NB-04-06	Z1/4"X18	G3/8"X19	15	6.5	35	17	22
TL-2NB-04-08	Z1/4"X18	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

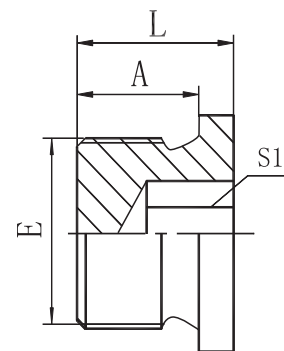
PART NO.	THREAD		DIMENSIONS				
	E	F	A	B	L	S1	S2
TL-2BJ-02-04	G1/8"X28	7/16"X20	10	9	24	14	15
TL-2BJ-02-06	G1/8"X28	9/10"X18	10	10.5	24.5	14	19
TL-2BJ-04	G1/4"X19	7/16"X20	12	8	26.5	19	15
TL-2BJ-04-05	G1/4"X19	1/2"X20	12	9.5	26.5	19	17
TL-2BJ-04-06	G1/4"X19	9/10"X18	12	9.5	27.5	19	19
TL-2BJ-04-08	G1/4"X19	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

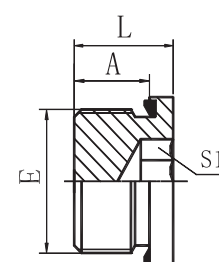
PART NO.	THREAD	DIMENSIONS		
	E	A	L	S1
TL-4BN-02	G1/8"X28	8	11	5
TL-4BN-04	G1/4"X19	12	15	6
TL-4BN-06	G3/8"X19	12	15	8
TL-4BN-08	G1/2"X14	14	18	10
TL-4BN-12	G3/4"X14	16	20	12
TL-4BN-16	G1"X11	16	21	17



TL-4BN-WD

Male BSPP. Captive seal. Hollow hex plug

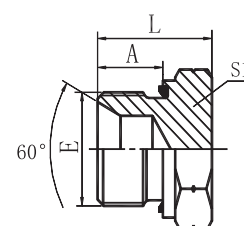
PART NO.	THREAD	CAPTIVE	DIMENSIONS		
	E	E	A	L	S1
TL-4BN-02WD	G1/8"X28	WD-B02	8	12.2	5
TL-4BN-04WD	G1/4"X19	WD-B04	12	17.2	6
TL-4BN-06WD	G3/8"X19	WD-B06	12	17.2	8
TL-4BN-08WD	G1/2"X14	WD-B08	14	19.2	10
TL-4BN-12WD	G3/4"X14	WD-B12	16	21.2	12
TL-4BN-16WD	G1"X11	WD-B16	16	22.8	17
TL-4BN-20WD	G1.1/4"X11	WD-B20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

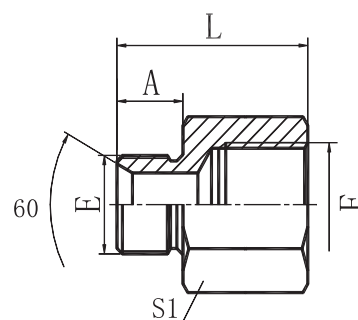
PART NO.	THREAD	CAPTIVE	DIMENSIONS		
	E	E	A	L	S1
TL-4B-02WD	G1/8"X28	WD-B02	8	15.5	14
TL-4B-04WD	G1/4"X19	WD-B04	12	20	19
TL-4B-06WD	G3/8"X19	WD-B06	12	99	22
TL-4B-08WD	G1/2"X14	WD-B08	14	26	27
TL-4B-12WD	G3/4"X14	WD-B12	16	29	32
TL-4B-16WD	G1"X11	WD-B16	18	35	41
TL-4B-20WD	G1.1/4"X11	WD-B20	20	37	50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

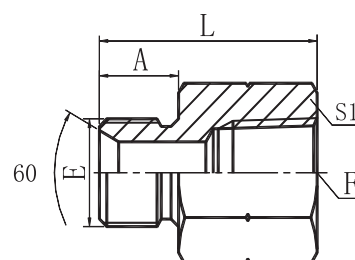
PART NO.	THREAD		DIMENSIONS		
	E	F	A	L	S1
TL-5B-02-04	G1/8"X28	G1/4"X19	11	29	19
TL-5B-04-02	G1/4"X19	G1/8"X28	12	28	19
TL-5B-04	G1/4"X19	G1/4"X19	12	33	19
TL-5B-04-06	G1/4"X19	G3/8"X19	12	36	22
TL-5B-06-04	G3/8"X19	G1/4"X19	13.5	37.5	22
TL-5B-06	G3/8"X19	G3/8"X19	13.5	37.5	22
TL-5B-06-08	G3/8"X19	G1/2"X14	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

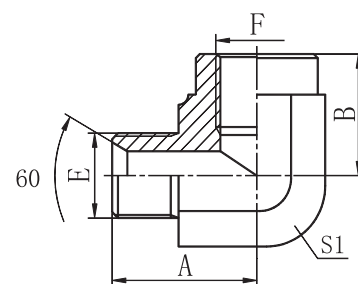
PART NO.	THREAD		DIMENSIONS		
	E	F	A	L	S1
TL-5BT-04-02	G1/4"X19	Rc1/8"X28	12	28	19
TL-5BT-04	G1/4"X19	Rc1/4"X19	12	33.5	19
TL-5BT-04-06	G1/4"X19	Rc3/8"X19	12	34	22
TL-5BT-04-08	G1/4"X19	Rc1/2"X14	12	41	27
TL-5BT-06-04	G3/8"X19	Rc1/4"X19	13.5	35	22
TL-5BT-06	G3/8"X19	Rc3/8"X19	13.5	34	22
TL-5BT-08-06	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

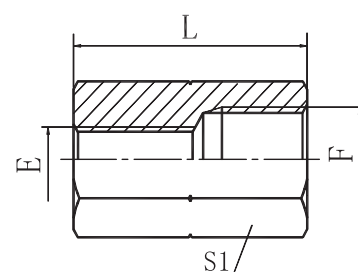
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-5B9-02	G1/8"X28	G1/8"X28	22.5	20	16
TL-5B9-04	G1/4"X19	G1/4"X19	25.5	22	19
TL-5B9-06	G3/8"X19	G3/8"X19	30.5	26	24
TL-5B9-08	G1/2"X14	G1/2"X14	39	31	30
TL-5B9-12	G3/4"X14	G3/4"X14	43.5	37	33
TL-5B9-16	G1"X11	G1"X11	50.5	43	41
TL-5B9-20	G1.1/4"X11	G1.1/4"X11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



TL-7B

Female BSPP. Female BSPP

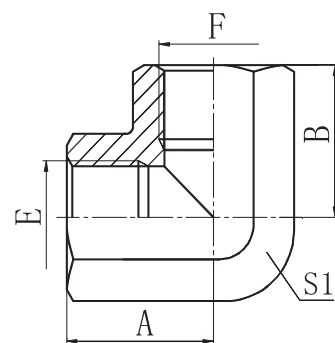
PART NO.	THREAD		DIMENSIONS	
	E	F	L	S1
TL-7B-02	G1/8"X28	G1/8"X28	22	14
TL-7B-02-04	G1/8"X28	G1/4"X19	24	19
TL-7B-04	G1/4"X19	G1/4"X19	24	19
TL-7B-04-06	G1/4"X19	G3/8"X19	29	22
TL-7B-06	G3/8"X19	G3/8"X19	26	22
TL-7B-06-08	G3/8"X19	G1/2"X14	33	27
TL-7B-08	G1/2"X14	G1/2"X14	32	27
TL-7B-08-10	G1/2"X14	G5/8"X14	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

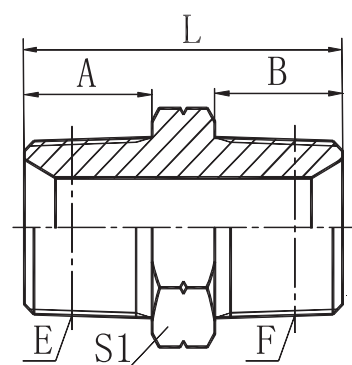
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-7B9-02PK	G1/8"X28	G1/8"X28	20	20	16
TL-7B9-04PK	G1/4"X19	G1/4"X19	22.5	22.5	19
TL-7B9-06PK	G3/8"X19	G3/8"X19	26	26	24
TL-7B9-08PK	G1/2"X14	G1/2"X14	31	31	27
TL-7B9-12PK	G3/4"X14	G3/4"X14	34	34	33
TL-7B9-16PK	G1"X11	G1"X11	42	42	41
TL-7B9-20PK	G1.1/4"X11	G1.1/4"X11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

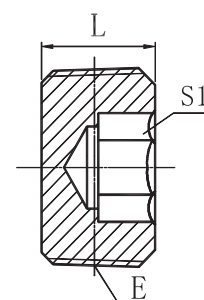
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1T-02SP	R1/8"X28	R1/8"X28	10	10	26	12
TL-1T-02-04SP	R1/8"X28	R1/4"X19	10	14.5	30.5	14
TL-1T-02-06SP	R1/8"X28	R3/8"X19	10	15	31	17
TL-1T-04SP	R1/4"X19	R1/4"X19	14.5	14.5	34	14
TL-1T-04-06SP	R1/4"X19	R3/8"X19	14.5	15	35	17
TL-1T-04-08SP	R1/4"X19	R1/2"X14	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

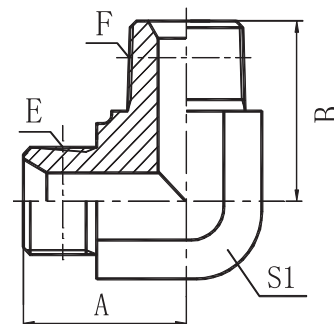
PART NO.	THREAD	DIMENSIONS	
	E	L	S1
TL-4TN-02	R1/8"X28	8	5
TL-4TN-04	R1/4"X19	10	6
TL-4TN-06	R3/8"X19	12	8
TL-4TN-08	R1/2"X14	15	10
TL-4TN-12	R3/4"X14	18	12
TL-4TN-16	R1"X11	20	17



TL-1T9-SP

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

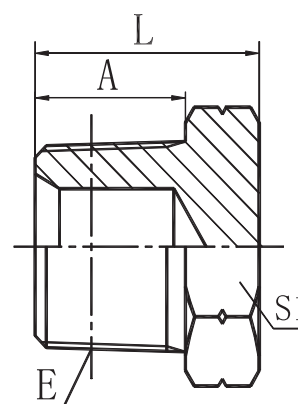
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-1T9-02SP	R1/8"X28	R1/8"X28	21	21	11
TL-1T9-02-04SP	R1/8"X28	R1/4"X19	23.5	25.5	14
TL-1T9-04SP	R1/4"X19	R1/4"X19	25.5	25.5	14
TL-1T9-04-06SP	R1/4"X19	R3/8"X19	26.5	28.5	16
TL-1T9-04-08SP	R1/4"X19	R1/2"X14	30.5	36	22
TL-1T9-06SP	R3/8"X19	R3/8"X19	28.5	28.5	16
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

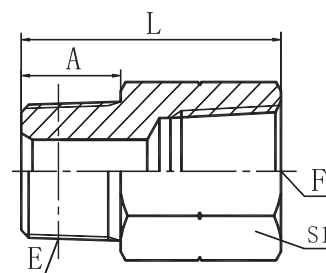
PART NO.	THREAD	DIMENSIONS		
	E	A	L	S1
TL-4T-02SP	R1/8"X28	10	16	12
TL-4T-04SP	R1/4"X19	14.5	20	14
TL-4T-06SP	R3/8"X19	15	21	17
TL-4T-08SP	R1/2"X14	20	27	22
TL-4T-12SP	R3/4"X14	20	29	27
TL-4T-16SP	R1"X11	25.5	36.5	36
TL-4T-20SP	R1.1/4"X11	26.5	38.5	46
TL-4T-24SP	R1.1/2"X11	26.5	42	50
TL-4T-32SP	R2"X11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



TL-5T-SP

BSPT. Male. BSPT. Female

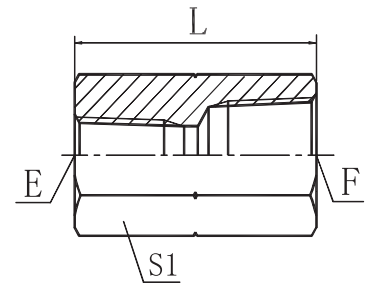
PART NO.	THREAD		DIMENSIONS		
	E	F	A	L	S1
TL-5T-02-04SP	R1/8"X28	Rc1/4"X19	11	32.5	19
TL-5T-04-02SP	R1/4"X19	Rc1/8"X28	14.5	20.5	14
TL-5T-04SP	R1/4"X19	Rc1/4"X19	14.5	36	19
TL-5T-04-06SP	R1/4"X19	Rc3/8"X19	14.5	38	22
TL-5T-06-02SP	R3/8"X19	Rc1/8"X28	15	23	19
TL-5T-06-04SP	R3/8"X19	Rc1/4"X19	15	23	19
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

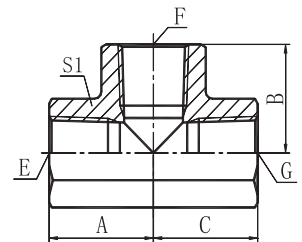
PART NO.	THREAD		DIMENSIONS	
	E	F	L	S1
TL-7T-02	R1/8"X28	R1/8"X28	20	14
TL-7T-02-04	R1/8"X28	R1/4"X19	30	19
TL-7T-04	R1/4"X19	R1/4"X19	30	19
TL-7T-04-06	R1/4"X19	R3/8"X19	30	22
TL-7T-04-08	R1/4"X19	R1/2"X14	40	27
TL-7T-06	R3/8"X19	R3/8"X19	30	22
TL-7T-06-08	R3/8"X19	R1/2"X14	40	27
TL-7T-06-12	R3/8"X19	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)

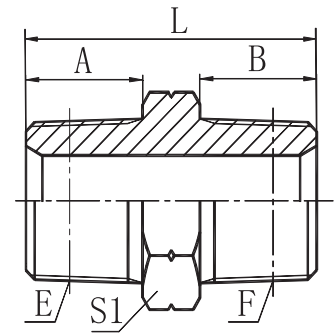
PART NO.	THREAD			DIMENSIONS			
	E	F	G	A	B	C	S1
TL-GT-02PK	Rc1/8"X28	Rc1/8"X28	Rc1/8"X28	20	20	20	16
TL-GT-04PK	Rc1/4"X19	Rc1/4"X19	Rc1/4"X19	22.5	22.5	22.5	19
TL-GT-06PK	Rc3/8"X19	Rc3/8"X19	Rc3/8"X19	26	26	26	24
TL-GT-08PK	Rc1/2"X14	Rc1/2"X14	Rc1/2"X14	31	31	31	27
TL-GT-12PK	Rc3/4"X14	Rc3/4"X14	Rc3/4"X14	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

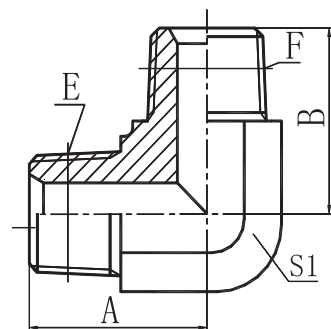
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1N-02	Z1/8"X27	Z1/8"X27	10.5	10.5	27	12
TL-1N-02-04	Z1/8"X27	Z1/4"X18	10.5	15	31	17
TL-1N-02-06	Z1/8"X27	Z3/8"X18	10.5	16	32	19
TL-1N-04	Z1/4"X18	Z1/4"X18	15	15	35	17
TL-1N-04-06	Z1/4"X18	Z3/8"X18	15	16	37	19
TL-1N-04-08	Z1/4"X18	Z1/2"X14	15	19.5	41.5	22
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

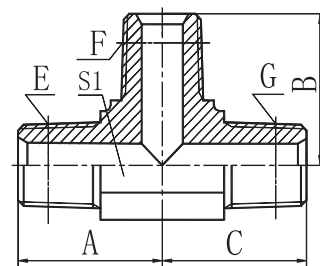
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-1N9-02	Z1/8"X27	Z1/8"X27	21	21	11
TL-1N9-02-04	Z1/8"X27	Z1/4"X18	23.5	25.5	14
TL-1N9-04	Z1/4"X18	Z1/4"X18	25.5	25.5	14
TL-1N9-04-06	Z1/4"X18	Z3/8"X18	28	31	19
TL-1N9-04-08	Z1/4"X18	Z1/2"X14	30.5	36.5	22
TL-1N9-06	Z3/8"X18	Z3/8"X18	31	31	19
TL-1N9-06-08	Z3/8"X18	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

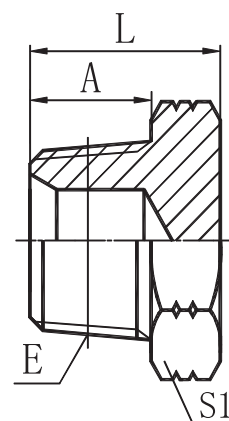
PART NO.	THREAD			DIMENSIONS			
	E	F	G	A	B	C	S1
TL-AN-02	Z1/8"X27	Z1/8"X27	Z1/8"X27	21	21	21	11
TL-AN-04	Z1/4"X18	Z1/4"X18	Z1/4"X18	25.5	25.5	25.5	14
TL-AN-06	Z3/8"X18	Z3/8"X18	Z3/8"X18	31	31	31	19
TL-AN-08	Z1/2"X14	Z1/2"X14	Z1/2"X14	36.7	36.7	36.7	22
TL-AN-12	Z3/4"X14	Z3/4"X14	Z3/4"X14	44	44	44	27
TL-AN-16	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

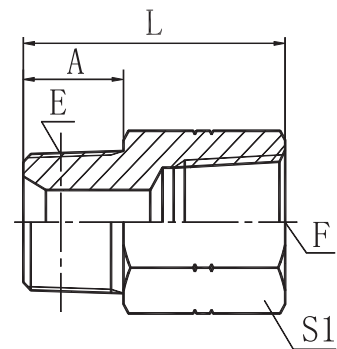
PART NO.	THREAD	DIMENSIONS		
	E	A	L	S1
TL-4N-02	Z1/8"X27	10.5	16	12
TL-4N-04	Z1/4"X18	15	20	17
TL-4N-06	Z3/8"X18	16	21	19
TL-4N-08	Z1/2"X14	19.5	27	22
TL-4N-12	Z3/4"X14	19.5	29.5	27
TL-4N-16	Z1"X11.5	25.5	36.5	36
TL-4N-20	Z1.1/4"X11.5	26.5	38.5	46
TL-4N-24	Z1.1/2"X11.5	27.5	43	50
TL-4N-32	Z2"X11.5	27.5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



TL-5N

Male NPT.Female NPT

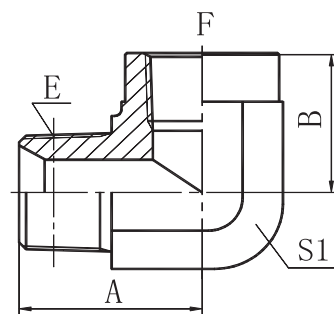
PART NO.	THREAD		DIMENSIONS		
	E	F	A	L	S1
TL-5N-02	Z1/8"X27	Z1/8"X27	10.5	25.5	17
TL-5N-02-04	Z1/8"X27	Z1/4"X18	10.5	31	19
TL-5N-02-06	Z1/8"X27	Z3/8"X18	11	31	24
TL-5N-04-02	Z1/4"X18	Z1/8"X27	15	22	17
TL-5N-04	Z1/4"X18	Z1/4"X18	15	35	19
TL-5N-04-06	Z1/4"X18	Z3/8"X18	15	36.6	24
TL-5N-04-08	Z1/4"X18	Z1/2"X14	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

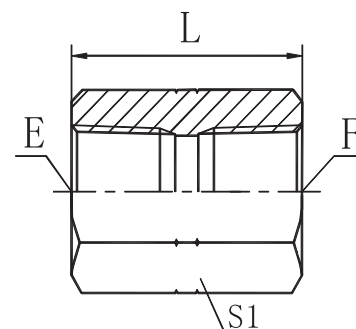
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-5N9-02	Z1/8"X27	Z1/8"X27	24.5	17.8	16
TL-5N9-04-02	Z1/4"X18	Z1/8"X27	26.5	16.8	16
TL-5N9-04	Z1/4"X18	Z1/4"X18	28	22.4	19
TL-5N9-04-06	Z1/4"X18	Z3/8"X18	31	25	24
TL-5N9-06-04	Z3/8"X18	Z1/4"X18	31	22.4	19
TL-5N9-06	Z3/8"X18	Z3/8"X18	33.5	25	24
TL-5N9-08	Z1/2"X14	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

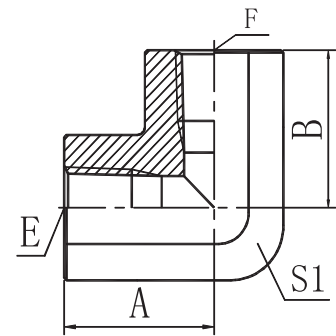
PART NO.	THREAD		DIMENSIONS	
	E	F	L	S1
TL-7N-02	Z1/8"X27	Z1/8"X27	24	17
TL-7N-02-04	Z1/8"X27	Z1/4"X18	27	19
TL-7N-02-06	Z1/8"X27	Z3/8"X18	30	22
TL-7N-04	Z1/4"X18	Z1/4"X18	29	19
TL-7N-04-06	Z1/4"X18	Z3/8"X18	29	22
TL-7N-04-08	Z1/4"X18	Z1/2"X14	35	30
TL-7N-06	Z3/8"X18	Z3/8"X18	29	22
TL-7N-06-08	Z3/8"X18	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

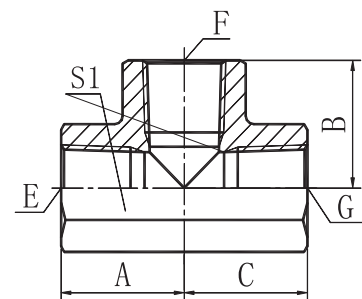
PART NO.	THREAD		DIMENSIONS		
	E	F	A	B	S1
TL-7N9-02PK	Z1/8"X27	Z1/8"X27	20	20	16
TL-7N9-04PK	Z1/4"X18	Z1/4"X18	22.5	22.5	19
TL-7N9-04-06PK	Z1/4"X18	Z3/8"X18	25	26	24
TL-7N9-06PK	Z3/8"X18	Z3/8"X18	26	26	24
TL-7N9-08PK	Z1/2"X14	Z1/2"X14	31	31	27
TL-7N9-12PK	Z3/4"X14	Z3/4"X14	34	34	33
TL-7N9-16PK	Z1"X11.5	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

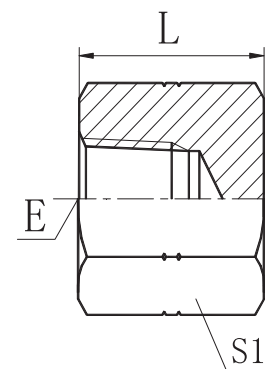
PART NO.	THREAD	DIMENSIONS			
	E, F, G	A	B	C	S1
TL-GN-02PK	Z1/8"X27	20	20	20	16
TL-GN-04PK	Z1/4"X18	22.5	22.5	22.5	19
TL-GN-06PK	Z3/8"X18	26	26	26	24
TL-GN-08PK	Z1/2"X14	31	31	31	27
TL-GN-12PK	Z3/4"X14	34	34	34	33
TL-GN-16PK	Z1"X11.5	42	42	42	41
TL-GN-20PK	Z1.1/4"X11.5	48	48	48	50
TL-GN-24PK	Z1.1/2"X11.5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

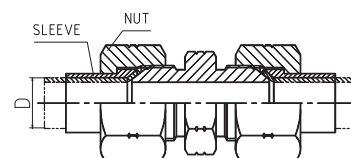
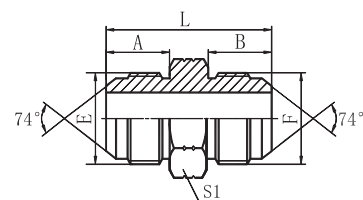


TL-1J

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.

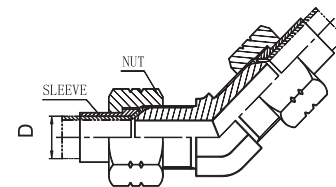
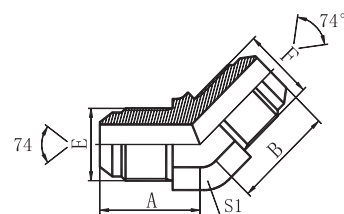


TL-1J4

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.

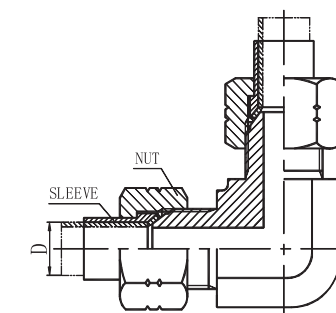
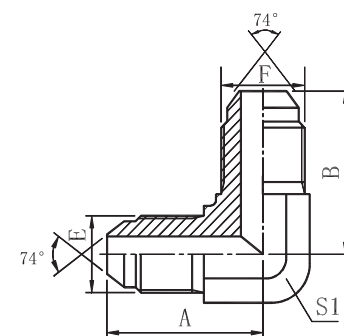


TL-1J9

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.

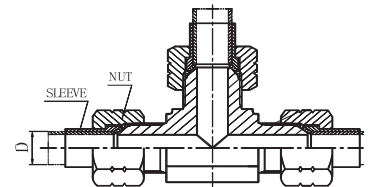
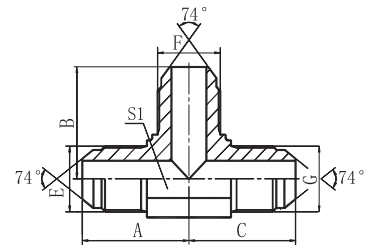


TL-AJ

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.

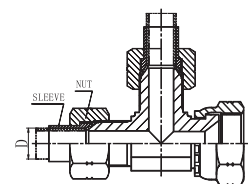
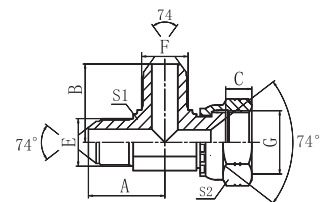


TL-CJ

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.

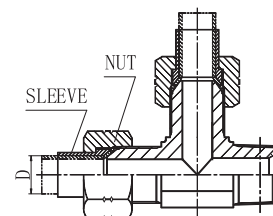
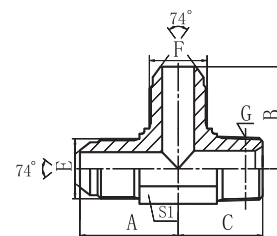


TL-AJJN

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.

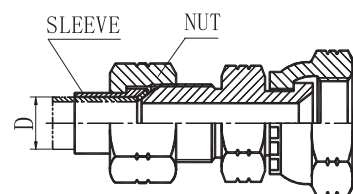
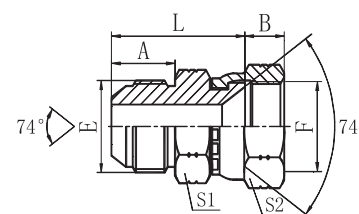


TL-2J

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.

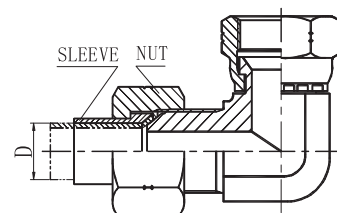
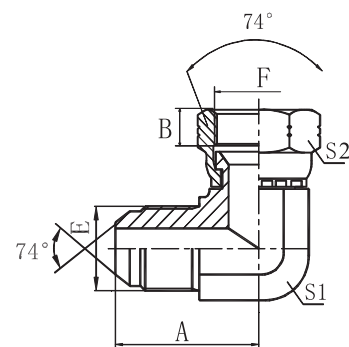


TL-2J9

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.

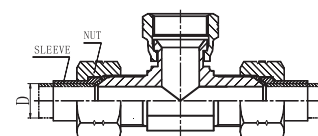
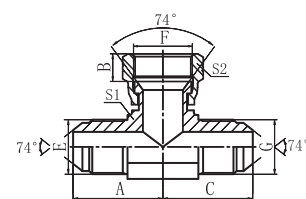


TL-BJ

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

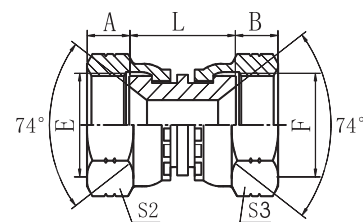
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



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

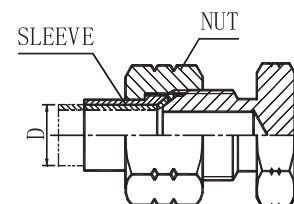
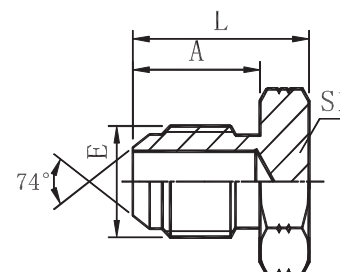


TL-4J

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	

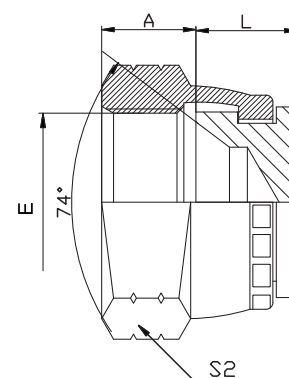
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



TL-9J

JIC. Female. 74° seat plug

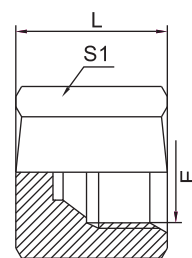
PART NO.	THREAD		DIMENSIONS		
	E	A	L	S2	
TL-9J-04	7/16"X20	8	10.5	12	
TL-9J-05	1/2"X20	9	11	19	
TL-9J-06	9/16"X18	9.5	12	19	
TL-9J-08	3/4"X16	10.8	13	24	
TL-9J-10	7/8"X14	12	14.5	27	
TL-9J-12	1.1/16"X12	15	15.5	32	
TL-9J-14	1.3/16"X12	15	16	36	
TL-9J-16	1.5/16"X12	14	17	41	
TL-9J-20	1.5/8"X12	15	19	50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

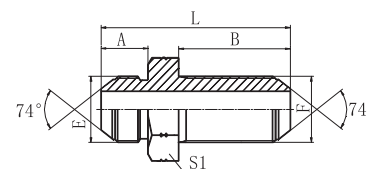
PART NO.	THREAD	DIMENSIONS	
		E	S1
TL-9J-04CAP	7/16"X20	15	14
TL-9J-05CAP	1/2"X20	15.5	17
TL-9J-06CAP	9/16"X18	16	19
TL-9J-08CAP	3/4"X16	19	24
TL-9J-10CAP	7/8"X14	21.5	27
TL-9J-12CAP	1.1/16"X12	23	32
TL-9J-16CAP	1.5/16"X12	25.8	41
TL-9J-20CAP	1.5/8"X12	27	50
TL-9J-24CAP	1.7/8"X12	30.5	60
TL-9J-32CAP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



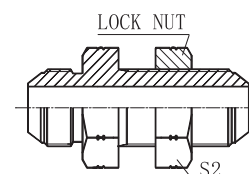
TL-6J • TL-6J-LN

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

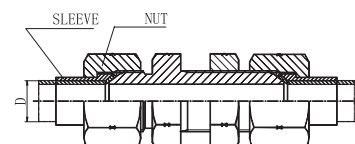


TL-6J



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.

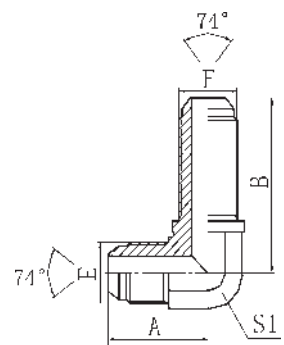


TL-6J9 · TL-6J9-LN

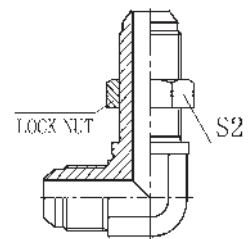
Elbow 90°. JIC. Male 74° Flare. Male 74° Flare

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

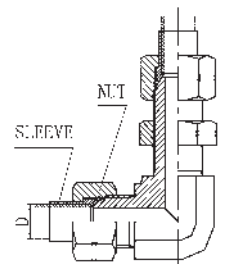
Note: If you are interested to order the adapter with lock nut, please insert suffix "LN" after our part number, for example TL-6J9-12LN. Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



TL-6J9



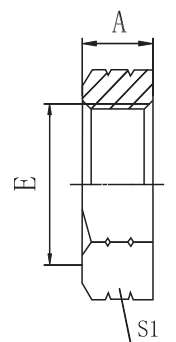
TL-6J9-LN



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	

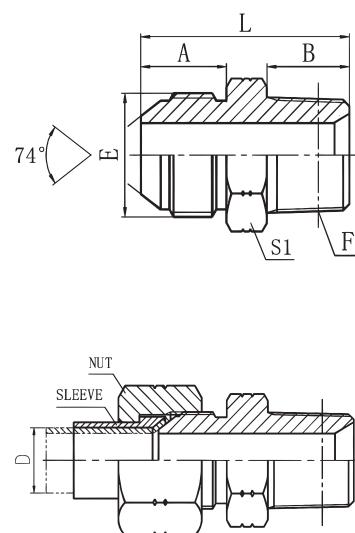


TL-1JN

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

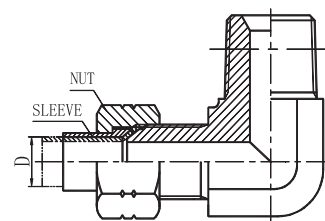
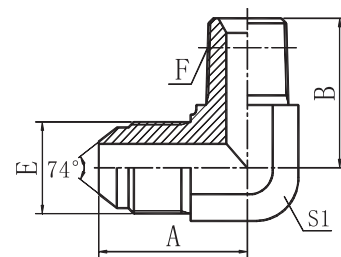
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



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

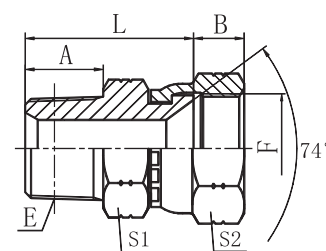


Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

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

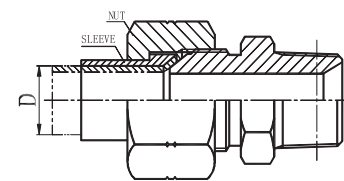
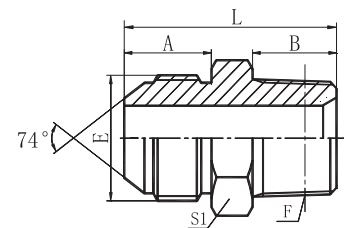


TL-1JT-SP

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.

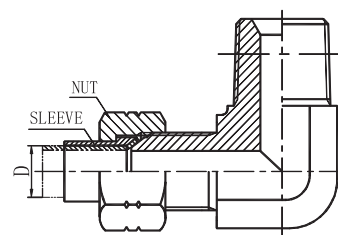
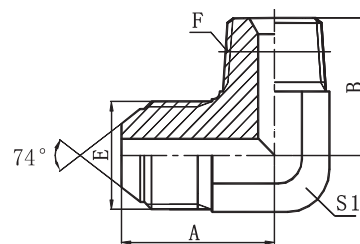


TL-1JT9-SP

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

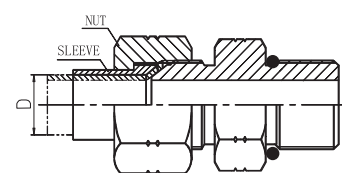
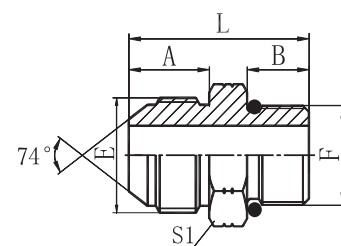
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



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



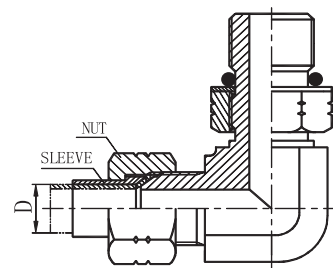
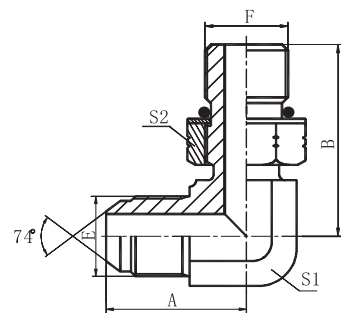
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.

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.

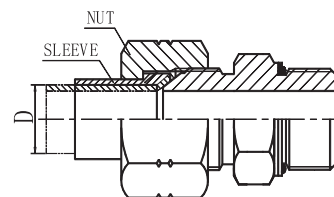
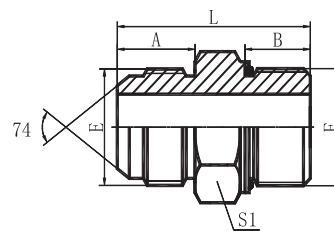


TL-1JG

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.

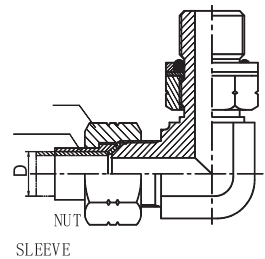
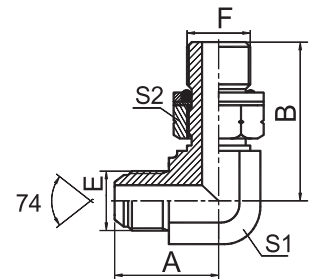


TL-1JG9-OG

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.

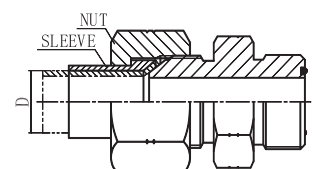
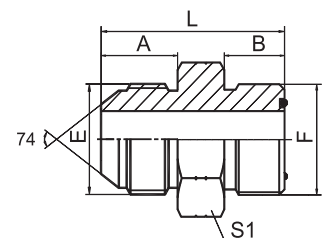


TL-1JF

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

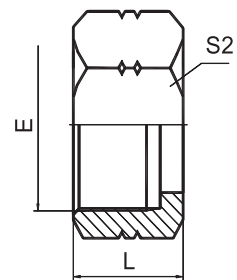
Note: Nut and sleeve should be ordered separately. The nut NB200 and sleeve NB500 is suitable for metric tube, the nut NB200 and sleeve NB300 is suitable inch tube.



TL-NB200

JIC Triple lock nut

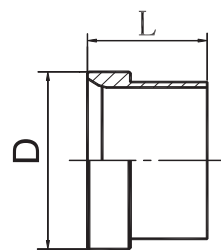
PART NO.	THREAD	TUBE O.D. & SLEEVE				DIMENSIONS	
	E	In.	INCH SLEEVE	mm	METRIC SLEEVE	L	S2
TL-NB200-04	7/16"X20	1/4"	NB300-04	6	NB500-06	15.8	12.7
TL-NB200-05	1/2"X20	5/16"	NB300-05	8	NB500-08	17.3	14.28
TL-NB200-06	9/16"X18	3/8"	NB300-06	10	NB500-10	18.5	19
TL-NB200-08	3/4"X16	1/2"	NB300-08	12	NB500-12	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

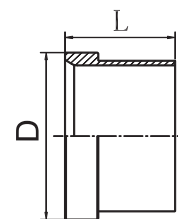
PART NO.	THREAD	TUBE O.D.	DIMENSIONS	
	E	In.	D	L
TL-NB300-04	7/16"X20	1/4"	9.73	10.4
TL-NB300-05	1/2"X20	5/16"	11.3	11.2
TL-NB300-06	9/16"X18	3/8"	12.75	12.7
TL-NB300-08	3/4"X16	1/2"	17.32	14.2
TL-NB300-10	7/8"X14	5/8"	20.24	16.8
TL-NB300-12	1.1/16"X12	3/4"	24.69	17.3
TL-NB300-14	1.3/16"X12	7/8"	27.86	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

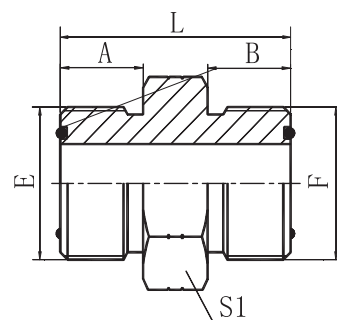


ORFS FITTING ADAPTOR

TL-1F

Straight. Male ORFS. Male ORFS

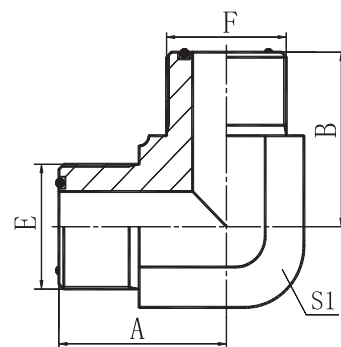
PART NO.	THREAD		O-RING		DIMENSIONS			
	E	F	E	F	A	B	L	S1
TL-1F-04	9/16"X18	9/16"X18	O011	O011	10	10	27.5	17
TL-1F-04-06	9/16"X18	11/16"X16	O011	O012	10	11	30	19
TL-1F-04-08	9/16"X18	13/16"X16	O011	O014	9.8	12.8	32.5	22
TL-1F-06	11/16"X16	11/16"X16	O012	O012	11	11	31	19
TL-1F-06-08	11/16"X16	13/16"X16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



TL-1F9

Elbow 90°. Male ORFS. Male ORFS

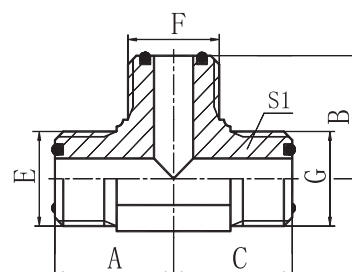
PART NO.	THREAD		O-RING		DIMENSIONS		
	E	F	E	F	A	B	S1
TL-1F9-04	9/16"X18	9/16"X18	O011	O011	23	23	14
TL-1F9-04-06	9/16"X18	11/16"X16	O011	O012	25.5	27	19
TL-1F9-06	11/16"X16	11/16"X16	O012	O012	27.5	27.5	19
TL-1F9-06-08	11/16"X16	13/16"X16	O012	O014	29	31	22
TL-1F9-08	13/16"X16	13/16"X16	O014	O014	31	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

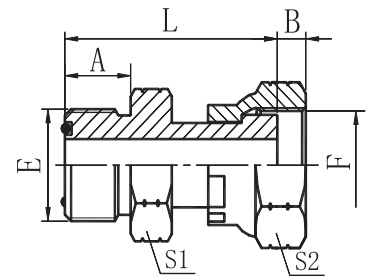
PART NO.	THREAD			O-RING			DIMENSIONS			
	E	F	G	E	F	G	A	B	C	S1
TL-AF-04	9/16"X18	9/16"X18	9/16"X18	O011	O011	O011	23	23	23	14
TL-AF-06	11/16"X16	11/16"X16	11/16"X16	O012	O012	O012	27	27	27	19
TL-AF-08	13/16"X16	13/16"X16	13/16"X16	O014	O014	O014	31	31	31	22
TL-AF-10	1"X14	1"X14	1"X14	O016	O016	O016	36.5	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

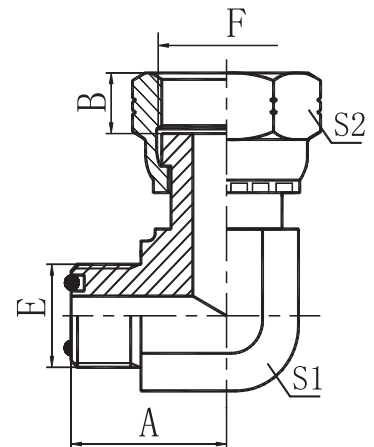
PART NO.	THREAD		O-RING	DIMENSIONS				
	E	F		A	B	L	S1	S2
TL-2F-04	9/16"X18	9/16"X18	O011	9.8	8.5	33	17	19
TL-2F-04-06	9/16"X18	11/16"X16	O011	10	9.5	36	17	22
TL-2F-04-08	9/16"X18	13/16"X16	O011	9.8	11.5	36.5	19	27
TL-2F-06-04	11/16"X16	9/16"X18	O012	11	8.5	35.5	19	19
TL-2F-06	11/16"X16	11/16"X16	O012	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

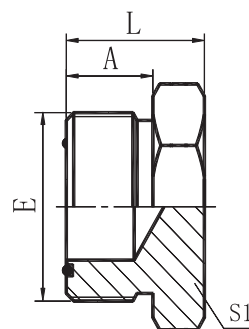
PART NO.	THREAD		O-RING	DIMENSIONS			
	E	F		A	B	S1	S2
TL-2F9-04	9/16"X18	9/16"X18	O011	23	8.5	14	19
TL-2F9-04-06	9/16"X18	11/16"X16	O011	23	9.5	14	22
TL-2F9-06-04	11/16"X16	9/16"X18	O012	27.5	8.5	19	19
TL-2F9-06	11/16"X16	11/16"X16	O012	27.5	9.5	19	22
TL-2F9-06-08	11/16"X16	13/16"X16	O012	27	11.5	19	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

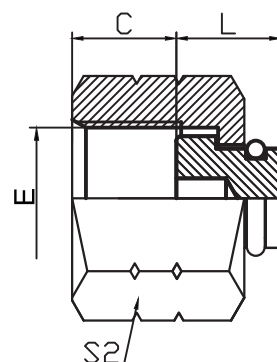
PART NO.	THREAD	O-RING	DIMENSIONS		
	E	E	A	L	S1
TL-4F-04	9/16"X18	7.65X1.78	10	16	17
TL-4F-06	11/16"X16	9.25X1.78	11	19	19
TL-4F-08	13/16"X16	12.42X1.78	13	22	22
TL-4F-10	1"X14	15.6X1.78	15.5	26	27
TL-4F-12	1.3/16"X12	18.77X1.78	17	27.5	32
TL-4F-16	1.7/16"X12	23.52X1.78	17.5	28	38
TL-4F-20	1.11/16"X12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

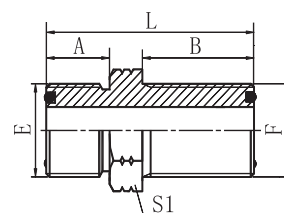


TL-6F • TL-6F-LN

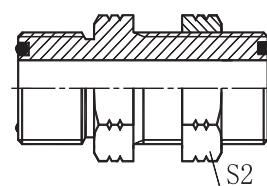
Straight. Male. ORFS Bulkhead

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

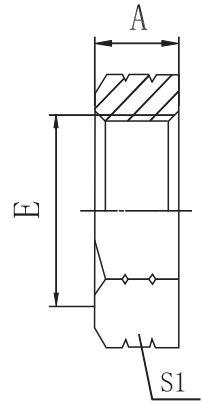


TL-6F-LN

TL-8F

ORFS Lock nut

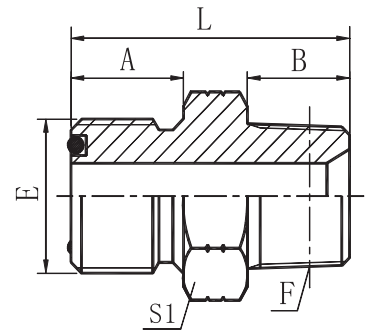
PART NO.	THREAD	DIMENSIONS	
		E	S1
TL-8F-04	9/16"X18	7	22
TL-8F-06	11/16"X16	8	27
TL-8F-08	13/16"X16	9	30
TL-8F-10	1"X14	10.5	36
TL-8F-12	1.3/16"X12	10.5	38
TL-8F-16	1.7/16"X12	10.5	46
TL-8F-20	1.11/16"X12	10.4	50
TL-8F-24	2"X12	10.4	60



TL-1FN

Straight. Male. ORFS. Male NPT

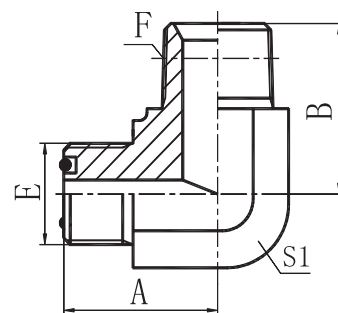
PART NO.	THREAD		O-RING	DIMENSIONS			
	E	F		A	B	L	S1
TL-1FN-04-02	9/16"X18	Z1/8"X27	O011	10	10.5	26.5	17
TL-1FN-04	9/16"X18	Z1/4"X18	O011	10	15	30.5	17
TL-1FN-04-06	9/16"X18	Z3/8"X18	O011	10	16	31.5	19
TL-1FN-06-04	11/16"X16	Z1/4"X18	O012	11	15	32	19
TL-1FN-06	11/16"X16	Z3/8"X18	O012	11	16	33.5	19
TL-1FN-06-08	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

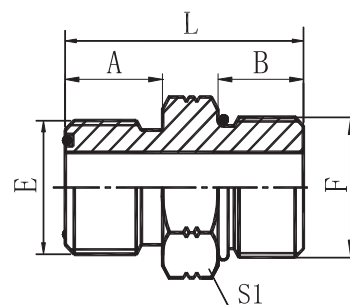
PART NO.	THREAD		O-RING	DIMENSIONS		
	E	F		A	B	S1
TL-1FN9-04-02	9/16"X18	Z1/8"X27	O011	23	24	14
TL-1FN9-04	9/16"X18	Z1/4"X18	O011	23	25.5	14
TL-1FN9-06-04	11/16"X16	Z1/4"X18	O012	27	28.5	19
TL-1FN9-06	11/16"X16	Z3/8"X18	O012	27.5	31	19
TL-1FN9-06-08	11/16"X16	Z1/2"X14	O012	29	36.7	22
TL-1FN9-08-06	13/16"X16	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



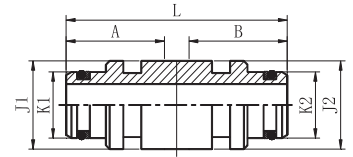
Note: F end is connected with ISO 11926-1 port.

STAPLELOCK FITTING ADAPTOR

TL-1Y

Male. Stecko. Male Steck

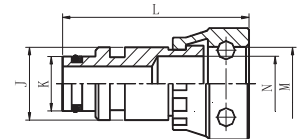
PART NO.	STECKO SIZE		DIMENSIONS						
	LEFT	RIGHT	A	B	J1	K1	J2	K2	L
TL-1Y-04	1/4"	1/4"	28	28	14.9	9.9	14.9	9.9	57
TL-1Y-06-04	3/8"	1/4"	28	28	19.9	13.9	14.9	9.9	57
TL-1Y-06	3/8"	3/8"	28	28	19.9	13.9	19.9	13.9	57
TL-1Y-08-04	1/2"	1/4"	28	28	23.9	17.9	14.9	9.9	57
TL-1Y-08-06	1/2"	3/8"	28	28	23.9	17.9	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

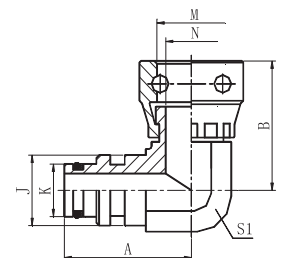
PART NO.	STECKO SIZE		DIMENSIONS				
	LEFT	RIGHT	J	K	L	M	N
TL-2Y-06-04	3/8"	1/4"	19.9	13.9	60	15.16	10.03
TL-2Y-08-04	1/2"	1/4"	23.9	17.9	60	15.16	10.03
TL-2Y-08-06	1/2"	3/8"	23.9	17.9	60	20.17	14.02
TL-2Y-12-08	3/4"	1/2"	28.9	23.9	60	24.16	18.03
TL-2Y-16-12	1"	3/4"	38.8	30.9	65	29.16	24.03
TL-2Y-20-12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

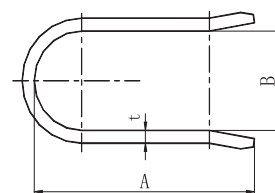
PART NO.	STECKO SIZE		DIMENSIONS						
	LEFT	RIGHT	A	B	J	K	M	N	S1
TL-2Y9-04	1/4"	1/4"	40.5	38	14.9	9.9	15.16	10.03	16
TL-2Y9-06-04	3/8"	1/4"	44	42	19.9	13.9	15.16	10.03	22
TL-2Y9-06	3/8"	3/8"	44	42.5	19.9	13.9	20.17	14.02	22
TL-2Y9-06-08	3/8"	1/2"	46.5	46	19.9	13.9	24.16	18.03	27
TL-2Y9-08	1/2"	1/2"	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

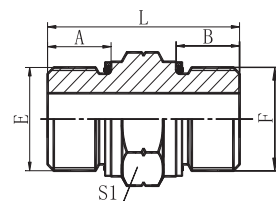


SPECIAL FITTING ADAPTORS

TL-1G

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

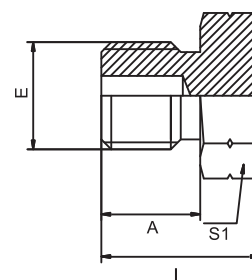
PART NO.	THREAD		O-RING		DIMENSIONS			
	E	F	E	F	A	B	L	S1
TL-1G-02	G1/8"X28	G1/8"X28	7.65X1.78	7.65X1.78	9.5	9.5	28.5	14
TL-1G-04	G1/4"X19	G1/4"X19	10.77X2.62	10.77X2.62	10	10	30	19
TL-1G-06	G3/8"X19	G3/8"X19	13.94X2.62	13.94X2.62	11.5	11.5	33.5	22
TL-1G-08	G1/2"X14	G1/2"X14	17.12X2.62	17.12X2.62	14	14	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

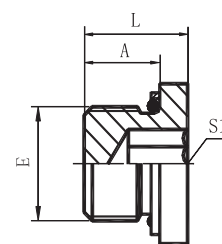
PART NO.	THREAD		O-RING	DIMENSIONS		
	E	E		A	L	S1
TL-4G-04	G1/4"X19	O111		11	19	19
TL-4G-06	G3/8"X19	O113		11.5	22	22
TL-4G-08	G1/2"X14	O115		14	27	27
TL-4G-12	G3/4"X14	O119		15.5	29.5	32
TL-4G-16	G1"X11	O217		18	34	41



TL-4HN

Male. Metric. O-ring. Hollow hex plug

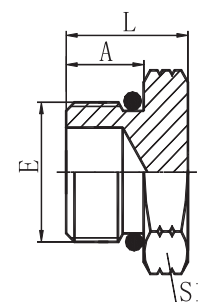
PART NO.	THREAD	O-RING	DIMENSIONS		
	E	E	A	L	S1
TL-4HN-10	M10X1	8.1X1.6	8.5	11.5	5
TL-4HN-12	M12X1.5	9.3X2.4	11	14	6
TL-4HN-14	M14X1.5	11.3X2.4	11	14	6
TL-4HN-16	M16X1.5	13.3X2.4	11.5	14.5	8
TL-4HN-18	M18X1.5	15.3X2.4	12.5	16.5	8
TL-4HN-22	M22X1.5	19.3X2.4	13	17	10
TL-4HN-26	M26X1.5	23X3	14	18	12
TL-4HN-27	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

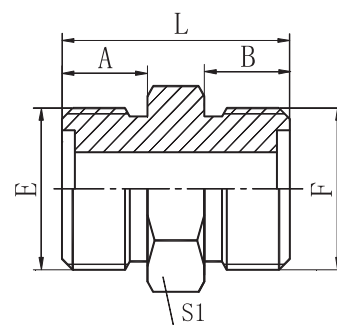


TL-1E

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.

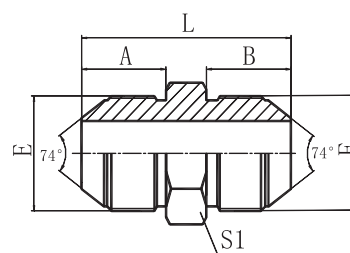


TL-1Q · TL-1Q-RN

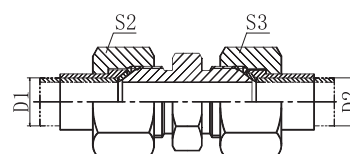
Straight. Male. Metric. 74° Flare. Male. Metric. 74° Flare

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

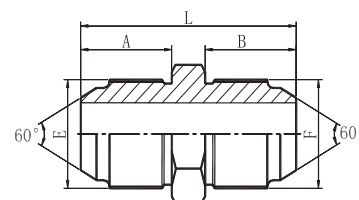


TL-1Q-RN

TL-1K

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

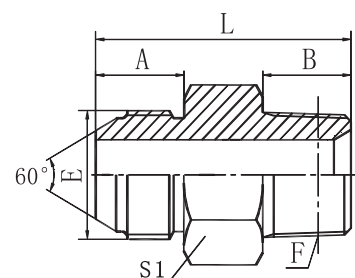
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1K-14	M14X1.5	M14X1.5	17	17	40	17
TL-1K-16	M16X1.5	M16X1.5	18	18	42	17
TL-1K-18	M18X1.5	M18X1.5	18	18	42	19
TL-1K-20	M20X1.5	M20X1.5	20	20	48	22
TL-1K-22	M22X1.5	M22X1.5	20	20	48	24
TL-1K-24	M24X1.5	M24X1.5	21.5	21.5	53	27
TL-1K-30	M30X1.5	M30X1.5	26	26	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

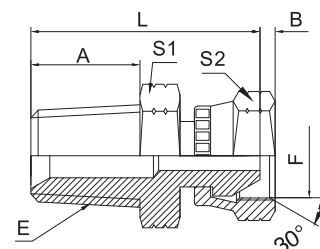
PART NO.	THREAD		DIMENSIONS			
	E	F	A	B	L	S1
TL-1KT-14-04SP	M14X1.5	R1/4"X19	17	14.5	37.5	17
TL-1KT-14-06SP	M14X1.5	R3/8"X19	17	15	38	19
TL-1KT-16-06SP	M16X1.5	R3/8"X19	18	15	39	19
TL-1KT-18-06SP	M18X1.5	R3/8"X19	18	15	39	19
TL-1KT-20-06SP	M20X1.5	R3/8"X19	20	15	43	22
TL-1KT-22-06SP	M22X1.5	R3/8"X19	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

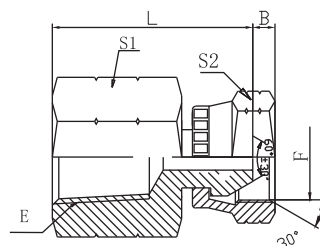
PART NO.	THREAD		DIMENSIONS				
	E	F	A	B	L	S1	S2
TL-2NU-02	Z1/8"X27	1/8"X27	10.5	6	25.5	12	15
TL-2NU-02-04	Z1/8"X27	1/4"X18	10.5	5	27.5	12	19
TL-2NU-04-02	Z1/4"X18	1/8"X27	15	6	30	14	15
TL-2NU-04	Z1/4"X18	1/4"X18	15	5	32	17	19
TL-2NU-04-06	Z1/4"X18	3/8"X18	15	6.5	33	17	22
TL-2NU-04-08	Z1/4"X18	1/2"X14	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



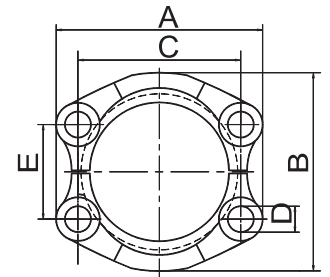
FLANGE CONNECTIONS

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.

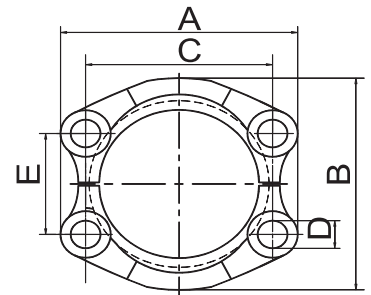


TL-PFS

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

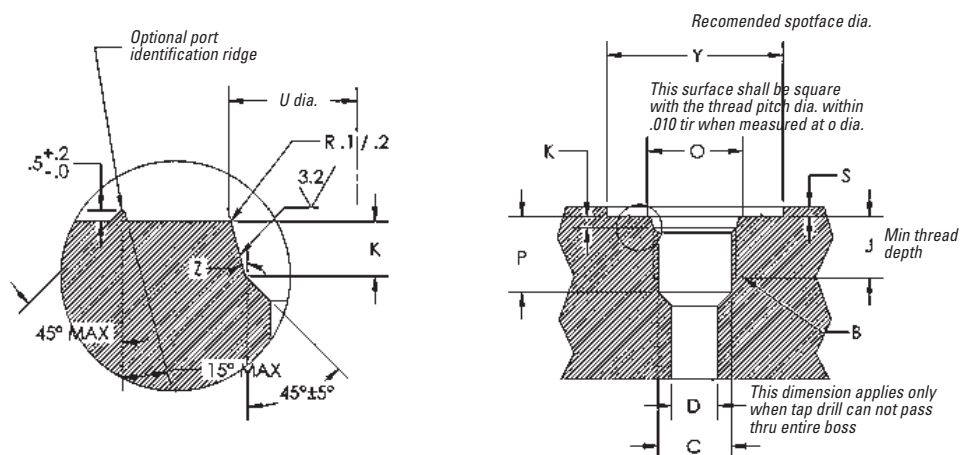
PART NO.	FLANGE SIZE	DIMENSIONS					BOLT	MPa
		A	B	C	D	E		
TL-PFS-08	1/2"	56.3	49.2	40.5	9	18.2	M8X30	42
TL-PFS-12	3/4"	71.4	61.8	50.8	11	23.8	M10X35	
TL-PFS-16	1"	81	71.4	57.2	13	27.8	M12X45	
TL-PFS-20	1.1/4"	95.3	79.2	66.7	15	31.8	M14X50	
TL-PFS-24	1.1/2"	112.8	96.8	79.4	17	36.6	M16X55	
TL-PFS-32	2"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

Note: 1. Bolt should be ordered another.



PLUG THREADS AND PORTS FOR TUBE CONNECTIONS

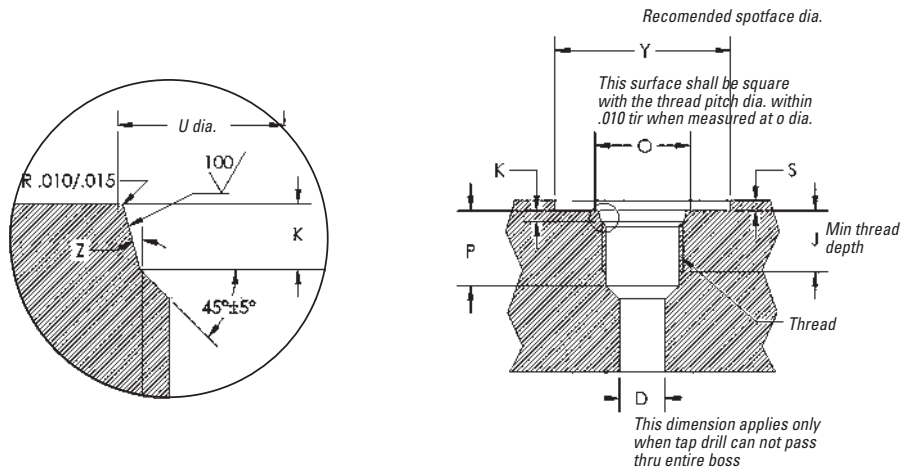
ISO 6149-1 Metric straight thread port dimensions



TUBE OD 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

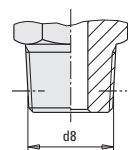


NOMINAL TUBE OD			THREAD SIZE	D	J	O	P	U	Y	ANGLE
dash	in	mm	ANSI B1.1/ISO 263	min dia	min depth	min dia	min	dia		
-2	1/8		5/16-24 UNF-2B	0,062	0,39	0,438	0,468	0,358	0,672	12°
-3	3/16	4	3/8-24 UNF 2B	0,125	0,39	0,5	0,468	0,421	0,75	12°
-4	1/4	6	7/16-20 UNF-2B	0,172	0,454	0,563	0,547	0,487	0,828	12°
-5	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°

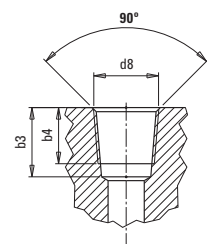
All dimensions are expressed in inches unless otherwise indicated.

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.

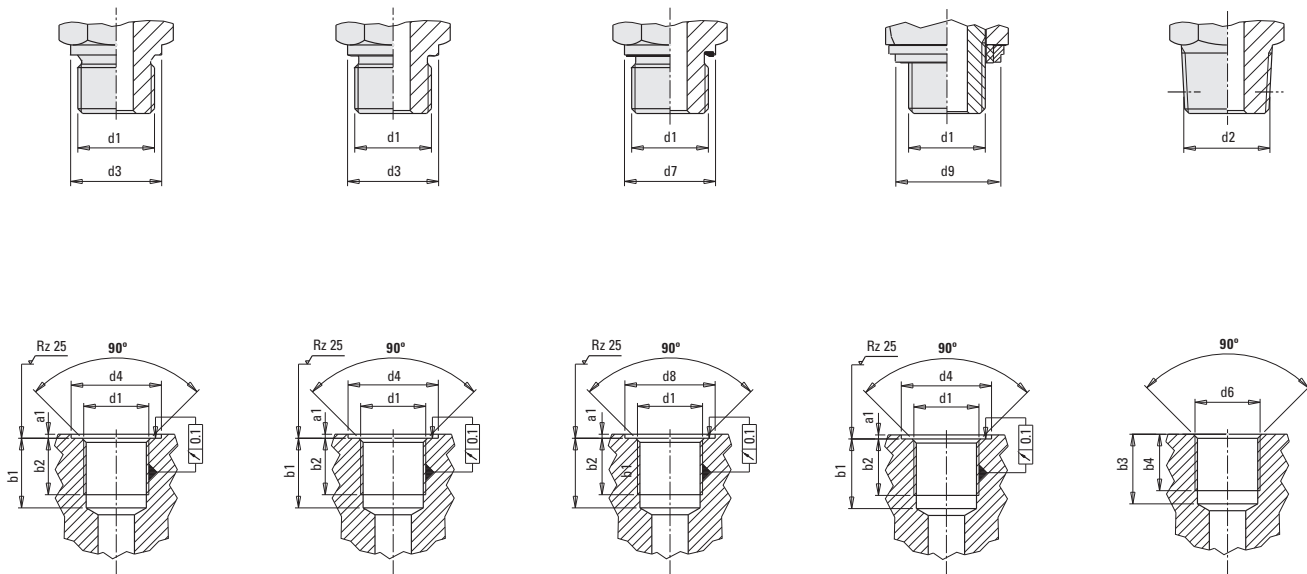


Plug NPT
ANSI / ASME B1.20.1-1983.
For conical thread.

All measurements in mm unless otherwise indicated.

BSP and BSPT Plugs & Ports

BSP parallel DIN-ISO 228
BSP taper DIN 3858

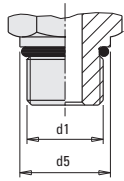


TUBE OD	d1 in	d2	d3	d4	d5	d6	a1	b1	b2	d7 in	d8 in	b3	b4
4	G1/8	14,0	15,0				1,0	13,0	8,0	R1/8	G1/8	9,5	5,5
6	G1/8	14,0	15,0	15	13,9	14,9	1,0	13,0	8,0	R1/8	G1/8	9,5	5,5
8	G1/8	14,0	15,0	20	18,9	18,9	1,0	13,0	8,0	R1/8	G1/8	9,5	5,5
8	G1/4	18,0	19,0	20	18,9	18,9	1,5	18,5	12,0	R1/4	G1/4	13,5	8,5
10	G1/4	18,0	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.

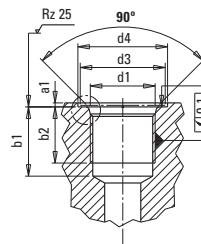
UNF / UN parallel ISO 11926-1/-2/-3

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

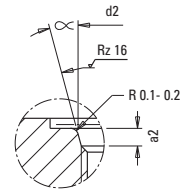


Plug
DIN ISO 6149-2+3.
Sealing by O-ring.

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 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°



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