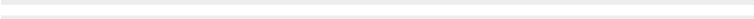




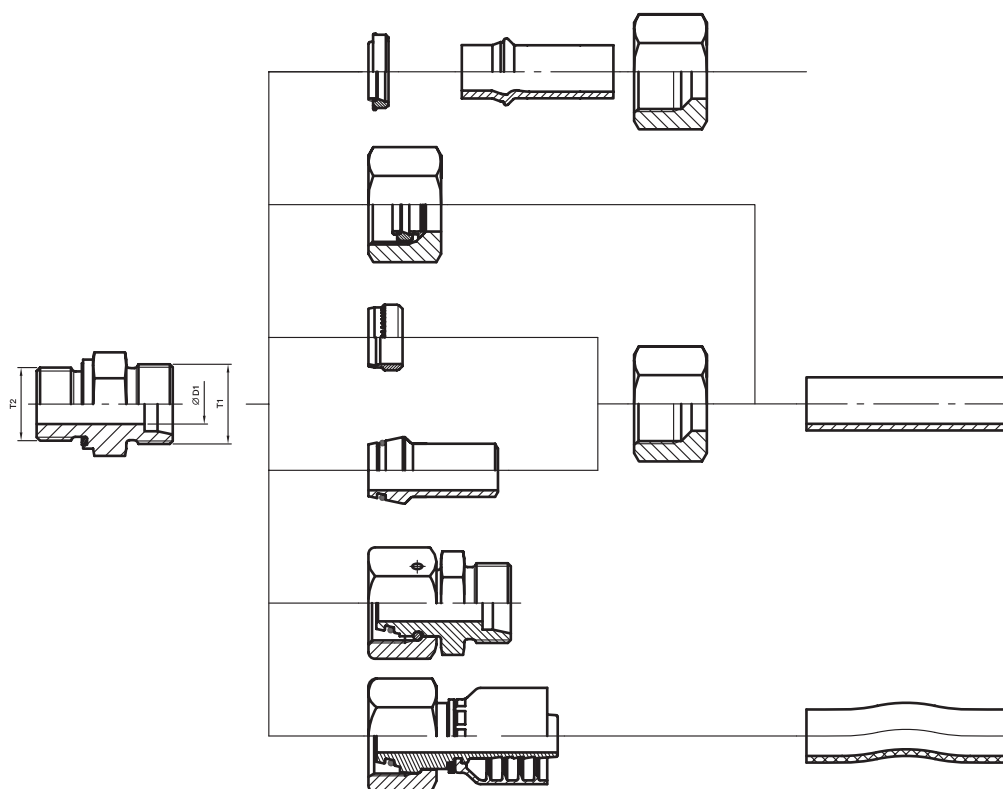
# ***Dimensioning***



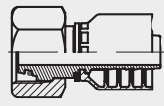
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Overview EO 24° cone connections



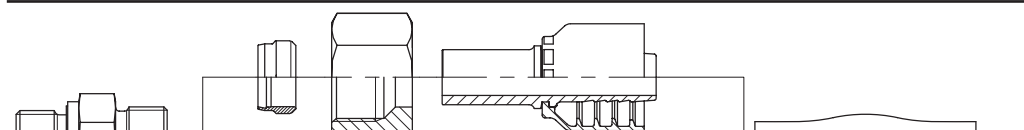
D

Size	D1 Tube O.D. mm	T1 Thread metric	Thread O.D. mm	T2 Port thread				
				BSPP	metric	BSPT (short)	metric tapered	
LL	04	M 08×1.0	8.0	G 1/8 A	M 08×1.0	R 1/8 tap.	M 08×1.0 tap.	
	05	M 10×1.0	10.0	G 1/8 A	M 08×1.0			
	06	M 10×1.0	10.0	G 1/8 A	M 10×1.0	R 1/8 tap.	M 10×1.0 tap.	
	08	M 12×1.0	12.0	G 1/8 A	M 10×1.0	R 1/8 tap.	M 10×1.0 tap.	
	10	M 14×1.0	14.0	G 1/4 A		R 1/4 tap.		
	12	M 16×1.0	16.0	G 1/4 A		R 1/4 tap.		
L	06	M 12×1.5	12.0	G 1/8 A	M 10×1.0		M 10×1.0 tap.	1CAxx-6-yy
	08	M 14×1.5	14.0	G 1/4 A	M 12×1.5		M 12×1.5 tap.	1CAxx-8-yy
	10	M 16×1.5	16.0	G 1/4 A	M 14×1.5		M 14×1.5 tap.	1CAxx-10-yy
	12	M 18×1.5	18.0	G 3/8 A	M 16×1.5		M 16×1.5 tap.	1CAxx-12-yy
	15	M 22×1.5	22.0	G 1/2 A	M 18×1.5		M 18×1.5 tap.	1CAxx-15-yy
	18	M 26×1.5	26.0	G 1/2 A	M 22×1.5		M 22×1.5 tap.	1CAxx-18-yy
	22	M 30×2.0	30.0	G 3/4 A	M 26×1.5		M 26×1.5 tap.	1CAxx-22-yy
	28	M 36×2.0	36.0	G 1 A	M 33×2.0			1CAxx-28-yy
	35	M 45×2.0	45.0	G 1 1/4 A	M 42×2.0			1CAxx-35-yy
	42	M 52×2.0	52.0	G 1 1/2 A	M 48×2.0			1CAxx-42-yy
S	06	M 14×1.5	14.0	G 1/4 A	M 12×1.5		M 12×1.5 tap.	1C9xx-6-yy
	08	M 16×1.5	16.0	G 1/4 A	M 14×1.5		M 14×1.5 tap.	1C9xx-8-yy
	10	M 18×1.5	18.0	G 3/8 A	M 16×1.5		M 16×1.5 tap.	1C9xx-10-yy
	12	M 20×1.5	20.0	G 3/8 A	M 18×1.5		M 18×1.5 tap.	1C9xx-12-yy
	14	M 22×1.5	22.0	G 1/2 A	M 20×1.5		M 20×1.5 tap.	1C9xx-14-yy
	16	M 24×1.5	24.0	G 1/2 A	M 22×1.5		M 22×1.5 tap.	1C9xx-16-yy
	20	M 30×2.0	30.0	G 3/4 A	M 27×2.0			1C9xx-20-yy
	25	M 36×2.0	36.0	G 1 A	M 33×2.0			1C9xx-25-yy
	30	M 42×2.0	45.0	G 1 1/4 A	M 42×2.0			1C9xx-30-yy
	38	M 52×2.0	52.0	G 1 1/2 A	M 48×2.0			1C9xx-38-yy

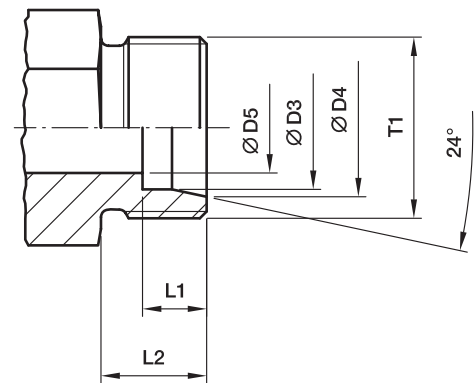
xx – Fitting Series • yy – Hose Size  
From Parker hose fitting (HPDE and PFDE)

## Dimensioning

### Not recommended

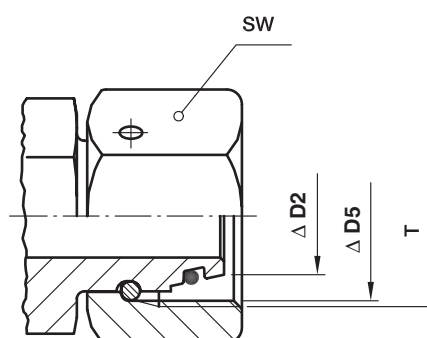
	Reason
	<p>High risk of hose blow off. For ferrule assembly special hardened tools are required.</p>
	<p>With the use of the Universal-connection high risk of cracks in 24° cone area of stud ends sizes 6-L up to 18-L.</p>

### EO 24° cone end (DIN 3861/ISO 8434-1)/dimension



Tube O.D. Size	T1	Ø D3 mm	Ø D4 mm	Ø D5 mm	L1 mm	L2 mm
04-LL	M 08×1.0	04	5.0	3.0	4.1	8
06-LL	M 10×1.0	06	7.5	4.5	5.6	8
08-LL	M 12×1.0	08	9.5	6.0	5.6	9
10-LL	M 14×1.0	10	11.5	8.0	5.6	9
12-LL	M 16×1.0	12	13.5	10.0	6.1	9
06-L	M 12×1.5	06	8.1	4.0	7.1	10
08-L	M 14×1.5	08	10.1	6.0	7.1	10
10-L	M 16×1.5	10	12.3	8.0	7.1	11
12-L	M 18×1.5	12	14.3	10.0	7.1	11
15-L	M 22×1.5	15	17.3	12.0	7.1	12
18-L	M 26×1.5	18	20.3	15.0	7.6	12
22-L	M 30×2.0	22	24.3	19.0	7.6	14
28-L	M 36×2.0	28	30.3	24.0	7.6	14
35-L	M 45×2.0	35	38.0	30.0	10.6	16
42-L	M 52×2.0	42	45.0	36.0	11.1	16
06-S	M 14×1,5	06	8.1	4.0	7.1	12
08-S	M 16×1.5	08	10.1	5.0	7.1	12
10-S	M 18×1.5	10	12.3	7.0	7.6	12
12-S	M 20×1.5	12	14.3	8.0	7.6	12
14-S	M 22×1.5	14	16.3	10.0	8.1	14
16-S	M 24×1.5	16	18.3	12.0	8.6	14
20-S	M 30×2.0	20	22.9	16.0	10.6	16
25-S	M 36×2.0	25	27.9	20.0	12.1	18
30-S	M 42×2.0	30	33.0	25.0	13.6	20
38-S	M 52×2.0	38	41.0	32.0	16.1	22

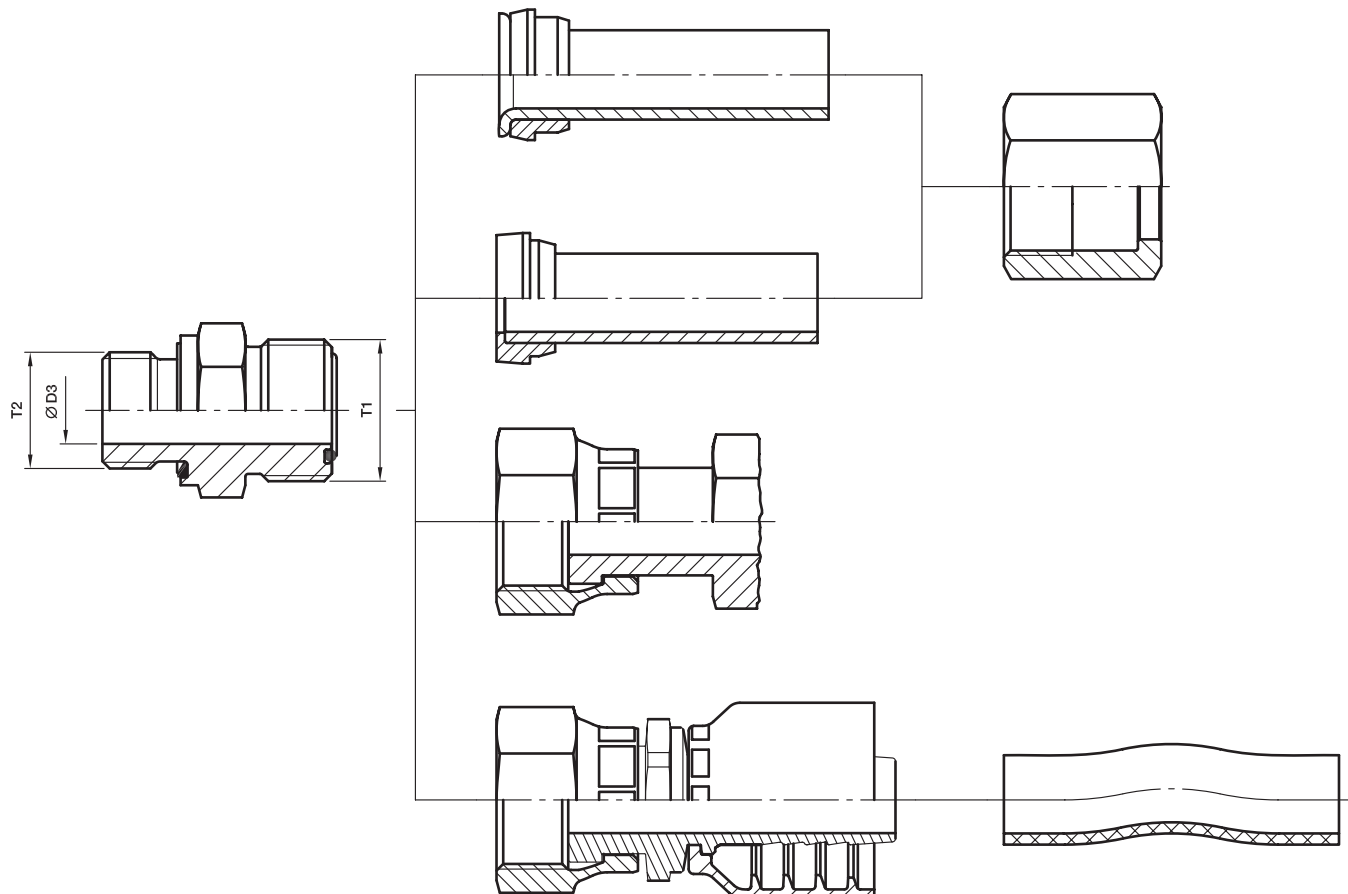
## EO 24°-DKO swivel connector (DIN 3865/DIN EN ISO 8434-4)/dimensions



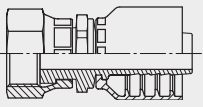
D

Tube O.D. Size	T	∅ D2 mm	∅ D5 mm Thread core diameter	SW mm
06-L	M 12×1.5	5.5	10.38	14
08-L	M 14×1.5	7.5	12.38	17
10-L	M 16×1.5	9.7	14.38	19
12-L	M 18×1.5	11.7	16.38	22
15-L	M 22×1.5	14.7	20.38	27
18-L	M 26×1.5	17.7	24.38	32
22-L	M 30×2.0	21.7	27.84	36
28-L	M 36×2.0	27.7	33.84	41
35-L	M 45×2.0	34.5	42.84	50
42-L	M 52×2.0	41.5	49.84	60
06-S	M 14×1.5	5.5	12.38	17
08-S	M 16×1.5	7.5	14.38	19
10-S	M 18×1.5	9.7	16.38	22
12-S	M 20×1.5	11.7	18.38	24
14-S	M 22×1.5	13.5	20.38	27
16-S	M 24×1.5	15.5	22.38	30
20-S	M 30×2.0	19.5	29.84	36
25-S	M 36×2.0	24.5	33.84	46
30-S	M 42×2.0	29.5	39.84	50
38-S	M 52×2.0	37.5	49.84	60

Overview O-Lok® connections



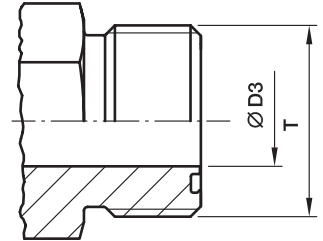
## Overview O-Lok® connections

Size	Tube				T1 Thread UN/UNF	Ø D3 Bore diameter mm	T2 Port thread				
	Metric tube		Inch tube				BSP	UN/UNF	NPTF	metric	
	O.D. mm	max. Wall thickness mm	O.D. inch	max. Wall thickness inch							
4	6	1.5	1/4	0.065	9/16-18	4.0	G 1/8 A	7/16-20	1/8	M 12x1.5	
4-4	6	1.5	1/4	0.065		4.5	G 1/4 A		1/4		
4-6	6	1.5	1/4	0.065		4.5	G 3/8 A	9/16-18	3/8		
4-8	6	1.5	1/4	0.065		4.5	G 1/2 A	3/4-16			
6	8	2.0	5/16	0.095	11/16-16	6.5	G 1/4 A	9/16-18	1/4	M 16x1.5	
6	10	2.0	3/8	0.095	11/16-16	6.5	G 1/4 A	9/16-18	1/4	M 16x1.5	
6-2	10	2.0	3/8	0.095		4.5	G 1/8 A				
6-4	10	2.0	3/8	0.095		4.5		7/16-20			
6-6	10	2.0	3/8	0.095		6.5	G 3/8 A		3/8		
6-8	10	2.0	3/8	0.095		6.5	G 1/2 A	3/4-16	1/2		
6-10	10	2.0	3/8	0.095		6.5		7/8-14			
6-12	10	2.0	3/8	0.095	6.5	G 3/4 A					
8	12	3.0	1/2	0.095	13/16-16	9.5	G 3/8 A	3/4-16	3/8	M 18x1.5	
8-4	12	3.0	1/2	0.095		7.5	G 1/4 A				
8-6	12	3.0	1/2	0.095		9.5		9/16-18			
8-8	12	3.0	1/2	0.095		9.5	G 1/2 A	1/2			
8-10	12	3.0	1/2	0.095		9.5		7/8-14			
8-12	12	3.0	1/2	0.095		9.5	G 3/4 A	1 1/16-12	3/4		
8-16	12	3.0	1/2	0.095		9.5		1 5/16-12			
10	14	2.5				1-14	12.5	G 1/2 A	7/8-14		1/2
10	15	2.5			1-14	12.5	G 1/2 A	7/8-14	1/2	M 22x1.5	
10	16	3.0	5/8	0.120	1-14	12.5	G 1/2 A	7/8-14	1/2	M 22x1.5	
10-6	16	3.0	5/8	0.120		10.0	G 3/8 A				
10-8	16	3.0	5/8	0.120		9.5		3/4-16			
10-12	16	3.0	5/8	0.120		12.5	G 3/4 A	1 1/16-12	3/4		
10-16	16	3.0	5/8	0.120		12.5	G 1 A				
12	18	3.0				1 3/16-12	15.5	G 3/4 A	1 1/16-12		3/4
12	20	3.5	3/4	0.156	1 3/16-12	15.5	G 3/4 A	1 1/16-12	3/4	M 27x2.0	
12-8	20	3.5	3/4	0.156		9.5	G 1/2 A	3/4-16	1/2		
12-10	20	3.5	3/4	0.156		12.5		7/8-14			
12-16	20	3.5	3/4	0.156		12.5	G 1 A	1 5/16-12	1		
12-20	20	3.5	3/4	0.156		12.5	G 1 1/4 A				
16	22	4.0			1 7/16-12	20.5	G 1 A	1 5/16-12	1	M 33x2.0	
16	25	4.0	1	0.188	1 7/16-12	20.5	G 1 A	1 5/16-12	1	M 33x2.0	
16-12	25	4.0	1	0.188		15.5	G 3/4 A	1 1/16-12	3/4		
16-20	25	4.0	1	0.188		20.5	G 1 1/4 A	1 5/8-12			
16-24	25	4.0	1	0.188		20.5	G 1 1/2 A				
20	28	4.0			1 11/16-12	26.0	G 1 1/4 A	1 5/8-12	1 1/4	M 42x2.0	
20	30	4.0			1 11/16-12	26.0	G 1 1/4 A	1 5/8-12	1 1/4	M 42x2.0	
20	32	4.0	1 1/4	0.188	1 11/16-12	26.0	G 1 1/4 A	1 5/8-12	1 1/4	M 42x2.0	
20-16	32	4.0	1 1/4	0.188		21.5	G 1 A	1 5/16-12			
20-24	32	4.0	1 1/4	0.188		26.0	G 1 1/2 A	1 7/8-12			
24	35	4.0			2-12	32.0	G 1 1/2 A	1 7/8-12	1 1/2	M 48x2.0	
24	38	5.0	1 1/2	0.220	2-12	32.0	G 1 1/2 A	1 7/8-12	1 1/2	M 48x2.0	
24-20	38	5.0	1 1/2	0.220		27.5	G 1 1/4 A	1 5/8-12			
32	50	3.0	2	0.120	2 1/2-12	45.0	G 2 A	2 1/2-12		M 60x2.0	

xx – Fitting Series • yy – Hose Size  
From Parker hose fitting (HPDE and PFDE)

## Dimensioning

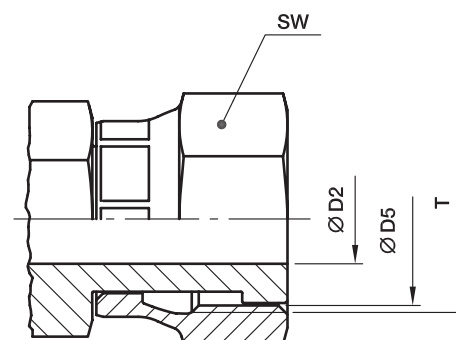
### O-Lok® end (ISO 8434-3/SAE J1453)/dimensions



Ø D5 Size	Tube O.D.		T	T	Ø D3 mm
	inch	mm	UN/UNF	Major thread Ø mm	
4	1/4	6	9/16-18	14.0	5.0
6	5/16, 3/8	8, 10	11/16-16	17.0	6.5
8	1/2	12	13/16-16	20.5	9.5
10	5/8	14, 15, 16	1-14	25.0	12.5
12	3/4	18, 20	1 3/16-12	30.0	15.5
16	7/8, 1	22, 25	1 7/16-12	36.0	20.5
20	1 1/4	28, 30, 32	1 11/16-12	42.5	26.0
24	1 1/2	35, 38	2-12	50.5	32.0
32	2	50	2 1/2-12	63.0	45.0

All dimensions shown are nominal for identification only.  
Small deviations may be found between SAE J1453 or ISO 8434-3 on bore sizes.

## O-Lok® swivel connector (ISO 8434-3/SAE J1453)/dimensions

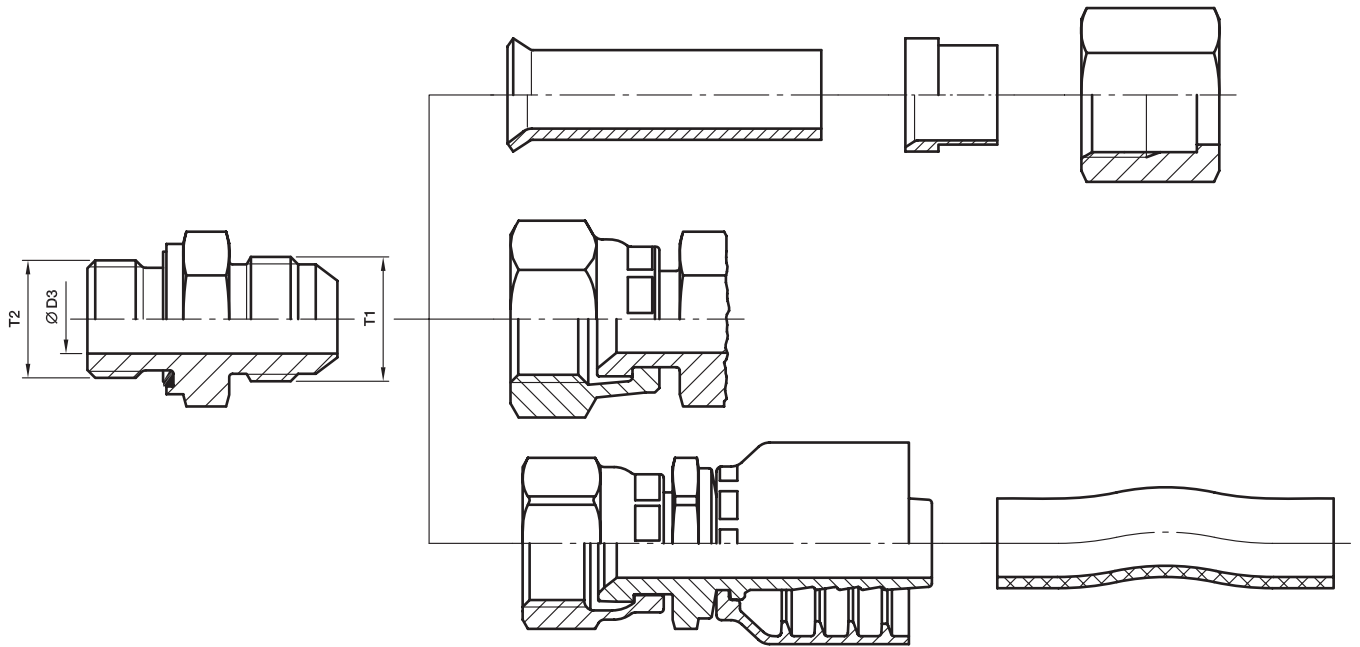


D

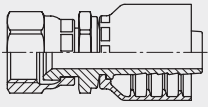
Size	Tube O.D.		T UN/UNF	Ø D5 Thread core diameter mm	SW mm	Ø D2 mm
	inch	mm				
4	1/4	6	9/16-18	12.5	17	4.0
6	5/16, 3/8	8, 10	11/16-16	16.0	22	6.5
8	1/2	12	13/16-16	19.0	24	9.0
10	5/8	14, 15, 16	1-14	23.0	30	11.5
12	3/4	18, 20	1 3/16-12	28.0	36	14.0
16	7/8, 1	22, 25	1 7/16-12	34.0	41	20.0
20	1 1/4	28, 30, 32	1 11/16-12	40.5	50	26.0
24	1 1/2	35, 38	2-12	48.0	60	32.0

All dimensions shown are nominal for identification only.  
Small deviations may be found between SAE J1453 or ISO 8434-3 on bore sizes.

Overview Triple-Lok® connections



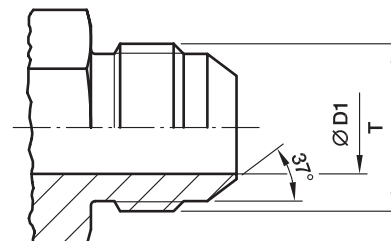
## Overview Triple-Lok® connections

Size	Tube				T1 Thread UN/UNF	Ø D3 Bore diameter mm	T2 Port thread			
	Metric tube		Inch tube				BSPP (BSPT, NPTF)	UN/UNF	metric	
	O.D. mm	max. Wall thickness mm	O.D. inch	max. Wall thickness inch						
4	6	1.5	1/4	0.065		4.5	G 1/8 A	7/16-20	M 10x1.0	168xx-4-yy
4-4	6	1.5	1/4	0.065		4.5	G 1/4 A			
4-5	6	1.5	1/4	0.065	7/16-20	4.5		1/2-20		
4-6	6	1.5	1/4	0.065		4.5	G 3/8 A	9/16-18		
4-8	6	1.5	1/4	0.065		4.5	G 1/2 A			
5	8	1.5	5/16	0.065		6.0	G 1/8 A	1/2-20	M 12x1.5	168xx-5-yy
5-4	8	1.5	5/16	0.065		6.0	G 1/4 A			
5-6	8	1.5	5/16	0.065	1/2-20	6.0	G 3/8 A			
5-8	8	1.5	5/16	0.065		6.0	G 1/2 A			
6-2	10	1.5	3/8	0.065		7.5	G 1/8 A			106xx-6-yy
6	10	1.5	3/8	0.065		7.5	G 1/4 A	9/16-18	M 14x1.5	
6-6	10	1.5	3/8	0.065	9/16-18	7.5	G 3/8 A			
6-8	10	1.5	3/8	0.065		7.5	G 1/2 A	3/4-16		
8-4	12	2.0	1/2	0.083		10.0	G 1/4 A			168xx-8-yy
8	12	2.0	1/2	0.083		10.0	G 3/8 A	3/4-16	M 16x1.5	
8-8	12	2.0	1/2	0.083	3/4-16	10.0	G 1/2 A		M 18x1.5	
8-10	12	2.0	1/2	0.083		10.0		7/8-14		
8-12	12	2.0	1/2	0.083		10.0	G 3/4 A	1 1/16-12		
10-6	14, 15, 16	2.5	5/8	0.095		12.5	G 3/8 A			168xx-10-yy
10-8	14, 15, 16	2.5	5/8	0.095		12.5		3/4-16		
10	14, 15, 16	2.5	5/8	0.095	7/8-14	12.5	G 1/2 A	7/8-14	M 18x1.5	
10-12	14, 15, 16	2.5	5/8	0.095		12.5	G 3/4 A	1 1/16-12	M 22x1.5	
12-8	18, 20	3.0	3/4	0.109		15.5	G 1/2 A	3/4-16		106xx-12-yy
12-10	18, 20	3.0	3/4	0.109		15.5		7/8-14	M 22x1.5	
12	18, 20	3.0	3/4	0.109	1 1/16-12	15.5	G 3/4 A	1 1/16-12	M 27x2.0	
12-16	18, 20	3.0	3/4	0.109		15.5	G 1 A	1 5/16-12		
14	22	3.0	7/8	0.109	1 3/16-12	18.0	G 3/4 A	1 3/16-12	M 27x2.0	–
14-16	22	3.0	7/8	0.109		18.0	G 1 A	1 5/16-12		
16-12	25	3.0	1	0.120		21.5	G 3/4 A	1 1/16-12		106xx-16-yy
16	25	3.0	1	0.120	1 5/16-12	21.5	G 1 A	1 5/16-12	M 33x2.0	
16-20	25	3.0	1	0.120		21.5	G 1 1/4 A	1 5/8-12		
20-12	28, 30, 32	3.0	1 1/4	0.120		27.5	G 3/4 A			106xx-20-yy
20-16	28, 30, 32	3.0	1 1/4	0.120	1 5/8-12	27.5	G 1 A			
20	28, 30, 32	3.0	1 1/4	0.120		27.5	G 1 1/4 A	1 5/8-12	M 42x2.0	
24-20	35, 38	4.0	1 1/2	0.120	1 7/8-12	33.0	G 1 1/4 A			106xx-24-yy
24	35, 38	4.0	1 1/2	0.120		33.0	G 1 1/2 A	1 7/8-12	M 48x2.0	
28-24	42	3.0			2 1/4-12	39.0	G 1 1/2 A			–
32	50	3.5	2	0.134	2 1/2-12	45.0	G 2 A	2 1/2-12		106xx-32-yy

xx – Fitting Series • yy – Hose Size  
From Parker hose fitting  
(HPDE and PFDE)

## Dimensioning

### Triple-Lok® end (ISO 8434-2/SAE J514)/dimensions



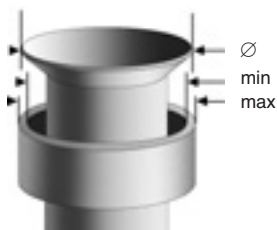
Size	Tube O.D.		T UN/UNF	T Major thread Ø mm	Ø D1 mm
	inch	mm			
4	1/4	6	7/16-20	11.0	4.5
5	5/16	8	1/2-20	12.5	6.0
6	3/8	10	9/16-18	14.0	7.5
8	1/2	12	3/4-16	19.0	10.0
10	5/8	14, 15, 16	7/8-14	22.0	12.5
12	3/4	18, 20	1 1/16-12	27.0	15.5
14	7/8	22	1 3/16-12	30.0	18.0
16	1	25	1 5/16-12	33.0	21.5
20	1 1/4	28, 30, 32	1 5/8-12	41.0	27.5
24	1 1/2	35, 38	1 7/8-12	47.5	33.0
28*	1 3/4	42	2 1/4-12	57.0	39.0
32	2	–	2 1/2-12	63.5	45.0

\*Size 28 is not part of SAE J514 or ISO 8434-2.

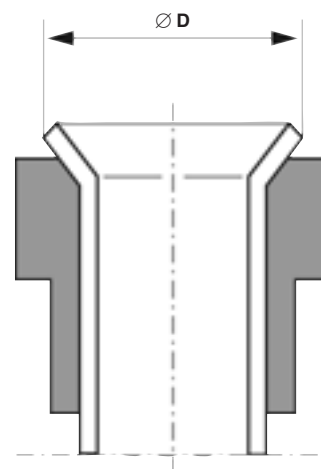
All dimensions shown are nominal for identification only.

Small deviations may be found between SAE J514 or ISO 8434-2 on bore sizes.

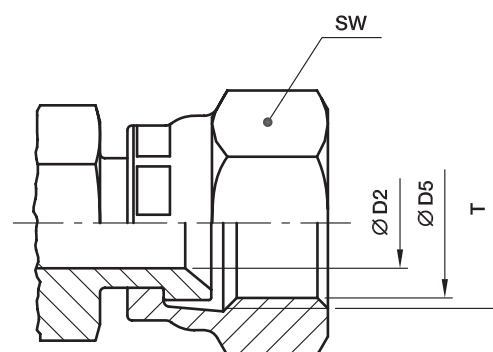
### Suitable Flare



Tube O.D.		Ø D	
mm	inch	Min.	Max.
6	1/4"	8.6	9.7
8	5/16"	10.2	11.3
10	3/8"	11.7	12.7
12	1/2"	16.0	17.3
14		19.3	20.2
15		19.3	20.2
16	5/8"	19.3	20.2
18		23.4	24.7
20	3/4"	23.4	24.7
22	7/8"	26.5	27.8
25	1"	29.7	31.0
28		37.6	38.9
30		37.6	38.9
32	1 1/4"	37.6	38.9
35		43.2	45.3
38	1 1/2"	43.2	45.3
42		52.0	54.8
	2"	59.2	61.2



## Triple-Lok® swivel connector (ISO 8434-2/SAE J514)/dimensions



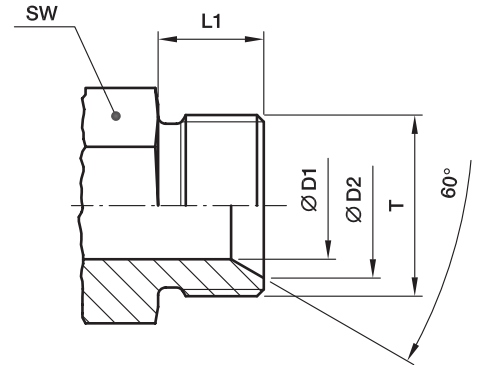
Size	Tube O.D.		T UN/UNF	SW mm	Ø D5 Thread core diameter mm	Ø D2 mm
	inch	mm				
4	1/4	6	7/16-20	17	10.0	4.4
5	5/16	8	1/2-20	17	11.5	6.0
6	3/8	10	9/16-18	19	13.0	7.5
8	1/2	12	3/4-16	22	17.5	9.9
10	5/8	14, 15, 16	7/8-14	27	20.5	12.3
12	3/4	18, 20	1 1/16-12	32	25.0	15.5
14	7/8	22	1 3/16-12	35	28.0	18.0
16	1	25	1 5/16-12	38	31.0	21.5
20	1 1/4	28, 30, 32	1 5/8-12	50	39.0	27.5
24	1 1/2	35, 38	1 7/8-12	60	45.5	33.0
32	2	–	2 1/2-12	75	61.5	45.0

All dimensions shown are nominal for identification only.

Small deviations may be found between SAE J514 or ISO 8434-2 on bore sizes.

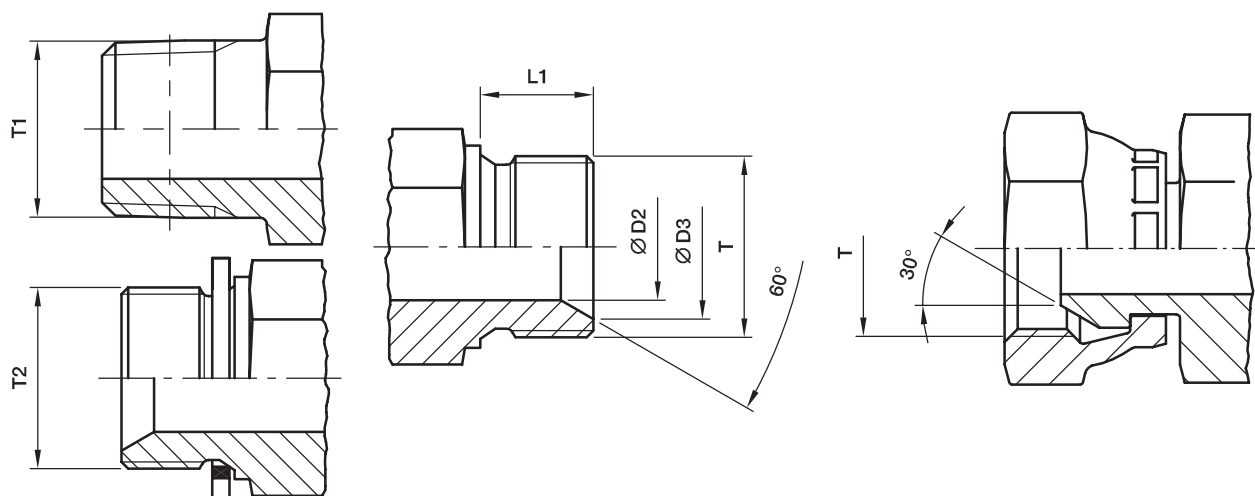
## Dimensioning

### DIN 60° cone end (DIN 7631)/dimensions



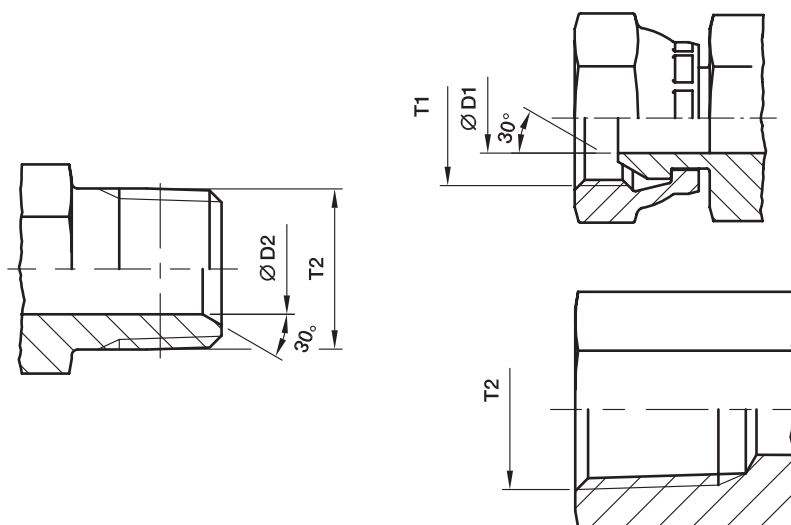
Tube O.D. mm	T	Ø D1 mm	Ø D2 mm	L1 mm	SW mm
4-5	M 10×1.5	3	8.0	8	11
06	M 12×1.5	4	9.0	10	12
08	M 14×1.5	6	11.0	10	14
10	M 16×1.5	8	13.0	11	17
12	M 18×1.5	10	15.0	11	19
15	M 22×1.5	12	19.0	12	24
18	M 26×1.5	15	22.0	12	27
22	M 30×1.5	19	26.0	14	32
28	M 38×1.5	25	33.0	14	41
35	M 45×1.5	32	40.0	16	46
42	M 52×1.5	39	47.0	16	55

Adapter 60° cone end (ISO/DIS 8434-6)/dimensions



Size	T BSPP	D2 mm	D3 mm	L1 mm	T1		T2 BSPP
					BSPT	NPT(F)	
02	G 1/8 A	3.5	7.5	8	1/8	1/8	1/8
					1/4	1/4	
04	G 1/4 A	4.7	10.4	11	1/4	1/4	1/4
					1/8	1/8	
					3/8	3/8	
06	G 3/8 A	7.9	14.0	12	3/8	3/8	3/8
					1/4	1/4	
					1/2	1/2	
08	G 1/2 A	11.1	17.5	14	1/2	1/2	1/2
					3/8	3/8	
						3/4	
10	G 5/8 A	14.3	19.3	16	1/2		1/2
					3/4		
12	G 3/4 A	16.7	22.9	16	3/4	3/4	3/4
					1/2	1/2	
					1	1	
16	G 1 A	22.2	28.7	19	1	1	1
					3/4	3/4	
20	G 1 1/4 A	28.6	36.8	22	1 1/4		3/4
24	G 1 1/2 A	33.3	42.7	22	1 1/2		1
32	G 2 A	46.0	54.6	25			1 1/2

## NPSM Swivel adapters (SAE J516)/dimensions

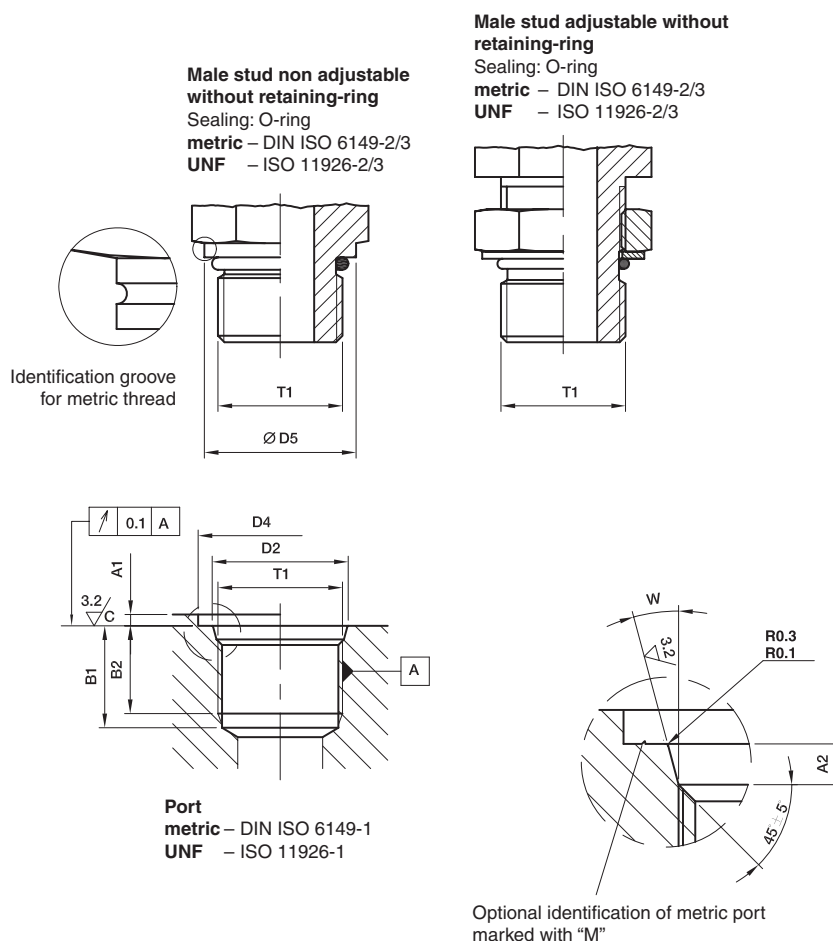


Size	T1 Thread NPSM	$\varnothing D1$ mm	$\varnothing D2$ mm	T2 Thread NPTF
2-2	1/8-27	4.0	5.0	1/8-27
2-4	1/4-18	5.6	7.0	1/8-27
4-4	1/4-18	5.6	7.0	1/4-18
4-6	3/8-18	8.8	10.0	1/4-18
4-8	1/2-14	12.0	13.5	1/4-18
6-4	1/4-18	5.6	7.0	3/8-18
6-6	3/8-18	8.8	10.0	3/8-18
6-8	1/2-14	12.0	13.5	3/8-18
8-4	1/4-18	5.6	7.0	3/4-16
8-6	3/8-18	8.8	10.0	1/2-14
8-8	1/2-14	12.0	13.5	1/2-14
8-12	3/4-14	16.3	18.0	1/2-14
10-6	3/8-18	8.8	10.0	7/8-14
10-8	1/2-14	12.0	13.5	7/8-14
10-12	3/4-14	16.3	18.0	7/8-14
12-6	3/8-18	8.8	10.0	3/4-14
12-8	1/2-14	12.0	13.5	3/4-14
12-12	3/4-14	16.3	18.0	3/4-14
12-16	1-11.5	21.4	28.9	
16-12	3/4-14	16.3	13.5	1-11.5
16-16	1-11.5	21.4	28.9	1-11.5
16-20	1 1/4-11.5	29.0	32.0	1-11.5
20-16	1-11.5	21.4	28.9	1 1/4-11.5
20-20	1 1/4-11.5	29.0	32.0	1 1/4-11.5
24-24	1 1/2-11.5	34.5	38.0	1 1/2-11.5
32-32	2-11.5	46.0	49.0	2-11.5

## Male stud ends/Port end dimensions for tube fittings

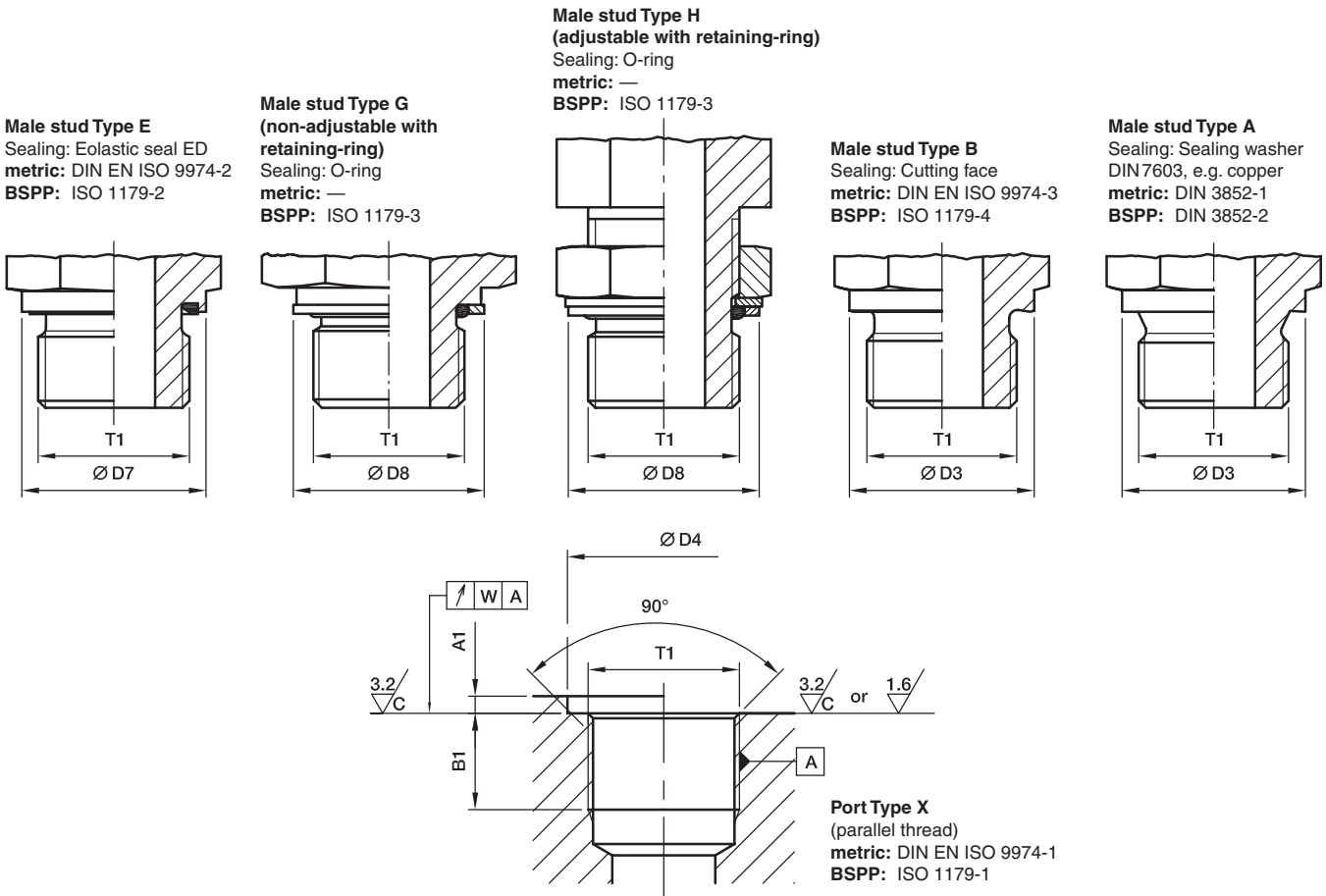
Preferred male stud ends for hydraulic applications

For new designs the metric version is recommended according to DIN ISO 6149



Thread T1	D5	D4		D2 0.1	A1 max.	A2 0.4	B1 min.	B2 min.	W ± 1°	Identification internal	
		small min.	wide min.							Thread major diameter	Thread minor diameter
M 08×1.0	11.8	14	17	9.10	1.0	1.6	11.5	10.0	12°	8.00	6.92
M 10×1.0	13.8	16	20	11.10	1.0	1.6	11.5	10.0	12°	10.00	8.92
M 12×1.5	16.8	19	23	13.80	1.5	2.4	14.0	11.5	15°	12.00	10.38
M 14×1.5	18.8	21	25	15.80	1.5	2.4	14.0	11.5	15°	14.00	12.38
M 16×1.5	21.8	24	28	17.80	1.5	2.4	15.5	13.0	15°	16.00	14.38
M 18×1.5	23.8	26	30	19.80	2.0	2.4	17.0	14.5	15°	18.00	16.38
M 22×1.5	26.8	29	34	23.80	2.0	2.4	18.0	15.5	15°	22.00	20.38
M 27×2.0	31.8	34	40	29.40	2.0	3.1	22.0	19.0	15°	27.00	24.84
M 33×2.0	40.8	43	49	35.40	2.5	3.1	22.0	19.0	15°	33.00	30.84
M 42×2.0	49.8	52	60	44.40	2.5	3.1	22.5	19.5	15°	42.00	39.84
M 48×2.0	54.8	57	66	50.40	2.5	3.1	25.0	22.0	15°	48.00	45.84
7/16-20 UNF-2B	13.8	21	–	12.40	1.6	2.4	14.0	11.5	12°	11.11	9.74
1/2-20 UNF-2B	16.8	23	–	14.50	1.6	2.5	14.0	11.5	12°	12.70	11.30
9/16-18 UNF-2B	16.8	25	–	15.65	1.6	2.5	15.5	12.7	12°	14.29	12.76
3/4-16 UNF-2B	21.8	30	–	20.60	2.4	2.5	17.5	14.3	15°	19.05	17.33
7/8-14 UNF-2B	26.8	34	–	23.95	2.4	2.5	20.0	16.7	15°	22.23	20.26
1 1/16-12 UN-2B	31.8	41	–	29.15	2.4	3.3	23.0	19.0	15°	26.99	24.69
1 5/16-12 UN-2B	40.8	49	–	35.50	3.2	3.3	23.0	19.0	15°	33.34	31.04
1 5/8-12 UN-2B	49.8	58	–	43.50	3.2	3.3	23.0	19.0	15°	41.28	38.99
1 7/8-12 UN-2B	54.8	65	–	49.85	3.2	3.3	23.0	19.0	15°	47.63	45.33

Port end dimensions for tube fittings



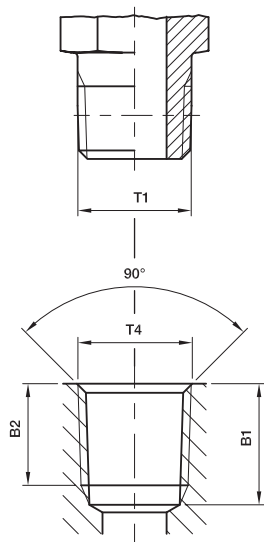
Thread T1	Ø D3 mm	Ø D7 mm	D8		D4 min. small	D4 <sup>+0.4</sup> wide*	A1 max.	B1 min.	W	Identification internal	
			small	wide						Thread major diameter	Thread minor diameter
M 08x1.0			12.8	13.15					0.1	8.00	6.92
M 10x1.0	13.9	13.9	14.8	14.75	15	20	1.0	8	0.1	10.00	8.92
M 12x1.5	16.9	16.9	17.8	17.75	18	25	1.5	12	0.1	12.00	10.38
M 14x1.5	18.9	18.9	19.8	19.75	20	25	1.5	12	0.1	14.00	12.38
M 16x1.5	20.9	21.9	22.8	21.75	23	28	1.5	12	0.1	16.00	14.38
M 18x1.5	22.9	23.9	24.8	23.75	25	30	2.0	12	0.1	18.00	16.38
M 20x1.5	24.9	25.9	26.8	25.75	27	34	2.0	14	0.1	20.00	18.38
M 22x1.5	26.9	26.9	27.8	27.75	28	34	2.5	14	0.1	22.00	20.38
M 26x1.5	30.9	31.9	32.8	31.75	33	42	2.5	16	0.2	26.00	24.38
M 27x2.0	31.9	31.9	32.8	32.75	33	42	2.5	16	0.2	27.00	24.84
M 33x2.0	38.9	39.9	40.8	39.75	41	47	2.5	18	0.2	33.00	30.84
M 42x2.0	48.9	49.9	50.8	49.75	51	58	2.5	20	0.2	42.00	39.84
M 48x2.0	54.9	54.9	55.8	54.95	56	65	2.5	22	0.2	48.00	45.84
G 1/8 A	13.8	13.9	14.8	15.00	15	19	1.0	8	0.1	9.73	8.57
G 1/4 A	17.8	18.9	19.8	19.50	20	25	1.5	12	0.1	13.16	11.45
G 3/8 A	21.8	21.9	22.8	23.50	23	28	2.0	12	0.1	16.66	14.95
G 1/2 A	25.8	26.9	27.8	28.50	28	34	2.5	14	0.1	20.96	18.63
G 3/4 A	31.8	31.9	32.8	34.50	33	42	2.5	16	0.2	26.44	24.12
G 1 A	38.8	39.9	40.8	43.50	41	47	2.5	18	0.2	33.25	30.29
G 1 1/4 A	48.8	49.9	50.8	52.50	51	58	2.5	20	0.2	41.91	38.95
G 1 1/2 A	54.8	54.9	55.8	60.00	56	65	2.5	22	0.2	47.80	44.85

\*For inch threads: Enlarged diameter vs. ISO 1179-1 to adopt multiple seal ring designs.

## Port end dimensions for tube fittings

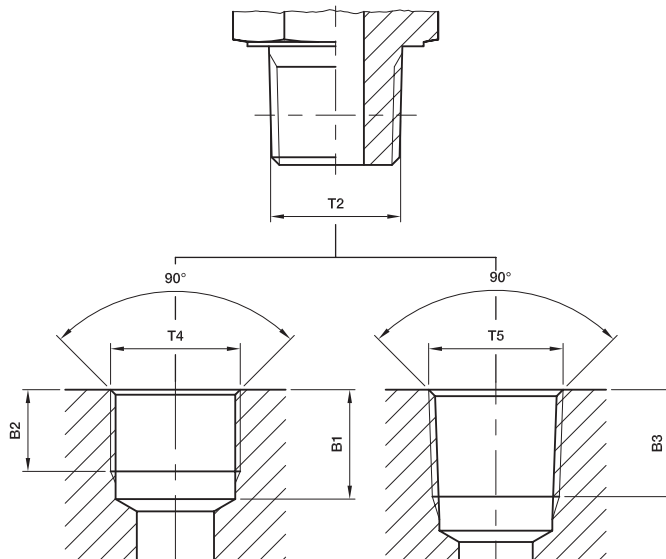
### Male stud NPT/F

Sealing: Tapered thread<sup>1)</sup>  
**NPT** ANSI/ASME B 1.20.1-1983  
**NPTF** ANSI/ASME B 1.20.3-1976



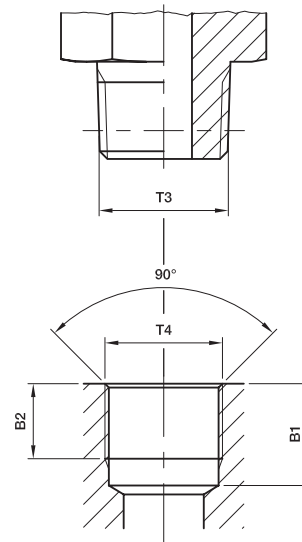
### Male stud BSPT

Sealing: Tapered thread<sup>1)</sup>  
 ISO 7/BS 21/DIN 2999-1



### Male stud Type C

Sealing: Tapered thread short<sup>1)</sup>  
**metric** DIN 3852-1  
**Inch** DIN 3852-2



### Port NPT/F (taper)

**NPT** ANSI/ASME B 1.20.1-1983  
**NPTF** ANSI/ASME B 1.20.3-1976

### Port BSPP (parallel)

ISO 7/1-Rp  
 BS 21-Rp (ISO 1179-1)

### Port BSPT (taper)

ISO 7/1-Rc/BS 21-Rc  
 DIN 2999-Rc (Japan: PT)

### Port (parallel)

**metric** DIN 3852-1  
**Inch** DIN 3852-2

Thread T1	Thread T2	Thread T3	Thread T4	Thread T5	B1 min.	B2 min.	B3 min.
1/8-27 NPT/F*			1/8-27 NPT/F*		11.6	6.9	
1/4-18 NPT/F*			1/4-18 NPT/F*		16.4	10.0	
3/8-18 NPT/F*			3/8-18 NPT/F*		17.4	10.3	
1/2-14 NPT/F*			1/2-14 NPT/F*		22.6	13.6	
3/4-14 NPT/F*			3/4-14 NPT/F*		23.1	14.1	
1-11.5 NPT/F*			1-11.5 NPT/F*		27.8	16.8	
1 1/4-11.5 NPT/F*			1 1/4-11.5 NPT/F*		28.3	17.3	
1 1/2-11.5 NPT/F*			1 1/2-11.5 NPT/F*		28.3	17.3	
	R 1/8 R 1/4 R 3/8 R 1/2 R 3/4 R 1 R 1 1/4 R 1 1/2		Rp 1/8 Rp 1/4 Rp 3/8 Rp 1/2 Rp 3/4 Rp 1 Rp 1 1/4 Rp 1 1/2	Rc 1/8 Rc 1/4 Rc 3/8 Rc 1/2 Rc 3/4 Rc 1 Rc 1 1/4 Rc 1 1/2	9.7 12.0 13.5 17.6 19.1 21.4 21.4 22.4	7.9 11.2 12.0 15.0 16.0 19.1 19.9 20.6	7.4 11.0 11.4 15.0 16.3 19.0 21.4 21.4
		M 08×1.0 tap. M 10×1.0 tap. M 12×1.5 tap. M 14×1.5 tap. M 16×1.5 tap. M 18×1.5 tap. M 20×1.5 tap. M 22×1.5 tap.	M 08×1.0 M 10×1.0 M 12×1.5 M 14×1.5 M 16×1.5 M 18×1.5 M 20×1.5 M 22×1.5		10.0 10.0 13.5 13.5 13.5 13.5 15.5 15.5	5.5 5.5 8.5 8.5 8.5 8.5 10.5 10.5	
		R 1/8 tap. R 1/4 tap. R 3/8 tap. R 1/2 tap.	Rp 1/8 Rp 1/4 Rp 3/8 Rp 1/2		8.5 12.5 12.5 16.5	5.5 8.5 8.5 10.5	

\*In the EO fitting range only NPT thread is manufactured.

In the Triple-Lok®, O-Lok® and adapters fitting range for steel NPTF thread is manufactured and for stainless steel NPT thread is manufactured.

1) Tightness can only be achieved by liquid or plastic sealing aids.

