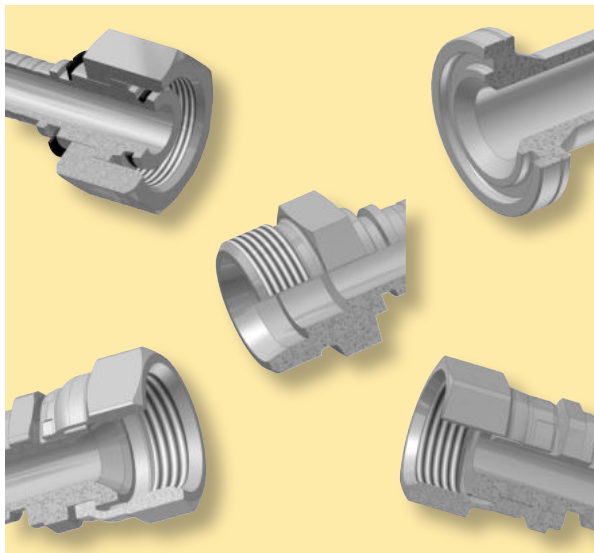




# **Hose Fitting Identification Pocket Booklet**

*Bulletin 4480-B20/UK*





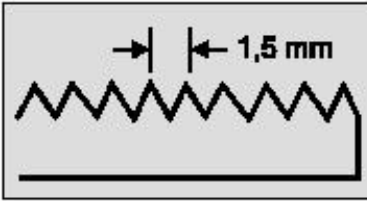
## Introduction

Machines and equipment can be piped with different hydraulic end connections. This is mainly related to their country of origin. Despite many efforts being made to standardise and rationalise connection types, many connection systems still exist due to national or international standards or even specific to a customer or a market segment. This kit can help you to identify the most common hose end connections for both hydraulic and air-conditioning applications.

## Definitions

The majority of connection systems are using threads which can be:

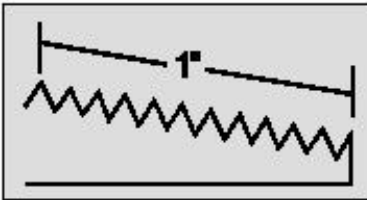
- tapered or parallel
- metric or inch



### **Metric thread:**

Defined by the outside diameter and the pitch (distance between 2 crests of the thread)

**Example: M22x1.5 - pitch of 1,5mm**



### **Inch thread (US, UK, JIS standards):**

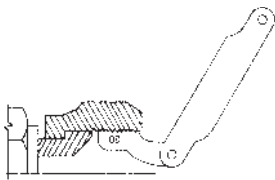
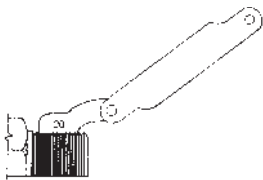
Is defined by the outside diameter and the number of threads per inch

**Example: 2" NPT-11-1/2**

**11,5 threads on 1 inch length (25,4 mm)**

## Pitch measurement:

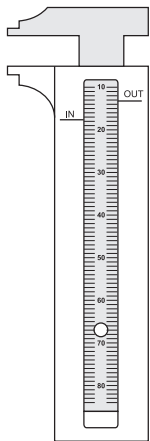
The thread gauges are used to measure pitch as shown.

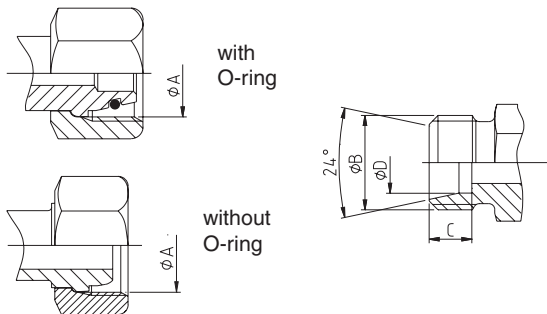


## Diameter measurement:

The caliper supplied can be used to measure thread diameters.

When measuring an inside diameter (I.D.) be sure to read at the index line marked IN and when reading an outside diameter (O.D.) read at the index marked OUT.





## **DIN 24° light (L) and heavy series (S)**

Standard: ISO 8434-1

DIN 20078 A, D & E

Parker end configurations light series: C3, C4, C5, D0

## **DIN 24° light (L) and heavy (S)**

### **– series with O-Ring**

Standard: ISO 12151-2

DIN 20 078 N, D, P & E

ISO 8434-1 & ISO 8434-4

Parker end configurations light series:

CA, CE, CF, D0; heavy series: C9, 0C, 1C, D2

- both versions can be used with adapters according to DIN 2353: Parker EO adapter range.
- sealing is obtained by metal/metal contact or O-ring to metal contact
- the DIN 24° connection with O-ring is becoming more and more popular in the market.

## DIN 24° light (L) and heavy (S) - series

Standard: DIN 20 078 A, D, E, N & P

ISO 12151-2

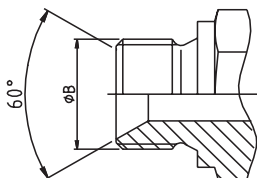
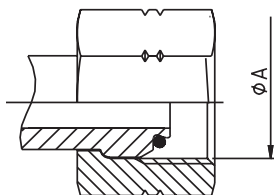
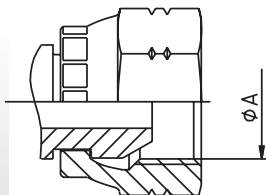
ISO 8434-1 & ISO 8434-4

Parker end configurations light series:

C3, C4, C5, CA, CE, CF, D0,

Heavy series: C9, 0C, 1C, D2

Tube OD	Specif.	Metric thread	ØA (mm)	ØB (mm)	C (mm)	ØD (mm)
6,00	6L	M12X1.5	10,50	12,00	7,00	6,20
6,00	6S	M14X1.5	12,50	14,00	7,00	6,20
8,00	8L	M14x1.5	12,50	14,00	7,00	8,20
8,00	8S	M16x1.5	14,50	16,00	7,00	8,20
10,00	10L	M16x1.5	14,50	16,00	7,00	10,20
10,00	10S	M18x1.5	16,50	18,00	7,50	10,20
12,00	12L	M18x1.5	16,50	18,00	7,00	12,20
12,00	12S	M20x1.5	18,50	20,00	7,50	12,20
14,00	14S	M22x1.5	20,50	22,00	8,00	14,20
15,00	15L	M22x1.5	20,50	22,00	7,00	15,20
16,00	16S	M24x1.5	22,50	24,00	8,50	16,20
18,00	18L	M26x1.5	24,50	26,00	7,50	18,20
20,00	20S	M30x2	27,90	30,00	10,50	20,20
22,00	22L	M30x2	27,90	30,00	7,50	22,20
25,00	25S	M36x2	33,90	36,00	12,00	25,20
28,00	28L	M36x2	33,90	36,00	7,50	28,20
30,00	30S	M42x2	39,90	42,00	13,50	30,20
35,00	35L	M45x2	42,90	45,00	10,50	35,30
38,00	38S	M52x2	49,90	52,00	16,00	38,30
42,00	42L	M52x2	49,90	52,00	11,00	42,30



## BSP 60° cone

### *Metal to metal sealing*

Specification: BS5200

Parker end configurations: 92, B1, B2, B4, D9

### *O-Ring sealing*

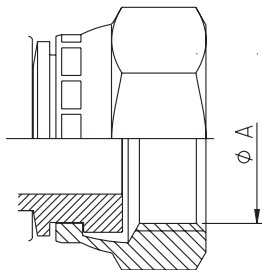
Specification: ISO12151-6 (in preparation)

Parker end configurations: EA, EB, EC, EE, D9

To be used with BSP60° adapters:  
see Parker adapters range

Tube OD	Size	BSP thread	ØA (mm)	ØB (mm)
6/10	-2	1/8-28	8,60	9,70
8/13	-4	1/4-19	11,50	13,20
12/17	-6	3/8-19	14,90	16,70
15/21	-8	1/2-14	18,60	20,90
18/23	-10	5/8-14	20,60	22,90
20/27	-12	3/4-14	24,10	26,40
26/34	-16	1"-11	30,30	33,20
33/42	-20	1.1/4-11	38,90	41,90
40/49	-24	1.1/2-11	44,90	47,80
50/60	-32	2-11	56,70	59,60

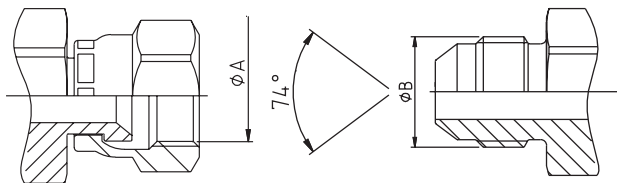




## BSP female swivel flat seat

Parker end configurations: B5, B6, B7

Tube OD	Size	BSP thread	ØA (mm)
6/10	-2	1/8-28	8,6
8/13	-4	1/4-19	11,5
12/17	-6	3/8-19	14,9
15/21	-8	1/2-14	18,6
18/23	-10	5/8-14	20,6
20/27	-12	3/4-14	24,1
26/34	-16	1"-11	30,3



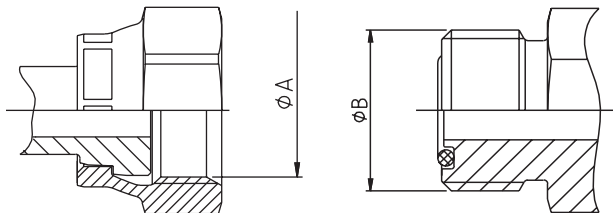
## JIC 37°

Standard: ISO 8434-2  
 ISO 12151-5 (in preparation)  
 SAE J 516

Parker end configurations: 03, 06/68, 37/3V,  
 39/3W, 41/3Y, L9

- metal to metal sealing
- to be used with JIC 37° adapters:  
 see Parker Triple-lok adapters
- commonly used in the US market

Tube OD	Tube D (mm)	UNF thread	Size	ØA (mm)	ØB (mm)
3/16"		3/8-24	-3	8,60	9,50
1/4"	6	7/16-20	-4	10,00	11,10
5/16"	8	1/2-20	-5	11,60	12,70
3/8"	10	9/16-18	-6	13,00	14,30
1/2"	12	3/4-16	-8	17,60	19,10
5/8"	14-15-16	7/8-14	-10	20,50	22,20
3/4"	18-20	1.1/16-12	-12	24,60	27,00
7/8"	22	1.3/16-12	-14	28,30	30,10
1"	25	1.5/16-12	-16	31,30	33,30
1.1/4"	30-32	1.5/8-12	-20	39,20	41,30
1.1/2"	38	1.7/8-12	-24	45,60	47,60
2"		2.1/2-12	-32	61,50	63,50



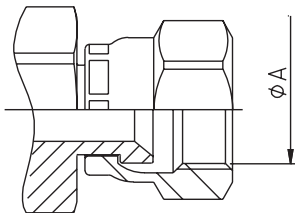
## O-Ring face seal connection (ORFS)

Standard: ISO 8434-3  
 ISO 12151-1  
 SAE J516

Parker end configurations: JC, JM/J0, JS, JU,  
 J1, J3, J5, J7, J9

- excellent sealing properties at high pressure
- good resistance to vibrations
- to be used with ORFS adapters:  
 see Parker O-Lok adapters range
- is becoming more and more popular worldwide

Tube OD	Tube D (mm)	UNF thread	Size	$\phi A$ (mm)	$\phi B$ (mm)
1/4"	6	9/16-18	-4	13,00	14,20
3/8"	10	11/16-16	-6	15,90	17,50
1/2"	12	13/16-16	-8	19,10	20,60
5/8"	16	1-14	-10	23,80	25,40
3/4"	20	1.3/16-12	-12	28,20	30,10
1"	25	1.7/16-12	-16	34,15	36,50
1.1/4"	32	1.11/16-12	-20	40,50	42,90
1.1/2"	38	2-12	-24	48,80	50,80



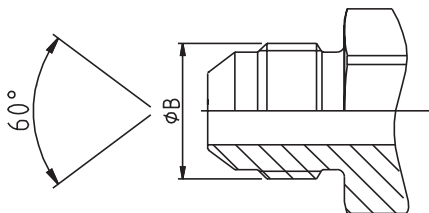
## **JIS 30° metric and BSP**

Standard: JIS B8363

Parker end configurations: MU, XU (metric)  
FU, GU, UT (BSP)

- exists in metric and BSP version
- to be used with specific JIS 30° adapters:  
see Parker adapters range
- mainly used in the Japanese equipment

**Warning: Can be easily mixed with JIC 37°**

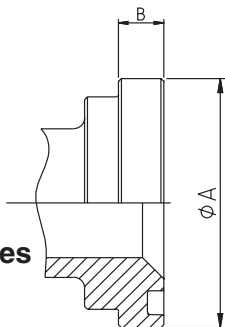


## JIS 30° metric

	Symbol	Metric thread	ØA (mm)	ØB (mm)
	MU-6	M14x1.5	12,50	14,00
	MU-9	M18x1.5	16,50	18,00
	MU-12	M22x1.5	20,50	22,00
	MU-15	M27x2	25,00	27,00
	MU-19	M27x2	25,00	27,00
	MU-25	M33x2	31,00	33,00
	MU-32	M42x2	40,00	42,00
	MU-38	M50x2	48,00	50,00
	MU-50	M60x2	58,00	60,00

## JIS 30° BSP

	Symbol	BSP thread	ØA (mm)	ØB (mm)
	GUI-3	1/8-28	8,60	9,70
	GUI-5/-6	1/4-19	11,50	13,20
	GUI-8/-9	3/8-19	14,90	16,70
	GUI-12	1/2-14	18,60	20,90
	GUI-15/-19	3/4-14	24,10	26,40
	GUI-25	1"-11	30,30	33,20
	GUI-32	1.1/4-11	38,90	41,90
	GUI-38	1.1/2-11	44,90	47,80
	GUI-50	2-11	56,70	59,60



## Code 61 and 62 SAE flanges

Standard: ISO 6162

ISO 12151-3

DIN 20078R & SAE J518

Parker end configurations:

15/4A/P5, 16, 17/4F/P7, 19/4N/P9, 89, 6A/PA,  
6F/PF, 6N/PN, XA, XF, XG, XN

- widely spread connections for big sizes and high pressure applications
- O-Ring sealing
- can be used with half flanges or one piece flanges
- specific flanges are also existing in the market: Caterpillar, Komatsu, Poclain, .....

Flange (inch)	size	code 61	Code 62
1/2	-8	34,5 / 5000	41,3/ 6000
3/4	-12	34,5/ 5000	41,3/ 6000
1	-16	34,5/ 5000	41,3/ 6000
1.1/4	-20	27,5/ 4000	41,3/ 6000
1.1/2	-24	20,7/ 3000	41,3/ 6000
2	-32	20,7/3000	41,3/ 6000

Pressure ratings:  
MPa/PSI

## Code 61 - SAE 3000PSI

Flange (inch)	Size	ØA (mm)	B (mm)	O-Ring
1/2"	-8	30,18	6,73	18,64x3,53
3/4"	-12	38,10	6,73	24,99x3,53
1"	-16	44,45	8,00	32,92x3,53
1.1/4"	-20	50,80	8,00	37,69x3,53
1.1/2"	-24	60,33	8,00	47,22x3,53
2"	-32	71,42	9,53	56,74x3,53
2.1/2"	-40	84,12	9,53	69,44x3,53
3"	-48	101,60	9,53	85,32x3,53

## Code 62 - SAE 6000 PSI

Flange (inch)	Size	ØA (mm)	B (mm)	O-Ring
1/2"	-8	31,75	7,75	18,64x3,53
3/4"	-12	41,28	8,76	24,99x3,53
1"	-16	47,63	9,53	32,92x3,53
1.1/4"	-20	53,98	10,29	37,69x3,53
1.1/2"	-24	63,50	12,57	47,22x3,53
2"	-32	79,38	12,57	56,74x3,53

## CATERPILLAR®

Flange (inch)	Size	ØA (mm)	B (mm)	D-Ring
3/4"	-12	41,28	14,22	25,40x5,00
1"	-16	47,63	14,22	31,90x5,00
1.1/4"	-20	53,98	14,22	38,20x5,00
1.1/2"	-24	63,50	14,22	44,70x5,00

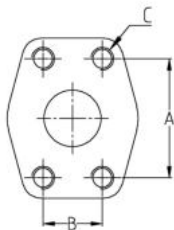
## KOMATSU®

Flange (inch)	Size	ØA (mm)	B (mm)	O-Ring
5/8"	-10	34,25	6,00	21,7x3,5

## Flange port dimensions

Specification: ISO6162 / SAEJ518

- standard Code 61 for 3000 to 5000 psi maximum, depending on size
- high pressure Code 62 for 6000 psi maximum regardless of size



### CODE 61 - SAE 3000 psi

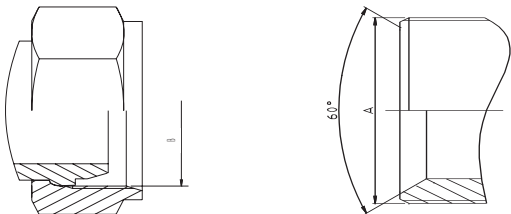
Flange	Size	A (mm)	B (mm)	C	
				(inch)	(metr.)
1/2"	-8	38.1	17.5	5/16-18	M8x1,25
3/4"	-12	47.6	22.3	3/8-16	M10x1,5
1"	-16	52.4	26.2	3/8-16	M10x1,5
1-1/4"	-20	58.7	30.2	7/16-14	M10x1,5
1-1/2"	-24	69.9	35.7	1/2-13	M12x1,75
2"	-32	77.8	42.8	1/2-13	M12x1,75*

### CODE 62 - SAE 6000 psi

Flange	Size	A (mm)	B (mm)	C	
				(inch)	(metr.)
1/2"	-8	40.5	18.2	5/16-18	M8x1,25
3/4"	-12	50.8	23.8	3/8-16	M10x1,5
1"	-16	57.2	27.8	7/16-14	M12x1,75
1-1/4"	-20	66.7	31.8	1/2-13	M12x1,75*
1-1/2"	-24	79.4	36.5	5/8-11	M16x2
2"	-32	96.8	44.4	3/4-10	M20x2,5

\*M14x2 still used in the market but no longer in accordance with ISO6162





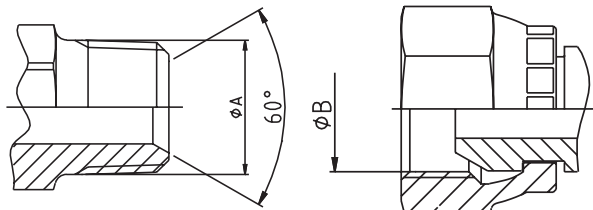
## DIN 60° very light series LL

Standard: DIN 20078 C

Parker end configurations: C0, C1, C2

Maximum working pressure: 6,3 MPa

Tube OD	Metric thread	ØA (mm)	ØB (mm)
20	M30x1.5	30,00	28,50
25	M38x1.5	38,00	36,50
32	M45x1.5	45,00	43,50
40	M52x1.5	52,00	50,50
50	M65x2	65,00	63,00



## NPTF/NPSM connection

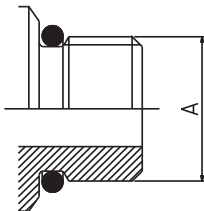
Standard: SAE J476a

SAE J516

Parker end configurations: 01, 02, 07, 13, 1L, S2

- mainly used on equipment of US origin
- very often used on painting equipment
- NPTF hose end fittings can be used with NPTF adapters: 60 ° cone sealing
- can be easily mixed with BSPTaper fitting type
- ØA dimension is measured on the 4th pitch of the thread

size	NPTF thread	ØA (mm)	ØB (mm)
-2	1/8-27	10,24	8,73
-4	1/4-18	13,61	11,90
-6	3/8-18	17,05	15,90
-8	1/2-14	21,22	19,05
-12	3/4-14	26,56	24,60
-16	1-11,5	33,22	30,95
-20	1.1/4-11,5	41,98	39,69
-24	1.1/2-11,5	48,05	45,24
-32	2-11,5	60,09	57,15



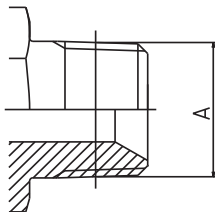
## Male straight SAE O-Ring boss type

Standard: ISO 11926

SAE J 516

Parker end configurations: 05, 0G, 0L

UNF thread	size	ØA (mm)
5/16-24	-2	7,93
3/8-24	-3	9,52
7/16-20	-4	11,11
1/2-20	-5	12,70
9/16-18	-6	14,28
3/4-16	-8	19,10
7/8-14	-10	22,22
1.1/16-12	-12	27,00
1.3/16-12	-14	30,10
1.5/16-12	-16	33,30
1.5/8-12	-20	41,30
1.7/8-12	-24	47,60
2.1/2-12	-32	63,50



## MBSPParallel / MBSPTaper connection

Standard: BS5200

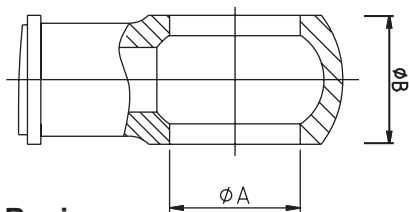
Parker end configurations: 91, UT

- can be mixed with NPTF connection
- a dimension is measured on the 4th pitch of the thread when measuring on the tapered version

## Japanese BSPT end connection:

has the same dimensions, but with a 60° cone and different hexagon dimensions.

Tube	size	BSP thread	ØA (mm)
5/10	-2	1/8-28	9,73
8/13	-4	1/4-19	13,16
12/17	-6	3/8-19	16,66
15/21	-8	1/2-14	20,96
20/27	-12	3/4-14	26,44
26/34	-16	1"-11	33,25
33/42	-20	1.1/4-11	41,91
40/49	-24	1.1/2-11	47,80
50/60	-32	2-11	59,61



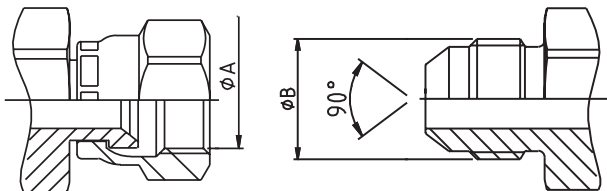
## Banjo

Standard: DIN 7642

Parker end configurations: 49, DE

- to be used with DIN 7643 bolt and sealing washers
- generates important pressure drops
- easy to install in restricted areas
- common applications:  
agricultural and lift equipment

ØA (mm)	ØB (mm)	Bolt
8,00	8	M8x1
10,00	10	M10x1 - 1/8"
12,00	12	M12x1.5
14,00	14	M14x1.5-1/4"
16,00	16	M16x1.5
17,00	16	3/8"
18,00	20	M18x1.5
22,00	25	M22x1.5-1/2"
26,00	30	M26x1.5
30,00	36	M 30 x1,5
38,00	44	M 38x1,5
45,00	52	M45x1,5



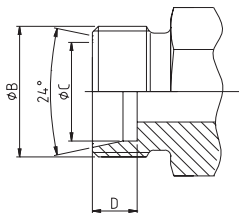
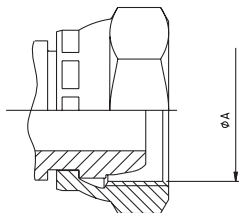
## SAE 45°

Standard: SAE J 516

Parker end configurations: 04, 08/68, 77/3V,  
79/3W, 81/3Y

- metal to metal sealing
- mostly used on air conditioning line and refrigeration equipment
- to be used with SAE 45° adapters: see Parker brass adapters range

Tube OD	Size	UNF thread	ØA (mm)	ØB (mm)
1/4"	-4	7/16-20	9,90	11,10
5/16"	-5	1/2-20	11,50	12,70
3/8"	-6	5/8-18	14,30	15,90
1/2"	-8	3/4-16	17,50	19,10
5/8"	-10	7/8-14	20,60	22,20
3/4"	-12	1.1/16-14	25,00	27,00



## **24° cone French series metric (N) and gas (G)**

Standard: none

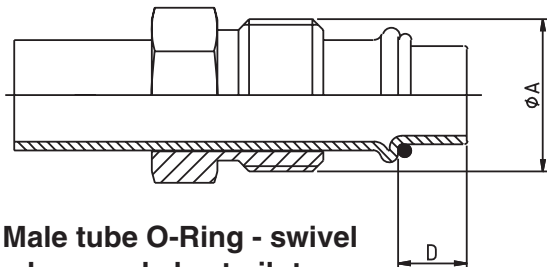
Parker end configurations: F6, F9 (metric tube)  
FG, F2, F4 (gas tube)

- mainly used in the french market
- French adapters also exist
- metal to metal sealing

## 24° cone French series metric (N) and gas (G)

Tube OD	Specif.	Metric thread	ØA (mm)	ØB (mm)	ØC (mm)	D (mm)
6,00	6N	M12x1	11,00	12,00	6,20	9,00
8,00	8N	M14x1.5	12,50	14,00	8,15	9,00
10,00	10N	M16x1.5	14,50	16,00	10,20	9,00
12,00	12N	M18x1.5	16,50	18,00	12,15	9,00
13,25	13G	M20x1.5	18,50	20,00	13,50	9,00
14,00	14N	M20x1.5	18,50	20,00	14,15	9,00
15,00	15N	M22x1.5	20,50	22,00	15,15	9,00
16,00	16N	M24x1.5	22,50	24,00	16,15	9,00
16,75	17G	M24x1.5	22,50	24,00	17,00	9,00
18,00	18N	M27x1.5	25,50	27,00	18,15	9,00
20,00	20N	M27x1.5	25,50	27,00	20,15	9,00
21,25	21G	M30x1.5	28,50	30,00	21,50	9,00
22,00	22N	M30x1.5	28,50	30,00	22,15	9,00
25,00	25N	M33x1.5	31,50	33,00	25,15	9,00
26,75	27G	M36x1.5	34,50	36,00	27,00	9,00
28,00	28N	M36x1.5	34,50	36,00	28,25	9,00
30,00	30N	M39x1.5	37,50	39,00	30,25	9,00
32,00	32N	M42x1.5	40,50	42,00	32,25	9,00
33,25	34G	M45x1.5	43,50	45,00	33,80	9,00
35,00	35N	M45x1.5	43,50	45,00	35,25	9,00
38,00	38N	M48x1.5	46,50	48,00	38,25	9,00
40,00	40N	M52x1.5	50,50	52,00	40,35	9,00
42,25	42G	M52x1.5	50,50	52,00	42,55	9,00
48,25	49G	M58x2	55,90	58,00	49,00	11,00





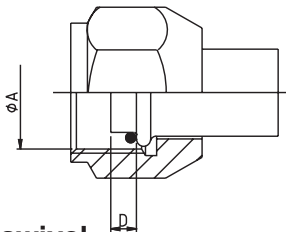
## Male tube O-Ring - swivel – long and short pilot for air conditioning lines

Parker end configurations: S5, 5R, 5K, 45, 5M

UNF-thread	Size	$\varnothing A$ (mm)	D - SP* (mm)	D-LP** (mm)
5/8-18	-6	15,9	4,7	7,1
3/4-18	-8	19,1	4,7	9,8
7/8-18	-10	22,2	4,7	9,8

\* SP = short pilot

\*\* LP = long pilot



## Female tube O-Ring - swivel – long and short pilot for air-conditioning lines

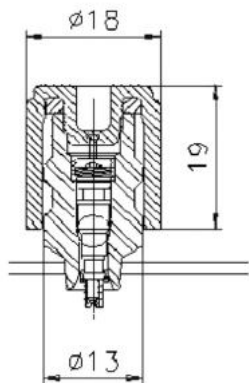
Parker end configurations: 5S, 5H, 5T, 59,  
5N, 5L, 5P

UNF- thread	Size	ØA (mm)	D - SP* (mm)	D-LP** (mm)
5/8-18	-6	14,7	4,7	7,1
3/4-16	-8	17,6	4,7	9,8
7/8-14	-10	20,5	4,7	9,8

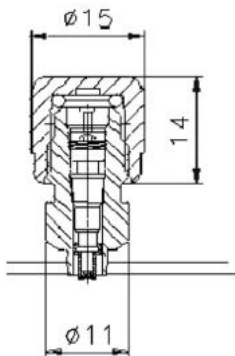
\* SP = short pilot

\*\* LP = long pilot

PT



PR



**Port charge for R134a (PT) and R12 (PR)**  
for air-conditioning lines

## Fluid Connectors Europe Sales Offices

**Parker Hannifin GmbH**  
**A** - 2700 Wiener Neustadt  
Tel: +43 (0) (26 22) 23 501  
Fax: +43 (0) (26 22) 66 212

**Parker Hannifin Corporation**  
**AZPAR**  
**AZ** - 370 000 Baku  
Tel/Fax: +994 129 83 966

**Parker Hannifin S.A.-N.V.**  
**B** - 1400 Nivelles  
Tel: +32 (0) 67 280 900  
Fax: +32 (0) 67 280 999

**Parker Hannifin s.r.o.**  
**CZ** - 184 00 Prague 8  
Tel: +420 283 085 224  
Fax: +420 283 085 360

**Parker Hannifin GmbH**  
Fluid Connectors Group  
**D** - 33659 Bielefeld  
**D** - 409 (0) (521) 4048-0  
Fax: +49 (0) (521) 4048-4280

**Parker Hannifin Danmark A/S**  
**DK** - 2750 Ballerup  
Tel: +45 43 56 04 00  
Fax: +45 43 73 31 07

**Parker Hannifin España S.A**  
**E** - 28850 Torrejón de Ardoz (Madrid)  
Tel: +34 91 675 73 00  
Fax: +34 91 675 77 11

**Parker Hannifin France SAS**  
**F** - 74130 Contamine-sur-Arve  
Tel: +33 (0) 4 50 25 80 25  
Fax: +33 (0) 4 50 97 86 60

**Parker Hannifin Oy**  
**FI** - 01520 Vantaa  
Tel: +358 (0) 9 476 731  
Fax: +358 (0) 9 476 732 00

**Parker Hannifin plc**  
**GB** - Derby DE24 8JA  
Tel: +44 (0) 1332 36 56 31  
Fax: +44 (0) 1332 36 80 38

**Parker Hannifin Corporation**  
**GR** - 171 21 Athens  
Tel: +30 (210) 933-6450  
Fax: +30 (210) 933-6451

**Parker Hannifin Corporation**  
**HU** - 1149 Budapest  
Tel: +36 (1) 220-4155  
Fax: +36 (1) 422-1525

**Parker Hannifin S.p.A.**  
**I** - 20094 Corsico (MI)  
Tel: +39 02 451921  
Fax: +39 02 4479340

**Parker Sales Ireland Ltd**  
**IE** - Blackrock, Co. Dublin  
Tel: +353 (0) 1 293 9999  
Fax: +353 (0) 1 293 9900

**Parker Hannifin Corporation**  
Gateway Ventures Ca Ltd.  
**KZ** - 480100 Almaty  
Tel: +7 327 2 543 081  
Fax: +7 327 2 541 100

**Parker Hannifin A/S**  
**N** - 1402 Ski  
Tel: +47 64 91 10 00  
Fax: +47 64 91 10 90

**Parker Hannifin B.V.**  
**NL** - 7570 AT Oldenzaal  
Tel: +31 (0) 541 585000  
Fax: +31 (0) 541 585459

**Parker Hannifin Sp.z.o.o.**  
**PL** - 02-445 Warszawa  
Tel: +48 (0) (22) 863 49 42  
Fax: +48 (0) (22) 863 49 44

**Parker Hannifin Portugal Lda**  
**PT** - 4450-625 Leça da Palmeira  
Tel: +351 22 9997360  
Fax: +351 22 9961527

**Parker Hannifin Corporation**  
Hidro Consulting Impex Srl  
**RO** - 00001 Bucharest  
Tel: +40 (21) 252-1382  
Fax: +40 (21) 252-3381

**Parker Hannifin Corporation**  
**RU** - 123001 Moscow  
Tel: +7 (095) 234 0054  
Fax: +7 (095) 234 0528

**Parker Hannifin Corporation**  
**RU** - 693000 Yuzhno-Sakhalinsk  
Tel/Fax: +7 4242 727 242

**Parker Hannifin AB**  
**SE** - 163 08 Spånga  
Tel: +46 (0) 8 5979 5000  
Fax: +46 (0) 8 5979 5110

**Parker Hannifin Corporation**  
**SI** - 8000 Novo Mesto  
Tel: +386 (7) 337-6650  
Fax: +386 (7) 337-6651

**Parker Hannifin Corporation**  
**TR** - 34169 Merter/Istanbul  
Tel: +90 212 482 91 06/07  
Fax: +90 212 482 91 10

**Parker Hannifin Corporation**  
**UA** - 01004 Kiev  
Tel: +380 (0) (44) 2207 432  
Fax: +380 (0) (44) 2206 534

**Parker Hannifin Africa**  
**ZA** - Kempton Park  
Tel: +27 11 961-0700  
Fax: +27 11 392-7213

Internet: <http://www.parker.com/europe>

For further information on other Parker Products, call the European Product Information Centre free of charge on 00800 27 27 5374.



Bulletin 4480-B20/UK  
© 2004 Parker Hannifin/ 094  
punctum/PlantijnCasparie 10/2004