

Thread identification

There are numerous types of thread and connectors available in the hydraulic industry. Sometimes you may be required to identify these for the purposes of hose making & port to port connecting.

To correctly identify threads you will need a Vernier gauge and a set of thread gauges and a thread identification chart.

We are going to concentrate initially on

- BSP = British Standard Pipe
- BSPT = British Standard Pipe Tapered
- JIC = Joint Industrial Council
- Metric – Light & Heavy Series

Vernier



Thread Gauges



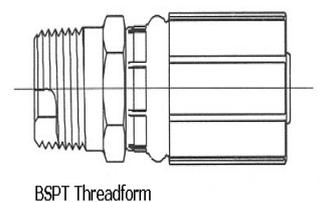
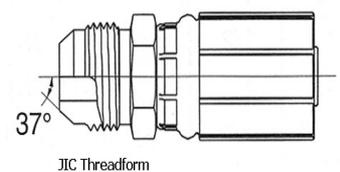
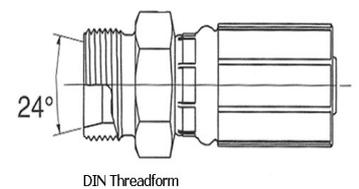
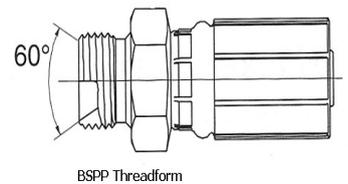
How to Identify Male Threads

Thread Diameter (mm)	Size	Type
11.1	7/16" UNF	JIC
12.0	M12 x 1.5	DIN
12.5	1/2" UNF	JIC
13.1	1/4" BSPP	BSP
13.6	1/4" BSPT	BSP
14.0	M14 x 1.5	DIN
14.2	9/16" UNF	JIC
16.0	M16 x 1.5	DIN
16.6	3/8" BSPP	BSP
17.1	3/8" BSPT	BSP
18.0	M18 x 1.5	DIN
19.0	3/4" UNF	JIC
20.0	M20 x 1.5	DIN
21.0	1/2" BSPP	BSP
21.5	1/2" BSPT	BSP
22.0	M22 x 1.5	DIN
22.2	7/8" UNF	JIC
22.9	5/8" BSPP	BSP
23.4	5/8" BSPT	BSP
24.0	M24 x 1.5	DIN
26.0	M26 x 1.5	DIN
26.4	3/4" BSPP	BSP
27.0	3/4" BSPT	BSP
	1 1/16" UNF	JIC
30.0	M30 x 2	DIN
30.1	1 3/16" UNF	JIC
33.2	1" BSPP	BSP
	1 5/16" UNF	JIC
33.9	1" BSPT	BSP
36.0	M36 x 2	DIN
41.2	1 5/8" UNF	JIC
41.9	1 1/4" BSPP	BSP
42.0	M42 x 2	DIN
42.6	1 1/4" BSPT	BSP
45.0	M45 x 2	DIN
47.6	1 7/8" UNF	JIC
47.8	1 1/2" BSPP	BSP
48.5	1 1/2" BSPT	BSP
52.0	M52 x 2	DIN
58.0	M58 x 2	DIN
59.5	2" BSPP	BSP
60.5	2" BSPT	BSP
63.3	2 1/2" UNF	JIC

See thread form pictures to determine type

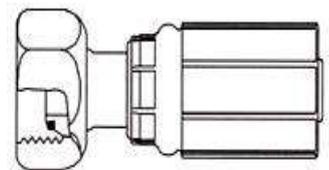
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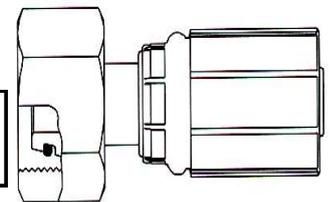
How to Identify Female Threads

Thread Diameter (mm)	Size	Type
9.9	7/16" UNF	JIC
10.5	M12 x 1.5	DIN
11.5	1/2" UNF	JIC
11.7	1/4" BSPP	BSP
12.5	M14 x 1.5	DIN
12.9	9/16" UNF	JIC
14.5	M16x 1.5	DIN
15.2	3/8" BSPP	BSP
16.5	M18 x 1.5	DIN
17.5	3/4" UNF	JIC
18.5	M20 x 1.5	DIN
18.9	1/2" BSPP	BSP
20.5	M22 x 1.5	DIN
	7/8" UNF	JIC
20.9	5/8" BSPP	BSP
22.5	M24 x 1.5	DIN
24.4	3/4" BSPP	BSP
24.5	1 1/16" UNF	JIC
24.5	M26 x 1.5	DIN
28.0	M30 x 1.5	DIN
28.1	1 3/16" UNF	JIC
28.5	M30 x 2	DIN
30.6	1" BSPP	BSP
31.3	1 5/16" UNF	JIC
31.5	M33 x 1.5	DIN
34.0	M36 x 2	DIN
39.2	1 5/8" UNF	JIC
39.3	1 1/4" BSPP	BSP
43.0	M45 x 1.5	DIN
43.5	M45 x 2	DIN
45.2	1 1/2" BSPP	BSP
50.0	M52 x 1.5	DIN
50.5	M52 x 2	DIN
56.0	M58 x 2	DIN
57.0	2" BSPP	BSP
61.4	2 1/2" UNF	JIC



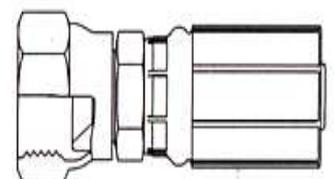
BSP Threadform

See thread form pictures to determine type



DIN Threadform

See thread form pictures to determine type



JIC Threadform

BSP = British standard pipe, this is one of the more common thread types and can be identified by a 60 degree sealing cone on Male and Female fittings.

Sometime the female fitting will be fitted with an O-ring seal but this is not always the case.

To identify the size of the thread you would first measure the OD of the male or ID of the female once you have established the size you can then consult a thread chart.

BSP threads are normally referred to imperially for example

1/4" would also be referred to as dash 4

3/8" would also be referred to as dash 6

1/2" would also be referred to as dash 8

BSPT – A Tapered version of a BSP fitting no sealing cone but formed in the same way as a standard BSP thread, the OD of the thread will taper down to be smaller at one end and will require P.T.F.E. tape to help with sealing.

JIC = Joint industrial council the threads on JIC fittings are not JIC but UNF (Unified National Fine Thread).

JIC refers to the method of sealing on an angle of 37 degrees for the male and female fittings.

To identify the size of the thread you would first measure the OD of the male or ID of the female once you have established the size you can then consult a thread chart.

JIC Fittings are also referred to in dash size example.

7/16 = 04

9/16 = 06

Metric – Uses a 24mm coned seat sometimes with an O-ring seal

To identify the size of the thread you would first measure the OD of the male or ID of the female once you have established the size you can then consult a thread chart.

Metric sizes are indicated by tube size the most common used are as detailed below.

Tube	Size	Type	Thread	W.P
LL	4	M4LL	M8X1.0	100
	6	M6LL	M10X1.0	100
	8	M8LL	M12X1.0	100
L	6	M6L	M12X1.5	500
	8	M8L	M14X1.5	500
	10	M10L	M16X1.5	500
	12	M12L	M18X1.5	400
	15	M15L	M22X1.5	400
	18	M18L	M26X1.5	400
	22	M22L	M30X2.0	250
	28	M28L	M36X2.0	250
	35	M35L	M45X2.0	250
	42	M42L	M52X2.0	250
S	6	M6S	M14X1.5	800
	8	M8S	M16X1.5	800
	10	M10S	M18X1.5	800
	12	M12S	M20X1.5	630
	14	M14S	M22X1.5	630
	16	M16S	M24X1.5	630
	20	M20S	M30X2.0	400
	25	M25S	M36X2.0	400
	30	M30S	M42X2.0	400
38	M38S	M52X2.0	400	

Special attention needs to be taken when measuring the tube size this will point you in the right direction but on M6, M8, M10 M12 ensure that you cross check the thread pitch.