Compressor & Vehicle Lift Services Ltd
9 Heather Drive, Woodlands Park,
Bedworth, Warks. CV12 0AT

Tel: 024 76491973
Fax 024 76749655

Email: info@garageequipmentdirect.co.uk

garageequipmentdirect.co.uk
Compressor & Vehicle Lift Services

Shop Online at www.garageequipmentdirect.co.uk

How to ID British (BSP) Threads

British Pipe Standard fittings are amongst the most popular of all foreign threads in the world today. These threads come in two versions: parallel (BSPP), and tapered (BSPT). The thread flank angle for both tapered and parallel British threads is 55°. NOTE: It is a fairly common mistake to identify a BSPT (tapered) as an NPT. Always remember that NPT threads have a 60° thread flank angle, and BSPT has a 55° angle (this can be verified with a thread gauge). Although BSP is a foreign thread, it isn't actually metric. This is why it comes in imperial sizes: 1/8, 1/4, 1/2, 3/4, and so on.

BSP parallel threads commonly seal via a 30° chamfer on the male thread to a 30° recessed cone inside the female thread (swivel only). If it is a port application, an O-ring and washer or a bonded washer are needed to achieve a proper seal for parallel threads. For tapered BSP threads, a seal is acquired via thread wedging with additional support from thread dope or Teflon tape. As previously mentioned, it is possible for a male BSPT (tapered) to thread into a female BSPP (parallel), so long as the female thread is fixed and not swivel (this is because of the recessed cone seat).

BSP *parallel* fittings and their specifications can be identified by a completing few calculations. To find the thread size:

1) Measure the O.D (outer diameter) of the BSP thread.

2) Take the O.D measurement (in inches) and subtract 1/4 inch (.25").

For example, a BSP parallel male thread measures out to O.D 1". Subtracting 1/4 gives a thread size of 3/4, also known as "dash" 12.

Once you have the thread size, you then need to determine the number of threads per inch to verify that it is a BSP fitting. You can do this by counting the number of thread crests over a 1/4" length, then multiply it by 4 to get the number of threads/inch. For example, if over a 1/4" distance you find 3.5 thread crests:

1) Multiply 3.5 by 4 to get 14. This is the number of threads per inch.

2) Combine the thread size with the number of threads per inch and refer to the following chart to find your desired size and its related specifications.

To identify exactly which fitting you have, measure across the thread where the red arrows are on the image below. Now refer to the "**Actual Major Diameter**" column on the chart and then look left to see the Metric and Imperial name of that size. Below is the chart of names and actual measured sizes for BSPT fittings.

Metric Name	BSP Name	Actual Major Diameter in mm Between red arrows	Actual Major Diameter in inches
6mm	1/8"	9.728mm	0.383
8mm	¼"	13.157mm	0.518
10mm	3/8"	16.662mm	0.656
15mm	½"	20.995mm	0.825
20mm	¾"	26.441mm	1.041
25mm	1"	33.249mm	1.309
32mm	1 ¼"	41.91mm	1.65
40mm	1 ½"	47.803mm	1.882
50mm	2"	59.614mm	2.347
65mm	2 ½"	75.184mm	2.96
75mm or 80mm	3"	87.884mm	3.46
100mm	4"	113.03mm	4.45
125mm	5"	138.43mm	5.45
150mm	6"	163.83mm	6.45

To accurately identify any BSPP or BSPT fitting, measure from one side of the thread to the other and refer to the chart above. EG: If the fitting measured 33.249mm across, it is a 1" BSP fitting and you would refer to it as a 1" BSP fitting. A 2" fitting would measure 59.614mm across the threads and therefore it is called a 2" BSP fitting.

For British tapered threads (BSPT), the process is almost the same. To determine the threads per inch count, you would undergo the same steps as for a parallel thread. Using the O.D to identify a tapered fitting is not recommended for the reason that the outer diameter changes throughout the length of the taper. However, the I.D (inner diameter) is a good reference point to start from. To determine the I.D of a BSP tapered fitting, simply obtain a caliper reading from inside the bore of the fitting. You can cross-reference the bore size on the following chart with thread pitch and threads per inch to find your desired size and its related specifications.