

# British Thread Types

## British

It is a common misconception that all foreign threads are metric. This is not always the case. There are two common thread forms: Metric and Whitworth(BSP). The country of origin and the proper nomenclature for each is listed below.

## British Standard Pipe Parallel

Popular couplings have British Standard Pipe(BSP) threads, also known as Whitworth threads. These can be parallel threads(BSPP) with a 30° inverted flare or tapered threads(BSPT), with a 30° inverted flare. Port connections are usually made with BSPP threads and a soft metal cutting ring for sealing.

The BSPP(parallel) male will mate with a BSPOR(parallel) female or a female port.

The BSPP male has straight threads and a 30°seat. The BSPOR female has straight threads, a 30°seat, and O-ring. The female port has straight threads and a spotace. The seal on the port is made with an O-ring or soft metal washer on the male.

The BSPP(parallel) connector is similar to, but not interchangeable with, the NPSM connector. The thread pitch is different in most sizes, and the thread angle is 55° instead of the 60° angle found on NPSM threads.

Dash Size	Nominal Size(In.)	Thread Size	Female Parallel Thread	Male Parallel Thread	Torque Recommendation(Ft.Lbs)	
			I.D.(In.)	O.D.(In.)	Min.	Max.
-2	1/8	1/8-28	11/32	3/8	7	9
-4	1/4	1/4-19	15/32	17/32	11	18
-6	3/8	3/8-19	19/32	21/32	19	28
-8	1/2	1/2-14	3/4	13/16	30	36
-10	5/8	5/8-14	13/16	29/32	37	44
-12	3/4	3/4-14	31/32	1-1/32	50	60
-16	1	1-11	1-7/32	1-11/32	79	95
-20	1-1/4	1-1/4-11	1-17/32	1-21/32	127	152
-24	1-1/2	1-1/2-11	1-25/32	1-7/8	167	190
-32	2	2-11	2-7/32	2-11/32	262	314

## British Standard Pipe Tapered

The BSPT (tapered) male will mate with a BSPT (tapered) female, or a BSPOR (parallel) female.

The BSPT male has tapered threads. When mating with either the BSPT (tapered) female or the BSPOR (parallel) female port, the seal is made on the threads.

The BSPT connector is similar to, but not interchangeable with, the NPTF connector. The thread pitch is different in most cases, and the thread angle is 55°instead of the 60° angle found on NPTF threads.

Dash Size	Nominal Size(In.)	Thread Size	Female Parallel Thread	Male Parallel Thread	Torque Recommendation (Ft. Lbs.)	
			I.D.(In.)	O.D.(In.)	Min.	Max.
-2	1/8	1/8-28	11/32	3/8	7	9
-4	1/4	1/4-19	15/32	17/32	11	18
-6	3/8	3/8-19	19/32	21/32	19	28
-8	1/2	1/2-14	3/4	13/16	30	36
-10	5/8	5/8-14	13/16	29/32	37	44
-12	3/4	3/4-14	31/32	1-1/32	50	60
-16	1	1-11	1-7/32	1-11/32	79	95
-20	1-1/4	1-1/4-11	1-17/32	1-21/32	127	152
-24	1-1/2	1-1/2-11	1-25/32	1-7/8	167	190
-32	2	2-11	2-7/32	2-11/32	262	314

## **British Flat-Face Seal**

A seal is made when the O-ring in the male contacts the flat face on the female. These coupling are intended for hydraulic systems where elastomeric seals are acceptable to overcome leakage and leak resistance is crucial.

The solid male British O-ring face seal fitting will mate with a swivel female British O-ring face seal fitting only. An O-ring rests in the O-ring groove in the male.

Dash Size	Nominal Size(In.)	Thread Size	Female Parallel Thread	Male Parallel Thread	Torque Recommendation (Ft.Lbs.)	
			I.D.(In.)	O.D.(In.)	Min.	Max
-6	3/8	3/8-19	19/32	21/32	18	20
-8	1/2	1/2-14	3/4	13/16	32	40
-12	3/4	3/4-14	31/32	1 1/32	65	80