

Thread Identification Guide

BSPTF & NPTF



Technical Information

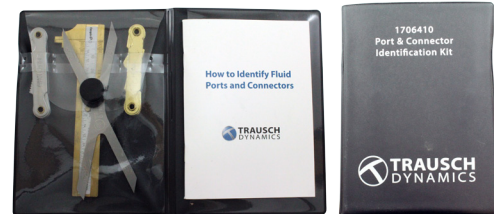
Adapter Sizing Chart

NPTF, BSPT and BSPP measure 1/4" larger than their actual size. For example, a 1/4" NPTF, BSPT or BSPP will actually measure 1/2" on the O. D. of the threads. JIC, SAE O-ring & Flat Face threads measure as listed below. The first number listed is the size of thread, the second number is the threads per inch.

| Size | NPTF (Pipe) | JIC (37°) | SAE (O-Ring) | Face Seal (Flat Face) | BSPP (Parallel) | BSPT (Tapered) |
|------|----------------|-------------|--------------|-----------------------|-----------------|----------------|
| -2 | 1/8 - 27 | 5/16 - 24 | 5/16 - 24 | - | 1/8 - 28 | 1/8 - 28 |
| -3 | - | 3/8 - 24 | 3/8 - 24 | - | - | - |
| -4 | 1/4 - 18 | 7/16 - 20 | 7/16 - 20 | 9/16 - 18 | 1/4 - 19 | 1/4 - 19 |
| -5 | - | 1/2 - 20 | 1/2 - 20 | - | - | - |
| -6 | 3/8 - 18 | 9/16 - 18 | 9/16 - 18 | 11/16 - 16 | 3/8 - 19 | 3/8 - 19 |
| -8 | 1/2 - 14 | 3/4 - 16 | 3/4 - 16 | 13/16 - 16 | 1/2 - 14 | 1/2 - 14 |
| -10 | - | 7/8 - 14 | 7/8 - 14 | 1 - 14 | - | - |
| -12 | 3/4 - 14 | 1-1/16 - 12 | 1-1/16 - 12 | 1 3/16 - 12 | 3/4 - 14 | 3/4 - 14 |
| -14 | - | 1-3/16 - 12 | 1-3/16 - 12 | 1 5/16 - 12 | - | - |
| -16 | 1 - 11-1/2 | 1-5/16 - 12 | 1-5/16 - 12 | 1 7/16 - 12 | 1 - 11 | 1 - 11 |
| -20 | 1-1/4 - 11-1/2 | 1-5/8 - 12 | 1-5/8 - 12 | 1 11/16 - 12 | 1-1/4 - 11 | 1-1/4 - 11 |
| -24 | 1-1/2 - 11-1/2 | 1-7/8 - 12 | 1-7/8 - 12 | 2 - 12 | 1-1/2 - 11 | 1-1/2 - 11 |
| -32 | 2 - 11-1/2 | 2-1/2 - 12 | 2-1/2 - 12 | 2 1/2 - 12 | 2 - 11 | 2 - 11 |

Thread Sizing Kit

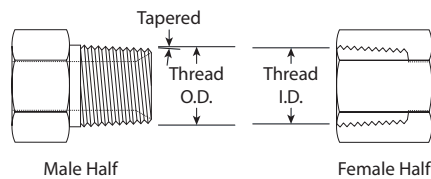
Allows the user to properly identify threads of all hydraulic types. This handy kit includes a fractional thread pitch gauge, a metric thread pitch gauge, inside & outside caliper (inches and millimeters), a seat angle gauge (24 degree/30 degree/37 degree/45 degree), 27-page fluid ports & connections identification guide. A carrying case is standard for easy and convenient storage.



| Stock Number | Ship Wt. |
|--------------|----------|
| 1706410 | 1 |

British Standard Pipe Tapered (BSPT) & JIS Tapered Pipe (PT)

The BSPT (tapered) connection is similar to North American NPTF, except that the thread pitches are different in most sizes. The thread form and O.D.'s are close but not the identical. Sealing is accomplished by distorting the threads. A properly chamfered BSPT male will also seal with a BSPP female swivel. A thread sealant is recommended.

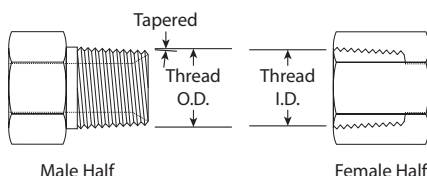


Note: British Standard Pipe Tapered threads are sometimes preceded by the letter "R." For example, BSPT 1/2 - 14 may be expressed as R1/2.

| Inch Size | Dash Size | Nominal Thread Size | Male Thread O.D. | Female Thread I.D. |
|-----------|-----------|---------------------|------------------|--------------------|
| 1/8 | 02 | 1/8 - 28 | 3/8 (.38) | 11/32 (.35) |
| 1/4 | 04 | 1/4 - 19 | 33/64 (.52) | 15/32 (.47) |
| 3/8 | 06 | 3/8 - 19 | 21/32 (.65) | 19/32 (.60) |
| 1/2 | 08 | 1/2 - 14 | 13/16 (.82) | 3/4 (.75) |
| 5/8 | 10 | 5/8 - 14 | 7/8 (.88) | 13/16 (.80) |
| 3/4 | 12 | 3/4 - 14 | 1 1/32 (1.04) | 31/32 (.97) |
| 1 | 16 | 1 - 11 | 1 5/16 (1.30) | 1 7/32 (1.22) |
| 1 1/4 | 20 | 1 1/4 - 11 | 1 21/32 (1.65) | 1 9/16 (1.56) |
| 1 1/2 | 24 | 1 1/2 - 11 | 1 7/8 (1.88) | 1 25/32 (1.79) |
| 2 | 32 | 2 - 11 | 2 11/32 (2.35) | 2 1/4 (2.26) |

NPTF (National Pipe Thread Fuel)

Commonly referred to as "pipe" threads, this connection is still widely used in fluid power systems, even though it is not recommended by the National Fluid Power Association (NFPA) for use in hydraulic applications. The thread is tapered and the seal takes place by deformation of the threads. NPTF threads differ from NPT threads in that NPT threads are designed for mechanical or low-pressure air or fluid applications. Visually, the two look identical. However, the thread forms are different. Mating a NPT threads with NPTF threads will most likely produce a connection what will leak. All of our hydraulic fittings and adapters are NPTF threads. A thread sealant is recommended for all NPTF fittings and adapters.



NPTF Thread Measuring Tip: Measure the thread diameter and subtract one quarter inch to find the nominal thread size.

| Inch Size | Dash Size | Nominal Thread Size | Male Thread O.D. | Female Thread I.D. |
|-----------|-----------|---------------------|------------------|--------------------|
| 1/8 | 02 | 1/8 - 27 | 12/32 (0.41) | 3/8 (0.38) |
| 1/4 | 04 | 1/4 - 18 | 17/32 (0.54) | 1/2 (0.49) |
| 3/8 | 06 | 3/8 - 18 | 11/16 (0.68) | 5/8 (0.63) |
| 1/2 | 08 | 1/2 - 14 | 27/32 (0.84) | 25/32 (0.77) |
| 3/4 | 12 | 3/4 - 14 | 1 1/16 (1.05) | 1 (0.98) |
| 1 | 16 | 1 - 11 1/2 | 1 5/32 (1.32) | 1 1/4 (1.24) |
| 1 1/4 | 20 | 1 1/4 - 11 1/2 | 1 21/32 (1.66) | 1 19/32 (1.58) |
| 1 1/2 | 24 | 1 1/2 - 11 1/2 | 1 29/32 (1.90) | 1 13/16 (1.82) |
| 2 | 32 | 2 - 11 1/2 | 2 3/8 (2.38) | 2 5/16 (2.30) |

