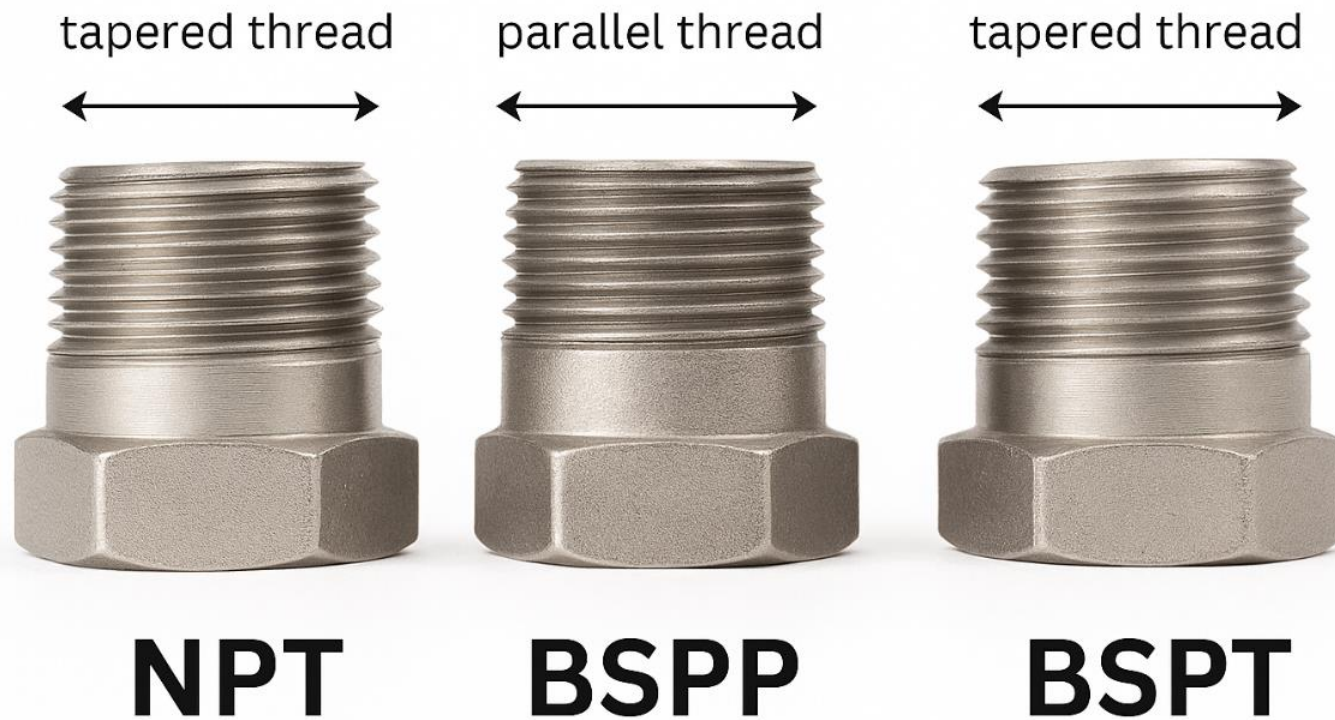
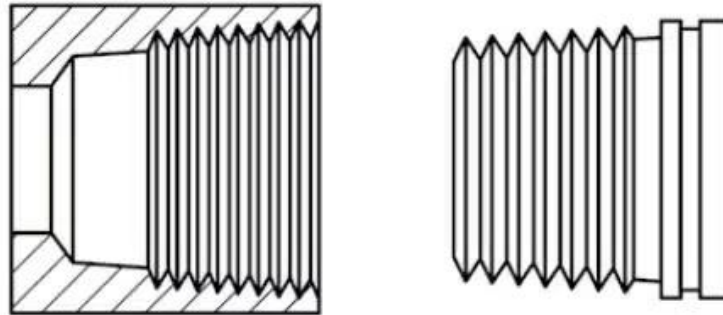


## Threading Dimension Chart

### NPT vs BSPP vs BSPT



## BSP Threads



### BSP Thread Chart

Thread Size	Major Diameter (in)	Major Diameter (mm)	Pitch (TPI)	Pitch (mm)	Taper
1/8" BSP	0.383	9.728	28	0.907	1:16
1/4" BSP	0.518	13.157	19	1.337	1:16
3/8" BSP	0.656	16.662	19	1.337	1:16
1/2" BSP	0.825	20.955	14	1.814	1:16

Thread Size	Major Diameter (in)	Major Diameter (mm)	Pitch (TPI)	Pitch (mm)	Taper
3/4" BSP	1.041	26.441	14	1.814	1:16
7/8" BSP	1.189	30.201	11	2.309	1:16
1" BSP	1.309	33.249	11	2.309	1:16
1 1/8" BSP	1.466	37.236	11	2.309	1:16
1 1/4" BSP	1.650	41.910	11	2.309	1:16
1 3/8" BSP	1.811	45.999	11	2.309	1:16
1 1/2" BSP	1.925	48.895	11	2.309	1:16
1 3/4" BSP	2.083	52.908	11	2.309	1:16

Thread Size	Major Diameter (in)	Major Diameter (mm)	Pitch (TPI)	Pitch (mm)	Taper
2" BSP	2.250	57.150	11	2.309	1:16
2 1/4" BSP	2.417	61.392	11	2.309	1:16
2 1/2" BSP	2.583	65.608	11	2.309	1:16
2 3/4" BSP	2.750	69.850	11	2.309	1:16
3" BSP	2.917	74.092	11	2.309	1:16
3 1/4" BSP	3.083	78.300	11	2.309	1:16
3 1/2" BSP	3.249	82.524	11	2.309	1:16
3 3/4" BSP	3.415	86.741	11	2.309	1:16

Thread Size	Major Diameter (in)	Major Diameter (mm)	Pitch (TPI)	Pitch (mm)	Taper
4" BSP	3.581	90.957	11	2.309	1:16
4 1/2" BSP	3.913	99.390	11	2.309	1:16
5" BSP	4.245	107.823	11	2.309	1:16
5 1/2" BSP	4.577	116.256	11	2.309	1:16
6" BSP	4.909	124.689	11	2.309	1:16

**Notes:**

- BSPT = British Standard Pipe Taper
- BSPP = British Standard Pipe Parallel
- TPI = Threads Per Inch

**BSP Thread Standards: BSPP- ISO 228 (Parallel) and BSPT- ISO 7 (Tapered)**

## BSP threads are governed by two ISO standards:

1. **ISO 228 (BSPP):** Defines *parallel threads* where the diameter remains constant. These require a sealing washer or *BSP thread sealant* to prevent leaks, as the threads themselves don't form a seal. Common in low-pressure hydraulic systems and water pipelines.
2. **ISO 7 (BSPT):** Specifies *tapered threads* that narrow toward the end. The male thread compresses into the female fitting, creating a seal through deformation. Widely used in high-pressure gas and steam systems (*BSP gas threads*).

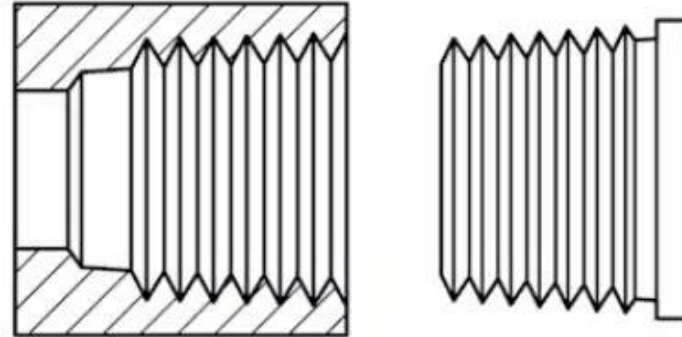
## BSP Thread Chart Breakdown:

### Pitch, Diameter, and Thread Angle

A *BSP thread chart* provides key dimensions for identifying and matching fittings:

- **Major Diameter:** The largest thread diameter (measured in inches or millimeters).
- **Pitch:** Distance between thread peaks (e.g., *BSP thread pitch* of 14 threads per inch for G1/2).
- **Thread Angle:** Always 55° for BSP.

# NPT Threads



## NPT Threads Chart

Outside Diameter D	Nominal Pipe Size	Threads per inch (Pitch)	Thread Pitch Length, P	Pitch Diameter at External Thread Start E0	Hand Tight Thread Engagement Length, L1	Diameter E1	Maximum Thread Engagement L2	Diameter E2
0.3125	1/16	27	0.03704	0.27118	0.160	0.28118	0.2611	0.28750
0.405	1/8	27	0.03704	0.36351	0.1615	0.37360	0.2639	0.38000
0.540	1/4	18	0.05556	0.47739	0.2278	0.49163	0.4018	0.50250
0.675	3/8	18	0.05556	0.61201	0.240	0.62701	0.4078	0.63750

0.840	1/2	14	0.07143	0.75843	0.320	0.77843	0.5337	0.79179
1.050	3/4	14	0.07143	0.96768	0.339	0.98887	0.5457	1.00179
1.315	1	11 1/2	0.8696	1.21363	0.400	1.23863	0.6828	1.25630
1.660	1 1/4	11 1/2	0.8696	1.55713	0.420	1.58338	0.7068	1.60130
1.900	1 1/2	11 1/2	0.8696	1.79609	0.420	1.82234	0.7235	1.84130
2.375	2	11 1/2	0.8696	2.26902	0.436	2.29627	0.7565	2.31630
2.875	2 1/2	8	0.12500	2.71953	0.682	2.76216	1.1375	2.79062
3.500	3	8	0.12500	3.4062	0.766	3.38850	1.2000	3.41562
4.000	3 1/2	8	0.12500	3.83750	0.821	3.88881	1.2500	3.91562
4.500	4	8	0.12500	4.33438	0.844	4.38712	1.300	4.41562
5.563	5	8	0.12500	5.39073	0.937	5.44929	1.4063	5.47862
6.625	6	8	0.12500	6.44609	0.958	6.50597	1.5125	6.54062
8.625	8	8	0.12500	8.43359	1.063	8.50003	1.7125	8.54062
10.750	10	8	0.12500	10.54531	1.210	10.62094	1.9250	10.66562
12.750	12	8	0.12500	12.53281	1.360	12.61781	2.1250	12.66562
14.000	14	8	0.12500	13.77500	1.562	13.87262	2.2500	13.91562
16.000	16	8	0.12500	15.76250	1.812	15.87575	2.4500	15.91562



18.000	18	8	0.12500	17.75000	2.000	17.87500	2.6500	17.91562
20.000	20	8	0.12500	19.73750	2.125	19.87031	2.8500	19.91562
24.000	24	8	0.12500	23.71250	2.375	23.86094	3.2500	23.91562

Key metrics include:

1. Threads per Inch (TPI): Higher TPI = finer threads.
2. Nominal Pipe Size (NPS): Labeled in fractions (e.g., 1/8", 1/2").
3. Outside Diameter (OD): Measured at the thread's largest end.
4. Pitch Diameter: Determines thread engagement.