

Hydraulic Thread Chart

Thread by dash size for SAE fittings, widths across male and female threads, pipe threads and metric 24° cones.

DASH	TUBE OD	JIC 37° / ORB	SAE 45°	ORFS	JIC MALE	JIC FEMALE	ORFS MALE	ORFS FEMALE
-2	1/8"	5/16-24	5/16-24	n/a	n/a	n/a	n/a	n/a
-3	3/16"	3/8-24	3/8-24	n/a	9.5	8.6	n/a	n/a
-4	1/4"	7/16-20	7/16-20	9/16-18	11.1	10.0	14.2	13.0
-5	5/16"	1/2-20	1/2-20	n/a	12.7	11.6	n/a	n/a
-6	3/8"	9/16-18	5/8-18	11/16-16	14.3	13.0	17.5	15.9
-8	1/2"	3/4-16	3/4-16	13/16-16	19.1	17.6	20.6	19.1
-10	5/8"	7/8-14	7/8-14	1-14	22.2	20.5	25.4	23.8
-12	3/4"	1 1/16-12	1 1/16-14	1 3/16-12	27.0	24.6	30.1	28.2
-14	7/8"	1 3/16-12	1 1/4-12	n/a	30.1	28.3	n/a	n/a
-16	1"	1 5/16-12	n/a	1 7/16-12	33.3	31.3	36.5	34.1
-20	1 1/4"	1 5/8-12	n/a	1 11/16-12	41.3	39.2	42.9	40.5
-24	1 1/2"	1 7/8-12	n/a	2-12	47.6	45.6	50.8	48.8
-32	2"	2 1/2-12	n/a	n/a	63.5	61.5	n/a	n/a

PIPE SIZE	NPT TPI	NPT MALE IN	BSP TPI	BSP MALE IN	BSPP MALE MM	BSPP FEMALE MM
1/8"	27	0.401	28	0.383	9.7	8.6
1/4"	18	0.533	19	0.518	13.2	11.5
3/8"	18	0.668	19	0.656	16.7	14.9
1/2"	14	0.832	14	0.825	20.9	18.6
3/4"	14	1.043	14	1.041	26.4	24.1
1"	11.5	1.305	11	1.309	33.2	30.3

METRIC THREAD	LIGHT (L) TUBE MM	HEAVY (S) TUBE MM
M12x1.5	6	n/a
M14x1.5	8	6
M16x1.5	10	8
M18x1.5	12	10
M20x1.5	n/a	12



METRIC THREAD	LIGHT (L) TUBE MM	HEAVY (S) TUBE MM
M22x1.5	15	14
M24x1.5	n/a	16
M26x1.5	18	n/a
M30x2	22	20
M36x2	28	25
M42x2	n/a	30
M45x2	35	n/a
M52x2	42	38

Male and female widths are in mm, measured across the threads at the widest point. Real parts vary within tolerances.

The dash number is the tube OD in sixteenths of an inch (-8 = 1/2" tube). On hose it is the inside diameter.

JIC and ORB share every thread. JIC 37° and SAE 45° share threads at -2, -3, -4, -5, -8 and -10: check the seat.

1/2" and 3/4" NPT and BSPT both have 14 threads per inch and nearly the same width.

SAE 45° widths, mm (male / female): -4 11.1/9.9, -5 12.7/11.5, -6 15.9/14.3, -8 19.1/17.5, -10 22.2/20.6, -12 27.0/25.0.

Release the pressure before you loosen any fitting, and never feel for a leak with your hand.

Sources: Swagelok Thread and End Connection Identification Guide (MS-13-77); Parker Hannifin Catalog 4400 (2026), Technical Section.

