

## Screw threads, overview

### Screw threads to DIN standards

Name	Designation/ example	Nominal diameter	Standard	Application
M ISO-metric thread (60° thread angle)	M 0.8	0.3 to 0.9 mm	DIN 14, part 1 to part 4	Watches and fine work
	M 30	1 to 68 mm	DIN 13, part 1 ISO 68 261/262 724/965	General engineering (coarse thread)
	M 20 x 1 M 30 x 2 – LH <sup>1)</sup>	1 to 1000 mm	DIN 13, part 2 to part 11	General engineering (fine thread)
	DIN 6630 – M 64 x 4	64 and 76 mm	DIN 6630	Packaging; external thread for barrels
	LN 9163 – M 30 x 2 – 4H5H	1.4 to 355 mm	LN 9163	Aviation and aerospace
M ISO-metric thread with interference fit (60° thread angle)	M 10 Sn 4 M 10 Sk 6	3 to 150 mm	DIN 13 part 51 (draft at present)	Tap end of studs
	M 10 Sn 4 tight	3 to 150 mm		tight
M Metric thread with large clearance (60° thread angle)	DIN 2510 – M 36	12 to 180 mm	DIN 2510 part 2	Bolted connections with reduced shank
EG M ISO-metric thread, internal thread for adopting threaded inserts (60° thread angle)	DIN 8140 – EG M 20	2 to 52 mm	DIN 8140 part 2 (draft at present)	Internal thread for adoption of threaded wire inserts
M Metric taper external thread (60° thread angle) (taper 1:16)	DIN 158 – M 30 x 2 keg	6 to 60 mm	DIN 158	Plugs and Grease nipples
	DIN 158 – M 30 x 2 tap short			
S Self forming taper external thread (105° thread angle) (taper 7°30')	S 8 x 1	6 to 10 mm	DIN 71 412 (draft at present)	Taper lubricating nipple (thread similar to DIN 158 but 105° thread angle)
MJ MJ-thread (60° thread angle)	MJ 6 x 1 –	1,6 to 39 mm	DIN ISO 5855  part 1 and part 2	Aviation and aerospace construction
	MJ 6 x 1 – 4H5H			
LN ISO-metric thread for aviation	LN 9163 H 30 x 2	1,4–355 mm	LN 9163 EN 2158	Aviation and aerospace

<sup>1)</sup> LH international designation for left hand thread

Name	Designation/ example	Nominal diameter	Standard	Application
G Parallel pipe thread, pressure tight joints are not made on the thread (55° thread angle) Whitworth	G 1 <sup>1</sup> / <sub>2</sub> A G 1 <sup>1</sup> / <sub>2</sub> B	1 <sup>1</sup> / <sub>16</sub> to 6	DIN ISO 228  part 1	External pipe thread
	G 1 <sup>1</sup> / <sub>2</sub>			Internal pipe thread
	DIN 6630 – G 3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>4</sub> , 1, 2	DIN 6630	Packaging; external thread for barrels
Parallel pipe thread, pressure tight joints are not made on the thread (55° thread angle)	5 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	DIN 6602	External thread for cistern cars
R Whitworth parallel pipe thread, pressure tight joints are not made on the thread (55° thread angle)	R 3 <sup>3</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>8</sub> to 6	DIN 259 part 1 to part 3 <sup>2)</sup>	Piping, do not use in new designs
Rp Whitworth parallel pipe thread, pressure tight joints on the thread (55° thread angle)	DIN 2999 – Rp 1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub> to 6	DIN 2999 part 1	Internal thread for pipes and fittings
	DIN 3858 – Rp 1 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>8</sub> to 1 <sup>1</sup> / <sub>2</sub>	DIN 3858	Internal thread for pipe unions
R Whitworth taper pipe thread, pressure tight joints on the thread (55° thread angle), (taper 1:16)	DIN 2999 – R 1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>16</sub> to 6	DIN 2999 part 1	External thread for pipes and fittings
	DIN 3858 – R 1 <sup>1</sup> / <sub>8</sub> –1	1 <sup>1</sup> / <sub>8</sub> to 1 <sup>1</sup> / <sub>2</sub>	DIN 3858	External thread for pipe unions
Tr ISO metric trapezoidal thread, single or multiple start (30° thread angle)	Tr 40 x 7	8 to 300 mm	DIN 103 part 1 to part 8 ISO 2901 to 2904	General
	Tr 40 x 14 P7			
Tr Stub metric trapezoidal thread, single or multiple start (30° thread angle)	DIN 380 – Tr 48 x 8		DIN 380 part 1 and part 2	
	DIN 380 – Tr 48 x 14 P7			
Tr Acme trapezoidal thread with clearance, single or multiple start (30° thread angle)	DIN 263 – Tr 48 x 12	48 mm	DIN 263 part 1 and part 2	For rail vehicles
	DIN 263 – Tr 40 x 16 P8	40 mm		
	DIN 6341 – Tr 32 x 1,5	10 to 56 mm	DIN 6341 part 2	For collet chucks
Tr Rounded trapezoidal thread (30° thread angle)	DIN 30 295 – Tr 40 x 5	26 to 80 mm	DIN 30 295 part 1 and part 2	For rail vehicles
KT Trapezoidal thread (20° thread angle)	DIN 6063 – KT 22	10 to 50 mm	DIN 6063 part 2	Preferably for packages made of plastics

<sup>2)</sup> Danger to be mixed up due to identical designation as ISO 7/1. Replaced by DIN ISO 228 part 1 and new designation. See DIN ISO 228 part 1.

Name	Designation/ example	Nominal diameter	Standard	Application
S Buttress metric thread, single- or multiple-start (30°/3° thread angle)	S 48 x 8	10 to 640 mm	DIN 513  part 1 to part 3	General
	S 40 x 14 P7			
S Buttress single-start thread (45°/0° thread angle)	DIN 2781 – S 630 x 20	100 to 1250 mm	DIN 2781	For machine tools, hydraulic presses
S Buttress thread, (30°/3° thread angle)	DIN 20 401 – S 25 x 1.5	6 to 40 mm	DIN 20 401 part 1 and part 2	Mining industry
KS Buttress thread (40°/10° thread angle)	DIN 6063 – KS 22	10 to 50 mm	DIN 6063 part 1	Preferably for packages made of plastics
Rd Knuckle parallel thread, single- or multiple-start (30° thread angle)	Rd 40 x 1 <sup>1</sup> / <sub>6</sub> Rd 40 x 1 <sup>1</sup> / <sub>3</sub> P <sup>1</sup> / <sub>6</sub>	8 to 200 mm	DIN 405 part 1 and part 2	General
	Rd 40 x 5	10 to 300 mm	DIN 20 400	Mining industry, with large thread overlap
	DIN 15 403 – Rd 80 x 10	50 to 320 mm	DIN 15 403	For lifting hooks
Rd Knuckle parallel thread (30° thread angle)	DIN 7273 – Rd 70	20 to 100 mm	DIN 7273 part 1	For steel sheet items and related joints
	DIN 262 – Rd 59 x 7	34 to 79 mm	DIN 262 part 1 and part 2	For rail vehicles
	DIN 262 – Rd 59 x 7 left			
(flat flank: 30° thread angle)	DIN 264 – Rd 50 x 7	50 mm	DIN 264 part 1 and part 2	
DIN 264 – Rd 50 x 7 left				
Rd Round parallel thread	DIN 3182 – Rd 40 x 1 <sup>1</sup> / <sub>7</sub>	40, 80 and 110 mm	DIN 3182 part 1	Respirators and gas masks
GL Round parallel thread (30°/60° thread angle)	DIN 168 – GL 25 x 3	8 to 45 mm	DIN 168 part 1	For glass containers
Gf Round taper thread	DIN 4930 – Gf 127	127 mm	DIN 4930 part 2	Tubes for tunneling

Name	Designation/ example	Nominal diameter	Standard	Application
E Edison thread	DIN 40 400 – E 27	14 mm 16 mm 18 mm 27 mm 33 mm	DIN 40 400	For d-type fuses (E 14 and E 27 for lamp-sockets)
	DIN 49 612 – E 5	5 mm	DIN 49 612	For lamp-sockets
	DIN 49 610 – E 10	10 mm	DIN 49 610	
	DIN 49 625 – E 40	40 mm	DIN 49 625	
Lamp-socket thread	DIN 49 689 – 28 x 2	28 and 40 mm	DIN 49 689	External thread for lamp-sockets, internal thread for lampshade holders
W Parallel Whitworth thread (55° thread angle)	DIN 49 301 – W 3 <sup>3</sup> / <sub>16</sub>	3 <sup>3</sup> / <sub>16</sub>	DIN 49 301	For d-type fuses, screw -in gauge D II and D III
Glasg Glasg Thread for glass (35°/50° thread angle)	DIN 40 450 – Glasg 74,5	74,5 mm 84,5 mm 99 mm 123,5 mm 158 mm 188 mm	DIN 40 450	Electric industry: glass fittings, protection glasses
Pg Steel conduit thread (80° thread angle)	DIN 40 430 – Pg 21	7 to 48 mm	DIN 40 430	For electric installations
ST Tapping screw thread (60° thread angle)	DIN 7970 – ST 3,5	1,5 to 9,5 mm	DIN 7970 ISO 1478	For tapping screws
Wood screw thread (60° thread angle)	DIN 7998–4	1,6 to 20 mm	DIN 7998	For wood screws
FG Bicycle screw thread (60° thread angle)	FG 9,5	2 to 34,8 mm	DIN 79 012	For cycles and motor-scooters
Vg Threads for valves (60° thread angle)	DIN 7756 – Vg 12	5 to 12 mm	DIN 7756	Valves for tires
W Taper Whitworth thread (55° thread angle), taper 3:25	DIN 477 – W 28,8 x 1 <sup>1</sup> / <sub>14</sub> tap	19,8 mm, 28,8 mm, 31,3 mm	DIN 477 part 1	Gas cylinders, thread for main nozzle
	DIN 477 – W 21,80 x 1 <sup>1</sup> / <sub>14</sub>	21,8 mm, 24,32 mm, 25,4 mm		Gas cylinders, thread for side nozzles
W Parallel Whitworth thread (55° thread angle)	W 80 x 1 <sup>1</sup> / <sub>11</sub>	80 mm	DIN 4668	Gas cylinders, thread for neck rings and protection caps
A B C Tripod thread (60° thread angle)	DIN 4503 A 1 <sup>1</sup> / <sub>4</sub>	1 <sup>1</sup> / <sub>4</sub> –3 <sup>3</sup> / <sub>8</sub>	DIN 4503 ISO 1222	Connections to photographic equipment

Name	Designation/ example	Nominal diameter	Standard	Application
RMS RMS-thread (55° thread angle)	DIN 58 888 – RMS	20,32 mm	DIN 58 888	Objective for microscope
Gg Taper thread (60° thread angle), taper 1 :16	DIN 4941 – Gg 51	44,5 to 88,9 mm	DIN 4941	For drill pipes in water and rock drilling, mining
Gg Taper thread (30°/30° thread angle), taper 1:4	DIN 20 314 –	3 <sup>1</sup> / <sub>2</sub> 4 <sup>1</sup> / <sub>2</sub> 5 <sup>1</sup> / <sub>2</sub>	DIN 20 314	
HA Bone screw thread	DIN 58 810 – HA 4,5	1,5, 2, 2,7, 3,5 and 4,5 mm	DIN 58 810	For surgical implants, external and internal thread
	DIN 58 810 – HB 6,5	4 to 6,5 mm		