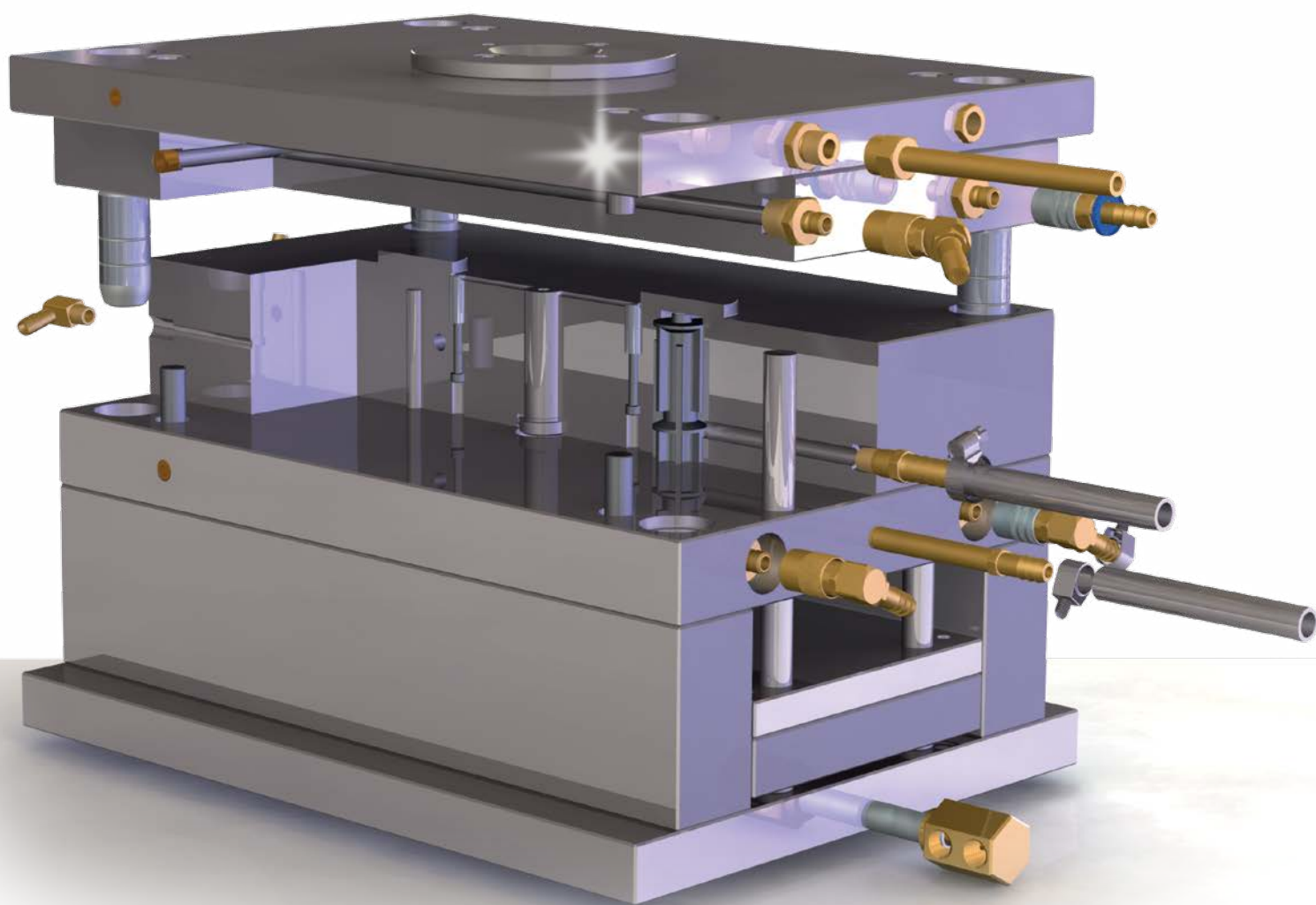




MILACRON®

## Technical Data

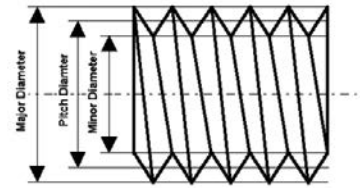


## International Thread Standards

The most frequently used thread standard is the metric ISO Thread. However, there are other thread standards as well. These are either based on foreign standards or are used for special applications. E.G. in the medical technology, in aeronautical engineering or astronautics.

The most common threads are:

- ISO Thread (metric)
- Whitworth Thread
- Pipe Thread
- Trapezoidal Thread
- Knuckle Thread
- Buttress Thread



The thread abbreviation includes the thread code letter and the nominal thread diameter or the thread size. Additional values for pitch or TPI, tolerance, multi-lead, taper and left-handedness are added. Often threads that are according to DIN Standard have the major DIN number put in front of the thread abbreviation.

Talking of screws the major diameter for screws is determined by the thread tips.

The minor diameter by the groove of the thread.

The pitch diameter is the distance of two opposite flanks or the distance of the center line of the profile.

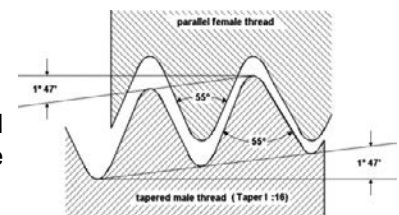
## Thread Specifications

Abbreviation	Country	Thread Angle °	Description
ISO		60°	International Organization for Standardization
NC	USA	60°	National Coarse
UNC	USA	60°	Unified National Coarse
NF	USA	60°	National Fine
UNF	USA	60°	Unified National Fine
UNEF	USA	60°	Unified National Extra Fine
UN	USA	60°	Unified National 8-, 12- and 16 pitch Series
UNS	USA	60°	Special Threads of American National Form
NPT	USA	60°	National Taper Pipe 1:16
NPTF	USA	60°	National Taper Pipe Dryseal 1:16
NPS	USA	60°	National Standard Straight Pipe
NPSM	USA	60°	National Standard Straight Pipe for free fitting mechanical
NPSF	USA	60°	National Standard Internal Straight Pipe Dryseal
BSW	GB	55°	British Standard Whitworth Coarse
BSF	GB	55°	British Standard Fine
BSP	GB	55°	British Standard Pipe
BSPT	GB	55°	British Standard Pipe Taper
BA	GB	47°	British Standard Association

## Whitworth Tapered Pipe Thread DIN 2999 \_ BSPT

(British Standard Tapered Pipe)

Whitworth Pipe Thread for pipes and fittings. Parallel female thread and tapered male thread (taper 1 : 16). An appropriate sealing compound can be used in the thread to ensure a leak-proof joint.



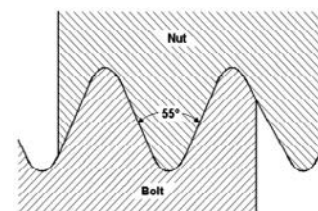
## Thread Specifications

Male Thread Diameter	Female Thread Diameter	Pipe Minor Diameter mm	Pipe Major Diameter mm	Tapping Drill Size mm	TPI	Pitch mm
R 1/16"	Rp 1/16"	3	7,723	6,561	28	0,907
R 1/8"	Rp 1/8"	6	9,728	8,566	28	0,907
R 1/4"	Rp 1/4"	8	13,157	11,445	19	1,337
R 3/8"	Rp 3/8"	10	16,662	14,950	19	1,337
R 1/2"	Rp 1/2"	15	20,995	18,631	14	1,814
R 3/4"	Rp 3/4"	20	26,441	24,117	14	1,814
R 1"	Rp 1"	25	33,249	30,291	11	2,309
R 1 1/4"	Rp 1 1/4"	32	41,910	38,952	11	2,309
R 1 1/2"	Rp 1 1/2"	40	47,803	44,845	11	2,309
R 2"	Rp 2"	50	59,614	56,656	11	2,309
R 2 1/2"	Rp 2 1/2"	65	75,184	72,226	11	2,309
R 3"	Rp 3"	80	87,884	84,926	11	2,309
R 4"	Rp 4"	100	113,030	110,072	11	2,309
R 5"	Rp 5"	125	138,430	135,472	11	2,309
R 6"	Rp 6"	150	163,830	160,872	11	2,309

CAD reference point

# Whitworth Pipe Thread DIN ISO 228 BSP (British Standard Pipe)

British Standard Pipe Thread, with sealant compound  
(parallel, cylindrical), external = G



## Thread Specifications

Nominal Diameter	Major Diameter	Minor Diameter Nut mm	Tapping Drill Size	TPI	Pitch mm
G 1/8"	9,73	8,85	8,80	28	0,907
G 1/4"	13,16	11,89	11,80	19	1,337
G 3/8"	16,66	15,39	15,25	19	1,337
G 1/2"	20,95	19,17	19,00	14	1,814
G 5/8"	22,91	21,13	21,00	14	1,814
G 3/4"	26,44	24,66	24,50	14	1,814
G 7/8"	30,20	28,42	28,25	14	1,814
G 1"	33,25	30,93	30,75	11	2,309
G 1 1/8"	37,90	35,58	35,30	11	2,309
G 1 1/4"	41,91	39,59	39,25	11	2,309
G 1 3/8"	44,32	42,00	41,70	11	2,309
G 1 1/2"	47,80	45,48	45,25	11	2,309
G 1 3/4"	53,74	51,43	51,10	11	2,309
G 2"	59,61	57,29	57,00	11	2,309
G 2 1/4"	65,71	63,39	63,10	11	2,309
G 2 1/2"	75,18	72,86	72,60	11	2,309
G 2 3/4"	81,53	79,21	78,90	11	2,309
G 3"	87,88	85,56	85,30	11	2,309
G 3 1/4"	93,98	91,66	91,50	11	2,309
G 3 1/2"	100,33	98,01	97,70	11	2,309
G 3 3/4"	106,68	104,30	104,00	11	2,309
G 4"	113,03	110,71	110,40	11	2,309



