






















THREAD-CUTTING TOOLS

HAND TAPS

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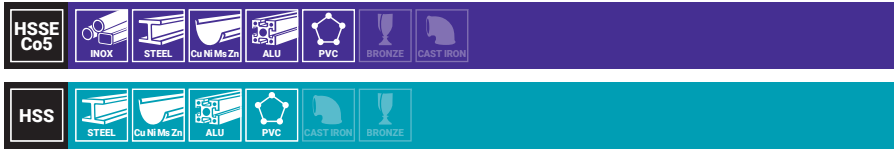
Type and applications overview

	Material	DIN	Type	Cutting direction	Thread	Tenacity classes	Nominal dimension	Item no.	Page/s
	HSS	DIN 352			M	800 N/mm²	M 2 – M 52	230 xxx	130
	HSSE Co5	DIN 352			M		M 2 – M 24	230 xxx E	
	HSS	DIN 352			M	800 N/mm²	M 3 – M 20	230 xxx Li	132
	HSS	DIN 2181			MF	800 N/mm²	MF 3 – MF 52	235 xxx	133
	HSS	DIN 5157			G (BSP)	800 N/mm²	G 1/8 – G 2"	236 xxx	135
	HSS	DIN 352			Ww (BSW)	800 N/mm²	1/16 – 2"	246 xxx	136
	HSS	DIN 352			UNC	800 N/mm²	Nr. 2 – 12 1/4 – 2"	246 xxx UNC	137
	HSS	DIN 2181			UNF	800 N/mm²	Nr. 2 – 12 1/4 – 1 1/2"	246 xxx UNF	138
	HSS	DIN 352	B		M	800 N/mm²	M 3 – M 12	231 xxx	142
	HSSE Co5	DIN 352	B		M	1000 N/mm²		231 xxx E	
	HSS		C		NPT	800 N/mm²	1/16 – 2"	231 xxx NPT	143
	HSS	DIN 5157	B		G (BSP)	800 N/mm²	G 1/8 – G 1"	236 2xx	144
	HSS	DIN 22568	B		M	800 N/mm²	M 2 – M 52	237 xxx	131
	HSSE Co5	DIN 22568	B		M	1000 N/mm²	M 3 – M 12	238 xxx	
							M 2 – M 24	237 xxx E	
	HSS	DIN 22568	B		M	800 N/mm²	M 3 – M 20	237 xxx Li	132
	HSS	DIN 22568	B		MF	800 N/mm²	MF 3 – MF 52	239 xxx	134
	HSS	DIN 24231	B		G (BSP)	800 N/mm²	G 1/8 – G 2"	240 xxx	135
	HSS	DIN 22568	B		Ww (BSW)	800 N/mm²	1/16 – 2"	247 xxx	136
	HSS	DIN 22568	B		UNC	800 N/mm²	Nr. 2 – 12 1/4 – 2"	240 xxx UNC	137
	HSS	DIN 22568	B		UNF	800 N/mm²	Nr. 2 – 12 1/4 – 1 1/2"	240 xxx UNF	138
	HSS	DIN 382			M	800 N/mm²	M 3 – M 30	267 xxx	143
	HSS	DIN 382	B		G (BSP)	800 N/mm²	G 1/8 – G 1"	267 6xx	144

Structural steel < 900 N/mm ²	Inox <1100 N/mm ²	High strength steel <1300 N/mm ²	Brass	Bronze	Cast iron	Aluminium	Plastics
●				○	○	○	○
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Hand tap M DIN 352

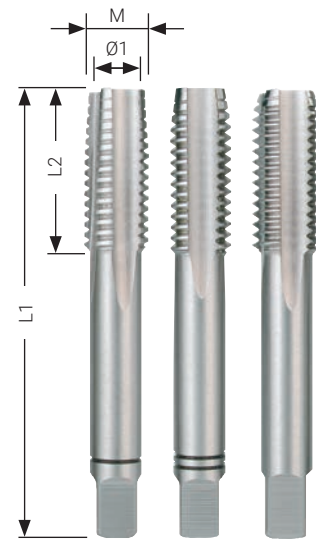


The hand tap consists of high speed steel (HSS). For through threads and bottoming threads in unalloyed and low-alloyed steels, malleable cast iron and non-ferrous metals. The thread is cut in three operation.

Also available individually

Taper tap: 6 - 8-thread chamfer Item no. 230 -1
 Second tap: 4 - 5-thread chamfer Item no. 230 -2
 Final tap: 2 - 3-thread chamfer Item no. 230 -3

Thread: metric, DIN ISO 13
 Flanks: relief-ground



06

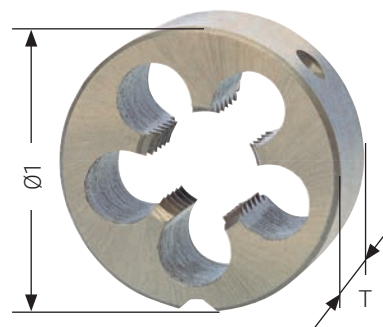
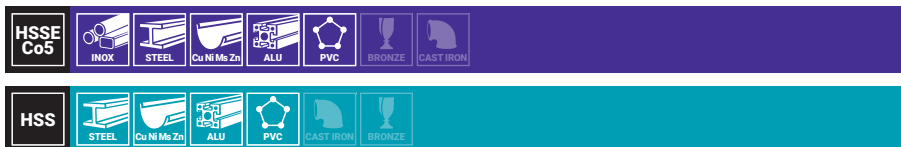
Packaging: plastic

Set consists of 1x taper tap, 1x second tap and 1x final tap

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSSE-Co 5	HSS	
M 2	0.40	1.60	36.0	8.0	230 020 E	230 020	1
M 2.5	0.45	2.10	40.0	8.0	—	230 025	1
M 3	0.50	2.50	40.0	10.0	230 030 E	230 030	1
M 3.5	0.60	2.90	45.0	12.0	—	230 035	1
M 4	0.70	3.30	45.0	12.0	230 040 E	230 040	1
M 4.5	0.75	3.70	50.0	16.0	—	230 045	1
M 5	0.80	4.20	50.0	13.0	230 050 E	230 050	1
M 6	1.00	5.00	56.0	15.0	230 060 E	230 060	1
M 7	1.00	6.00	56.0	16.0	—	230 070	1
M 8	1.25	6.80	56.0	18.0	230 080 E	230 080	1
M 9	1.25	7.80	63.0	22.0	—	230 090	1
M 10	1.50	8.50	70.0	24.0	230 100 E	230 100	1
M 11	1.50	9.50	70.0	24.0	—	230 110	1
M 12	1.75	10.20	75.0	29.0	230 120 E	230 120	1
M 14	2.00	12.00	80.0	30.0	230 140 E	230 140	1
M 15	2.00	13.00	80.0	32.0	—	230 150	1
M 16	2.00	14.00	80.0	32.0	230 160 E	230 160	1
M 18	2.50	15.50	95.0	40.0	230 180 E	230 180	1
M 20	2.50	17.50	95.0	40.0	230 200 E	230 200	1
M 22	2.50	19.50	100.0	40.0	230 220 E	230 220	1
M 24	3.00	21.00	110.0	45.0	230 240 E	230 240	1
M 27	3.00	24.00	110.0	50.0	—	230 270	1
M 30	3.50	26.50	125.0	56.0	—	230 300	1
M 33	3.50	29.50	125.0	56.0	—	230 330	1
M 36	4.00	32.00	150.0	63.0	—	230 360	1
M 39	4.00	35.00	150.0	63.0	—	230 390	1
M 42	4.50	37.50	150.0	63.0	—	230 420	1
M 45	4.50	40.50	160.0	70.0	—	230 450	1
M 48	5.00	43.00	180.0	75.0	—	230 480	1
M 52	5.00	47.00	180.0	75.0	—	230 520	1



Round die M DIN EN 22568



The round die consists of high speed steel in unalloyed and low-alloyed steels up to a strength of 800 N/mm². The round die consists of 5 % cobalt alloyed high speed steel (HSSE-Co 5) in unalloyed and alloyed steels up to a strength of 1000 N/mm² and non-ferrous metals. The thread is cut in one operation.

Thread: metric, DIN ISO 13

Packaging: plastic

Nominal thread size M	Pitch mm	Outside Ø1 mm	Thickness T mm	HSSE-Co 5	HSS	HSS	
M 2	0.40	16.0	5.0	237 020 E	237 020	—	1
M 2.5	0.45	16.0	5.0	—	237 025	—	1
M 3	0.50	20.0	5.0	237 030 E	237 030	—	1
M 3	0.50	25.0	9.0	—	—	238 030	1
M 3.5	0.60	20.0	5.0	—	237 035	—	1
M 4	0.70	20.0	5.0	237 040 E	237 040	—	1
M 4	0.70	25.0	9.0	—	—	238 040	1
M 4.5	0.75	20.0	7.0	—	237 045	—	1
M 5	0.80	20.0	7.0	237 050 E	237 050	—	1
M 5	0.80	25.0	9.0	—	—	238 050	1
M 6	1.00	20.0	7.0	237 060 E	237 060	—	1
M 6	1.00	25.0	9.0	—	—	238 060	1
M 7	1.00	25.0	9.0	—	237 070	—	1
M 8	1.25	25.0	9.0	237 080 E	237 080	238 080	1
M 9	1.25	25.0	9.0	—	237 090	—	1
M 10	1.50	30.0	11.0	237 100 E	237 100	—	1
M 10	1.50	25.0	9.0	—	—	238 100	1
M 11	1.50	30.0	11.0	—	237 110	—	1
M 12	1.75	38.0	14.0	237 120 E	237 120	—	1
M 12	1.75	25.0	9.0	—	—	238 120	1
M 14	2.00	38.0	14.0	237 140 E	237 140	—	1
M 16	2.00	45.0	18.0	237 160 E	237 160	—	1
M 18	2.50	45.0	18.0	237 180 E	237 180	—	1
M 20	2.50	45.0	18.0	237 200 E	237 200	—	1
M 22	2.50	55.0	22.0	237 220 E	237 220	—	1
M 24	3.00	55.0	22.0	237 240 E	237 240	—	1
M 27	3.00	65.0	25.0	—	237 270	—	1
M 30	3.50	65.0	25.0	—	237 300	—	1
M 33	3.50	65.0	25.0	—	237 330	—	1
M 36	4.00	65.0	25.0	—	237 360	—	1
M 39	4.00	75.0	30.0	—	237 390	—	1
M 42	4.50	75.0	30.0	—	237 420	—	1
M 45	4.50	90.0	36.0	—	237 450	—	1
M 48	5.00	90.0	36.0	—	237 480	—	1
M 52	5.00	90.0	36.0	—	237 520	—	1





Hand tap M DIN 352 – left-hand thread



Also available individually

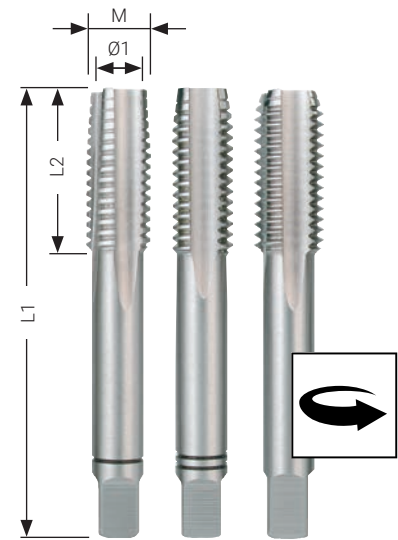
Taper tap: 6 - 8-thread chamfer Item no. 230Li -1

Second tap: 4 - 5-thread chamfer Item no. 230Li -2

Final tap: 2 - 3-thread chamfer Item no. 230Li -3

Thread: metric, DIN ISO 13

Flanks: relief-ground



Packaging: plastic

Set consists of 1x taper tap, 1x second tap and 1x final tap

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
M 3	0.50	2.50	40.0	10.0	230 030 Li	1
M 4	0.70	3.30	45.0	12.0	230 040 Li	1
M 5	0.80	4.20	50.0	13.0	230 050 Li	1
M 6	1.00	5.00	56.0	15.0	230 060 Li	1
M 8	1.25	6.80	56.0	18.0	230 080 Li	1
M 10	1.50	8.50	70.0	24.0	230 100 Li	1
M 12	1.75	10.20	75.0	29.0	230 120 Li	1
M 14	2.00	12.00	80.0	30.0	230 140 Li	1
M 16	2.00	14.00	80.0	32.0	230 160 Li	1
M 18	2.50	15.50	95.0	40.0	230 180 Li	1
M 20	2.50	17.50	95.0	40.0	230 200 Li	1

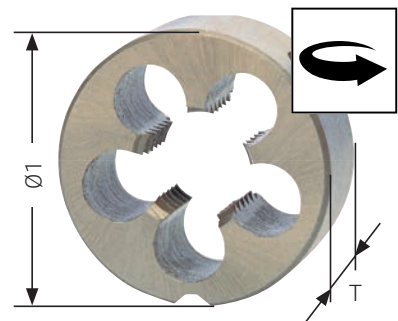


Round die M DIN EN 22568 – left-hand thread



Thread: metric, DIN ISO 13

Packaging: plastic



Nominal thread size M	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
M 3	0.50	20.0	5.0	237 030 Li	1
M 4	0.70	20.0	5.0	237 040 Li	1
M 5	0.80	20.0	7.0	237 050 Li	1
M 6	1.00	20.0	7.0	237 060 Li	1
M 7	1.00	25.0	9.0	237 070 Li	1
M 8	1.25	25.0	9.0	237 080 Li	1
M 10	1.50	30.0	11.0	237 100 Li	1
M 12	1.75	38.0	14.0	237 120 Li	1
M 14	2.00	38.0	14.0	237 140 Li	1
M 16	2.00	45.0	18.0	237 160 Li	1
M 18	2.50	45.0	18.0	237 180 Li	1
M 20	2.50	45.0	18.0	237 200 Li	1



Hand tap MF DIN 2181



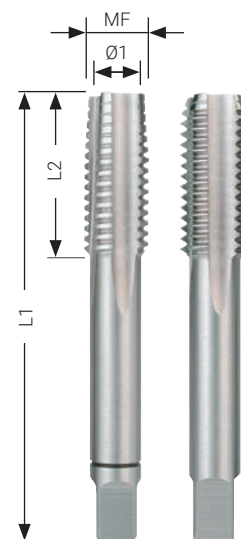
Also available individually

Taper tap: 5 - 6-thread chamfer Item no. 235-1

Final tap: 2 - 3-thread chamfer Item no. 235.....-2

Thread: metric fine, DIN ISO 13

Flanks: relief-ground



Packaging: plastic

Set consists of 1x taper tap and 1x final tap

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
MF 3	0.35	2.60	40.0	10.0	235 030	1
MF 4	0.35	3.10	45.0	10.0	235 040	1
MF 4	0.50	3.50	45.0	12.0	235 041	1
MF 5	0.50	4.50	50.0	13.0	235 050	1
MF 5	0.75	4.25	50.0	13.0	235 051	1
MF 6	0.50	5.50	50.0	14.0	235 061	1
MF 6	0.75	5.20	50.0	15.0	235 060	1
MF 7	0.75	6.20	50.0	14.0	235 070	1
MF 8	0.50	7.50	50.0	19.0	235 082	1
MF 8	0.75	7.20	56.0	18.0	235 080	1
MF 8	1.00	7.00	56.0	18.0	235 081	1
MF 9	0.75	8.20	56.0	19.0	235 092	1
MF 9	1.00	8.00	63.0	20.0	235 090	1
MF 10	0.75	9.20	63.0	20.0	235 102	1
MF 10	1.00	9.00	63.0	18.0	235 100	1
MF 10	1.25	8.70	70.0	24.0	235 101	1
MF 11	1.00	9.20	63.0	20.0	235 110	1
MF 11	1.25	9.80	63.0	22.0	235 111	1
MF 12	1.00	11.00	70.0	20.0	235 122	1
MF 12	1.25	10.70	70.0	20.0	235 121	1
MF 12	1.50	10.50	70.0	20.0	235 120	1
MF 13	1.00	12.00	70.0	22.0	235 130	1
MF 13	1.50	11.50	70.0	22.0	235 131	1
MF 14	1.00	13.00	70.0	20.0	235 142	1
MF 14	1.25	12.70	70.0	20.0	235 140	1
MF 14	1.50	12.50	70.0	20.0	235 141	1
MF 15	1.50	13.50	70.0	22.0	235 150	1
MF 16	1.00	15.00	70.0	20.0	235 161	1
MF 16	1.25	14.75	70.0	20.0	235 162	1
MF 16	1.50	14.50	70.0	20.0	235 160	1
MF 18	1.00	17.00	80.0	22.0	235 181	1
MF 18	1.25	16.80	80.0	22.0	235 183	1

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
MF 18	1.50	16.50	80.0	22.0	235 180	1
MF 18	2.00	16.00	80.0	22.0	235 182	1
MF 20	1.00	19.00	80.0	22.0	235 201	1
MF 20	1.25	18.80	80.0	22.0	235 203	1
MF 20	1.50	18.50	80.0	22.0	235 200	1
MF 20	2.00	18.00	80.0	22.0	235 202	1
MF 22	1.00	21.00	80.0	22.0	235 221	1
MF 22	1.50	20.50	80.0	22.0	235 220	1
MF 22	2.00	20.00	80.0	22.0	235 222	1
MF 24	1.00	23.00	90.0	22.0	235 242	1
MF 24	1.50	22.50	90.0	22.0	235 240	1
MF 24	2.00	22.00	90.0	22.0	235 241	1
MF 25	1.50	23.50	90.0	22.0	235 250	1
MF 26	1.50	24.50	90.0	22.0	235 261	1
MF 26	2.00	24.00	90.0	22.0	235 260	1
MF 27	1.50	25.50	90.0	22.0	235 270	1
MF 27	2.00	25.00	90.0	22.0	235 271	1
MF 28	1.50	26.50	90.0	22.0	235 280	1
MF 28	2.00	26.00	90.0	22.0	235 281	1
MF 30	1.00	29.00	90.0	22.0	235 300	1
MF 30	1.50	28.50	90.0	22.0	235 301	1
MF 30	2.00	28.00	90.0	22.0	235 302	1
MF 32	1.50	30.50	90.0	22.0	235 320	1
MF 35	1.50	33.50	100.0	25.0	235 350	1
MF 38	1.50	36.50	110.0	25.0	235 380	1
MF 40	1.50	38.50	110.0	25.0	235 400	1
MF 42	1.50	40.50	110.0	25.0	235 420	1
MF 45	1.50	43.50	110.0	25.0	235 450	1
MF 48	1.50	46.50	125.0	40.0	235 480	1
MF 50	1.50	48.50	125.0	40.0	235 500	1
MF 52	1.50	50.50	125.0	40.0	235 520	1



06



Application tip

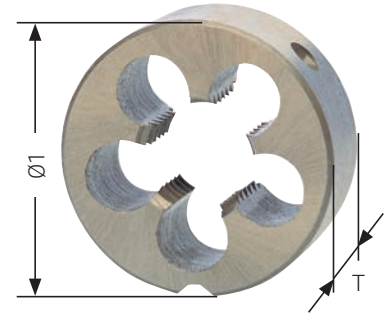
After two rotations of the drill turn back 1/3 rotation to break the chip. Thus the strain on the screw tap decreases. Lubrication with RUKO cutting oil is recommended.



Round die MF DIN EN 22568



Thread: metric fine, DIN ISO 13



Packaging: plastic

06

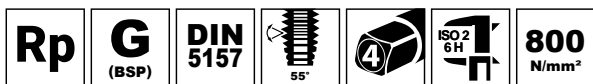
Nominal thread size MF	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
MF 3	0.35	20.0	5.0	239 030	1
MF 4	0.35	20.0	5.0	239 040	1
MF 4	0.50	20.0	5.0	239 041	1
MF 5	0.50	20.0	5.0	239 050	1
MF 5	0.75	20.0	7.0	239 051	1
MF 6	0.50	20.0	5.0	239 061	1
MF 6	0.75	20.0	7.0	239 060	1
MF 7	0.75	25.0	9.0	239 070	1
MF 8	0.50	25.0	9.0	239 082	1
MF 8	0.75	25.0	9.0	239 080	1
MF 8	1.00	25.0	9.0	239 081	1
MF 9	0.75	25.0	9.0	239 090	1
MF 9	1.00	25.0	9.0	239 091	1
MF 10	0.75	30.0	11.0	239 102	1
MF 10	1.00	30.0	11.0	239 100	1
MF 10	1.25	30.0	11.0	239 101	1
MF 11	1.00	30.0	11.0	239 110	1
MF 11	1.25	30.0	11.0	239 111	1
MF 12	1.00	38.0	10.0	239 121	1
MF 12	1.25	38.0	10.0	239 122	1
MF 12	1.50	38.0	10.0	239 120	1
MF 13	1.00	38.0	10.0	239 131	1
MF 13	1.50	38.0	10.0	239 130	1
MF 14	1.00	38.0	10.0	239 142	1
MF 14	1.25	38.0	10.0	239 140	1
MF 14	1.50	38.0	10.0	239 141	1
MF 15	1.50	38.0	10.0	239 150	1
MF 16	1.00	45.0	14.0	239 161	1
MF 16	1.25	45.0	14.0	239 162	1
MF 16	1.50	45.0	14.0	239 160	1
MF 18	1.00	45.0	14.0	239 181	1
MF 18	1.25	45.0	14.0	239 183	1

Nominal thread size MF	Pitch mm	Outside Ø1 mm	Thickness T mm	HSS	
MF 18	1.50	45.0	14.0	239 180	1
MF 18	2.00	45.0	14.0	239 182	1
MF 20	1.00	45.0	14.0	239 201	1
MF 20	1.25	45.0	14.0	239 203	1
MF 20	1.50	45.0	14.0	239 200	1
MF 20	2.00	45.0	14.0	239 202	1
MF 22	1.00	55.0	16.0	239 221	1
MF 22	1.50	55.0	16.0	239 220	1
MF 22	2.00	55.0	16.0	239 222	1
MF 24	1.00	55.0	16.0	239 242	1
MF 24	1.50	55.0	16.0	239 240	1
MF 24	2.00	55.0	16.0	239 241	1
MF 25	1.50	55.0	16.0	239 250	1
MF 26	1.50	55.0	16.0	239 261	1
MF 26	2.00	55.0	16.0	239 262	1
MF 27	1.50	65.0	18.0	239 270	1
MF 27	2.00	65.0	18.0	239 271	1
MF 28	1.50	65.0	18.0	239 281	1
MF 28	2.00	65.0	18.0	239 282	1
MF 30	1.00	65.0	18.0	239 300	1
MF 30	1.50	65.0	18.0	239 301	1
MF 30	2.00	65.0	18.0	239 302	1
MF 32	1.50	65.0	18.0	239 320	1
MF 35	1.50	65.0	18.0	239 350	1
MF 38	1.50	75.0	20.0	239 380	1
MF 40	1.50	75.0	20.0	239 400	1
MF 42	1.50	75.0	20.0	239 420	1
MF 45	1.50	90.0	22.0	239 450	1
MF 48	1.50	90.0	22.0	239 480	1
MF 50	1.50	90.0	22.0	239 500	1
MF 52	1.50	90.0	22.0	239 520	1



Application tip

It is recommended that the threading dies are turned back briefly now and then so that the chips break and do not clog the threads. Lubrication with RUKO cutting oil is recommended.



Hand tap G DIN 5157



Also available individually

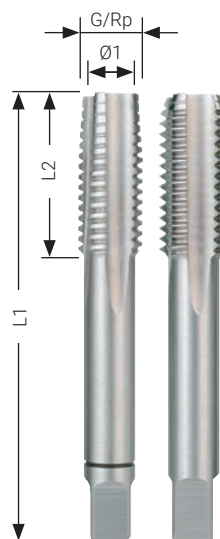
Taper tap: 5 - 6-thread chamfer Item no. 236-1

Final tap: 2 - 3-thread chamfer Item no. 236.....-2

Thread: DIN ISO 228 "G" (cylindrical pipe thread)

DIN 2999 "Rp" (Whitworth pipe thread)

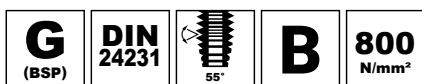
Flanks: relief-ground



Packaging: plastic

Set consists of 1x taper tap and 1x final tap

Nominal thread size G	Nominal thread size Rp	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
G 1/8"	Rp 1/8"	28	8.80	63.0	18.0	236 018	1
G 1/4"	Rp 1/4"	19	11.80	70.0	20.0	236 014	1
G 3/8"	Rp 3/8"	19	15.25	70.0	20.0	236 038	1
G 1/2"	Rp 1/2"	14	19.00	80.0	22.0	236 012	1
G 5/8"	Rp 5/8"	14	21.00	80.0	22.0	236 058	1
G 3/4"	Rp 3/4"	14	24.50	90.0	22.0	236 034	1
G 7/8"	Rp 7/8"	14	28.25	90.0	22.0	236 078	1
G 1"	Rp 1"	11	30.75	100.0	25.0	236 010	1
G 1 1/8"	Rp 1 1/8"	11	35.30	125.0	40.0	236 118	1
G 1 1/4"	Rp 1 1/4"	11	39.25	125.0	40.0	236 114	1
G 1 3/8"	Rp 1 3/8"	11	41.70	140.0	40.0	236 138	1
G 1 1/2"	Rp 1 1/2"	11	45.25	140.0	40.0	236 112	1
G 1 3/4"	Rp 1 3/4"	11	51.10	140.0	40.0	236 134	1
G 2"	Rp 2"	11	57.00	160.0	40.0	236 020	1

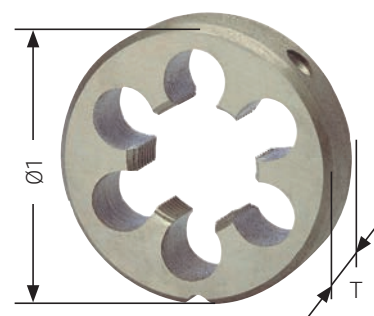


Round die G DIN EN 24231



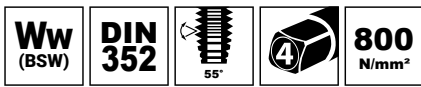
Thread: DIN ISO 228 "G" (cylindrical pipe thread)

Packaging: plastic



Nominal thread size G	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
G 1/8"	28	30.0	11.0	240 018	1
G 1/4"	19	38.0	10.0	240 014	1
G 3/8"	19	45.0	14.0	240 038	1
G 1/2"	14	45.0	14.0	240 012	1
G 5/8"	14	55.0	16.0	240 058	1
G 3/4"	14	55.0	16.0	240 034	1
G 7/8"	14	65.0	18.0	240 078	1
G 1"	11	65.0	18.0	240 010	1

Nominal thread size G	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
G 1 1/8"	11	75.0	20.0	240 118	1
G 1 1/4"	11	75.0	20.0	240 114	1
G 1 3/8"	11	90.0	22.0	240 138	1
G 1 1/2"	11	90.0	22.0	240 112	1
G 1 5/8"	11	90.0	22.0	240 158	1
G 1 3/4"	11	105.0	22.0	240 134	1
G 2"	11	105.0	22.0	240 020	1



Hand tap BSW ≈ DIN 352



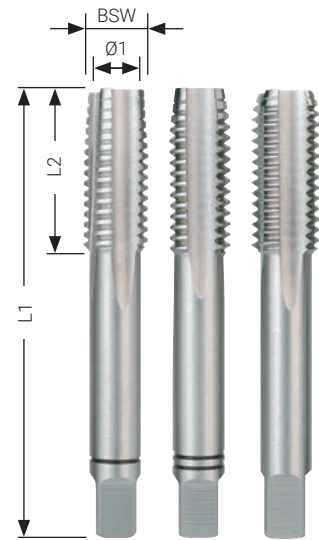
Also available individually

Taper tap: 5 - 6-thread chamfer Item no. 246-1
 Second tap: 4 - 5-thread chamfer Item no. 246-2
 Final tap: 2 - 3-thread chamfer Item no. 246-3

Thread: BSW, formerly DIN 11
 Flanks: relief-ground

Packaging: plastic

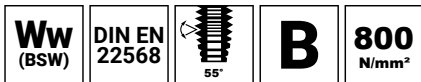
Set consists of 1x taper tap, 1x second tap and 1x final tap



Nominal thread size BSW	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
1/16"	60	1.15	32.0	7.0	246 116	1
3/32"	48	1.80	40.0	8.0	246 332	1
1/8"	40	2.50	40.0	10.0	246 018	1
5/32"	32	3.10	45.0	12.0	246 532	1
3/16"	24	3.60	50.0	13.0	246 316	1
7/32"	24	4.40	50.0	15.0	246 732	1
1/4"	20	5.10	50.0	16.0	246 014	1
5/16"	18	6.50	56.0	18.0	246 516	1
3/8"	16	7.90	70.0	24.0	246 038	1
7/16"	14	9.30	70.0	24.0	246 716	1
1/2"	12	10.50	80.0	30.0	246 012	1
9/16"	12	12.00	80.0	30.0	246 916	1

Nominal thread size BSW	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
5/8"	11	13.50	80.0	32.0	246 058	1
3/4"	10	16.50	95.0	40.0	246 034	1
7/8"	9	19.25	100.0	40.0	246 078	1
1"	8	22.00	110.0	50.0	246 010	1
1 1/8"	7	24.75	125.0	50.0	246 118	1
1 1/4"	7	27.75	125.0	50.0	246 114	1
1 3/8"	6	30.20	150.0	63.0	246 138	1
1 1/2"	6	33.50	150.0	63.0	246 112	1
1 5/8"	5	35.50	150.0	63.0	246 158	1
1 3/4"	5	38.50	160.0	70.0	246 134	1
1 7/8"	4 1/2	41.50	180.0	75.0	246 178	1
2"	4 1/2	44.50	180.0	75.0	246 020	1

06

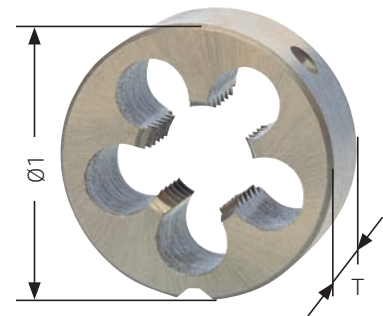


Round die BSW ≈ DIN EN 22568



Thread: BSW, formerly DIN 11

Packaging: plastic



Nominal thread size BSW	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
1/16"	60	16.0	5.0	247 116	1
3/32"	48	16.0	5.0	247 332	1
1/8"	40	20.0	5.0	247 018	1
5/32"	32	20.0	5.0	247 532	1
3/16"	24	20.0	7.0	247 316	1
7/32"	24	20.0	7.0	247 732	1
1/4"	20	25.0	9.0	247 014	1
5/16"	18	25.0	9.0	247 516	1
3/8"	16	30.0	11.0	247 038	1
7/16"	14	30.0	11.0	247 716	1
1/2"	12	38.0	14.0	247 012	1
9/16"	12	38.0	14.0	247 916	1

Nominal thread size BSW	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
5/8"	11	45.0	18.0	247 058	1
3/4"	10	45.0	18.0	247 034	1
7/8"	9	55.0	22.0	247 078	1
1"	8	55.0	22.0	247 010	1
1 1/8"	7	65.0	25.0	247 118	1
1 1/4"	7	65.0	25.0	247 114	1
1 3/8"	6	65.0	25.0	247 138	1
1 1/2"	6	75.0	30.0	247 112	1
1 5/8"	5	75.0	30.0	247 158	1
1 3/4"	5	90.0	36.0	247 134	1
1 7/8"	4 1/2	90.0	36.0	247 178	1
2"	4 1/2	90.0	36.0	247 020	1



Hand tap UNC ≈ DIN 352

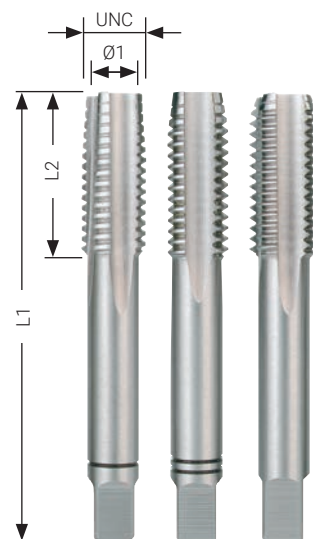


Also available individually

Taper tap: 5 - 6-thread chamfer Item no. 246**UNC1**
 Second tap: 4 - 5-thread chamfer Item no. 246.....**UNC2**
 Final tap: 2 - 3-thread chamfer Item no. 246.....**UNC3**

Thread: American UNC coarse thread
 Flanks: relief-ground

Packaging: plastic
 Set consists of 1x taper tap, 1x second tap and 1x final tap



Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
Nr. 2	56	1.8	36.0	11.0	246 020 UNC	1
Nr. 3	48	2.1	36.0	11.0	246 030 UNC	1
Nr. 4	40	2.3	40.0	12.0	246 040 UNC	1
Nr. 5	40	2.6	40.0	12.0	246 050 UNC	1
Nr. 6	32	2.8	45.0	14.0	246 060 UNC	1
Nr. 8	32	3.5	45.0	14.0	246 080 UNC	1
Nr. 10	24	3.9	50.0	16.0	246 100 UNC	1
Nr. 12	24	4.5	50.0	18.0	246 120 UNC	1
1/4"	20	5.1	50.0	19.0	246 014 UNC	1
5/16"	18	6.6	56.0	22.0	246 516 UNC	1
3/8"	16	8.0	70.0	24.0	246 038 UNC	1
7/16"	14	9.4	70.0	24.0	246 716 UNC	1

Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
1/2"	13	10.8	75.0	29.0	246 012 UNC	1
9/16"	12	12.2	80.0	30.0	246 916 UNC	1
5/8"	11	13.5	80.0	32.0	246 058 UNC	1
3/4"	10	16.5	95.0	40.0	246 034 UNC	1
7/8"	9	19.5	100.0	40.0	246 078 UNC	1
1"	8	22.2	110.0	50.0	246 010 UNC	1
1 1/8"	7	25.0	132.0	56.0	246 118 UNC	1
1 1/4"	7	28.0	132.0	56.0	246 114 UNC	1
1 3/8"	6	30.7	150.0	63.0	246 138 UNC	1
1 1/2"	6	34.0	150.0	63.0	246 112 UNC	1
1 3/4"	5	39.5	160.0	70.0	246 134 UNC	1
2"	4 1/2	45.0	190.0	80.0	246 200 UNC	1

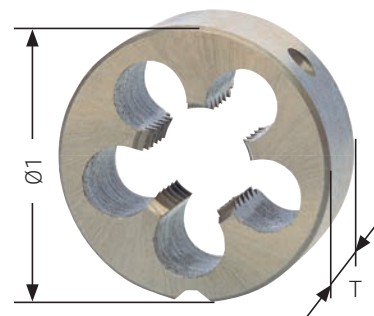


Round die UNC ≈ DIN EN 22568



Thread: American UNC coarse thread

Packaging: plastic



Nominal thread size UNC	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
Nr. 2	56	16.0	5.0	240 020 UNC	1
Nr. 3	48	16.0	5.0	240 030 UNC	1
Nr. 4	40	20.0	5.0	240 040 UNC	1
Nr. 5	40	20.0	5.0	240 050 UNC	1
Nr. 6	32	20.0	7.0	240 060 UNC	1
Nr. 8	32	20.0	7.0	240 080 UNC	1
Nr. 10	24	20.0	7.0	240 100 UNC	1
Nr. 12	24	20.0	7.0	240 120 UNC	1
1/4"	20	20.0	7.0	240 014 UNC	1
5/16"	18	25.0	9.0	240 516 UNC	1
3/8"	16	30.0	11.0	240 038 UNC	1
7/16"	14	30.0	11.0	240 716 UNC	1

Nominal thread size UNC	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
1/2"	13	38.0	14.0	240 012 UNC	1
9/16"	12	38.0	14.0	240 916 UNC	1
5/8"	11	45.0	18.0	240 058 UNC	1
3/4"	10	45.0	18.0	240 034 UNC	1
7/8"	9	55.0	22.0	240 078 UNC	1
1"	8	55.0	22.0	240 010 UNC	1
1 1/8"	7	65.0	25.0	240 118 UNC	1
1 1/4"	7	65.0	25.0	240 114 UNC	1
1 3/8"	6	65.0	25.0	240 138 UNC	1
1 1/2"	6	75.0	30.0	240 112 UNC	1
1 3/4"	5	90.0	36.0	240 134 UNC	1
2"	4.5	90.0	36.0	240 200 UNC	1



Hand tap UNF ≈ DIN 2181



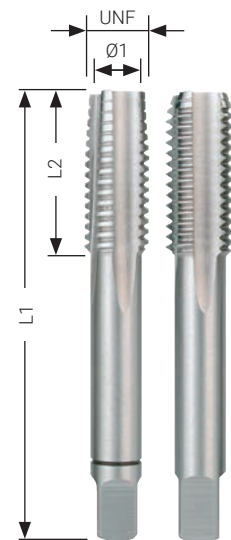
Also available individually

Taper tap: 5 - 6-thread chamfer Item no. 246**UNF1**

Final tap: 2 - 3-thread chamfer Item no. 246.....**UNF2**

Thread: American UNF coarse thread

Flanks: relief-ground



Packaging: plastic

Set consists of 1x taper tap and 1x final tap

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
Nr. 2	64	1.85	32.0	10.0	246 020 UNF	1
Nr. 3	56	2.15	32.0	10.0	246 030 UNF	1
Nr. 4	48	2.40	36.0	11.0	246 040 UNF	1
Nr. 5	44	2.70	36.0	11.0	246 050 UNF	1
Nr. 6	40	2.95	40.0	12.0	246 060 UNF	1
Nr. 8	36	3.50	40.0	12.0	246 080 UNF	1
Nr. 10	32	4.10	45.0	14.0	246 100 UNF	1
Nr. 12	28	4.60	50.0	14.0	246 120 UNF	1
1/4"	28	5.50	50.0	18.0	246 014 UNF	1
5/16"	24	6.90	56.0	22.0	246 516 UNF	1
3/8"	24	8.50	63.0	22.0	246 038 UNF	1

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
7/16"	20	9.90	63.0	22.0	246 716 UNF	1
1/2"	20	11.50	75.0	24.0	246 012 UNF	1
9/16"	18	12.90	80.0	28.0	246 916 UNF	1
5/8"	18	14.50	80.0	28.0	246 058 UNF	1
3/4"	16	17.50	95.0	32.0	246 034 UNF	1
7/8"	14	20.50	100.0	36.0	246 078 UNF	1
1"	12	23.25	110.0	40.0	246 010 UNF	1
1 1/8"	12	22.00	110.0	50.0	246 118 UNF	1
1 1/4"	12	22.00	132.0	56.0	246 114 UNF	1
1 3/8"	12	28.00	132.0	56.0	246 138 UNF	1
1 1/2"	12	32.00	150.0	63.0	246 112 UNF	1

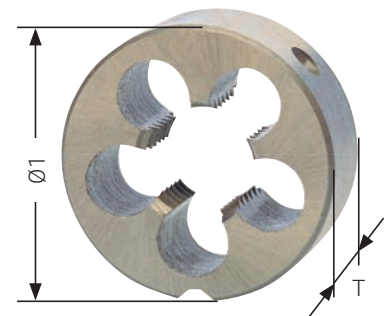


Round die UNF ≈ DIN EN 22568



Thread: American UNF coarse thread

Packaging: plastic



Nominal thread size UNF	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
Nr. 2	64	16.0	5.0	240 020 UNF	1
Nr. 3	56	16.0	5.0	240 030 UNF	1
Nr. 4	48	16.0	5.0	240 040 UNF	1
Nr. 5	44	20.0	5.0	240 050 UNF	1
Nr. 6	40	20.0	5.0	240 060 UNF	1
Nr. 8	36	20.0	7.0	240 080 UNF	1
Nr. 10	32	20.0	7.0	240 100 UNF	1
Nr. 12	28	20.0	7.0	240 120 UNF	1
1/4"	28	20.0	7.0	240 014 UNF	1
5/16"	24	25.0	9.0	240 516 UNF	1
3/8"	24	30.0	11.0	240 038 UNF	1

Nominal thread size UNF	Threads per inch	Outside Ø1 mm	Thickness T mm	HSS	
7/16"	20	30.0	11.0	240 716 UNF	1
1/2"	20	38.0	10.0	240 012 UNF	1
9/16"	18	38.0	10.0	240 916 UNF	1
5/8"	18	45.0	14.0	240 058 UNF	1
3/4"	16	45.0	14.0	240 034 UNF	1
7/8"	14	55.0	16.0	240 078 UNF	1
1"	12	55.0	16.0	240 010 UNF	1
1 1/8"	12	65.0	18.0	240 118 UNF	1
1 1/4"	12	65.0	18.0	240 114 UNF	1
1 3/8"	12	65.0	18.0	240 138 UNF	1
1 1/2"	12	75.0	20.0	240 112 UNF	1

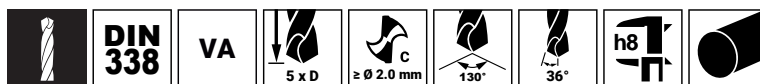


Hand tap sets HSS and HSSE-Co 5



245 001 RO

		HSSE-Co 5	HSS
21 tfg./pcs.	Hand tap set M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 in plastic case	245 001 ERO	245 001 RO
22 tfg./pcs.	Hand tap set M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 1 tap wrench DIN 1814 size 11/2 in steel case	245 002 E	245 002



Hand tap and twist drill sets



		HSSE-Co 5
29 tfg./pcs.	Hand tap and twist drill set in steel case Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type VA Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm 1 tap wrench DIN 1814 size 11/2	245 003 E
28 tfg./pcs.	Hand tap and twist drill set in plastic case Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type VA Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 003 ERO
44 tfg./pcs.	Hand tap and twist drill set in tool magazine Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type VA Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm 7 dies M DIN EN 22568 - M 3 M 4 M 5 M 6 M 8 M 10 M 12 5 die stocks DIN 225 - 20.0 x 5.0 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 14.0 mm 2 tap wrenches DIN 1814 size 1 and size 2 1 screwdriver 1 screw-pitch gauge	245 030 E



Hand tap and twist drill sets



		HSS
29 fig./pcs.	Hand tap and twist drill set in steel case Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type N Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm 1 tap wrench DIN 1814 size 11/2	245 003
28 fig./pcs.	Hand tap and twist drill set in plastic case Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type N Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 003 RO
44 fig./pcs.	Hand tap and twist drill set in tool magazine Hand taps M DIN 352 one three-piece set each of M 3 M 4 M 5 M 6 M 8 M 10 M 12 7 twist drills DIN 338 type N Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm 7 dies M DIN EN 22568 - M 3 M 4 M 5 M 6 M 8 M 10 M 12 5 die stocks DIN 225 - 20.0 x 5.0 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 14.0 mm 2 tap wrenches DIN 1814 size 1 and size 2 1 screwdriver 1 screw-pitch gauge	245 030



245 003



245 003 RO



245 030



Thread-cutting sets



		HSSE-Co 5	HSS
31 tfg./pcs.	DIY thread-cutting toolsset one three-piece set each of hand taps M DIN 352 M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 7 dies Ø 25.0 mm ≈ DIN EN 22568 M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 1 die stock DIN 225 - 25.0 x 9.0 mm + 1 tap wrench, size 1½ DIN 1814 + 1 screwdriver	245 010 E	245 010
37 tfg./pcs.	Thread-cutting tool set one three-piece set each of hand taps M DIN 352 M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 7 dies M DIN EN 22568 M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 5 die stocks DIN 225 20.0 x 5.0 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 14.0 mm + 2 tap wrenches DIN 1814 size 1 and size 2 + 1 screwdriver + 1 screw-pitch gauge	245 020 E	245 020
54 tfg./pcs.	Thread-cutting tool set one three-piece set each of hand taps M DIN 352 M 3 M 4 M 5 M 6 M 8 M 10 M 12 M 14 M 16 M 18 M 20 + 11 dies M DIN EN 22568 M 3 M 4 M 5 M 6 M 8 M 10 M 12 M 14 M 16 M 18 M 20 + 6 die stocks DIN 225 20.0 x 5.0 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 14.0 45.0 x 18.0 mm + 2 tap wrenches DIN 1814 size 1 and size 3 + 1 screwdriver + 1 screw-pitch gauge	245 040 E	245 040
43 tfg./pcs.	Thread-cutting tool set MF (metric fine) one two-piece set each of hand taps MF DIN 2181 MF 3 MF 4 MF 5 MF 6 MF 8 MF 10 MF 12 MF 14 MF 16 MF 18 MF 20 + 11 dies MF DIN 22568 MF 3 MF 4 MF 5 MF 6 MF 8 MF 10 MF 12 MF 14 MF 16 MF 18 MF 20 + 6 die stocks DIN 225 20.0 x 5.0 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 10.0 45.0 x 14.0 mm + 2 tap wrenches DIN 1814 size 1 and size 3 + 1 screwdriver + 1 screw-pitch gauge	—	245 041



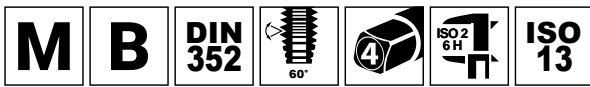
245 010 E



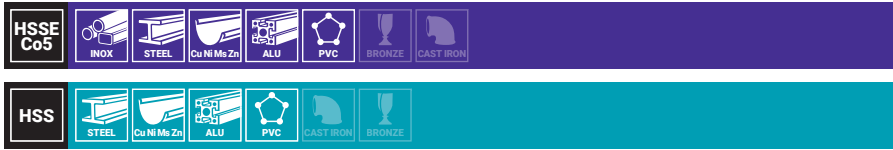
245 020



245 040



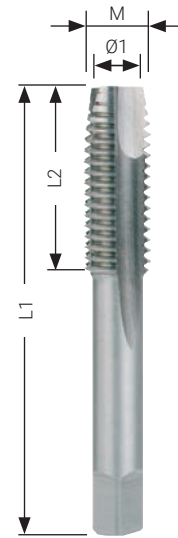
Single-cut tap M ≈ DIN 352



The single-cut tap HSS for through threads in unalloyed and low-alloyed steels up to a strength of 800 N/mm². The single-cut tap HSSE-Co 5 for through threads in unalloyed and alloyed steels up to a strength of 1000 N/mm², malleable cast iron and non-ferrous metals. The thread can be cut in one operation by hand or machine.

Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic
Set consists of 1x Taper tap, 1x Second tap and 1x Final tap



06

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	HSSE-Co 5	HSS	
M 3	0.50	2.50	40.0	10.0	231 030 E	231 030	1
M 4	0.70	3.30	45.0	12.0	231 040 E	231 040	1
M 5	0.80	4.20	50.0	13.0	231 050 E	231 050	1
M 6	1.00	5.00	50.0	15.0	231 060 E	231 060	1
M 8	1.25	6.80	56.0	18.0	231 080 E	231 080	1
M 9	1.25	7.80	67.0	22.0	—	231 090	1
M 10	1.50	8.50	70.0	24.0	231 100 E	231 100	1
M 12	1.75	10.20	75.0	29.0	231 120 E	231 120	1

Single-cut tap + ULTIMATECUT twist drill type FLOWSTEP® set



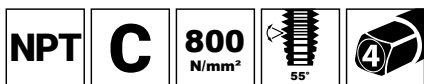
		HSS
15 fig./pcs.	Single-cut tap set 7 single-cut taps ≈ DIN 352 HSS, ground M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 7 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSS Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm + 1 tap wrench, size 1 1/2 DIN 1814	259 004 RO



Single-cut tap + twist drill set DIN 338 type N set

		HSS
15 fig./pcs.	Single-cut tap set 7 single-cut taps ≈ DIN 352 HSS, ground M 3 M 4 M 5 M 6 M 8 M 10 M 12 + 7 twist drills DIN 338 type N HSS, ground Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm + 1 tap wrench, size 1 1/2 DIN 1814	245 004 RO





Single-cut tap NPT

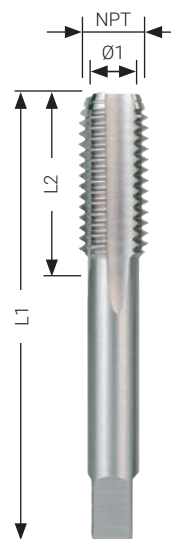


For through threads in unalloyed or low-alloyed steels up to 800 N/mm² strength, malleable cast iron and non-ferrous metals. The thread can be cut in one operation by hand or machine.

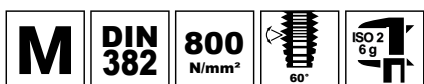
Note: pilot drill cylindrically

Thread: American conical pipe thread to ANSI B.1.20.1
 Flanks: relief-ground
 Cone: 1:16

Packaging: plastic



Nominal thread size NPT	Threads per inch	Thread core hole Ø1 mm	Cutting depth mm	L1 mm	L2 mm	HSS	
1/16"	27.0	6.00	12.00	65.0	19.0	231 116 NPT	1
1/8"	27.0	8.25	12.00	65.0	19.0	231 018 NPT	1
1/4"	18.0	10.70	17.50	70.0	25.0	231 014 NPT	1
3/8"	18.0	14.10	17.50	75.0	26.0	231 038 NPT	1
1/2"	14.0	17.40	22.90	80.0	31.0	231 012 NPT	1
3/4"	14.0	22.60	23.00	100.0	33.0	231 034 NPT	1
1"	11.5	28.50	27.40	110.0	38.0	231 010 NPT	1
1 1/4"	11.5	37.00	28.10	125.0	41.0	231 114 NPT	1
1 1/2"	11.5	43.50	28.40	140.0	42.0	231 112 NPT	1
2"	11.5	55.00	28.40	160.0	44.0	231 020 NPT	1

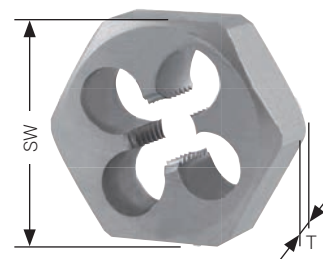


Hexagonal die nut M DIN 382



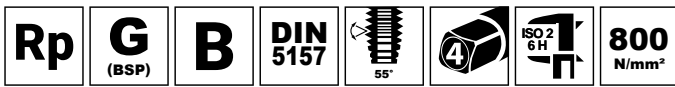
Thread: metric, DIN ISO 13

Packaging: plastic



Nominal thread size M	Pitch mm	Outside Ø SW mm	Thickness T mm	HSS	
M 3	0.50	18.0	5.0	267 030	1
M 4	0.70	18.0	5.0	267 040	1
M 5	0.80	18.0	7.0	267 050	1
M 6	1.00	18.0	7.0	267 060	1
M 8	1.25	21.0	9.0	267 080	1
M 10	1.50	27.0	11.0	267 100	1
M 12	1.75	36.0	14.0	267 120	1
M 14	2.00	36.0	14.0	267 140	1

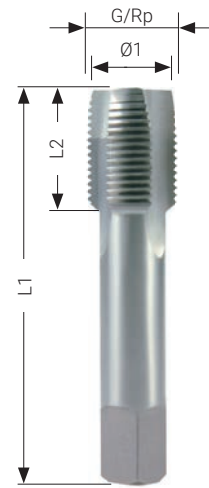
Nominal thread size M	Pitch mm	Outside Ø SW mm	Thickness T mm	HSS	
M 16	2.00	41.0	18.0	267 160	1
M 18	2.50	41.0	18.0	267 180	1
M 20	2.50	41.0	18.0	267 200	1
M 22	2.50	50.0	22.0	267 220	1
M 24	3.00	50.0	22.0	267 240	1
M 27	3.00	60.0	25.0	267 270	1
M 30	3.50	60.0	25.0	267 300	1



Single-cut tap G ≈ DIN 5157 HSS, ground



Thread: DIN ISO 228 "G" (cylindrical pipe thread)
 DIN 2999 "Rp" (Whitworth pipe thread)
 Flanks: relief-ground



Packaging: plastic

Nominal thread size G	Nominal thread size Rp	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	HSS	
G 1/8"	Rp 1/8"	28	8.6	63.0	20.0	236 218	1
G 1/4"	Rp 1/4"	19	11.5	70.0	22.0	236 214	1
G 3/8"	Rp 3/8"	19	15.0	70.0	22.0	236 238	1
G 1/2"	Rp 1/2"	14	19.0	80.0	22.0	236 212	1
G 3/4"	Rp 3/4"	14	24.5	90.0	22.0	236 234	1
G 1"	Rp 1"	11	30.5	100.0	25.0	236 210	1

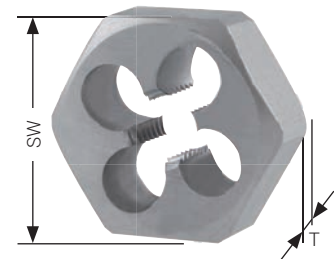
06



Hexagonal die nut G DIN 382 HSS, ground



Thread: DIN ISO 228 "G" (cylindrical pipe thread)



Packaging: plastic

Nominal thread size G	Threads per inch	Outside Ø SW mm	Thickness T mm	HSS	
G 1/8"	28	27.0	11.0	267 618	1
G 1/4"	19	36.0	10.0	267 614	1
G 3/8"	19	41.0	14.0	267 638	1
G 1/2"	14	41.0	14.0	267 612	1
G 3/4"	14	50.0	16.0	267 634	1
G 1"	11	60.0	18.0	267 610	1



Sanitary repair thread-cutting set HSS for cylindrical pipe thread



		HSS
13 tfg./pcs.	<p>Sanitary repair thread-cutting tool set 6 single-cut taps G/Rp ≈ DIN 5157 HSS, ground G/Rp 1/8" x 28 G/Rp 1/4" x 19 G/Rp 3/8" x 19 G/Rp 1/2" x 14 G/Rp 3/4" x 14 G/Rp 1" x 11</p> <p>+ 6 hexagonal dies G DIN 382 HSS, ground G 1/8" x 28 G 1/4" x 19 G 3/8" x 19 G 1/2" x 14 G 3/4" x 14 G 1" x 11</p> <p>+ 1 cutting paste, 40 ml</p>	245 059

Thread-cutting tool sets in wooden case



		HSS
28 tfg./pcs.	<p>Thread-cutting tool set one two-piece set each of hand taps G DIN 5157 1/8" 1/4" 3/8" 1/2" 5/8" 3/4" 1"</p> <p>+ 7 dies G DIN EN 24231 1/8" 1/4" 3/8" 1/2" 5/8" 3/4" 1"</p> <p>+ 5 die stocks DIN 225 30.0 x 11.0 38.0 x 10.0 45.0 x 14.0 55.0 x 16.0 65.0 x 18.0 mm</p> <p>+ 2 tap wrenches, size 3 and size 5 DIN 1814</p>	245 074
35 tfg./pcs.	<p>Thread-cutting tool set one two-piece set each of hand taps UNF ≈ DIN 2181 1/4" 5/16" 3/8" 7/16" 1/2" 5/8" 3/4" 7/8" 1"</p> <p>+ 9 dies UNF ≈ DIN EN 22568 1/4" 5/16" 3/8" 7/16" 1/2" 5/8" 3/4" 7/8" 1"</p> <p>+ 6 die stocks DIN 225 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 10.0 45.0 x 14.0 55.0 x 16.0 mm</p> <p>+ 2 tap wrenches, size 2 and size 4 DIN 1814</p>	245 073
44 tfg./pcs.	<p>Thread-cutting tool set one three-piece set each of hand taps UNC ≈ DIN 352 1/4" 5/16" 3/8" 7/16" 1/2" 5/8" 3/4" 7/8" 1"</p> <p>+ 9 dies UNC ≈ DIN EN 22568 1/4" 5/16" 3/8" 7/16" 1/2" 5/8" 3/4" 7/8" 1"</p> <p>+ 6 die stocks DIN 225 20.0 x 7.0 25.0 x 9.0 30.0 x 11.0 38.0 x 10.0 45.0 x 18.0 55.0 x 22.0 mm</p> <p>+ 2 tap wrenches, size 2 and size 4 DIN 1814</p>	245 072


Die stock DIN 225

For closed and slotted taps as per DIN EN 24231.

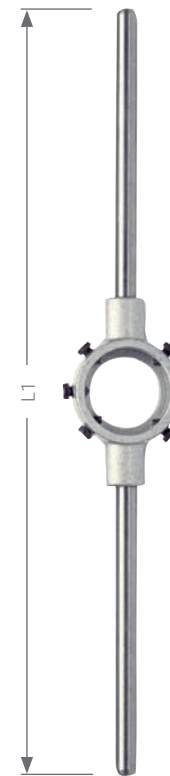
With steel handles one of which can be unscrewed and five screws for clamping the tap.

Version: die-cast zinc housing

Packaging: plastic

Size	Thickness mm	L1 mm	for tap size			HSS	
			M + MF	Ww	G		
16	5.0	160.0	M 1 - M 2.6	1/16 - 3/32	—	242 165	1
20	5.0	175.0	M 3 - M 4	1/8 - 5/32	—	242 205	1
20	7.0	175.0	M 4.5 - M 6	3/16 - 1/4	—	242 207	1
25	9.0	210.0	M 7 - M 9	5/16	1/16	242 259	1
30	11.0	260.0	M 10 - M 11	3/8 - 7/16	1/8	242 3011	1
38	14.0	310.0	M 12 - M 14	1/2 - 9/16	—	242 3814	1
45	18.0	440.0	M 16 - M 20	5/8 - 3/4	—	242 4518	1
55	22.0	495.0	M 22 - M 24	7/8 - 1	—	242 5522	1
65	25.0	630.0	M 27 - M 36	1 1/8 - 1 3/8	—	242 6525	1
75	30.0	700.0	M 38 - M 42	1 1/2 - 1 5/8	—	242 7530	1
90	36.0	900.0	M 45 - M 52	1 3/4 - 2	—	242 9036	1
105	36.0	930.0	M 54 - M 63	2 1/4 - 2 3/4	—	242 10536	1

38	10.0	310.0	MF 12 - MF 14	—	1/4	242 3810	1
45	14.0	440.0	MF 16 - MF 20	—	3/8 - 1/2	242 4514	1
55	16.0	495.0	MF 22 - MF 24	—	5/8 - 3/4	242 5516	1
65	18.0	630.0	MF 27 - MF 36	—	7/8 - 1	242 6518	1
75	20.0	750.0	MF 38 - MF 42	—	1 1/8 - 1 1/4	242 7520	1
90	22.0	900.0	MF 45 - MF 52	—	1 3/8 - 1 5/8	242 9022	1
105	22.0	930.0	MF 54 - MF 63	—	1 3/4 - 2	242 10522	1



Extension sleeve DIN 377

As extension for hand thread-cutting tools.

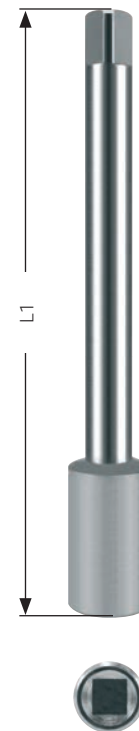
Inside and outside square of identical size.

Version: hardened and ground

Shank: square as per DIN 10

Packaging: plastic

Square mm	Length mm	for hand tap size			HSS	
		M	Ww	G		
2.1	60.0	M 1 - M 2.6	1/16 - 3/32	—	241 021	1
2.7	80.0	M 3	—	—	241 027	1
3.4	95.0	M 4	5/32	—	241 034	1
4.9	110.0	M 5 - M 8	7/32 - 5/16	—	241 049	1
5.5	115.0	M 9 - M 10	3/8	1/8	241 055	1
7.0	125.0	M 12	1/2	—	241 070	1
9.0	135.0	M 13 - M 16	9/16 - 5/8	1/4	241 090	1
11.0	150.0	M 18	11/16 - 3/4	—	241 110	1
12.0	155.0	M 20	13/16	1/2	241 120	1
14.5	174.0	M 22 - M 24	7/8 - 15/16	5/8	241 145	1
16.0	185.0	M 27 - M 28	1	3/4	241 160	1
18.0	195.0	M 30 - M 32	1 1/8	7/8	241 180	1



Adjustable tap wrench DIN 1814

Ideal for thread-cutting in inaccessible places.
With two-jaw chuck for tensioning square shanks.
With steel handles one of which can be unscrewed.

Version: die-cast zinc housing
Chuck jaws: hardened

Packaging: plastic

Size	L1 mm	for hand tape size				
		M	Ww	G		
0	125.0	M 1 - M 8	1/16 - 5/16	—	241 100	1
1	175.0	M 1 - M 10	1/8 - 3/8	—	241 101	1
1 1/2	175.0	M 1 - M 12	1/8 - 1/2	1/8	241 112	1
2	265.0	M 4 - M 12	3/16 - 5/8	1/8 - 3/8	241 102	1
3	370.0	M 5 - M 20	1/4 - 3/4	1/8 - 1/2	241 103	1
4	480.0	M 11 - M 27	1/2 - 1	1/8 - 3/4	241 104	1
5	700.0	M 13 - M 32	5/8 - 1 1/4	1/4 - 1	241 105	1
6	1000.0	M 18 - M 42	3/4 - 1 1/2	1/4 - 1 1/4	241 106	1
7	1250.0	M 25 - M 52	7/8 - 2	5/8 - 2 1/4	241 107	1

Ball tap wrench

Ideal for rapid fitting of taps.

Version: die-cast zinc housing
Shank: square as per DIN 10

Packaging: plastic

Size	L1 mm	for hand tape size				
		M	Ww	G		
0	200.0	M 1 - M 4	1/16 - 5/32	—	241 200	1
1	200.0	M 3.5 - M 8	5/32 - 5/16	—	241 201	1
2	240.0	M 4 - M 10	5/32 - 3/8	—	241 202	1
3	300.0	M 5 - M 12	7/32 - 1/2	—	241 203	1
4	340.0	M 9 - M 16	3/8 - 5/8	—	241 204	1
5	450.0	M 12 - M 20	1/2 - 13/16	—	241 205	1
6	650.0	M 18 - M 27	11/16 - 1	—	241 206	1

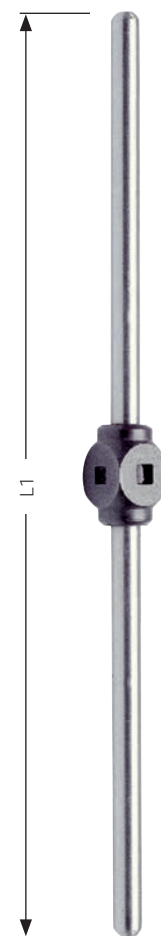
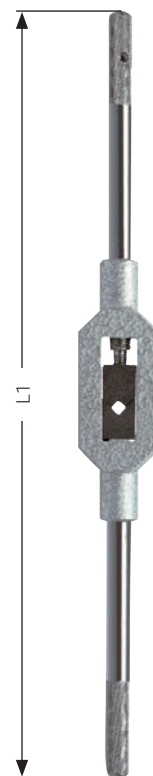
Tap wrench with ratchet

Ideal for thread-cutting in inaccessible places.
With two-jaw chuck for tensioning square shanks.

Version: adjustable left, right, fixed
Shank: sliding cross-handle with grooves at both ends
Surface: chromium-plated

Packaging: plastic

Size	L1 mm	for hand tape size				
		M	Ww	G		
1	85.0	M 3 - M 10	1/8 - 3/8	—	241 001	1
2	100.0	M 5 - M 12	7/32 - 1/2	1/8	241 002	1
10	250.0	M 3 - M 10	1/8 - 3/8	—	241 010	1
20	300.0	M 5 - M 12	7/32 - 1/2	1/8	241 020	1



THREAD-CUTTING TOOLS

MACHINE TAPS

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Combi machine tap bit for core hole and through hole threads HSS + TiN – long	177
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Type and applications overview

NEW **ULTIMATECUT®**






































Material	Surface	DIN	Type	Thread	Tenacity classes	Blind hole/ Through hole	Nominal thread size	Item no.	Page/s
HSS				M			M 3 – M 10	270 0xx	158
HSS	RUNa TEC			M				270 0xx P	
HSS	Blank	DIN 371	B	M	800 N/mm²		M 2 – M 10	232 xxx	160
HSSE Co5	Blank	DIN 371	B	M	1000 N/mm²			232 xxx E	
HSSE Co5	VAP	DIN 371	B	M	1000 N/mm²			232 xxx VA	
HSS	TiN	DIN 371	B	M	900 N/mm²			232 xxx T	
HSSE Co5	TiAlN	DIN 371	B	M	1200 N/mm²			232 xxx EF	
HSS	Blank	DIN 371	C	M	800 N/mm²			234 xxx	
HSSE Co5	Blank	DIN 371	C	M	1000 N/mm²		234 xxx E		
HSSE Co5	VAP	DIN 371	C	M	1000 N/mm²		234 xxx VA		
HSS	TiN	DIN 371	C	M	900 N/mm²		234 xxx T		
HSSE Co5	TiAlN	DIN 371	C	M	1200 N/mm²		234 xxx EF		
HSS	Blank	DIN 376	B	M	800 N/mm²		M 12 – M 30	232 xxx	162
HSSE Co5	Blank	DIN 376	B	M	1000 N/mm²		M 3 – M 30	232 xxx E	
HSSE Co5	VAP	DIN 376	B	M	1000 N/mm²		M 3 – M 30	232 xxx VA	
HSS	TiN	DIN 376	B	M	900 N/mm²		M 12 – M 30	232 xxx T	
HSSE Co5	TiAlN	DIN 376	B	M	1200 N/mm²		M 3 – M 30	232 xxx EF	
HSS	Blank	DIN 376	C	M	800 N/mm²		M 12 – M 30	233 xxx	163
HSSE Co5	Blank	DIN 376	C	M	1000 N/mm²		M 3 – M 30	233 xxx E	
HSSE Co5	VAP	DIN 376	C	M	1000 N/mm²		M 3 – M 30	233 xxx VA	
HSS	TiN	DIN 376	C	M	900 N/mm²		M 12 – M 30	233 xxx T	
HSSE Co5	TiAlN	DIN 376	C	M	1200 N/mm²		M 3 – M 30	233 xxx EF	
HSS	Blank	DIN 371	B AZ	M	800 N/mm²		M 3 – M 10	272 xxx	167
HSS	Blank	DIN 376	B AZ	M	800 N/mm²		M 12 – M 24	272 xxx	

Structural steel < 900 N/mm ²	Inox <1100 N/mm ²	High strength steel <1300 N/mm ²	Brass	Bronze	Cast iron	Aluminium	Plastics
●			●	○	○	●	○
●			●	●	○	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●	●		●	○	○	●	○
●	○		●	○	○		○
●	●	●	●	●	●	●	○
●			●	○	○	●	○
●	●		●	○	○	●	○
●	●		●	○	○	●	○
●	○		●	○	○		○
●	●	●	●	●	●	●	○
●			●	○	○	●	○
●			●	○	○	●	○
●	●		●	○	○	●	○
●	○		●	○	○		○
●	●	●	●	●	●	●	○
●			●	○	○	●	○
●	●		●	○	○	●	○
●	○		●	○	○		○
●	●	●	●	●	●	●	○
○				●		●	○
○				●		●	○

● Main application ○ Other application

Type and applications overview

	Material	Surface	DIN	Type	Thread	Tenacity classes	Blind hole/ Through hole	Nominal thread size	Item no.	Page/s
	HSSE Co5	TiCN	DIN 371	C	M	800 N/mm²		M 3 – M 10	273 xxx ETC	168
	HSSE Co5	TiCN	DIN 376	C	M	1000 N/mm²		M 12 – M 24	273 xxx ETC	
	HSSE Co5	Blank	DIN 5156	B	MF	1000 N/mm²		MF 4 – 30	260 xxx E	169
	HSSE Co5	Blank	DIN 374	C	MF	1000 N/mm²		MF 4 – MF 30	261 xxx E	170
	HSSE Co5	Blank		B	UNC	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	265 xxx UNC	171
	HSSE Co5	Blank		B	UNC	1000 N/mm²		7/16 – 1"	265 xxx UNC	
	HSSE Co5	Blank		C	UNC	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	266 xxx UNC	172
	HSSE Co5	Blank		C	UNC	1000 N/mm²		7/16 – 1"	266 xxx UNC	
	HSSE Co5	Blank		B	UNF	1000 N/mm²		Nr. 4 – 12 1/4 – 3/8"	265 xxx UNF	173
	HSSE Co5	Blank		B	UNF	1000 N/mm²		7/16 – 1"	265 xxx UNF	
	HSSE Co5	Blank		C	UNF	1200 N/mm²		Nr. 4 – 12 1/4 – 3/8"	266 xxx UNF	174
	HSSE Co5	Blank		C	UNF	1000 N/mm²		7/16 – 1"	266 xxx UNF	
	HSS	Blank	DIN 40430	B	PG	800 N/mm²		PG 7 – 48	264 xxx	175
	HSS	Blank	DIN 357		M	800 N/mm²		M 3 – M 24	243 xxx	
	HSSE Co5	TiAlN	DIN 2174	D	M	1200 N/mm²		M 3 – M 12	271 0xx F	176
	HSS	Blank			M	600 N/mm²		M 3 – M 10	270 0xx	177
	HSS	TiN			M	900 N/mm²			270 0xx T	
	HSS	Blank			M	600 N/mm²		M 3 – M 10	R 270 0xx	178
	HSS	TiN			M	900 N/mm²			R 270 0xx T	

Product information for machine taps



Machine tap made from high-speed steel. For through-hole and blind-hole threads in unalloyed steels up to 800 N/mm² strength. The thread is cut in a single operation.

High-speed steel, primarily known as high-speed steel (HSS), refers to a group of alloyed tool steels with up to 2.06 % carbon content and up to 30 % alloying elements such as tungsten, molybdenum, vanadium, cobalt, nickel and titanium. HSS materials are characterised by high hardness, wear resistance and heat resistance up to 600 °C. HSS tools are less sensitive to impacts and vibrations, which can sometimes quickly lead to breakage in harder cutting materials.

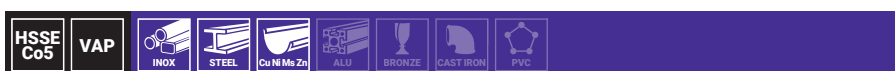


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Machine tap made from cobalt-alloyed high-speed steel. Longer tool life is achieved thanks to the higher heat resistance. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 1,000 N/mm² strength and non-ferrous metals. The thread is cut in a single operation.

Like high-speed steel with a cobalt alloy of 5%. This heat-resistant material is used for machining materials with higher strength and for long cutting channels with correspondingly high heating. The cobalt content of 5% ensures higher high-temperature strength and greater load-bearing capacity.



Machine tap made from cobalt-alloyed and vaporised high-speed steel. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 1,000 N/mm² strength, VA metals. The thread is cut in a single operation.

Vaporising' refers to the vapour deposition of a non-metallic oxide layer. Vaporising acts as a separating layer and reduces the occurrence of cold welds. Cold welds are workpiece chips that weld onto the flank of the tap and damage the manufactured thread. The consequences of cold welding are torn and unclean thread flanks.

VAP improves the adhesion of lubricants to the tool surface.



LONG LIFE



Machine tap made of high-speed steel with titanium nitride coating. Universal use for a wide range of materials thanks to hard coating. For through-hole and blind-hole threads, in unalloyed and alloyed steels up to 900 N/mm² strength, VA metals. The thread is cut in a single operation. Note: Cutting speeds from 10 m/min.

The TiN wear protection coating increases the surface hardness to approx. 2,500 HV. Titanium nitride is a chemical compound of the two elements titanium and nitrogen. TiN is a metallic hard material with a typical golden yellow color.

Advantages: Higher hardness, lower coefficient of friction, longer tool life.

Cooling is not necessary, but is recommended.



Machine tap made from high-speed steel. For through-hole and blind-hole threads, in unalloyed, low-alloyed, alloyed steels up to 1,200 N/mm² strength and cast iron. The thread is cut in a single operation.

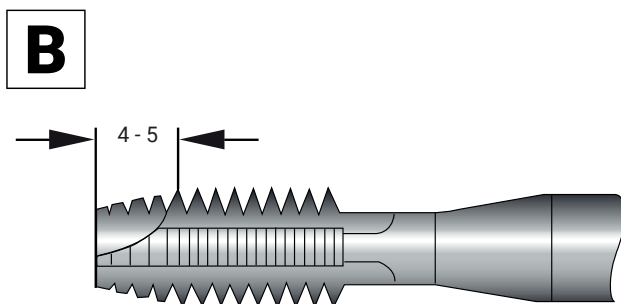
The TiAlN wear protection coating increases the surface hardness to approx. 3,500 HV. Titanium aluminium nitride is a chemical compound of the three elements titanium, aluminium and nitrogen. TiAlN is a metallic hard material with a typical black-violet color.

Advantages: The TiAlN coating enables dry machining of cutting tools. Higher hardness, very low coefficient of friction, optimum tool life.

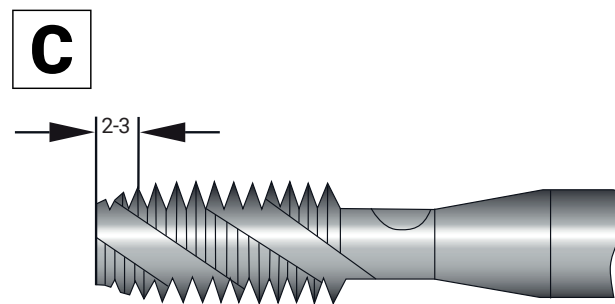
Cooling is not necessary.



Technical data



Type B,
4 - 5 threads with progressive tap

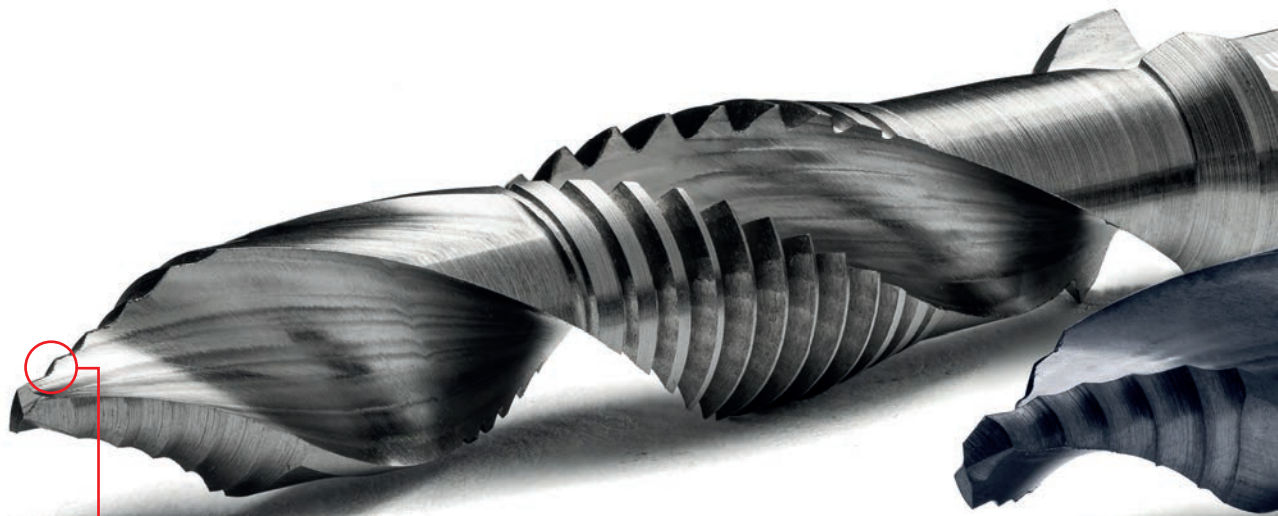


Type C / 35° right-hand spiral flutes,
2 - 3 threads

NEW **ULTIMATECUT**®

Combi machine tap with **FLOWSTEP**® tip

**It stays in use twice as long for you.
It makes you 20% faster.
It saves you energy.**



RUKO FLOWSTEP® tip

Precise centering = no slipping when positioning.
Time saving thanks to faster drilling = more holes drilled in the same time.
Power-saving drilling = significantly less drill breakage.



RUKO Bit shank

Quick tool change = efficient working

6 surfaces = even better power transmission and no slipping

1/4" hex shank = extremely flexible use of the shank, compatible with all hand and pillar drilling machines with 3-jaw chuck and all standard bit holders.



RUKO 3-in-1 power - faster, more precise, more power-saving

Drilling, tapping, deburring - without changing tools.

Triple savings - time, costs and weight.



ULTIMATECUT®

ULTIMATECUT combi machine tap bit for core hole and through-hole threads



The ULTIMATECUT combi machine tap is ideal for sheet metal working with clockwise/anticlockwise rotation cordless screwdrivers. The FLOWSTEP® tip enables perfect centering without center punching.

Flanks: relief ground
 Shank: 1/4" x 27,0 mm
 Max. material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)



! FLOWSTEP® tip from M5, as from a technical application point of view there is no benefit in sizes smaller than M5.

Packaging: plastic

Nominal thread size	Pitch mm	L1 mm	Ø1 mm	HSS	HSS RUnaTEC	
M 3	0.50	51.00	2.5	270 614	270 614 P	1
M 4	0.70	54.00	3.3	270 615	270 615 P	1
M 5	0.80	57.00	4.2	270 616	270 616 P	1
M 6	1.00	63.00	5.0	270 617	270 617 P	1
M 8	1.25	72.00	6.8	270 618	270 618 P	1
M 10	1.50	80.00	8.5	270 619	270 619 P	1

		HSS	HSS RUnaTEC
7 fig./pcs.	ULTIMATECUT combi machine tap bit set 6 Combi machine taps M 3 M 4 M 5 M 6 M 8 M 10 + 1 magnetic bit holder	270 620 RO	270 620 PRO

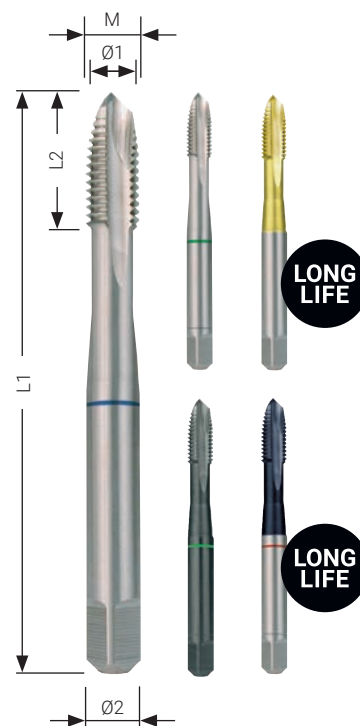






Machine tap, metric, DIN 371 with reinforced shank for through hole thread

HSSE Co5	TiAIN	HIGH STRENGTH	STEEL	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE	TITANIUM
HSSE Co5	VAP	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON			
HSSE Co5		INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON			
HSS	TiN	STEEL	Cu Ni Ms Zn	PVC	INOX	CAST IRON	BRONZE				
HSS		STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE				



Chamfer: type B, 4 - 5 threads with progressive tap
Thread: metric, DIN ISO 13
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 2	0.40	1.60	45.0	8.0	2.8
M 2.5	0.45	2.05	50.0	9.0	2.8
M 3	0.50	2.50	56.0	11.0	3.5
M 4	0.70	3.30	63.0	13.0	4.5
M 5	0.80	4.20	70.0	16.0	6.0
M 6	1.00	5.00	80.0	19.0	6.0
M 8	1.25	6.80	90.0	22.0	8.0
M 10	1.50	8.50	100.0	24.0	10.0

Ø2 mm	HSSE-Co 5 TiAIN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 2	232 020 EF	232 020 VA	232 020 E	232 020 T	232 020	1
M 2,5	232 025 EF	232 025 VA	232 025 E	232 025 T	232 025	1
M 3	232 030 EF	232 030 VA	232 030 E	232 030 T	232 030	1
M 4	232 040 EF	232 040 VA	232 040 E	232 040 T	232 040	1
M 5	232 050 EF	232 050 VA	232 050 E	232 050 T	232 050	1
M 6	232 060 EF	232 060 VA	232 060 E	232 060 T	232 060	1
M 8	232 080 EF	232 080 VA	232 080 E	232 080 T	232 080	1
M 10	232 100 EF	232 100 VA	232 100 E	232 100 T	232 100	1



Application tip

To increase the service life, reduce the speed and use RUKO coolants and lubricants.



Machine tap, metric, DIN 371 with reinforced shank and spiral groove 35° for blind hole thread

HSSE Co5	TiAIN	HIGH STRENGTH	STEEL	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE	TITANIUM
HSSE Co5	VAP	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON			
HSSE Co5		INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON			
HSS	TiN	STEEL	Cu Ni Ms Zn	PVC	INOX	CAST IRON	BRONZE				
HSS		STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE				



Chamfer: type C / 35° right-hand spiral flutes, 2 - 3 threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground



! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

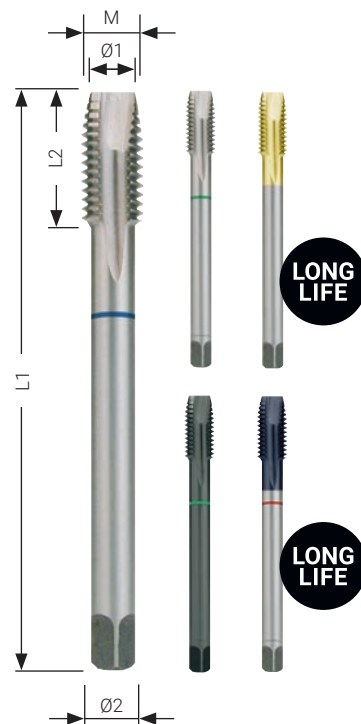
Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 2	0.40	1.60	45.0	8.0	2.8
M 2.5	0.45	2.05	50.0	9.0	2.8
M 3	0.50	2.50	56.0	11.0	3.5
M 4	0.70	3.30	63.0	13.0	4.5
M 5	0.80	4.20	70.0	16.0	6.0
M 6	1.00	5.00	80.0	19.0	6.0
M 8	1.25	6.80	90.0	22.0	8.0
M 10	1.50	8.50	100.0	24.0	10.0

Ø2 mm	HSSE-Co 5 TiAIN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 2	234 020 EF	234 020 VA	234 020 E	234 020 T	234 020	1
M 2.5	234 025 EF	234 025 VA	234 025 E	234 025 T	234 025	1
M 3	234 030 EF	234 030 VA	234 030 E	234 030 T	234 030	1
M 4	234 040 EF	234 040 VA	234 040 E	234 040 T	234 040	1
M 5	234 050 EF	234 050 VA	234 050 E	234 050 T	234 050	1
M 6	234 060 EF	234 060 VA	234 060 E	234 060 T	234 060	1
M 8	234 080 EF	234 080 VA	234 080 E	234 080 T	234 080	1
M 10	234 100 EF	234 100 VA	234 100 E	234 100 T	234 100	1



Machine tap, metric, DIN 376 with overflow shank for through-hole thread



Chamfer: type B, 4 - 5 threads with progressive tap
Thread: metric, DIN ISO 13
Flanks: relief-ground

06

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 3	0.50	2.50	56.0	11.0	2.2
M 4	0.70	3.30	63.0	13.0	2.8
M 5	0.80	4.20	70.0	16.0	3.5
M 6	1.00	5.00	80.0	19.0	4.5
M 8	1.25	6.80	90.0	22.0	6.0
M 10	1.50	8.50	100.0	24.0	7.0
M 12	1.75	10.20	110.0	28.0	9.0
M 14	2.00	12.00	110.0	30.0	11.0
M 16	2.00	14.00	110.0	32.0	12.0
M 18	2.50	15.50	125.0	34.0	14.0
M 20	2.50	17.50	140.0	34.0	16.0
M 22	2.50	19.50	140.0	34.0	18.0
M 24	3.00	21.00	160.0	38.0	18.0
M 27	3.00	24.00	160.0	38.0	20.0
M 30	3.50	26.50	180.0	45.0	22.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 3	232 031 EF	232 031 VA	232 031 E	—	—	1
M 4	232 041 EF	232 041 VA	232 041 E	—	—	1
M 5	232 051 EF	232 051 VA	232 051 E	—	—	1
M 6	232 061 EF	232 061 VA	232 061 E	—	—	1
M 8	232 081 EF	232 081 VA	232 081 E	—	—	1
M 10	232 101 EF	232 101 VA	232 101 E	—	—	1
M 12	232 120 EF	232 120 VA	232 120 E	232 120 T	232 120	1
M 14	232 140 EF	232 140 VA	232 140 E	232 140 T	232 140	1
M 16	232 160 EF	232 160 VA	232 160 E	232 160 T	232 160	1
M 18	232 180 EF	232 180 VA	232 180 E	232 180 T	232 180	1
M 20	232 200 EF	232 200 VA	232 200 E	232 200 T	232 200	1
M 22	232 220 EF	232 220 VA	232 220 E	232 220 T	232 220	1
M 24	232 240 EF	232 240 VA	232 240 E	232 240 T	232 240	1
M 27	232 270 EF	232 270 VA	232 270 E	232 270 T	232 270	1
M 30	232 300 EF	232 300 VA	232 300 E	232 300 T	232 300	1



Machine tap, metric, DIN 376 with overflow shank and spiral groove 35° for blind hole thread

HSSE Co5	TiAlN	STEEL	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE	TITANIUM
HSSE Co5	VAP	INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON		
HSSE Co5		INOX	STEEL	Cu Ni Ms Zn	ALU	PVC	BRONZE	CAST IRON		
HSS	TiN	STEEL	Cu Ni Ms Zn	PVC	INOX	CAST IRON	BRONZE			
HSS		STEEL	Cu Ni Ms Zn	ALU	PVC	CAST IRON	BRONZE			



Chamfer: type C / 35° right-hand spiral flutes, 2 - 3 threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm
M 3	0.50	2.50	56.0	11.0	2.2
M 4	0.70	3.30	63.0	13.0	2.8
M 5	0.80	4.20	70.0	16.0	3.5
M 6	1.00	5.00	80.0	19.0	4.5
M 8	1.25	6.80	90.0	22.0	6.0
M 10	1.50	8.50	100.0	24.0	7.0
M 12	1.75	10.20	110.0	28.0	9.0
M 14	2.00	12.00	110.0	30.0	11.0
M 16	2.00	14.00	110.0	32.0	12.0
M 18	2.50	15.50	125.0	34.0	14.0
M 20	2.50	17.50	140.0	34.0	16.0
M 22	2.50	19.50	140.0	34.0	18.0
M 24	3.00	21.00	160.0	38.0	18.0
M 27	3.00	24.00	160.0	38.0	20.0
M 30	3.50	26.50	180.0	45.0	22.0

Ø2 mm	HSSE-Co 5 TiAlN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS	
M 3	233 030 EF	233 030 VA	233 030 E	—	—	1
M 4	233 040 EF	233 040 VA	233 040 E	—	—	1
M 5	233 050 EF	233 050 VA	233 050 E	—	—	1
M 6	233 060 EF	233 060 VA	233 060 E	—	—	1
M 8	233 080 EF	233 080 VA	233 080 E	—	—	1
M 10	233 100 EF	233 100 VA	233 100 E	—	—	1
M 12	233 120 EF	233 120 VA	233 120 E	233 120 T	233 120	1
M 14	233 140 EF	233 140 VA	233 140 E	233 140 T	233 140	1
M 16	233 160 EF	233 160 VA	233 160 E	233 160 T	233 160	1
M 18	233 180 EF	233 180 VA	233 180 E	233 180 T	233 180	1
M 20	233 200 EF	233 200 VA	233 200 E	233 200 T	233 200	1
M 22	233 220 EF	233 220 VA	233 220 E	233 220 T	233 220	1
M 24	233 240 EF	233 240 VA	233 240 E	233 240 T	233 240	1
M 27	233 270 EF	233 270 VA	233 270 E	233 270 T	233 270	1
M 30	233 300 EF	233 300 VA	233 300 E	233 300 T	233 300	1



Machine tap sets, metric, DIN 371/376



245 057 RO

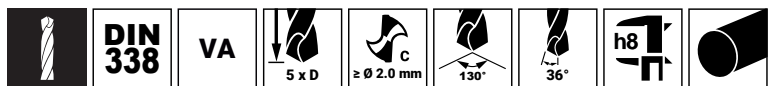
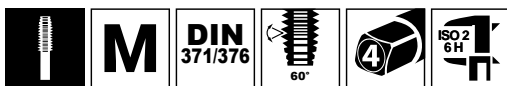
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		HSSE-Co 5 TiAIN	HSSE-Co 5 VAP	HSSE-Co 5	HSS TiN	HSS
7 fig./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12	245 068 RO	245 063 RO	245 061 RO	245 065 RO	245 057 RO
7 fig./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 M 4 M 5 M 6 M 8 M 10 M 12	245 069 RO	245 064 RO	245 062 RO	245 066 RO	245 058 RO

Machine tap and twist drill set, metric



		HSSE-Co 5
21 fig./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12 Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 M 4 M 5 M 6 M 8 M 10 M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 054



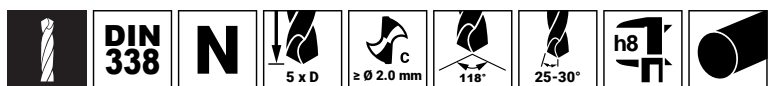
Machine tap and twist drill sets, metric



		HSSE-Co 5
14 tfg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 051 RO
14 tfg./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 M 4 M 5 M 6 M 8 M 10 M 12 Twist drills DIN 338 type VA, HSSE-Co 5 Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 052 RO



245 052 RO



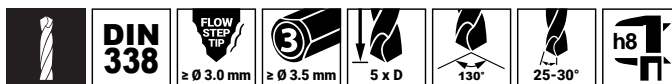
Machine tap and twist drill sets, metric



		HSS
14 tfg./pcs.	Machine taps M DIN 371 / 376 type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12 Twist drills DIN 338 type N, HSS Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 048 RO
14 tfg./pcs.	Machine taps M DIN 371 / 376 type C / 35° right-hand spiral flutes M 3 M 4 M 5 M 6 M 8 M 10 M 12 Twist drills DIN 338 type N, HSS Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	245 049 RO



245 048 RO



Machine tap and ULTIMATECUT twist drill type FLOWSTEP® set

ULTIMATECUT®



		HSSE-Co 5
14 fig./pcs.	Machine taps M DIN 371 / 376 HSSE-Co 5 type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSSE-Co 5, ground Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	259 048 ERO



06

Machine tap and ULTIMATECUT twist drill type FLOWSTEP® set HSS

ULTIMATECUT®



		HSS
14 fig./pcs.	Machine taps M DIN 371 / 376 HSS type B with progressive tap M 3 M 4 M 5 M 6 M 8 M 10 M 12 ULTIMATECUT twist drills DIN 338 type FLOWSTEP® HSS, ground Ø 2.5 3.3 4.2 5.0 6.8 8.5 10.2 mm	259 048 RO





Machine tap, metric, DIN 371 with reinforced shank for through-hole threads and interrupted threads

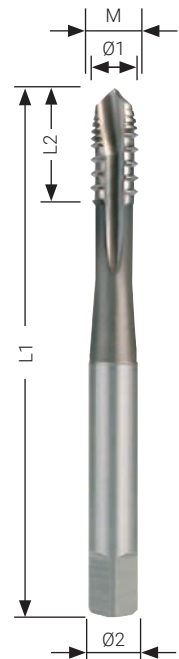


Chamfer: type B - AZ approx. 4 - 5 threads with skiving cut and exposed teeth
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole $\varnothing 1$ mm	L1 mm	L2 max. mm	$\varnothing 2$ mm	HSS	
M 3	0.50	2.50	56.0	11.0	3.5	272 030	1
M 4	0.70	3.30	63.0	13.0	4.5	272 040	1
M 5	0.80	4.20	70.0	16.0	6.0	272 050	1
M 6	1.00	5.00	80.0	19.0	6.0	272 060	1
M 8	1.25	6.80	90.0	22.0	8.0	272 080	1
M 10	1.50	8.50	100.0	24.0	10.0	272 100	1



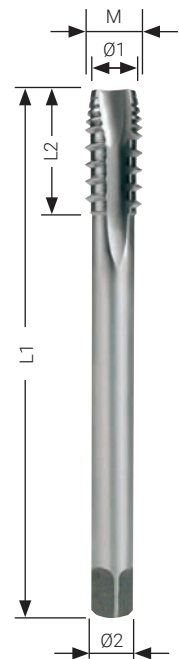
Machine tap, metric, DIN 376 with overrunning shank for through hole threads, with interrupted threads



Chamfer: type B, 4 - 5 threads with progressive tap and interrupted threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

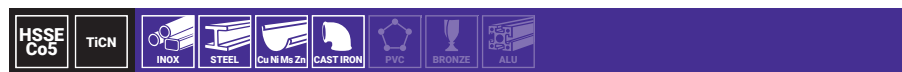
Packaging: plastic

Nominal thread size	Pitch mm	Thread core hole $\varnothing 1$ mm	L1 mm	L2 max. mm	$\varnothing 2$ mm	HSS	
M 12	1.75	10.20	110.0	28.0	9.0	272 120	1
M 14	2.00	12.00	110.0	30.0	11.0	272 140	1
M 16	2.00	14.00	110.0	32.0	12.0	272 160	1
M 18	2.50	15.50	125.0	34.0	14.0	272 180	1
M 20	2.50	17.50	140.0	34.0	16.0	272 200	1
M 22	2.50	19.50	140.0	34.0	18.0	272 220	1
M 24	3.00	21.00	160.0	38.0	18.0	272 240	1





Machine tap, metric, DIN 371 with reinforced shank



Chamfer: type C / 2 - 3 threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

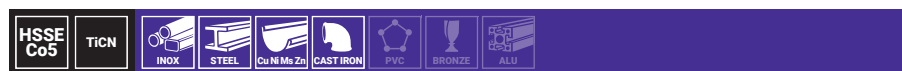
Packaging: plastic



Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5 TiCN	
M 3	0.50	2.50	56.0	11.0	3.5	273 030 ETC	1
M 4	0.70	3.30	63.0	13.0	4.5	273 040 ETC	1
M 5	0.80	4.20	70.0	16.0	6.0	273 050 ETC	1
M 6	1.00	5.00	80.0	19.0	6.0	273 060 ETC	1
M 8	1.25	6.80	90.0	22.0	8.0	273 080 ETC	1
M 10	1.50	8.50	100.0	24.0	10.0	273 100 ETC	1



Machine tap, metric, DIN 376 with overrunning shank



Chamfer: type C / 2 - 3 threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5 TiCN	
M 12	1.75	10.20	110.0	28.0	9.0	273 120 ETC	1
M 14	2.00	12.00	110.0	30.0	11.0	273 140 ETC	1
M 16	2.00	14.00	110.0	32.0	12.0	273 160 ETC	1
M 18	2.50	15.50	125.0	34.0	14.0	273 180 ETC	1
M 20	2.50	17.50	140.0	34.0	16.0	273 200 ETC	1
M 22	2.50	19.50	140.0	34.0	18.0	273 220 ETC	1
M 24	3.00	21.00	160.0	38.0	18.0	273 240 ETC	1

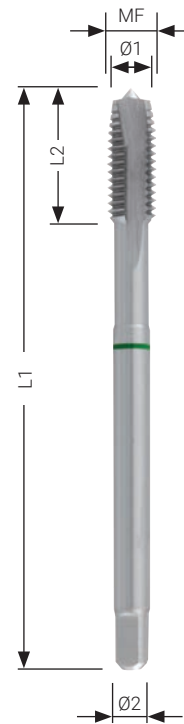


Machine tap, metric fine, DIN 374 with overflow shank for through-hole threads



Chamfer: Form B approx. 4 - 5 gears with peel cut
Thread: metric, fine, DIN ISO 13
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.



Packaging: plastic

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5	
MF 4	0.50	3.50	63.0	10.0	2.8	260 041 E	1
MF 5	0.50	4.50	70.0	12.0	3.5	260 050 E	1
MF 6	0.75	5.20	80.0	14.0	4.5	260 060 E	1
MF 8	1.00	7.00	90.0	22.0	6.0	260 081 E	1
MF 10	1.00	9.00	90.0	20.0	7.0	260 100 E	1
MF 10	1.25	8.80	100.0	24.0	7.0	260 101 E	1
MF 12	1.00	11.00	100.0	20.0	9.0	260 122 E	1
MF 12	1.25	10.80	100.0	22.0	9.0	260 121 E	1
MF 12	1.50	10.50	100.0	22.0	9.0	260 120 E	1
MF 14	1.00	13.00	100.0	20.0	11.0	260 142 E	1
MF 14	1.25	12.80	100.0	22.0	11.0	260 143 E	1
MF 14	1.50	12.50	100.0	22.0	11.0	260 141 E	1
MF 16	1.00	15.00	100.0	20.0	12.0	260 161 E	1
MF 16	1.50	14.50	100.0	22.0	12.0	260 160 E	1
MF 18	1.00	17.00	110.0	25.0	14.0	260 181 E	1
MF 18	1.50	16.50	110.0	25.0	14.0	260 180 E	1
MF 18	2.00	16.00	125.0	34.0	14.0	260 182 E	1
MF 20	1.00	19.00	125.0	25.0	16.0	260 201 E	1
MF 20	1.50	18.50	125.0	25.0	16.0	260 200 E	1
MF 20	2.00	18.00	140.0	34.0	16.0	260 202 E	1
MF 22	1.50	20.50	125.0	25.0	18.0	260 220 E	1
MF 22	2.00	20.00	140.0	34.0	18.0	260 222 E	1
MF 24	1.00	23.00	140.0	28.0	18.0	260 242 E	1
MF 24	1.50	22.50	140.0	28.0	18.0	260 240 E	1
MF 24	2.00	22.00	140.0	28.0	18.0	260 241 E	1
MF 28	1.50	26.50	140.0	28.0	20.0	260 281 E	1
MF 28	2.00	26.00	140.0	28.0	20.0	260 282 E	1
MF 30	1.50	28.50	150.0	28.0	22.0	260 301 E	1
MF 30	2.00	28.00	150.0	28.0	22.0	260 302 E	1



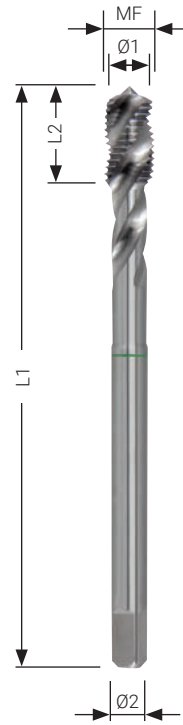


Machine tap, metric fine, DIN 374 with overflow shank and right-hand spiral flutes 35° for blind hole thread



Chamfer: type C / 35° RSP approx. 2 - 3 gears
 Thread: metric, fine, DIN ISO 13
 Flanks: relief-ground

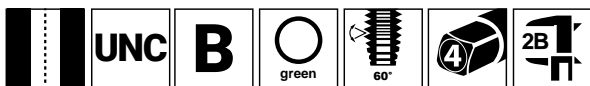
! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.



Packaging: plastic

06

Nominal thread size MF	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 max. mm	Ø2 mm	HSSE-Co 5	
MF 4	0.50	3.50	63.0	10.0	2.8	261 041 E	1
MF 5	0.50	4.50	70.0	12.0	3.5	261 050 E	1
MF 6	0.75	5.20	80.0	14.0	4.5	261 060 E	1
MF 8	1.00	7.00	90.0	22.0	6.0	261 081 E	1
MF 10	1.00	9.00	90.0	20.0	7.0	261 100 E	1
MF 10	1.25	8.80	100.0	24.0	7.0	261 101 E	1
MF 12	1.00	11.00	100.0	20.0	9.0	261 122 E	1
MF 12	1.25	10.80	100.0	22.0	9.0	261 121 E	1
MF 12	1.50	10.50	100.0	22.0	9.0	261 120 E	1
MF 14	1.00	13.00	100.0	20.0	11.0	261 142 E	1
MF 14	1.25	12.80	100.0	22.0	11.0	261 143 E	1
MF 14	1.50	12.50	100.0	22.0	11.0	261 141 E	1
MF 16	1.00	15.00	100.0	20.0	12.0	261 161 E	1
MF 16	1.50	14.50	100.0	22.0	12.0	261 160 E	1
MF 18	1.00	17.00	110.0	25.0	14.0	261 181 E	1
MF 18	1.50	16.50	110.0	25.0	14.0	261 180 E	1
MF 18	2.00	16.00	125.0	34.0	14.0	261 182 E	1
MF 20	1.00	19.00	125.0	25.0	16.0	261 201 E	1
MF 20	1.50	18.50	125.0	25.0	16.0	261 200 E	1
MF 20	2.00	18.00	140.0	34.0	16.0	261 202 E	1
MF 22	1.50	20.50	125.0	25.0	18.0	261 220 E	1
MF 22	2.00	20.00	140.0	34.0	18.0	261 222 E	1
MF 24	1.00	23.00	140.0	28.0	18.0	261 242 E	1
MF 24	1.50	22.50	140.0	28.0	18.0	261 240 E	1
MF 24	2.00	22.00	140.0	28.0	18.0	261 241 E	1
MF 28	1.50	26.50	140.0	28.0	20.0	261 281 E	1
MF 28	2.00	26.00	140.0	28.0	20.0	261 282 E	1
MF 30	1.50	28.50	150.0	28.0	22.0	261 301 E	1
MF 30	2.00	28.00	150.0	28.0	22.0	261 302 E	1



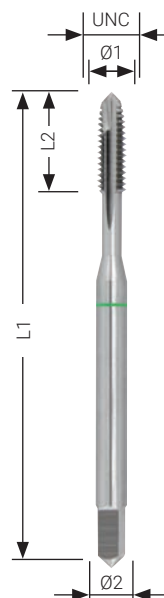
Machine tap UNC with reinforced shank shank for through hole threads



Chamfer: type B, approx. 4 - 5 gears with peel cut
 Thread: American UNC coarse thread
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	40	2.3	56.0	11.0	3.5	265 040 UNC	1
Nr. 5	40	2.6	56.0	11.0	3.5	265 050 UNC	1
Nr. 6	32	2.8	56.0	13.0	4.0	265 060 UNC	1
Nr. 8	32	3.5	63.0	13.0	4.5	265 080 UNC	1
Nr. 10	24	3.8	70.0	16.0	6.0	265 100 UNC	1
Nr. 12	24	4.5	70.0	16.0	6.0	265 120 UNC	1
1/4"	20	5.1	80.0	17.0	7.0	265 014 UNC	1
5/16"	18	6.5	90.0	20.0	8.0	265 516 UNC	1
3/8"	16	8.0	100.0	22.0	9.0	265 038 UNC	1



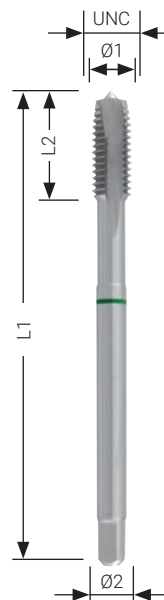
Machine tap UNC with overflow shank for through-hole threads



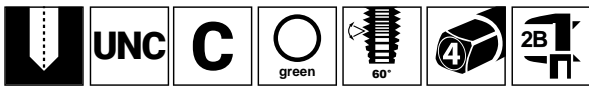
Chamfer: type B, approx. 4 - 5 gears with peel cut
 Thread: American UNC coarse thread
 Flanks: relief-ground

! Schematic illustration.
 Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	14	9.3	100.0	22.0	8.0	265 716 UNC	1
1/2"	13	10.8	110.0	25.0	9.0	265 012 UNC	1
9/16"	12	12.2	110.0	26.0	11.0	265 916 UNC	1
5/8"	11	13.5	110.0	27.0	12.0	265 058 UNC	1
3/4"	10	16.5	125.0	30.0	14.0	265 034 UNC	1
7/8"	9	19.3	140.0	32.0	18.0	265 078 UNC	1
1"	8	22.2	160.0	36.0	18.0	265 010 UNC	1



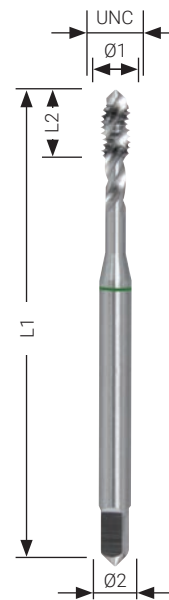
Machine tap UNC with reinforced shank and spiral flute 35° for blind hole thread



Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNC coarse thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	40	2.3	56.0	7.0	3.5	266 040 UNC	1
Nr. 5	40	2.6	56.0	7.0	3.5	266 050 UNC	1
Nr. 6	32	2.8	56.0	8.0	4.0	266 060 UNC	1
Nr. 8	32	3.5	63.0	8.0	4.5	266 080 UNC	1
Nr. 10	24	3.8	70.0	10.0	6.0	266 100 UNC	1
Nr. 12	24	4.5	70.0	10.0	6.0	266 120 UNC	1
1/4"	20	5.1	80.0	13.0	7.0	266 014 UNC	1
5/16"	18	6.5	90.0	14.0	8.0	266 516 UNC	1
3/8"	16	8.0	100.0	16.0	10.0	266 038 UNC	1

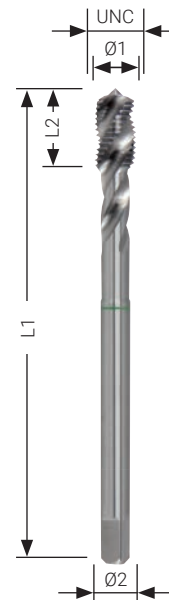
Machine tap UNC with overflow shank and spiral flute 35° for blind hole thread



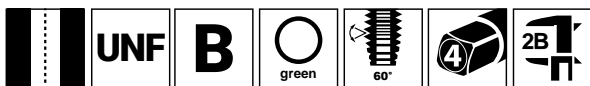
Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNC coarse thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNC	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	14	9.3	100.0	17.0	8.0	266 716 UNC	1
1/2"	13	10.8	110.0	20.0	9.0	266 012 UNC	1
9/16"	12	12.2	110.0	20.0	11.0	266 916 UNC	1
5/8"	11	13.5	110.0	22.0	12.0	266 058 UNC	1
3/4"	10	16.5	125.0	25.0	14.0	266 034 UNC	1
7/8"	9	19.3	140.0	27.0	18.0	266 078 UNC	1
1"	8	22.2	160.0	30.0	18.0	266 010 UNC	1



Machine tap UNF with reinforced shank for through hole threads

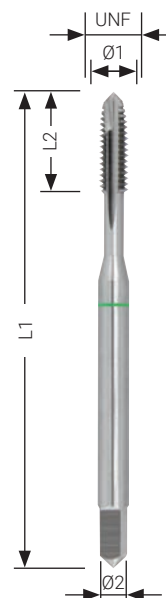


Chamfer: type B, approx. 4 - 5 courses with peel cut
Thread: American UNF fine thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	48	2.40	56.0	11.0	3.5	265 040 UNF	1
Nr. 5	44	2.70	56.0	11.0	3.5	265 050 UNF	1
Nr. 6	40	2.95	56.0	13.0	4.0	265 060 UNF	1
Nr. 8	36	3.50	63.0	13.0	4.5	265 080 UNF	1
Nr. 10	32	4.10	70.0	16.0	6.0	265 100 UNF	1
Nr. 12	28	4.60	70.0	16.0	6.0	265 120 UNF	1
1/4"	28	5.50	80.0	17.0	7.0	265 014 UNF	1
5/16"	24	6.60	90.0	17.0	8.0	265 516 UNF	1
3/8"	24	8.50	100.0	18.0	10.0	265 038 UNF	1



Machine tap UNF with overflow shank for through hole threads

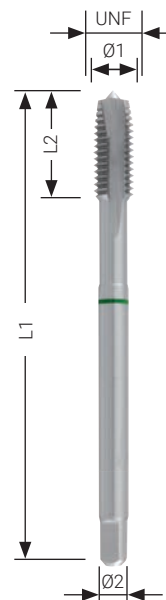


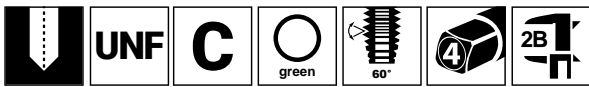
Chamfer: type B, approx. 4 - 5 courses with peel cut
Thread: American UNF fine thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	20	9.90	100.0	22.0	8.0	265 716 UNF	1
1/2"	20	11.50	100.0	22.0	9.0	265 012 UNF	1
9/16"	18	12.90	100.0	22.0	11.0	265 916 UNF	1
5/8"	18	14.50	100.0	22.0	12.0	265 058 UNF	1
3/4"	16	17.50	110.0	25.0	14.0	265 034 UNF	1
7/8"	14	20.50	140.0	26.0	18.0	265 078 UNF	1
1"	12	23.25	150.0	28.0	18.0	265 010 UNF	1





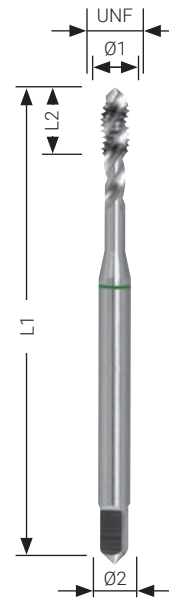
Machine tap UNF with reinforced shank and spiral flute 35° for blind hole thread



Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNF fine thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
Nr. 4	48	2.40	56.0	5.5	3.5	266 040 UNF	1
Nr. 5	44	2.70	56.0	6.0	3.5	266 050 UNF	1
Nr. 6	40	2.95	56.0	7.0	4.0	266 060 UNF	1
Nr. 8	36	3.50	63.0	7.5	4.5	266 080 UNF	1
Nr. 10	32	4.10	70.0	8.0	6.0	266 100 UNF	1
Nr. 12	28	4.60	70.0	9.0	6.0	266 120 UNF	1
1/4	28	5.50	80.0	10.0	7.0	266 014 UNF	1
5/16	24	6.90	90.0	10.0	8.0	266 516 UNF	1
3/8	24	8.50	100.0	10.0	10.0	266 038 UNF	1

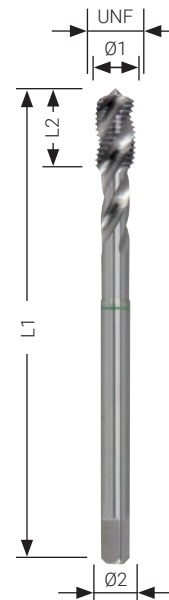
Machine tap UNF with overflow shank and spiral flute 35° for blind hole thread



Chamfer: type C / 35° RSP approx. 2 - 3 gears
Thread: American UNF fine thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic



Nominal thread size UNF	Threads per inch	Thread core hole Ø1 mm	L1 mm	L2 mm	Ø2 mm	HSSE-Co 5	
7/16"	20	9.90	100.0	13.0	8.0	266 716 UNF	1
1/2"	20	11.50	100.0	13.0	9.0	266 012 UNF	1
9/16"	18	12.90	100.0	15.0	11.0	266 916 UNF	1
5/8"	18	14.50	100.0	15.0	12.0	266 058 UNF	1
3/4"	16	17.50	110.0	17.0	14.0	266 034 UNF	1
7/8"	14	20.50	140.0	17.0	18.0	266 078 UNF	1
1"	12	23.25	150.0	20.0	18.0	266 010 UNF	1



Machine tap PG DIN 40430 with overflow shank overflow shank, for through hole threads

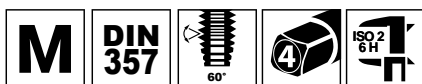
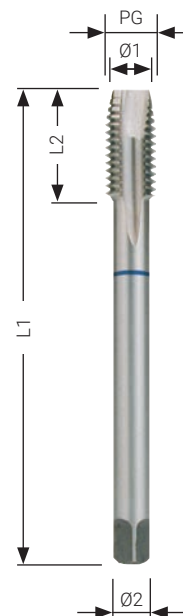


Chamfer: type B - AZ approx. 4 - 5 gears with peel cut and exposed teeth
Thread: DIN 40 430 steel conduit thread
Flanks: relief-ground

! Schematic illustration.
Smaller diameters can be supplied with a tip due to production reasons.

Packaging: plastic

Nominal thread size PG	Threads per inch	Thread core hole $\varnothing 1$ mm	L1 mm	L2 mm	$\varnothing 2$ mm	HSS	
PG 7	20	11.35	70.0	22.0	9.0	264 007	1
PG 9	18	13.95	70.0	22.0	12.0	264 009	1
PG 11	18	17.35	80.0	22.0	14.0	264 011	1
PG 13.5	18	19.15	80.0	22.0	16.0	264 135	1
PG 16	18	21.25	80.0	22.0	18.0	264 016	1
PG 21	16	26.95	90.0	22.0	22.0	264 021	1
PG 29	16	35.60	100.0	25.0	28.0	264 029	1
PG 36	16	45.60	140.0	40.0	36.0	264 036	1
PG 42	16	52.60	140.0	40.0	40.0	264 042	1
PG 48	16	57.90	160.0	40.0	45.0	264 048	1



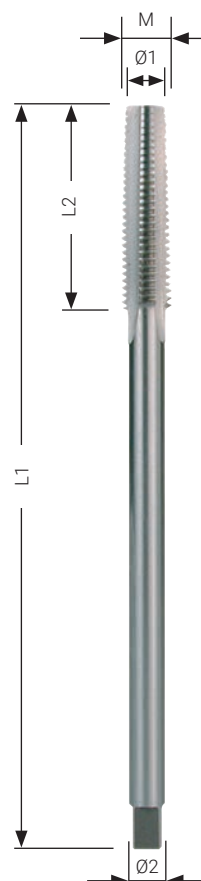
Nut tap, metric, DIN 357 for holding several cut nuts – long

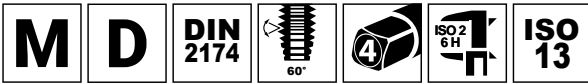


Chamfer: 2/3 of the thread length
Thread: metric, DIN ISO 13
Flanks: relief-ground

Packaging: plastic

Nominal thread size M	Pitch mm	Thread core hole $\varnothing 1$ mm	L1 mm	L2 mm	$\varnothing 2$ mm	HSS	
M 3	0.50	2.5	70.0	22.0	2.2	243 030	1
M 4	0.70	3.3	90.0	25.0	2.8	243 040	1
M 5	0.80	4.2	100.0	28.0	3.5	243 050	1
M 6	1.00	5.0	110.0	32.0	4.5	243 060	1
M 8	1.25	6.8	125.0	40.0	6.0	243 080	1
M 10	1.50	8.5	140.0	45.0	7.0	243 100	1
M 12	1.75	10.2	180.0	50.0	9.0	243 120	1
M 14	2.00	12.0	200.0	56.0	11.0	243 140	1
M 16	2.00	14.0	200.0	63.0	12.0	243 160	1
M 18	2.50	15.5	220.0	63.0	14.0	243 180	1
M 20	2.50	17.5	250.0	70.0	16.0	243 200	1
M 22	2.50	19.5	280.0	80.0	18.0	243 220	1
M 24	3.00	21.0	280.0	80.0	18.0	243 240	1





Thread former DIN 2174 with reinforced shank for through hole threads and blind hole threads



The forming tap consists of cobalt alloyed high speed steel with titanium aluminium nitride coating. Applications: for non-alloyed and alloyed steels up to a strength of 1000 N/mm², V2A and non-ferrous metals.

Chamfer: type D, 4 - 6 threads
 Thread: metric, DIN ISO 13
 Flanks: relief-ground

Packaging: plastic



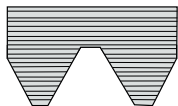
06

Nominal thread size M	Pitch mm	Thread core hole Ø1 mm	L1 mm	L2 mm	Shank Ø2 mm	HSSE-Co 5 TiAlN	
M 3	0,50	2,80	56,0	11,0	3,5	271 003 F	1
M 4	0,70	3,70	63,0	13,0	4,5	271 004 F	1
M 5	0,80	4,65	70,0	16,0	6,0	271 005 F	1
M 6	1,00	5,55	80,0	19,0	6,0	271 006 F	1
M 8	1,25	7,45	90,0	22,0	8,0	271 008 F	1
M 10	1,50	9,35	100,0	24,0	10,0	271 010 F	1
M 12	1,75	11,20	110,0	28,0	9,0	271 012 F	1



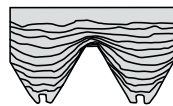
Difference between thread cutting and thread forming

The difference lies in the fact that thread forming without cutting does not interrupt the grain flow in the material. The deformation results in very rigid threads. Consistent accuracy is guaranteed even at high productivity.



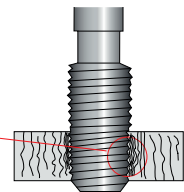
Thread cutting

Fibre course during thread cutting



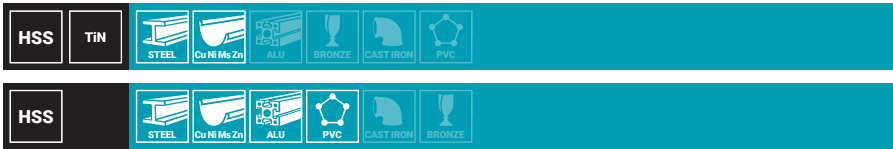
Thread forming

Fibre flow during thread moulding





Combi machine tap bit for core hole and through hole threads – long



The combi tap is ideal for sheet metal processing with clockwise/anticlockwise rotation in cordless drills. The thread is cut in a single operation without changing tools. A twist drill is placed in front of the thread.

Flanks: relief-ground
 Shank: 6,35 x 27,0 mm
 Max. material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)

Packaging: plastic

Nominal thread size M	Pitch mm	L1 mm	Ø1 mm	HSS TiN	HSS	
M 3	0.50	51.0	2.5	270 014 T	270 014	1
M 4	0.70	54.0	3.3	270 015 T	270 015	1
M 5	0.80	57.0	4.2	270 016 T	270 016	1
M 6	1.00	60.0	5.0	270 017 T	270 017	1
M 8	1.25	68.0	6.8	270 018 T	270 018	1
M 10	1.50	75.0	8.5	270 019 T	270 019	1

		HSS TiN	HSS
7 fig./pcs.	Combi machine tap bit set - long 6 combi machine taps bit M 3 M 4 M 5 M 6 M 8 M 10 + 1 magnetic bit holder	270 020 TRO	270 020 RO



Magnetic bit holder for 1/4" hexagonal shank tools

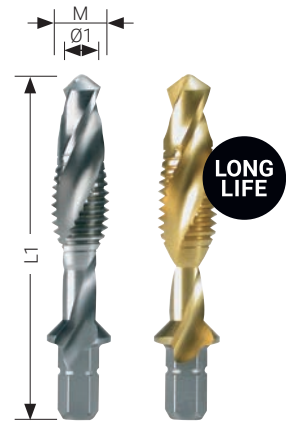
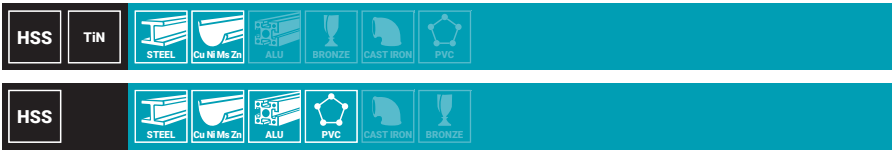
Packaging: plastic

Magnetic bit holder	270 013	1





Combi machine tap bit for core hole and through hole threads – short



The combi tap is ideal for sheet metal processing with clockwise/anticlockwise rotation in cordless drills. The thread is cut in a single operation without changing tools. A twist drill is placed in front of the thread.

Flanks: relief-ground
 Shank: 6,35 x 27,0 mm
 Max. Material thickness: 1 x M (e.g. M 10 = 10 mm material thickness)

Packaging: plastic

06

Nominal thread size M	Pitch mm	L1 mm	Ø1 mm	HSS TiN		HSS	
M 3	0.50	36.0	2.5	R 270 014 T	R 270 014	1	
M 4	0.70	39.0	3.3	R 270 015 T	R 270 015	1	
M 5	0.80	41.0	4.2	R 270 016 T	R 270 016	1	
M 6	1.00	44.0	5.0	R 270 017 T	R 270 017	1	
M 8	1.25	51.0	6.8	R 270 018 T	R 270 018	1	
M 10	1.50	59.0	8.5	R 270 019 T	R 270 019	1	

		HSS TiN	HSS
7 tfg./pcs.	Combi machine tap bit set - short 6 combi machine taps bit M 3 M 4 M 5 M 6 M 8 M 10 + 1 hexagon magnetic holder	R 270 021 TRO	R 270 020 RO



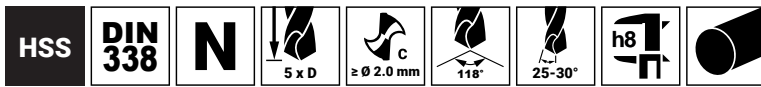
R 270 020 RO



Application tip

In one operation:

- ✓ Hole drilling with twist drill
- ✓ Thread cutting
- ✓ Deburring threads
- ✓ Clean the thread (on the return)

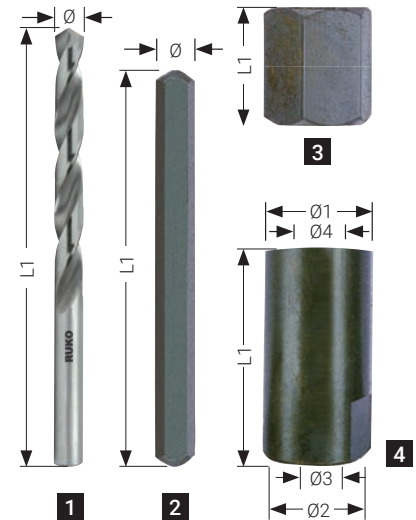


1 Twist drill DIN 338 type N

Ground design, precisely matched to the drill bushes

Packaging: plastic

Ø mm	Ø inch	for stud size	L1 mm	HSS	
3.2	1/8"	1 - 4	65.0	214 032	1
4.8	3/16"	5 - 7	86.0	214 048	1
6.4	1/4"	8	101.0	214 064	1
8.0	5/16"	9	117.0	214 080	1
8.7	11/32"	10	125.0	214 087	1



2 Stud

made of special steel profile, hardened, gunmetal finish

Size	For threads	Ø mm	Ø inch	L1 mm		
1	M 5 - M 6	3.2	1/8"	60.0	244 001	1
2	M 7 - M 8	4.8	3/16"	70.0	244 002	1
3	M 9 - M 10	6.4	1/4"	78.0	244 003	1
4	M 12	8.0	5/16"	83.0	244 004	1
5	M 14 - M 16	8.7	11/32"	94.0	244 005	1

3 Extractor nut

with special inside profile, hardened, gunmetal finish

Size	For stud size	Spanner width mm	L1 mm		
1	1	10.0	16.0	244 032	1
2	2	11.0	16.0	244 046	1
3	3	13.0	16.0	244 064	1
4	4	14.0	16.0	244 080	1
5	5	17.0	16.0	244 087	1

4 Drilling jig

Stepped, hardened, burnished, for recessed screw remnants (Ø 1 + Ø 2), for protruding screw remnants (Ø 4)

Size	Ø 1 mm	Ø 2 mm	Ø 3 mm	Ø 4 mm	Ø 3 inch	Ø 4 inch	Spanner width mm	L1 mm		
1	7.0	6.0	3.2	5.0	1/8"	3/16"	6.0	30.0	244 101	1
2	8.0	7.0	3.2	6.0	1/8"	—	7.0	30.0	244 102	1
3	9.0	—	3.2	7.0	1/8"	1/4"	8.0	30.0	244 103	1
4	10.0	—	3.2	8.0	1/8"	5/16"	9.0	30.0	244 104	1
5	11.0	—	4.8	8.0	3/16"	5/16"	9.0	30.0	244 105	1
6	12.0	—	4.8	9.0	3/16"	—	10.0	30.0	244 106	1
7	13.0	—	4.8	10.0	3/16"	1/8"	11.0	30.0	244 107	1
8	14.0	—	6.4	11.0	1/4"	7/16"	12.0	30.0	244 108	1
9	15.0	—	8.0	12.0	5/16"	—	13.0	30.0	244 109	1
10	17.0	16.0	8.7	14.0	11/32"	—	14.0	30.0	244 110	1

Thread-extractor set

25 tfg./pcs.	Thread-extractor set 5 twist drills, 5 studs, 5 extractor nuts and 10 drilling jigs	244 151

