

**Circular Thread Milling Tools
in Solid Carbide**








Circular Thread Milling Cutters in Solid Carbide Version

- **TINAMATIC-Coating**
- **Uncoated Types**
- **Best Prices**
- **Best Endurance**

- Thread from \varnothing 4 mm
- Short processing times by high cutting speed and feed rates
- Long endurance
- High thread quality; threads are full cutted to the bore hole ground
- Small chips prevents chip congestion
- High surface quality achievable
- Tolerance values can be realized with accurate corrections
- Only one tool needed for different diameters within the same pitch
- Accurate thread flanks by extrem diameter proportions can also be machined with specific profile corrections
- Alternatively for left- or right-hand threads
- Only one tool for blind holes and through holes
- Core diameter and thread are exactly concentric
- Low cutting pressure when machining thin-walled parts

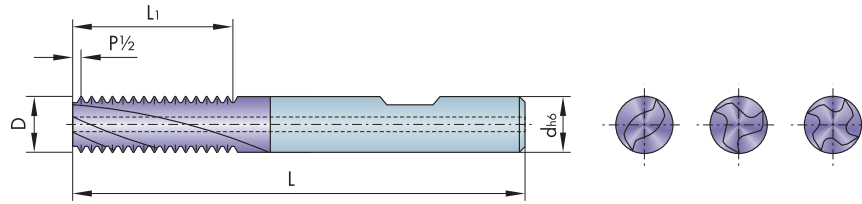
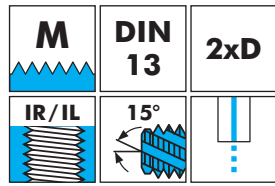
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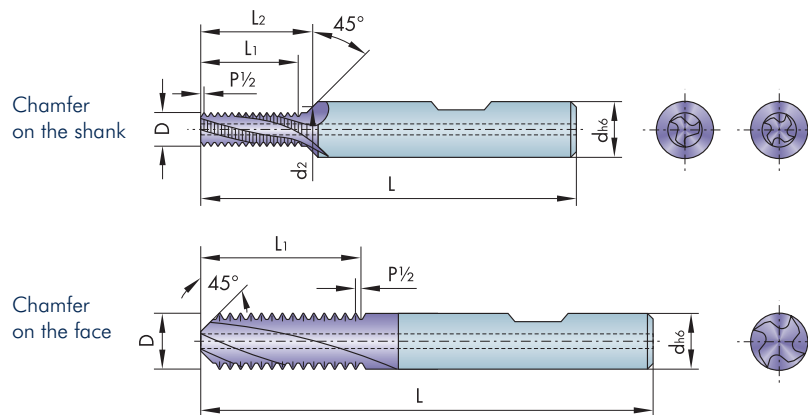
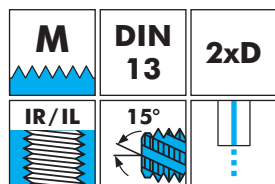
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79



Thread	P mm	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
M3	0,5	2,4	42	6,5	4	2		168192		
M4	0,7	3,15	55	9,1	6	3		168195	168196	168197
M5	0,8	4,0	55	11,2	6	3		168198	168199	168200
M6	1,0	4,8	55	13,0	6	3		168201	168202	168203
M8	1,25	5,95	60	17,5	6	3	✓	168204	168205	168206
M10	1,5	7,95	70	21,0	8	3	✓	168207	168208	168209
M12	1,75	9,9	75	26,25	10	4	✓	168210	168211	168212
M14	2,0	11,6	85	30,0	12	4	✓	168213	168214	168215
M16	2,0	12,0	85	34,0	12	4	✓	168216	168217	168218
M18	2,5	14,0	90	40,0	14	4	✓	168219	168220	168221
M20	2,5	16,0	90	40,0	16	4	✓	168222	168223	168224

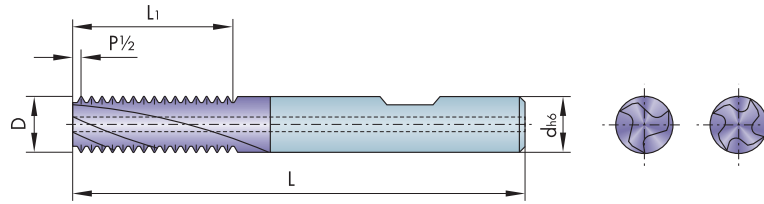
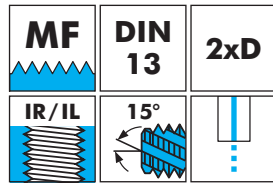
- Chamfer type
- Cutting Data see page 79



Thread	P mm	D ^{±0,02} mm	L mm	L ₁ mm	L ₂ mm	d ^{h6} mm	d ₂ mm	Number of edges	Internal coolant	Chamfer	Order No.	
											DIN 6535 Form HA	DIN 6535 Form HB
M5	0,8	4	62	11	13,35	8	5,3	3		on the shank	171556	171565
M6	1,0	4,8	62	13	15,55	8	6,3	3		on the shank	171557	171566
M8	1,25	6,5	74	18	20,60	10	8,3	3	✓	on the shank	171558	171567
M10	1,5	7,95	80	22	24,80	10	10,3	3	✓	on the shank	171559	171568
M12	1,75	9,9	90	26	30,60	14	12,3	4	✓	on the shank	171560	171569
M14	2,0	11,6	100	31	34,85	16	14,3	4	✓	on the shank	171561	171570
M16	2,0	11,95	90	35		12		4	✓	on the face	171562	171571
M18	2,5	13,95	110	39	41,40	20	18,3	4	✓	on the shank	171563	171572
M20	2,5	15,95	100	44		16		4	✓	on the face	171564	171573

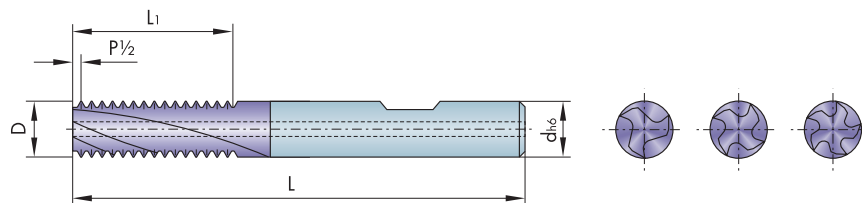
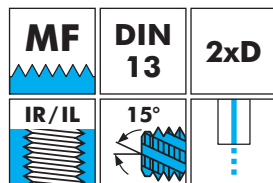
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79



Thread	P mm	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
M5 x 0,5	0,5	4,0	55	11,0	6	3		168225	168226	168227
M6 x 0,75	0,75	4,8	55	13,5	6	3		168228	168229	168230
M8 x 1	1,0	5,95	60	18,0	6	3		168231	168232	168233
M10 x 1,25	1,25	7,95	70	20,0	8	3	✓	168234	168235	168236
M12 x 1	1,5	9,9	75	26,0	10	4	✓	168237	168238	168239
M12 x 1,25	1,25	9,9	75	26,25	10	4	✓	168240	168241	168242
M12 x 1,5	1,5	9,9	75	25,5	10	4	✓	168243	168244	168245
M14 x 1	1,0	11,6	85	30,0	12	4	✓	168246	168247	168248
M14 x 1,5	1,5	11,6	85	30,0	12	4	✓	168249	168250	168251
M16 x 1,5	1,5	11,85	85	33,0	12	4	✓	168252	168253	168254
M18 x 1,5	1,5	14,0	90	40,5	14	4	✓	168255	168256	168257
M20 x 1,5	1,5	16,0	90	40,5	16	4	✓	168258	168259	168260

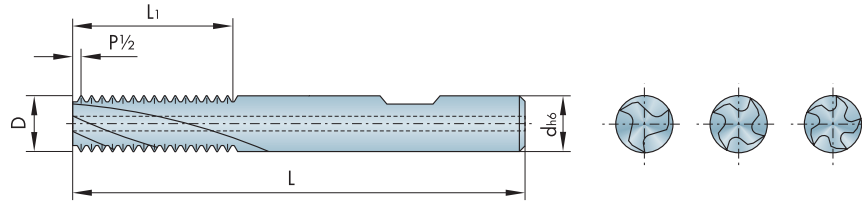
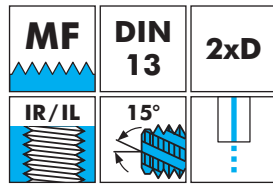
- Universal type
- Cutting Data see page 79



Thread from	P mm	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
> M10	0,5	8	70	12	8	3	✓	170779	170780	170781
> M11	0,75	8	70	12	8	3	✓	170782	170783	170784
> M12	1,0	10	75	16	10	4	✓	170785	170786	170787
> M14	1,0	12	85	20	12	4	✓	170791	170792	170793
> M18	1,0	16	90	25	16	5	✓	170800	170801	170802
> M22	1,0	20	105	32	20	5	✓	170812	170813	170814
> M14	1,5	10	75	16	10	4	✓	170788	170789	170790
> M16	1,5	12	85	20	12	4	✓	170794	170795	170796
> M20	1,5	16	90	25	16	5	✓	170803	170804	170805
> M24	1,5	20	105	32	20	5	✓	170815	170816	170817
> M16	2,0	12	85	20	12	4	✓	170797	170798	170799
> M20	2,0	16	90	25	16	5	✓	170806	170807	170808
> M24	2,0	20	105	32	20	5	✓	170818	170819	170820
> M24	3,0	16	90	25	16	5	✓	170809	170810	170811
> M27	3,0	20	105	32	20	5	✓	170821	170822	170823

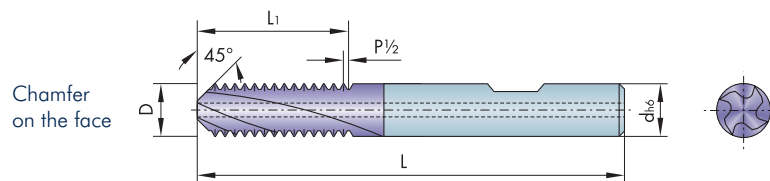
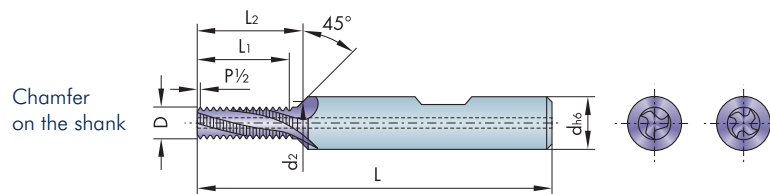
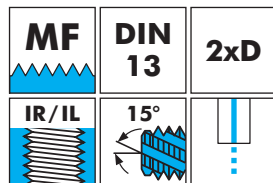
Solid Carbide Circular Thread Milling Cutter

- Universal type
- Cutting Data see page 79



Thread from	P mm	D ^{+0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								FKN (uncoated)		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
> M10	0,5	8	70	12	8	3	✓	170826	170827	170828
> M11	0,75	8	70	12	8	3	✓	170829	170830	170831
> M12	1,0	10	75	16	10	4	✓	170832	170833	170834
> M14	1,0	12	85	20	12	4	✓	170838	170839	170840
> M18	1,0	16	90	25	16	5	✓	170847	170848	170849
> M22	1,0	20	105	32	20	5	✓	170859	170860	170861
> M14	1,5	10	75	16	10	4	✓	170835	170836	170837
> M16	1,5	12	85	20	12	4	✓	170841	170842	170843
> M20	1,5	16	90	25	16	5	✓	170850	170851	170852
> M24	1,5	20	105	32	20	5	✓	170862	170863	170864
> M16	2,0	12	85	20	12	4	✓	170844	170845	170846
> M20	2,0	16	90	25	16	5	✓	170853	170854	170855
> M24	2,0	20	105	32	20	5	✓	170865	170866	170867
> M24	3,0	16	90	25	16	5	✓	170856	170857	170858
> M27	3,0	20	105	32	20	5	✓	170868	170869	170870

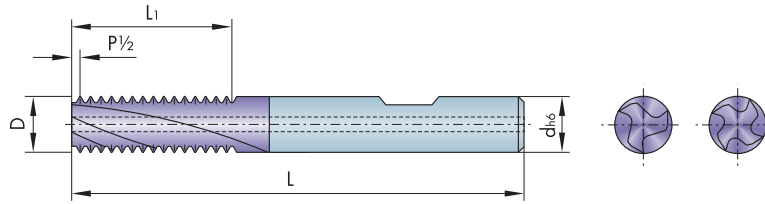
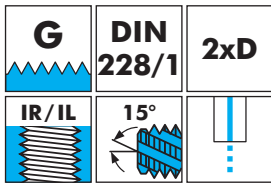
- Chamfer type
- Cutting Data see page 79



Thread	P mm	D ^{+0,02} mm	L mm	L ₁ mm	L ₂ mm	d ^{h6} mm	d ₂ mm	Number of edges	Internal coolant	Chamfer	Order No.	
											TINAMATIC	
											DIN 6535 Form HA	DIN 6535 Form HB
M8 x 1	1,0	6	74	18	21	10	8,3	3	✓	on the shank	171574	172376
M10 x 1	1,0	8	80	22	23,95	12	10,3	3	✓	on the shank	171575	172377
M10 x 1,25	1,25	8	80	22	24,6	12	10,3	3	✓	on the shank	171576	172378
M12 x 1	1,0	9,9	90	26	29	14	12,3	4	✓	on the shank	171577	172379
M12 x 1,25	1,25	9,9	90	26	29,6	14	12,3	4	✓	on the shank	171578	172380
M12 x 1,5	1,5	9,9	90	26	29,25	14	12,3	4	✓	on the shank	171579	172381
M14 x 1	1,0	11,6	100	31	33,15	16	14,3	4	✓	on the shank	171580	172382
M14 x 1,5	1,5	11,6	100	31	33,9	16	14,3	4	✓	on the shank	171581	172383
M16 x 1,5	1,5	12	90	35		12		4	✓	on the face	171582	172384
M18 x 1,5	1,5	14	110	39	42,2	20	18,3	4	✓	on the shank	171583	172385
M20 x 1,5	1,5	16	100	44		16		4	✓	on the face	171584	172386

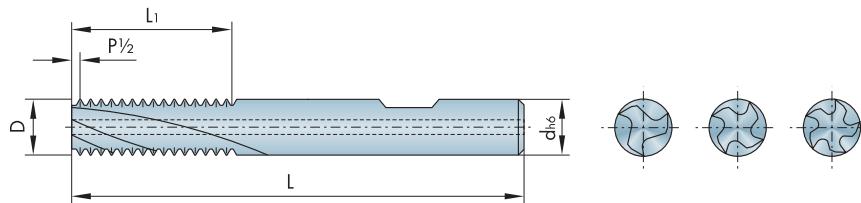
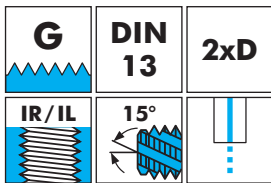
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79



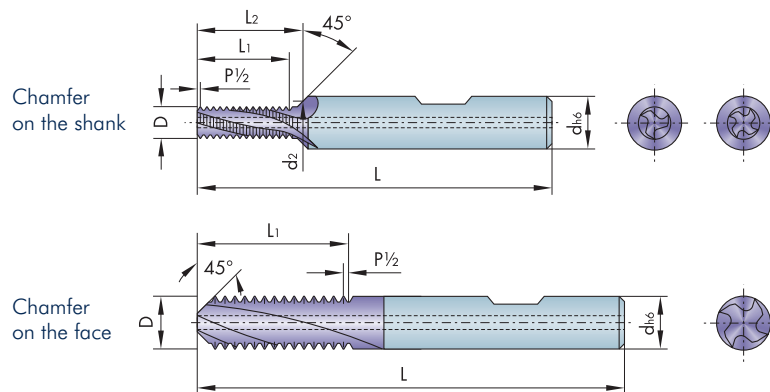
Thread	Pitch/''	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								DIN 6535 Form HA	TINAMATIC DIN 6535 Form HB	DIN 6535 Form HE
G 1/8"	28	8,0	70	20,8	8	3	✓	168371	168372	168373
G 1/4"	19	9,9	75	26,7	10	4	✓	168374	168375	168376
G 3/8"	19	14,0	90	40,1	14	4	✓	168377	168378	168379
G 1/2"	14	16,0	90	41,7	16	4	✓	168380	168381	168382

- Universal type
- Cutting Data see page 79





Thread from	Pitch/''	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								DIN 6535 Form HA	FKN (uncoated) DIN 6535 Form HB	DIN 6535 Form HE
G 1/4 - 3/8"	19	10	75	16	10	4	✓	170770	170771	170772
G 1/2 - 7/8"	14	16	90	25	16	5	✓	170773	170774	170775
> G 1"	11	20	105	32	20	5	✓	170776	170777	170778

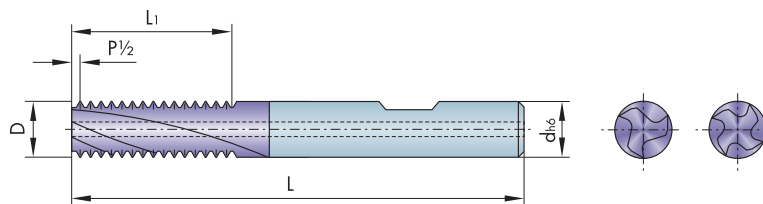
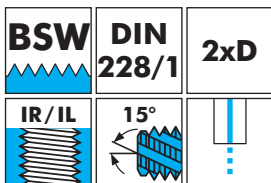
- Chamfer type
- Cutting Data see page 79






Solid Carbide Circular Thread Milling Cutter

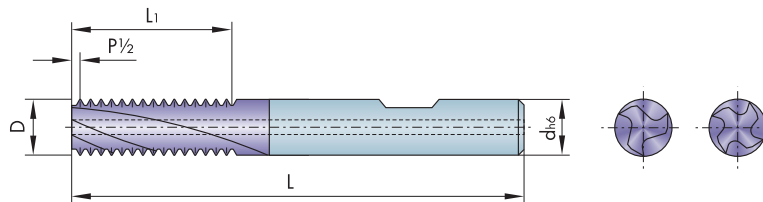
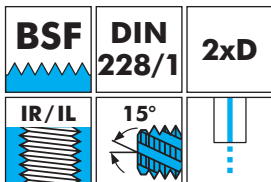
Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	L ₂ mm	d ^{h6} mm	d ₂ mm	Number of edges	Internal coolant	Chamfer	Order No.	
											TINAMATIC	
												
G 1/16"	28	6	74	16	18,1	10	8	3	✓	on the shank	171585	172387
G 1/8"	28	7,95	80	20	23,5	12	10	3	✓	on the shank	171586	172388
G 1/4"	19	9,9	100	27	30,8	16	13,5	4	✓	on the shank	171587	172389
G 3/8"	19	13,95	90	34		14		4	✓	on the face	171588	172390
G 1/2"	14	15,95	100	43		16		4	✓	on the face	171589	172391
G 5/8"	14	17,95	110	47		18		4	✓	on the face	171590	172392




- Fixed dimension type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
										
5/16"	18	6,0	60	18,3	6	3	✓	168383	168384	168385
3/8"	16	6,0	60	19,1	6	3	✓	168386	168387	168388
7/16"	14	8,0	70	21,9	8	3	✓	168389	168390	168391
1/2"	12	8,0	70	21,2	8	3	✓	168392	168393	168394
5/8"	11	9,9	75	27,7	10	4	✓	168395	168396	168397

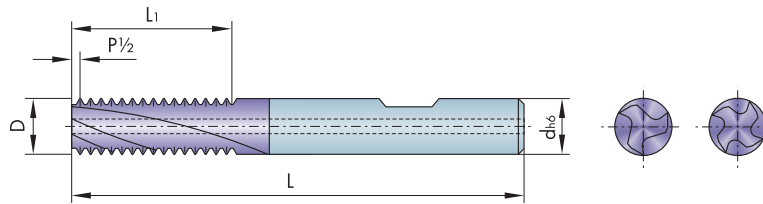
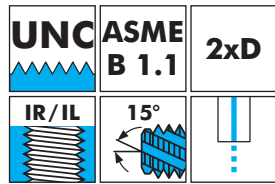
- Fixed dimension type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
										
5/16"	22	6,0	60	18,5	6	3	✓	168398	168399	168400
3/8"	20	6,0	60	17,8	6	3	✓	168401	168402	168403
7/16"	18	8,0	70	21,2	8	3	✓	168404	168405	168406
1/2"	16	8,0	70	22,2	8	3	✓	168407	168408	168409
5/8"	14	9,9	75	27,2	10	4	✓	168410	168411	168412

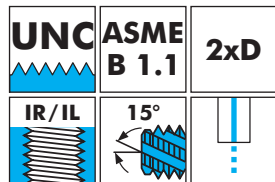
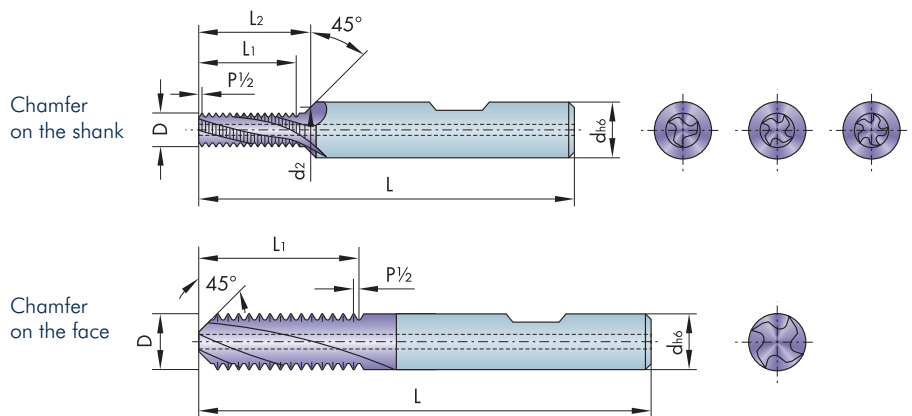
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
1/4" - 20	20	4,8	55	12,7	6	3		168413	168414	168415
5/16" - 18	18	5,95	60	18,3	6	3	✓	168416	168417	168418
3/8" - 16	16	7,95	70	22,2	8	3	✓	168419	168420	168421
7/16" - 14	14	7,95	70	21,8	8	3	✓	168422	168423	168424
1/2" - 13	13	9,9	75	27,4	10	4	✓	168425	168426	168427

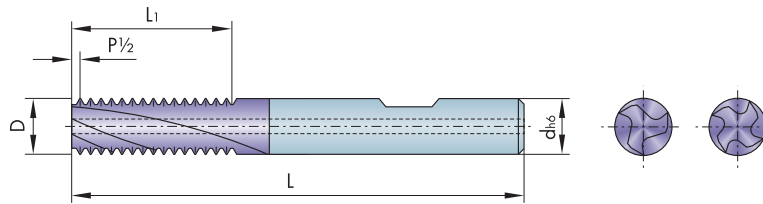
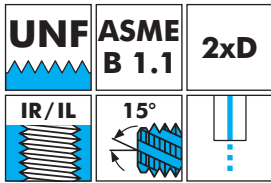
- Chamfer type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	L ₂ mm	d ^{h6} mm	d ₂ mm	Number of edges	Internal coolant	Chamfer	Order No.	
											DIN 6535 Form HA	DIN 6535 Form HB
1/4" - 20	20	4,8	62	14	15,73	8	6,65	3		on the shank	171591	172393
5/16" - 18	18	5,95	74	18	21,9	10	8,25	3	✓	on the shank	171592	172394
3/8" - 16	16	7,95	80	22	25,85	12	9,83	3	✓	on the shank	171593	172395
7/16" - 14	14	7,95	90	22	26,5	14	11,43	3	✓	on the shank	171594	172396
1/2" - 13	13	9,9	90	27	32,1	14	13	4	✓	on the shank	171595	172397
9/16" - 12	12	11,8	100	31	36,6	16	14,61	4	✓	on the shank	171596	172398
5/8" - 11	11	12,7	90	34		14		4	✓	on the face	171597	172399
3/4" - 10	10	15,2	110	38	44,3	20	19,35	5	✓	on the shank	171598	172400

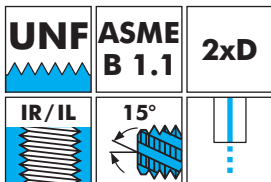
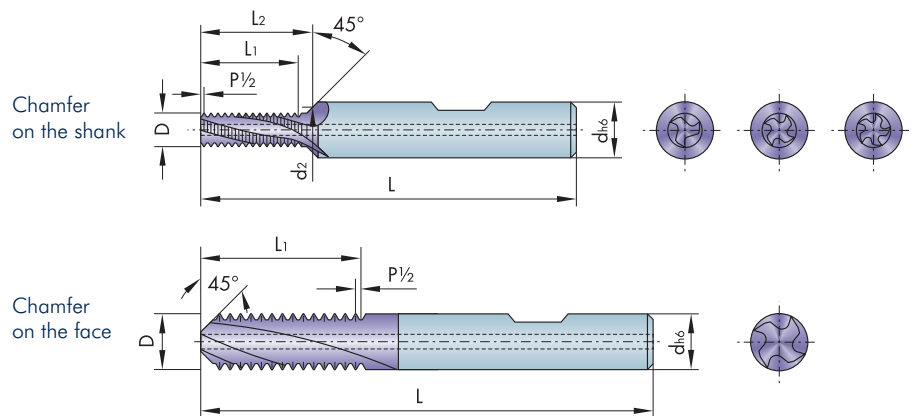
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
1/4" - 28	28	4,8	55	13,6	6	3		168428	168429	168430
5/16" - 24	24	5,95	60	18,0	6	3	✓	168431	168432	168433
3/8" - 24	24	7,95	70	21,2	8	3	✓	168434	168435	168436
7/16" - 20	20	7,95	70	21,6	8	3	✓	168437	168438	168439
1/2" - 20	20	9,9	75	26,7	10	4	✓	168440	168441	168442

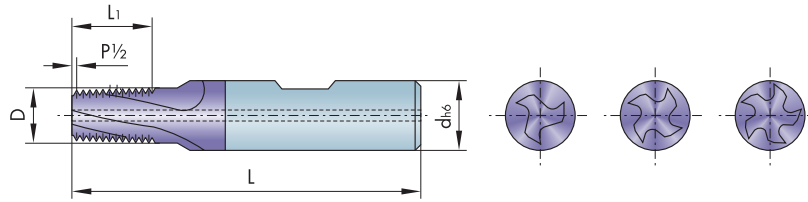
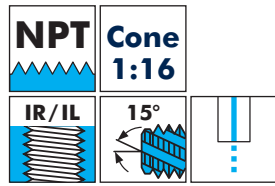
- Chamfer type
- Cutting Data see page 79



Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	L ₂ mm	d ^{h6} mm	d ₂ mm	Number of edges	Internal coolant	Chamfer	Order No.	
											TINAMATIC	
											DIN 6535 Form HA	DIN 6535 Form HB
1/4" - 28	28	4,8	62	14	16,2	8	6,65	3		on the shank	171599	172401
5/16" - 24	24	5,95	74	18	21	10	8,25	3	✓	on the shank	171600	172402
3/8" - 24	24	7,6	80	21	23	12	9,83	3	✓	on the shank	171601	172403
7/16" - 20	20	7,95	90	22	25,5	14	11,4	3	✓	on the shank	171602	172404
1/2" - 20	20	9,9	90	26	30,43	14	13	4	✓	on the shank	171603	172405
9/16" - 18	18	12	100	30	33,35	16	14,61	4	✓	on the shank	171604	172406
5/8" - 18	18	13,5	90	33		14		4	✓	on the face	171605	172407
3/4" - 16	16	17	110	38	42	20	19,35	5	✓	on the shank	171606	172408

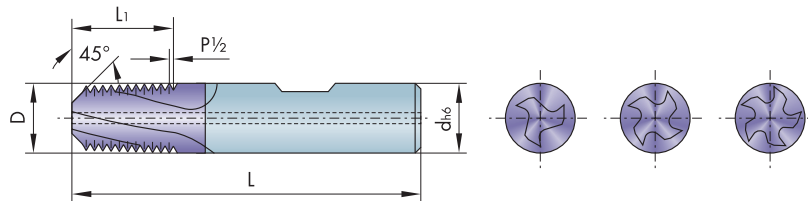
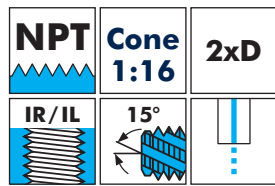
Solid Carbide Circular Thread Milling Cutter

- Fixed dimension type
- Cutting Data see page 79












Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Order No.		
								TINAMATIC		
								DIN 6535 Form HA	DIN 6535 Form HB	DIN 6535 Form HE
1/16"	27	5,8	70	10	8	3	✓	170752	170753	170754
1/8"	27	7,6	75	10	10	3	✓	170755	170756	170757
1/4"	18	10,1	90	15	14	3	✓	170758	170759	170760
3/8"	18	12,8	90	15	16	4	✓	170761	170762	170763
1/2"	14	16,0	90	19	20	5	✓	170764	170765	170766
3/4"	14	19,5	90	19	20	5	✓	170767	170768	170769

- Chamfer type
- Cutting Data see page 79



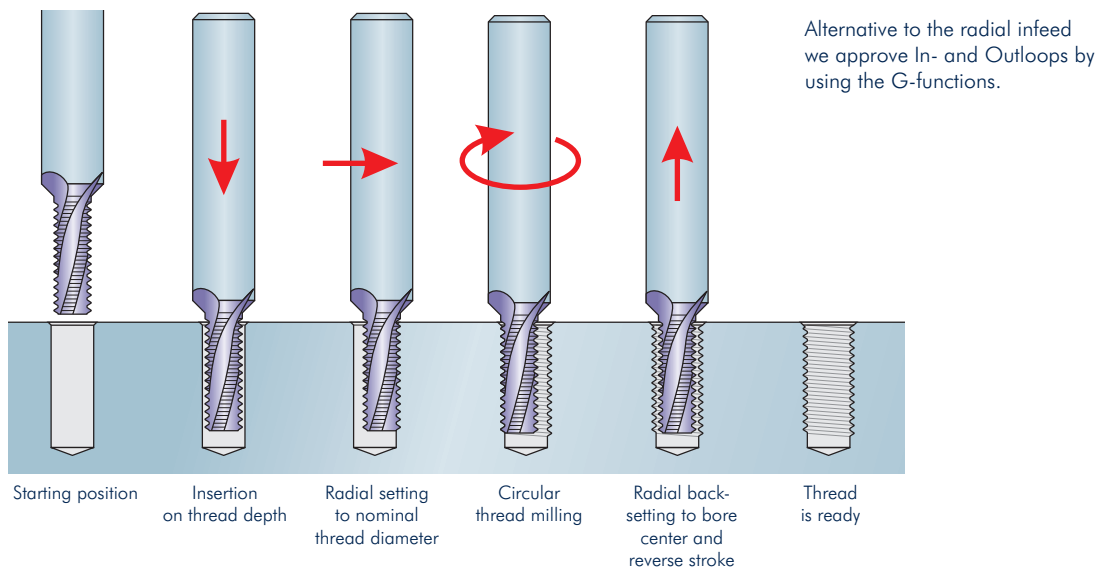
Thread	Pitch/"	D ^{±0,02} mm	L mm	L ₁ mm	d ^{h6} mm	Number of edges	Internal coolant	Chamfer	Order No.	
									TINAMATIC	
									DIN 6535 Form HA	DIN 6535 Form HB
1/4"	18	10,1	90	15	14	3	✓	on the face	171609	172411
3/8"	18	12,8	100	15	16	4	✓	on the face	171610	172412
1/2"	14	16,0	110	19	20	5	✓	on the face	171611	172413
3/4"	14	18,5	110	19	20	5	✓	on the face	171612	172414

Symbols

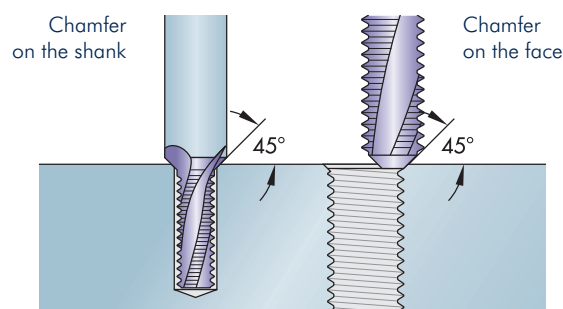
	Tool shaft without clamping surface		DIN standard
	Tool shaft with Weldon clamping surface		Thread standard
	Tool shaft with morse taper		for right- and left hand internal thread for left hand thread modify your NC-program!
	Internal coolant supply		Thread depth max.
			Helix angle

Information about Thread Milling with Solid Carbide Circular Thread Milling Cutter

Machining Sequence



Types with chamfer



Cutting Data Reference Values for Solid Carbide Circular Thread Milling Cutters

Material to be machined	Strength N/mm ²	TINAMATIC*		
		Cutting Speed V _c (m/min.)	Countersink feed f mm/U	Feed per tooth fz* mm
Unalloyed steel	≤ 800	80 - 160	0,19	0,03 - 0,06
	≤ 1000	60 - 130	0,19	0,03 - 0,06
Alloyed and unalloyed steel	≤ 1200	50 - 100	0,17	0,01 - 0,05
	> 1200	60 - 80	0,15	0,01 - 0,05
High-speed steel	800 - 1000	50 - 100	0,15	0,01 - 0,05
Stainless steel	V2A	50 - 100	0,18	0,03 - 0,06
	V4A	60 - 80	0,18	0,03 - 0,06
Grey cast iron		80 - 160	0,27	0,03 - 0,06
Spherulitic graphite iron		80 - 160	0,24	0,03 - 0,06
Malleable cast iron		80 - 160	0,24	0,03 - 0,06
Aluminium (alloys)		200 - 400	0,27	0,05 - 0,15
Cooper (alloys)		200 - 400	0,27	0,05 - 0,15
Aluminium special alloys		200 - 350	0,30	0,05 - 0,15
Cooper alloys, short-chipping		200 - 400	0,27	0,05 - 0,15
Thermoplastic		250 - 300		0,05 - 0,15
Thermosetting plastic and fibre-reinforced plastic		250 - 300		0,05 - 0,15
Nickel alloys		40 - 50	0,12	0,01 - 0,05
Titan alloys		50 - 60	0,14	0,01 - 0,03

* TINAMATIC coating on ultra fine grit with highest toughness, paired with high hardness.



Cutting Data Reference Values for Solid Carbide Circular Thread Milling Cutters

Material to be machined	Strength N/mm ²	TINAMATIC*		
		Cutting Speed V _c (m/min.)	Countersink feed f mm/U	Feed per tooth fz* mm
Unalloyed steel	≤ 800	80 - 160	0,19	0,03 - 0,06
	≤ 1000	60 - 130	0,19	0,03 - 0,06
Alloyed and unalloyed steel	≤ 1200	50 - 100	0,17	0,01 - 0,05
	> 1200	60 - 80	0,15	0,01 - 0,05
High-speed steel	800 - 1000	50 - 100	0,15	0,01 - 0,05
Stainless steel	V2A	50 - 100	0,18	0,03 - 0,06
	V4A	60 - 80	0,18	0,03 - 0,06
Grey cast iron		80 - 160	0,27	0,03 - 0,06
Spherulitic graphite iron		80 - 160	0,24	0,03 - 0,06
Malleable cast iron		80 - 160	0,24	0,03 - 0,06
Aluminium (alloys)		200 - 400	0,27	0,05 - 0,15
Cooper (alloys)		200 - 400	0,27	0,05 - 0,15
Aluminium special alloys		200 - 350	0,30	0,05 - 0,15
Cooper alloys, short-chipping		200 - 400	0,27	0,05 - 0,15
Thermoplastic		250 - 300		0,05 - 0,15
Thermosetting plastic and fibre-reinforced plastic		250 - 300		0,05 - 0,15
Nickel alloys		40 - 50	0,12	0,01 - 0,05
Titan alloys		50 - 60	0,14	0,01 - 0,03

* TINAMATIC coating on ultra fine grit with highest toughness, paired with high hardness.

