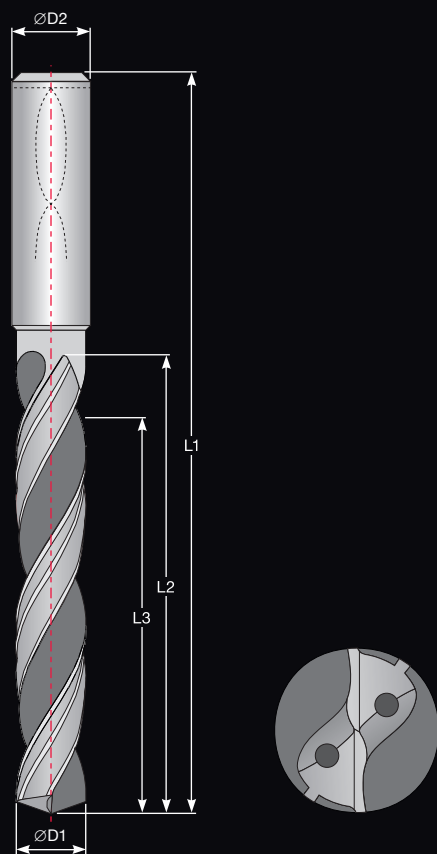


SPEED DRILL A4 5xD
MK28705



DESIGN

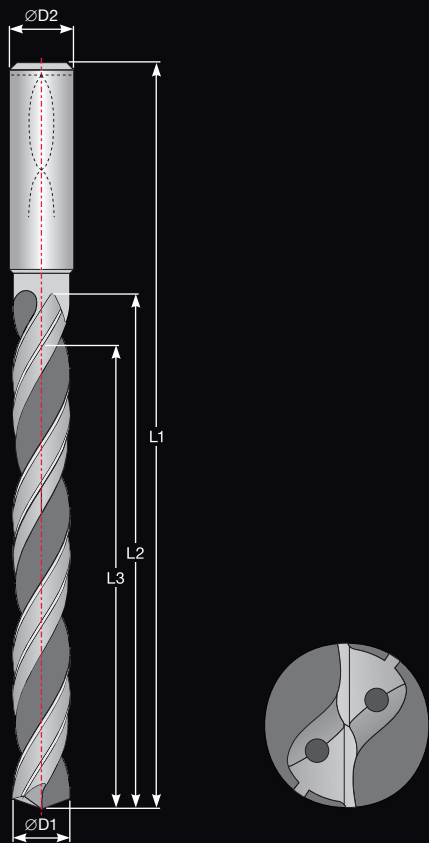
HELIX // 30° RIGHT HELIX
CUTTING DIRECTION // R.H.C.
POINT ANGLE // 140°
POINT GRINDING // 4-FACET
GUIDE LANDS // DOUBLE LANDS
COATING // UNCOATED, POLISHED FLUTE
COOLANT // INTERNAL

Art. Nr.	D1	D2	L1	L2	L3
Order No.	m7	h6	L1	L2	L3
MK28705-0300	3	6	66	28	23
MK28705-0310	3,1	6	66	28	23
MK28705-0320	3,2	6	66	28	23
MK28705-0330	3,3	6	66	28	23
MK28705-0340	3,4	6	66	28	23
MK28705-0350	3,5	6	66	28	23
MK28705-0360	3,6	6	66	28	23
MK28705-0370	3,7	6	66	28	23
MK28705-0380	3,8	6	74	36	29
MK28705-0390	3,9	6	74	36	29
MK28705-0400	4	6	74	36	29
MK28705-0410	4,1	6	74	36	29
MK28705-0420	4,2	6	74	36	29
MK28705-0430	4,3	6	74	36	29
MK28705-0440	4,4	6	74	36	29
MK28705-0450	4,5	6	74	36	29
MK28705-0460	4,6	6	74	36	29
MK28705-0470	4,7	6	74	36	29
MK28705-0480	4,8	6	82	44	35
MK28705-0490	4,9	6	82	44	35
MK28705-0500	5	6	82	44	35
MK28705-0510	5,1	6	82	44	35
MK28705-0520	5,2	6	82	44	35
MK28705-0530	5,3	6	82	44	35
MK28705-0540	5,4	6	82	44	35
MK28705-0550	5,5	6	82	44	35
MK28705-0560	5,6	6	82	44	35
MK28705-0570	5,7	6	82	44	35
MK28705-0580	5,8	6	82	44	35
MK28705-0590	5,9	6	82	44	35
MK28705-0600	6	6	82	44	35
MK28705-0610	6,1	8	91	53	43
MK28705-0620	6,2	8	91	53	43
MK28705-0630	6,3	8	91	53	43
MK28705-0640	6,4	8	91	53	43
MK28705-0650	6,5	8	91	53	43
MK28705-0660	6,6	8	91	53	43
MK28705-0670	6,7	8	91	53	43
MK28705-0680	6,8	8	91	53	43
MK28705-0690	6,9	8	91	53	43
MK28705-0700	7	8	91	53	43
MK28705-0710	7,1	8	91	53	43
MK28705-0720	7,2	8	91	53	43
MK28705-0730	7,3	8	91	53	43
MK28705-0740	7,4	8	91	53	43
MK28705-0750	7,5	8	91	53	43
MK28705-0760	7,6	8	91	53	43
MK28705-0770	7,7	8	91	53	43
MK28705-0780	7,8	8	91	53	43
MK28705-0790	7,9	8	91	53	43
MK28705-0800	8	8	91	53	43
MK28705-0810	8,1	10	103	61	49
MK28705-0820	8,2	10	103	61	49
MK28705-0830	8,3	10	103	61	49
MK28705-0840	8,4	10	103	61	49
MK28705-0850	8,5	10	103	61	49
MK28705-0860	8,6	10	103	61	49
MK28705-0870	8,7	10	103	61	49

Art. Nr.	D1	D2	L1	L2	L3
Order No.	m7	h6	L1	L2	L3
MK28705-0880	8,8	10	103	61	49
MK28705-0890	8,9	10	103	61	49
MK28705-0900	9	10	103	61	49
MK28705-0910	9,1	10	103	61	49
MK28705-0920	9,2	10	103	61	49
MK28705-0930	9,3	10	103	61	49
MK28705-0940	9,4	10	103	61	49
MK28705-0950	9,5	10	103	61	49
MK28705-0960	9,6	10	103	61	49
MK28705-0970	9,7	10	103	61	49
MK28705-0980	9,8	10	103	61	49
MK28705-0990	9,9	10	103	61	49
MK28705-1000	10	10	103	61	49
MK28705-1020	10,2	12	118	71	56
MK28705-1050	10,5	12	118	71	56
MK28705-1080	10,8	12	118	71	56
MK28705-1100	11	12	118	71	56
MK28705-1150	11,5	12	118	71	56
MK28705-1180	11,8	12	118	71	56
MK28705-1200	12	12	118	71	56
MK28705-1250	12,5	14	124	77	60
MK28705-1280	12,8	14	124	77	60
MK28705-1300	13	14	124	77	60
MK28705-1350	13,5	14	124	77	60
MK28705-1380	13,8	14	124	77	60
MK28705-1400	14	14	124	77	60
MK28705-1450	14,5	16	133	83	63
MK28705-1480	14,8	16	133	83	63
MK28705-1500	15	16	133	83	63
MK28705-1550	15,5	16	133	83	63
MK28705-1580	15,8	16	133	83	63
MK28705-1600	16	16	133	83	63
MK28705-1650	16,5	18	143	93	71
MK28705-1680	16,8	18	143	93	71
MK28705-1700	17	18	143	93	71
MK28705-1750	17,5	18	143	93	71
MK28705-1780	17,8	18	143	93	71
MK28705-1800	18	18	143	93	71
MK28705-1850	18,5	20	153	101	77
MK28705-1880	18,8	20	153	101	77
MK28705-1900	19	20	153	101	77
MK28705-1950	19,5	20	153	101	77
MK28705-1980	19,8	20	153	101	77
MK28705-2000	20	20	153	101	77

SPEED DRILL A4 5xD
MK28705

SPEED DRILL A4 8xD
MK28708



DESIGN

HELIX // 30° RIGHT HELIX
CUTTING DIRECTION // R.H.C.
POINT ANGLE // 140°
POINT GRINDING // 4-FACET
GUIDE LANDS // DOUBLE LANDS
COATING // UNCOATED, POLISHED FLUTE
COOLANT // INTERNAL

Art. Nr.	D1	D2	L1	L2	L3
Order No.	m7	h6	L1	L2	L3
MK28708-0300	3	6	72	34	29
MK28708-0310	3,1	6	72	34	29
MK28708-0320	3,2	6	72	34	29
MK28708-0330	3,3	6	72	34	29
MK28708-0340	3,4	6	72	34	29
MK28708-0350	3,5	6	72	34	29
MK28708-0360	3,6	6	72	34	29
MK28708-0370	3,7	6	72	34	29
MK28708-0380	3,8	6	81	43	36
MK28708-0390	3,9	6	81	43	36
MK28708-0400	4	6	81	43	36
MK28708-0410	4,1	6	81	43	36
MK28708-0420	4,2	6	81	43	36
MK28708-0430	4,3	6	81	43	36
MK28708-0440	4,4	6	81	43	36
MK28708-0450	4,5	6	81	43	36
MK28708-0460	4,6	6	81	43	36
MK28708-0470	4,7	6	81	43	36
MK28708-0480	4,8	6	95	57	48
MK28708-0490	4,9	6	95	57	48
MK28708-0500	5	6	95	57	48
MK28708-0510	5,1	6	95	57	48
MK28708-0520	5,2	6	95	57	48
MK28708-0530	5,3	6	95	57	48
MK28708-0540	5,4	6	95	57	48
MK28708-0550	5,5	6	95	57	48
MK28708-0560	5,6	6	95	57	48
MK28708-0570	5,7	6	95	57	48
MK28708-0580	5,8	6	95	57	48
MK28708-0590	5,9	6	95	57	48
MK28708-0600	6	6	95	57	48
MK28708-0610	6,1	8	114	76	64
MK28708-0620	6,2	8	114	76	64
MK28708-0630	6,3	8	114	76	64
MK28708-0640	6,4	8	114	76	64
MK28708-0650	6,5	8	114	76	64
MK28708-0660	6,6	8	114	76	64
MK28708-0670	6,7	8	114	76	64
MK28708-0680	6,8	8	114	76	64
MK28708-0690	6,9	8	114	76	64
MK28708-0700	7	8	114	76	64
MK28708-0710	7,1	8	114	76	64
MK28708-0720	7,2	8	114	76	64
MK28708-0730	7,3	8	114	76	64
MK28708-0740	7,4	8	114	76	64
MK28708-0750	7,5	8	114	76	64
MK28708-0760	7,6	8	114	76	64
MK28708-0770	7,7	8	114	76	64
MK28708-0780	7,8	8	114	76	64
MK28708-0790	7,9	8	114	76	64
MK28708-0800	8	8	114	76	64
MK28708-0810	8,1	10	142	95	80
MK28708-0820	8,2	10	142	95	80
MK28708-0830	8,3	10	142	95	80
MK28708-0840	8,4	10	142	95	80
MK28708-0850	8,5	10	142	95	80
MK28708-0860	8,6	10	142	95	80
MK28708-0870	8,7	10	142	95	80

Art. Nr.	D1	D2	L1	L2	L3
Order No.	m7	h6	L1	L2	L3
MK28708-0880	8,8	10	142	95	80
MK28708-0890	8,9	10	142	95	80
MK28708-0900	9	10	142	95	80
MK28708-0910	9,1	10	142	95	80
MK28708-0920	9,2	10	142	95	80
MK28708-0930	9,3	10	142	95	80
MK28708-0940	9,4	10	142	95	80
MK28708-0950	9,5	10	142	95	80
MK28708-0960	9,6	10	142	95	80
MK28708-0970	9,7	10	142	95	80
MK28708-0980	9,8	10	142	95	80
MK28708-0990	9,9	10	142	95	80
MK28708-1000	10	10	142	95	80
MK28708-1020	10,2	12	162	114	96
MK28708-1050	10,5	12	162	114	96
MK28708-1080	10,8	12	162	114	96
MK28708-1100	11	12	162	114	96
MK28708-1150	11,5	12	162	114	96
MK28708-1180	11,8	12	162	114	96
MK28708-1200	12	12	162	114	96
MK28708-1250	12,5	14	178	133	112
MK28708-1280	12,8	14	178	133	112
MK28708-1300	13	14	178	133	112
MK28708-1350	13,5	14	178	133	112
MK28708-1380	13,8	14	178	133	112
MK28708-1400	14	14	178	133	112
MK28708-1450	14,5	16	203	152	128
MK28708-1480	14,8	16	203	152	128
MK28708-1500	15	16	203	152	128
MK28708-1550	15,5	16	203	152	128
MK28708-1580	15,8	16	203	152	128
MK28708-1600	16	16	203	152	128
MK28708-1650	16,5	18	222	171	144
MK28708-1680	16,8	18	222	171	144
MK28708-1700	17	18	222	171	144
MK28708-1750	17,5	18	222	171	144
MK28708-1780	17,8	18	222	171	144
MK28708-1800	18	18	222	171	144
MK28708-1850	18,5	20	243	190	160
MK28708-1880	18,8	20	243	190	160
MK28708-1900	19	20	243	190	160
MK28708-1950	19,5	20	243	190	160
MK28708-1980	19,8	20	243	190	160
MK28708-2000	20	20	243	190	160

SPEED DRILL A4 8xD
MK28708

SPEED DRILL A4.

MAIN APPLICATION: aluminium, copper, bronze

GEOMETRY: 4-facet point, cross web thinning (Form C) with big radius, parabolic flute, polished flute, 2 guide lands

CUTTING DATA.

Zu bearbeitendes Material Material to be machined		Zugfestigkeit Tensile strength [N/mm²]	Beispiel Example	Schnittgeschwindigkeit V _c Cutting speed V _c [m/min]		Vorschub f feed f [mm/rev]					
						Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
P	Unlegierter Stahl, Stahlguss non-alloy steels, cast steels	< 600 N/mm²	St37, C22, GS38								
		< 700 N/mm²	St52, C35, GS52								
		> 700 N/mm²	St70, C45, GS62								
	Legierter Stahl alloyed steel	< 900 N/mm²	16MnCr5, 42CrMo4								
		< 1000 N/mm²	90MnCrV8, 100Cr6								
		> 1000 N/mm²	X210Cr12, 34CrAlNi7								
M	Rostfreie und säurebest. Stähle Stainless steels	X5 CrNi 18 9 (V2A) X 10 CrNiMoTi 18 10									
K	Grauguss, legierter Grauguss Grey cast iron, grey cast iron alloy	< 200 HB	GG20 GG25, GTS45								
		< 250 HB	GG30, GTW40								
	Sphäroguss, Vermikularguss Spheroidal graphite cast iron, CGI	> 250 HB	GG40, GTS70								
		< 600 N/mm²	GGG40, GGG50								
		> 600 N/mm²	GGG60, GGV (CGI)								
N	Aluminium-Knetlegierungen	AlCuMgPb, AlMgSi0.5		200-350	0,3	0,4	0,5	0,55	0,7	0,8	
	Aluminium (Si < 10%)	GD-AlSi9Cu3, AlSi7Mg0.6		200-350	0,3	0,4	0,5	0,55	0,7	0,8	
	Aluminium (Si > 10%)	GB.AlSi12 (Cu)		180-250	0,24	0,32	0,4	0,45	0,55	0,6	
	Kupfer, Messing, Bronze Copper, brass, bronze			120-200	0,18	0,24	0,3	0,35	0,4	0,5	
S	Titanlegierungen Titanium alloys	Ti6Al4V									
	Nickellegierungen Nickel alloys	Inconel, Monel, Hasteloy									

SPEED DRILL R4.

MAIN APPLICATION: grey cast iron, ductile iron, CGI forged steel

GEOMETRY: 4-facet point, special cross web thinning (Form C), parabolic flute, straight cutting edge, honed cutting edge, 4 guide lands, especially developed corner radius

CUTTING DATA.

Zu bearbeitendes Material Material to be machined		Zugfestigkeit Tensile strength [N/mm²]	Beispiel Example	Schnittgeschwindigkeit V _c Cutting speed V _c [m/min]	Vorschub f feed f [mm/rev]					
					Ø6	Ø8	Ø10	Ø12	Ø16	Ø20
P	Unlegierter Stahl, Stahlguss non-alloy steels, cast steels	< 600 N/mm²	St37, C22, GS38	100-150	0,15	0,2	0,25	0,3	0,36	0,4
		< 700 N/mm²	St52, C35, GS52	90-130	0,15	0,2	0,25	0,3	0,36	0,4
		> 700 N/mm²	St70, C45, GS62	80-120	0,15	0,2	0,25	0,3	0,36	0,4
	Legierter Stahl alloyed steel	< 900 N/mm²	16MnCr5, 42CrMo4	80-110	0,15	0,2	0,25	0,3	0,36	0,4
		< 1000 N/mm²	90MnCrV8, 100Cr6	65-100	0,14	0,18	0,22	0,26	0,3	0,35
		> 1000 N/mm²	X210Cr12, 34CrAlNi7	45-65	0,12	0,16	0,2	0,24	0,3	0,35
M	Rostfreie und säurebest. Stähle Stainless steels	X5 CrNi 18 9 (V2A) X 10 CrNiMoTi 18 10								
K	Grauguss, legierter Grauguss Grey cast iron, grey cast iron alloy	< 200 HB	GG20 GG25, GTS45	100-150	0,22	0,28	0,34	0,38	0,44	0,5
		< 250 HB	GG30, GTW40	90-140	0,2	0,25	0,3	0,35	0,4	0,45
	Sphäroguss, Vermikularguss Spheroidal graphite cast iron, CGI	> 250 HB	GG40, GTS70	80-140	0,2	0,25	0,3	0,35	0,4	0,45
		< 600 N/mm²	GGG40, GGG50	80-140	0,2	0,25	0,3	0,35	0,4	0,45
		> 600 N/mm²	GGG60, GGV (CGI)	80-110	0,18	0,22	0,25	0,3	0,35	0,4
N	Aluminium-Knetlegierungen	AlCuMgPb, AlMgSi0.5								
	Aluminium (Si < 10%)	GD-AlSi9Cu3, AlSi7Mg0.6								
	Aluminium (Si > 10%)	GB.AlSi12 (Cu)								
	Kupfer, Messing, Bronze Copper, brass, bronze									
S	Titanlegierungen Titanium alloys	Ti6Al4V								
	Nickellegierungen Nickel alloys	Inconel, Monel, Hasteloy								

SOLID CARBIDE SPECIAL TOOLS.

**WHETHER DRILLING, COUNTERBORING, REAMING OR MILLING TOOL.
WITH MK TOOLS SERVICE YOU MAKE THE RIGHT CHOICE.**

- *Exclusive production on ultra-modern CNC grinding centres (as a result we guarantee absolute repeat accuracy)*
- *Tool geometries for highest cutting data and tool life*
- *Tools for all common materials*
- *Use of newest premium carbide grades*
- *Best possible coating*
- *Professional consulting and service*
- *Decades of professional experience in the field of cutting tools*
- *Individual solutions for your machining problems*
- *Rapid and reliable delivery dates*

IN ADDITION TO SOLID CARBIDE SPECIAL TOOLS MK TOOLS SERVICE OFFERS A WIDE RANGE OF HIGH-PERFORMANCE CUTTING TOOLS.

- *PCD-tipped cutting tools in highest quality*
- *Tools with carbide-tipped cutting edges*
- *Special tools with ISO-indexable inserts*
- *Thread milling cutters, slitting saws etc.*

PROJECT ENGINEERING.

- *Complete tool design for your components*
- *OEM projects in cooperation with machine tool builders*
- *Optimization of existing machining processes*
- *CAD drawings in ISG layer format*



INFORMATION.



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