

SOLID CARBIDE TOOLS

UTENSILI IN METALLO DURO



Catalog 1 / 2022

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UTENSILI IN METALLO DURO

CRUING WORLDWIDE

CRUING IN TUTTO IL MONDO

Thanks to its 50 year's worth of experience as a leader in the tooling industry, Cruing is able to provide a wide range of Solid Carbide tools tailored to specific customer needs.

We can fulfil various applications for the automotive, aerospace, mould line, graphite and medical Industry.

Production plants and R&D facilities in Europe and North America enable Cruing to supply tested and award winning products worldwide.

Grazie a un'esperienza di oltre 50 anni nella produzione di utensili da taglio, Cruing è in grado di fornire soluzioni in metallo duro in versione standard e speciale.

Siamo in grado di soddisfare vari tipi di applicazioni nel settore della meccanica, aerospaziale, stampi, grafite e medicale.



COATING DIVISION

COATING DIVISION

Cruing offers the possibility to enhance the performance of HSS and HM tools by applying different types of coatings: Omicron S-TiN, Omicron TiCN, Omicron AlTiN, Omicron ZrN, Omicron T-CroNAL.

Cruing offre la possibilità di migliorare le prestazioni di utensili in HSS e HM applicando vari tipi di rivestimenti: Omicron S-TiN, Omicron TiCN, Omicron AlTiN, Omicron ZrN, Omicron T-CroNAL.





PRODUCTION PLANTS AND R&D FACILITIES IN EUROPE AND NORTH AMERICA

CRUING IN TUTTO IL MONDO



JEC Europe



JEC Americas

CHALLENGERS



WINNER 2008



EXPERIENCE
COMPOSITES

INNOVATION
AWARDS
2016



Institut für
Werkzeugmaschinen



Universität Stuttgart



Fraunhofer IPA



HBG
Holz-Berufsgenossenschaft



DGVU Test



HO 082004



Sicherheit geprüft
tested safety



HO 082007



Sicherheit geprüft
tested safety



HO 122002



Sicherheit geprüft
tested safety

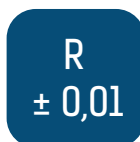


COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

SYMBOL LEGENDA



MILLING TOOL WITH SCALED SLOT
FRESA CON CAVA A GRADINI



CORNER RADIUS TOLERANCE
TOLLERANZA RAGGIO D'ANGOLO



LAPPED
LUCIDATURA

COATING • RIVESTIMENTI



S-TiN



T-DLC



TiCN-B



Diamond



AlTiSiN



PVD-PRO



TiCN-GR



ZrN



PVD



T2C Plus

MATERIALS • MATERIALI



NON-ALLOYED STEEL
ACCIAI NON LEGATI



TITANS ALLOYS
LEGHE DI TITANIO



STAINLESS STEEL
ACCIAI INOSSIDABILI



COMPOSITE MATERIALS
CARBON FIBRE • CFRP
MATERIALI COMPOSITI
FIBRA DI CARBONIO • CFRP



IRON • GRAY IRON
MALLEABLE IRON
GHISA • GHISA GRIGIA
GHISA MALLEABILE COST



OTHER MATERIALS
ALTRI MATERIALI



ALLUMINIUM • ALLOYS •
COPPER BRASS • BRONZE
ALLUMINIO • LEGHE •
RAME OTTONE • BRONZO

COATING RIVESTIMENTI

	COATING • RIVESTIMENTI	Micro hardness HV 0.05	Thickness	Friction coefficient	Max usage temp (C°)	Deposition temp	Colour
S →	Omicron S-Tin	2.300	1-5	0.4	600°	480°	yellow gold
G →	Omicron TiCN-GR	3.000	1-4	0.2	400°	480°	grey
B →	Omicron TiCN-B	3.000	1-5	0.2	400°	480°	bronze
T →	Omicron AlTiSiN	3.600	1-5	0.7	850°	480°	dark grey
A →	Omicron PVD	3.300	1-4	0.6	1000°	480°	grey violet
P →	Omicron PVD-Pro	3.500	1-4	0.6	1100°	480°	grey violet
	Omicron TXO	4.400	1-4	0.35	900°	480°	bronze
D →	Omicron Diamond	8.000 10.000	0.009 0.01	0.02 0.10		900	dark grey
L →	Omicron T-DLC	1.800 2.600	2-4	0.1	350°	180°	black
Z →	Omicron ZrN	2.200	1-3	0.4	550°	480°	yellow
	Omicron CrN high temperature 380°	2.200	1-5	0.5	700°	380°	light grey
	Omicron CrN low temperature 150°	1.750	1-5	0.5	700°	150°	light grey
	Omicron TBM Red Supreme	3.400 3.600	1-5	0.4	600°	450°	purple red

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 MID 132	20	P M O	
 MID 140	22	P M N	
 MID 148	27	P M N	T
 MID 156	28	P M K N	T
 MID 164	29	P M K N	T
 MID 172	30	P M K N	T
 MID 180	31	P M N	
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 MID 208	35	P M K S N	C
 MID 216	37	P M K S N	C
 MID 220	39	P M K S N	T
 MID 224	40	P M K S N	C
 MID 228	41	P M K S N	T
 MID 232	43	P M K S N	C

HIGH PERFORMANCE DRILLS PUNTE ALTE PRESTAZIONI		PAG	MATERIALS • MATERIALI	COATING • RIVESTIMENTI
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	MID 240	47	P M K S N	C
	MID 244	49	P M K S N	T
	MID 248	51	P M K S N	C
	MID 252	53	P M K S N	T
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	MID 440	62	P	T

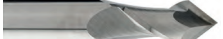
DRILL REAMER • PUNTE FORO ALESA		PAG	MATERIALS • MATERIALI	COATING • RIVESTIMENTI
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 MIM 157	82	P	T B
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 MIM 220	96	P M S	P
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 MIM 228	98	P S	P
 MIM 232	99	P S	P
 MIM 236	100	P S	P
 MIM 240	101	P S	P
 MIM 244	102	P S	P
 MIM 248	103	P M N	P
 MIM 252	104	P M N	P
 MIM 256	105	P M N	P
 MIM 260	106	P M N	P

END MILLS HPC • FRESE HPC	PAG	MATERIALS • MATERIALI	COATING • RIVESTIMENTI
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 MIM 345	111	P K S	P
 MIM 354	112	P K S	P

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MID 108

TWIST DRILL
PUNTA ELICOIDALE

S S-TIN

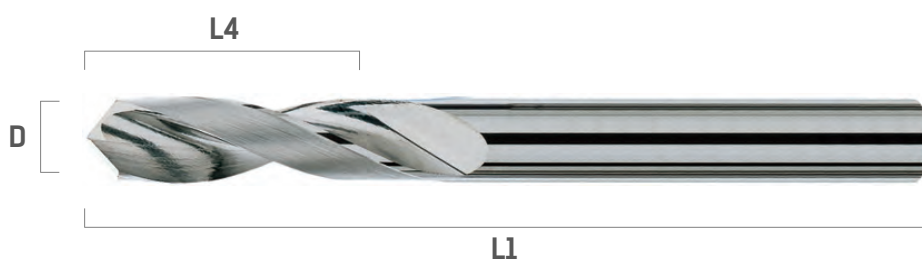


Solid carbide grades: 10% Co Micro grain

Application groups: steel, steel-alloys,
non-ferrous metals, cast iron

Metallo duro: 10% Co micrograna

Applicazioni: Impiego universale, acciaio, acciaio legato,
materiali non ferrosi, ghisa



D h6	L1	L4	UNCOATED	S-TIN
1.00	26	6	MID 1080010	
1.10	28	7	MID 1080020	
1.20	30	8	MID 1080030	
1.30	30	8	MID 1080040	
1.40	32	9	MID 1080050	
1.50	32	9	MID 1080060	
1.60	34	10	MID 1080070	
1.70	34	10	MID 1080080	
1.80	36	11	MID 1080090	
1.90	36	11	MID 1080100	
2.00	38	12	MID 1080110	MID 1080110 S
2.10	38	12	MID 1080120	MID 1080120 S
2.20	40	13	MID 1080130	MID 1080130 S
2.30	40	13	MID 1080140	MID 1080140 S
2.40	43	14	MID 1080150	MID 1080150 S
2.50	43	14	MID 1080160	MID 1080160 S
2.60	43	14	MID 1080170	MID 1080170 S
2.70	46	16	MID 1080180	MID 1080180 S
2.80	46	16	MID 1080190	MID 1080190 S
2.90	46	16	MID 1080200	MID 1080200 S
3.00	46	16	MID 1080210	MID 1080210 S
3.10	49	18	MID 1080220	MID 1080220 S
3.20	49	18	MID 1080230	MID 1080230 S
3.30	49	18	MID 1080240	MID 1080240 S
3.40	52	20	MID 1080250	MID 1080250 S

MID 108

D h6	L1	L4	UNCOATED	S-TIN
3.50	52	20	MID 1080260	MID 1080260 S
3.60	52	20	MID 1080270	MID 1080270 S
3.70	52	20	MID 1080280	MID 1080280 S
3.80	55	22	MID 1080290	MID 1080290 S
3.90	55	22	MID 1080300	MID 1080300 S
4.00	55	22	MID 1080310	MID 1080310 S
4.10	55	22	MID 1080320	MID 1080320 S
4.20	55	22	MID 1080330	MID 1080330 S
4.30	58	24	MID 1080340	MID 1080340 S
4.40	58	24	MID 1080350	MID 1080350 S
4.50	58	24	MID 1080360	MID 1080360 S
4.60	58	24	MID 1080370	MID 1080370 S
4.70	58	24	MID 1080380	MID 1080380 S
4.80	62	26	MID 1080390	MID 1080390 S
4.90	62	26	MID 1080400	MID 1080400 S
5.00	62	26	MID 1080410	MID 1080410 S
5.10	62	26	MID 1080420	MID 1080420 S
5.20	62	26	MID 1080430	MID 1080430 S
5.30	62	26	MID 1080440	MID 1080440 S
5.40	66	28	MID 1080450	MID 1080450 S
5.50	66	28	MID 1080460	MID 1080460 S
5.60	66	28	MID 1080470	MID 1080470 S
5.70	66	28	MID 1080480	MID 1080480 S
5.80	66	28	MID 1080490	MID 1080490 S
5.90	66	28	MID 1080500	MID 1080500 S
6.00	66	28	MID 1080510	MID 1080510 S
6.10	70	31	MID 1080520	MID 1080520 S
6.20	70	31	MID 1080530	MID 1080530 S
6.30	70	31	MID 1080540	MID 1080540 S
6.40	70	31	MID 1080550	MID 1080550 S
6.50	70	31	MID 1080560	MID 1080560 S
6.60	70	31	MID 1080570	MID 1080570 S
6.70	70	31	MID 1080580	MID 1080580 S
6.80	74	34	MID 1080590	MID 1080590 S
6.90	74	34	MID 1080600	MID 1080600 S
7.00	74	34	MID 1080610	MID 1080610 S
7.10	74	34	MID 1080620	MID 1080620 S
7.20	74	34	MID 1080630	MID 1080630 S
7.30	74	34	MID 1080640	MID 1080640 S
7.40	74	34	MID 1080650	MID 1080650 S
7.50	74	34	MID 1080660	MID 1080660 S
7.60	79	37	MID 1080670	MID 1080670 S
7.70	79	37	MID 1080680	MID 1080680 S

D h6	L1	L4	UNCOATED	S-TIN
7.80	79	37	MID 1080690	MID 1080690 S
7.90	79	37	MID 1080700	MID 1080700 S
8.00	79	37	MID 1080710	MID 1080710 S
8.10	79	37	MID 1080720	MID 1080710 S
8.20	79	37	MID 1080730	MID 1080730 S
8.30	79	37	MID 1080740	MID 1080740 S
8.40	79	37	MID 1080750	MID 1080750 S
8.50	79	37	MID 1080760	MID 1080760 S
8.60	84	40	MID 1080770	MID 1080770 S
8.70	84	40	MID 1080780	MID 1080780 S
8.80	84	40	MID 1080790	MID 1080790 S
8.90	84	40	MID 1080800	MID 1080800 S
9.00	84	40	MID 1080810	MID 1080810 S
9.10	84	40	MID 1080820	MID 1080820 S
9.20	84	40	MID 1080830	MID 1080830 S
9.30	84	40	MID 1080840	MID 1080840 S
9.40	84	40	MID 1080850	MID 1080850 S
9.50	84	40	MID 1080860	MID 1080860 S
9.60	89	43	MID 1080870	MID 1080870 S
9.70	89	43	MID 1080880	MID 1080880 S
9.80	89	43	MID 1080890	MID 1080890 S
9.90	89	43	MID 1080900	MID 1080900 S
10.00	89	43	MID 1080910	MID 1080910 S
10.10	89	43	MID 1080920	MID 1080920 S
10.20	89	43	MID 1080930	MID 1080930 S
10.50	89	43	MID 1080940	MID 1080940 S
11.00	95	47	MID 1080950	MID 1080950 S
11.50	95	47	MID 1080960	MID 1080960 S
12.00	102	51	MID 1080970	MID 1080970 S
12.50	102	51	MID 1080980	MID 1080980 S
12.70	102	51	MID 1080990	MID 1080990 S
13.00	102	51	MID 1081000	MID 1081000 S
14.00	107	54	MID 1081010	MID 1081010 S
14.50	111	56	MID 1081020	MID 1081020 S
15.00	111	56	MID 1081030	MID 1081030 S
16.00	115	58	MID 1081040	MID 1081040 S
18.00	123	62	MID 1081050	MID 1081050 S
20.00	131	66	MID 1081060	MID 1081060 S

On request: coating – out of range, other sizes – left hand helix
Su richiesta: ricoperture – esecuzione speciale, diametri intermedi – elica sinistra

Application groups • Applicazioni



MID 116

3 FLUTES TWIST DRILL PUNTA ELICOIDALE A 3 ELICHE

S S-TIN

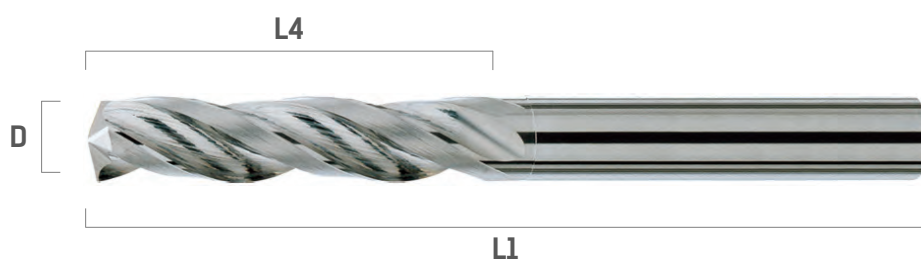


Solid carbide grades: 10% Co Micro grain

Application groups: cast iron, malleable cast iron, non-ferrous metals, alloyed and non-alloyed steels

Metallo duro: 10% Co micrograna

Applicazioni: Ghisa grigia, ghisa malleabile, materiali non ferrosi, acciai bassa ed alta resistenza



D h6	L1	L4	UNCOATED	S-TIN
3.00	46	16	MID 1160010	MID 1080010 S
3.10	49	18	MID 1160020	MID 1080020 S
3.20	49	18	MID 1160030	MID 1080030 S
3.30	49	18	MID 1160040	MID 1080040 S
3.40	52	20	MID 1160050	MID 1080050 S
3.50	52	20	MID 1160060	MID 1080060 S
3.60	52	20	MID 1160070	MID 1080070 S
3.70	52	20	MID 1160080	MID 1080080 S
3.80	55	22	MID 1160090	MID 1080090 S
3.90	55	22	MID 1160100	MID 1080100 S
4.00	55	22	MID 1160110	MID 1080110 S
4.10	55	22	MID 1160120	MID 1080120 S
4.20	55	22	MID 1160130	MID 1080130 S
4.30	58	24	MID 1160140	MID 1080140 S
4.40	58	24	MID 1160150	MID 1080150 S
4.50	58	24	MID 1160160	MID 1080160 S
4.60	58	24	MID 1160170	MID 1080170 S
4.70	58	24	MID 1160180	MID 1080180 S
4.80	62	26	MID 1160190	MID 1080190 S
4.90	62	26	MID 1160200	MID 1080200 S
5.00	62	26	MID 1160210	MID 1080210 S
5.10	62	26	MID 1160220	MID 1080220 S
5.20	62	26	MID 1160230	MID 1080230 S
5.30	62	26	MID 1160240	MID 1080240 S
5.40	66	28	MID 1160250	MID 1080250 S

MID 116

D h6	L1	L4	UNCOATED	S-TIN
5.50	66	28	MID 1160260	MID 1160260 S
5.60	66	28	MID 1160270	MID 1160270 S
5.70	66	28	MID 1160280	MID 1160280 S
5.80	66	28	MID 1160290	MID 1160290 S
5.90	66	28	MID 1160300	MID 1160300 S
6.00	66	28	MID 1160310	MID 1160310 S
6.10	70	31	MID 1160320	MID 1160320 S
6.20	70	31	MID 1160330	MID 1160330 S
6.30	70	31	MID 1160340	MID 1160340 S
6.40	70	31	MID 1160350	MID 1160350 S
6.50	70	31	MID 1160360	MID 1160360 S
6.60	70	31	MID 1160370	MID 1160370 S
6.70	70	31	MID 1160380	MID 1160380 S
6.80	74	34	MID 1160390	MID 1160390 S
6.90	74	34	MID 1160400	MID 1160400 S
7.00	74	34	MID 1160410	MID 1160410 S
7.50	74	34	MID 1160420	MID 1160420 S
8.00	79	37	MID 1160430	MID 1160430 S
8.50	79	37	MID 1160440	MID 1160440 S
9.00	84	40	MID 1160450	MID 1160450 S
9.50	84	40	MID 1160460	MID 1160460 S
10.00	89	43	MID 1160470	MID 1160470 S
12.00	102	51	MID 1160480	MID 1160480 S
14.00	107	54	MID 1160490	MID 1160490 S

On request: coating • out of range • other sizes
Su richiesta: ricoperture • esecuzione speciale • diametri intermedi

Application groups • Applicazioni



MID 124

TWIST DRILL
PUNTA ELICOIDALE

S S-TIN

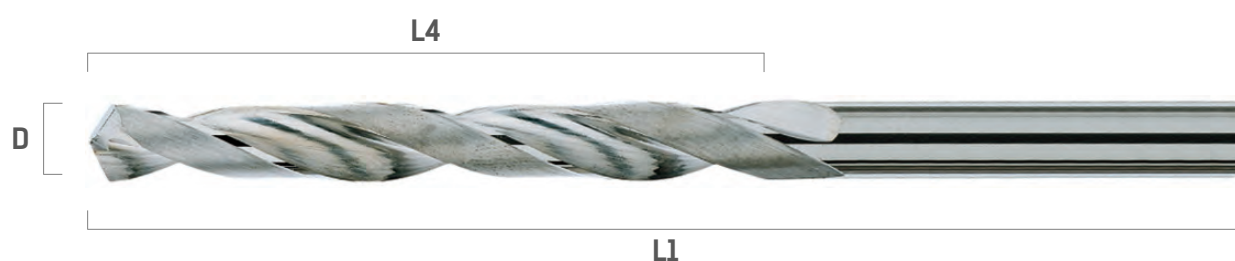


Solid carbide grades: 10% Co Micro grain

Application groups: steel, steel-alloys,
non-ferrous metals, cast iron.

Metallo duro: 10% Co micrograna

Applicazioni: Impiego universale, acciaio, acciaio legato,
materiali non ferrosi, ghisa.



D h6	L1	L4	UNCOATED	S-TIN
0.70	28	9	MID 1240010	
0.80	30	10	MID 1240020	
0.90	32	11	MID 1240030	
1.00	34	12	MID 1240040	
1.10	36	14	MID 1240050	
1.20	38	16	MID 1240060	
1.30	38	16	MID 1240070	
1.40	40	18	MID 1240080	
1.50	40	18	MID 1240090	
1.60	43	20	MID 1240100	
1.70	43	20	MID 1240110	
1.80	46	22	MID 1240120	
1.90	46	22	MID 1240130	
2.00	49	24	MID 1240140	MID 1240140 S
2.10	49	24	MID 1240150	MID 1240150 S
2.20	53	27	MID 1240160	MID 1240160 S
2.30	53	27	MID 1240170	MID 1240170 S
2.40	57	30	MID 1240180	MID 1240180 S
2.50	57	30	MID 1240190	MID 1240190 S
2.60	57	30	MID 1240200	MID 1240200 S
2.70	61	33	MID 1240210	MID 1240210 S
2.80	61	33	MID 1240220	MID 1240220 S
2.90	61	33	MID 1240230	MID 1240230 S
3.00	61	33	MID 1240240	MID 1240240 S
3.10	65	36	MID 1240250	MID 1240250 s
3.20	65	36	MID 1240260	MID 1240260 S

MID 124

D h6	L1	L4	UNCOATED	S-TIN
3.30	65	36	MID 1240270	MID 1240270 S
3.40	70	39	MID 1240280	MID 1240280 S
3.50	70	39	MID 1240290	MID 1240290 S
3.60	70	39	MID 1240300	MID 1240300 S
3.70	70	30	MID 1240310	MID 1240310 S
3.80	75	43	MID 1240320	MID 1240320 S
3.90	75	43	MID 1240330	MID 1240330 S
4.00	75	43	MID 1240340	MID 1240340 S
4.10	75	43	MID 1240350	MID 1240350 S
4.20	75	43	MID 1240360	MID 1240360 S
4.30	80	47	MID 1240370	MID 1240370 S
4.40	80	47	MID 1240380	MID 1240380 S
4.50	80	47	MID 1240390	MID 1240390 S
4.60	80	47	MID 1240400	MID 1240400 S
4.70	80	47	MID 1240410	MID 1240410 S
4.80	86	52	MID 1240420	MID 1240420 S
4.90	86	52	MID 1240430	MID 1240430 S
5.00	86	52	MID 1240440	MID 1240440 S
5.10	86	52	MID 1240450	MID 1240450 S
5.20	86	52	MID 1240460	MID 1240460 S
5.30	86	52	MID 1240470	MID 1240470 S
5.40	93	57	MID 1240480	MID 1240480 S
5.50	93	57	MID 1240490	MID 1240490 S
5.60	93	57	MID 1240500	MID 1240500 S
5.70	93	57	MID 1240510	MID 1240510 S
5.80	93	57	MID 1240520	MID 1240520 S
5.90	93	57	MID 1240530	MID 1240530 S
6.00	93	57	MID 1240540	MID 1240540 S
6.10	101	63	MID 1240550	MID 1240550 S
6.20	101	63	MID 1240560	MID 1240560 S
6.30	101	63	MID 1240570	MID 1240570 S
6.40	101	63	MID 1240580	MID 1240580 S
6.50	101	63	MID 1240590	MID 1240590 S
6.60	101	63	MID 1240600	MID 1240600 S
6.70	101	63	MID 1240610	MID 1240610 S
6.80	109	69	MID 1240620	MID 1240620 S
6.90	109	69	MID 1240630	MID 1240630 S
7.00	109	69	MID 1240640	MID 1240640 S
7.10	109	69	MID 1240650	MID 1240650 S
7.20	109	69	MID 1240660	MID 1240660 S
7.30	109	69	MID 1240670	MID 1240670 S
7.40	109	69	MID 1240680	MID 1240680 S
7.50	109	69	MID 1240690	MID 1240690 S

MID 124

D h6	L1	L4	UNCOATED	S-TIN
7.60	117	75	MID 1240700	MID 1240700 S
7.70	117	75	MID 1240710	MID 1240710 S
7.80	117	75	MID 1240720	MID 1240720 S
7.90	117	75	MID 1240730	MID 1240730 S
8.00	117	75	MID 1240740	MID 1240740 S
8.10	117	75	MID 1240750	MID 1240750 S
8.20	117	75	MID 1240760	MID 1240760 S
8.30	117	75	MID 1240770	MID 1240770 S
8.40	117	75	MID 1240780	MID 1240780 S
8.50	117	75	MID 1240790	MID 1240790 S
8.60	125	81	MID 1240800	MID 1240800 S
8.70	125	81	MID 1240810	MID 1240810 S
8.80	125	81	MID 1240820	MID 1240820 S
8.90	125	81	MID 1240830	MID 1240830 S
9.00	125	81	MID 1240840	MID 1240840 S
9.10	125	81	MID 1240850	MID 1240850 S
9.20	125	81	MID 1240860	MID 1240860 S
9.30	125	81	MID 1240870	MID 1240870 S
9.40	125	81	MID 1240880	MID 1240880 S
9.50	125	81	MID 1240890	MID 1240890 S
9.60	133	87	MID 1240900	MID 1240900 S
9.70	133	87	MID 1240910	MID 1240910 S
9.80	133	87	MID 1240920	MID 1240920 S
9.90	133	87	MID 1240930	MID 1240930 S
10.00	133	87	MID 1240940	MID 1240940 S
10.20	133	87	MID 1240950	MID 1240950 S
10.50	133	87	MID 1240960	MID 1240960 S
10.80	142	94	MID 1240970	MID 1240970 S
11.00	142	94	MID 1240980	MID 1240980 S
11.50	142	94	MID 1240990	MID 1240990 S
11.80	142	94	MID 1241000	MID 1241000 S
12.00	151	101	MID 1241010	MID 1241010 S
12.50	151	101	MID 1241020	MID 1241020 S
13.00	151	101	MID 1241030	MID 1241030 S
13.50	160	108	MID 1241040	MID 1241040 S
14.00	160	108	MID 1241050	MID 1241050 S
14.50	160	108	MID 1241060	MID 1241060 S
15.00	169	114	MID 1241070	MID 1241070 S
15.50	178	120	MID 1241080	MID 1241080 S
16.00	178	120	MID 1241090	MID 1241090 S

On request: coating • out of range, other sizes • left hand helix
Su richiesta: ricoperture • esecuzione speciale, diametri intermedi • elica sinistra

Application groups • Applicazioni



MID 132

TWIST DRILL LONG SERIES
PUNTA ELICOIDALE SERIE LUNGA



< 2.00 mm helix 25° pointing 118°

≥ 2.00 mm helix 30° pointing 130°

Solid carbide grades: 10% Co Micro grain

Applicazioni: steel, steel-alloys, non-ferrous metals, cast iron

Nn-continuous feed is suggested

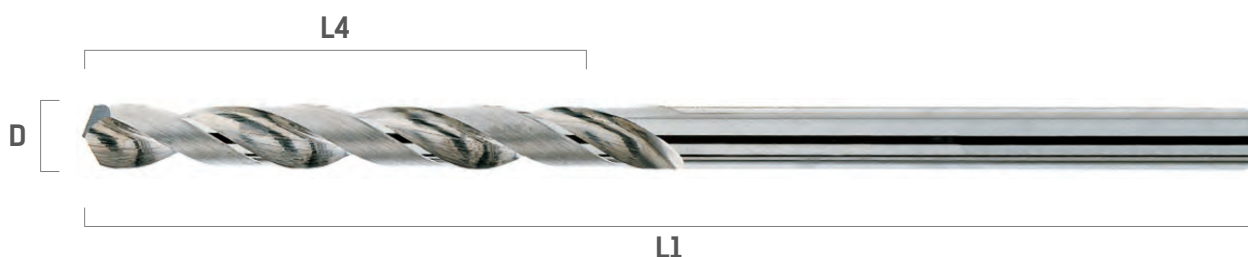
< 2.00 mm spirale 25° affilatura 118°

≥ 2.00mm spirale 30° affilatura 130°

Metallo duro: 10% Co micrograna

Applicazioni: Impiego universale, acciaio - acciaio legato, materiali non ferrosi, ghisa

Ciclo di avanzamento interrotto



D h6	L1	L4	UNCOATED
1.00	75	25	MID 1320010
1.10	75	25	MID 1320020
1.20	75	25	MID 1320030
1.30	75	25	MID 1320040
1.40	75	30	MID 1320050
1.50	75	30	MID 1320060
1.60	75	30	MID 1320070
1.70	75	30	MID 1320080
1.80	75	30	MID 1320090
1.90	75	30	MID 1320100
2.00	75	30	MID 1320110
2.10	75	30	MID 1320120
2.20	75	30	MID 1320130
2.30	75	30	MID 1320140
2.40	100	35	MID 1320150
2.50	100	35	MID 1320160
2.60	100	35	MID 1320170
2.70	100	35	MID 1320180
2.80	100	35	MID 1320190
2.90	100	35	MID 1320200

D h6	L1	L4	UNCOATED
3.00	100	50	MID 1320210
3.10	100	50	MID 1320220
3.20	100	50	MID 1320230
3.30	100	50	MID 1320240
3.40	100	50	MID 1320250
3.50	100	50	MID 1320260
3.60	100	50	MID 1320270
3.70	100	50	MID 1320280
3.80	100	50	MID 1320290
3.90	100	50	MID 1320300
4.00	100	50	MID 1320310
4.10	100	50	MID 1320320
4.20	100	50	MID 1320330
4.30	100	50	MID 1320340
4.40	100	50	MID 1320350
4.50	100	50	MID 1320360
4.60	100	50	MID 1320370
4.70	100	50	MID 1320380
4.80	100	50	MID 1320390
4.90	100	50	MID 1320400

MID 132

D h6	L1	L4	UNCOATED
5.00	150	75	MID 1320410
5.10	150	75	MID 1320420
5.20	150	75	MID 1320430
5.30	150	75	MID 1320440
5.40	150	75	MID 1320450
5.50	150	75	MID 1320460
5.60	150	75	MID 1320470
5.70	150	75	MID 1320480
5.80	150	75	MID 1320490
5.90	150	75	MID 1320500
6.00	150	75	MID 1320510
6.10	150	75	MID 1320520
6.20	150	75	MID 1320530
6.30	150	75	MID 1320540

D h6	L1	L4	UNCOATED
6.40	150	75	MID 1320550
6.50	150	75	MID 1320560
6.60	150	75	MID 1320570
6.70	150	75	MID 1320580
6.80	150	75	MID 1320590
6.90	150	75	MID 1320600
7.00	150	75	MID 1320610
7.50	150	75	MID 1320620
8.00	150	75	MID 1320630
8.50	150	75	MID 1320640
9.00	150	75	MID 1320650
9.50	150	75	MID 1320660
10.00	150	75	MID 1320670
12.00	200	90	MID 1320680

On request: coating • out of range • other sizes
Su richiesta: ricoperture • esecuzione speciale • diametri intermedi

Application groups • Applicazioni



MID 140

TWIST DRILL WITH REINFORCED SHANK 1/100

PUNTA ELICOIDALE CON
GAMBO RINFORZATO 1/100

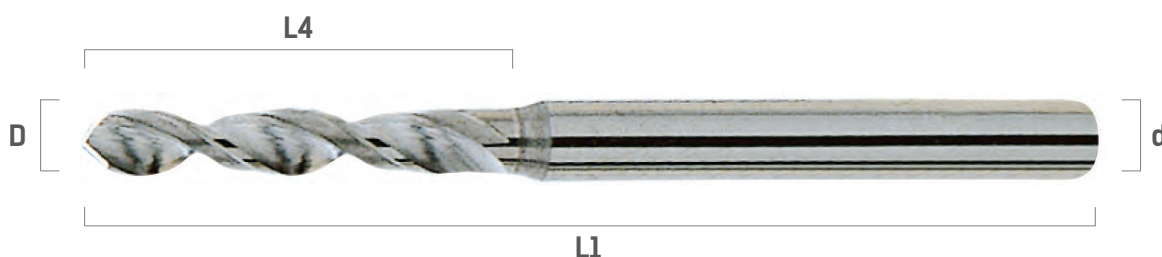


Solid carbide grades: 10% Co Micro grain

Applications: steel, steel-alloys, L non-ferrous metals, aluminium

Metallo duro: 10% Co micrograna

Applicazioni: Acciaio bassa ed alta resistenza, alluminio e metalli non ferrosi



D h6	d h6	L1	L4	UNCOATED
0.15	1	30	1	MID 1400010
0.16	1	30	1	MID 1400020
0.17	1	30	1	MID 1400030
0.18	1	30	1	MID 1400040
0.19	1	30	1	MID 1400050
0.20	1	30	2	MID 1400060
0.21	1	30	2	MID 1400070
0.22	1	30	2	MID 1400080
0.23	1	30	2	MID 1400090
0.24	1	30	2	MID 1400100
0.25	1	30	2	MID 1400110
0.26	1	30	2.5	MID 1400120
0.27	1	30	2.5	MID 1400130
0.28	1	30	2.5	MID 1400140
0.29	1	30	2.5	MID 1400150
0.30	1	30	2.5	MID 1400160
0.31	1	30	3	MID 1400170
0.32	1	30	3	MID 1400180
0.33	1	30	3	MID 1400190
0.34	1	30	3	MID 1400200
0.35	1	30	4	MID 1400210
0.36	1	30	4	MID 1400220

MID 140

D h6	d h6	L1	L4	UNCOATED
0.37	1	30	4	MID 1400230
0.38	1	30	4	MID 1400240
0.39	1	30	4	MID 1400250
0.40	1	30	4	MID 1400260
0.41	1	30	4	MID 1400270
0.42	1	30	4	MID 1400280
0.43	1	30	4	MID 1400290
0.44	1	30	4	MID 1400300
0.45	1	30	6	MID 1400310
0.46	1	30	6	MID 1400320
0.47	1	30	6	MID 1400330
0.48	1	30	6	MID 1400340
0.49	1	30	6	MID 1400350
0.50	1	30	6	MID 1400360
0.51	1	30	6	MID 1400370
0.52	1	30	6	MID 1400380
0.53	1	30	6	MID 1400390
0.54	1	30	6	MID 1400400
0.55	1	30	6	MID 1400410
0.56	1	30	6	MID 1400420
0.57	1	30	6	MID 1400430
0.58	1	30	6	MID 1400440
0.59	1	30	6	MID 1400450
0.60	1	30	6	MID 1400460
0.61	1	30	6	MID 1400470
0.62	1	30	6	MID 1400480
0.63	1	30	6	MID 1400490
0.64	1	30	6	MID 1400500
0.65	1	30	7	MID 1400510
0.66	1	30	7	MID 1400520
0.67	1	30	7	MID 1400530
0.68	1	30	7	MID 1400540
0.69	1	30	7	MID 1400550
0.70	1	30	7	MID 1400560
0.71	1	30	7	MID 1400570
0.72	1	30	7	MID 1400580
0.73	1	30	7	MID 1400590
0.74	1	30	7	MID 1400600
0.75	1	30	8	MID 1400610
0.76	1	30	8	MID 1400620
0.77	1	30	8	MID 1400630
0.78	1	30	8	MID 1400640
0.79	1	30	8	MID 1400650

MID 140

D h6	d h6	L1	L4	UNCOATED
0.80	1.5	30	8	MID 1400660
0.81	1.5	30	8	MID 1400670
0.82	1.5	30	8	MID 1400680
0.83	1.5	30	8	MID 1400690
0.84	1.5	30	8	MID 1400700
0.85	1.5	30	8	MID 1400710
0.86	1.5	30	8	MID 1400720
0.87	1.5	30	8	MID 1400730
0.88	1.5	30	8	MID 1400740
0.89	1.5	30	8	MID 1400750
0.90	1.5	30	8	MID 1400760
0.91	1.5	30	8	MID 1400770
0.92	1.5	30	8	MID 1400780
0.93	1.5	30	8	MID 1400790
0.94	1.5	30	8	MID 1400800
0.95	1.5	30	10	MID 1400810
0.96	1.5	30	10	MID 1400820
0.97	1.5	30	10	MID 1400830
0.98	1.5	30	10	MID 1400840
0.99	1.5	30	10	MID 1400850
1.00	1.5	30	10	MID 1400860
1.01	1.5	30	10	MID 1400870
1.02	1.5	30	10	MID 1400880
1.03	1.5	30	10	MID 1400890
1.04	1.5	30	10	MID 1400900
1.05	1.5	30	10	MID 1400910
1.06	1.5	30	10	MID 1400920
1.07	1.5	30	10	MID 1400930
1.08	1.5	30	10	MID 1400940
1.09	1.5	30	10	MID 1400950
1.10	1.5	30	10	MID 1400960
1.11	1.5	30	10	MID 1400970
1.12	1.5	30	10	MID 1400980
1.13	1.5	30	10	MID 1400990
1.14	1.5	30	10	MID 1401000
1.15	1.5	30	12	MID 1401010
1.16	1.5	30	12	MID 1401020
1.17	1.5	30	12	MID 1401030
1.18	1.5	30	12	MID 1401040
1.19	1.5	30	12	MID 1401050
1.20	1.5	30	12	MID 1401060
1.21	1.5	30	12	MID 1401070
1.22	1.5	30	12	MID 1401080

MID 140

D h6	d h6	L1	L4	UNCOATED
1.23	1.5	30	12	MID 1401090
1.24	1.5	30	12	MID 1401100
1.25	1.5	30	12	MID 1401110
1.26	1.5	30	12	MID 1401120
1.27	1.5	30	12	MID 1401130
1.28	1.5	30	12	MID 1401140
1.29	1.5	30	12	MID 1401150
1.30	1.5	30	12	MID 1401160
1.31	1.5	30	12	MID 1401170
1.32	1.5	30	12	MID 1401180
1.33	1.5	30	12	MID 1401190
1.34	1.5	30	12	MID 1401200
1.35	1.5	30	12	MID 1401210
1.36	1.5	30	12	MID 1401220
1.37	1.5	30	12	MID 1401230
1.38	1.5	30	12	MID 1401240
1.39	1.5	30	12	MID 1401250
1.40	1.5	30	12	MID 1401260
1.41	1.5	30	12	MID 1401270
1.42	1.5	30	12	MID 1401280
1.43	1.5	30	12	MID 1401290
1.44	1.5	30	12	MID 1401300
1.45	1.5	30	12	MID 1401310
1.46	1.5	30	12	MID 1401320
1.47	1.5	30	12	MID 1401330
1.48	1.5	30	12	MID 1401340
1.49	1.5	30	12	MID 1401350
1.50	2	30	12	MID 1401360
1.51	2	30	12	MID 1401370
1.52	2	30	12	MID 1401380
1.53	2	30	12	MID 1401390
1.54	2	30	12	MID 1401400
1.55	2	30	12	MID 1401410
1.56	2	30	12	MID 1401420
1.57	2	30	12	MID 1401430
1.58	2	30	12	MID 1401440
1.59	2	30	12	MID 1401450
1.60	2	30	12	MID 1401460
1.61	2	30	12	MID 1401470
1.62	2	30	12	MID 1401480
1.63	2	30	12	MID 1401490
1.64	2	30	12	MID 1401500
1.65	2	30	12	MID 1401510

MID 140

D h6	d h6	L1	L4	UNCOATED
1.66	2	30	12	MID 1401520
1.67	2	30	12	MID 1401530
1.68	2	30	12	MID 1401540
1.69	2	30	12	MID 1401550
1.70	2	30	12	MID 1401560
1.71	2	30	12	MID 1401570
1.72	2	30	12	MID 1401580
1.73	2	30	12	MID 1401590
1.74	2	30	12	MID 1401600
1.75	2	30	12	MID 1401610
1.76	2	30	12	MID 1401620
1.77	2	30	12	MID 1401630
1.78	2	30	12	MID 1401640
1.79	2	30	12	MID 1401650
1.80	2	30	12	MID 1401660
1.81	2	30	12	MID 1401670
1.82	2	30	12	MID 1401680
1.83	2	30	12	MID 1401690
1.84	2	30	12	MID 1401700
1.85	2	30	12	MID 1401710
1.86	2	30	12	MID 1401720
1.87	2	30	12	MID 1401730
1.88	2	30	12	MID 1401740
1.89	2	30	12	MID 1401750
1.90	2	30	12	MID 1401760
1.91	2	30	12	MID 1401770
1.92	2	30	12	MID 1401780
1.93	2	30	12	MID 1401790
1.94	2	30	12	MID 1401800
1.95	2	30	12	MID 1401810
1.96	2	30	12	MID 1401820
1.97	2	30	12	MID 1401830
1.98	2	30	12	MID 1401840
1.99	2	30	12	MID 1401850
2.00	2.5	30	12	MID 1401860

On request: coating • left hand helix
Su richiesta: ricoperture • eliche sinistre

Application groups • Applicazioni

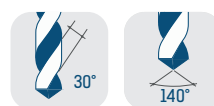


MID 148

STEP DRILL

PUNTA ELICOIDALE A GRADINO

T ALTiSiN

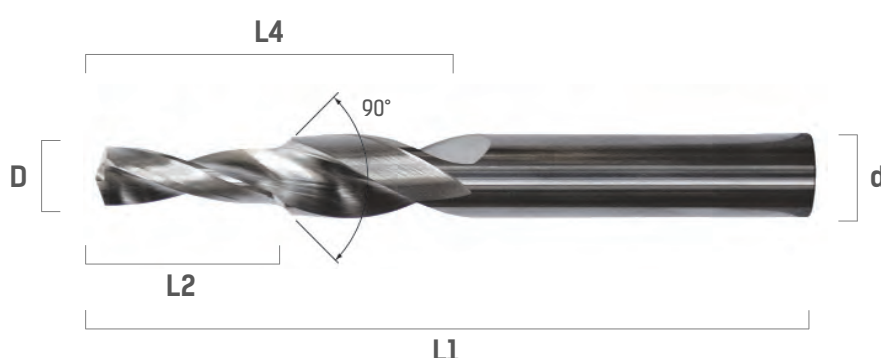


Solid carbide grades: 10% Co Micro grain

Application groups: drilling and countersinking of steel, cast iron and non-ferrous metals

Metallo duro: 10% Co micrograna

Applicazioni: Realizzazioni di fori per le filettature con svasatura per acciaio, ghisa e metalli non ferrosi



	D h8	d h6	L1	L4	L2	UNCOATED	ALTiSiN
M3	2.50	6.00	66	20	9	MID 1480010	MID 1480010 T
M4	3.30	6.00	66	24	10	MID 1480020	MID 1480020 T
M5	4.20	6.00	66	28	11	MID 1480030	MID 1480030 T
M6	5.00	8.00	79	34	12	MID 1480040	MID 1480040 T
M8	6.80	10.00	89	47	14	MID 1480050	MID 1480050 T
M10	8.50	12.00	102	55	16	MID 1480060	MID 1480060 T
M12	10.20	14.00	107	60	16	MID 1480070	MID 1480070 T
M14	12.00	16.00	115	65	18	MID 1480080	MID 1480080 T
M16	14.00	18.00	123	73	18	MID 1480090	MID 1480090 T

On request: coating • out of range • other sizes

Su richiesta: rivestimento • esecuzioni speciali • diametri intermedi

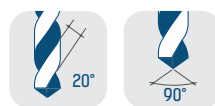
Application groups • Applicazioni



MID 156

CENTER DRILL 90°
PUNTA A CENTRARE 90°

T AlTiSiN

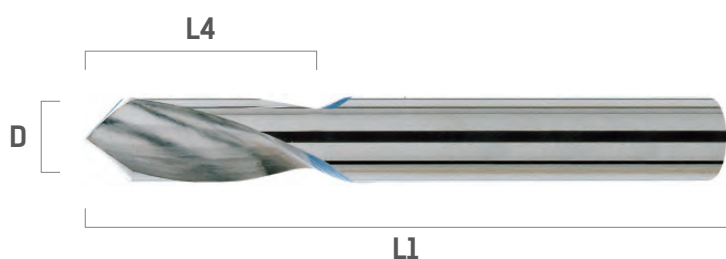


Solid carbide grades: 10% Co Micro grain

Application groups: steel, steel alloys, cast iron, non-ferrous metals

Metallo duro: 10% Co micrograna

Applicazioni: Centatura e svasatura di acciaio-acciaio legato, materiali non ferrosi, ghisa



D h6	L1	L4	UNCOATED	AlTiSiN
3.00	45	12	MID 1560010	MID 1560010 T
4.00	50	15	MID 1560020	MID 1560020 T
5.00	50	18	MID 1560030	MID 1560030 T
6.00	50	21	MID 1560040	MID 1560040 T
8.00	60	25	MID 1560050	MID 1560050 T
10.00	70	27	MID 1560060	MID 1560060 T
12.00	70	27	MID 1560070	MID 1560070 T
14.00	75	30	MID 1560080	MID 1560080 T
16.00	75	30	MID 1560090	MID 1560090 T
18.00	100	33	MID 1560100	MID 1560100 T
20.00	100	33	MID 1560110	MID 1560110 T

On request: coating • out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

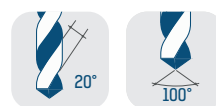
Application groups • Applicazioni



MID 164

CENTER DRILL 100°
PUNTA A CENTRARE 100°

T AlTiSiN

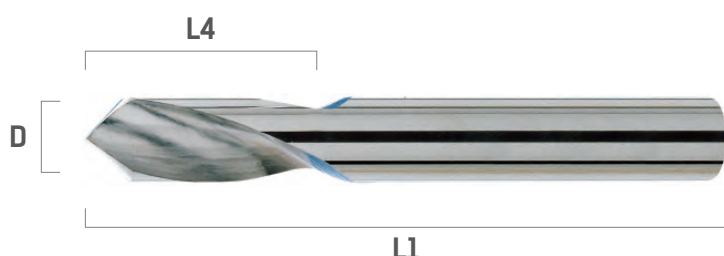


Solid carbide grades: 10% Co Micro grain

Application groups: steel, steel alloys, cast iron, non-ferrous metals

Metallo duro: 10% Co micrograna

Applicazioni: Centratrice e svasatura di acciaio-acciaio legato, materiali non ferrosi, ghisa



D h6	L1	L4	UNCOATED	AlTiSiN
6.00	50	21	MID 1640010	MID 1640010 T
8.00	60	25	MID 1640020	MID 1640020 T
10.00	70	27	MID 1640030	MID 1640030 T
12.00	70	27	MID 1640040	MID 1640040 T
16.00	75	30	MID 1640050	MID 1640050 T

On request: coating • out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

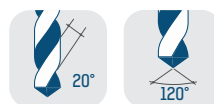
Application groups • Applicazioni



MID 172

CENTER DRILL 120°
PUNTA A CENTRARE 120°

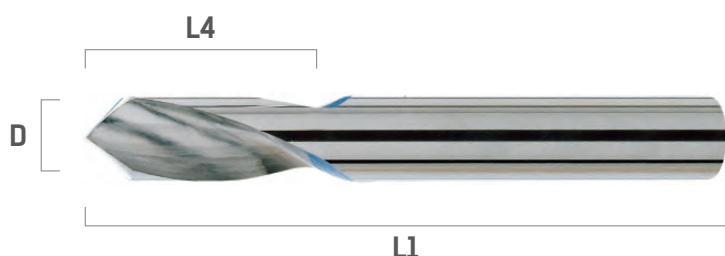
T ALTiSiN



Solid carbide grades: 10% Co Micro grain
Application groups: steel, steel alloys, cast iron, non-ferrous metals

Metallo duro: 10% Co micrograna

Applicazioni: Centatura e svasatura di acciaio-acciaio legato, materiali non ferrosi, ghisa



D h6	L1	L4	UNCOATED	ALTiSiN
3.00	45	12	MID 1720010	MID 1720010 T
4.00	50	15	MID 1720020	MID 1720020 T
5.00	50	18	MID 1720030	MID 1720030 T
6.00	50	21	MID 1720040	MID 1720040 T
8.00	60	25	MID 1720050	MID 1720050 T
10.00	70	27	MID 1720060	MID 1720060 T
12.00	70	27	MID 1720070	MID 1720070 T
14.00	75	30	MID 1720080	MID 1720080 T
16.00	75	30	MID 1720090	MID 1720090 T
18.00	100	33	MID 1720100	MID 1720100 T
20.00	100	33	MID 1720110	MID 1720110 T

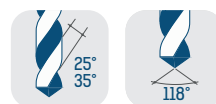
On request: coating • out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni



MID 180

TWIST DRILL PUNTA ELICOIDALE



Ø < 3.00 mm halfdecimal diameters

Ø < 2.00 mm 35° helix

Solid carbide grades: 10% Co Micro grain

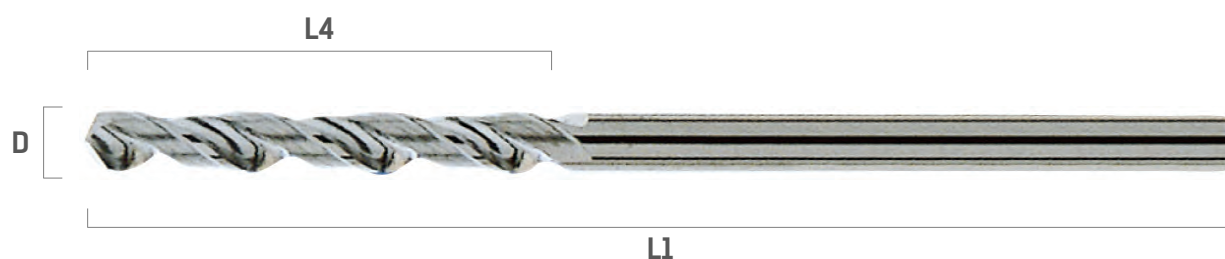
Application groups: Isteel, steel-alloys, non-ferrous metals, aluminium - alloys, brass

Ø < 3.00 mm diametri semidecimali

Ø < 2.00 mm spirale 35° °

Metallo duro: 10% Co micrograna

Applicazioni: Acciaio bassa ed alta resistenza, alluminio, ottone e metalli non ferrosi



D h6	L1	L4	UNCOATED
0.70	30	6	MID 1800010
0.75	30	8	MID 1800020
0.80	30	8	MID 1800030
0.85	30	9	MID 1800040
0.90	30	9	MID 1800050
0.95	30	10	MID 1800060
1.00	30	10	MID 1800070
1.05	30	10	MID 1800080
1.10	30	10	MID 1800090
1.15	30	12	MID 1800100
1.20	30	12	MID 1800110
1.25	30	12	MID 1800120
1.30	30	12	MID 1800130
1.35	30	12	MID 1800140
1.40	30	12	MID 1800150
1.45	30	12	MID 1800160
1.50	30	12	MID 1800170
1.55	40	16	MID 1800180
1.60	40	16	MID 1800190
1.65	40	16	MID 1800200

D h6	L1	L4	UNCOATED
1.70	40	16	MID 1800210
1.75	40	16	MID 1800220
1.80	40	16	MID 1800230
1.85	40	16	MID 1800240
1.90	40	16	MID 1800250
1.95	40	16	MID 1800260
2.00	40	16	MID 1800270
2.05	40	18	MID 1800280
2.10	40	18	MID 1800290
2.15	40	18	MID 1800300
2.20	40	18	MID 1800310
2.25	40	18	MID 1800320
2.30	40	18	MID 1800330
2.35	45	18	MID 1800340
2.40	45	18	MID 1800350
2.45	45	18	MID 1800360
2.50	45	18	MID 1800370
2.55	45	18	MID 1800380
2.60	45	18	MID 1800390
2.65	45	18	MID 1800400

MID 180

D h6	L1	L4	UNCOATED
2.70	45	18	MID 1800410
2.75	45	18	MID 1800420
2.80	45	18	MID 1800430
2.85	45	18	MID 1800440
2.90	45	18	MID 1800450
2.95	45	18	MID 1800460
3.00	45	18	MID 1800470
3.10	50	20	MID 1800480
3.15	50	20	MID 1800490
3.20	50	20	MID 1800500
3.30	50	20	MID 1800510
3.40	50	20	MID 1800520
3.50	50	20	MID 1800530
3.60	50	20	MID 1800540
3.70	50	20	MID 1800550
3.80	50	20	MID 1800560
3.90	50	20	MID 1800570
4.00	50	20	MID 1800580
4.10	50	25	MID 1800590

D h6	L1	L4	UNCOATED
4.20	50	25	MID 1800600
4.30	50	25	MID 1800610
4.40	50	25	MID 1800620
4.50	50	25	MID 1800630
4.60	50	25	MID 1800640
4.70	50	25	MID 1800650
4.80	50	25	MID 1800660
4.90	50	25	MID 1800670
5.00	50	25	MID 1800680
5.10	50	25	MID 1800690
5.20	50	25	MID 1800700
5.30	50	25	MID 1800710
5.40	50	25	MID 1800720
5.50	50	25	MID 1800730
5.60	50	25	MID 1800740
5.70	50	25	MID 1800750
5.80	50	25	MID 1800760
5.90	50	25	MID 1800770
6.00	50	25	MID 1800780

On request: out of range • other sizes
Su richiesta: ricoperture • esecuzione speciale • diametri intermedi

Application groups • Applicazioni

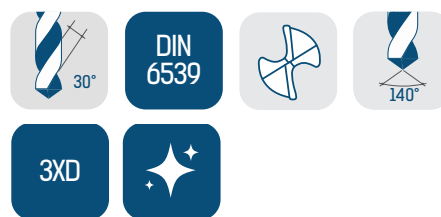
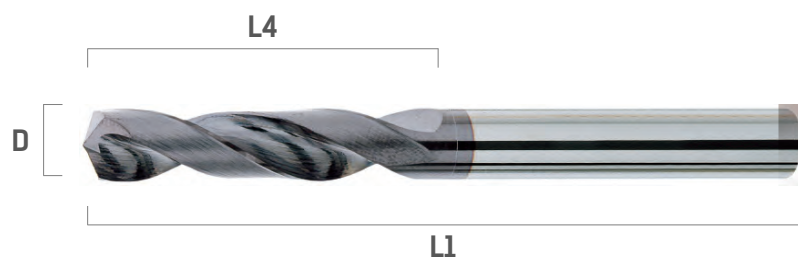


MID 204

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL

PUNTA ELICOIDALE AD ALTE PRESTAZIONI

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

Flute geometry: special execution

Application groups: steel, cast steel,
heatresisting steel, non-ferrous metals,
aluminium, Cr-Ni-alloys,
titanium alloys

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali
non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	L1	L4	AlTiSiN
2.80	46	16	MID 2040010 T
2.90	46	16	MID 2040020 T
3.00	46	16	MID 2040030 T
3.10	49	18	MID 2040040 T
3.20	49	18	MID 2040050 T
3.30	49	18	MID 2040060 T
3.40	52	20	MID 2040070 T
3.50	52	20	MID 2040080 T
3.60	52	20	MID 2040090 T
3.70	52	20	MID 2040100 T
3.80	55	22	MID 2040110 T
3.90	55	22	MID 2040120 T
4.00	55	22	MID 2040130 T
4.10	55	22	MID 2040140 T
4.20	55	22	MID 2040150 T
4.30	58	24	MID 2040160 T
4.40	58	24	MID 2040170 T
4.50	58	24	MID 2040180 T
4.60	58	24	MID 2040190 T
4.70	58	24	MID 2040200 T

D m7	L1	L4	AlTiSiN
4.80	62	26	MID 2040210 T
4.90	62	26	MID 2040220 T
5.00	62	26	MID 2040230 T
5.10	62	26	MID 2040240 T
5.20	62	26	MID 2040250 T
5.30	62	26	MID 2040260 T
5.40	66	28	MID 2040270 T
5.50	66	28	MID 2040280 T
5.60	66	28	MID 2040290 T
5.70	66	28	MID 2040300 T
5.80	66	28	MID 2040310 T
5.90	66	28	MID 2040320 T
6.00	66	28	MID 2040330 T
6.10	70	31	MID 2040340 T
6.20	70	31	MID 2040350 T
6.30	70	31	MID 2040360 T
6.35	70	31	MID 2040370 T
6.40	70	31	MID 2040380 T
6.50	70	31	MID 2040390 T
6.60	70	31	MID 2040400 T

MID 204

D m7	L1	L4	AlTiSiN
6.70	70	31	MID 2040410 T
6.80	74	34	MID 2040420 T
6.90	74	34	MID 2040430 T
7.00	74	34	MID 2040440 T
7.10	74	34	MID 2040450 T
7.20	74	34	MID 2040460 T
7.30	74	34	MID 2040470 T
7.40	74	34	MID 2040480 T
7.50	74	34	MID 2040490 T
7.60	79	37	MID 2040500 T
7.70	79	37	MID 2040510 T
7.80	79	37	MID 2040520 T
7.90	79	37	MID 2040530 T
8.00	79	37	MID 2040540 T
8.10	79	37	MID 2040550 T
8.20	79	37	MID 2040560 T
8.30	79	37	MID 2040570 T
8.40	79	37	MID 2040580 T
8.50	79	37	MID 2040590 T
8.60	84	40	MID 2040600 T
8.70	84	40	MID 2040610 T
8.80	84	40	MID 2040620 T
8.90	84	40	MID 2040630 T
9.00	84	40	MID 2040640 T
9.10	84	40	MID 2040650 T
9.20	84	40	MID 2040660 T
9.30	84	40	MID 2040670 T

D m7	L1	L4	AlTiSiN
9.40	84	40	MID 2040680 T
9.50	84	40	MID 2040690 T
9.60	89	43	MID 2040700 T
9.70	89	43	MID 2040710 T
9.80	89	43	MID 2040720 T
9.90	89	43	MID 2040730 T
10.00	89	43	MID 2040740 T
10.10	89	43	MID 2040750 T
10.20	89	43	MID 2040760 T
10.50	89	43	MID 2040770 T
10.80	95	47	MID 2040780 T
11.00	95	47	MID 2040790 T
11.50	95	47	MID 2040800 T
12.00	102	51	MID 2040810 T
12.50	102	51	MID 2040820 T
13.00	102	51	MID 2040830 T
13.50	107	54	MID 2040840 T
14.00	107	54	MID 2040850 T
14.50	111	56	MID 2040860 T
15.00	111	56	MID 2040870 T
15.50	115	58	MID 2040880 T
16.00	115	58	MID 2040890 T
18.00	123	62	MID 2040900 T
20.00	131	66	MID 2040910 T

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

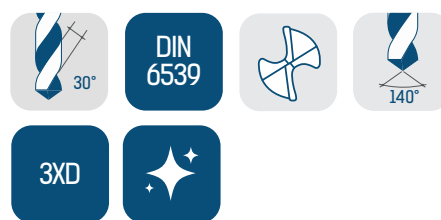
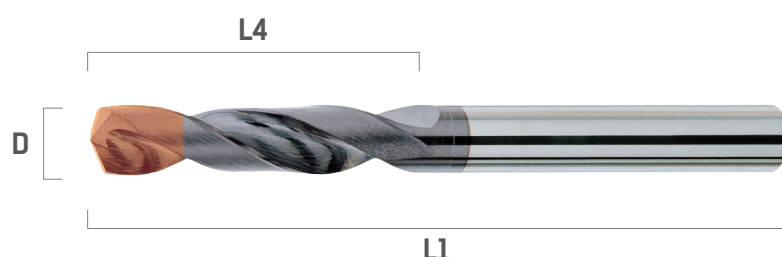


MID 208

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL

PUNTA ELICOIDALE AD ALTE PRESTAZIONI CON
RIVESTIMENTO MULTIFUNZIONALE

C T2C Plus



Solid carbide grades: 10% Co Micro grain

Flute geometry: special execution

Application groups: steel, cast steel,
heatresisting steel, non-ferrous metals,
aluminium, Cr-Ni-alloys, titanium alloys

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali
non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	L1	L4	T2C Plus
2.80	46	16	MID 2080010 C
2.90	46	16	MID 2080020 C
3.00	46	16	MID 2080030 C
3.10	49	18	MID 2080040 C
3.20	49	18	MID 2080050 C
3.30	49	18	MID 2080060 C
3.40	52	20	MID 2080070 C
3.50	52	20	MID 2080080 C
3.60	52	20	MID 2080090 C
3.70	52	20	MID 2080100 C
3.80	55	22	MID 2080110 C
3.90	55	22	MID 2080120 C
4.00	55	22	MID 2080130 C
4.10	55	22	MID 2080140 C
4.20	55	22	MID 2080150 C
4.30	58	24	MID 2080160 C
4.40	58	24	MID 2080170 C
4.50	58	24	MID 2080180 C
4.60	58	24	MID 2080190 C
4.70	58	24	MID 2080200 C

D m7	L1	L4	T2C Plus
4.80	62	26	MID 2080210 C
4.90	62	26	MID 2080220 C
5.00	62	26	MID 2080230 TC
5.10	62	26	MID 2080240 C
5.20	62	26	MID 2080250 C
5.30	62	26	MID 2080260 C
5.40	66	28	MID 2080270 C
5.50	66	28	MID 2080280 C
5.60	66	28	MID 2080290 C
5.70	66	28	MID 2080300 C
5.80	66	28	MID 2080310 C
5.90	66	28	MID 2080320 C
6.00	66	28	MID 2080330 C
6.10	70	31	MID 2080340 C
6.20	70	31	MID 2080350 C
6.30	70	31	MID 2080360 C
6.35	70	31	MID 2080370 C
6.40	70	31	MID 2080380 C
6.50	70	31	MID 2080390 C
6.60	70	31	MID 2080400 C

MID 208

D m7	L1	L4	T2C Plus
6.70	70	31	MID 2080410 C
6.80	74	34	MID 2080420 C
6.90	74	34	MID 2080430 C
7.00	74	34	MID 2080440 C
7.10	74	34	MID 2080450 C
7.20	74	34	MID 2080460 C
7.30	74	34	MID 2080470 C
7.40	74	34	MID 2080480 C
7.50	74	34	MID 2080490 C
7.60	79	37	MID 2080500 C
7.70	79	37	MID 2080510 C
7.80	79	37	MID 2080520 C
7.90	79	37	MID 2080530 C
8.00	79	37	MID 2080540 C
8.10	79	37	MID 2080550 C
8.20	79	37	MID 2080560 C
8.30	79	37	MID 2080570 C
8.40	79	37	MID 2080580 C
8.50	79	37	MID 2080590 C
8.60	84	40	MID 2080600 C
8.70	84	40	MID 2080610 C
8.80	84	40	MID 2080620 C
8.90	84	40	MID 2080630 C
9.00	84	40	MID 2080640 C
9.10	84	40	MID 2080650 C
9.20	84	40	MID 2080660 C
9.30	84	40	MID 2080670 C

D m7	L1	L4	T2C Plus
9.40	84	40	MID 2080680 C
9.50	84	40	MID 2080690 C
9.60	89	43	MID 2080700 C
9.70	89	43	MID 2080710 C
9.80	89	43	MID 2080720 C
9.90	89	43	MID 2080730 C
10.00	89	43	MID 2080740 C
10.10	89	43	MID 2080750 C
10.20	89	43	MID 2080760 C
10.50	89	43	MID 2080770 C
10.80	95	47	MID 2080780 C
11.00	95	47	MID 2080790 C
11.50	95	47	MID 2080800 C
12.00	102	51	MID 2080810 C
12.50	102	51	MID 2080820 C
13.00	102	51	MID 2080830 C
13.50	107	54	MID 2080840 C
14.00	107	54	MID 2080850 C
14.50	111	56	MID 2080860 C
15.00	111	56	MID 2080870 C
15.50	115	58	MID 2080880 C
16.00	115	58	MID 2080890 C
18.00	123	62	MID 2080900 C
20.00	131	66	MID 2080910 C

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

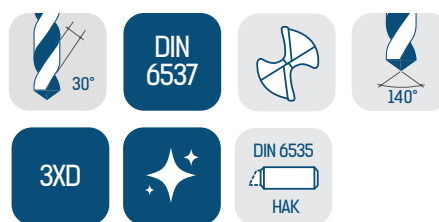
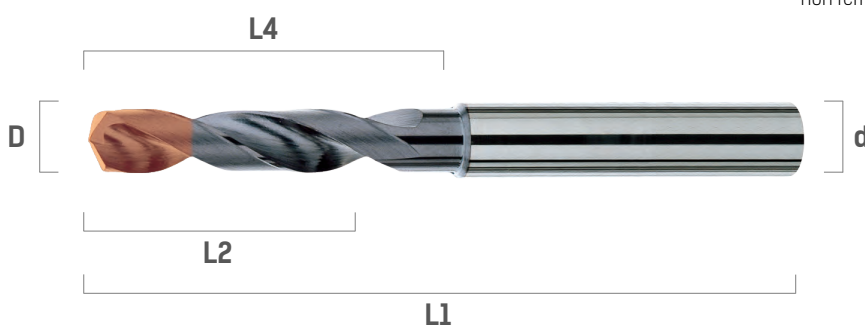


MID 216

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON RIVESTIMENTO MULTIFUNZIONALE

C T2C Plus



Solid carbide grades: 10% Co Micro grain

Flute geometry: special execution

Application groups: steel, cast steel,
heatresisting steel, non-ferrous metals,
aluminium, Cr-Ni-alloys, titanium alloys

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali
non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	d h6	L1	L4	L2	T2C Plus
2.50	6.00	62	20	14	MID 2160010 C
2.80	6.00	62	20	14	MID 2160020 C
3.00	6.00	62	20	14	MID 2160030 C
3.10	6.00	62	20	14	MID 2160040 C
3.20	6.00	62	20	14	MID 2160050 C
3.30	6.00	62	20	14	MID 2160060 C
3.40	6.00	62	20	14	MID 2160070 C
3.50	6.00	62	20	14	MID 2160080 C
3.60	6.00	62	20	17	MID 2160090 C
3.70	6.00	62	20	17	MID 2160100 C
3.80	6.00	66	24	17	MID 2160110 C
3.90	6.00	66	24	17	MID 2160120 C
4.00	6.00	66	24	17	MID 2160130 C
4.10	6.00	66	24	17	MID 2160140 C
4.20	6.00	66	24	17	MID 2160150 C
4.30	6.00	66	24	17	MID 2160160 C
4.40	6.00	66	24	17	MID 2160170 C
4.50	6.00	66	24	17	MID 2160180 C
4.60	6.00	66	24	20	MID 2160190 C
4.70	6.00	66	24	20	MID 2160200 C
4.80	6.00	66	28	20	MID 2160210 C
4.90	6.00	66	28	20	MID 2160220 C

MID 216

D m7	d h6	L1	L4	L2	T2C Plus
5.00	6.00	66	28	20	MID 2160230 C
5.10	6.00	66	28	20	MID 2160240 C
5.20	6.00	66	28	20	MID 2160250 C
5.30	6.00	66	28	20	MID 2160260 C
5.40	6.00	66	28	20	MID 2160270 C
5.50	6.00	66	28	20	MID 2160280 C
5.60	6.00	66	28	20	MID 2160290 C
5.70	6.00	66	28	20	MID 2160300 C
5.80	6.00	66	28	20	MID 2160310 C
5.90	6.00	66	28	20	MID 2160320 C
6.00	6.00	79	28	20	MID 2160330 C
6.30	8.00	79	34	24	MID 2160340 C
6.50	8.00	79	34	24	MID 2160350 C
6.80	8.00	79	34	24	MID 2160360 C
7.00	8.00	79	34	24	MID 2160370 C
7.50	8.00	79	41	29	MID 2160380 C
7.80	8.00	79	41	29	MID 2160390 C
8.00	8.00	79	41	29	MID 2160400 C
8.50	10.00	89	47	35	MID 2160410 C
8.80	10.00	89	47	35	MID 2160420 C
9.00	10.00	89	47	35	MID 2160430 C
9.20	10.00	89	47	35	MID 2160440 C
9.50	10.00	89	47	35	MID 2160450 C
9.80	10.00	89	47	35	MID 2160460 C
10.00	10.00	89	47	35	MID 2160470 C
10.20	12.00	102	55	40	MID 2160480 C
10.50	12.00	102	55	40	MID 2160490 C
10.80	12.00	102	55	40	MID 2160500 C
11.00	12.00	102	55	40	MID 2160510 C
11.50	12.00	102	55	40	MID 2160520 C
11.80	12.00	102	55	40	MID 2160530 C
12.00	12.00	102	55	40	MID 2160540 C
12.50	14.00	107	60	43	MID 2160550 C
12.80	14.00	107	60	43	MID 2160560 C
13.00	14.00	107	60	43	MID 2160570 C
13.50	14.00	107	60	43	MID 2160580 C
14.00	14.00	107	60	43	MID 2160590 C

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

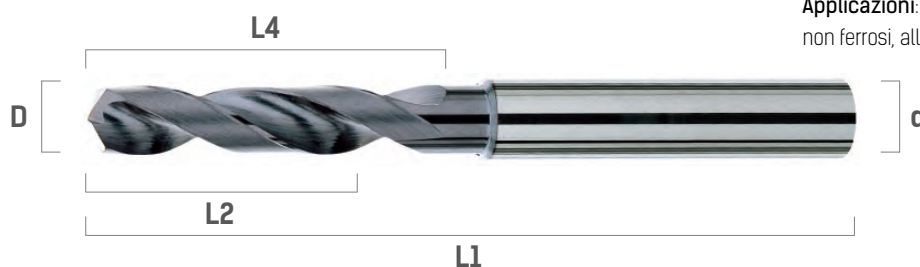


MID 220

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL

PUNTA ELICOIDALE AD ALTE PRESTAZIONI

T AlTiSiN



Shank DIN 6535 HA • **Max. drill depth** up to 5 x d

Solid carbide grades: 10% Co Micro grain

Flute geometry: special point flute execution

Application groups: steel, cast steel, heatresisting steel, non-ferrous metals, aluminium, Cr-Ni-alloys, titanium alloys

Gambo: DIN 6535 HA • **Max profondità foro:** 5 x d

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	d h6	L1	L4	L2	AlTiSiN
4.00	6.00	74	36	29	MID 2200010 T
4.20	6.00	74	36	29	MID 2200020 T
4.50	6.00	74	36	29	MID 2200030 T
5.00	6.00	82	44	35	MID 2200040 T
5.10	6.00	82	44	35	MID 2200050 T
5.50	6.00	82	44	35	MID 2200060 T
6.00	6.00	82	44	35	MID 2200070 T
6.50	8.00	91	53	43	MID 2200080 T
6.80	8.00	91	53	43	MID 2200090 T
7.00	8.00	91	53	43	MID 2200100 T
7.50	8.00	91	53	43	MID 2200110 T
8.00	8.00	91	53	43	MID 2200120 T
8.50	10.00	103	61	49	MID 2200130 T
8.80	10.00	103	61	49	MID 2200140 T
9.00	10.00	103	61	49	MID 2200150 T
9.50	10.00	103	61	49	MID 2200160 T
10.00	10.00	103	61	49	MID 2200170 T
10.50	12.00	118	71	56	MID 2200180 T
11.00	12.00	118	71	56	MID 2200190 T
12.00	12.00	118	71	56	MID 2200200 T

On request: out of range • other sizes • regrinding tools • shank with side flat
DIN 6535 HE

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento
• attacco DIN 6535 HE

Application groups • Applicazioni

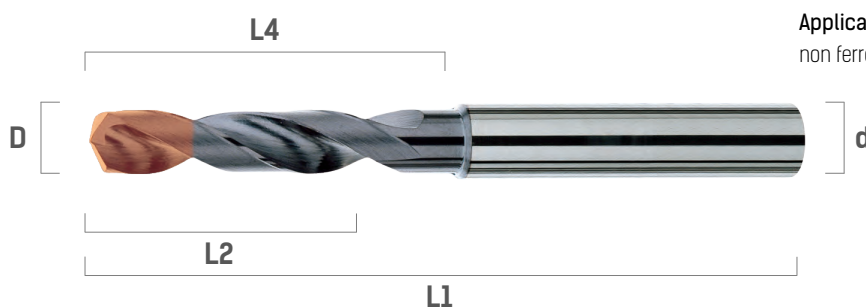


MID 224

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH MULTIFUNCTIONAL COATING

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON RIVESTIMENTO MULTIFUNZIONALE

C T2C Plus



Shank DIN 6535 HA • **Max. drill depth** up to 5 x d

Solid carbide grades: 10% Co Micro grain

Flute geometry: special point flute execution

Application groups: steel, cast steel, heatresisting steel, non-ferrous metals, aluminium, Cr-Ni-alloys, titanium alloys

Gambo: DIN 6535 HA • **Max profondità foro:** 5 x d

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	d h6	L1	L4	L2	T2C Plus
4.00	6.00	74	36	29	MID 2240010 C
4.20	6.00	74	36	29	MID 2240020 C
4.50	6.00	74	36	29	MID 2240030 C
5.00	6.00	82	44	35	MID 2240040 C
5.10	6.00	82	44	35	MID 2240050 C
5.50	6.00	82	44	35	MID 2240060 C
6.00	6.00	82	44	35	MID 2240070 C
6.50	8.00	91	53	43	MID 2240080 C
6.80	8.00	91	53	43	MID 2240090 C
7.00	8.00	91	53	43	MID 2240100 C
7.50	8.00	91	53	43	MID 2240110 C
8.00	8.00	91	53	43	MID 2240120 C
8.50	10.00	103	61	49	MID 2240130 C
8.80	10.00	103	61	49	MID 2240140 C
9.00	10.00	103	61	49	MID 2240150 C
9.50	10.00	103	61	49	MID 2240160 C
10.00	10.00	103	61	49	MID 2240170 C
10.50	12.00	118	71	56	MID 2240180 C
11.00	12.00	118	71	56	MID 2240190 C
12.00	12.00	118	71	56	MID 22402 00 C

On request: out of range • other sizes • regrinding tools • shank with side flat DIN 6535 HE

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento • attacco DIN 6535 HE

Application groups • Applicazioni

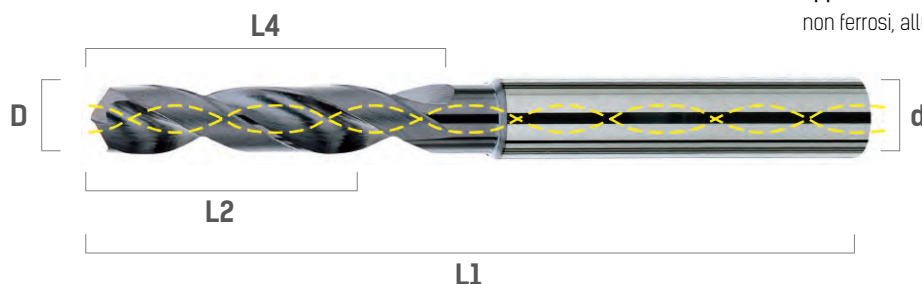


MID 228

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH INTERIOR COOLING SUPPLIES

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Shank DIN 6535 HA, • **Max. drill depth** up to 5 x d

Solid carbide grades: 10% Co Micro grain

Flute geometry: special point flute execution

Application groups: steel, cast steel, heatresisting steel, non-ferrous metals, aluminium, Cr-Ni-alloys, titanium alloys

Gambo: DIN 6535 HA • **Max profondità foro:** 5 x d

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	d h6	L1	L4	L2	AlTiSiN
3.00	6.00	62	20	14	MID 2280010 T
3.10	6.00	62	20	14	MID 2280020 T
3.30	6.00	62	20	14	MID 2280030 T
3.50	6.00	62	20	14	MID 2280040 T
3.70	6.00	62	20	14	MID 2280050 T
3.80	6.00	66	24	17	MID 2280060 T
4.00	6.00	66	24	17	MID 2280070 T
4.20	6.00	66	24	17	MID 2280080 T
4.50	6.00	66	24	17	MID 2280090 T
4.80	6.00	66	28	20	MID 2280100 T
5.00	6.00	66	28	20	MID 2280110 T
5.10	6.00	66	28	20	MID 2280120 T
5.20	6.00	66	28	20	MID 2280130 T
5.50	6.00	66	28	20	MID 2280140 T
5.80	6.00	66	28	20	MID 2280150 T
6.00	6.00	66	28	20	MID 2280160 T
6.30	8.00	79	34	24	MID 2280170 T
6.50	8.00	79	34	24	MID 2280180 T
6.80	8.00	79	34	24	MID 2280190 T
7.00	8.00	79	34	24	MID 2280200 T
7.50	8.00	79	41	29	MID 2280201 T
7.80	8.00	79	41	29	MID 2280202 T

MID 228

D m7	d h6	L1	L4	L2	AlTiSiN
8.00	8.00	79	41	29	MID 2280230 T
8.50	10.00	89	47	35	MID 2280240 T
8.80	10.00	89	47	35	MID 2280250 T
9.00	10.00	89	47	35	MID 2280260 T
9.20	10.00	89	47	35	MID 2280270 T
9.50	10.00	89	47	35	MID 2280280 T
9.80	10.00	89	47	35	MID 2280290 T
10.00	10.00	89	47	35	MID 2280300 T
10.20	12.00	102	55	40	MID 2280310 T
10.50	12.00	102	55	40	MID 2280320 T
10.80	12.00	102	55	40	MID 2280330 T
11.00	12.00	102	55	40	MID 2280340 T
11.50	12.00	102	55	40	MID 2280350 T
11.80	12.00	102	55	40	MID 2280360 T
12.00	12.00	102	55	40	MID 2280370 T
12.50	14.00	107	60	43	MID 2280380 T
12.80	14.00	107	60	43	MID 2280390 T
13.00	14.00	107	60	43	MID 2280400 T
13.50	14.00	107	60	43	MID 2280410 T
14.00	14.00	107	60	43	MID 2280420 T
14.50	16.00	115	65	45	MID 2280430 T
15.00	16.00	115	65	45	MID 2280440 T
15.50	16.00	115	65	45	MID 2280450 T
16.00	16.00	115	65	45	MID 2280460 T
16.50	18.00	123	73	51	MID 2280470 T
17.00	18.00	123	73	51	MID 2280480 T
17.50	18.00	123	73	51	MID 2280490 T
18.00	18.00	123	73	51	MID 2280500 T
20.00	20.00	131	79	55	MID 2280510 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HE

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HE

Application groups • Applicazioni

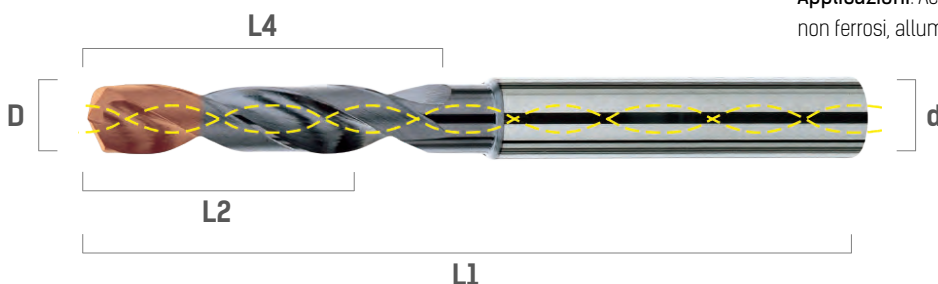


MID 232

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH MULTIFUNCTIONAL COATING

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON RIVESTIMENTO MULTIFUNZIONALE

C T2C Plus



Shank DIN 6535 HA • **Max. drill depth** up to 5 x d

Solid carbide grades: 10% Co Micro grain

Flute geometry: special point flute execution

Application groups: steel, cast steel,
heatresisting steel, non-ferrous metals,
aluminium, Cr-Ni-alloys, titanium alloys

Gambo: DIN 6535 HA • **Max profondità foro:** 5 x d

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Acciaio, ghisa, acciai alta resistenza, materiali
non ferrosi, alluminio, leghe a base di Co e Ni, leghe di titanio

D m7	d h6	L1	L4	L2	T2C Plus
3.00	6.00	62	20	14	MID 2320010 C
3.10	6.00	62	20	14	MID 2320020 C
3.30	6.00	62	20	14	MID 2320030 C
3.50	6.00	62	20	14	MID 2320040 C
3.70	6.00	62	20	14	MID 2320050 C
3.80	6.00	66	24	17	MID 2320060 C
4.00	6.00	66	24	17	MID 2320070 C
4.20	6.00	66	24	17	MID 2320080 C
4.50	6.00	66	24	17	MID 2320090 C
4.80	6.00	66	28	20	MID 2320100 C
5.00	6.00	66	28	20	MID 2320110 C
5.10	6.00	66	28	20	MID 2320120 C
5.20	6.00	66	28	20	MID 2320130 C
5.50	6.00	66	28	20	MID 2320140 C
5.80	6.00	66	28	20	MID 2320150 C
6.00	6.00	66	28	20	MID 2320160 C
6.30	8.00	79	34	24	MID 2320170 C
6.50	8.00	79	34	24	MID 2320180 C
6.80	8.00	79	34	24	MID 2320190 C
7.00	8.00	79	34	24	MID 2320200 C
7.50	8.00	79	41	29	MID 2320201 C
7.80	8.00	79	41	29	MID 2320202 C

MID 232

D m7	d h6	L1	L4	L2	T2C Plus
8.00	8.00	79	41	29	MID 2320230 C
8.50	10.00	89	47	35	MID 2320240 C
8.80	10.00	89	47	35	MID 2320250 C
9.00	10.00	89	47	35	MID 2320260 C
9.20	10.00	89	47	35	MID 2320270 C
9.50	10.00	89	47	35	MID 2320280 C
9.80	10.00	89	47	35	MID 2320290 C
10.00	10.00	89	47	35	MID 2320300 C
10.20	12.00	102	55	40	MID 2320310 C
10.50	12.00	102	55	40	MID 2320320 C
10.80	12.00	102	55	40	MID 2320330 C
11.00	12.00	102	55	40	MID 2320340 C
11.50	12.00	102	55	40	MID 2320350 C
11.80	12.00	102	55	40	MID 2320360 C
12.00	12.00	102	55	40	MID 2320370 C
12.50	14.00	107	60	43	MID 2320380 C
12.80	14.00	107	60	43	MID 2320390 C
13.00	14.00	107	60	43	MID 2320400 T
13.50	14.00	107	60	43	MID 2320410 C
14.00	14.00	107	60	43	MID 2320420 C
14.50	16.00	115	65	45	MID 2320430 C
15.00	16.00	115	65	45	MID 2320440 C
15.50	16.00	115	65	45	MID 2320450 C
16.00	16.00	115	65	45	MID 2320460 C
16.50	18.00	123	73	51	MID 2320470 C
17.00	18.00	123	73	51	MID 2320480 C
17.50	18.00	123	73	51	MID 2320490 C
18.00	18.00	123	73	51	MID 2320500 C
20.00	20.00	131	79	55	MID 2320510 C

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HE

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HE

Application groups • Applicazioni



MID 236

SOLID CARBIDE HIGH PERFORMANCE
TWIST DRILL WITH INTERIOR COOLING
SUPPLIES

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN

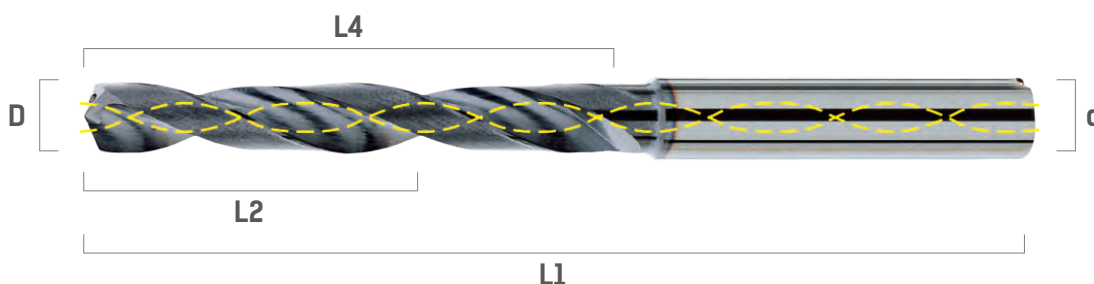


Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
Application groups: steel alloys, short chipping

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Leghe di acciaio, materiali inox



D m7	d h6	L1	L4	L2	AlTiSiN
3.00	6.00	66	28	23	MID 2360010 T
3.10	6.00	66	28	23	MID 2360020 T
3.30	6.00	66	28	23	MID 2360030 T
3.50	6.00	66	28	23	MID 2360040 T
3.70	6.00	66	28	23	MID 2360050 T
3.80	6.00	74	36	29	MID 2360060 T
4.00	6.00	74	36	29	MID 2360070 T
4.20	6.00	74	36	29	MID 2360080 T
4.50	6.00	74	36	29	MID 2360090 T
4.80	6.00	82	44	35	MID 2360100 T
5.00	6.00	82	44	35	MID 2360110 T
5.10	6.00	82	44	35	MID 2360120 T
5.20	6.00	82	44	35	MID 2360130 T
5.50	6.00	82	44	35	MID 2360140 T
5.80	6.00	82	44	35	MID 2360150 T
6.00	6.00	82	44	35	MID 2360160 T
6.30	8.00	91	53	43	MID 2360170 T
6.50	8.00	91	53	43	MID 2360180 T
6.80	8.00	91	53	43	MID 2360190 T
7.00	8.00	91	53	43	MID 2360200 T
7.50	8.00	91	53	43	MID 2360210 T
7.80	8.00	91	53	43	MID 2360220 T

MID 236

D m7	d h6	L1	L4	L2	AlTiSiN
8.00	8.00	91	53	43	MID 2360230 T
8.50	10.00	103	61	49	MID 2360240 T
8.80	10.00	103	61	49	MID 2360250 T
9.00	10.00	103	61	49	MID 2360260 T
9.20	10.00	103	61	49	MID 2360270 T
9.50	10.00	103	61	49	MID 2360280 T
9.80	10.00	103	61	49	MID 2360290 T
10.00	10.00	103	61	49	MID 2360300 T
10.20	12.00	118	71	56	MID 2360310 T
10.50	12.00	118	71	56	MID 2360320 T
10.80	12.00	118	71	56	MID 2360330 T
11.00	12.00	118	71	56	MID 2360340 T
11.50	12.00	118	71	56	MID 2360350 T
11.80	12.00	118	71	56	MID 2360360 T
12.00	12.00	118	71	56	MID 2360370 T
12.30	14.00	124	77	60	MID 2360390 T
12.50	14.00	124	77	60	MID 2360390 T
12.80	14.00	124	77	60	MID 2360400 T
13.00	14.00	124	77	60	MID 2360410 T
13.50	14.00	124	77	60	MID 2360420 T
14.00	14.00	124	77	60	MID 2360430 T
14.50	16.00	133	83	63	MID 2360440 T
15.00	16.00	133	83	63	MID 2360450 T
15.50	16.00	133	83	63	MID 2360460 T
16.00	16.00	133	83	63	MID 2360470 T
16.50	18.00	143	93	71	MID 2360480 T
17.00	18.00	143	93	71	MID 2360490 T
17.50	18.00	143	93	71	MID 2360500 T
18.00	18.00	143	93	71	MID 2360510 T
20.00	20.00	153	101	77	MID 2360520 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni

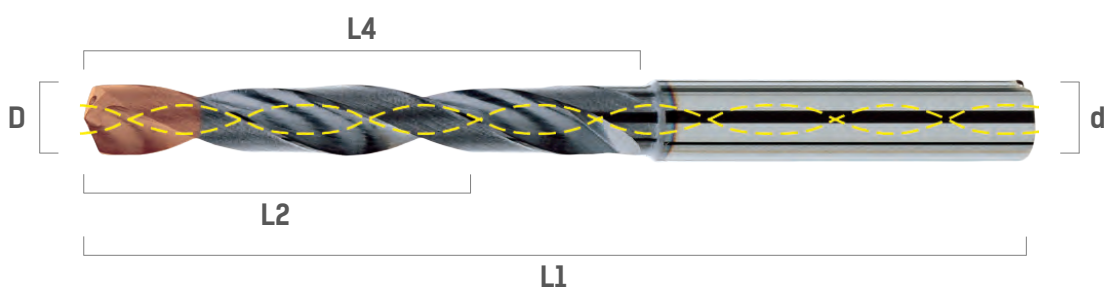


MID 240

SOLID CARBIDE HIGH PERFORMANCE
TWIST DRILL WITH INTERIOR COOLING
SUPPLIES

PUNTA AD ALTE PRESTAZIONI CON FORI DI
LUBRIFICAZIONE

C T2C Plus



Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
Application groups: steel alloys, short chipping

Metallo duro: 10% Co micrograna
Profilo: Geometria speciale
Applicazioni: Leghe di acciaio, materiali inox

D m7	d h6	L1	L4	L2	T2C Plus
3.00	6.00	66	28	23	MID 2400010 C
3.10	6.00	66	28	23	MID 2400020 C
3.30	6.00	66	28	23	MID 2400030 C
3.50	6.00	66	28	23	MID 2400040 C
3.70	6.00	66	28	23	MID 2400050 C
3.80	6.00	74	36	29	MID 2400060 C
4.00	6.00	74	36	29	MID 2400070 C
4.20	6.00	74	36	29	MID 2400080 C
4.50	6.00	74	36	29	MID 2400090 C
4.80	6.00	82	44	35	MID 2400100 C
5.00	6.00	82	44	35	MID 2400110 C
5.10	6.00	82	44	35	MID 2400120 C
5.20	6.00	82	44	35	MID 2400130 C
5.50	6.00	82	44	35	MID 2400140 C
5.80	6.00	82	44	35	MID 2400150 C
6.00	6.00	82	44	35	MID 2400160 C
6.30	8.00	91	53	43	MID 2400170 C
6.50	8.00	91	53	43	MID 2400180 C
6.80	8.00	91	53	43	MID 2400190 C
7.00	8.00	91	53	43	MID 2400200 C
7.50	8.00	91	53	43	MID 2400210 C
7.80	8.00	91	53	43	MID 2400220 C

MID 240

D m7	d h6	L1	L4	L2	T2C Plus
8.00	8.00	91	53	43	MID 2400230 C
8.50	10.00	103	61	49	MID 2400240 C
8.80	10.00	103	61	49	MID 2400250 C
9.00	10.00	103	61	49	MID 2400260 C
9.20	10.00	103	61	49	MID 2400270 C
9.50	10.00	103	61	49	MID 2400280 C
9.80	10.00	103	61	49	MID 2400290 C
10.00	10.00	103	61	49	MID 2400300 C
10.20	12.00	118	71	56	MID 2400310 C
10.50	12.00	118	71	56	MID 2400320 C
10.80	12.00	118	71	56	MID 2400330 C
11.00	12.00	118	71	56	MID 2400340 C
11.50	12.00	118	71	56	MID 2400350 C
11.80	12.00	118	71	56	MID 2400360 C
12.00	12.00	118	71	56	MID 2400370 C
12.30	14.00	124	77	60	MID 2400380 C
12.50	14.00	124	77	60	MID 2400390 C
12.80	14.00	124	77	60	MID 2400400 C
13.00	14.00	124	77	60	MID 2400410 C
13.50	14.00	124	77	60	MID 2400420 C
14.00	14.00	124	77	60	MID 2400430 C
14.50	16.00	133	83	63	MID 2400440 C
15.00	16.00	133	83	63	MID 2400450 C
15.50	16.00	133	83	63	MID 2400460 C
16.00	16.00	133	83	63	MID 2400470 C
16.50	18.00	143	93	71	MID 2400480 C
17.00	18.00	143	93	71	MID 2400490 C
17.50	18.00	143	93	71	MID 2400500 C
18.00	18.00	143	93	71	MID 2400510 C
20.00	20.00	153	101	77	MID 2400520 C

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni



MID 244

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH INTERIOR COOLING SUPPLIES

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

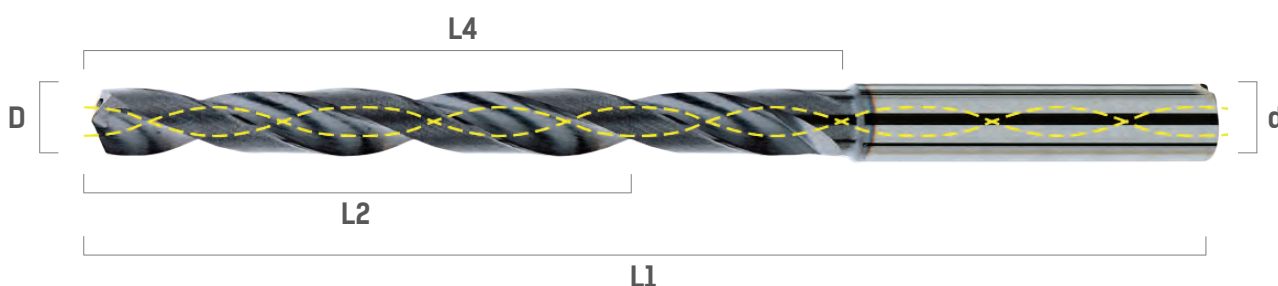
Flute geometry: special point flute execution

Application groups: steel alloys, short chipping

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Leghe di acciaio, materiali inox



D m7	d h6	L1	L4	L2	AlTiSiN
3.50	6.00	72	34	29	MID 2440010 T
3.70	6.00	72	34	29	MID 2440020 T
3.80	6.00	81	43	36	MID 2440030 T
4.00	6.00	81	43	36	MID 2440040 T
4.20	6.00	81	43	36	MID 2440050 T
4.50	6.00	81	43	36	MID 2440060 T
4.80	6.00	95	57	48	MID 2440070 T
5.00	6.00	95	57	48	MID 2440080 T
5.10	6.00	95	57	48	MID 2440090 T
5.20	6.00	95	57	48	MID 2440100 T
5.50	6.00	95	57	48	MID 2440110 T
5.80	6.00	95	57	48	MID 2440120 T
6.00	6.00	95	57	48	MID 2440130 T
6.30	8.00	114	76	64	MID 2440140 T
6.50	8.00	114	76	64	MID 2440150 T
6.80	8.00	114	76	64	MID 2440160 T
7.00	8.00	114	76	64	MID 2440170 T
7.50	8.00	114	76	64	MID 2440180 T
7.80	8.00	114	76	64	MID 2440190 T
8.00	8.00	114	76	64	MID 2440200 T
8.50	10.00	142	95	80	MID 2440210 T
8.80	10.00	142	95	80	MID 24402200 T

MID 244

D m7	d h6	L1	L4	L2	AlTiSiN
9.00	10.00	142	95	80	MID 2440230 T
9.20	10.00	142	95	80	MID 2440240 T
9.50	10.00	142	95	80	MID 2440250 T
9.80	10.00	142	95	80	MID 2440260 T
10.00	10.00	142	95	80	MID 2440270 T
10.20	12.00	162	114	96	MID 2440280 T
10.50	12.00	162	114	96	MID 2440290 T
10.80	12.00	162	114	96	MID 2440300 T
11.00	12.00	162	114	96	MID 2440310 T
11.50	12.00	162	114	96	MID 2440320 T
11.80	12.00	162	114	96	MID 2440330 T
12.00	12.00	162	114	96	MID 2440340 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni

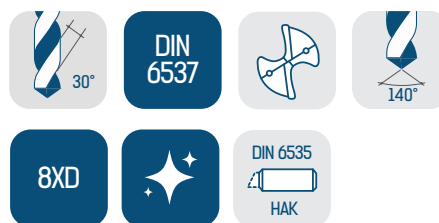


MID 248

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH MULTIFUNCTIONAL COATING

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON RIVESTIMENTO MULTIFUNZIONALE

C T2C Plus



Solid carbide grades: 10% Co Micro grain

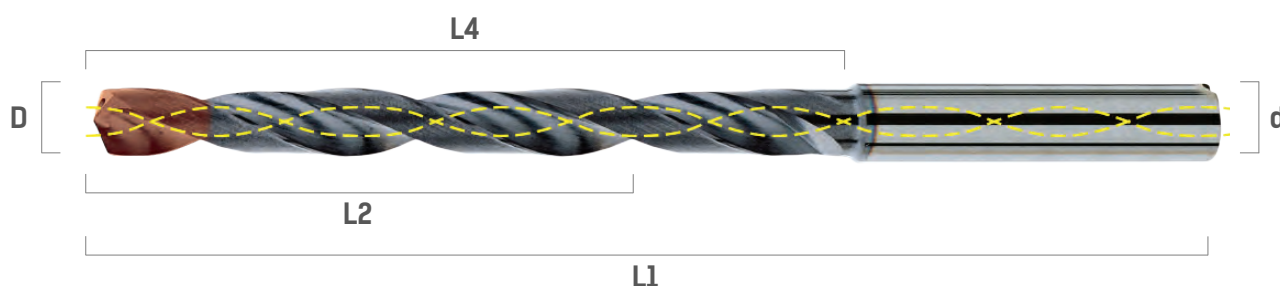
Flute geometry: special point flute execution

Application groups: steel alloys, short chipping

Metallo duro: 10% Co micrograna

Profilo: Geometria speciale

Applicazioni: Leghe di acciaio, materiali inox



D m7	d h6	L1	L4	L2	T2C Plus
3.50	6.00	72	34	29	MID 2480010 C
3.70	6.00	72	34	29	MID 2480020 C
3.80	6.00	81	43	36	MID 2480030 C
4.00	6.00	81	43	36	MID 2480040 C
4.20	6.00	81	43	36	MID 2480050 C
4.50	6.00	81	43	36	MID 2480060 C
4.80	6.00	95	57	48	MID 2480070 C
5.00	6.00	95	57	48	MID 2480080 C
5.10	6.00	95	57	48	MID 2480090 C
5.20	6.00	95	57	48	MID 2480100 C
5.50	6.00	95	57	48	MID 2480110 C
5.80	6.00	95	57	48	MID 2480120 C
6.00	6.00	95	57	48	MID 2480130 C
6.30	8.00	114	76	64	MID 2480140 C
6.50	8.00	114	76	64	MID 2480150 C
6.80	8.00	114	76	64	MID 2480160 C
7.00	8.00	114	76	64	MID 2480170 C
7.50	8.00	114	76	64	MID 2480180 C
7.80	8.00	114	76	64	MID 2480190 C
8.00	8.00	114	76	64	MID 2480200 C
8.50	10.00	142	95	80	MID 2480210 C
8.80	10.00	142	95	80	MID 2482200 C

MID 248

D m7	d h6	L1	L4	L2	T2C Plus
9.00	10.00	142	95	80	MID 2480230 C
9.20	10.00	142	95	80	MID 2480240 C
9.50	10.00	142	95	80	MID 2480250 C
9.80	10.00	142	95	80	MID 2480260 C
10.00	10.00	142	95	80	MID 2480270 C
10.20	12.00	162	114	96	MID 2480280 C
10.50	12.00	162	114	96	MID 2480290 C
10.80	12.00	162	114	96	MID 2480300 C
11.00	12.00	162	114	96	MID 2480310 C
11.50	12.00	162	114	96	MID 2480320 C
11.80	12.00	162	114	96	MID 2480330 C
12.00	12.00	162	114	96	MID 2480340 C

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni



MID 252

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH INTERIOR COOLING SUPPLIES

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Solid carbide grades: Micro grain

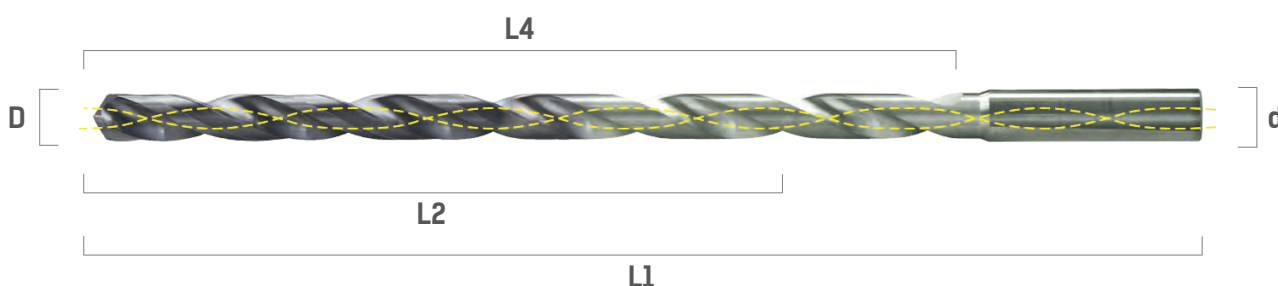
Flute geometry: special point flute execution
4 margins

Application groups: steel alloys, short chippin

Metallo duro: Micrograna

Profilo: Geometria a 4 fasi

Applicazioni: Leghe di acciaio, materiali inox



D m7	d h6	L1	L4	L2	AlTiSiN
4.00	6.00	108	68	60	MID 2520010 T
4.50	6.00	115	78	68	MID 2520020 T
5.00	6.00	125	84	75	MID 2520030 T
5.50	6.00	130	92	82	MID 2520040 T
6.00	6.00	140	100	90	MID 2520050 T
6.50	8.00	145	108	97	MID 2520060 T
7.00	8.00	170	130	105	MID 2520070 T
7.50	8.00	170	130	112	MID 2520080 T
8.00	8.00	170	130	120	MID 2520090 T
8.50	10.00	208	163	127	MID 2520100 T
9.00	10.00	208	163	135	MID 2520110 T
9.50	10.00	208	163	142	MID 2520120 T
10.00	10.00	208	163	150	MID 2520130 T
10.50	12.00	245	195	157	MID 2520140 T
11.00	12.00	245	195	165	MID 2520150 T
11.50	12.00	245	195	172	MID 2520160 T
12.00	12.00	245	195	180	MID 2520170 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni



MID 256

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH INTERIOR COOLING SUPPLIES

PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T ALTiSiN



Solid carbide grades: Micro grain

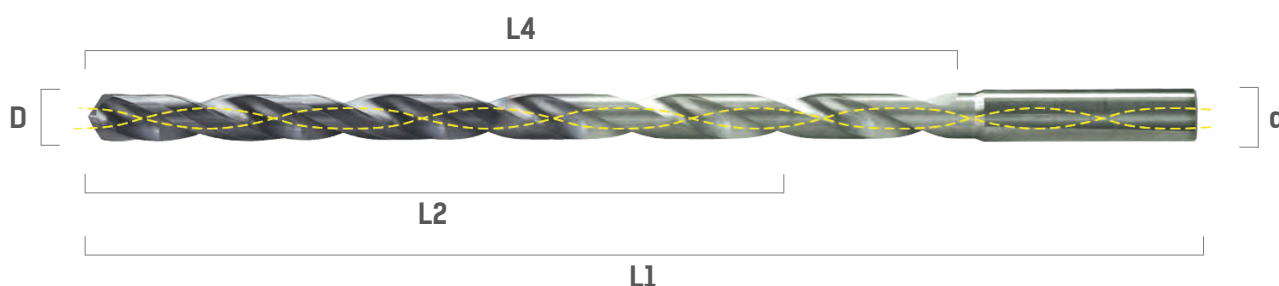
Flute geometry: special point flute execution
4 margins

Application groups: steel alloys, short chippin

Metallo duro: Micrograna

Profilo: Geometria a 4 fasi

Applicazioni: Leghe di acciaio, materiali inox



D m7	d h6	L1	L4	L2	ALTiSiN
5.00	6.00	155	116	100	MID 2560010 T
6.00	6.00	172	135	120	MID 2560020 T
6.50	8.00	186	145	130	MID 2560030 T
7.00	8.00	201	160	140	MID 2560040 T
7.50	8.00	211	170	150	MID 2560050 T
8.00	8.00	221	181	160	MID 2560060 T
8.50	10.00	236	192	170	MID 2560070 T
9.00	10.00	247	203	180	MID 2560080 T
9.50	10.00	259	214	190	MID 2560090 T
10.00	10.00	267	225	200	MID 2560100 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni

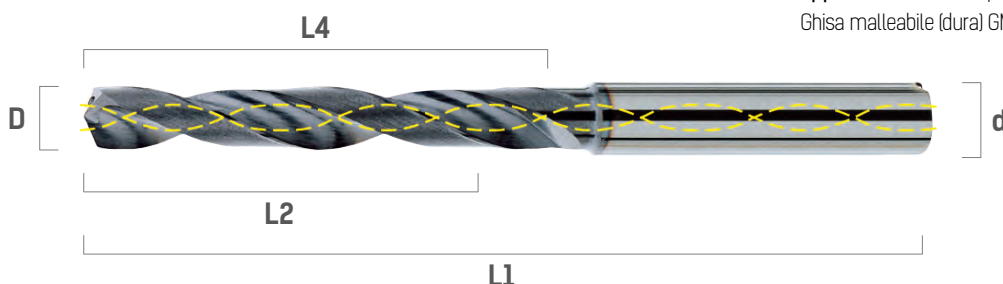


MID 260

SOLID CARBIDE HIGH PERFORMANCE DRILLS WITH COOLING SUPPLIES FOR IRON MATERIALS

PUNTA AD ALTA PRESTAZIONE CON FORI INTERNI DI LUBRIFICAZIONE PER GHISA

T AlTiSiN



Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
 Tunit 4 grad

Application groups: Drilling Iron materials Iron materials: G,GG grey cast iron, GMN, GTS/GTW Malleable iron GS, GGG spheroidal cast iron

Metallo duro: 10% Co micrograna

Profilo: Geometria Tunit a 4 fasi

Applicazioni: Foratura per Ghisa Materiali: Ghisa grigia G,GG, Ghisa malleabile (dura) GMN, GTS/GTW Ghisa sferoidale GS, GGG

D m7	d h6	L1	L4	L2	AlTiSiN
6.00	6.00	82	44	35	MID 2600010 T
6.50	8.00	91	53	43	MID 2600020 T
6.80	8.00	91	53	43	MID 2600030 T
7.00	8.00	91	53	43	MID 2600040 T
7.50	8.00	91	53	43	MID 2600050 T
7.80	8.00	91	53	43	MID 2600060 T
8.00	8.00	91	53	43	MID 2600070 T
8.50	10.00	103	61	49	MID 2600080 T
8.80	10.00	103	61	49	MID 2600090 T
9.00	10.00	103	61	49	MID 2600100 T
9.50	10.00	103	61	49	MID 2600110 T
9.80	10.00	103	61	49	MID 2600120 T
10.00	10.00	103	61	49	MID 2600130 T
10.20	12.00	118	71	56	MID 2600140 T
10.50	12.00	118	71	56	MID 2600150 T
10.80	12.00	118	71	56	MID 2600160 T
11.00	12.00	118	71	56	MID 2600170 T
11.50	12.00	118	71	56	MID 2600180 T
11.80	12.00	118	71	56	MID 2600190 T
12.00	12.00	118	71	56	MID 2600200 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento

• attacco DIN 6535 HEK

Application groups • Applicazioni

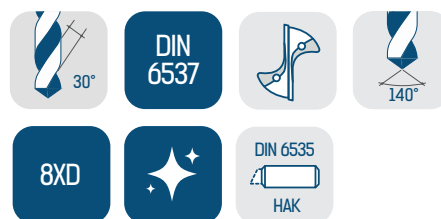


MID 268

SOLID CARBIDE HIGH PERFORMANCE TWIST DRILL WITH INTERIOR COOLING SUPPLIES

PUNTA AD ALTA PRESTAZIONE CON FORI DI LUBRIFICAZIONE

Z ZrN **L** T-DLC

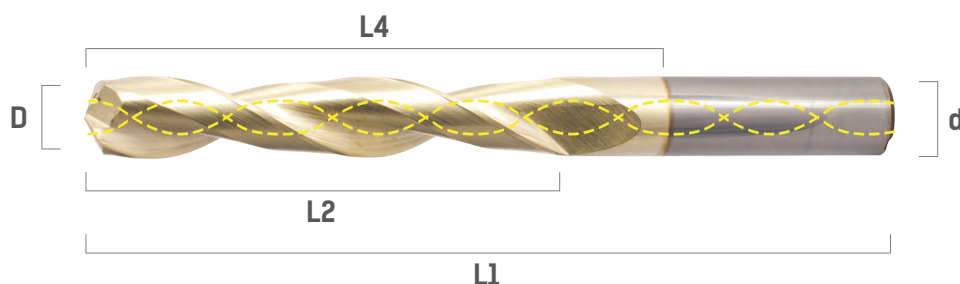


Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
Application groups: non-ferrous metals, aluminium

Metallo duro: 10% Co micrograna

Profilo: Geometrie speciali

Applicazioni: Alluminio e materiali non ferrosi



D m7	d h6	L1	L4	L2	Zr-N	T-DLC
4.00	6.00	81	43	36	MID 2680010 Z	MID 2680010 L
4.20	6.00	81	43	36	MID 2680020 Z	MID 2680020 L
4.50	6.00	81	43	36	MID 2680030 Z	MID 2680030 L
4.80	6.00	95	57	48	MID 2680040 Z	MID 2680040 L
5.00	6.00	95	57	48	MID 2680050 Z	MID 2680050 L
5.10	6.00	95	57	48	MID 2680060 Z	MID 2680060 L
5.20	6.00	95	57	48	MID 2680070 Z	MID 2680070 L
5.50	6.00	95	57	48	MID 2680080 Z	MID 2680080 L
5.80	6.00	95	57	48	MID 2680090 Z	MID 2680090 L
6.00	6.00	95	57	48	MID 2680100 Z	MID 2680100 L
6.30	8.00	114	76	64	MID 2680110 Z	MID 2680110 L
6.50	8.00	114	76	64	MID 2680120 Z	MID 2680120 L
6.80	8.00	114	76	64	MID 2680130 Z	MID 2680130 L
7.00	8.00	114	76	64	MID 2680140 Z	MID 2680140 L
7.50	8.00	114	76	64	MID 2680150 Z	MID 2680150 L
7.80	8.00	114	76	64	MID 2680160 Z	MID 2680160 L
8.00	8.00	114	76	64	MID 2680170 Z	MID 2680170 L
8.50	10.00	142	95	80	MID 2680180 Z	MID 2680180 L
8.80	10.00	142	95	80	MID 2680190 Z	MID 2680190 L
9.00	10.00	142	95	80	MID 2680200 Z	MID 2680200 L
9.20	10.00	142	95	80	MID 2680210 Z	MID 2680210 L
9.50	10.00	142	95	80	MID 2680220 Z	MID 2680220 L
9.80	10.00	142	95	80	MID 2680230 Z	MID 2680230 L
10.00	10.00	142	95	80	MID 2680240 Z	MID 2680240 L

MID 268

D m7	d h6	L1	L4	L2	Zr-N	T-DLC
10.20	12.00	162	114	96	MID 2680250 Z	MID 2680250 L
10.50	12.00	162	114	96	MID 2680260 Z	MID 2680260 L
10.80	12.00	162	114	96	MID 2680270 Z	MID 2680270 L
11.00	12.00	162	114	96	MID 2680280 Z	MID 2680280 L
11.50	12.00	162	114	96	MID 2680290 Z	MID 2680290 L
11.80	12.00	162	114	96	MID 2680300 Z	MID 2680300 L
12.00	12.00	162	114	96	MID 2680310 Z	MID 2680310 L

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi

• riaffilature/rivestimento attacco DIN 6535 HEK

Application groups • Applicazioni

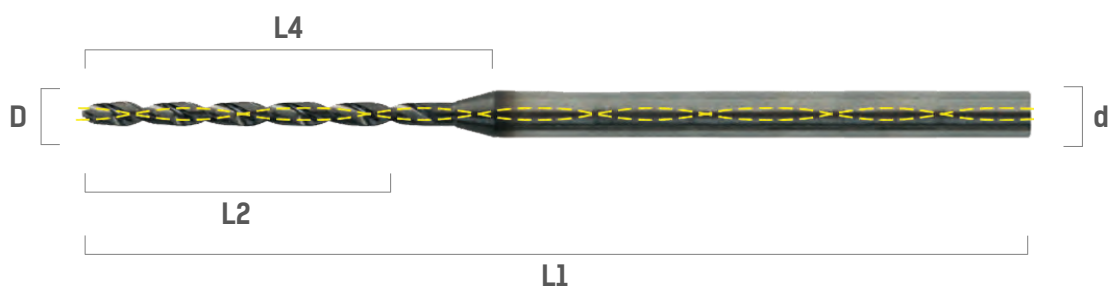


MID 310

SOLID CARBIDE HIGH PERFORMANCE TWIST MICRO DRILL WITH INTERIOR COOLING SUPPLIES

MICRO PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

Flute geometry: special point flute execution

Application groups: steel alloys, short chipping

Metallo duro: 10% Co Micrograna

Profilo: Geometria speciale

Applicazioni: Leghe di acciaio, materiali inox

D m7	d h6	L1	L4	L2	AlTiSiN
1.00	3.00	55	8	5	MID 3100010 T
1.10	3.00	55	12	7	MID 3100020 T
1.20	3.00	55	12	7	MID 3100030 T
1.30	3.00	55	12	7	MID 3100040 T
1.40	3.00	55	12	7	MID 3100050 T
1.50	3.00	65	12	8	MID 3100060 T
1.60	3.00	65	16	10	MID 3100070 T
1.70	3.00	65	16	10	MID 3100080 T
1.80	3.00	65	16	10	MID 3100090 T
1.90	3.00	65	16	10	MID 3100100 T
2.00	3.00	65	16	10	MID 3100110 T
2.10	3.00	74	20	12	MID 3100120 T
2.20	3.00	74	20	13	MID 3100130 T
2.30	3.00	74	20	13	MID 3100140 T
2.40	3.00	74	20	13	MID 3100150 T
2.50	3.00	74	20	13	MID 3100160 T
2.60	3.00	81	23	14	MID 3100170 T
2.70	3.00	81	23	14	MID 3100180 T
2.80	3.00	81	23	16	MID 3100190 T
2.90	3.00	81	23	16	MID 3100200 T

On request: out of range • other sizes • regrinding tools

• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi

• riaffilature/rivestimento attacco DIN 6535 HEK

Application groups • Applicazioni

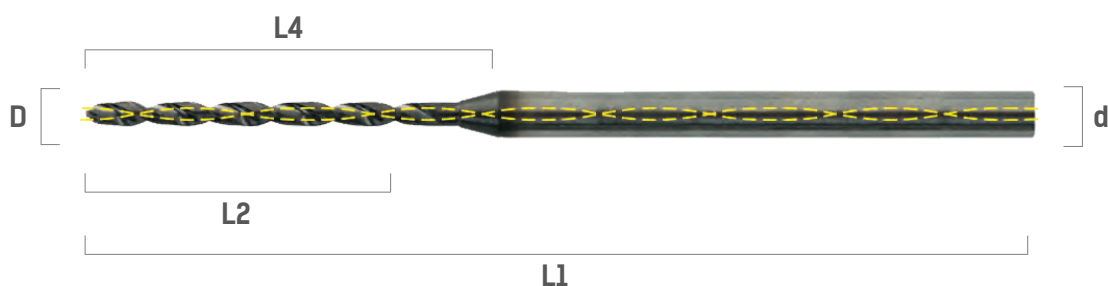


MID 320

SOLID CARBIDE HIGH PERFORMANCE TWIST MICRO DRILL WITH INTERIOR COOLING SUPPLIES

MICRO PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
Application groups: steel alloys, short chipping

Metallo duro: 10% Co Micrograna
Profilo: Geometria speciale
Applicazioni: Leghe di acciaio, materiali inox

D m7	d h6	L1	L4	L2	AlTiSiN
1.00	3.00	55	11	8	MID 3200010 T
1.10	3.00	55	17	10	MID 3200020 T
1.20	3.00	55	17	12	MID 3200030 T
1.30	3.00	55	17	12	MID 3200040 T
1.40	3.00	55	17	12	MID 3200050 T
1.50	3.00	65	17	12	MID 3200060 T
1.60	3.00	65	22	15	MID 3200070 T
1.70	3.00	65	22	15	MID 3200080 T
1.80	3.00	65	22	15	MID 3200090 T
1.90	3.00	65	22	15	MID 3200100 T
2.00	3.00	65	22	16	MID 3200110 T
2.10	3.00	74	28	18	MID 3200120 T
2.20	3.00	74	28	18	MID 3200130 T
2.30	3.00	74	28	18	MID 3200140 T
2.40	3.00	74	28	20	MID 3200150 T
2.50	3.00	74	28	20	MID 3200160 T
2.60	3.00	81	24	24	MID 3200170 T
2.70	3.00	81	24	24	MID 3200180 T
2.80	3.00	81	24	24	MID 3200190 T
2.90	3.00	81	24	24	MID 3200200 T

On request: out of range • other sizes • regrinding tools
• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento attacco
DIN 6535 HEK

Application groups • Applicazioni

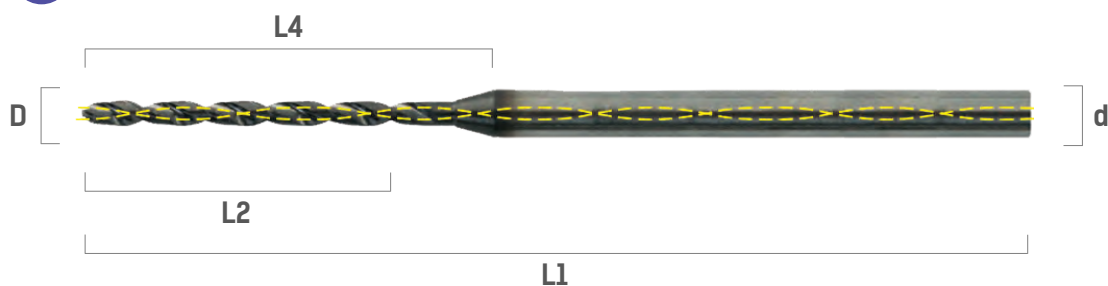


MID 330

SOLID CARBIDE HIGH PERFORMANCE TWIST MICRO DRILL WITH INTERIOR COOLING SUPPLIES

MICRO PUNTA ELICOIDALE AD ALTE PRESTAZIONI
CON FORI DI LUBRIFICAZIONE

T ALTiSiN



Solid carbide grades: 10% Co Micro grain
Flute geometry: special point flute execution
Application groups: steel alloys, short chipping

Metallo duro: 10% Co Micrograna
Profilo: Geometria speciale
Applicazioni: Leghe di acciaio, materiali inox

D m7	d h6	L1	L4	L2	ALTiSiN
1.00	3.00	55	15	12	MID 3300010 T
1.10	3.00	55	23	13	MID 3300020 T
1.20	3.00	55	23	14	MID 3300030 T
1.30	3.00	55	23	16	MID 3300040 T
1.40	3.00	55	23	17	MID 3300050 T
1.50	3.00	65	23	18	MID 3300060 T
1.60	3.00	65	30	20	MID 3300070 T
1.70	3.00	65	30	21	MID 3300080 T
1.80	3.00	65	30	22	MID 3300090 T
1.90	3.00	65	30	23	MID 3300100 T
2.00	3.00	65	30	24	MID 3300110 T
2.10	3.00	74	38	26	MID 3300120 T
2.20	3.00	74	38	26	MID 3300130 T
2.30	3.00	74	38	27	MID 3300140 T
2.40	3.00	74	38	29	MID 3300150 T
2.50	3.00	74	38	30	MID 3300160 T
2.60	3.00	81	44	32	MID 3300170 T
2.70	3.00	81	44	33	MID 3300180 T
2.80	3.00	81	44	34	MID 3300190 T
2.90	3.00	81	44	35	MID 3300200 T

On request: out of range • other sizes • regrinding tools
• shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • riaffilature/rivestimento attacco
DIN 6535 HEK

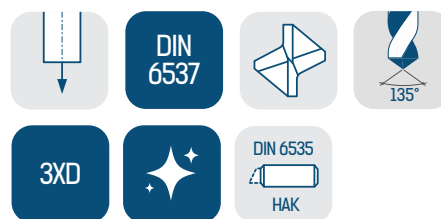
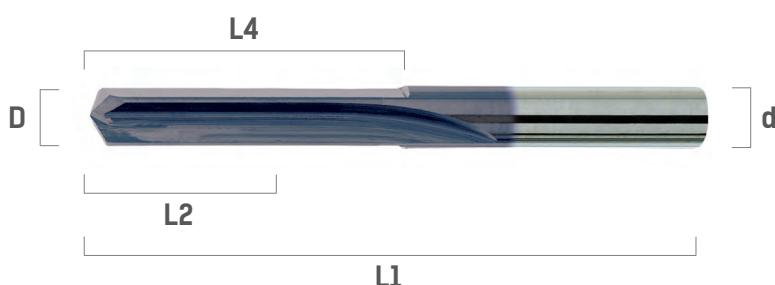
Application groups • Applicazioni



MID 420

HIGH SPEED STRAIGHT FLUTE DRILL
PUNTE ALTE PRESTAZIONI DENTI DRITTI

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

Application groups: for drilling in hardened steel and hard alloys

Metallo duro: 10% Co Micrograna

Applicazioni: Foratura di acciai temprati e leghe dure

D m7	d h6	L1	L4	L2	AlTiSiN
2.00	2.00	38	12	7	MID 4200010 T
2.50	2.50	43	14	8	MID 4200020 T
3.00	3.00	46	16	10	MID 4200030 T
3.30	3.30	46	16	10	MID 4200040 T
3.50	3.50	52	20	12	MID 4200050 T
4.00	4.00	55	22	14	MID 4200060 T
4.20	4.20	55	22	14	MID 4200070 T
5.00	5.00	62	26	18	MID 4200080 T
6.00	6.00	66	28	20	MID 4200090 T
6.80	6.80	74	34	22	MID 4200100 T
7.00	7.00	74	34	22	MID 4200110 T
8.00	8.00	79	37	26	MID 4200120 T
8.50	8.50	79	37	26	MID 4200130 T
10.00	10.00	89	43	32	MID 4200140 T
12.00	12.00	102	51	38	MID 4200150 T

On request: out of range • other sizes • coating
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni



MID 440

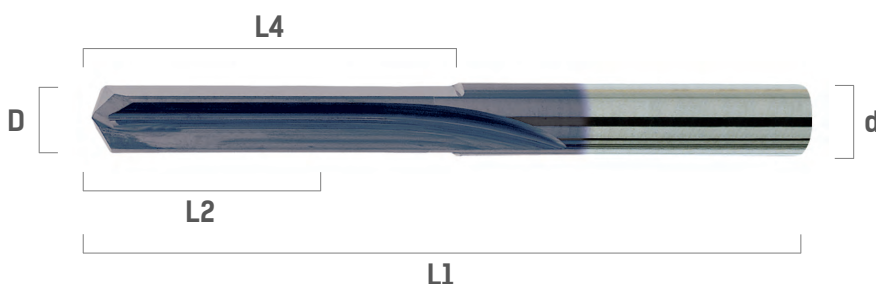
HIGH SPEED STRAIGHT FLUTE DRILL
PUNTE ALTE PRESTAZIONI DENTI DRITTI
CON FORI DI LUBRIFICAZIONE

T AlTiSiN



Solid carbide grades: 10% Co Micro grain
Application groups: for drilling in hardened steel and hard alloys

Metallo duro: 10% Co Micrograna
Applicazioni: Foratura di acciai temprati e leghe dure



On request: Su richiesta:



DELIVERY 3 WEEKS
CONSEGNA 3 SETTIMANE

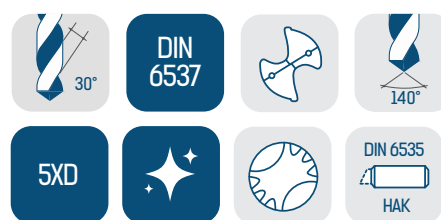
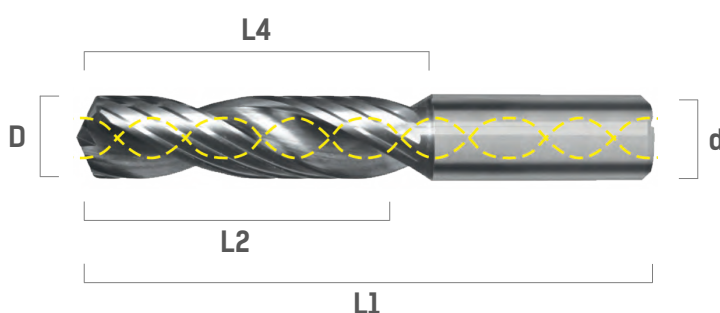
Application groups • Applicazioni



MID 520

DRILL REAMER WITH INTERNAL
COOLING H7, ALTISIN-TOP COATING
PUNTA FORO / ALESA H7 ELICOIDALE CON FORI
DI LUBRIFICAZIONE

T ALTiSiN



Solid carbide grades: 10% Co Micro grain

Geometry: Special drilling margins and reaming margins allow drill and reaming in one operation. Two drilling margins and four reaming margins

Application groups: drilling and reaming in one operation on steel groups, iron materials, titanium and aeronautical alloys

Metallo duro: 10% Co Micrograna

Profilo: Geometria speciale Foro/Alesa H7

Applicazioni: Forature Alesate H7 su acciai, ghisa, titanio e leghe aeronautiche

D H7	d h6	L1	L4	L2	ALTiSiN
3.00	6.00	66	28	23	MID 5200010 T
4.00	6.00	74	36	29	MID 5200020 T
5.00	6.00	82	44	35	MID 5200030 T
6.00	6.00	82	44	35	MID 5200040 T
7.00	8.00	91	53	43	MID 5200050 T
8.00	8.00	91	53	43	MID 5200060 T
9.00	10.00	103	61	49	MID 5200070 T
10.00	10.00	103	61	49	MID 5200080 T
11.00	12.00	118	71	56	MID 5200090 T
12.00	12.00	118	71	56	MID 5200100 T

On request: out of range • other sizes • regrinding tools • special coatings
shank with side flat DIN 6535 HEK

Su richiesta: esecuzione speciale • diametri intermedi • ricoperture
attacco DIN 6535 HEK • riaffilature/rivestimento

Application groups • Applicazioni



MIM 103

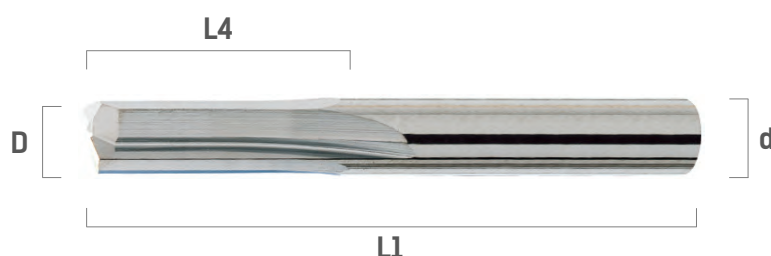
STRAIGHT FLUTED END MILL 2 FLUTES CENTER CUTTING

FRESA A DENTI DRITTI 2 TAGLIENTI TAGLIO
AL CENTRO



Solid carbide grades: 10% Co Micro grain
Application groups: groups: milling of cast iron, brass, bronze

Metallo duro: 10% Co micrograna
Applicazioni: Fresature di ghisa, ottone, bronzo



D h9	d h6	L1	L4	UNCOATED
2.00	2.00	38	8	MIM 1030010
2.50	2.50	38	8	MIM 1030020
3.00	3.00	38	12	MIM 1030030
3.50	3.50	40	12	MIM 1030040
4.00	4.00	40	12	MIM 1030050
4.50	4.50	50	14	MIM 1030060
5.00	5.00	50	14	MIM 1030070
5.50	5.50	50	16	MIM 1030080
6.00	6.00	50	16	MIM 1030090
6.50	6.50	50	16	MIM 1030100
7.00	7.00	60	20	MIM 1030110
7.50	7.50	60	20	MIM 1030120
8.00	8.00	60	20	MIM 1030130
8.50	8.50	60	20	MIM 1030140
9.00	9.00	60	20	MIM 1030150
9.50	9.50	70	22	MIM 1030160
10.00	10.00	70	22	MIM 1030170
12.00	12.00	70	22	MIM 1030180

On request: out of range • other sizes • coating
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

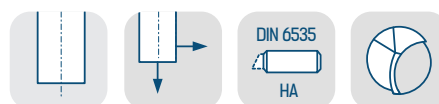
Application groups • Applicazioni



MIM 106

SINGLE FLUTE END MILL, FLAT NOSE CENTER CUTTING

FRESA INTEGRALE MONO TAGLIENTE CON TESTA PIANA
TAGLIO FRONTALE AL CENTRO

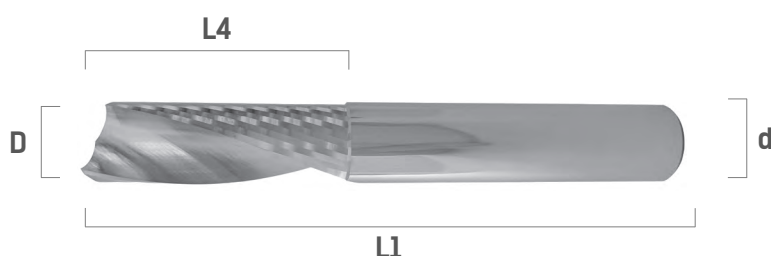


Solid carbide grades: 10% Co Micro grain

Application groups: engraving and copying-milling with pantographs and CNC machines. Suitable for milling of non-ferrous metals, long chipping materials and light alloys

Metallo duro: 10% Co micrograna

Applicazioni: Foratura e contornatura con centri di lavoro e pantografo per leghe leggere e materiali non ferrosi a truciolo lungo



D h10	d h6	L1	L4	UNCOATED
3.00	3.00	40	12	MIM 1060010
4.00	4.00	40	14	MIM 1060020
5.00	5.00	50	16	MIM 1060030
6.00	6.00	58	20	MIM 1060040
8.00	8.00	64	22	MIM 1060050
10.00	10.00	73	25	MIM 1060060
12.00	12.00	84	35	MIM 1060070

On request: out of range • other sizes • coating

Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni

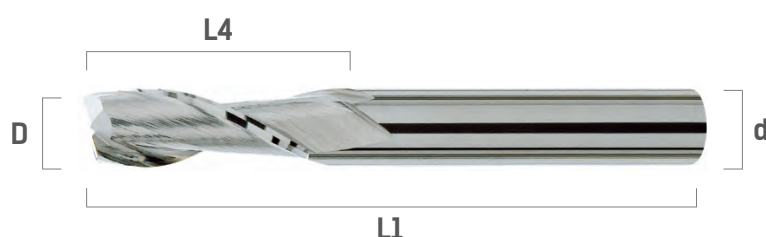


MIM 109

TWIST END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE 2 TAGLIENTI, TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	2.00	38	8	MIM 1090010	MIM 1090010 T	MIM 1090010 B
2.50	2.50	38	8	MIM 1090020	MIM 1090020 T	MIM 1090020 B
3.00	3.00	38	12	MIM 1090030	MIM 1090030 T	MIM 1090030 B
3.50	3.50	40	12	MIM 1090040	MIM 1090040 T	MIM 1090040 B
4.00	4.00	40	12	MIM 1090050	MIM 1090050 T	MIM 1090050 B
4.50	4.50	50	14	MIM 1090060	MIM 1090060 T	MIM 1090060 B
5.00	5.00	50	14	MIM 1090070	MIM 1090070 T	MIM 1090070 B
5.50	5.50	50	16	MIM 1090080	MIM 1090080 T	MIM 1090080 B
6.00	6.00	50	16	MIM 1090090	MIM 1090090 T	MIM 1090090 B
6.50	6.50	50	16	MIM 1090100	MIM 1090100 T	MIM 1090100 B
7.00	7.00	60	20	MIM 1090110	MIM 1090110 T	MIM 1090110 B
7.50	7.50	60	20	MIM 1090120	MIM 1090120 T	MIM 1090120 B
8.00	8.00	60	20	MIM 1090130	MIM 1090130 T	MIM 1090130 B
8.50	8.50	60	20	MIM 1090140	MIM 1090140 T	MIM 1090140 B
9.00	9.00	60	20	MIM 1090150	MIM 1090150 T	MIM 1090150 B
9.50	9.50	70	82	MIM 1090160	MIM 1090160 T	MIM 1090160 B
10.00	10.00	70	22	MIM 1090170	MIM 1090170 T	MIM 1090170 B
11.00	11.00	70	22	MIM 1090180	MIM 1090180 T	MIM 1090180 B
12.00	12.00	75	22	MIM 1090190	MIM 1090190 T	MIM 1090190 B
13.00	13.00	75	25	MIM 1090200	MIM 1090200 T	MIM 1090200 B
14.00	14.00	75	25	MIM 1090210	MIM 1090210 T	MIM 1090210 B
15.00	15.00	75	25	MIM 1090220	MIM 1090220 T	MIM 1090220 B
16.00	16.00	75	25	MIM 1090230	MIM 1090230 T	MIM 1090230 B
18.00	18.00	100	25	MIM 1090240	MIM 1090240 T	MIM 1090240 B
20.00	20.00	100	25	MIM 1090250	MIM 1090250 T	MIM 1090250 B

On request: out of range, other sizes - DIN 6535 HB

Su richiesta: esecuzione speciale, diametri intermedi DIN 6535 HB

Application groups · Applicazioni



MIM 112

TWIST END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE 2 TAGLIENTI, TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B

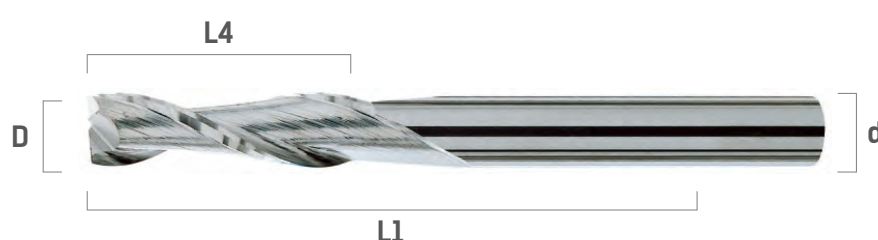


Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	55	20	MIM 1120010	MIM 1120010 T	MIM 1120010 B
4.00	4.00	60	20	MIM 1120020	MIM 1120020 T	MIM 1120020 B
5.00	5.00	60	20	MIM 1120030	MIM 1120030 T	MIM 1120030 B
6.00	6.00	65	24	MIM 1120040	MIM 1120040 T	MIM 1120040 B
8.00	8.00	80	32	MIM 1120050	MIM 1120050 T	MIM 1120050 B
10.00	10.00	80	32	MIM 1120060	MIM 1120060 T	MIM 1120060 B
12.00	12.00	100	50	MIM 1120070	MIM 1120070 T	MIM 1120070 B
14.00	14.00	100	50	MIM 1120080	MIM 1120080 T	MIM 1120080 B
16.00	16.00	100	50	MIM 1120090	MIM 1120090 T	MIM 1120090 B
20.00	20.00	100	50	MIM 1120100	MIM 1120100 T	MIM 1120100 B

On request: out of range • other sizes • coating

Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni



MIM 115

TWIST END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE 2 TAGLIENTI, TAGLIO AL CENTRO



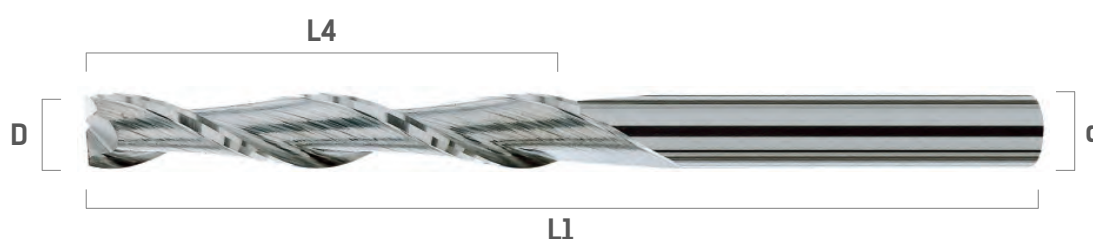
Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi

T AlTiSiN **B** TiCN-B



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	70	30	MIM 1150010	MIM 1150010 T	MIM 1150010 B
4.00	4.00	75	40	MIM 1150020	MIM 1150020 T	MIM 1150020 B
5.00	5.00	80	40	MIM 1150030	MIM 1150030 T	MIM 1150030 B
6.00	6.00	80	45	MIM 1150040	MIM 1150040 T	MIM 1150040 B
8.00	8.00	100	50	MIM 1150050	MIM 1150050 T	MIM 1150050 B
10.00	10.00	100	50	MIM 1150060	MIM 1150060 T	MIM 1150060 B
12.00	12.00	150	70	MIM 1150070	MIM 1150070 T	MIM 1150070 B
14.00	14.00	150	75	MIM 1150080	MIM 1150080 T	MIM 1150080 B
16.00	16.00	150	75	MIM 1150090	MIM 1150090 T	MIM 1150090 B
18.00	18.00	150	75	MIM 1150100	MIM 1150100 T	MIM 1150100 B
20.00	20.00	150	75	MIM 1150110	MIM 1150110 T	MIM 1150110 B

On request: out of range • other sizes • coating

Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni

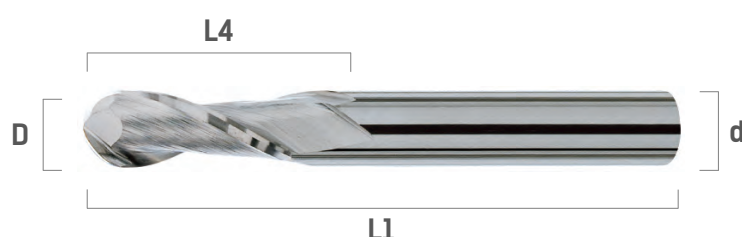


MIM 118

BALL NOSE END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE A TESTA RAGGIATA 2 TAGLIENTI
TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	2.00	38	8	MIM 1180010	MIM 1180010 T	MIM 1180010 B
2.50	2.50	38	8	MIM 1180020	MIM 1180020 T	MIM 1180020 B
3.00	3.00	38	12	MIM 1180030	MIM 1180030 T	MIM 1180030 B
3.50	3.50	40	12	MIM 1180040	MIM 1180040 T	MIM 1180040 B
4.00	4.00	40	12	MIM 1180050	MIM 1180050 T	MIM 1180050 B
4.50	4.50	50	14	MIM 1180060	MIM 1180060 T	MIM 1180060 B
5.00	5.00	50	14	MIM 1180070	MIM 1180070 T	MIM 1180070 B
5.50	5.50	50	16	MIM 1180080	MIM 1180080 T	MIM 1180080 B
6.00	6.00	50	16	MIM 1180090	MIM 1180090 T	MIM 1180090 B
6.50	6.50	50	16	MIM 1180100	MIM 1180100 T	MIM 1180100 B
7.00	7.00	60	20	MIM 1180110	MIM 1180110 T	MIM 1180110 B
7.50	7.50	60	20	MIM 1180120	MIM 1180120 T	MIM 1180120 B
8.00	8.00	60	20	MIM 1180130	MIM 1180130 T	MIM 1180130 B
8.50	8.50	60	20	MIM 1180140	MIM 1180140 T	MIM 1180140 B
9.00	9.00	60	20	MIM 1180150	MIM 1180150 T	MIM 1180150 B
9.50	9.50	70	82	MIM 1180160	MIM 1180160 T	MIM 1180160 B
10.00	10.00	70	22	MIM 1180170	MIM 1180170 T	MIM 1180170 B
11.00	11.00	70	22	MIM 1180180	MIM 1180180 T	MIM 1180180 B
12.00	12.00	75	22	MIM 1180190	MIM 1180190 T	MIM 1180190 B
13.00	13.00	75	25	MIM 1180200	MIM 1180200 T	MIM 1180200 B
14.00	14.00	75	25	MIM 1180210	MIM 1180210 T	MIM 1180210 B
15.00	15.00	75	25	MIM 1180220	MIM 1180220 T	MIM 1180220 B
16.00	16.00	75	25	MIM 1180230	MIM 1180230 T	MIM 1180230 B
18.00	18.00	100	32	MIM 1180240	MIM 1180240 T	MIM 1180240 B
20.00	20.00	100	32	MIM 1180250	MIM 1180250 T	MIM 1180250 B

On request: out of range • other sizes • 3 flutes • DIN 6535 HB

Su richiesta: esecuzione speciale • diametri intermedi 3 taglienti • DIN 6535 HB

Application groups • Applicazioni

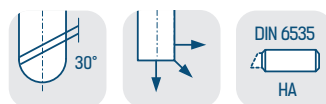


MIM 121

BALL NOSE END MILL 2 FLUTES CENTER CUTTING • LONG SERIES

FRESA ELICOIDALE A TESTA RAGGIATA

2 TAGLIENTI TAGLIO AL CENTRO • SERIE LUNGA



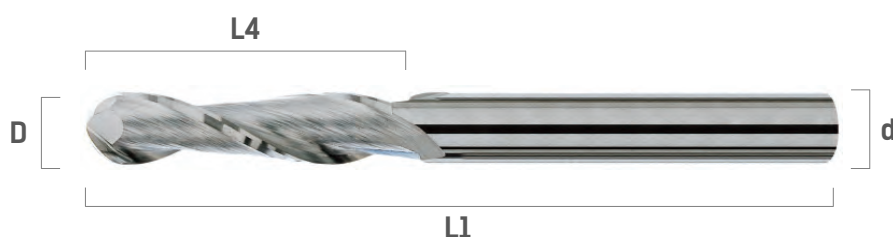
Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi

T AlTiSiN **B** TiCN-B



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	55	20	MIM 1210010	MIM 1210010 T	MIM 1210010 B
4.00	4.00	60	20	MIM 1210020	MIM 1210020 T	MIM 1210020 B
5.00	5.00	60	20	MIM 1210030	MIM 1210030 T	MIM 1210030 B
6.00	6.00	65	24	MIM 1210040	MIM 1210040 T	MIM 1210040 B
8.00	8.00	80	32	MIM 1210050	MIM 1210050 T	MIM 1210050 B
10.00	10.00	80	32	MIM 1210060	MIM 1210060 T	MIM 1210060 B
20.00	20.00	100	50	MIM 1210070	MIM 1210070 T	MIM 1210070 B

On request: out of range • other sizes • coating
Su richiesta: esecuzione speciale • diametri intermedi • ricoperture

Application groups • Applicazioni



MIM 124

BALL NOSE END MILL 2 FLUTES CENTER CUTTING • EXTRA LONG SERIES

FRESA ELICOIDALE A TESTA RAGGIATA 2 TAGLIENTI
TAGLIO AL CENTRO Z • SERIE EXTRA LUNGA

T AlTiSiN **B** TiCN-B

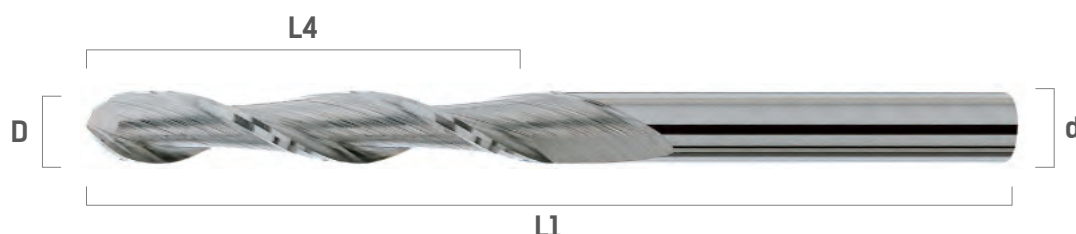


Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials and non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universali, anche per materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	70	30	MIM 1240010	MIM 1240010 T	MIM 1240010 B
4.00	4.00	75	40	MIM 1240020	MIM 1240020 T	MIM 1240020 B
5.00	5.00	80	40	MIM 1240030	MIM 1240030 T	MIM 1240030 B
6.00	6.00	80	45	MIM 12140040	MIM 1240040 T	MIM 1240040 B
8.00	8.00	100	80	MIM 1240050	MIM 1240050 T	MIM 1240050 B
10.00	10.00	100	50	MIM 1240060	MIM 1240060 T	MIM 1240060 B
12.00	12.00	150	70	MIM 1240070	MIM 1240070 T	MIM 1240070 B

On request: out of range • other sizes 3 flutes • DIN 6535 HB

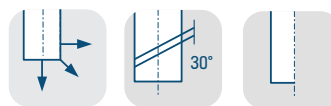
Su richiesta: esecuzione speciale • diametri intermedi 3 taglienti • DIN 6535 HB

Application groups • Applicazioni



MIM 127

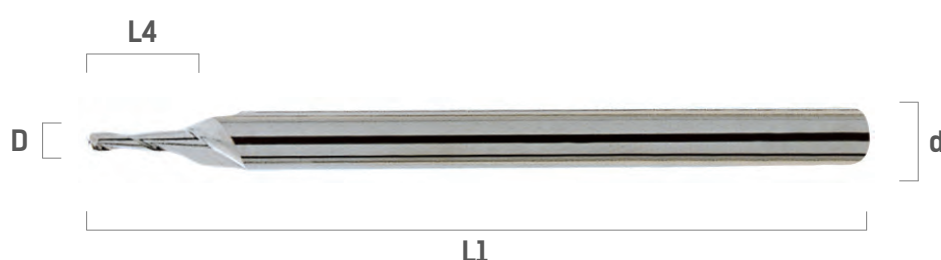
MICRO END MILL 2 FLUTES 30°
MICRO FRESA 2 TAGLI 30°



Solid carbide grades: Ultrafine Micro grain
< 0,5 μ **Application groups:** for fine milling in
steel, Al-Si-alloys, non-ferrous-materials

Metallo duro: 1 Micrograna ultrafine < 0,5 μ

Applicazioni: Micro fresature su acciai, leghe leggere,
materiali non ferrosi



D h6	d h6	L1	L4	UNCOATED
0.40	3.00	38.1	1.00	MIM 1270010
0.50	3.00	38.1	1.50	MIM 1270020
0.60	3.00	38.1	1.50	MIM 1270030
0.70	3.00	38.1	2.00	MIM 1270040
0.80	3.00	38.1	2.00	MIM 1270050
0.90	3.00	38.1	2.00	MIM 1270060
1.00	3.00	38.1	2.50	MIM 1270070
1.10	3.00	38.1	2.50	MIM 1270080
1.20	3.00	38.1	3.50	MIM 1270090
1.30	3.00	38.1	4.00	MIM 1270100
1.40	3.00	38.1	4.00	MIM 1270110
1.50	3.00	38.1	4.50	MIM 1270120
1.60	3.00	38.1	4.50	MIM 1270130
1.70	3.00	38.1	5.00	MIM 1270140
1.80	3.00	38.1	5.00	MIM 1270150
1.90	3.00	38.1	5.00	MIM 1270160
2.00	3.00	38.1	5.00	MIM 1270170
2.50	3.00	38.1	5.00	MIM 1270180

On request: out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi

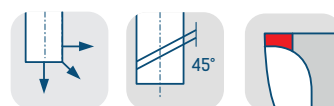
Application groups • Applicazioni



MIM 130

MICRO END MILL 2 FLUTES 45°

MICRO FRESA 2 TAGLI 45°

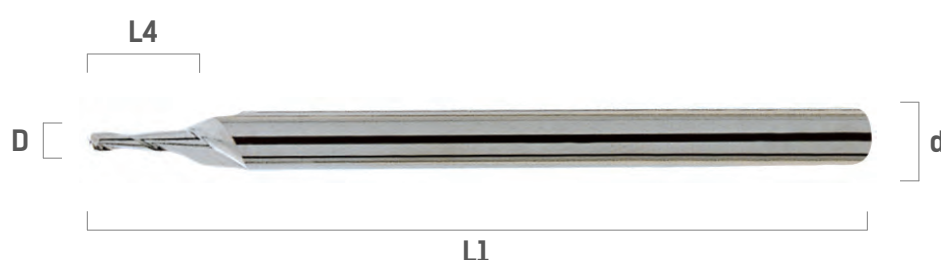


Solid carbide grades: Ultrafine Micro grain < 0,5 µ

Application groups: fmicromilling of precious metals (silver, gold) milling of aluminium, brass, non ferrous materials

Metallo duro: 1 Micrograna ultrafine < 0,5 µ

Applicazioni: Microfresatura su materiali pregiati (argento, oro), fresatura su alluminio, ottone, materiali non ferrosi



D h6	d h6	L1	L4	UNCOATED
0.40	3.00	38.1	1.00	MIM 1300010
0.50	3.00	38.1	1.50	MIM 1300020
0.60	3.00	38.1	1.50	MIM 1300030
0.70	3.00	38.1	2.00	MIM 1300040
0.80	3.00	38.1	2.00	MIM 1300050
0.90	3.00	38.1	2.00	MIM 1300060
1.00	3.00	38.1	2.50	MIM 1300070
1.10	3.00	38.1	2.50	MIM 1300080
1.20	3.00	38.1	3.50	MIM 1300090
1.30	3.00	38.1	4.00	MIM 1300100
1.40	3.00	38.1	4.00	MIM 1300110
1.50	3.00	38.1	4.50	MIM 1300120
1.60	3.00	38.1	4.50	MIM 1300130
1.70	3.00	38.1	5.00	MIM 1300140
1.80	3.00	38.1	5.00	MIM 1300150
1.90	3.00	38.1	5.00	MIM 1300160
2.00	3.00	38.1	5.00	MIM 1300170
2.50	3.00	38.1	5.00	MIM 1300180

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni



MIM 133

HIGH SPEED BALL NOSE TWIST END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE RAGGIATA AD ALTE PRESTAZIONI
2 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	6.00	50	4	MIM 1300010	MIM 1300010 T	MIM 1300010 B
2.50	6.00	50	4	MIM 1300020	MIM 1300020 T	MIM 1300020 B
3.00	6.00	50	5	MIM 1300030	MIM 1300030 T	MIM 1300030 B
3.50	6.00	50	5	MIM 1300040	MIM 1300040 T	MIM 1300040 B
4.00	6.00	54	6	MIM 1300050	MIM 1300050 T	MIM 1300050 B
4.50	6.00	54	6	MIM 1300060	MIM 1300060 T	MIM 1300060 B
5.00	6.00	54	7	MIM 1300070	MIM 1300070 T	MIM 1300070 B
6.00	6.00	54	9	MIM 1300080	MIM 1300080 T	MIM 1300080 B
8.00	8.00	58	12	MIM 1300090	MIM 1300090 T	MIM 1300090 B
10.00	10.00	66	14	MIM 1300100	MIM 1300100 T	MIM 1300100 B

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

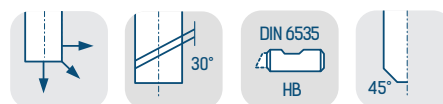


MIM 136

HIGH SPEED TWIST END MILL 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE AD ALTE PRESTAZIONI
2 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	6.00	50	4	MIM 1360010	MIM 1360010 T	MIM 1360010 B
2.50	6.00	50	4	MIM 1360020	MIM 1360020 T	MIM 1360020 B
3.00	6.00	50	5	MIM 1360030	MIM 1360030 T	MIM 1360030 B
3.50	6.00	50	5	MIM 1360040	MIM 1360040 T	MIM 1360040 B
4.00	6.00	54	6	MIM 1360050	MIM 1360050 T	MIM 1360050 B
4.50	6.00	54	6	MIM 1360060	MIM 1360060 T	MIM 1360060 B
5.00	6.00	54	7	MIM 1360070	MIM 1360070 T	MIM 1360070 B
6.00	6.00	54	9	MIM 1360080	MIM 1360080 T	MIM 1360080 B
8.00	8.00	58	12	MIM 1360090	MIM 1360090 T	MIM 1360090 B
10.00	10.00	66	14	MIM 1360100	MIM 1360100 T	MIM 1360100 B

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

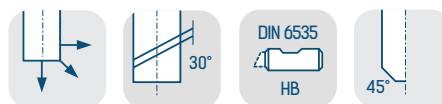
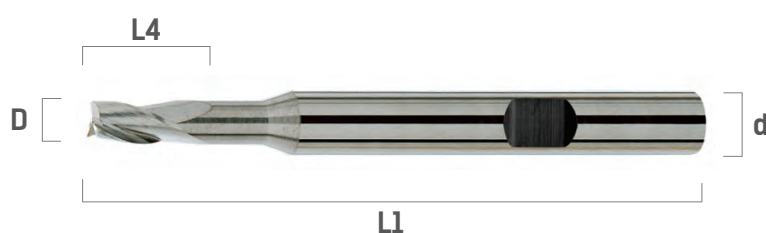


MIM 139

HIGH SPEED TWIST END MILL 3 FLUTES CENTER CUTTING

FRESA ELICOIDALE AD ALTE PRESTAZIONI
3 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferros

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	6.00	50	4	MIM 1390010	MIM 1390010 T	MIM 1390010 B
2.50	6.00	50	4	MIM 1390020	MIM 1390020 T	MIM 1390020 B
3.00	6.00	50	5	MIM 1390030	MIM 1390030 T	MIM 1390030 B
3.50	6.00	50	5	MIM 1390040	MIM 1390040 T	MIM 1390040 B
4.00	6.00	54	6	MIM 1390050	MIM 1390050 T	MIM 1390050 B
4.50	6.00	54	6	MIM 1390060	MIM 1390060 T	MIM 1390060 B
5.00	6.00	54	7	MIM 1390070	MIM 1390070 T	MIM 1390070 B
6.00	6.00	54	9	MIM 1390080	MIM 1390080 T	MIM 1390080 B
8.00	8.00	58	12	MIM 1390090	MIM 1390090 T	MIM 1390090 B
10.00	10.00	66	14	MIM 1390100	MIM 1390100 T	MIM 1390100 B
12.00	12.00	73	14	MIM 1390110	MIM 1390110 T	MIM 1390110 B
14.00	14.00	75	16	MIM 1390120	MIM 1390120 T	MIM 1390120 B

On request: out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

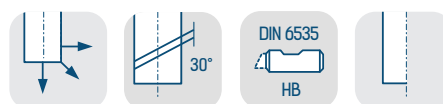
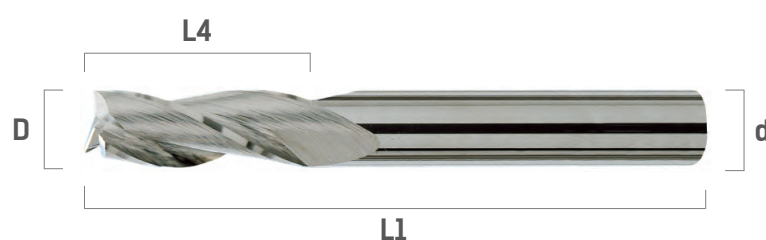


MIM 142

TWIST END MILL 3 FLUTES CENTER CUTTING

FRESA ELICOIDALE 3 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	2.00	38	8	MIM 1420010	MIM 1420010 T	MIM 1420010 B
2.50	2.50	38	8	MIM 1420020	MIM 1420020 T	MIM 1420020 B
3.00	3.00	38	12	MIM 1420030	MIM 1420030 T	MIM 1420030 B
3.50	3.50	40	12	MIM 1420040	MIM 1420040 T	MIM 1420040 B
4.00	4.00	40	12	MIM 1420050	MIM 1420050 T	MIM 1420050 B
4.50	4.50	50	14	MIM 1420060	MIM 1420060 T	MIM 1420060 B
5.00	5.00	50	14	MIM 1420070	MIM 1420070 T	MIM 1420070 B
5.50	5.50	50	16	MIM 1420080	MIM 1420080 T	MIM 1420080 B
6.00	6.00	50	16	MIM 1420090	MIM 1420090 T	MIM 1420090 B
6.50	6.50	50	16	MIM 1420100	MIM 1420100 T	MIM 1420100 B
7.00	7.00	60	20	MIM 1420110	MIM 1420110 T	MIM 1420110 B
7.50	7.50	60	20	MIM 1420120	MIM 1420120 T	MIM 1420120 B
8.00	8.00	60	20	MIM 1420130	MIM 1420130 T	MIM 1420130 B
8.50	8.50	60	20	MIM 1420140	MIM 1420140 T	MIM 1420140 B
9.00	9.00	60	20	MIM 1420150	MIM 1420150 T	MIM 1420150 B
9.50	9.50	70	22	MIM 1420160	MIM 1420160 T	MIM 1420160 B
10.00	10.00	70	22	MIM 1420170	MIM 1420170 T	MIM 1420170 B
11.00	11.00	70	22	MIM 1420180	MIM 1420180 T	MIM 1420180 B
12.00	12.00	70	22	MIM 1420190	MIM 1420190 T	MIM 1420190 B
13.00	13.00	75	25	MIM 1420200	MIM 1420200 T	MIM 1420200 B
14.00	14.00	75	25	MIM 1420210	MIM 1420210 T	MIM 1420210 B
15.00	15.00	75	25	MIM 1420220	MIM 1420220 T	MIM 1420220 B
16.00	16.00	75	25	MIM 1420230	MIM 1420230 T	MIM 1420230 B
18.00	18.00	100	32	MIM 1420240	MIM 1420240 T	MIM 1420240 B
20.00	20.00	100	32	MIM 1420250	MIM 1420250 T	MIM 1420250 B

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni



MIM 145

TWIST END MILL 3 FLUTES CENTER CUTTING • LONG SERIES

FRESA ELICOIDALE 3 TAGLIANTI TAGLIO AL CENTRO • SERIE LUNGA

T AlTiSiN **B** TiCN-B

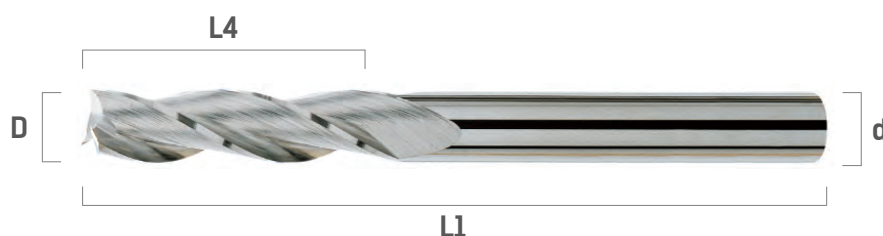


Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	55	20	MIM 1450010	MIM 1450010 T	MIM 1450010 B
4.00	4.00	60	20	MIM 1450020	MIM 1450020 T	MIM 1450020 B
5.00	5.00	60	20	MIM 1450030	MIM 1450030 T	MIM 1450030 B
6.00	6.00	65	24	MIM 1450040	MIM 1450040 T	MIM 1450040 B
8.00	8.00	80	32	MIM 1450050	MIM 1450050 T	MIM 1450050 B
10.00	10.00	80	32	MIM 1450060	MIM 1450060 T	MIM 1450060 B
12.00	12.00	100	50	MIM 1450070	MIM 1450070 T	MIM 1450070 B
14.00	14.00	100	50	MIM 1450080	MIM 1450080 T	MIM 1450080 B
16.00	16.00	100	50	MIM 1450090	MIM 1450090 T	MIM 1450090 B
18.00	18.00	100	50	MIM 1450100	MIM 1450100 T	MIM 1450100 B
20.00	20.00	100	50	MIM 1450110	MIM 1450110 T	MIM 1450110 B

On request: out of range • other sizes • DIN 6535 HB

Su richiesta: esecuzione speciale • diametri intermedi • DIN 6535 HB

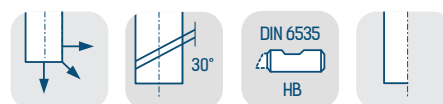
Application groups • Applicazioni



MIM 148

TWIST END MILL 3 FLUTES CENTER CUTTING • EXTRA LONG SERIES
FRESA ELICOIDALE 3 TAGLIENTI TAGLIO AL CENTRO • SERIE EXTRA LUNGA

T AlTiSiN **B** TiCN-B

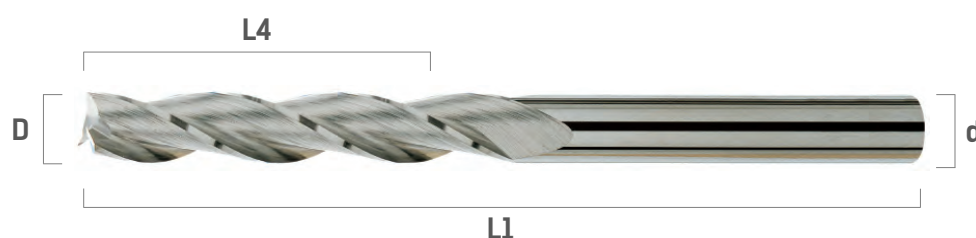


Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	70	30	MIM 1480010	MIM 1480010 T	MIM 1480010 B
4.00	4.00	75	40	MIM 1480020	MIM 1480020 T	MIM 1480020 B
5.00	5.00	80	40	MIM 1480030	MIM 1480030 T	MIM 1480030 B
6.00	6.00	80	45	MIM 1480040	MIM 1480040 T	MIM 1480040 B
8.00	8.00	100	50	MIM 1480050	MIM 1480050 T	MIM 1480050 B
10.00	10.00	100	50	MIM 1480060	MIM 1480060 T	MIM 1480060 B
12.00	12.00	150	70	MIM 1480070	MIM 1480070 T	MIM 1480070 B
14.00	14.00	150	75	MIM 1480080	MIM 1480080 T	MIM 1480080 B
16.00	16.00	150	75	MIM 1480090	MIM 1480090 T	MIM 1480090 B
18.00	18.00	150	75	MIM 1480100	MIM 1480100 T	MIM 1480100 B
20.00	20.00	150	75	MIM 1480110	MIM 1480110 T	MIM 1480110 B

On request: out of range • other sizes • DIN 6535 HB

Su richiesta: esecuzione speciale • diametri intermedi • DIN 6535 HB

Application groups • Applicazioni

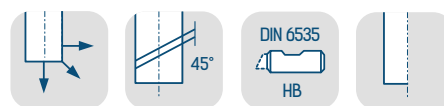


MIM 151

TWIST END MILL 3 FLUTES CENTER CUTTING

FRESA ELICOIDALE 3 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B

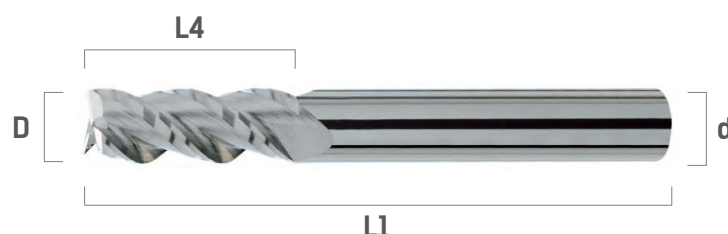


Solid carbide grades: 10% Co Micro grain

Application groups: teels, steel-alloys, Co Ni-alloys, aluminium, ferrous-materials. The deep flute geometry allows a good chip load and an excellent surface can be achieved

Metallo duro: 10% Co micrograna

Applicazioni: Acciai, acciai legati, leghe al Co Ni, alluminio e materiali non ferrosi, l'azione raschiante della torsione produce un truciolo corto diminuendo la pressione specifica di taglio, buona finitura



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
4.00	4.00	55	12	MIM 1510010	MIM 1510010 T	MIM 1510010 B
5.00	5.00	60	14	MIM 1510020	MIM 1510020 T	MIM 1510020 B
6.00	6.00	60	16	MIM 1510030	MIM 1510030 T	MIM 1510030 B
8.00	8.00	65	20	MIM 1510040	MIM 1510040 T	MIM 1510040 B
10.00	10.00	80	22	MIM 1510050	MIM 1510050 T	MIM 1510050 B
12.00	12.00	80	22	MIM 1510060	MIM 1510060 T	MIM 1510060 B
14.00	14.00	100	25	MIM 1510070	MIM 1510070 T	MIM 1510070 B
16.00	16.00	100	25	MIM 1510080	MIM 1510080 T	MIM 1510080 B
18.00	18.00	100	30	MIM 1510090	MIM 1510090 T	MIM 1510090 B
20.00	20.00	100	30	MIM 1510100	MIM 1510100 T	MIM 1510100 B

On request: out of range • other sizes
Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni



MIM 154

TWIST END MILL 2 FLUTES CENTER CUTTING FOR HIGH SPEED

FRESA ELICOIDALE 2 TAGLIENTI TAGLIO AL CENTRO
ALTA VELOCITÀ

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: teels, steel-alloys, Co Ni-alloys, aluminium, ferrous-materials. The deep flute geometry allows a good chip load and an excellent surface can be achieved

Metallo duro: 10% Co micrograna

Applicazioni: Universale, consigliata per acciai temperati (riv. T-Cronal) alluminio e materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
4.00	4.00	57	8	MIM 1540010	MIM 1540010 T	MIM 1540010 B
6.00	6.00	57	10	MIM 1540020	MIM 1540020 T	MIM 1540020 B
8.00	8.00	63	16	MIM 1540030	MIM 1540030 T	MIM 1540030 B
10.00	10.00	72	19	MIM 1540040	MIM 1540040 T	MIM 1540040 B
12.00	12.00	82	22	MIM 1540050	MIM 1540050 T	MIM 1540050 B
16.00	16.00	92	25	MIM 1540060	MIM 1540060 T	MIM 1540060 B

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

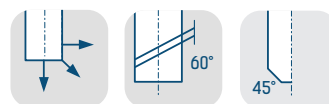


MIM 157

TWIST END MILL 2 FLUTES CENTER CUTTING FOR HIGH SPEED

FRESA ELICOIDALE 3 TAGLIENTI FORTE TORSIONE
TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: for finishing milling of all short chipping materials, steels and hard milling. The 60° flute geometry reduces cutting load variations. Especially suited for surface milling

Metallo duro: 10% Co micrograna

Applicazioni: fresatura di tutti i materiali duri e a truciolo corto. La forte torsione diminuisce la pressione specifica di taglio. Idonee dove occorre poca esportazione e buona finitura



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
4.00	4.00	50	12	MIM 1570010	MIM 1570010 T	MIM 1570010 B
5.00	5.00	50	14	MIM 1570020	MIM 1570020 T	MIM 1570020 B
6.00	6.00	50	16	MIM 1570030	MIM 1570030 T	MIM 1570030 B
8.00	8.00	60	20	MIM 1570040	MIM 1570040 T	MIM 1570040 B
10.00	10.00	70	22	MIM 1570050	MIM 1570050 T	MIM 1570050 B
12.00	12.00	70	22	MIM 1570060	MIM 1570060 T	MIM 1570060 B
14.00	14.00	75	25	MIM 1570070	MIM 1570070 T	MIM 1570070 B
16.00	16.00	75	25	MIM 1570080	MIM 1570080 T	MIM 1570080 B
18.00	18.00	100	30	MIM 1570090	MIM 1570090 T	MIM 1570090 B
20.00	20.00	100	30	MIM 1570100	MIM 1570100 T	MIM 157 0100 B

On request: out of range • other sizes • DIN 6535 HB
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB

Application groups • Applicazioni



MIM 160

**TWIST END MILL 4 FLUTES 45° HELIX
ANGLE 2 TEETH CUTTING TO CENTER**
FRESA ELICOIDALE 45° 4 TAGLIENTI TAGLIO AL
CENTRO

T AlTiSiN **B** TiCN-B **Z** ZrN

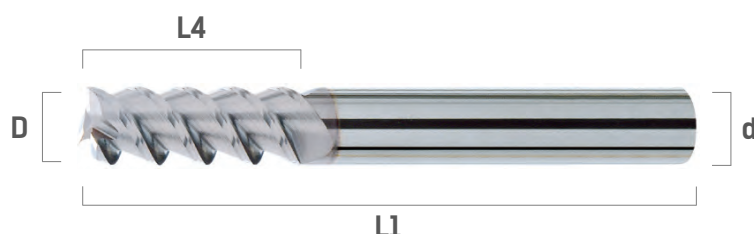


Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose
milling of most materials, especially suitable for
aluminium, non-ferrous materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresatura universale, specifica per Alluminio e
materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR	ZrN
6.00	6.00	57	16	MIM 1600010	MIM 1600010 T	MIM 1600010 B	MIM 1600010 Z
8.00	8.00	63	19	MIM 1600020	MIM 1600020 T	MIM 1600020 B	MIM 1600020 Z
10.00	10.00	75	25	MIM 1600030	MIM 1600030 T	MIM 1600030 B	MIM 1600030 Z
12.00	12.00	83	28	MIM 1600040	MIM 1600040 T	MIM 1600040 B	MIM 1600040 Z
14.00	14.00	83	30	MIM 1600050	MIM 1600050 T	MIM 1600050 B	MIM 1600050 Z
16.00	16.00	92	35	MIM 1600060	MIM 1600060 T	MIM 1600060 B	MIM 1600060 Z
18.00	18.00	92	35	MIM 1600070	MIM 1600070 T	MIM 1600070 B	MIM 1600070 Z
20.00	20.00	104	40	MIM 1600080	MIM 1600080 T	MIM 1600080 B	MIM 1600080 Z

On request: out of range • other sizes • DIN 6535 HB
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB

Application groups • Applicazioni

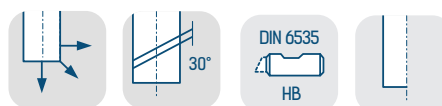
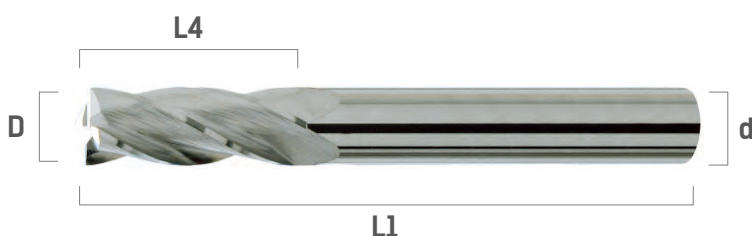


MIM 163

TWIST END MILL 4 FLUTES CENTER CUTTING

FRESA ELICOIDALE 4 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	2.00	38	8	MIM 1630010	MIM 1630010 T	MIM 1630010 B
2.50	2.50	38	8	MIM 1630020	MIM 1630020 T	MIM 1630020 B
3.00	3.00	38	12	MIM 1630030	MIM 1630030 T	MIM 1630030 B
3.50	3.50	40	12	MIM 1630040	MIM 1630040 T	MIM 1630040 B
4.00	4.00	40	12	MIM 1630050	MIM 1630050 T	MIM 1630050 B
4.50	4.50	50	14	MIM 1630060	MIM 1630060 T	MIM 1630060 B
5.00	5.00	50	14	MIM 1630070	MIM 1630070 T	MIM 1630070 B
5.50	5.50	50	16	MIM 1630080	MIM 1630080 T	MIM 1630080 B
6.00	6.00	50	16	MIM 1630090	MIM 1630090 T	MIM 1630090 B
6.50	6.50	50	16	MIM 1630100	MIM 1630100 T	MIM 1630100 B
7.00	7.00	60	20	MIM 1630110	MIM 1630110 T	MIM 1630110 B
7.50	7.50	60	20	MIM 1630120	MIM 1630120 T	MIM 1630120 B
8.00	8.00	60	20	MIM 1630130	MIM 1630130 T	MIM 1630130 B
8.50	8.50	60	20	MIM 1630140	MIM 1630140 T	MIM 1630140 B
9.00	9.00	60	20	MIM 1630150	MIM 1630150 T	MIM 1630150 B
9.50	9.50	70	22	MIM 1630160	MIM 1630160 T	MIM 1630160 B
10.00	10.00	70	22	MIM 1630170	MIM 1630170 T	MIM 1630170 B
11.00	11.00	70	22	MIM 1630180	MIM 1630180 T	MIM 1630180 B
12.00	12.00	70	22	MIM 1630190	MIM 1630190 T	MIM 1630190 B
13.00	13.00	75	25	MIM 1630200	MIM 1630200 T	MIM 1630200 B
14.00	14.00	75	25	MIM 1630210	MIM 1630210 T	MIM 1630210 B
15.00	15.00	75	25	MIM 1630220	MIM 1630220 T	MIM 1630220 B
16.00	16.00	75	25	MIM 1630230	MIM 1630230 T	MIM 1630230 B
18.00	18.00	100	32	MIM 1630240	MIM 1630240 T	MIM 1630240 B
20.00	20.00	100	32	MIM 1630250	MIM 1630250 T	MIM 1630250 B

On request: out of range • other sizes • DIN 6535 HB

Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB

Application groups • Applicazioni

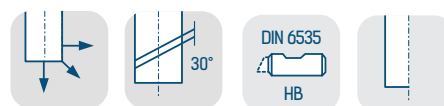


MIM 166

TWIST END MILL 4 FLUTES CENTER CUTTING LONG SERIES

FRESA ELICOIDALE 4 TAGLIENTI TAGLIO AL CENTRO
SERIE LUNGA

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	55	20	MIM 1660010	MIM 1660010 T	MIM 1660010 B
4.00	4.00	60	20	MIM 1660020	MIM 1660020 T	MIM 1660020 B
5.00	5.00	60	20	MIM 1660030	MIM 1660030 T	MIM 1660030 B
6.00	6.00	65	24	MIM 1660040	MIM 1660040 T	MIM 1660040 B
8.00	8.00	80	32	MIM 1660050	MIM 1660050 T	MIM 1660050 B
10.00	10.00	80	32	MIM 1660060	MIM 1660060 T	MIM 1660060 B
12.00	12.00	100	50	MIM 1660070	MIM 1660070 T	MIM 1660070 B
14.00	14.00	100	50	MIM 1660080	MIM 1660080 T	MIM 1660080 B
16.00	16.00	100	50	MIM 1660090	MIM 1660090 T	MIM 1660090 B
18.00	18.00	100	50	MIM 1660100	MIM 1660100 T	MIM 1660100 B
20.00	20.00	100	50	MIM 1660110	MIM 1660110 T	MIM 1660110 B

On request: out of range • other sizes • DIN 6535 HB • T-Cronal coating
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB •
rivestimento T-Cronal

Application groups • Applicazioni



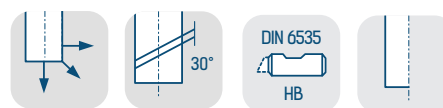
MIM 169

TWIST END MILL 4 FLUTES CENTER CUTTING • LONG SERIES

FRESA ELICOIDALE 4 TAGLIENTI

TAGLIO AL CENTRO • SERIE EXTRA LUNGA

T AlTiSiN **B** TiCN-B

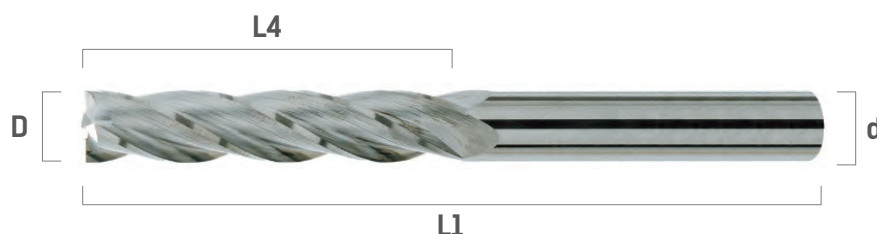


Solid carbide grades: 10% Co Micro grain

Application groups: suitable for general purpose milling of most materials, steels, non-ferrous-materials

Metallo duro: 10% Co micrograna

Applicazioni: Universale, per acciai e materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	70	30	MIM 1690010	MIM 1690010 T	MIM 1690010 B
4.00	4.00	75	40	MIM 1690020	MIM 1690020 T	MIM 1690020 B
5.00	5.00	80	40	MIM 1690030	MIM 1690030 T	MIM 1690030 B
6.00	6.00	80	45	MIM 1690040	MIM 1690040 T	MIM 1690040 B
8.00	8.00	100	50	MIM 1690050	MIM 1690050 T	MIM 1690050 B
10.00	10.00	100	50	MIM 1690060	MIM 1690060 T	MIM 1690060 B
12.00	12.00	150	70	MIM 1690070	MIM 1690070 T	MIM 1690070 B
14.00	14.00	150	75	MIM 1690080	MIM 1690080 T	MIM 1690080 B
16.00	16.00	150	75	MIM 1690090	MIM 1690090 T	MIM 1690090 B
18.00	18.00	150	75	MIM 1690100	MIM 1690100 T	MIM 1690100 B
20.00	20.00	150	75	MIM 1690110	MIM 1690110 T	MIM 1690110 B

On request: out of range • other sizes • DIN 6535 HB • T-Cronal coating
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB •
 rivestimento T-Cronal

Application groups • Applicazioni



MIM 172

BALL NOSE TWIST END MILL 4 FLUTES CENTER CUTTING

FRESA ELICOIDALE A TESTA RAGGIATA
4 TAGLIENTI TAGLIO AL CENTRO

T AlTiSiN **B** TiCN-B

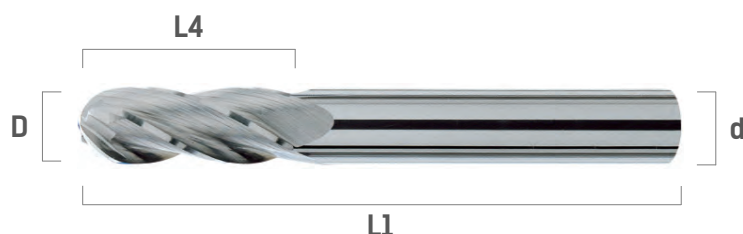


Solid carbide grades: 10% Co Micro grain

Application groups: for general purpose milling of most materials, steels, non-ferrous materials

Metallo duro: 10% Co micrograna

Applicazioni: Fresature universale, anche per materiali non ferrosi



D h9	d h6	L1	L4	UNCOATED	AlTiSiN	TiCN-BR
2.00	2.00	38	8	MIM 1720010	MIM 1720010 T	MIM 1720010 B
2.50	2.50	38	8	MIM 1720020	MIM 1720020 T	MIM 1720020 B
3.00	3.00	38	12	MIM 1720030	MIM 1720030 T	MIM 1720030 B
3.50	3.50	40	12	MIM 1720040	MIM 1720040 T	MIM 1720040 B
4.00	4.00	40	12	MIM 1720050	MIM 1720050 T	MIM 1720050 B
4.50	4.50	50	14	MIM 1720060	MIM 1720060 T	MIM 1720060 B
5.00	5.00	50	14	MIM 1720070	MIM 1720070 T	MIM 1720070 B
5.50	5.50	50	16	MIM 1720080	MIM 1720080 T	MIM 1720080 B
6.00	6.00	50	16	MIM 1720090	MIM 1720090 T	MIM 1720090 B
7.00	7.00	60	20	MIM 1720100	MIM 1720100 T	MIM 1720100 B
8.00	8.00	60	20	MIM 1720110	MIM 1720110 T	MIM 1720110 B
8.50	8.50	60	20	MIM 1720120	MIM 1720120 T	MIM 1720120 B
10.00	10.00	70	22	MIM 1720130	MIM 1720130 T	MIM 1720130 B
12.00	12.00	70	22	MIM 1720140	MIM 1720140 T	MIM 1720140 B
14.00	14.00	75	25	MIM 1720150	MIM 1720150 T	MIM 1720150 B
16.00	16.00	75	25	MIM 1720160	MIM 1720160 T	MIM 1720160 B

On request: out of range • other sizes • DIN 6535 HB
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB

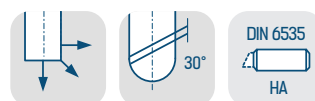
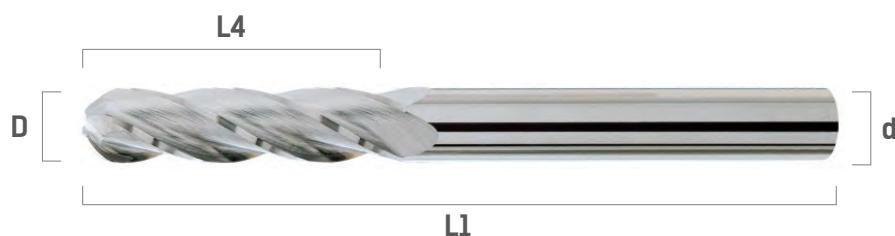
Application groups • Applicazioni



MIM 175

BALL NOSE TWIST END MILL 4 FLUTES
CENTER CUTTING LONG SERIES
 FRESA ELICOIDALE A TESTA RAGGIATA 4 TAGLIENTI
 TAGLIO AL CENTRO • SERIE LUNGA

T ALTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain
Application groups: for general purpose milling of most materials, steels, non-ferrous materials

Metallo duro: 10% Co micrograna
Applicazioni: Fresature universale, anche per materiali non ferrosi

D h9	d h6	L1	L4	UNCOATED	ALTiSiN	TiCN-BR
3.00	3.00	55	20	MIM 1750010	MIM 1750010 T	MIM 1750010 B
4.00	4.00	60	20	MIM 1750020	MIM 1750020 T	MIM 1750020 B
5.00	5.00	60	20	MIM 1750030	MIM 1750030 T	MIM 1750030 B
6.00	6.00	65	24	MIM 1750040	MIM 1750040 T	MIM 1750040 B
8.00	8.00	80	32	MIM 1750050	MIM 1750050 T	MIM 1750050 B
10.00	10.00	80	32	MIM 1750060	MIM 1750060 T	MIM 1750060 B
12.00	12.00	100	50	MIM 1750070	MIM 1750070 T	MIM 1750070 B

On request: out of range • other sizes • DIN 6535 HB
Su richiesta: esecuzione speciale • diametri intermedi DIN 6535 HB •

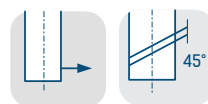
Application groups • Applicazioni



MIM 178

TWIST END MILL MULTI-CUT
FRESE ELICOIDALE MULTIDENTI

T AlTiSiN **B** TiCN-B

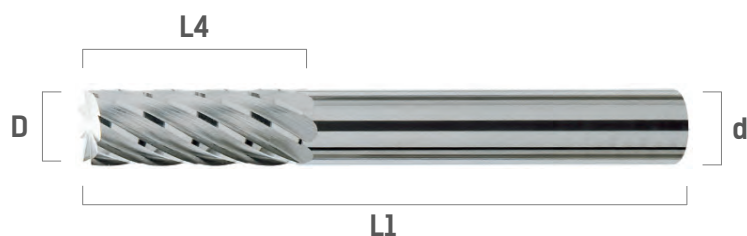


Solid carbide grades: 10% Co Micro grain

Application groups: for finishing milling of steel, non-ferrous materials, cast iron

Metallo duro: 10% Co micrograna

Applicazioni: Consigliata per fresature con ottime finiture della superficie, applicazione universale per acciaio, ghisa e metalli non ferrosi



D h9	d h6	L1	L4	Z	UNCOATED	AlTiSiN	TiCN-BR
3.00	3.00	38	12	6	MIM 1780010	MIM 1780010 T	MIM 1780010 B
4.00	4.00	40	12	6	MIM 1780020	MIM 1780020 T	MIM 1780020 B
5.00	5.00	50	14	6	MIM 1780030	MIM 1780030 T	MIM 1780030 B
6.00	6.00	50	16	8	MIM 1780040	MIM 1780040 T	MIM 1780040 B
7.00	7.00	60	20	8	MIM 1780050	MIM 1780050 T	MIM 1780050 B
8.00	8.00	60	20	8	MIM 1780060	MIM 1780060 T	MIM 1780060 B
10.00	10.00	70	22	8	MIM 1780070	MIM 1780070 T	MIM 1780070 B
12.00	12.00	70	22	10	MIM 1780080	MIM 1780080 T	MIM 1780080 B

Su richiesta: esecuzione speciale • diametri intermedi
On request: out of range • other sizes

Application groups • Applicazioni



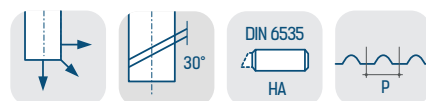
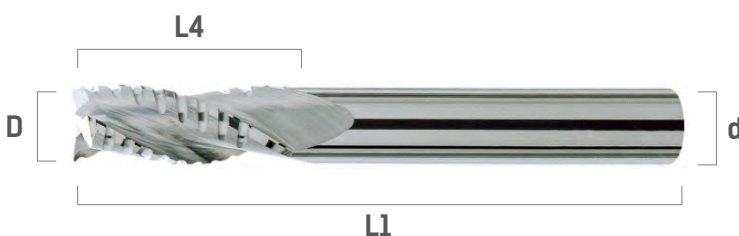
MIM 181

ROUGHING END MILL FINE PROFILE

FRESA CON ROMPITRUCIOLO

DENTATURA FINE

T AlTiSiN **B** TiCN-B



Solid carbide grades: 10% Co Micro grain

Application groups: for finishing milling of steel, steel-alloys, non-ferrous materials.

Very high chip removal through the roughing profile

Metallo duro: 10% Co micrograna

Applicazioni: Alta asportazione di truciolo. Acciai, acciai legati e materiali non ferrosi

D h9	d h6	L1	L4	Z	P	UNCOATED	AlTiSiN	TiCN-BR
6.00	6.00	50	14	3	1.5	MIM 1810010	MIM 1810010 T	MIM 1810010 B
8.00	8.00	60	19	3	2	MIM 1810020	MIM 1810020 T	MIM 1810020 B
10.00	10.00	70	22	4	2.5	MIM 1810030	MIM 1810030 T	MIM 1810030 B
12.00	12.00	74	26	4	2.5	MIM 1810040	MIM 1810040 T	MIM 1810040 B
14.00	14.00	76	28	4	3	MIM 1810050	MIM 1810050 T	MIM 1810050 B
16.00	16.00	83	32	4	3	MIM 1810060	MIM 1810060 T	MIM 1810060 B
18.00	18.00	85	32	4	3	MIM 1810070	MIM 1810070 T	MIM 1810070 B
20.00	20.00	93	35	4	3	MIM 1810080	MIM 1810080 T	MIM 1810080 B

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

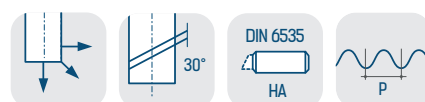
Application groups • Applicazioni



MIM 184

ROUGHING END MILL COARSE PROFILE
FRESA CON ROMPITRUCIOLO DENTATURA GROSSA

T AlTiSiN **B** TiCN-B



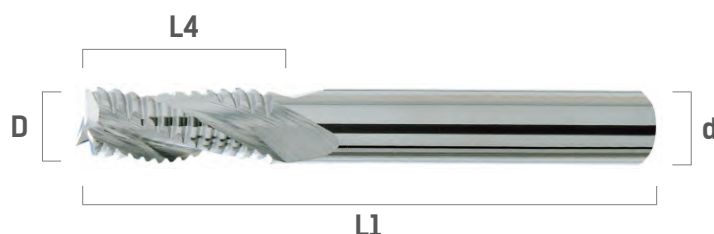
Solid carbide grades: 10% Co Micro grain

Application groups: for finishing milling of steel, steel-alloys, non-ferrous materials.

Very high chip removal through the roughing profile

Metallo duro: 10% Co micrograna

Applicazioni: Alta asportazione di truciolo. Acciai, acciai legati e materiali non ferrosi



D h9	d h6	L1	L4	Z	P	UNCOATED	AlTiSiN	TiCN-BR
6.00	6.00	50	14	3	1	MIM 1840010	MIM 1840010 T	MIM 1840010 B
8.00	8.00	60	19	3	1.5	MIM 1840020	MIM 1840020 T	MIM 1840020 B
10.00	10.00	70	22	4	1.5	MIM 1840030	MIM 1840030 T	MIM 1840030 B
12.00	12.00	74	26	4	2	MIM 1840040	MIM 1840040 T	MIM 1840040 B
14.00	14.00	76	28	4	2	MIM 1840050	MIM 1840050 T	MIM 1840050 B
16.00	16.00	83	32	4	2.5	MIM 1840060	MIM 1840060 T	MIM 1840060 B
18.00	18.00	85	32	4	2.5	MIM 1840070	MIM 1840070 T	MIM 1840070 B
20.00	20.00	93	35	4	2.5	MIM 1840080	MIM 1840080 T	MIM 1840080 B

On request: out of range Shank DIN 6535 HB
Su richiesta: diametri intermedi DIN 6535 HB

Application groups · Applicazioni

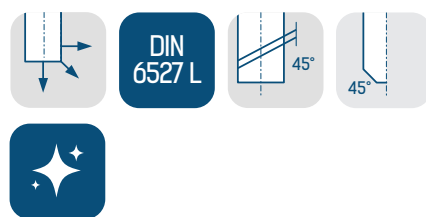
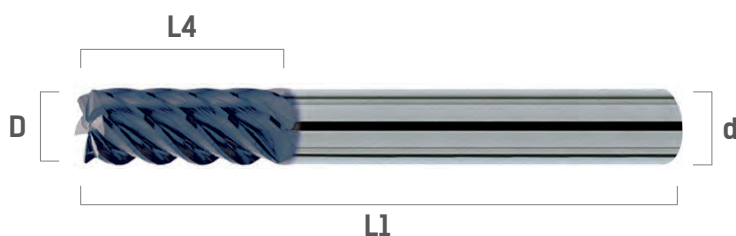


MIM 204

HIGH SPEED CUTTING END MILL FOR
FINISHING MILLING MULTI-CUT, POSITIVE
FRONT RAKE ANGLE

FRESA CILINDRICA MULTIDENTI POSITIVA PER
FINITURE AD ALTA VELOCITÀ

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4μ

Specification: positive front rake angle

Application groups: for dry milling of most materials, steel, hardened steel, non-ferrous materials, cast iron

Metallo duro: 12% Co micrograna < 0,4 μ

Caratteristiche: Angolo di spoglia positivo

Applicazioni: Fresature universali per acciaio, acciaio temperato, ghisa e metalli ferrosi. Idonea per fresature a secco

D h9	d h6	L1	L4	Z	PVD-PRO
6.00	6.00	57	13	6	MIM 2040010 P
8.00	8.00	63	19	6	MIM 2040020 P
10.00	10.00	72	22	6	MIM 2040030 P
12.00	12.00	83	26	6	MIM 2040040 P
14.00	14.00	83	26	6	MIM 2040050 P
16.00	16.00	92	22	8	MIM 2040060 P
20.00	20.00	104	38	8	MIM 2040070 P

On request: out of range
Su richiesta: diametri intermedi

Application groups • Applicazioni

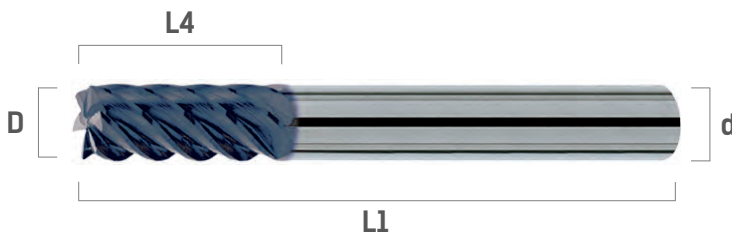


MIM 208

HIGH SPEED CUTTING END MILL FOR
FINISHING MILLING MULTI-CUT, POSITIVE
FRONT RAKE ANGLE

FRESA CILINDRICA MULTIDENTI POSITIVA PER
FINITURE AD ALTA VELOCITÀ

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 μ

Specification: positive front rake angle

Application groups: for dry milling of
most materials, steel, hardened steel,
non-ferrous materials, cast iron

Metallo duro: 12% Co micrograna < 0,4 μ

Caratteristiche: Angolo di spoglia positivo

Applicazioni: Fresature universali per acciaio, acciaio
temperato, ghisa e metalli ferrosi. Idonea per fresature a
secco

D h9	d h6	L1	L4	Z	PVD-PRO
6.00	6.00	65	20	6	MIM 2080010 P
8.00	8.00	70	25	6	MIM 2080020 P
10.00	10.00	80	30	6	MIM 2080030 P
12.00	12.00	95	35	6	MIM 2080040 P
16.00	16.00	110	50	8	MIM 2080050 P
20.00	20.00	135	65	8	MIM 2080060 P

On request: out of range
Su richiesta: diametri intermedi

Application groups · Applicazioni

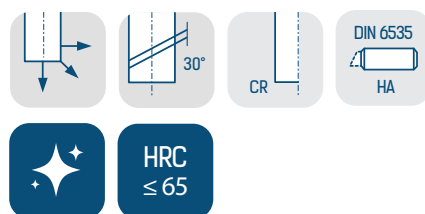
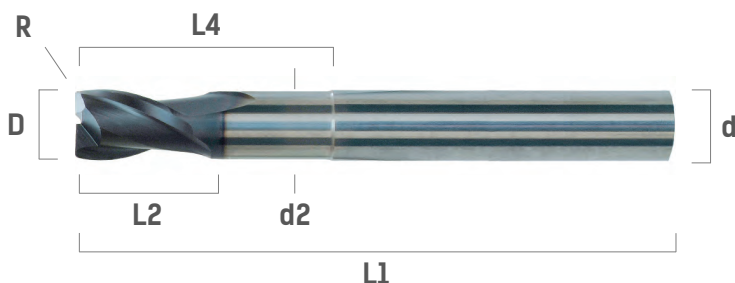


MIM 212

TORODIAL END MILL LONG SERIES

FRESA TORICA LUNGA

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: especially suitable for milling in steel up to HRC 65 in molds and dies, high temperature steel, graphite. Furthermore designed for turbine-and aeroplane-maker. Suitable for dry milling HSC < 50 HRC. HHC < 65 HRC

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Produzione di stampi e matrici, turbine e per il settore aeronautico, materiali temprati fino a 65 HRC e resistenti al calore, grafite, idonea anche per fresature a secco HSC < 50 HRC. HHC < 65 HRC

D h7	d h6	d2	R	L1	L4	L2	PVD-PRO
3.00	3.00	2.9	0.5	50	20	5	MIM 2120010 P
4.00	4.00	3.8	0.5	50	20	6	MIM 2120020 P
5.00	5.00	4.8	0.5	50	20	7	MIM 2120030 P
6.00	6.00	5.8	0.5	60	25	9	MIM 2120040 P
6.00	6.00	5.8	1	60	25	9	MIM 2120050 P
8.00	8.00	7.8	0.5	78	35	11	MIM 2120060 P
8.00	8.00	7.8	1	78	35	11	MIM 2120070 P
8.00	8.00	7.8	1.5	78	35	11	MIM 2120080 P
10.00	10.00	9.6	0.5	78	35	13	MIM 2120090 P
10.00	10.00	9.6	1	78	35	13	MIM 2120100 P
10.00	10.00	9.6	1.5	78	35	13	MIM 2120110 P
12.00	12.00	11.5	1	100	40	15	MIM 2120120 P
12.00	12.00	11.5	1.5	100	40	15	MIM 2120130 P
12.00	12.00	11.5	2	100	40	15	MIM 2120140 P

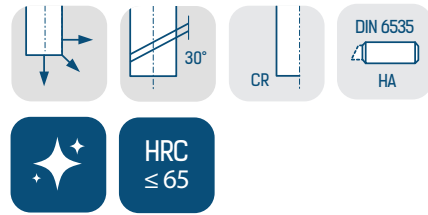
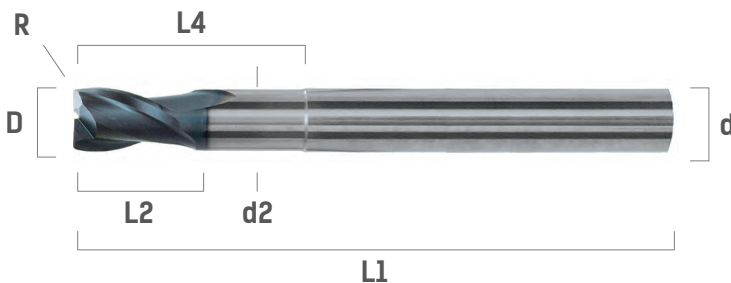
Application groups • Applicazioni



MIM 216

TORODIAL END MILL • EXTRA LONG SERIES
FRESA TORICA • EXTRA LUNGA

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: especially suitable for milling in steel up to HRC 65 in molds and dies, high temperature steel, graphite. Furthermore designed for turbine- and aeroplane-maker. Suitable for dry milling HSC < 50 HRC. HHC < 65 HRC

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Produzione di stampi e matrici, turbine e per il settore aeronautico, materiali temprati fino a 65 HRC e resistenti al calore, grafite, idonea anche per fresature a secco HSC < 50 HRC. HHC < 65 HRC

D h7	d h6	d2	R	L1	L4	L2	PVD-PRO
3.00	3.00	2.9	0.5	78	25	5	MIM 2160010 P
4.00	4.00	3.8	0.5	78	30	6	MIM 2160020 P
5.00	5.00	4.8	0.5	78	35	7	MIM 2160030 P
6.00	6.00	5.8	0.5	120	50	9	MIM 2160040 P
6.00	6.00	5.8	1	120	50	9	MIM 2160050 P
8.00	8.00	7.8	0.5	120	55	11	MIM 2160060 P
8.00	8.00	7.8	1	120	55	11	MIM 2160070 P
8.00	8.00	7.8	1.5	120	55	11	MIM 2160080 P
10.00	10.00	9.6	0.5	150	65	13	MIM 216090 P
10.00	10.00	9.6	1	150	65	13	MIM 2160100 P
10.00	10.00	9.6	1.5	150	65	13	MIM 2160110 P
12.00	12.00	11.5	1	150	70	15	MIM 2160120 P
12.00	12.00	11.5	1.5	150	70	15	MIM 2160130 P
12.00	12.00	11.5	2	150	70	15	MIM 2160140 P

Application groups • Applicazioni

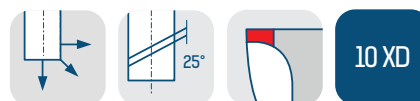


MIM 220

MICRO END MILL 2 FLUTES 10 X D

MICRO FRESA 2 TAGLI 10 X D

P PVD-PRO



HRC
≤ 65

Solid carbide grades: Micro grain 0,6 μ

Application groups: Milling of moulds and dies, steel, stainless steel, titanium alloys

Metallo duro: Micrograna 0,6 μ

Applicazioni: Fresatura stampi e matrici, acciai, acciai inox, leghe di titanio



D h7	d h6	d2	s	L1	L4	L2	PVD-PRO
0.50	0.50	0.45		40	5	0.60	MIM 2200010 P
0.60	0.60	0.55		40	6	0.72	MIM 2200020 P
0.80	0.80	0.75		40	8	0.96	MIM 2200030 P
1.00	1.00	0.95	0.07	50	10	1.20	MIM 2200040 P
1.20	1.20	1.10	0.07	50	12	1.44	MIM 2200050 P
1.50	1.50	1.40	0.07	60	15	1.80	MIM 2200060 P
2.00	2.00	1.90	0.10	60	20	2.40	MIM 2200070 P
2.50	2.50	2.30	0.10	60	25	3.00	MIM 2200080 P
3.00	3.00	2.80	0.10	60	30	3.60	MIM 2200090 P

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

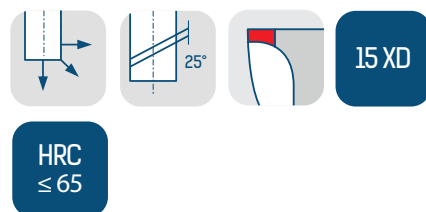


MIM 224

MICRO END MILL 2 FLUTES 15 X D

MICRO FRESA 2 TAGLI 15 X D

P PVD-PRO

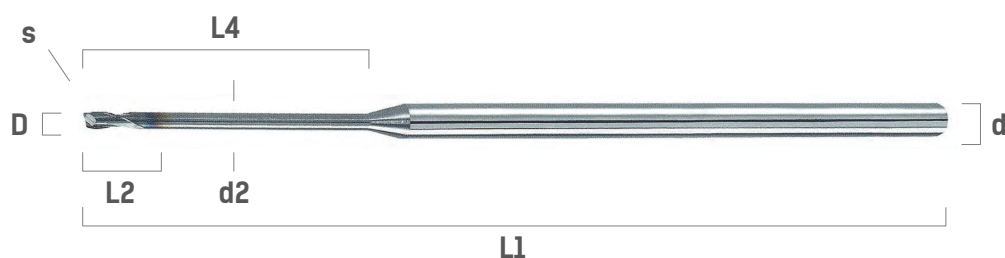


Solid carbide grades: Micro grain 0,6 μ

Application groups: Milling of moulds and dies, steel, stainless steel, titanium alloys

Metallo duro: Micrograna 0,6 μ

Applicazioni: Fresatura stampi e matrici, acciai, acciai inox, leghe di titanio



D h7	d h6	d2	s	L1	L4	L2	PVD-PRO
1.00	3.00	0.95	0.07	60	15	1.20	MIM 2240010 P
1.20	3.00	1.10	0.07	60	18	1.44	MIM 2240020 P
1.50	3.00	1.40	0.07	70	22.5	1.80	MIM 2240030 P
2.00	3.00	1.90	0.10	70	30	2.40	MIM 2240040 P
2.50	3.00	2.30	0.10	70	37.5	3.00	MIM 2240050 P
3.00	3.00	2.80	0.10	80	45	3.60	MIM 2240060 P

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni

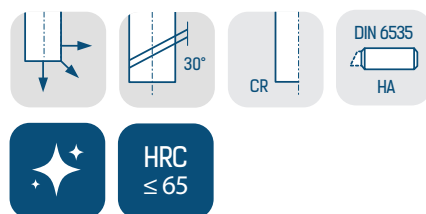
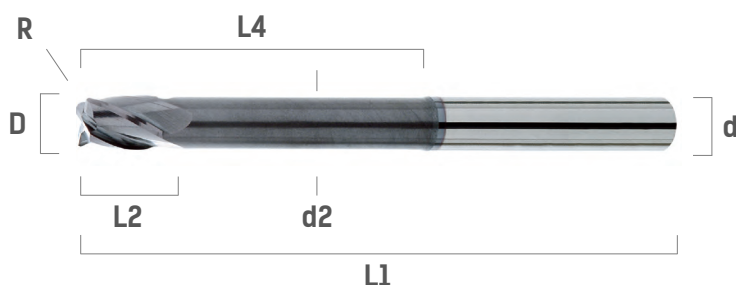


MIM 228

TORODIAL END MILL • LONG SERIES

FRESA TORICA • LUNGA

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: especially suitable for milling in steel up to HRC 65 in molds and dies, high temperature steel, graphite. Furthermore designed for turbine-and aeroplane-maker. Suitable for dry milling HSC < 50 HRC. HHC < 65 HRC

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Produzione di stampi e matrici, turbine e per il settore aeronautico, materiali temprati fino a 65 HRC e resistenti al calore, grafite, idonea anche per fresature a secco HSC < 50 HRC. HHC < 65 HRC

D h10	d h6	d2	R	L1	L4	L2	PVD-PRO
3.00	3.00	2.9	0.3	57	14	4	MIM 2280010 P
4.00	4.00	3.8	0.4	57	16	5	MIM 2280020 P
5.00	5.00	4.8	0.5	57	21	6	MIM 2280030 P
6.00	6.00	5.5	0.5	57	21	7	MIM 2280040 P
6.00	6.00	5.5	1	57	21	7	MIM 2280050 P
8.00	8.00	7.5	0.5	63	27	10	MIM 2280060 P
8.00	8.00	7.5	1	63	27	10	MIM 2280070 P
8.00	8.00	7.5	1.5	63	27	10	MIM 2280080 P
8.00	8.00	7.5	2	63	27	10	MIM 2280090 P
10.00	10.00	9.5	0.5	72	32	12	MIM 2280100 P
10.00	10.00	9.5	1	72	32	12	MIM 2280110 P
10.00	10.00	9.5	1.5	72	32	12	MIM 2280120 P
10.00	10.00	9.5	2	72	32	12	MIM 2280130 P
12.00	12.00	11.5	0.5	83	38	15	MIM 2280140 P
12.00	12.00	11.5	1	83	38	15	MIM 2280150 P
12.00	12.00	11.5	1.5	83	38	15	MIM 2280160 P
12.00	12.00	11.5	2	83	38	15	MIM 2280170 P

Application groups • Applicazioni



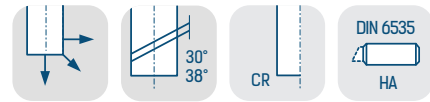
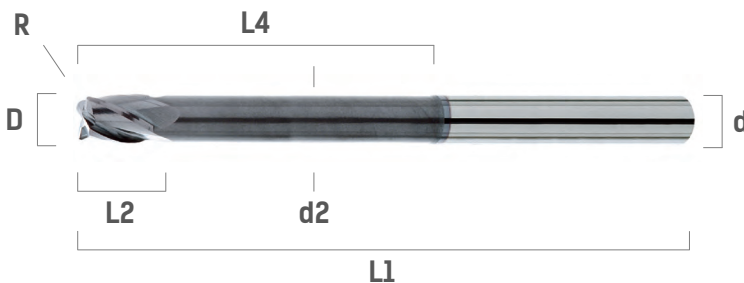
MIM 232

TOROIDAL END MILL HPC 35°/38°

EXTRA LONG SERIES

FRESA TORICA HPC 35°/38° • EXTRA LUNGA

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: especially suitable for milling in steel up to HRC 65 in molds and dies, high temperature steel, graphite. Furthermore designed for turbine-and aeroplane-maker. Suitable for dry milling No vibrations. Corner radius. Unequal division HSC < 50 HRC. HHC < 65 HRC

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Produzione di stampi e matrici, turbine e per il settore aeronautico, materiali temprati fino a 65 HRC e resistenti al calore, grafite, idonea anche per fresature a secco. Assenza di vibrazione. Raggio d'angolo. Divisione irregolare HSC < 50 HRC. HHC < 65 HRC

D h10	d h6	d2	R	L1	L4	L2	PVD-PRO
6.00	6.00	5.5	0.5	80	45	8	MIM 2320010 P
6.00	6.00	5.5	1	80	45	8	MIM 2320020 P
8.00	8.00	7.5	0.5	100	60	11	MIM 2320030 P
8.00	8.00	7.5	1	100	60	11	MIM 2320040 P
8.00	8.00	7.5	1.5	100	60	11	MIM 2320050 P
8.00	8.00	7.5	2	100	60	11	MIM 2320060 P
10.00	10.00	9.5	0.5	100	60	13	MIM 2320070 P
10.00	10.00	9.5	1	100	60	13	MIM 2320080 P
10.00	10.00	9.5	1.5	100	60	13	MIM 2320090 P
10.00	10.00	9.5	2	100	60	13	MIM 2320100 P
12.00	12.00	11.5	0.5	120	75	16	MIM 2320110 P
12.00	12.00	11.5	1	120	75	16	MIM 2320120 P
12.00	12.00	11.5	1.5	120	75	16	MIM 2320130 P
12.00	12.00	11.5	2	120	75	16	MIM 2320140 P

Application groups • Applicazioni

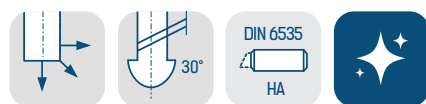


MIM 236

BALL NOSE END MILL • EXTRA LONG SERIES

FRESA RAGGIATA • EXTRA LUNGA

P PVD-PRO



HRC
≤ 65

Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: especially suitable for milling in steel in molds and dies, high temperature steel. Furthermore designed for turbine-and aeroplane-maker. Suitable for dry milling

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Produzione di stampi e matrici, turbine e per il settore aeronautico, materiali temprati e resistenti al calore, idonea per fresature a secco

D h10	d h6	d2	R	L1	L4	L2	PVD-PRO
4.00	4.00	3.7	2	100	40	6	MIM 2360010 P
6.00	6.00	5.7	3	100	45	7	MIM 2360020 P
8.00	8.00	7.7	4	120	60	8	MIM 2360030 P
10.00	10.00	9.7	5	120	80	10	MIM 2360040 P

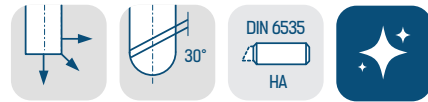
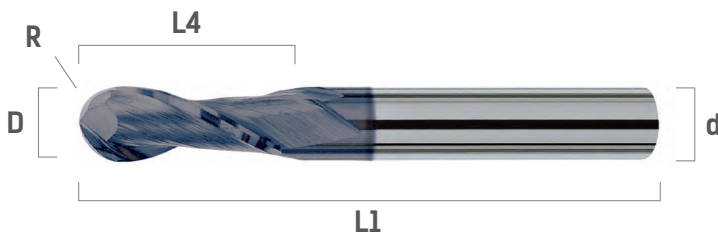
Application groups • Applicazioni



MIM 240

**BALL NOSE END MILL ESPECIALLY FOR
MOULD-MILLING 2 FLUTES CENTER CUTTING**
FRESA ELICOIDALE A TESTA RAGGIATA PER STAMPI
2 TAGLIENTI TAGLIO AL CENTRO

P PVD-PRO



HRC
≤ 65

Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: steel alloys,
hardened steel, milling in molds

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Per acciai legati, temprati, stampi

D h9	d h6	R	L1	L4	PVD-PRO
3.00	3.00	1.5	50	5	MIM 2400010 P
4.00	4.00	2	54	6	MIM 2400020 P
5.00	5.00	2.5	54	8	MIM 2400030 P
6.00	6.00	3	54	9	MIM 2400040 P
8.00	8.00	4	58	12	MIM 2400050 P
10.00	10.00	5	66	15	MIM 2400060 P
12.00	12.00	6	73	18	MIM 2400070 P
16.00	16.00	8	82	25	MIM 2400080 P
20.00	20.00	10	92	30	MIM 2400090 P

Application groups · Applicazioni

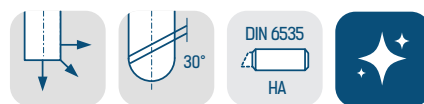


MIM 244

BALL NOSE END MILL ESPECIALLY FOR MOULD-MILLING 2 FLUTES CENTER CUTTING

FRESA ELICOIDALE A TESTA RAGGIATA PER STAMPI
2 TAGLIENTI TAGLIO AL CENTRO

P PVD-PRO



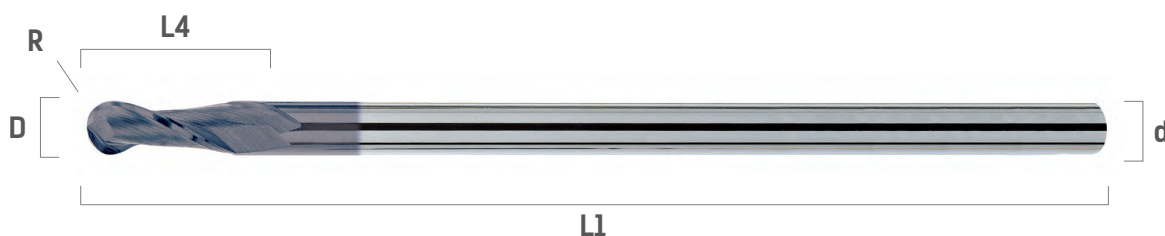
HRC
≤ 65

Solid carbide grades: 12% Co Micro grain < 0,4 μ

Application groups: steel alloys,
hardened steel, milling in molds

Metallo duro: 12% Co micrograna < 0,4 μ

Applicazioni: Per acciai legati, temprati, stampi



D h9	d h6	R	L1	L4	PVD-PRO
6.00	6.00	3	100	15	MIM 2440010 P
6.00	6.00	3	150	20	MIM 2440020 P
8.00	8.00	4	150	20	MIM 2440030 P
8.00	8.00	4	200	20	MIM 2440040 P
10.00	10.00	5	150	25	MIM 2440050 P
10.00	10.00	5	200	25	MIM 2440060 P
12.00	12.00	6	150	25	MIM 2440070 P
12.00	12.00	6	200	25	MIM 2440080 P

Application groups • Applicazioni



MIM 248

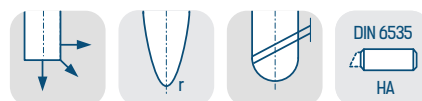
BARREL MILLING CUTTER, TANGENTIAL FORM Z=4

FRESA TANGENZIALE A SEGMENTO CURVO Z=4

P PVD-PRO



D h10	d h6	R1	R2	L1	L4	PVD-PRO
2.00	2.00	1	95	70	24	MIM 2480010 P
2.00	4.00	2	90	82	28	MIM 2480020 P
6.00	6.00	3	105	105	30	MIM 2480030 P



Solid carbide grades: Micro grain 0,5 μ

Application groups: steel, hardened steel up to 60 HRC, stainless steel, iron, aluminium alloys

Metallo duro: Micrograna 0,5 μ

Applicazioni: Acciai, acciai temprati fino a 60 HRC, inox, ghisa e leghe di alluminio

Application groups · Applicazioni

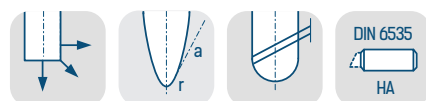


MIM 252

BARREL MILLING CUTTER, CONICAL FORM Z=4

FRESA CONICA A SEGMENTO CURVO Z=4

P PVD-PRO

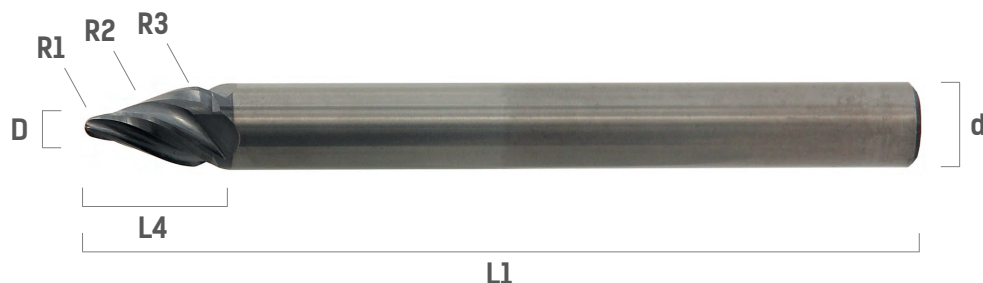


Solid carbide grades: Micro grain 0,5 μ

Application groups: steel, hardened steel up to 60 HRC, stainless steel, iron, aluminium alloys

Metallo duro: Micrograna 0,5 μ

Applicazioni: Acciai, acciai temprati fino a 60 HRC, inox, ghisa e leghe di alluminio



D h10	d h6	ha	R1	R2	R3	L1	L4	PVD-PRO
2.00	8.00	18°	1	300	1	75	10	MIM 2520010 P
4.00	12.00	18°	2	450	2	100	14	MIM 2520020 P
6.00	16.00	18°	3	1200	3	120	18	MIM 2520030 P
6.00	16.00	28°	3	800	3	120	12	MIM 2520040 P
8.00	16.00	18°	4	1200	4	120	16	MIM 2520050 P
8.00	16.00	28°	4	800	4	120	11	MIM 2520060 P

Application groups • Applicazioni



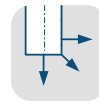
MIM 256

MINIATUR BALL NOSE END MILL

SHANK Ø 6,0 MM

MICRO FRESE RAGGiate GAMBO Ø 6,0 MM

P PVD-PRO

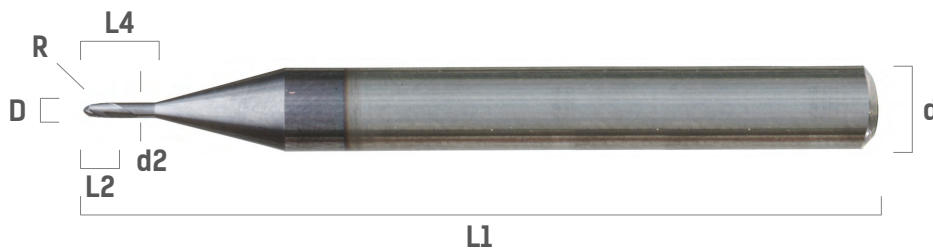


Solid carbide grades: 12% Co Micro grain < 0,4 µ

Application groups: for milling of most materials, steel until 60 HRC, non ferrous materials

Metallo duro: 12% Co micrograna < 0,4 µ

Applicazioni: Universali, materiali temprati fino a 60 HRC, materiali non ferrosi



D h9	d h6	d2	R	L1	L4	L2	PVD-PRO
0.60	6.00	0.55	0.3	55	3	1.20	MIM 2560010 A
0.80	6.00	0.75	0.4	55	4	1.20	MIM 2560020 A
1.00	6.00	0.95	0.5	55	5	1.50	MIM 2560030 A
1.20	6.00	1.15	0.6	55	5	1.60	MIM 2560040 A
1.50	6.00	1.44	0.75	55	5	1.80	MIM 2560050 A
2.00	6.00	1.92	1	55	6	2.00	MIM 2560060 A

Application groups · Applicazioni



MIM 260

MINIATUR BALL NOSE END MILL LONG SERIES SHANK Ø 3,0 MM

MICRO FRESE RAGGIATE SERIE LUNGA GAMBO Ø 3,0 MM

P PVD-PRO



Solid carbide grades: 12% Co Micro grain < 0,4 µ

Application groups: general purpose milling, especially suitable for copy-milling and milling of non ferrous materials.

Metallo duro: 12% Co micrograna < 0,4 µ

Applicazioni: Universali, lavorazione per stampi e materiali non ferrosi



D h9	d h6	R	L1	L4	PVD-PRO
0.40	3.00	0.2	38	1.0	MIM 2600010 A
0.60	3.00	0.3	38	1.5	MIM 2600020 A
0.80	3.00	0.4	38	2.0	MIM 2600030 A
1.00	3.00	0.5	38	2.5	MIM 2600040 A
1.50	3.00	0.75	38	4.5	MIM 2600050 A

Application groups • Applicazioni

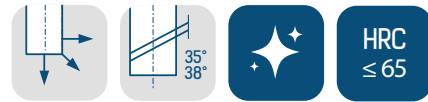
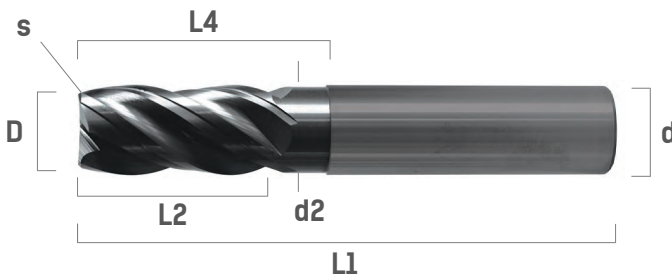


MIM 309

HIGH PERFORMANCE SOLID CARBIDE AND MILLS 35°/38° FOR STEEL UP TO 65HRC

FRESA AD ELEVATA PRESTAZIONE 35°/38° FINO A 65HRC

P PVD-PRO



Solid carbide grades: K10 micro grain < 0,5μ

Application groups: materials up to 65 HRC. High tempered steel, cast iron and non ferrous metals No vibrations. Chamfer. Unequal division On

Metallo duro: K10 micrograna < 0,5μ

Applicazioni: metalli fino a 65 HRC. Acciai altamente temprati, ghisa e metalli non ferrosi. Assenza di vibrazione Smusso d'angolo. Divisione irregolare

D h8	d h6	d2	s	L1	L4	L2	PVD-PRO
3.00	6.00	2.80	0.1	57	15	8	MIM 3090010 P
4.00	6.00	3.50	0.1	57	17	11	MIM 3090020 P
5.00	6.00	4.50	0.2	57	19	13	MIM 3090030 P
6.00	6.00	5.50	0.2	57	21	13	MIM 3090040 P
8.00	8.00	7.50	0.2	63	26	19	MIM 3090050 P
10.00	10.00	9.50	0.25	72	30	22	MIM 3090060 P
12.00	12.00	11.50	0.3	83	37	26	MIM 3090070 P
16.00	16.00	15.50	0.4	92	42	32	MIM 3090080 P
20.00	20.00	19.50	0.5	104	50	38	MIM 3090090 P

Application groups • Applicazioni

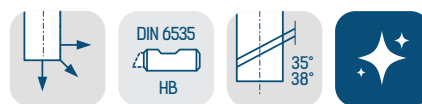
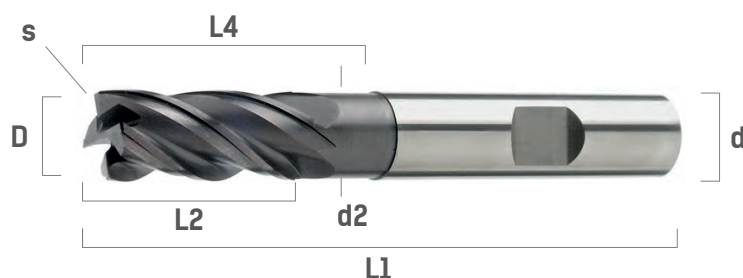


MIM 318

END MILL HPC SUPER-TOP UP TO 65HRC,
NO VIBRATION, CHAMFER, RELIEVED

FRESA HPC SUPER-TOP FINO A 65 HRC,
ASSENZA DI VIBRAZIONE, CON SMUSSO E RIBASSATE

P PVD-PRO



HRC
≤ 65

Solid carbide grades: Micro grain 0,2±0,5μ

Application groups: materials up to 65 HRC, heat treatable steels, cast iron and non ferrous metals. No vibrations. Chamfer. Unequal division

Metallo duro: Micrograna ultrafine 0,2±0,5μ

Applicazioni: metalli fino a 65 HRC. Acciai altamente temprati, ghisa e metalli non ferrosi. Assenza di vibrazione. Smusso d'angolo. Divisione irregolare

D h9	d h6	d2	s	L1	L4	L2	PVD-PRO
3.00	6.00	2.80	0.1	57	18	8	MIM 3180010 P
4.00	6.00	3.50	0.1	57	21	11	MIM 3180020 P
5.00	6.00	4.50	0.2	57	21	13	MIM 3180030 P
6.00	6.00	5.50	0.2	57	21	13	MIM 3180040 P
8.00	8.00	7.50	0.2	63	27	19	MIM 3180050 P
10.00	10.00	9.50	0.25	72	32	22	MIM 3180060 P
12.00	12.00	11.50	0.3	83	38	26	MIM 3180070 P
16.00	16.00	15.50	0.4	92	44	32	MIM 3180080 P
20.00	20.00	19.50	0.5	104	54	38	MIM 3180090 P

Application groups • Applicazioni

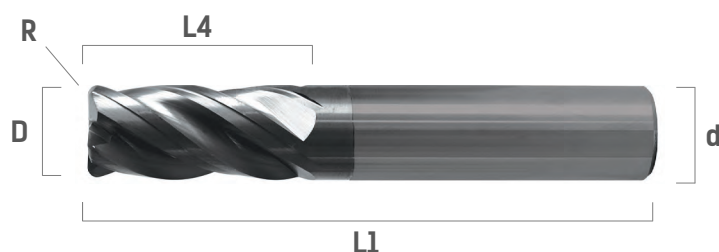


MIM 327

HIGH PERFORMANCE SOLID CARBIDE AND
MILLS 35°/38° FOR STEEL UP TO 65HRC

FRESA AD ELEVATA PRESTAZIONE 35°/38° FINO
A 65HRC

P PVD-PRO



HRC
≤ 65

Solid carbide grades: K10 micro grain < 0,5μ

Application groups: materials up to 65 HRC.
High tempered steel, cast iron and non ferrous
metals . No vibrations. Corner radius.
Unequal division On

Metallo duro: K10 micrograna < 0,5μ

Applicazioni: metalli fino a 65 HRC. Acciai altamente
temprati, ghisa e metalli non ferrosi. Assenza di vibrazione.
Raggio d'angolo. Divisione irregolare

D h8	d h6	R	L1	L4	PVD-PRO
4.00	6.00	0.5	57	11	MIM 3270010 P
4.00	6.00	1	57	11	MIM 3270020 P
5.00	6.00	0.5	57	13	MIM 3270030 P
5.00	6.00	1	57	13	MIM 3270040 P
6.00	6.00	0.5	57	13	MIM 3270050 P
6.00	6.00	1	57	13	MIM 3270060 P
8.00	8.00	0.5	63	19	MIM 3270070 P
8.00	8.00	1	63	19	MIM 3270080 P
10.00	10.00	0.5	72	22	MIM 3270090 P
10.00	10.00	1	72	22	MIM 3270100 P
12.00	12.00	0.5	83	26	MIM 3270110 P
12.00	12.00	1	83	26	MIM 3270120 P
16.00	16.00	1	92	32	MIM 3270130 P
16.00	16.00	2	92	32	MIM 3270140 P
20.00	20.00	1	104	38	MIM 3270150 P
20.00	20.00	2	104	38	MIM 3270160 P

On request: DIN 6535 HB
Su richiesta: DIN 6535 HB

Application groups • Applicazioni

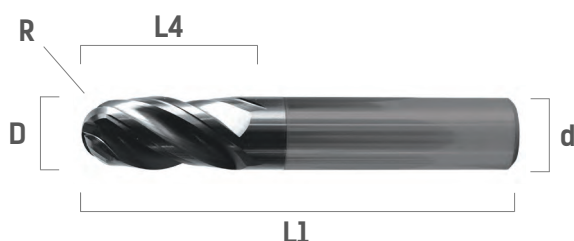


MIM 336

HIGH PERFORMANCE SOLID CARBIDE AND MILLS 35°/38° FOR STEEL UP TO 65HRC

FRESA AD ELEVATA PRESTAZIONE 35°/38° FINO A 65HRC

P PVD-PRO



Solid carbide grades: K10 micro grain < 0,5μ

Application groups: materials up to 65 HRC. High tempered steel, cast iron and non ferrous metals

No vibrations. Radius. Unequal division On

Metallo duro: K10 micrograna < 0,5μ

Applicazioni: metalli fino a 65 HRC. Acciai altamente temprati, ghisa e metalli non ferrosi. Assenza di vibrazione. Raggio pieno. Divisione irregolare

D h8	d h6	R	L1	L4	PVD-PRO
3.00	6.00	1.5	57	8	MIM 3360010 P
4.00	6.00	2	57	10	MIM 3360020 P
5.00	6.00	2.5	57	13	MIM 3360030 P
6.00	6.00	3	57	13	MIM 3360040 P
8.00	8.00	4	63	16	MIM 3360050 P
10.00	10.00	5	72	22	MIM 3360060 P
12.00	12.00	6	83	26	MIM 3360070 P
16.00	16.00	0.4	92	32	MIM 3360080 P
20.00	20.00	0.5	104	32	MIM 3360090 P

On request: DIN 6535 HB
Su richiesta: DIN 6535 HB

Application groups · Applicazioni

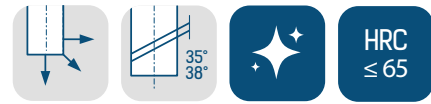
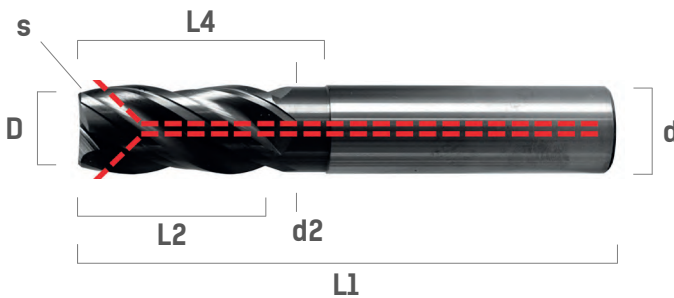


MIM 345

HIGH PERFORMANCE SOLID CARBIDE AND
MILLS 35°/38° FOR STEEL UP TO 65HRC
WITH SIDE COOLANT HOLES

FRESA AD ELEVATA PRESTAZIONE 35°/38° FINO A 65HRC
CON FORI INTERNI DI LUBRIFICAZIONE SULLE GOLE

P PVD-PRO



Solid carbide grades: K10 micro grain < 0,5μ

Application groups: materials up to 65 HRC.
High tempered steel, cast iron and non ferrous
metals

No vibrations. Chamfer. Unequal division On

Metallo duro: K10 micrograna < 0,5μ

Applicazioni: metalli fino a 65 HRC. Acciai altamente
temprati, ghisa e metalli non ferrosi. Assenza di vibrazione.
Smusso d'angolo. Divisione irregolare

D h8	d h6	d2	s	L1	L4	L2	PVD-PRO
6.00	6.00	5.50	0.2	57	21	13	MIM 3450010 P
8.00	8.00	7.50	0.2	63	26	19	MIM 3450020 P
10.00	10.00	9.50	0.25	72	30	22	MIM 3450030 P
12.00	12.00	11.50	0.3	83	37	26	MIM 3450040 P
16.00	16.00	15.50	0.4	92	42	32	MIM 3450050 P
20.00	20.00	19.50	0.5	104	50	38	MIM 3450060 P

On request: DIN 6535 HB
Su richiesta: DIN 6535 HB

Application groups • Applicazioni

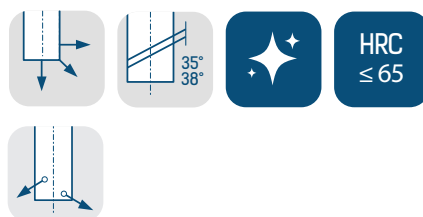
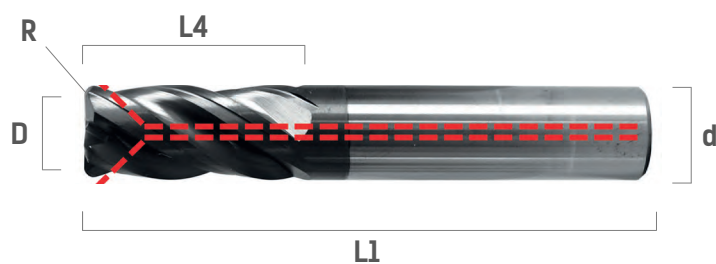


MIM 354

HIGH PERFORMANCE SOLID CARBIDE AND
MILLS 35°/38° FOR STEEL UP TO 65HRC
WITH SIDE COOLANT HOLES

FRESA AD ELEVATA PRESTAZIONE 35°/38° FINO A 65HRC
CON FORI INTERNI DI LUBRIFICAZIONE SULLE GOLE

P PVD-PRO



Solid carbide grades: K10 micro grain < 0,5μ

Application groups: materials up to 65 HRC.

High tempered steel, cast iron and non ferrous metals No vibrations. Corner radius.

Unequal division On.

Metallo duro: K10 micrograna < 0,5μ

Applicazioni: metalli fino a 65 HRC.

Acciai altamente temprati, ghisa e metalli non ferrosi.
Assenza di vibrazione.

Raggio d'angolo. Divisione irregolare

D h8	d h6	R	L1	L4	PVD-PRO
6.00	6.00	0.5	57	13	MIM 3540010 P
6.00	6.00	1	57	13	MIM 3540020 P
8.00	8.00	0.5	63	19	MIM 3540030 P
8.00	8.00	1	63	19	MIM 3540040 P
10.00	10.00	0.5	72	22	MIM 3540050 P
10.00	10.00	1	72	22	MIM 3540060 P
12.00	12.00	0.5	83	26	MIM 3540070 P
12.00	12.00	1	83	26	MIM 3540080 P
16.00	16.00	1	92	32	MIM 3540090 P
16.00	16.00	2	92	32	MIM 3540100 P
20.00	20.00	1	104	38	MIM 3540110 P
20.00	20.00	2	104	38	MIM 3540120 P

On request: DIN 6535 HB
Su richiesta: DIN 6535 HB

Application groups • Applicazioni

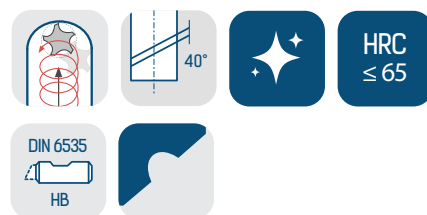


MIM 420

TROCHOIDAL MILLING CUTTER FOR STEEL MACHINING UP TO 55HRC

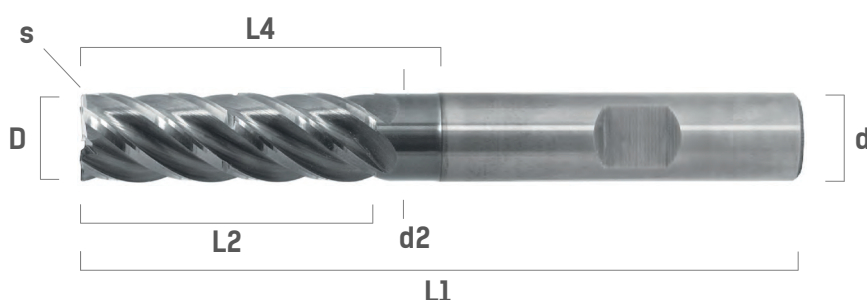
FRESE PER LA LAVORAZIONE IN TROCOIDALE
SU ACCIAI FINO A 55HRC

P PVD-PRO



Solid carbide grades: Micro grain 0,5μ h10 - h20
Application groups: steel, steel alloys

Metallo duro: Micrograna 0,5μ h10 - h20
Applicazioni: acciai, acciai legati



D h8	d h6	d2	s	L1	L4	L2	PVD-PRO
6.00	6.00	5.80	0.1	62	25	18	MIM 4200010 P
8.00	8.00	7.80	0.15	68	30	24	MIM 4200020 P
10.00	10.00	9.80	0.2	80	35	30	MIM 4200030 P
12.00	12.00	11.80	0.2	93	45	36	MIM 4200040 P
16.00	16.00	15.80	0.3	108	55	48	MIM 4200050 P
20.00	20.00	19.80	0.4	126	70	60	MIM 4200060 P

Application groups • Applicazioni



MIM 460

TROCHOIDAL MILLING CUTTER FOR TITANIUM AND TITANIUM ALLOYS

FRESE PER LA LAVORAZIONE IN TROCOIDALE
SU TITANIO E LEGHE

P PVD-PRO

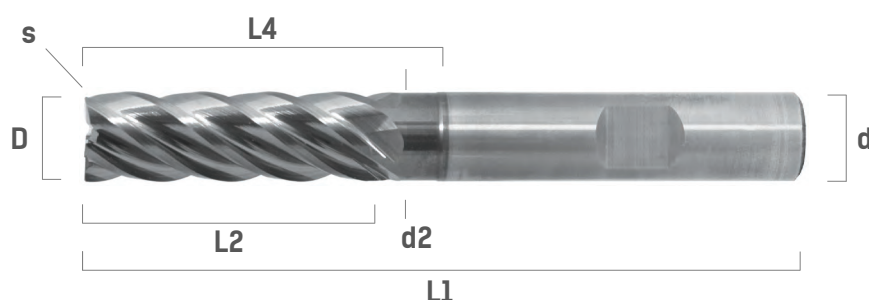


Solid carbide grades: Micro grain 0,5μ h10 - h20

Application groups: titanium and titanium alloys

Metallo duro: Micrograna 0,5μ h10 - h20

Applicazioni: titanio, leghe di titanio, inconel



D h9	d h6	d2	s	L1	L4	L2	PVD-PRO
6.00	6.00	5.80	0.1	62	25	18	MIM 4600010 P
8.00	8.00	7.80	0.15	68	30	24	MIM 4600020 P
10.00	10.00	9.80	0.2	80	35	30	MIM 4600030 P
12.00	12.00	11.80	0.2	93	45	36	MIM 4600040 P
16.00	16.00	15.80	0.3	108	55	48	MIM 4600050 P
20.00	20.00	19.80	0.4	126	70	60	MIM 4600060 P

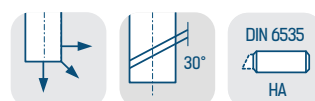
Application groups · Applicazioni



MIM 518

TROCHOIDAL MILLING CUTTER FOR TITANIUM AND TITANIUM ALLOYS

FRESE PER GRAFITE A TESTA PIANA



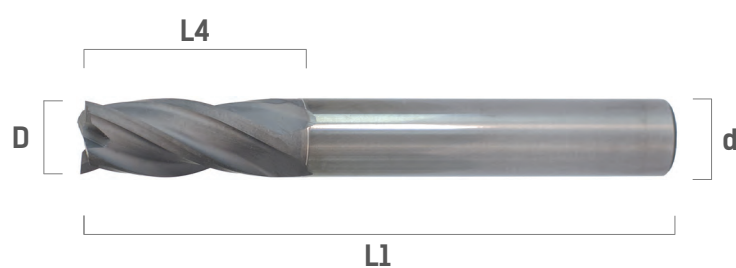
Solid carbide grades: Micro grain

Application groups: graphite

Metallo duro: Micrograna

Applicazioni: grafite

D Diamond



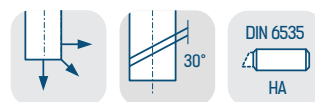
D h7	d h6	L1	L4	Z	Diamond
1.00	1.00	38	3	2	MIM 5180010 D
1.50	1.50	38	4	2	MIM 5180020 D
2.00	2.00	40	7	2	MIM 5180030 D
3.00	3.00	40	10	3	MIM 5180040 D
4.00	4.00	40	11	3	MIM 5180050 D
5.00	5.00	50	13	3	MIM 5180060 D
6.00	6.00	50	16	3	MIM 5180070 D
8.00	8.00	63	20	3	MIM 5180080 D
10.00	10.00	72	22	4	MIM 5180090 D
12.00	12.00	83	26	4	MIM 5180100 D

Application groups • Applicazioni



MIM 536

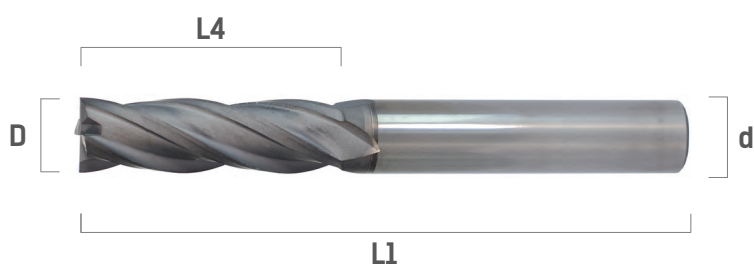
**TROCHOIDAL MILLING CUTTER
FOR TITANIUM AND TITANIUM ALLOYS**
FRESE PER GRAFITE A TESTA PIANA



Solid carbide grades: Micro grain
Application groups: graphite

Metallo duro: Micrograna
Applicazioni: grafite

D Diamond



D h7	d h6	L1	L4	Z	Diamond
3.00	3.00	55	20	3	MIM 5360010 D
4.00	4.00	60	20	3	MIM 5360020 D
5.00	5.00	60	20	3	MIM 5360030 D
6.00	6.00	65	25	3	MIM 5360040 D
8.00	8.00	80	32	3	MIM 5360050 D
10.00	10.00	80	32	4	MIM 5360060 D
12.00	12.00	100	50	4	MIM 5360070 D

Application groups • Applicazioni



MIM 554

TROCHOIDAL MILLING CUTTER
FOR TITANIUM AND TITANIUM ALLOYS
FRESE PER GRAFITE A TESTA PIANA



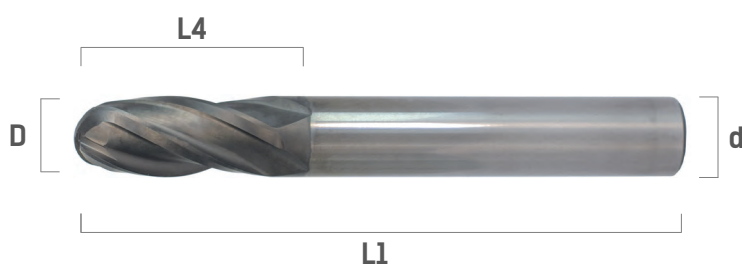
Solid carbide grades: Micro grain

Application groups: graphite

Metallo duro: Micrograna

Applicazioni: grafite

D Diamond



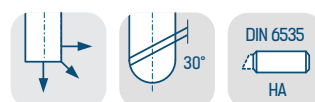
D h7	d h6	L1	L4	Z	Diamond
1.00	1.00	38	3	2	MIM 5540010 D
1.50	1.50	38	4	2	MIM 5540020 D
2.00	2.00	40	7	2	MIM 5540030 D
3.00	3.00	40	10	3	MIM 5540040 D
4.00	4.00	40	11	3	MIM 5540050 D
5.00	5.00	50	13	3	MIM 5540060 D
6.00	6.00	50	16	3	MIM 5540070 D
8.00	8.00	63	20	3	MIM 5540080 D
10.00	10.00	72	22	4	MIM 5540090 D
12.00	12.00	83	26	4	MIM 5540100 D

Application groups • Applicazioni



MIM 572

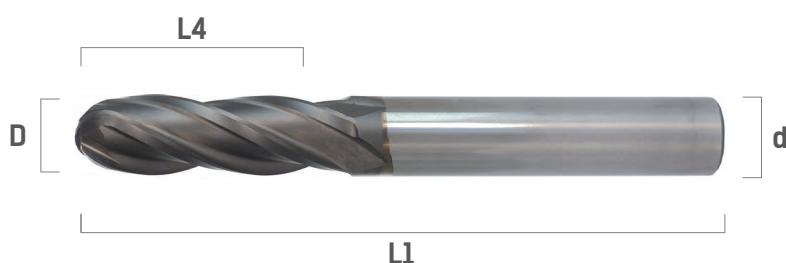
TROCHOIDAL MILLING CUTTER
FOR TITANIUM AND TITANIUM ALLOYS
FRESE PER GRAFITE A TESTA PIANA



Solid carbide grades: Micro grain
Application groups: graphite

Metallo duro: Micrograna
Applicazioni: grafite

D Diamond



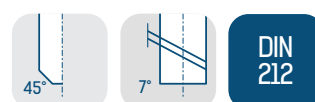
D h7	d h6	L1	L4	Z	Diamond
3.00	3.00	55	20	3	MIM 5720010 D
4.00	4.00	60	20	3	MIM 5720020 D
5.00	5.00	60	20	3	MIM 5720030 D
6.00	6.00	65	25	3	MIM 5720040 D
8.00	8.00	80	32	3	MIM 5720050 D
10.00	10.00	80	32	4	MIM 5720060 D
12.00	12.00	100	50	4	MIM 5720070 D

Application groups • Applicazioni



MIR 620

LEFT HAND TWIST REAMER
ALESATORE ELICOIDALE
A PROGRESSIONE DECIMALE



Solid carbide grades: 10% Co Micro grain

Application groups: for reaming in steel, non-ferrous materials, cast iron

Right hand. Cutting-left hand helix.

Unequal division

Metallo duro: 10% Co micrograna

Applicazioni: Alesature acciaio, leghe leggere e di ghisa

Taglio destro. Spirale sinistra.

Divisione irregolare



D h7	d h7	L1	L4	Z	UNCOATED
1.00	1.00	40	5	4	MIR 6200010
1.10	1.10	40	7	4	MIR 6200020
1.20	1.20	40	7	4	MIR 6200030
1.30	1.30	40	7	4	MIR 6200040
1.40	1.40	40	8	4	MIR 6200050
1.50	1.50	40	8	4	MIR 6200060
1.60	1.60	43	9	4	MIR 6200070
1.70	1.70	46	10	4	MIR 6200080
1.80	1.80	46	10	4	MIR 6200090
1.90	1.90	46	10	4	MIR 6200100
2.00	2.00	49	11	4	MIR 6200110
2.10	2.10	49	11	4	MIR 6200120
2.20	2.20	53	12	4	MIR 6200130
2.30	2.30	53	12	4	MIR 6200140
2.40	2.40	54	14	4	MIR 6200150
2.50	2.50	57	14	4	MIR 6200160
2.60	2.60	57	14	4	MIR 6200170
2.70	2.70	61	15	4	MIR 6200180
2.80	2.80	61	15	4	MIR 6200190
2.90	2.90	61	15	4	MIR 6200200
3.00	3.00	61	15	4	MIR 6200210
3.10	3.10	65	16	4	MIR 6200220
3.20	3.20	65	16	4	MIR 6200230
3.30	3.30	65	16	4	MIR 6200240

MIR 620

D h7	d h7	L1	L4	Z	UNCOATED
3.40	3.40	70	18	4	MIR 6200250
3.50	3.50	70	18	4	MIR 6200260
3.60	3.60	70	18	4	MIR 6200270
3.70	3.70	70	18	4	MIR 6200280
3.80	3.80	75	19	4	MIR 6200290
3.90	3.90	75	19	4	MIR 6200300
4.00	4.00	75	19	4	MIR 6200310
4.10	4.10	75	19	4	MIR 6200320
4.20	4.20	75	19	4	MIR 6200330
4.30	4.30	80	21	4	MIR 6200340
4.40	4.40	80	21	4	MIR 6200350
4.50	4.50	80	21	4	MIR 6200360
4.60	4.60	80	21	4	MIR 6200370
4.70	4.70	80	21	4	MIR 6200380
4.80	4.80	86	23	6	MIR 6200390
4.90	4.90	86	23	6	MIR 6200400
5.00	5.00	86	23	6	MIR 6200410
5.10	5.10	86	23	6	MIR 6200420
5.20	5.20	86	23	6	MIR 6200430
5.30	5.30	86	23	6	MIR 6200440
5.40	5.40	93	26	6	MIR 6200450
5.50	5.50	93	26	6	MIR 6200460
5.60	5.60	93	26	6	MIR 6200470
5.70	5.70	93	26	6	MIR 6200480
5.80	5.80	93	26	6	MIR 6200490
5.90	5.90	93	26	6	MIR 6200500
6.00	6.00	93	26	6	MIR 6200510
6.50	6.50	101	28	6	MIR 6200520
7.00	7.00	109	31	6	MIR 6200530
7.50	7.50	109	31	6	MIR 6200540
8.00	8.00	117	33	6	MIR 6200550
8.50	8.50	117	33	6	MIR 6200560
9.00	9.00	125	36	6	MIR 6200570
9.50	9.50	125	36	6	MIR 6200580
10.00	10.00	133	38	6	MIR 6200590
10.50	10.50	133	38	6	MIR 6200600
11.00	11.00	142	41	6	MIR 6200610
11.50	11.50	142	41	6	MIR 6200620
12.00	12.00	151	44	6	MIR 6200630
12.50	12.50	151	44	6	MIR 6200640
13.00	13.00	151	44	6	MIR 6200650

On request: In increments of 1/100mm • Special execution for reaming blind holes • Coating

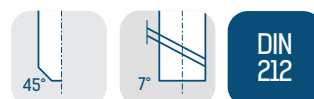
Su richiesta: Affilatura per fori ciechi • Diametri centesimali • Rivestimenti

Application groups • Applicazioni



MIR 640

LEFT HAND TWIST REAMER 1/100
ALESATORE ELICOIDALE A PROGRESSIONE
CENTESIMALE 1/100



Solid carbide grades: 6% Co Micro grain

Application groups: for reaming in steel,
non-ferrous materials, cast iron

Right hand. Cutting-left hand helix.

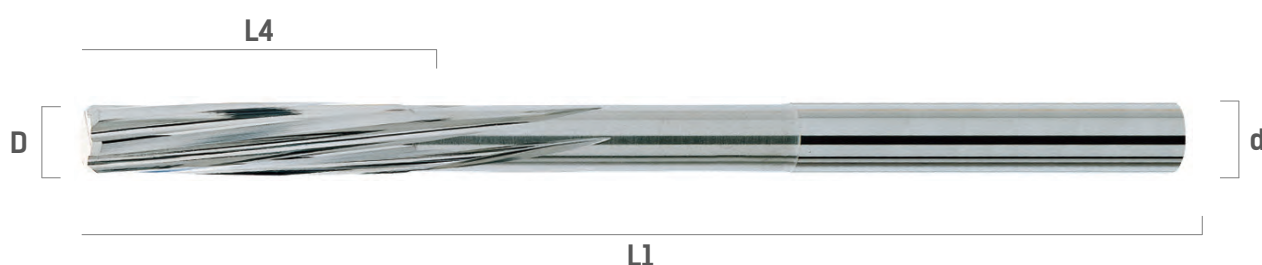
Unequal division

Metallo duro: 6% Co micrograna

Applicazioni: Alesature acciaio, leghe leggere e di ghisa

Taglio destro. Spirale sinistra.

Divisione irregolare



D h7	d h6	L1	L4	Z	UNCOATED
0.95	1.50	40	5	4	MIR 6400010
0.96	1.50	40	5	4	MIR 6400020
0.97	1.50	40	5	4	MIR 6400030
0.98	1.50	40	5	4	MIR 6400040
0.99	1.50	40	5	4	MIR 6400050
1.01	1.50	40	5	4	MIR 6400060
1.02	1.50	40	5	4	MIR 6400070
1.03	1.50	40	5	4	MIR 6400080
1.04	1.50	40	5	4	MIR 6400090
1.05	1.50	40	5	4	MIR 6400100
1.97	2.00	49	11	4	MIR 6400110
1.98	2.00	49	11	4	MIR 6400120
1.99	2.00	49	11	4	MIR 6400130
2.01	2.00	49	11	4	MIR 6400140
2.02	2.00	49	11	4	MIR 6400150
2.03	2.00	49	11	4	MIR 6400160
2.04	2.00	49	11	4	MIR 6400170
2.05	2.00	49	11	4	MIR 6400180
2.97	3.00	61	15	4	MIR 6400190
2.98	3.00	61	15	5	MIR 6400200
2.99	3.00	61	15	5	MIR 6400210
3.01	3.00	61	15	5	MIR 6400220
3.02	3.00	61	15	5	MIR 6400230
3.03	3.00	61	15	5	MIR 6400240

MIR 640

D h7	d h6	L1	L4	Z	UNCOATED
3.04	3.00	61	15	5	MIR 6400250
3.05	3.00	61	15	5	MIR 6400260
3.97	4.00	75	19	6	MIR 6400270
3.98	4.00	75	19	6	MIR 6400280
3.99	4.00	75	19	6	MIR 6400290
4.01	4.00	75	19	6	MIR 6400300
4.02	4.00	75	19	6	MIR 6400310
4.03	4.00	75	19	6	MIR 6400320
4.04	4.00	75	19	6	MIR 6400330
4.05	4.00	75	19	6	MIR 6400340
4.97	5.00	86	23	6	MIR 6400350
4.98	5.00	86	23	6	MIR 6400360
4.99	5.00	86	23	6	MIR 6400370
5.01	5.00	86	23	6	MIR 6400380
5.02	5.00	86	23	6	MIR 6400390
5.03	5.00	86	23	6	MIR 6400400
5.04	5.00	86	23	6	MIR 6400410
5.05	5.00	86	23	6	MIR 6400420
5.97	6.00	93	26	6	MIR 6400430
5.98	6.00	93	26	6	MIR 6400440
5.99	6.00	93	26	6	MIR 6400450
6.01	6.00	93	26	6	MIR 6400460
6.02	6.00	93	26	6	MIR 6400470
6.03	6.00	93	26	6	MIR 6400480
6.04	6.00	93	26	6	MIR 6400490
6.05	6.00	93	26	6	MIR 6400500
6.97	8.00	109	31	6	MIR 6400510
6.98	8.00	109	31	6	MIR 6400520
6.99	8.00	109	31	6	MIR 6400530
7.01	8.00	109	31	6	MIR 6400540
7.02	8.00	109	31	6	MIR 6400550
7.03	8.00	109	31	6	MIR 6400560
7.04	8.00	109	31	6	MIR 6400570
7.05	8.00	109	31	6	MIR 6400580
7.97	8.00	117	33	6	MIR 6400590
7.98	8.00	117	33	6	MIR 6400600
7.99	8.00	117	33	6	MIR 6400610
8.01	8.00	117	33	6	MIR 6400620
8.02	8.00	117	33	6	MIR 6400630
8.03	8.00	117	33	6	MIR 6400640
8.04	8.00	117	33	6	MIR 6400650
8.05	8.00	117	33	6	MIR 6400660
8.97	10.00	125	36	6	MIR 6400670

MIR 640

D h7	d h6	L1	L4	Z	UNCOATED
8.98	10.00	125	36	6	MIR 6400680
8.99	10.00	125	36	6	MIR 6400690
9.01	10.00	125	36	6	MIR 6400700
9.02	10.00	125	36	6	MIR 6400710
9.03	10.00	125	36	6	MIR 6400720
9.04	10.00	125	36	6	MIR 6400730
9.05	10.00	125	36	6	MIR 6400740
9.97	10.00	133	38	6	MIR 6400750
9.98	10.00	133	38	6	MIR 6400760
9.99	10.00	133	38	6	MIR 6400770
10.01	10.00	133	38	6	MIR 6400780
10.02	10.00	133	38	6	MIR 6400790
10.03	10.00	133	38	6	MIR 6400800
10.04	10.00	133	38	6	MIR 6400810
10.05	10.00	133	38	6	MIR 6400820
10.97	12.00	142	41	6	MIR 6400830
10.98	12.00	142	41	6	MIR 6400840
10.99	12.00	142	41	6	MIR 6400850
11.01	12.00	142	41	6	MIR 6400860
11.02	12.00	142	41	6	MIR 6400870
11.03	12.00	142	41	6	MIR 6400880
11.04	12.00	142	41	6	MIR 6400890
11.05	12.00	142	41	6	MIR 6400900
11.97	12.00	151	44	6	MIR 6400910
11.98	12.00	151	44	6	MIR 6400920
11.99	12.00	151	44	6	MIR 6400930
12.01	12.00	151	44	6	MIR 6400940
12.02	12.00	151	44	6	MIR 6400950
12.03	12.00	151	44	6	MIR 6400960
12.04	12.00	151	44	6	MIR 6400970
12.05	12.00	151	44	6	MIR 6400980

On request: In increments of 1/100mm

• Special execution for reaming blind holes • Coating

Su richiesta: Affilatura per fori ciechi • Diametri centesimali • Rivestimenti

Application groups • Applicazioni

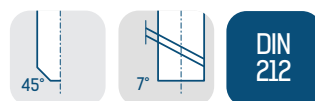


MIR 660

TWIST REAMER WITH ONE INTERNAL COOLING SUPPLY

ALESATORE ELICOIDALE CON FORO CENTRALE.

G TiCN-GR



Solid carbide grades: 6% Co Micro grain

Application groups: high alloy steel, inox, titan, iron, hardened steels, inconel

Right hand. Cutting-left hand helix.

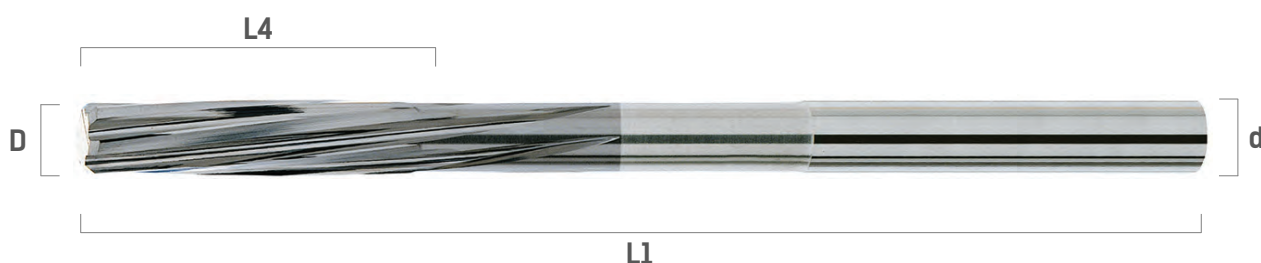
Unequal division

Metallo duro: 6% Co micrograna

Applicazioni: acciai alto legati, inox, titanio, ghisa, acciai temprati, inconel

Taglio destro. Spirale sinistra.

Divisione irregolare



D H7	d h6	L1	L4	Z	TiCN-GR
5.00	6.00	86	23	6	MIR 6600010 G
5.50	6.00	93	26	6	MIR 6600020 G
6.00	6.00	93	26	6	MIR 6600030 G
6.50	8.00	101	28	6	MIR 6600040 G
7.00	8.00	109	31	6	MIR 6600050 G
7.50	8.00	109	31	6	MIR 6600060 G
8.00	8.00	117	33	6	MIR 6600070 G
8.50	10.00	117	33	6	MIR 6600080 G
9.00	10.00	125	36	6	MIR 6600090 G
9.50	10.00	125	36	6	MIR 6600100 G
10.00	10.00	133	38	6	MIR 6600110 G
10.50	12.00	142	41	6	MIR 6600120 G
11.00	12.00	142	41	6	MIR 6600130 G
11.50	12.00	142	41	6	MIR 6600140 G
12.00	12.00	151	44	6	MIR 6600150 G

On request: Other sizes
Su richiesta: Diametri intermedi

Application groups · Applicazioni



MIR 680

TWIST REAMER WITH INTERNAL COOLING THROUGH FLUTES

ALESATORE ELICOIDALE CON FORI RADIALI

G TiCN-GR



Solid carbide grades: 6% Co Micro grain

Application groups: high alloy steel, inox, titan, iron, hardened steels, inconel

Right hand. Cutting-left hand helix.

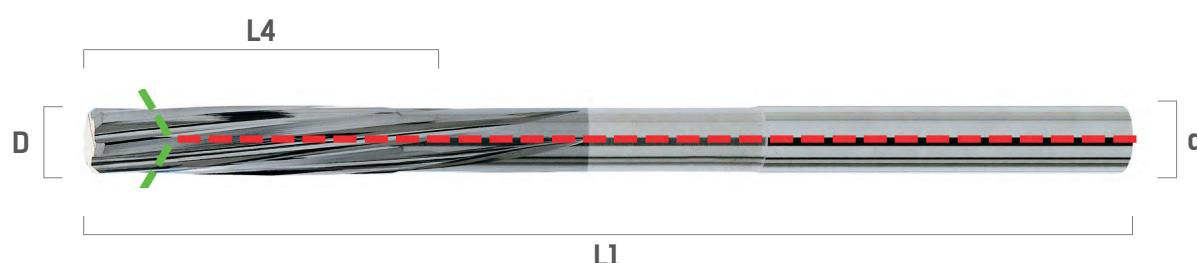
Unequal division

Metallo duro: 6% Co micrograna

Applicazioni: acciai alto legati, inox, titanio, ghisa, acciai temprati, inconel

Taglio destro. Spirale sinistra.

Divisione irregolare



D H7	d h6	L1	L4	Z	TiCN-GR
5.00	6.00	86	23	6	MIR 6800010 G
5.50	6.00	93	26	6	MIR 6800020 G
6.00	6.00	93	26	6	MIR 6800030 G
6.50	8.00	101	28	6	MIR 6800040 G
7.00	8.00	109	31	6	MIR 6800050 G
7.50	8.00	109	31	6	MIR 6800060 G
8.00	8.00	117	33	6	MIR 6800070 G
8.50	10.00	117	33	6	MIR 6800080 G
9.00	10.00	125	36	6	MIR 6800090 G
9.50	10.00	125	36	6	MIR 6800100 G
10.00	10.00	133	38	6	MIR 6800110 G
10.50	12.00	142	41	6	MIR 6800120 G
11.00	12.00	142	41	6	MIR 6800130 G
11.50	12.00	142	41	6	MIR 6800140 G
12.00	12.00	151	44	6	MIR 6800150 G

On request: Other sizes
Su richiesta: Diametri intermedi

Application groups · Applicazioni



MIC 715

DEBURR 60°
SVASATORE 60°

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

Application groups: steel-alloys,
tempered steel, stainless steel,
non-ferrous metals, cast iron, titanium

Metallo duro: 10% Co micrograna

Applicazioni: acciai legati, inox, acciai temprati,
ghisa e materiali non ferrosi, titanio



D	d h6	L1	Z	AlTiSiN
4.00	4.00	54	4	MIC 7150010 T
6.00	6.00	60	4	MIC 7150020 T
8.00	8.00	63	5	MIC 7150030 T
10.00	10.00	72	6	MIC 7150040 T
12.00	12.00	83	6	MIC 7150050 T

On request: Other sizes • DIN 6535 HB
Su richiesta: Diametri intermedi • DIN 6535 HB

Application groups • Applicazioni



MIC 730

DEBURR 90°
SVASATORE 90°

T AlTiSiN



Solid carbide grades: 10% Co Micro grain

Application groups: steel-alloys,
tempered steel, stainless steel,
non-ferrous metals, cast iron, titanium

Metallo duro: 10% Co micrograna

Applicazioni: acciai legati, inox, acciai temprati,
ghisa e materiali non ferrosi, titanio



D	d h6	L1	Z	AlTiSiN
4.00	4.00	54	4	MIC 7300010 T
6.00	6.00	60	4	MIC 7300020 T
8.00	8.00	63	5	MIC 7300030 T
10.00	10.00	72	6	MIC 7300040 T
12.00	12.00	83	6	MIC 7300050 T

On request: Other sizes • DIN 6535 HB
Su richiesta: Diametri intermedi • DIN 6535 HB

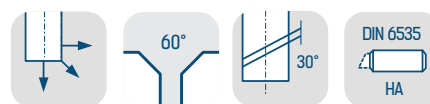
Application groups • Applicazioni



MIC 745

DEBURR Z=2 60°

FRESA A SVASARE Z=2 60°

**Solid carbide grades:** 10% Co Micro grain**Application groups:** steel alloys, tempered steels, cast iron, titan alloys, graphit, non ferrous metals, copper, bronze**Metallo duro:** 10% Co micrograna**Applicazioni:** acciai, acciai legati, ghisa, alluminio e materiali non ferrosi

D	d h6	L1	L4	UNCOATED
0.50	3.00	39	1	MIC 7450010
1.00	3.00	39	2	MIC 7450020
1.50	3.00	39	3	MIC 7450030
2.00	3.00	39	4	MIC 7450040
2.50	3.00	39	5	MIC 7450050
3.00	4.00	50	6	MIC 7450060
4.00	5.00	50	8	MIC 7450070
5.00	6.00	50	10	MIC 7450080
6.00	8.00	70	12	MIC 7450090
8.00	10.00	70	16	MIC 7450100
10.00	12.00	90	18	MIC 7450110
12.00	12.00	90	20	MIC 7450120
16.00	16.00	92	26	MIC 7450130
20.00	20.00	100	28	MIC 7450140

Application groups • Applicazioni

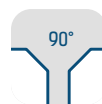


MIC 760

DEBURR Z=3 90°

SVASATORI Z=3 90°

T AlTiSiN

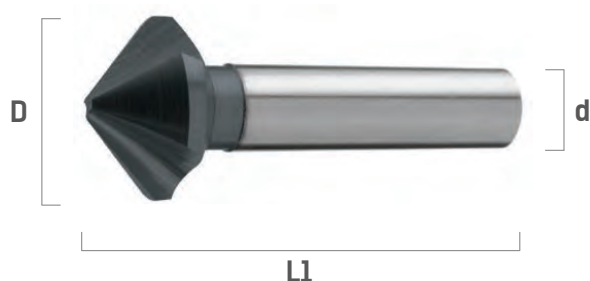


Solid carbide grades: 10% Co Micro grain

Application groups: sgroups: steel alloys, tempered ste- els, cast iron, titan alloys, graphit, non ferrous metals, copper, bronze

Metallo duro: 10% Co micrograna

Applicazioni: acciai, acciai legati, alluminio e materiali non ferrosi, ghisa, titanio, rame, bronzo, grafite



D	d h6	L1	AlTiSiN
4.30	4.00	40	MIC 7600010 T
5.30	4.00	40	MIC 7600020 T
6.30	5.00	45	MIC 7600030 T
8.30	6.00	50	MIC 7600040 T
10.40	6.00	50	MIC 7600050 T
12.40	8.00	56	MIC 7600060 T
16.50	10.00	60	MIC 7600070 T
20.50	10.00	63	MIC 7600080 T
25.00	10.00	67	MIC 7600090 T

Application groups • Applicazioni

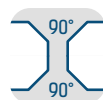


MIC 775

DEBURR 90° FOR INTERNAL APPLICATION

SVASATORI PER INTERNI 90°

T ALTiSiN



Solid carbide grades: 10% Co Micro grain

Application groups: sgroups: steel alloys, tempered ste- els, cast iron, titan alloys, graphit, non ferrous metals, copper, bronze

Metallo duro: 10% Co micrograna

Applicazioni: acciai, acciai legati, alluminio e materiali non ferrosi, ghisa, titanio, rame, bronzo, grafite



D	d h6	d2	L1	L4	L2	Z	ALTiSiN
1.80	6.00	1.2°	100	9	0.9	3	MIC 7750010 T
2.80	6.00	2.0	100	10	1.4	3	MIC 7750020 T
4.00	6.00	2.0	100	13	2.0	4	MIC 7750030 T
6.00	6.00	4.0	100	19	3.0	4	MIC 7750040 T
8.00	6.00		100		2.1	4	MIC 7750050 T
10.00	6.00		100		2.25	4	MIC 7750060 T
12.00	6.00		100		3.0	4	MIC 7750070 T
16.00	10.00		100		5.0	4	MIC 7750080 T

Application groups • Applicazioni



MIC 815

SINGLE LIP CUTTER • LONG SERIES
BULINO RETTIFICATO • SERIE LUNGA

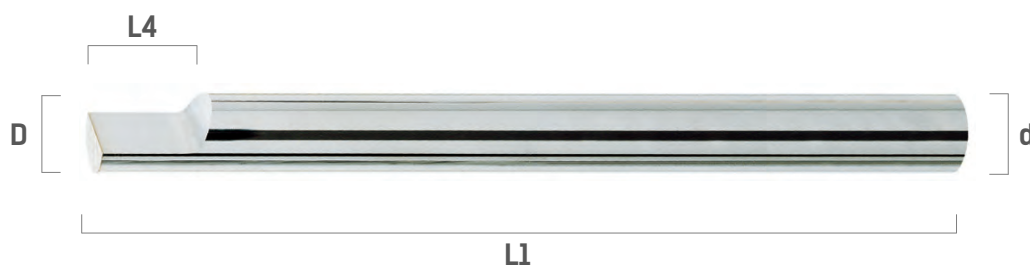


Solid carbide grades: 10% Co Micro grain

Application groups: for engraving and copying with pantographs

Metallo duro: 10% Co micrograna

Applicazioni: Per incidere e copiare con pantografi



D	L1	L4	UNCOATED
3.00	100	4	MIL 8150010
4.00	100	5	MIL 8150020
5.00	100	7	MIL 8150030
6.00	100	8	MIL 8150040
8.00	100	10	MIL 8150050
10.00	100	13	MIL 8150060
12.00	100	16	MIL 8150070
14.00	100	18	MIL 8150080

On request: out of range • other sizes

Su richiesta: esecuzione speciale • diametri intermedi

Application groups • Applicazioni



COATING

RIVESTIMENTI

COATING • RIVESTIMENTI	Micro hardness HV 0.05	Thickness	Friction coefficient	Max usage temp (C°)	Deposition temp	Colour
Omicron S-Tin	2.300	1-5	0.4	600°	480°	yellow gold
Omicron TiCN-GR	3.000	1-4	0.2	400°	480°	grey
Omicron TiCN-B	3.000	1-5	0.2	400°	480°	bronze
Omicron AlTiSiN	3.600	1-5	0.7	850°	480°	dark grey
Omicron PVD	3.300	1-4	0.6	1000°	480°	grey violet
Omicron PVD-Pro	3.500	1-4	0.6	1100°	480°	grey violet
Omicron TXO	4.400	1-4	0.35	900°	480°	bronze
Omicron Diamond	8.000 10.000	0.009 0.01	0.02 0.10		900	dark grey
Omicron T-DLC	1.800 2.600	2-4	0.1	350°	180°	black
Omicron ZrN	2.200	1-3	0.4	550°	480°	yellow
Omicron CrN high temperature 380°	2.200	1-5	0.5	700°	380°	light grey
Omicron CrN low temperature 150°	1.750	1-5	0.5	700°	150°	light grey
Omicron TBM Red Supreme	3.400 3.600	1-5	0.4	600°	450°	purple red



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