



***sutton**tools*

CARBIDE ENDMILLS

- High performance solutions for slotting, finishing, roughing and profiling
 - Micro and ultra fine grain type carbides
- General purpose and application specific geometries

ISO	VDI	Material Group	Sutton	Page
P	A	Steel	N	
M	R	Stainless Steel	VA	
K	F	Cast Iron	GG	
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W	
S	S	Titaniums & Super Alloys	Ti Ni	
H	H	Hard Materials (≥ 45 HRC)	H	

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

Catalogue Code
 Type of Cut: **Slotting**
Finishing
Universal
Roughing
Profiling
Material
Surface Finish
Sutton Designation
Standard
Shank Tolerance

ISO	VDI	Material Group	Sutton	Page	350	351	351	353	354	355	356	356	357
E502	E600	E603	E608	E511	E515	E610	E611	E519					
●	●	●	●	●	●	●	●	●	●	●	●	●	●
				●	●	●	●	●					
				●	●	●	●	●					
VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM	VHM					
TiAlN	Br	TiAlN	Br	TiAlN	TiAlN	Br	TiAlN	TiAlN					
N	N	N	N	N	N	N	N	N					W
DIN 6527K	-	-	DIN 6527K	DIN 6527L	-	-	DIN 6527K						DIN 6527K
h6	h6	h6	h6	h6	h6	h6	h6	h6					h6

ISO	VDI ³³²³	Material	Condition	HB	N/mm ²	350	351	351	353	354	355	356	356	357
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	●	●	●	●	●	●	●	●
	2		~ 0.45 %C	A	190	640	●	●	●	●	●	●	●	●
	3		~ 0.75 %C	QT	250	840	●	●	●	○	●	●	●	●
	4			A	270	910	●	●	●	○	●	●	●	○
	5			QT	300	1010	●	●	○	○	●	●	●	○
	6	Steel - Low alloy & cast < 5% of alloying elements	A	180	610	●	●	●	●	●	●	●	●	●
	7		QT	275	930	●	○	●	○	●	●	●	●	○
	8		QT	300	1010	●	●	○	○	●	●	●	●	○
	9		QT	350	1180	○	○	○	○	○	○	○	○	○
	10	Steel - High alloy, cast & tool	A	200	680	●	○	●	○	●	●	●	●	○
	11		HT	325	1100	○	○	○	○	○	○	○	○	○
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	●	○	○	○	●	●	●	●
	13		Martensitic	QT	240	810	●	○	○	○	●	●	●	●
M	14.1	Stainless Steel	Austenitic	AH	180	610	●	○	○	○	●	●	●	○
	14.2		Duplex	250	840	●	○	○	○	○	○	○	○	
	14.3		Precipitation Hardening	250	840	●	○	○	○	○	○	○	○	
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic	180	610	●	○	○	○	●	●	●	●	
	16		Pearlitic	260	880	●	○	○	○	●	●	●	●	
	17	Cast Iron - Nodular (GGG)	Ferritic	160	570	●	○	○	○	●	●	●	●	
	18		Pearlitic	250	840	●	○	○	○	●	●	●	●	
	19	Cast Iron - Malleable	Ferritic	130	460	●	○	○	○	●	●	●	●	
20	Pearlitic		230	780	●	○	○	○	●	●	●	●		
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable	60	210				○				●	
	22		Heat Treatable	AH	100	360				○			●	
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable	75	270				○				●	
	24		Heat Treatable	AH	90	320				○			●	
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable	130	460				○				●	
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%	110	390				○				●	
	27		Brass (CuZn, CuSnZn)	90	320				○				●	
	28		Bronze (CuSn)	100	360				○				●	
	29	Non-metallic - Thermosetting & fiber-reinforced plastics												
	30	Non-metallic - Hard rubber, wood etc.												
S	31	High temp. alloys	Fe based	A	200	680	○				○			
	32			AH	280	950	○				○			
	33		Ni / Co based	A	250	840	○				○			
	34			AH	350	1180	○				○			
	35			C	320	1080	○				○			
	36	Titanium & Ti alloys	CP Titanium	400 MPa						○				
	37.1		Alpha alloys	860 MPa						○				
37.2	Alpha / Beta alloys		A	960 MPa					○					
37.3			AH	1170 MPa					○					
37.4	Beta alloys		A	830 MPa					○					
37.5	AH	1400 MPa						○						
H	38.1	Hardened steel	HT	45 HRC					○					
	38.2		HT	55 HRC										
	39.1		HT	58 HRC										
	39.2		HT	62 HRC										
	40	Cast Iron	Chilled	C	400	1350								
41	HT		55 HRC											

Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

ISO	VDI	Material Group	Sutton
P	A	Steel	N
M	R	Stainless Steel	VA
K	F	Cast Iron	GG
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W
S	S	Titaniums & Super Alloys	Ti Ni
H	H	Hard Materials (≥ 45 HRC)	H



Page	370	371	371	372	390	391	392	393	394	396
	E555	E606	E607	E557	E422	E424	E533	E535	E559	E426
Catalogue Code										
Type of Cut:										
Slotting					•	•				
Finishing					•	•	•	•	•	•
Universal					•	•	•	•	•	•
Roughing										
Profiling	•	•	•	•						
Material										
Surface Finish										
Sutton Designation										
Standard										
Shank Tolerance										
VHM-ULTRA										
AICrN	N	Brt	TiAlN	AICrN	AICrN	AICrN	AICrN	AICrN	AICrN	AICrN
	N	N	N	N	UNI	UNI	UNI	UNI	UNI	UNI
	-	-	-	-	DIN 6527K	DIN 6527L	DIN 6527K	DIN 6527L	DIN 6527L	DIN 6527L
	h6	h6	h6	h6	h5	h5	h5	h6	h6	h5

^ VDI 3323 material groups can also be determined by referring to the material cross reference listing in the application guide at the back of this catalogue.

ISO	VDI ³³²³	Material	Condition	HB	N/mm ²									
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	•	•	•	•	•	•	•	•
	2		~ 0.45 %C	A	190	640	•	•	•	•	•	•	•	•
	3			QT	250	840	•	•	•	•	•	•	•	•
	4		~ 0.75 %C	A	270	910	•	•	•	•	•	•	•	•
	5			QT	300	1010	•	○	○	•	•	•	•	•
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610	•	•	•	•	•	•	•	•
	7			QT	275	930	•	○	○	•	•	•	•	•
	8			QT	300	1010	•	○	○	•	•	•	•	•
	9			QT	350	1180	○	○	○	○	•	•	•	•
	10	Steel - High alloy, cast & tool		A	200	680	•	○	○	•	•	•	•	•
	11			HT	325	1100	○	○	○	○	•	•	•	•
12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	○	○	○	○	○	○	○	○	
13		Martensitic	QT	240	810	○	○	○	○	○	○	○	○	
M	14.1	Stainless Steel	Austenitic	AH	180	610	•	•	•	•	○	○	○	
14.2	Duplex			250	840	○	○	○	○	○	○	○	○	
14.3	Precipitation Hardening			250	840	○	○	○	○	○	○	○	○	
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	•	○	○	•	•	•	•	•
	16		Pearlitic		260	880	•	○	○	•	•	•	•	•
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	•	○	○	•	•	•	•	•
	18		Pearlitic		250	840	•	○	○	•	•	•	•	•
	19	Cast Iron - Malleable	Ferritic		130	460	•	○	○	•	•	•	•	•
20	Pearlitic			230	780	•	○	○	•	•	•	•	•	
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	○	○	○	○	○	○	○	○
	22		Heat Treatable	AH	100	360	○	○	○	○	○	○	○	○
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	○	○	○	○	○	○	○	○
	24		Heat Treatable	AH	90	320	○	○	○	○	○	○	○	○
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	○	○	○	○	○	○	○	○
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	○	○	○	○	○	○	○
	27		Brass (CuZn, CuSnZn)		90	320	○	○	○	○	○	○	○	○
	28		Bronze (CuSn)		100	360	○	○	○	○	○	○	○	○
	29	Non-metallic - Thermosetting & fiber-reinforced plastics												
30	Non-metallic - Hard rubber, wood etc.													
S	31	High temp. alloys	Fe based	A	200	680	○	○	○	○	○	○	○	○
	32			AH	280	950	○	○	○	○	○	○	○	○
	33		Ni / Co based	A	250	840	○	○	○	○	○	○	○	○
	34			AH	350	1180	○	○	○	○	○	○	○	○
	35			C	320	1080	○	○	○	○	○	○	○	○
	36	Titanium & Ti alloys	CP Titanium		400 MPa		○	○	•	•	○	○	○	•
	37.1		Alpha alloys		860 MPa		○	○	•	•	○	○	○	•
37.2	Alpha / Beta alloys		A	960 MPa		○	○	•	•	○	○	○	•	
37.3			AH	1170 MPa		○	○	•	•	○	○	○	•	
37.4	Beta alloys		A	830 MPa		○	○	•	•	○	○	○	•	
37.5		AH	1400 MPa		○	○	•	•	○	○	○	•		
H	38.1	Hardened steel		HT	45 HRC			•	•	○	○	○	•	
	38.2			HT	55 HRC			•	•				•	
	39.1			HT	58 HRC				•	•				•
	39.2			HT	62 HRC					•	•			
	40	Cast Iron	Chilled	C	400	1350	•		•	•	•	•	•	•
41	HT			55 HRC			•	•	○	○	○	•		

Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

ISO	VDI	Material Group	Sutton
P	A	Steel	N
M	R	Stainless Steel	VA
K	F	Cast Iron	GG
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W
S	S	Titaniums & Super Alloys	Ti Ni
H	H	Hard Materials (≥ 45 HRC)	H



Page	402	403	404	405	406	407	408	409	410	411	412
Catalogue Code	E444	E310	E400	E402	E408	E480	E478	E446	E410	E459	E462
Type of Cut: Slotting	●	●	●	●		●	●	●	●	●	●
Finishing						●	●	●	●	●	●
Universal	●	●	●	●		●	●	●	●	●	●
Roughing	●	●	●	●				●			
Profiling					●						
Material	VHM	VHM	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA	VHM	VHM-ULTRA	VHM	VHM-ULTRA	VHM-ULTRA	VHM-ULTRA
Surface Finish	Brt	Brt	CrN	CrN	Brt	Brt	Brt	Brt	Brt	Brt	HELICA
Sutton Designation	Al	Al	Al	Al	Al	Al	Al	Al	Al	Al	VA
Standard	-	DIN 6527L	DIN 6527L	-	-	DIN 6527L	DIN 6527L	DIN 6527L	DIN 6527L	DIN 6527L	DIN 6527L
Shank Tolerance	h6	h6	h5	h5	h5	h5	h5	h5	h5	h6	h6

Catalogue Code
 Type of Cut: Slotting
 Finishing
 Universal
 Roughing
 Profiling
 Material
 Surface Finish
 Sutton Designation
 Standard
 Shank Tolerance

ISO	VDI ³³²³	Material	Condition	HB	N/mm ²	402	403	404	405	406	407	408	409	410	411	412			
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440													
	2		~ 0.45 %C	A	190	640													
	3			QT	250	840													
	4		~ 0.75 %C	A	270	910													
	5			QT	300	1010													
	6	Steel - Low alloy & cast < 5% of alloying elements		A	180	610													
	7			QT	275	930													
	8			QT	300	1010													
	9			QT	350	1180													
	10	Steel - High alloy, cast & tool		A	200	680													
	11			HT	325	1100													
12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680									○	○	○			
13		Martensitic	QT	240	810									○	○	○			
M	14.1	Stainless Steel	Austenitic	AH	180	610								●	●	●			
	14.2		Duplex		250	840								●	●	●			
	14.3		Precipitation Hardening		250	840									●	●	●		
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610													
	16		Pearlitic		260	880													
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570													
	18		Pearlitic		250	840													
	19	Cast Iron - Malleable	Ferritic		130	460													
20	Pearlitic			230	780														
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	●	●	●	●	●	●	●	●	○	○			
	22		Heat Treatable	AH	100	360	●	●	●	●	●	●	●	●	○	○			
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	●	●	●	●	●	●	●	●	○	○			
	24		Heat Treatable	AH	90	320	●	●	●	●	●	●	●	●	○	○			
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	○	●	●	●	●	●	●	○	○	○			
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	○	●	●	●	●	●	●	○	○	○			
	27		Brass (CuZn, CuSnZn)		90	320		●	●	●	●	●	●	○	○	○			
	28		Bronze (CuSn)		100	360		●	●	●	●	●	●	○	○	○			
	29	Non-metallic - Thermosetting & fiber-reinforced plastics																	
30	Non-metallic - Hard rubber, wood etc.																		
S	31	High temp. alloys	Fe based	A	200	680								○	○	○			
	32			AH	280	950									●	●	●		
	33		Ni / Co based	A	250	840										○	○		
	34			AH	350	1180										●	●	●	
	35			C	320	1080										●	●	●	
	36	Titanium & Ti alloys	CP Titanium		400 MPa										○	○	○		
	37.1		Alpha alloys		860 MPa										●	●	●		
37.2	Alpha / Beta alloys		A	960 MPa											●	●	●		
37.3			AH	1170 MPa											●	●	●		
37.4	Beta alloys		A	830 MPa											●	○	○		
37.5		AH	1400 MPa											○	○	○			
H	38.1	Hardened steel		HT	45 HRC														
	38.2			HT	55 HRC														
	39.1			HT	58 HRC														
	39.2			HT	62 HRC														
	40			Cast Iron	Chilled	C	400	1350											
	41	HT	55 HRC																

Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)

Slot Drills Carbide, 2 Flute, R30 N, DIN6527K



- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Fraise à rainurer 2 dents carbure, R30N, DIN6527K

- Pour le fraisage de rainures et de poches
- Convient au matériaux jusqu'à 1600 N/mm²
- TiAlN pour une meilleure durée de vie



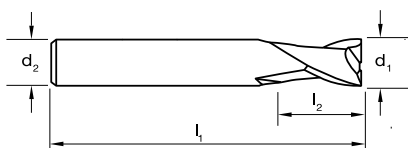
Fresa metallo duro, 2 Taglienti, R30 N, DIN6527K

- Fresatura di cave ad alta precisione
- Ideale per materiali fino a 1600 N/mm²
- TiAlN per Ottimizzare vita utensile



Fresas de MD, 2 ranuras, R30 N, DIN6527K

- Para fresado de precisión de ranuras
- Adecuado para materiales de hasta 1600 N/mm²
- TiAlN para una mayor vida útil de la herramienta



Vc Page #: 486 →

Size Ref.	d ₁ (h10)	l ₁	l ₂	d ₂	z	Item #	Item #
0200	2.0	50	3	6	2	E502 0200	E503 0200
0300	3.0	50	4	6	2	E502 0300	E503 0300
0400	4.0	54	5	6	2	E502 0400	E503 0400
0500	5.0	54	6	6	2	E502 0500	E503 0500
0600	6.0	54	7	6	2	E502 0600	E503 0600
0800	8.0	58	9	8	2	E502 0800	E503 0800
1000	10.0	66	11	10	2	E502 1000	E503 1000
1200	12.0	72	12	12	2	E502 1200	E503 1200
1600	16.0	82	16	16	2	E502 1600	E503 1600
2000	20.0	92	20	20	2	E502 2000	E503 2000



Catalogue Code	E502	E503
Discount Group	B0210	B0210
Material	VHM	VHM
Surface Finish	TiAlN	TiAlN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M			K					N										S										H							
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E502 / E503	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials
 ● Optimal ○ Effective

Slot Drills Carbide, 2 Flute, R30 N, DIN6527L



- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Fraise à rainurer 2 dents carbure, R30N, DIN6527L

- Pour le fraisage de rainures et de poches
- Convient au matériaux jusqu'à 1600 N/mm²
- TiAlN pour une meilleure durée de vie



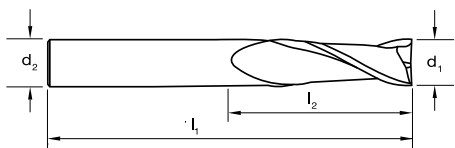
Fresse metallo duro, 2 Taglienti, R30 N, DIN6527L

- Fresatura di cave ad alta precisione
- Ideale per materiali fino a 1600 N/mm²
- TiAlN per Ottimizzare vita utensile



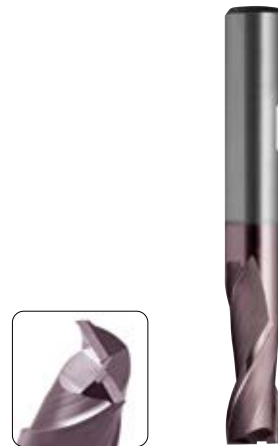
Fresas de MD, 2 ranuras, R30 N, DIN6527L

- Para fresado de precisión de ranuras
- Adecuado para materiales de hasta 1600 N/mm²
- TiAlN para una mayor vida útil de la herramienta



Vc Page #: 486 →

Size Ref.	d ₁ (h10)	l ₁	l ₂	d ₂	z	Item #
0200	2.0	57	6	6	2	E507 0200
0300	3.0	57	7	6	2	E507 0300
0350	3.5	57	7	6	2	•
0400	4.0	57	8	6	2	E507 0400
0450	4.5	57	8	6	2	•
0500	5.0	57	10	6	2	E507 0500
0600	6.0	57	10	6	2	E507 0600
0700	7.0	63	16	8	2	E507 0700
0800	8.0	63	16	8	2	E507 0800
0900	9.0	72	19	10	2	E507 0900
1000	10.0	72	22	10	2	E507 1000
1200	12.0	83	22	12	2	E507 1200
1400	14.0	83	22	14	2	E507 1400
1600	16.0	92	26	16	2	E507 1600
1800	18.0	92	26	18	2	E507 1800
2000	20.0	104	32	20	2	E507 2000



Catalogue Code	E507
Discount Group	B0210
Material	VHM
Surface Finish	TiAlN
Sutton Designation	N
Geometry	R30
Shank Form (DIN 6535)	HB
Shank Tolerance	h6

ISO	P													M		K					N										S										H									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
E507	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 3 Flute, R30 N, DIN6527L



- Universal use for slotting and finishing with the one tool
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Fraise à rainurer 3 dents carbure, R30N, DIN6527L

- Pour le fraisage de rainures, de poches et finition
- Convient au matériaux jusqu'à 1600 N/mm²
- TiAlN pour une meilleure durée de vie



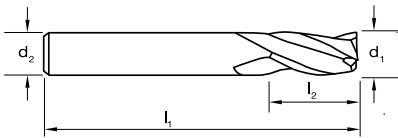
Frese metallo duro, 3 Taglienti, R30 N, DIN6527L

- Fresa universale per cave e lavorazioni di finitura
- Ideale per materiali fino a 1600 N/mm²
- TiAlN per Ottimizzare vita utensile



Fresas de MD, 3 ranuras, R30 N, DIN6527L

- Para fresado de precisión de ranuras
- Adecuado para materiales de hasta 1600 N/mm²
- TiAlN para una mayor vida útil de la herramienta



Vc Page #: 486 →

Size Ref.	d ₁ (h10)	l ₁	l ₂	d ₂	z	Item #	Item #
0300	3.0	57	7	6	3	E515 0300	E516 0300
0350	3.5	57	7	6	3	•	•
0400	4.0	57	8	6	3	E515 0400	E516 0400
0450	4.5	57	8	6	3	•	•
0500	5.0	57	10	6	3	E515 0500	E516 0500
0600	6.0	57	10	6	3	E515 0600	E516 0600
0700	7.0	63	13	8	3	E515 0700	E516 0700
0800	8.0	63	16	8	3	E515 0800	E516 0800
0900	9.0	72	16	10	3	E515 0900	E516 0900
1000	10.0	72	19	10	3	E515 1000	E516 1000
1200	12.0	83	22	12	3	E515 1200	E516 1200
1400	14.0	83	22	14	3	E515 1400	E516 1400
1600	16.0	92	26	16	3	E515 1600	E516 1600
1800	18.0	92	26	18	3	E515 1800	E516 1800
2000	20.0	104	32	20	3	E515 2000	E516 2000



Catalogue Code	E515	E516
Discount Group	B0210	B0210
Material	VHM	VHM
Surface Finish	TiAlN	TiAlN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P										M					K					N					S					H																			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
E515 / E516	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

• Available on request as special manufacture. Subject to lead time.

Endmills Carbide, 3 Flute, R45 W, DIN6527K



- Universal use for slotting and finishing with the one tool
- Suitable for materials up to 45 HRC, SOFT MATERIALS
- TiAlN for longer tool life



Fraise à rainurer 3 dents carbure, R45 W, DIN6527K

- Pour le fraisage de rainures, de poches et finition
- Convient au matériaux aciers doux et non-ferreux
- Brt pour les non-ferreux
- TiAlN pour une meilleure durée de vie



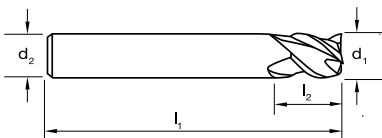
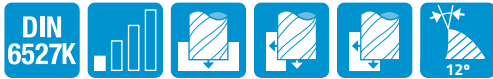
Frese metallo duro, 3 Taglienti, R45 W, DIN6527K

- Fresa universale per cave e lavorazioni di finitura
- Ideale per materiali fino a 45 HRC
- TiAlN per Ottimizzare vita utensile



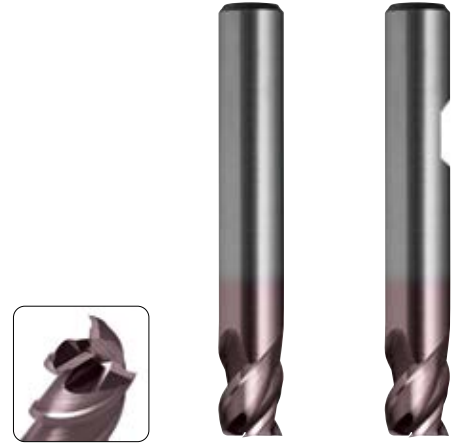
Fresas de MD, 3 ranuras, R45 W, DIN6527K

- Para ranurado y acabado con una herramienta
- Geometría optimizada para materiales blandos
- Brt para materiales no férricos
- TiAlN para una mayor vida útil de la herramienta



Vc Page #: 487 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	d ₂	z	Item #	Item #
0300	3.0	50	4	6	3	E519 0300	E520 0300
0400	4.0	54	5	6	3	E519 0400	E520 0400
0500	5.0	54	6	6	3	E519 0500	E520 0500
0600	6.0	54	7	6	3	E519 0600	E520 0600
0800	8.0	58	9	8	3	E519 0800	E520 0800
1000	10.0	66	11	10	3	E519 1000	E520 1000
1200	12.0	73	12	12	3	E519 1200	E520 1200
1600	16.0	82	16	16	3	E519 1600	E520 1600
2000	20.0	92	20	20	3	E519 2000	E520 2000



Catalogue Code	E519	E520
Discount Group	B0210	B0210
Material	VHM	VHM
Surface Finish	TiAlN	TiAlN
Sutton Designation	W	W
Geometry	R45	R45
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P										M					K					N										S										H															
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41							
E519 / E520	●	●	●	○	○	○	○	○															●	●	●	●	●	●	●	●	●	●																								

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, Micro, 2 Flute, R40 NH Long Reach



- For precision milling of cavities
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Micro-fraise 2 dents

- Pour le Micro-Fraisage de poches, de rainures et gravage
- Convient aux matériaux de 35-52 HRC
- Revêtement TiSiN, résistant à la haute vitesse



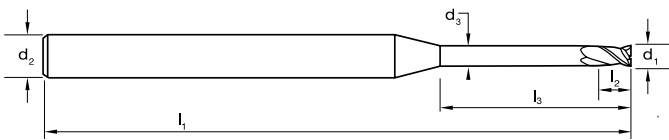
Frese metallo duro, Micro, 2 Taglienti, Lunga Portata

- Fresatura cave di precisione
- Ideale per materiali fino a 32-45 HRC
- TiSiN per Lavorazioni ad alto avanzamento



Fresas de MD micro, 2 ranuras, Larga

- Para ranurado de precisión
- Adecuado para materiales entre 35-52 HRC
- TiSiN para mecanizado de alta velocidad



Vc Page #: 498 →

Size Ref.	d ₁ *	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #
0021	0.2	50	0.2	0.5	4	0.16	2	E580 0021
0022		50	0.2	1	4	0.16	2	E580 0022
0023		50	0.2	1.5	4	0.16	2	E580 0023
0031	0.3	50	0.4	1	4	0.26	2	E580 0031
0032		50	0.4	2	4	0.26	2	E580 0032
0033		50	0.4	3	4	0.26	2	E580 0033
0041	0.4	50	0.4	2	4	0.37	2	E580 0041
0042		50	0.4	4	4	0.37	2	E580 0042
0043		50	0.6	3	4	0.37	2	E580 0043
0044		50	0.6	5	4	0.37	2	E580 0044
0051	0.5	50	0.7	2	4	0.45	2	E580 0051
0052		50	0.7	4	4	0.45	2	E580 0052
0053		50	0.7	6	4	0.45	2	E580 0053
0054		50	0.7	8	4	0.45	2	E580 0054
0060	0.6	50	0.9	2	4	0.55	2	E580 0060
0061		50	0.9	4	4	0.55	2	E580 0061
0062		50	0.9	8	4	0.55	2	E580 0062
0063		50	0.9	8	4	0.55	2	E580 0063
0064		50	0.9	10	4	0.55	2	E580 0064
0070	0.7	50	1	2	4	0.65	2	E580 0070
0072		50	1	6	4	0.65	2	E580 0072
0073		50	1	8	4	0.65	2	E580 0073
0074		50	1	10	4	0.65	2	E580 0074
0081	0.8	50	1.2	4	4	0.75	2	E580 0081
0082		50	1.2	6	4	0.75	2	E580 0082
0083		50	1.2	8	4	0.75	2	E580 0083
0084		50	1.2	10	4	0.75	2	E580 0084
0085		50	1.2	12	4	0.75	2	E580 0085

ISO	P								M							K							N							S							H																	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41					
E580									●				○																																									

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective



watch the video



Catalogue Code	E580
Discount Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	NH
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

*Cutting Ø tolerance: d₁ < 0.7 = 0 / -0.012 d₁ > 0.7 = 0 / -0.020

Endmills Carbide, Micro, Ballnose, 2 Flute, Long Reach



- For profile & contour milling applications
- Suitable for materials up to 35-52 HRC
- TiSiN for high speed machining



Fraise à rainurer 2 dents carbure, Hémisphérique, R30N, Longue

- Pour le Micro-Fraisage de poches et super finition
- Convient aux matériaux de 35-52 HRC
- Revêtement TiSiN, résistant à la haute vitesse



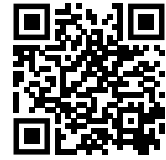
Frese metallo duro, Micro, Sferiche, 2 Taglienti, Lunga Portata

- Fresatura cave di precisione
- Ideale per materiali fino a 32-45 HRC
- TiSiN per Lavorazioni ad alto avanzamento



Fresas de MD micro, esféricas, 2 ranuras, Larga

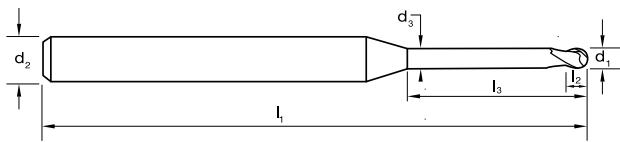
- Para ranurado de precisión
- Adecuado para materiales entre 35-52 HRC
- TiSiN para mecanizado de alta velocidad



watch the video



Catalogue Code	E582
Discount Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	NH
Geometry	R30
Shank Form (DIN 6535)	HA
Shank Tolerance	h6



Vc Page #: 499 →

Size Ref.	d ₁ *	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad†	Item #
0103		50	0.8	8	4	0.95	2	0.5	E582 0103
0104		50	0.8	10	4	0.95	2	0.5	E582 0104
0105		50	0.8	12	4	0.95	2	0.5	E582 0105
0106		50	0.8	14	4	0.95	2	0.5	E582 0106
0107		60	0.8	20	4	0.95	2	0.5	E582 0107
0121	1.2	50	1.0	8	4	1.15	2	0.6	E582 0121
0123		50	1.0	10	4	1.15	2	0.6	E582 0123
0122		50	1.0	12	4	1.15	2	0.6	E582 0122
0151	1.5	50	1.2	8	4	1.45	2	0.75	E582 0151
0152		50	1.2	12	4	1.45	2	0.75	E582 0152
0153		50	1.2	16	4	1.45	2	0.75	E582 0153
0154		50	1.2	18	4	1.45	2	0.75	E582 0154
0201	2	50	1.6	6	4	1.95	2	1.0	E582 0201
0202		50	1.6	8	4	1.95	2	1.0	E582 0202
0203		50	1.6	12	4	1.95	2	1.0	E582 0203
0204		50	1.6	16	4	1.95	2	1.0	E582 0204
0205		60	1.6	20	4	1.95	2	1.0	E582 0205
0206		75	1.6	30	4	1.95	2	1.0	E582 0206
0301	3	50	2.4	10	6	2.85	2	1.5	E582 0301
0302		60	2.4	16	6	2.85	2	1.5	E582 0302
0303		75	2.4	25	6	2.85	2	1.5	E582 0303
0304		75	2.4	30	6	2.85	2	1.5	E582 0304

ISO	P								M						K						N						S						H																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41		
E582									●	●	○			○	●																					●	●				●	●		●	●						
P	Steel								M Stainless Steel						K Cast Iron						N Non-Ferrous Metals						S Titanium & Super Alloys						H Hard Materials																		

● Optimal ○ Effective

Endmills Carbide, Hi-Feed Micro, 4 Flute, Corner Rad



- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Fraise 4 dents carbure, Hi-Feed, Torique

- Fraise grande avance
- Revêtement TiSiN pour une meilleure durée de vie
- Convient aux matériaux de 35 to 68HRC



Frese metallo duro, Hi-Feed Micro, 4 Taglienti, Toriche

- Lavorazione ad alti avanzamenti
- Rivestimento resistente per una lunga vita utensile
- Tagliente a elica variabile per lavorazioni prive di vibrazioni
- Adatta per materiali da 35 a 68HRC

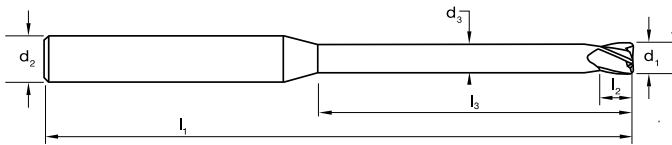


Fresas de MD alto avance, micro, 4 ranuras, Tórica

- Aumento de avance
- Recubrimiento resistente para una larga vida útil de la herramienta
- Diseño de hélice variable para mecanizado sin vibraciones
- Material de la máquina entre 35 - 68HRC



watch the video



Catalogue Code	E598
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6

Vc Page #: 497 →

Size Ref.	d ₁ *	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad†	Item #
0102	1	50	1	4	4	-	4	0.1	E598 0102
0103	1	50	1	6	4	-	4	0.1	E598 0103
0104	1	50	1	8	4	-	4	0.1	E598 0104
0105	1	50	1	10	4	-	4	0.1	E598 0105
0106	1	50	1	12	4	-	4	0.1	E598 0106
0107	1	50	1	14	4	-	4	0.1	E598 0107
0108	1	50	1	16	4	-	4	0.1	E598 0108
0110	1	75	1	20	4	-	4	0.1	E598 0110
0112	1	50	1	4	4	-	4	0.2	E598 0112
0113	1	50	1	6	4	-	4	0.2	E598 0113
0114	1	50	1	8	4	-	4	0.2	E598 0114
0115	1	50	1	10	4	-	4	0.2	E598 0115
0116	1	50	1	12	4	-	4	0.2	E598 0116
0117	1	50	1	14	4	-	4	0.2	E598 0117
0118	1	50	1	16	4	-	4	0.2	E598 0118
0120	1	60	1	20	4	-	4	0.2	E598 0120
0122	1	50	1	6	4	-	4	0.3	E598 0122
0123	1	50	1	10	4	-	4	0.3	E598 0123
0124	1	50	1	16	4	-	4	0.3	E598 0124
0126	1	60	1	20	4	-	4	0.3	E598 0126
0152	1.5	50	1.5	6	4	-	4	0.1	E598 0152
0153	1.5	50	1.5	8	4	-	4	0.1	E598 0153
0154	1.5	50	1.5	12	4	-	4	0.1	E598 0154
0155	1.5	50	1.5	16	4	-	4	0.1	E598 0155
0157	1.5	60	1.5	20	4	-	4	0.1	E598 0157
0159	1.5	50	1.5	6	4	-	4	0.2	E598 0159
0160	1.5	50	1.5	8	4	-	4	0.2	E598 0160
0161	1.5	50	1.5	10	4	-	4	0.2	E598 0161

ISO	P													M			K			N										S										H																
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41							
E598				●	●			●	●	●	●	●	●																				○	○	○	○	○								○	○	○	○								

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

*Cutting Ø tolerance: d₁ < 0.7 = 0 / -0.012 d₁ > 0.7 = 0 / -0.020

Endmills Carbide, Hi-Feed Micro, 4 Flute, Corner Rad



- Increased feedrates
- Tough coating for long tool life
- Variable helix design for chatter-free machining
- Machine Material 35 to 68HRC



Fraise 4 dents carbure, Hi-Feed, Torique

- Fraise grande avance
- Revêtement TiSiN pour une meilleure durée de vie
- Convient aux matériaux de 35 to 68HRC



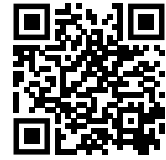
Frese metallo duro, Hi-Feed Micro, 4 Taglienti, Toriche

- Lavorazione ad alti avanzamenti
- Rivestimento resistente per una lunga vita utensile
- Tagliente a elica variabile per lavorazioni prive di vibrazioni
- Adatta per materiali da 35 a 68HRC



Fresas de MD alto avance, micro, 4 ranuras, Tórica

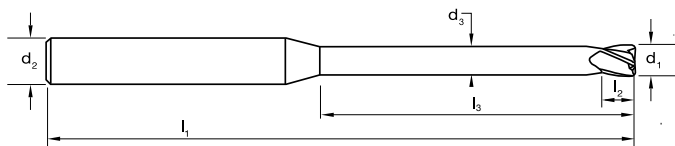
- Aumento de avance
- Recubrimiento resistente para una larga vida útil de la herramienta
- Diseño de hélice variable para mecanizado sin vibraciones
- Material de la máquina entre 35 - 68HRC



watch the video



Catalogue Code	E598
Product Group	B0218
Material	VHM
Surface Finish	TiSiN
Application	N
Geometry	R40
Shank Form (DIN 6535)	HA
Shank Tolerance	h6



Vc Page #: 497 →

Size Ref.	d ₁ *	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad†	Item #
0320	3	60	3	18	6	-	4	0.3	E598 0320
0321	3	60	3	20	6	-	4	0.3	E598 0321
0323	3	75	3	30	6	-	4	0.3	E598 0323
0325	3	50	3	8	6	-	4	0.5	E598 0325
0326	3	50	3	10	6	-	4	0.5	E598 0326
0327	3	50	3	12	6	-	4	0.5	E598 0327
0328	3	50	3	14	6	-	4	0.5	E598 0328
0330	3	60	3	16	6	-	4	0.5	E598 0330
0331	3	60	3	18	6	-	4	0.5	E598 0331
0332	3	60	3	20	6	-	4	0.5	E598 0332
0334	3	75	3	30	6	-	4	0.5	E598 0334
0402	4	60	4	10	6	-	4	0.3	E598 0402
0403	4	60	4	15	6	-	4	0.3	E598 0403
0404	4	60	4	20	6	-	4	0.3	E598 0404
0406	4	75	4	25	6	-	4	0.3	E598 0406
0407	4	75	4	32	6	-	4	0.3	E598 0407
0408	4	75	4	40	6	-	4	0.3	E598 0408
0410	4	60	4	10	6	-	4	0.5	E598 0410
0411	4	60	4	15	6	-	4	0.5	E598 0411
0412	4	60	4	20	6	-	4	0.5	E598 0412
0414	4	75	4	25	6	-	4	0.5	E598 0414
0415	4	75	4	32	6	-	4	0.5	E598 0415
0416	4	75	4	40	6	-	4	0.5	E598 0416

ISO	P										M					K					N					S					H																								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41						
E598					●			●	●	●	●	○	○	●	●	●	●	●	●	●	●	●											○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	P	Steel										M	Stainless Steel					K	Cast Iron					N	Non-Ferrous Metals					S	Titanium & Super Alloys					H	Hard Materials																		

● Optimal ○ Effective

Endmills Carbide, 3 Flute, R38/37/39 UNI, DIN6527L, Harmony



- VHM-ULTRA grade of carbide for high performance
- Universal use for slotting & finishing with the one tool
- 38/37/39° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



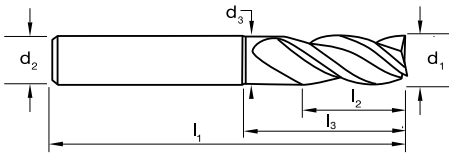
Fraise 3 dents carbure, R35°/38° UNI, DIN6527L, HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Pour le rainurage et la finition
- Hélice variable 38°/37°/39° pour la suppression des vibrations
- Convient aux matériaux jusqu'à 1600N/mm²
- Revêtement AlCrN pour une meilleure durée de vie



Frese metallo duro, 3 Taglienti, R38/37/39 UNI, DIN6527L, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Fresa universale per cave e lavorazioni di finitura
- Elica tagliente variabile 38/37/39° per lavorazioni senza vibrazioni
- Adatta per materiali fino a 1600 N/mm²
- AlCrN per Ottimizzare vita utensile



Vc Page #: 489 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #	Item #
0300	3.0	57	8	14	6	2.8	3	E424 0300	E425 0300
0350	3.5	57	8	14	6	3.3	3	E424 0350	E425 0350
0400	4.0	57	11	16	6	3.8	3	E424 0400	E425 0400
0450	4.5	57	11	16	6	4.3	3	E424 0450	E425 0450
0500	5.0	57	13	18	6	4.8	3	E424 0500	E425 0500
0550	5.5	57	13	18	6	5.3	3	E424 0550	E425 0550
0600	6.0	57	13	19	6	5.7	3	E424 0600	E425 0600
0800	8.0	63	19	25	8	7.6	3	E424 0800	E425 0800
1000	10.0	72	22	30	10	9.5	3	E424 1000	E425 1000
1200	12.0	83	26	36	12	11.5	3	E424 1200	E425 1200
1400	14.0	83	26	36	14	13.5	3	E424 1400	E425 1400
1600	16.0	92	32	42	16	15.5	3	E424 1600	E425 1600
1800	18.0	92	32	42	18	17.5	3	E424 1800	E425 1800
2000	20.0	104	38	52	20	19.5	3	E424 2000	E425 2000



Fresas de MD, 3 ranuras, R38/37/39 UNI, DIN6527L, Harmony

- Grado de MD, VHM-ULTRA para alto rendimiento
- Uso universal para ranurado y acabado con una herramienta
- Hélice de ranura variable 38/37/39° para fresado sin vibraciones
- Adecuado para materiales hasta 1600 N/mm²
- AlCrN para una mayor vida útil de la herramienta



Catalogue Code	E424	E425
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	UNI	UNI
Geometry	R38/37/39	R38/37/39
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

ISO	P													M			K							N										S										H											
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41						
E424	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E425	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 4 Flute, R35/38 UNI, DIN6527K, Harmony



- VHM-ULTRA grade of carbide for high performance
- 35/38° variable flute helix for chatter free milling
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Fraise 4 dents carbure, R35°/38° UNI, DIN6527K, HARMONY

- Carburé VHM-ULTRA pour une meilleure performance
- Hélice variable 35/38° pour la suppression des vibrations
- Convient aux matériaux jusqu'à 1600N/mm²
- Revêtement AlCrN pour une meilleure durée de vie



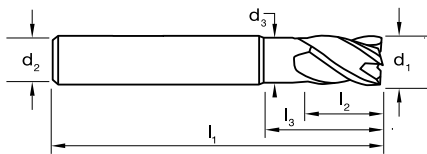
Frese metallo duro, 4 Taglienti, R35/38 UNI, DIN6527K, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Elica tagliente variabile 35/38° per lavorazioni senza vibrazioni
- Adatta per materiali fino a 1600 N/mm²
- AlCrN per Ottimizzare vita utensile



Fresas de MD, 4 ranuras, R35/38 UNI, DIN6527K, Harmony

- Grado de MD, VHM-ULTRA para alto rendimiento
- Hélice de ranura variable 35/38° para fresado sin vibraciones
- Adecuado para materiales hasta 1600 N/mm²
- AlCrN para una mayor vida útil de la herramienta



Catalogue Code	E533	E534
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	<i>AlCrN</i>	<i>AlCrN</i>
Sutton Designation	UNI	UNI
Geometry	R35/38	R35/38
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Vc Page #: 490 →

Size Ref.	d ₁ (h9)	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #	Item #
0600	6.0	54	10	18	6	5.5	4	E533 0600	E534 0600
0800	8.0	58	12	22	8	7.5	4	E533 0800	E534 0800
1000	10.0	66	14	24	10	9.5	4	E533 1000	E534 1000
1200	12.0	73	16	28	12	11.2	4	E533 1200	E534 1200
1600	16.0	82	22	34	16	15.0	4	E533 1600	E534 1600
2000	20.0	92	26	42	20	19.0	4	E533 2000	E534 2000

ISO	P													M			K						N						S						H																
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41		
E533	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
E534	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

Endmills Carbide, 4 Flute, R45/44 UNI, Cnr Rad, Long Reach, Harmony



- VHM-ULTRA grade of carbide for high performance
- 45/44° variable flute helix for chatter free milling
- Suitable for materials up to 1300 N/mm²
- AlCrN for longer tool life



Fraise 4 dents carbure, R45°/44° UNI, Torique, Longue HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Hélice variable 45°/44° pour la suppression des vibrations
- Convient aux matériaux jusqu'à 1300N/mm²
- Revêtement AlCrN pour une meilleure durée de vie



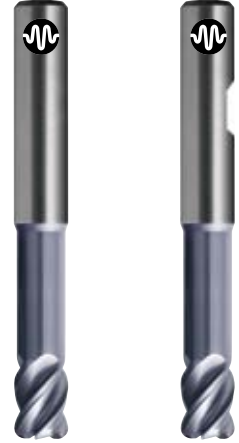
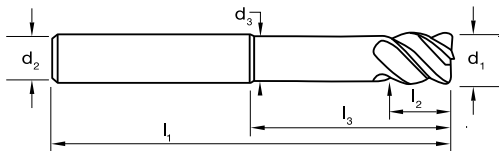
Frese metallo duro, 4 Taglienti, R45/44 UNI, Toriche, Lunga Portata, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Elica togliente variabile 44/45° per lavorazioni senza vibrazioni
- Adatta per materiali fino a 1600 N/mm²
- AlCrN per Ottimizzare vita utensile



Fresas de MD, 4 ranuras, R45/44 UNI, Tórica, DIN6527L, Harmony

- Grado de MD, VHM-ULTRA para alto rendimiento
- Hélice de ranura variable 45/44° para fresado sin vibraciones
- Adecuado para materiales hasta 1300 N/mm²
- AlCrN para una mayor vida útil de la herramienta



Catalogue Code
Discount Group
Material
Surface Finish
Sutton Designation
Geometry
Shank Form (DIN 6535)
Shank Tolerance

	E430	E431
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	UNI	UNI
Geometry	R45/44	R45/44
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

Vc Page #: 490 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad	Item #	Item #
0403	4.0	57	5	16	6	3.6	4	0.3	E430 0403	E431 0403
0405		57	5	16	6	3.6	4	0.5	E430 0405	E431 0405
0603	6.0	62	7	24	6	5.4	4	0.3	E430 0603	E431 0603
0605		62	7	24	6	5.4	4	0.5	E430 0605	E431 0605
0610		62	7	24	6	5.4	4	1.0	E430 0610	E431 0610
0615		62	7	24	6	5.4	4	1.5	E430 0615	E431 0615
0803	8.0	68	9	30	8	7.2	4	0.3	E430 0803	E431 0803
0805		68	9	30	8	7.2	4	0.5	E430 0805	E431 0805
0810		68	9	30	8	7.2	4	1.0	E430 0810	E431 0810
0815		68	9	30	8	7.2	4	1.5	E430 0815	E431 0815
1005	10.0	80	11	38	10	9.0	4	0.5	E430 1005	E431 1005
1010		80	11	38	10	9.0	4	1.0	E430 1010	E431 1010
1015		80	11	38	10	9.0	4	1.5	E430 1015	E431 1015
1020		80	11	38	10	9.0	4	2.0	E430 1020	E431 1020
1205	12.0	93	13	46	12	11.0	4	0.5	E430 1205	E431 1205
1210		93	13	46	12	11.0	4	1.0	E430 1210	E431 1210
1215		93	13	46	12	11.0	4	1.5	E430 1215	E431 1215
1220		93	13	46	12	11.0	4	2.0	E430 1220	E431 1220
1610	16.0	108	17	58	16	15.0	4	1.0	E430 1610	E431 1610
1620		108	17	58	16	15.0	4	2.0	E430 1620	E431 1620
1630		108	17	58	16	15.0	4	3.0	E430 1630	E431 1630
1640		108	17	58	16	15.0	4	4.0	E430 1640	E431 1640

ISO	P													M			K				N							S							H																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41						
E430	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E431	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Roughers Carbide, HRS, R45 UNI, DIN6527L Harmony

suttontools

HARMONY



- VHM-ULTRA grade of carbide for high performance
- HRS geometry allows for heavy cuts in short & long chipping materials
- Suitable for materials up to 1600 N/mm²
- AlCrN for longer tool life



Fraise d'ébauche carbure, Profil HRS, R45°, UNI, DIN 6527L, HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Brise-copeaux (HRS) pour dans les matériaux à copeaux longs
- Convient aux matériaux jusqu'à 1600N/mm²
- Revêtement AlCrN pour une meilleure durée de vie



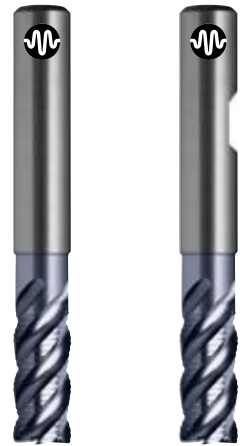
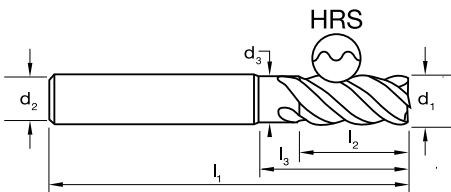
Fresce metallo duro rompitruciolo, HRS, R45 UNI, DIN6527L Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Geometria HR permette lavorazioni gravose su materiali di difficile lavorabilità
- Ideale per materiali fino a 1600 N/mm²
- AlCrN per Ottimizzare vita utensile



Fresas de MD, Desbaste, HRS, R45 UNI, DIN6527L, Harmony

- Grado de MD, VHM-ULTRA para alto rendimiento
- Adecuado para materiales de hasta 1600 N/mm²
- Diseño de ranura (HRS), para gran desbaste en materiales de viruta corta y larga
- AlCrN para una mayor vida útil de la herramienta



Catalogue Code	E549	E550
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	UNI	UNI
Geometry	R45 HRS	R45 HRS
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

Vc Page #: 491 →

Size Ref.	d ₁ (h10)	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #	Item #
0400	4.0	57	11	19	6	3.7	3	E549 0400	E550 0400
0500	5.0	57	13	20	6	4.6	4	E549 0500	E550 0500
0600	6.0	57	16	21	6	5.5	4	E549 0600	E550 0600
0800	8.0	63	19	27	8	7.5	4	E549 0800	E550 0800
1000	10.0	72	22	32	10	9.5	4	E549 1000	E550 1000
1200	12.0	83	26	38	12	11.2	4	E549 1200	E550 1200
1400	14.0	83	26	38	14	13.5	4		E550 1400
1600	16.0	92	32	44	16	15.5	5	E549 1600	E550 1600
1800	18.0	92	32	44	16	17.5	5	E549 1800	E550 1800
2000	20.0	104	38	54	20	19.0	6	E549 2000	E550 2000
2500	25.0	120	45	60	25	24.5	6	E549 2500	E550 2500

ISO	P										M					K					N					S					H																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	37.2	37.3	37.4	37.5	38	38.2	39	39.1	39.2	40	41	
E549	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
E550	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R50/35 NH, DIN6527L, Harmony



- VHM-ULTRA grade of carbide for high performance
- For super fine finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life



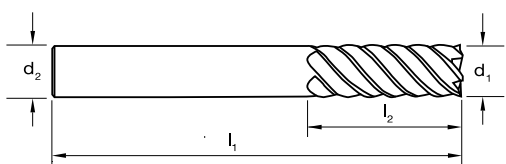
Fraise carbure Multi-Dents, R50°/35° NH, DIN6527L, HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Pour la super finition
- Hélice variable 50°/35° pour la suppression des vibrations
- Convient pour les matériaux à copeaux courts jusqu'à 48 HRC
- AlCrN pour une meilleure durée de vie



Frese metallo duro, 6-8 Taglienti, R50/35 NH, DIN6527L, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Fresa specifica per finiture ad altissima precisione
- Elica tagliente variabile 50/35° per lavorazioni senza vibrazioni
- Ideale per materiale duri, con truciolo corto fino a 48 HRC
- AlCrN per Ottimizzare vita utensile



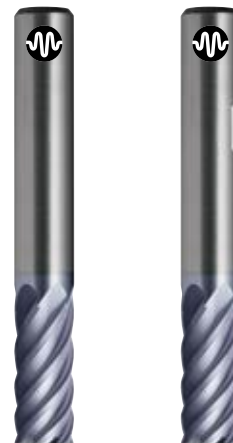
Vc Page #: 493 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	d ₂	z
0600	6.0	57	13	6	6
0800	8.0	63	19	8	6
1000	10.0	72	22	10	6
1200	12.0	83	26	12	6
1400	14.0	83	26	14	6
1600	16.0	92	32	16	6
1800	18.0	92	32	18	8
2000	20.0	104	38	20	8
2500	25.0	120	45	25	8



Fresas de MD, 6-8 ranuras, R50/35 NH, DIN6527L, Harmony

- Grado de carburo VHM-ULTRA para alto rendimiento
- Para aplicaciones de super acabado
- Hélice de ranura variable de 50/35° para fresado sin vibraciones
- Geometría optimizada para materiales de viruta corta hasta 48HRC
- AlCrN para una mayor vida de la herramienta



Catalogue Code	E432	E433
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

	Item #	Item #
	E432 0600	E433 0600
	E432 0800	E433 0800
	E432 1000	E433 1000
	E432 1200	E433 1200
	E432 1400	E433 1400
	E432 1600	E433 1600
	E432 1800	E433 1800
	E432 2000	E433 2000
	E432 2500	E433 2500

ISO	P													M			K					N										S										H														
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41							
E432	○	○	○	○	○	○	○	○	○	○	○	○	○				●	●	●	●	●	●																																		
E433	○	○	○	○	○	○	○	○	○	○	○	○	○				●	●	●	●	●	●																																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R50/35 NH, Extra Long, Harmony



- VHM-ULTRA grade of carbide for high performance
- For super fine finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life



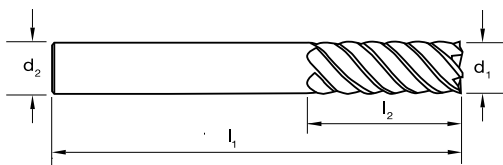
Fraise carbure Multi-Dents, R50°/35° NH, Extra-Longue, HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Pour la super finition
- Hélice variable 50°/35° pour la suppression des vibrations
- Convient pour les matériaux à copeaux courts jusqu'à 48 HRC
- AlCrN pour une meilleure durée de vie



Frese metallo duro, 6-8 Taglienti, R50/35 NH, Extra Lunga, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Fresa specifica per finiture ad altissima precisione
- Elica tagliente variabile 50/35° per lavorazioni senza vibrazioni
- Ideale per materiale duri, con truciolo corto fino a 48 HRC
- AlCrN per Ottimizzare vita utensile



Vc Page #: 493 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	d ₂	z	Item #	Item #
0600	6.0	62	18	6	6	E434 0600	E435 0600
0800	8.0	68	24	8	6	E434 0800	E435 0800
1000	10.0	80	30	10	6	E434 1000	E435 1000
1200	12.0	93	36	12	6	E434 1200	E435 1200
1600	16.0	108	48	16	6	E434 1600	E435 1600
2000	20.0	126	60	20	8	E434 2000	E435 2000
2500	25.0	150	85	25	8	E434 2500	E435 2500



Fresas de MD, 6-8 ranuras, R50/35 NH, Extra Larga, Harmony

- Grado de carburo VHM-ULTRA para alto rendimiento
- Para aplicaciones de super acabado
- Hélice de ranura variable de 50/35° para fresado sin vibraciones
- Geometría optimizada para materiales de viruta corta hasta 48HrC
- AlCrN para una mayor vida de la herramienta



Catalogue Code	E434	E435
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

ISO	P													M			K				N							S					H																								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41								
E434	○	○	○	○	○	○	○	○	○	○	○	○	○				●	●	●	●	●	●												○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E435	○	○	○	○	○	○	○	○	○	○	○	○	○				●	●	●	●	●	●												○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 6-8 Flute, R50/35 NH, Cnr Rad, Long Reach, *Harmony*



- VHM-ULTRA grade of carbide for high performance
- For super fine finishing applications
- 50/35° variable flute helix for chatter free milling
- Suitable for hard, short chipping materials up to 48 HRC
- AlCrN for longer tool life



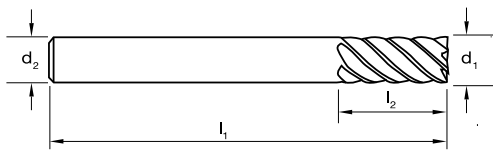
Fraise carbure Multi-Dents, R50°/35° NH, Torique, Extra-Longue, HARMONY

- Carbure VHM-ULTRA pour une meilleure performance
- Pour la super finition
- Hélice variable 50°/35° pour la suppression des vibrations
- Convient pour les matériaux à copeaux courts jusqu'à 48 HRC
- AlCrN pour une meilleure durée de vie



Frese metallo duro, 6-8 Taglienti, R50/35 NH, Toriche, Lunga Portata, Harmony

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Fresa specifica per finiture ad altissima precisione
- Elica tagliente variabile 50/35° per lavorazioni senza vibrazioni
- Ideale per materiale duri, con truciolo corto fino a 48 HRC
- AlCrN per Ottimizzare vita utensile



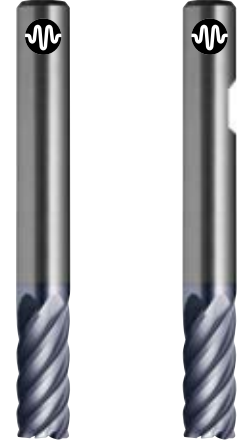
Vc Page #: 493 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	d ₂	z	rad	Item #	Item #
0605	6.0	62	13	6	6	0.5	E436 0605	E437 0605
0610		62	13	6	6	1.0	E436 0610	E437 0610
0805	8.0	68	19	8	6	0.5	E436 0805	E437 0805
0810		68	19	8	6	1.0	E436 0810	E437 0810
1005	10.0	80	22	10	6	0.5	E436 1005	E437 1005
1010		80	22	10	6	1.0	E436 1010	E437 1010
1015		80	22	10	6	1.5	E436 1015	E437 1015
1020		80	22	10	6	2.0	E436 1020	E437 1020
1205	12.0	93	26	12	6	0.5	E436 1205	E437 1205
1210		93	26	12	6	1.0	E436 1210	E437 1210
1215		93	26	12	6	1.5	E436 1215	E437 1215
1220		93	26	12	6	2.0	E436 1220	E437 1220
1605	16.0	108	32	16	6	0.5	E436 1605	E437 1605
1610		108	32	16	6	1.0	E436 1610	E437 1610
1615		108	32	16	6	1.5	E436 1615	E437 1615
1620		108	32	16	6	2.0	E436 1620	E437 1620
2005	20.0	126	38	20	8	0.5	E436 2005	E437 2005
2010		126	38	20	8	1.0	E436 2010	E437 2010
2015		126	38	20	8	1.5	E436 2015	E437 2015
2020		126	38	20	8	2.0	E436 2020	E437 2020



Fresas de MD, 6-8 ranuras, R50/35 NH, Tórica, Larga, Harmony

- Grado de carburo VHM-ULTRA para alto rendimiento
- Para aplicaciones de super acabado
- Hélice de ranura variable de 50/35° para fresado sin vibraciones
- Geometría optimizada para materiales de viruta corta hasta 48HRC
- AlCrN para una mayor vida de la herramienta



Catalogue Code	E436	E437
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlCrN	AlCrN
Sutton Designation	NH	NH
Geometry	R50/35	R50/35
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h5	h5

ISO	P													M			K							N										S										H											
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41						
E436	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E437	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

Endmills Carbide, 4 Flute, R50 VH, Cnr Rad, DIN6527L, Harmony DUO



- VHM-ULTRA grade of carbide for high performance
- Dual stepped core for optimal strength
- Ideal design for hard machining
- Suitable for materials up to 63 HRC
- Aldura for longer tool life



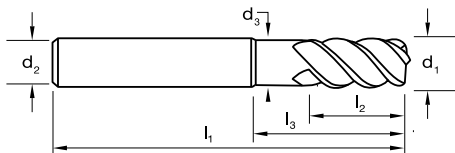
Fraise 4 dents carbure, R50° NH, Torique, DIN6527L, HARMONY DUO

- Carbure VHM-ULTRA pour une meilleure performance
- Double goujures
- Ideale pour les opérations de fraisage difficiles
- Convient aux matériaux jusqu'à 63 HRC
- Revêtement Aldura pour une meilleure durée de vie



Frese metallo duro, 4 Taglienti, R50 VH, Toriche, DIN6527L, Harmony DUO

- VHM-ULTRA, grado di metallo duro per alte prestazione
- Doppio gradino al nocciolo per un ottima stabilità durante la lavorazione
- Progettata per lavorazioni gravose
- Ideale per materiali fino a 63 HRC
- Aldura per Ottimizzare vita utensile



Vc Page #: 494 →

Size Ref.	d ₁ (h10)	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad	Item #	Item #
0610	6.0	57	13	21	6	5.5	4	1.0	E568 0610	E569 0610
0820	8.0	63	19	27	8	7.5	4	2.0	E568 0820	E569 0820
1020	10.0	72	22	32	10	9.5	4	2.0	E568 1020	E569 1020
1230	12.0	83	26	38	12	11.2	4	3.0	E568 1230	E569 1230
1430	14.0	83	26	38	14	13.0	4	3.0	E568 1430	E569 1430
1640	16.0	92	32	44	16	15.0	4	4.0	E568 1640	E569 1640
2040	20.0	104	38	54	20	19.0	4	4.0	E568 2040	E569 2040



Fresas de MD, 4 Ranuras, R50 VH, Tórica, DIN6527L, Harmony DUO

- Grado de MD, VHM-ULTRA para alto rendimiento
- Doble núcleo escalonado para una resistencia óptima
- Diseño ideal para mecanizado duro
- Adecuado para materiales hasta 63Hrc
- Aldura para una mayor vida útil de la herramienta



Catalogue Code	E568	E569
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	Aldura	Aldura
Sutton Designation	VH	VH
Geometry	R50	R50
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M			K					N										S										H								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
E568																																																		
E569																																																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42Ti, DIN6527L, Harmony



- Square end for finishing applications
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness



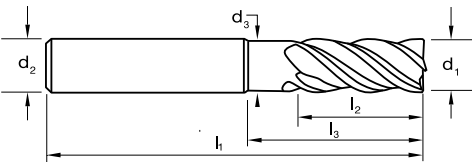
Fraise 5 dents carbure, R40°/42° Ti, DIN6527L, HARMONY

- Optimisée pour le Titane
- Hélice variable pour supprimer les vibrations
- Taillage conique pour conserver la rigidité
- Revêtement AlNova pour une bonne résistance à l'oxydation et à la haute vitesse



Frese metallo duro, 5 Taglienti, R40/42Ti, DIN6527L, Harmony

- Fresa a spigolo vivo per lavorazioni di finitura
- Ottimizzata per una vita utensile maggiore su leghe di Titanio
- Elica variabile per eliminare le vibrazioni
- Web rastremato per aumentare rigidità
- AlNova per un'eccezionale resistenza all'ossidazione e alle alte temperature



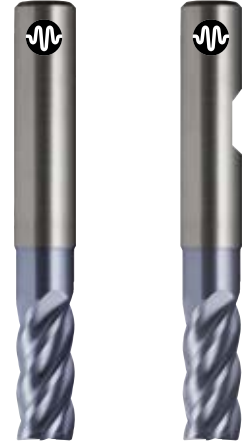
Vc Page #: 494 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #	Item #
0600	6.0	57	13	21	6	5.7	5	E464 0600	
0800	8.0	63	19	27	8	7.6	5	E464 0800	
1000	10.0	72	22	32	10	9.5	5	E464 2000	
1200	12.0	83	26	36	12	11.5	5	E464 1200	E465 1200
1600	16.0	92	32	42	16	15.5	5	E464 1600	E465 1600
2000	20.0	104	38	52	20	19.5	5	E464 2000	E465 2000
2500	25.0	125	45	64	25	24	5	E464 2500	



Fresas de MD, 5 Ranuras, R40/42 Ti, DIN6527L, Harmony

- Filo facetado para aplicaciones de acabado
- Optimizado para una mayor vida útil de la herramienta en aleaciones de titanio
- Diseño de hélice variable para suprimir vibraciones
- Núcleo cónico para aumentar la rigidez
- AlNova para una excelente resistencia a la oxidación y dureza en caliente



Catalogue Code	E464	E465
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlNova	AlNova
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M				K				N							S					H																
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
E464																																																		
E465																																																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42Ti, Cnr Rad, DIN6527L, Harmony



- Unique corner radius grind for added strength
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- AlNova for outstanding oxidation resistance and hot hardness



Fraise 5 dents carbure, R40°/42° Ti, Torique, DIN6527L, HARMONY

- Optimisée pour le Titane
- Hélice variable pour supprimer les vibrations, Torique
- Taillage conique pour conserver la rigidité
- Revêtement AlNova pour une bonne résistance à l'oxydation et à la haute vitesse



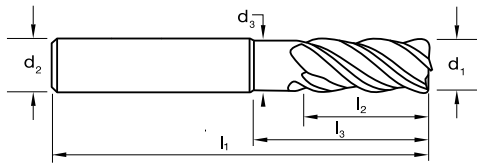
Frese metallo duro, 5 Taglienti, R40/42Ti, Toriche, DIN6527L, Harmony

- Fresa torica il cui raggio di testa viene interamente rettificato in un'unica volta senza riprese
- Ottimizzata per una vita utensile maggiore su leghe di Titanio
- Elica variabile per eliminare le vibrazioni
- Web rastremato per aumentare rigidità
- AlNova per un'eccezionale resistenza all'ossidazione e alle alte temperature



Fresas de MD, 5 Ranuras, R40/42 Ti, Tórica, DIN6527L, Harmony

- Filo facetado para aplicaciones de acabado
- Optimizado para una mayor vida útil de la herramienta en aleaciones de titanio
- Diseño de hélice variable para suprimir vibraciones
- Núcleo cónico para aumentar la rigidez
- AlNova para una excelente resistencia a la oxidación y dureza en caliente



Vc Page #: 494 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	rad	Item #	Item #
0605	6.0	57	13	21	6	5.5	5	0.5	E466 0605	
0610		57	13	21	6	5.5	5	1.0	E466 0610	
0805	8.0	63	19	27	8	7.5	5	0.5	E466 0805	
0810		63	19	27	8	7.5	5	1.0	E466 0810	
1005	10.0	72	22	32	10	9.5	5	0.5	E466 1005	
1010		72	22	32	10	9.5	5	1.0	E466 1010	
1210	12.0	83	26	38	12	11.2	5	1.0	E466 1210	E467 1210
1225		83	26	38	12	11.2	5	2.5	E466 1225	E467 1225
1240		83	26	38	12	11.2	5	4.0	E466 1240	E467 1240
1610	16.0	92	32	44	16	15	5	1.0	E466 1610	E467 1610
1625		92	32	44	16	15	5	2.5	E466 1625	E467 1625
1630		92	32	44	16	15	5	3.0		E467 1630
1640		92	32	44	16	15	5	4.0	E466 1640	E467 1640
2010	20.0	104	38	54	20	19	5	1.0	E466 2010	E467 2010
2025		104	38	54	20	19	5	2.5	E466 2025	E467 2025
2030		104	38	54	20	19	5	3.0	E466 2030	
2040		104	38	54	20	19	5	4.0	E466 2040	E467 2040
2050		104	38	54	20	19	5	5.0	E466 2050	E467 2050
2060		104	38	54	20	19	5	6.0	E466 2060	E467 2060
2510	25.0	120	45	64	25	24	5	1.0	E466 2510	
2525		120	45	64	25	24	5	2.5	E466 2525	
2530		120	45	64	25	24	5	3.0	E466 2530	
2540		120	45	64	25	24	5	4.0	E466 2540	
2550		120	45	64	25	24	5	5.0	E466 2550	
2560		120	45	64	25	24	5	6.0	E466 2560	



Catalogue Code
Discount Group
Material
Surface Finish
Sutton Designation
Geometry
Shank Form (DIN 6535)
Shank Tolerance



	E466	E467
Discount Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlNova	AlNova
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M			K					N										S							H										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E466																																						●	●	●	●	●	●						
E467																																						●	●	●	●	●	●						

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials ● Optimal ○ Effective

Endmills Carbide, 6 Flute, R40/42Ti, DIN6527L, Harmony



- Square end for finishing applications
- Optimised for longer tool life in Titanium Alloys
- Variable helix design to suppress vibration
- Web taper to increase rigidity
- AlNova for outstanding oxidation resistance and hot hardness



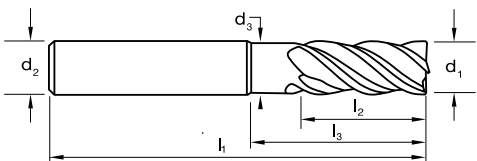
Fraise 6 dents carbure, R40°/42° Ti, DIN6527L, HARMONY

- Optimisée pour le Titane
- Hélice variable pour supprimer les vibrations
- Taillage conique pour conserver la rigidité
- Revêtement AlNova pour une bonne résistance à l'oxydation et à la haute vitesse



Frese metallo duro, 6 Taglienti, R40/42Ti, DIN6527L, Harmony

- Fresa a spigolo vivo per lavorazioni di finitura
- Ottimizzata per una vita utensile maggiore su leghe di Titanio
- Elica variabile per eliminare le vibrazioni
- Web rastremato per aumentare rigidità
- AlNova per un'eccezionale resistenza all'ossidazione e alle alte temperature



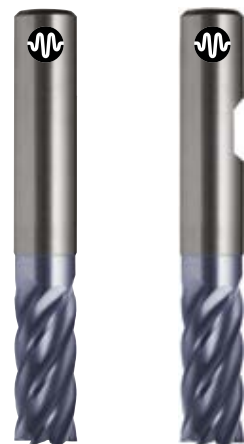
Vc Page #: 494 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	Item #	Item #
1200	12.0	83	26	38	12	11.5	6	E468 1200	E469 1200
1600	16.0	92	32	44	16	15.5	6	E468 1600	E469 1600
2000	20.0	104	38	54	20	19.5	6	E468 2000	E469 2000



Endmills Carbide, 6 Flute, R40/42Ti, DIN6527L, Harmony

- Filo facetado para aplicaciones de acabado
- Optimizado para una mayor vida útil de la herramienta en aleaciones de titanio
- Diseño de hélice variable para suprimir vibraciones
- Núcleo cónico para aumentar la rigidez
- AlNova para una excelente resistencia a la oxidación y dureza en caliente



Catalogue Code	E468	E469
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	AlNova	AlNova
Sutton Designation	Ti	Ti
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M			K				N							S					H																	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
E468																																																		
E469																																																		

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Endmills Carbide, 5 Flute, R40/42 Ni, DIN6527L, Harmony



- Excellent solution for stainless steels and super alloy
- Optimised geometry with variable helix design
- Suitable for slotting, side cutting and finishing
- Xceed for outstanding oxidation resistance and hot hardness



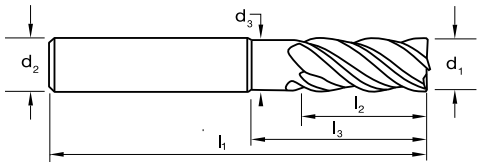
Fraise 5 dents carbure, R40°/42° Ni, DIN6527L, HARMONY, Torique

- Optimisée pour les bases Nickel, Duplex et Super-Duplex
- Hélice variable pour supprimer les vibrations
- Convient pour les applications de contourage, rainurage et trocoidale
- Revêtement Xceed pour une bonne résistance à l'oxydation et à les hautes températures



Frese metallo duro, 5 Taglienti, R40/42 Ni, Toriche, DIN6527L, Harmony

- Fresa torica il cui raggio di testa viene interamente rettificato in un'unica volta senza riprese
- Ottimizzata per una vita utensile maggiore su leghe di inconfel, acciaio inossidabile
- Elica variabile per eliminare le vibrazioni
- Web rastremato per aumentare rigidità
- Xceed per un'eccezionale resistenza all'ossidazione e alle alte temperature



Vc Page #: 500 →

Size Ref.	d ₁ (e8)	l ₁	l ₂	l ₃	d ₂	d ₃	z	chf	rad	Item #	Item #
0600	6.0	57	13	21	6	5.7	5	0.20	-	E472 0600	E473 0600
0800	8.0	63	19	27	8	7.6	5	0.20	-	E472 0800	E473 0800
1000	10.0	72	22	32	10	9.5	5	0.25	-	E472 1000	E473 1000
1200	12.0	83	26	38	12	11.5	5	0.25	-	E472 1200	E473 1200
1600	16.0	92	32	44	16	15.5	5	0.35	-	E472 1600	E473 1600
2000	20.0	104	38	54	20	19.5	5	0.35	-	E472 2000	E473 2000



Fresas de MD, 5 Ranuras, R40/42 Ni, DIN6527L, Harmony

- Filo facetado para aplicaciones de acabado
- Optimizado para una mayor vida útil de la herramienta en aleaciones de inconfel, acero inoxidable
- Diseño de hélice variable para suprimir vibraciones
- Núcleo cónico para aumentar la rigidez
- Xceed para una excelente resistencia a la oxidación y dureza en caliente



Catalogue Code	E472	E473
Product Group	B0210	B0210
Material	VHM-ULTRA	VHM-ULTRA
Surface Finish	Xceed	Xceed
Sutton Designation	Ni	Ni
Geometry	R40/42	R40/42
Shank Form (DIN 6535)	HA	HB
Shank Tolerance	h6	h6

ISO	P													M		K					N										S					H													
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
E472						○	○	○	○	○	○	○	○	●	●	●																	●	●	●	●	●												
E473						○	○	○	○	○	○	○	○	●	●	●																	●	●	●	●	●												

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

