

passion
for precision

fraisa

FRAISA E-Cut – the compact range
High-performance machining made easy!



FRAISA E-Cut – easy to use, highly efficient, and extremely economical

The **FRAISA E-Cut** milling concept combines a very wide range of applications with precisely calculated and verified application data. This makes the tools extremely easy to work with. With just a few clicks, **FRAISA ToolExpert®** delivers perfectly coordinated cutting data. The verified application data guarantee long tool life with high stock removal rates. Simply easy to use!

The versatile tools of the **FRAISA E-Cut** range can be used to machine various materials without any problems. You can also rely on these robust and easy-cutting tools in autonomous production – they guarantee both **smooth running** and **low power consumption**.

FRAISA E-Cut also saves you valuable time when selecting the right cutting parameters. **FRAISA ToolExpert®** quickly and easily finds verified cutting data that has been tested in more than 1,000 test cycles.

FRAISA E-Cut is available in four different lengths, with between 3 and 5 teeth, and also as a finishing tool. This provides you with a versatile range of products that can be used for a wide variety of machining operations and offer **sustainability and cost-efficiency**.

The tools, cutting data, and application range of **FRAISA E-Cut** are perfectly coordinated. Put your trust in the excellent quality of these new FRAISA tools and benefit from their **ease of use, reliable performance, and cost-effective versatility**.

The benefits:

Excellent cost-performance ratio:

- Great performance at an attractive price
- Flexibility and speed in the production process
- Easy to handle, safe and reliable

Additional benefits through innovative services:

- Best possible performance thanks to the **FRAISA ToolExpert®** cutting data calculator
- Service tools available: FRAISA ToolCare® tool management system, **FRAISA ReTool®** tool reconditioning, and FRAISA ReTool®Blue tool recycling

Smart range structure:

- Diameters between 1 mm and 20 mm
- Three different lengths: standard, medium-long, and extra-long 5.2xd
- Number of teeth: z3, z4, and z5
- Finishing cutters with up to z8

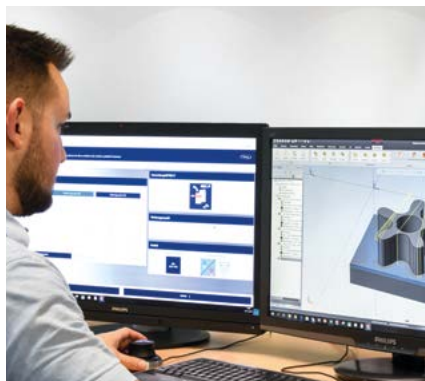


FRAISA ToolExpert®

FRAISA's cutting data calculator **FRAISA ToolExpert®** provides tool- and material-specific cutting data for production – and is the basis for precision use of **FRAISA E-Cut** tools.

This innovative software solution is **very user-friendly**: Simply select the material, application, and tool and the software provides you with the right cutting data. **FRAISA ToolExpert®** can then transfer the tool geometry data straight to your CAM system.

Fast, safe, and reliable.



Selecting the material, application, and tool to obtain the right cutting data

Transferring the cutting data and tool geometry data to the CAM system

To complement existing solutions and for all future applications

EEASY TO USE
EEFFECTIVE
EECONOMICAL

Try out our **FRAISA ToolExpert®**
now online – it's simple



www.fraisa.com

Innovative technologies facilitate a variety of milling strategies with a variety of materials

Cylindrical, high-performance E-Cut milling cutters

Standard version



The new product range is available in three lengths and with **3 to 5 teeth**.

This means it offers brilliant, easy-cutting, and quiet performance for both HPC and HDC machining.

Medium-long version



Extra-long 5.2xd version



Version	λ 45° γ 10°	r	Vario					
Standard	■	■	■	■	■	■	■	
Medium-long	■	■	■	■	■	■		■
Extra-long	■	■	■	■	■	■		■

Detailed descriptions of each technology can be found on the following page and in the FRAISA catalog.

Standard version



Medium-long version



Extra-long 5.2xd version



Extra-long 6.3xd version



FRAISA E-Cut finishing cutters are available in four length variants and with a chip breaker from the medium-long version upwards.

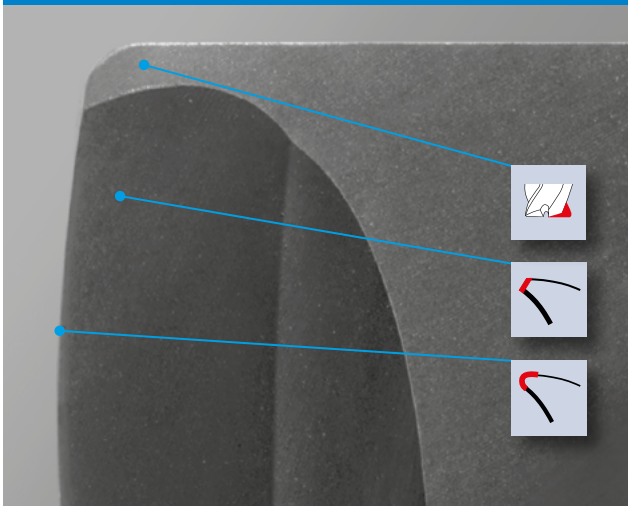
Extremely smooth-running and easy-cutting, it produces perfect surfaces in all steels up to 54 HRC, stainless steel, titanium, and cast iron.

Version	λ 55° γ 10°	r				
Standard	■	■	■	■	■	
Medium-long	■	■	■	■		■
Extra-long	■	■	■	■		■

Detailed descriptions of each technology can be found on the following page and in the FRAISA catalog.

[5]

Technology highlights



As a special feature, **FRAISA E-Cut** tools have a protective chamfer with a chip former and they also have a small corner radius. This reinforces the cutting edge and enhances performance.

To improve performance, process reliability, and service life, the cutting edges of these high-performance milling cutters are conditioned.

Noteworthy is the chip former at the main cutting edge. This has been designed such that the chips are formed perfectly and the length of time the chip and the tool are in contact with each other is only short. This results in smooth running characteristics and a long service life.

The **technologies** of FRAISA **E-Cut** tools

Easy-cutting, productive, and reliable

The technological features of FRAISA E-Cut tools at a glance

λ 45°
 γ 10°

Cylindrical FRAISA E-Cut cutters

- $\lambda = 45^\circ$ helix angle
- $\gamma = 10^\circ$ cutting angle

λ 55°
 γ 10°

Cylindrical FRAISA E-Cut finishing cutters

- $\lambda = 55^\circ$ helix angle
- $\gamma = 10^\circ$ cutting angle



Tools with polished teeth

- Reinforcement of the exposed cutting edge
- Absorption of higher cutting forces



Milling tool with variable helix angle

- Minimization of oscillations and vibrations
- Increase in chip removal rate and tool life



Milling tool with special protective chamfer

- Strengthening of the main cutting wedge against chipping
- High tooth feed rates with smooth-edged tools



Milling tools with special edge conditioning

- Conditioning of the main cutting edge for greater cutting-edge stability
- Increased mechanical and thermal loading of the cutting edge
- Overall lengthening of tool life



Small corner radius

- The cylindrical tool has a small corner radius to strengthen the cutting edge
- Higher thermal and mechanical resistance for better performance



Smooth transitions

- The transitions between the shank, neck, and cutting edge have smooth gradients and radii
- Improved tool rigidity and therefore less radial deflection
- Higher mechanical resistance for better performance



Tools with chip breaker

- The tool has a special chip breaker geometry
- Shorter chip lengths with high axial infeeds, resulting in better chip removal from the component and machine
- Better automation and process reliability
- High multi-functionality of the smooth-edged tool is maintained



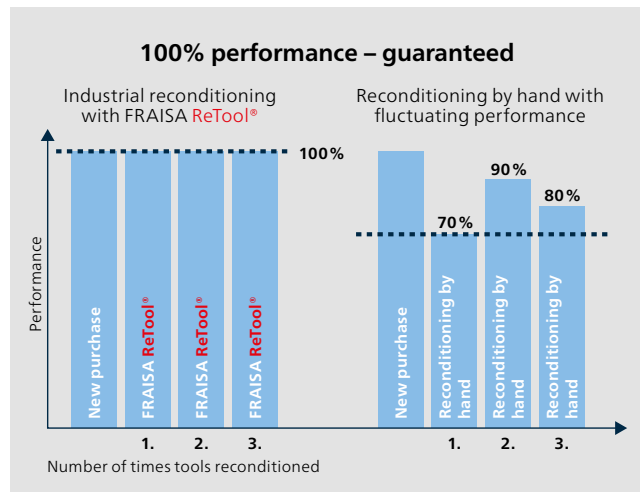
FRAISA ReTool® – Industrial tool reconditioning with performance guarantee

FRAISA ReTool® offers an all-round service that restores your used tools to their original performance level and optimizes your processes. FRAISA and third-party tools are reconditioned using the very latest technology – and in a resource-friendly way. The outcome: mint-condition tools as productive as they were the first day they were used. And to make things even better, your level of investment is lower than if you were to buy new tools, you increase your productivity and you save costs.

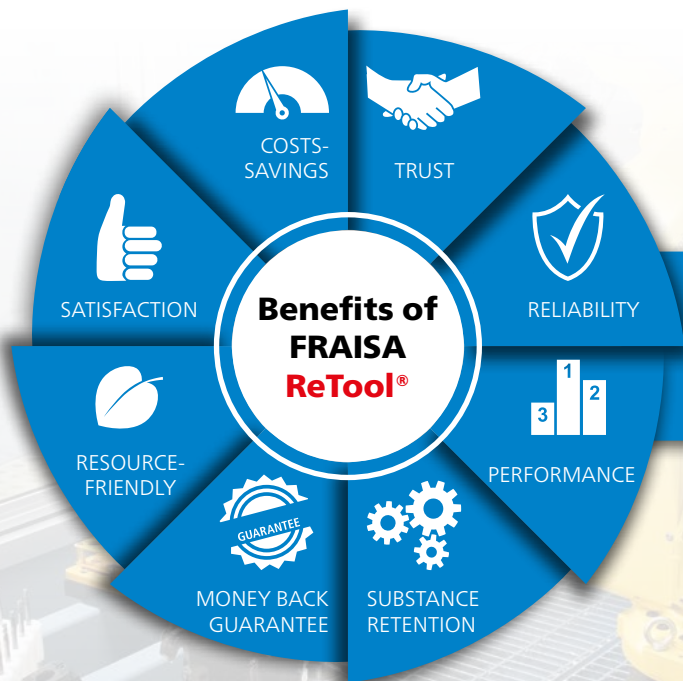
FRAISA ReTool® – a performance guarantee founded on integrated development of the tools and the reconditioning process

We guarantee that following their reconditioning with FRAISA ReTool®, your used tools will be restored to the original performance level they had when new. Our ability to provide this performance guarantee is a priority of our team of experts right from very early on in product development.

That's why the development of the reconditioning process is an integral part of the development phase, alongside the actual product tests and calculating the cutting data. Strict rules apply: the FRAISA ReTool® process is approved only if we are able to fulfil our performance guarantee 100%.



[7]



FRAISA ReTool®Blue – recycle rather than throw away

With our FRAISA ReTool®Blue service, we recycle the valuable carbide from tools that can no longer be reconditioned.

FRAISA ReTool® makes economic sense for you, too: After reconditioning them, we return your tools to you in mint condition. We restore them to their original performance level at a price that's more cost-effective for you than purchasing new ones or reconditioning them by hand.




Over 30 years' experience in tool reconditioning:




Our competence center in Germany is Europe's largest service center for carbide milling tools.





Video on our service product: FRAISA ReTool®


Smooth-edged, cylindrical

Normal version							
N° 8300 / 8400		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 1 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless
N° 8305 / 8405		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 4 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless
N° 8303 / 8403		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 1 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless

Medium length version							
N° 8310 / 8410		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 2 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless
N° 8315 / 8415		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 4 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless
N° 8313 / 8413		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 2 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless

5.2xd version							
N° 8320 / 8420		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 3 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless
N° 8323 / 8423		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	d ₁ 3 – 20 r	Rm < 850-1500 HRC < 24-48	Inox Stainless

Smooth-edged, with corner radius

Normal version							
N° 8307 / 8407		E-Cut	Performance P	Roughing HPC <input type="checkbox"/> Roughing HDC <input type="checkbox"/> Finishing <input type="checkbox"/>	r 0.2, 0.5, 0.8, 1.0, 1.5, 2.0, 2.5, 4.0	Rm < 850-1500 HRC < 24-48	Inox Stainless

$l_2 = 2.2 \times d_1 \quad l_3 = 3.0 \times d_1$

Finishing, cylindrical

Normal version

N° 8301 / 8401



E-Cut

Performance
P



Rm
< 850-1500
HRC
< 24-48

Inox
Stainless

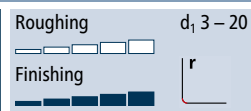
Medium length version

N° 8311



E-Cut

Performance
P



Rm
< 850-1500
HRC
< 24-48

Inox
Stainless

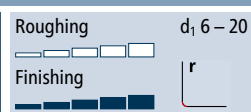
5.2xd version

N° 8321



E-Cut

Performance
P



Rm
< 850-1500
HRC
< 24-48

Inox
Stainless

6.3xd version

N° 8322



E-Cut

Performance
P



Rm
< 850-1500
HRC
< 24-48

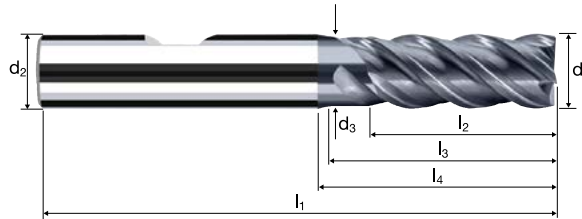
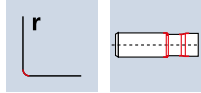
Inox
Stainless

Cylindrical/Square end mills E-Cut

Smooth-edged, normal version, short neck



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
Coating Article-N° ø-Code												
P 8400 100											P8400	
											P8300	
Ø Code	d ₁ e8	d ₂ h6	d ₃	l ₁	l ₂	l ₃	l ₄	r	α	z		
100	1.00	6.00	0.95	57	3.00	5.00	14.82	0.050	10.0°	4	●	
140	2.00	6.00	1.90	57	5.00	8.00	16.05	0.050	7.5°	4	●	
160	2.50	6.00	2.30	57	7.00	10.00	17.30	0.050	6.5°	4	●	
180	3.00	6.00	2.80	57	8.00	14.00	20.37	0.050	4.5°	4	●	
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	4	●	
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	4	●	
300	6.00	6.00	5.50	57	13.00	18.15	20.00	0.100	0.0°	4	●	
391	8.00	8.00	7.40	63	19.00	23.63	26.00	0.150	0.0°	4	●	
450	10.00	10.00	9.20	72	23.00	27.99	31.00	0.200	0.0°	4	●	
501	12.00	12.00	11.00	83	27.00	33.29	37.00	0.200	0.0°	4	●	
570	14.00	14.00	13.00	83	28.00	32.97	37.00	0.200	0.0°	4	●	
610	16.00	16.00	15.00	92	32.00	38.73	43.00	0.200	0.0°	4	●	
682	20.00	20.00	19.00	104	40.00	48.23	53.00	0.250	0.0°	4	●	

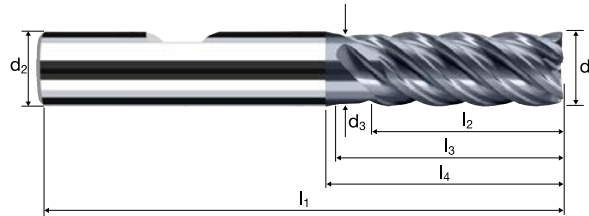
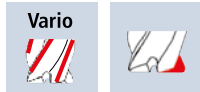
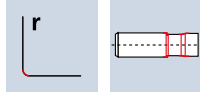
[10]

Cylindrical/Square end mills E-Cut

Smooth-edged, normal version, short neck



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC **Roughing HDC** **Finishing**

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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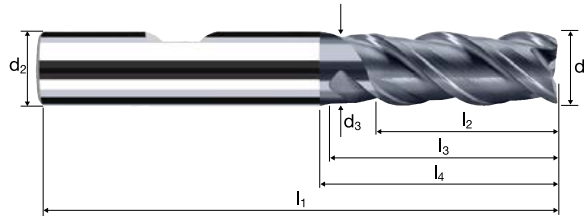
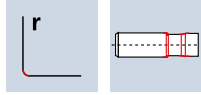
Example: Order-N°.											POLYCHROM	
											P8405	
											P8305	
\emptyset Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	l_4	r	α	z		
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	5	●	
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	5	●	
300	6.00	6.00	5.50	57	13.00	18.15	20.00	0.100	0.0°	5	●	
391	8.00	8.00	7.40	63	19.00	23.63	26.00	0.150	0.0°	5	●	
450	10.00	10.00	9.20	72	23.00	27.99	31.00	0.200	0.0°	5	●	
501	12.00	12.00	11.00	83	27.00	33.29	37.00	0.200	0.0°	5	●	
610	16.00	16.00	15.00	92	32.00	38.73	43.00	0.200	0.0°	5	●	
682	20.00	20.00	19.00	104	40.00	48.23	53.00	0.250	0.0°	5	●	

Cylindrical/Square end mills E-Cut

Smooth-edged, normal version, short neck



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
											P8403	
											P8303	
\emptyset Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	l_4	r	α	z		
100	1.00	6.00	0.95	57	3.00	5.00	14.82	0.050	10.0°	3		●
140	2.00	6.00	1.90	57	5.00	8.00	16.05	0.050	7.5°	3		●
160	2.50	6.00	2.30	57	7.00	10.00	17.30	0.050	6.5°	3		●
180	3.00	6.00	2.80	57	8.00	14.00	20.37	0.050	4.5°	3		●
200	3.50	6.00	3.20	57	9.00	14.00	19.69	0.050	4.0°	3		●
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	3		●
240	4.50	6.00	4.10	57	12.00	17.00	21.14	0.100	2.5°	3		●
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	3		●
280	5.50	6.00	5.00	57	13.00	18.00	20.59	0.100	1.0°	3		●
300	6.00	6.00	5.50	57	13.00	18.15	20.00	0.100	0.0°	3		●
391	8.00	8.00	7.40	63	19.00	23.63	26.00	0.150	0.0°	3		●
450	10.00	10.00	9.20	72	23.00	27.99	31.00	0.200	0.0°	3		●
501	12.00	12.00	11.00	83	27.00	33.29	37.00	0.200	0.0°	3		●
570	14.00	14.00	13.00	83	28.00	32.97	37.00	0.200	0.0°	3		●
610	16.00	16.00	15.00	92	32.00	38.73	43.00	0.200	0.0°	3		●
682	20.00	20.00	19.00	104	40.00	48.23	53.00	0.250	0.0°	3		●

[12]

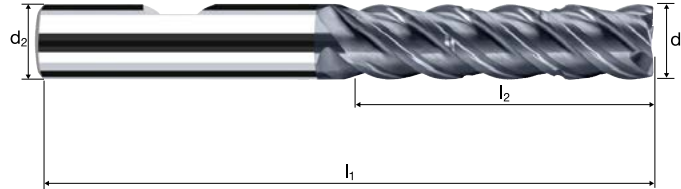
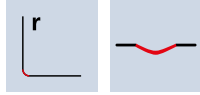
Cylindrical/Square end mills E-Cut

Smooth-edged, chip breaker, medium version



HM
MG10

λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing

ReTool®

Rm < 850 HRC < 24 Rm 850-1100 HRC 24-34 Rm 1100-1300 HRC 34-42 Rm 1300-1500 HRC 42-48 HRC 48-56 Inox Stainless Ti Titanium GG(G) Tool Steel

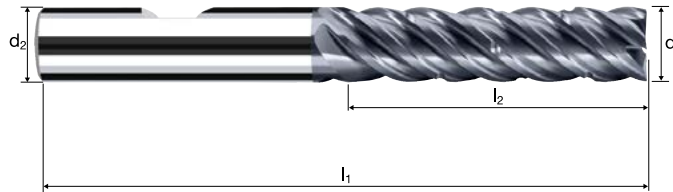
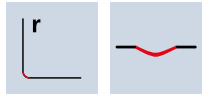
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										P8410	
										P8310	
Ø Code	d1 e8	d2 h6	l1	l2	l4	r	α	z			
140*	2.00	6.00	63	7.00	17.12	0.050	7.0°	4	●		
180*	3.00	6.00	63	11.00	20.26	0.050	4.5°	4	●		
220*	4.00	6.00	63	13.00	21.39	0.100	3.5°	4	●		
260*	5.00	6.00	63	16.00	23.52	0.100	1.5°	4	●		
300	6.00	6.00	63	21.00	-	0.100	0.0°	4	●		
391	8.00	8.00	72	31.00	-	0.150	0.0°	4	●		
450	10.00	10.00	84	37.00	-	0.200	0.0°	4	●		
501	12.00	12.00	97	44.00	-	0.200	0.0°	4	●		
610	16.00	16.00	108	53.00	-	0.200	0.0°	4	●		
682	20.00	20.00	122	62.00	-	0.250	0.0°	4	●		
* without chip breaker only											

Cylindrical/Square end mills E-Cut

Smooth-edged, chip breaker, medium version



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.										POLYCHROM
										P8415
										P8315
Ø Code	d ₁ e8	d ₂ h6	l ₁	l ₂	l ₄	r	α	z		
220*	4.00	6.00	63	13.00	21.39	0.100	3.0°	5		●
260*	5.00	6.00	63	16.00	23.52	0.100	1.5°	5		●
300	6.00	6.00	63	21.00	-	0.100	0.0°	5		●
391	8.00	8.00	72	31.00	-	0.150	0.0°	5		●
450	10.00	10.00	84	37.00	-	0.200	0.0°	5		●
501	12.00	12.00	97	44.00	-	0.200	0.0°	5		●
610	16.00	16.00	108	53.00	-	0.200	0.0°	5		●
682	20.00	20.00	122	62.00	-	0.250	0.0°	5		●
* without chip breaker only										

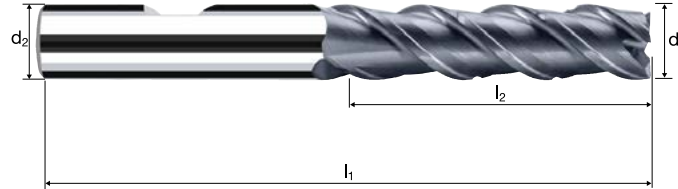
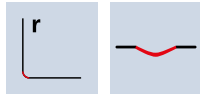
[14]

Cylindrical/Square end mills E-Cut

Smooth-edged, chip breaker, medium version



HM
MG10
 λ 45°
 γ 10°



Roughing HPC

Roughing HDC

Finishing

ReTool®

Rm < 850 HRC < 24
Rm 850-1100 HRC 24-34
Rm 1100-1300 HRC 34-42
Rm 1300-1500 HRC 42-48
HRC 48-56
Inox Stainless
Ti Titanium
GG(G) Tool Steel

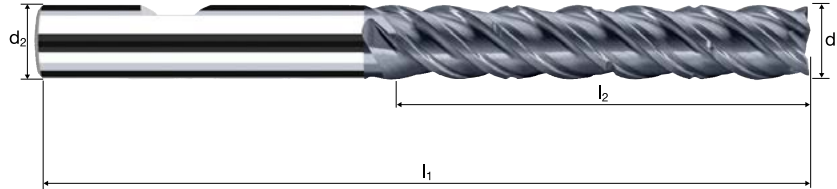
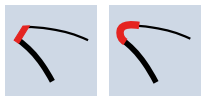
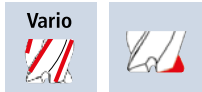
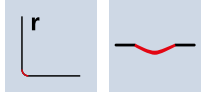
Ø Code	d1 e8	d2 h6	l1	l2	l4	r	α	z	Example: Order-N°.	
									Coating P	Article-N° 8413
140*	2.00	6.00	63	7.00	17.12	0.050	7.0°	3		POLYCHROM
180*	3.00	6.00	63	11.00	20.26	0.050	4.5°	3		P8413
220*	4.00	6.00	63	13.00	21.39	0.100	3.0°	3		P8313
260*	5.00	6.00	63	16.00	23.52	0.100	1.5°	3		
300	6.00	6.00	63	21.00	-	0.100	0.0°	3		
391	8.00	8.00	72	31.00	-	0.150	0.0°	3		
450	10.00	10.00	84	37.00	-	0.200	0.0°	3		
501	12.00	12.00	97	44.00	-	0.200	0.0°	3		
610	16.00	16.00	108	53.00	-	0.200	0.0°	3		
682	20.00	20.00	122	62.00	-	0.250	0.0°	3		
* without chip breaker only										

Cylindrical/Square end mills E-Cut

Smooth-edged, chip breaker, version 5.2xd



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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										POLYCHROM
Example: Order-N°.										P8420
										P8320
\emptyset Code	d_1 e8	d_2 h6	l_1	l_2	l_4	r	α	z		
180*	3.00	6.00	63	16.00	25.26	0.050	4.5°	4	●	
220*	4.00	6.00	70	21.00	29.39	0.100	3.0°	4	●	
260	5.00	6.00	73	26.00	33.52	0.100	1.5°	4	●	
300	6.00	6.00	73	32.00	-	0.100	0.0°	4	●	
391	8.00	8.00	84	42.00	-	0.150	0.0°	4	●	
450	10.00	10.00	100	53.00	-	0.200	0.0°	4	●	
501	12.00	12.00	117	63.00	-	0.200	0.0°	4	●	
610	16.00	16.00	144	84.00	-	0.200	0.0°	4	●	
682	20.00	20.00	169	105.00	-	0.250	0.0°	4	●	
* without chip breaker only										

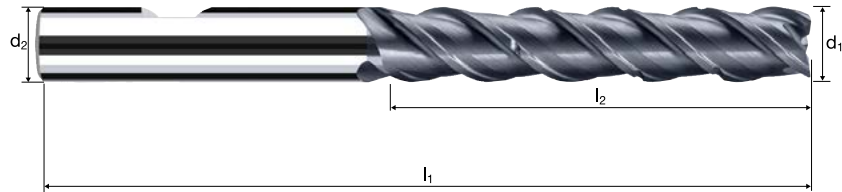
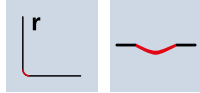
[16]

Cylindrical/Square end mills E-Cut

Smooth-edged, chip breaker, version 5.2xd



HM
MG10 λ **45°**
 γ **10°**



Roughing HPC Roughing HDC Finishing

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.										POLYCHROM	
										P8423	
										P8323	
Ø Code	d1 e8	d2 h6	l1	l2	l4	r	α	z			
180*	3.00	6.00	63	16.00	25.26	0.050	4.5°	3		●	
220*	4.00	6.00	70	21.00	29.39	0.100	3.0°	3		●	
260	5.00	6.00	73	26.00	33.52	0.100	1.5°	3		●	
300	6.00	6.00	73	32.00	-	0.100	0.0°	3		●	
391	8.00	8.00	84	42.00	-	0.150	0.0°	3		●	
450	10.00	10.00	100	53.00	-	0.200	0.0°	3		●	
501	12.00	12.00	117	63.00	-	0.200	0.0°	3		●	
610	16.00	16.00	144	84.00	-	0.200	0.0°	3		●	
682	20.00	20.00	169	105.00	-	0.250	0.0°	3		●	
* without chip breaker only											

Corner radius end mills E-Cut

Smooth-edged, normal version, short neck

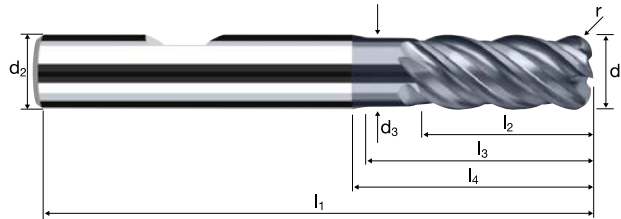
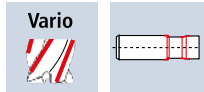
Performance **P**

$$l_2 = 2.2 \times d_1$$

$$l_3 = 3.0 \times d_1$$

HM
MG10

λ **43°**
 γ **6°**



Roughing HPC Roughing HDC Finishing

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
Coating			Article-N°.		ø-Code						P8407	
P			8407		178						P8307	
Ø Code	d ₁ e8	d ₂ h6	d ₃	l ₁	l ₂	l ₃	l ₄	r 0/+0.03	α	z		
178	3.00	6.00	2.80	54	6.60	9.00	15.37	0.200	5.8°	4		●
218	4.00	6.00	3.70	54	9.00	12.00	16.82	0.200	3.9°	4		●
258	5.00	6.00	4.60	57	11.00	15.00	18.27	0.200	2.1°	4		●
297	6.00	6.00	5.50	57	13.50	18.00	19.85	0.200	0.0°	4		●
385	8.00	8.00	7.40	63	18.00	24.00	26.37	0.200	0.0°	4		●
445	10.00	10.00	9.20	74	22.00	30.00	33.01	0.200	0.0°	4		●
496	12.00	12.00	11.00	85	27.00	36.00	39.71	0.200	0.0°	4		●
180	3.00	6.00	2.80	54	6.60	9.00	15.37	0.500	5.8°	4		●
220	4.00	6.00	3.70	54	9.00	12.00	16.82	0.500	3.9°	4		●
260	5.00	6.00	4.60	57	11.00	15.00	18.27	0.500	2.1°	4		●
300	6.00	6.00	5.50	57	13.50	18.00	19.85	0.500	0.0°	4		●
388	8.00	8.00	7.40	63	18.00	24.00	26.35	0.500	0.0°	4		●
448	10.00	10.00	9.20	74	22.00	30.00	33.00	0.500	0.0°	4		●
498	12.00	12.00	11.00	85	27.00	36.00	39.70	0.500	0.0°	4		●
301	6.00	6.00	5.50	57	13.50	18.00	19.85	0.800	0.0°	4		●
389	8.00	8.00	7.40	63	18.00	24.00	26.35	0.800	0.0°	4		●
449	10.00	10.00	9.20	74	22.00	30.00	33.00	0.800	0.0°	4		●
499	12.00	12.00	11.00	85	27.00	36.00	39.70	0.800	0.0°	4		●

Corner radius end mills E-Cut

Smooth-edged, normal version, short neck

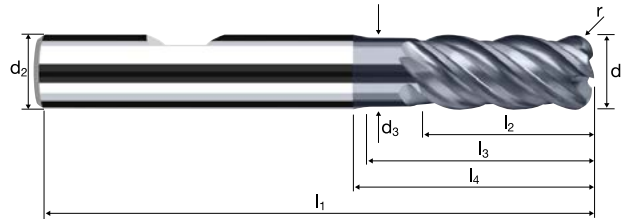
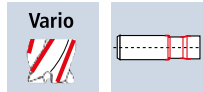


$$l_2 = 2.2 \times d_1$$

$$l_3 = 3.0 \times d_1$$

HM
MG10

λ **43°**
 γ **6°**



Roughing HPC **Roughing HDC** **Finishing**

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
											P8407	
											P8307	
Ø Code	d ₁ e8	d ₂ h6	d ₃	l ₁	l ₂	l ₃	l ₄	r 0/+0.03	α	z		
302	6.00	6.00	5.50	57	13.50	18.00	19.85	1.000	0.0°	4		●
391	8.00	8.00	7.40	63	18.00	24.00	26.35	1.000	0.0°	4		●
450	10.00	10.00	9.20	74	22.00	30.00	33.00	1.000	0.0°	4		●
501	12.00	12.00	11.00	85	27.00	36.00	39.70	1.000	0.0°	4		●
608	16.00	16.00	15.00	102	36.00	48.00	52.27	1.000	0.0°	4		●
304	6.00	6.00	5.50	57	13.50	18.00	19.85	1.500	0.0°	4		●
393	8.00	8.00	7.40	63	18.00	24.00	26.35	1.500	0.0°	4		●
453	10.00	10.00	9.20	74	22.00	30.00	33.00	1.500	0.0°	4		●
503	12.00	12.00	11.00	85	27.00	36.00	39.70	1.500	0.0°	4		●
610	16.00	16.00	15.00	102	36.00	48.00	52.25	1.500	0.0°	4		●
306	6.00	6.00	5.50	57	13.50	18.00	19.85	2.000	0.0°	4		●
395	8.00	8.00	7.40	63	18.00	24.00	26.35	2.000	0.0°	4		●
455	10.00	10.00	9.20	74	22.00	30.00	33.00	2.000	0.0°	4		●
505	12.00	12.00	11.00	85	27.00	36.00	39.70	2.000	0.0°	4		●
611	16.00	16.00	15.00	102	36.00	48.00	52.25	2.000	0.0°	4		●
683	20.00	20.00	19.00	115	44.00	60.00	64.77	2.000	0.0°	4		●
457	10.00	10.00	9.20	74	22.00	30.00	33.00	2.500	0.0°	4		●
506	12.00	12.00	11.00	85	27.00	36.00	39.70	2.500	0.0°	4		●
612	16.00	16.00	15.00	102	36.00	48.00	52.25	2.500	0.0°	4		●

Corner radius end mills E-Cut

Smooth-edged, normal version, short neck

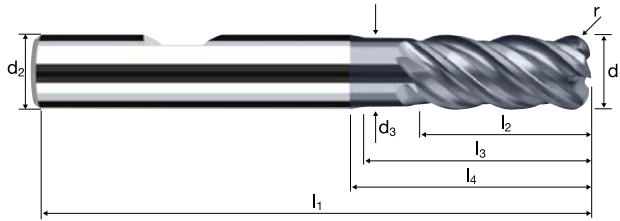
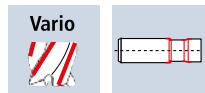
Performance **P**

$$l_2 = 2.2 \times d_1$$

$$l_3 = 3.0 \times d_1$$

HM
MG10

λ **43°**
 γ **6°**



Roughing HPC

Roughing HDC

Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
											P8407	
											P8307	
Ø Code	d₁ e8	d₂ h6	d₃	l₁	l₂	l₃	l₄	r 0/+0.03	α	z		
508	12.00	12.00	11.00	85	27.00	36.00	39.70	4.000	0.0°	4	●	
614	16.00	16.00	15.00	102	36.00	48.00	52.25	4.000	0.0°	4	●	
686	20.00	20.00	19.00	115	44.00	60.00	64.75	4.000	0.0°	4	●	

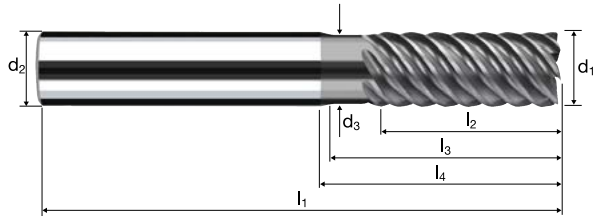
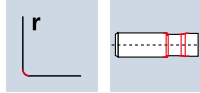
[20]

Cylindrical/Square end mills E-Cut

Finishing, normal version



HM λ **55°**
MG10 γ **10°**



Roughing **Finishing**

ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.											POLYCHROM	
											P8401	
											P8301	
Ø Code	d1 e8	d2 h6	d3	l1	l2	l3	l4	r	α	z		
180	3.00	6.00	2.80	57	8.00	14.00	20.37	0.050	4.5°	4	●	
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	5	●	
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	5	●	
300	6.00	6.00	5.50	57	13.00	18.15	20.00	0.100	0.0°	6	●	
391	8.00	8.00	7.40	63	19.00	23.63	26.00	0.150	0.0°	6	●	
450	10.00	10.00	9.20	72	23.00	27.99	31.00	0.200	0.0°	7	●	
501	12.00	12.00	11.00	83	27.00	33.29	37.00	0.200	0.0°	7	●	
610	16.00	16.00	15.00	92	32.00	38.73	43.00	0.200	0.0°	8	●	
682	20.00	20.00	19.00	104	40.00	48.23	53.00	0.250	0.0°	8	●	

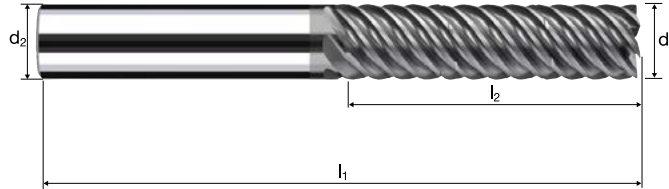
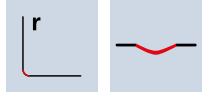
Cylindrical/Square end mills E-Cut

Finishing, chip breaker, medium version



HM
MG10

λ **55°**
 γ **10°**



Roughing

Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Example: Order-N°.										POLYCHROM	
										P8311	
										P8311	
Ø Code	d ₁ e8	d ₂ h6	l ₁	l ₂	l ₄	r	α	z			
180*	3.00	6.00	63	11.00	20.26	0.050	4.5°	4			●
220*	4.00	6.00	63	13.00	21.39	0.100	3.5°	5			●
260*	5.00	6.00	63	16.00	23.52	0.100	1.5°	5			●
300	6.00	6.00	63	21.00	-	0.100	0.0°	6			●
391	8.00	8.00	72	31.00	-	0.150	0.0°	6			●
450	10.00	10.00	84	37.00	-	0.200	0.0°	7			●
501	12.00	12.00	97	44.00	-	0.200	0.0°	7			●
610	16.00	16.00	108	53.00	-	0.200	0.0°	8			●
682	20.00	20.00	122	62.00	-	0.250	0.0°	8			●
* without chip breaker only											

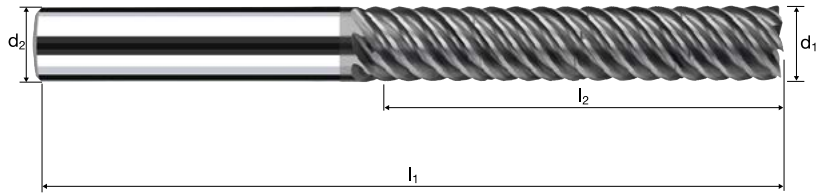
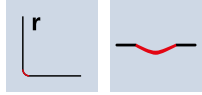
[22]

Cylindrical/Square end mills E-Cut

Finishing, chip breaker, version 5.2xd



HM λ **55°**
MG10 γ **10°**



Roughing

Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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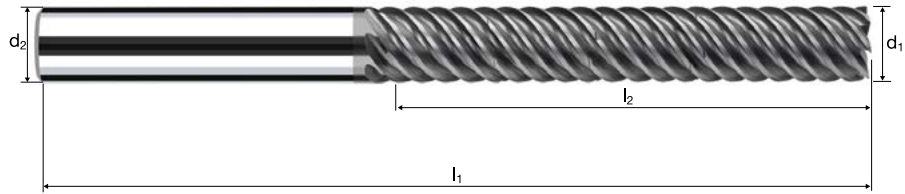
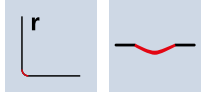
								POLYCHROM	
Example: Order-N°.		Coating P		Article-N°. 8321		ø-Code 300			
Ø Code	d ₁ e8	d ₂ h6	l ₁	l ₂	r	z			
300	6.00	6.00	73	32.00	0.100	6	●		
391	8.00	8.00	84	42.00	0.150	6	●		
450	10.00	10.00	100	53.00	0.200	7	●		
501	12.00	12.00	117	63.00	0.200	7	●		
610	16.00	16.00	144	84.00	0.200	8	●		
682	20.00	20.00	169	105.00	0.250	8	●		

Cylindrical/Square end mills E-Cut

Finishing, chip breaker, version 6.3xd



HM
MG10
 λ 55°
 γ 10°



Roughing

Finishing



ReTool®

Rm < 850 HRC < 24	Rm 850-1100 HRC 24-34	Rm 1100-1300 HRC 34-42	Rm 1300-1500 HRC 42-48	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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								POLYCHROM
Example: Order-N°.								
		Coating	Article-N°	ø-Code				
		P	8322	300				P8322
Ø Code	d ₁ e8	d ₂ h6	l ₁	l ₂	r	z		
300	6.00	6.00	80	38.00	0.100	6		●
391	8.00	8.00	93	51.00	0.150	6		●
450	10.00	10.00	110	63.00	0.200	7		●
501	12.00	12.00	130	76.00	0.200	7		●
610	16.00	16.00	160	101.00	0.200	8		●
682	20.00	20.00	189	126.00	0.250	8		●

[24]



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