

passion
for precision

fraisa

FRAISA E-Cut – the compact range

High-performance machining made easy!

NEW



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, 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. **ToolExpert E-Cut** quickly and easily finds verified cutting data that has been tested in more than 1,000 test cycles.

FRAISA E-Cut is available in three 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 **ToolExpert E-Cut** cutting data calculator
- Service tools available: FRAISA ToolCare® tool management system, **FRAISA ReTool® tool reconditioning**, and FRAISA ReToolBlue 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

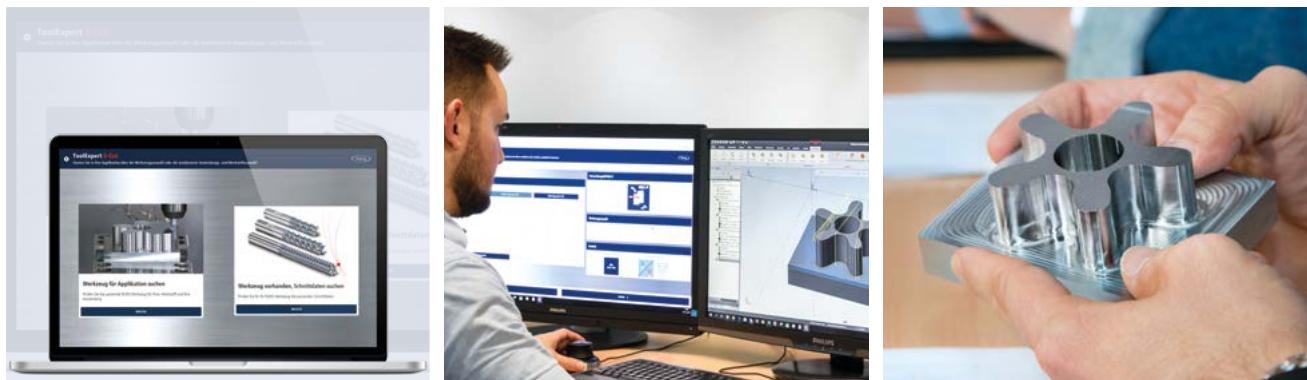


ToolExpert E-Cut

FRAISA's cutting data calculator **ToolExpert E-Cut** 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. **ToolExpert E-Cut** can then transfer the tool geometry data straight to your CAM system.

Fast, safe, and reliable.



[3]

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

**EASY TO USE
EFFECTIVE
ECONOMICAL**

Try out our **ToolExpert E-Cut** 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	U	S	W	H
Standard	■	■	■	■	■	■	
Medium-long	■	■	■	■	■		■
Extra-long	■	■	■	■	■		■

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

Cylindrical E-Cut finishing cutters

Standard version



FRAISA E-Cut finishing cutters are also available in three 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.

Medium-long version



Extra-long 5.2xd version

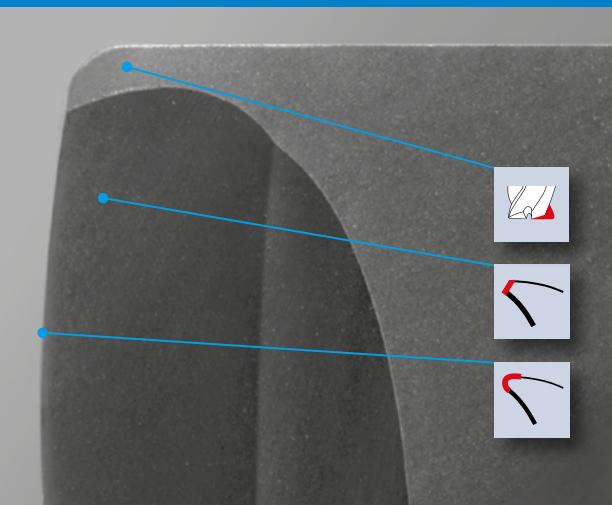


[5]

Version	λ 55° γ 10°	r	chip former	chip breaker	chip deflection
Standard	■	■	■	■	■
Medium-long	■	■	■	■	■
Extra-long	■	■	■	■	■

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

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



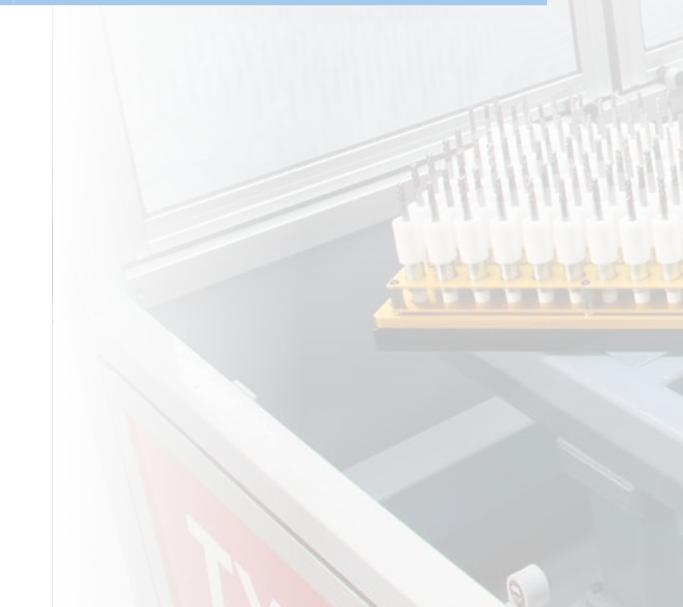
Smooth transitions

- 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



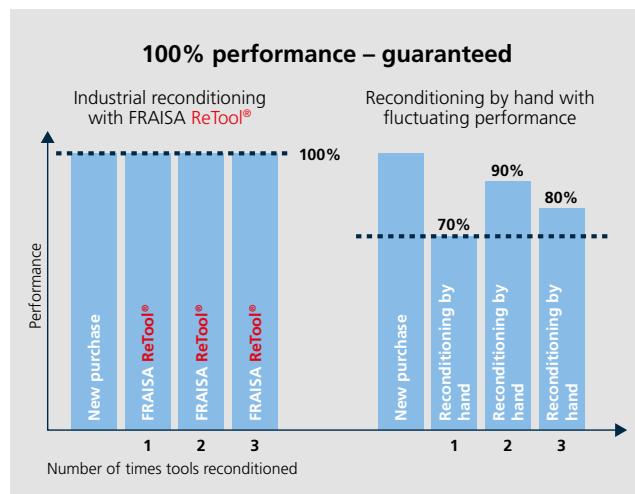
FRAISA ReTool® – Industrial tool reconditioning with performance guarantee

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.

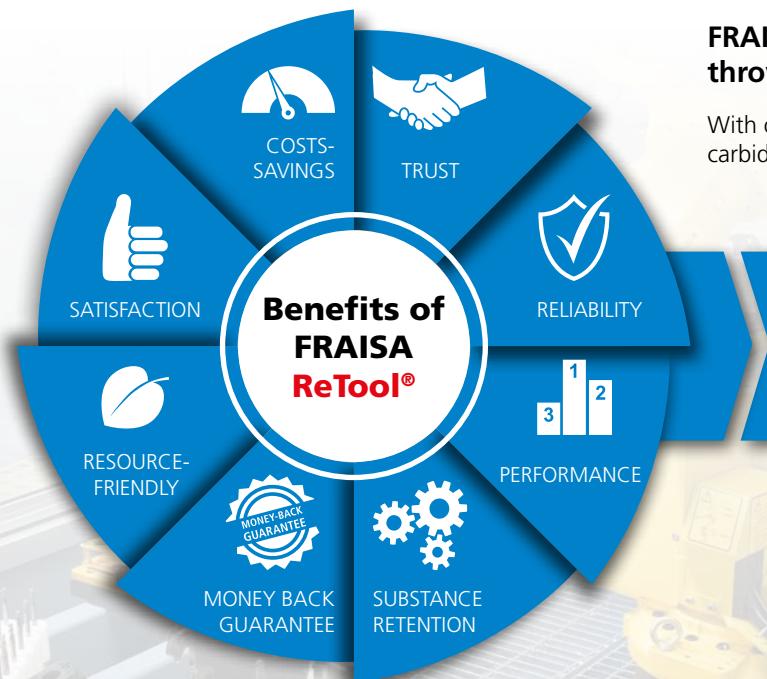
FRAISA ReTool® – a performance guarantee founded on integrated development of the tools and the reconditioning process

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 ReToolBlue – recycle rather than throw away

With our FRAISA ReToolBlue 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®**

Normal version



N° 8300 / 8400

E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 1 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

N° 8305 / 8405

E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 4 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

N° 8303 / 8403

E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 1 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

Medium length version

N° 8310 / 8410



E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 2 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

N° 8315 / 8415



E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 4 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

N° 8313 / 8413



E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 2 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

Extra-long version 5.2xd

N° 8320 / 8420



E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 3 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

N° 8323 / 8423



E-Cut



Roughing HPC
Roughing HDC
Finishing

d_1 3 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

Finishing, cylindrical

Normal version

N° 8301 / 8401



E-Cut



Roughing
Finishing

d_1 3 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

Medium length version

N° 8311



E-Cut



Roughing
Finishing

d_1 3 – 20
 r

Rm
 $<850-1500$

Inox
Stainless

Extra-long version 5.2xd

N° 8321



E-Cut



Roughing
Finishing

d_1 6 – 20
 r

Rm
 $<850-1500$

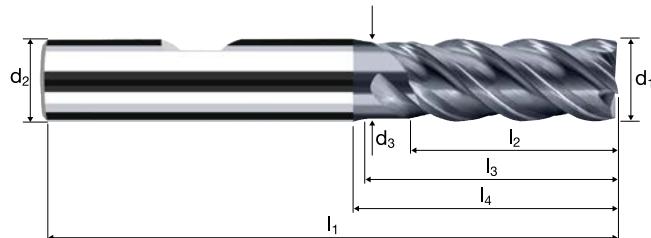
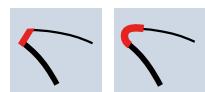
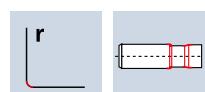
Inox
Stainless

Cylindrical end mills E-Cut

Smooth-edged, normal version with short neck



HM
MG10 λ 45°
 γ 10°



new!

Roughing HPC Roughing HDC Finishing



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Ø Code	d ₁ e8	d ₂ h6	d ₃	l ₁	l ₂	l ₃	l ₄	r	α	z	POLYCHROM
											P8400
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	●
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	●

Cylindrical end mills E-Cut

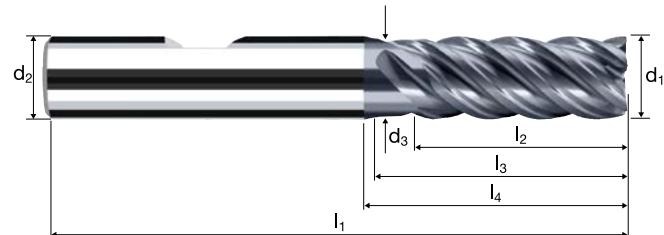
Smooth-edged, normal version with short neck

Base-X

B

HM
MG10

λ 45°
 γ 10°



new!



Roughing HPC

Roughing HDC

Finishing



Rm
< 850

Rm
850-1100

Rm
1100-1300

Rm
1300-1500

HRC
48-56

Inox
Stainless

Ti
Titanium

GG(G)
Tool Steel

Ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	l_4	r	α	z	POLYCHROM	
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	5	●	P8405
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	5	●	P8305
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 end mills E-Cut

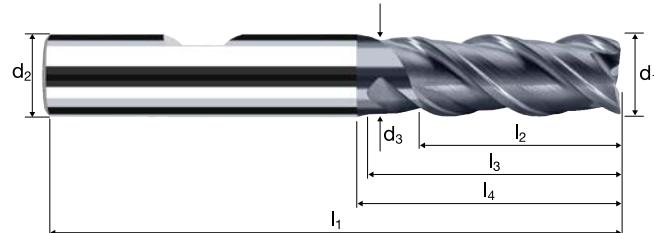
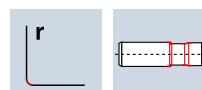
Smooth-edged, normal version with short neck



HM
MG10

λ 45°

γ 10°



new!

Roughing HPC Roughing HDC Finishing



Rm
≤ 850

Rm
850-1100

Rm
1100-1300

Rm
1300-1500

HRC
48-56

Inox
Stainless

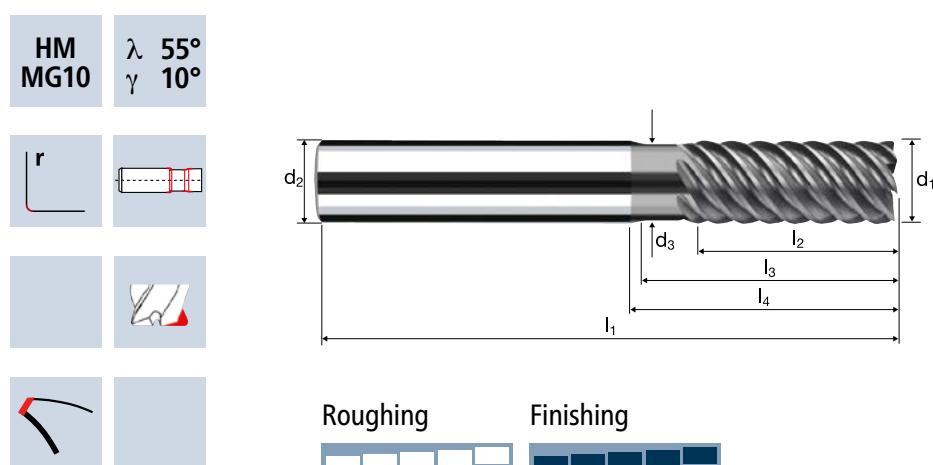
Ti
Titanium

GG(G)
Tool Steel

Example: Order-Nº.											POLYCHROM	
	Coating P	Article-Nº. 8403	ø-Code 100									P8403
Ø Code	d₁ e8	d₂ h6	d₃	l₁	l₂	l₃	l₄	r	α	z		P8403
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		●
180	3.00	6.00	2.80	57	8.00	14.00	20.37	0.050	4.5°	3		●
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	3		●
260	5.00	6.00	4.60	57	13.00	18.00	21.27	0.100	1.5°	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		●

Cylindrical end mills E-Cut

Finishing, normal version



new!

Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	l_4	r	α	z		POLYCHROM	
												P	8401
180	3.00	6.00	2.80	57	8.00	14.00	20.37	0.050	4.5°	4			P8401
220	4.00	6.00	3.70	57	11.00	16.00	20.82	0.100	3.0°	5			P8301
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 end mills E-Cut

Finishing, medium length version with chip breaker



HM
MG10

λ 55°

γ 10°

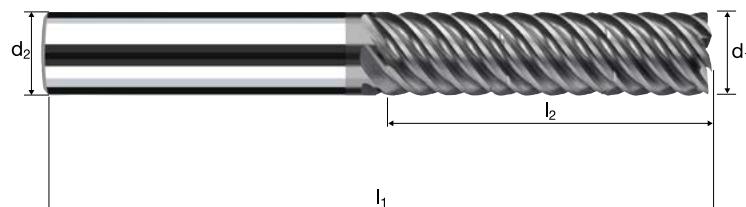
new!



r



flute



Roughing

Finishing

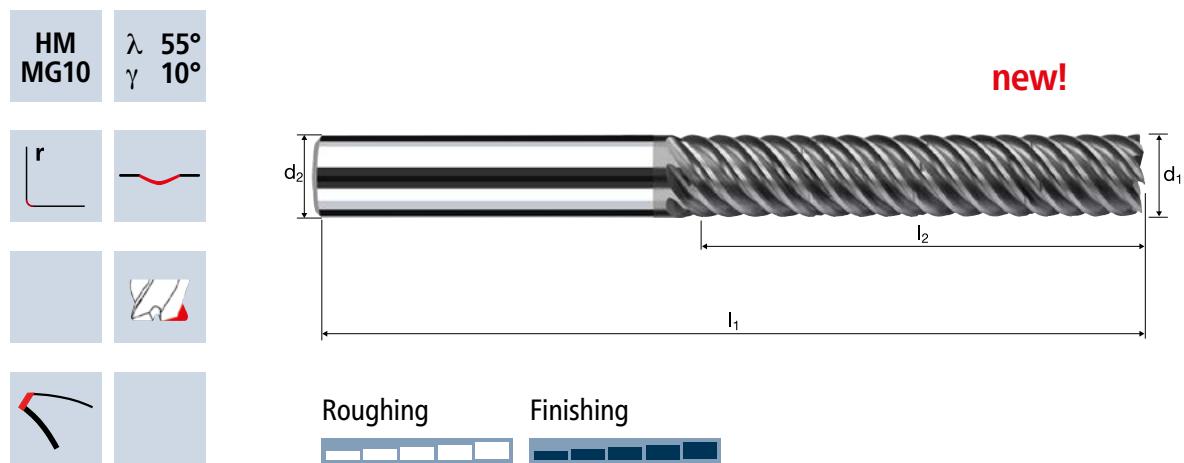


Rm ≤ 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500	HRC 48-56			Inox Stainless	Ti Titanium	GG(G) Tool Steel
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Ø Code	d_1 e8	d_2 h6	l_1	l_2	l_4	r	α	z	POLYCHROM
Example: Order-Nº. P 8311 180									
180*	3.00	6.00		63	11.00	20.26	0.050	4.5°	4
220*	4.00	6.00		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									

Cylindrical end mills E-Cut

Finishing, extra-long version 5.2xd with chip breaker



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500	HRC 48-56		Inox Stainless	Ti Titanium	GG(G) Tool Steel
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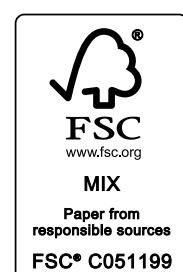
Ø Code	d_1 e8	d_2 h6	l_1	l_2	r	z	POLYCHROM	
300	6.00	6.00	73	32.00	0.100	6		●
391	8.00	8.00	84	42.00	0.150	6		●
450	10.00	10.00	100	53.00	0.200	7		●
501	12.00	12.00	117	63.00	0.200	7		●
610	16.00	16.00	144	84.00	0.200	8		●
682	20.00	20.00	169	105.00	0.250	8		●



Scan this QR code to access
more information about the
FRAISA GROUP.



The fastest way
to our E-Shop.



FRAISA SA

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passion
for precision

faisa

