

passion
for precision



The new **XFeed** – High-feed Productivity



Available online

FRAISA
ToolExpert®

XFeed – cycle start, walk away

[2] With its new **XFeed** milling cutter, FRAISA has found the perfect solution for high-feed machining of medium- to high-strength steels. The new edge geometry facilitates maximum feed rates with higher axial infeeds for High Feed Cutting (HFC) processes. This means **XFeed** enables you to benefit from very high chip removal rates that cannot be achieved with conventional HFC tool concepts. Thanks to the very stable and low-vibration design, combined with precisely verified cutting data, machining processes can be carried out safely and autonomously with the new **XFeed**.

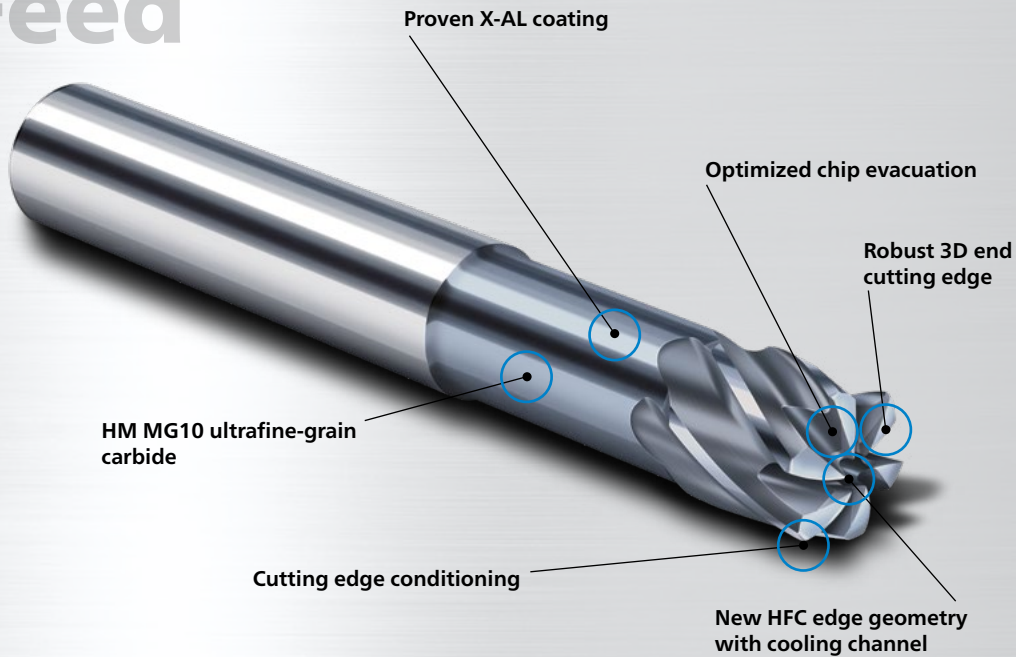
The family of **XFeed tools** is available in three different lengths of 3xd, 4.5xd and 6xd long, allowing it to cover a wide range of applications. The carbide used is characterized by precisely matched degrees of robustness and hardness. In combination with the proven X-AL coating, this leads to excellent performance and a long tool life. The new shape of the cutting edge is predestined for use in highly dynamic machining processes. However, excellent chip removal rates can also be achieved on machines that are less dynamic. A central cooling channel ideally supports chip removal and is available in tools with a diameter of 6 mm or greater.

The advantages

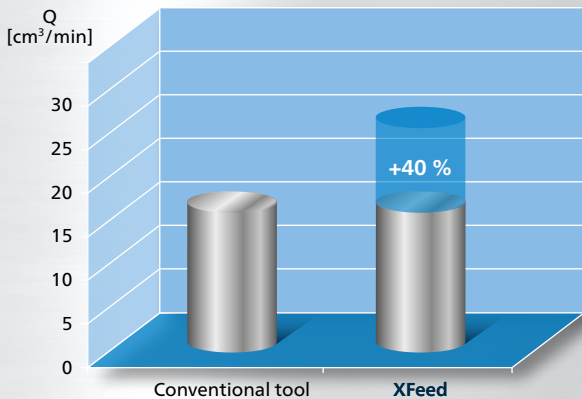
- **Shorter throughput time**
From raw material to very close to the final contour in one process – workpieces can be machined efficiently and throughput times drastically reduced
- **Productivity increase**
Increased chip removal rates resulting from maximum feed rates and suitable tool designs
- **Easy programming**
Cutting and CAD data for CAM programming is available in FRAISA ToolExpert®
- **Optimum automation**
thanks to reliable and stable application



XFeed



Maximum chip removal rate



Wear after 60 minutes

$n = 2,918 \text{ rpm}$ ($v_c = 110 \text{ m/min}$),
 $v_f = 3,905 \text{ mm/min}$ ($f_z = 0.22 \text{ mm/z}$), $a_p = 0.8 \text{ mm}$,
 $a_e = 7.2 \text{ mm}$, mat. 1.2343 (54 HRC; US equiv. H11), tool dia. 10 mm



[3]

- Productivity boost and very high chip removal rates (40%)
- 80% higher infeeds
- Safe and suitable for autonomous processes
- Extremely economical thanks to short machining times
- Verified application data in FRAISA ToolExpert®
- Sustainable thanks to FRAISA ReTool®

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- Clear structure, modern layout and user-friendly interface



Order simply and quickly from our webshop.

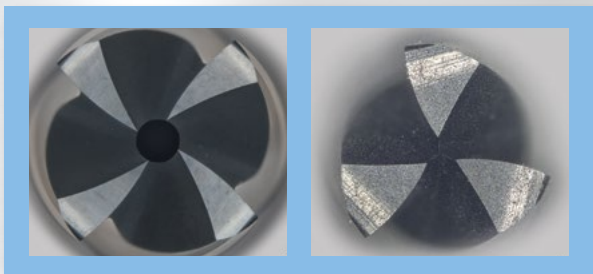
The solution for the highest level of demands in **HFC processes**

Increasing productivity

With the new **XFeed tool**, the cutting edges form a radially and axially curved arc on a spherical segment. As a result, the chips are deliberately directed outwards during the chip formation process. This form of cutting edge guidance makes it possible to run high feed rates with deep cutting depths while still maintaining remarkable process stability. The central cooling channel ensures systematic cooling of the cutting edges, and the coolant also quickly and reliably conducts the chips out of the contact zone. This creates almost perfect conditions for obtaining good surfaces and a long tool life.

The face radius, in combination with the sickle-shaped cutting edge, enables low-vibration machining of hardened but also soft steels. The number of teeth, which is matched to the tool diameter, means a high level of performance can be achieved with all the tools in this family. The short cutting edges also mean the tools are rigid, which in turn improves their vibration behavior. **XFeed tools** can also be reconditioned multiple times by the **FRAISA ReTool®** service.

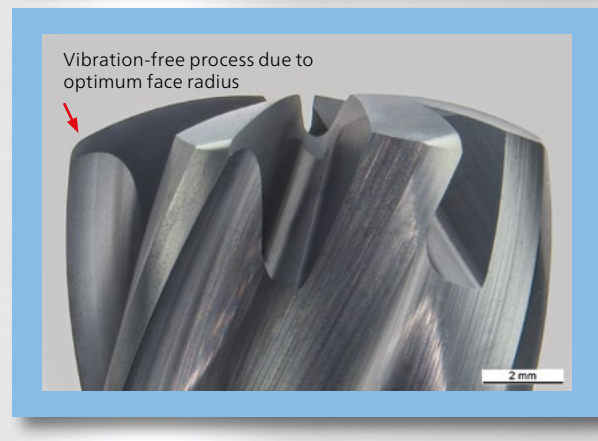
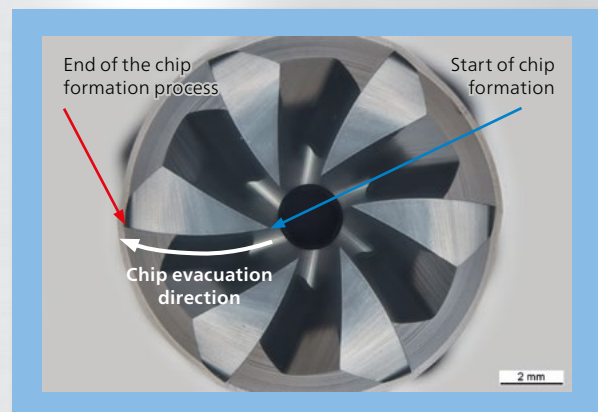
Comparison of the number of teeth



4 teeth for machining soft and hardened steels

3 teeth with small tool diameters for machining soft and hardened steels

6 teeth for machining hardened steels



Final contour

The new cutting edge geometry of the **XFeed tools** adapts even better to the geometry of the lateral surface area. The subsequent finishing process can therefore be carried out even more efficiently than with conventional HFC tools.



See our **XFeed** in action.



High feed end mills XFeed

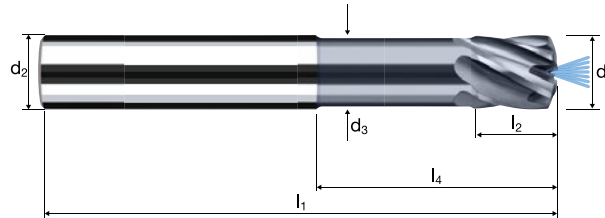
Cylindrical neck, 3xd, central air/cooling channel



HM
MG10

λ 30°
 γ 0°

HFC



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

GG(G) Tool Steel

Example: Order-N°.												X-AL	
												X7630	
Ø Code	d ₁ e8	d ₂ h5	d ₃	l ₁	l ₂	l ₃	l ₄	ap _{max}	R _{theo.}	α	z		
100*	1.00	6.00	0.95	57	1.00	3.00	13.08	0.09	0.13	11.5°	3	●	
140*	2.00	6.00	1.90	57	2.00	6.00	14.31	0.17	0.25	8.5°	3	●	
180*	3.00	6.00	2.80	57	3.00	9.00	15.63	0.26	0.38	6.0°	3	●	
220*	4.00	6.00	3.70	57	4.00	12.00	16.95	0.34	0.51	3.8°	4	●	
260*	5.00	6.00	4.60	57	5.00	15.00	18.27	0.43	0.64	1.8°	4	●	
300	6.00	6.00	5.50	57	6.00	19.34	20.00	0.52	0.76	0.0°	4	●	
391	8.00	8.00	7.30	63	8.00	25.29	26.00	0.69	1.02	0.0°	4	●	
450	10.00	10.00	9.20	72	10.00	30.20	31.00	0.86	1.27	0.0°	4	●	
453	10.00	10.00	9.20	72	10.00	30.20	31.00	0.86	1.27	0.0°	6	●	
501	12.00	12.00	11.00	83	12.00	36.13	37.00	1.03	1.52	0.0°	4	●	
503	12.00	12.00	11.00	83	12.00	36.13	37.00	1.03	1.52	0.0°	6	●	
610	16.00	16.00	15.00	92	16.00	42.13	43.00	1.37	2.03	0.0°	4	●	
612	16.00	16.00	15.00	92	16.00	42.13	43.00	1.37	2.03	0.0°	6	●	
* without internal cooling													

[5]

FRAISA ReTool® – Industrial tool reconditioning with performance guarantee

FRAISA ReTool® offers an all-round service that restores used tools to their original performance level – using the very latest technology and in a resource-friendly way. Our ability to provide this performance guarantee is a priority of our team of experts right from very early on in product development. The outcome: mint-condition tools as productive as they were the first day they were used.



Video on our service product: FRAISA ReTool®

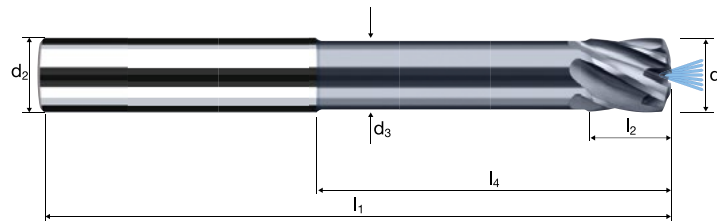


High feed end mills XFeed

Cylindrical neck, 4.5xd, central air/cooling channel



HM MG10	λ 30° γ 0°
	HFC



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					GG(G) Tool Steel
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Example: Order-N°.												X-AL
Coating Article-N°. ø-Code												
X 7632 100												X7632
Ø Code	d ₁ e8	d ₂ h5	d ₃	l ₁	l ₂	l ₃	l ₄	ap _{max}	R _{theo.}	α	z	
100*	1.00	6.00	0.95	61	1.00	4.50	14.58	0.09	0.13	10.0°	3	●
140*	2.00	6.00	1.90	61	2.00	9.00	17.31	0.17	0.25	6.8°	3	●
180*	3.00	6.00	2.80	61	3.00	13.50	20.13	0.26	0.38	4.5°	3	●
220*	4.00	6.00	3.70	66	4.00	18.00	22.95	0.34	0.51	2.7°	4	●
260*	5.00	6.00	4.60	66	5.00	22.50	25.77	0.43	0.64	1.3°	4	●
300	6.00	6.00	5.50	69	6.00	30.34	31.00	0.52	0.76	0.0°	4	●
391	8.00	8.00	7.30	80	8.00	39.29	40.00	0.69	1.02	0.0°	4	●
450	10.00	10.00	9.20	90	10.00	47.20	48.00	0.86	1.27	0.0°	4	●
453	10.00	10.00	9.20	90	10.00	47.20	48.00	0.86	1.27	0.0°	6	●
501	12.00	12.00	11.00	105	12.00	54.13	55.00	1.03	1.52	0.0°	4	●
503	12.00	12.00	11.00	105	12.00	54.13	55.00	1.03	1.52	0.0°	6	●
610	16.00	16.00	15.00	125	16.00	74.13	75.00	1.37	2.03	0.0°	4	●
612	16.00	16.00	15.00	125	16.00	74.13	75.00	1.37	2.03	0.0°	6	●
* without internal cooling												

Autonomous workflows for greater efficiency in production

Ideal automation

Cutting edge conditioning ensures that the cutting edge of the tool is stable and robust. The fluteless design of the cutter geometry and the resulting degree of stability make the new **XFeed milling tools** ideal for automated machining. Especially because process reliability is imperative for unmanned production.

Shorter throughput times

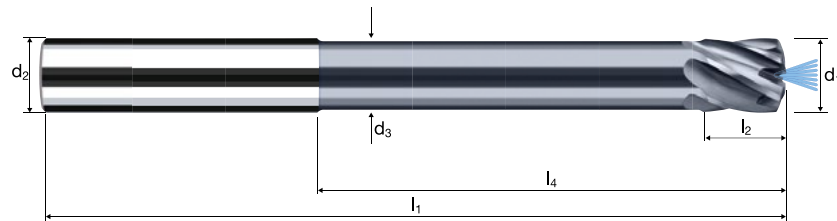
When using HFC milling cutters, the entire milling operation can be carried out on the hardened mold, reducing throughput times enormously.

High feed end mills XFeed

Cylindrical neck, 6xd, central air/cooling channel



HM MG10	λ 30° γ 0°
	HFC



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					GG(G) Tool Steel
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Example: Order-N°.												X-AL
Coating Article-N°. ø-Code												
X 7634 180												X7634
Ø Code	d ₁ e8	d ₂ h5	d ₃	l ₁	l ₂	l ₃	l ₄	ap _{max}	R _{theo.}	α	z	
180*	3.00	6.00	2.80	66	3.00	18.00	24.63	0.13	0.29	3.7°	3	●
220*	4.00	6.00	3.70	70	4.00	24.00	28.95	0.17	0.39	2.1°	4	●
260*	5.00	6.00	4.60	75	5.00	30.00	33.27	0.21	0.49	1.0°	4	●
300	6.00	6.00	5.50	80	6.00	42.34	43.00	0.26	0.59	0.0°	4	●
391	8.00	8.00	7.40	90	8.00	52.29	53.00	0.34	0.79	0.0°	4	●
453	10.00	10.00	9.20	105	10.00	63.20	64.00	0.43	0.98	0.0°	6	●
503	12.00	12.00	11.00	120	12.00	73.13	74.00	0.51	1.18	0.0°	6	●
612	16.00	16.00	15.00	135	16.00	85.13	86.00	0.68	1.57	0.0°	6	●
* without internal cooling												

You can find further information in our "High-performance Milling Tools" catalog.

High-precision cutting data

FRAISA ToolExpert® provides the perfect foundation for optimum usage of your new **XFeed tools**:

- Find the optimum operating parameters quickly and reliably
- Use perfectly coordinated tool- and material-specific cutting data
- Download CAD data for selected tools



And much much more. Try it out:
fraisa.com/online-tools



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