

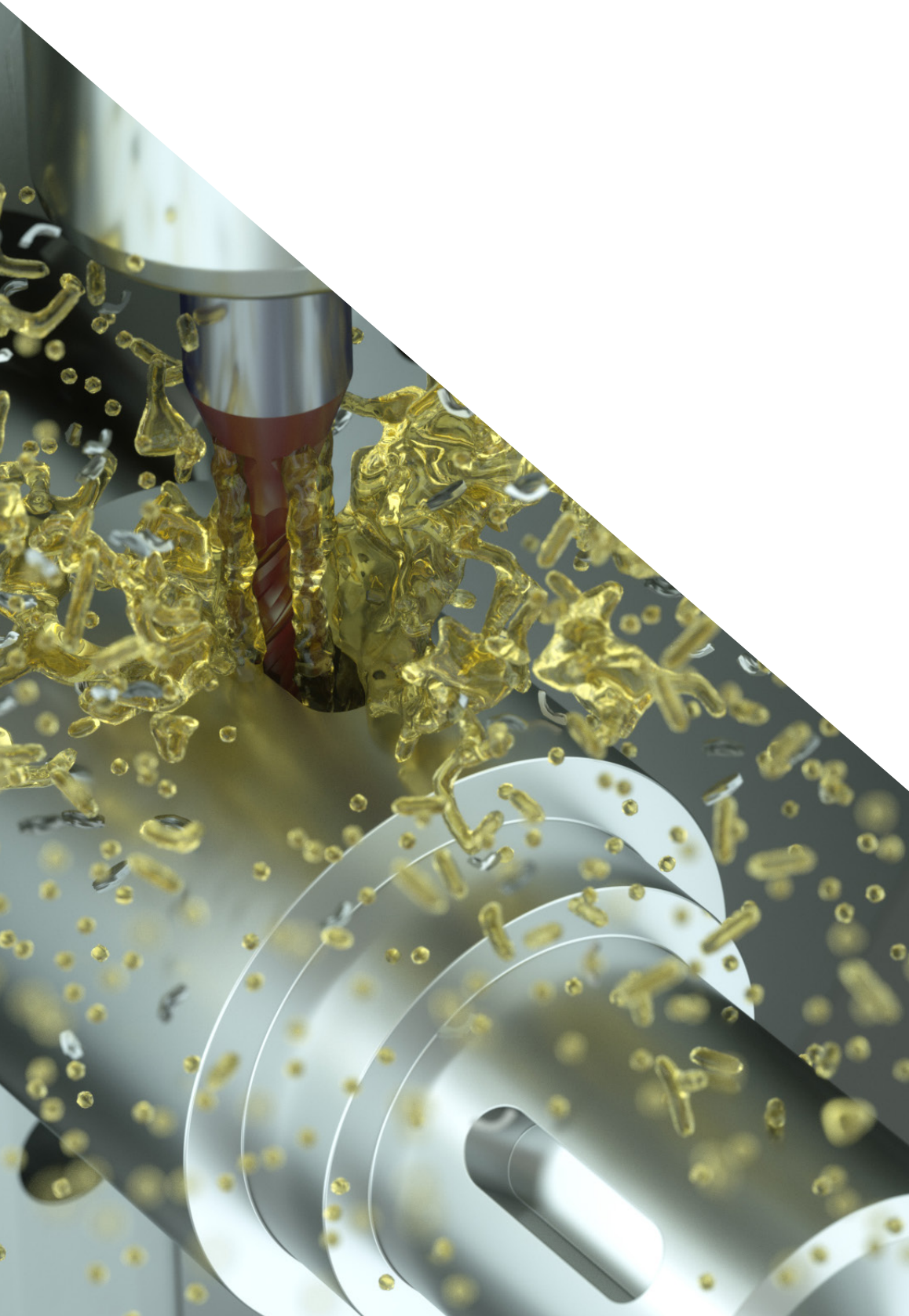
**crazy about**

# Highlights

NEW PRODUCTS 2019



**crazy about** new things



## NEWS PRODUCTS 2019

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### **CRAZYDRILL COOL SST-INOX**

4

High performance drill up to 40 x d with new cooling technology, geometry, coating

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### **CRAZYMILL COOL P&S**

6

New 3 flute end-mill with integrated cooling for plunge and slot milling

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### **CRAZYDRILL HEXALOBE / CRAZYMILL HEXALOBE**

8

New combined drill and micro end-mill for drilling, chamfering, milling and deburring your "Torx®" socket

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### **CRAZYMILL COOL SQUARE / CORNER RADIUS - Z4**

10

New square and corner radius 4 flute end-mill with integrated cooling

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### **UPGRADE DIAMETER RANGE**

12

Upgrade of some families with smaller and larger diameters

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### **FRACTIONAL INCHES DIAMETER RANGE**

13

New nominal diameters in fractional inches for a large range of CrazyDrill and CrazyMill families

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**NEW**

## CrazyDrill Cool SST-Inox

THE DRILL WITH A REVOLUTIONARY GEOMETRY AND COOLING CONCEPT

### Features

- Developed for stainless steel, superalloys and CoCr alloys
- New flute profile for best chip control: optimal chip breaking and chip evacuation
- New drop shaped coolant ducts: up to 4 times more flow rate
- Double guiding margin: highest precision (straightness) and surface quality
- New high performance coating: Heat and wear resistance prevents buildup edges
- Shorter drilling time: One shot even to the longest version 40 x d
- Diameter range: 1 mm - 6.35 mm
- Drilling depth: 3 x d, 6 x d, 10 x d, 15 x d, 20 x d, 30 x d and 40 x d

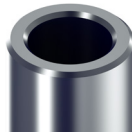
### Advantages

- **SHORT MACHINING TIME** | Up to 5 times faster
- **LONG TOOL LIFE** | Up to 3 times longer
- **HIGH DEGREE OF PROCESS RELIABILITY** | Thanks to greater coolant flow
- **HIGH DEGREE OF PRECISION** | Thanks to double margin



3 x d    6 x d    10 x d    15 x d    20 x d    30 x d    40 x d

■ Internal cooling  
■ Coated



**NEW**

## CrazyMill Cool P&S

### PLUNGE MILL FOR SLOTS AND POCKETS IN MINIMAL SPACES

#### Features

- For many materials with emphasis on stainless steel, titanium, superalloys and CoCr alloys
- Capacity to plunge perpendicularly: new cutting edge geometry for stable and vibration-free "drilling"
- All-around applications: milling of slots, pockets, sides and hole making
- Special end face geometry with web correction: prevention of breakout, reduction of penetration force and increasing of tool life
- New flute design: enlarged space for a perfect chip evacuation and stability for the side milling process
- Integrated coolant ducts: constant and massive coolant flow rate for an efficient chip evacuation and prevention of cutting edge overheating
- New high performance coating: Heat and wear resistance prevents buildup edges
- Direct plunging up to  $1 \times d$
- Diameter range: 1 mm - 8 mm
- Milling depth:  $2.5 \times d$  and  $5 \times d$

#### Advantages

- **SHORT MACHINING TIME** | Up to 5 times faster
- **LONG TOOL LIFE** | Up to 5 times longer
- **HIGH DEGREE OF PROCESS RELIABILITY** | Thanks to greater coolant flow
- **HIGH DEGREE OF PRECISION** | Thanks to specific cutting geometry

2.5 x d

5 x d

Type A

Type C

- Coated
- Integrated cooling
- $l_1$ : 2.5xd,  $l_2$ : 2.5xd

- Coated
- Integrated cooling
- $l_1$ : 5xd,  $l_2$ : 2xd

$l_1$  = Effective length  
 $l_2$  = Cutting length



**NEW**

# CrazyDrill Hexalobe / CrazyMill Hexalobe

THE NEW CONCEPT TO MACHINING YOUR "TORX®" SOCKET

## Features



- Drilling - Chamfering - Milling - Deburring: Four operations in three steps with two tools

### Combined drill

- Two in one: a pre-hole and a 120° chamfer are done in one single operation
- Standard diameters for pre-hole drilling
- Special sizes available on request

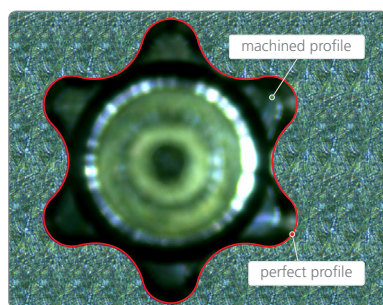
### Micro endmill

- Special micro-grain carbide for high stiffness and edge chipping resistance
- Tested and approved cutting conditions for best process execution and tool life
- Helical interpolation and side milling

- High efficient machining in shorter time for titanium and stainless steel
- Chrome free coating to avoid cross contamination on material parts
- Application range: from T4 to T30

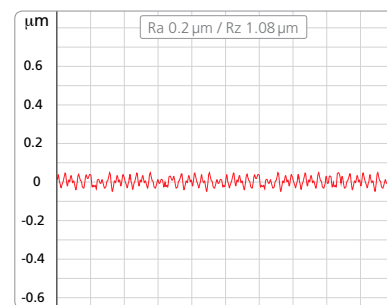
## Advantages

### HIGHEST PROFILE PRECISION



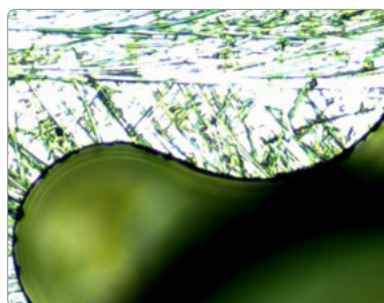
Perfect profile matching

### EXCELLENT SURFACE QUALITY



Lowest roughness on chamfer surface

### NEARLY BURR FREE



Machined profile with minimal burrs

### SHORT MILLING PROCESS

Torx type	Time [s]
T6	27
T8	24
T10	22
T15	22
T20	21
T25	20

Machined with version 3.5 x d on titanium



CrazyDrill Hexalobe		CrazyMill Hexalobe			
Titanium	SST-Inox	Titanium		SST-Inox	
		3.5 x d	5 x d	3.5 x d	5 x d
<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ External cooling</li> </ul>
<p>Drill tip form</p>	<p>Drill tip form</p>	<p>Diameter range Ø 0.2 - 0.3 mm</p>		<p>Mill tip form 3 flute</p>	<p>4 flute</p>
		<p>Ø 0.4 - 1.0 mm</p>			

**NEW**

## CrazyMill Cool Square / Corner radius - Z4









### MILLING TOOL FOR MACHINING DIFFICULT MATERIALS

#### Features

- For many materials with emphasis on stainless steel, titanium, superalloys and CoCr alloys
- Applications: Pre-machining, linear ramp or helical interpolation milling, pocket milling
- Special end face geometry with web correction: prevention of breakout, reduction of penetration force and increasing of tool life
- New cutting geometry: short process time and better surface quality
- New flute design: enlarged space for a perfect chip evacuation and robust stability for the side milling process
- Special chip-splitting for short chips maintaining highest surface quality
- Integrated coolant ducts: constant and massive coolant flow rate for an efficient chip evacuation and prevention of cutting edges overheating
- New high performance coating: Heat and wear resistance prevents buildup edges
- Diameter range: 1 mm - 8 mm
- Milling depth: 2 x d, 3 x d, 4 x d and 5 x d

#### Advantages

- **SHORT MACHINING TIME** | Up to 2 times faster
- **LONG TOOL LIFE** | Up to 4 times longer
- **HIGH DEGREE OF PROCESS RELIABILITY** | Thanks to greater coolant flow
- **HIGH DEGREE OF PRECISION** | Thanks to specific cutting geometry

2 x d	3 x d	4 x d	5 x d
Type A	Type M	Type N	Type C
<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ Integ. cooling</li> <li>■ <math>l_1: 2xd, l_2: 2xd</math></li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ Integ. cooling</li> <li>■ <math>l_1: 3xd, l_2: 3xd</math></li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ Integ. cooling</li> <li>■ <math>l_1: 4xd, l_2: 4xd</math></li> </ul>	<ul style="list-style-type: none"> <li>■ Coated</li> <li>■ Integ. cooling</li> <li>■ <math>l_1: 5xd, l_2: 2xd</math></li> </ul> <p style="text-align: right;"><math>l_1</math> = Effective length <math>l_2</math> = Cutting length</p>
			
			

NEW

## Upgrade diameter range

## EXPANSION OF THE DIAMETER RANGE FOR DIFFERENT "CRAZY" FAMILIES

**CRAZYDRILL™**  
by Mikron Tool  
Pilot SST-Inox



- From  $\varnothing$  0.2 mm to  $\varnothing$  0.3 mm
- New range: from  $\varnothing$  0.2 mm to  $\varnothing$  2.0 mm

**CRAZYDRILL™**  
by Mikron Tool  
Flexipilot<sup>STEEL</sup>



- Steel coated version: from  $\varnothing$  1.2 mm to  $\varnothing$  2.0 mm
- New range: from  $\varnothing$  0.2 mm to  $\varnothing$  2.0 mm

**CRAZYDRILL™**  
by Mikron Tool  
SST-Inox



- Type IK / IN - 8 x d / 12 x d version: from  $\varnothing$  0.2 mm to  $\varnothing$  0.3 mm
- New range: from  $\varnothing$  0.2 mm to  $\varnothing$  2.0 mm

**CRAZYDRILL™**  
by Mikron Tool  
Flex<sup>STEEL</sup>



- Steel coated 50 x d version: from  $\varnothing$  1.2 mm to  $\varnothing$  2.0 mm
- New range: from  $\varnothing$  0.3 mm to  $\varnothing$  2.0 mm

**CRAZYDRILL™**  
by Mikron Tool  
Flex SST-Inox



- 30 x d version: from  $\varnothing$  0.2 mm to  $\varnothing$  0.3 mm and from  $\varnothing$  1.2 mm to  $\varnothing$  2.0 mm
- New range: from  $\varnothing$  0.2 mm to  $\varnothing$  2.0 mm
- 50 x d version: from  $\varnothing$  1.2 mm to  $\varnothing$  2.0 mm
- New range: from  $\varnothing$  0.3 mm to  $\varnothing$  2.0 mm

**CRAZYMILL™**  
by Mikron Tool  
Cool



Plunge&amp;Slot



- Type A - 2.5 x d:  $\varnothing$  8.0 mm
- New range: from  $\varnothing$  1.0 mm to  $\varnothing$  8.0 mm

# Fractional inches diameter range

## NEW NOMINAL DIAMTERS IN FRACTIONAL INCHES FOR A LARGE RANGE OF CRAZYTOOL FAMILIES

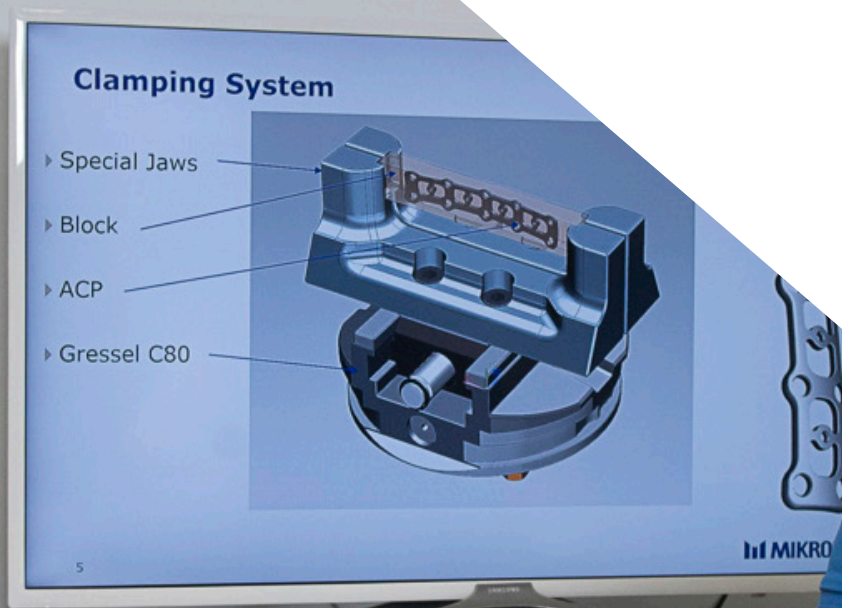
### Nominal diameter range available

Fractional inch [inch]	Decimal inch [inch]	Metric equivalent [mm]
1/64	.0156	0.396
1/32	.0312	0.793
1/16	.0625	1.587
3/32	.0937	2.381
1/8	.1250	3.175
5/32	.1562	3.968
3/16	.1875	4.762
7/32	.2189	5.560
1/4	.2500	6.350

### Range of CrazyTools Families available

Family	1/64"	1/32"	1/16"	3/32"	1/8"	5/32"	3/16"	7/32"	1/4"
CrazyMill Cool Square / Corner radius - Z4			●	●	●	●	●	●	●
CrazyMill Cool Square / Corner radius - Z2	●	●	●	●	●	●	●	●	●
CrazyMill Cool P&S - Z3			●	●	●	●	●	●	●
CrazyMill Cool Ball - Z4			●	●	●	●	●	●	●
CrazyMill Cool Ball - Z2	●	●	●	●	●	●	●	●	●
CrazyDrill Cool SST-Inox			●	●	●	●	●	●	●
CrazyDrill Flex SST-Inox	●	●	●						
CrazyDrill Flex Steel - Coated	●	●	●						
CrazyDrill Cool XL			●	●	●	●	●	●	
CrazyDrill Cool - Coated		●	●	●	●	●	●	●	
CrazyDrill SST-Inox	●	●	●						
CrazyDrill Steel	●	●	●	●	●	●	●	●	●
CrazyDrill Coolpilot			●	●	●	●	●	●	●
CrazyDrill Pilot SST-Inox	●	●	●						
CrazyDrill Flexpilot - Coated	●	●	●						
CrazyDrill Crosspilot	●	●	●	●	●	●	●	●	●
CrazyDrill Pilot	●	●	●	●	●	●	●	●	●

**crazy about** new technology





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## TECHNOLOGY CENTER

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The manufacturing of innovative solid carbide tools with highest quality standards requires consistent dedication from the entire R&D team of Mikron Tool. In the new Technology Center we continuously develop new products and processing strategies, carry out tests on process optimization and find the best solution for your applications. The center also serves as a partner and customer training platform.

### **INNOVATION AND DEVELOPMENT**

Here new products are born, new materials are tested and optimum cutting data are found based on concrete tests.

### **CONTINUOUS IMPROVEMENT**

Here the continuous optimization of the existing product range is part of the development team. Thus a Mikron Tool product remains technologically current even after years in the market.

### **TECHNICAL KNOW-HOW**

Here the customer receives important information about the best use of our products. The team actively supports the customer in his production to find the best solutions for each applications.

### **TESTING AND ANALYSIS**

At the request of the customer, feasibility studies and result analysis can be carried out with customized tools.

### **CUSTOMER PROJECT**

The modern Technology Center makes it possible to carry out "turnkey" pilot projects to support the customer in the production of a new workpiece: feasibility studies, suitable processes with the right tools, optimal cutting parameters, processing times and costs and a final quality analysis.

**More information is available by visiting [www.mikrontool.com](http://www.mikrontool.com)**

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