

Chip removing competence<sup>2</sup> with

**MIQU**DRILL™  
by Mikron Tool  
**CRAZY**DRILL™  
by Mikron Tool




# MIQU<sup>DRILL</sup>™ for small and varying production lots

by Mikron Tool

## Centering, short and universal drilling

Mikron Tool with the standard quality MiquDrill is the ideal solution when you need to manufacture small and medium batches of parts, where enhanced quality and process reliability are important.

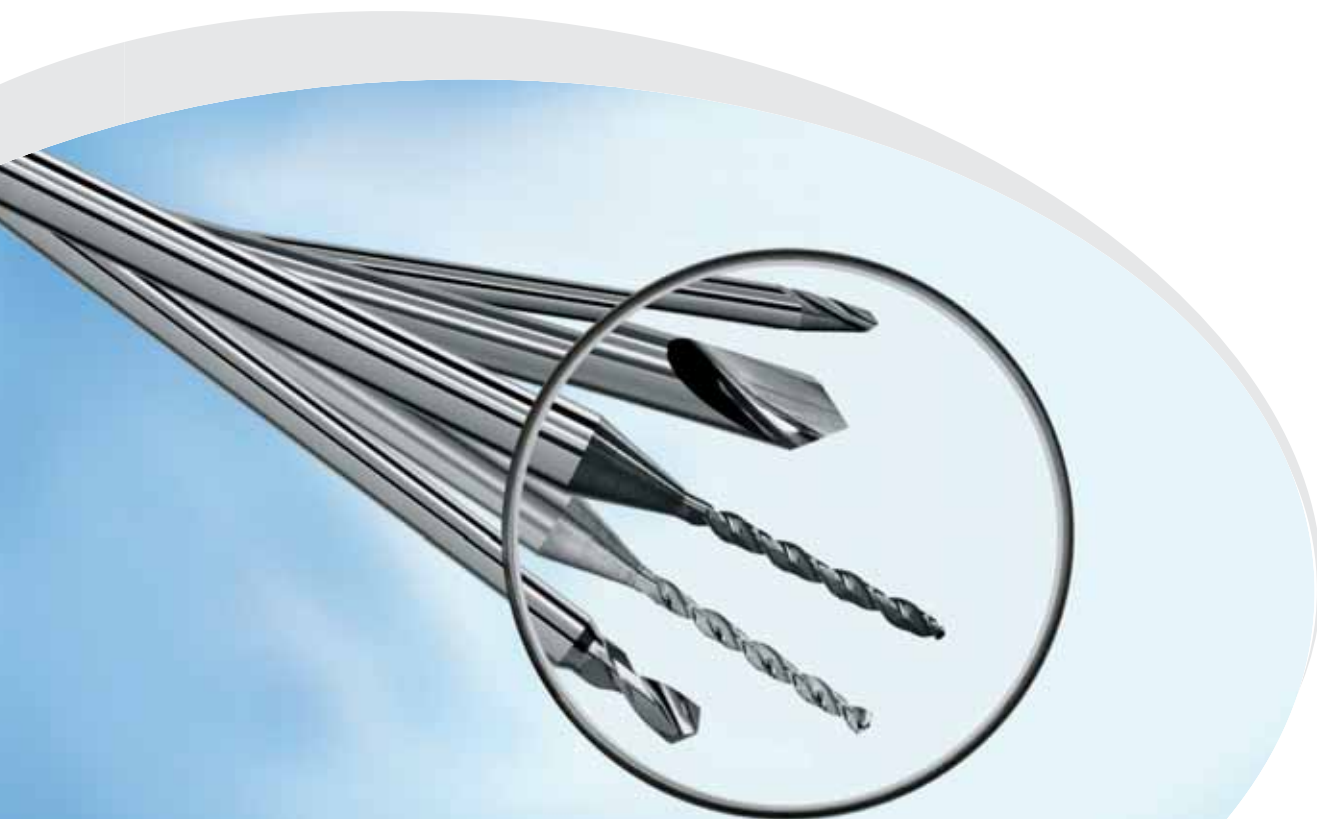
### Product range:

MiquDrill Centro  by Mikron Tool Centro	NC center drill Diameter: 0.5 – 6 mm Point angle: 90° / 120°
MiquDrill 200  by Mikron Tool 200	Short drill Diameter: 0.1 - 1.5 mm Increments: every 0.01 mm
MiquDrill 210  by Mikron Tool 210	Universal drill Diameter: 0.1 - 3 mm Increments: every 0.01 to 2 mm, then every 0.05 mm

### MiquDrill at a glance:

Drilling depth:	depending on diameter and drill type
Use:	suitable for small and medium series production
Execution:	uncoated or coated from 0.3 mm
Carbide alloy:	Finest grain-multigrade type.
Availability:	all current dimensions available immediately

MiquDrill 200 MiquDrill 210	Strength/ hardness	Cutting speed vc m/min uncoated	Cutting speed vc m/min coated TiAlN	Feed f in mm/revolution drilling diameter					
				0.1 - 0.3 mm	0.3 - 0.6 mm	0.6 - 1.0 mm	1.0 - 1.5 mm	1.5 - 2.0 mm	2.0 - 3.0 mm
Non-alloy steels, low-alloy steels C<0.3% (e.g. general construction steel, free cutting steel, steel casting, cold malleable steel)	up to 500 N/mm <sup>2</sup>	30 - 60	40 - 70	0.001 - 0.005	0.003 - 0.015	0.006 - 0.025	0.010 - 0.035	0.015 - 0.050	0.020 - 0.070
low-alloy steels, C 0.2% - 0.5% (e.g. case hardening steel, heat-treatable steel medium strength))	up to 700 N/mm <sup>2</sup>	25 - 50	30 - 60	0.001 - 0.005	0.003 - 0.012	0.006 - 0.020	0.010 - 0.030	0.015 - 0.040	0.020 - 0.060
Alloy steels, low-alloy steels (e.g. heat treatable steel higher strength, ball bearing steel, tool steel)	up to 1000 N/mm <sup>2</sup>	25 - 40	30 - 60	0.001 - 0.004	0.003 - 0.010	0.006 - 0.015	0.010 - 0.020	0.015 - 0.030	0.020 - 0.050
High-alloy steels, tempered steel (e.g. alloy tool steel)	more than 1000 N/mm <sup>2</sup>	25 - 40	30 - 60	0.001 - 0.003	0.002 - 0.006	0.005 - 0.012	0.008 - 0.020	0.010 - 0.030	0.015 - 0.040



# **CRAZYDRILL™** for large volume production High performance drills - faster, longer, deeper

CrazyDrill is the optimal solution for high volume production of precision parts. Compared with standard drills CrazyDrill allows multiple and aggressive speeds and feeds.

## **CRAZYDRILL™** Pilot

### Features:

Centering and drilling of a pilot hole up to  $2 \times \varnothing$  and cutting a  $90^\circ$  chamfer at the same time. Matched perfectly to the CrazyDrill program.

Diameter: 0.4 to 6.0 mm  
Increments: every 0.05 mm up to  $\varnothing 4$  mm  
> 4.0 mm = every 0.1 mm  
Execution: coated

## **CRAZYDRILL™** Cool

### Features:

Two flutes drill with internal cooling  
Diameter: 0.75 to 6.0 mm  
Increments: every 0.05 mm up to  $\varnothing 4$  mm  
> 4.0 mm = every 0.1 mm  
Drilling depth:  $6 \times \varnothing$ ,  $10 \times \varnothing$  or  $15 \times \varnothing$   
Execution: coated or uncoated available

## **CRAZYDRILL™** Steel

CrazyDrill Steel	Strength/Hardness (N/mm <sup>2</sup> )	Cutting speed	Feed f in mm / rev.				
			$\varnothing 0,4$	$\varnothing 1,0$	$\varnothing 2,0$	$\varnothing 3,0$	$\varnothing 6,0$
Non-alloy steels	up to 800	50 to 120	up to 0,04	up to 0,12	up to 0,25	up to 0,35	up to 0,40
Low-alloy steels	800 to 1000	50 to 100	up to 0,015	up to 0,05	up to 0,28	up to 0,25	up to 0,40
Alloy steels	1000 to 1400	40 to 80	up to 0,015	up to 0,08	up to 0,20	up to 0,25	up to 0,32

### Features:

Two flutes drill for external cooling  
Diameter: 0.4 to 6.0 mm  
Increments: every 0.05 mm up to  $\varnothing 4$  mm  
> 4.0 mm = every 0.1 mm  
Drilling depth:  $4 \times \varnothing$  or  $7 \times \varnothing$   
Execution: coated

## **CRAZYDRILL™** Alu

### Features:

Three flutes drill  
Diameter: 0.4 to 3.0 mm  
Increments: every 0.05 mm  
Drilling depth:  $5 \times \varnothing$  or  $10 \times \varnothing$   
Execution: coated



### CrazyDrill at a glance

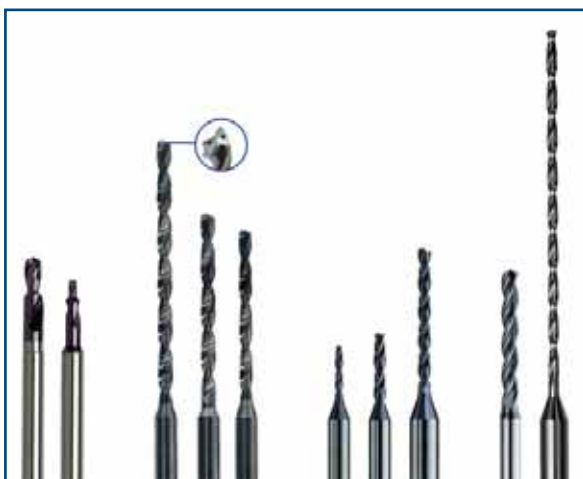
Use: best for high volume production and for materials difficult to machine

Execution: available also with dimensions to customer's specifications

Carbide alloy: Finest grain-multigrade type.

Availability: all current dimensions available immediately

Regrinding: CrazyDrill with a diameter of 1.5 mm or more can be reground and recoated several times.



CrazyDrill Pilot

CrazyDrill Cool

CrazyDrill Steel

CrazyDrill Alu

## Your contacts

Headquarter and Production:

**Mikron Tool SA Agno**  
P.O. Box 340  
6934 Bioggio  
Switzerland  
Tel. +41 91 610 40 00  
Fax +41 91 610 40 10  
mto@mikron.com

Production for Germany  
and Regrinding EU:

**Mikron GmbH Rottweil**  
Abteilung Werkzeuge  
Berner Feld 71  
78628 Rottweil  
Germany  
Tel. +49 741 5380 450  
Fax +49 741 5380 480  
info.mtr@mikron.com

Italy:

**Mikron SAS Nerviano**  
Via S. Ambrogio 16  
20015 Parabiago (MI)  
Italy  
Tel. +39 0331 55 12 22  
Fax +39 0331 55 12 86  
info@mikronitalia.it

Japan:

**Mikron Ltd. Tokyo**  
Shin-Yokohama, Kohoku-Ku  
Yokohama City 222-0033  
Japan  
Tel. +81 45 472 10 01  
Fax +81 45 472 20 22  
mfe@mikron.com

North and South America Sales:

**Mikron Corp. Monroe**  
P.O. Box 268  
600 Pepper Street  
Monroe, CT 06468  
USA  
Tel. +1 203 261 31 00  
Fax +1 203 268 47 52  
mmo@mikron.com