Mikron Quality Drills

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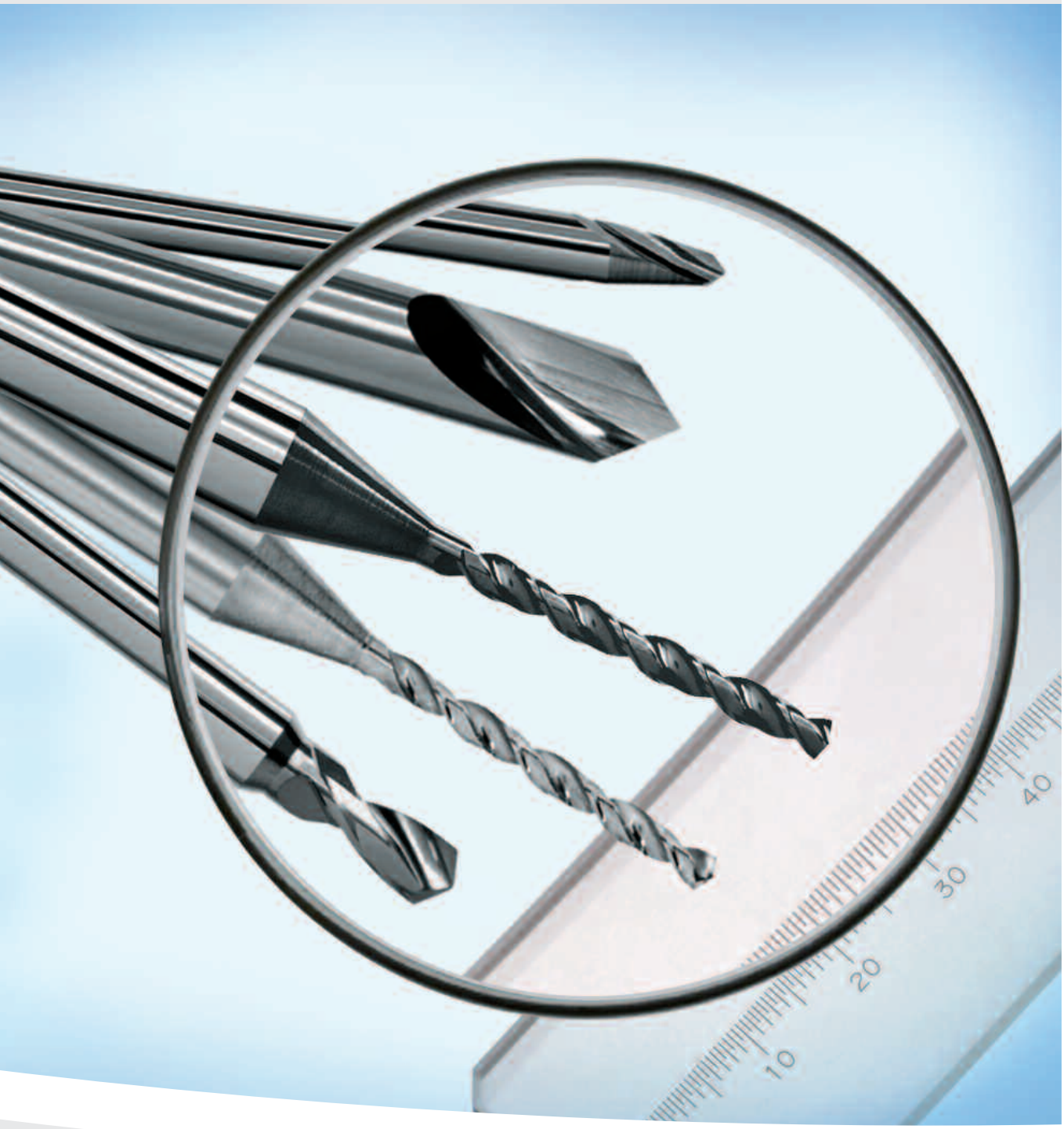


For small batches and a rich variety of work pieces

MIQUDRILL™
by Mikron Tool

Centering, short and universal drilling
the right drill for each application

This goal is achieved by Mikron Tool with the standard quality MiquDrill.
The MiquDrill range is designed for small diameters. All sizes are available quickly and easily off the shelf. These drills are the ideal solution when you need to manufacture small and medium batches of parts, where enhanced quality and process reliability are important to you.

The product range:

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

The features at a glance:

Carbide alloy:	Finest grain-multigrade type.
Availability:	all listed dimensions available immediately
Use:	suitable for small and medium series production
Execution:	uncoated or coated from 0.3 mm

MiquDrill Centro - NC spot drill
to get the holes straight

MIQUDRILL™ by Mikron Tool Centro

Centering and making a chamfer of 90° or 120° at the same time is the task of the MiquDrill Centro. It takes care for the preparation of precise drilling in diameters from 0.1 to 6 mm. That's exactly what makes it so unique: it centres optimally even for the smallest drilling diameter of 0.1 mm. Its geometry is the result of our many years of practical experience in precision machining. This makes it universally useful for alloy and non-alloy metals, and an ideal counterpart for MiquDrill 210.

The features:

- Carbide alloy
- Drills with or without coating
- Diameter range 0.5 – 6 mm
- Choice of 90° or 120° pointed angle
- 2 flutes
- Right hand cutting
- Suitable for all metals

Unique for diameter range 0.1 to 6 mm!

Point angle 90°
Type: MiquDrill Centro 090

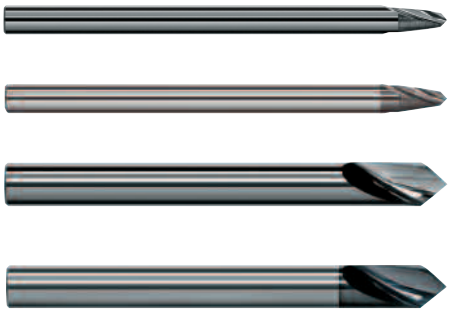
Item number		Point angle	d (h6)	l	D (h6)	L
uncoated	coated TiAlN		mm	mm	mm	mm
MC.090050.0	MC.090050.1	90°	0.5	3	2	30
MC.090100.0	MC.090100.1	90°	1	3	2	30
MC.090200.0	MC.090200.1	90°	2	6	2	30
MC.090300.0	MC.090300.1	90°	3	8	3	40
MC.090400.0	MC.090400.1	90°	4	10	4	45
MC.090500.0	MC.090500.1	90°	5	12	5	50
MC.090600.0	MC.090600.1	90°	6	15	6	60

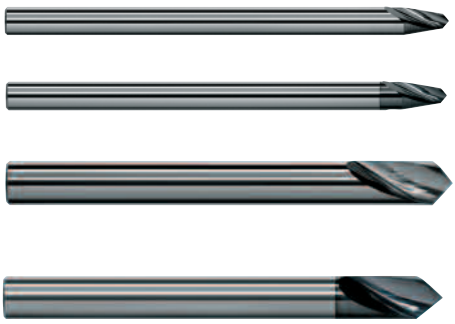
Comes in packs of 3.

Point angle 120°
Type: MiquDrill Centro 120

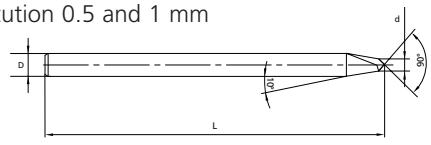
Item number		Point angle	d (h6)	l	D (h6)	L
uncoated	coated TiAlN		mm	mm	mm	mm
MC.120050.0	MC.120050.1	120°	0.5	3	2	30
MC.120100.0	MC.120100.1	120°	1	3	2	30
MC.120200.0	MC.120200.1	120°	2	6	2	30
MC.120300.0	MC.120300.1	120°	3	8	3	40
MC.120400.0	MC.120400.1	120°	4	10	4	45
MC.120500.0	MC.120500.1	120°	5	12	5	50
MC.120600.0	MC.120600.1	120°	6	15	6	60

Comes in packs of 3.

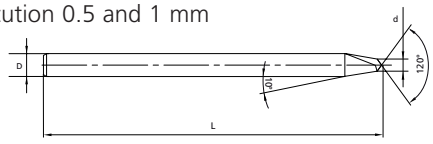




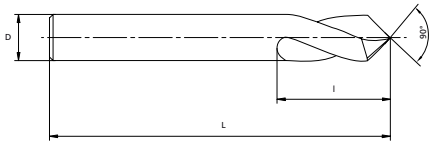
Execution 0.5 and 1 mm



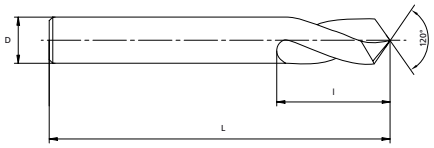
Execution 0.5 and 1 mm



Execution 2 to 6 mm



Execution 2 to 6 mm



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MiquDrill 200 short drill
a precise guide

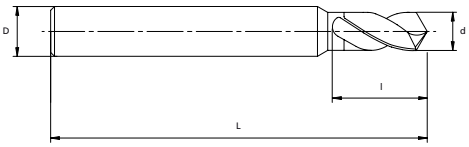
MIQUDRILL™ by Mikron Tool 200

The MiquDrill 200 is the right choice when it comes to complete short drilled holes or making good preparations for deep ones: It is ideal for perfect short drill holes of approx. 2-3 x Ø, and as a pilot drill guarantees the precise preparation of deeper ones to follow.

The features:

- Carbide alloy
- Drills with or without coating
- Diameter 0.1 – 1.5 mm
- Increments every 0.01 mm
- Effective length: approx. 2-3 x ø
- 2 flutes
- Right hand cutting
- Suitable for various materials

Type: MiquDrill 200



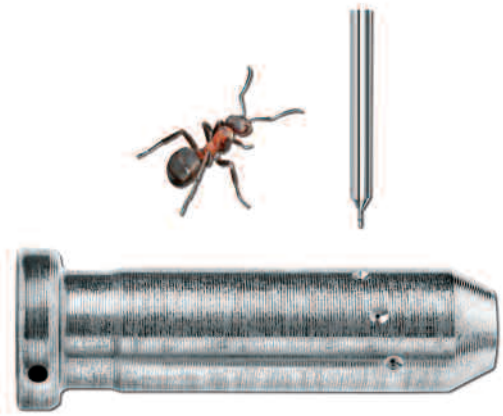
Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.200010.0		0.10	0.25	1.0	30
MD.200011.0		0.11	0.38	1.0	30
MD.200012.0		0.12	0.38	1.0	30
MD.200013.0		0.13	0.38	1.0	30
MD.200014.0		0.14	0.38	1.0	30
MD.200015.0		0.15	0.38	1.0	30
MD.200016.0		0.16	0.50	1.0	30
MD.200017.0		0.17	0.50	1.0	30
MD.200018.0		0.18	0.50	1.0	30
MD.200019.0		0.19	0.50	1.0	30
MD.200020.0		0.20	0.50	1.0	30
MD.200021.0		0.21	0.65	1.0	30
MD.200022.0		0.22	0.65	1.0	30
MD.200023.0		0.23	0.65	1.0	30
MD.200024.0		0.24	0.65	1.0	30
MD.200025.0		0.25	0.65	1.0	30
MD.200026.0		0.26	0.75	1.0	30
MD.200027.0		0.27	0.75	1.0	30
MD.200028.0		0.28	0.75	1.0	30
MD.200029.0		0.29	0.75	1.0	30
MD.200030.0	MD.200030.1	0.30	0.75	1.0	30
MD.200031.0	MD.200031.1	0.31	0.90	1.0	30
MD.200032.0	MD.200032.1	0.32	0.90	1.0	30
MD.200033.0	MD.200033.1	0.33	0.90	1.0	30
MD.200034.0	MD.200034.1	0.34	0.90	1.0	30
MD.200035.0	MD.200035.1	0.35	0.90	1.0	30
MD.200036.0	MD.200036.1	0.36	1.00	1.0	30
MD.200037.0	MD.200037.1	0.37	1.00	1.0	30
MD.200038.0	MD.200038.1	0.38	1.00	1.0	30
MD.200039.0	MD.200039.1	0.39	1.00	1.0	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.200040.0	MD.200040.1	0.40	1.00	1.0	30
MD.200041.0	MD.200041.1	0.41	1.15	1.0	30
MD.200042.0	MD.200042.1	0.42	1.15	1.0	30
MD.200043.0	MD.200043.1	0.43	1.15	1.0	30
MD.200044.0	MD.200044.1	0.44	1.15	1.0	30
MD.200045.0	MD.200045.1	0.45	1.15	1.0	30
MD.200046.0	MD.200046.1	0.46	1.30	1.0	30
MD.200047.0	MD.200047.1	0.47	1.30	1.0	30
MD.200048.0	MD.200048.1	0.48	1.30	1.0	30
MD.200049.0	MD.200049.1	0.49	1.30	1.0	30
MD.200050.0	MD.200050.1	0.50	1.40	1.0	30
MD.200051.0	MD.200051.1	0.51	1.40	1.0	30
MD.200052.0	MD.200052.1	0.52	1.40	1.0	30
MD.200053.0	MD.200053.1	0.53	1.40	1.0	30
MD.200054.0	MD.200054.1	0.54	1.40	1.0	30
MD.200055.0	MD.200055.1	0.55	1.40	1.0	30
MD.200056.0	MD.200056.1	0.56	1.50	1.0	30
MD.200057.0	MD.200057.1	0.57	1.50	1.0	30
MD.200058.0	MD.200058.1	0.58	1.50	1.0	30
MD.200059.0	MD.200059.1	0.59	1.50	1.0	30
MD.200060.0	MD.200060.1	0.60	1.50	1.0	30
MD.200061.0	MD.200061.1	0.61	1.60	1.0	30
MD.200062.0	MD.200062.1	0.62	1.60	1.0	30
MD.200063.0	MD.200063.1	0.63	1.60	1.0	30
MD.200064.0	MD.200064.1	0.64	1.60	1.0	30
MD.200065.0	MD.200065.1	0.65	1.60	1.0	30
MD.200066.0	MD.200066.1	0.66	1.80	1.0	30
MD.200067.0	MD.200067.1	0.67	1.80	1.0	30
MD.200068.0	MD.200068.1	0.68	1.80	1.0	30
MD.200069.0	MD.200069.1	0.69	1.80	1.0	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.200070.0	MD.200070.1	0.70	1.80	1.0	30
MD.200071.0	MD.200071.1	0.71	1.90	1.0	30
MD.200072.0	MD.200072.1	0.72	1.90	1.0	30
MD.200073.0	MD.200073.1	0.73	1.90	1.0	30
MD.200074.0	MD.200074.1	0.74	1.90	1.0	30
MD.200075.0	MD.200075.1	0.75	1.90	1.0	30
MD.200076.0	MD.200076.1	0.76	2.00	1.0	30
MD.200077.0	MD.200077.1	0.77	2.00	1.0	30
MD.200078.0	MD.200078.1	0.78	2.00	1.0	30
MD.200079.0	MD.200079.1	0.79	2.00	1.0	30
MD.200080.0	MD.200080.1	0.80	2.00	1.5	30
MD.200081.0	MD.200081.1	0.81	2.10	1.5	30
MD.200082.0	MD.200082.1	0.82	2.10	1.5	30
MD.200083.0	MD.200083.1	0.83	2.10	1.5	30
MD.200084.0	MD.200084.1	0.84	2.10	1.5	30
MD.200085.0	MD.200085.1	0.85	2.10	1.5	30
MD.200086.0	MD.200086.1	0.86	2.30	1.5	30
MD.200087.0	MD.200087.1	0.87	2.30	1.5	30
MD.200088.0	MD.200088.1	0.88	2.30	1.5	30
MD.200089.0	MD.200089.1	0.89	2.30	1.5	30
MD.200090.0	MD.200090.1	0.90	2.30	1.5	30
MD.200091.0	MD.200091.1	0.91	2.30	1.5	30
MD.200092.0	MD.200092.1	0.92	2.30	1.5	30
MD.200093.0	MD.200093.1	0.93	2.30	1.5	30
MD.200094.0	MD.200094.1	0.94	2.30	1.5	30
MD.200095.0	MD.200095.1	0.95	2.30	1.5	30
MD.200096.0	MD.200096.1	0.96	2.50	1.5	30
MD.200097.0	MD.200097.1	0.97	2.50	1.5	30
MD.200098.0	MD.200098.1	0.98	2.50	1.5	30
MD.200099.0	MD.200099.1	0.99	2.50	1.5	30
MD.200100.0	MD.200100.1	1.00	2.50	1.5	30
MD.200101.0	MD.200101.1	1.01	2.60	1.5	30
MD.200102.0	MD.200102.1	1.02	2.60	1.5	30
MD.200103.0	MD.200103.1	1.03	2.60	1.5	30
MD.200104.0	MD.200104.1	1.04	2.60	1.5	30
MD.200105.0	MD.200105.1	1.05	2.60	1.5	30
MD.200106.0	MD.200106.1	1.06	2.80	1.5	30
MD.200107.0	MD.200107.1	1.07	2.80	1.5	30
MD.200108.0	MD.200108.1	1.08	2.80	1.5	30
MD.200109.0	MD.200109.1	1.09	2.80	1.5	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.200110.0	MD.200110.1	1.10	3.00	1.5	30
MD.200111.0	MD.200111.1	1.11	3.00	1.5	30
MD.200112.0	MD.200112.1	1.12	3.00	1.5	30
MD.200113.0	MD.200113.1	1.13	3.00	1.5	30
MD.200114.0	MD.200114.1	1.14	3.00	1.5	30
MD.200115.0	MD.200115.1	1.15	3.00	1.5	30
MD.200116.0	MD.200116.1	1.16	3.00	1.5	30
MD.200117.0	MD.200117.1	1.17	3.00	1.5	30
MD.200118.0	MD.200118.1	1.18	3.00	1.5	30
MD.200119.0	MD.200119.1	1.19	3.00	1.5	30
MD.200120.0	MD.200120.1	1.20	3.00	1.5	30
MD.200121.0	MD.200121.1	1.21	3.00	1.5	30
MD.200122.0	MD.200122.1	1.22	3.00	1.5	30
MD.200123.0	MD.200123.1	1.23	3.00	1.5	30
MD.200124.0	MD.200124.1	1.24	3.00	1.5	30
MD.200125.0	MD.200125.1	1.25	3.00	1.5	30
MD.200126.0	MD.200126.1	1.26	3.30	1.5	30
MD.200127.0	MD.200127.1	1.27	3.30	1.5	30
MD.200128.0	MD.200128.1	1.28	3.30	1.5	30
MD.200129.0	MD.200129.1	1.29	3.30	1.5	30
MD.200130.0	MD.200130.1	1.30	3.30	1.5	30
MD.200131.0	MD.200131.1	1.31	3.30	1.5	30
MD.200132.0	MD.200132.1	1.32	3.30	1.5	30
MD.200133.0	MD.200133.1	1.33	3.30	1.5	30
MD.200134.0	MD.200134.1	1.34	3.30	1.5	30
MD.200135.0	MD.200135.1	1.35	3.30	1.5	30
MD.200136.0	MD.200136.1	1.36	3.50	1.5	30
MD.200137.0	MD.200137.1	1.37	3.50	1.5	30
MD.200138.0	MD.200138.1	1.38	3.50	1.5	30
MD.200139.0	MD.200139.1	1.39	3.50	1.5	30
MD.200140.0	MD.200140.1	1.40	3.50	1.5	30
MD.200141.0	MD.200141.1	1.41	3.50	1.5	30
MD.200142.0	MD.200142.1	1.42	3.50	1.5	30
MD.200143.0	MD.200143.1	1.43	3.50	1.5	30
MD.200144.0	MD.200144.1	1.44	3.50	1.5	30
MD.200145.0	MD.200145.1	1.45	3.50	1.5	30
MD.200146.0	MD.200146.1	1.46	3.80	1.5	30
MD.200147.0	MD.200147.1	1.47	3.80	1.5	30
MD.200148.0	MD.200148.1	1.48	3.80	1.5	30
MD.200149.0	MD.200149.1	1.49	3.80	1.5	30
MD.200150.0	MD.200150.1	1.50	3.80	2.0	38

Comes in packs of 5.



MIKRON

MiquDrill 210 universal drill
high quality is standard

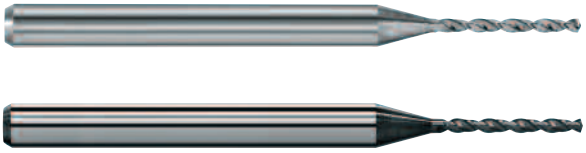
MIQUDRILL™ by Mikron Tool 210

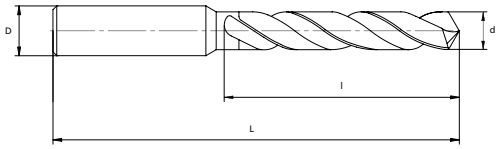
You produce small or medium series and want to be able to rely on the precision of the single machining steps? Then MiquDrill 210 is the small drill that meets all your requirements: Its geometry is specially designed for micro machining. The coating ensures good results even with challenging materials. The accurateness during manufacturing guarantees the quality of every individual drill. It is a very attractive product due to its immediate off the shelf availability with narrow increments, which makes it ideal in case of sudden production demands.

The features:

- Carbide alloy
- Drills with or without coating
- Diameter 0.1 - 3 mm
- Increments every 0.01 mm up to 2 mm, then every 0.05 mm
- 2 flutes
- Right hand cutting
- Suitable for various materials

Type: MiquDrill 210





Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.210010.0		0.10	0.6	1.0	30
MD.210011.0		0.11	0.6	1.0	30
MD.210012.0		0.12	0.6	1.0	30
MD.210013.0		0.13	0.8	1.0	30
MD.210014.0		0.14	0.8	1.0	30
MD.210015.0		0.15	0.8	1.0	30
MD.210016.0		0.16	1.0	1.0	30
MD.210017.0		0.17	1.0	1.0	30
MD.210018.0		0.18	1.0	1.0	30
MD.210019.0		0.19	1.0	1.0	30
MD.210020.0		0.20	1.0	1.0	30
MD.210021.0		0.21	1.0	1.0	30
MD.210022.0		0.22	1.0	1.0	30
MD.210023.0		0.23	1.0	1.0	30
MD.210024.0		0.24	1.0	1.0	30
MD.210025.0		0.25	1.0	1.0	30
MD.210026.0		0.26	1.0	1.0	30
MD.210027.0		0.27	1.0	1.0	30
MD.210028.0		0.28	1.0	1.0	30
MD.210029.0		0.29	1.0	1.0	30
MD.210030.0	MD.210030.1	0.30	1.5	1.0	30
MD.210031.0	MD.210031.1	0.31	1.5	1.0	30
MD.210032.0	MD.210032.1	0.32	1.5	1.0	30
MD.210033.0	MD.210033.1	0.33	1.5	1.0	30
MD.210034.0	MD.210034.1	0.34	1.5	1.0	30
MD.210035.0	MD.210035.1	0.35	1.5	1.0	30
MD.210036.0	MD.210036.1	0.36	1.5	1.0	30
MD.210037.0	MD.210037.1	0.37	1.5	1.0	30
MD.210038.0	MD.210038.1	0.38	1.5	1.0	30
MD.210039.0	MD.210039.1	0.39	1.5	1.0	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.210040.0	MD.210040.1	0.40	2.0	1.0	30
MD.210041.0	MD.210041.1	0.41	2.0	1.0	30
MD.210042.0	MD.210042.1	0.42	2.0	1.0	30
MD.210043.0	MD.210043.1	0.43	2.0	1.0	30
MD.210044.0	MD.210044.1	0.44	2.0	1.0	30
MD.210045.0	MD.210045.1	0.45	3.5	1.0	30
MD.210046.0	MD.210046.1	0.46	3.5	1.0	30
MD.210047.0	MD.210047.1	0.47	3.5	1.0	30
MD.210048.0	MD.210048.1	0.48	3.5	1.0	30
MD.210049.0	MD.210049.1	0.49	4.0	1.0	30
MD.210050.0	MD.210050.1	0.50	4.0	1.0	30
MD.210051.0	MD.210051.1	0.51	4.0	1.0	30
MD.210052.0	MD.210052.1	0.52	4.0	1.0	30
MD.210053.0	MD.210053.1	0.53	4.0	1.0	30
MD.210054.0	MD.210054.1	0.54	4.5	1.0	30
MD.210055.0	MD.210055.1	0.55	4.5	1.0	30
MD.210056.0	MD.210056.1	0.56	4.5	1.0	30
MD.210057.0	MD.210057.1	0.57	4.5	1.0	30
MD.210058.0	MD.210058.1	0.58	4.5	1.0	30
MD.210059.0	MD.210059.1	0.59	4.5	1.0	30
MD.210060.0	MD.210060.1	0.60	4.5	1.0	30
MD.210061.0	MD.210061.1	0.61	5.0	1.0	30
MD.210062.0	MD.210062.1	0.62	5.0	1.0	30
MD.210063.0	MD.210063.1	0.63	5.0	1.0	30
MD.210064.0	MD.210064.1	0.64	5.0	1.0	30
MD.210065.0	MD.210065.1	0.65	5.0	1.0	30
MD.210066.0	MD.210066.1	0.66	5.0	1.0	30
MD.210067.0	MD.210067.1	0.67	5.0	1.0	30
MD.210068.0	MD.210068.1	0.68	5.6	1.0	30
MD.210069.0	MD.210069.1	0.69	5.6	1.0	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.210070.0	MD.210070.1	0.70	5.6	1.0	30
MD.210071.0	MD.210071.1	0.71	5.6	1.0	30
MD.210072.0	MD.210072.1	0.72	5.6	1.0	30
MD.210073.0	MD.210073.1	0.73	5.6	1.0	30
MD.210074.0	MD.210074.1	0.74	5.6	1.0	30
MD.210075.0	MD.210075.1	0.75	5.6	1.0	30
MD.210076.0	MD.210076.1	0.76	6.5	1.0	30
MD.210077.0	MD.210077.1	0.77	6.5	1.0	30
MD.210078.0	MD.210078.1	0.78	6.5	1.0	30
MD.210079.0	MD.210079.1	0.79	6.5	1.0	30
MD.210080.0	MD.210080.1	0.80	6.5	1.5	30
MD.210081.0	MD.210081.1	0.81	6.5	1.5	30
MD.210082.0	MD.210082.1	0.82	6.5	1.5	30
MD.210083.0	MD.210083.1	0.83	6.5	1.5	30
MD.210084.0	MD.210084.1	0.84	6.5	1.5	30
MD.210085.0	MD.210085.1	0.85	6.5	1.5	30
MD.210086.0	MD.210086.1	0.86	7.0	1.5	30
MD.210087.0	MD.210087.1	0.87	7.0	1.5	30
MD.210088.0	MD.210088.1	0.88	7.0	1.5	30
MD.210089.0	MD.210089.1	0.89	7.0	1.5	30
MD.210090.0	MD.210090.1	0.90	7.0	1.5	30
MD.210091.0	MD.210091.1	0.91	7.0	1.5	30
MD.210092.0	MD.210092.1	0.92	7.0	1.5	30
MD.210093.0	MD.210093.1	0.93	7.0	1.5	30
MD.210094.0	MD.210094.1	0.94	7.0	1.5	30
MD.210095.0	MD.210095.1	0.95	7.0	1.5	30
MD.210096.0	MD.210096.1	0.96	8.0	1.5	30
MD.210097.0	MD.210097.1	0.97	8.0	1.5	30
MD.210098.0	MD.210098.1	0.98	8.0	1.5	30
MD.210099.0	MD.210099.1	0.99	8.0	1.5	30
MD.210100.0	MD.210100.1	1.00	9.0	1.5	30
MD.210101.0	MD.210101.1	1.01	9.0	1.5	30
MD.210102.0	MD.210102.1	1.02	9.0	1.5	30
MD.210103.0	MD.210103.1	1.03	9.0	1.5	30
MD.210104.0	MD.210104.1	1.04	9.0	1.5	30
MD.210105.0	MD.210105.1	1.05	9.0	1.5	30
MD.210106.0	MD.210106.1	1.06	9.0	1.5	30
MD.210107.0	MD.210107.1	1.07	9.0	1.5	30
MD.210108.0	MD.210108.1	1.08	9.0	1.5	30
MD.210109.0	MD.210109.1	1.09	9.0	1.5	30
MD.210110.0	MD.210110.1	1.10	9.0	1.5	30
MD.210111.0	MD.210111.1	1.11	9.0	1.5	30
MD.210112.0	MD.210112.1	1.12	9.0	1.5	30
MD.210113.0	MD.210113.1	1.13	9.0	1.5	30
MD.210114.0	MD.210114.1	1.14	9.0	1.5	30
MD.210115.0	MD.210115.1	1.15	9.0	1.5	30
MD.210116.0	MD.210116.1	1.16	9.0	1.5	30
MD.210117.0	MD.210117.1	1.17	9.0	1.5	30
MD.210118.0	MD.210118.1	1.18	9.0	1.5	30
MD.210119.0	MD.210119.1	1.19	10.0	1.5	30
MD.210120.0	MD.210120.1	1.20	10.0	1.5	30
MD.210121.0	MD.210121.1	1.21	10.0	1.5	30
MD.210122.0	MD.210122.1	1.22	10.0	1.5	30
MD.210123.0	MD.210123.1	1.23	10.0	1.5	30
MD.210124.0	MD.210124.1	1.24	10.0	1.5	30
MD.210125.0	MD.210125.1	1.25	10.0	1.5	30
MD.210126.0	MD.210126.1	1.26	10.0	1.5	30
MD.210127.0	MD.210127.1	1.27	10.0	1.5	30
MD.210128.0	MD.210128.1	1.28	10.0	1.5	30
MD.210129.0	MD.210129.1	1.29	10.0	1.5	30
MD.210130.0	MD.210130.1	1.30	10.0	1.5	30
MD.210131.0	MD.210131.1	1.31	10.0	1.5	30
MD.210132.0	MD.210132.1	1.32	10.0	1.5	30
MD.210133.0	MD.210133.1	1.33	11.5	1.5	30
MD.210134.0	MD.210134.1	1.34	11.5	1.5	30
MD.210135.0	MD.210135.1	1.35	11.5	1.5	30
MD.210136.0	MD.210136.1	1.36	11.5	1.5	30
MD.210137.0	MD.210137.1	1.37	11.5	1.5	30
MD.210138.0	MD.210138.1	1.38	11.5	1.5	30
MD.210139.0	MD.210139.1	1.39	11.5	1.5	30
MD.210140.0	MD.210140.1	1.40	11.5	1.5	30
MD.210141.0	MD.210141.1	1.41	11.5	1.5	30
MD.210142.0	MD.210142.1	1.42	11.5	1.5	30
MD.210143.0	MD.210143.1	1.43	11.5	1.5	30
MD.210144.0	MD.210144.1	1.44	11.5	1.5	30
MD.210145.0	MD.210145.1	1.45	11.5	1.5	30

Item number		d (h6)	l	D (h7)	L
uncoated	coated TiAlN	mm	mm	mm	mm
MD.210146.0	MD.210146.1	1.46	11.5	1.5	30
MD.210147.0	MD.210147.1	1.47	11.5	1.5	30
MD.210148.0	MD.210148.1	1.48	11.5	1.5	30
MD.210149.0	MD.210149.1	1.49	11.5	1.5	30
MD.210150.0	MD.210150.1	1.50	12.0	2.0	38
MD.210151.0	MD.210151.1	1.51	12.0	2.0	38
MD.210152.0	MD.210152.1	1.52	12.0	2.0	38
MD.210153.0	MD.210153.1	1.53	12.0	2.0	38
MD.210154.0	MD.210154.1	1.54	12.0	2.0	38
MD.210155.0	MD.210155.1	1.55	12.0	2.0	38
MD.210156.0	MD.210156.1	1.56	12.0	2.0	38
MD.210157.0	MC.210157.1	1.57	12.0	2.0	38
MD.210158.0	MD.210158.1	1.58	12.0	2.0	38
MD.210159.0	MD.210159.1	1.59	12.0	2.0	38
MD.210160.0	MD.210160.1	1.60	12.0	2.0	38
MD.210161.0	MD.210161.1	1.61	12.0	2.0	38
MD.210162.0	MD.210162.1	1.62	12.0	2.0	38
MD.210163.0	MD.210163.1	1.63	12.0	2.0	38
MD.210164.0	MD.210164.1	1.64	12.0	2.0	38
MD.210165.0	MD.210165.1	1.65	12.0	2.0	38
MD.210166.0	MD.210166.1	1.66	12.0	2.0	38
MD.210167.0	MD.210167.1	1.67	12.0	2.0	38
MD.210168.0	MD.210168.1	1.68	12.0	2.0	38
MD.210169.0	MD.210169.1	1.69	12.0	2.0	38
MD.210170.0	MD.210170.1	1.70	12.0	2.0	38
MD.210171.0	MD.210171.1	1.71	12.0	2.0	38
MD.210172.0	MD.210172.1	1.72	12.0	2.0	38
MD.210173.0	MD.210173.1	1.73	12.0	2.0	38
MD.210174.0	MD.210174.1	1.74	12.0	2.0	38
MD.210175.0	MD.210175.1	1.75	12.0	2.0	38
MD.210176.0	MD.210176.1	1.76	12.0	2.0	38
MD.210177.0	MD.210177.1	1.77	12.0	2.0	38
MD.210178.0	MD.210178.1	1.78	12.0	2.0	38
MD.210179.0	MD.210179.1	1.79	12.0	2.0	38
MD.210180.0	MD.210180.1	1.80	12.0	2.0	38
MD.210181.0	MD.210181.1	1.81	12.0	2.0	38
MD.210182.0	MD.210182.1	1.82	12.0	2.0	38
MD.210183.0	MD.210183.1	1.83	12.0	2.0	38
MD.210184.0	MD.210184.1	1.84	12.0	2.0	38
MD.210185.0	MD.210185.1	1.85	12.0	2.0	38
MD.210186.0	MD.210186.1	1.86	12.0	2.0	38
MD.210187.0	MD.210187.1	1.87	12.0	2.0	38
MD.210188.0	MD.210188.1	1.88	12.0	2.0	38
MD.210189.0	MD.210189.1	1.89	12.0	2.0	38
MD.210190.0	MD.210190.1	1.90	12.0	2.0	38
MD.210191.0	MD.210191.1	1.91	12.0	2.0	38
MD.210192.0	MD.210192.1	1.92	12.0	2.0	38
MD.210193.0	MD.210193.1	1.93	12.0	2.0	38
MD.210194.0	MD.210194.1	1.94	12.0	2.0	38
MD.210195.0	MD.210195.1	1.95	12.0	2.0	38
MD.210196.0	MD.210196.1	1.96	12.0	2.0	38
MD.210197.0	MD.210197.1	1.97	12.0	2.0	38
MD.210198.0	MD.210198.1	1.98	12.0	2.0	38
MD.210199.0	MD.210199.1	1.99	12.0	2.0	38
MD.210200.0	MD.210200.1	2.00	12.0	3.0	38
MD.210205.0	MD.210205.1	2.05	12.0	3.0	38
MD.210210.0	MD.210210.1	2.10	12.0	3.0	38
MD.210215.0	MD.210215.1	2.15	12.0	3.0	38
MD.210220.0	MD.210220.1	2.20	12.0	3.0	38
MD.210225.0	MD.210225.1	2.25	12.0	3.0	38
MD.210230.0	MD.210230.1	2.30	12.0	3.0	38
MD.210235.0	MD.210235.1	2.35	12.0	3.0	38
MD.210240.0	MD.210240.1	2.40	12.0	3.0	38
MD.210245.0	MD.210245.1	2.45	12.0	3.0	38
MD.210250.0	MD.210250.1	2.50	12.0	3.0	38
MD.210255.0	MD.210255.1	2.55	12.0	3.0	38
MD.210260.0	MD.210260.1	2.60	12.0	3.0	38
MD.210265.0	MD.210265.1	2.65	12.0	3.0	38
MD.210270.0	MD.210270.1	2.70	12.0	3.0	38
MD.210275.0	MD.210275.1	2.75	12.0	3.0	38
MD.210280.0	MD.210280.1	2.80	12.0	3.0	38
MD.210285.0	MD.210285.1	2.85	12.0	3.0	38
MD.210290.0	MD.210290.1	2.90	12.0	3.0	38
MD.210295.0	MD.210295.1	2.95	12.0	3.0	38
MD.210300.0	MD.210300.1	3.00	12.0	3.0	38

Comes in packs of 5.

The cutting conditions
Guidelines for successful centering and drilling

MiquDrill Centro Point angle 90° / 120°	Cutting speed vc m/min uncoated	Cutting speed vc m/min coated TiAlN	Feed f in mm/revolution diameter						
			0.5 mm	1 mm	2 mm	3 mm	4 mm	5 mm	6 mm
Construction steel	20 - 50	20 - 80	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.08	0.04 - 0.10	0.06 - 0.15	0.06 - 0.15
Stainless steel, Titanium	15 - 25	20 - 50	0.01 - 0.02	0.01 - 0.03	0.01 - 0.03	0.02 - 0.04	0.02 - 0.06	0.03 - 0.08	0.03 - 0.08
Non-ferrous metal	40 - 80	50 - 100	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.08	0.04 - 0.10	0.06 - 0.15	0.06 - 0.15

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/mm2	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/mm2	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/mm2	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/mm2	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
Stainless and acid-resistant steel, austenitic		CrazyDrill recommended							
Stainless and acid-resistant steel, martensitic		CrazyDrill recommended							
Stainless and acid-resistant steel, Ni- and Co-based (e.g. Hastelloy, Waspalloy, Inconel, Incoloy, Stellite)		CrazyDrill recommended							
Cast iron		30 - 60	40 - 90	0.001 - 0.005	0.003 - 0.012	0.009 - 0.020	0.015 - 0.030	0.020 - 0.060	0.030 - 0.070
spheroidal iron malleable (cast) iron		25 - 60	30 - 70	0.001 - 0.004	0.003 - 0.010	0.006 - 0.020	0.015 - 0.030	0.020 - 0.040	0.030 - 0.060
Non-alloy copper		30 - 50	40 - 70	0.001 - 0.006	0.004 - 0.012	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040	0.030 - 0.060
Copper alloy: brass-bronze		30 - 80	40 - 150	0.001 - 0.008	0.004 - 0.012	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060	0.040 - 0.090
Aluminium-alloy: wrought and cast (Si <9%)		50 - 100	80 - 150	0.001 - 0.010	0.005 - 0.015	0.010 - 0.035	0.025 - 0.050	0.030 - 0.070	0.050 - 0.090
Aluminiumalloys - cast (Si < 9 %)		40 - 80	60 - 100	0.001 - 0.008	0.004 - 0.012	0.008 - 0.030	0.020 - 0.040	0.030 - 0.060	0.040 - 0.080
Titanium (Grade 2): non-alloy		CrazyDrill recommended							
Titanium (Grade 5): alloy		CrazyDrill recommended							
Gold Silver		25 - 60	30 - 80	0.001 - 0.008	0.004 - 0.012	0.008 - 0.025	0.015 - 0.040	0.025 - 0.050	0.030 - 0.080

Important for your success:
- These values are intended to represent approximate ranges. Different conditions due to machine, spindle, coolant, etc. can influence the performance.
- For drill diameters < 1 mm the drilling speed Vc has to be reduced according to the speed capability of the used machine.
- To obtain best results Mikron Tool recommends the use of cutting oil as a lubricant. Alternatively an emulsion with EP additives can be used and a minimum quantity lubricant can be adopted with reduced cutting parameters.

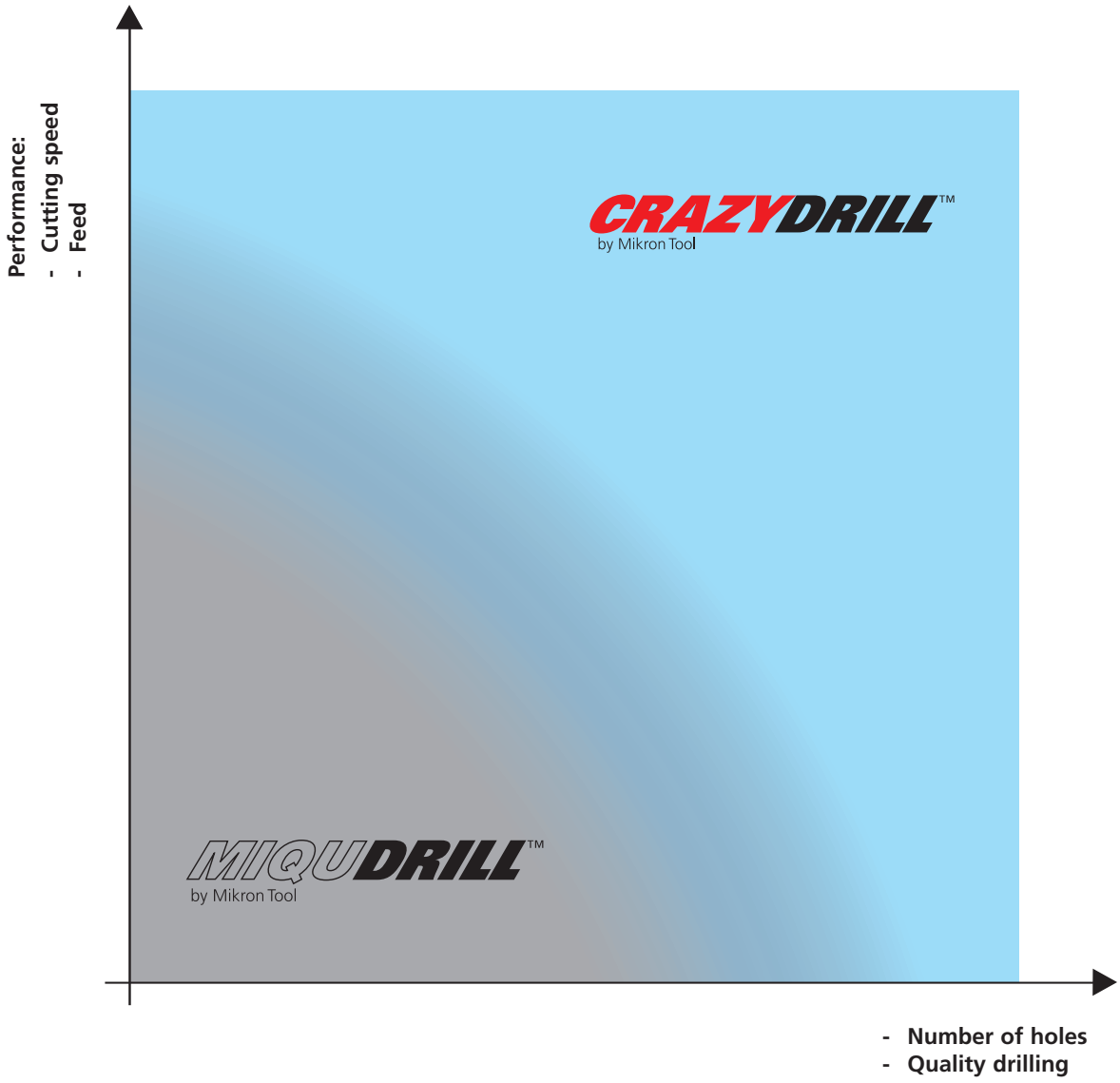
MiquDrill and CrazyDrill
the right tool in the right place

Various production requirements demand different solutions: Mikron Tool has set itself the goal of finding the optimised price-performance ratio for each tool application. This means, you as a customer know that you always have the best working conditions.

MiquDrill is the ideal solution, when it comes to quality of small and medium sized batches.

CrazyDrill guarantees economical production for large series, multiple drillings per work piece and provides top quality even under difficult conditions.

Either way everything will work out well with Mikron Tool



MIKRON

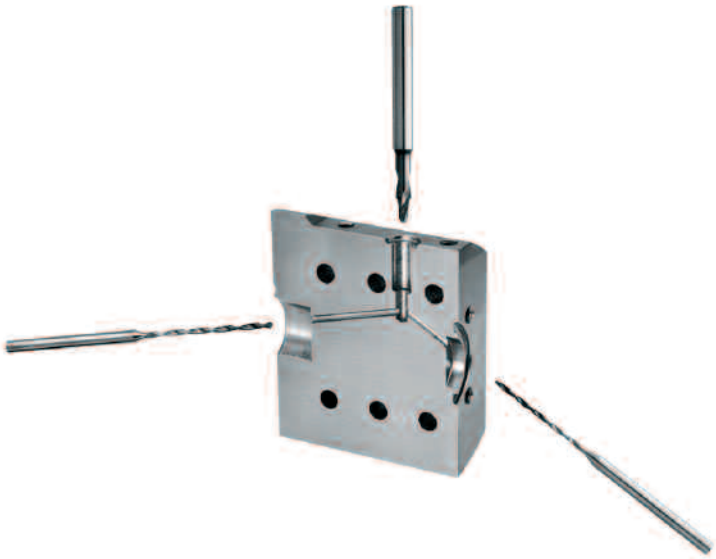
For tougher demands

CrazyDrill, the drill concept for the highest performance

The CrazyDrill concept is Mikron Tool's answer to tougher demands in the area of precision machining. If during drilling

- seconds can be decisive when it comes to large orders for precision parts (high volume production)
- superior quality is vital (e.g. medical technology)
- materials cause you a headache (e.g. stainless steel, titanium)

then this is the time to use the high performance CrazyDrill. It's not afraid of materials that are tough to machine or of large depths. Top cutting speeds and feeds are its specialty. It even provides peak results when it comes to drilling quality: They are in the area of H7 – H8. CrazyDrill is a real champion!



CRAZYDRILL™ by Mikron Tool
Pilot

Diameter ranges 0.4 – 6.0 mm
Drilling depth 2 x ø
Centering and drilling of pilot hole

CRAZYDRILL™ by Mikron Tool
Steel

Diameter ranges 0.4 – 6.0 mm
Drilling depths:
short version 4 x ø
long version 7 x ø
for steel, castings and other metals

CRAZYDRILL™ by Mikron Tool
Alu

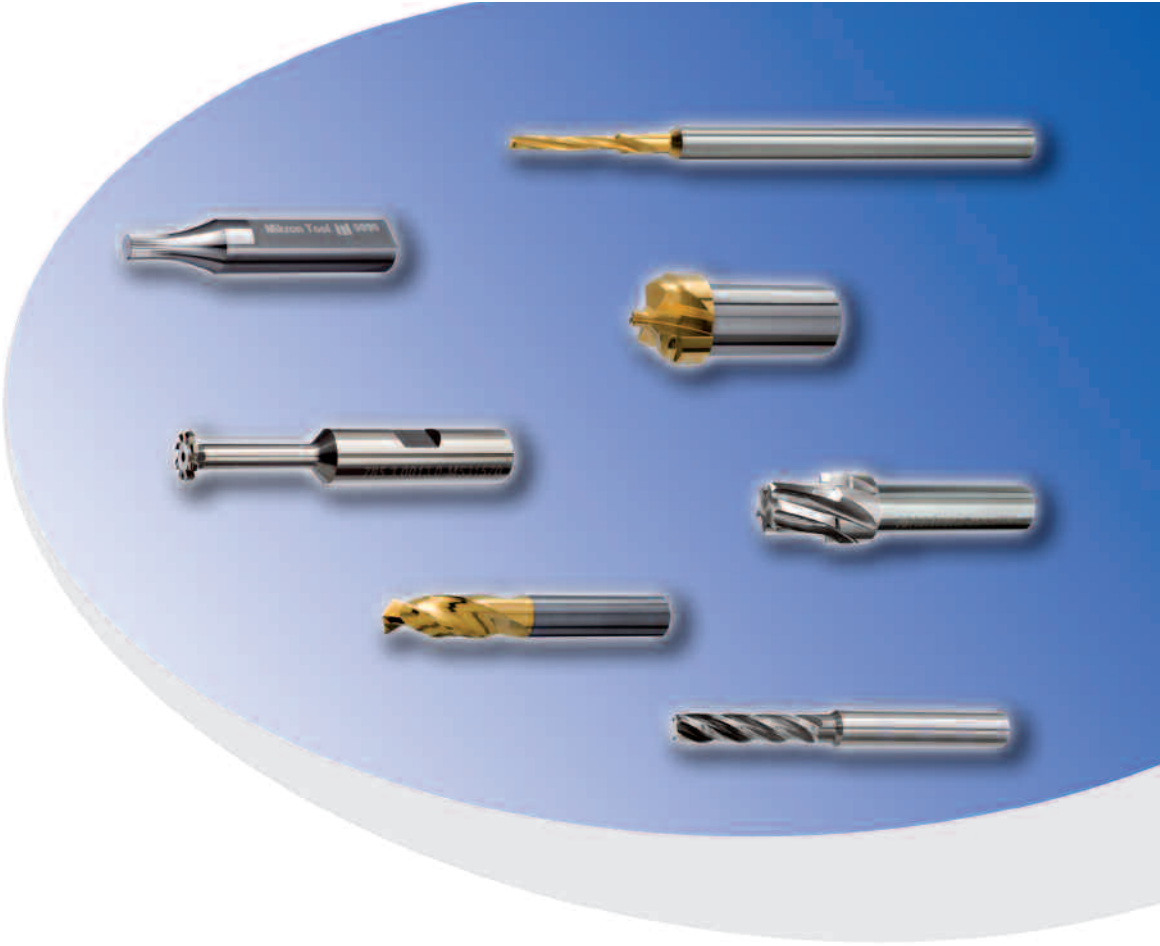
Diameter ranges 0.4 – 3.0 mm
Drilling depths:
short version 5 x ø
long version 10 x ø
for wrought and cast aluminum alloys

CRAZYDRILL™ by Mikron Tool
Cool

Diameter ranges 0.75 – 6.0 mm
Drilling depths:
short version 6 x ø
medium version 10 x ø
long version 15 x ø
for challenging materials

CRAZYDRILL™ by Mikron Tool
Cool XL

ø 1 – 6 mm, coated
Drilling depths:
short version 15 x ø
medium version 20 x ø
long version 30 x ø
ø 2 – 6 mm, coated
Drilling depth 40 x ø
With through tool internal cooling
For challenging materials



Mikron Tool
much more than just standard

Special high performance tools for machining
Unlike standard tools special tools are developed and produced for very specific machining. These special tools provide the best cutting conditions with maximum service life and guarantee excellent cost-effectiveness. This is the area in which Mikron Tool excels: We support the customer as a technology partner from product development through precision machining trials up to high volume production and optimization of the tool during the production phase. This range goes from profile cutters through step drills to reaming and calibration tools with diameters from 0.1 to 32 mm. The tools are made from carbide alloy throughout and suitably coated if the application requires it.

Quality certificates
Quality, safety in the workplace and environmental protection are important topics for us. The Mikron Tool Team has strongly focused on this and obtained ISO quality certifications.
ISO 9001:2008 quality certification
ISO 14001:2004 environmental management certification
OHSAS 18001:2007 health and safety management certification

Certified Management System
SQS
ISO 9001 / ISO 14001 / OHSAS 18001

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