

**MICTU**



 **DIAFORCE**
DIAMOND HARDNESS. SUPERIOR LIFE.

Solid PCD end mills and drills

For over thirty years, we've known exactly what you want.

Found by Antonello Collavo in 1986 in Quero (BL), Mictu took its first steps serving eyewear manufacturers located in the surroundings.

Along the years, Mictu has expanded its capabilities adding products and technologies, flanking to eyewear applications (still representing a significant part of the turnover) other interesting industries, from bio-medical to high precision micro-mechanics.

Today, Mictu can count on the contribution of 17 enthusiastic employees, working in our modern 1.400 sqm plant located in Setteville (BL).

Starting from 2024, a new chapter has begun: Mictu is now part of Kintek Group, Italian leader in toolholders manufacturing, owned by Aksia private equity fund.



Our technologies

All manufacturing steps are carried out in-house.

20 NC machines and a **metrology room** assure high flexibility and capacity to fulfill any customer need.



Pioneering micro-tools technology



In 2025, Mictu installed the **first laser sharpener in Italy with a femto-second frequency source** (10^{-15} seconds!).

This technology enables **precisions and finishing** that are absolutely **unattainable for any other production process** (including grinding) and is **ideal for micro-tools production, with diameters starting from 0.05 mm.**

The possibility of producing finished tools in a single grip and the essentially zero heat transfer to the piece contribute to the precision of machining.

Machinable materials: **hard metal, PCD, P-CBN, CVD, ceramics, sapphire, glass.**

Standard and special tools

When standard solutions aren't enough, **we develop special tools for high-performance requirements** on specific machining operations.

PCD/CVD tools



High precision mechanics



Medical and pharmaceutical



Eyewear and ophthalmic



Customer service

Along the years, we developed a deep knowledge on tools and their application in eyewear industry, at customers disposal:

- Engineering department can develop special tools, based on customer drawings or just on indications regarding their usage and purpose

- We are always available to support customers at their production sites, sharing with operators issues and solutions

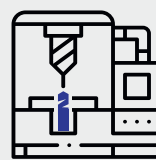
- Specific training sessions for customers experts can be organized at Mictu facility, to deepen their knowledge on tools and improve performance in operations



GUIDANCE



DESIGN



MANUFACTURING



QUALITY CONTROL

Solid PCD end mills and twist drills

laser sculpted with
state-of-the-art
technologies



DIAFORCE range

- Diameters: from 0,1 mm to 3,0 mm
- End mill shapes: flat, toric, round
- PCD twist drills

Materials

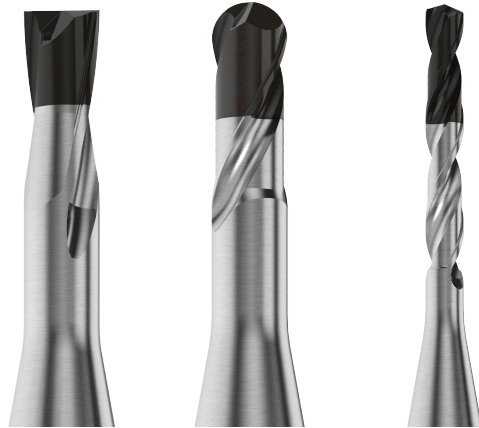
- Aluminium
- Bronze
- Brass
- Copper
- Gold
- Silver
- Composite
- Plastics



Flat top

Round top

Twist drill



Why DIAFORCE

During machining of non-ferrous materials and precious metals, limits of carbide quickly arise: wear, stability, finish.

DIAFORCE was created to overcome these limitations, using **PCD** and **specially designed** helical geometries. Our **helical end mills and twist drills, machined from solid PCD** with latest-generation lasers, combine hardness, dimensional consistency and superior surface quality.

We have optimized profiles, angles and sharpening for diameters **from 0,1 to 3,0 mm**, maintaining the tight tolerances typical of watchmaking and medical industries.

Each batch is checked using dedicated metrological instruments to **ensure extended tool life and low roughness** on aluminum, brass, copper, bronze, gold, silver, plastics and composite materials.

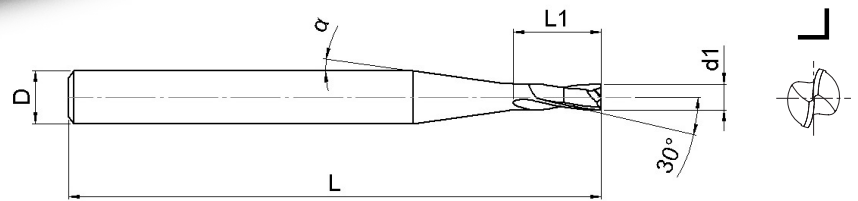
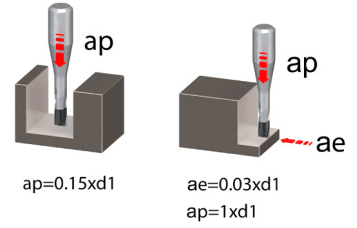
It is the result of a collaborative effort between design, production and quality control: advanced technologies, yes, but above all, people who pay attention to details.

With DIAFORCE, you equip your machine with a micro-tool designed to **last, cut cleanly and repeat results.**

DFE-P

Helical PCD end mills with **FLAT TOP**

Material	Cutting Speed (Vc) (m/min)
Copper	350
Brass - Bronze	500
Aluminium	1000
Gold - Silver	300
Platinum - Palladium	130
Composite	200



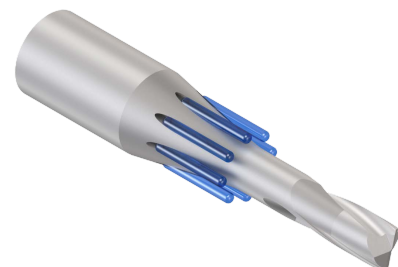
D = 4 mm, h6 L = 42 mm Z = 2 $\alpha = 15^\circ$

Technical Data

Cod.	d1 mm	L1 mm
DFE-P-D010	0,1	0,2
DFE-P-D020	0,2	0,4
DFE-P-D030	0,3	0,6
DFE-P-D040	0,4	0,8
DFE-P-D050	0,5	1,0
DFE-P-D060	0,6	1,2
DFE-P-D070	0,7	1,4
DFE-P-D080	0,8	1,6
DFE-P-D090	0,9	1,8
DFE-P-D100	1,0	2,0
DFE-P-D110	1,1	2,2
DFE-P-D120	1,2	2,4
DFE-P-D130	1,3	2,6
DFE-P-D140	1,4	2,8
DFE-P-D150	1,5	3,0
DFE-P-D160	1,6	3,0
DFE-P-D170	1,7	3,0
DFE-P-D180	1,8	3,0
DFE-P-D190	1,9	3,0
DFE-P-D200	2,0	3,0

Cod.	d1 mm	L1 mm
DFE-P-D210	2,1	3,0
DFE-P-D220	2,2	3,0
DFE-P-D230	2,3	3,0
DFE-P-D240	2,4	3,0
DFE-P-D250	2,5	3,0
DFE-P-D260	2,6	3,0
DFE-P-D270	2,7	3,0
DFE-P-D280	2,8	3,0
DFE-P-D290	2,9	3,0
DFE-P-D300	3,0	3,0

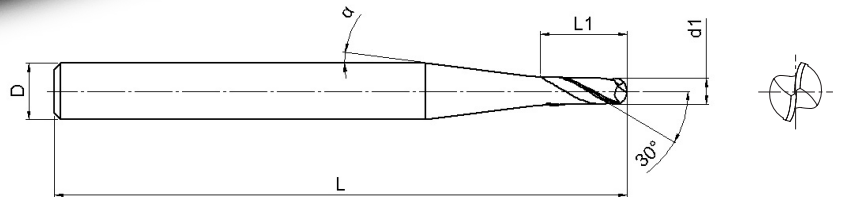
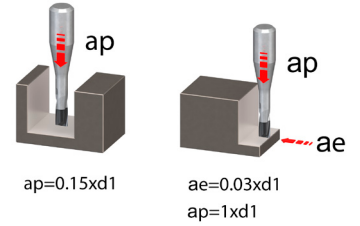
*Different geometries and dimensions available on demand.
Also available as through-coolant version*



DFE-R

Helical PCD end mills with **ROUND TOP**

Material	Cutting Speed (Vc) (m/min)
Copper	350
Brass - Bronze	500
Aluminium	1000
Gold - Silver	300
Platinum - Palladium	130
Composite	200



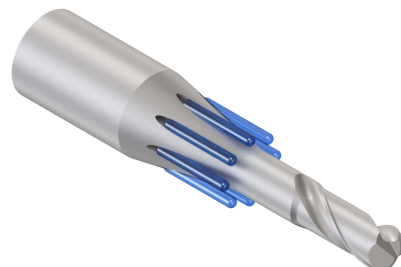
D = 4 mm, h6 L = 42 mm Z = 2 $\alpha = 15^\circ$

Technical Data

Cod.	d1 mm	L1 mm
DFE-R-D010	0,1	0,2
DFE-R-D020	0,2	0,4
DFE-R-D030	0,3	0,6
DFE-R-D040	0,4	0,8
DFE-R-D050	0,5	1,0
DFE-R-D060	0,6	1,2
DFE-R-D070	0,7	1,4
DFE-R-D080	0,8	1,6
DFE-R-D090	0,9	1,8
DFE-R-D100	1,0	2,0
DFE-R-D110	1,1	2,2
DFE-R-D120	1,2	2,4
DFE-R-D130	1,3	2,6
DFE-R-D140	1,4	2,8
DFE-R-D150	1,5	3,0
DFE-R-D160	1,6	3,0
DFE-R-D170	1,7	3,0
DFE-R-D180	1,8	3,0
DFE-R-D190	1,9	3,0
DFE-R-D200	2,0	3,0

Cod.	d1 mm	L1 mm
DFE-R-D210	2,1	3,0
DFE-R-D220	2,2	3,0
DFE-R-D230	2,3	3,0
DFE-R-D240	2,4	3,0
DFE-R-D250	2,5	3,0
DFE-R-D260	2,6	3,0
DFE-R-D270	2,7	3,0
DFE-R-D280	2,8	3,0
DFE-R-D290	2,9	3,0
DFE-R-D300	3,0	3,0

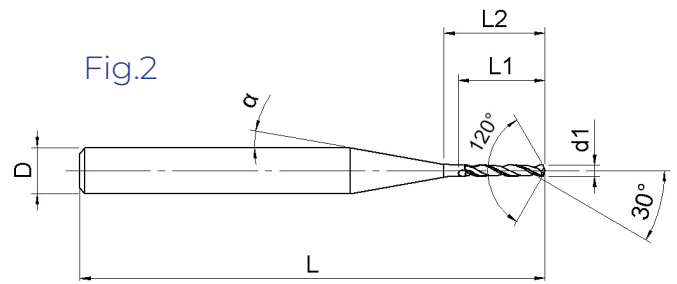
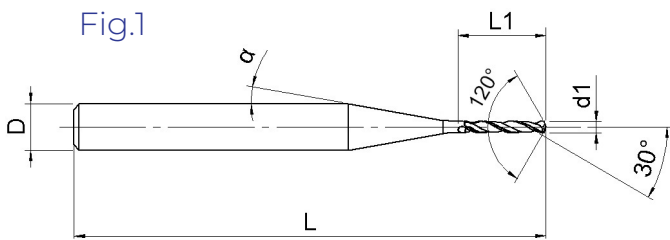
*Different geometries and dimensions available on demand.
Also available as through-coolant version*





PCD micro twist drill

Material	Cutting Speed (Vc) (m/min)
Copper	180
Brass - Bronze	280
Aluminium	250
Gold - Silver	200
Platinum - Palladium	100
Composite	200



D = 3 mm, h6 L = 45 mm Z = 2 $\alpha = 15^\circ$

Technical Data

Cod.	d1 mm	L1 mm	L2 mm	FIG.
DFD-D010	0,10	0,80	-	1
DFD-D015	0,15	1,20	-	1
DFD-D020	0,20	1,60	-	1
DFD-D025	0,25	2,00	-	1
DFD-D030	0,30	2,40	-	1
DFD-D035	0,35	2,80	-	1
DFD-D040	0,40	3,20	-	1
DFD-D045	0,45	3,60	-	1
DFD-D050	0,50	4,00	-	1
DFD-D055	0,55	4,40	-	1
DFD-D060	0,60	4,80	-	1
DFD-D065	0,65	5,20	-	1
DFD-D070	0,70	5,60	-	1
DFD-D075	0,75	6,00	-	1
DFD-D080	0,80	6,40	-	1
DFD-D085	0,85	6,80	-	1
DFD-D090	0,90	7,00	7,20	2
DFD-D095	0,95	7,00	7,60	2
DFD-D100	1,00	7,00	8,00	2
DFD-D105	1,05	7,00	8,40	2

Cod.	d1 mm	L1 mm	L2 mm	FIG.
DFD-D110	1,10	7,00	8,80	2
DFD-D115	1,15	7,00	9,20	2
DFD-D120	1,20	7,00	9,60	2
DFD-D125	1,25	7,00	10,00	2
DFD-D130	1,30	7,00	10,00	2
DFD-D135	1,35	7,00	10,00	2
DFD-D140	1,40	7,00	10,00	2
DFD-D145	1,45	7,00	10,00	2
DFD-D150	1,50	7,00	10,00	2
DFD-D155	1,55	7,00	10,00	2
DFD-D160	1,60	7,00	10,00	2
DFD-D165	1,65	7,00	10,00	2
DFD-D170	1,70	7,00	10,00	2
DFD-D175	1,75	7,00	10,00	2
DFD-D180	1,80	7,00	10,00	2
DFD-D185	1,85	7,00	10,00	2
DFD-D190	1,90	7,00	10,00	2
DFD-D195	1,95	7,00	10,00	2
DFD-D200	2,00	7,00	10,00	2

Different geometries and dimensions available on demand.



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