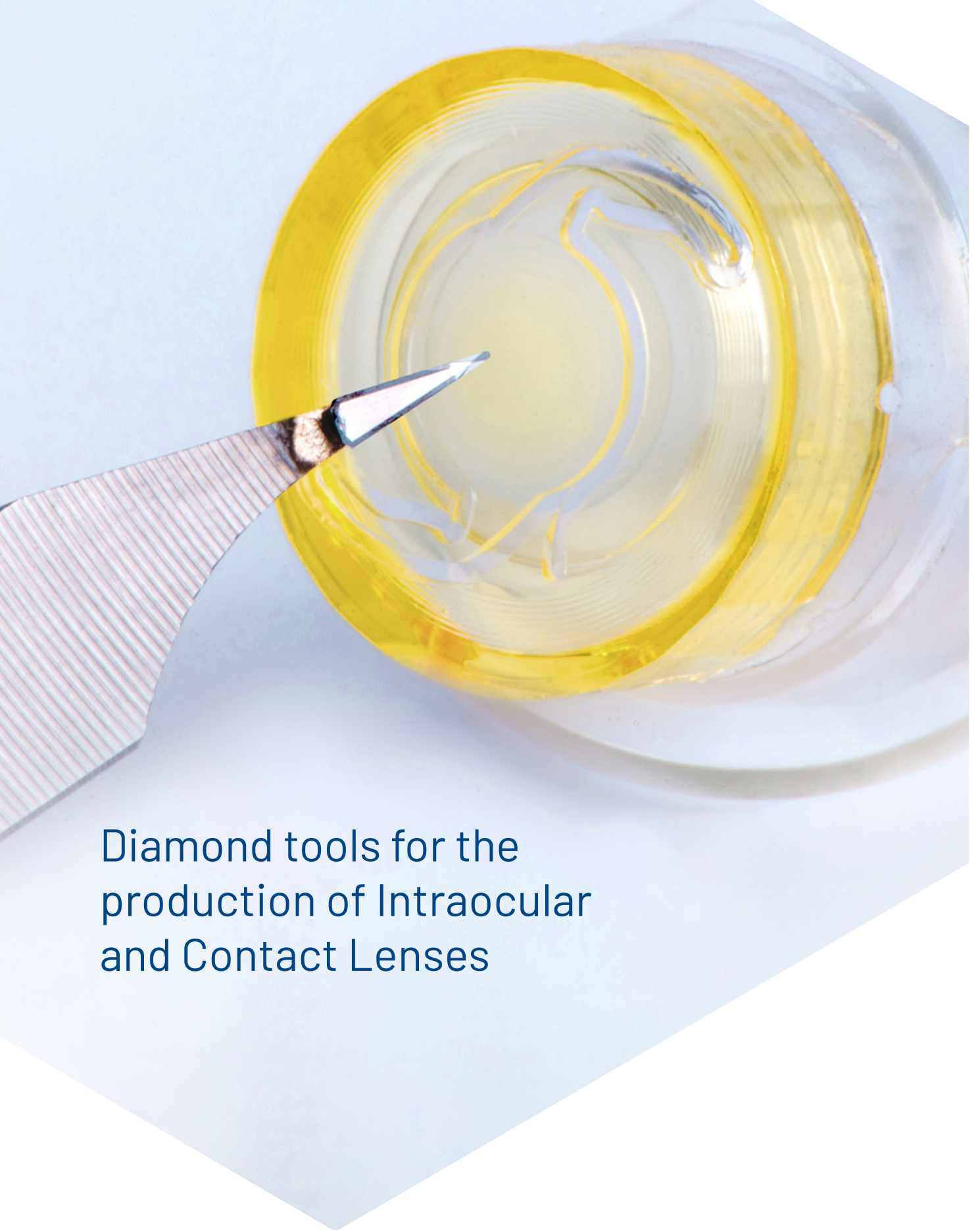




Diamond tools for the
production of Intraocular
and Contact Lenses

Introduction

DiaTec GmbH – a company in partnership with the Meyco Diamond Tool Group.

The Meyco Diamond Tool Group has many years of experience in the production of a wide variety of diamond tools and other diamond products.

As a partner of world-renowned manufacturers, we have to meet the highest quality standards on a daily basis. These challenges can only be met thanks to carefully trained personnel and modern machinery.

In ophthalmology we are known as the manufacturer of Meyco diamond knives. Thanks to a grinding process developed over many years, we have mastered the machining of 0.1 and 0.2 mm thin scalpels.

DiaTec GmbH in Pforzheim (DE), part of the Meyco Diamond Tools Group, has been manufacturing diamond tools for the production of intraocular and contact lenses for quite some time. Thanks to our numerous specialists, the Meyco Group is now able to produce standard and special tools that meet the highest demands.

The tools are made of natural or synthetic diamonds, depending on the customer's requirements. Together with the customer, we are happy to work out solutions for special designs.



Diamond tools for the production of Intraocular and Contact Lenses



DiaTec offers a complete line of diamond tools for processing of Intraocular and Contact Lenses.

The tools differ as follows:

- » Insert system / monobloc tools.
- » Natural diamond / synthetic diamond
- » Controlled waviness / non-controlled waviness
- » Cylindrical clearance angle / conical clearance angle
- » Holder: depending on machine type
- » Radius size
- » Angle of inclination (rake)

Diamond material: synthetic or natural?

A distinction is made between tools made of natural and synthetic diamonds. Depending on the application, both designs offer certain advantages. The decisive factor in choosing the right diamond, is the lens material to be machined and the geometry of the tool.

Our synthetic diamonds meet strict quality standards for intraocular and contact lenses. They feature exceptional hardness and resistance, resulting in precise and smooth surfaces that ensure optimal visual performance. In addition, they are chemically inert and do not cause any damage or residue on the lenses. These properties make synthetic diamonds ideal for the production of high-quality lenses that meet the highest quality standards.

We are happy to support our customers in evaluating the best possible specifications.

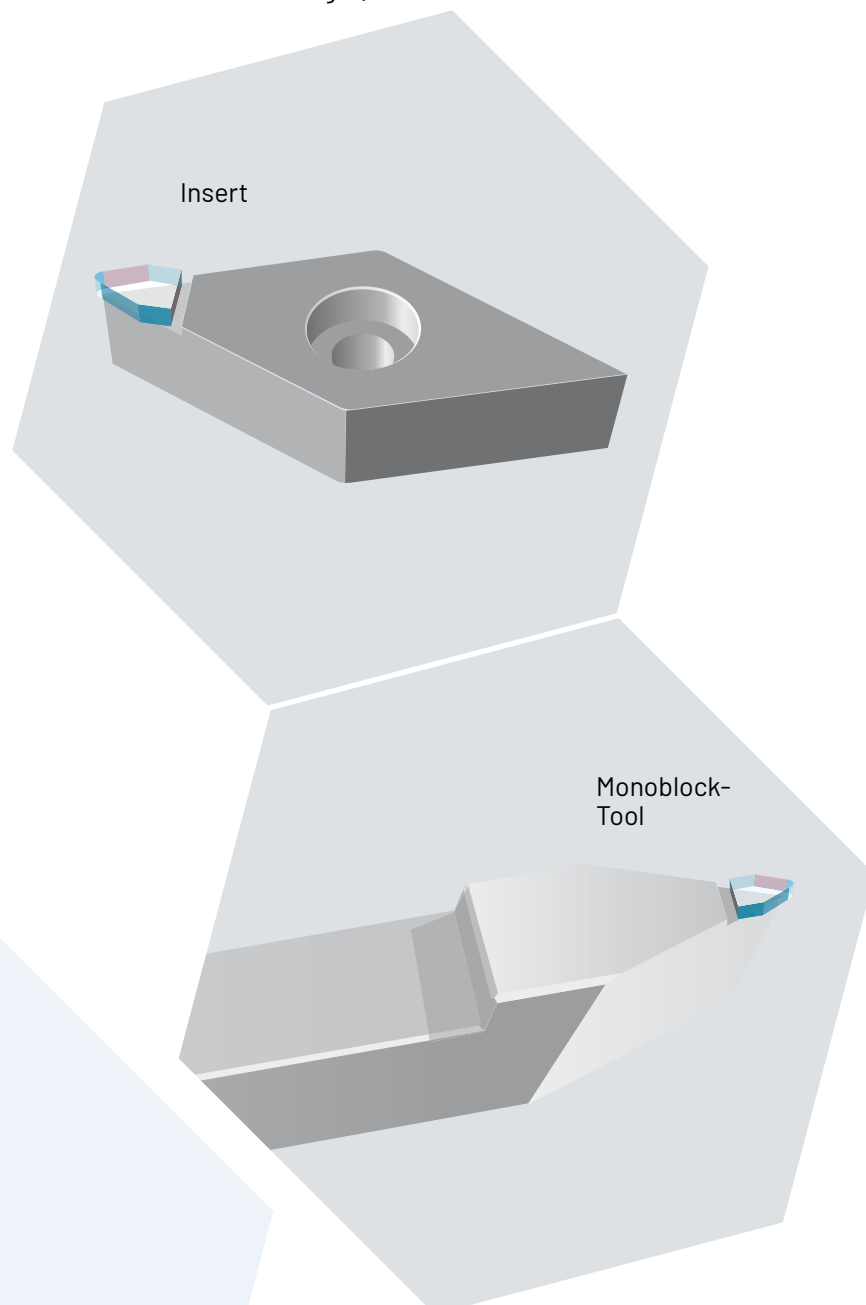


Diamond turning tools with controlled waviness

For machining lenses on CNC 2-axis lathes, DiaTec offers tools with controlled waviness. The definition of waviness is the dimensional deviation from the circle. Since the tools with controlled waviness are much more expensive, it is important to be able to measure the required waviness. Thanks to the latest generation of measuring devices, DiaTec can guarantee the specified waviness. The tools are checked under 800x Normanski. All holders are manufactured in our own production.

The tools are offered as follows:

- » Reversible plate or tool on monoblock
- » Cylindrical or conical clearance angle
- » Natural or monocrystalline synthetic diamond
- » Guaranteed waviness of 0.4 μm , up to 0.05 μm on request.
- » Various geometries (radii from 0.005 - 1.0 mm and larger)





Clearance angle

The conical as well as the cylindrical version, is available as natural and synthetic diamond.

Conical clearance angle

The conical version has a circular edge, within a guaranteed tolerance of $0.2\text{ }\mu\text{m}$. The tools can be manufactured with a radius of $0.005 - 1.0\text{ mm}$.

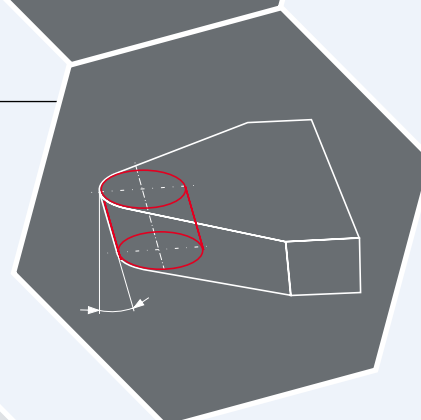
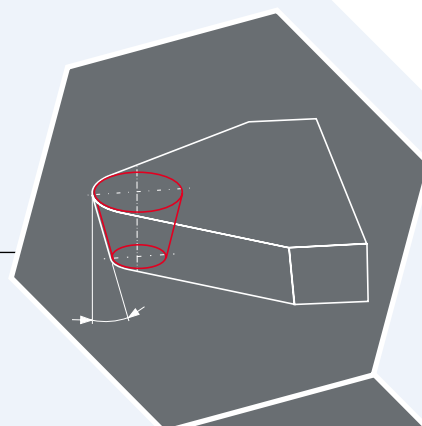
Cylindrical clearance angle

Cylindrical tools have an elliptical shape, which is proportional to the radius size, clearance angle and rake angle.

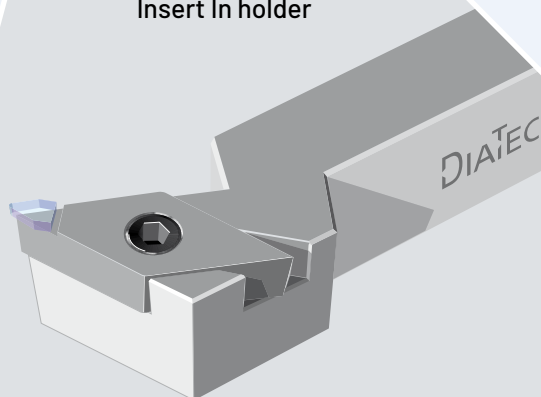
Controlled waviness

DiaTec offers the following controlled waviness:

- » $< 1.0\text{ }\mu\text{m}$
- » $< 0.75\text{ }\mu\text{m}$
- » $< 0.5\text{ }\mu\text{m}$
- » $< 0.25\text{ }\mu\text{m}$
- » $< 0.15\text{ }\mu\text{m}$
- » $< 0.1\text{ }\mu\text{m}$
- » $< 0.05\text{ }\mu\text{m}$ (less than 50 nanometers)

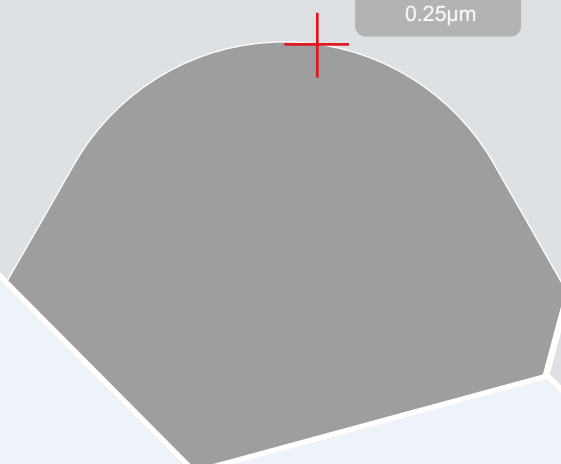


Insert In holder

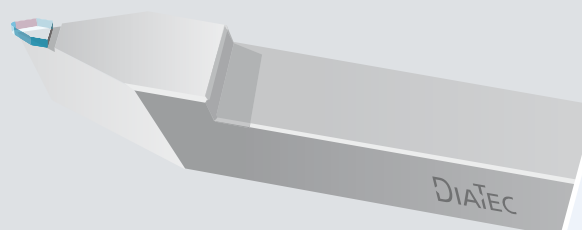


Control at 800x magnification

$0.25\text{ }\mu\text{m}$



Monoblock Holder



Diamond milling tools

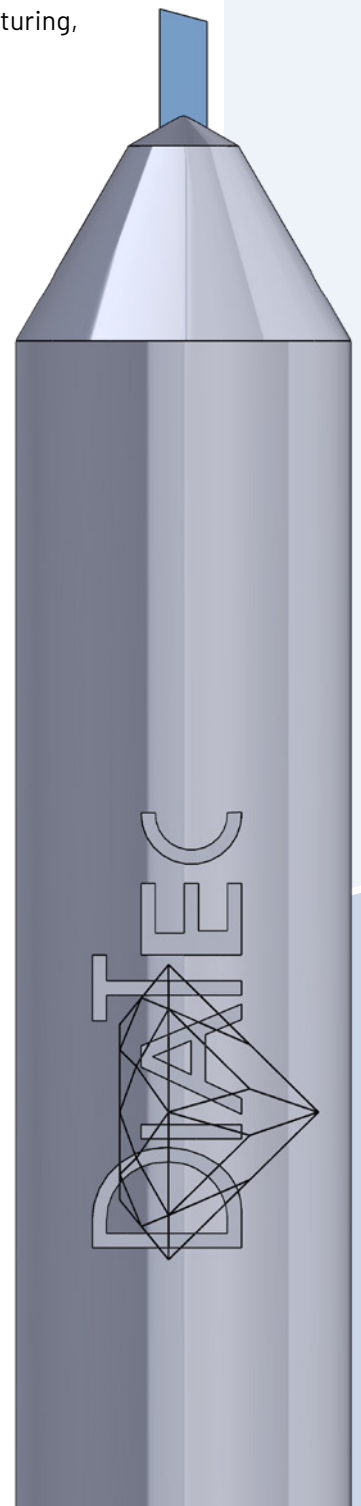
DiaTec Diamanttechnik is a renowned manufacturer of diamond milling tools specifically designed for intraocular lens manufacturing. With their high-quality milling tools, DiaTec enables precise and reliable machining of the lens surface, especially the haptic. In this context, DiaTec offers various milling cutter sizes, including Ø 0.5 mm and Ø 0.4 mm, to meet the individual requirements of customers.

In addition to the various milling tools, DiaTec also provides diamond gravers with which the lenses can be marked and labeled. Here, the company makes sure that the diamond gravers meet the highest quality requirements and thus enable precise and reliable labeling of the lenses.

Furthermore, it is worth mentioning that DiaTec is also able to produce milling tools in the smallest size of Ø 0.1 mm, which is a remarkable achievement due to their high precision and quality. All in all, DiaTec Diamanttechnik is thus a reliable partner for intraocular lens manufacturing, offering high-quality tools and a comprehensive range of services.

D1	L2	L1	D2
0.4	1.2 + 0.1	35	3.175
0.4	1.4 + 0.1	35	3.175
0.5	1.2 + 0.1	35	3.175

Other dimensions are possible on request.





Regrinding service

DiaTec offers a fast and inexpensive regrinding service of own and third-party diamond tools.

Technical support

DiaTec provides tools for testing purposes. Together with the customer the correct tool configuration, regarding diamond material, radius, clearance angle, inclination angle and waviness.





Precision since 2008

DIATEC was founded in 2008 as part of the Swiss Meyco Diamantwerkzeug group and therefore has access to the long-time experience and knowledge of experts from various disciplines.

Our customers

Our customers include renowned companies from many industries, such as:

- » aviation and aerospace industry
- » automotive industry
- » electrical industry
- » precision mechanics industry
- » plastics processing industry
- » medical technology
- » optical industry
- » jewelry and watchmaking industry
- » production of writing utensils