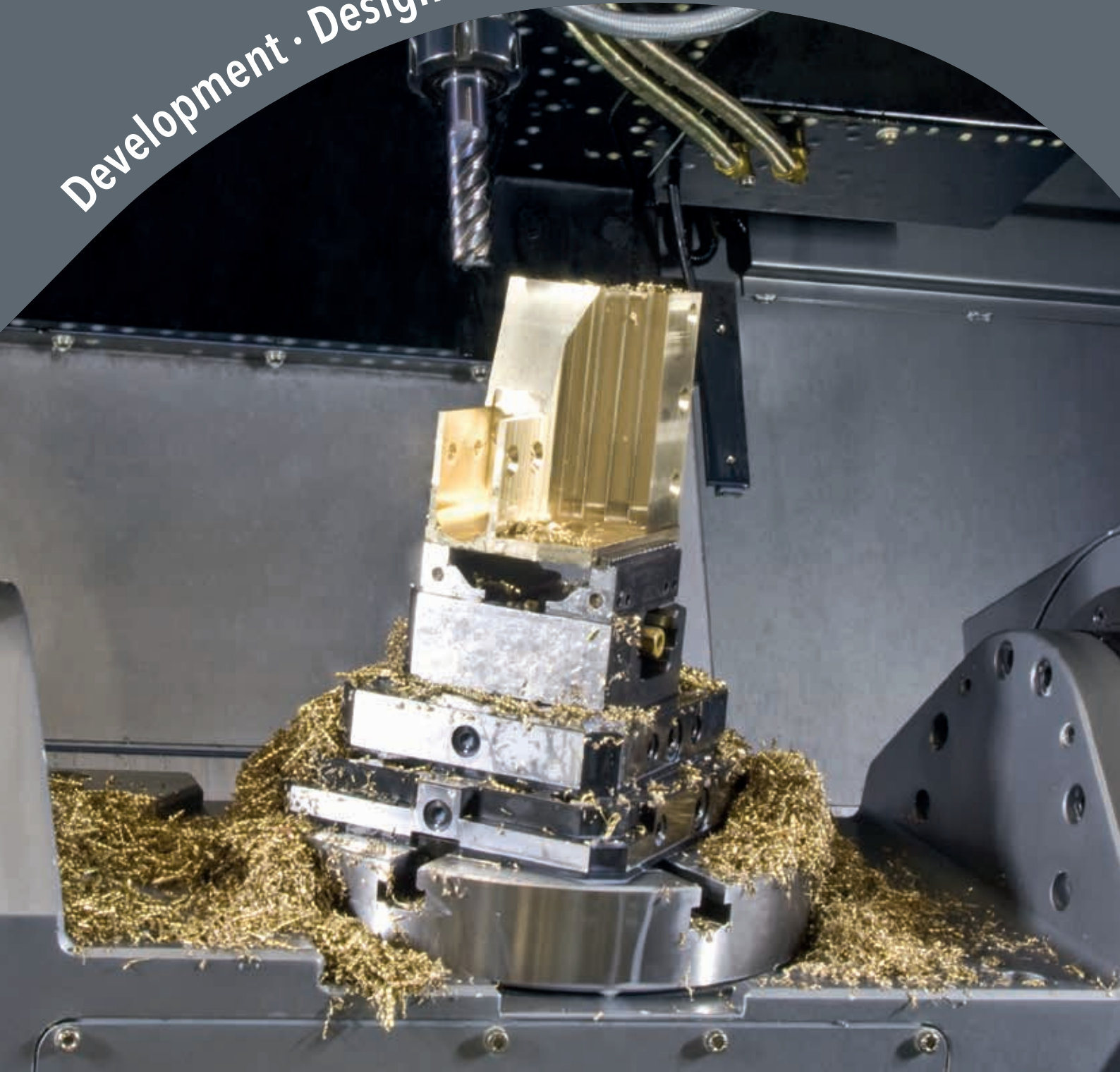


Development · Design · Production



GB® – the powerful partner for SME and industry

Founded in 1950 as Hadres Tool Factory, today a team comprising more than 80 qualified staff and trainees works in a modern factory at the company headquarters in Frankenthal as well as at the subsidiary Shanghai GBZ Precision Tool Co. Ltd and the Nordhausen plant. With the

founding of the subsidiary GBZ Print Service GmbH & Co. KG, printing activities were concentrated at the headquarters in Frankenthal.

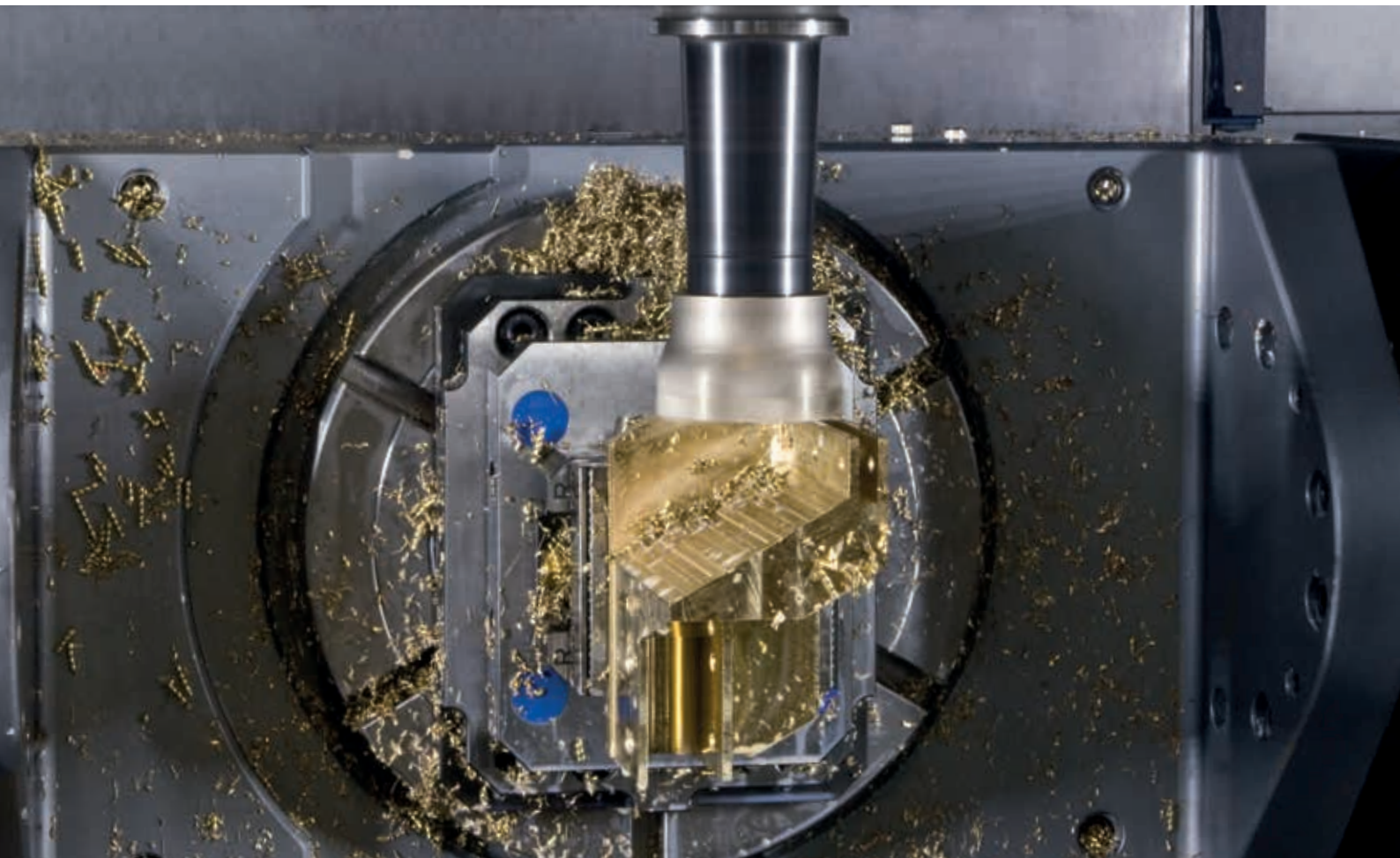
Your requirements – our know-how. Developments from one source.

Our enormous manufacturing range offers a broad spectrum of precision technology.

- Milling
- Turning
- Sawing
- Grinding
- Water jet cutting
- Welding/soldering/brazing
- Spark eroding
- Trovalizing
- Assembling

We construct, develop and assemble tools and spare parts for a wide variety of applications in the industrial and

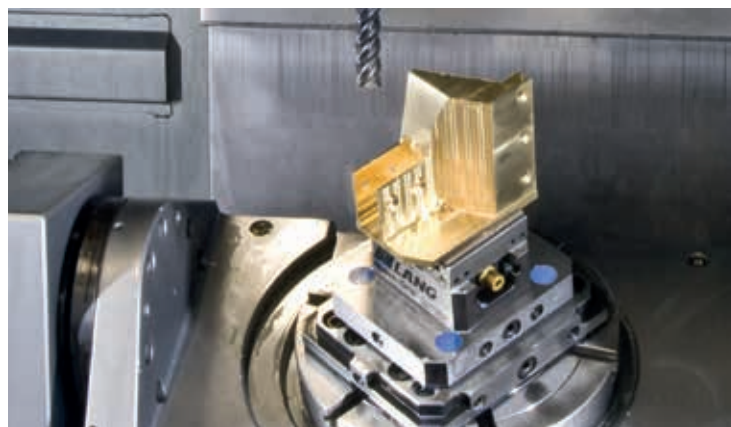
mechanical sectors. We have registered and protected diverse German and international patents. Innovation and precision are the vital elements of our work, whether in contract manufacturing or in development. The diversity of our machinery makes us a reliable partner in finding solutions to any problem. Our competent team members with their many years of experience are at your side to offer advice in the implementation of your projects.





CNC milling to the highest standard

We manufacture both the simplest and complex milled parts in CNC machining centers. With our modern machinery we are ideally equipped for both serial production and for the manufacture of individual parts.



The art of precision

5-axis simultaneous machining

Most of the processing is done in 5-axis machining centers. Our combination of CAD/CAM systems with quick action clamping devices and modular tool-changing systems allows exact and highly productive processing in only one setting. Time consuming reclamping and realigning are eliminated. Even complex 3D contours are made possible by the 5-axis simultaneous machining.



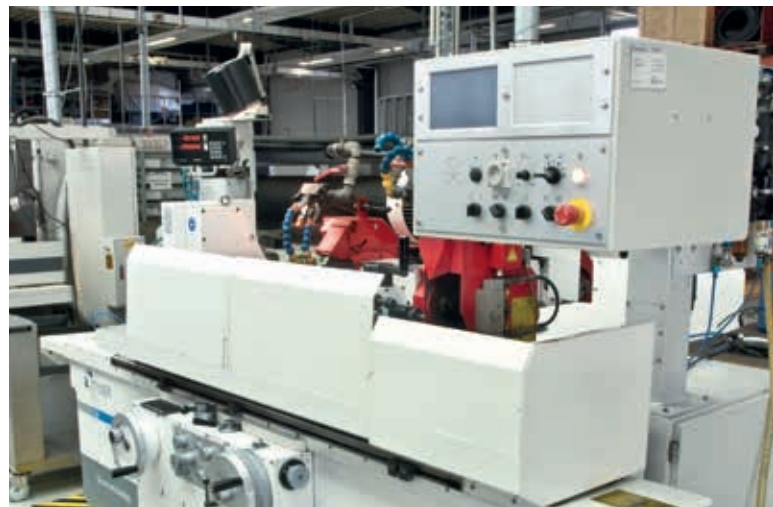
Precision is our philosophy!



Our many years of experience in the field of grinding enables us to master highly precise contours and thereby add the finishing touch to blanks, milling and turning parts.

We specialize in grinding and polishing technical materials such as hard metals, ceramics and HSSE as well as all conventional materials used in machining technology. GBZ is a competent contact for questions and problem solutions. We use only quality machinery of various models in our production – from the manually operated grinder all the way to fully automatic machines equipped with robots and integrated monitoring stations.

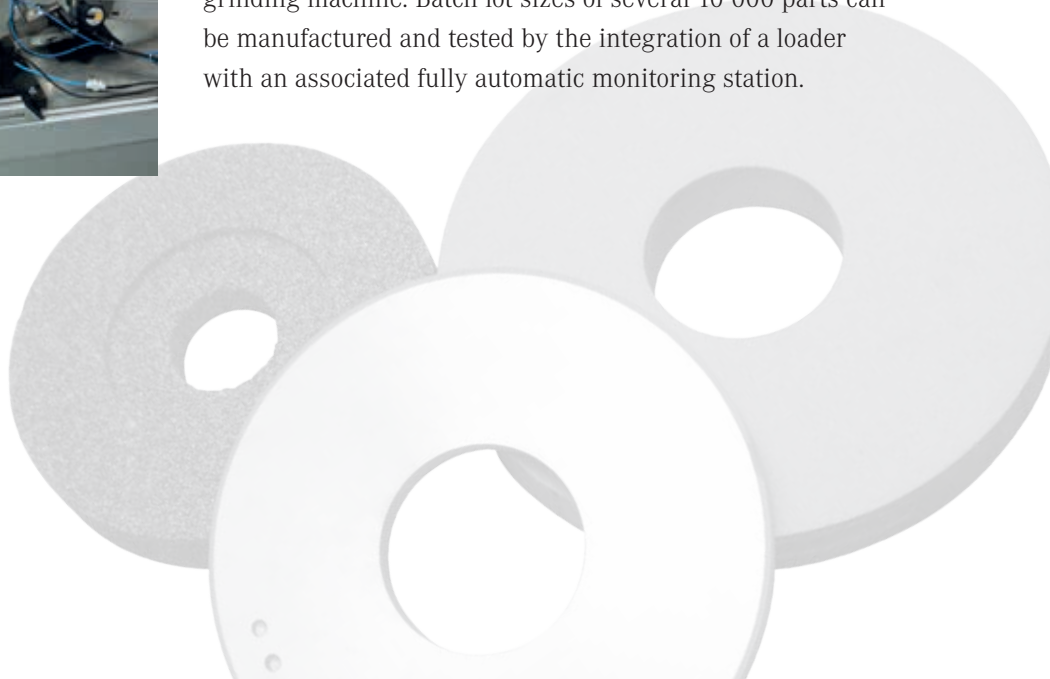
- Flat grinding
- Face grinding
- Circular grinding (inside/outside)
- Periphery grinding
- Deep grinding
- Centerless grinding
- Profile grinding
- Tool grinding





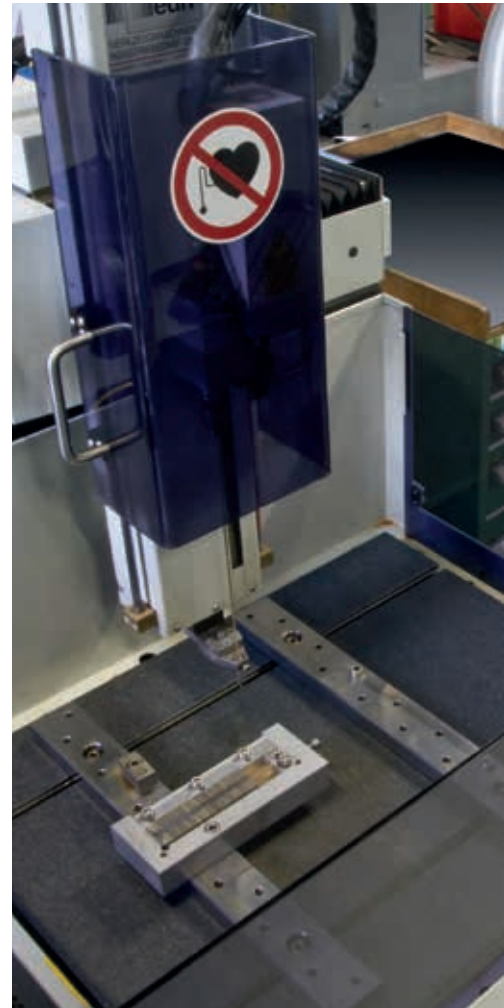
Centerless grinding

We grind rotationally symmetrical parts with or without centering up to a diameter of 10mm with our centerless grinding machine. Batch lot sizes of several 10 000 parts can be manufactured and tested by the integration of a loader with an associated fully automatic monitoring station.



Electrical discharge machining (EDM) with robot tooling

GBZ is able to produce even complex contours and filigree geometric shapes with the aid of EDM.





*Handling weight: 12 kg
Repeat accuracy: ± 0.05 mm
Magazine positions: 100*

Maximum productivity and precision around the clock!

The integrated loading magazine with handling system allows both individual and serial production. This system gives us the option of flexible production and allows us to vary priorities according to component.



Water jet cutting – highly efficient in excellent qua

We cut virtually any material up to a thickness of 80 mm with a pressure of approx. 3800 bar. Depending on the material to be processed the following differentiation is made:

- Cutting with a pure water jet
- Cutting with an abrasive-water jet

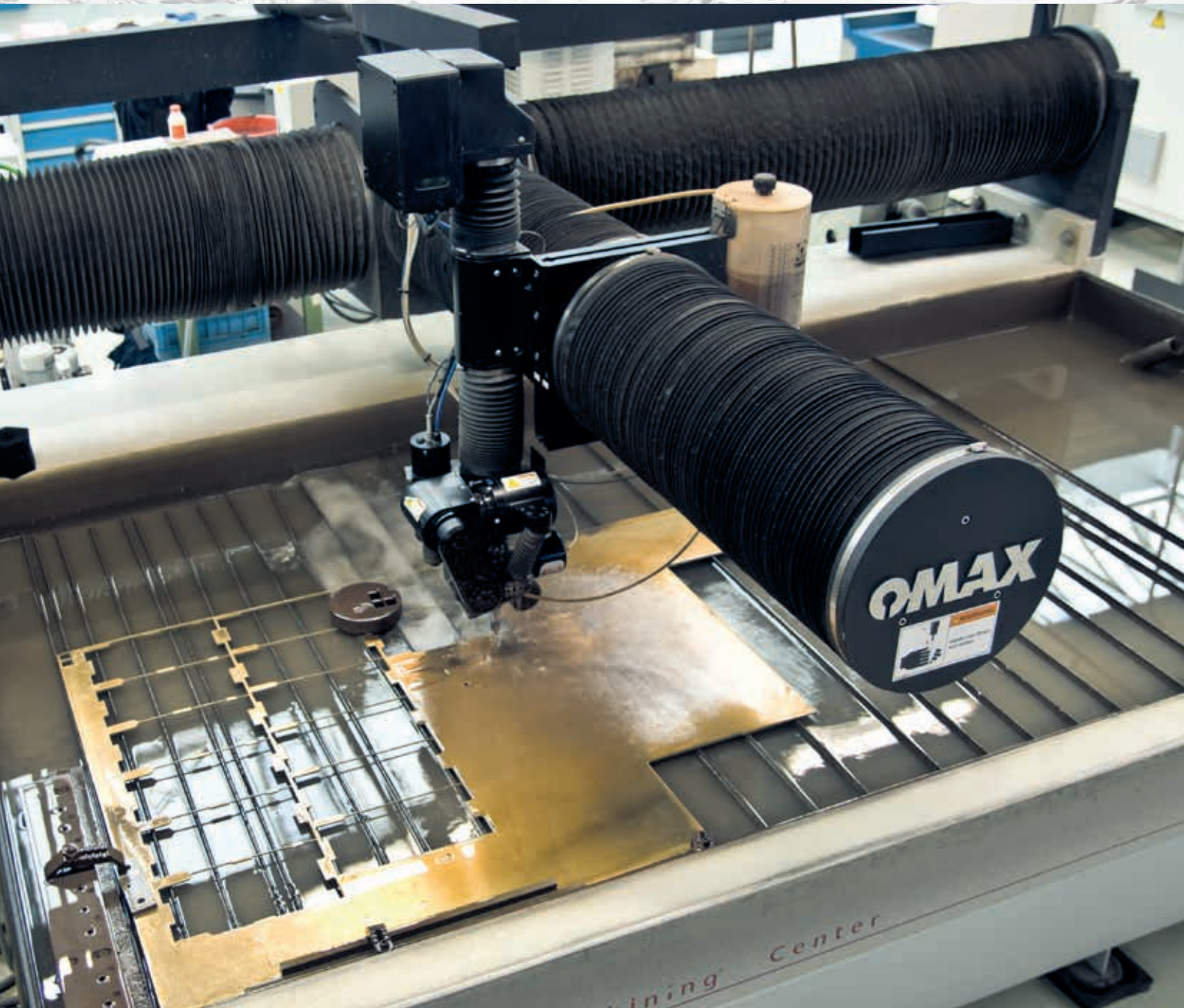
There are 5 different cutting qualities, depending mainly on the chosen cutting and feeding method.



We create our programs with CAD files provided in the form of DXF, DWG etc. Should there be no file available, our engineering design department will create its own CAD file in consultation.



Quality and speed



GBZ know-how connects

Assembling, welding, laser marking and warehouse management complete the unique production range at GBZ Mannheim GmbH & Co. KG.

Our welding and soldering technology includes soft soldering and brazing as well as gas, WIG, butt and laser welding.





Warehouse management

Several thousand different finished and semifinished parts are stored on approximately 40 brackets in each GBZ high-rack storage facility. The stock is electronically managed and monitored and is automatically replenished as required.



Assembly

Most of the parts manufactured by GBZ are subsequently used in assembly. Staff members assemble individual devices as well as highly precise apparatuses and complex modules. The skill and dexterity of our staff satisfies the exacting quality requirements of GBZ's customers.



Laser marking

All parts manufactured at GBZ are inscribed for product liability reasons and to ensure that the required quality standards are met.



Measuring technology, quality assurance and certification



Measuring technology is the central instrument for quality assurance in our air conditioned measuring room, which is equipped with state of the art equipment.

Our certification guarantees the highest quality in dimensional precision, surface finish and function of the manufactured parts.

GBZ has been certified to DIN EN ISO 9001:2008 since as early as 2000. Our customers appreciate our experience and the associated consistently high quality of our products. Well-structured quality management is the prerequisite for flawless production.

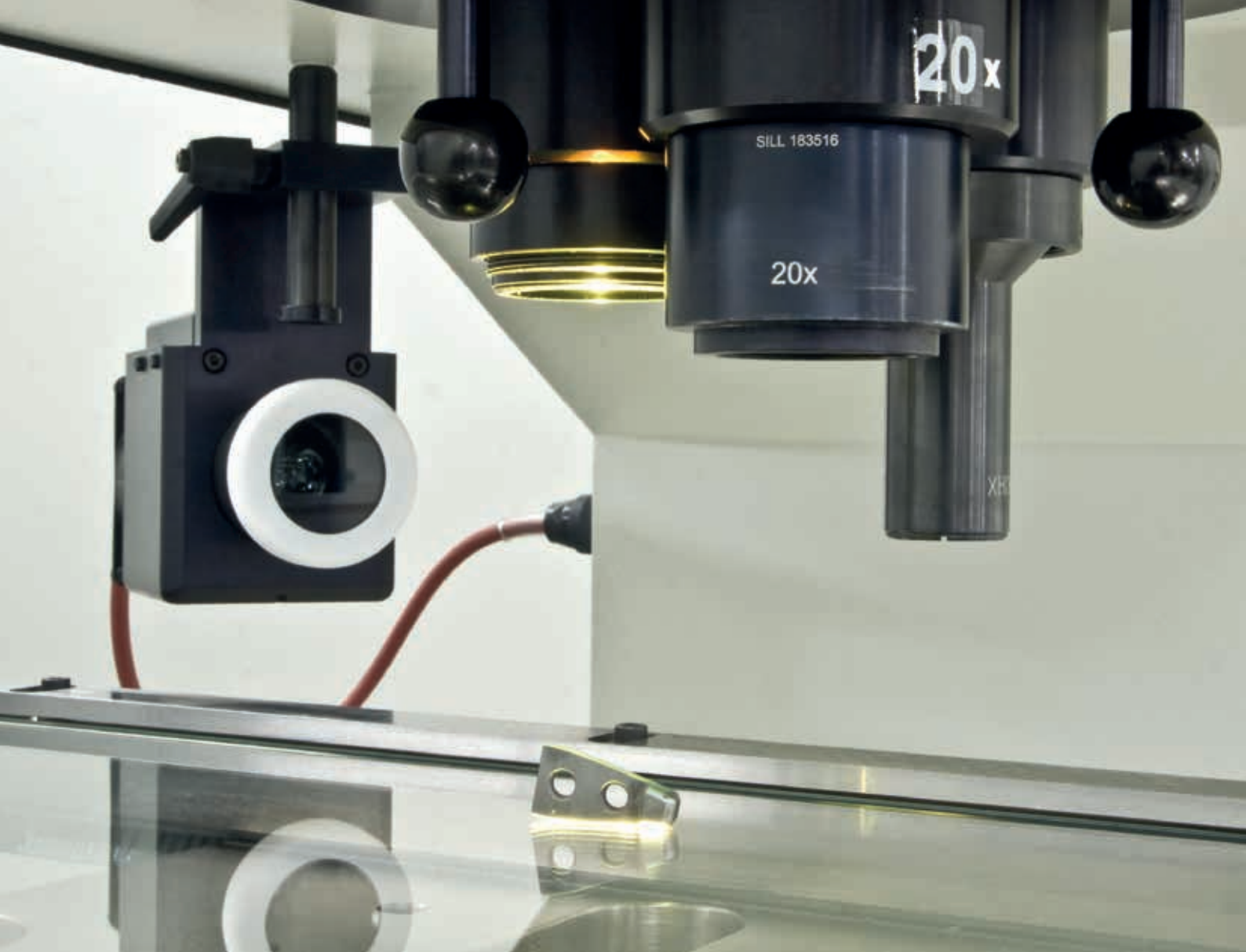
To ensure this, a clear policy line of supplier relationships must be maintained and cultivated, from system-oriented management to customer orientation. Manufacturing according to the highest quality standards means always thinking ahead. Valuable experience from the past is transformed into important components for the future through proper documentation.

This makes it possible to assure and verify excellent quality and to use yesterday's results successfully and efficiently tomorrow.

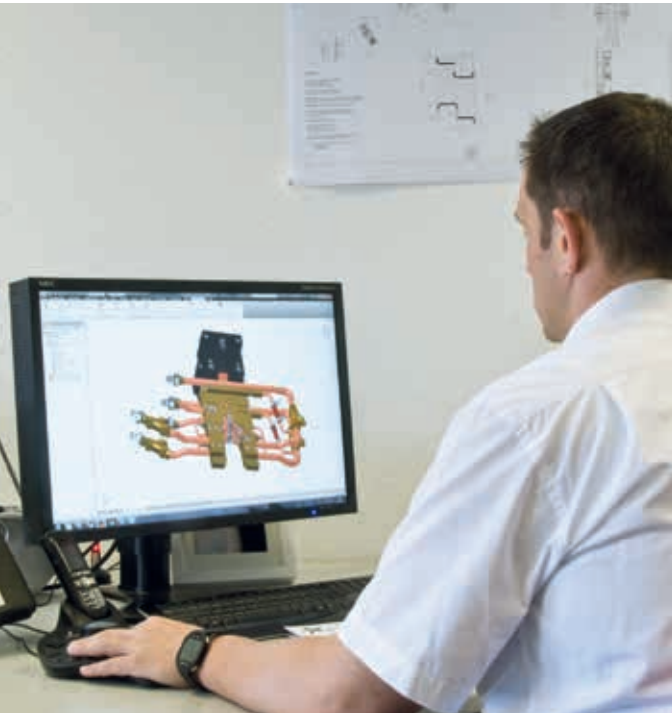


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Design, development and programming



Our engineering design department is an innovative and reliable engineering partner to our customers. Your ideas and drafts are constructively refined and implemented at four work stations with the CAD system Autodesk Inventor 3D.

We present our concepts in personal discussions by means of drawings and 3D models. We prepare customized production and module designations as well as parts lists. It goes without saying that we include customer wishes in our planning.

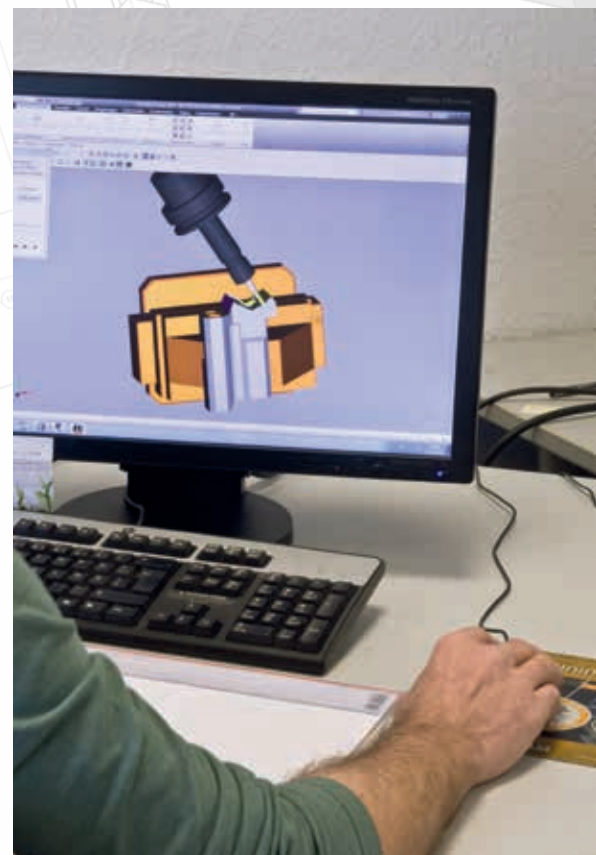
You are on the safe side with GBZ tools and GBZ technology

CAD/CAM programming

We also accept CAD files provided by our customers into our CAM system for producing precision parts. If no 3D data is available we can also program on the basis of drawings provided by the customer.

Our CAD/CAM programmers will thereby take into consideration all process-relevant factors such as production times and costs for effective and precise production.

Machines alone can do nothing, but only until they are programmed with GBZ know-how.





Ideas and precision need space:

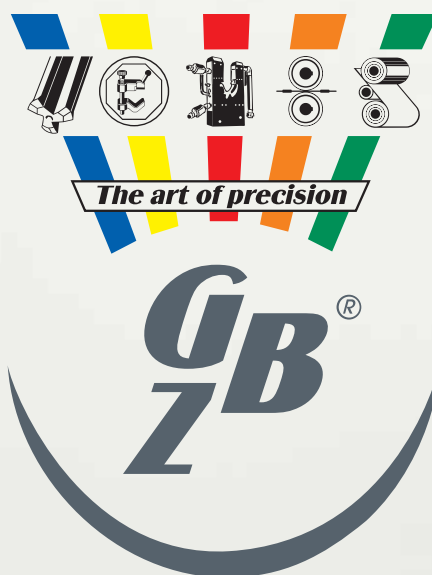


1600 m²
of production area

600 m²
of office space

... provide plenty of space to
satisfy your requirements!





GBZ Mannheim GmbH & Co. KG

Adam-Opel-Str. 7
67227 Frankenthal
Phone: +49(0) 62 33 3 75 47-0
Fax: +49(0) 62 33 3 75 47-600
Email: verkauf@gb-z.de
www.gb-z.de

GBZ Print Service GmbH & Co. KG

Adam-Opel-Str. 7
67227 Frankenthal
Phone: +49(0) 62 33 3 75 47-0
Fax: +49(0) 62 33 3 75 47-600
Email: printservice@gb-z.de
www.gb-z.de

Shanghai GBZ Precision Tool Co., Ltd.

1 - 1F, No. 83 Tengbei Road, Qingpu District
201711 Shanghai
China
Phone: +86 21 3982 1233
Fax: +86 21 3982 1235
www.gb-z.de