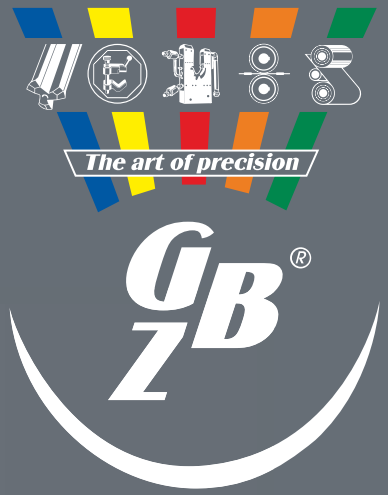




GBZ Print Service

Spare Parts and Services for the Printing
and Packaging Industry



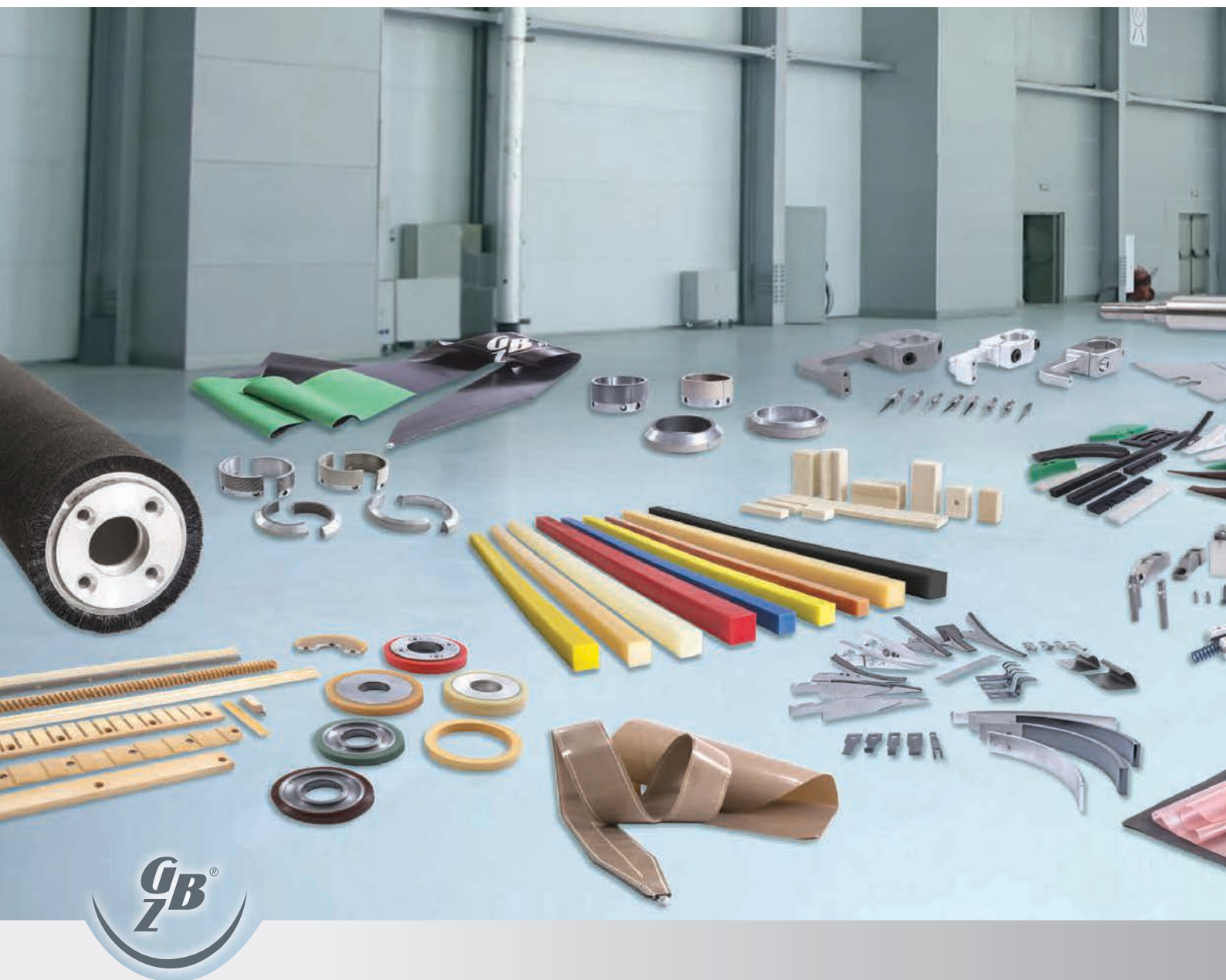
Impressive Diversity – GBZ Print Service

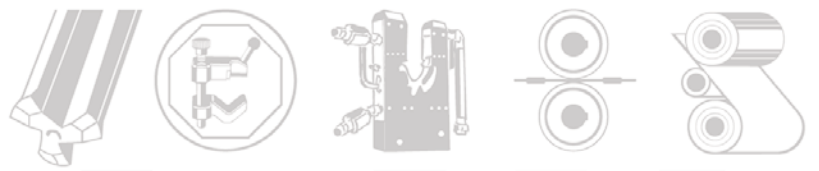
Due to a reorientation in the printing and packaging industry, as of 01.01.2012 GBZ Mannheim GmbH und Co. KG outsourced its printing industry division into a separate company: GBZ Print Service GmbH & Co. KG. Thanks to our highly motivated and competent staff's many years of experience in the printing industry, we are a reliable partner with custom-tailored solutions and the highest level of quality.

As printing and packaging industry specialists, we always have the right product on hand for you. The Print Service boasts an extremely diverse product range.

The range produced at GBZ includes many spare parts for all manufacturers and brands. Whether for cutting, perforating or folding – we will deliver to you the right product for your machine.

Equipped with the latest production equipment, our machinery guarantees the highest accuracy in production. Precision and very tight tolerances are our everyday standard. The DIN ISO 9001 certification of our GBZ manufacturing ensures the quality of your spare parts at all times.





The art of precision

With support from our design department, we produce parts tailored to your individual requirements. Even complicated parts are no problem for us. Having trouble finding a solution? We'll find one together with you..

We are pleased to be your competent and flexible partner today and in the future!

And that's not all. In addition to our variety of spare parts, we offer you many other services such as:

- Installation of spare parts
- Maintenance offers
- Project consultation

GB[®] ZB





- Guaranteed tensile load of 120 kg -





Web Up Kites

GBZ Print Service produces web up kites for use in printing and packaging machines like MAN, Goss, Wifag, KBA, W&H, etc.

- Web up kites with and without bowden cable – in various lengths and shapes
- Heat-resistant web up kites
- Web up kites with magnet
- Web up kites according to customer sample
- Modified web up kites according to customer requirement

We design web up kites according to your individual specifications and requirements for the transport of paper, carton and plastic foil.



Equipment for Washing Systems and Dampening Units

The printing unit requires a number of accessories that are covered by our variety of products for all makes and types of machines. These in particular include:

- **Brushes**

We supply you with suitable brush rollers for washing equipment of blanket washers with the original fill material and the right journal or closing rings, manufactured according to OEM specification.

We can also supply you with brushes for plate exposure machines (CTP) or special brushes.



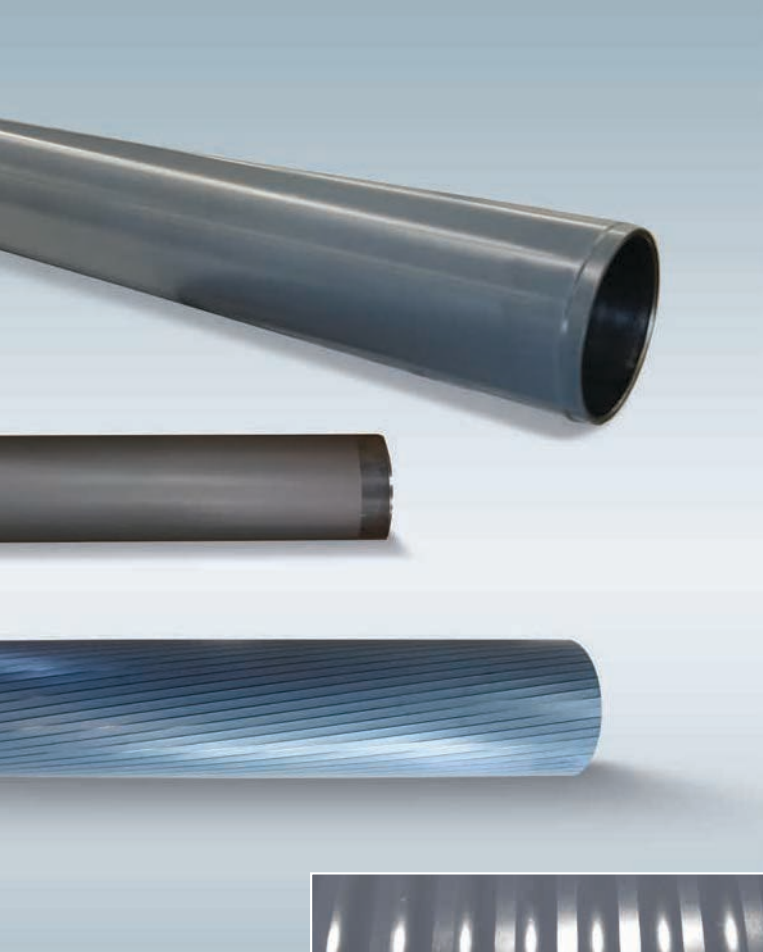
- **Wash clothes**

Dry and wet wash clothes in different qualities.

- **Additional components**

Cams, gears, slide bearings and blades - but also the filters and seals - are subject to permanent wear and must be replaced at certain intervals. We have the most common variants in stock and also manufacture special parts if needed. This is always done according to the manufacturer specification to ensure full compatibility.

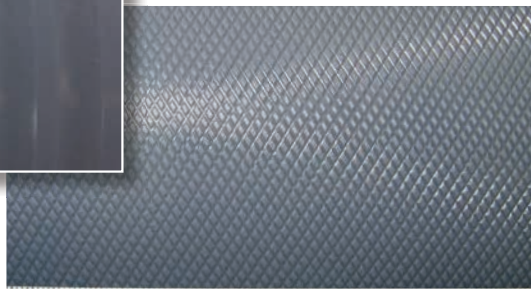
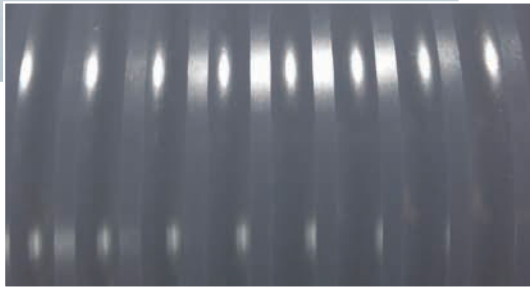




Printing Unit Accessories

Ductors, film rollers, distribution cylinders, chrome and ink rollers

We repair and manufacture rollers for all the different specifications with coatings such as ceramic, Rilsan®, chrome, rubber and other materials. ®Rilsan is a registered trademark of the company Arkema.



Bearer ring felts

GBZ Print Service uses a special material for all common bearer ring felts, which guarantees optimum functioning. The design is made by dimensions according to drawing or customer's sample, on request with slots or holes.



Drag, Transport and Cutting Rings, Draw and Tape Rollers, Draw and Transport Rollers

The repair and refurbishment of worn rings as well as the new production of various tension elements using different surfaces and versions is part of our standard programme. High-quality, chromium-alloyed tool steels are used in the process. You are provided with CNC-machined, knurled or coated versions. We are able to cover the entire range of rollers required in the printing industry rolls thanks to our great variety of coating options. The core materials and surface coatings vary depending on the requirement profile – after all, very good printing results can only be achieved with high-precision rollers in terms of concentricity and surface finish.

The roller cores can be made of steel, aluminium, carbon-fibre reinforced plastic (CFRP) or glass-fibre reinforced plastic (GRP). We also deliver rollers according to your drawings and specifications with respect to core material and surface coating.

Our draw rollers are produced from material combinations with optimised performance characteristics. They stand out by a very high dynamic load capacity and maximum operational smoothness. They are also extremely resistant to wear. The following versions are possible: Steel / aluminium core with rubber coating, polyurethane coating, Vulcollan® coating. Special designs according your requirements.



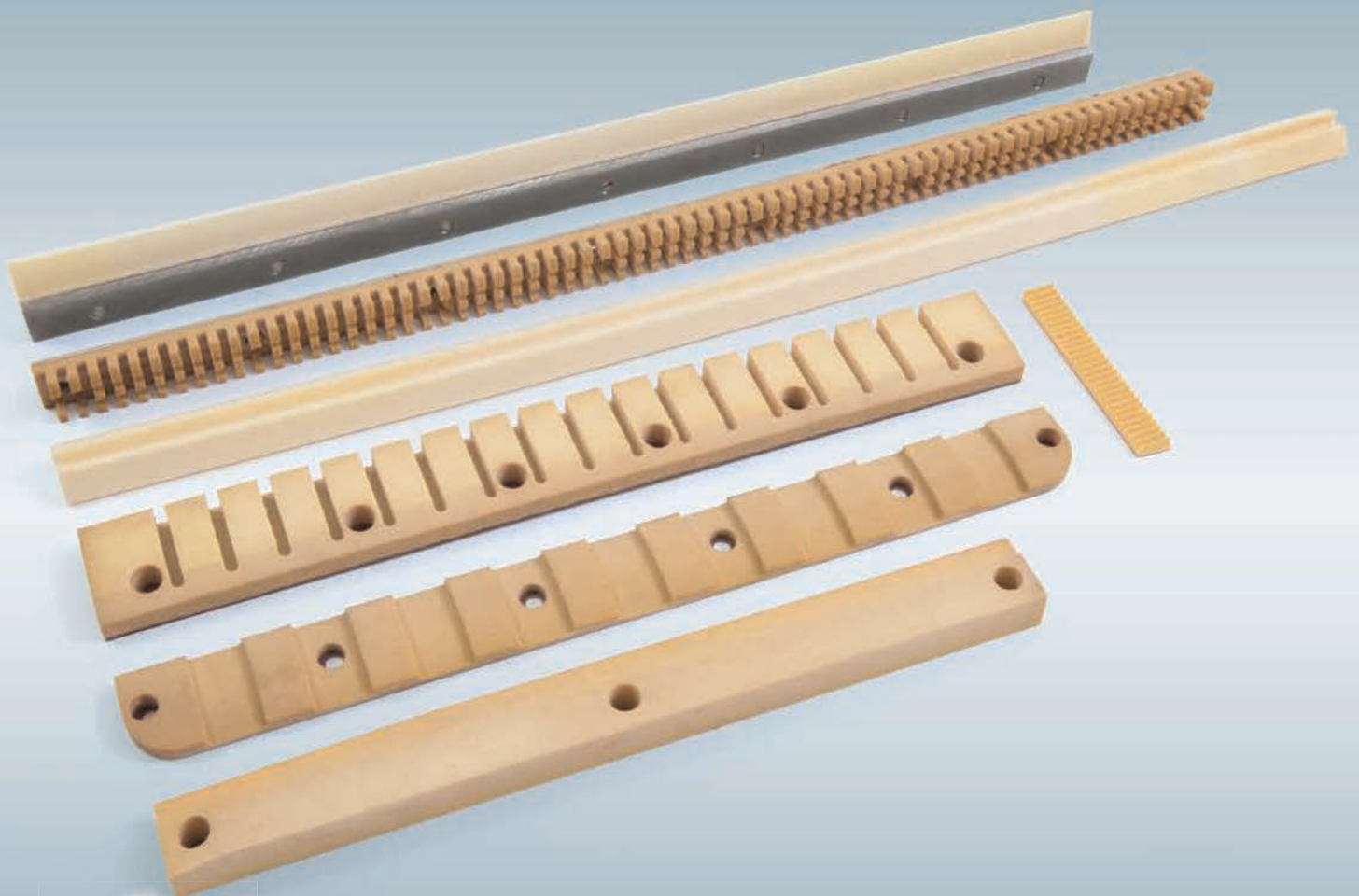
Vulcollan® Components

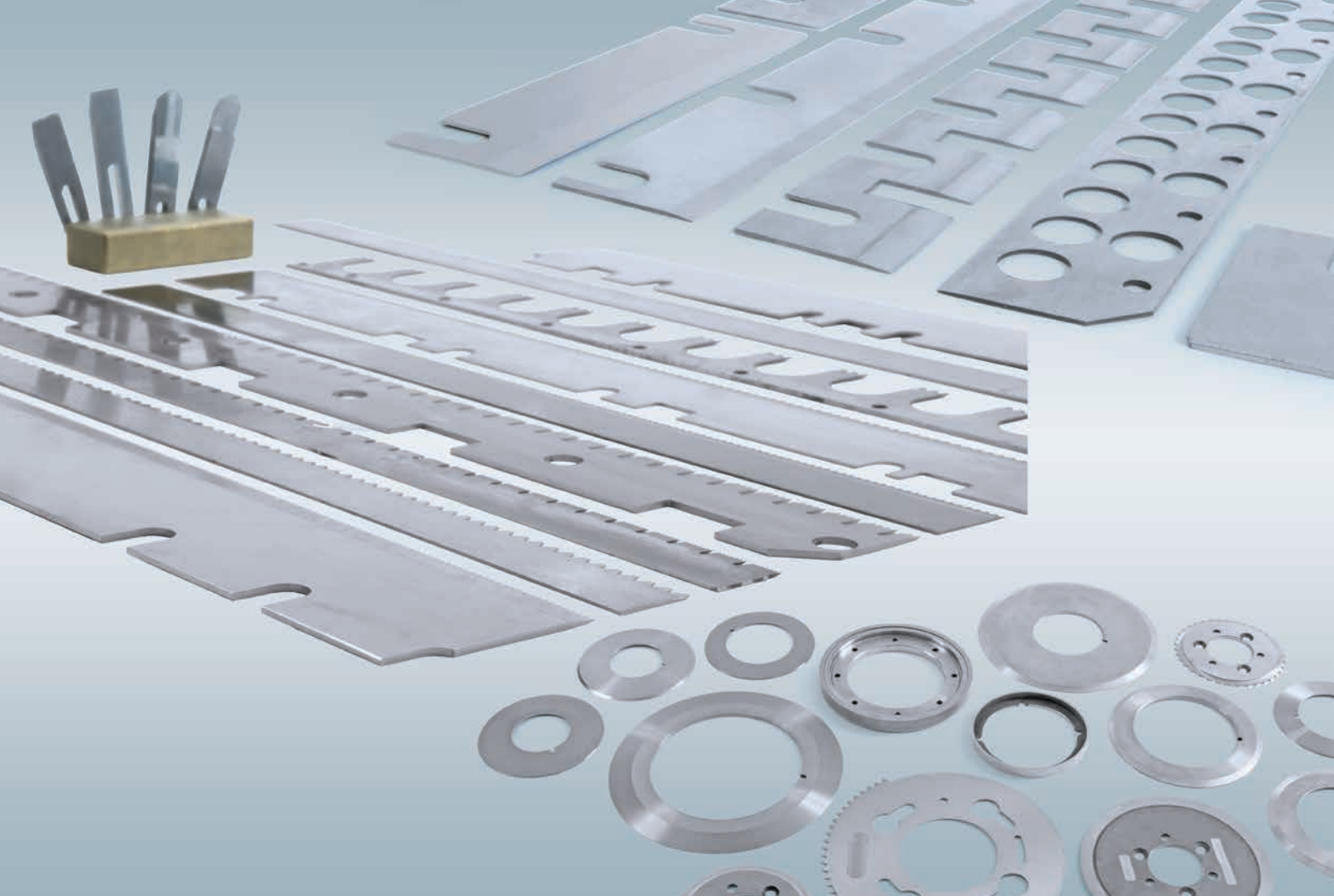
GBZ Print Service provides guide rails for sheet dampening for all common web offset presses made of homogeneous and cellular Vulcollan®. These parts are produced with optimised performance characteristics through material combinations in the following versions:

- Homogenous Vulcollan®
- Combined Vulcollan® (homogeneous and cellular)
- Combined Vulcollan® (made of spring steel and cellular)

The mouldings have a very high dynamic load capacity, high tensile strength and very high tear resistance as well as excellent thermal stability.

®Vulcollan is a registered trademark of the company Bayer AG.





Folding, Cutting and Circular Blades

- **Folding blades**

We supply folding blades in a standard version, with simple and double chamfers as well as gaps and holes. On special request by the customer, they can be produced with different coatings or special, usage-based materials, too.

- **Cutter blades / perforating blades / rotary cutter blades / book spine milling cutters**

You are provided with cutting blades for sawing and for perforating cuts. Tooth pitches and punch-outs according to drawing or customer sample are always possible. For all common rotary cutters and book spine milling cutters, GBZ Print Service produces the corresponding replacement blades – also according to drawing or customer sample.

- **Circular blades / perforating circular blades**

Our circular blades are made of steel, HSS, special steel, steel with carbide coating or solid carbide. Desired outer diameters of 20–350 mm as well as chamfers, grooves, holes and tooth shapes are possible at any time according to drawing or customer sample.

- **Grinding service**

We resharpen and straighten your knives for long time use



Plastic Parts

GBZ Print Service offers all mouldings made of thermoplastic material. Cutting-edge production technologies allow technical products that meet the highest quality standards when using different machines.

In our production centers we process different plastics such as Sgrün, PAG, POM, etc.

Special Parts and Accessoires Reworking

The production of individual parts is likewise a matter of course.
Here is an extract of our various options:

- Folding tables
- Barell for replacement in reel splicers
- Gears
- Holders
- Former noses
- Eccentric bolts,
- Curves
- Levers
- Springs
- etc.

Our design and manufacturing is at your disposal. We manufacture all mechanical parts according to samples, drawings or personal requirements.



Pins and Pin Holders

For almost all common folders, the right pins and their holders are directly available in our warehouse. Custom-made products can be manufactured on request according to drawings or customer samples.





Cutting Bars and Folding Jaws

They are an important wear part for the entire cutting system. GBZ Print Service's cutting bars are available in all standard sizes, qualities and any hardness from stock. For example, made of:

- Vulcollan® 92° Shore
- Polyurethan 80° / 85° / 90° / 95° Shore

The highly abrasion resistant and tough material has high cut resistance and thus an extremely long service life. On customer request, we shorten the cutting bars and chamfer the longitudinal sides.

A reliable and accurate folding process requires the highest precision in production and preparation. GBZ Print Service manufactures folding and counterfolding plates in a wide variety of coatings: Tungsten Carbide, ceramics or Vulcollan® while maintaining the tightest tolerances in terms of thickness, height and parallelism.

Your old folding flaps are worn out?

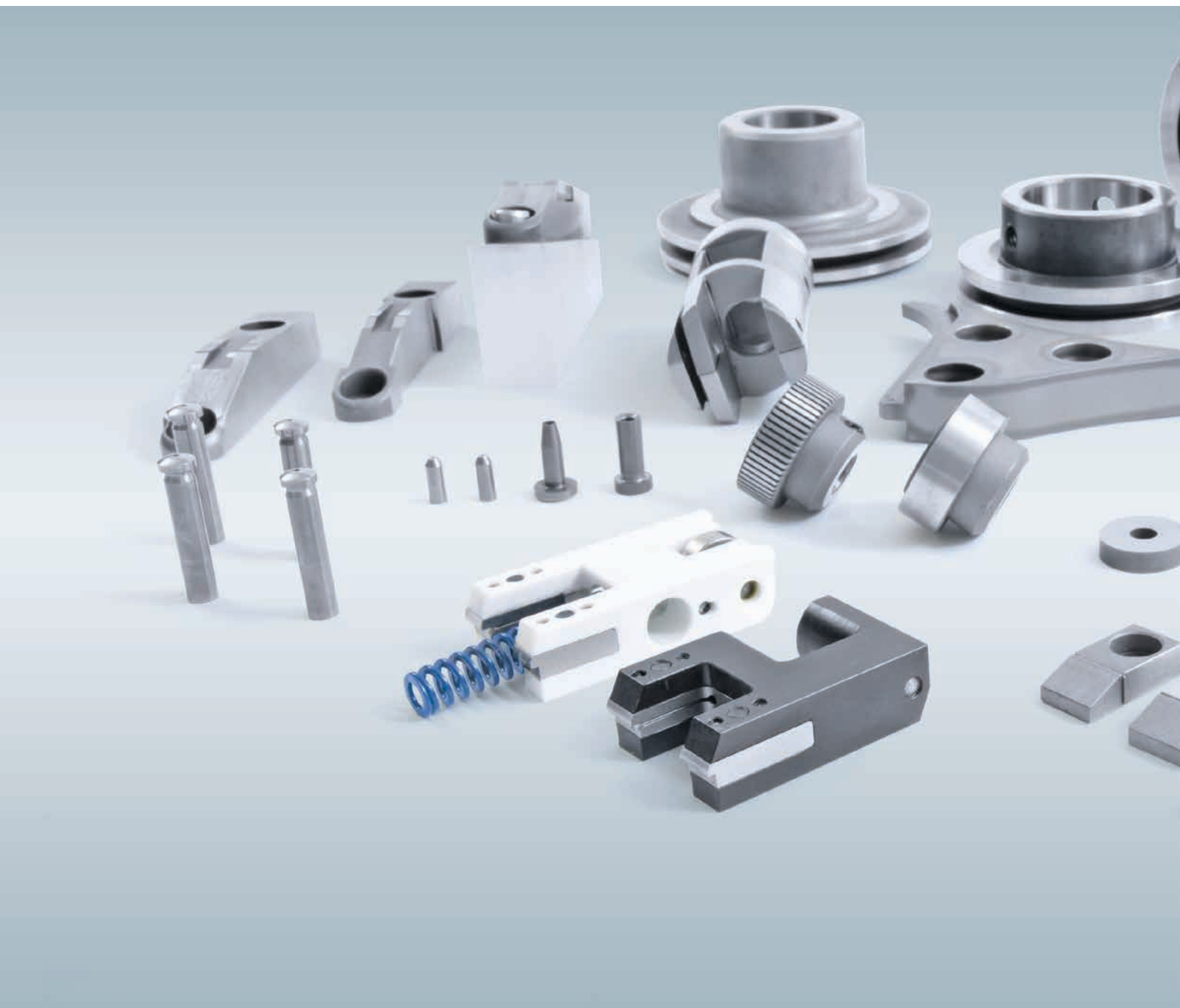
A repair and reconditioning of your products with new metallic coating or new Vulcollan®, is also possible after technical inspection. This saves resources and your wallet.

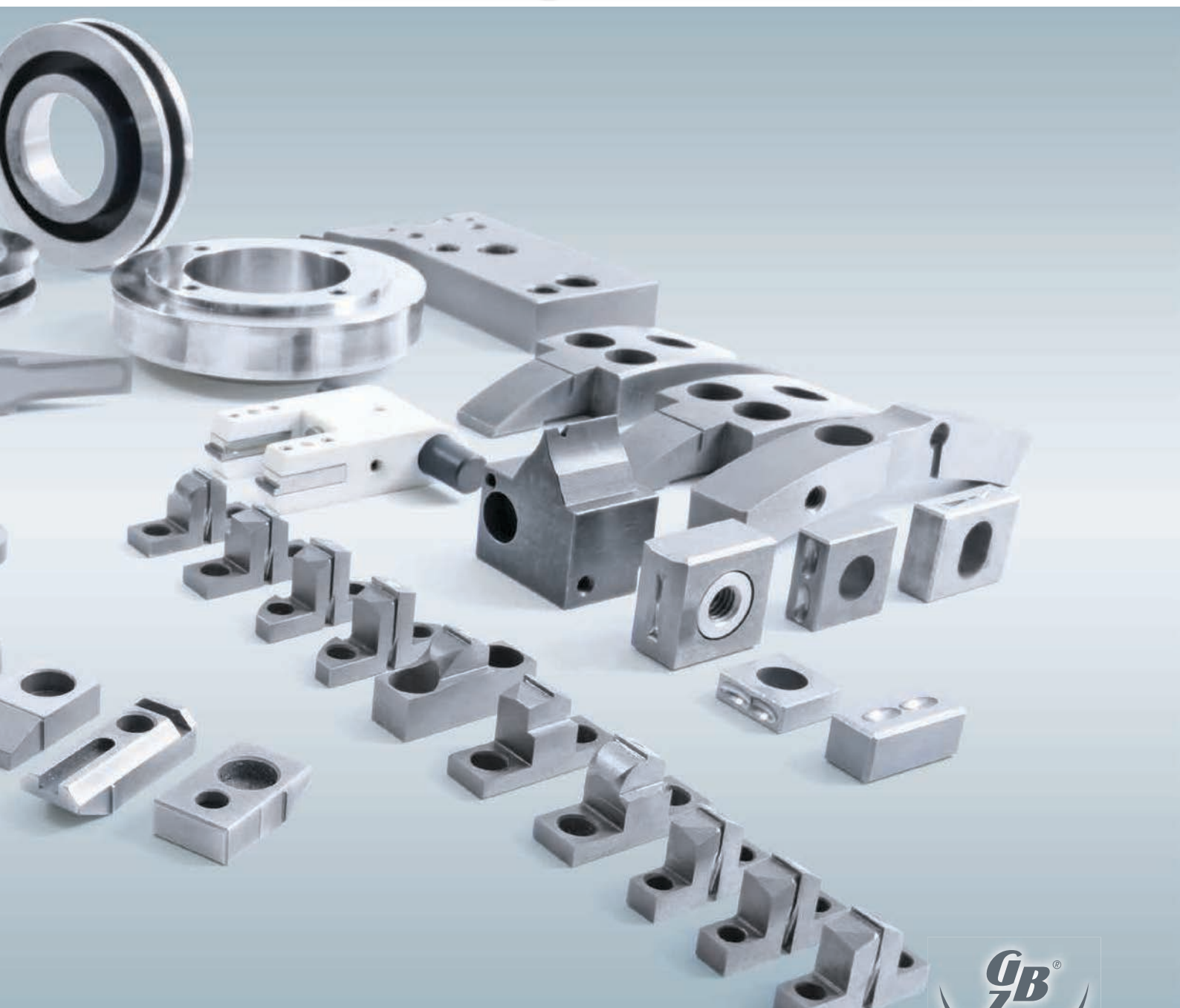
Vulcollan® is a registered trademark of the company Bayer AG.

Stitchers and Stapling Parts

At our Frankenthal plant, we produce wear and spare parts for all common rotary and saddle stitchers such as KBA, Tolerans, MAN, Müller Martini. We offer a variety of designs for different wire thicknesses and staple widths:

- Pistons/plungers
- Wire bending rolls
- Wire feeding rolls
- Adjusting wedges
- Wire rest
- Wire rest with carbide
- Wire feeding jaws
- Wire cutting jets
- Clamping blocks
- Guides
- Stable guides
- Stitch forks
- Side plates
- Leaf spring







Transporting, Perforating, Folding and Cutting

We also manufacture parts for further processing. Whether rolls for transporting paper or various knives for cutting and perforating, we always have the right product available.

You will receive from us different cutting components for use in Gämmler, Rima, Müller Martini, Polar, etc. incl. regrinding service.

We would also be pleased to create a new or modified component according to your wishes. Please contact us.





Sheetfed and Packagingmachines

There was nothing for you? Perhaps you have a need for parts for sheets and packaging machines.
We manufacture for you the most different parts from metal, plastic and all common materials.
Also special designs according .to customer requirements are no problem.

Sealing squeegees, washing squeegees, perforated belts, brushes, suction cups and much more.
Convince yourself of our product range and variety





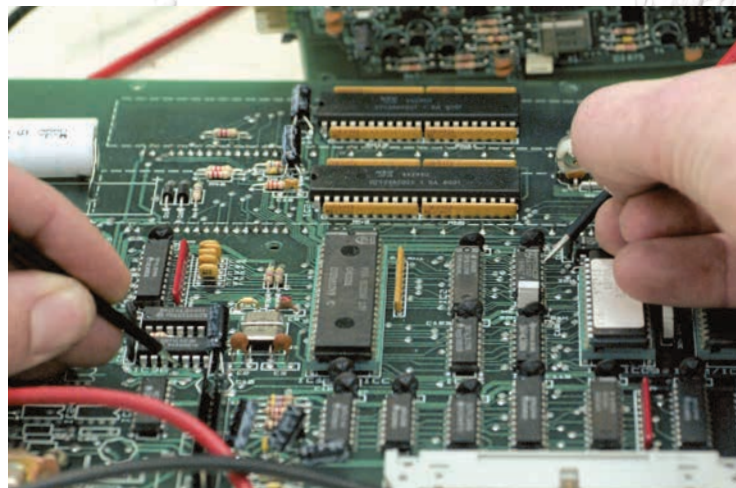
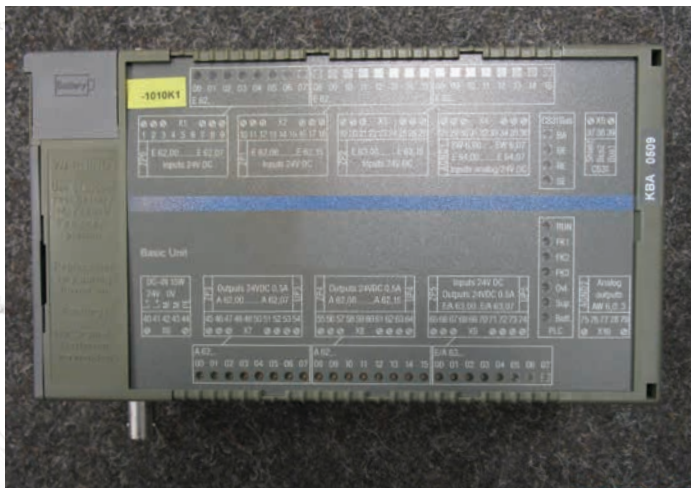
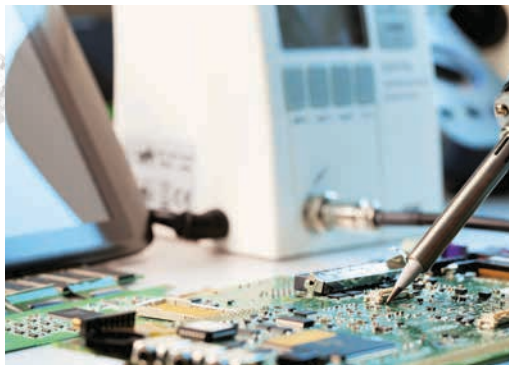
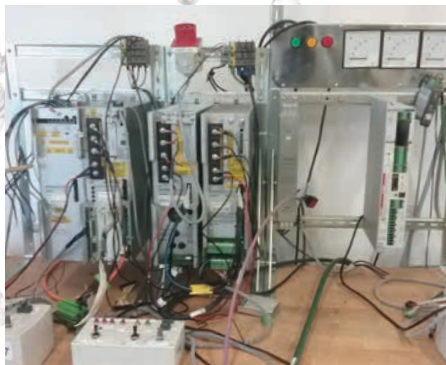
Repair of Electrical Parts

Repair of frequency converters, servo motors, programmed controls, terminals and industrial PC, Inverters, Encoders, Tachometers, Cards, Terminals etc. All common brands like ABB, Baumüller, Bosch Rexroth, Siemens, Lenze, Elau, B&R, Allen Bradley, Schneider, etc.

- Repair on component level with or without circuit diagrams, also for discontinued components
- Replacement of defective components and inspection of solder joints
- Systematic replacement of wearing parts on servo motors
- Exchange of bearings
- Inspection and reading of encoders
- Thorough cleaning

Our plus:

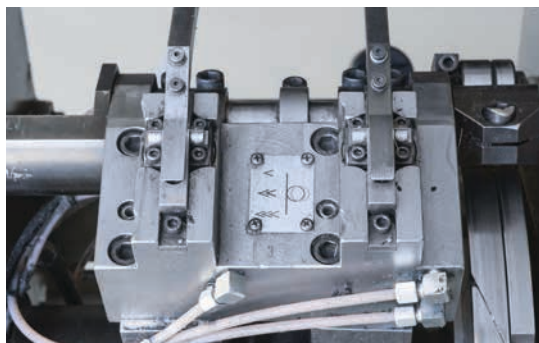
- Free estimate,
- 6 months warranty on the repair,
- Free disposal in case of uneconomical repair



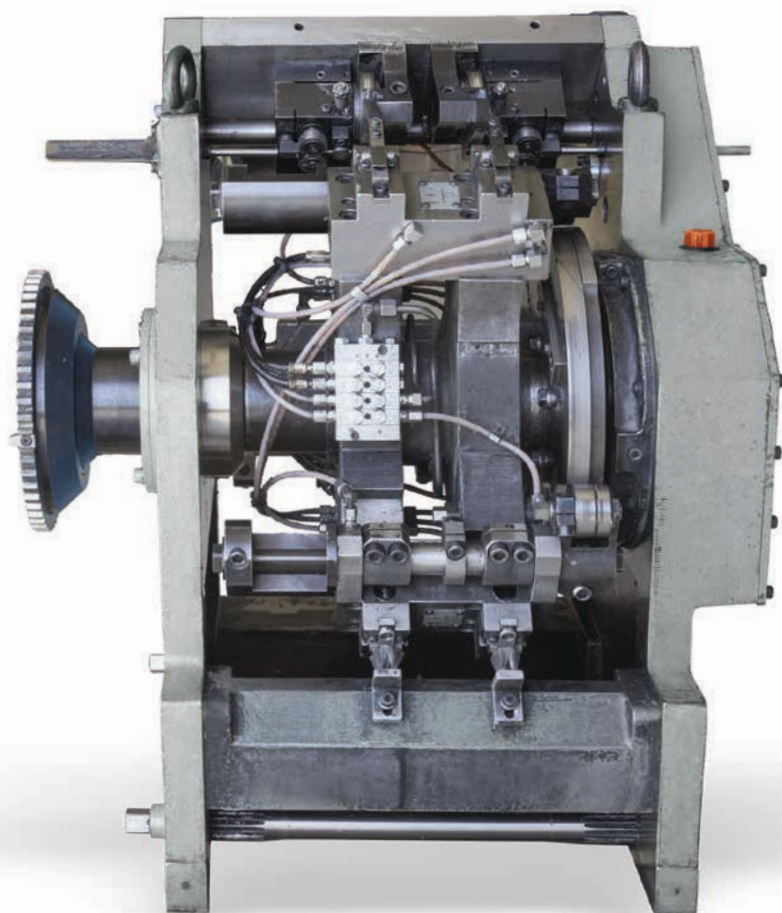
Services and Maintenance

GBZ Print Service offers its customers around the world extensive repairs, maintenance and overhaul of different manufacturer products. We can offer this service for various assemblies and components:

- Stitchers (KBA, MAN, Tolerans), at customer premises or at our premises in Frankenthal
- Folders (KBA, MAN)
- Printing units (KBA, MAN)
- Blanket washing systems (OxyDry, Elletra, Baldwin, Rotoclean)
- Ink pumps (Betz, Lincoln)



We also advise you on upcoming projects and their explanation and implementation. Our team will always support you. Feel free to contact us.



GB® – the powerful partner for SME and industry

Founded in 1950 as Hadres Tool Factory, today a team comprising more than 50 qualified staff and trainees works in a modern factory at the company headquarters in Frankenthal 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.

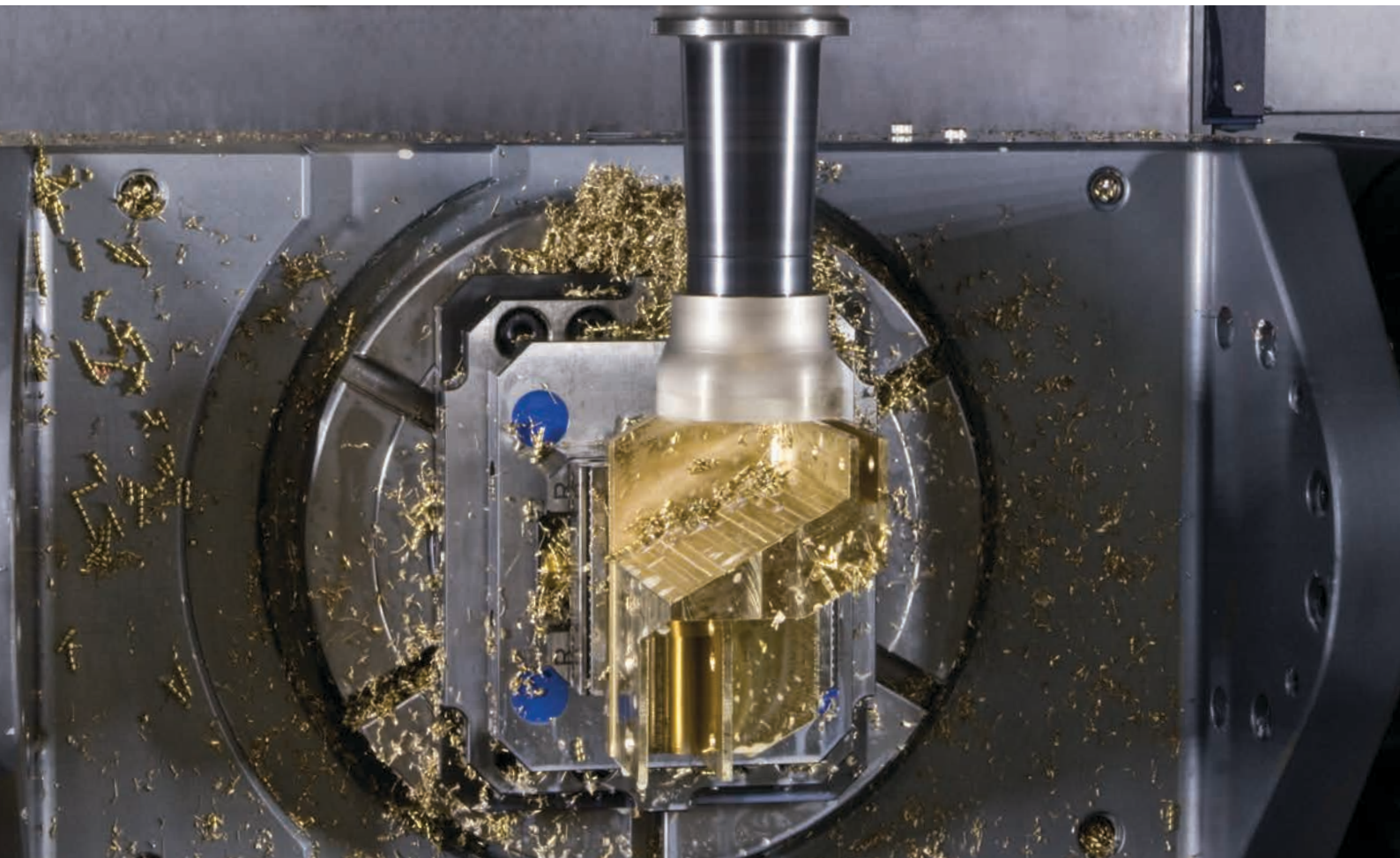
- Milling
- Turning
- Sawing
- Grinding
- AM (3D-printing)
- Water jet cutting
- Welding/soldering/brazing
- Spark eroding
- Trovalizing
- Assembling

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.



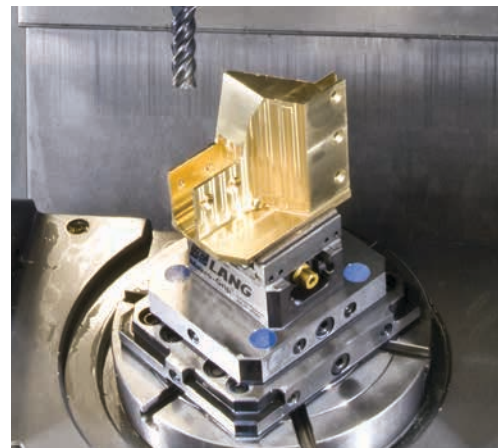


CNC milling to the highest standard

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.

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.



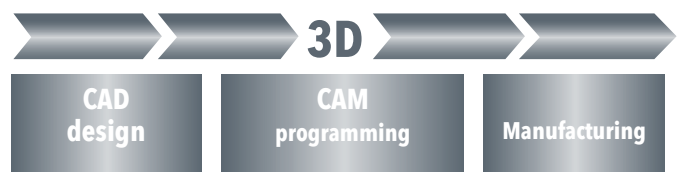
3D metal printing – the perfection of the three-dimensional process chain



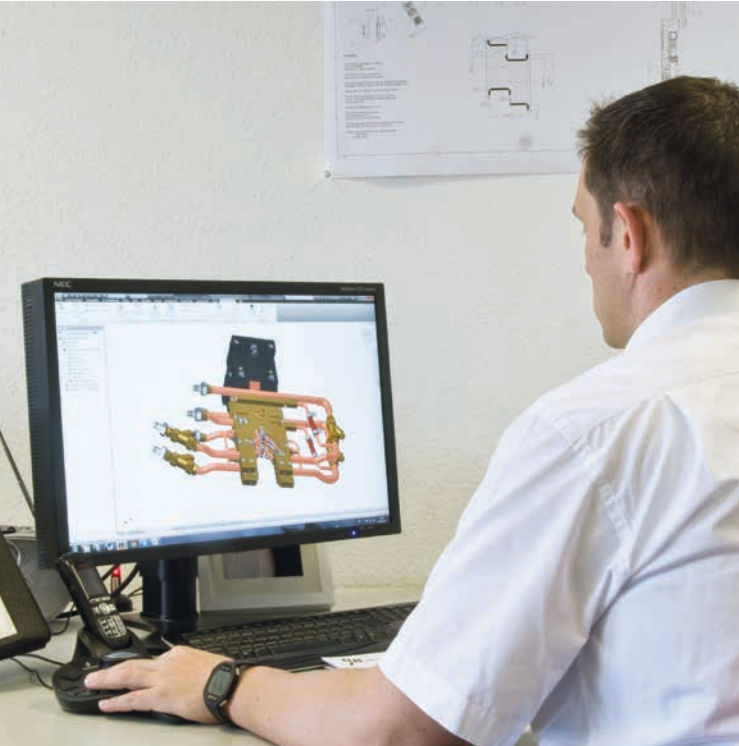
All the facets that CAD offers can now be almost completely implemented in reality. Many limitations, that previously had to be observed due to machining no longer exist.

Last but not least, the combination of 3D printing and conventional machining offers an optimal symbiosis, which combines the advantages of both principles and leads to an improvement in design and quality for a large number of components.

The system we use works with a high performance 1.000 watts laser system, which can be used universally for different materials.



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.

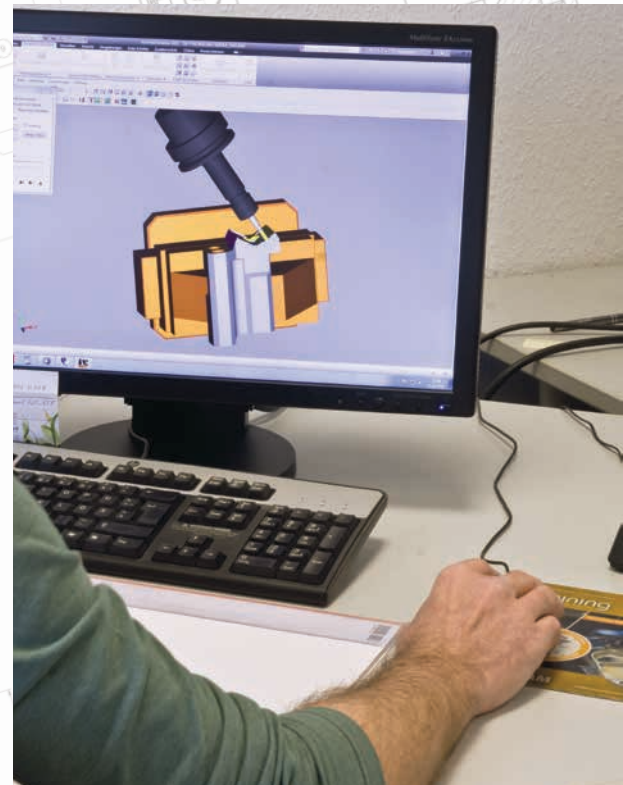
You are on the safe side with GBZ tools and GBZ technology

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.



Precision is our philosophy!

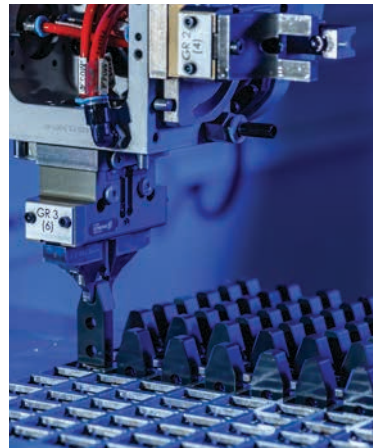


Our many years of experience in the field of grinding enables us to master highly precise contours and thereby add the finishing touch to blanks, milling and turning parts.

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.

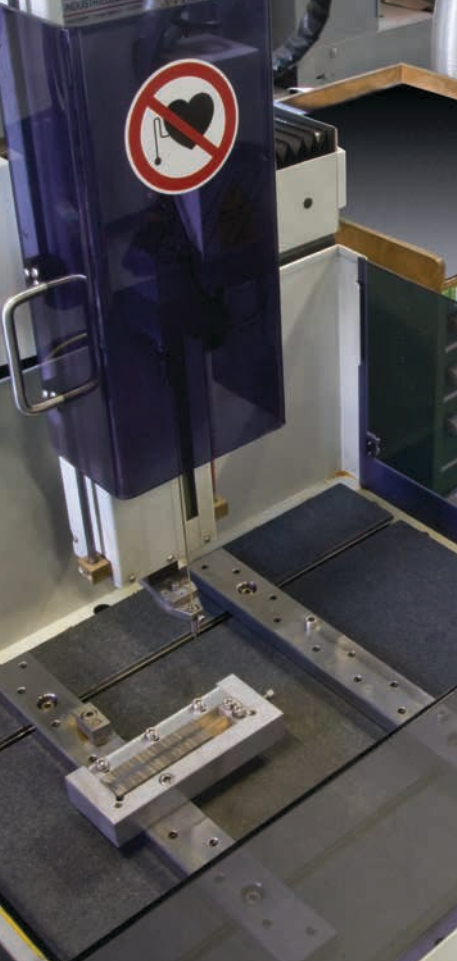
5-axis simultaneous grinding

With our 5-axis grinding centers, we can manufacture high-precision components accurately and economically. The machine can be fully automated with workpieces using an integrated robot arm with 4 pallet positions. The 9 positions of the tool changer, the grinding wheels with a maximum diameter of 200 mm and a 12 kW grinding spindle at 8,000 1/min are ensuring the highest productivity.



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





Electrical discharge machining (EDM) with robot tooling

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



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.

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

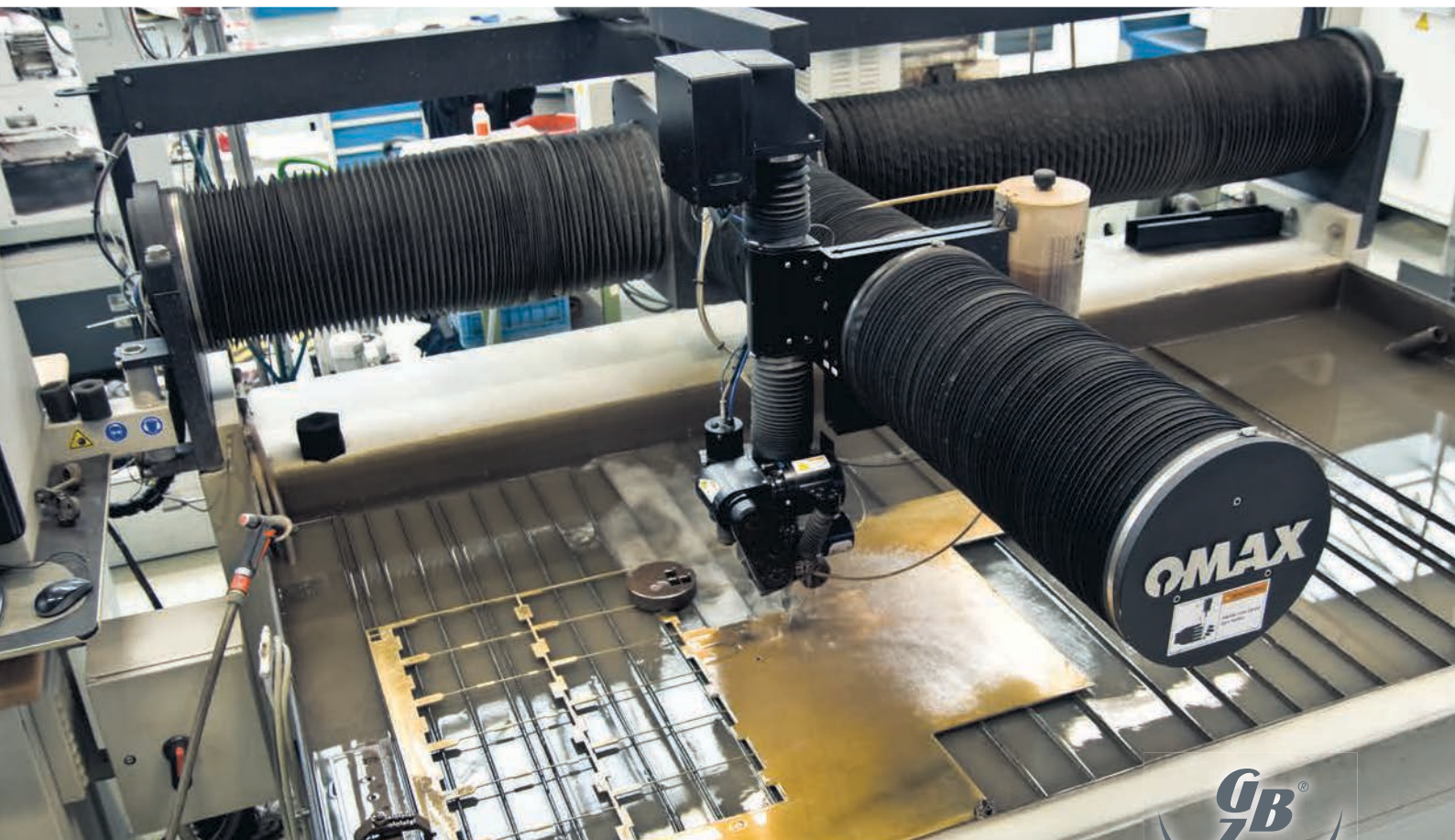
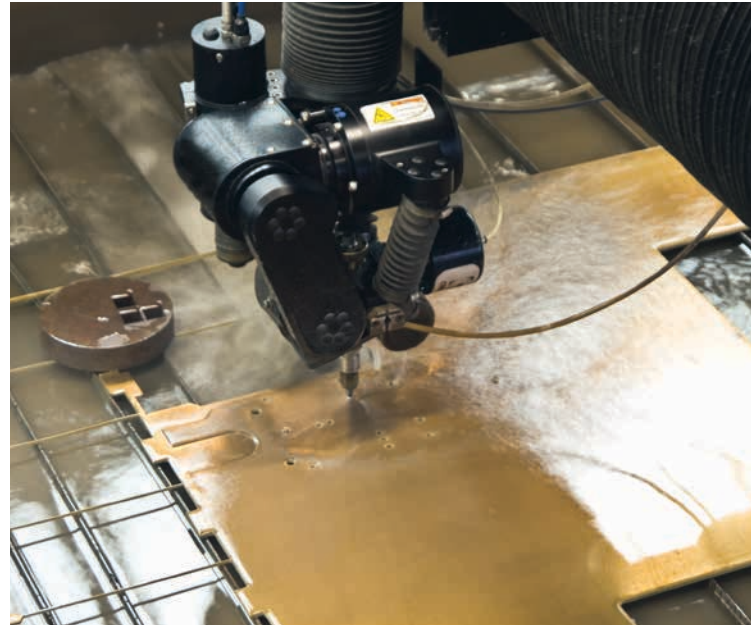
Water jet cutting – highly efficient in excellent quality and speed

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.





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.

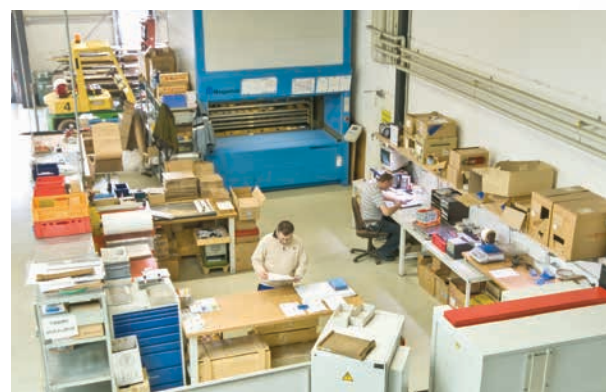


Assembly

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.

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.



Measuring technology, quality assurance and certification

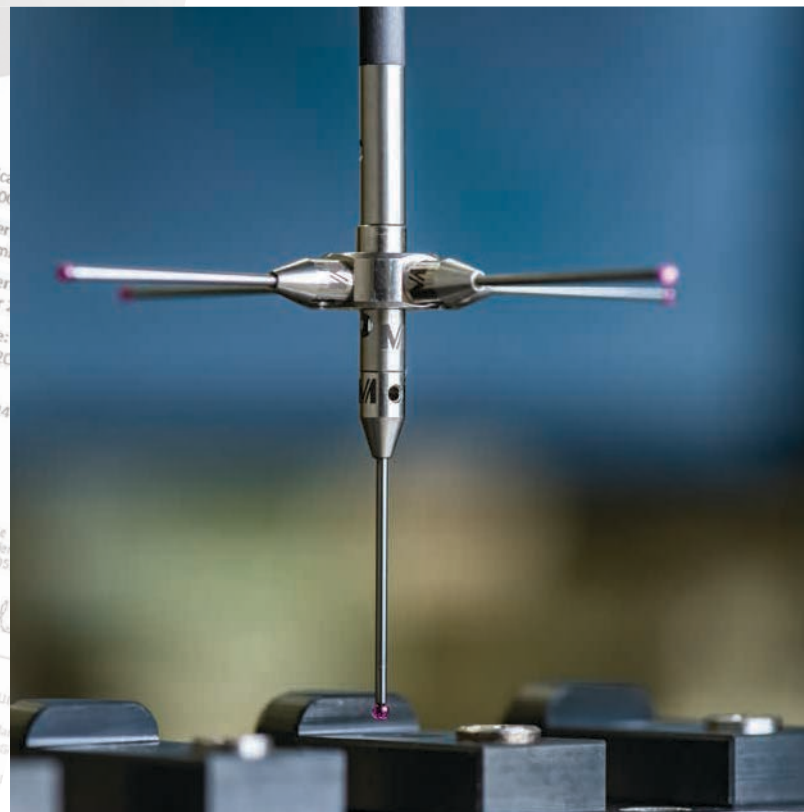


Measuring technology is the central instrument for quality assurance in our air conditioned measuring room, which is equipped with state of the art equipment.

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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