

# CPC

Products and Services for the  
Customized Precision  
Components Industry





# Contents

Groz-Beckert	4
The subdivision	5
Products and expertise	6
Product portfolio	8
Stamping tools	9
Precision parts	10
Micro-dies	12
Quality and optimization	14

## Tradition and Future

**Groz-Beckert was founded in 1852 and is active in over 150 countries today with around 7,800 employees. Whether for knitting, weaving, felting, tufting, carding or sewing: Our total product portfolio contains over 70,000 products. As a leading supplier of industrial machine needles, precision parts, precision tools, systems and services for a wide range of textile production and joining methods, Groz-Beckert supports its customers and partners within the textile value chain – and beyond: The Technology and Development Center (TEZ) is a pioneering platform with which Groz-Beckert has been shaping the future of the textile industry together with machine manufacturers, end users, textile producers and institutes since July 2010.**

### Groz-Beckert

Textiles are everywhere and are found in a wide variety of shapes and functions in all areas of life: Fashion, sports and leisure, home textiles, flooring or in architecture. And textiles are also indispensable for mobility – from cars to space travel – and for health.

Groz-Beckert manufactures machine needles, precision parts and precision tools and offers supporting services for all aspects of the textile industry, from fashion, home and domestic textiles to technical textiles.



### Technology and Development Center

Groz-Beckert represents reliable product quality and customer service in the world of textiles. The Technology and Development Center (TEZ) was opened in 2010 in order to develop new development and application fields for textiles in cooperation with customers and partners. Not only is the TEZ furnished with state-of-the-art equipment, it also provides the perfect environment for bundling the competencies and knowledge of Groz-Beckert. As a future-oriented company, Groz-Beckert places great value on the research and continued development of new technologies and application fields in the textile industry.

### About Groz-Beckert

- Founded: 1852
- Head office: Albstadt, Germany
- Employees: 7,807 (as of 31.12.2015)
- Sales: 628 million euros (2015)
- Production companies:  
Germany, Czech Republic,  
Portugal, USA, India, China,  
Vietnam, Belgium
- Distribution network:  
Distribution subsidiaries and partners  
in over 150 countries

## Subdivision Customized Precision Components (CPC)

Subdivision CPC has emerged from the microtechnology know-how and metallurgical expertise of Groz-Beckert's core business. The term Customized Precision Components describes the development and production of customer-specific precision parts and stamping tools for technologically demanding applications. Manufacture of the products requires diligence and precision down to the micron range.

### History and experience

Subdivision CPC was founded as an independent unit in 1997. Back then the abbreviation stood for Ceramic Punching Components – the main application area of products made by Groz-Beckert: tools, stamps and bearing bushes for the manufacture of ceramic interconnected devices.

In the following years Groz-Beckert built itself into a renowned partner for technology companies around the world.

The resulting change to, and expansion of, the product range was accommodated by adapting the name of the product subdivision. Since 2013 CPC thus stands for Customized Precision Components.





Products and expertise



## Manufacturing of precision tools – reliable, precise and customer-oriented

Groz-Beckert's CPC manufacturing is based on developments with and for customers who make high technological demands. Customer-specific jobs are delivered in the stipulated quality and quantity, and always on time.

Groz-Beckert's pronounced vertical range of production makes it the specialist for manufacture of precision parts – from single components to series production. Our development and process engineering already provides support during product development and when optimizing existing tools. In punching technology we stand by our customers from development through to the final product.

## Product portfolio

**Whether complex single-item production or series production of sophisticated products, our broad offering of different in-house manufacturing processes facilitates the right solution. In addition to the manufacture of special punching tools, the subdivisions in which Groz-Beckert CPC is active include the manufacture of micro-precision parts and precision parts for LTCC/MLC technology.**

### **Groz-Beckert CPC products:**

- Punching tools
- Precision parts
- Stamps and bearing bushes
- Special machining tools

The application fields of the products are many and include micro-dispensing systems, measuring technology and semi-conductor electronics. Companies in aerospace technology and automotive suppliers are thus also among Groz-Beckert's customers.

We support our customers with on-site consulting via our international distribution network. In addition to material selection, manufacturing options are also agreed with customers.

With the high development expertise from its core business and versatile production processes, Groz-Beckert CPC can provide customer-specific solutions at any time, as per specifications and highly precise, true to deadline and delivery.

Stringent quality control and modern measurement methods secure the manufacturing process.

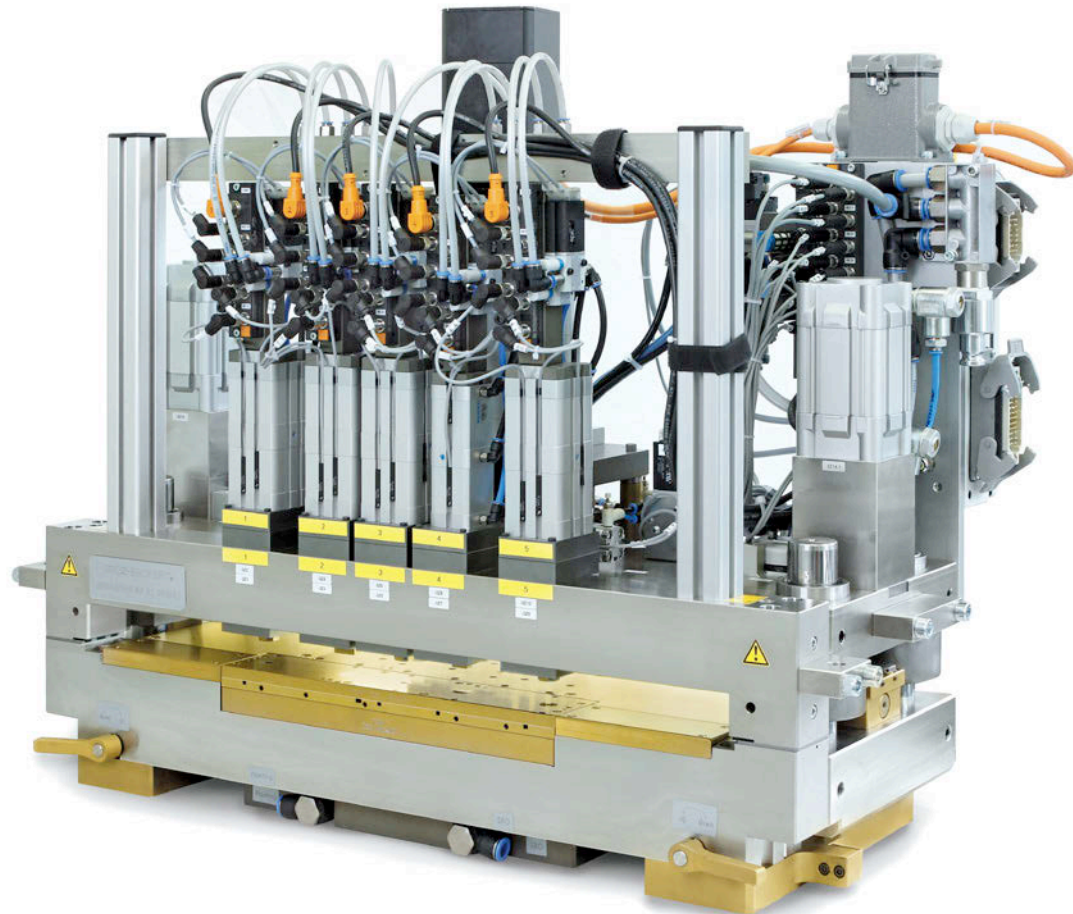


## Punching tools

**Groz-Beckert is a full-service operator for developing and manufacturing punching tools. Our requirements are to meet customer goals – the CPC team works out solutions with them or improves already existing components. Such cooperation has already led to patented processes for the punching of extremely thin foil. This technology makes it possible to process complex shapes and different materials such as ceramics for LTCC/MLC technology, copper and aluminum foils for energy-storage technology and plastics.**

Groz-Beckert manufactures stamping tools but also entire stamping systems and their replacement parts. We provide a comprehensive service package:

- complete execution, from project planning to start-up at customer premises.
- Developed and built by Groz-Beckert
- Complete production by Groz-Beckert
- Short throughput times thanks to the wide variety of production at Groz-Beckert
- Customer training and field service
- Punching tests
- Laboratory analyses



## Precision parts

High precision is required for tiny drilled holes and true running accuracy. These are important features in precision parts. In addition to the material hard metal, Groz-Beckert also works with materials such as steel and ceramic. Application areas are many: micro-dispensing systems, micro-actuators, measuring technology and wire working.



In addition to traditional round stamps, Groz-Beckert CPC also produces purpose-built items. Cutting-edge manufacturing technologies can produce very different shapes.

For over 20 years Groz-Beckert has specialized in the manufacture of small bores, in which high demands are placed on concentricity and radial true run.

Other key figures for precision-part manufacturing are:

- predominately tungsten carbide, steel and ceramic
- minimum outside diameter: 0.020 mm
- minimum inside diameter: 0,030 mm
- tolerance: 0.001 mm

Thanks to its versatile manufacturing technologies and remarkable knowledge of hard-metal processing, CPC can also make customer-specific cutting tools.

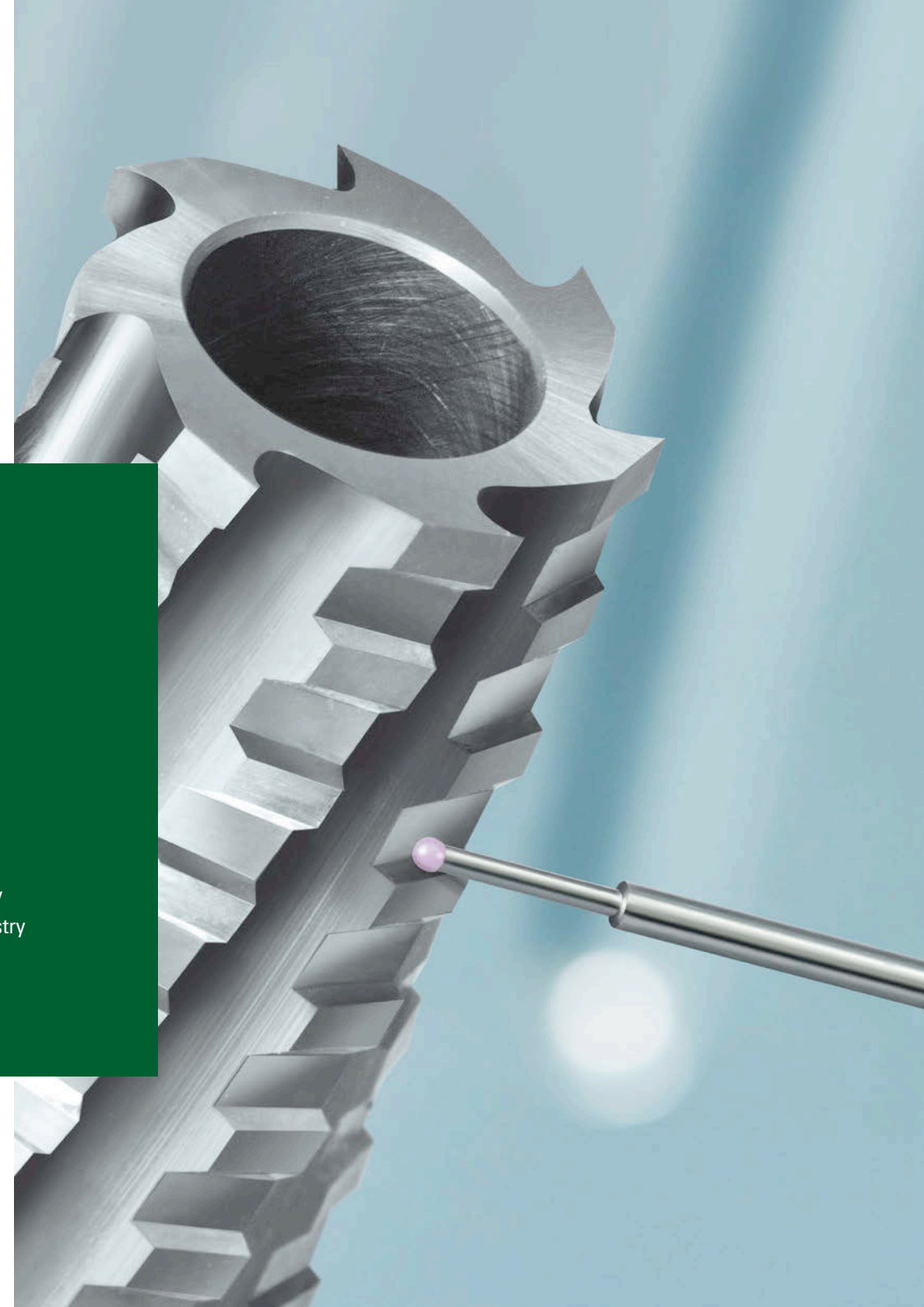


**Product examples:**

- probe tips
- nozzles, nozzle inserts
- precision shafts
- wire guides and tips
- trimmers
- wedge bond tools
- forming tools
- form punches
- cutting tools

**Application fields:**

- measuring technology
- dispensing technology
- clock and watch industry
- lighting industry
- electronics industry
- automobile industry
- aerospace



## Micro-punches

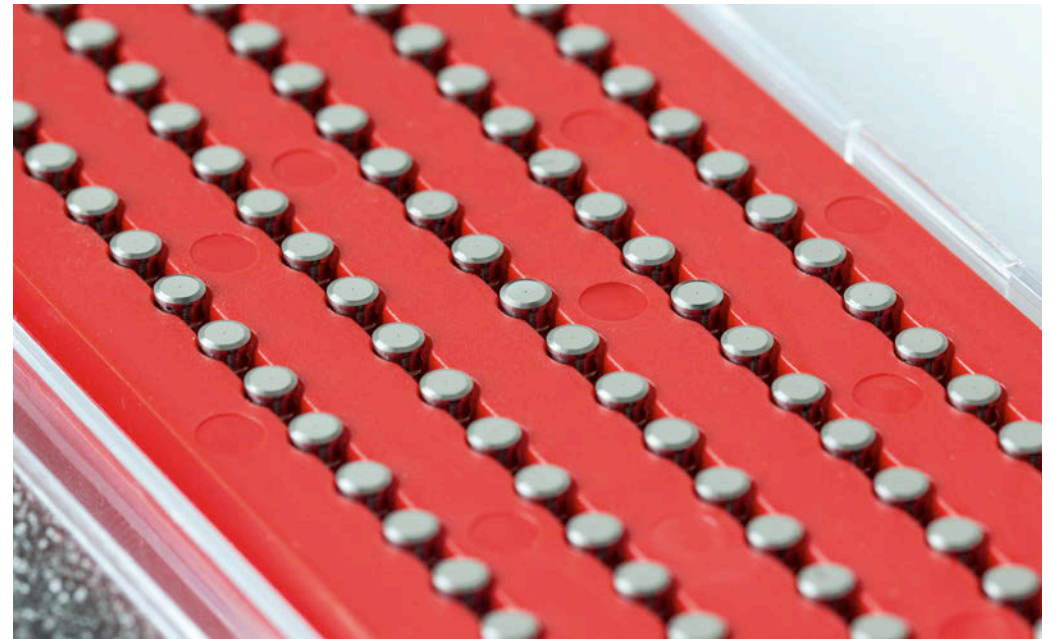
As well as high quality tools, high-precision wear parts are also necessary. Selection of the right material and the unique manufacturing technology are the keys to success for extraordinary punch quality and long service life of the wear parts. Micro-punches are also used to work with green ceramic.

### Stamps and bearing bushes

The components for punching ceramic foil are used in various sectors. They are available for individual punch units and for complex punch systems with over 300 punch positions and a diameter up to 50  $\mu\text{m}$ . Highly precise production guarantees smooth interaction of the components.

### Trimmers

Complementary to stamps and bearing bushes, Groz-Beckert also manufactures trimmers used to separate punched foils. The trimmers, made of special hard metal, feature extremely high cutting quality. A special coating can be applied to further reduce wear.





**Product examples:**

- stamp and cutting bushings
- guide bushes
- ejector pins
- trimmers
- special shapes
- resin scraper

**Application fields:**

- automobile industry
- electronics industry
- LED technology
- aerospace
- medical technology

## Quality and optimization

Tools and precision parts at Groz-Beckert must meet a high demand - precision in every detail and into the micron range. In-depth expertise of precision mechanics and sound metallurgic competence, from coating to heat treatment. High precision throughout the multifaceted product program begins long before manufacture, such as in targeted raw material selection. The same high requirements also apply to production. Tolerance limits of one-thousandth of a millimeter are the result.



### Quality

Far-reaching quality-assurance measures accompany production all the way into the in-house laboratory. Prior to delivery, products are subject to approval by highly qualified, experienced professionals.

Modern measuring devices and highly qualified employees warrant our high quality standards.

### Optimization

With its internal ImPuls Management, ongoing process optimization is practiced and continuously monitored as part of Groz-Beckert's DNA.

Perfect interaction of production, development and process technology is the engine which leads to constant optimization of products and manufacturing processes.



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