



**REDUCING COSTS
IS OUR JOB!**

www.schwanog.com

Schwanog



OUR MISSION: GROOVING INSTEAD OF SINGEL-POINT TURNING!

You are a manufacturer of precision turned parts or drilled and milled components and want to reduce your part costs considerably? Then you have come to the right place! Our insertable form tools are the quickest and most efficient way to cost reductions: Grooving instead of single-point turning can lead to savings of up to 40 %!

The basis for this is our system which always includes a Schwanog holder and a Schwanog insert blank. Part-specific contours are individually ground and wire-cut into this blank.

Typical batch sizes for us range from 3 to 50 form tools per order. Within 20 years and due to this innovative idea

we achieved to become one of the worldwide leading manufacturers in this market segment. Since then, over 100,000 manufactured form tools show our experience and capability.

Over 100 qualified professionals and an in-house technology and training center at our headquarters in VS-Obereschach, Germany are our foundation for healthy growth. Further manufacturing facilities in the USA and France ensure fast response times and flexibility. Our subsidiary in China and sales offices in the Czech Republic and Poland provide excellent customer proximity.

Use our potential to reduce your part costs.



Foto: MGVS.de



Clemens Güntert, Managing Director



INSERTABLE FORM TOOLS ARE OUR EXPERTISE!

We can offer you cost saving tooling solutions in twelve application areas which are always tailored to your part.

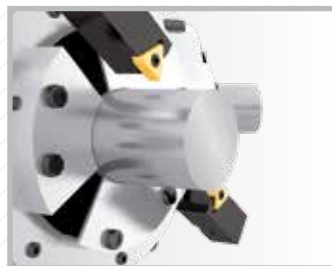
The Schwanog tooling systems, which always consist of a Schwanog tool holder and an insert blank, are the basis of all application solutions. Using state-of-the-art, robot-supported equipment, part-specific contours are ground or wire cut into the insert blank. Typical batch sizes for Schwanog are ranging from 3 to 50 form tools per order. Our insertable form tools can be used on single and multi-spindle lathes, chuck and turret machines as well as CNC and swiss-type lathes.

Schwanog tooling solutions often lead to part cost reduction of up to 40% as well as providing maximum precision and highest surface finish quality.

In addition to the distinctive economic benefit there is another application advantage. Due to Schwanog system technology contours can be achieved which cannot be produced while using the single-point turning process. This represents a further and very significant advantage for precision parts used in the automobile and medical industry.



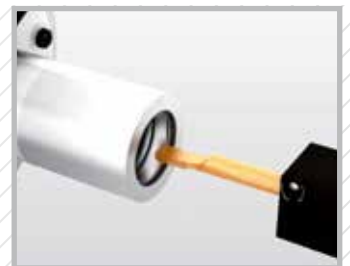
OD Grooving



OD Grooving on rotary transfer machines



ID Grooving



ID Grooving and turning



Polygon turning



Broaching of Serration



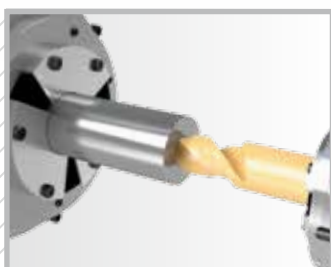
OD Whirling



ID Whirling



Form drilling



Solid Carbide drills



Shave tools



Skiving



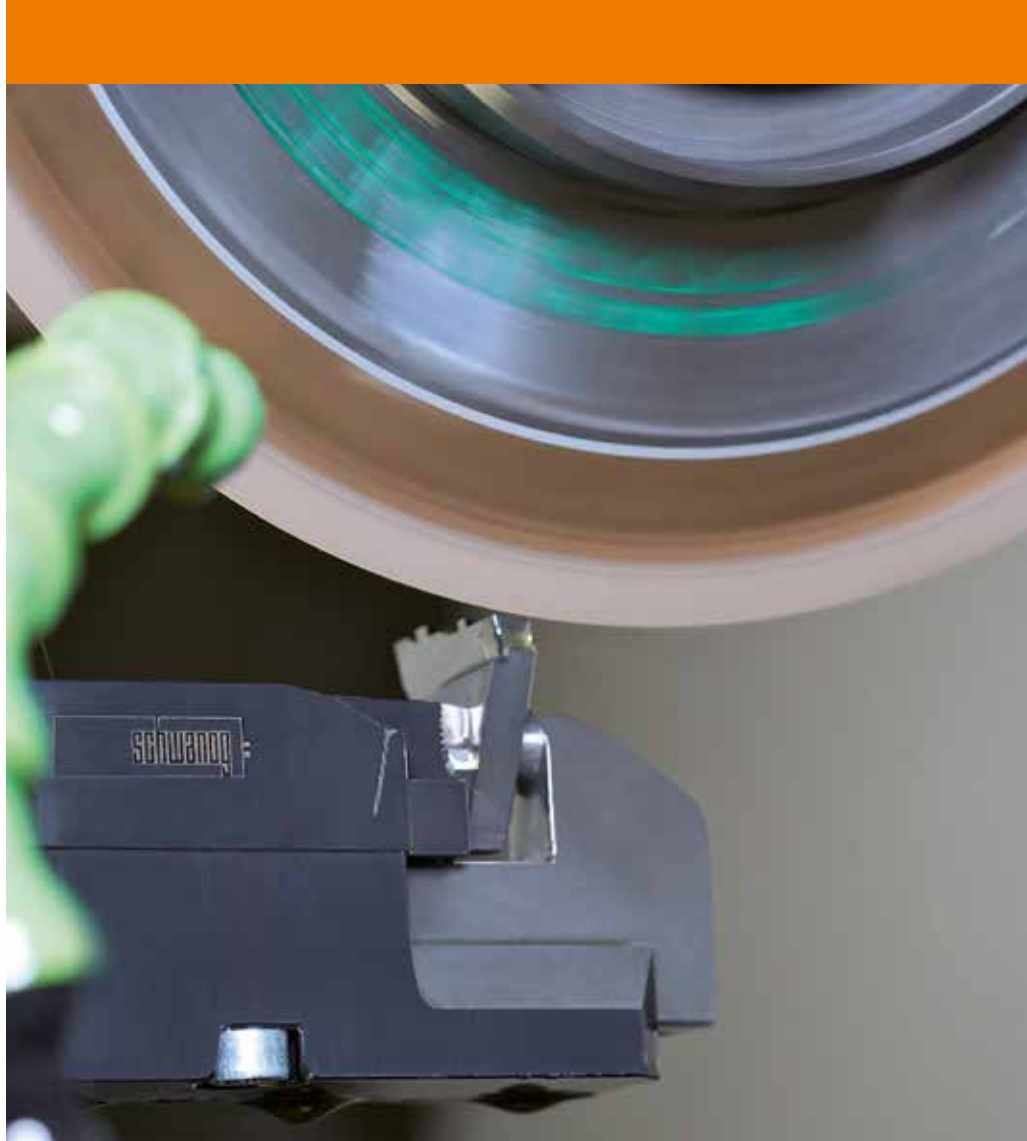
Parts Selector



MAXIMUM EFFICIENCY THROUGH HIGH-TECH MANUFACTURING

Through continuous investments in our manufacturing, we are in a position to act at the highest technological level due to the use of robotics. The efficiency of the processes here is crucial for the short order throughput times of the individually manufactured form tools.

Grinding, EDM wire-cutting and milling are the three primary processes that we use with the utmost precision in our manufacturing.



GRINDING

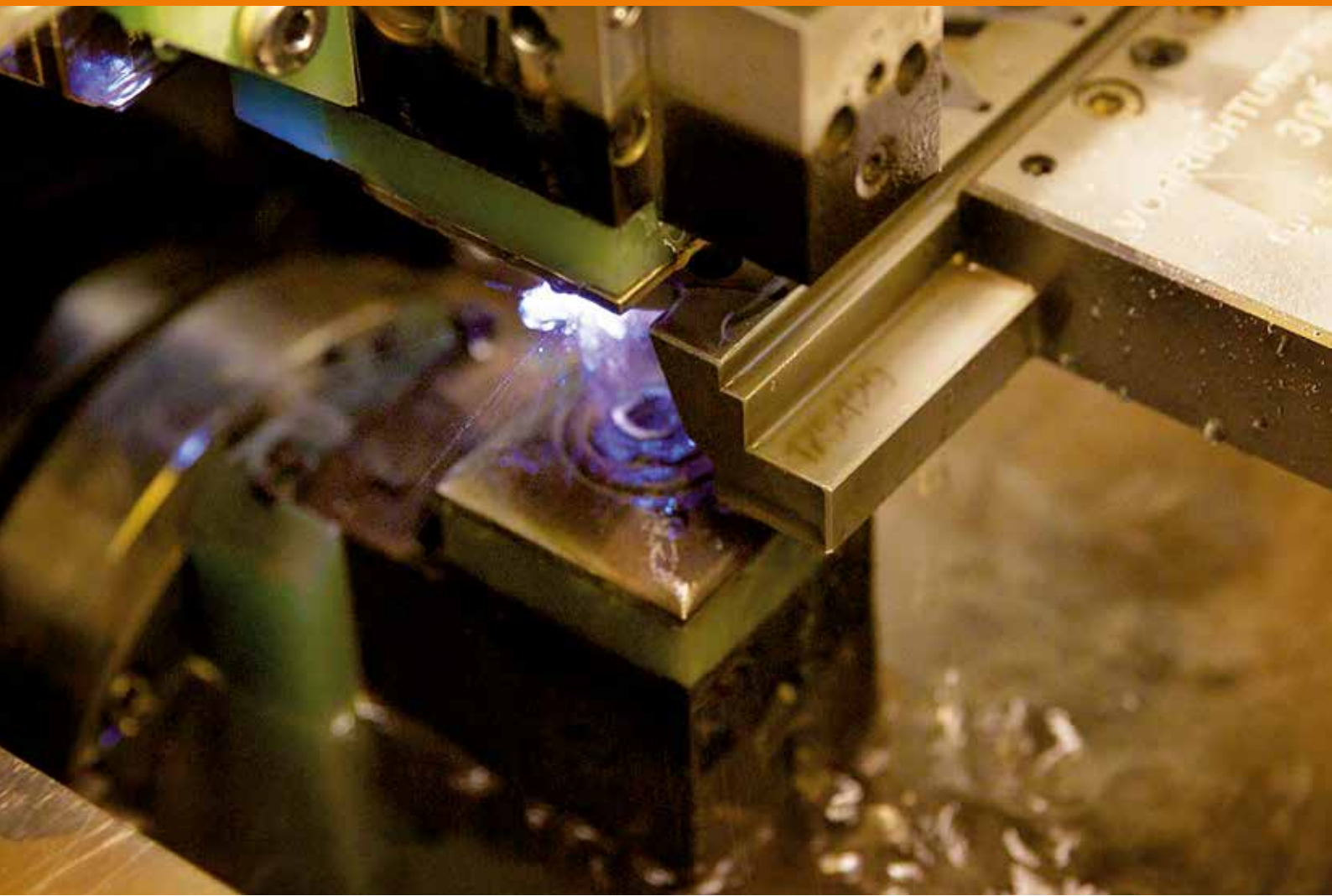
The grinding center with eighteen 5-axis CNC grinding machines, some equipped with robot support is the heart of Schwanog's manufacturing.

The robots are feeding the tool blanks into the grinding process and then retracting the finished form tools. This reduces throughput times considerably and leads to shorter delivery times of the individually manufactured tools.

The vast experience of our employees and the high technical standard of our equipment enable us to manufacture even the most complex contours at maximum precision and surface finish quality.

Due to the expansion of our production facilities we can adapt our capacities to the future growth without incurring any space problems.





EDM WIRE-CUTTING

For highly complex contours we utilize the EDM wire-cut process which we have developed due to major investment to the highest possible technological level.

Only a few years ago, the technology with EDM machines and 3-axis loading stations was regarded as state-of-the-art technology. With our new technology we currently combine nine EDM machines in a single robot cell as a sealed system whereby a 6-axis robot loads and unloads fully automatically. Empty pallets are returned automatically to the loading station by the robot where they are loaded manually with insert blanks. The advantages are largely determined by the speed of loading and unloading of the inserts as well as the automation of these steps. This allows us to manufacture around the clock, 24 hours a day, resulting in even quicker order turnaround times for our customer.





MILLING

Along with grinding and EDM wire cutting Schwanog has also invested in its own milling centers. All standard and special tool holders are manufactured on the latest 5-axis milling centers and 5-axis milling and turning centers.

This ensures that we have the necessary flexibility, particularly for special requirements and keeps the manufacturing know-how of grinding, wire-cutting and milling in-house.



OUR ORDER PROCESS: INDIVIDUAL SOLUTIONS WITH QUICK TURNAROUND TIMES!

1. INQUIRY

The way to cost savings and increased productivity leads through the consulting service of our sales division. Send us your inquiry, ideally with a part drawing, by web, email or fax.

1

INQUIRY



2. QUOTATION

Our experienced technical sales team will develop based on your part drawing the best economically and technologically sound solution. Within a short period of time you will receive our manufacturing recommendation along with a quotation.

2

QUOTATION



3. ORDERING

Forwarding of purchase order to Schwanogs sales department.

Upon receipt of purchase order follows the development of the tool drawing as the next process.

3

ORDERING



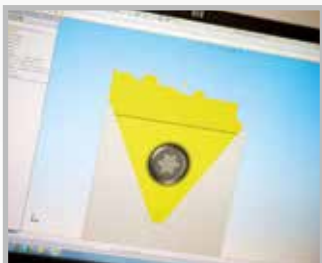
4. DESIGN

Upon receipt of purchase order we will design the best individual tooling solution for the manufacture of your part. A detailed tool drawing will be made available to you for your review.



4

DESIGN



5. PRODUCTION

Depending on geometry and material specification the profiles are manufactured on ultra-modern 5-axis CNC grinding centers, fully automated AGIE EDM machines with robot technology and cell management or a combination of both processes.



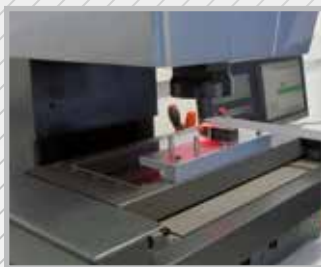
5

PRODUCTION



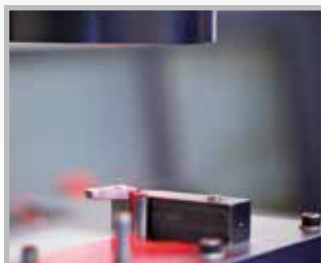
6. QUALITY CONTROL

Thorough quality control using CCD camera technology ensure the impressive precision of the contours. Our company is DIN ISO 9001:2008 certified and has a stringent quality assurance system.



6

QUALITY
CONTROL



7. CUSTOMIZED FROM 3 PIECES UP

Due to efficient processes even small batches can be produced economically and quickly. Finished product. (for graph)



7

CUSTOMIZED
FROM 3 PIECES
UP





SALES AND DESIGN – AN UNBEATABLE TEAM!

Like our customers who successfully manufacture with customized tooling solutions, one usually has little time to spare. As we are highly aware of this, we have closely linked our technical sales teams with the design department.

Our outside sales provides technical advice in person at your site to discuss your requirements. Our inside sales team is available via telephone to turn your requirements into efficient solutions, both quickly and reliably.

Once the recommended and quoted tooling solution has been ordered, our design department develops the manufacturing drawing for wire-cutting or grinding the defined contours in a short period of time.

The above procedure is highly efficient and ensures shortest order throughput times, from your inquiry to the delivery of the form tool



SALES:

- Experienced, capable inside and outside sales team
- Personal advice through our productivity specialists
- Fast analysis of your requirements with cost-saving manufacturing recommendation
- Close connection to engineering department

DESIGN:

- Extremely capable design team with fast solution results
- State-of-the-art hard and software with 3D-Solidworks
- Drawing exchange with 3D simulation upon request



INTERNATIONAL MANUFACTURING SITES FOR GLOBAL GROWTH!

In the first phase of the handling of international markets, we focus on intensive sales activity and customer support. In the second stage of our strategy we are establishing subsidiaries with independent production facilities as we did already successfully in the USA and France.

With this, we are creating additional manufacturing capacities and ensure quickest availability for our individually manufactured tooling solutions.





Schwanog USA

Due to the growing success in the USA, Schwanog LLC was established in 2004.

Located in Elgin, Illinois a total of 10 employees are responsible for sales, production, customer service and shipping. To ensure fast delivery Schwanog USA today has its own satellite manufacturing with state-of-the-art grinding and EDM centers.



Schwanog France

Schwanog Sarl was founded in Thyez in 2007. They have rapidly built themselves a good reputation on the French market through exceptional levels of customer support and through the high quality of all of its solutions.

In summer of 2016, Schwanog Sarl moved to new company premises in Marnaz with substantially more production space, enhanced social rooms, and the very latest of equipment.

Our customers also benefit from our excellent transport links, and our ease of access to the motorway network.



Schwanog China

A sales company was founded in 2013. Then, in May 2017, we opened Schwanog Kunshan Co., Ltd; creating another production location for ourselves in China.

The ultimate quality standards of our customer-specific solutions in China are achieved with our state-of-the-art grinding and wire-cut machines, as well as the latest generation of CMM inspection systems.

This now enables us to process orders, even urgent ones, directly from our Kunshan site.



Sales offices

Schwanog Czech Republic

With its own sales office near Brno, customers in the Czech Republic are informed proficiently and quickly in regard to applications and efficient Schwanog solutions.

Schwanog Poland

The Schwanog sales office is based near Warsaw from where it provides service and technical advice to our Polish customers.

Both offices are developing well due to their presence in the countries.





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