

# Grinding with attitude!



# Built with heart and soul.



## **WE BUILD MACHINES WITH HEART AND SOUL**

When Adelbert Haas began building machines in 1934, he had a clear goal in mind. He pursued it with his own brand of persistence, typical of the people from the Black Forest region. Mr. Haas wanted to build the finest universal grinding machine for the emergin watch-making, precision-engineering, and medical technology industries. Machines that carried the “Made by HAAS” stamp had to be efficient, precise, and built to last. To this day, that has not changed.

## **WE TAKE EVERYTHING PERSONALLY**

We feel compelled to follow the philosophy of our founder. Like Adelbert Haas, we are passionate about building machines. Our engineering team develops a grinding solution precisely tailored to each customer’s total processing needs, constructing a custom machine that leaves nothing to be desired when it comes to precision, quality, and efficiency. For this reason, we spend a great deal of time learning about our customer’s requirements, and we place great emphasis on the smallest details.



*127 different radii  
and transitions  
handled with ease!*



### **WE PRODUCE ALMOST EVERYTHING**

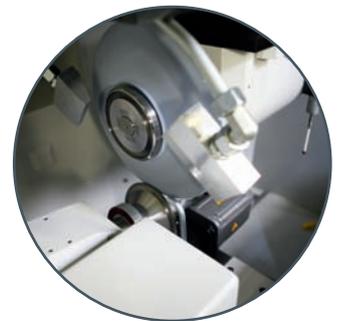
#### **OURSELVES**

For more than 70 years, HAAS has believed that once something is perfected, you must produce it yourself. Our worldwide success shows this to be true. That is why we develop and build the central elements of our grinding machines – grinding spindles, linear and rotary CNC axes – in Trossingen, Germany. For many years, we have relied on our own software department to develop our grinding software. Working together, our technicians, engineers, mathematicians, and computer scientists design a grinding program that considers all the parameters which govern grinding until everything is perfected.

Of course, there are machine components that we don't produce. In these cases, we rely on longtime regional partners who work with the same passion and attention to detail that we do. When it comes to quality, we never compromise.

### **WE'RE PRETTY HARD TO PLEASE**

People from our region are said to be perfectionists who have an inherent tendency for being hard to please. At HAAS, we are not easily satisfied when it comes to developing the ideal processing solution for production of high-quality machined parts. After all, our customers do not come to us merely to purchase a machine; they come to us because they want a complete solution that guarantees them reproducible top quality. HAAS customers are premium manufacturers in highly sophisticated industries such as medical technology, drives and gear cutting, and precision tools. In the global marketplace, customers rely on our grinding capabilities, on our knowledge and experience, and on our hard-to-please nature that motivates us to research and develop better solutions.



We've got just the axis  
to suit your angle.



Award-winning:  
MULTIGRIND® CB.



### THE MULTIGRIND®CB:

#### POWERFUL, FAST, AND BEAUTIFUL

The MULTIGRIND®CB is a grinding machine for every industry that manufactures high-precision parts with complex shapes and structures. Thanks to five powerful axes and grinding spindles with an output rating of up to 30 kW, this powerhouse offers the highest degree of precision and dynamics. The MULTIGRIND®CB also boasts a thermoresistant, vibration-reducing mineral composite base and optimally-designed kinematics. Precision in the micron range, as is required in the field of medical technology, for example, is standard for the CB. And the fact that the CB is both safe and easy to operate and also has a timeless design makes it that much more appealing.

#### GRINDING TECHNOLOGY AT ITS BEST

- Max. workpiece size:  
d=340 mm, opt. 500 mm, l=500 mm
- Grinding wheel changer for up to 12 grinding wheels (d=300 mm) or 17 grinding wheels (d=200 mm)
- Spindle power = max. 30 kW
- Spindle rpm = max. 18,000  
Workpiece clamping A-axis
- Interfaces: ISO SK 50, HSK 100/80/63/50 optional
- Linear axis resolution: 0.0005 mm
- Linear axes rapid feed:  
30,000 mm/min
- Rotary axis resolution: 0.001°
- Machine table clamping surface:  
1,000 x 500 mm  
Optional: 1,200 x 500 mm
- Work range x-axis:  
700 to 1,200 mm (optional)
- HAAS Multigrind Suite software package with Siemens 840D sl controller



*Synchronized shaping of workpieces.*

### THE MULTIGRIND®HT:

#### POWERFUL AND PRECISE

With five axes and two spindle ends, the MULTIGRIND®HT offers everything professional grinders expect from a top model: Precision, flexibility, performance, and productivity. The round axes with maintenance-free direct drive provide enormous stability, crash-resistance, and agility. The integrated measuring system offers maximum precision. Its integrated handling system and optional grinding wheel changer make the HT an effective center for manufacturing medical implants and instruments, rotating and shaping tools, gear-cutting tools and components, as well as cold-forming tools.

# We thrive on solving your grinding problems.

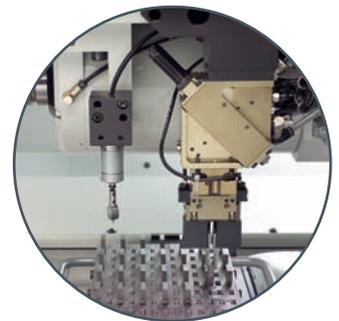


*Tried and tested:  
MULTIGRIND® AF.*

## GRINDING TECHNOLOGY

### IN ITS FINEST FORM

- Max. workpiece dimensions:  
d = 10<sup>3</sup>/<sub>4</sub> inches (260 mm),  
l = 15<sup>3</sup>/<sub>4</sub> inches (400 mm)
- 10-position grinding wheel changer with options for more
- Max. grinding wheel diameter:  
9<sup>3</sup>/<sub>4</sub> inches (250 mm)
- Spindle drive capacity 35hp (25 KW)
- Dressing spindle (profile truing)
- Integrated table axis as tailstock or workpiece support
- Multiple wheel packs
- Solutions for internal handling of robots with up to 6 axes
- Ergonomic operation
- High level of integrated safety features
- Siemens 840 D



*Tool changer  
as pick-up  
version.*





**“PRODUCTIVE AND FLEXIBLE”**

**IS NOT A CONTRADICTION IN TERMS**

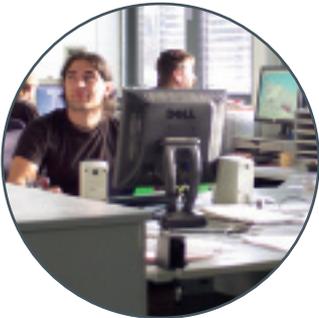
With a five-axis CNC grinding center from HAAS, and using our highly developed grinding software, a wide array of workpieces can be easily produced in large volumes or as individual pieces – all fully automated, of course. What workpiece would you like to grind?



# We know what keeps your world spinning.



*People with the ability to listen: This is what consulting is all about.*



*People with the ability to plan: Construction is no coincidence.*

## **SOFTWARE BECOMES**

### **A TANGIBLE SUCCESS FACTOR**

True to the principle that there's nothing that can't be done better, we decided to establish our own software development department in 1991. This decision proved to be the right one; today, software is just as central to a grinding machine as is the customized work fixture, which is also developed and produced in Trossingen. And the importance of the software to the entire process will continue to increase. Our software developers work tirelessly to make our simulation and programming software even simpler, faster and more flexible. To do this, existing software modules, like the profile plate module, are continuously optimized and made more efficient.

## **A CLEAR PROCESS**

### **FOR PROBLEMATIC GEOMETRIES**

In every respect, the demand placed on our customers' workpieces is becoming more complex. For example, an indexable cutter insert for machining axial and radial contours has many different open areas, rake and relief angles, beveling and corner radii. It is good to have our engineers and software developers – who relish such tasks – on your side. Following an in-depth analysis of your requirements and with the aid of our simulation and programming software, they will develop a clear process for a customized and efficient process solution. This also includes robots and handling solutions that additionally contribute to decreasing cycle time thus increasing grinding productivity.



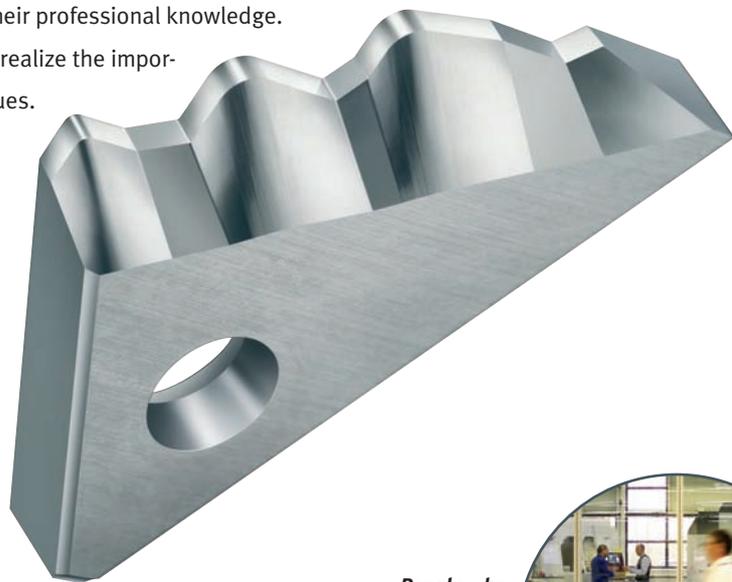
### **FLEXIBLE AND EFFICIENT GRINDING**

If components, like electrically driven worm shafts for adjusting automotive seats, are to be efficiently shaped into countless variations at various scales of manufacturing, users need not only highly developed grinding software and the perfect machine with an integrated measuring system, users also need the right workpiece handling solution. That is why loading and unloading the MULTIGRIND® CB is performed by two different handling systems adapted to the size of the workpiece. From inserting the unmachined part to removing the finished component after grinding, the entire production process is fully automatic. Depending on the programming, a wide range of pieces – even a single piece – can be produced efficiently with flexible loading solutions. At HAAS, the shaping of the grinding wheel in the work area goes without saying. During this process the grinding software and CNC control continuously exchange data in order to ensure the grinding values of the grinding wheel in the grinding process.

### **NOW IT'S YOUR TURN:**

#### **GRIND WITH ATTITUDE!**

Have we piqued your interest in a manufacturer of machinery who, for over 70 years, has been developing superior grinding machines with heart and soul, for highly demanding customers? Then we look forward to seeing you in Trossingen, where you will meet people whose excitement about technology is obvious. People who continuously work to expand their professional knowledge. People who realize the importance of values.



*People who  
value values:  
Transparency in  
production*



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**Schleifen Sie gut!**