INTERNATIONAL TRADE FAIR EDITION

September 10 to 15, 2018
McCormick Place, Chicago, IL

September 18 to 22, 2018
Messe Stuttgart, Germany

G-SERIES – ALWAYS ONE STEP AHEAD
Dear Business Partners and Friends of GROB,

We can also demonstrate how we maximize the efficiency of our plants with new technology such as GROB-NET®.

Sixth appearance at the AMB trade fair in Stuttgart in 2018

For the sixth time in a row, GROB will be unveiling its products at the AMB in Stuttgart. GROB celebrated its first appearance at this important international exhibition for metalworking in 2008. This year, GROB-WERKE will be exhibiting the following highlights at the AMB in Stuttgart, based at booth 81 in hall 10:

- G500 – Generation 2 universal machine with an HSX-AE3, 16,600 rpm motor spindle and high-dynamic rotary table for enhanced stability, precision and greater efficiency in workshop use
- Demo: Machining of steel billet segments
- G500 – Generation 2 production cell with a rotary pallet storage system and TM300 auxiliary tool magazine, for maximum flexibility, even with small machining centers. The machine is equipped with an HSX-AE3 motor spindle, which operates at a speed of 16,600 rpm
- Demo: Machining of an aluminum Eiffel Tower and a steel demo part 5-axis GSSDT – Generation 2 millturn universal machine, with an HSX-T100, 14,500 rpm motor spindle for almost unlimited possibilities in the machining industry

Markets of GROB NET®

The specially developed GROB NET® Industry production software, which is now also being unveiled for the North American market, is regarded as a special innovation. This software solution can use web technology to create connectivity and transparency throughout the entire production process between plants. GROB Bluffton has installed a local cloud provider for the IMTS, to “hook up” North American customers to the networks. To give visitors an insight into GROB NET® Industry, there is a separate exhibition area on the GROB booth, which includes the new GROB NET® control panel. Further highlights are the areas given over to electric mobility and service. Just beside that, customers can follow the demo of a longitudinal frame for the G600F. As IMTS is an important trade fair not only for the American market, but also for Mexico, Canada and even for Brazil, GROB Mexico and GROB Brazil will also be represented.

Product Line GROB for Electric Mobility

In the field of electric mobility, such as in the area of engine and transmission technology systems from GROB are largely modular, connected as standard and their data securely transmitted. New chapters will continue to be written in GROB NET® Industry’s success story. New feedback from our customers and our own production teams shows that we are providing practical solutions that correspond closely to the needs of each application scenario.

The IMTs and the AMB are among the most important leading trade shows for GROB in the machine tool sector. Every two years, the Exhibition for Metal Working (IMTs) is held in Chicago, and the International Manufacturing Technology Show (IMTS) is staged in Chicago, covering the most important leading trade shows for Metal Working (AMB) is held in Stuttgart and even the most important leading trade shows for the Americas at GROB. “Although GROB is also making waves in digitization systems for the automotive industry. This expertise also benefits GROB customers in tool and die making, medical technology, mechanical engineering and the aerospace sector. The change in drive technology in the automotive industry has gained significant traction in recent years, most notably in the Asian region. Very few experts anticipated this development. Despite that, GROB-XERIKE has reaped itself for this and evolved into an electric mobility systems provider within the space of three years by virtue of extensive research and development work, coupled with GROB’s specific technological expertise. In addition to this, new competences in production systems in electric drive and automation technology, it also advanced other very important innovations in the business of production systems for the automotive industry. GROB is also making waves in digitalization and automation, both in the worldwide networking of systems and in the automation of machines, with innovative storage systems and robot loading technology.

Systems business – innovative technology creates a paradigm shift for GROB. GROB is also expanding its presence in the areas of electric motor production, battery systems and fuel cell assembly. Nowadays, we are the first systems provider for electric mobility in the world to work with leading automobile manufacturers in the development of concepts, prototypes and solutions for mass production in the electric mobility sector that deliver maximum levels of automation and always utilize the latest cutting-edge technology.

Digitalization – a globally renowned partner

The sheer volume of different tasks in digitization is seen as one of the greatest challenges, although this can be mastered by skilling up and by developing a close net- work of reliable partners. GROB has successfully implemented the networking of systems across the entire globe. New, international cloud concepts are providing our customers with an entry point to digitization. Individual machines can now be con- nected as standard and their data securely transmitted. New chapters will continue to be written in GROB NET® Industry’s success story. New feedback from our customers and our own production teams show that we are providing practical solutions that correspond closely to the needs of each application scenario.
GROB TRADE FAIR HIGHLIGHTS

From the universal machine to a highly automated production system

GROB-WEIRE will be using its trade fair appearances at AMB and IMTS to demonstrate its innovations from the machine portfolio in the universal machine and system sector. We plan to unveil our automation solutions and to explore the topic of Industry 4.0 within the framework of the latest GROB-NetIndustry applications.

Highlight I: Universal machining center with highly dynamic rotary table

Since their market launch eleven years ago, the Swiss universal machining centers have undergone continuous technical advancement. With the second generation, the possibilities for using the successful machine concept have been significantly expanded. This is due in particular to their improved dynamics, their even greater stability, the significantly reduced external dimensions and the reduced cycle time.

The unique machine concept of the Swiss G350, G550, G750 and universal machining centers offers all manufacturing industry customers almost unlimited possibilities for machining workpieces made of various materials. Whether for the aerospace industry, machine manufacturing, the tool and die industry, the automotive sector or medical technology, GROB universal machining centers are optimally designed for the wide range of requirements of individual manufacturing sectors and are based on the same standard component program. All the machines are also available as mill and turn variants. The mill and turn option enables complete machining by milling and turning in a single clamping operation. The combination of both technologies reduces the time required by eliminating set-up times, while at the same time reducing investment costs and taking up less space in production.

In addition to the highly dynamic rotary table, other VARIO rotary table versions are available for the G550 model for machining long, narrow components, such as turbine blades or tools – the basic module, steady rest with toolstock center or steady rest with tandem drive.

Highlight II: Automation application of a G550 – Generation 2 with rotary pallet storage system PSS-R13

Our customers have relied upon automation solutions from GROB in large-scale production for decades. This experience is directly reflected in our automation concepts, making GROB a reliable partner for solutions ranging from workplace storage to high-flexibility production systems.

New developments such as rotary pallet storage systems, workplace handling systems and robot loading systems enable machines to be automatically run in shifts without manual intervention.

GROB is set to unveil a specially developed highly dynamic rotary table on a G550 – Generation 2 at the AMB in Stuttgart. An optimum swivel angle can be achieved due to the compact design, which is matched to the motor spindle contour. This makes it possible to use significantly shorter tools with short Z-travel ranges for greater stability, precision and more efficiency in workplace machining. The table diameter is 320 mm; its swiveling circle diameter is 600 mm. It can hold both round and square pallets of 320 mm (round) and 350 mm (square) and can withstand a maximum loading weight of 250 kg. Thanks to its special pallet clamping system, the highly dynamic rotary table is ideally suited for automation of the workplace flow.

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Highlight III: System machines for machining frame structure and chassis components

With its new development from the G-series, the sixth generation of double-spindle G600F, equipped with an optional double pallet changing system, GROB can demonstrate how productivity can be boosted significantly by means of parallel set-up during machining. Pallets are switched between the set-up station and machine work area via a rotatable pallet changer, thereby enabling longer periods of production without manual intervention.

The type terminology is already indicative of the fact that the G600F model with the “F” is primarily designed for machining “frame” structure components. It is designed in standard AC kinematics and has a swing circle diameter of up to 1550 mm. With its complete 5-side machining and high dynamics, it guarantees full flexibility for future workpieces.

Its swivel head has a swivel range of 180° and a automatic chip removal at the rear of the machine. It is also ideal for MQ1 machining. Despite its compact outer dimensions, it offers a very good view into the work area. The G600F is available with both manual/double front loading and automatic top loading. The machining of a frame structure component from the automotive industry will be demonstrated on the machine shown at the IMTS exhibition.

In addition to the G600F, GROB also markets smaller variants, the G500F and the two-spindle G520F.

Highlight IV: New technologies – GROB-NetIndustry

In a “Flavo Technologies” area, which is being specially installed at the AMB and IMTS trade fair booths, visitors can find out how GROB-NetIndustry software technology can be used to create cross-plant connectivity and transparency throughout the entire production process using web technology. A particular highlight, without precedent to date, is the way the machine can be controlled by the GROB-Line mobile application, which can execute authorized actions and commands regardless of location. The modular applications developed within GROB-NetIndustry are used to network and digitize production processes and not only ensure paperless communication, but also boost productivity and system uptime. An increase in productivity of up to 30 percent can be achieved by using GROB-NetIndustry and associated machine networking.
GROB CASE STUDIES

OMR – Making successful use of 5-axis technology to increase productivity

An extremely impressive machine concept providing the option of milling and drilling without re-clamping – and above all – a high level of process safety with maximum accuracy for workplace machining. Impressed by these benefits and located in Grabenbach, Hessen, the milling services provider, HETEC, is now a loyal GROB customer.

Stuttgart, AMB Trade Fair in September 2010. Hans Rink, head GROB representative for the German-speaking countries, was wowed by HETEC’s MD Friedhelm Herhaus and his state-of-the-art machines. When the GROB-MTV team was looking for a partner to convince HETEC to buy a GROB machine, it was Hans Rink’s idea to visit the company’s premises and visit Friedhelm Herhaus and his team personally.

Did OMR already have some experience with double spindle machines? Yes we did, although GROB Brazil had managed to persuade us of the benefits of GROB 5-axis technology, especially meeting our requirements in terms of the structure of the clamping device, process design and the turnkey handover of the project.

What was the reason why OMR choose GROB machining centers? GROB struck us as a reliable supplier of 5-axis machines, as both single-spindle and double-spindle machines. We were also impressed by the well-structured cooperation and the fact that GROB Brazil acted as a turnkey supplier.

What are the main advantages of GROB machines for workplace machining in your view? The reduced number of clamping operations, the optimum chip flow, which also made clamping easier, and the excellent accessibility to the rotary table brought us both higher efficiency and better quality in the machining process. Another important factor is the fact that the 5-axis concept helps to dispense with expensive tool concepts such as angle drilling heads. What’s more, we have also been able to reduce the footprint significantly due to the smaller dimensions of the machines. Besides that, costs for machining personnel on the double-spindle G520 have been cut in half.

Which workpieces are produced on GROB machines at OMR? We produce aluminium bedplates on four G520 machining centers, an aluminium transmission housing on eight universal machines, and cylinder heads, also aluminium, are produced on a single universal machine and drilling operations with deep hole drilling tools (8 H x 6.50mm) without a twist. A first G550 was then installed as planned for machining modeling components with complex contours, high surface requirements and parallel introduction of cooling bores in a single clamping. Later on, HETEC saw the machine’s actual potential for machining in the tool and die construction. The G550 was ideal for machining the high-strength, hardened steels typically used in this area. HETEC technicians were amazed by the option of full introduction of cooling and ejector bore with tool lengths of up to 650 mm in the same clamping. Continuous close collaboration between HETEC and GROB, allied with a desire to introduce automation for die- and tool-making processes with typically long running times, led to the purchase in 2014 of a G550 for deep hole drilling and a pallet system and a pallet system that made it possible to set up workpieces outside of the machine and then carve the GROB in-house trade show in 2015. The HETEC management team were impressed by the benefits of a G550 with a rotary pallet system (PS4-R), purchasing one soon after returning with a master copy. A major plus point in their eyes was the fact that, even with the GROB automation accessory the machine operator still had a good view and access to the work area. The purchase of a G550 seven years ago marked the beginning of a solid partnership based on trust – something that HETEC had never experienced before in two decades of existence.

The newly established Vietnamese automotive manufacturer VINFAST is a company with big ambitions. Located in Hapdong, which is one hundred kilometers south-east of Hanoi, VINFAST’s goal is to be a strong competitor in the world market. We are very impressed by the performance of GROB’s G550 with a rotary pallet system. After successful testing at GROB in Mindelheim, the HETEC management team finally made the decision to buy a G550. They made this decision because the axis concept allows for machining deeper cavities with good chip removal and drilling without re-clamping the workpiece or taking the workpiece out of the machine. HETEC team impressed by GROB technology.

An extremely impressive machine concept providing the option of milling and drilling without re-clamping – and above all – a high level of process safety with maximum accuracy for workplace machining. Impressed by these benefits and located in Grabenbach, Hessen, the milling services provider, HETEC, is now a loyal GROB customer. HETEC - Efficient and ultra-dynamic: milling and drilling without the need to reclamp.

VINFAST – the company relies on GROB’s technology.

Since the 1990s, Hapdong, a city of 900,000 inhabitants, is opening up a major location for international industrial and production plants.

Thanks to the port on the Red River delta, goods and raw materials can be shipped directly from Hapdong to Europe and America. This is an advantage providing the world market with a strong competitor in the world market. We are very impressed by the performance of GROB’s G550 with a rotary pallet system.

After successful testing at GROB in Mindelheim, VINFAST’s goal is to compete with strong market qualities in machining operations, VINFAST is counting on the expertise of GROB-WERKE for its new vehicles.

Following the successful introduction of the first VINFAST vehicle, a new project is now in the planning phase – a new vehicle. HETEC was among the first to be selected as a supplier for the VINFAST project.

Two new models: the Vinfast L800 and Vinfast F700, were ready for production in 2019.

The Vinfast L800 is a large family van with three rows of seats. The Vinfast F700 is a luxury limousine with a maximum speed of 250 km/h. The Vinfast L800 is a large family van with three rows of seats. The Vinfast F700 is a luxury limousine with a maximum speed of 250 km/h. The Vinfast L800 is a large family van with three rows of seats. The Vinfast F700 is a luxury limousine with a maximum speed of 250 km/h.

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