

Automation solutions for deep drilling machines

Tibo deep hole drilling machines are used across a wide range of manufacturing sectors including oil and gas, medical technology, automotive, aerospace, hydraulic and pneumatic, steel / aluminium processing, marine engineering, railway, renewable energies and die and mould making.

In all of these areas there is an increasing number of customers who don't just need a machine to machine deep bores in their components. Rather, these customers are increasingly demanding automated component loading and unloading, automated tool change, or they expect the integration of process steps following deep drilling such as deburring or washing and cleaning of the components.

The reasons given by customers for this are almost always the same and include: Reduction of the setup times and thus a reduction in setup costs; increase in the productivity of the machine; increase in product quality; reduced personnel requirements for operating the machine.

Tibo has optimised solutions for individual customer requirements, across all industry sectors. It has integrated a wide variety of automation into the respective machine or processes, such as conveyors for loading and unloading of parts, customised magazines and cassettes or robots that can be used very flexibly for the component handling. The suitability of components for the respective application depends on many different framework conditions and is determined in close cooperation with the customer.



A combination of several of the above-mentioned automation is also possible. For example, a robot that places the components on a conveyor or removes them from it and a magazine for automatic tool changes in BTA-deep drilling machines, or a component magazine for small components on the machine with an integrated gripper for inserting the components on the workpiece pre-centring device in a multi-spindle gun-drilling machine.

Tibo machines are currently provided to meet customer specific needs and increasingly more and more machines are provided with automation demonstrating company expertise in providing totally automated "lights out" deep hole boring solutions.

The application below demonstrates a robotic solution for a customer who needs to machine a large number of different components in batches of different sizes. In this project, only a robot was able to ensure that the system could be operated 24/7 as planned, without any disruption, with minimal manual intervention.

The use of components to automate certain processes requires them to be integrated into the control architecture of the deep drilling machine.

Even with these sometimes very complex systems, Tibo aims to make the operation of the machine "operator friendly", with ease-of-use and low maintenance always a



priority. Almost all machines are based on the latest touch screen technology which has proven robust and very popular with operators and managers alike. The current version is equipped with a high-resolution 15" colour display.

The necessary control and regulation technology is always tailored and adapted to the current application by the Tibo specialists. In most cases, however, the customer does not even notice the complex structure in the background, as only the clear operator friendly interface is visible in day to day operation.

This ensures smooth operation of the entire system and prevents operator errors. Only the areas necessary for the drilling process are visible to the machine operator. All other areas can be made accessible to the respective employees via different, predefined user groups if required. Of course, the machine can also be integrated into the company network so that certain employees, e.g. from production planning, can access the machine control from their workplace.

Tibo Tiefbohrtechnik GmbH from the Swabian town of Pfullingen in the southwest of Germany, approx. 40 km south of



Stuttgart, is one of the world's leading manufacturers of gun-drilling and BTA-deep drilling machines.

The Tibo standard range of gun-drilling machines includes machines with a solid drilling diameter range of Ø2 mm to Ø40 mm at a max drilling depth of 4,500 mm. These machines can also be built with multiple spindles. Depending on the spindle size they can be supplied with up to six spindles.

So-called TWIN units are also available as special machines. With these machines a large number of components can be machined, simultaneously from both ends of the part with max. six spindles each.

The BTA-deep drilling machines cover a solid drilling diameter range from Ø18 mm to Ø250 mm, with a max. drilling depth of 12,000 mm.

All Tibo machines consist of a modular sub-assemblies, which makes it possible to design the respective machine precisely for individual customer requirements. Without the need to design and re-design machine elements, all components of the various sub-assemblies are readily available and can be easily tailored to suit broad range of applications on short lead times.

The resulting time savings also benefit the customer's project management. Normally, at Tibo, there are no more than four to six



months between receipt of the order and commissioning of the deep hole drilling machine.

UK Agent:
Maydown International Tools
Tel: 01827 309 709
Email: cg@maydown.co.uk
www.tibo.com



The new performance class in Deep Hole Drilling. E40 // 1-1000

tibo.



Deep Hole Drilling Machine made by Tibo

- Deep Hole Drilling the easy way
- Ease of use, ergonomic design, increased safety
- Perfect solution for any application due to our modular design
- Impressive performance in terms of dynamics and precision
- Customer oriented project execution
- State of the art and intuitive user interface
- Short delivery time

Modularity. Performance. Precision.