DMG MORI

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World premiere: CLX 550 TC

Proven concept in a new size

Munich. Increasing part diversity and variance as well as decreasing batch sizes increase the risk of unproductive set-up times. This also changes the requirements for production solutions in universal turning. The CLX TC series from DMG MORI meets these challenges. With the new CLX 550 TC, the machine tool manufacturer has once again succeeded in redefining universal turning. A B-axis with the 90 Nm compactMASTER turn-mill spindle replaces the tool turret. The tool magazine offers space for up to 60 tools. The main and counter spindles have a torque of 720 Nm, while the tailstock and a steady rest complete the equipment. This allows users from all industries to efficiently produce complex workpieces in one work area. CELOS X in conjunction with the SINUMERIK ONE also enables app-based workflows with OP Workbench and 3D Shopfloor Programming, making it easy to use in both work preparation and workshop-oriented programming.

The B-axis factor: added value compared to any turret lathe

The central element of the new CLX 550 TC is the compactMASTER turn-mill spindle on the +/- 120° swiveling B-axis. It achieves speeds of up to 12,000 rpm and 90 Nm torque, making driven tool holders superfluous. The machine concept with turn-mill spindle and B-axis requires only one tool for the left spindle and the optional right spindle. The use of multitools and sister tools is also possible, so that nothing stands in the way of flexible automation for unmanned shifts. This ensures impressive performance and profitable productivity.

With the help of the right spindle, the CLX 550 TC can fully machine complex geometries on six sides. Both the left and the right spindles operate at a maximum speed of 4,000 rpm. Integrated spindle motors also ensure maximum positioning accuracy, so that the machine meets quality requirements in every conceivable application. In conjunction with the ISM102 spindle motor, chucks up to 400 mm in diameter can be used on the CLX 550 TC. The maximum workpiece size in the work area is ø 550 x 1,600 mm. The use of steady rests, which are available up to a workpiece diameter of 360 mm, is recommended for machining long workpieces. The steady rest slide can be extended using an optional quick-change system with double cone centering, which reduces set-up times by 50 percent with 3 µm repeat accuracy.

Shorter set-up times thanks to tool loading parallel to machining time and quick-change system

A Y-axis with 270 mm allows eccentric machining even as standard, while the tool magazine with up to 60 places - 30 as standard - enables the production of several different components without intermediate tool set-up. Tools can be loaded and unloaded parallel to machining time, so that machine downtimes can be significantly reduced.

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Efficiency in work preparation and workshop-oriented programming

Powerful features and integrated processes increase the efficiency of the CLX 550 TC, as does the software equipment. CELOS X on the fast SINUMERIK ONE control system with the clear ERGOline operating panel, app-based workflows with OP Workbench and 3D Shopfloor Programming support processes relating to work preparation and workshop-oriented programming. It plays a particularly important role in medium-sized companies. 3D Shopfloor Programming, a joint development by DMG MORI and SIEMENS, uses the 3D models of the component to be manufactured from the design department and creates an NC program largely automatically based on the underlying data. Automated feature recognition speeds up programming by up to 80 percent, freeing up time for other production-related activities.

Can be automated and saves resources

The machine concept of the CLX 550 TC contributes to a high level of efficiency, as do the optional automation solutions. A good example of this is the Robo2Go, which enables users to achieve optimum machine utilization – even in unmanned night and weekend shifts. The machine's modern components ensure energy- and resource-saving and therefore economical operation. Demand-oriented cooling, braking energy recovery and drives with high efficiencies of up to 93 percent are just three of the numerous measures that contribute to high energy efficiency. With its options for complete machining, digital equipment, good automation capability and resource-saving operation, the CLX 550 TC fits perfectly into the Machining Transformation (MX) with which DMG MORI is shaping the future of manufacturing.

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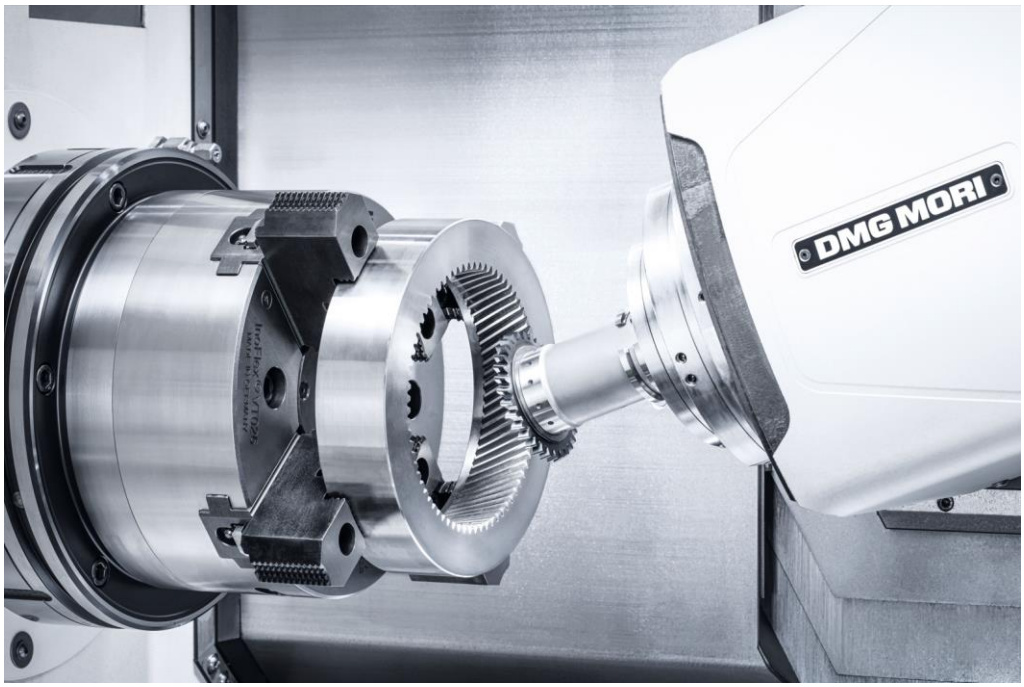
Equipped with a B-axis and counter spindle, the CLX 550 TC enables 6-sided complete machining of even the most demanding workpieces.



A B-axis with the 90 Nm compactMASTER turn & mill spindle replaces the tool turret on the **CLX 550 TC**.

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Company Profile // DMG MORI

DMG MORI is a leading global manufacturer of high-precision machine tools and is represented in 43 countries – with 116 sales and service locations, including 17 production plants. In the “Global One Company”, more than 13,000 employees are driving the development of holistic solutions in the manufacturing industry. Under the guiding principle of Machining Transformation (MX), DMG MORI combines four pillars for the efficient, sustainable production of the future: Process Integration, Automation, Digital Transformation (DX) and Green Transformation (GX).

DMG MORI stands for innovation, quality and precision. Our portfolio covers sustainable manufacturing solutions based on the technologies Turning, Milling, Grinding, Boring as well as Ultrasonic, Lasertec and Additive Manufacturing. With technology integration, end-to-end automation and digitization solutions we make it possible to increase productivity and resource efficiency at the same time.

At our production sites worldwide, we realize holistic turnkey solutions for the main sectors of aerospace, automotive, die & mold, medical and semiconductor. With the DMG MORI Qualified Products (DMQP) partner program, we offer perfectly matched peripheral products from a single source. Our customer-oriented services cover the entire life cycle of a machine tool – including training, repair, maintenance and spare parts service.

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