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World Premiere: DMU 20 linear

## Precise, compact, and dynamic

**Munich.** With the new DMU 20 linear, DMG MORI presents its most accurate 5-axis simultaneous machining center and thus an ideal solution for the highest quality demands in micro and precision engineering as well as in die & mold making or in the mobility sector. It processes watch components, graphite and copper electrodes and impellers, for example. The extremely compact machine (3.8 m<sup>2</sup>) combines precision and dynamics in the smallest of spaces. The rigid and thermally stable base is formed by an FEM-optimized cast bed and the thermosymmetrical gantry design. Together with finely tuned and highly sensitive temperature management and position measuring systems from Magnescale, the DMU 20 linear guarantees long-term stability and absolute dimensional accuracy – even for complex machining operations and long running times in the range of a few µm. The high dynamics are thanks to the wear-free linear drives.

### Flexible workspace with large swivel range

The DMU 20 linear machines workpieces up to ø 220 x 283 mm with travel distances of 220 x 370 x 290 mm. The A-axis swivels from +130° to -93°, allowing flexible machining strategies and improving the view of the workpiece. A 4-fold rotary feed allows vacuum clamping of components. This provides maximum flexibility in the choice of clamping devices – especially for sensitive or thin-walled workpieces. The C-axis can be rotated at up to 150 min<sup>-1</sup>, optionally 1,500 min<sup>-1</sup>. Thanks to a cooled axis, its positioning accuracy is 2 angle seconds. As standard, you can choose between a zero-point clamping system from EROWA or SCHUNK. Other zero-point clamping systems are available on request.

### Diversity and large tool magazine

The machine is equipped with a powerful Fischer spindle (HSK 32, 42,000 rpm) as standard. Spindles with HSK 40 or HSK 32 up to a maximum of 60,000 rpm are available as options. For the highest demands on precision combined with long running times, a shaft-cooled version is also available for the HSK 40 variant. The tool magazine offers 26 slots as standard, with up to 60 tools available as an option – ideal for flexible production requirements with frequent tool changes.

### More efficient thanks to process integration

The DMU 20 linear enables more efficient and productive machining through the integration of additional process steps. Reliable tool measurement using a Blum laser measuring system is carried out in the working area. The system is integrated into the side of the machine table. For the measuring cycle, the A axis is swivelled by 90° – a well thought-out detail for precise, automated processes.

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## **Designed for modern machining environments**

Numerous options allow the DMU 20 linear to be customized. An oil treatment package allows oil to be used as a coolant. Pressure relief plates, an interface for a fire extinguishing system, oil-resistant hoses, electrostatic extraction, and optional CO<sub>2</sub> extinguishing systems increase safety in this case. Perfect coolant preparation and a chip conveyor with a 200-liter tank are available, as are *zero-sludge*COOLANT and a maintenance-friendly *zero*FOG oil mist separator. In addition, the optional camera provides a digital image of the machining process.

## **Ready for the future of manufacturing**

DMG MORI developed the DMU 20 linear with a clear focus on future requirements. The machine can be easily automated via a plug & play interface, for example with the PH 10, PH 50, or MATRIS light. The intuitive CELOS X user interface on a Siemens SINUMERIK ONE paves the way for networked production and digitized processes. In addition, GREENMODE reduces energy consumption by over ten percent, enabling more sustainable manufacturing. For machining hard, brittle materials such as glass, Zerodur or technical ceramics such as ZrO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, SiC or Si<sub>3</sub>N<sub>4</sub>, the machine is also available as the 3rd generation ULTRASONIC 20 linear machine version. Here, the tool rotation is superimposed with an additional ultrasonic oscillation, which reduces the process forces during grinding by up to 50 percent.

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Automation solutions such as the PH 10 increase the productivity of the DMU 20 linear in low-manpower production.

**Company Profile // DMG MORI**

DMG MORI is a leading global manufacturer of high-precision machine tools and is represented in 44 countries – with 124 sales and service locations, including 17 production plants. In the “Global One Company”, more than 13,500 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 implement holistic turnkey solutions for the main sectors of aviation & space, automotive & e-mobility, 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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