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Press Release

November 1st, 2018

Japan Premiere of DMU 340 Gantry and DMU 200 Gantry powerful, dynamic, compact and universally applicable

The new standard in the gantry field: powerful, dynamic, compact and universally applicable

◆ **DMU 340 Gantry**

- **Stable:** One-piece, thermo-symmetrical machine bed of EN-GJS-600 for maximum rigidity and accuracy
- **Dynamic:** Wear-free, highly dynamic linear drives in the X- and Y-axis with up to 0.5 g and 3,543.3 in/min rapid traverse (optional), ram with integrated C-axis as direct drive for highest dynamics in 5-axis simultaneous machining
- **Modular:** Expandable to 236.2 in. in the X-axis and 59.1 in. in the Z-axis
- **Flexible:** B-axis milling head with direct drive and 50° swivel plane for the machining of angles up to -10°
- **Powerful:** Extensive range of spindle modules with HSK-A100 motor spindles up to 317.2 ft lbs
- **Intelligent:** CELOS for simplest operation, holistic integration into the company organization and continuous IoT performance

For Markus Piber, Divisional Board Member Sales & Technology Excellence of the DMG MORI Management GmbH, the new DMU 340 Gantry is the impressive result of an in-depth liaison with the large component manufacturers from the aerospace industry, general mechanical engineering as well as tool and mold manufacturing. And he is convinced: “With its **high performance, dynamics, compactness and universality**, the DMU 340 Gantry is the **new benchmark in the gantry field**.” The work area of the DMU 340 -Gantry measures 133.9 x 110.2 x 49.2 inches and provides expansion options to up to 236.2 inches in the X- and 59.1 inches in the Z-axis. Due to its gantry design, it also has compact dimensions. Direct drives in the B- and C-axis as well as linear drives in the X- and Y-axis enable dynamic 5-axis simultaneous machining of workpieces – primarily made of

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carbon aluminium, steel and cast iron. A spindle module with speeds up to 30,000 rpm or up to 317.2 ft lbs torque supports the large range of components. The linear drives in the X- and Y-axis act contact-free, with long-term precision as well as maintenance-free and thus guarantee unparalleled **dynamics of up to 5 g**, with best control quality. “Coupled with the rigidity of the machines, this enables excellent surfaces up to Ra 0.3 µ. Furthermore, high rapid traverses result in a significant **reduction of the machining time** by **up to 30 percent**,” adds Markus Piber. The single-piece, thermo-symmetrical machine bed and the comprehensive cooling measures ensure high thermal stability and thus enable complex machining under changing conditions.

The standard version with 173.2 x 106.3 inches table already provides space for workpieces weighing up to 22,046 lbs. The maximum load can optionally be increased to 66,138.7 lbs. Larger travel distances can be added on request: 236.2 inches in the X-axis and 59.1 inches in the Z-axis. By default, the DMU 340 Gantry achieves travel distances of 133.9 x 110.2 x 49.2 inches. Whereby workpieces up to 173.2 x 119.7 x 60.7 inches can be machined – with at the same time smaller footprint of 635.1 ft². The production of complex large components is ensured: The B-axis milling head has a 50° swivel plane enabling the machining of angles up to -10 °.

The DMU 340 Gantry uses the **SK40 speedMASTER motor spindle as standard**, produced in-house with 15,000 rpm and 317.2 ft lbs. The range of spindle modules allows an application-specific equipment with HSK-A63 **speedMASTER spindles with up to 30,000 rpm** or up to 105.9 hp for high machining performance with excellent surfaces at the same time. These are the order of the day in the aerospace field. The HSK-A100 spindles with 317.2 ft lbs torque for heavy-duty machining, specifically in mold making, round off the comprehensive range of spindles on offer. There is space for **30 tools in the chain magazine** as standard. The optional wheel magazine provides space for 63 tools and can be extended to up to 183 tool pockets.

As far as the control is concerned, DMG MORI is using **CELOS** for the DMU 340 Gantry as it does for all its machines. The app-based control and operating interface supports users on the machine with 21.5” multi-touch display and **27 CELOS APPs** with regard to the organization of orders and process optimization. CELOS acts as interface for integration of the machine into the company organization

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and for their interaction in production networks of the future. Adding to this are intelligent equipment options for optimizing manufacturing processes and further increasing process reliability. This includes amongst others an infrared measuring probe, tool measurement in the work area, mechanical tool breakage monitoring as well as Machine Protection Control (MPC) for reliable prevention of collisions.

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5-axis machining with up to 30,000 rpm and optional technology integration

◆ DMU 200 Gantry

- **Dynamics:** 0.5 g acceleration and 1,968.5 in/min rapid traverse (X/Y/Z)
- **Large work area:** Travel paths of 78.7 × 78.7 × 47.2 in. (X/Y/Z), optionally 157.5 in. travel path in X, at 258.3 ft² footprint
- **High stability:** Cast iron machine bed
- **High table load:** Workpieces up to 22,046 lbs
- **High degree of flexibility:** 45° or 90° milling head for 5-axis machining with up to 30,000 rpm
- **Technology integration:** Optional integration of ULTRASONIC for the CFRP/GRP machining or LASERTEC Shape for surface texturing

*The DMU 200 Gantry from DMG MORI impressively combines the **machining of large components and maximum dynamics**. Users benefit in the aerospace and automotive industry as well as in model making and the energy sector. With the 5-axis machining of **up to 30,000 rpm** and optional **ULTRASONIC or LASERTEC technology** integration, more complex components weighing up to 22,046 lbs made of aluminium or composites as well as welded components can be machined economically. The machine can be easily loaded from the top with a crane. The low gantry design of the DMU 200 Gantry enables optimum utilization of the work area. With a footprint of no more than 169.3 x 212.6 inches, the machine achieves travel paths of 78.7 x 78.7 x 47.2 inches, with which DMG MORI is successfully complementing its product range between the DMF and the DMU P series. "The ratio of the large work area of 6.6 x 6.6 inches to less than 258.3 ft² footprint has also inspired our customers – even surprised them," says Markus Rehm, Managing Director of DECKEL MAHO Seebach GmbH. They could already see this for themselves in July this year at DECKEL MAHO in Seebach, Rehm continues, and emphasizes: "The DMU 200 Gantry is the ideal complement of the product portfolio for the machining of large components at the Seebach location."*

The combination of cast iron machine bed and gantry portal creates a solid basis for the high dynamics. With rapid traverses of up to 1,968.5 in/min and 0.5 g acceleration, large components can be machined

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efficiently. Depending on the field of application, two milling heads are available for 5-axis simultaneous machining, a 45 ° as well as a 90 ° milling head. The first one enables the best possible utilization of the work area, while the 90 ° milling head enables the use of application-specific spindles, including the **compactMASTER** with a rotational **speed of 20,000 rpm** as standard in the 5-axis version. Additional spindle options comprise rotational speeds of 24,000 rpm, 28,000 rpm and 30,000 rpm. The vertical 3-axis version of the DMU 200 Gantry is equipped ex works with a **speedMASTER spindle** with 20,000 rpm. Adding to this is the optional ULTRASONIC milling head as well as the **LASERTEC Shape Technology**. This technology can be used to completely machine molded parts including surface structuring.

For the machining of composites or modelling material like Ureol, a highly efficient tripartite dust extraction is optionally available. This consists of an extraction system on spindle nose, extraction system in the table area and a work area extraction system with continuous volumetric flow. The basic construction of the machine was already designed with this in mind. A package can be offered as standardized option as required.

The **DMG MORI toolSTAR tool magazine** has 30 pockets as standard. Optionally, up to 120 tool stations are possible. Good accessibility of the tool magazine from the front with separate operating panel is part of the ergonomical machine design. The DMU 200 Gantry is perfectly accessible from two sides. The **DMG MORI ERGO*line* Terminal** with 21.5” multi-touch screen and CELOS can be easily swivelled to both sides. In future, DMG MORI will optionally offer **CELOS with HEIDENHAIN** for the DMU 200 Gantry. Selected DMG MORI technology cycles are available in parallel. Examples are 3D quickSET for highest kinematic precision and ATC for top surface quality.

If required, the machine is supplied with a **through-loading option**. In this case, the control cabinet is positioned next to the machine, which enables improved accessibility of the work area from the front and the rear. Related to this is the possibility of automation. A high process reliability is provided by the excellent chip management. The chips get to the funnel-shaped machine bed on both sides of the table, from where they drop into the chip conveyors, which are included as standard, unhindered and are disposed of towards the rear.

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With regard to the target markets, Markus Rehm has a clear vision: “The modular concept with through-loading option and two milling heads for 5-axis simultaneous machining as well as the high dynamics of **up to 0.5 g predestine** the machine for model making as well as the machining of structural parts or aluminum plate machining in the Aerospace industry. With regard to price, our machine costs half of a comparable portal machine.”

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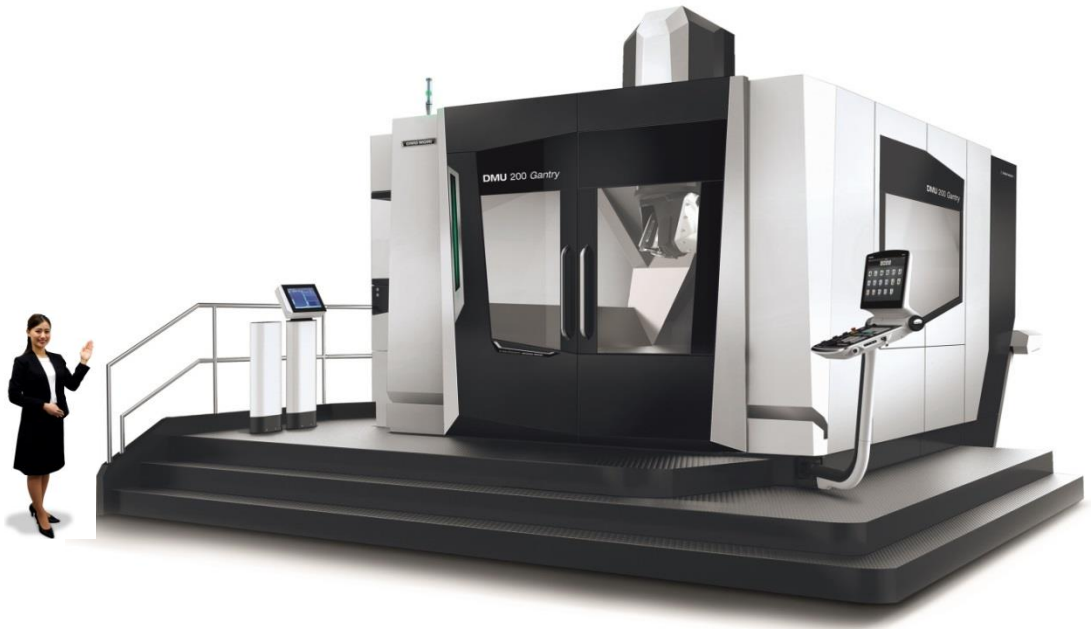

DMU 200 Gantry（外観）

DMU 340 Gantry（外観）