

Press Release

February 13th, 2023

DMG MORI releases “turnMASTER12in.C” New high-performance spindle in the MASTER series

DMG MORI CO., LTD. (hereafter “DMG MORI”) has released “turnMASTER12in.C”, a new high-performance spindle that can be mounted on small turning centers and mill-turn centers.

DMG MORI’s MASTER spindles are developed and manufactured in-house based on the combined technological expertise and know-how of our global engineers. The MASTER series offers five different spindle types: 1) powerMASTER for heavy-duty machining, 2) speedMASTER for high-speed machining, 3) compactMASTER for mill-turn centers, 4) 5X-torqueMASTER for 5-axis machines, and 5) turnMASTER for turning centers. DMG MORI machines are equipped with MASTER spindles and sold to customers all over the world.

The newly developed turnMASTER12in.C spindle has a 18% slimmer design than the previous turnMASTER model, increasing the possible chuck size on small-sized machine tools from 6 - 8 inches to 12 inches. In addition, the new turnMASTER spindle can machine shafts with a maximum diameter of up to $\Phi 105$ mm. A mill-turn center such as the NTX 1000 2nd Generation equipped with the turnMASTER 12in.C is able to machine not only small but also medium-sized parts, leading to increased machine utilization and productivity. With the turnMASTER12in.C as a powerful addition to the MASTER series lineup, DMG MORI can offer the optimal spindle for all different production needs.

DMG MORI manufactures the turnMASTER12in.C entirely in-house, taking advantage of the experience in spindle manufacturing that we have cultivated since the start of our turning center production. With a maximum spindle speed of 3,000 min⁻¹ and outstanding rigidity, the turnMASTER12in.C is ideal for heavy-duty machining and efficiently reduces machining time, CO₂ emissions and power consumption. Combining the new turnMASTER spindle with our carbon-neutrally produced machine tools, not only leads to higher productivity, but also contributes to the realization of environment-friendly production sites.

Related videos are available on our website.

- MASTER series of high-performance spindles:
https://www.dmgmori.co.jp/en/movie_library/movie/id=4456
- Spindle production at DMG MORI's Iga Campus:
https://www.dmgmori.co.jp/en/movie_library/movie/id=3458

■ Features

- ① Increased shaft diameter on small machine tools
 - 18% slimmer spindle design increases the maximum chuck size from 8 to 12 inches
 - Increases maximum shaft diameter to 105 mm. Shaft transfer can be automatized by using a barfeeder for higher productivity
- ② High-precision, high-rigidity structure
 - 12-inch chuck size enables 2.6 times higher rigidity and 2.2 times stronger brake torque ^{*1}
 - High-speed spindle with a maximum spindle speed of 3,000 min⁻¹ for significantly shorter machining time
 - High-precision Magnescale encoder improves C-axis indexing accuracy during milling
- ③ Energy saving
 - Shorter machining time reduces CO₂ emissions and power consumption

DMG MORI will continue to develop highly functional, reliable, and investment-worthy products to meet the diverse needs of customers.

Product	High-performance spindle for turning “turnMASTER12in.C”
Suitable machine models ^{*2}	NTX 1000 2 nd Generation (mill-turn center) To be gradually expanded to other models.

^{*1} Compared to previous 8-inch spindle model

^{*2} As of February 2023

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turnMASTER12in.C



speedMASTER



powerMASTER



compactMASTER



turnMASTER



5X-torqueMASTER

MASTER series of high-performance spindles