

## Press Release

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August 20, 2013

# Rotary Table for 5-axis Machining “5AX-DDRT200X” Enabling 3-axis Vertical Machining Centers to Achieve 5-axis Machining

Mori Seiki will begin taking orders for the 5AX-DDRT200X rotary table for 5-axis machining, a new model in high-speed, high-precision rotary table DDRT (Direct Drive Rotary Table) series on August 20, 2013.

The 5AX-DDRT200X, when used in combination with a 3-axis vertical machining center, superbly achieves simultaneous 5-axis machining\* of complex-shaped workpieces, which is in growing demand in the medical-related and aircraft industries, and also saves on the customers' investment cost for purchasing 5-axis machines by enabling 3-axis vertical machining centers to achieve 5-axis machines.

The 5AX-DDRT200X employs the DDM (Direct Drive Motor) and drastically improves transmission efficiency compared with conventional worm gear systems, allowing high-speed feed and zero backlash. The 5AX-DDRT200X achieves a 15% shorter indexing time on both the tilting and rotary axes than the previous model, and the fastest maximum rotational speed in its class of 150 min<sup>-1</sup> on the tilting axis, and of 250 min<sup>-1</sup> on the rotary axis, respectively. What's more, the rotary table achieves a positioning accuracy of eight seconds (±4 sec.) on the tilting axis, and five seconds (±2.5 sec.) on the rotary axis; ensures high accuracy and improves productivity with a shorter non-cutting time for simultaneous 5-axis machining\* of complex-shaped workpieces such as impellers and indexing 5-axis machining of automotive parts. We offer software packages optimal for indexing 5-axis machining and simultaneous 5-axis machining\* to support customers' 5-axis machining work.

The newly developed Cascade Built-in Motor Brake is used to significantly improve durability, and the Magnescale scale is mounted as standard contributing to an overwhelmingly high level of rigidity and accuracy. The 5AX-DDRT200X is capable of handling heavy-duty cutting and machining of difficult-to-cut materials as the rotary axis motor achieves a torque of 280 Nm and the bearing rigidity of the tilting axis is drastically enhanced. The structure with a low center of gravity, in which the face plates are positioned at a lower level, is employed to locate the drive position close to the center of gravity, ensuring stable drive.

\*For simultaneous 5-axis machining, a NC unit for 5-axis machining is required.

The maximum workpiece loading capacity is up to 30 kg to handle a wide range of workpieces. The distance between the tilting center and the face plate is shortened to expand the machining area, therefore allowing easier fixture design.

The 5AX-DDRT200X is compatible not only with the Mori Seiki products, but any 3-axis vertical machining centers equipped with a leading NC unit. Our engineers provide customers comprehensive support throughout the period from machine installation to start of machining work. As a product certified as MSQP (Mori Seiki Qualified Products), the 5AX-DDRT200X is guaranteed for two years and receives the same full support from Mori Seiki as the machine body.

Mori Seiki continues to support more customers' production sites by releasing the enhanced product lineups in the market.

Type	Rotary table for 5-axis machining
Model	5AX-DDRT200X
Market	Complex-shaped workpieces for the medical, aircraft and automotive industries
Orders start	August 20, 2013
Production	5 units/month

■ Main specifications

Items	5AX-DDRT200X
Table diameter	200 mm
Dimension (height x width x depth)	340x561x594 mm
Height to the center of the tilting axis	180 mm
Nose hole diameter	65 mm
Max. table rotational speed (rotary axis)	250 min <sup>-1</sup>
Clamping method	Air supply, hydraulic drive
Clamp torque	Tilting axis: 1,000 Nm Rotary axis: 800 Nm
Positioning accuracy	Tilting axis: 8 sec (±4 sec.). Rotary axis: 5 sec (±2.5 sec.).
Max. workpiece loading capacity	30 kg
Rotary table mass	275 kg



Photo 1. External appearance of 5AX-DDRT200X

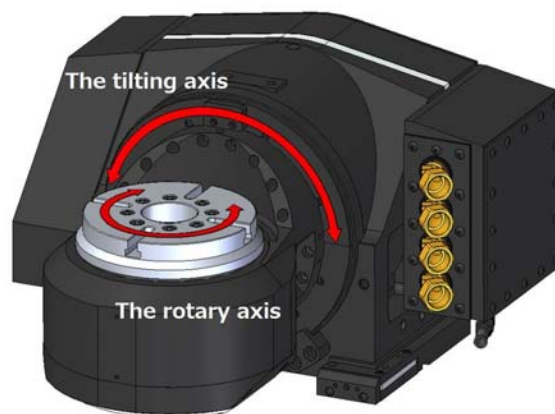


Photo 2. Structure of axes