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Nidec Machine Tool Adds an Efficiency-improving High-speed Spindle to the MV-BxII Series – a Double-column Machining Center with Best-in-class Productivity

- Maximum speed of 10,000min⁻¹ to improve the quality of aluminum machining and die/mold production
- Capable of performing a wide range of machining – from roughing to finishing

Nidec Machine Tool Corporation (“Nidec Machine Tool” or the “Company”), a Nidec Group company, announced today that it has added a high-speed spindle with a maximum spindle speed of 10,000min⁻¹ to the MV-BxII series of the Company’s double-column machining centers, and that the new product will be launched on Monday, December 16, 2024. This latest machining center with a spindle taper of No. 50 boasts a high productivity based on the best-in-class rapid traverse speed, combined with a compact size and an easy-to-install feature based on the product’s double-column structure. Adding this high-speed spindle (with a taper of BBT50) to its product lineup, Nidec Machine Tool can realize a better quality of finished surfaces and high-efficiency component machining under ideal machining conditions, and greatly contribute to improving production efficiency for the machine’s users.



The MV-BxII series of Nidec Machining Tool’s double-column machining centers



High-speed spindle main specifications:

- Spindle taper: BBT50
- Spindle speed: 35 to 10,000min⁻¹
- Spindle motor output: 18.5kW/550min⁻¹
- Spindle maximum torque: 305Nm

The newly developed high-speed spindle (rotating spindle speed: 10,000min⁻¹) enjoys better rotating spindle speed than that of the standard spindle (rotating speed: 7,000min⁻¹) while still retaining its high-rigidity structure. This is to realize the finishing machining of die/mold by using small-diameter tools, and the high-efficiency machining of aluminum materials – both of which require a spindle to rotate at a high speed – in addition to conventional component machining and rough machining. With a high-speed spindle, the rotating speed’s range is now as wide as 35 min.⁻¹ to 10,000 min.⁻¹.

In addition, to realize both high-precision machining and high-speed operation, the machine’s unit adopts a double-anchor structure for its feeding function, and cools the core of its ball screw axis to counter the heat.

Further, this newly developed high-speed spindle uses grease lubrication that doesn’t require regular lubricant oil or air supply into the bearing, reducing the usage of lubricant oil and electricity. Also, with the only lubricant oil-related maintenance work being replacing the dedicated grease cartridge with a new one, operators can enjoy less daily workload.

Nidec Machine Tool stays committed to developing technologies in pursuit of productivity and eco-friendliness, and offering products that meet the diverse needs of the world’s production sites.

■ The MV-BxII series main specifications

Specification/Model			MV12BxII		MV16BxII
Column inner width (mm)			1,460		2,000
Table	Work area	Width (mm)	1,300		1,800
		Length (mm)	1,600	3,000	2,200
	Maximum loading capacity (kg)		3,000	5,000	8,000
Workpiece mounting surface – spindle end face dimensions (mm)			200-860		200-860
Axis travel (mm)	X - table		1,600	3,000	2,200
	Y - saddle		1,300		1,700
	Z - head		660		
Rapid traverse speed (m/min)	X - table		48	32	
	Y - saddle		32		
	Z - head		32		
Maximum cutting feed rate (m/min)			10 (32: See the notes below.)		
Spindle specification	Spindle speed (min ⁻¹)		35 to 7,000, 35 to 10,000		
	Spindle motor output (kW)		Consecutive 18.5/30 min. 22.0		
	Spindle motor torque (Nm)		Consecutive 305/30 min. 382		
	Spindle taper		BBT50		
ATC tool storage capacity (pcs)			30		

Notes:

The parenthesis values in the above specifications apply to the HHQ control only.

The Hyper High & Quick response (HHQ) control is Nidec OKK Corporation's own high-precision control function.

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