

## Press Release

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October 9, 2012

# Exhibiting 32 innovative machines at JIMTOF 2012

DMG(GILDEMEISTER AG) and Mori Seiki will be exhibiting at **JIMTOF 2012** to be held for six days from November 1 (Thu) to November 6 (Tue) at Tokyo Big Sight.

We will exhibit 32 machine tools including 8 new models at the largest booth of 2,340 m<sup>2</sup> among the participating companies at JIMTOF 2012. We will combine the technologies of both Mori Seiki and DMG under the theme of "THINKING BEYOND TECHNOLOGY."\*

A full line-up of the NLX series, which has been highly praised by customers since the release of the NLX2500 in 2010, will be displayed for the first time in the world at JIMTOF 2012. Three classes of the NLX1500 with a 6-inch chuck, the NLX2000 with an 8-inch chuck, and NLX3000 with a 12-inch chuck will be newly released, covering from small parts to large parts in the oil and gas industry. DMG will release 5 new models including, the DMC 60 H *linear*, a high-precision horizontal machining center which is the most suitable for machining power train components of automobiles. A variety of new 5-axis machining centers improved in the European market, such as the DMC 65 monoBLOCK<sup>®</sup> with which a 20-station pallet pool is integrated, will be exhibited, proposing process integration and manpower saving to improve productivity. We will exhibit a wide variation of models with the latest solutions to respond to diversifying needs.

At the DMG / MORI SEIKI Theater of our booth, automation systems such as LPP (Linear Pallet Pool), the robot system, and loader will be introduced, and seminars regarding advanced machining technologies will be held every day. Also, the entries for the 9<sup>th</sup> Cutting Dream Contest will be displayed. Please enjoy looking at various works produced by experienced technique and innovative ideas. The awards ceremony for excellent works is held on November 1 (Thu).

We sincerely hope you will visit the exhibition.

\* THINKING BEYOND TECHNOLOGY: conveys a message that we offer our customers one step advanced values with a total solution from products, engineering, to service/support.

Date and time	Nov. 1 (Tue) – Nov. 6 (Tue), 2012 9:00 - 17:00
Venue	Tokyo Big Sight (Tokyo International Exhibition Center) East Hall 3, Booth No. E3025
Access	[Rinkai Line] Approx. 7 minutes' walk from the Kokusai-Tenjijo station [Yurikamome] Approx. 3 minutes' walk from the Kokusai-Tenjijo-Seimon station
Area of booth	2,340 m <sup>2</sup>
JIMTOF 2012 Official Web Site	<a href="http://www.jimtof.org">http://www.jimtof.org</a>

Highlights of display machines are as follows (\*\*: new models):

#### <NLX Series>

A full line-up of the NLX series, high-precision CNC lathes, will be exhibited. We have prepared the size variations from a 6-inch chuck to a 15-inch chuck for the NLX series, which have been highly praised since its release in 2010, to satisfy the needs of customers.

The NLX1500Y/500\*\*, NLX2000SY/500\*\*, and NLX3000Y/700\*\* to be exhibited for the first time in the world, are CNC lathes with a 6-inch chuck, an 8-inch chuck, and a 12-inch chuck respectively. We have created reliable and “matured” machines by reflecting the feedback from the customers in every detail. We have adopted Mori Seiki’s original technology to control thermal displacement to realize higher accuracy. The thermal displacement is reduced to 1/3 or more to enhance machining accuracy. BMT (built-in motor turret) is adopted to realize milling operation equivalent to machining centers.

The NLX4000AY/750 is the largest machine in the NLX series, featuring stable machining with the widest slideways in its class and the high-rigidity structure. Furthermore, the maximum torque of the milling motor has been increased to 100 N·m. The greatest performance of both turning and milling will be provided in machining large diameter workpieces for construction/agricultural machinery and pipes for the oil and gas related industries.

#### <DMC 60 H *linear*\*\*>

A high-speed, high-precision horizontal machining center, DMC 60 H *linear*\*\* which is most suitable for machining power train components for automobiles will be exhibited for the first time in Japan. It features mainly the swivel rotary table and 5-axis machining. The swivel rotary table for the maximum workpiece size of  $\phi 800 \times 800$  mm and the maximum negative angle of  $-20^\circ$  enable to machine complicated-shaped power train components in one chucking. Also, a rapid traverse rate of 100 m/mm and an acceleration of 1 G are realized by installing the linear drive. Set-up time and machining lead time are significantly reduced, and productivity is dramatically improved.

<DMU 65 FD monoBLOCK<sup>®\*\*</sup>, DMC 65 monoBLOCK<sup>®\*\*</sup>, LASERTEC 65 Shape<sup>\*\*</sup>>

The latest three models of DMU 65 monoBLOCK<sup>®</sup> from DMG, a 5-axis machining center whose functions are easily expanded by the module structure, will be exhibited at JIMTOF 2012. Please enjoy looking at integration of high-performance 5-axis machining centers and the latest technologies.

The DMU 65 FD monoBLOCK<sup>®\*\*</sup> is a multi-axis machining center equipped with the turning function as well as the 5-axis machining function. It is equipped with the spindle with a maximum spindle speed of 18,000 min<sup>-1</sup> and the turning table with a rotational speed of 1,200 min<sup>-1</sup>. It is also equipped with DMG's highly sophisticated technologies such as tilted turning utilizing the 5-axis function and automatic adjustment of the rotational speed by detecting vibrations of workpieces, and total machining processes of milling and turning can be performed in one setup with one machine.

The DMC 65 monoBLOCK<sup>®\*\*</sup> with the space-saving 20-station pallet pool, "RS20," and the magazine with a capacity of 180 tools will be exhibited for the first time in the world. Furthermore, the machine body and the pallet pool, and the tool magazine adopt the ergonomic design, realizing the perfect access to the setup stations of the machine and the magazine. The combination of space saving and setup efficiency has enhanced the productivity per unit of area to the maximum.

The LASERTEC 65 Shape<sup>\*\*</sup> is the next-generation multi-axis machine, which is a 5-axis machining center equipped with the laser beam machining function. A whole process from 5-axis milling to surface finishing for dies and molds can be achieved on one machine, and machining of molds for automobile interior and injection molding machines are possible in one chucking. The LASERSOFT-3D-TEXTURE, software for laser beam machining, is capable of simplifying the programming. Information printed on a sheet and customers' newly designed ideas as well as bitmap-format<sup>\*1</sup> monochrome image data can be easily converted into a program for laser beam machining.

\*1 One of image formats in computer graphics

<CTV 250 DF<sup>\*\*</sup>>

The CTV 250 DF<sup>\*\*</sup> is an invert lathe for machining of constant-velocity joints for automobiles. The machine realizes process integration of turning and milling by use of a turret for turning and the swing-type rotary tool spindle with a rotation angle of -45° to 105°. The right and left specifications for both workpiece loading and unloading positions are available, which makes this compact-size machine conveniently flexible for line production. The CTV 250 DF<sup>\*\*</sup> can be optimally incorporated into customers' existing production systems or used by itself.

<MILLTAP 700 equipped with DDRT-200X>

The MILLTAP 700, the next-generation compact machining center, provides 4-axis machining using a compact rotary table, DDRT-200X. The machine makes the most of its wide work envelop for 4-axis machining by adopting the new compact rotary table that realizes high-speed and high-precision indexing. This enables machining of complex-shaped workpieces, extending machining variation of the MILLTAP 700.

<NVX5100 II/40 equipped with ZEROCHIP® and 5AX-DDRT>

The NVX5100 II/40 is a vertical machining center that employs slideways on all axes to increase rigidity. At JIMTOF 2012, Mori Seiki will be displaying this model equipped with our latest technologies: the ZEROCHIP® and the 5AX-DDRT200 rotary table. The ZEROCHIP® is a chip evacuation device that sucks and collects dust-like chips generated during machining of CFRP, a material commonly used for aircraft parts, and other similar materials from the tool tip. The ZEROCHIP® not only prevents dust particles from scattering, but also inhibits material alteration caused by dissolution of resin by collecting high-temperature chips. The 5AX-DDRT200 rotary table enables 5-axis machining with optimum tool length and cutting conditions, contributing to reduction in machining times.

<NTX2000/1500SZ equipped with S-Quad and high-pressure coolant unit (14 MPa)>

The NTX2000/1500SZ featuring two state-of-the-art technologies presents a new potential of multi-axis machines. The S-Quad (Smart Scan Sensing System) is a measuring system that uses a non-contact laser sensor for measurement. The S-Quad allows high-speed scanning of free forms or curved surfaces with a small curvature, which are difficult to measure with a contact-type measuring system. The scanned data can be displayed in 3D or used to compare with CAD data. The 14 MPa high-pressure coolant unit facilitates chip breaking and helps decrease tool wear even when machining difficult-to-cut materials like titanium and Inconel commonly used for aircraft parts.

<Display Machines> \* indicates new models

5-axis machines	DMU 50	DMU 65 FD monoBLOCK® **
	DMU 80 eVo <i>linear</i>	DMC 65 monoBLOCK® (with RS20 and 180 tools) **
	DMC 125 FD duoBLOCK®	HSC 55 <i>linear</i>
CNC lathes	NLX1500Y/500 **	NLX2000SY/500 **
	NLX2500SY/700 (with Robot System and Sauter Trifix)	NLX2500Y/1250
	NLX3000Y/700 **	NLX4000AY/750
	CTV 250 DF **	SPRINT 42 10 <i>linear</i>
Multi-axis machines	NTX2000/1500SZ (S-Quad, Ultra High Pressure Coolant)	NT6600 DCG/4000BS
	NZX4000CY/2000	
Vertical machining centers	MILLTAP 700 (with DDRT-200X)	NVX5080 II/40 ( with 5AX-DDRT)
	NVX5100 II/40 (with ZEROCHIP® and 5AX-DDRT)	
Horizontal machining centers	NHX4000	NHX5500
	NHX10000	DMC 60 H <i>linear</i> **
ECOLINE	CTX 310 <i>ecoline</i> V3	DMC 635 V <i>ecoline</i>
	DMU 50 <i>ecoline</i>	
Laser machine	LASERTEC 65 Shape **	
Ultrasonic machine	ULTRASONIC 55 <i>linear</i>	
Machine for Mass Production	DIM-1500 (with AWC)	
Tool Presetter	VIO 20 50 <i>linear</i>	UNO 115 <i>ecoline</i>

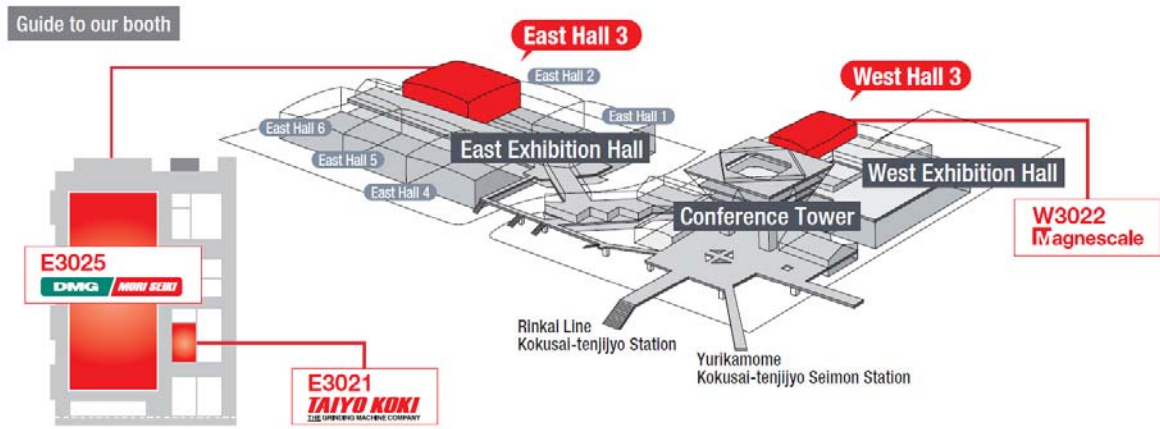


Fig. 1 Location of Mori Seiki booth

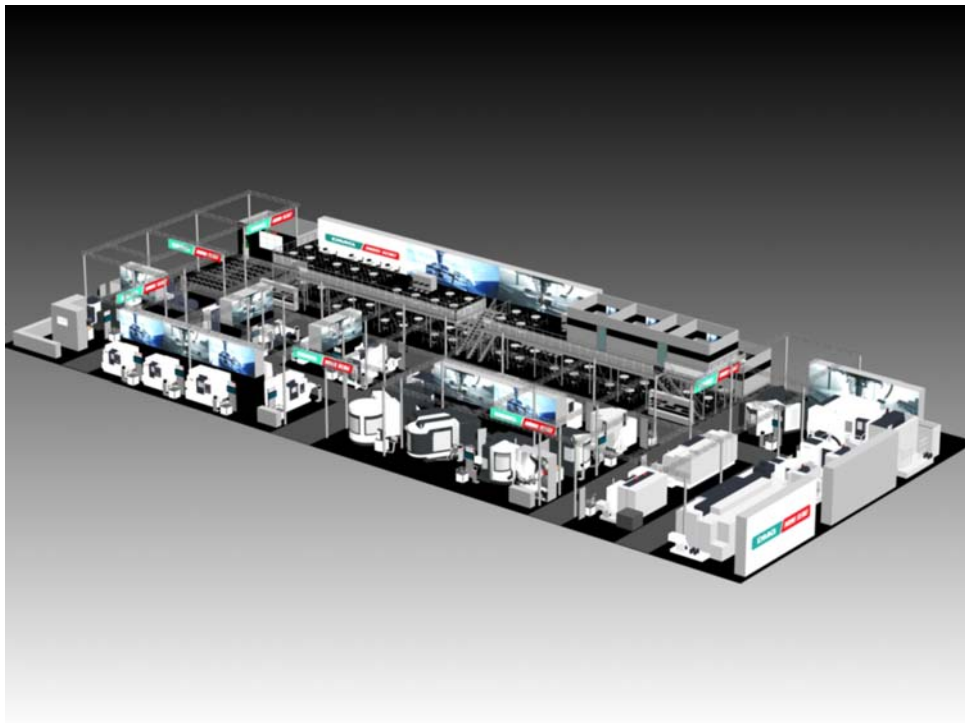


Fig. 2 Bird's eye view of Mori Seiki booth



Photo 1. NLX4000AY/750



Photo 2. Heavy-Duty Cutting with High Torque Rotary Spindle

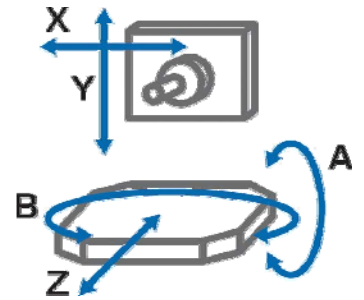


Photo 3. DMC 60 H *linear*

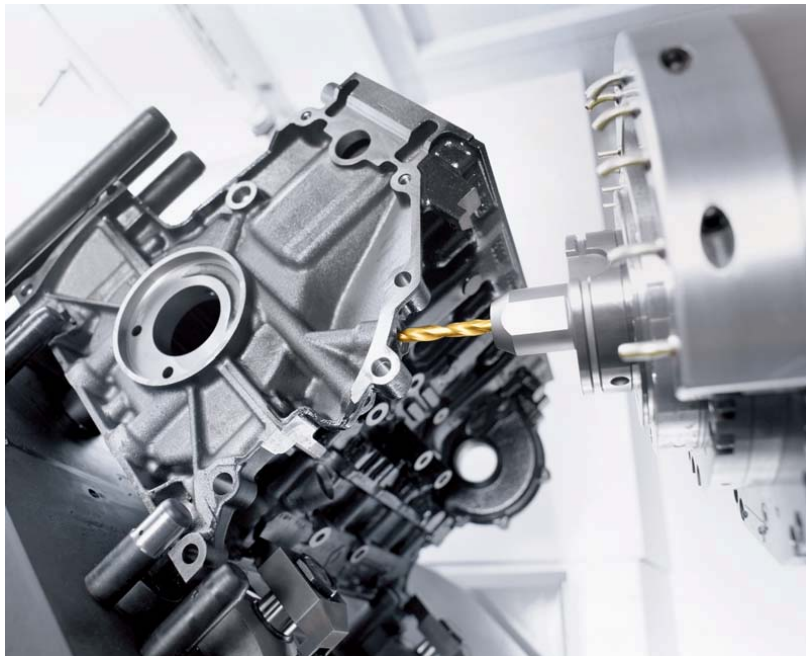


Photo 4. 5-Axis Machining of Engine Block



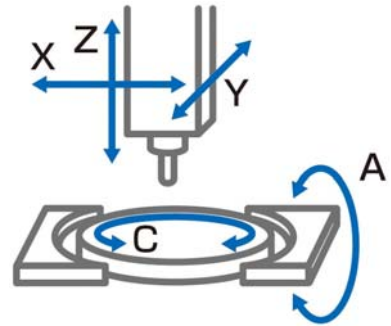


Photo 5. DMU 65 FD monoBLOCK®



Photo 6. Turning with FD Specification

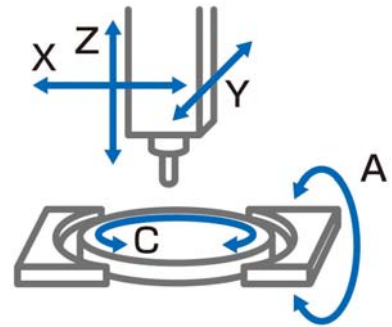


Photo 7. LASERTEC 65 Shape



Photo 8. Laser Surface Texturing

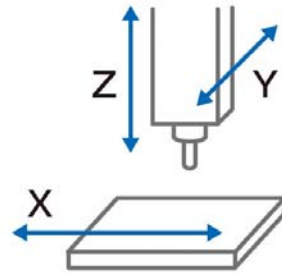


Photo 9. MILLTAP 700



Photo 10. 4-Axis Machining of Turbine Using DDRT-200X

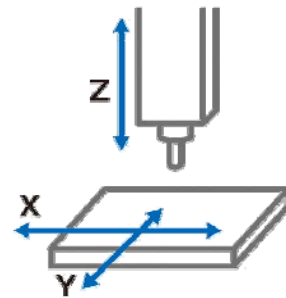
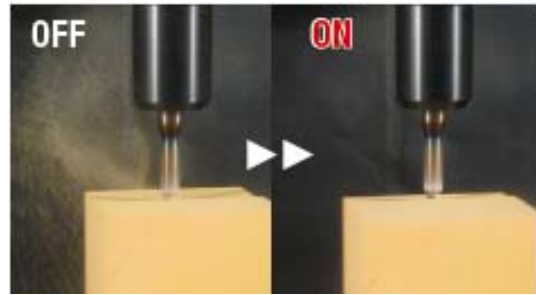


Photo 11. NVX5100 II/40 and ZEROCHIP®

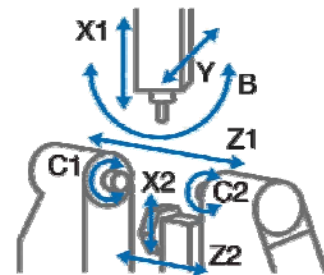


Photo 12. NTX2000/1500SZ and S-Quad