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Press Release

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A-18S
High-precision, Compact Multiprocessing Turning Center Equipped with Y-axis and Milling Function

DMG MORI WASINO, LTD. (hereinafter, DMG MORI WASINO) will be showcasing the A-18S high-precision, compact multiprocessing turning center at IGA INNOVATION DAYS 2015 to be held July 22 - 25.

The A-18S is a compact multiprocessing turning center that has been marketed under the well-established WASINO brand. Joining the lineup of DMG MORI lathes, the machine was redesigned to employ the unified DMG MORI design.
The A-18S features a turret with 18 tool stations, the largest number in its class, while boasting the smallest footprint in the class, and offers multiprocessing with turning and milling. Having proven performance in machining a variety of workpieces, the A-18S provides the optimal solution for every customer's production needs, from complex to high added-value machining, automation and process integration.

We would like to highlight the main features of the A-18S from the perspectives of: (1) Process integration, (2) High-precision machining, (3) Automation, (4) Energy saving and (5) Safety.

(1) Process Integration

The A-18S comes with an 18-station turret that is the largest in its class, and all tool stations can be equipped with milling tools. Despite the smallest footprint in its class, the compact turning center has achieved long axis travels, with 180 mm for the X-axis, 350 mm for the Z-axis and a particularly long travel of 100 mm for the Y-axis. The combination of the long Y-axis travel and the milling unit that can be mounted at any of the tool station allows for highly efficient machining of workpieces in various shapes from round to irregular. Offering excellent process integration capability, the machine is particularly advantageous for customers manufacturing optical components or automotive parts which in general need to be machined in several separate processes and on different types of machines such as a machining center, lathe, and deburring machine.

(2) High-precision Machining

The A-18S maintains stable dimensional accuracy even over long-term operation thanks to the following features designed for high-precision machining.

1. A stainless steel cover with a low thermal conductivity effectively protects the chute, minimizing temperature changes in the bed caused by chips and coolant.
2. The horizontal, single-piece, scraped cast iron slideways with superior damping performance and a high resistance to chatter make it possible to lower the position of the center of gravity between the floor and the feed system, thereby achieving stable machining.

3. The minimum distance between the axis travel reference guide and the spindle helps minimize the effects of heat.
4. The ball screw support bearing is placed as close to the spindle as possible to suppress thermal displacement, and also a reliable pre-tension structure is employed to guarantee high precision.

Designed to provide high-precision machining, the A-18S achieves a dimensional accuracy of 4 µm even from a cold start (machining without warming up). It also satisfies customers' high accuracy requirements in turning by achieving a circularity of 0.8 µm.

(1) Automation

DMG MORI WASINO provides a broad lineup of loader and workpiece stocker systems to accommodate diverse production needs. Our automation solutions include: gantry loaders, conveyors for material loading and finished part unloading, 1-axis/2-axis palletizers and rotary stockers. Most products are designed in-house, so they are flexibly customizable according to customer needs, enabling customers to build highly reliable automation systems. There is also a variety of peripherals available, including the part catcher, external measuring unit and tool setter to facilitate setups and other tasks; the inner cam unit, angle milling unit, sub spindle on Turret, and Turret 2 to support machining operation; and the chip conveyor and mist collector to maintain clean work environment. With the extensive automation solutions and useful peripherals, the A-18S delivers greater productivity to customers in a variety of manufacturing environments.

(2) Energy Saving

In an effort to reduce environmental burden and running costs, DMG MORI WASINO uses energy-efficient components such as LED lighting. We have achieved effective energy savings though the optimization of various functions and the integration of energy-saving features into our machine design.

(3) Safety

The A-18S complies with safety standards all over the world, including ISO standards, IEC standards, UL standards and JIS standards.

DMG MORI WASINO will continue to provide products that are reliable, highly functional and worthy of investment to meet each and every customer's needs.

Type	Multiprocessing turning center
Model name	A-18S
Market	Automotive, optical and medical industries, etc.
Production volume	150 units /year (A series total)

■**Main Specifications**

Item		A-18S
Axis travel (X/Y/Z)	(mm)	180 /±50 / 350
Max. turning diameter	(mm)	Φ240
Bar work capacity	(mm)	φ67
Rapid traverse rate (X/Y/Z)	(m/min)	18 / 12 / 24
Max. spindle speed	(min^{-1})	4,000
Max, rotary too; spindle speed (X/Z)	(min^{-1})	10,000/5,000
Chuck size	(inch)	6 [8]
Number of tools on turret	(tools)	18
Spindle drive motor	(kW)	11/7.5 (15 min/cont.)
Rotary tool spindle drive motor	(kW)	5.5/3.7(15 min/cont.)
Floor space (width x depth)	(mm)	1,675 × 1,750

[ ] option

Photo 1. Machine exterior

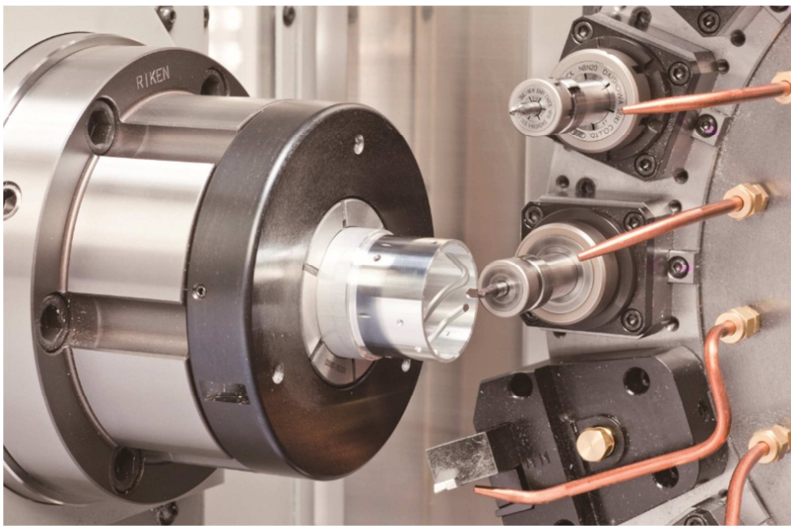

Photo 2. Inside of the machine