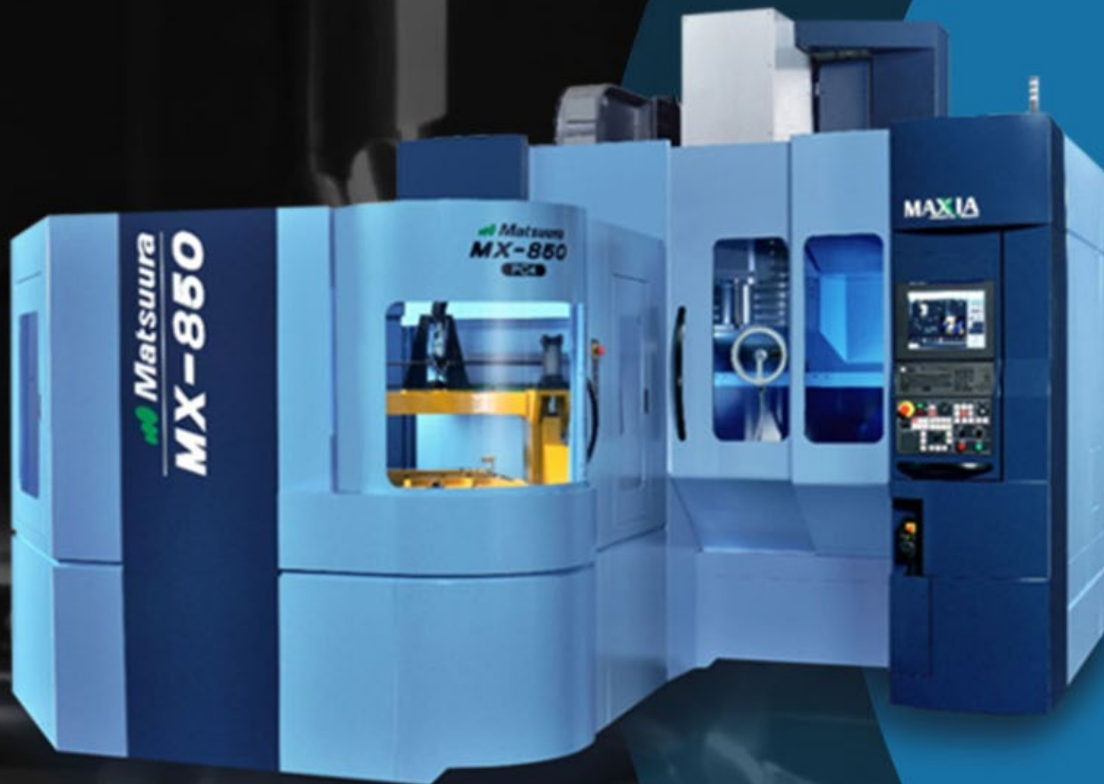


*MATSUURA MX SERIES INTRODUCTION*

**IMAGINE. CREATE. INNOVATE.**



***MX SERIES***

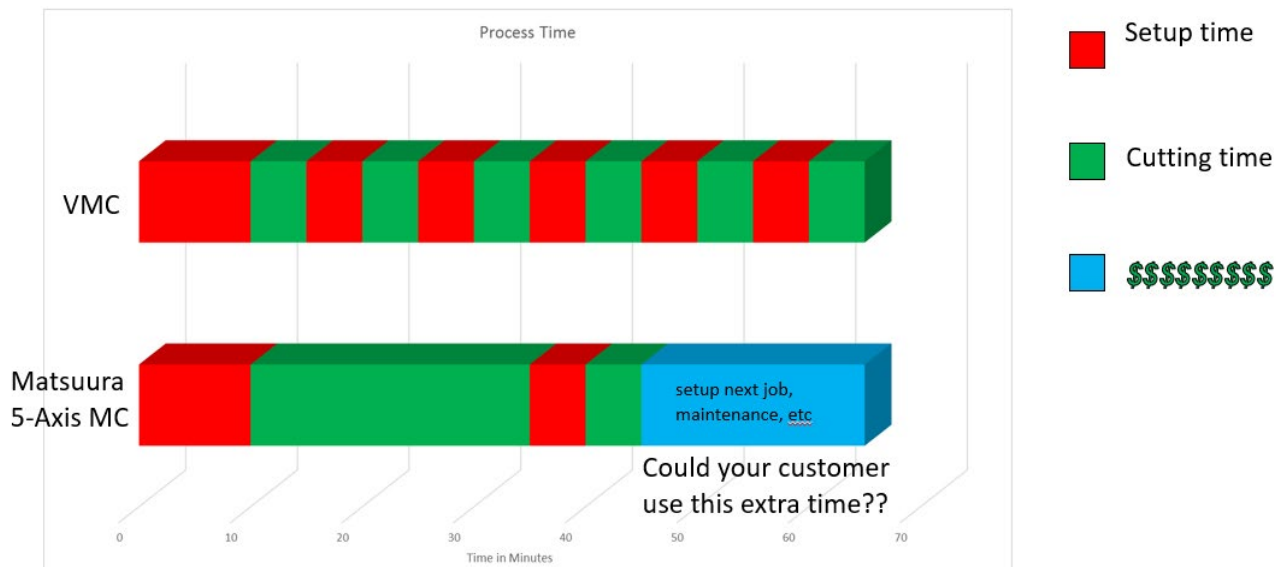
*5-AXIS, HIGH-QUALITY, COST-EFFECTIVE*

*The Matsuura MX Series guarantees high rigidity, a generous machining envelope and provides excellent operability by allowing rapid set-up and processing of complex parts. The MX Series offers an assortment of configurations, which are ideal for all applications, all industries and all materials. Matsuura has the only high-quality 5-axis machines on the market with OEM automation solutions integrated from the outset. The Matsuura MX Series: high quality 5-axis at an investment level that will impress you.*

**HOW WILL THE MATSUURA *MX-Series* REDUCE THE CHALLENGES I FACE?**

- ✓ ***Decreases the necessity to hire additional, difficult to find, qualified machinists***
- ✓ ***Lowers labor costs while increasing work capacity due to increased spindle efficiency***
- ✓ ***Eliminates low-tech, operator intensive operations on your floor***
- ✓ ***Minimizes unnecessary setups***
- ✓ ***Reduced floor space requirements due to the compact design of the *MX-Series****

## Setup and Cycle Time Reduction



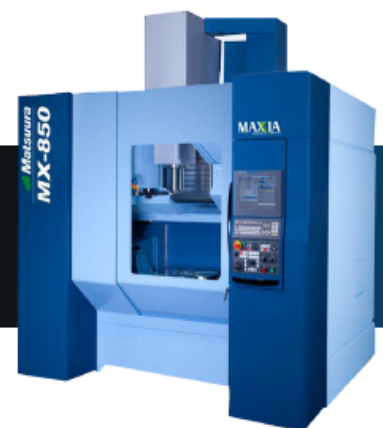
**ARE MY PARTS GOOD CANDIDATES FOR THE MATSUURA *MX-Series*?**

The ***MX-Series*** is the superior choice for:

- ✓ ***High value parts***
- ✓ ***Tight True Position Parts/Tight Tolerance Parts***
- ✓ ***Low production runs with a large mix of variation***
- ✓ ***Expensive or difficult to machine materials***



# TRANSITIONING INTO 5-AXIS



## Why 5-axis?

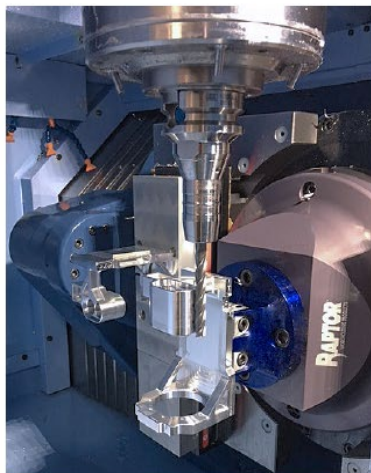
- ✓ Reduce number of setups allowing for more throughput
- ✓ Reduce manufacturing costs per part
- ✓ Reduce chances for scrap
- ✓ Reduce workholding costs



*Dovetail Fixture*

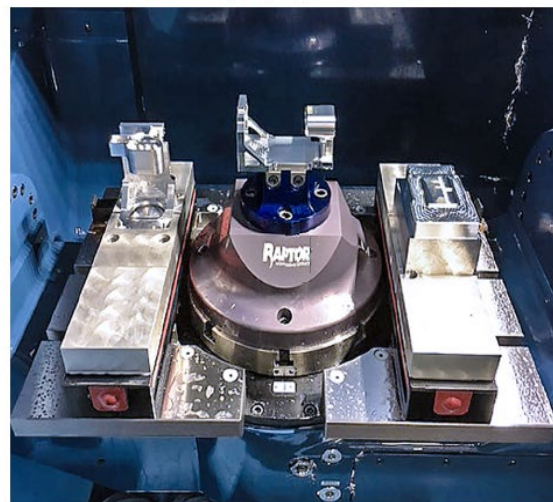
**REDUCE SETUP COSTS AND SAVE VALUABLE TIME!**

*3+2 machining strategy to gain easy access to all sides and minimize setups*



*Reduce costly setup times by combining multiple part features into one simple setup*

*Vises on both side tables for dovetail prep op and removal*



Part Name	Aerospace Housing	Size	3.5" x 3.5" x 5"
Material	6061 Aluminum	Cycle Time	1.5 hours complete (3 ops)

**MAXIA**  
Innovation by Matsuura

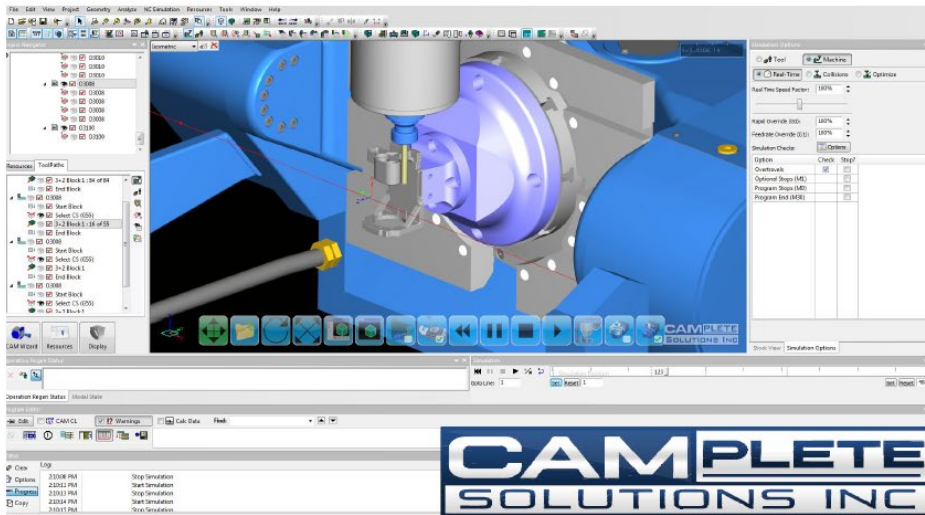




# TRANSITIONING INTO 5-AXIS



**VERIFY, OPTIMIZE, AND POST TOOLPATHS WITH CAMplete**



## STANDARD FEATURE

*Matsuura provides CAMplete software for all Matsuura 5-Axis Machining Centers*

- ✓ *The easy-to-use application that takes you from your CAM System to your Matsuura 5-Axis machine efficiently and safely.*
- ✓ *TruePath's customizable post-processor allows you to output your NC programs the way you need, with no on-machine editing required. 5-axis simulation, visualization and verification tools give you the confidence of knowing how your machine will behave before you run a single line of G-code.*

## BENEFITS THAT MAKE A DIFFERENCE

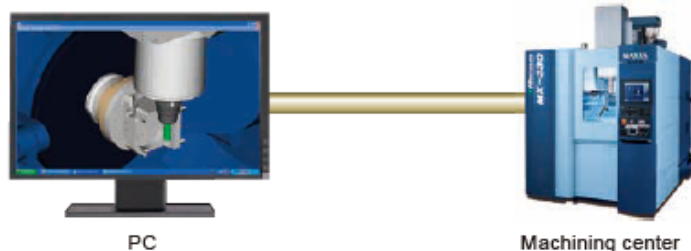
- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| ✓ <b>FULL G-CODE VERIFICATION</b>   | ✓ <b>PROVEN POST PROCESSOR</b>    |
| ✓ <b>MULTIPLE CAM SYSTEMS</b>       | ✓ <b>EASILY CHANGE BETWEEN</b>    |
| ✓ <b>EASILY EDIT YOUR POST</b>      | <b>MATSUURA MACHINES</b>          |
| ✓ <b>COMPLETE SOFTWARE SOLUTION</b> | ✓ <b>OVERTRAVEL AND COLLISION</b> |
| <b>FROM DAY 1</b>                   | <b>DETECTION</b>                  |
|                                     | ✓ <b>MODELS DIRECTLY FROM</b>     |
|                                     | <b>MATSUURA</b>                   |

# Intelligent Protection System Option

## Manual / Automatic operation Simultaneous 5-axis machining

This collision protection function is developed solely by **Matsuura**. It prevents machine collisions due to programming errors in automatic operation, and also prevents human error in advance during manual operation and workpiece setup.

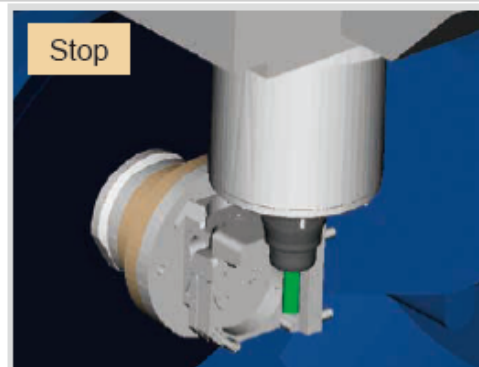
### ■ On-line link with PC



PC

Machining center

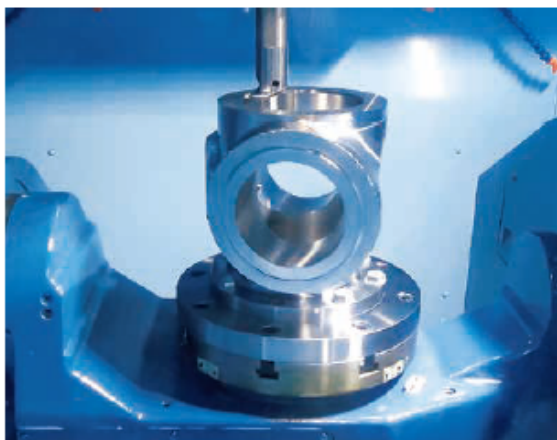
- \* The **Intelligent Protection System** simulates your programmed components (tools, workpiece, fixtures, etc.) that match the machine model, alerting you to any possible interference or collision before actual machining takes place.
- \* Prepare a PC on your side. Contact **Matsuura** for PC requirements.



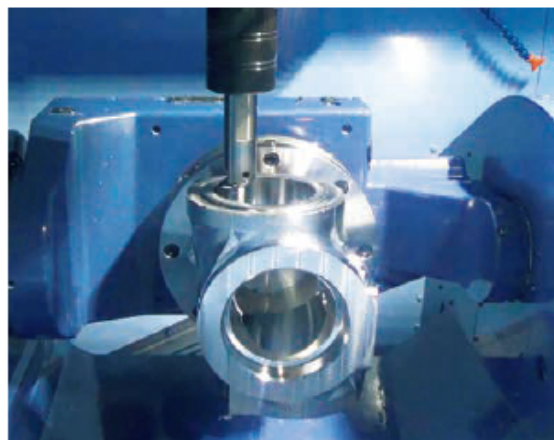
# Synchro Tip + Orbit machining Option Patent No. 5883535

## Simple turning function combining orbit machining and C-axis rotation

Turning processes can also be performed on this machining center by using a synchro chip. Since turning and machining can now be done in one process no additional setup time is required for the turning process.



\* **Synchro Tip** (Orbit machining + C-axis rotation)



\* Orbit function

# eZ-5

## Advanced 5-axis error measurement and correction

Geometric error correction is essential for multi-axis machine tools. eZ-5 completes measurement, using a touch probe and calibration sphere, in a mere 3 minutes. The high accuracy of the machine is maintained through quick and simple operations.

- \* eZ-5 requires a separately available NC option to add macro variables.



# MIMS

## Matsuura Intelligent Meister System

Combining Craftsmanship, Skill and Ingenuity

**Matsuura's** original interface with uncompromising pursuit of usability

Environment	<b>Eco Meister</b> Eco mode Power savings <ul style="list-style-type: none"> <li>Power cut-off function</li> <li>Energy-saving devices installed</li> <li>Eco-operation</li> </ul>	Accuracy	<b>Thermal Meister</b> Stable accuracy <ul style="list-style-type: none"> <li>Spindle thermal displacement compensation</li> <li>Environmental thermal displacement compensation <b>Option</b></li> </ul>
	<b>Operability Meister</b> Hassle-free, simple operation <ul style="list-style-type: none"> <li>Tool setup support</li> <li>Workpiece setup support</li> </ul>		<b>Reliability Meister</b> Reduced machine downtime <ul style="list-style-type: none"> <li>Preventive maintenance support function</li> <li>Machine recovery support function</li> <li>Electronic manual function</li> <li>E-mail transmission function</li> </ul>
Simple		Secure	

### New Operation Panel

**Matsuura G-Tech 31i**

Equipped with a large 15-inch touch screen display, the **Matsuura G-Tech 31i** offers genuine ergonomic comfort & sustained operator performance

- Icons required for operation, setup and maintenance are displayed on screen.
- Screen icons required for each task - "Operation", "Setup", "Maintenance" - are displayed.
- Screen switching response time is improved by 50% compared to conventional panels.
- USB thumb drives and CF cards are also supported for data input/output.
- Customization is possible according to tasks to be performed.



Program management



Tool offset



Electronic manual display





# MATSUURA, THE ULTIMATE IN ACCURACY SINCE 1935

- ✓ *Made in Japan*
- ✓ *At Matsuura Machinery, our machine tool engineers maintain hand scraping of mated surfaces on our high-speed and high-precision machine tools.*
- ✓ *Hand scraping contributes to accuracy and stability of the machine tool by facilitating level and better aligned surfaces.*
- ✓ *Hand scraping ensures tight tolerances are preserved and guarantees a level, even and smooth surface. With hand scraping, areas are created which will better hold lubrication and lessen friction between two mating surfaces.*
- ✓ *At Matsuura, hand scraping is integral to our production process as we are constantly focused and committed to total accuracy.*



*Matsuura machine parts are hand scraped to attain a textured finish, which is a traditional measure of craftsmanship.*



## **MX-SERIES**

- ✓ *Ideal for the medical and aerospace industries and other high precision components, the MX-Series offers an easy transition from 3-axis to 5-sided or 5-axis production.*
- ✓ *The MX-Series is an effortless and cost-effective transition for 3-axis users transitioning to 5-axis operation. The machine is compact with outstanding ergonomic design, rapid set-up and processing of complex parts.*

### **MX-330**

- ✓ *The MX-330 delivers machining center versatility with a Matsuura-made high accuracy spindle of 15K RPM with optional 20K RPM.*
- ✓ *The MX-330, configured with optional 10 pallets and 90 tools, provides affordable and reliable unmanned 5-axis production.*

### **MX-520**

- ✓ *Designed with a RAM type structure, the MX-520 offers a compact and highly-rigid machining platform with headstock and trunnion configured to minimize collision while maximizing tool access and reach.*
- ✓ *The MX-520 is offered with two optional table sizes: 11.81in and 19.68in. with loading capacity is 440lbs.*


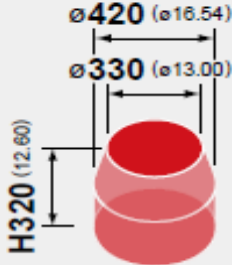


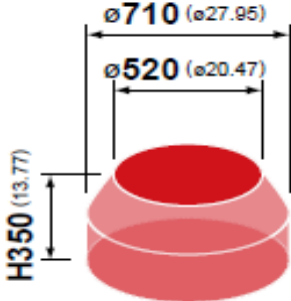

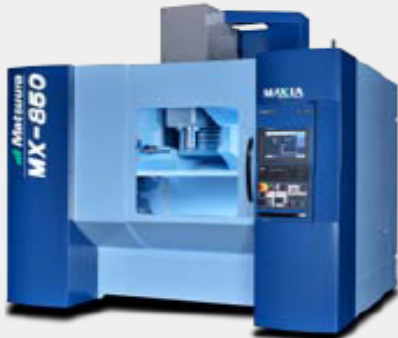
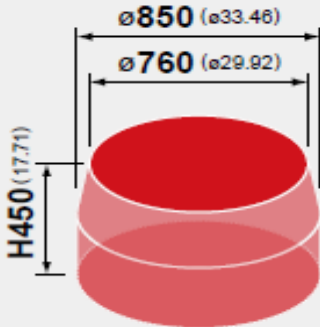

### **MX-850**


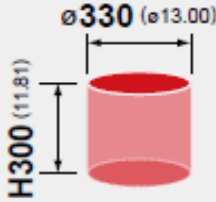


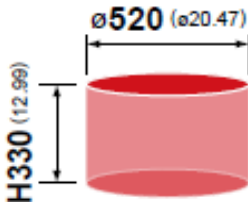


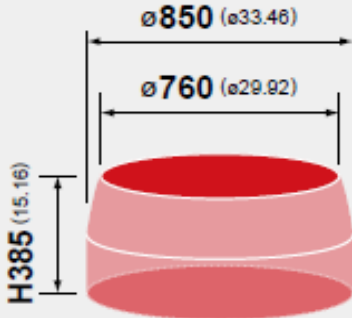

- ✓ *The MX-850 was developed in response to market demand for a large capacity, high quality and cost-effective single table Matsuura 5-axis machining platform.*
- ✓ *Compactly built, the MX-850 ensures high rigidity and a sufficient machining area and workability.*
- ✓ *In addition to standard spindle of 12K RPM, optional spindle of 20K RPM for high speed machining or 15K RPM high torque for heavy duty machining*





## WORK ENVELOPE

	Max. Work Size : mm (in.)	Loading Capacity : kg (lb.)
<p><b>MX-330</b></p> 	 <p>※ with conditions</p>	<p><b>80 (176)</b></p> 
<p><b>MX-520</b></p> 	 <p>※ with conditions</p>	<p><b>200 (440)</b></p> 
<p><b>MX-850</b></p> 	 <p>※ with conditions</p>	<p><b>500 (1,100)</b></p> 

	Max. Work Size : mm (in.)	Loading Capacity : kg (lb.)
<b>MX-330 PC10</b> 		<b>80 (176)</b> 
<b>MX-520 PC4</b> 		<b>175 (385)</b> 
<b>MX-850 PC4</b> 	 <p>※ with conditions</p>	<b>400 (880)</b> 

**MX-330: 13,860 LBS**

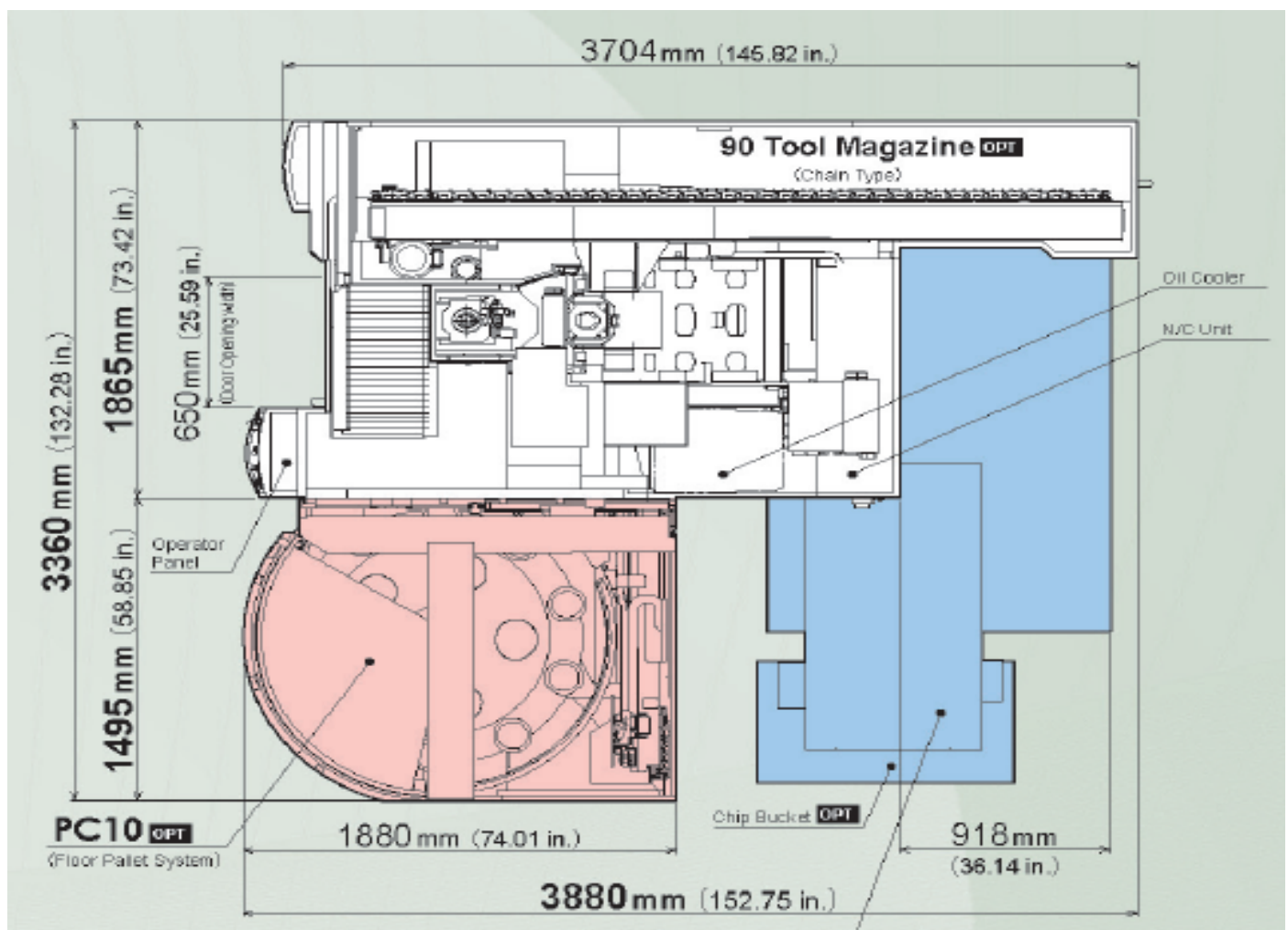
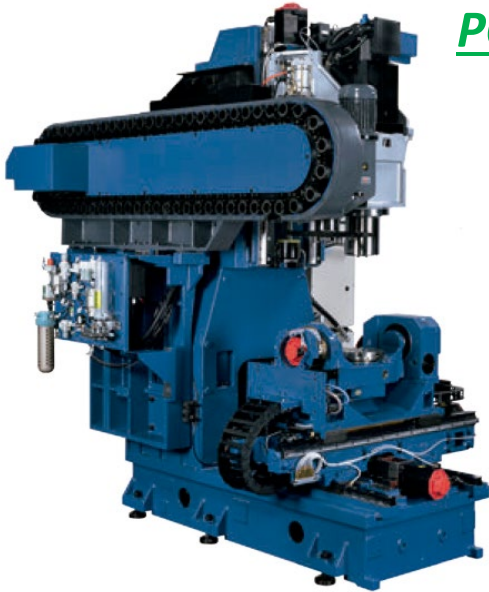
**TRAVELS-MM(IN)**

**PC10 & 90T: 21,495 LBS**

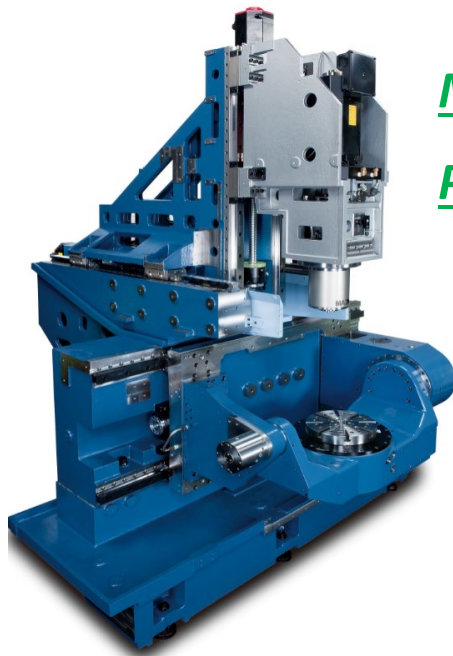
**X: 435(17.13)**

**Y: 465(18.31)**

**Z: 560(22.05)**







**MX-520: 20,833 LBS**

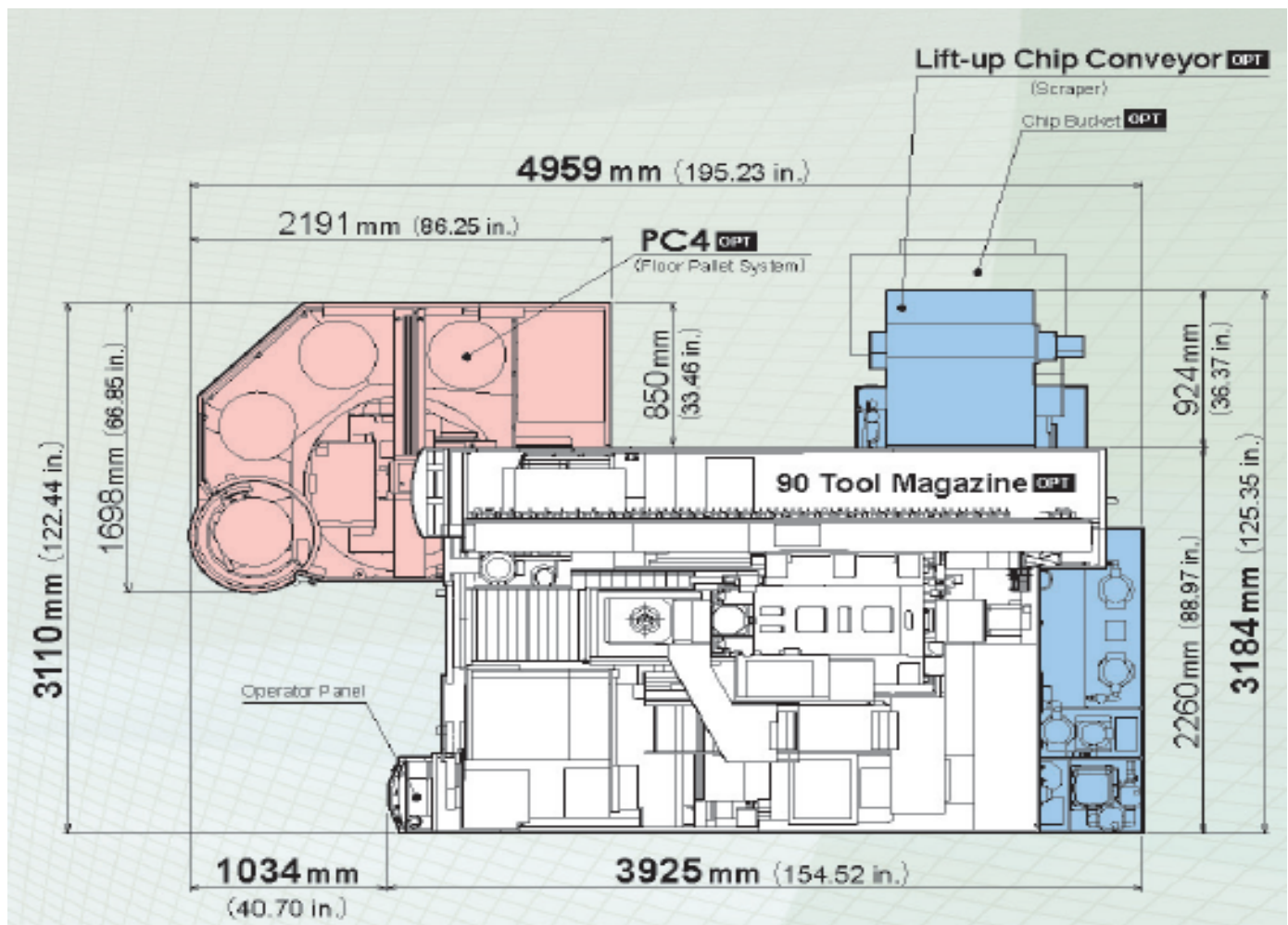
**PC4 & 90T: 27,006 LBS**

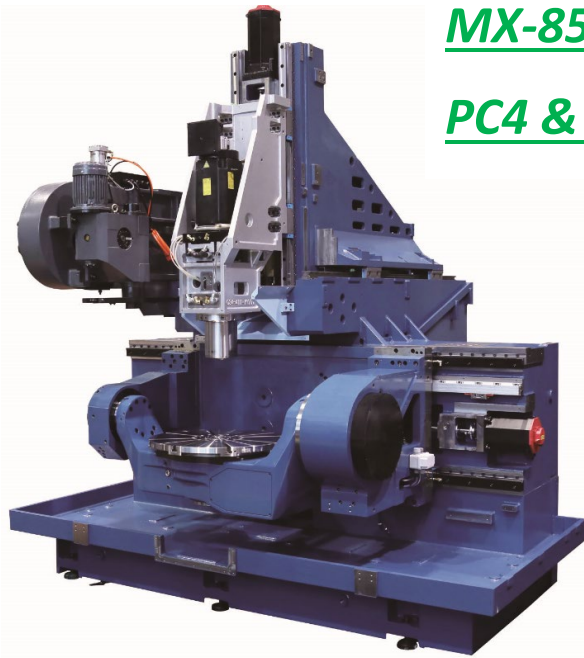
**TRAVELS-MM(IN)**

**X: 630(24.80)**

**Y: 560(22.04)**

**Z: 510(20.07)**





**MX-850: 35,200 LBS**

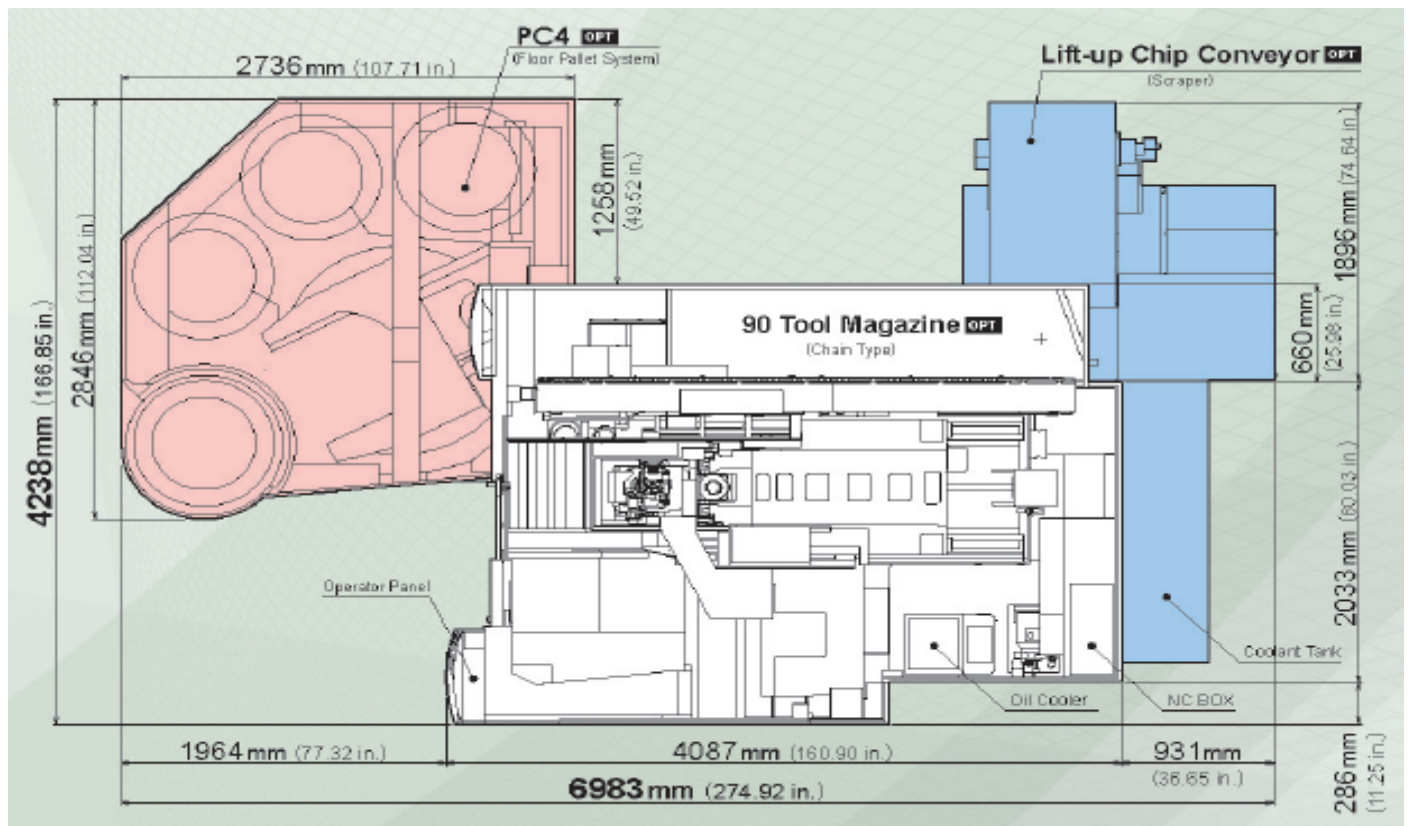
**PC4 & 90T: 45,561 LBS**

**TRAVELS-MM(IN)**

**X: 900(35.43)**

**Y: 780(30.70)**

**Z: 650(25.59)**



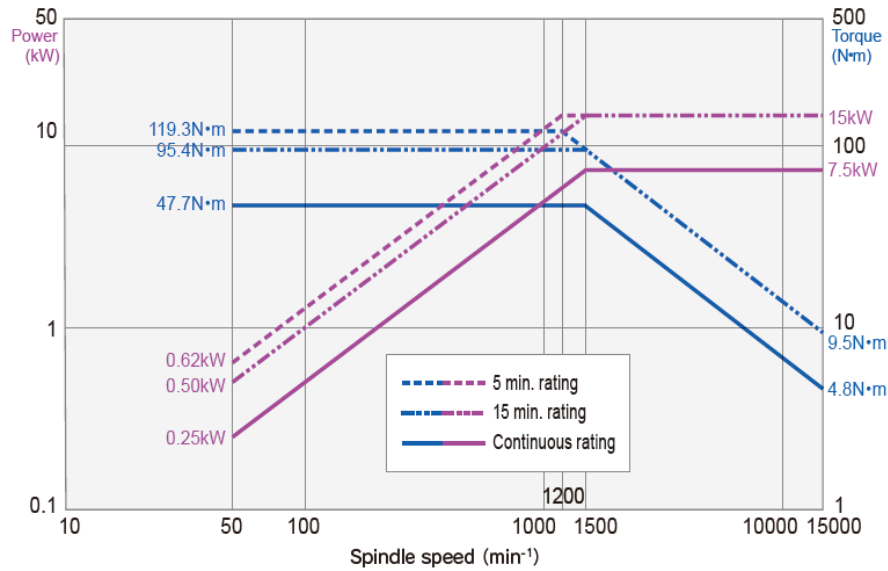
## SPINDLE OPTIONS

- ✓ *Spindle runout less than  $1\mu$  at spindle end*
- ✓ *Lubrication options: Oil-Air or Grease*

### MX-330

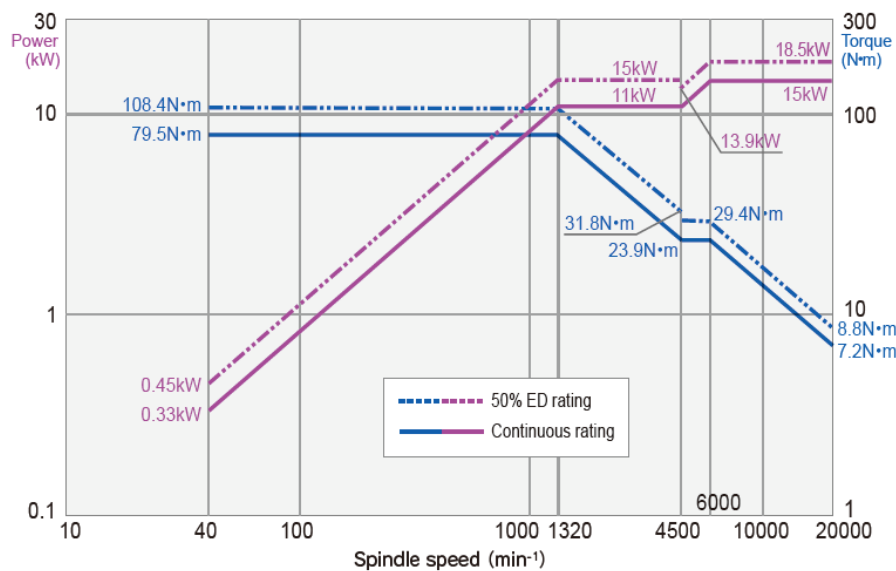
High-power type spindle

$15000\text{min}^{-1}$  (7.5 / 15kW, 119.3N·m)



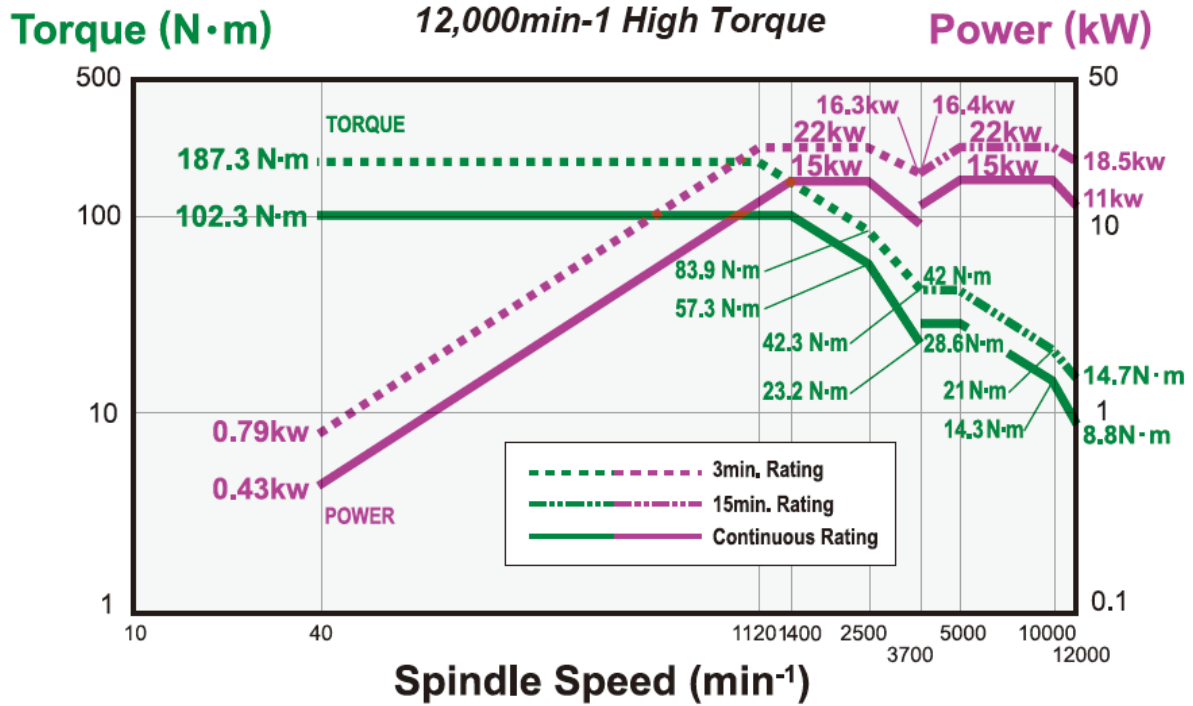
High-speed type spindle

$20000\text{min}^{-1}$  (11 / 15, 15 / 18.5kW, 108.4N·m)



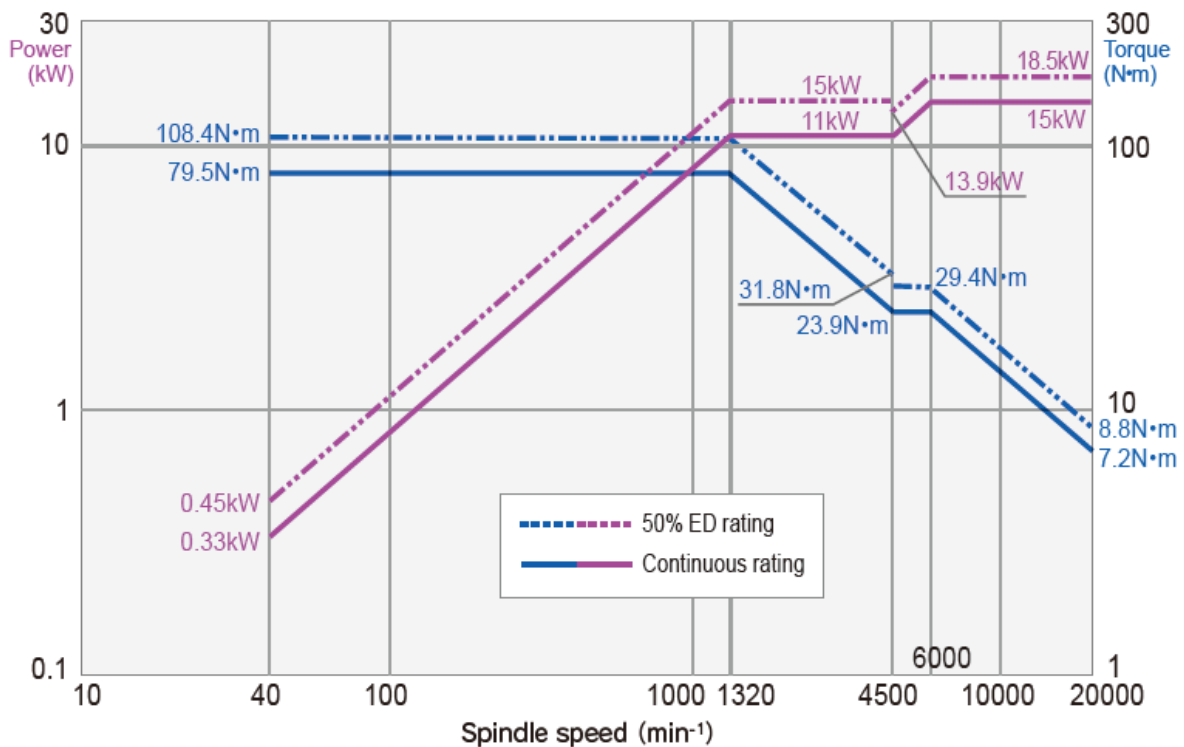


## MX-520



High-speed type spindle

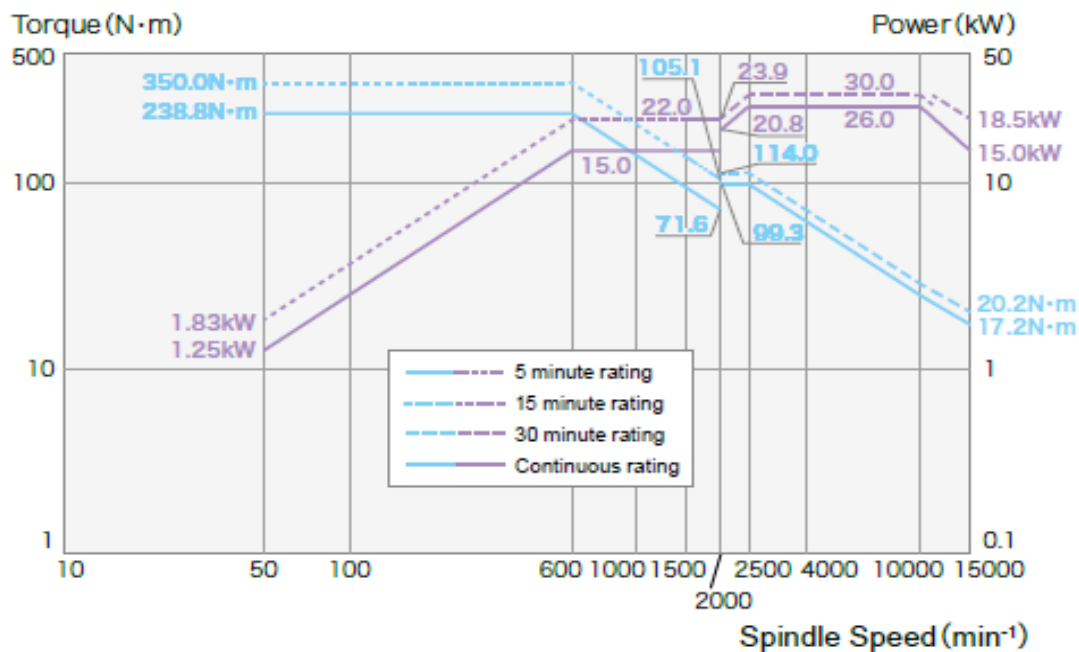
20000min<sup>-1</sup> (11 / 15, 15 / 18.5kW, 108.4N·m)



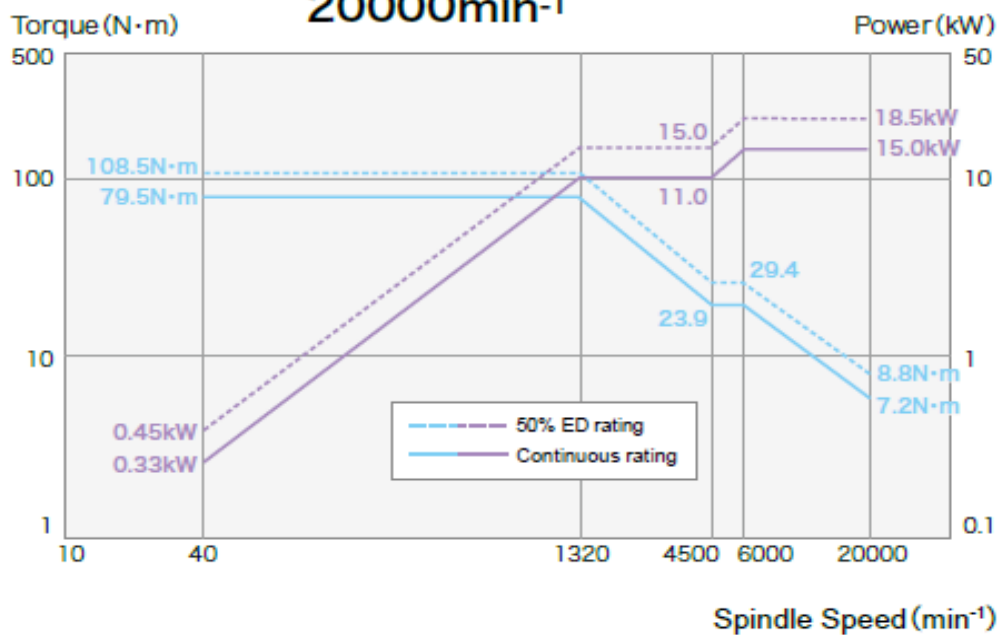
# MX-850

350 N·m/600 min<sup>-1</sup> high torque,

15000min<sup>-1</sup>

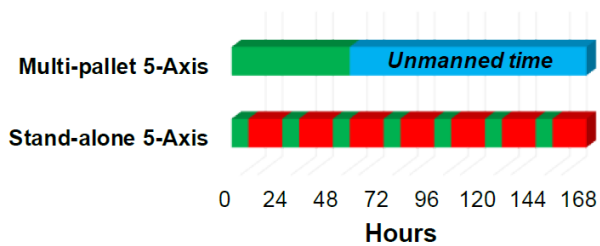


20000min<sup>-1</sup>



## **AUTOMATION OPTIONS**

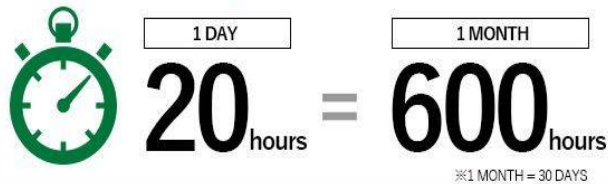
### **Production Time**



- ✓ *Want to add a 2<sup>nd</sup> shift without the additional costly labor?*
- ✓ *Are you struggling to find qualified machinist?*
- ✓ *Have you lost work because of lack of machining capacity?*
- ✓ *Would high mix/low volume part batches benefit your business?*
- ✓ *Want to eliminate costly downtime and maximize your ROI?*
- ✓ *60/90 ATC options are available and 120 ATC in the MX-850*

**Matsuura** Automation and unmanned System

**Keep Machine Running  
even at night and on weekend**

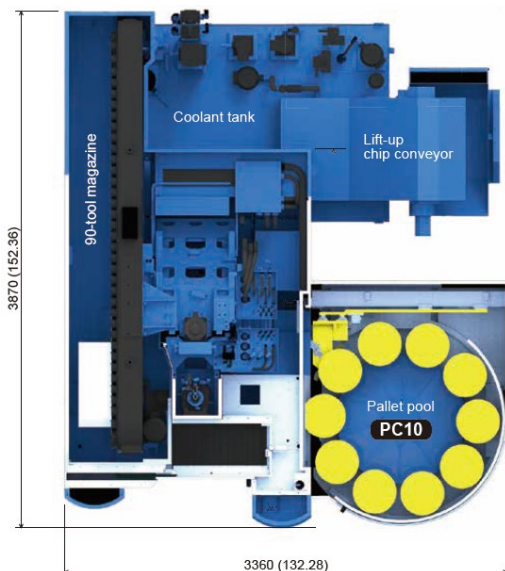


**Maximize Machine Utilization Rate**

## **APC OPTIONS**

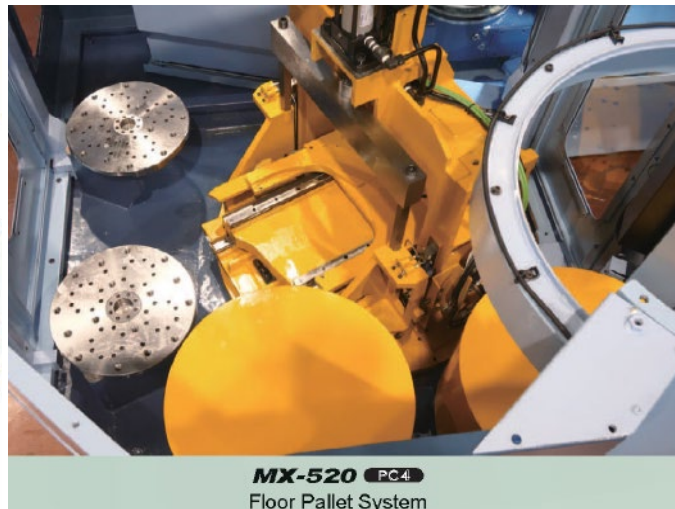
### **MX-330**

#### **PC10**



### **MX-520 & 850**

#### **PC4**





*WANT MORE TOOLS, PALLETS AND UNMANNED TIME?*

*THE MAM72 SERIES*



*The Matsuura MAM72 Series delivers long periods of unmanned, high precision, productivity, and provides versatility in the machining of very small to very large components. The MAM72 Series provides pallet and productivity solutions to keep your work center efficiently producing components around the clock.*



IMAGINE.CREATE.INNOVATE.



***MATSUURA MACHINERY USA INC.***

***WEB: MATSUURAUSA.COM***