Matsuura

Vertical Machining Center

V.Plus-550

MAXIA
Innovation by Matsuura

Matsuura V.Plus-550

From the pioneers of the Vertical Machining Center, *Matsuura* introduce our latest; the all New *V.Plus-550*

Features

- New ***V.Plus-550***; the pinnacle of ***Matsuura*** vertical technology. Our first VMC was launched in 1974.
- Incorporating 40 years of ***Matsuura*** VMC design & construction know-how, delivering high-rigidity and sustained accuracy.
- Fast, reliable and versatile; offering class leading machining performance in all materials, in all industry sectors.

MAXIA BT40 Spindle Line up

From high speed aluminium machining to pre-hardened steels; the MAXIA spindle options offered with the ***V.Plus-550*** are the pinnacle of 70 years of prestigious ***Matsuura*** spindle technology. A 15000min^{-1} with 65.1N·m of torque is installed as standard. A high-power 15000min^{-1} with 119.3N·m and a high-speed 20000 min^{-1} with 108.4N·m are available as options.

ATC

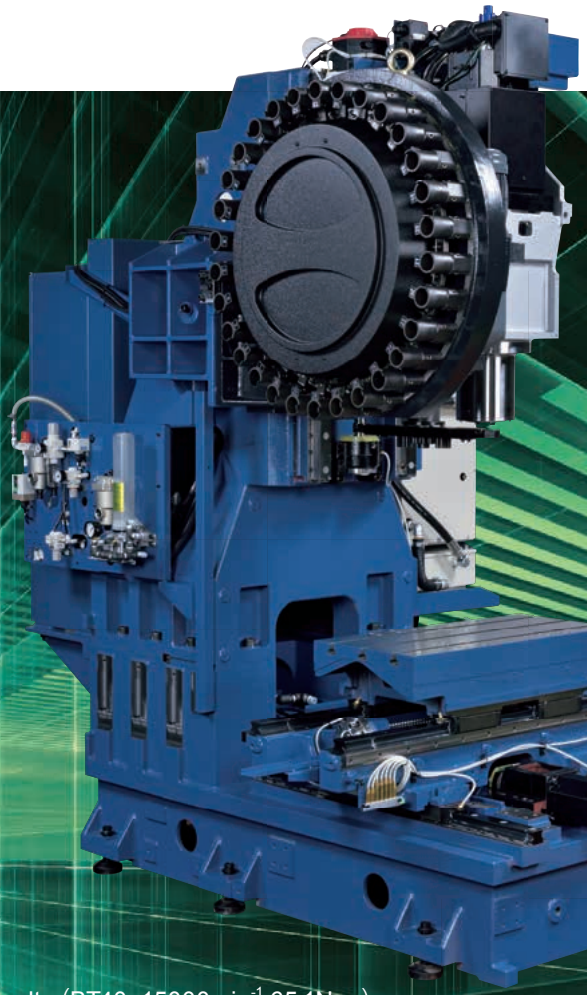
30 tool station as standard, 60 and 90 tool stations available as options.

Matsuura G-Tech 31i as standard

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

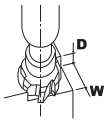
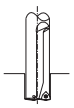
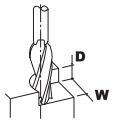
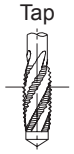
■ Machine Specifcations

Rapid traverse rate X / Y / Z	40m/min (1.57ipm)
Working surface	860 × 400mm (33.85 × 15.74in.)
Loading capacity	400kg (880lb.)



Movement and Ranges		
X-axis travel	mm (in.)	550 (21.65)
Y-axis travel	mm (in.)	410 (16.14)
Z-axis travel	mm (in.)	560 (22.04)

Cutting test results (BT40 15000min^{-1},65.1N·m)

	Part material	Tool size	Cutting width Cutting depth	Spindle speed	Cutting feed rate	Cutting capacity		Part material	Tool size	Spindle speed	Cutting feed rate	Cutting capacity
Face mill 	Aluminum	Ø80mm (3.14) 3 blades	W=70mm (2.75) D=3mm (0.11)	5500 min^{-1}	3500 mm/min (137.79)	735 cc/min	Drill 	Aluminum	Ø27mm (1.06)	1500 min^{-1}	500 mm/min (19.68)	286 cc/min
	Steel	Ø80mm (3.14) 5 blades	W=70mm (2.75) D=2mm (0.07)	1100 min^{-1}	1400 mm/min (55.11)	196 cc/min		Steel	Ø27mm (1.06)	1500 min^{-1}	240 mm/min (9.44)	137 cc/min
End mill 	Aluminum	Ø25mm (0.98) 2 blades	W=22mm (0.86) D=6mm (0.23)	15000 min^{-1}	4500 mm/min (177.16)	594 cc/min	Tap 	Aluminum	M30 × P3.5	120 min^{-1}	420 mm/min (16.53)	
	Steel	Ø20mm (0.78) 4 blades	W=2mm (0.07) D=30mm (1.18)	5000 min^{-1}	3200 mm/min (125.98)	192 cc/min		Steel	M20 × P2.5	100 min^{-1}	250 mm/min (9.84)	

* The above data is based on actual cases. Depending on conditions, actual results may differ.

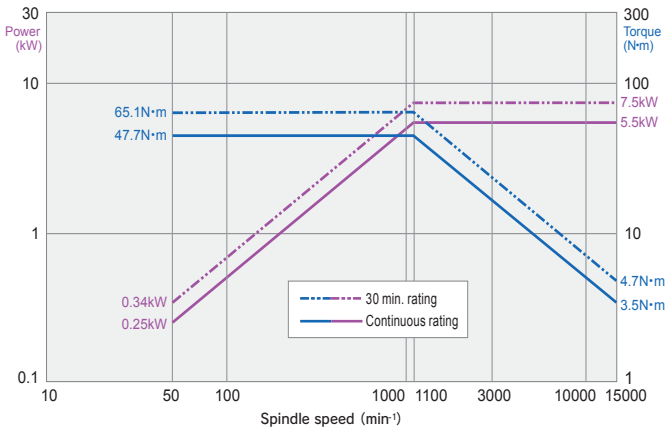
MAXIA
Innovation by Matsuura

MAXIA BT40 Spindles; The Industry Standard, Designed and Developed by *Matsuura* – the pioneers of highly rigid CNC Spindle Technology

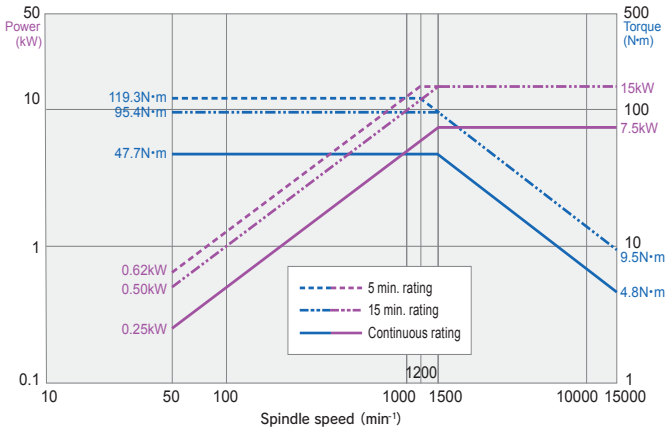
Three State of the Art MAXIA Spindle Lineup; Built upon 70 years of *Matsuura* excellence

- In built reliability by superior design and sustained spindle performance from ***Matsuura***'s engineering heritage.
- From high speed aluminum machining to pre-hardened steels; the exceptional performance in all machining environments is assured. A 15000min^{-1} with 65.1N·m of torque is installed as standard. A high-power 15000min^{-1} with 119.3N·m and a high-speed 20000 min^{-1} & 108.4N·m are available as options.
- ***Matsuura*** control every aspect of our MAXIA Spindles creation; from design concept, to precision in-house component manufacture, to clean room assembly, to rigorous testing, to final installation & commission. Quality assurance & sustained Spindle performance – every time.
- Maintenance free Spindle technology; grease lubricated, low noise, environmentally friendly.

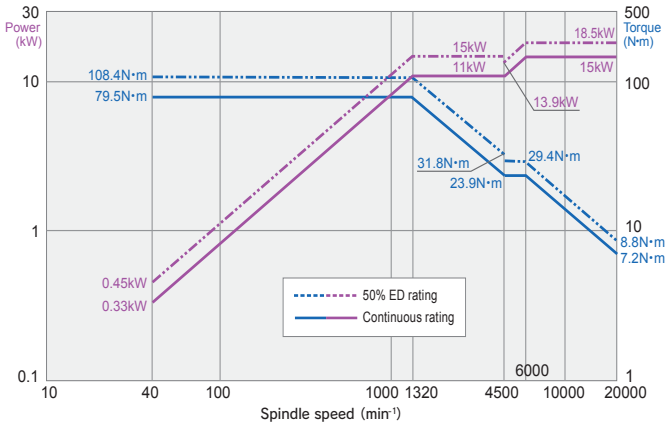
Standard 15000min^{-1} (5.5/7.5kW,65.1N·m)



Option High-power type spindle 15000min^{-1} (7.5/15kW,119.3N·m)



Option High-speed type spindle 20000min^{-1} (11/15,15/18.5kW,108.4N·m)

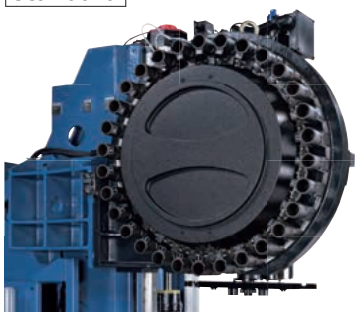


Options; Tailored to Your Process

ATC

■ 30-tool drum magazine

Standard

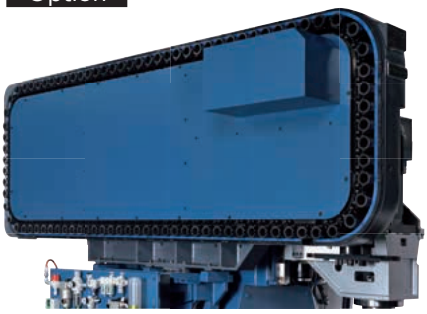


■ 60-tool chain magazine

Option

■ 90-tool chain magazine

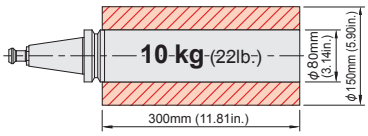
Option



■ Tool specification

Standard BT40

Option HSK-A63

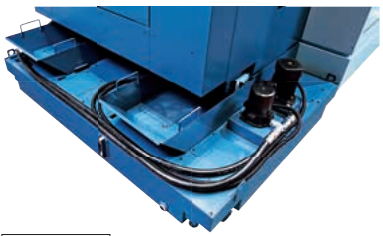


Rapid Metal Removal Requires Ultra Efficient Chip Flow & Swarf Clearance

Smooth and Efficient Swarf management – by Design

Steep angle gradients on telescopic guard covers & internal surfaces & powerful coolant wash system facilitate the rapid despatch of chips and swarf from the machining enclosure, delivering maintenance free extended machining without the need for manual intervention. For environments where vast amounts of metal removal take place, the options below are available.

Standard Chip-flush coolant Standard Chip-flow coolant Option Spiral chip conveyor



Standard Coolant tank

Option Lift-up chip conveyor

Option Chip bucket

Operating Convenience Allowing Even Beginners to Use it With Confidence

MIMS

Matsuura Intelligent Meister System

Combining Craftsmanship, Skill and Ingenuity

Matsuura's original interface with uncompromising pursuit of usability

Environment

Eco Meister

Eco mode

Power savings

- Power cut-off function
- Energy-saving devices installed
- Eco-operation

Simple

Operability Meister

Hassle-free, simple operation

- Tool setup support
- Workpiece setup support

Accuracy

Thermal Meister

Stable accuracy

- Spindle thermal displacement compensation
- Environmental thermal displacement compensation Option

Secure

Reliability Meister

Reduced machine downtime

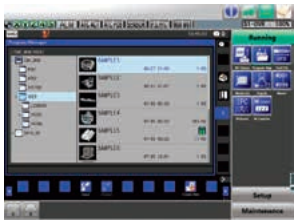
- Preventive maintenance support function
- Machine recovery support function
- Electronic manual function
- E-mail transmission function

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

Standard Machine Specifcations

■ Movement and Ranges		
X-axis stroke	mm (in.)	550 (21.65)
Y-axis stroke	mm (in.)	410 (16.14)
Z-axis stroke	mm (in.)	560 (22.04)
■ Table		
Working surface	mm (in.)	860×400 (33.85×15.74)
Loading capacity	kg (lb.)	400 (880)
■ Spindle		
Spindle speed	min^{-1}	50 ～ 15000 (auto grease lubrication)
Spindle speed change command		S5 digits direct command
Type of spindle taper hole		7/24 taper #40 (BT double contact type)
Spindle bearing inner diameter	mm (in.)	ϕ70 (ϕ2.75)
Spindle motor output	kW	AC 5.5/7.5
Max. spindle torque	N·m	65.1
■ Feedrate		
Rapid traverse rate X / Y / Z	mm/min (ipm)	40000 (1574.8)
Feedrate X / Y / Z	mm/min (ipm)	1 ～ 40000 (0.03 ～ 1574.8)
■ Automatic Tool Changer		
Type of tool shank		JIS B 6339 tool shank 40T
Pullstud		JIS B 6339 pullstud 40P
Tool storage capacity	tools	30 (Drum magazine)
Max. tool diameter	mm (in.)	ϕ80 (ϕ3.14) (With adjacent tools) ϕ150 (ϕ5.90) (Without adjacent tools)
Max. tool length	mm (in.)	300 (11.8)
Max. tool mass	kg (lb.)	10 (22.05)
Method of tool selection		Memory random system
■ Power Sources		
Electrical power supply	kVA	29 (Depends on the options provided)
Power supply voltage	V	AC 200 / 220±10% Transformer required for the voltage except adove
Power supply frequency	Hz	50 / 60±1
■ Tank Capacity		
Coolant tank capacity	L	350
Oil cooler tank capacity	L	14 (Total capacity: 16)
■ Machine Size		
Machine weight	kg (lb.)	6050(13337)
■ NC System		
Control system		***Matsuura G-Tech 31i***

■ Standard Accessories	
01. Total splash guard	02. Synchronized tapping function
03. ***AD-TAP*** function	04. ***IPC*** function
05. Spindle oil cooler	06. Coolant unit
07. Auto grease supply unit for feed axes	08. Spindle overload protection function
09. M-code counter (9kinds)	10. Work light
11. Indicator lamp	12. Service tools and tool box
13. Machine color paint	14. Leveling bolts, leveling plates
15. Chip flow	16. ATC auto door
17. Chip flush	18. ***MIMS*** (Matsuura Intelligent Meister System)
19. Software tool for memory card program operation & editing	
20. Integrating spindle run hour meter	21. Integrating auto run hour meter
22. Electronic manual	23. E-mailing function
24. Fault diagnosis function	25. Spindle thermal displacement compensation system

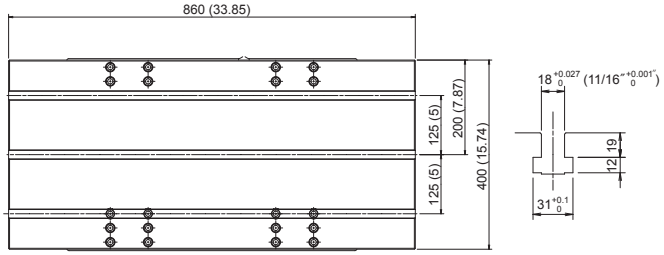
* 2 years spindle warranty

List of Fittings

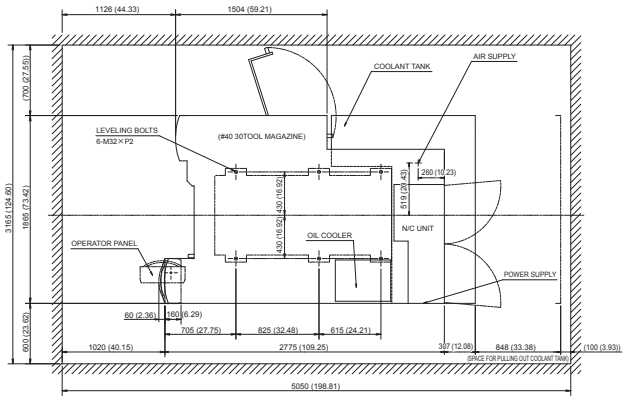
○: Standard ▲: Option

■ Spindle			
15000min^{-1} (BT40 auto grease lubrication)			○
15000min^{-1} (BT40 auto grease lubrication)			
Spindle motor output	kW	Low: 7.5/15、High: 7.5/15	▲
Max. spindle torque	N·m	119.3	
20000min^{-1} (BT40 auto grease lubrication)			
Spindle motor output	kW	Low: 11/15、High: 15/18.5	▲
Max. spindle torque	N·m	108.4	
■ ATC			
30 tools (Drum magazine)			○
60 tools (Chain magazine)			▲
90 tools (Chain magazine)			▲
■ High Accuracy Control			
Scale feedback X-/Y-/Z-axis (HEIDENHAIN)			▲
Environmental thermal displacement compensation (15000min^{-1}spindle)			▲
Environmental thermal displacement compensation (20000min^{-1}spindle)			▲
■ Coolant			
Vacuum type coolant through A			▲
Vacuum type coolant through B			▲
Vacuum type coolant through C 2MPa			▲
Vacuum type coolant through C 7MPa			▲
Mist separator (without fire dampe/with fire dampe)			▲
Coolant temperature controller with tank 100L			▲
■ Automatic Measurement, Tool Breakage Detection			
Automatic measurement/automatic alignment (optical, RENISHOW/BLUM)			▲
Tool breakage/full automatic tool length measurement (contact)			▲
Tool breakage/full automatic tool length measurement (laser, RENISHOW/BLUM)			▲
External tool breakage (contact)			▲
■ Chip Removal			
Chip bucket			▲
Lift-up chip conveyor (scraper)			▲
Air blow for chip removal			▲
Workpiece cleaning gun (machine side)			▲
■ Operation/Maintenance Support			
Reliability Meister Plus			▲
Additional eight M functions			▲
Spindle load monitoring function			▲
Weekly timer			▲
3-color signal light (red, yellow, green from top)			▲
External manual pulse generator			▲
Rotary wiper (Air/Electric)			▲
■ Optional Package			
High-speed, high-precision package			▲

Table Top View Unit: mm (in.)

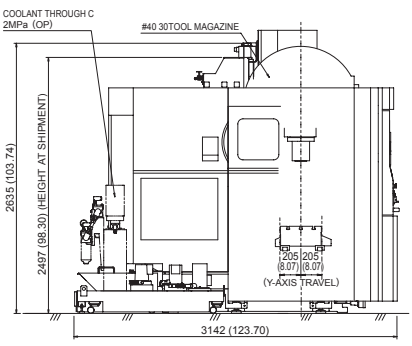


Floor plan Unit: mm (in.)

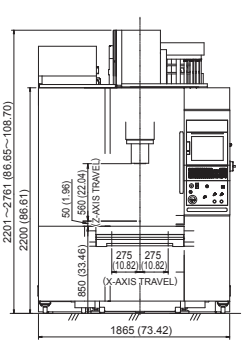


External view Unit: mm (in.)

Left side view



Front view



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- Product specifications and dimensions are subject to change without prior notice.
- The photos may show optional accessories.

This product is subject to all applicable export control laws and regulations

VEGETABLE OIL INK

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