

 **Matsura**

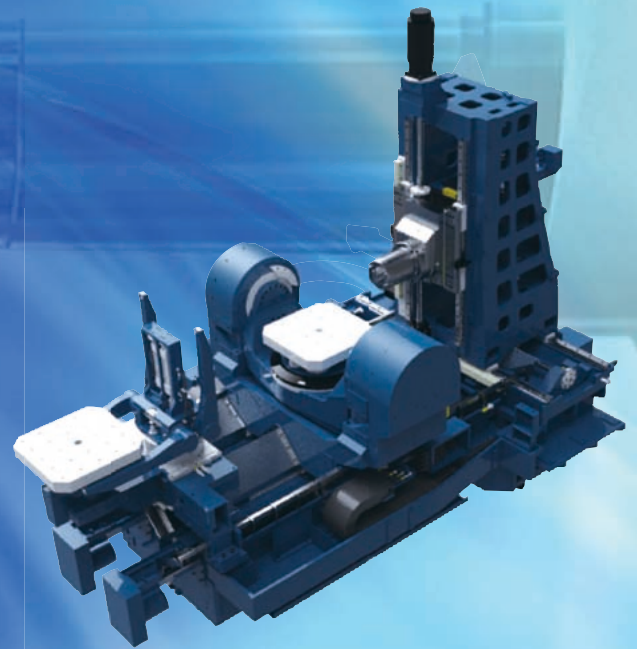
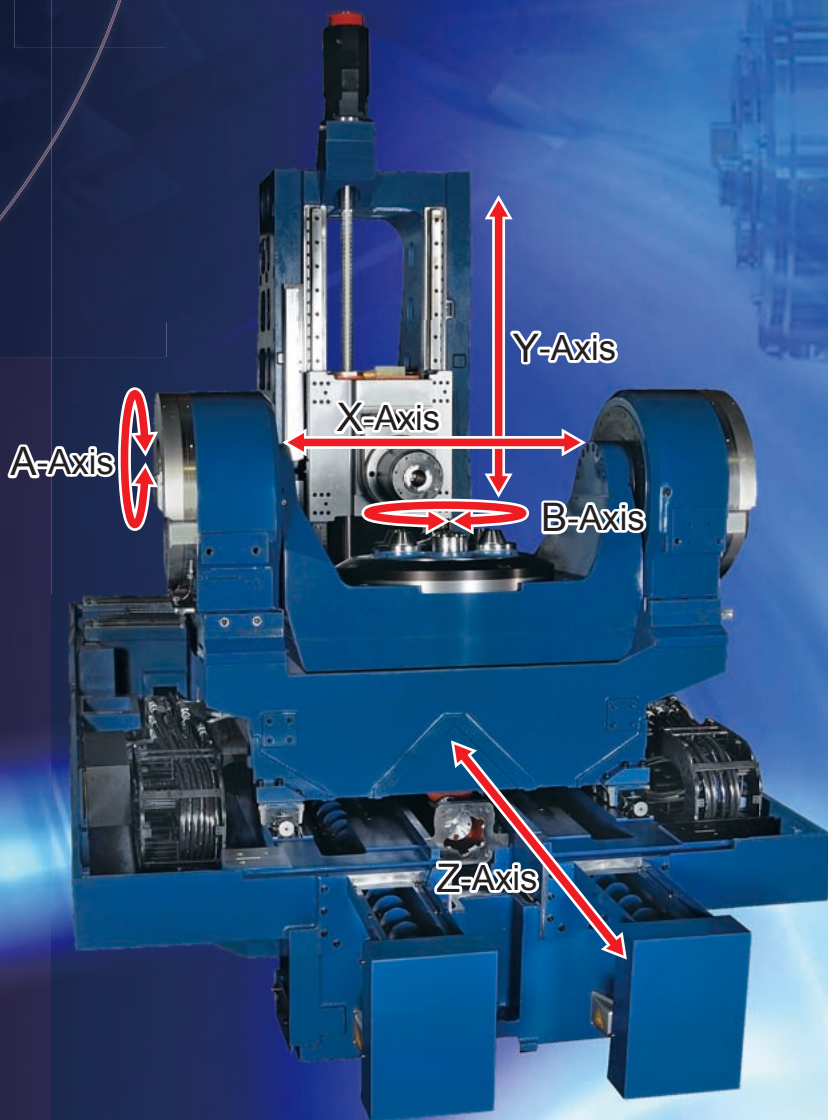
5-Axis Horizontal Machining Center

MAM72-100H



MAXIA
Innovation by  Matsura

Introducing the **MAM72-100H** Our Largest Capacity 5 Axis Machine Ever



● Robust, Stable & Highly Rigid Design

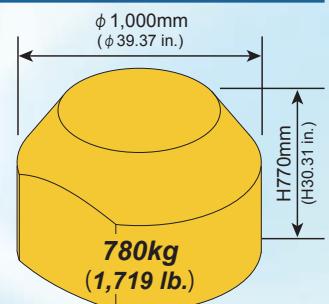
Utilizing FEM Analysis and Matsuura's prestigious engineering experience, the **MAM72-100H** is a highly rigid and stable machining platform – for any application cutting any material.

● Movement and Ranges

X-Axis Travel	mm (in.)	1050(41.33)
Y-Axis Travel	mm (in.)	920(36.22)
Z-Axis Travel	mm (in.)	960(37.79)
A-Axis Travel	deg	-120~+30
B-Axis Travel	deg	360

● Max. Work Size

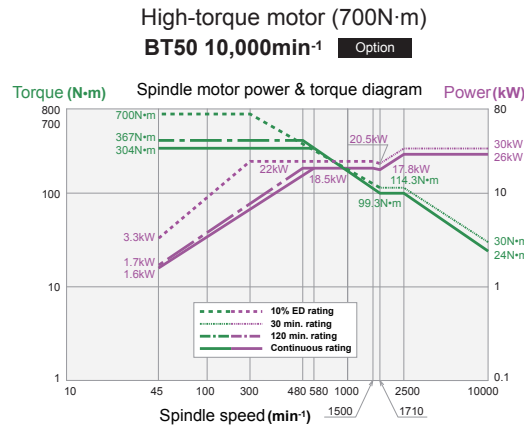
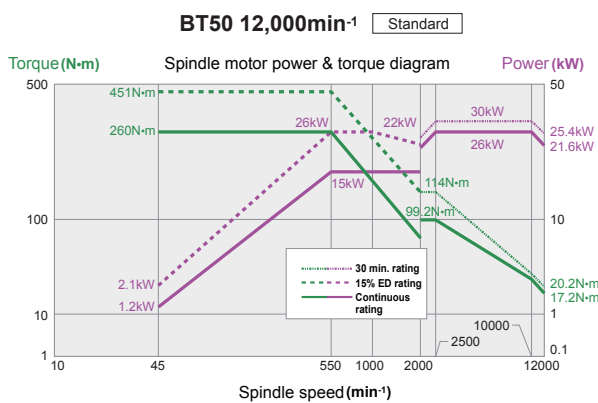
Max. Work Size	mm (in.)	Ø1,000×H770 (Ø39.37×H30.31) (with restrictions)
Loading Capacity	kg (lb.)	780 (1,719)



※with restrictions

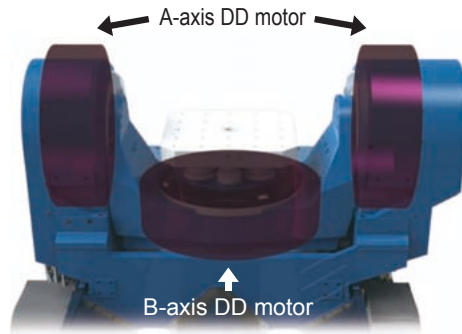
● Matsuura High-tech Spindle

The Matsuura Hi-Tech Spindle delivers effortless power & unerring accuracy with any application and any material. Matsuura's pioneering heritage with high speed & high torque spindles guarantees reliability & longevity of service.



● High speed, high precision A / B Axis – powered by Direct Drives

The A-/ B-axis table configured with state of the art direct drive motors operate at a maximum feedrate of 50 min⁻¹ (A-axis: tilting axis) or 75 min⁻¹ (B-axis: rotating axis), ensuring high speed and high precision.



Effects of DD motors

- Faster acceleration
- Faster traverse & cutting speeds
- Zero parts wear
- Sustained long term accuracy

A : 50min⁻¹
B : 75min⁻¹

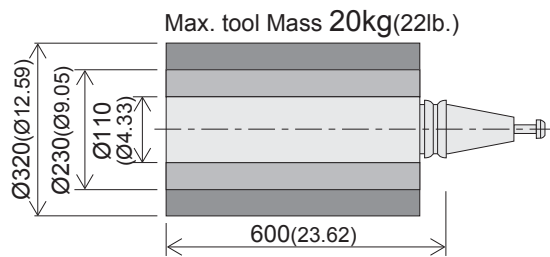
● Drum Magazine

The automatic tool changer is equipped with a Matsuura designed & proven drum-type tool magazine driven by a servomotor for short tool indexing time, low noise and low vibration.

Drum magazine

60 tools with fixed address system Standard

Max. tool size (units: mm (in.))



Drum magazine

● Matrix Magazine Option

Established & proven in all environments on Matsuura products – the Matrix Magazine ATC option can hold from 150 to 360 tools - ample storage for long periods of unmanned lights out production. A chain type ATC is also available with 120 tool places.

Matrix magazine	Option
240-tool base	360-tool base
150 tools	270 tools
180 tools	300 tools
210 tools	330 tools
240 tools	360 tools

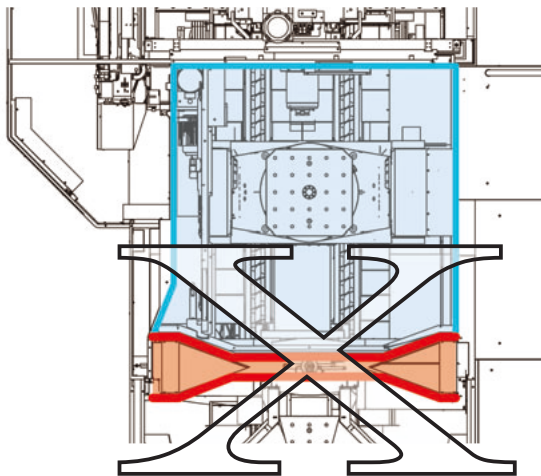
Chain magazine	Option
120 tools	

Matrix magazine, 360-tool base Option



● X-Type APC Door

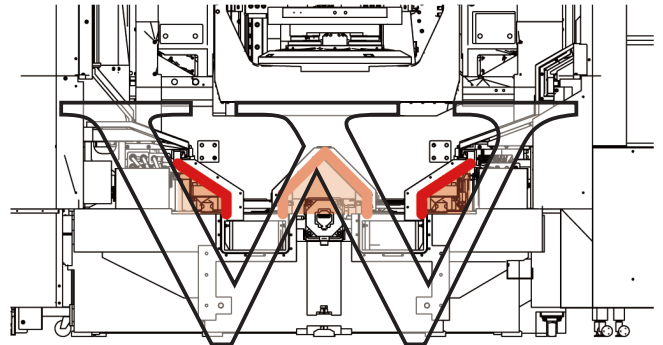
Featured only on Matsuura products, our X-Type APC door design removes all opportunity for swarf to build up & become trapped, eventually causing machine downtime.



X-Type APC door

● W-Type Slide Cover

By integrating steep angled steel Z-Axis covers, swarf is efficiently directed into 2 gutters, where standard spiral chip conveyors rapidly transport waste material out of the enclosure.



W-Type slide cover

● Matsuura's own unique Flip Up Arm APC

Patented

Matsuura's own & patented Flip Up Arm APC configuration shortens the machine length considerably & significantly reduces the overall machine footprint.

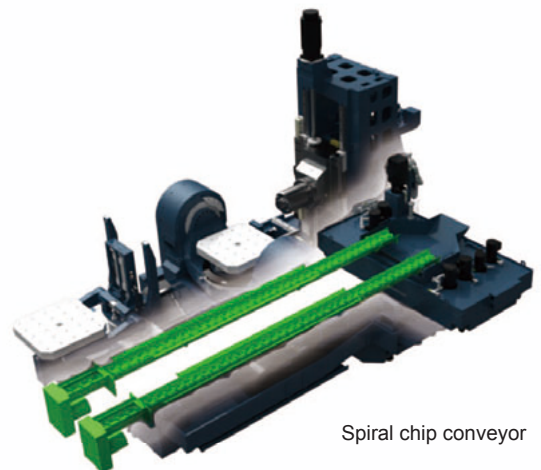


Conceptual figure

● Spiral Chip Conveyor

Standard

To accommodate high volumes of metal removal of all types, a wide variety of swarf management system designs are available.



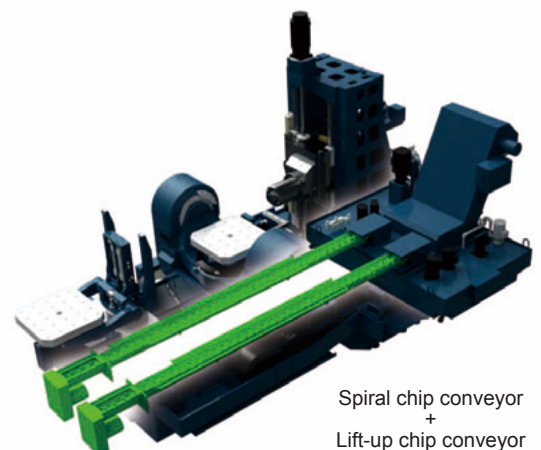
Spiral chip conveyor

● Lift-up Chip Conveyor

Option

Scraper Type

- Drum Filter
- Oily Coolant Applicable (less than 10 cSt)

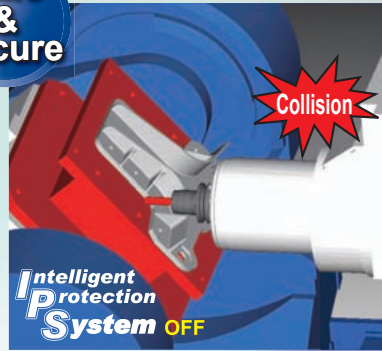


Spiral chip conveyor +
Lift-up chip conveyor

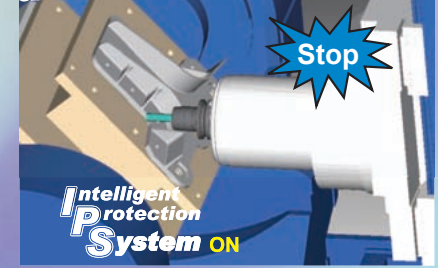
Intelligent Protection System

Ultra Safe Collision Protection

Safe & Secure



Manual / automatic operation supported
Simultaneous 5-axis machining supported



On-Line Link with PC



External PC



Machining center

* With *Intelligent Protection System*, interference check is available during cutting simulation.

* *Intelligent Protection System* simulates your programmed component alerting the user to any interference or collision before any actual machining.
* Requires end user PC – consult Matsuura for full specifications.

MIMS Matsuura Intelligent Meister System

Reliability Meister

Machine Down Time Reduction
"Preventive maintenance support functions"
"Machine restoration support functions"

Operability Meister

Fuss-Free Simple Operation
"Tool setup support" "Part setup support"
"Restart after machining stop"

Secure

Simple

Meister's knowledge, skills, and ideas combined

Accuracy

Environment

Stable Accuracy

"Spindle thermal displacement compensation"
"Environment Thermal Displacement Compensation"
"Feed Axis Thermal Displacement Compensation"

Thermal Meister

Power Saving

"Power cut-off function"
"Energy-saving devices installed"

Eco Meister

Reliability Meister Plus

Increased Security Provided Option

"Electronic manual" "E-mailing function"

* Reliability Meister Plus requires a PC. Consult Matsuura for more information.

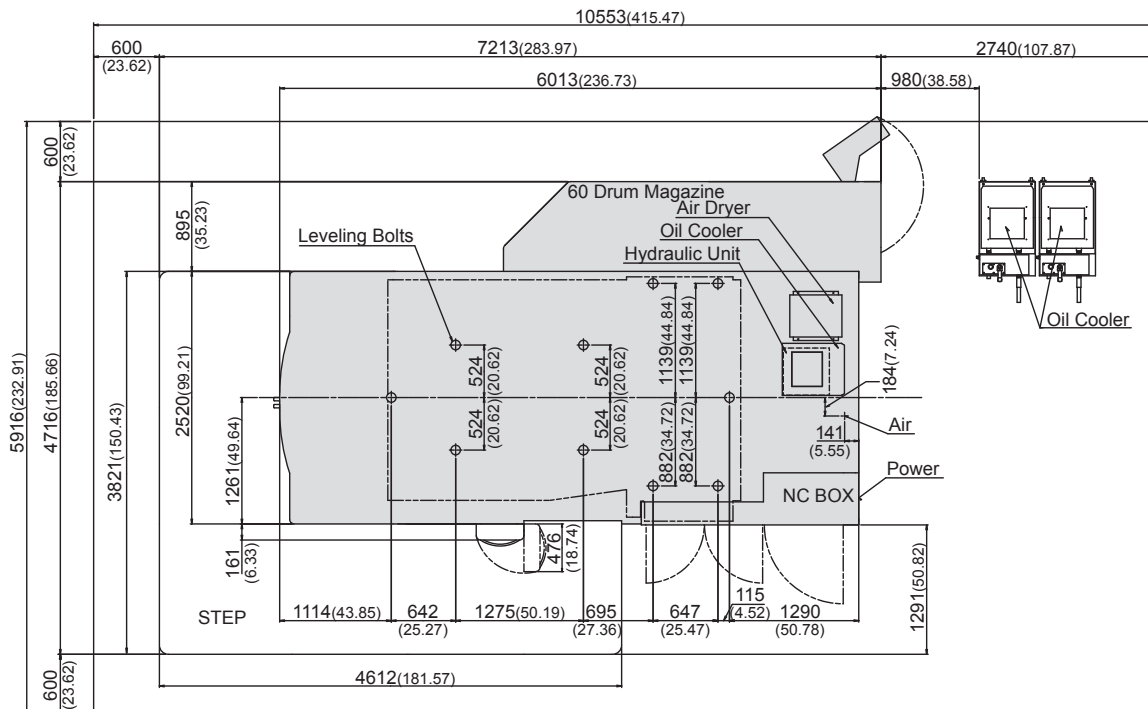
■ Movement and Ranges		
X-Axis Travel	mm (in.)	1050 (41.33)
Y-Axis Travel	mm (in.)	920 (36.22)
Z-Axis Travel	mm (in.)	960 (37.79)
A-Axis Travel	deg	-120~+30
B-Axis Travel	deg	360
■ Pallet		
Working Surface	mm (in.)	630×630 (24.80×24.80)
Loading Capacity	kg (lb.)	780 (1,719)
Max. Work Size	mm (in.)	Ø1000×H770 (Ø39.37×30.31) (with restrictions)
■ Spindle		
Spindle Speed Range	min ⁻¹	45~12,000
Spindle Drive Motor (Contin. / 30min)	kW	15/22/26 (Low Speed : continuous / 40% / 15%) 26/30/30 (High Speed : continuous / 30 min / 60%)
Max. Spindle Torque	N·m	451(550min ⁻¹)
■ Feedrate		
Rapid Traverse Rate (X/Y/Z)	mm/min(ipm)	60,000/60,000/50,000 (2,362.20×2,362.20×1,968.50)
Rapid Traverse Rate (A/B)	min ⁻¹	50 / 75
Feedrate (X/Y/Z)	mm/min(ipm)	60,000/60,000/50,000 (2,362.20×2,362.20×1,968.50)
Feedrate (A/B)	min ⁻¹	50 / 75
■ Automatic Tool Changer		
Type of Tool Shank		JIS B 6339 tool shank 50T
Type of Retention knob		JIS B 6339 pullstud 50P
Max. Tool Diameter	mm (in.)	Ø110 (Ø4.33) : Adjacent tool exists Ø230 (Ø9.05) : No adjacent tool (Store position is limited) Ø320 (Ø12.59) : No adjacent tool (Store position is limited) When Ø320(Ø12.59) tools are set next to each other, there should be 2 empty pots in between.
Max. Tool Length	mm (in.)	600 (23.62)
Max. Tool Mass	kg (lb.)	20 (44)
Tool Changing Time(tool to tool)	sec.	2.0 (When tool mass is less than 10kg (22 lb.)) 3.6 (When tool mass is over 10kg (22 lb.))

■ Power Sources		
Power Capacity	kVA	122
Volume of Compressed Air	NL/min	600
■ Tank Capacity		
Coolant Tank Capacity	L	600
■ NC System		
Control System		Matsura G-Tech 30i

■ Standard Accessories	
01. Total Splash Guard	02. ATC Auto Door
03. Synchronized Tapping	04. AD-TAP
05. IPC	06. Spindle Oil Cooler
07. Auto Grease Supply Unit	08. Cooler for Direct Drive motor
09. Coolant Unit	10. ChipFlush
11. Spiral Chip Conveyor (right and left)	12. Spindle Overload Protect
13. Work Light	14. Standard Mechanical Tools & Tool box
15. Machine Color Paint	16. Leveling Pads & Bolts
17. Scale Feedback for the A/B Axis	18. MIMS (without Thermal Meister)
19. Intelligent Protection System	20. Spindle Run Hour Meter
21. Automatic Operation Run Hour Meter	22. Movable Manual Pulse Generator
23. PC tool for memory card program operation and editing	
24. Operator Platform	

Floor Plan

Units: mm (in.)

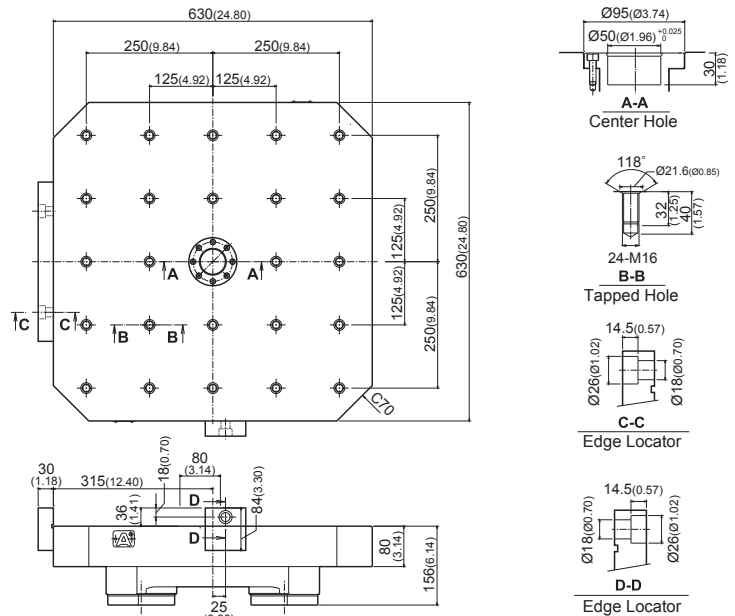
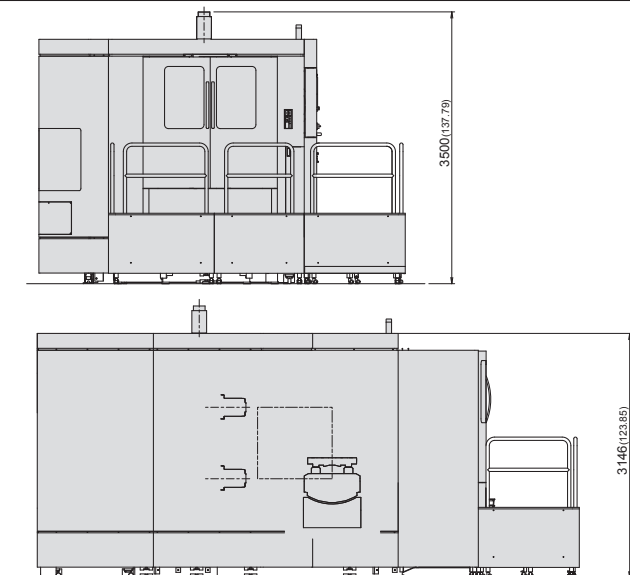


■Spindle		
12,000 min ⁻¹ (BT50 Oil Air)		○
10,000 min ⁻¹ (BT50 Oil Air)		▲
Spindle Drive Motor	kW	26 / 30
Max. Spindle Torque	Nm	700 (300min ⁻¹)
■ATC		
60 tools (Drum Magazine Fixed Address)		○
120 tools (Chain Magazine)		▲
150 / 180 / 210 / 240 tools	(Matrix Magazine 240 base)	▲
270 / 300 / 330 / 360 tools	(Matrix Magazine 360 base)	▲
■High Accuracy Control		
Scale Feedback	XY-Axis	▲
	Z-Axis	▲
	XYZ-Axis	▲
■APC		
PC2		○
PC6 (Floor Pallet System)		▲
PC17~ (Linear Pallet System)		▲
■Coolant		
Coolant Unit		○
Coolant Thru Spindle	Vacuum Type Coolant Thru A (7MPa)	▲
	Vacuum Type Coolant Thru A (14MPa)	▲
	Vacuum Type Coolant Thru B (7MPa)	▲
	Vacuum Type Coolant Thru B (14MPa)	▲
	Vacuum Type Coolant Thru C (7MPa)	▲
	Vacuum Type Coolant Thru C (14MPa)	▲
Coolant Flow Checker		▲
Mist Separator Unit	(without Fire Protect Damper)	▲
	(with Fire Protect Damper)	▲
Coolant Temperature Controller	Separate Type, 100L Tank	▲
	Separate Type, 200L Tank	▲
■In-Process Measurement + Tool Breakage		
In-Process Measurement/Auto Centering (Optical Touch Probe)		▲
Broken Tool Detection/Auto Tool Length Measurement (Touch Sensor)		▲
Broken Tool Detection/Auto Tool Length Measurement (Laser Sensor)		▲
In-Process Measurement (Optical Touch Probe) & Broken Tool Detection (Touch Sensor)		▲
In-Process Measurement (Optical Touch Probe) & Broken Tool Detection (Laser Sensor)		▲

■Swarf Management	
Total Splash Guard	○
ATC Auto Door	○
Spiral Chip Conveyor	○
Chip Flush System	○
External Nozzle	2 MPa with Spindle Thru ▲ 7 MPa with Spindle Thru ▲
Lift-Up Chip Conveyor (Scraper, Drum)	▲
Chip Bucket	▲
Chip removing air blow	▲
Workpiece Cleaning Gun (Machine Side)	▲
Workpiece Cleaning Gun (APC Side)	▲
■Operation/Maintenance Support	
AD-TAP Function	○
IPC Function	○
MIMS	○
Auto Grease Supply Unit for Feed Axes	○
Work Light	○
Movable Manual Pulse Generator	○
Spindle Run Hour Meter	○
Additional Eight M Functions	▲
Spindle Load Monitoring Function	▲
Weekly Timer	▲
Rotary Wiper (air driven)	▲
Rotary Wiper (electrically driven)	▲
Automatic Operation Run Hour Meter	▲
100 VAC Socket (3A)	▲
Optional Block Skip	▲
Reliability Meister Plus	▲
■Safety Regulation	
Matsuura Safety Specification	○
Auto. Fire Extinguisher	▲
■Option Package	
Hi-Speed Hi-Precision Package	▲
5-Axis Package	▲
Hi-Speed Hi-Precision / 5-Axis Package	▲
Value Package	▲
Hi-Speed Hi-Precision / 5-Axis Package + TRUE PATH	▲

External View

Units: mm (in.)





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

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