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

Products are subject to all applicable export control laws and regulations.

FE-E1.0 200805 3000 C

Matsuura

Horizontal Machining Center

H.Plus-300

MAXIA
Innovation by Matsuura

Matsuura H.Plus-300

The all new H.Plus-300.

A fusion of cutting edge CNC design functionality coupled with an eclectic mix of classic and ultra modern aesthetics.

The next generation of Matsuura *H.Plus* Horizontals has arrived.

Largest Working Envelope in its Class

Upgraded Specification as Standard (compared to previous model)

- Y-axis stroke increased to **560 mm** (22.04 in.) [+60 mm (2.36 in.)].
- Max. work piece envelope increased to **ø530 x H760 mm** (ø20.86 x H29.92 in.)[+H60 mm (2.36 in.)]. No competitor machine has a larger working envelope.
- Rapid traverse rate (X/Y/Z) increased to **60 m/min** (2,362 ipm) [+10 m/min (393.7 ipm)].
- Min. distance from spindle to pallet center reduced to **70 mm** (2.75 in.) [-50 mm (1.96 in.)]
- **51 tools** ATC as standard [+20 tools] incorporating a new Matsuura developed high speed ATC tool indexing system.
- High speed indexing increased to **100 min^{-1}** [+50 min^{-1}], the rotary table can be supplied with a DD Motor as an option.
- Floor space reduced by **15%** to 7.8 m^2.

Superb Reliability

- THERMAL MEISTER ™ [Thermal Displacement Compensation for Spindle & Feed Axis] is provided as standard.
- Feed Axis Grease Auto Supply System is provided as standard.
- Spindle Grease Auto Supply System is provided as standard.
- Powerful Swarf Management by W-Ttype Cover for Z-Axis + X-Type APC Door.

User Friendly

- Ergonomic design – based around maximum operator comfort & productivity.
- Supplied with powerful NC ***Matsuura G-Tech 30i*** ***Matsuura G-Tech 840DI***

MAXIA
Innovation by Matsuura

Tower Pallet System PC15

Unmanned Multi Pallet Excellence

Matsuura offer 3 proven, expandable & highly productive multi pallet systems – tailored to your production process

Type	Features	Production Volume	Number of Pallets
Floor Pallet System	Compact, fully integrated & expandable multi pallet system	Low to Medium Volume	PC5 PC11
Tower Pallet System	Vertically aligned space saving multi pallet system	Medium to High Volume	PC15
Linear Pallet System	Twin decked & fully expandable linear pallet system	High to Continuous High Volume	PC17~

Floor Pallet System

Option

Compact floor area

PC5

PC11

Tower Pallet System

Option

Vertically aligned space saving stocker

PC15 NEW!

Linear Pallet System

Option

Effective, proven & continual unmanned production

All Matsuura ***H.Plus Series*** horizontals pallet storage options can be upgraded after the initial purchase of your machine to support your changing production environment. Retrofits at your premises can be accommodated quickly, efficiently & cost effectively. Linear pallet systems have the added advantage of being able to fully support both 4-axis Matsuura horizontals & certain Matsuura 5-axis machines, providing they have the same pallet size.

MAM72-42V

Matrix Type Tool Magazine for 320 Tools

Unrivaled Tool Storage & Management Capacity - Supporting Your Unmanned Production Process

NEW!

High Speed Index Drum Tool Magazine	
51(Bi-Directional Address Code) Standard	52 (Memory Random) Option

Maximum 240 tools can be stored in this ATC tool magazine

Max. 240 tool storage Matrix Tool Magazine Option				
120	150	180	210	240

Maximum 320 tools can be stored in this ATC tool magazine. NEW!

Max. 320 tool storage Matrix Tool Magazine Option					
120	160	200	240	280	320

Maximum 520 tools can be stored in this ATC tool magazine. NEW!

Max. 520 tool storage Matrix Tool Magazine Option				
360	400	440	480	520

New ATC Technology

Designed & fully proven by Matsuura this new drum type ATC magazine offers vastly reduced tool change times. Tool indexing time has been reduced by a massive 60%.

Drum Type ATC – Specification

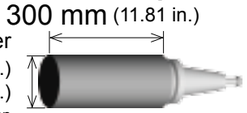
ATC time	2.44 sec.
Neighbor tool calling time	0.4 sec.
The longest next tool calling time	3.2 sec.

Standard

H.Plus-300 51 tool ATC, Twin Pallet Changer

Max. Tool Length
300 mm (11.81 in.)

Max. Tool Diameter
90 mm (3.54 in.)
150 mm (5.90 in.)
When the pockets on both sides are empty



Max. Tool Weight
8 kg (17.6 lb.)

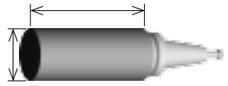
New ATC touch panel display – larger screen, ergonomic & user friendly.

All tool management & ATC functionality can be controlled from this screen.

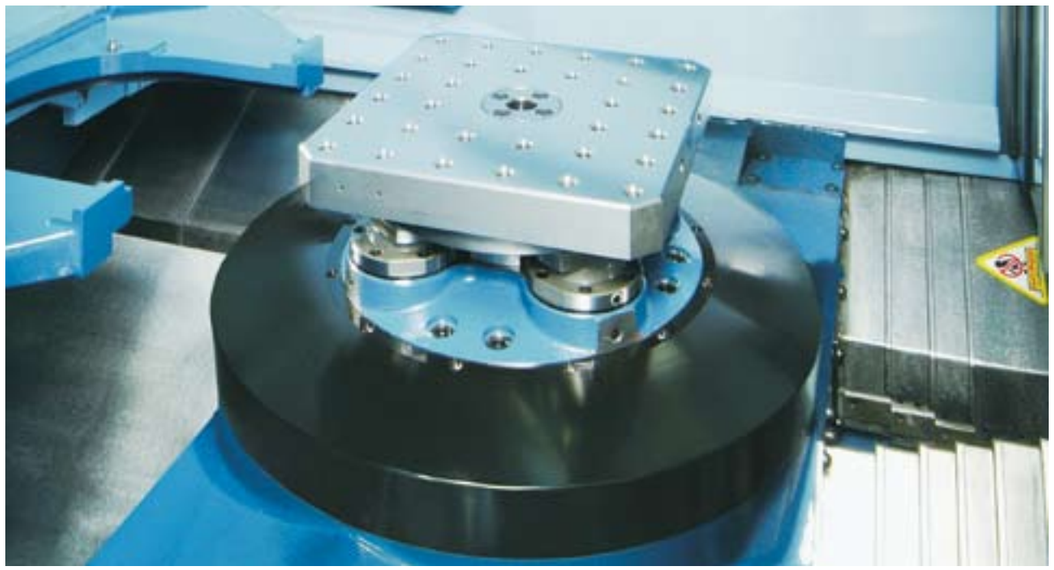
Option ***H.Plus-300*** PC15 320T magazine NEW!

Max. Tool Length
300 mm (11.81 in.)

Max. Tool Diameter
80 mm (3.14 in.)
150 mm (5.90 in.)
When the pockets on both sides are empty



Max. Tool Weight
8 kg (17.6 lb.)



NC Controlled Indexing Rotary Table : High Speed, Accuracy & Reliability Option

DD Motor Driven 100 min^{-1} NEW!

The DD (Direct Drive) motor driving the NC controlled rotary table indexes twice as fast as a conventional worm gear set up.

DD Motors also possess the added advantage of being non contact. The non contact aspect of the DD Motor also eliminates not only the abrasive wear on components associated with conventional worm gear set ups but also completely removes backlash, offering increased and sustained positional accuracy as well as high speed operation.

The functional simplicity and reliability of the DD mechanism is also maintenance free.

DCS Dynamic Clamp System NEW!

PATENT PENDING

Matsuura are proud to announce the development of our DCS System (Dynamic Clamp System).

This automatic feature of the DD Motor mechanism will clamp the rotary table if and when a pre-determined force greater than the DD Motor can hold is brought to bear against it – as in heavy milling operations.

Once the force is lower than the pre-determined level, the clamp will automatically remove itself. This set up offers yet another substantial advantage over traditional worm gear set ups.

Owing to the automatic functionality of the DCS System, un-necessary clamping is eliminated – offering further reductions in indexing, cycle & operational times.

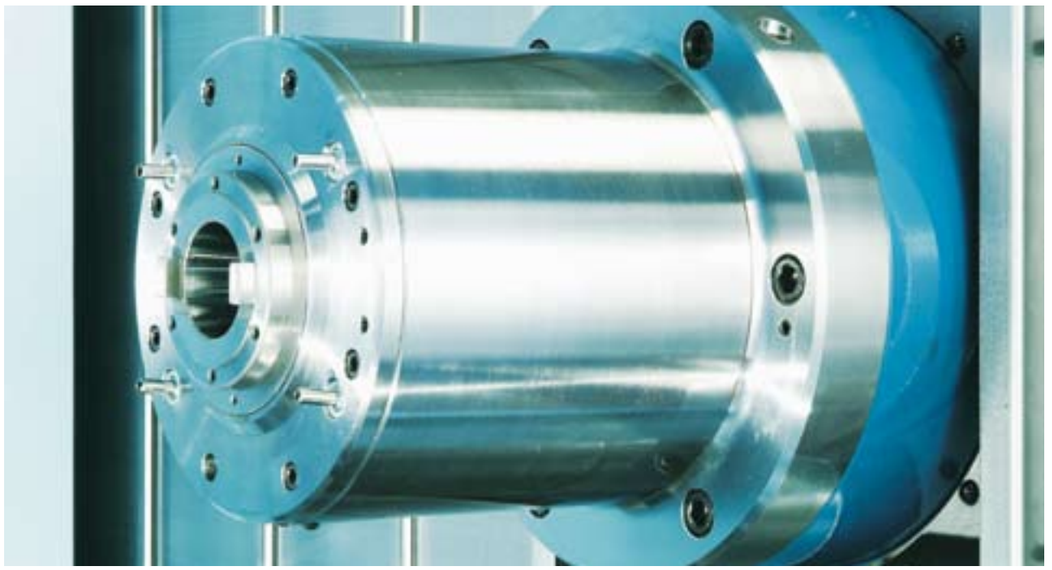
Conventional Machining

B -90.0	Table Clamp	Machining	Table Unclamp	B 0.0
	M21		M22	

Application of the DCS system.
-On the light machining, it skips M21 & M22 operation.
-On the heavy duty machining, if the loading force exceeds a designated value then it keeps M21 & M22 command.

Application of the DCS system

B -90.0	Machining	B 0.0	REDUCTION



Eco Friendly Spindle with Spindle Grease Auto Supply System

Matsuura Hi-Tech Spindle

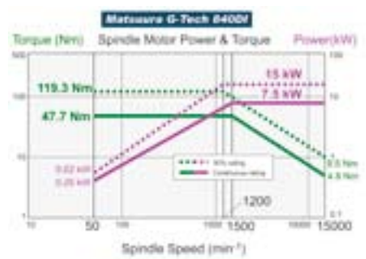
The heart of all Matsuura machines – the Matsuura Hi-Tech Spindle, from the original pioneers of High Speed Spindles. With integrated grease lubrication, noise output lower than 75dB and vastly reduced air consumption all Matsuura Spindles offer years of reliable service and maintenance free operation.

All Matsuura Spindles are designed and built in house at our clean room centers of excellence in Fukui Japan & Leicestershire England.

Standard

15,000 min^{-1}

Motor Power
7.5 / 15 kW (20 HP)
Motor Torque
119.3 Nm/1,200 min^{-1}



Option NEW!

20,000 min^{-1}

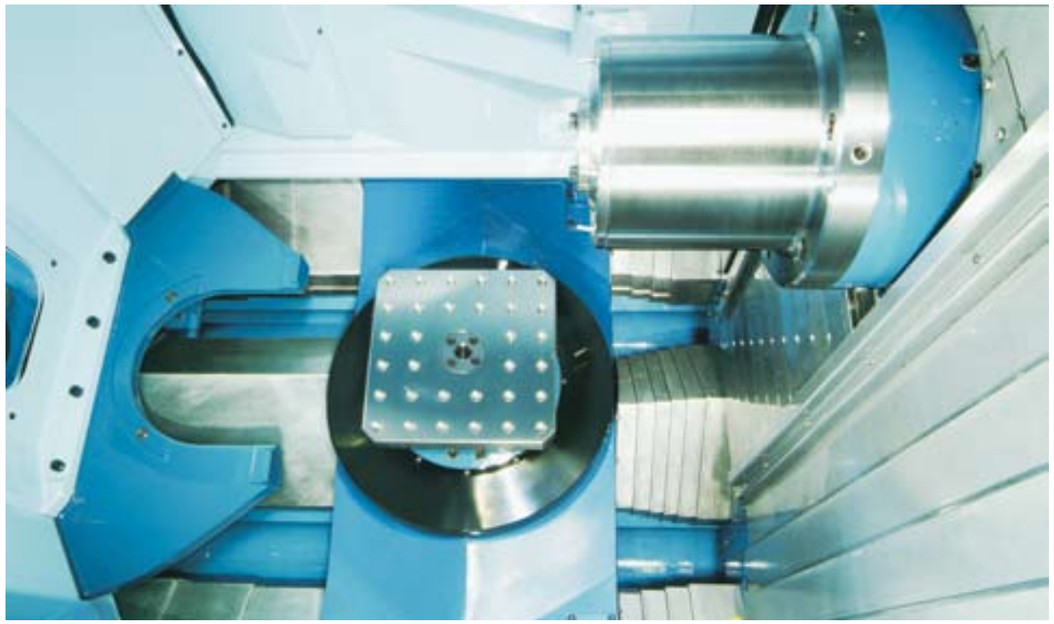
Motor Power
15 / 18.5 kW (25 HP)
Motor Torque
108.5 Nm/1,320 min^{-1}

• 30,000 min^{-1} spindle is available as option

Vacuum Type Coolant Thru Spindle System NEW! Option

This newly proven option removes all residual coolant from the tool and spindle during tool changing operations.

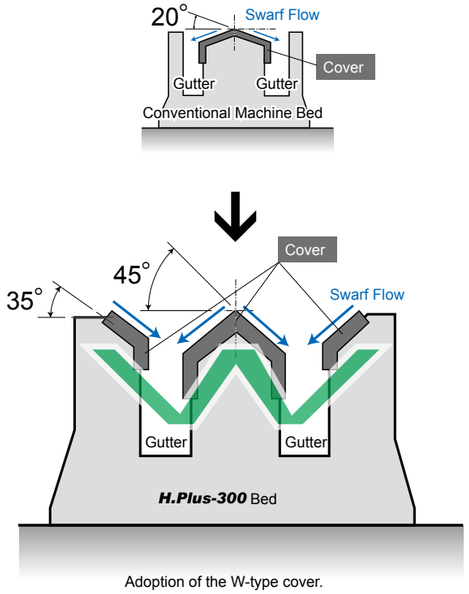
＊Vacuum Type Coolant-Thru for 30,000min^{-1} Spindle is not available.



Effective & Reliable Swarf Management

W-Type Protection Cover NEW!

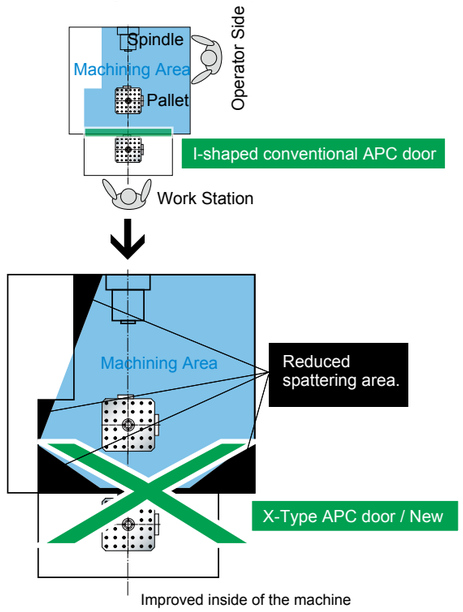
The Z-axis protective cover offers a slant of 45 deg – assuring rapid fall away of swarf & chips. The design of the enclosure assures no swarf traps – protecting your unmanned production processes & offering peace of mind lights out unattended operation.



Adoption of the W-type cover.

X-Type APC Door NEW!

The new design of the X-Type APC door (Patent Pending) between the machining enclosure and the APC was first introduced on our highly acclaimed ***H.Plus-500*** horizontal. This design has proven itself to be highly effective in eliminating swarf build up around the APC door.



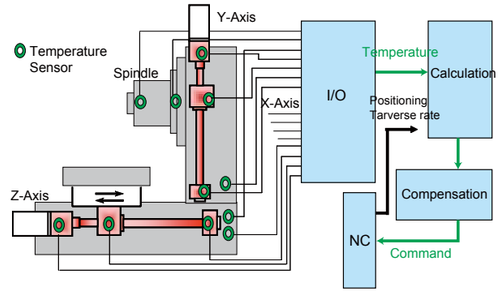
Improved inside of the machine

Thermal Displacement Compensation

THERMAL MEISTER ™

NEW! Standard

Thermal Meister ™ monitors the temperature of the spindle and the X, Y and Z axes and supplies a constant feed of compensation values to the NC to maintain assured accuracy.

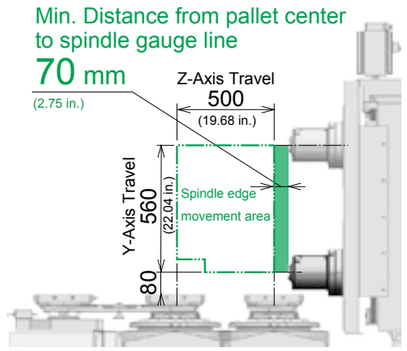


Schematic of the THERMAL MEISTER ™ system

Access & Maintenance

Improved Accessibility

The minimum distance from the spindle to the gauge line has been reduced by 50mm to 70mm. Even though Matsuura ***H.Plus*** machines are renowned for their rigidity, previously unattainable levels of ultra rigid machining with a shorter cutter can now be effortlessly achieved.



H.Plus-300 Movement Ranges(Y&Z-Axis)

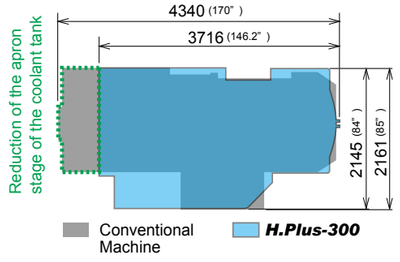
Minimum Maintenance

An automatic grease supply unit as standard feeds the spindle & all axes – eliminating maintenance intervention.

Maintenance requiring equipment is concentratedly arranged in the rear side of the machine.

Reduced Machine Footprint

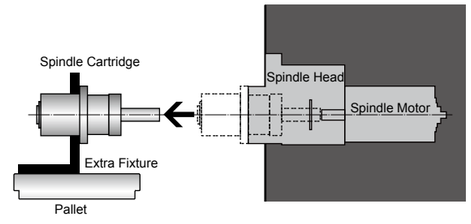
The new H.Plus-300 offers a saving on floor space of 15% on the standard twin pallet machine when compared to the previous incarnation.



Comparison of the floor area

Improved Spindle Maintenance

On the rare occasion that your Matsuura Hi-Tech Spindle requires removal from headstock, the operation can be efficiently & quickly expedited – with minimum fuss & machine downtime. NEW!



Drawing out the spindle cartridge from the headstock by using extra fixture

The Latest High Performance NC

Powerful NC Choices **Matsuura G-Tech 840DI** or **Matsuura G-Tech 30i**

Matsuura G-Tech 840DI

Equipped with the latest high performance CPU, Windows XP Professional, graphical user interface, USB port.

10.4 inch color LCD, soft keys vertically arranged.

Expanded media for data backup such as PC card drive, USB Memory, USB HDD.

For High Speed & Superb Surface Finish

Machining for General Parts or Mold & Die

Advanced Zee LagY Standard

Machining for more Complex, Precision Parts

IZ-1/COMP Option

(Max. 5,000 Block Look Ahead + Spline Interpolation)

After compressing a maximum of 50 blocks and engaging the 100 Block Look Ahead function, IZ-1/COMP interpolates & applies to the B-Spline to the nearest point selected

Matsuura G-Tech 30i

High speed CPU and FSSB, internal CNC bus, optical fiber cables used for high speed data transfer.

Nanometer resolution.

10.4 inch color LCD, soft keys vertically arranged, Compact Flash Port, PC file management structure

For High Speed & Superb Surface Finish

Machining for General Parts or Mold & Die

IZ-1/15F Standard

Machining for more Complex, Precision Parts

IZ-1/30NF, IZ-2/150NF Option

(Look Ahead Linear Acc./dec.+ Nano interpolation)

Executing the max. 200(IZ-1/30NF) or 600*(IZ-2/150NF) - block look ahead linear acc./dec. before interpolation achieves a smooth acc./dec. across the multiple blocks calculated by nano order.

* Max. 1,000 block available as option.

Proven Software Performance

IPC High-Speed Precision Machining Program Support Function Standard

When utilizing this software, setting the required part accuracy level is quick, simple and user friendly, allowing you to prioritize precision against speed.

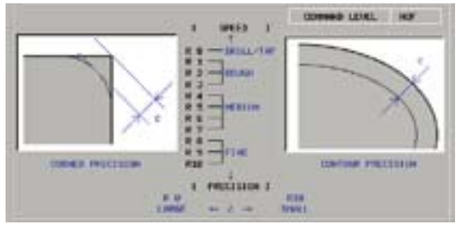
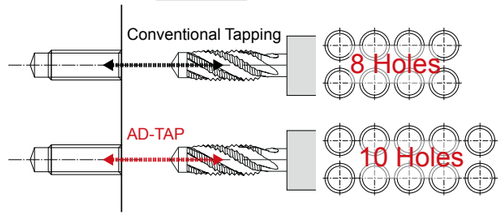


Image of IPC

AD-TAP High-Speed Tapping Function Standard

Matsuura's unique spindle motor control technology- AD-TAP, intelligently optimizes the torque V speed characteristics of the spindle motor, depending on the size of the tap used. This provides average reduction of 20% in tapping time. PATENTED



Comparison with AD-TAP and Conventional Tapping

Handy ManII Y,F Standard

Handy Man II provides major savings by reducing set-up, programming, operating & maintenance times.

Please contact Matsuura for a copy of our in-depth Handy ManII brochure.

Images of Troubleshooting

H.S.M. NC Package Option

This extensive package of High Speed software has been developed from our many decades as primary leaders in the field of High Speed Machining

Matsuura G-Tech 840DI

High Speed High Accuracy Package

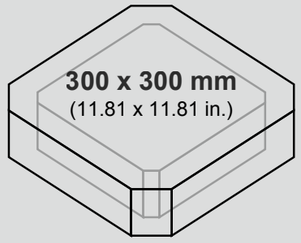
Matsuura G-Tech 30i

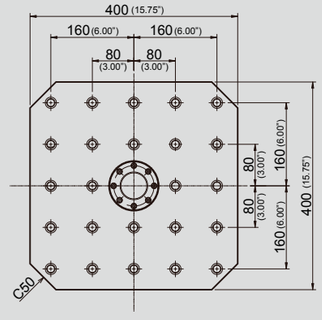
High Speed High Accuracy Package
IZ-2/150NF
1000 block look ahead
Nono smoothing
Nono smoothing2
Optional torque acc./dec.
Fast data server

Special Pallet (400 x 400 mm 15.75 x 15.75 in.) Option

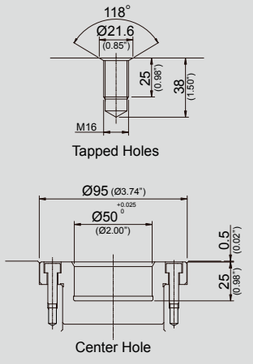
The new ***H.Plus-300*** can operate with a 400mm pallet with minor limitations.

400 x 400 mm
(15.75 x 15.75 in.)





It is not possible to attach the edge locators.



Main Specifications

■ Movement & Ranges		
X-Axis Travel	mm (in.)	500 (19.68)
Y-Axis Travel	mm (in.)	560 (22.04)
Z-Axis Travel	mm (in.)	500 (19.68)
B-Axis Travel	deg	360
■ Pallet		
Working Surface	mm (in.)	300 x 300 (11.81 x 11.81)
Loading Capacity	kg (lb.)	250 (551)
Max. Work Size	mm	ø530 x H760 (ø20.86 x H29.92)
■ Spindle : BT40		
Spindle Speed Range	min^{-1}	50 ~ 15,000
Spindle Motor Power (Contin. / 10 min.)	kW (HP)	7.5 / 15 (20)
Spindle Max. Motor Torque	Nm/min^{-1}	120 / 1,200
■ Feedrate		
Rapid Traverse (X/Y/Z)	mm/min (ipm)	60,000 (2,362.2)
Rapid Feed Acceleration	G	0.93 / 1.28 / 1.06
■ Automatic Tool Changer		
Type of Tool Shank		JIS B 6339 40T
Type of Retention Knob		JIS B 6339 40P
Number of Tools		51 : Chain Pot Type
Max. Tool Diameter	mm	Ø90
Max. Tool Diameter	mm	Ø150 mm : with conditions
Max. Tool Length	mm	300 mm
Max. Tool Weight	kg (lb.)	8 (17.6)
Tool Change Time	sec	2.4 : Chip to Chip

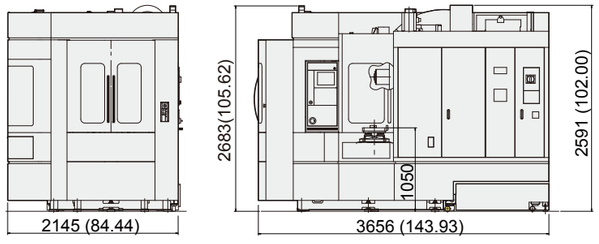
■ Automatic Pallet Changer		
Type of pallet Change		Turn Table Methods
Pallet Change Time	sec	6.6 : Pallet to Pallet
■ Power Supply		
Input Power	kVA	42 (50 : NC Indexing / opt.)
Voltage	V	AC200/220V±10%
Frequency	Hz	50/60±1
Air Source	MPa	0.54~0.93
Required Air Volume	NL/min	Max.350

■ Standard Accessories

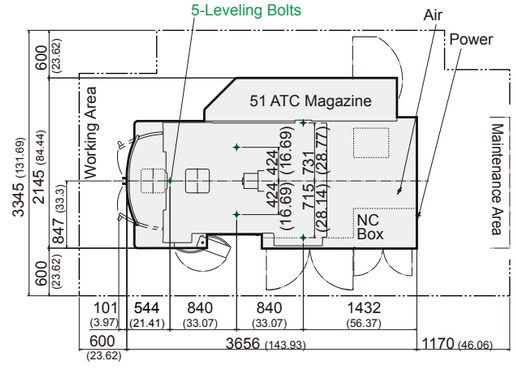
01. Total Enclosure Guard with Ceilling	11. M-Code Counter (9 M-Code)
02. Synchronized Tapping Function	12. THERMAL MEISTER ™ (Spindle thermal displacement compensation)
03. AD-TAP Function	13. THERMAL MEISTER ™ Feed axis thermal displacement compensation system. (This will be eliminated if you install the optional scale feed back system X, Y & Z-axis)
04. IPC Function	14. Work Light
05. Spindle Oil Cooler	15. Standard Mechanical Tools and Tool Box
06. Auto Grease Supplier for Spindle	16. Machine Color Paint
07. Feed axis grease auto supply	17. Leveling Plate and Bolts (not Foundation Pad)
08. Swarf Rear Disposal	18. Handy ManII F/Y
09. Chip Flow	19. CD-ROM for Memory Card Operation (only for Matsuura G-Tech 30i)
10. Spindle Overload Protection	20. Matsuura Safety Specification

Outline (Standard Specifications)

Unit : mm (in.)



Floor Plan (Standard Specifications)



Machine Weight : 8,300 kg

Equipment

○ : Standard ▲ : Option

■ Spindle	
15,000 min^{-1} (Spindle Auto Grease Supply)	○
20,000 min^{-1} (Spindle Auto Grease Supply)	▲
30,000 min^{-1} (Oil-Air)	▲
■ ATC	
51 (Drum Type : Bi-Directional Address Code)	○
52 (Drum Type : Memory Randam)	▲
120 / 150 / 180 / 210 / 240 (Matrix Type 240 base)	▲
120 / 160 / 200 / 240 / 280 / 320 (Matrix Type 320 base)	▲
360 / 400 / 440 / 480 / 520 (Matrix Type 520 base)	▲
■ High Accuracy Control	
Scale Feedback System X/Y-Axis (HEIDENHAIN)	▲
Scale Feedback System Z-Axis (HEIDENHAIN)	▲
Scale Feedback System X/Y/Z-Axis (HEIDENHAIN)	▲
THERMAL MEISTER ™ (Spindle & Feed Axes Thermal Displacement Compensation)	○
■ APC	
PC2	○
PC5 (Floor Pallet System)	▲
PC11 (Floor Pallet System)	▲
PC15 (Tower Pallet System)	▲
PC17~ (Linear Pallet System)	▲
■ Additional Table	
Matsuura made 1 degree Index Table	○
Matsuura made NC Controlled Rotary Table (with DCS)	▲
■ Coolant	
Coolant Unit	○
Coolant Shower System	▲
Vacuum Type Coolant Thru Type A	▲*
Vacuum Type Coolant Thru Type B	▲*
Vacuum Type Coolant Thru Type C (2MPa)	▲*
Vacuum Type Coolant Thru Type C (5MPa)	▲*
Vacuum Type Coolant Thru Type C (7MPa)	▲*
Coolant Flow Checker	▲
Mist Separator Unit	▲
Mist Separator Unit with Fire Protect Damper	▲
Coolant Temperature Controller (Tank 100ℓ)	▲
Coolant Temperature Controller (Tank 200ℓ)	▲
■ Swarf Manegement	
Total Enclosure Guard	○
Spiral Chip Conveyor	▲
Lift-Up Chip Conveyor with Drum Filter (Scraper Type) + Spiral Chip Conveyor *Oily coolant should be less than 10cSt.	▲
Chip Bucket	▲
Air Blow For Chip/Swarf Removal	▲
Workpiece Cleaning Gun (Machine Side)	▲
Workpiece Cleaning Gun (APC Side)	▲

* Vacuum Type Coolant-Thru for 30,000min^{-1} Spindle is not available.

■ Operation / Maintenance	
AD-TAP Function	○
IPC Function	○
Handy ManII Y/F	○
Work Light	○
8 Sets of Extra M Function	▲
Spindle Load Monitoring Function	▲
Weekly Timer	▲
Program End Announcement Light (Red, Yellow, Green)	▲
Spindle Run Hour Meter	▲
Cumulative Run Hour Display Unit	▲
External Manual Pulse Generator	▲
Rotary Wiper (Air Supply System)	▲
Rotary Wiper (Electrical System)	▲
Hydraulic Power Supply System for Fixture : (from APC Upside) 19.6MPa, 4 ports.*Please consult Matsuura for more details.	▲
■ Safety Features	
Matsuura Safety Specification	○
■ In-Process Measurement / Broken Tool Detection	
In-Process Measurement / Auto Centering (Touch Probe)	▲
Broken Tool Detection / Auto Tool Length (Touch Sensor)	▲
Broken Tool Detection / Auto Tool Length (Laser Sensor)	▲
In-Process Measurement (Touch Probe)+Broken Tool Detection(Touch Sensor)	▲
In-Process Measurement (Touch Probe)+Broken Tool Detection(Laser Sensor)	▲

Pallet Surface

Unit : mm (in.)