

Horizontal Machining Center

# *H.Plus-500*



**Matsuura**

# Giving Customers the Flexibility to Machine Large/Small Components

Designed from the ground up, the new **H.Plus-500** will sit in the middle of our range of globally acclaimed **H.Plus-Series** Horizontals, giving customers the flexibility to machine large or small components - at high speed & high accuracy with immense power from the Matsuura designed & built BT50 Spindle, achieving phenomenal metal removal rates.

## Stable, Reliable, Highly Rigid Structure

- Rib Configuration Optimized by FEM Analysis.
- High Speed, Low Noise Type Ball Screw.
- Larger Diameter ballscrews & Class 1 Linear Guides.

## Simultaneous ATC / APC Operation

- Dynamic Rapid Traverse - Latest Digital Servo Technology.

Rapid Traverse(X/Y/Z) : 50 m/min (1,968.5 ipm)

Rapid Traverse Acc./Dec. : 0.9 G

Feedrate (X/Y/Z) : 50 m/min (1,968.5 ipm)

Feedrate Acc./Dec. : 0.5 G

- New Proven Design - High Speed ATC / APC Driven by CAM System.
- Superb, Reliable ATC Magazine Performance - Reduced Indexing Time.
- ATC Time (chip-to-chip) Reduced by Simultaneous Motion of the ATC arm and ATC door. <Patent Pending>
- ATC / APC Simultaneous Operation - Reduced Non-Cutting & Idle Time.\*1

Tool Changing Time (Chip to Chip) : 4.2 sec.

Pallet Changing Time (Pallet to Pallet) : 7.9 sec.

Tool Calling Time (Min. / Max.) : 0.7 / 9.1 sec.

## Wide Range of Options

### Spindles : Matsuura Hi-Tech Spindles

BT50 : 10,000 min<sup>-1</sup> : AC22/30 kW : 40 HP

STD.

BT40 : 12,000 / 20,000 / 30,000 min<sup>-1</sup>

OPT.

### No. of Tools : Ample Tool Storage

#### Chain-pot Type

BT50 : 60

STD.

BT50 : 120

OPT.

BT40 : 51, 80

OPT.

#### Matrix Type

150~240

OPT.

120~240

OPT.

### PC System : For Cost Effective Production

5-Pallet Changer : PC5

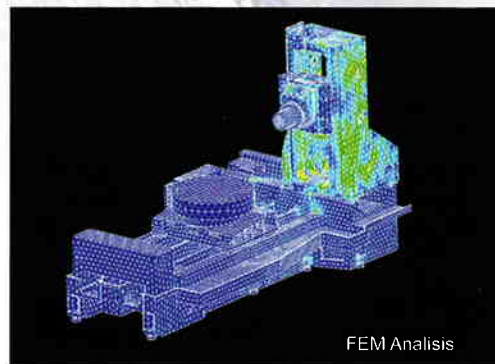
OPT.

10-Pallet Changer : PC10

OPT.

Linear Pallet System : PC17

OPT.



\*1 : In this instance, the max tool length is limited to 345mm.

## User Friendly : Easy Access to the Machine

**A** : Distance from the pallet center to the spindle edge

BT40 : 90 ~ 890mm    BT50 : 120 ~ 920mm

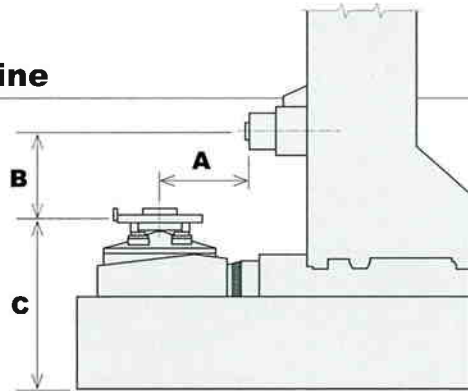
BT40 : (3.54 ~ 35.03 in.)    BT50 : (4.72 ~ 36.22 in.)

**B** : Distance from the pallet surface to the spindle center line

80 ~ 880mm (3.14 ~ 34.64 in.)

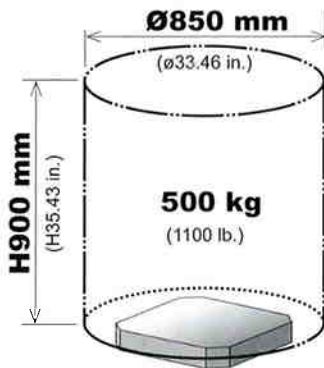
**C** : Height from floor to the table surface

1,020mm (40.15 in.)



## Largest Work Size in its Class

### Safe, Rigid Clamping of Large, Oversized Billets



- Larger workpieces can be accommodated. Please call Matsuura for details.



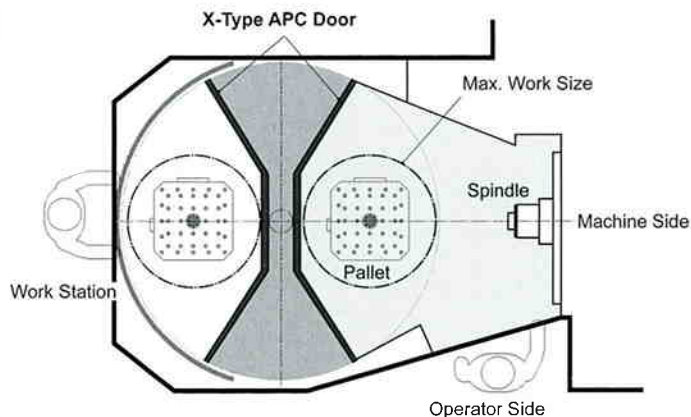
- Door open width of APC Work Station : 1,005 mm



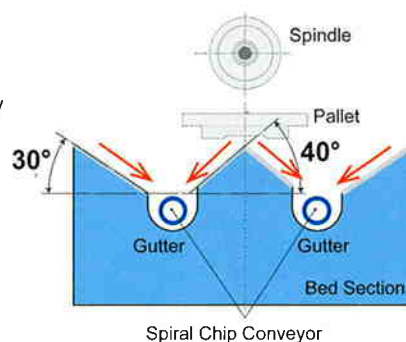
- By utilizing tempered glass in the main viewing window, clearer vision for longer periods is achieved.

## Unique, Matsuura Designed X Type Door (Patent Pending)

- The unique, Matsuura designed X Type door removes all opportunity for swarf to become trapped & build up. The design itself forces swarf into the path of the coolant shower / chip flush system.

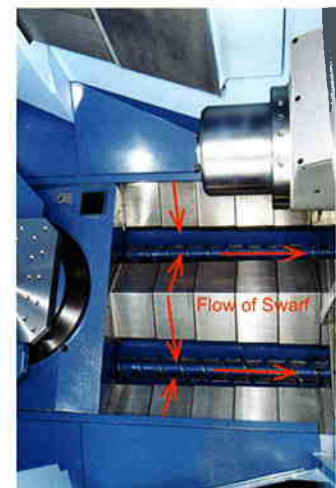


- 30~40 degree, angled Z axis covers.
- Powerful left & right spiral chip conveyors.
- Optional Lift-Up Type chip conveyor available - fully automated swarf management.



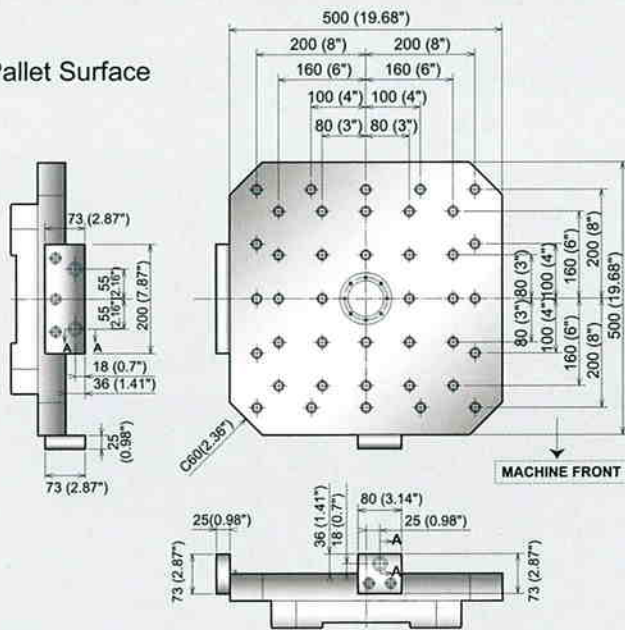
Section View from the Machine Front

Chip Flush System	<b>STD.</b>
Spiral Chip Conveyor	<b>STD.</b>
Lift-Up Chip Conveyor	<b>OPT.</b>

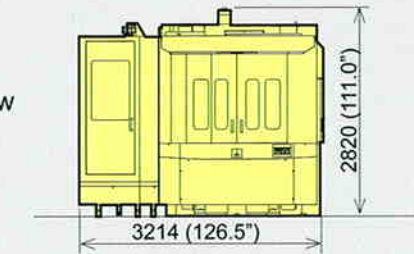


## H.Plus-500 Pallet / Outline / Floor Plan

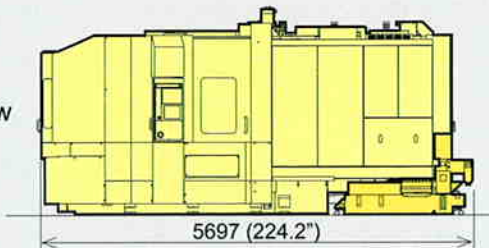
Pallet Surface



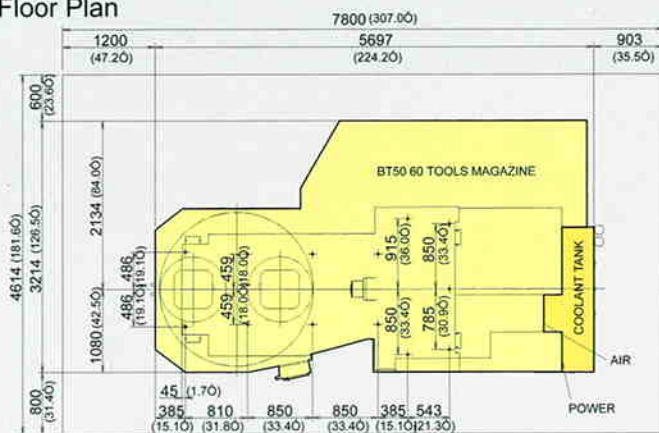
Front Side View



Left Side View



Floor Plan



## H.Plus-500 Standard Machine Specification

### ■ Movement and Ranges

X-axis Travel	800 mm (31.49 in.)
Y-axis Travel	800 mm (31.49 in.)
Z-axis Travel	800 mm (31.49 in.)

### ■ Pallet

Pallet Size	500 x 500 mm (19.68 x 19.68 in.)
Max. Workload on Pallet	500 kg (1,102 lb.)
Max. Work Size	ø850 x H900 mm (33.46 x 35.43 in.)

### ■ Spindle (BT50)

Spindle Speed	50 ~ 10,000 min <sup>-1</sup>
Spindle Inner Bearing Diameter	ø90 mm
Spindle Motor Power(cont./50%ED)	22/ 30 kW (40HP)
Spindle Motor Torque	254.3 Nm / 900 min <sup>-1</sup>

### ■ Feedrate

Rapid Traverse/Feedrate :X/Y/Z	50,000 mm/min (1968.5 ipm)
Rapid Acc./Dec. :X/Y/Z	0.7 / 0.9 / 0.8 G
Min. Movement Increment :X/Y/Z	0.001 mm (0.000039 in.)
Min. Movement Increment :B	1 deg

### ■ Automatic Tool Changer \* Larger Tools can be accommodated. Please call Matsuura for details.

Type of Tool Shank	JIS B 6339 50T
Type of Tool Knob	JIS B 6339 50P
Number of Tools	60 (chain pot type)
Max. Adjacent Tool Diameter *	110 mm (4.33 in.)
Max. Tool Dia. (both side pockets are empty)	230 mm (9.05 in.)
Max. Tool Length *	500 mm (19.68 in.)
Max. Tool Weight	20 kg (44 lb.)
Tool Changing Time : Tool to Tool	2.0 sec
Tool Changing Time : Chip to Chip	4.2 sec

### ■ Auto Pallet Changer

No. of Pallets	2
Pallet Changing Time :Pallet to Pallet	7.9 sec

### ■ NC System

Matsuura G-Tech 30I  
Matsuura G-Tech 840DI

### ■ STANDARD ACCESSORIES

01. Total Enclosure Guard (with the Ceiling)	09. Standard Coolnat Unit
02. Door Interlock (Operator's door, APC door, ATC magazine door)	10. Chip Flush
03. Synchronised Tapping Function	11. Spiral Chip Conveyors
04. AD-TAP Function	12. Spindle Overload Protection
05. IPC Function	13. M-Code Counter (9-M code)
06. Spindle Oil Cooler	14. Work Light
07. Auto Grease Supply Unit	15. Standard Mechanical Tools and Tool Box
08. Swarf Rear Disposal	16. Machine Colour Paint
	17. Levelling plate and bolts (not foundation pad)
	18. Handy Man II F/Y



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