Matsuura

Vertical Machining Center

V.Plus-800

MAXIA
Innovation by Matsuura

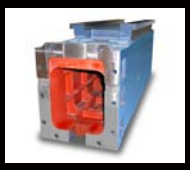
Matsuura V.Plus-800

Highly Rigid Construction, Ultra Precision Assembly

The ***V.Plus-800*** - Matsuura's latest vertical series incorporates all of our hard won knowledge & experience gained from over 30 years of supplying high performance verticals to the worlds leading industries. Designed from "the ground up", the ***V.Plus-800*** has taken full advantage of the latest technology & design processes to ensure that it is ready for all applications - no matter how arduos the machining environment, nor how difficult the job. All Matsuura machines are handbuilt by Matsuura Engineers to strict & exacting quality standards - assuring our customers of years of high speed, high accuracy & highly reliable service & operation.

FEM-Analysis

- Significant ribbing of the bed & column - designed & optimized by FEM analysis.



Stable, Robust Bed

- The massive bed, supported at 6 points offers total stability - despite the vast interia forces generated by all axes during rapid acc/dec.

Z-Axis Box Slide Way

- Widely spaced, rectangular section column guideways on the Z axis are traditionally finished by hand scraping to minimize wear, offer life long accuracy & to commodate the powerful headstock/spindle assembly.

Reliable, High Quality

- Grease lubrication is utilized for all axes ballscrews, & on X & Y linear guides.

- To support longevity, & maintain high accuracy for the life of the machine, parallelism & straightness of the linear guides is set to within 2 µm during manufacture. (Full stroke)

Matsuura Pioneering Machine Tool Excellence Since 1935

Pioneers in the development and manufacture of high quality CNC vertical machining center's, Matsuura have been at the forefront of providing excellence through innovation since 1935. Matsuura's first vertical, the ***MC-750V*** was introduced to much global acclaim in 1974 and set the benchmark for precison, quality and productivity. To date Matsuura have supplied in excess of 15,000 vertical machines to every conceivable industry the world over, manufacturing every possible component. Because of our prestigious heritage and established global customer base, we are recognised as a technology leader in todays world of high performance machining. Matsuura customers demand and receive high accuracy, high speed and reliability form our products, with after sales service and applications support that is second to none in the global machine tool supply industry.

Travel (X/Y/Z)	mm (in)	800 / 550 / 500 (31.49/21.65/19.68)
Table Size	mm (in)	1,150 x 550 (45.27 x 21.65)
Loading Capacity	kg (lb.)	500 (1,100)

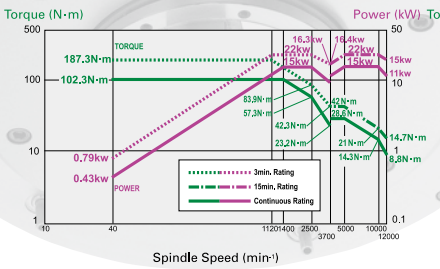
MAXIA
Innovation by Matsuura

Powerful, Versatile, Unique MAXIA Spindle

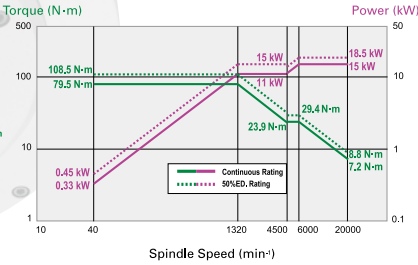
• Spindle Taper	BT40 Double Contact
• Spindle Speed	12,000 min^{-1}
• Motor Power	15/22kW (30HP)
• Max. Torque	187 Nm/1,120 min^{-1}

- Utilizing Matsuura's many decades of pioneering high speed machining experience, our spindles are designed & assembled 'in house'. Matsuura's spindle engineers work in a dedicated clean room complex to assure the highest quality & reliability, the precision spindles are assembled to guarantee a runout of less than 1 µm (0.000039 in.) (actually measured value) at the nose of the spindle.
- The spindle and the motor are connected by Matsuura's unique coupling. This assembly is designed to prevent the heat from being transferred from the motor to the spindle & contributes to the high rigidity of the spindle.
- To minimize heat build-up in the spindle, cooled oil is circulated around the outer jacket of the spindle and motor as well as the motor flange, thus sustaining its high accuracy.
- The standard, double contact of the face & taper, unification of the spindle & drive key features a unique tool clamp mechanism to improve repeatability and stationary/dynamic rigidity. The clamping force is 14.7kN. This results in excellent material removal rates and surface finish.

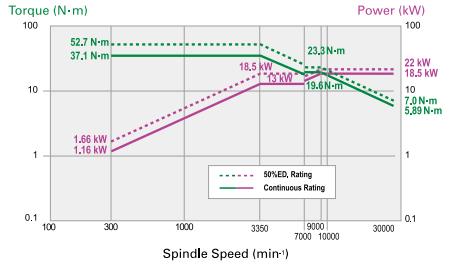
12,000 min^{-1} Spindle Motor Power & Torque Diagram Standard



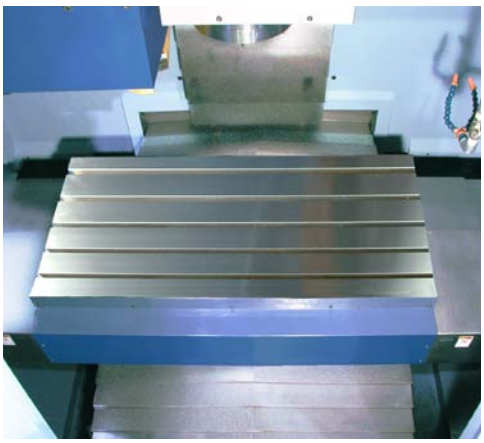
20,000 min^{-1} Spindle Motor Power & Torque Diagram Option



30,000 min^{-1} Spindle Motor Power & Torque Diagram Option



Clean and Efficient Swarf Management



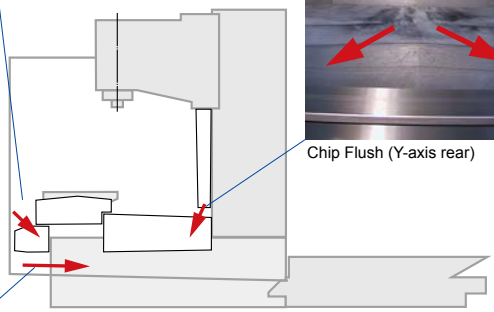
- Highly accurate telescopic guards are used on all axes, assuring minimum drag, deflection, vibration & noise, in addition to protecting the guideways from the ingress of swarf & chips.

Chip Flow (Y-axis Front)

Chip Flow (Y-axis left & right)

- Large bedway ducts ensure the unobstructed free flow of swarf into the chip collection buckets at the rear of the machine.
- Excellent chip flow - front & rear of Y axis telescopic cover.
- Deep side troughs.

Chip Flush (Y-axis rear)



- Chip Bucket
- Coolant Tank (400L)

Latest High Performance Control System "*Matsuura G-Tech*"

Matsuura G-Tech 30i

<FEATURES>

- 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 and Finer Machined Surface

<Machining for General Parts or Mold & Die>

IZ-1/15F Standard

<Machining for more Complex, Precision Parts>

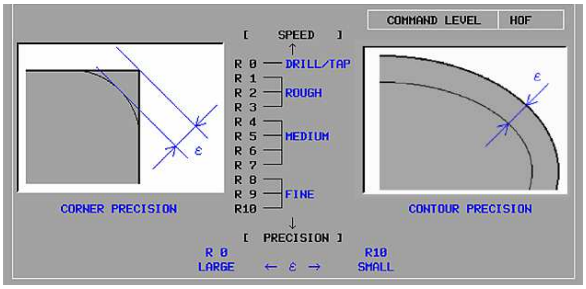
IZ-1/30NF, IZ-2/150NF Option

(Look Ahead Linear Ace./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.

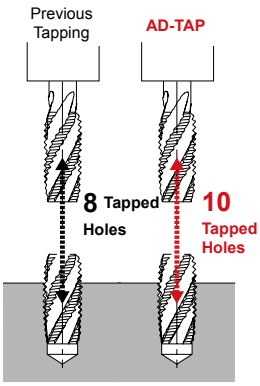
*max.1,000 block available as option.

IPC



- For high speed cutting applications, Matsuura's proven and pioneering software is recommended. When utilizing this software, setting the required part accuracy level is quick, simple and user friendly, allowing you to prioritize precision against speed.

AD-TAP



(Example number of tapped holes at same time)

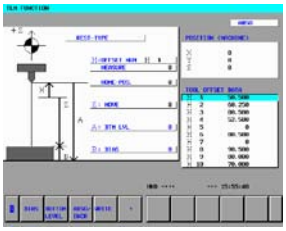
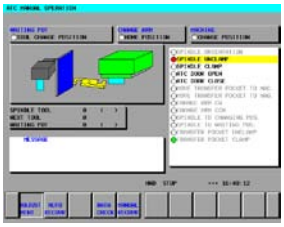
- Matsuura's unique spindle motor control technology- ***AD-TAP***, intelligently optimizes the torque V speed characteristics of the spindle motor, depending on the size of the tap used. This provides average reduction of 20% in tapping time.

(Patented)

Intelligent Functionality : Simple, Quick, Easy to use

Handy ManII provides major saving by reducing setup. programing, operation and maintenance times.



Standard Machine Specifications

■ Movement and Ranges		
X-Axis Travel	mm (in.)	800 (31.49)
Y-Axis Travel	mm (in.)	550 (21.65)
Z-Axis Travel	mm (in.)	500 (19.68)
■ Table		
Working Surface	mm (in.)	1,150 x 550 (45.27 x 21.65)
Loading Capacity	kg (lb.)	500 (1,100)
■ Spindle		
Speed Range	min^{-1}	40 - 12,000
Spindle Taper		7/24 taper JIS BT40
Bearing Inner Diameter	mm (in.)	Ø80 (Ø3.14)
Bearing Lubrication		Grease
Motor Power	kW	15 / 18.5 / 22
Max. Spindle Torque	$N \cdot m/min^{-1}$	187 / 1,120
■ Feedrate		
Rapid Traverse (X/Y/Z)	mm/min (ipm)	50,000 / 50,000 / 30,000 (1,968.5 / 1,968.5 / 1,181.1)
Feedrate (X/Y)	mm/min (ipm)	1 - 50,00(0.1 - 1,968.5)
Feedrate (Z)	mm/min (ipm)	1 - 30,000 (0.1 - 1,181)
■ Automatic Tool Changer		
Type of Tool Shank		JIS B 6339 tool shank 40T
Type of Retention Knob		JIS B 6339 pullstud 40P
Tool Storage Capacity	pcs.	30
Max. Tool Diameter	mm (in.)	96 (3.77) 175 (6.88) : When the pockets on both sides are empty
Max. Tool Length	mm (in.)	350 (13.77)
Max. Tool Weight	kg (lb.)	10 (22)
Method of Tool Selection		Memory random selection, Bidirectional magazine rotation
Tool Changing Time	sec.	0.9 (Tool to Tool) : Tool weight less than 5kg
		1.8 (Tool to Tool) : Tool more less than 5kg
		2.8 (Chip to Chip) : Tool weight less than 5kg

■ Power Supply		
Electrical Power Supply	kVA	43
Compressed Air Supply	Mpa	0.54 - 0.93
Coolant tank Capacity	L (gal.)	400 (105)
■ Machine Size		
Mass of Machine	kg (lb.)	6,000 (1,300)
■ NC System		
Control System		Matsuura G-Tech 30i

■ Standard Accessories

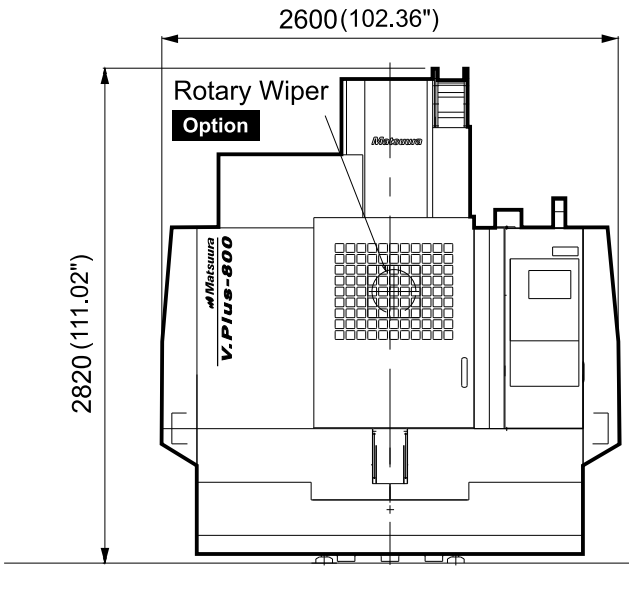
01. Total Enclosure Guard & Top Side Cover
02. ATC Magazine Cover
03. ATC Auto Door
04. Synchronized Tapping Function
05. ***AD-TAP*** Function
06. ***IPC*** Function
07. Spindle Oil Cooler
08. Coolant unit (Chip Rear Disposal)
09. Lubrication Unit
10. Spindle Overload Protection
11. 9 Sorts of M-Code Counters
12. Work Light
13. Standard Mechanical Tools & Tool Box
14. Machine Color Paint
15. Levelling Pads & Bolts
16. Chip flow (Y-axis Cover & Side Trough)
17. Coolant Nozzle Unit
18. ***Handy Man II***
19. Matsuura Safety Specification
20. Memory card program operation and editing CD-ROM

* Spindle two-year warranty

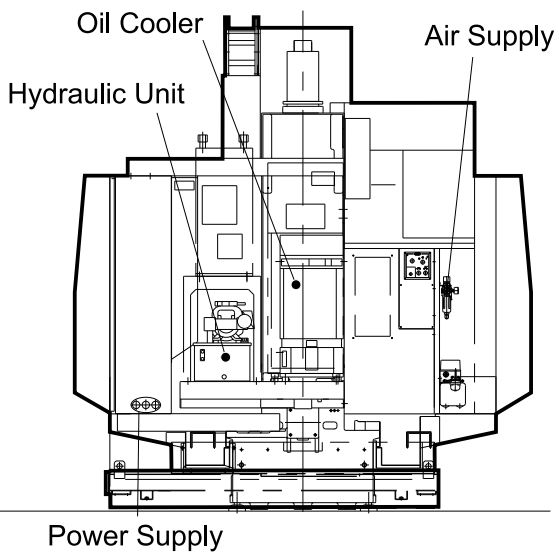
Outline

Unit : mm (in.)

Front View



Back Side



Optional Specifications & Equipment

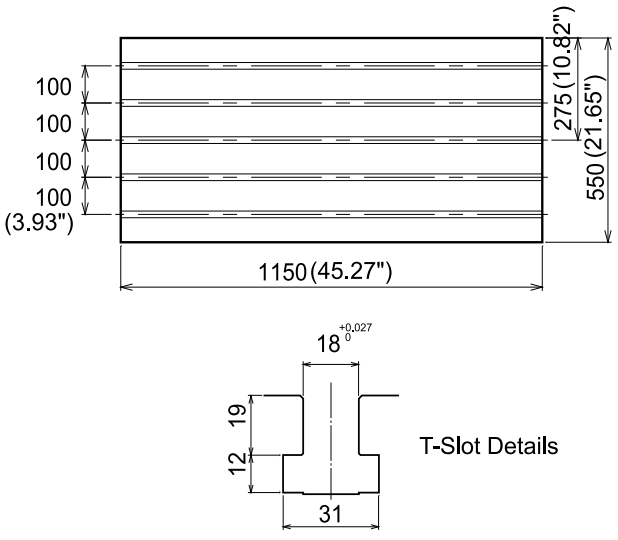
○ : Standard ▲ : Option

■ Spindle	
12,000 min^{-1} (Grease Lubrication)	○
20,000 min^{-1} (Oil & Air Lubrication)	▲
30,000 min^{-1} (Oil & Air Lubrication)	▲
■ ATC	
30 tools (BT40 Chain Magazine)	○
40 tools (BT40 Chain Magazine)	▲
80 tools (BT40 Chain Magazine)	▲
■ High Accuracy Control	
Scale Feedback System X/Y-Axis	▲
Scale Feedback System Z-Axis	▲
Scale Feedback System X/Y/Z-Axis	▲
Thermal Displacement Compensation Function	▲
■ Tool Management / Workpiece Measurement	
Touch Type In-Process TLM Measurement + Broken Tool Detection + Auto Centering	▲
In-Process Measurement & Broken Tool Laser Detection	▲
Touch probe	▲
■ Swarf Management	
Total Enclosure Guard	○
ATC Auto Door	○
External Nozzle (2MPa)	▲
External Nozzle (5MPa)	▲
Chip Flush System	▲
Spiral Chip Conveyor (Right & Left)	▲
Lift-Up Chip Conveyor (Hinge, Drum filter)	▲
Chip Bucket	▲
Air Blow for Chip Swarf Removal	▲
Workpiece Cleaning Gun	▲

■ Operation/Maintenance Support	
AD-TAP Function	○
IPC Function	○
Handy Man II	○
Work Light	○
8 Sets of Extra M Function	▲
Spindle Load Monitoring Function	▲
Weekly Timer	▲
Spindle Run Hour Meter	▲
Rotary Wiper (Air Supply System)	▲
Rotary Wiper (Electrical System)	▲
Automatic Operation Run Hour Display unit	▲
Movable Manual Pulse Generator	▲
3 Color Status Light (red, green, yellow)	▲
■ Safety Devices	
Matsuura Safety Specification	○
■ Coolant	
Coolant Unit	○
Coolant Thru Spindle (2MPa)	▲
Coolant Thru Spindle (5MPa)	▲
Coolant Thru Spindle (7MPa)	▲
Coolant Flow Checker	▲
Mist Separator Unit	▲
Coolant Temperature Controller (100L)	▲
Coolant Temperature Controller (200L)	▲
■ Others	
High Column (+150 mm)	▲
Z-Axis Stroke Extension (150 mm)	▲
Additional Axis (4/5th Table)	▲

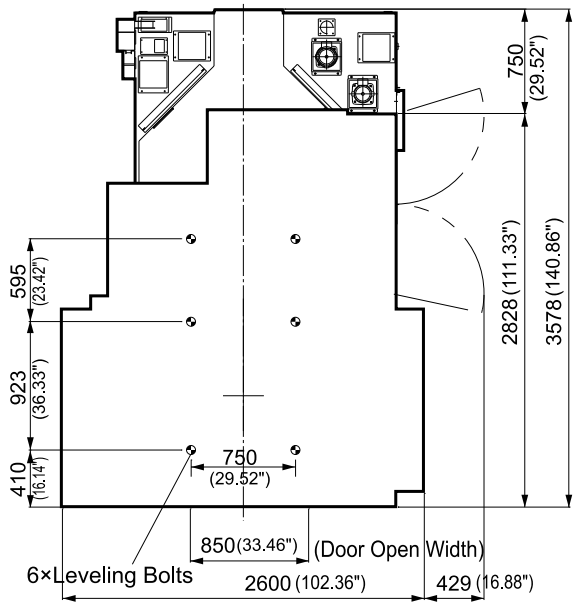
Table Surface

Unit : mm (in.)



Floor Plan

Unit : mm (in.)



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