

VX-660



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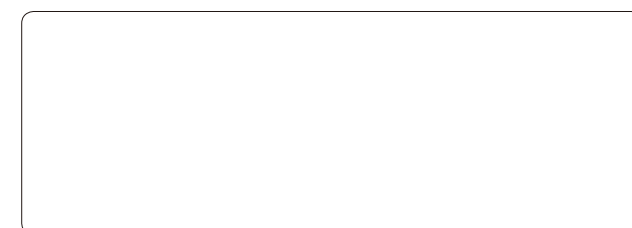
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- Product specifications and dimensions are subject to change without prior notice.
- The photos may show optional accessories.



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



VX-660 Vertical Machining Center

**Introducing the VX-660 ;
Assured Machining Performance,
Compact Footprint**

Cost effective, versatile 3 axis VMC with spacious machining enclosure,
 **Matsura** – pioneers of the VMC



**Wide Y-axis Travel
550mm**

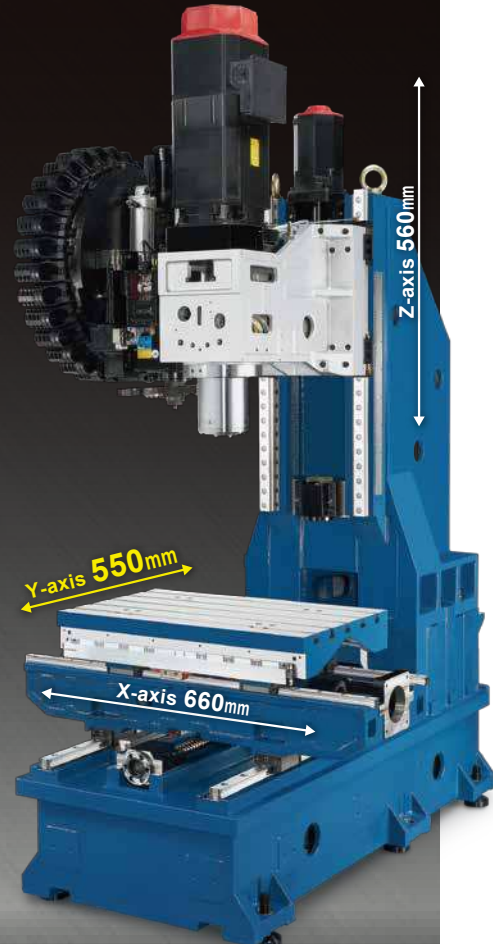
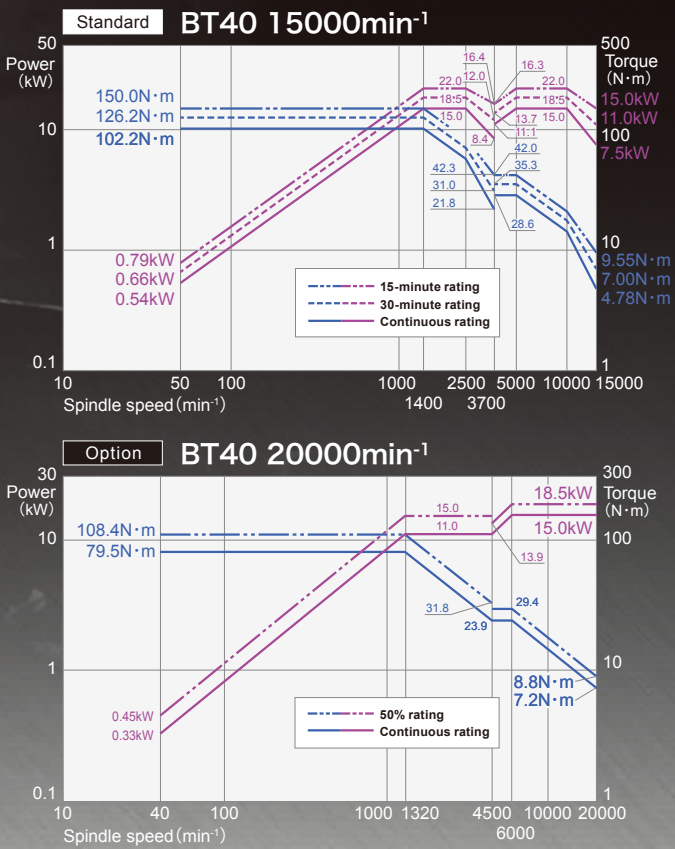
Applicable in various applications in
combination with table size 940mm x 550mm

Travel (XYZ)	660 / 550 / 560 mm	
Table Size	940 x 550 mm	
Loading Capacity	500 kg	
Spindle Speed	BT40 15000 min ⁻¹	Standard
	BT40 20000 min ⁻¹	Option
Rapid Traverse (XYZ)	48 / 48 / 48 m/min	

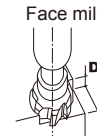
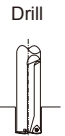
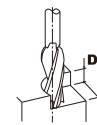
VX-660 High Rigidity Spindle & MC Design

**MAXIA BT40 15000min⁻¹ Spindle
as standard – for machining
a vast array of materials,
from Aluminum to Cast Iron, to Titanium**

The VX-660 MAXIA Spindle is designed with Ø80mm ceramic bearings – for greater
performance and longevity.  **Matsura**'s many decades of VMC design expertise
have culminated in the highly rigid structure of our state of the art VX Series VMCs



Machining test results BT40 15000min⁻¹

	Work material	Tool	Cut width Cut depth	Spindle rotation speed	Cutting feed rate	Cutting amount		Work material	Tool	Spindle rotation speed	Cutting feed rate	Cutting amount
	Aluminum	Ø80mm (3.14) 3 blades	W=70mm (2.75) D=5mm (0.19)	5500 min ⁻¹	8000 mm/min (314.96)	2800 cc/min		Aluminum	Ø35mm (1.37)	1500 min ⁻¹	700 mm/min (27.55)	673 cc/min
	Steel	Ø80mm (3.14) 5 blades	W=70mm (2.75) D=3mm (0.11)	1120 min ⁻¹	2800 mm/min (110.23)	588 cc/min		Steel	Ø35mm (1.37)	1300 min ⁻¹	330 mm/min (12.99)	317 cc/min
	Aluminum	Ø25mm (0.98) 2 blades	W=22mm (0.86) D=8.5mm (0.33)	12000 min ⁻¹	10000 mm/min (393.70)	1870 cc/min		Aluminum	M36 xP4.0	120 min ⁻¹	480 mm/min (18.89)	—
	Steel	Ø20mm (0.78) 4 blades	W=3mm (0.11) D=35mm (1.37)	5500 min ⁻¹	5500 mm/min (216.53)	578 cc/min		Steel	M30 xP3.5	100 min ⁻¹	350 mm/min (13.77)	—

VX-660 Swarf Management / Cutting Ability

**Better by design;
high metal removal rates require the swift
evacuation of the VX-660 machining
enclosure of chips and swarf.**



Standard

Lift-up conveyor

Chip flush/ Chip flow

Work cleaning gun

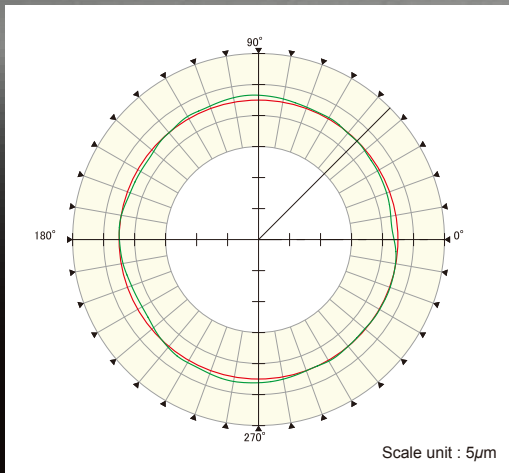
Air Blow for chip removal

Option

Spiral conveyor

Coolant through 2MPa

Lift-up conveyor with drum filter



High Accuracy

**Thermal Displacement
Compensation**

Standard

The spindle's thermal displacement compensation function eliminates dimensional error due to thermal displacement. Stable machining accuracy over long periods is assured.

VX-660 ATC / NC Control

**Tool Specification;
Max. Tool Diameter : Ø150mm
Max. Tool Length : 300mm**

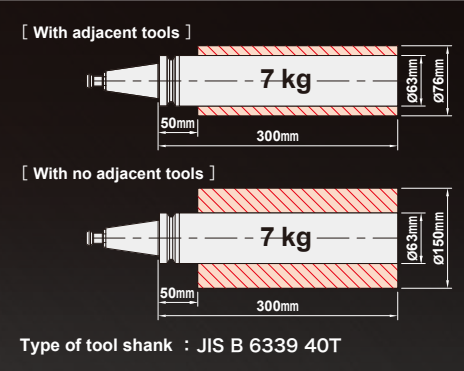


Standard

Drum magazine for 30 tools

Option

Chain magazine for 48/60 tools



Matsuura G-Tech 31i

MIMS

Matsuura Intelligent Meister System

**Combining
craftsmanship,
skill and ingenuity**

Matsuura's original interface
with uncompromising pursuit of utility

[Specification / Equipment]

Movement and Ranges			
X-Axis Travel	[mm (in.)]	660 (25.98)	
Y-Axis Travel	[mm (in.)]	550 (21.65)	
Z-Axis Travel	[mm (in.)]	560 (22.05)	
Table Surface to Spindle Gauge Line	[mm (in.)]	100 - 660 (3.93 - 25.98)	
Table Center to Column Guideway	[mm (in.)]	342 - 892 (13.46 - 35.12)	
Spindle Center to Column Guideway	[mm (in.)]	617 (24.29)	
Table			
Working Surface	[mm (in.)]	940×550 (37.01×21.65)	
Loading Capacity	[kg (lb.)]	500 (1100)	
Working Surface Configuration (width×number×pitch)	[mm (in.)]	18×5×100 (11/16×5×4)	
Table Height (from floor)	[mm (in.)]	900 (35.43)	
Spindle			
Spindle Speed Range	[min ⁻¹]	50 - 15000 (Grease Lubrication)	
Spindle Speed Change Command		S5-digit Direct Command	
Spindle Taper		7/24 Taper JIS BT40 (Double Contact Type)	
Spindle Bearing Inner Dia.	[mm (in.)]	80 (3.14)	
Max. Spindle Torque	[N·m]	150 / 1400min ⁻¹	
Spindle Air Blow			
Spindle Orientation		Electrical	
Tool Clamping Force	[kN]	12.0	
Feedrate			
Rapid Traverse Rate	X / Y / Z [mm/min]	48000 / 48000 / 48000	
Feedrate	X / Y / Z [mm/min]	1 - 48000	
Min. Movement Increment	X / Y / Z [mm (in.)]	0.001 (0.000039)	
Automatic Tool Changer			
Type of Tool Shank		JIS B 6339 Tool Shank 40T	
Type of Retention Knob		JIS B 6339 Pull Stud 40P	
Number of Tools	[tools]	30	
Max. Tool Diameter	[mm (in.)]	76 (2.99)	
Max. Tool Diameter	[mm (in.)]	150 (5.91) (When the pockets on both side are empty)	
Max. Tool Length	[mm (in.)]	300 (11.81)	
Max. Tool Mass	[kg (lb.)]	7 (15.4)	
Tool Selection		Memory Random	
Tool Change Arm		Double Grip Type	
Tool Pocket Pitch	[mm (in.)]	81.41 (3.21)	
Motors			
Spindle Motor	[kW]	AC 15 / 22 (low-speed winding: continuous/15 min) AC 15 / 22 (high-speed winding: continuous/15 min)	
Feed Motors	X-Axis [kW]	AC 3.0	
	Y-Axis [kW]	AC 3.0	
	Z-Axis [kW]	AC 4.0	
Coolant Pump Motor	[kW]	AC 0.76 / 1.17 (50 Hz / 60Hz)	
Oil Cooler Pump Motor	[kW]	AC 0.2 / 0.33 (50Hz / 60Hz)	
Chip Flush Pump Motor	[kW]	AC 0.44 / 0.73 (50Hz / 60Hz)	

Type of Tool Shank
HSK-A 63
Spindle
20000min ⁻¹ (BT40 Grease Lubrication)
ATC
48 Tools (#40 Chain Magazine)
60 Tools (#40 Chain Magazine)
Chip Removal
Spiral Conveyor (Right & Left)
Chip Bucket
Scale Feedback System
Scale Feedback System X/Y/Z (HEIDENHAIN)
Mist Separator
Mist Separator (without fire damper)
Coolant Unit
Lift-up Conveyor with Drum Filter

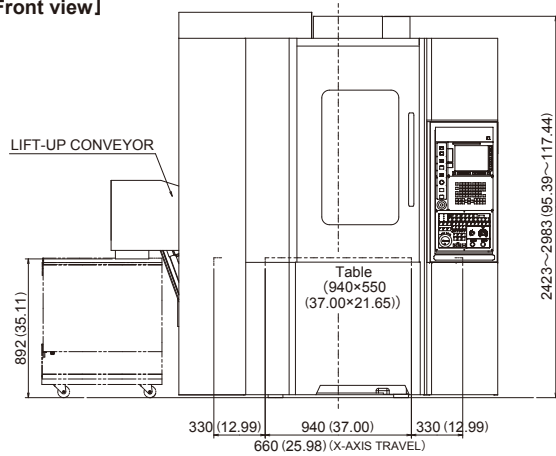


Power Supply		
Electrical Power Supply	[kVA]	28 (varies with option configuration)
Power Supply Voltage	[V]	AC 200 / 220 ± 10% Transformer required if supply voltage is other than above
Power Supply Frequency	[Hz]	50 / 60 ± 1
Compressed Air Supply	[MPa]	0.54 - 0.93
Volume of Compressed Air	[NL/min]	370
Tank Capacity		
Coolant Tank Capacity	[L]	350
Oil Cooler Tank Capacity	[L]	15
Machine Size		
Machine Height (from floor)	[mm (in.)]	2983 (117.44)
Required floor space (including maintenance area)	[mm (in.)]	3650W×4798D (143.70W×188.90D) (varies with option configuration)
Mass of Machine	[kg (lb.)]	5615 (12378) (include NC Equipment and ATC Magazine)
NC System		
Control system		Matsura G-Tech31i
Standard Accessories		
Total Enclosure Guard		With Top Side Cover
ATC Magazine Guard		
CE Markings		
Synchronized Tapping Function		
Spindle Oil Cooler		
External Manual Pulse Generator		
Lift-up Conveyor (Scraper)		
Air Blow for Chip Removal		
Workpiece Cleaning Gun		
2MPa supporting through-spindle coolant system		
Spindle Thermal Displacement Compensation, 15k, BT40, Temperature Monitor Type		
Chip Flush System		
MIMS (Matsura Intelligent Meister System)		
AD-TAP function		
IPC function		
Spindle overload protection		
M code counter (9 types)		
Spindle runhour meter		(within the MIMS screen)
Automatic operation runhour meter		(within the MIMS screen)
Coolant System		back side discharge
Auto Oil Supply Unit for Feed Axes		Greasing Points with Female Ball Screws (X/Y/Z)
Work Light		
3color Signal Light (red,yellow,green from top)		
Tools and Tool Box		
Machine Color Paint		
Leveling Bolts and Leveling Plates		Not for Foundation
Memory card program operation and editing		CD-ROM
* 2 years spindle warranty		

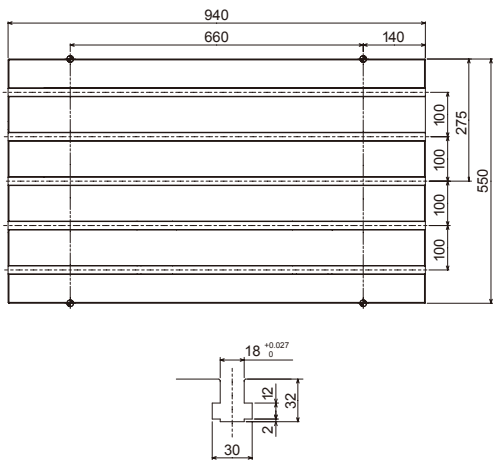
Coolant-through Spindle System
7MPa, supporting through-spindle coolant system
Coolant-through Spindle System 2MPa with Pump
Oil Temperature Controller with 5MPa Coolant-through System of Mono-block Construction
Coolant Temperature Controller
Coolant Temperature Controller with 100-liter Tank
Coolant Temperature Controller with 200-liter Tank
Automatic Measurement, Tool Breakage Detection
Automatic Measurement / Automatic Alignment(Optional)
Tool Breakage / Full Automatic Tool Length Measurement (Contact)
Tool Breakage / Full Automatic Tool Length Measurement (Laser)
Rotary Wiper
Rotary Wiper



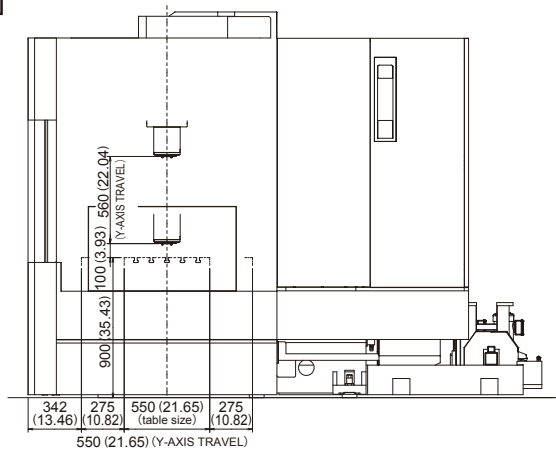
[Front view]



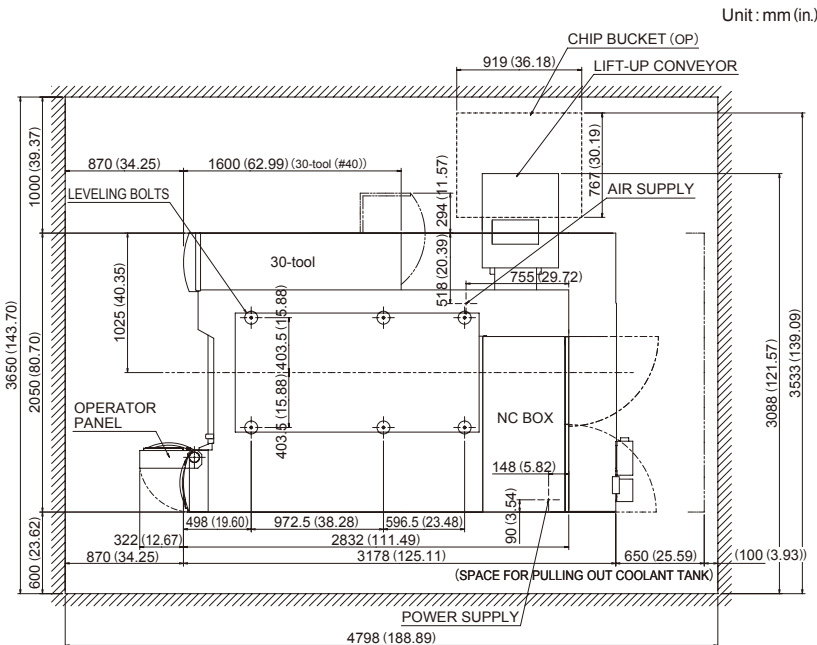
Unit: mm



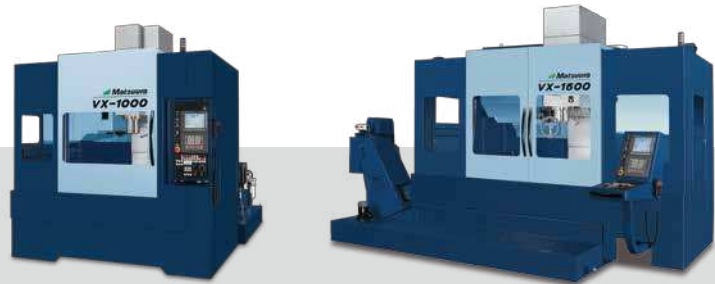
[Right side view]



Unit : mm (in.)



Cost Effective
Heavy Duty Performance



		VX-1000		VX-1500	
Movement and Ranges(XYZ)	[mm (in.)]	1020 (40.15) / 610 (24.01) / 610 (24.01)		1524 (60.00) / 700 (27.55) / 610 (24.01)	
Working Surface	[mm (in.)]	1200 x 600 (47.24×23.62)		1700 x 700 (66.92×27.55)	
Loading Capacity	[kg (lb.)]	500 (1100)		2000 (4400)	
Spindle	[min ⁻¹]	BT40 15000 min ⁻¹	Standard	BT40 15000 min ⁻¹	Standard
		BT40 20000 min ⁻¹	Option	BT50 15000 min ⁻¹	Option
Rapid Traverse Rate(XYZ)	[m/min]	40/ 40/ 36		36/ 36/ 36	
Number of Tools	[tools]	30	Standard	BT40 48	Standard / 60
		48 / 60	Option	BT50 30	Option