

VX-660



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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

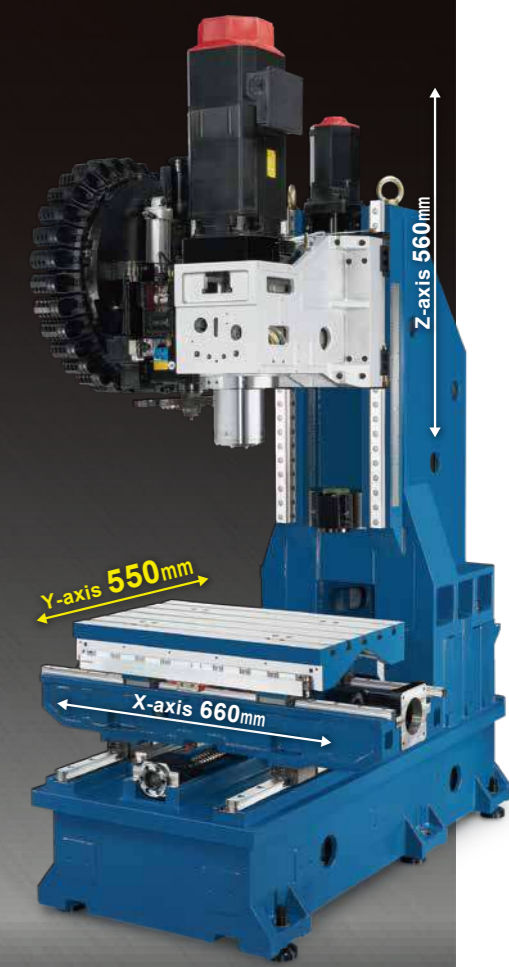
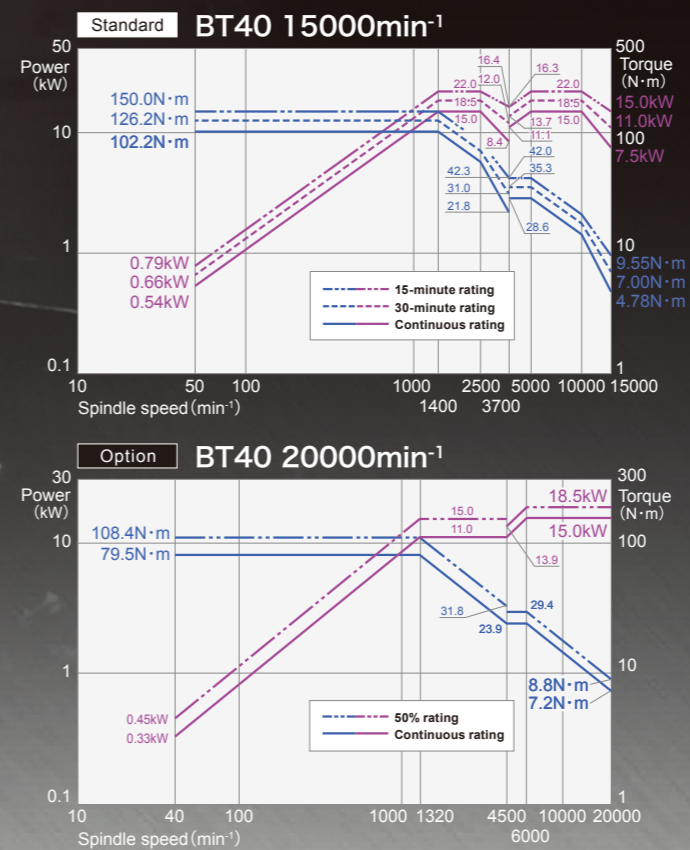
Applicable in various applications in combination with table size 940mm x 550mm

Travel (XYZ)	660 / 550 / 560 mm
Table Size	940 x 550 mm
Loading Capacity	500 kg
Spindle Speed	BT40 15000 min ⁻¹ <input type="checkbox"/> Standard BT40 20000 min ⁻¹ <input type="checkbox"/> 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
Face mill	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	Drill	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
End mill	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	Tap	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)	—

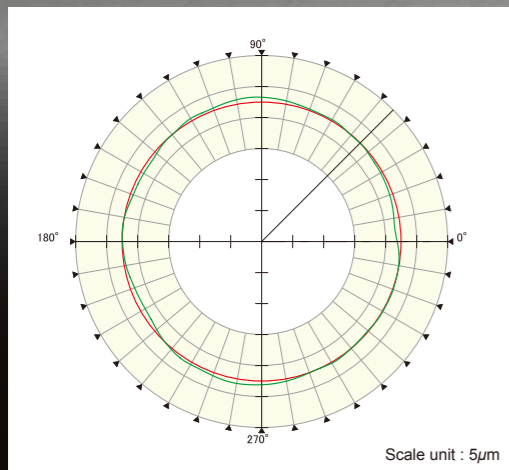
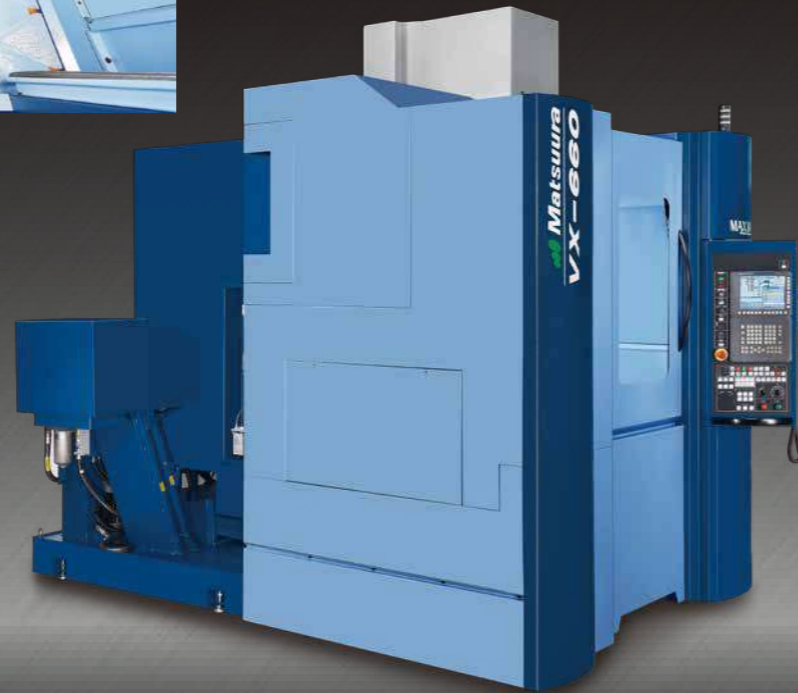
VX-660 Swarf Management / Cutting Ability

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

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

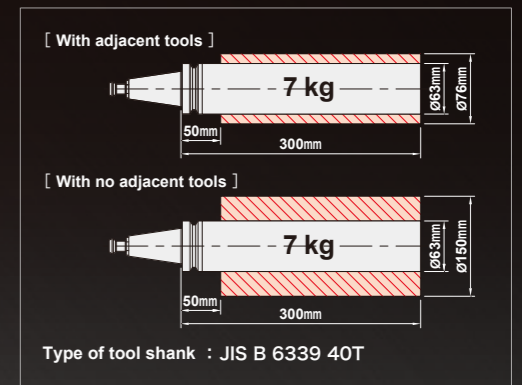
Standard

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

VX-660

[Specification / Equipment]

Standard Machine Specifications

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		Electrical
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 (50Hz / 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)

Power Supply		
Electrical Power Supply	[kVA]	26 (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		Mitsubishi 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 (Mitsubishi Intelligent Meister System)		
AD-TAP function		
IPC function		
Spindle overload protection		
M code counter (9 types)		(within the MIMS screen)
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 (XY/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

Option List of Fittings

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 XYZ (HEIDENHAIN)	
Mist Separator	
Mist Separator (without fire damper)	
Coolant Unit	
Lift-up Conveyor with Drum Filter	

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(Optical)	
Tool Breakage / Full Automatic Tool Length Measurement (Contact)	
Tool Breakage / Full Automatic Tool Length Measurement (Laser)	
Rotary Wiper	
Rotary Wiper	



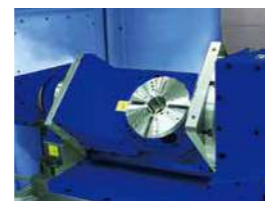
Chain magazine for 60 tools



Tool Breakage (Laser)

Tool Breakage (Contact)

Automatic Measurement



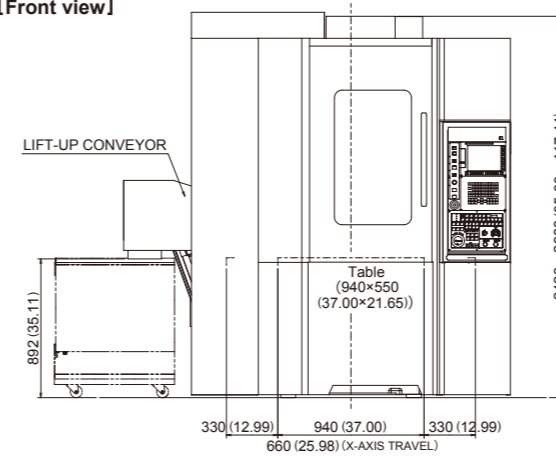
4/5th Rotary Table



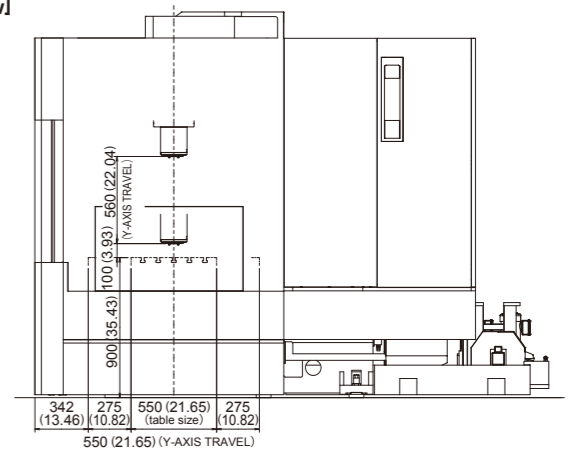
Spiral Conveyor (Right & Left)

VX-660 External view

[Front view]



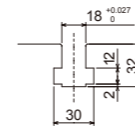
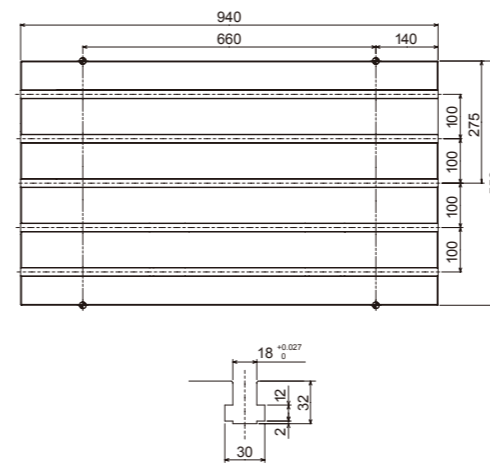
[Right side view]



Unit: mm (in.)

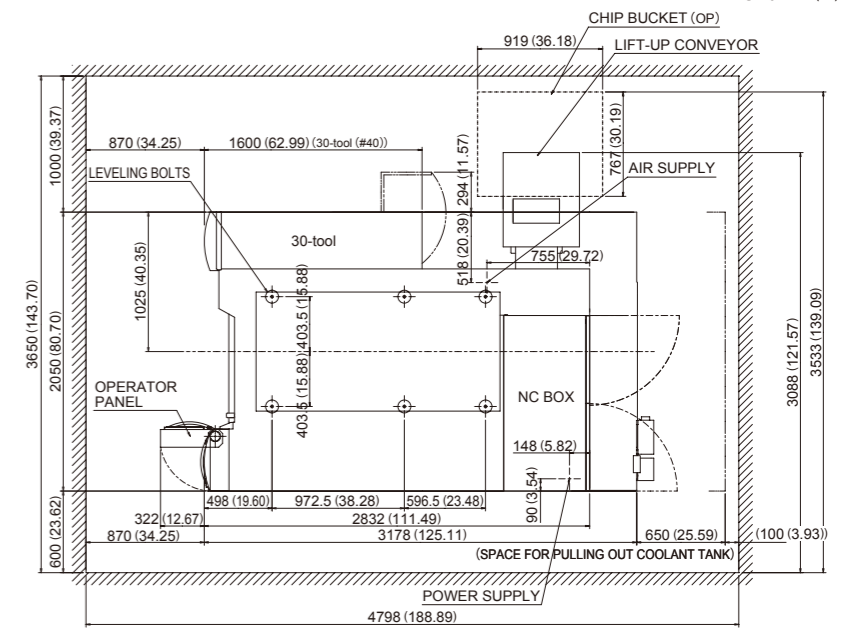
Table top view

Unit: mm



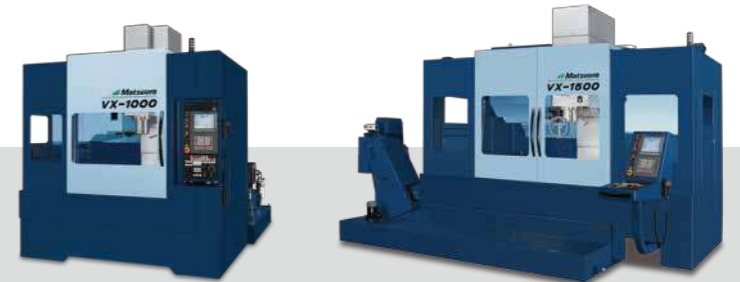
Floor plan

Unit: mm (in.)



VX Series

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 x 23.62)	1700 x 700 (66.92 x 27.55)
Loading Capacity [kg (lb.)]	500 (1100)	2000 (4400)
Spindle [min ⁻¹]	BT40 15000 min ⁻¹ Standard BT40 20000 min ⁻¹ Option	BT40 15000 min ⁻¹ Standard BT50 15000 min ⁻¹ Option
Rapid Traverse Rate(XYZ) [m/min]	40/ 40/ 36	36/ 36/ 36
Number of Tools [tools]	30 Standard 48 / 60 Option	BT40 48 Standard / 60 Option BT50 30 Option