

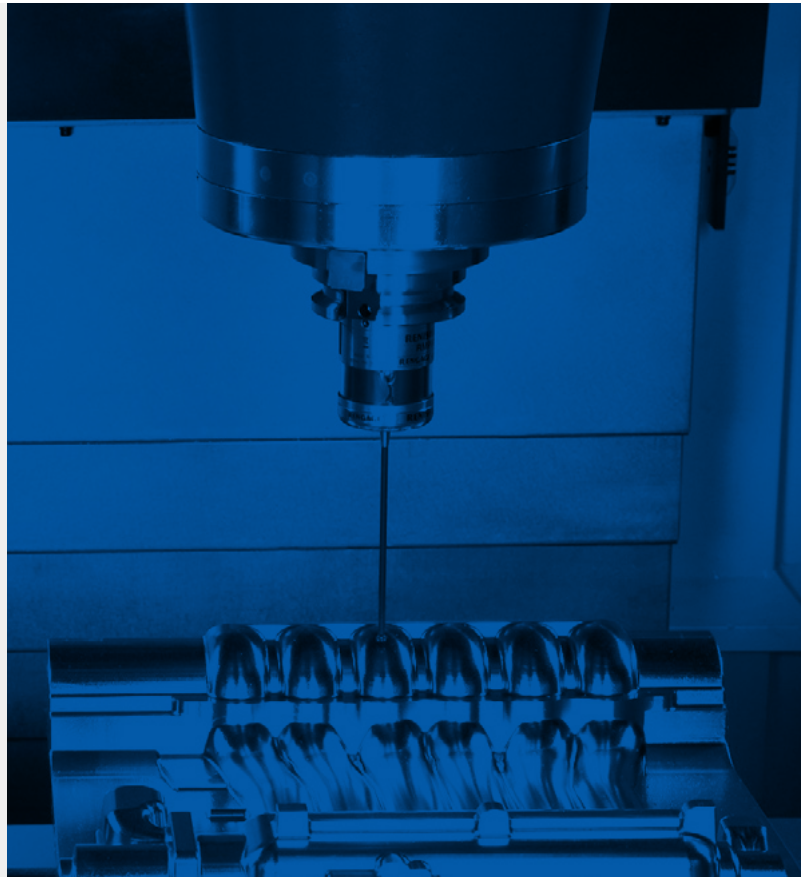
LARGE, HIGH-SPEED, HIGH-PRECISION
MACHINING CENTER

VM 750·960·1260

VM 750/L

VM 960/L

VM 1260



VM 750·960·1260

Low-vibration built-in spindle and highest stroke in its class. Designed for both roughing and finishing, the VM Series provides a product line-up ranging from Unit 7 to Unit 12 sizes. The new design boasting improved operator convenience and work efficiency will raise users' productivity and create added value.

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**RIGID CONSTRUCTION
FOR HEAVY DUTY
APPLICATIONS**



- High feedrate and precision have been realized with the adoption of a stable C-type column structure and bed design.

**HIGHEST RELIABILITY REALIZED
WITH A WIDE RANGE OF
SPINDLE SPEEDS AND
EXCELLENT QUALITY**

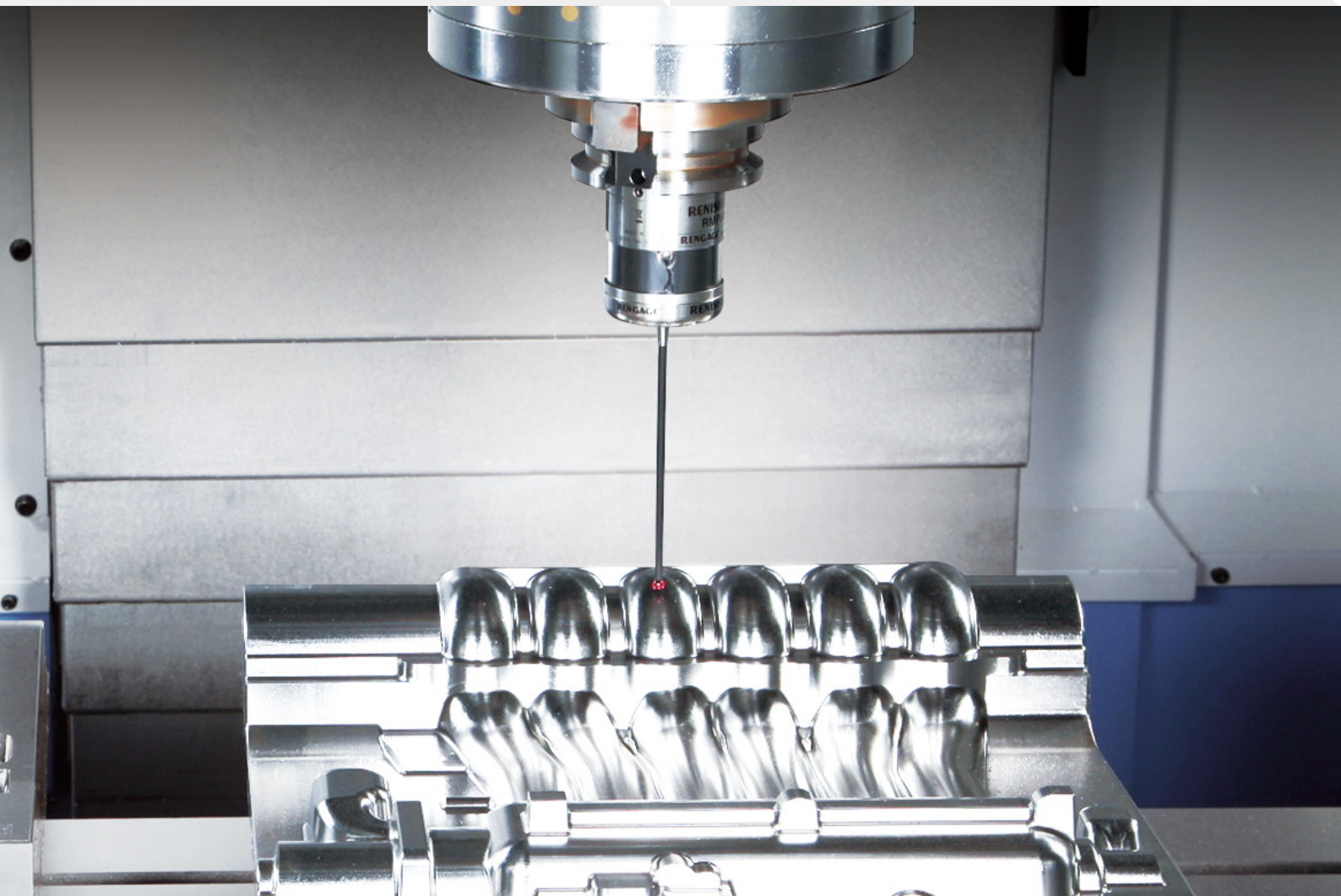


- Dual contact spindle (standard)
- Gear type 6000 rpm / 8000 rpm
- Built-in type 12000 rpm

**CONTROL SOLUTION FOR
PROCESSING HIGH-QUALITY
MOLDS**



- High-speed, high-precision contour control
- Tool monitoring
- Optimal feed control



BASIC STRUCTURE

High feedrate and precision have been realized with the adoption of a stable C-type column structure and bed design.

Rapid traverse

The adoption of a wide box guide structure delivers greater rigidity and stability. The entire upper surface of the saddle is equipped with slide bearings and oil grooves to prevent friction and wear.

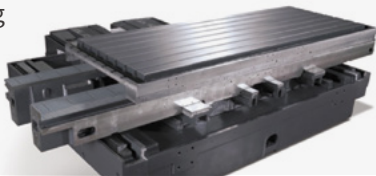
Rigid construction for heavy duty applications

- The rigidity is increased by effectively arranging the box type structure of bed, column and saddle.
- The spindle head is supported by the wide guide way for the stable cutting performance.
- Wide z-side slide and wide y-side transport support prevent skewing and make it suitable for powerful, heavy cutting.



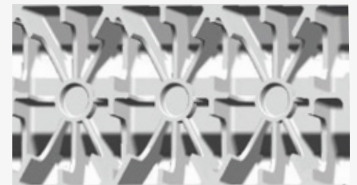
Exceptionally durable all-in-one single frame construction

The wide bed slide is heat-treated with high frequency providing outstanding performance during heavy duty cutting operations.



Radial rib structure

The processing is improved with the reduced weight and absorbed vibrations during heavy duty cutting.



Coolant recirculation system

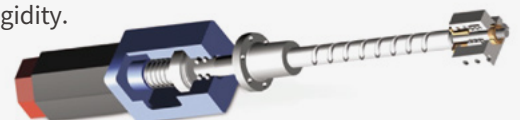
The cleanliness and service life of the coolant have been improved.



Ball screw

Large diameter ball screw for powerful cutting

Fitted with high-precision, fixed ends, pre-tensioned double anchor structure ball screw. The nut is cooled on the outer rim to minimize thermal error, while direct-coupled structure delivers rapid responsiveness and excellent rigidity.



TABLE

Basic type and long type table specifications are available in addition to diverse machining solutions.

The extended X axis travel distance allows the setting up and cutting of wider workpieces of various shapes.

Table size

VM 750/L

1600 x 800(1900 x 800) mm
(63.0 x 31.5 (74.8 x 31.5) inch)

VM 960/L

2400 x 950(2600 x 950) mm
(94.5 x 37.4 (102.4 x 37.4) inch)

VM 1260

2800 x 1260 mm
(110.2 x 49.6 inch)

Max weight on table

VM 750/L

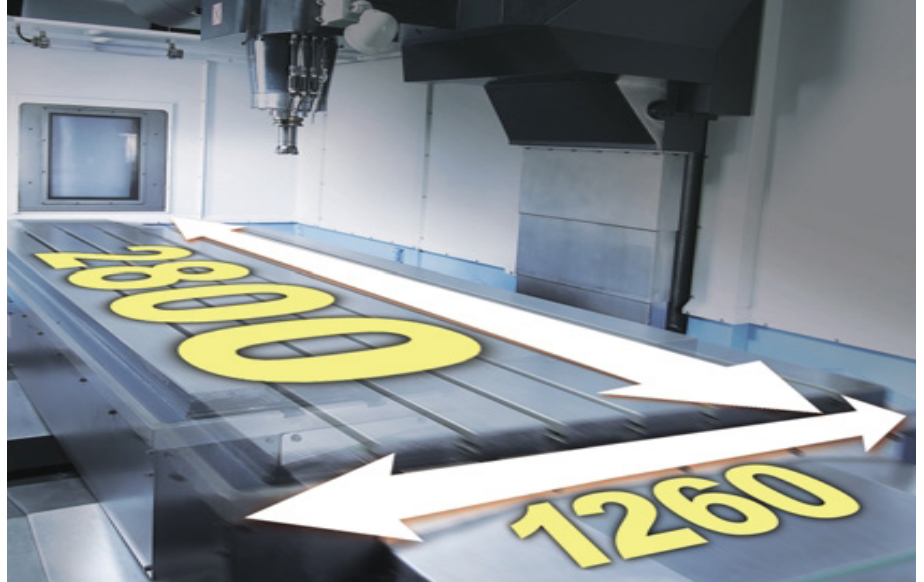
3000(3500) kg (6613.8 (7716.1) lb)

VM 960/L

4000(4500) kg (8818.4 (9920.7) lb)

VM 1260

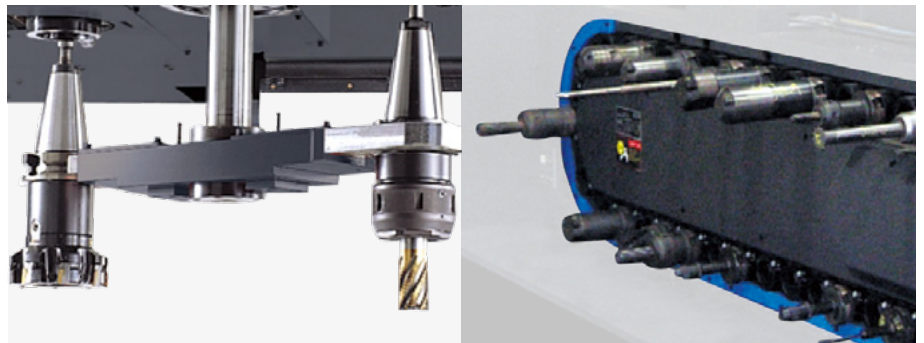
8000 kg (17636.7 lb)



TOOL CHANGE SYSTEM

Minimized idle time

A high-speed cam-type tool changer has been adopted as a standard feature to deliver higher productivity. The loop-type magazine on the left side of the machine stores 30 tools as standard, and can be extended.



Tool to tool time (T-T-T)

2.5 sec.

Tool storage capacity

VM 750/L, VM 960/L

30 {40 OPTION} ea

VM 1260

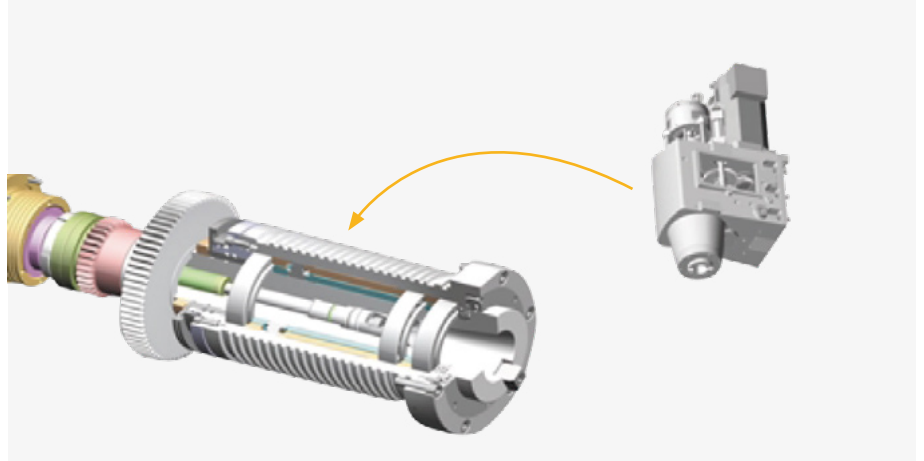
40 ea

SPINDLE

The stable thermal-displacement-preventive structure minimizes spindle taper error at high speed. The wide range of speeds and excellent quality of the spindle guarantee the highest reliability.

Gear type

- **Powerful cutting of large workpieces:** Powerful processing capability of large workpieces with maximum torque is offered by 2-stage gear drive.
- **High-speed tapping:** Standard adoption of rigid tap allows high speed tapping without the tap holder.
- **High rigidity and stability:** Rigid angular contact bearing is adopted to assure rigidity and stability by maintaining the rigidity even during heavy duty cutting.



Max. spindle speed

6000 {8000 OPTION} r/min

Motor (30 min/cont.)

VM 750/L, VM 960/L

18.5/15 kW (24.8/20.1 Hp)

VM 1260

22/18.5 kW (29.5/24.8 Hp)

Dual contact spindle

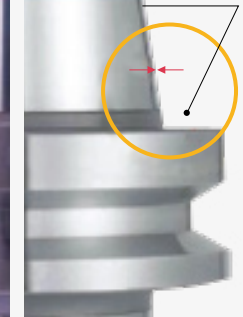
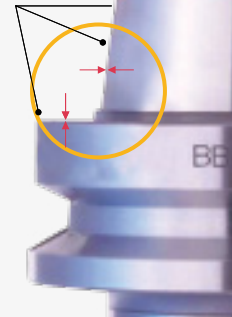
Dual contact spindle (BIG PLUS) adopted as a standard feature

BIG-PLUS PAT.

CONVENTIONAL

CONTACT

SPACE



Built-in type OPTION

• Rigid and precise spindle

Adoption of 100 diameter rigid ceramic bearing and assure high precision even during the extended time of high speed rotation.

• Highest speed spindle in its class

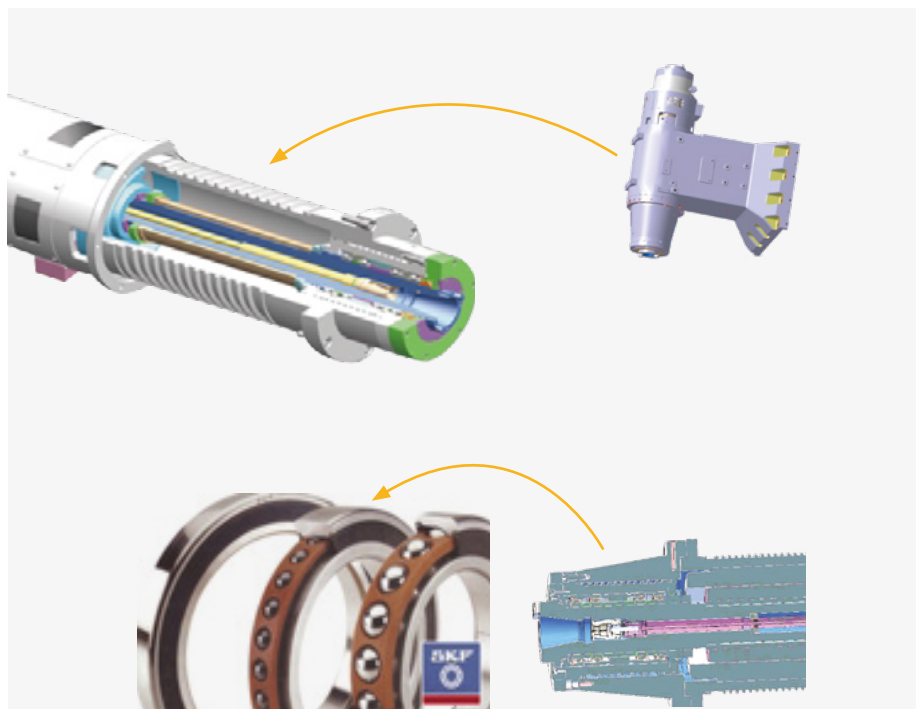
Adoption of low vibration built-in motor offers optimum molding with the highest spindle speed (12000 r/min) and the highest torque of 420 N·m (310.0 ft-lb) in its class.

Max. spindle speed

12000 r/min

Motor (30 min/cont.)

30/25 kW (40.2/33.5 Hp)

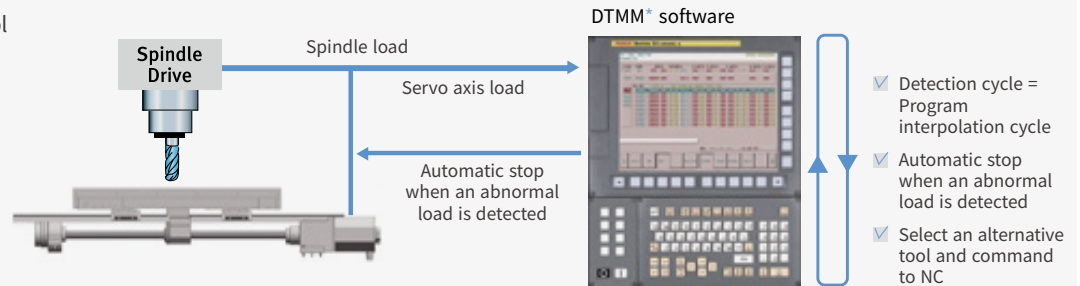


OPTIMIZED TOOL PROCESSING SOLUTION

Superior surface finishes and superior machining precision are achieved by using standard DN Solutions processing solutions, such as high speed / high precision contour control and thermal displacement compensation functions.

Tool load monitoring system (DTMM*)

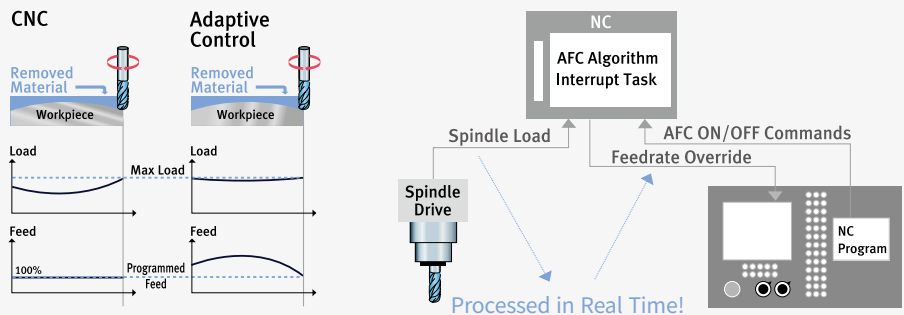
The technology of protecting tool and machine in abnormal load during the cutting process



*DTMM : DN Solutions Tool load Monitoring for Machining Centers

The optimal feed control (DAFC*)

Optimal feed control is ensured by realtime spindle load detection.



*DAFC : DN Solutions Adaptive Feedrate Control

Smart, multi-compensation thermal displacement technology

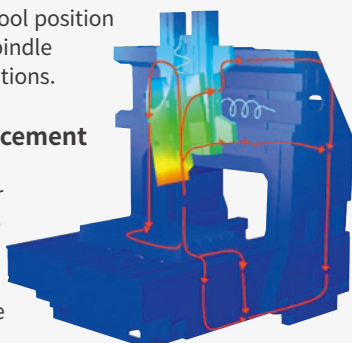
Realization of high-quality, high-precision machining achieved by thermal compensation of the spindle and machine structure.

Compensation of static spindle displacement

Compensates for changes in tool position caused by expansion of the spindle shaft during high speed operations.

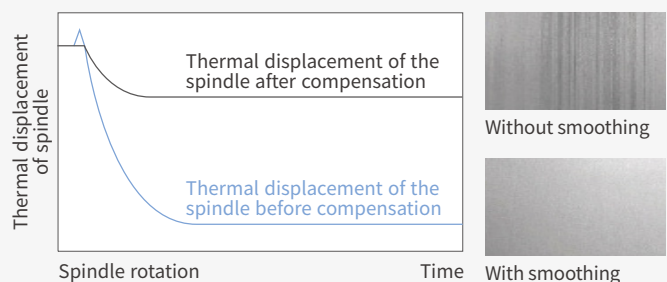
Structural thermal displacement compensation

Compensates for any irregular deflection or expansion of the structure due to ambient temperature fluctuation by using multiple temperature sensors.



Thermal displacement compensation structure

Thermal displacement of the spindle, caused by heat accumulation, is compensated for using 5 algorithms including a smoothing function.



*DSTC : DN Solutions Smart Thermal Control

STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

Description	Features	VM750 (L)	VM960 (L)	VM1260		
Spindle	6000 r/min	18.5/15 kW, 587.6 N·m	●	●	X	
		22/18.5 kW, 698.8 N·m	○	○	●	
		26/22 kW, 825.9 N·m	○	○	○	
	8000 r/min	18.5/15 kW, 587.6 N·m	○	○	X	
		22/18.5 kW, 698.8 N·m	○	○	○	
		26/22 kW, 825.9 N·m	○	○	○	
12000 r/min	30/25 kW, 419.4 N·m	○	○	○		
Magazine	Tool storage capacity	30 ea	●	●	X	
		40 ea	○	○	●	
Tool shank type	BIG PLUS BT50	45°	●	●	●	
		60°	○	○	○	
	BIG PLUS CAT50	45°	○	○	○	
		60°	○	○	○	
Coolant	Flood(Max pressure 60Hz(50Hz), Pump motor power)	0.16(0.12)MPa / 0.4kW	●	●	●	
		0.15(0.1)MPa / 1.1kW	○	○	○	
		2.0(1.9)MPa / 1.5kW	○	○	○	
	TSC (Max pressure 60Hz(50Hz), Pump motor power)	2.0(1.3)MPa / 4.0kW	○	○	○	
		3.0(3.0)MPa / 2.9kW	○	○	○	
		7.0(7.0)Mpa / 7.5kW	○	○	○	
	Shower	0.15(0.1)MPa / 1.1kW	○	○	○	
Coolant gun	0.15(0.1)MPa / 1.1kW	○	○	○		
Chip disposal	Conveyor	Hinged Belt Type Conveyor_Rear Side	○	○	○	
		Hinged Belt Type Conveyor_Front Side	○	○	○	
	Bucket	Fork Lift Type / 300	○	○	○	
		Rotation Type / 300	○	○	○	
Precision machining option	Linear scale	X / Y / Z axis	○	○	○	
MPG	1 MPG_Display Type		○	○	○	
	1 MPG_Portable Type		○	○	○	
	1 MPG_Portable_with Enable Type		○	○	○	
	3 MPG_Portable Type		●	●	●	
Others	3 MPG_Portable_with Enable Type		○	○	○	
	3 MPG_Stand Type		○	○	○	
	3 Color signal tower		●	●	●	
	3 Color signal tower		●	●	●	
Accessories	EZ Guide i		○	○	○	
	Automatic power off		●	●	●	
	Work Light		LED Lamp	●	●	●
	Operator Call Lamp		3-Color Signal Tower (LED)	●	●	●
	Leveling Block & Bolt			●	●	●
	Smart Thermal Control		Sensor Type (Spindle & Structure)	●	●	●
	Assembly & Operaion Tools Kit			●	●	●
	Auto Tool Length Measurement	Maker/SPEC.	Renishaw / OMP60	○	○	○
			Renishaw / TS27R	○	○	○
	Step Foot Stool		In front of Machine	○	●	●
	Calibration Block			○	○	○
	Machine Lifting Hooks			○	○	○
	Mist Collector		2.2 KW_Water Soluble	○	○	○
			2.2 KW_None Water Soluble	○	○	○
	Test Bar Gauge			○	○	○
	Air Gun			○	○	○
Air blower			●	●	●	
Coolant gun			○	○	○	
Customized special option	Coolant level switch : Sensing level - Low / High		○	○	○	
	ATC Auto Shutter		○	○	○	
	Raising Blocks	200mm	○	○	○	
			○	○	○	
	ATC Auto Shutter		300mm	○	○	○
	Magnetic Scraper Type Conveyor			○	○	○
	Anchoring ¹⁾		J-BOLT	○	○	X
	Water soluble Coolant Chiller ²⁾			○	○	○
	Auto Tool Length Measurement	Maker/SPEC.	Renishaw / NC4	○	○	○
			OMRON / D5A	○	○	○
	Auto Tool Breakage Detection		Needle	○	○	○
	4th axis Preparation Cabling for Servo /1-Pneumatic Piping			○	○	○
4th axis with CNC R.Table ³⁾	Available Size	Ø500mm	○	○	○	
		Servo Motor	○	○	○	
5th axis ³⁾		Available Size	○	○	○	
		Servo Motor	○	○	○	
		Use Defined	○	○	○	

* Please contact DN Solutions for detailed specification information.

● Standard ○ Optional X Not applicable

*When using a semi-synthetic type or synthetic type, contact our sales representative or service center in advance.

1) PLEASE REFER TO FOUNDATION DRAWING IN RELATION TO ANCHORING. IF MORE DETAIL INFORMATION WANT, CONSULT WITH DN Solutions SERVICE.

2) Technical consultation is mandatory for the chilling of non-water soluble coolant

3) PLEASE INQUIRE DN Solutions R&D DEPARTMENT WHEN END-USER SELECT.

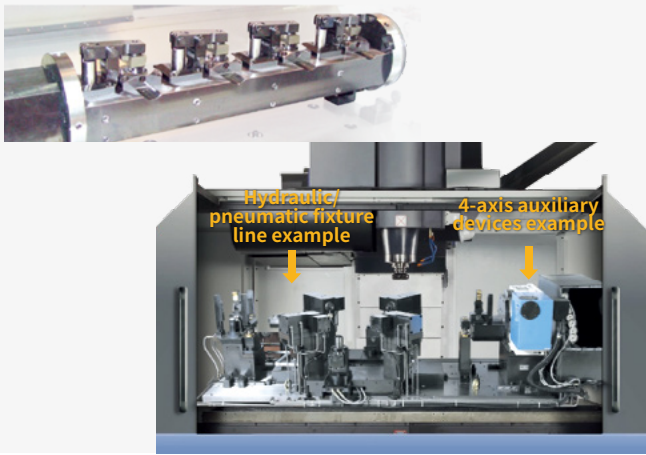


There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.

PERIPHERAL EQUIPMENT

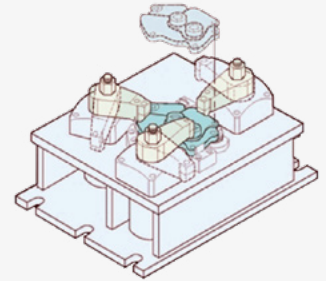
Interface for Additional Axis

- Recommended rotary table size : VM 750/L : ϕ 320 mm
VM 960/L : ϕ 500 mm
VM 1260 : ϕ 500 mm
- Please check the driving system (hydraulic or pneumatic) of the rotary table before ordering the machine.



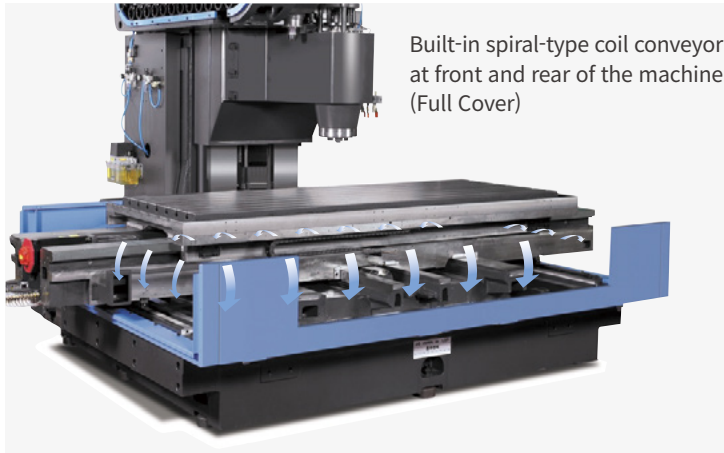
Fixture check list (for hydraulic / pneumatic fixtures)

- Pressure source
 - Hydraulic P/T A/B
 - Pneumatic P/T A/B
- Hydraulic power unit
 - Supply scope : End user DN Solutions
 - DN Solutions standard unit 24L / min, 4.9 MPa
 - Other requirements _____ L / min, _____ MPa
- Number of ports
 - 1pair (2-PT 3/8"port)
 - 2pair (4-PT 3/8"port)
 - 3pair (6-PT 3/8"port)



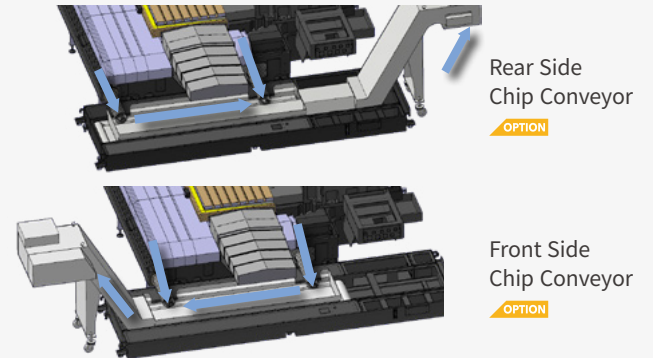
* Please contact DN Solutions for more information.

Easy Chip Disposal



Built-in spiral-type coil conveyor at front and rear of the machine (Full Cover)

Lift chip conveyor for fast chip disposal option



Diverse Options

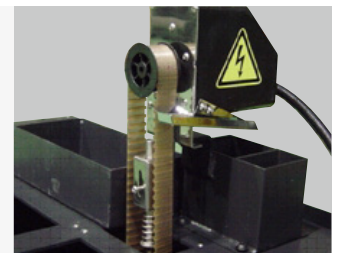
Numerous options are offered for greater efficiency and customer convenience.



Coolant Gun
Coolant gun helps keeping the work environment clean.



Through-spindle coolant spray system



Oil skimmer

FANUC 31i PLUS

Fanuc 31i Plus maximizes customer productivity and convenience.

15" Touch screen + New OP

DN Solutions Fanuc 31iB/B5 Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

Fanuc 31i Plus

- 15-inch color display
- Intuitive and user-friendly design

USB and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonomic operator panel
- 4MB Memory
- Hot keys
- Enhance AICC BLOCK
- Touch pen provided as standard



iHMI touchscreen

iHMI provides an intuitive interface that uses a touchscreen for quick and easy operation.

Range of applications

Providing various applications related to planning, machining, improvement and utility, for customer convenience.



NUMERIC CONTROL SPECIFICATIONS



Item	Specifications		F31iB Plus
			VM series (750/960/1260)
Controlled axis	Controlled axes	3 (X, Y, Z)	X,Y,Z
	Simultaneously controlled axes	Positioning(G00)/Linear interpolation(G01) : 4 axes Circular interpolation(G02, G03) : 2 axes	●
	Additional controlled Axis	5 axes in total	○
Data input/output	Fast Data Service with 1GB PCMCIA card		○
	Fast Data Service with 2GB PCMCIA card		○
	Memory card input/output		●
	USB memory input/output	Only Data Read & Write	●
	Large capacity memory(2GB)*1	Available Option only with 15" Touch LCD (iHMI Only)*1	○
Interface function	Embedded Ethernet		●
	Fast Ethernet		○
Operation	DNC operation	Included in RS232C interface.	●
	DNC operation with memory card		●
Program input	Workpiece coordinate system	G52 - G59	●
	Addition of workpiece coordinate system	G54.1 P1 X 48 (48 pairs)	48 pairs
		G54.1 P1 - 300 (300 pairs)	○
	Tool number command	T4 Digits	○
Feed function	Tilted working plane indexing command	G68.1	○
	Nano smoothing	AI contour control 2 is required	X
	Nano smoothing 2	AI contour control 2 is required. Only Fanuc 31i-B5 and 30i	X
	Addition of workpiece coordinate system	G54.1 P1 - 300 (300 pairs)	○
Operation guidance function	High smooth TCP	31i-B5 plus	X
	EZ Guidei (Conversational Programming Solution)		●
	iHMI with Machining Cycle		●
Setting and display	EZ Operation package	Easy Operation Package	●
	CNC screen dual display function		●
Others	Display unit	10.4" Color LCD, Keyboard for data input, soft keys	X
		15" Color LCD without Touch Panel	X
		15" color LCD with Touch Panel	●
	Programming and Editing Functions: Number of registered programs	400ea	X
		500ea	X
		1000ea	1000ea
4000ea	○		

*1) Available Option only with Fanuc i plus iHMI

● Standard ○ Optional X N/A ✖ Available
Network: FANUC MT Connect and FANUC OPC UA available.

EZ WORK

The software developed by DN Solutions features numerous functions designed for convenience and ease of operation.

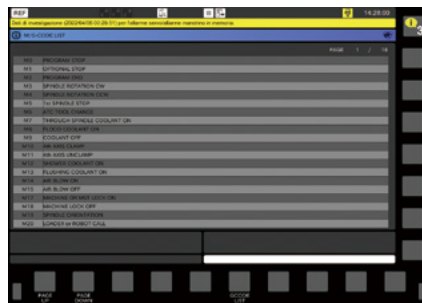
EZ work

The EZ work delivers speed and efficiency. This menu-driven innovation not only helps customers reduce setup times, but also simplifies common tasks and procedures, reducing the potential for errors. EZ work reduces operating time, protects machinery, enhances quality and speeds up maintenance interventions.



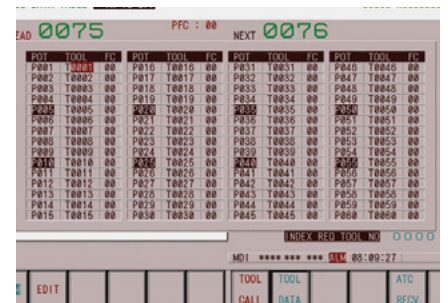
Thermal Compensation

A function to maintain high-precision machining quality by analyzing and correcting the amount of thermal displacement of a structure through a temperature sensor



M/G-Code List

Functional description of M code and G code



Tool Management

Function to manage tool information [Tool information / Tool No. / Tool condition (normal, large diameter, worn / damaged, used for therst time, manual) / Tool name]



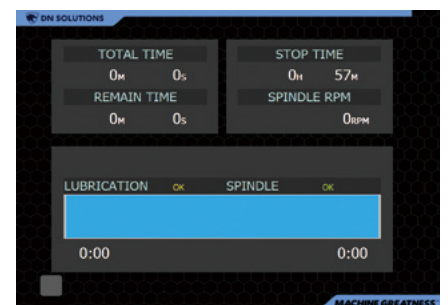
Operation Rate

Machine operation history management function by date based on load



Adaptive Feed Control

Function to control feedrate so that the cutting can be carried out at a constant load (To adapt to the spindle load set up with constant load feedrate control function)



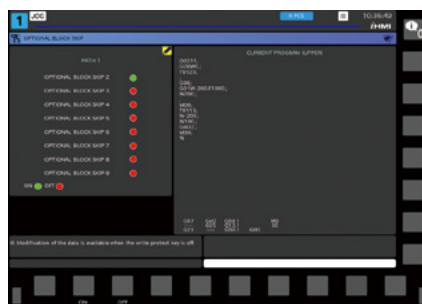
Spindle Warm Up

A function that assists spindle warm-up for spindle life when the spindle has not been used for a certain period of time



ATC Recovery

Function to view detailed info with recommended actions and to perform step-by-step operation manually (when an alarm is triggered during an ATC operation)



Addition of Optional Block Skip

In addition to the OPTIONAL BLOCK SKIP of the operation panel, the function to skip a specific block selected in the machining program

CONVENIENT OPERATION

HEIDENHAIN TNC7

Visualized, intuitive task support, customized UI

The TNC7 makes machining even easier, for everything from programming to program validation and from machine setup to actual machining. You intuitively operate highly complex applications directly on the touchscreen with various integrated solutions for standard tasks.

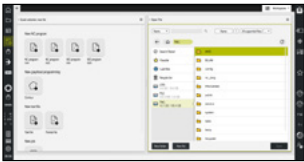
TNC7 NEW

- 24 inch touch screen
- 189GB Program memory
- Look-ahead 5000 blocks
- Touch Probe Cycles Graphical Programming



<TNC7>

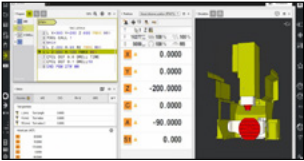
Conversational convenient function



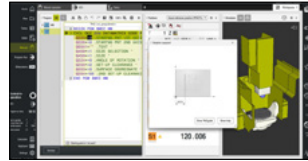
Data are controlled in the folder structure; convenient communication via USB devices



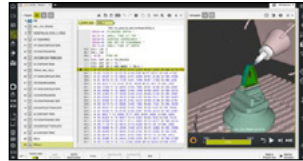
KinematicOpt & KinematicComp (Touch probe cycle for automatic measurement) OPTION



Collision protection system OPTION



Various built-in pattern cycles for a wider scope of application (Software standard)



Graphic simulation



Enhanced collision protection function DCMv2 OPTION



Improved maintenance environment



Highly practical programming and setup based on touch operation

NUMERIC CONTROL SPECIFICATIONS



HEIDENHAIN

구분		상세	TNC7
Controlled axis	Controlled axis		3 (X,Y,Z)
	Simultaneously controlled axis		5 axes
Interface function	Embedded ethernet		●
	USB interface (USB 2.0)		●
Feed function	Look-ahead	5000 blocks	●
Axis compensation	KinematicsOpt	Automatic measurement and optimization of machine kinematics	●
Collision monitoring	Dynamic collision monitoring (DCM)		○
Network	MT Connect		⊕
Others	Display unit	touch panel	24"
	Program memory for NC programs		189GB

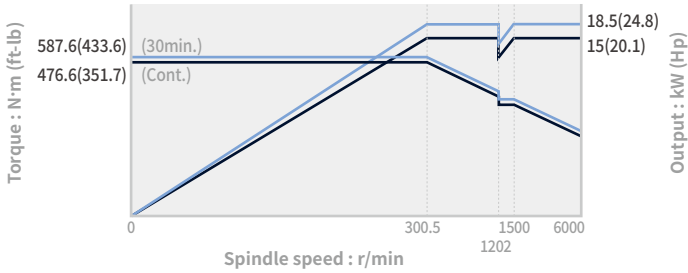
POWER | TORQUE

Gear type

VM 750/L, VM 960/L

Max. spindle speed 6000 r/min

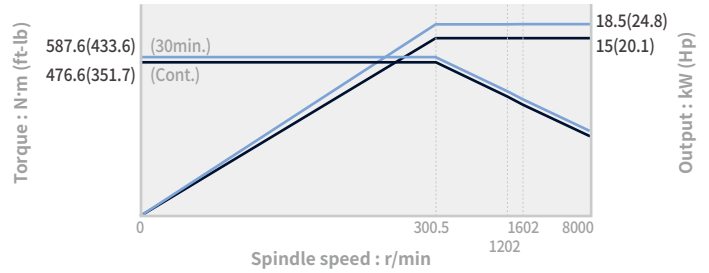
Spindle motor 18.5/15 kW (24.8/20.1 Hp) (30min./ Cont.)



VM 750/L OPTION, VM 960/L OPTION

Max. spindle speed 8000 r/min

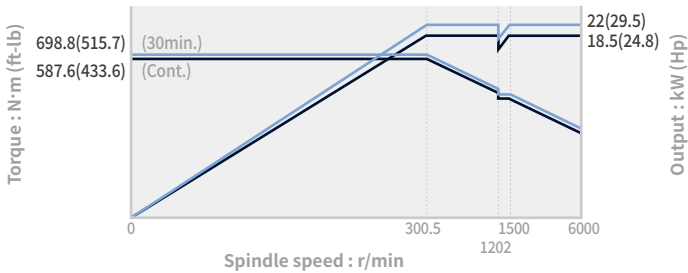
Spindle motor 18.5/15 kW (24.8/20.1 Hp) (30min./ Cont.)



VM 750/L OPTION, VM 960/L OPTION, VM 1260

Max. spindle speed 6000 r/min

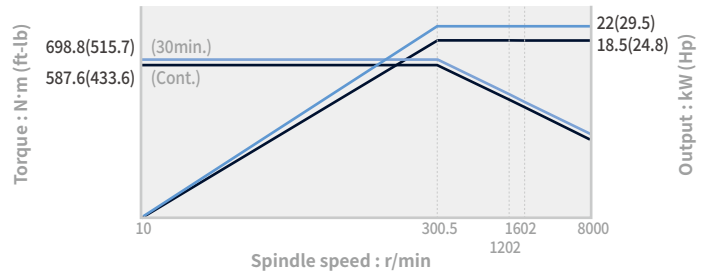
Spindle motor 22/18.5 kW (29.5/24.8 Hp) (30min./Cont)



VM 750/L OPTION, VM 960/L OPTION, VM 1260 OPTION

Max. spindle speed 8000 r/min

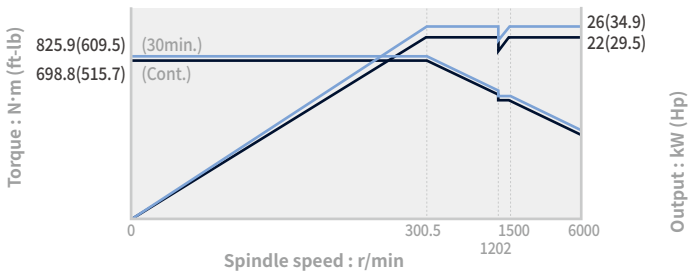
Spindle motor 22/18.5 kW (29.5/24.8 Hp) (30min./Cont)



VM 750/L OPTION, VM 960/L OPTION, VM 1260 OPTION

Max. spindle speed 6000 r/min

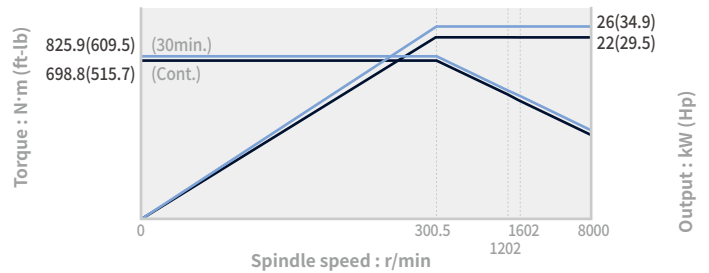
Spindle motor 26/22 kW (34.9/29.5 Hp) (30min./Cont.)



VM 750/L OPTION, VM 960/L OPTION, VM 1260 OPTION

Max. spindle speed 8000 r/min

Spindle motor 26/22 kW (34.9/29.5 Hp) (30min./Cont.)

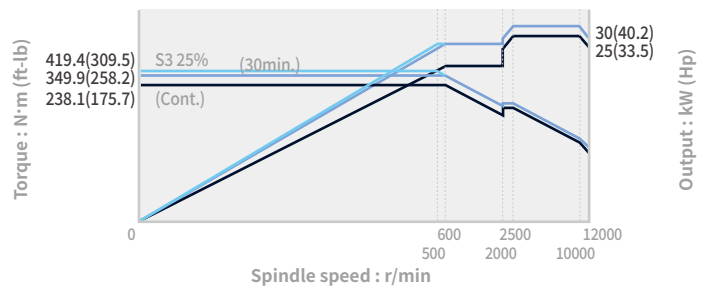


Built-in type

VM 750/L OPTION, VM 960/L OPTION, VM 1260 OPTION

Max. spindle speed 12000 r/min

Spindle motor 30/25 kW (40.2/33.5 Hp) (30min./ Cont.)

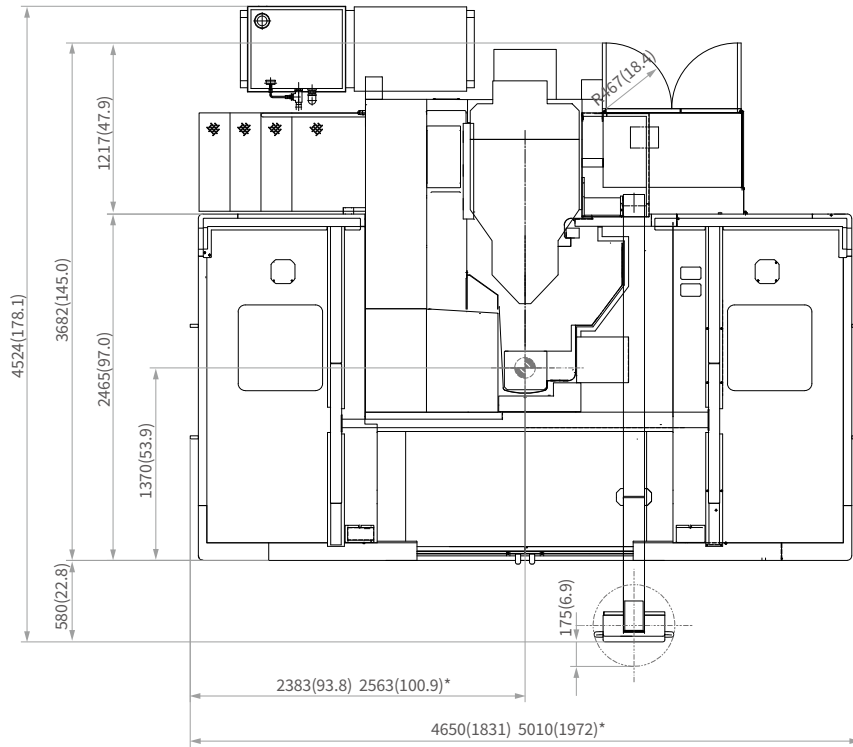


DIMENSIONS

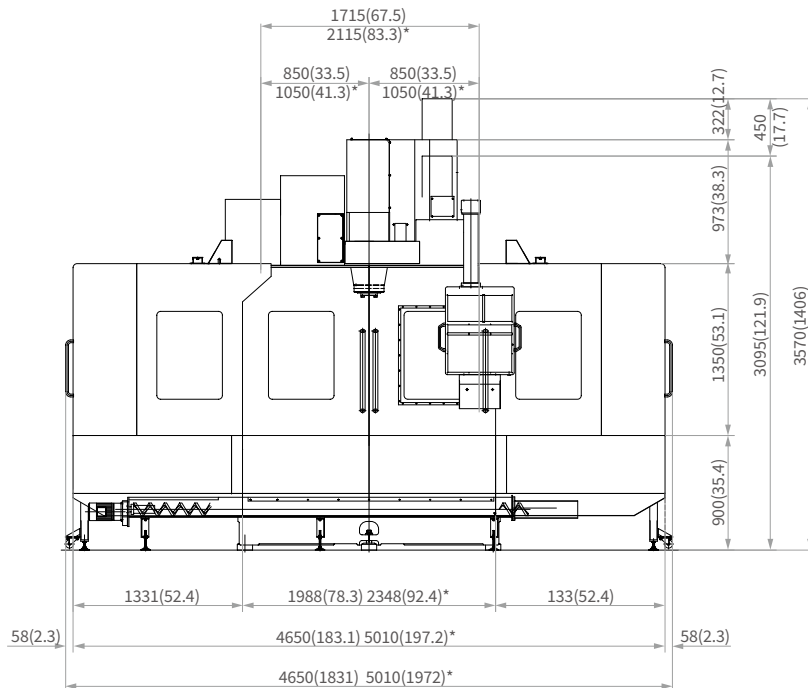
VM 750 / 750L (FULL COVER)

Unit : mm (inch)

TOP



FRONT



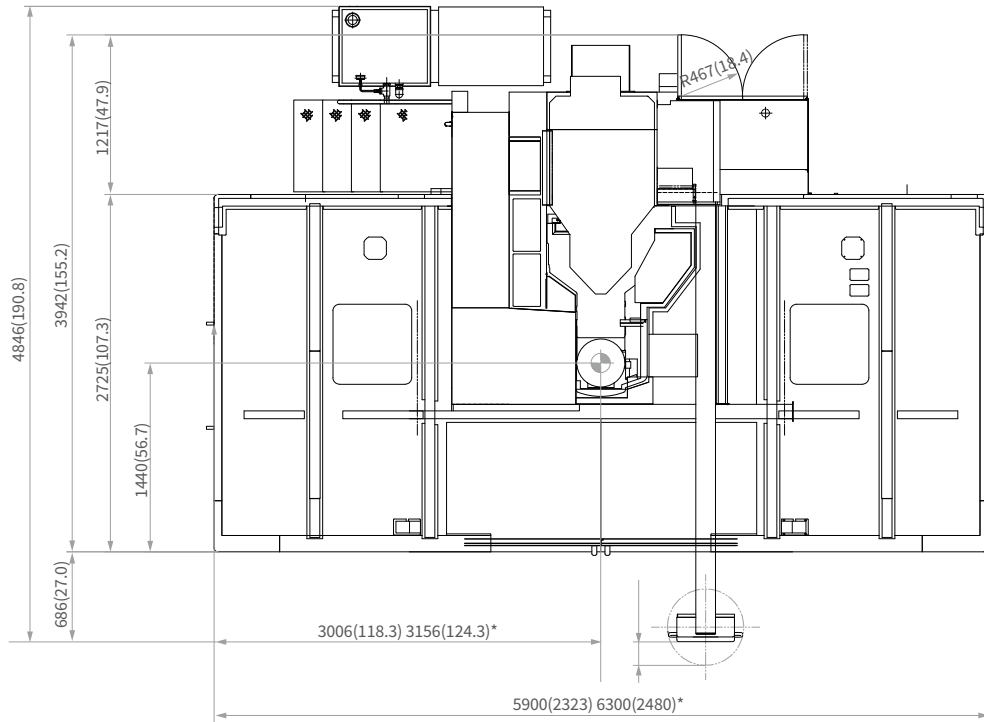
* : VM 750L

DIMENSIONS

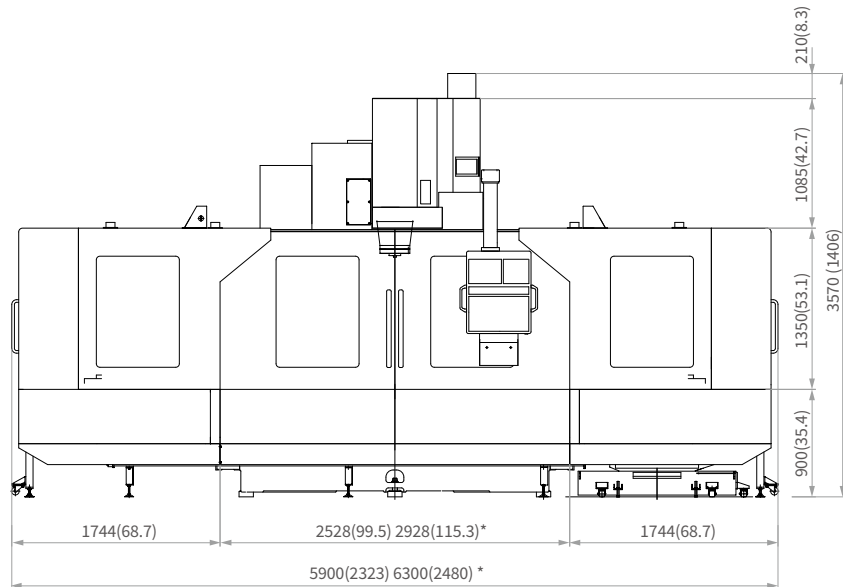
VM 960 / 960L (Full Cover)

Unit : mm (inch)

TOP



FRONT



* : VM 960L

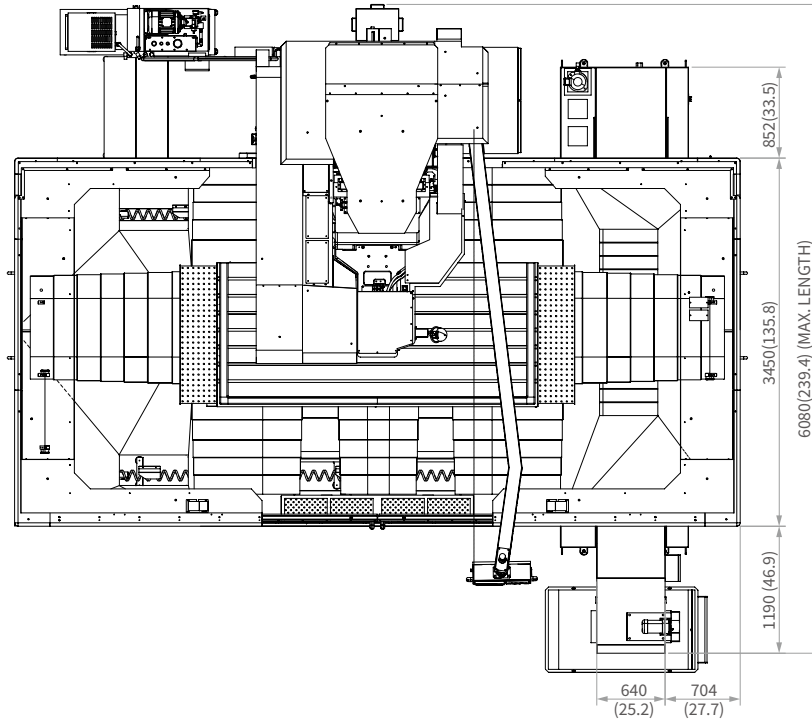
* Some peripheral equipment can be placed in other areas.

DIMENSIONS

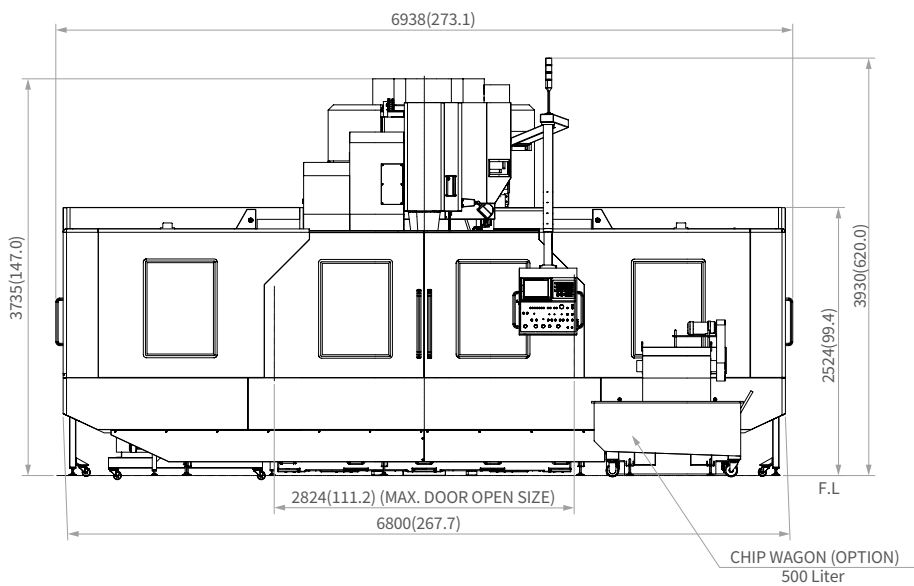
VM 1260 (Full Cover)

Unit : mm (inch)

TOP



FRONT



TOOL SHANK | TABLE

Tool Shank

Unit : mm (inch)

BT50

CAT 50

DIN 50

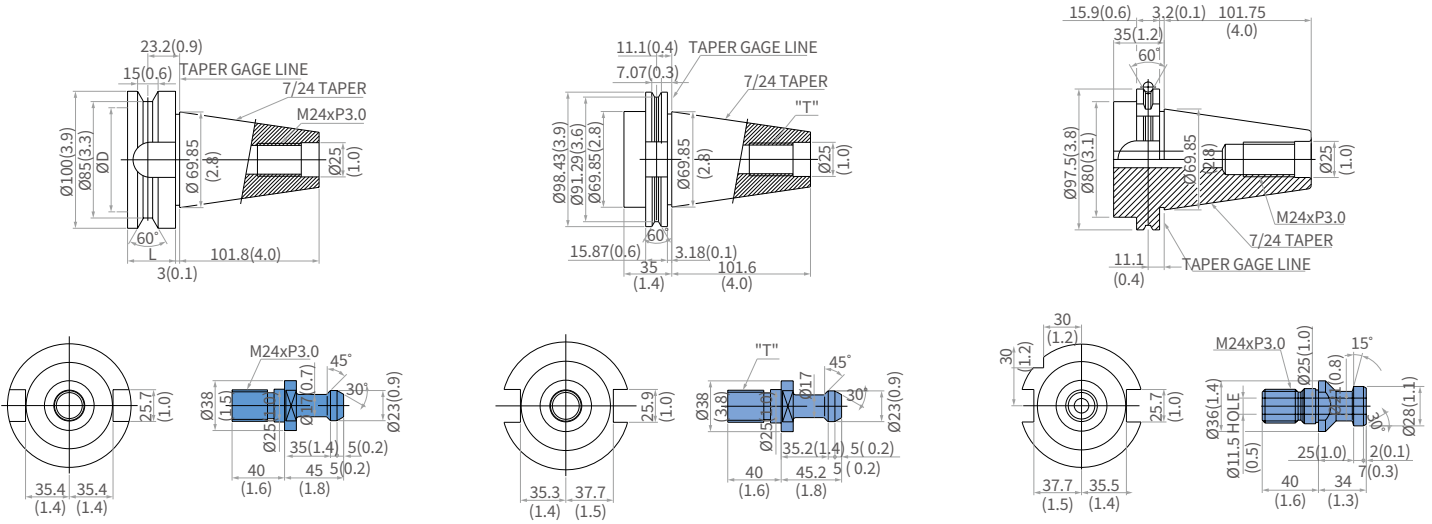
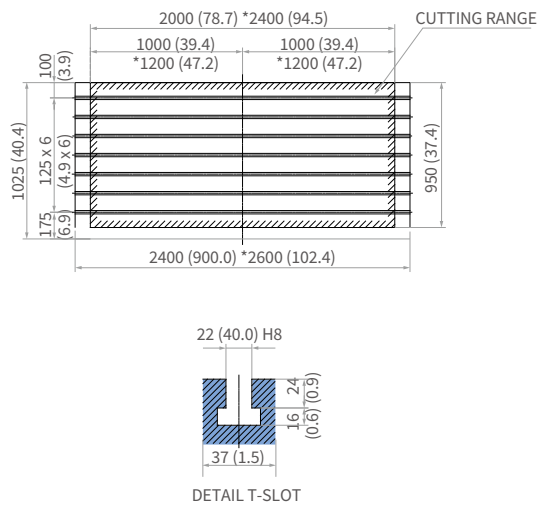
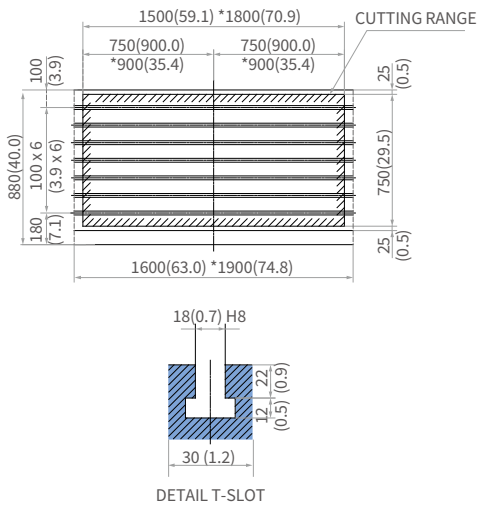


Table (for both half & full cover types)

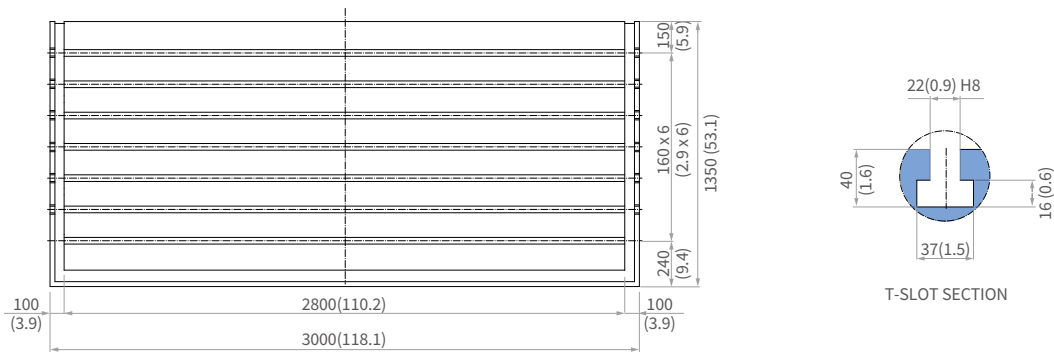
Unit : mm (inch)

VM 750 / 750L

VM 960 / 960L



VM 1260



MACHINE SPECIFICATIONS

Description		Unit	VM750	VM 750L	VM 960	VM 960L	VM 1260
Travel	X-axis	mm (inch)	1500 (59.1)	1800 (70.9)	2000 (78.7)	2400 (94.5)	2500 (98.4)
	Y-axis	mm (inch)	750 (29.5)		960 (37.8)		1260 (49.6)
	Z-axis	mm (inch)	800 (31.5)				900 (35.4)
	Distance from spindle nose to table top	mm (inch)	200 - 1000 (7.9 - 39.4)				200 - 1100 (7.9 - 43.3)
	Distance from spindle nose to column	mm (inch)	865 (34.1)		1005 (39.6)		1320 (52.0)
Feedrate	Rapid feedrate (X, Y, Z)	m/min (ipm)	20 / 20 / 20 (787.4 / 787.4 / 787.4)		16 / 16 / 16 (629.9 / 629.9 / 629.9)		12 / 12 / 12 (472.4 / 472.4 / 472.4)
	Cutting feedrate	mm/min (ipm)	10000		8000		6000
Table	Table size	mm (inch)	1600 x 800 (63.0 x 31.5)	1900 x 800 (74.8 x 31.5)	2400 x 950 (94.5 x 37.4)	2600 x 950 (102.4 x 37.4)	2800 x 1260 (110.2 x 49.6)
	Loading capacity	kg (lb)	3000	3500	4000	4500	8000
Spindle	Max. spindle speed	r/min	6000 {8000, 12000}				
	Taper		ISO#50 7/24 Taper				
	Max. torque	N·m (ft·lb)	587.6 {698.8, 825.9}, {420}				698.8 {825.9}, {419.4}
ATC	Type of tool shank		BIG PLUS MAS403 BT50				
	Tool storage capacity	ea	30 {40}				40
	Max. tool diameter	mm (inch)	ø125 (ø4.9)				
	Max. tool dia. (when a nearest port is empty)	mm (inch)	ø230 (ø9.1)				
	Max. tool length	mm (inch)	350 (13.8)w				
	Max. tool weight	kg (lb)	15 (33.1)				
	Max. tool moment	N·m (ft·lbs)	12.74 (9.4)				
	Tool selection type		Memory Random				
	Tool change time (tool to tool)	s	2.5				
	Tool change time (chip to chip)	s	6		8		
Motor	Spindle motor power (30 min/Cont.)	kW (Hp)	18.5/15 {22/18.5, 26/22, 30/25} (24.8/20.1 {29.5/24.8, 34.9/29.5, 40.2/33.5})				22/18.5 {26/22, 30/25} (29.5/24.8 {34.9/29.5, 40.2/33.5})
	Travel motor (X / Y / Z)	kW (Hp)	7 / 7 / 7 (9.4 / 9.4 / 9.4)				9 / 9 / 7 (12.1 / 12.1 / 9.4)
Power Consumption	Electric power	15/18.5 (30 min)	59.39				-
		18.5/22 (30 min)	{60}				64.95
		22/26 (30 min)	{68.33}				{69.42}
		25/30 (30 min)	{70}				{70}
	Compressed air pressure	Mpa (psi)	0.54 (78.3)				
Tank Capacity	Coolant tank capacity	L	480		520		800
	Lubricant tank capacity	L	12				
Machine Size	Height (H)	mm (inch)	3570 (1406)				3930 (154.7)
	Dimension (L x W)	mm (inch)	4524 x 4650 (178.1x 1831)	4524 x 5010 (178.1 x 1972)	4846 x 5900 (190.8x 2323)	4846 x 6300 (190.8 x 2480)	5645 x 6938 (222.2 x 273.1)
	Weight	kg (lb)	14000 (30864.3)	14800 (32627.9)	20000 (44091.8)	21000 (46296.4)	31000 (68342.3)

RESPONDING TO CUSTOMERS **ANYTIME, ANYWHERE**

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