



L.K Machinery Corp.

力盡淬鍊 勁是完美

VM series



L.K Machinery Corp.

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CE ISO 9001
ISO 14001

VM Series 3 Axes Specification

Travel

VM1

X/Y/Z axis 600/500/520 mm

VM2

X/Y/Z axis 800/500/520 mm

VM3

X/Y/Z axis 1000/500/520 mm

VM4

X/Y/Z axis 1100/600/600 mm

VM5

X/Y/Z axis 1250/700/600 mm

VM6

X/Y/Z axis 1350/700/600 mm

Rapid Travel (X/Y/Z)

VM1

36/36/24m/min

VM2

36/36/24m/min

VM3

36/36/24m/min

VM4

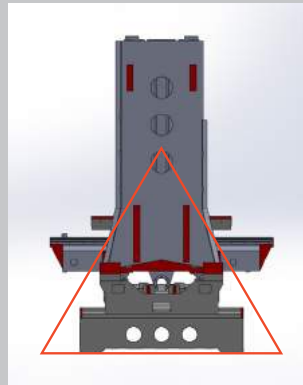
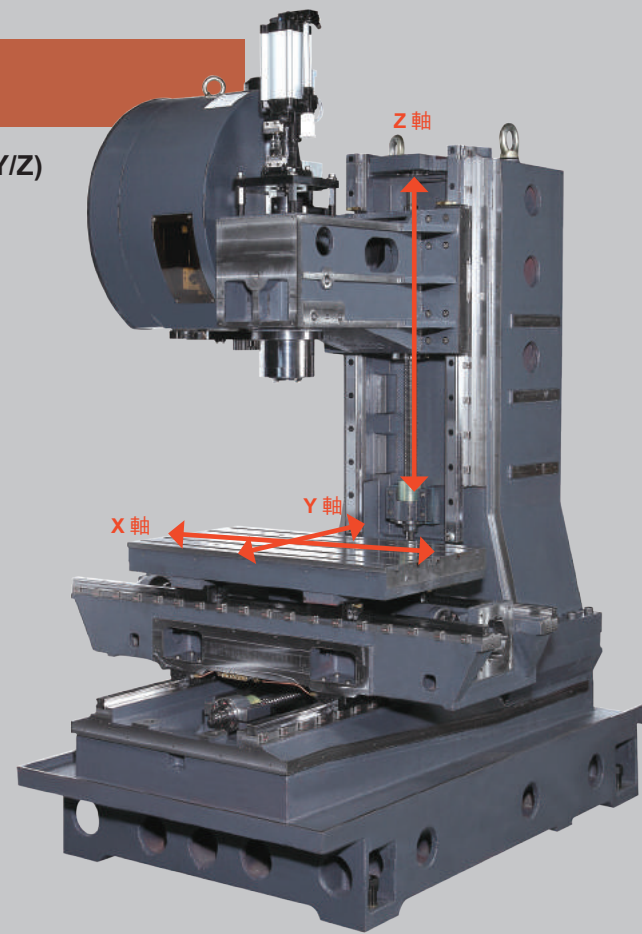
36/36/24m/min

VM5

36/36/24m/min

VM6

36/36/24m/min



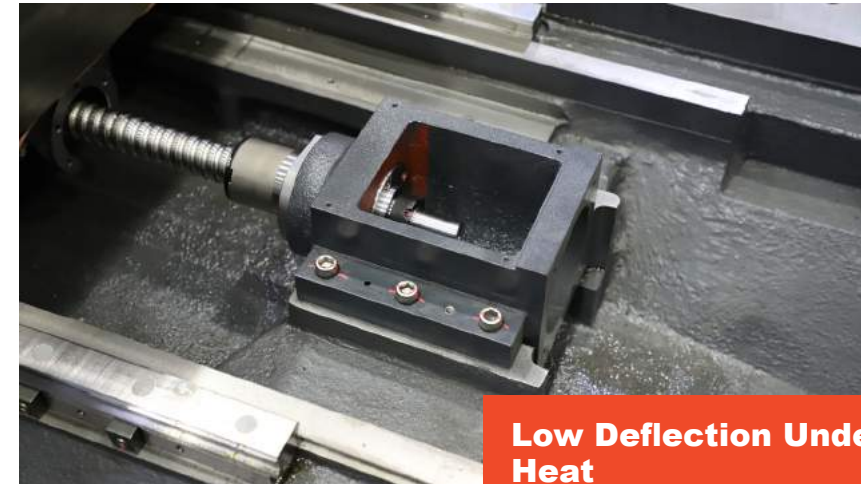
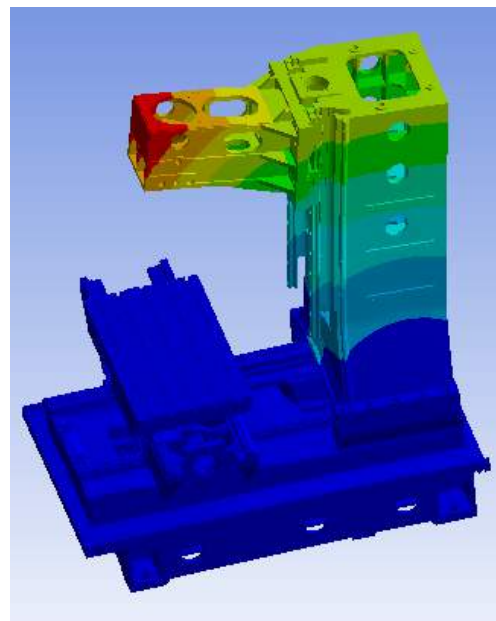
Stable Structure

Delta structure with large column structure and smooth basic flow design, it stable cutting force and high conductivity to provide user a stable processing accuracy.

L.K. vertical machining center machine can provide the features and performance you need, this will be your best investment. Each machine has its own strengths as the following features can help you become a leader in the processed products industry.

High Rigid Frame design with stable base

Wide base column casting, optimized design and analysis with ANSYS 16.0, high rigid analysis software. The structural load to achieve the best performance status. This castings provide a robust, smooth machinery platform that effectively prevents deformation and disperses cutting forces.



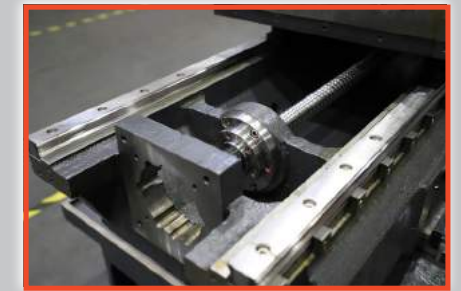
Low Deflection Under Heat

3 axis screws with high rigidity THK series product, effectively reduce the impact of thermal expansion effect and maintain a stable processing accuracy.



Tool Control

L.K. machinery provide large scale or low volume automatic tool changer for large quantity of high speed and smooth tool changer to minimize the loop time of processing requirements. We choose to use Japan's Sankyo cam box(ATC) for BT40 as a standard tool, to ensure it goes smooth and rapid. Simultaneously it can enlarge the validity period and maintenance services.



Servo Motor Transmission

High Standard of design used with servo motor, ball screws and coupling tools, definitely will be satisfied with high accuracy, fine feed and low deviation needs.



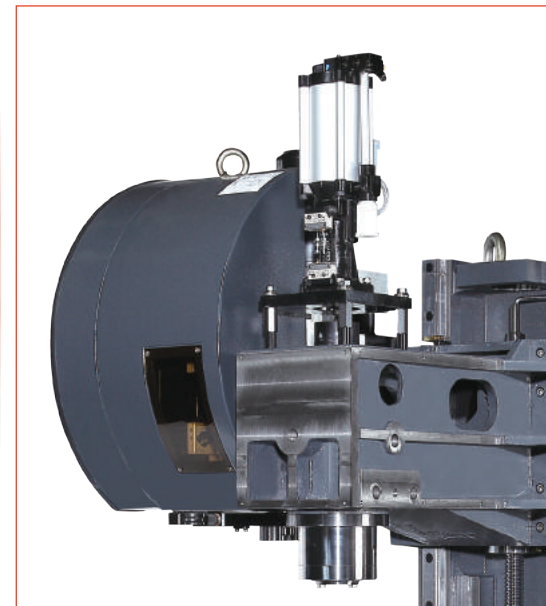
High Speed Transmission System

Combination of high quality ball screws and linear guide, perfect show high rigidity, low friction and low noise on rapid travel.



Coolant Through Spindle (OPT)

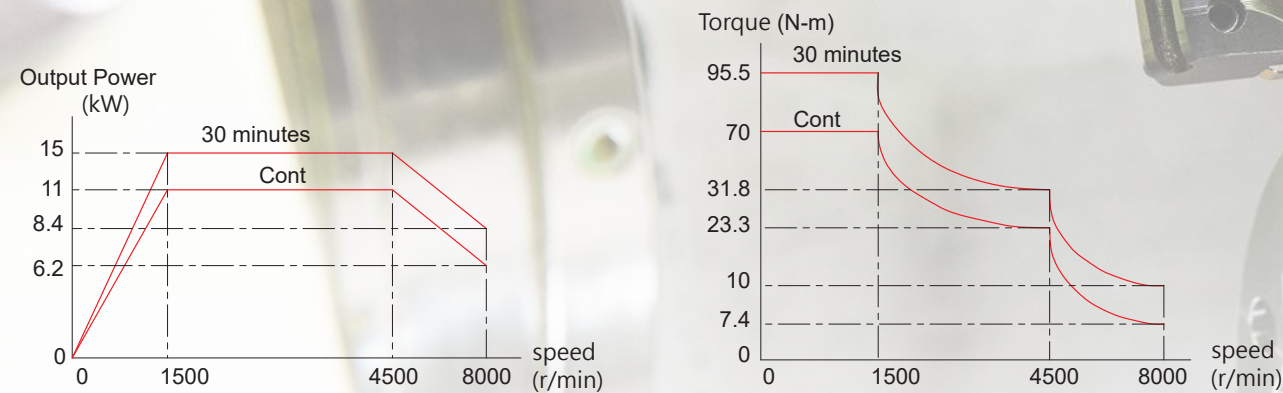
This features design for enhance efficiency on machinery especially for drilling parts and extend the term of usage.



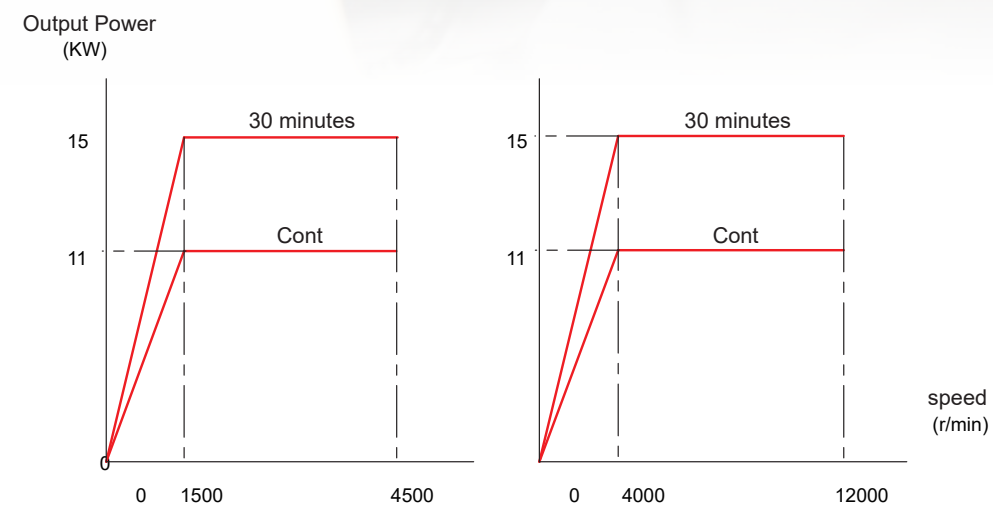
High Performance Spindle

This advance spindle design used with NSK7014 bearings. It provide maximum axial thrust with minimum the heat. The front and back bores of the spindle are completely in the same process. Through the sophisticated labyrinth design, this spindle definitely can play a high standard in the process.

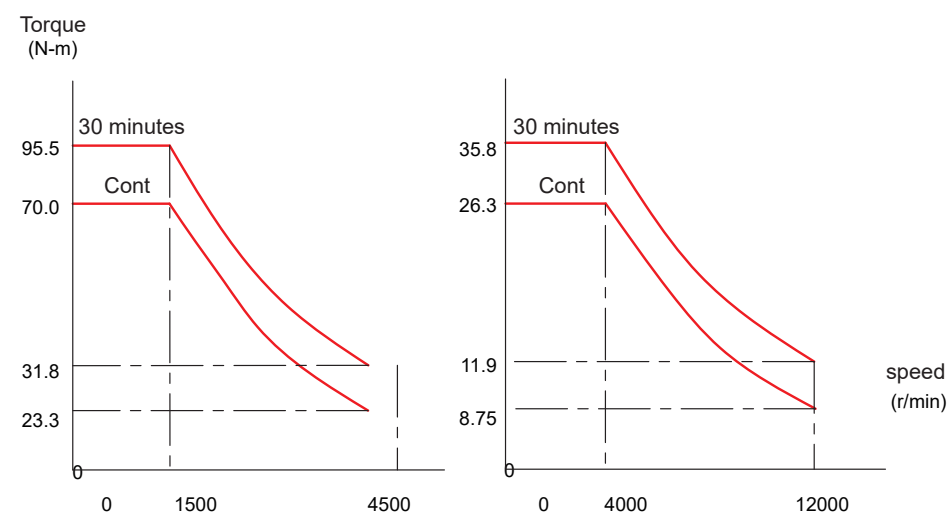
Mitsubishi Motor Power Chat/ Spindle Torque Chart SJ-V15-01ZT Motor



SJ-VK15-28FZT

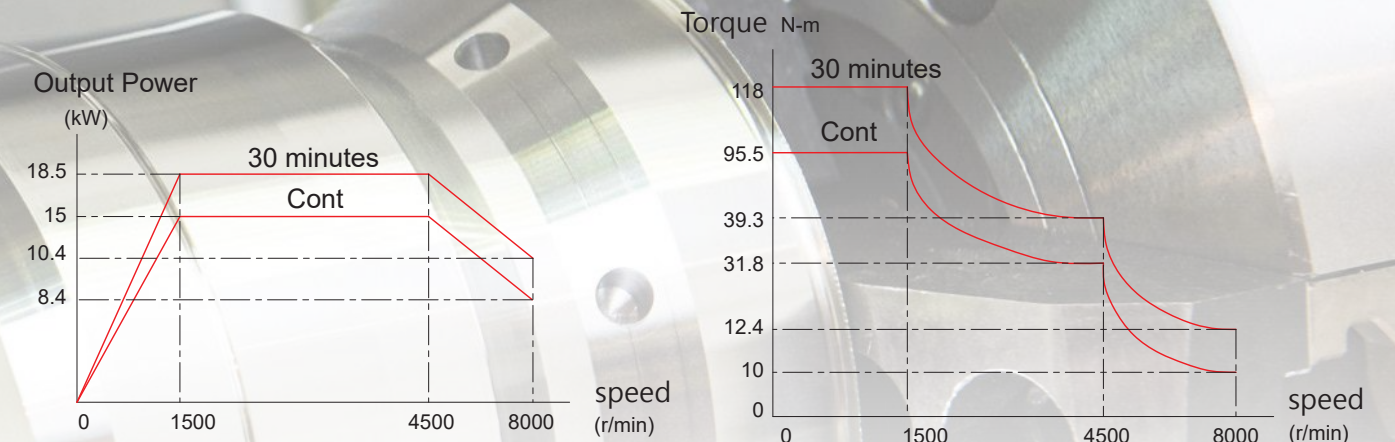


OUTPUT POWER - SPEED CHARACTERISTIC NORMAL

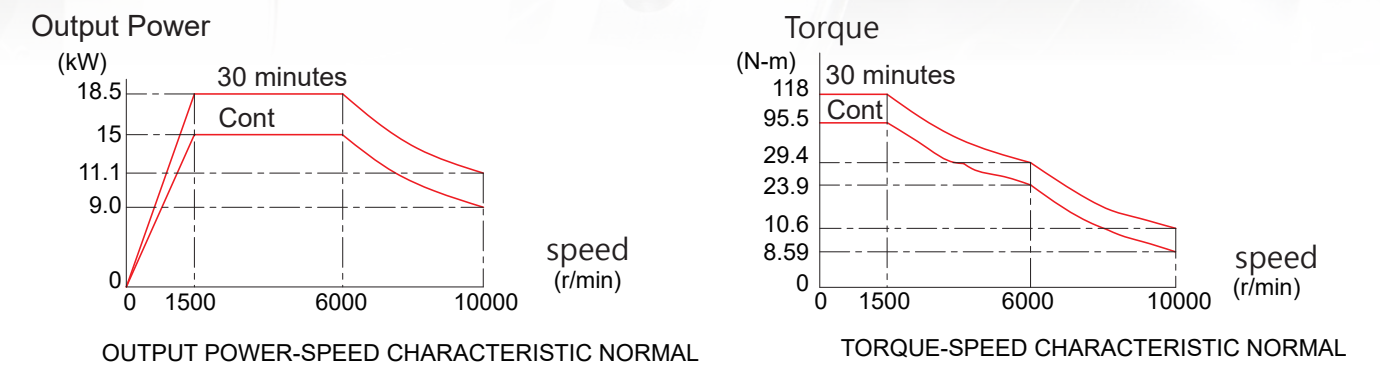


TORQUE - SPEED CHARACTERISTIC NORMAL

SJ-V18.5-01ZT Motor



SJ-V18.5-04ZT



OUTPUT POWER-SPEED CHARACTERISTIC NORMAL

TORQUE-SPEED CHARACTERISTIC NORMAL



Loyalty on ISO, from design, manufacture, quality control to service, we uphold with a attitude of provide perfect quality.

Friendly design concept. L.K. Machinery VM series products always consider the needs of customer, we choose to use Mitsubishi M80 series controller which is 15"screen, not only tally in ergonomics but also care of operator eyes vision and reduce operational errors.

Specification Mitsubishi M80 series controller

ITEM/MODLE	mm/inch	VM-1	VM-2	VM-3	VM-4	VM-5	VM-6
Mitsubishi M80 controller							
3 axis travel							
X axis travel	mm (inch)	600(23.62)	800(31.5)	1000(39.37)	1100(43.31)	1250(49.21)	1350(53.15)
Y axis travel	mm (inch)	500(19.69)	500(19.69)	500(19.69)	600(23.62)	700(27.56)	700(27.56)
Z axis travel	mm (inch)	520(20.47)	520(20.47)	520(20.47)	600(23.62)	600(23.62)	600(23.62)
Distance from spin- dle center to table	mm (inch)	100-620 (3.94-24.41)	100-620 (3.94-24.41)	100-620 (3.94-24.41)	120-720 (4.72-28.35)	120-720 (4.72-28.35)	120-720 (4.72-28.35)
Spindle							
Spindle Speed	rpm	Belt 8000	Belt 8000	Belt 8000	Belt 8000	Belt 8000	Belt 8000
Spindle Nose	BT	#40	#40	#40	#40	#40	#40
Spindle Motor (Cont./30 min.)	kw(hp)	11/15(14/20)	11/15(14/20)	11/15(14/20)	11/15(14/20)	11/15(14/20)	11/15(14/20)
Table							
Table Size	mm (inch)	600x500 (23.62x19.69)	900x500 (35.43x19.69)	1020x500 (40.16x19.69)	1100x560 (43.31x22.05)	1350x600 (53.15x23.62)	1350x600 (53.15x23.62)
T -slot size (Widthx No.x Pitch)	mm (inch)	5x14x100 (0.2x0.55x3.94)	5x14x100 (0.2x0.55x3.94)	5x14x100 (0.2x0.55x3.94)	5x18x100 (0.2x0.71x3.94)	5x18x100 (0.2x0.71x3.94)	5x18x100 (0.2x0.71x3.94)
Max table capacity	kg(lbs)	1000(2204.62)	1000(2204.62)	1000(2204.62)	1000(2204.62)	1200(2644.8)	1200(2644.8)
Rapid travel							
Rapid travel (X/Y/Z)	m/min (ipm)	36/36/24 (1417.32 /1417.32 /944.88)	36/36/24 (1417.32 /1417.32 /944.88)	36/36/24 (1417.32 /1417.32 /944.88)	36/36/24 (1417.32 /1417.32 /944.88)	36/36/24 (1417.32 /1417.32 /944.88)	36/36/24 (1417.32 /1417.32 /944.88)
Cutting Speed Rate	m/min (ipm)	1-20 (39.37-787.4)	1-20 (39.37-787.4)	1-20 (39.37-787.4)	1-20 (39.37-787.4)	1-20 (39.37-787.4)	1-20 (39.37-787.4)
X/Y/Z Feed Motor	kw	2/2/3 (2.68/2.68/4.02)	2/2/3 (2.68/2.68/4.02)	2/2/3 (2.68/2.68/4.02)	3.5/3.5/3.5 (4.69/4.69/4.69)	3.5/3.5/3.5 (4.69/4.69/4.69)	3.5/3.5/3.5 (4.69/4.69/4.69)
Tool Magazine							
Tool Change Type		Arm	Arm	Arm	Arm	Arm	Arm
Tool Capacity	set	24	24	24	24	24	24
Max Tool Weight	kg(lbs)	7(15.43)	7(15.43)	7(15.43)	7(15.43)	7(15.43)	7(15.43)
Max Tool Length Distance	mm (inch)	300(11.81)	300(11.81)	300(11.81)	300(11.81)	300(11.81)	300(11.81)
Max tool diameter	mm (inch)	75(2.95) 150(5.9)	75(2.95) 150(5.9)	75(2.95) 150(5.9)	75(2.95) 150(5.9)	75(2.95) 150(5.9)	75(2.95) 150(5.9)
Tool Change time(T-T)	sec	2.5	2.5	2.5	2.5	2.5	2.5
Tool Change time(C-C)	sec	3.5	3.5	3.5	4.8	4.8	4.8
Others							
Compress Air Supply	kg/ cm²(psi)	6(85.34)	6(85.34)	6(85.34)	6(85.34)	6(85.34)	6(85.34)
Machine Size (LX WXH)	mm (inch)	2552x2682x2549 (100.47 x105.59 x100.35)	2802x2682x2549 (110.31 x105.59 x100.35)	3222x2230x2549 (126.85 x87.8 x100.35)	3660x3160x2850 (144.09 x124.41 x112.2)	3960x3160x2980 (155.91 x124.41 x117.32)	3960x3160x2980 (155.91 x124.41 x117.32)
Net weight	kg(lbs)	4300 (9479.88)	4700 (10361.73)	5220 (11508.14)	6400 (14109.58)	7400 (16314.21)	7400 (16314.21)

► Standard Equipment

- Mitsubishi M80/15” touchable LCD Screen
- Belt driven spindle 8000rpm
- Arm type 24 tools
- Spindle air seal
- Automatic Oil lubrication
- Side flush system
- Ball type linear guideway for (VM1-VM3)
Roller Linear Guideway for(VM4-VM6)
- Rear chip auger for (VM1-VM3)
Front chip lift auger(Srew Type) for
(VM4-VM6)

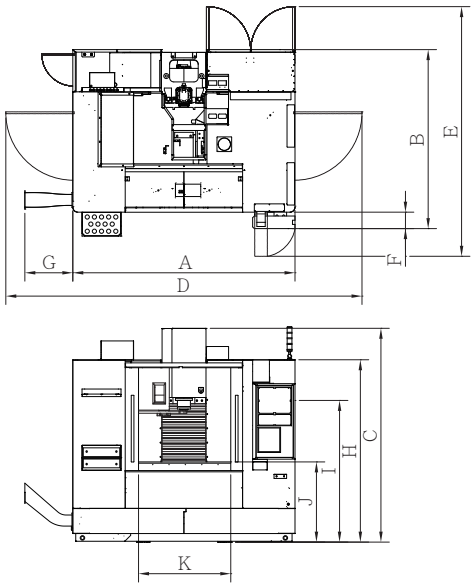
► Optional Equipment

- Tool holder
- Tool Storage
- Chip conveyor
- Spindle Oil Cooler
- **Fanuc OiMF**
- **Siemens 828D**
- 3 axes rapid travel 48/48/36
- DDS 10000/12000rpm
- Spindle Motor 7.5/11kw, 15000 rpm
- Spindle Motor 15/18.5kw, 8000/10000 rpm

Cutting Capability

Controller	M80 Series	
Spindle Power	8000 rpm	
Spindle Motor(30min/Cont)	11 / 15 kw	
Spindle Type	Belt	
Axis Travel(X/Y/Z)	36 / 36 / 24	
Max speed of rigid tapping	4000 rpm	
Max Drilling (mm/rev)	S45C	ADC
	Ø50x0.1	Ø50x0.34
Max Tapping (mm)	S45C	ADC
	M24x3.0P	M30x3.5P
Efficiency of rigid tapping (sec/ hole)		ADC
		2.9
Face milling cutting removal rate	S45C	ADC
	375 C.C.	1440 C.C.
Cutting Parameter (cutting width x cutting depth x fee- drate)	50x5x1500	60x4x6000

VM Machine Size / Exterior Size



Model	Unit	A	B	C	D	E	F
VM-1	mm (inch)	1950 (76.77)	2680 (105.51)	2549 (100.35)	3548 (139.68)	3494 (137.56)	196 (7.72)
VM-2		2230 (87.79)			3828 (150.71)		
VM-3		2650 (104.33)	2230 (87.79)	4248 (167.24)	3085 (121.46)		
VM-4		2904 (114.33)	2579 (101.54)	4700 (185.04)	3610 (142.13)	223 (8.78)	
VM-5		3204 (124.14)		5000 (196.85)			
VM-6							

Model	Unit	G	H	I	J	K
VM-1	mm (inch)	572 (22.52)	2174 (85.60)	1600 (63.00)	956 (37.64)	700(27.56)
VM-2						900(35.43)
VM-3					260 (10.24)	2200 (86.61)
VM-4		1225(48.23)				
VM-5		1375(54.13)				
VM-6						