



Vertical Machining Center VM Series

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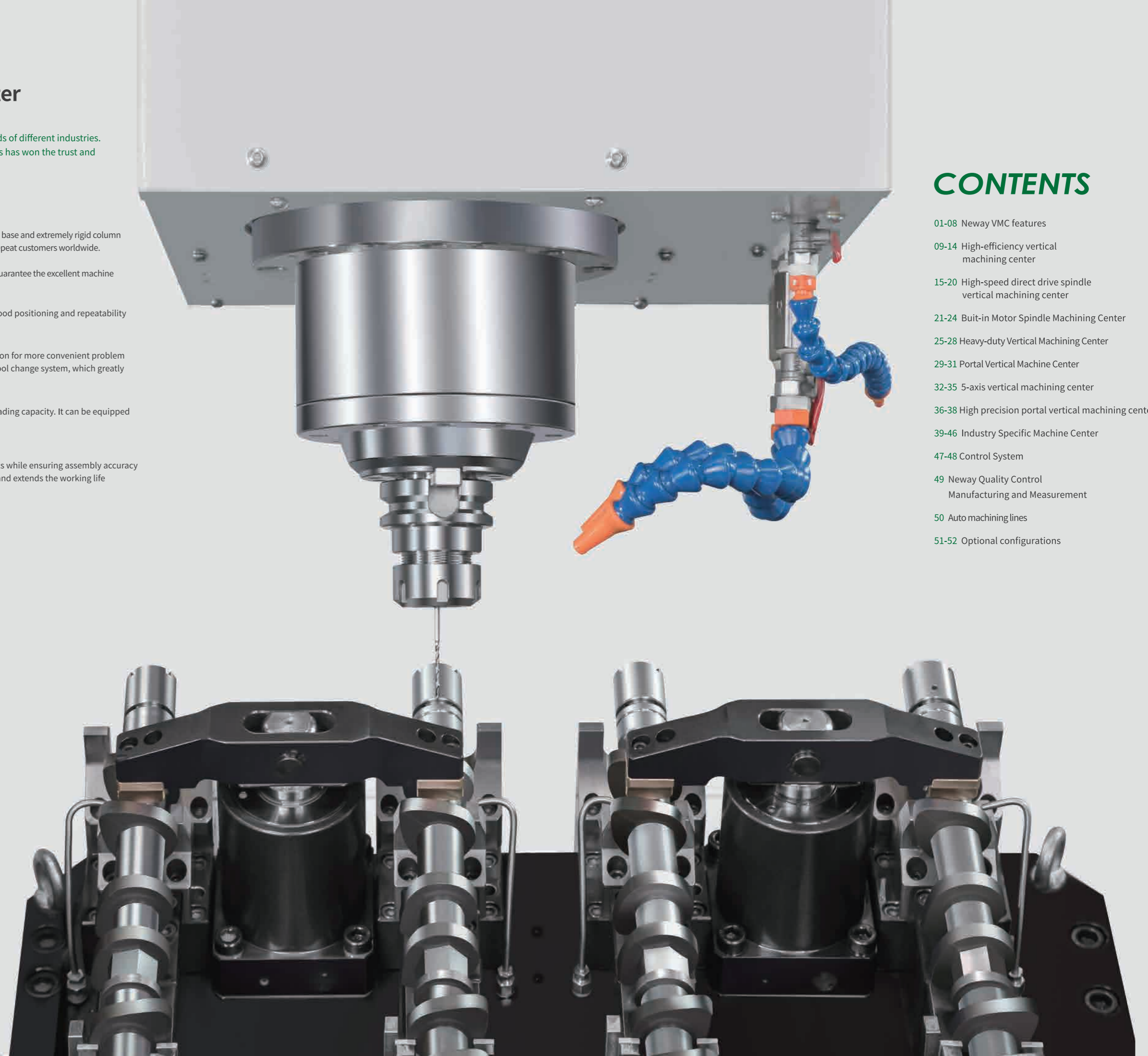
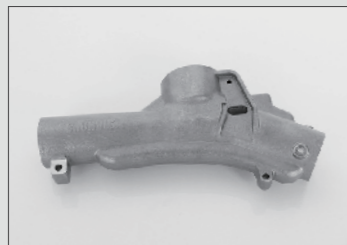


Neway Vertical Machine Center

Neway's diverse VMC models meet the world class processing needs of different industries. The uniqueness of many of their zero-defect manufacturing process has won the trust and praise of many repeat customers worldwide.

- Finite Element Analysis designed castings provide high rigidity, the solid base and extremely rigid column ensure the stability of machine while processing parts; praise of many repeat customers worldwide.
- Large span, widened and hardened thick guide way mounting surface guarantee the excellent machine accuracy over the long term;
- The three-axis ball screw adopt a pre-tensioned process to ensure good positioning and repeatability accuracy while eliminating backlash;
- The whole series VMC provides a convenient one-button reset function for more convenient problem solving like tool magazine recovery. Some models adopt the rapid tool change system, which greatly reduces the tool change time;
- Some series have four guideways on the Y-axis, which have larger loading capacity. It can be equipped with a gearbox to improve the cutting torque at lower rpm;
- Vibration test and dynamic balance control tests minimize harmonics while ensuring assembly accuracy and motion performance. This improves the parts surface finishing and extends the working life of the machine.

Processing case:



CONTENTS

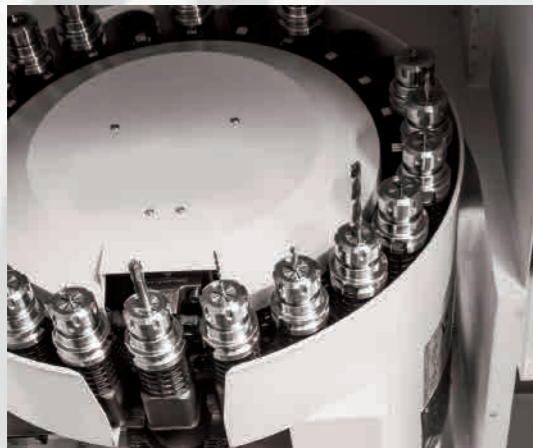
- 01-08 Neway VMC features
- 09-14 High-efficiency vertical machining center
- 15-20 High-speed direct drive spindle vertical machining center
- 21-24 Built-in Motor Spindle Machining Center
- 25-28 Heavy-duty Vertical Machining Center
- 29-31 Portal Vertical Machine Center
- 32-35 5-axis vertical machining center
- 36-38 High precision portal vertical machining center
- 39-46 Industry Specific Machine Center
- 47-48 Control System
- 49 Neway Quality Control Manufacturing and Measurement
- 50 Auto machining lines
- 51-52 Optional configurations

01 High Stability

- Integrated stress-relieved Meehanite casting iron guarantee the high rigidity of whole machine;
- The base is designed with a large span support foot and has better stability through computer finite element analysis which adds additional support to areas that need it;
- The guideway adopts large span design to improve the anti-overturning ability of the work surface;
- The column adopts an Inverse-Y design to increase the span, which improves the anti-torsion and anti-overturning ability of the machine by more than 30%;
- Some models have four guideways on the Y axis.

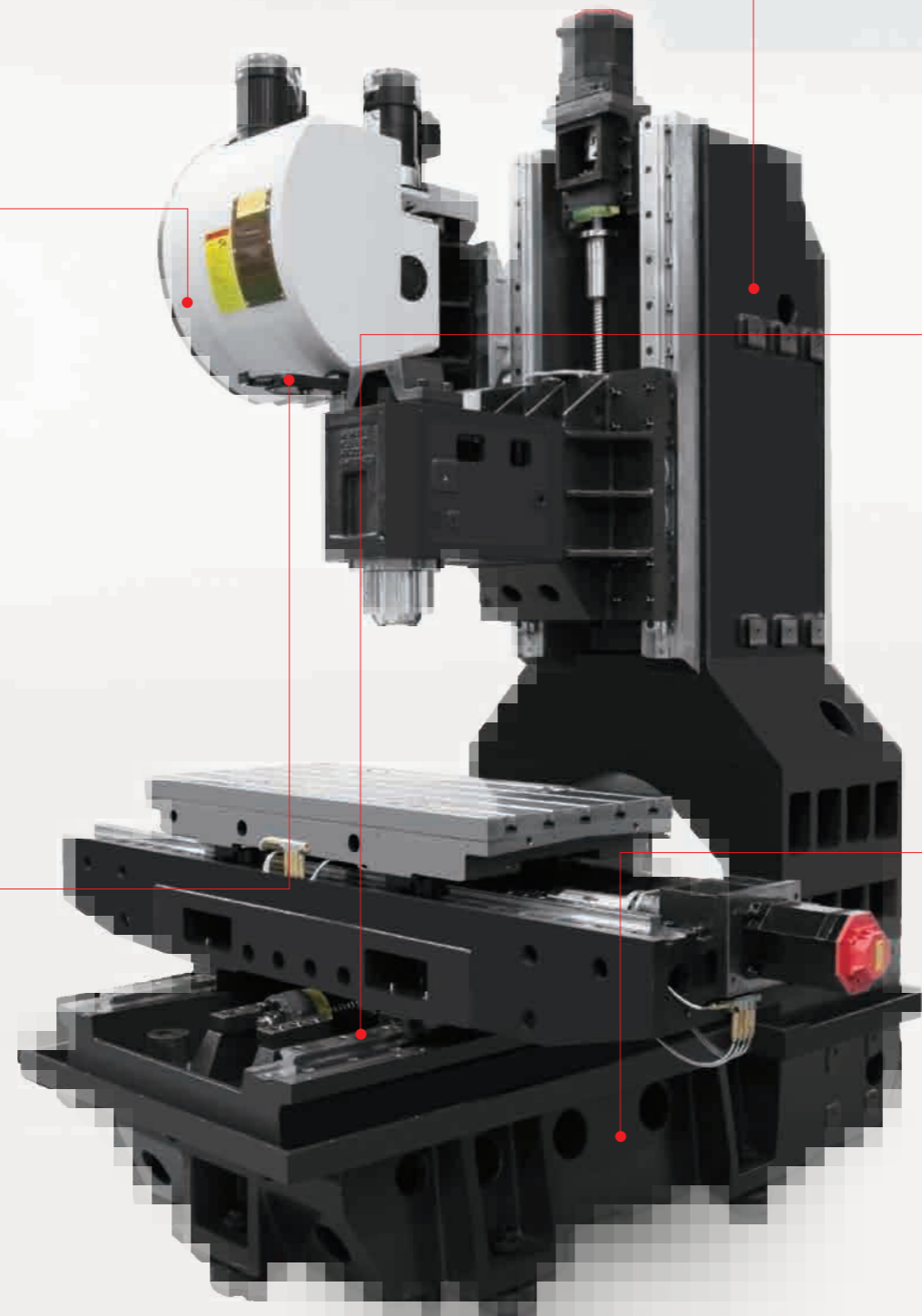
1 Tool magazine

The tool magazine has a pre-selected function. In other words, the tool required for the next process is prepared (staged) at the same time while the machine is processing. This greatly improves the machining efficiency and reduces the waiting time of the machine.



2 Tool change testing

The machine has undergone thousands of tool change tests before leaving the factory to ensure smooth and reliable tool change.



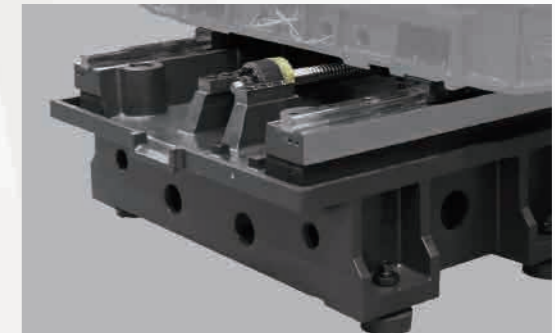
3 Inverse-Y column

It has an Inverse-Y column structure, large rectangular section design, unique internal reinforcement structure, better deflection resistance, better torsion resistance, and ultrahigh rigidity. The column is connected with a strong bed to meet the rigidity requirements of strong cutting.



4 Basic design

Solid bed and rigid base are suitable for heavy cutting, high-strength gray cast iron with shock-absorbing capacity, through finite element analysis to ensure the machine stability and reliability.



5 Four-guideway design

Some machines adopt four-guideway design, which effectively reduces the saddle deformation caused by the offset of the table and improves heavy load capacity during processing.



02 High-Speed

- Some models are designed with lightweight moving parts to reduce the load and improve the response speed of the whole machine, thereby greatly improve the machining efficiency.
- 12000RPM or 15000RPM direct drive spindle to improve the finish of surface as well as the processing efficiency.

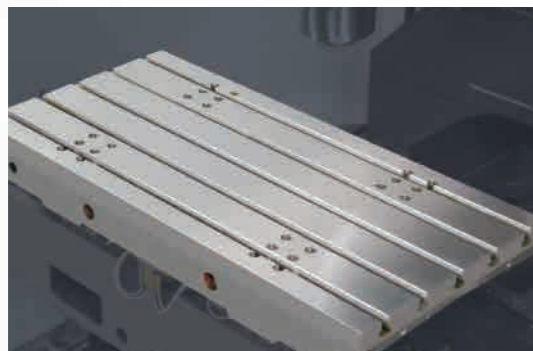
1 High speed direct drive spindle

- The high-speed direct drive spindle has a shorter transmission chain, which effectively reduces the vibration of the spindle and reduce the thermal expansion as well.
- The spindle adopts a labyrinth seal structure to prevent containment or chips enter into the spindle, effectively extending the life-span of the spindle.



2 High speed moving parts

Lighter weight moving parts design, which makes machine machining response performance better, is conducive to high-speed interpolation machining.



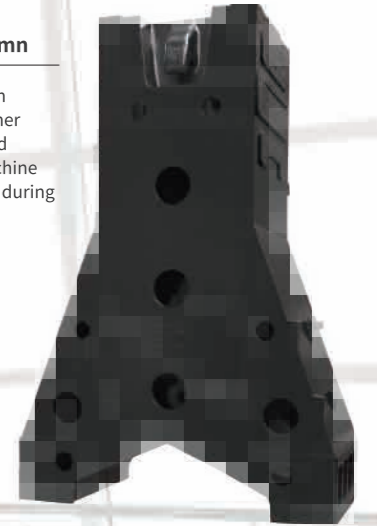
3 Spindle oil cooling system

The high-speed VMC is equipped with spindle oil chiller as standard, which can effectively control the thermal deformation of the spindle and ensure the high-speed cutting performance of the spindle.



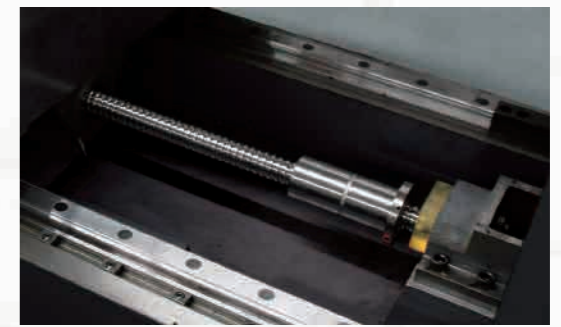
4 Large-span inverse-Y column

It adopts the wider-span column structure design, which has higher stability, improve the high speed moving performance of the machine and make machine more stable during high-speed cutting.



5 High speed movement units

Equipped with high speed & silent ball screw and linear guide way to realize stable movement without crawl.

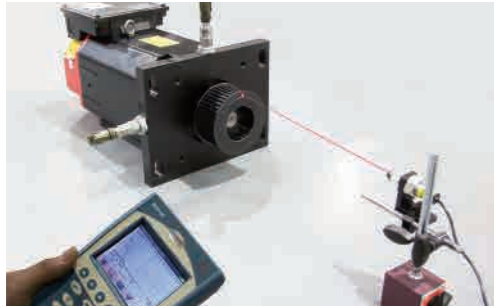


03 High Precision

During the production and assembly process of the machine tool, dynamic balance test, temperature rise test, online vibration detection and ball screw pre-stretching process are carried out. Through a variety of quantifiable process methods, the machine tool accuracy and accuracy retention can be guaranteed.

1 Dynamic balance test

The dynamic balance test is carried out during the assembly process, which effectively reduces the vibration during rotation and greatly improves the surface finish.



3 Torque wrench

All major connection surface locking screws are locked by specially calibrated torque wrenches according to process standards to ensure the stability and long-term reliability of the connection.



5 Pre-stretch

The ball screw adopts the pre-stretch process, which effectively reduces the backlash in the ball screw and helps reduce the heat transmission. This process improves the accuracy and strengthens the rigidity and avoid heat deformation.



2 Vibration test

The machine performs vibration tests during the assembly process to ensure that high-standard machining finish requirements are met.



4 Double-nut ball screw

Double-nut high-speed pre-load silent ball screws offering no backlash, high precision, high speed.



6 Fine craftsmanship

The surface is meticulously hand scraped in order to achieve maximum assembly accuracy, rigid structure, and balanced load on all mating surfaces. This costs more but it ensures longer life and a perfect machining performance.



04 Research & Development

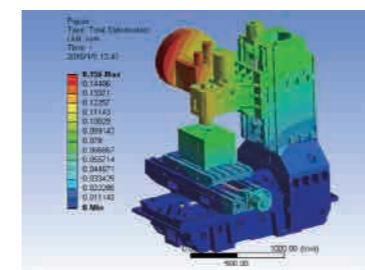
With 7 R&D departments all with specific expertise and 150+ R&D engineers, Neway strives to deliver up to 20+ new design and improvement products per year. 10+ continuous improvement projects in fundamental areas, using the PLM full lifecycle management system to enhance R&D efficiency.

Ongoing continuously improving quality refining projects:

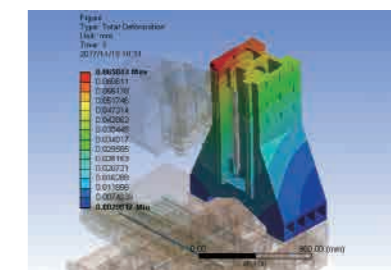
- Static stiffness testing and research of machine tools
- Research on vibration and dynamic stiffness of machine tools
- Research on spectrum analysis of machine tools
- Finite element analysis of complete machine and components
- Thermal deformation analysis of entire machine and components
- Research and application of high-speed ball screw center cooling system
- Research on intelligent development and application of CNC machine tools
- High-pressure chip breaking test and application of the protective seal

1 Finite element analysis

The essential parts are all based on finite element analysis. The layout of the optimized structure is cast from high-quality cast iron materials with high stability and excellent shock absorption.



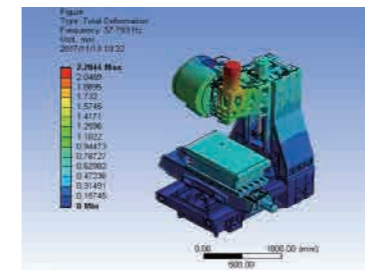
- Machine deformation analysis



- Column rigidity analysis

2 Dynamic analysis

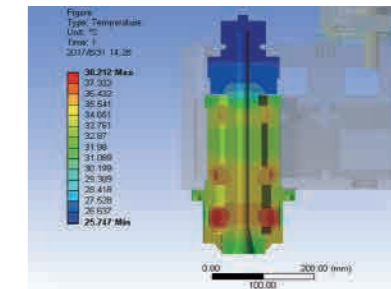
Through dynamic performance balancing analysis, improves the natural frequency and vibration resistance of the machine.



- Dynamic analysis

3 Thermal analysis

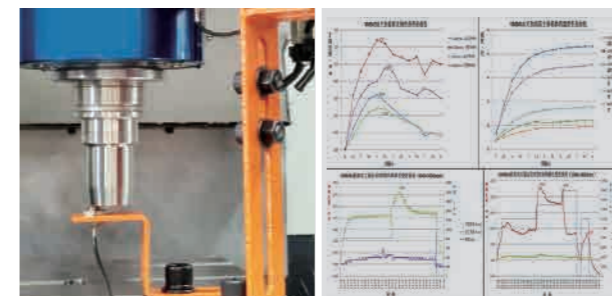
Thermal analysis of the spindle components reduces or controls the thermal deformation.



- Thermal analysis of spindle

4 Temperature rise research

Through temperature rise research, we can effectively improve the machining accuracy and extend the life-span of machines, as well as reduce the precision error caused by temperature.



5 Vibration research

Through the vibration research and analysis of the main drive system, it can provide effective reference for structural improvement and process improvement, and reduce the impact of vibration on machine tool using life and machining accuracy.



05 Friendly Design

Careful attention to design detail along with, constant optimization, ease of operation, convenient location of keyboard and ease of maintenance make our machines a favorite.



- Large front sliding door opening: to meet the large workpiece loading and unloading operations
- Machine top has pneumatic cylinder installation position reservation: easy to add auto functions
- Rotatable operation panel: can be rotated to the best viewing angle position for smoother operation
- Network and power integrated interface: convenient for machine tool networking and external power supply
- External air source processing unit: easy to observe and maintain
- External lubrication pump: easy for maintenance
- Chip conveyer: easy to clean up chips and reduce manual labor
- Internal tool magazine protection: reduce tool magazine failures and improve tool magazine reliability
- Tools platform: easy for tool changing and maintenance
- Ring-mounted water spray: enhanced cooling ability

06 Industry Application

Complete product lines and rich options & configurations ensure Neway machines are widely applied in various industries.



Gyroscope shell

Industry	Aaviation	Processing site	Internal cavity and pore, etc
Material	Cast aluminum	Processing time	120min
Feature	High precision	Processing machine	VM450F



Battery tray frame profile

Industry	New energy vehicle	Processing site	Outline, mounting hole
Material	Aluminum	Processing time	9min
Feature	High speed,High rigidity	Processing machine	VM2550XC



Orbiting scroll

Industry	Compressor	Processing site	Vortex line
Material	Aluminum	Processing time	12min
Feature	High precision,High speed	Processing machine	VM1160



Forging steel valve

Industry	Valve	Processing site	Surface, hole, thread
Material	Steel forging	Processing time	5min
Feature	High speed,High rigidity	Processing machine	VM950



Engine connecting rod

Industry	Car	Processing site	Fine boring head hole
Material	40Cr	Processing time	2min
Feature	High precision	Processing machine	VM1150



Pump guide impeller

Industry	Water pump	Processing site	Blade surface Runner surface
Material	316L	Processing time	30min
Feature	Multi-axis interpolation	Processing machine	VM650F

Attention: The above data are all from actual use cases. When the cutting conditions and environmental conditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

VM Series

High-efficiency Vertical Machining Center

- This series of models are designed with high rigidity, which can meet most machining applications requirements;
- The solid base and column adopt Neway's unique rib arrangement, which effectively guarantees the rigidity of the machine;
- Diversified development of the system and abundant optional accessories to facilitate customer use and meet processing needs easily;
- Some models adopt four-guideway design, large-span, and high-rigidity structure design, and can perform high-torque cutting, effectively reducing the saddle deformation caused by the overhang of the table and ensuring the load capacity during processing.



Main parameters		VM740SA/HA	VM1050S/H	VM1160S/H	VM1370S/H	VM1580S/H	VM1880S/H
Worktable size	mm	750×420	1000×520	1100×600	1400×700	1500×800	1800×800
Axis travel X/Y/Z	mm	650/420/500	850/520/560	1000/600/560	1300/700/700	1350/800/700	1700/850/700
Axis rapid travel X/Y/Z	m/min	40/40/30	36/36/36	36/36/30	30/30/24(H) 24/24/20(S)	30/30/24(H) 24/24/20(S)	24/24/20
Max. spindle speed	rpm	10000(belt)	8000(belt)	8000(belt)	8000(belt)	6000(belt)	6000(belt)
Number of tools	Pc	20	24	24	24	24	24

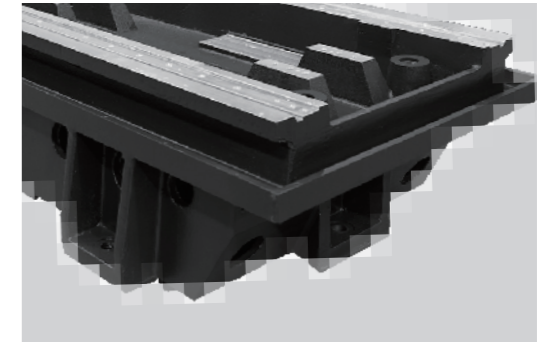
1 Four-guideway design

Some models are with four-guideway design (VM13 and bigger models), which can effectively reduce the saddle deformation caused by the overhang of the table, and ensure the heavy load capacity during processing. The anti-deflection rigidity of the saddle is high, the carrying capacity is strong. And the excellent design of the guideway span can ensure the supporting rigidity of the casting for a long time.



2 Casting structure design

The strong support structure is more in line with the principle of structural mechanics. After the computer finite element analysis, the reinforcement ribs are arranged reasonably, and the circular openings in casting can reduce the weight of the castings, reduce the deformation of the castings, and reduce the stress concentration.



3 Reinforced slider connecting structure

It adopts reinforced slider connecting structure, and some models adopt the 6-slide structure, which effectively improves the rigidity of the headstock.

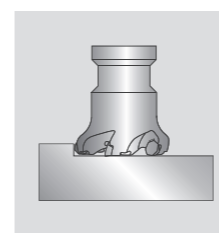


4 Quantitative lubrication system

Automatic oil pump and quantitative lubrication system provides lubrication to the guide ways and ball screws and precisely control the volume of oil to these critical components. A low-level alarm reminds operator before machine stop. The grease type lubrication can be applied as option.

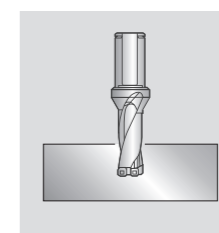


VM1050S/H Processing capacity



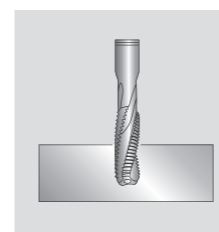
Face milling tool

Diameter D(mm)	φ80	Spindle speed S(RPM)	800
Cutting depth Dp(mm)	2.5	Number of tool teeth	6
Cutting width Ae(mm)	64	Cutting feed F(mm/min)	576



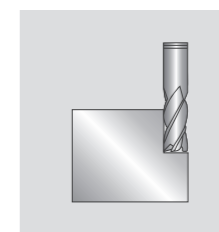
U drill

Diameter D(mm)	φ40	Spindle speed S(RPM)	1200
Cutting depth Dp(mm)	/	Number of tool teeth	1
Cutting width Ae(mm)	/	Cutting feed F(mm/min)	120



Tapping

Diameter D(mm)	M20	Spindle speed S(RPM)	300
Cutting depth Dp(mm)	/	Number of tool teeth	1
Cutting width Ae(mm)	/	Cutting feed F(mm/min)	750



End milling tool

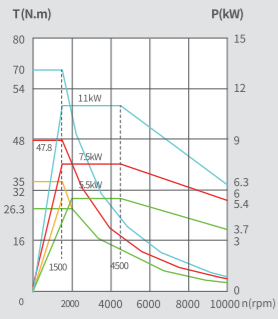
Diameter D(mm)	φ20	Spindle speed S(RPM)	1000
Cutting depth Dp(mm)	10	Number of tool teeth	4
Cutting width Ae(mm)	20	Cutting feed F(mm/min)	200

Attention: The above data are all from actual use cases. When the cutting conditions and environmental conditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

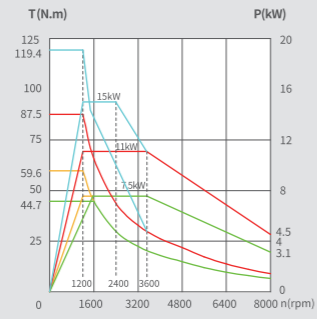
Spindle Power Torque Diagram

(Unit: mm)

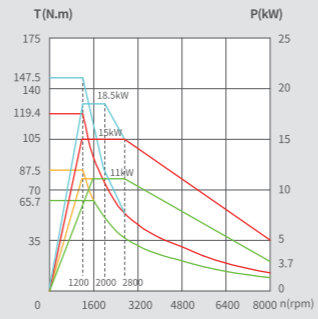
VM740SA/HA



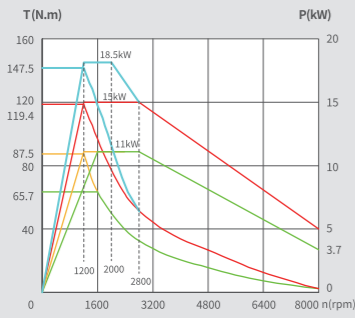
VM1050S/H, VM1155S/H, VM1160S/H



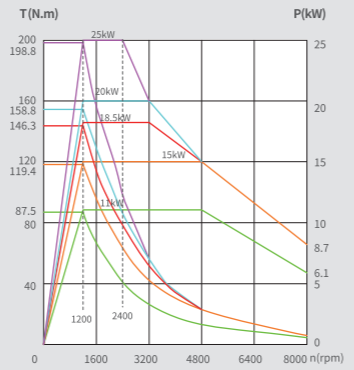
VM1260S/H, VM1270S/H



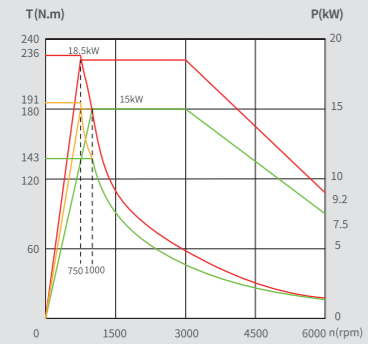
VM1370S



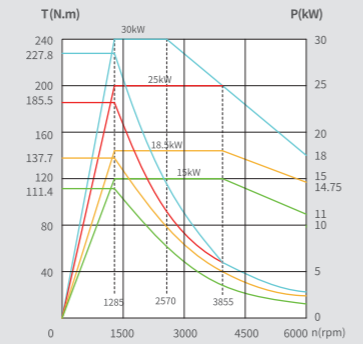
VM1370H



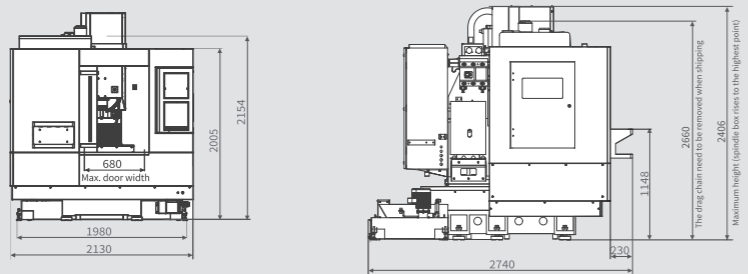
VM1580S, VM1780S, VM1880S



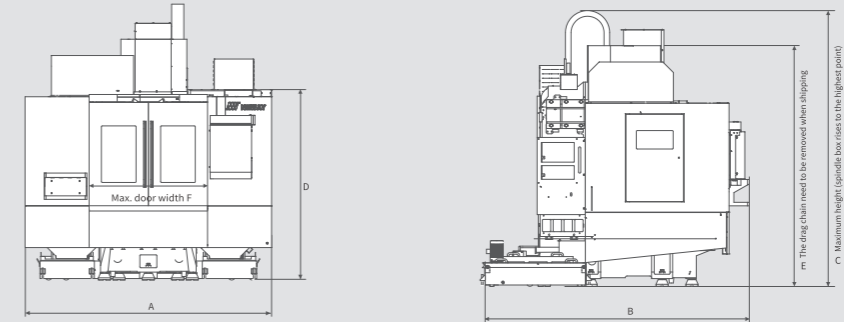
VM1580H, VM1780H, VM1880H



VM740SA/HA

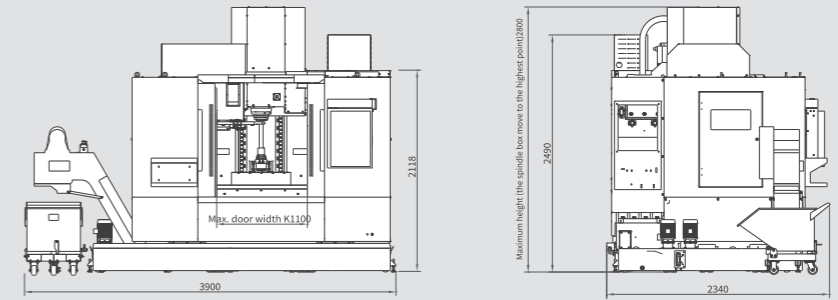


VM1050S/H, VM1160S/H

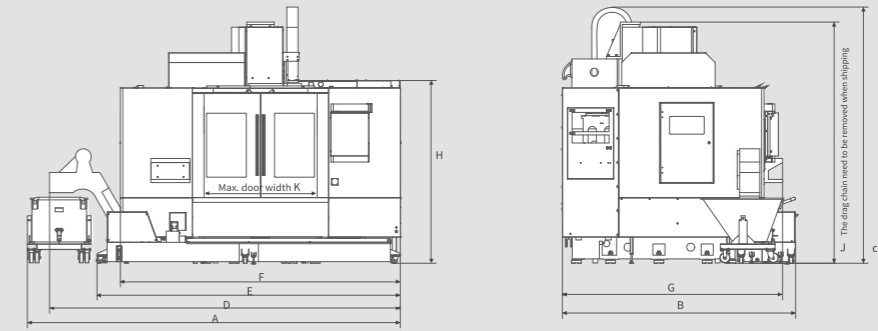


Models	A	B	C	D	E	F
VM1050S/H	2530	2900	2880	2100	2458	1000
VM1160S/H	2810	3069	3146	2090	2560	1100

VM1155S/H



VM1260S/H, VM1270S/H, VM1370S/H, VM1580S/H, VM1780S/H, VM1880S/H



Models	A	B	C	D	E	F	G	H	J	K
VM1260S/H	4380	2640	3140	4000	3400	3050	2460	2310	2610	1200
VM1270S/H	4600	2930	3140	4200	3700	3150	2600	2250	2650	1200
VM1370S/H	4600	2950	3280	4400	3800	3500	2750	2300	3000	1350
VM1580S/H	5000	3150	3650	4750	3950	3500	2950	2370	3150	1450
VM1780S/H	5350	3150	3650	5100	4350	3900	2950	2370	3150	1600
VM1880S/H	5750	3200	3650	5550	4750	4300	3200	2380	3150	1800

Item		Unit	VM740SA/HA	VM1050S/H	VM1155S/H	VM1160S/H	VM1260S/H	VM1270S/H	VM1370S/H	VM1580S/H	VM1780S/H	VM1880S/H
Worktable	Worktable size	mm	750×420	1000×520	1100×550	1100×600	1200×600	1200×700	1400×700	1500×800	1700×800	1800×800
	Max. worktable loading	kg	350	650	700	750	800	800	1100	1250	1500	1750
Axis travel	Axis travel X/Y/Z	mm	650/420/500	850/520/560	1000/550/560	1000/600/560	1100/600/600	1100/700/600	1300/700/700	1350/800/700	1500/800/700	1700/850/700
	Spindle terminal to worktable	mm	120~620	120~680	120~680	150~710	140~740	140~740	120~820	140~840	140~840	140~840
	Spindle center to column guideway	mm	485	580	580	660	650	770	773	868	868	900
Rapid travel	Axis rapid travel X/Y/Z	m/min	40/40/30	36/36/36	36/36/36	36/36/30	36/36/30	30/30/24	24/24/20 (S) 30/30/24 (H)	24/24/20 (S) 30/30/24 (H)	24/24/20 (S) 30/30/24 (H)	24/24/20
Spindle	Spindle motor power	kW	5.5/7.5	7.5/11 [11/15]	7.5/11 [11/15]	7.5/11 [11/15]	11/15	11/15	11/15	15/18.5	15/18.5	15/18.5
	Spindle motor power	rpm	10000(belt)	8000(belt)	8000(belt)	8000(belt)	8000(belt)	8000(belt)	8000(belt)	6000(belt)	6000(belt)	6000(belt)
	Spindle taper	-	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40 [7:24 taper NO.50]	7:24 taper NO.40 [7:24 taper NO.50]	7:24 taper NO.40 [7:24 taper NO.50]	7:24 taper NO.50	7:24 taper NO.50	7:24 taper NO.50
	Spindle temperature control	-	Oil chiller	[Oil chiller]	[Oil chiller]	[Oil chiller]	[Oil chiller]	[Oil chiller]	[Oil chiller]	Oil chiller	Oil chiller	Oil chiller
Tool magazine	Number of tools(disc type)	Pc	20	24	24	24	24	24	24	24	24	24
	Tool shank	-	MAS403 BT40	MAS403 BT40	MAS403 BT40	MAS403 BT40	MAS403 BT40	MAS403 BT40	MAS403 BT40	MAS403 BT50	MAS403 BT50	MAS403 BT50
	Pull stud	-	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P50T-1	MAS403 P50T-1	MAS403 P50T-1
	Max. tool dia./length/weight	mm/mm/kg	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ110/350/15	Φ110/350/15	Φ110/350/15
Machining capacity	Tool change time (T-T)	s	1.7	1.8	1.8	1.8	1.8	1.8	1.8	2.5	2.5	2.5
	Drilling(normalized mild steel)	mm	Φ30	Φ40	Φ40	Φ40	Φ45	Φ45	Φ45	Φ50	Φ50	Φ50
	Tapping(normalized mild steel)	mm	M16	M20	M20	M20	M24	M24	M24	M30	M30	M30
	Milling(normalized mild steel)	cm ³ /min	150	200	200	200	250	250	250	300	300	300
Others	Auto chip conveyer	-	backside located coolant tank Rear[Sideway]	backside located coolant tank Rear[Sideway]	backside located coolant tank Front[Sideway]	backside located coolant tank Front[Sideway]	Front[Sideway]	Front[Sideway]	Front[Sideway]	Front[Sideway]	Front[Sideway]	Front[Sideway]
	Auto lubrication system	-	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
	Electrical cabinet air conditioner	-	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
Accuracy	Positioning accuracy(X/Y/Z)	mm	0.008	0.008	0.008	0.008	0.008	0.008	0.012/0.010/0.010	0.012/0.010/0.010	0.012/0.010/0.010	0.012/0.010/0.010
	Repeatability accuracy(X/Y/Z)	mm	0.005	0.005	0.005	0.005	0.005	0.005	0.008/0.006/0.006	0.008/0.006/0.006	0.008/0.006/0.006	0.008/0.006/0.006
Others	CNC controller	-	NEWAY FANUC [SIEMENS、Mistubishi]				NEWAY FANUC [SIEMENS、Mistubishi]					
	General power	KVA	20	25	25	25	35	35	35	40	40	40
	Air flow(L/min)/ pressure(bar)	-	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8
	Machine weight	kg	3800	5500	5800	6800	7200	8000	9500	11000	13000	14200
	Machine dimension(L×W×H)	mm	2130×2740×2660	2530×2900×2880	2710×2900×2830	2810×3020×3160	4350×2650×3170	4500×2930×3140	4600×2950×3280	5000×3150×3650	5350×3100×3650	5750×3200×3650

Basic configurations:

Coolant system, chip flush system, central lubrication system, full enclosure, air resource unit, spindle air curtain, air blow, air gun, three color lamp

Optional accessories:

Mitsubishi M80 CNC controller, SIMENS 828D CNC controller, 4th axis, 5th axis, column height increase, ZF gear box, coolant through spindle, oil-water separator, special fixtures, various chip conveyers.

[] Option

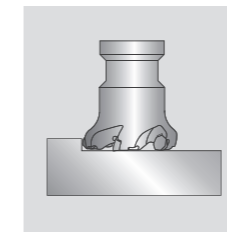
VM Series High-speed Vertical Machining Center

- This series of models adopt high-speed direct drive spindle and lightweight design, which improves the overall response speed of the machine and shorten the cycle time;
- The large-span base and high-rigidity column make the machine vibration greatly reduced during high-speed movement;
- All ball screws are per-stretched to ensure the good positioning accuracy and repeatability accuracy of the machine and virtually eliminates backlash;
- The integrated headstock design ensures fast response of Z-axis and better rigidity.

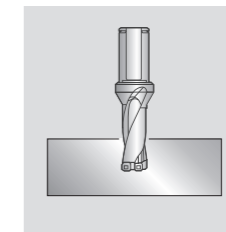


Main parameters		VM740SL/HL	VM950SL/HL	VM1050SL/HL	VM1155SL/HL	VM1270SL/HL
Worktable size	mm	750×420	950×520	1000×520	1100×550	1200×700
Axis travel X/Y/Z	mm	650/420/500	850/520/560	850/520/560	1000/550/560	1100/700/600
Axis rapid travel X/Y/Z	m/min	48/48/48	40/40/30	48/48/48	48/48/48	36/36/30
Max. spindle speed	rpm	12000(Direct connection) [15000(Direct connection)]	12000(Direct connection) [15000(Direct connection)]	12000(Direct connection) [15000(Direct connection)]	12000(Direct connection) [15000(Direct connection)]	12000(Direct connection) [15000(Direct connection)]
Number of tools	Pc	20	24	24	24	24

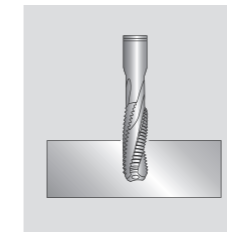
VM950SL Processing capacity



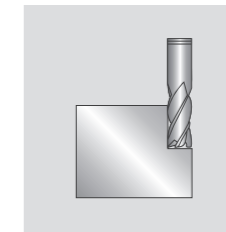
Face milling tool			
Diameter D(mm)	φ80	Spindle speed S(RPM)	800
Cutting depth Dp(mm)	2	Number of tool teeth	6
Cutting width Ae(mm)	64	Cutting feed F(mm/min)	576



U drill			
Diameter D(mm)	φ40	Spindle speed S(RPM)	1200
Cutting depth Dp(mm)	/	Number of tool teeth	1
Cutting width Ae(mm)	/	Cutting feed F(mm/min)	120



Tapping			
Diameter D(mm)	M20	Spindle speed S(RPM)	260
Cutting depth Dp(mm)	/	Number of tool teeth	1
Cutting width Ae(mm)	/	Cutting feed F(mm/min)	650



End milling tool			
Diameter D(mm)	φ20	Spindle speed S(RPM)	1000
Cutting depth Dp(mm)	8	Number of tool teeth	4
Cutting width Ae(mm)	20	Cutting feed F(mm/min)	200

Attention: The above data are all from actual use cases. When the cutting conditions and environmental conditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

1 High-speed direct drive spindle

Adopts advanced assembly technology and effective test methods to ensure the minimum vibration of the spindle during high-speed motion, greatly improving the machining accuracy and the surface finish quality of the workpiece.



2 Lightweight moving parts

The lightweight design of moving parts makes the machining response better, and conducive to high-speed interpolation processing.



3 Large-span design

The large-span design owns high rigidity, which can effectively resist the overturning moment in fast movement and increase the stability of the whole machine.



4 Integrated spindle box

Z-axis can respond quickly with better rigidity and good dynamic response.

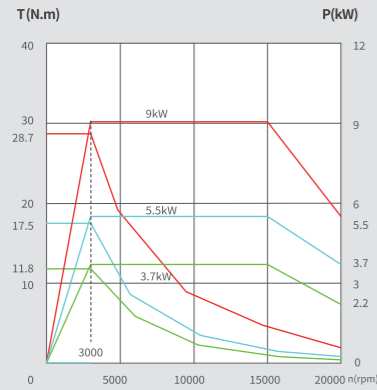


Spindle Power Torque Diagram

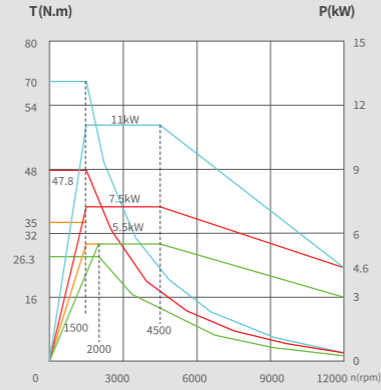
External Dimensions

(Unit: mm)

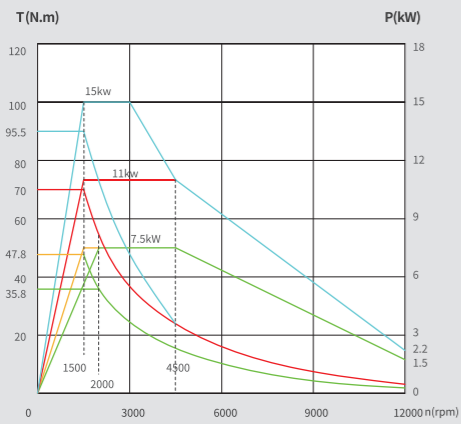
VM640D



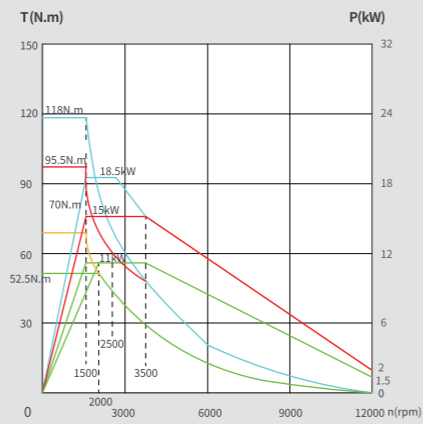
VM740SL/HL



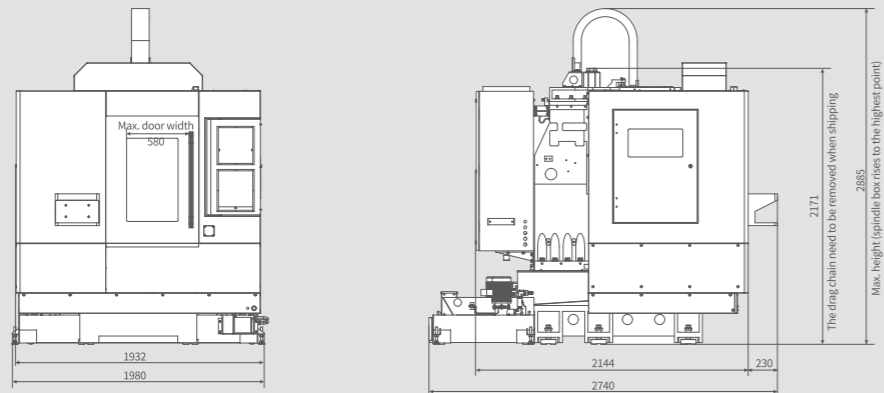
VM950SL/HL, VM1050SL/HL, VM1150SL/HL, VM1155SL/HL



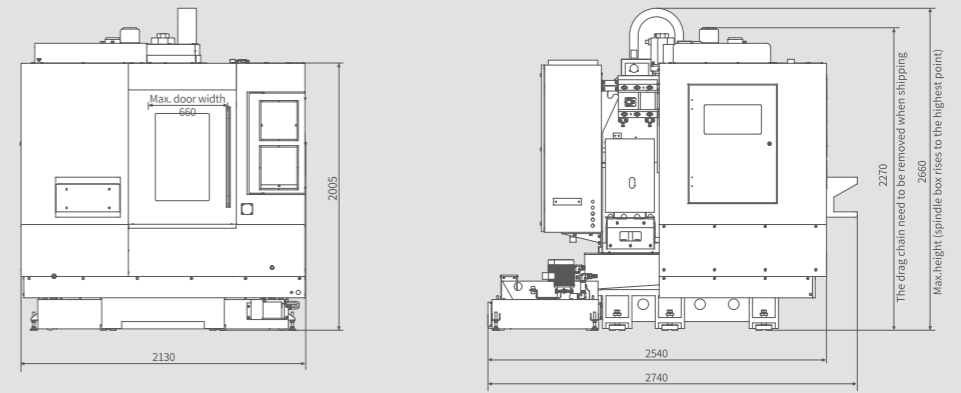
VM1270SL/HL



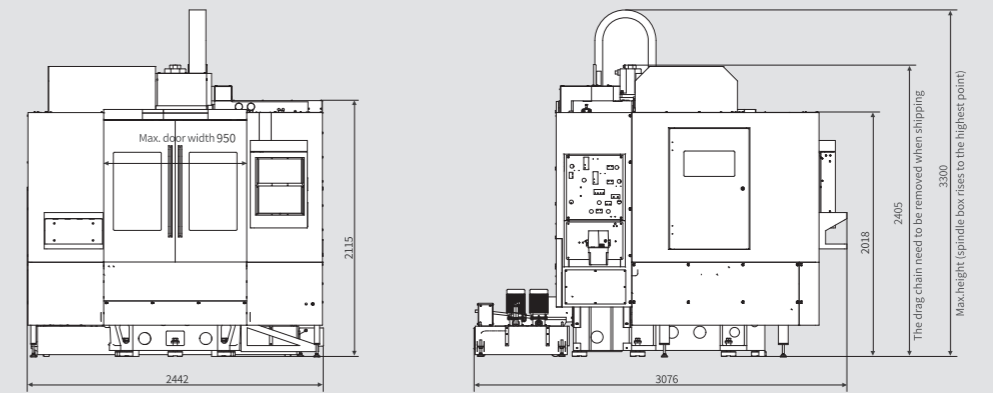
VM640D



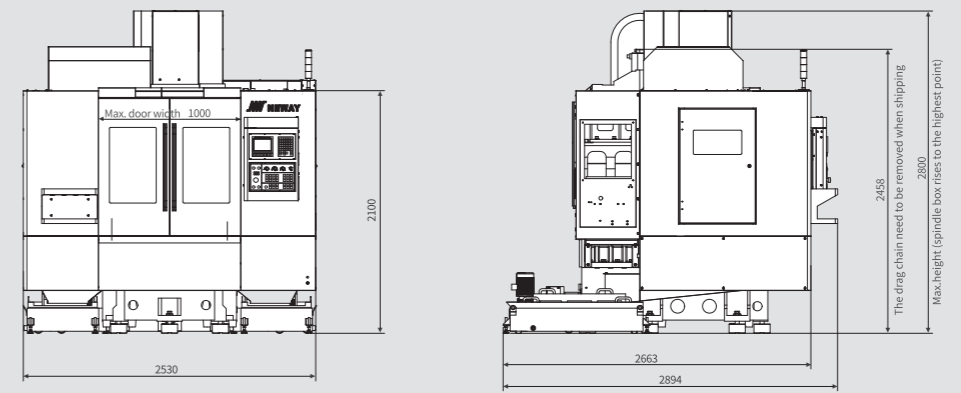
VM740SL/HL



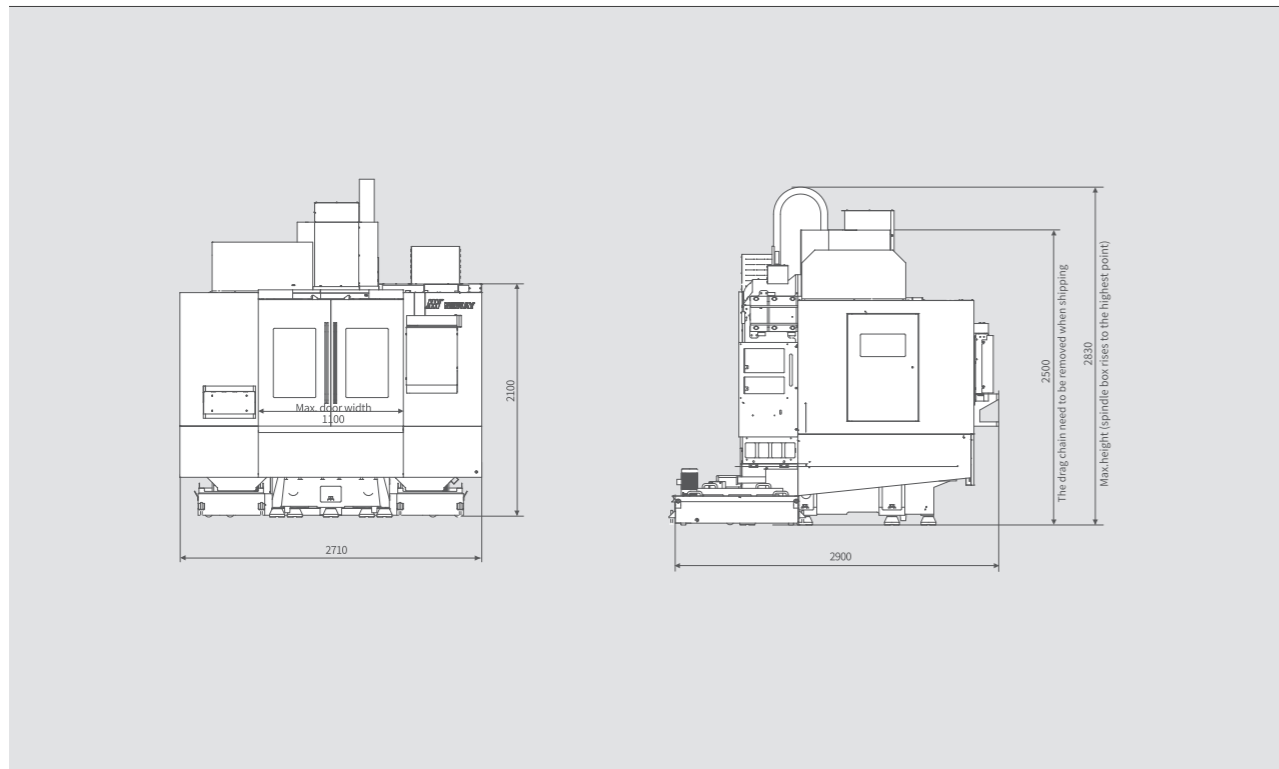
VM950SL/HL



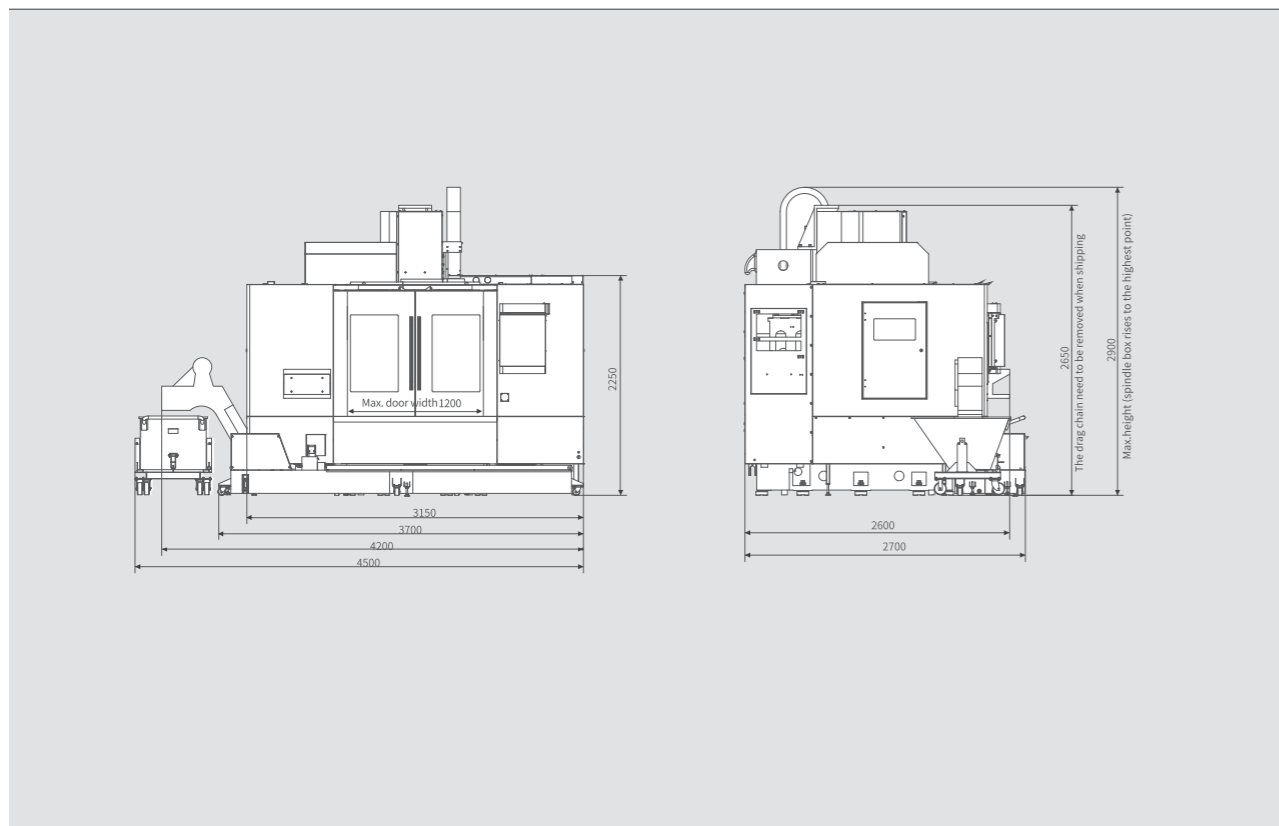
VM1050SL/HL



VM1155SL/HL



VM1270SL/HL



Item	Unit	VM640D	VM740SL/HL	VM950SL/HL	VM1050SL/HL	VM1155SL/HL	VM1270SL/HL	
Worktable size	mm	650×400	750×420	950×520	1000×520	1100×550	1200×700	
Max. worktable loading	kg	250	350	500	550	600	800	
Axis travel X/Y/Z	mm	510/400/350	650/420/500	850/520/560	850/520/560	1000/550/560	1100/700/600	
Spindle terminal to worktable	mm	150~500	120~620	120~680	120~680	120~680	140~740	
Spindle center to column guideway	mm	458	485	575	580	580	770	
Axis rapid travel X/Y/Z	m/min	60/60/60	48/48/48	40/40/30	48/48/48	48/48/48	36/36/30	
Spindle motor power	kW	3.7/5.5	5.5/7.5	7.5/11	7.5/11	7.5/11	11/15	
Max. spindle speed	rpm	20000 (direct connection)	12000(direct connection) [15000(direct connection)]					
Spindle taper	-	7:24 taper NO.40						
Spindle temperature control	-	oil chiller	oil chiller	oil chiller	oil chiller	oil chiller	oil chiller	
Number of tools	Pc	16(clamp arm/servo)	20	24	24	24	24	
Tool shank	-	MAS403 BT40						
Pull stud	-	MAS403 P40T-1						
Max. tool dia./length/weight	mm/mm/kg	Φ100/250/3	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	
Tool change time (T-T)	s	1.6	1.7	1.8	1.8	1.8	1.8	
Drilling(normalized mild steel)	mm	Φ16	Φ30	Φ40	Φ40	Φ40	Φ45	
Tapping(normalized mild steel)	mm	M10	M16	M20	M20	M20	M24	
Milling(normalized mild steel)	cm ³ /min	60	150	200	200	200	250	
Auto chip conveyor	-	Option	Option	Option	Option	Option	Standard	
Auto lubrication system	-	Standard	Standard	Standard	Standard	Standard	Standard	
Electrical cabinet air conditioner	-	Option	Option	Option	Option	Option	Option	
Positioning accuracy(X/Y/Z)	mm	0.008	0.008	0.008	0.008	0.008	0.008	
Repeatability accuracy(X/Y/Z)	mm	0.005	0.005	0.005	0.005	0.005	0.005	
CNC controller	-	NEWAY FANUC [SIEMENS、Mitsubishi]						
General power	KVA	15	20	25	25	25	35	
Air flow(L/min)/ pressure(bar)	-	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	
Machine weight	kg	3000	3800	5000	5600	6000	8000	
Machine dimension(L×W×H)	mm	1980×2740×2855	2130×2740×2660	2442×3076×3000	2530×2900×2800	2710×2900×2830	4500×2930×3140	

Standard Configurations:

Direct connection spindle, rear chip conveyor, cooling system, chip flushing system, spindle oil cooling system, centralized lubrication system, full enclosure splash guard, pneumatic processing unit, spindle air curtain protection, air cooling, Air gun, Tri-color light, oil collector box.

Optional Configurations:

Mitsubishi M80 CNC controller, SIEMENS 828D CNC controller, 4th axis, column height increase, coolant through spindle, special jigs and fixtures, etc.; rear chip conveyor, roller type chip conveyor, aluminum scraper type chip conveyor, magnetic scraper type chip conveyor.

[]Option

VM Series- Buit-in Motor Spindle Machining Center

- This series of machine adopts the design of built-in spindle, combined with further development and optimization of system functions, which achieves better machining performance;
- Low vibration and low temperature increase of the whole machine, effectively improving the machining accuracy for parts;
- Better curve performance, maintaining a larger machining torque during high-speed motion, enhancing the machining efficiency;
- With higher accuracy, the machine can realize better surface finish of the parts, which is more suitable for machining of aluminum alloy parts and non-ferrous metal parts.



Main parameters		VM1050V	VM1160V	VM1580V	VM1780V
Worktable size	mm	1000×520	1100×600	1500×800	1700×800
Axis travel X/Y/Z	mm	850/520/560	1000/600/560	1350/800/680	1500/800/680
Axis rapid travel X/Y/Z	m/min	40/40/30	36/36/30	30/30/24	30/30/24
Max.spindle speed	rpm	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]
Number of tools	Pc	24	24	24	24

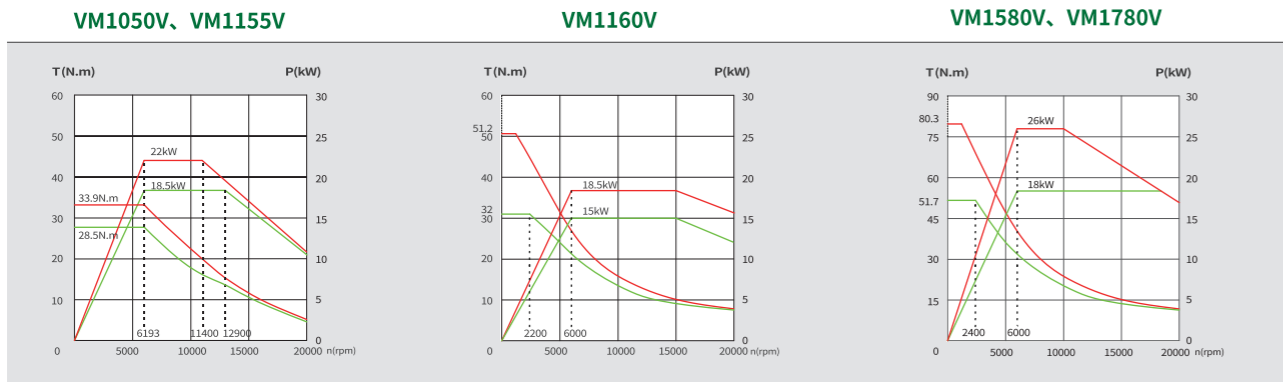


- 1 Thermal rise and expansion control**
Built-in spindle motor for good temperature increase and thermal expansion control.
- 2 High machining efficiency**
17%-50% increase in motorized spindle machining efficiency with the same amount of cutting per tooth.
- 3 High acceleration performance**
Reduced Z-axis load inertia ratio for improved acceleration performance
- 4 High surface quality**
Surface finish and step marks are superior to those of mechanical spindle-machined parts, surface roughness can reach 0.8 μ m-0.4 μ m.

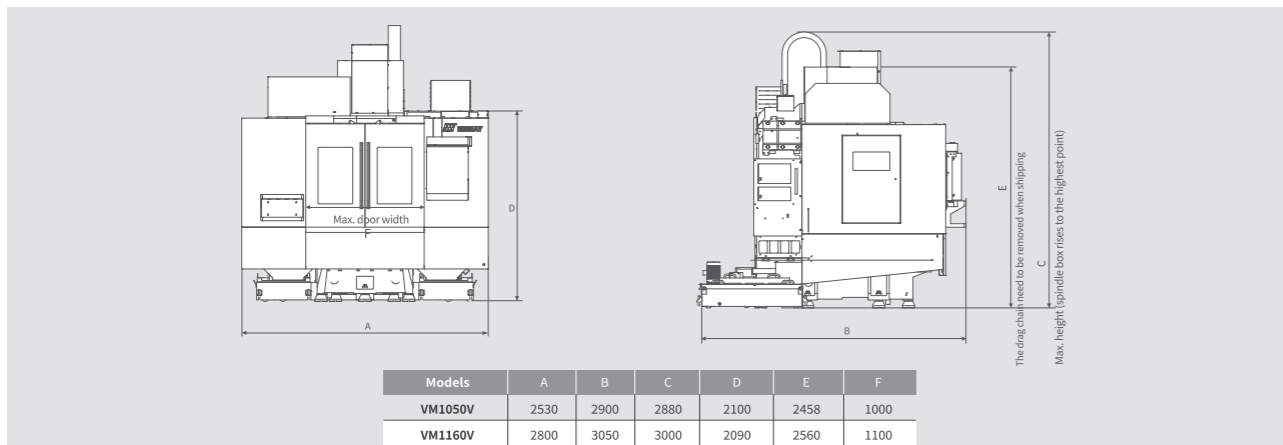
Spindle Power Torque Diagram

External Dimensions

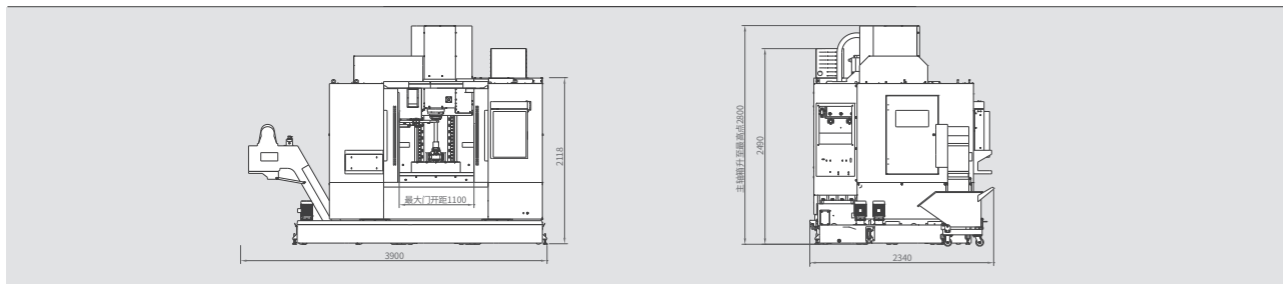
(Unit: mm)



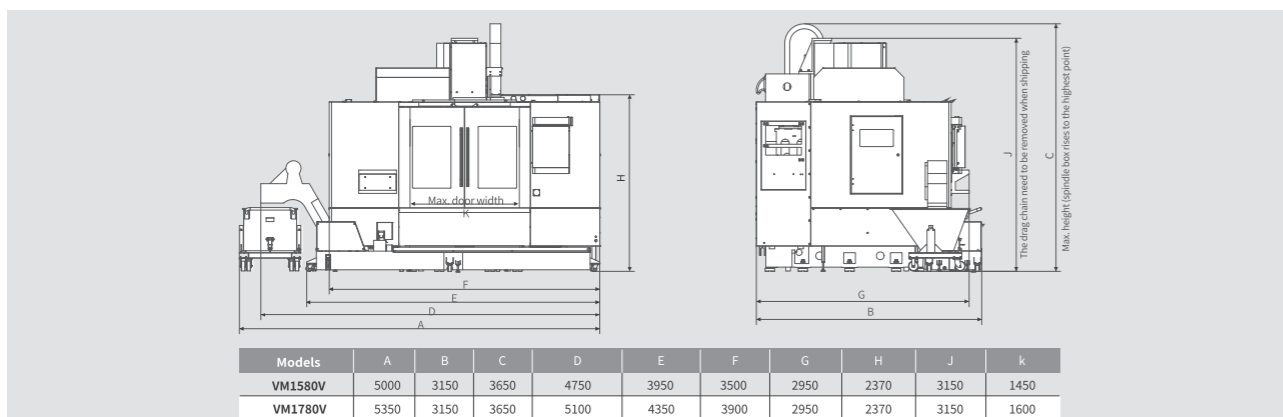
VM1050V, VM1160V



VM1155V



VM1580V, VM1780V



Item	Unit	VM1050V	VM1155V	VM1160V	VM1580V	VM1780V
Worktable size	mm	1000×520	1100×520	1100×600	1500×800	1700×800
Max. worktable loading	kg	550	600	750	1250	1500
Axis travel X/Y/Z	mm	850/520/560	1000/550/560	1000/600/560	1350/800/700	1500/800/700
Spindle terminal to worktable	mm	120~680	120~680	150~710	140~840	150~840
Spindle center to column guideway	mm	580	580	659	868	868
Axis rapid travel X/Y/Z	m/min	40/40/36	40/40/36	36/36/30	30/30/24	30/30/24
Spindle motor power	kW	18.5/28.5	16	15/18.5	18.5/26	18.5/26
Max. spindle speed	rpm	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]	15000(built-in) [18000(built-in)] [24000(built-in)]
Spindle taper	-	7:24 taper NO.40 [1:10 taper HSK A63]	7:24 taper NO.40 [1:10 taper HSK A63]	7:24 taper NO.40 [1:10 taper HSK A63]	7:24 taper NO.40 [1:10 taper HSK A63]	7:24 taper NO.40 [1:10 taper HSK A63]
Spindle temperature control	-	oil cooler[water cooler]	oil cooler[water cooler]	oil cooler[water cooler]	oil cooler[water cooler]	oil cooler[water cooler]
Number of tools	Pc	24	24	24	24	24
Tool shank	-	MAS403 BBT40 [HSK A63]	MAS403 BBT40 [HSK A63]	MAS403 BBT40 [HSK A63]	MAS403 BBT40 [HSK A63]	MAS403 BBT40 [HSK A63]
Pull stud	-	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1
Max. tool dia./length/weight	mm/mm/kg	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8
Tool change time (T-T)	s	1.8	1.8	1.8	1.8	1.8
Drilling(normalized mild steel)	mm	Φ20	Φ20	Φ20	Φ25	Φ25
Tapping(normalized mild steel)	mm	M12	M12	M12	M16	M16
Milling(normalized mild steel)	cm ³ /min	80	80	80	120	120
Auto chip conveyer	-	front side way	front side way	front side way	front side way	front side way
Auto lubrication system	-	Standard	Standard	Standard	Standard	Standard
Electrical cabinet air conditioner	-	Standard	Standard	Standard	Standard	Standard
Positioning accuracy(X/Y/Z)	mm	0.008	0.008	0.008	0.012/0.010/0.010	0.012/0.010/0.010
Repeatability accuracy(X/Y/Z)	mm	0.005	0.005	0.005	0.008/0.006/0.006	0.008/0.006/0.006
CNC controller	-	NEWAY FANUC [SIEMENS、Mitsubishi]				
General power	KVA	25	25	25	35	35
Air flow (L/min)/ pressure(bar)	-	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8
Machine weight	kg	5500	5800	6800	11000	13000
Machine dimension(L×W×H)	mm	2530×2900×2800	3900×2480×2830	2800×3050×3000	5000×3150×3650	5350×3150×3650

Standard Configurations:

High-speed electric spindle, Chip conveyor, Cooling system, Chip flushing system, Spindle oil/water cooling system, Centralized lubrication system, Full enclosure splash guard, Pneumatic processing unit, Spindle air curtain protection, Air cooling, Air gun, Tri-color light, Oil collector box.

Optional Configurations:

SIMENS 828D CNC controller, 4th axis, 5th axis, Coolant through spindle, Special jigs and fixtures, Chain type chip conveyer, Roller type chip conveyer, Aluminum scraper type chip conveyer, Magnetic scraper type chip conveyer.

[] Option

VM Series – Heavy-duty Vertical Machining Center

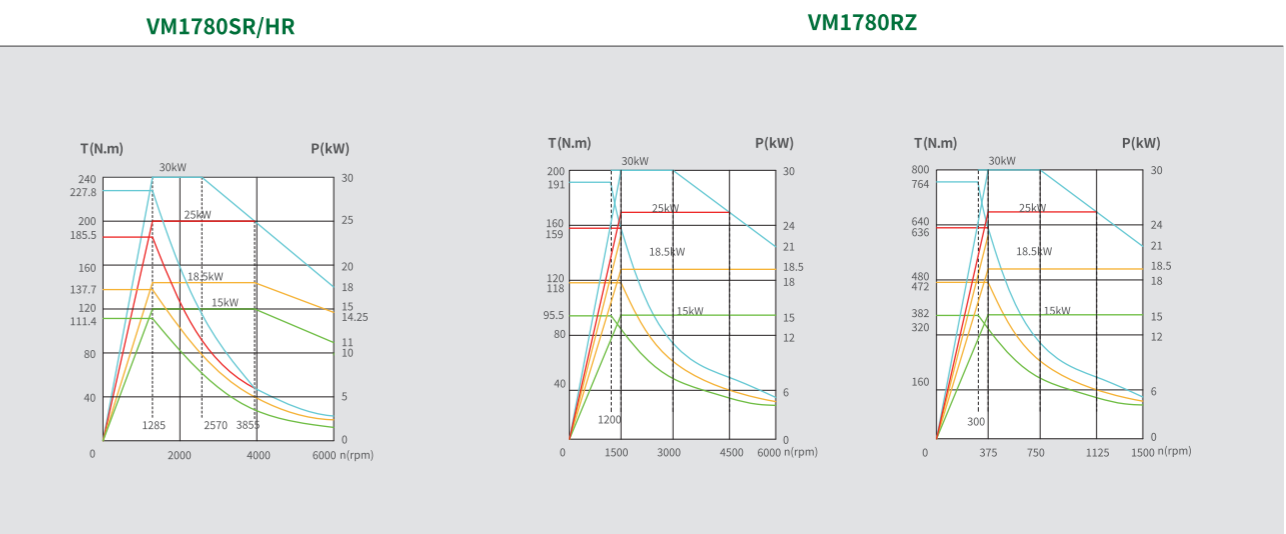
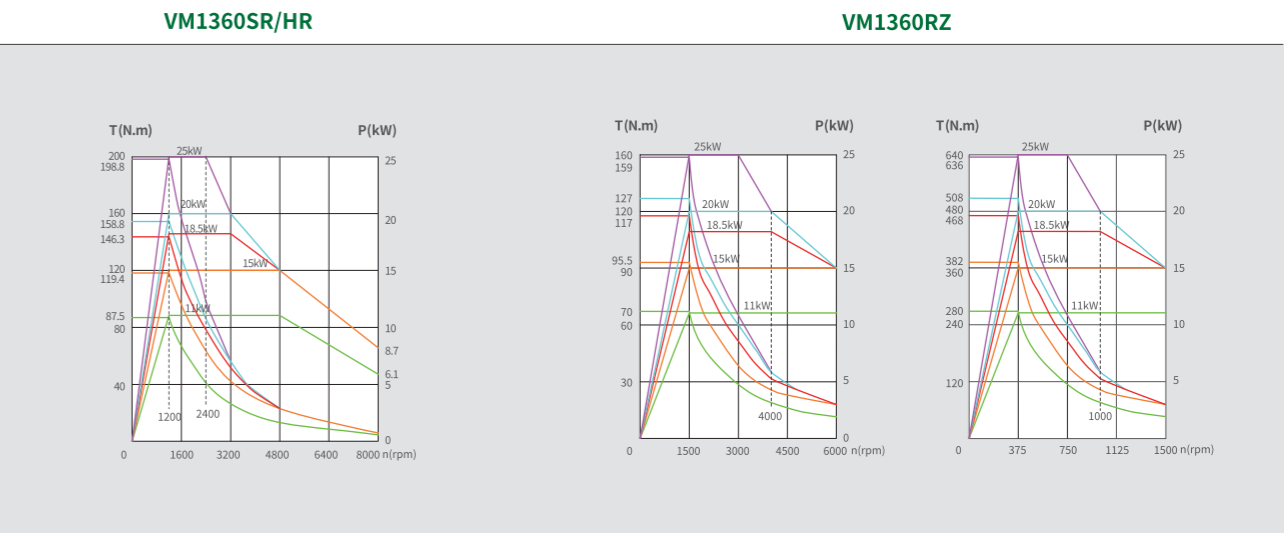
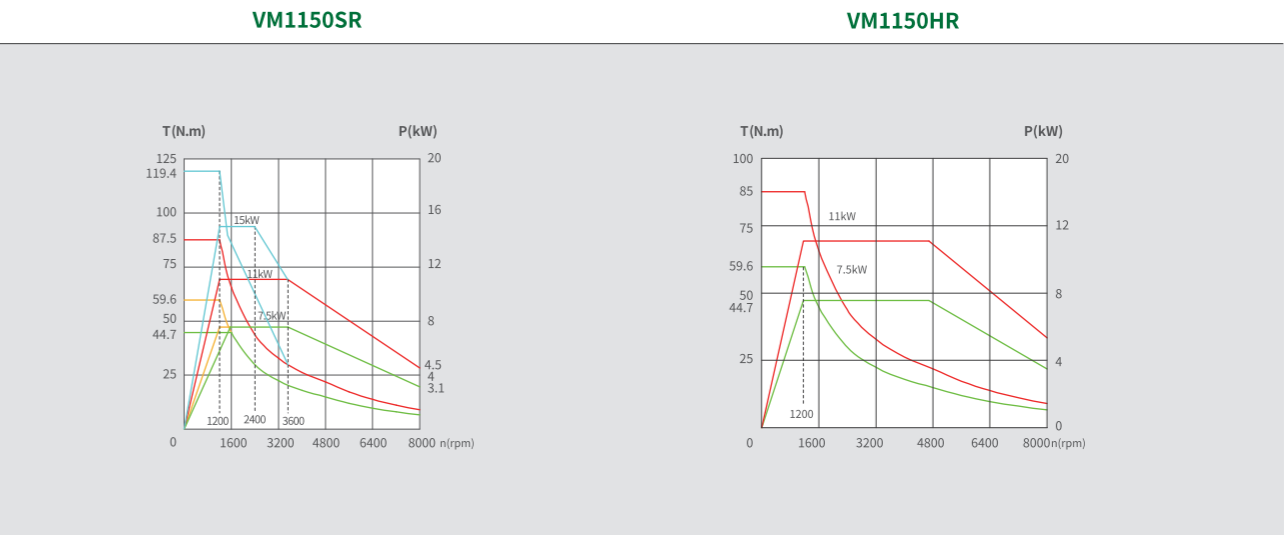
- This series adopt box guideway design with strong carrying capacity;
- Full turcite B coated guideway surface with good vibration absorption and low friction;
- The high-torque spindle motor is well equipped with stronger cutting capacity;
- Gear drive spindle box can be equipped to realize higher rigidity.



Main parameters		VM1150HR/SR	VM1360HR/SR	VM1780SR/HR	VM1780RZ
Worktable size	mm	1100×520	1350×600	1700×800	1700×800
Axis travel X/Y/Z	mm	1000/520/560	1200/600/600	1500/800/680	1500/800/680
Axis rapid travel X/Y/Z	m/min	20/20/18	20/20/18	18/18/15	18/18/15
Max.spindle speed	rpm	8000	8000	6000	6000(齿轮传动)
Number of tools	Pc	24	24	24	24

Spindle Power Torque Diagram

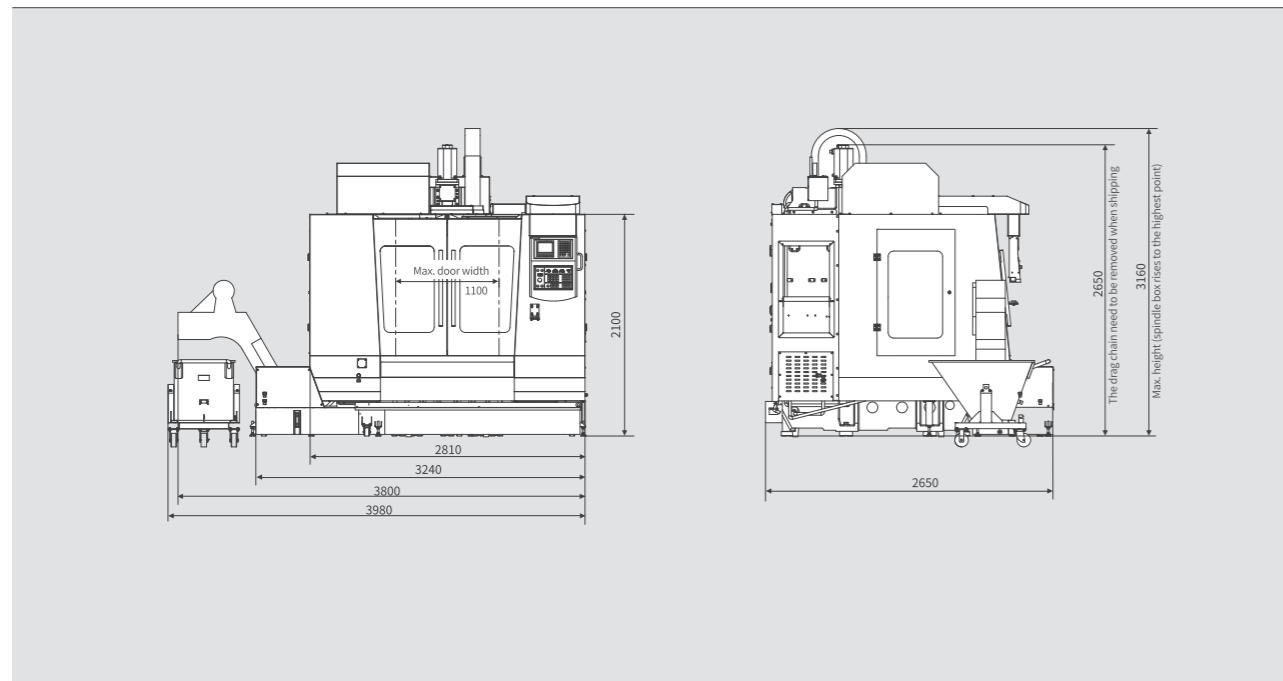
(Unit: mm)



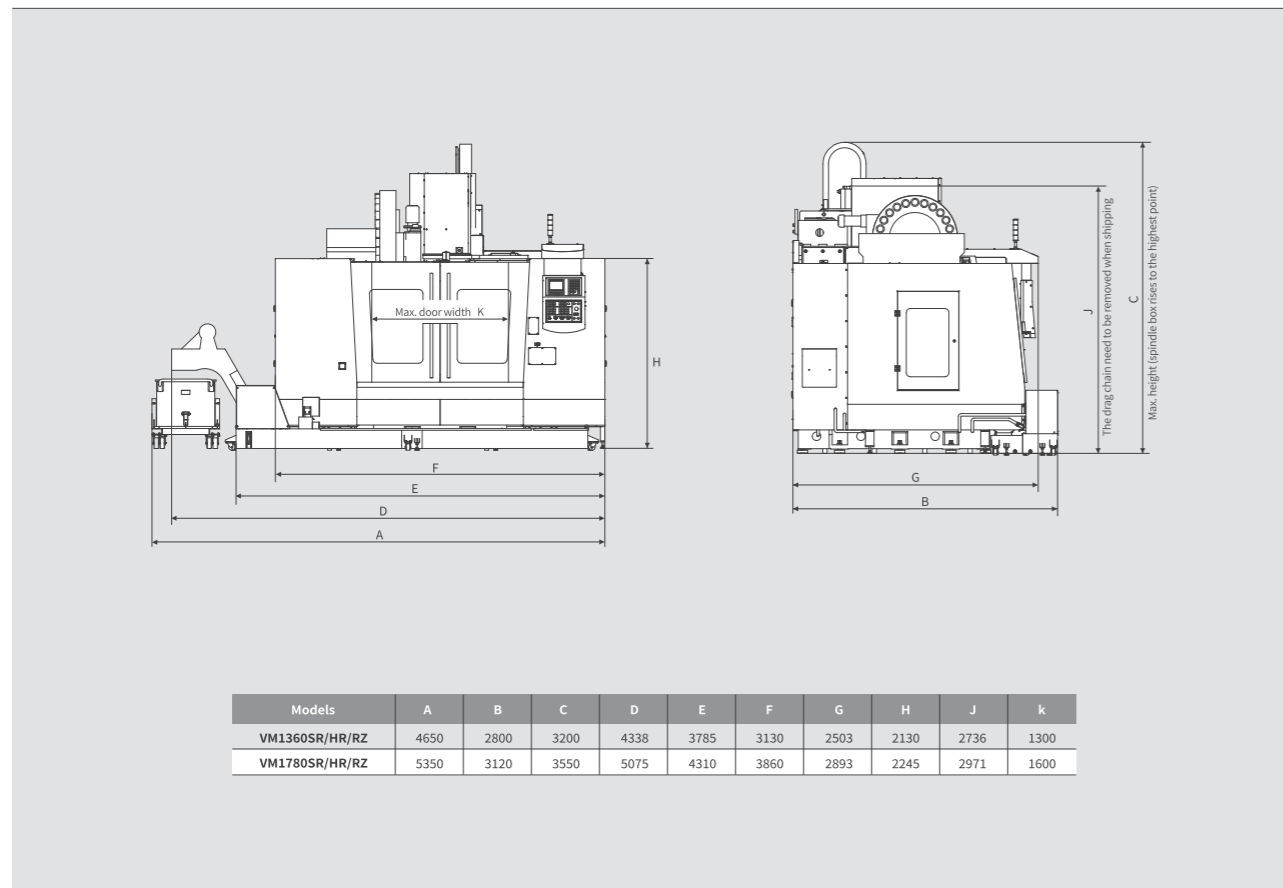
External Dimensions

(Unit: mm)

VM1150SR/HR



VM1360SR/HR/RZ, VM1780SR/HR/RZ



Item	Unit	VM1150SR/HR	VM1360SR/HR	VM1360RZ	VM1780SR/HR	VM1780RZ
Worktable	Worktable size	mm	1100×520	1350×600	1350×600	1700×800
	Max. worktable loading	kg	750	1000	1000	1500
Axis travel	Axis travel X/Y/Z	mm	1000/520/560	1200/600/600	1200/600/600	1500/800/680
	Spindle terminal to worktable	mm	150~710	150~750	120~720	150~830
	Spindle center to column guideway	mm	590	665	665	868
Rapid travel	Axis rapid travel X/Y/Z	m/min	20/20/18	20/20/18	20/20/18	18/18/15
Spindle	Spindle motor power	kW	7.5/11	11/15	11/15	15/18.5
	Max. spindle speed	rpm	8000	8000	6000(gear drive)	6000
	Spindle taper	-	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40
	Spindle temperature control	-	[oil cooler]	[oil cooler]	oil cooler	oil cooler
Tool magazine	Number of tools	把	24	24	24	24
	Tool shank	-	MAS403 BT40	MAS403 BT40	MAS403 BT50	MAS403 BT50
	Pull stud	-	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P50T-1
	Max. tool dia./length/weight	mm/mm/kg	Φ80/300/8	Φ80/300/8	Φ110/350/15	Φ110/350/15
	Tool change time (T-T)	s	1.8	1.8	2.5	2.5
Machining capacity	Drilling(normalized mild steel)	mm	Φ40	Φ45	Φ65	Φ50
	Tapping(normalized mild steel)	mm	M20	M24	M40	M30
	Milling(normalized mild steel)	cm ³ /min	200	250	360	300
Others	Auto chip conveyer	-	side way	side way	side way	side way
	Auto lubrication system	-	standard	standard	standard	standard
	Electrical cabinet air conditioner	-	option	option	option	option
Accuracy	Positioning accuracy(X/Y/Z)	mm	0.012/0.010/0.010	0.012/0.010/0.010	0.012/0.010/0.010	0.015/0.012/0.012
	Repeatability accuracy(X/Y/Z)	mm	0.008	0.008	0.008	0.010/0.010/0.010
Others	CNC controller	-	NEWAY FANUC [SIEMENS、Mitsubishi]			
	General power	KVA	25	35	35	40
	Air flow(L/min)/ pressure(bar)	-	280/6~8	280/6~8	280/6~8	280/6~8
	Machine weight	kg	7000	9000	9000	13000
	Machine dimension(L×W×H)	mm	4050×2650×3120	4650×2800×3200	4650×2800×3200	5350×3120×3550

Basic configurations:

Auto chip conveyer, coolant system, chip flush system, central lubrication system, full enclosure, air resource unit, spindle air curtain, air blow, air gun, three color lamp

Optional accessories:

Mitsubishi M80 CNC controller, SIMENS 828D CNC controller, 4th axis, 5th axis, column height increase, ZF gear box (not available for RZ), coolant through spindle, oil-water separator, special fixtures, various chip conveyers.

[option

VM Series- Portal Vertical Machine Center

- This series of model adopts mechatronic design, reasonable structure, and convenient use;
- The three axes adopt linear roller guideway, which has small vibration during a high-speed feed, and there is no creep during a low-speed feed, ensuring high precision and stability;
- High-rigidity, high-precision bearings ensure high precision for long-term machining;
- It is suitable for the precise processing of complex workpieces such as a box, board, plate, and casing;
- Equipped with ZF gear box, coolant through the spindle, and heightening column, it is suitable for high-efficiency machining of valve parts.

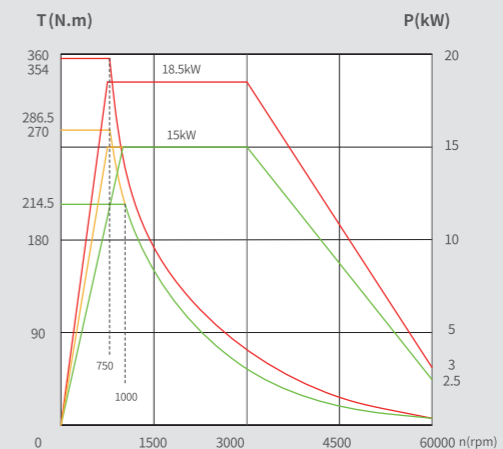
Main parameters		VM12100B
Worktable size	mm	1200x1000
Axis travel X/Y/Z	mm	1200/1200/600
Axis rapid travel X/Y/Z	m/min	30/30/24
Max. spindle speed	rpm	5000
Number of tools	Pc	24(disc type)



Spindle Power Torque Diagram

(Unit: mm)

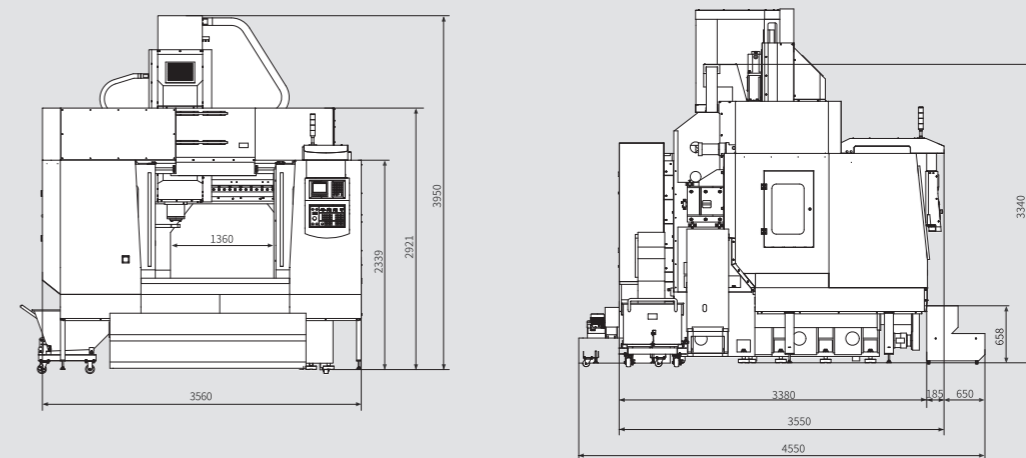
VM12100B



External Dimensions

(Unit: mm)

VM12100B



Item		Unit	VM12100B
Worktable	Worktable size	mm	1200x1000
	Max. worktable loading	kg	2000
Axis travel	Axis travel X/Y/Z	mm	1200/1200/600
	Spindle terminal to worktable	mm	200~800 [400~1000] [600~1200]
	Spindle center to column guideway	mm	426
Rapid travel	Axis rapid travel X/Y/Z	m/min	30/30/24
Spindle	Spindle motor power	kW	15/18.5
	Max. spindle speed	rpm	5000
	Spindle taper	-	7:24 taper NO.50
	Spindle temperature control	-	oil cooler
Tool magazine	Number of tools	Pc	24 (disc type)
	Tool shank	-	MAS403 BT50
	Pull stud	-	MAS403 P50T-1
	Max. tool dia./length/weight	mm/mm/kg	Φ110/350/15
	Tool change time (T-T)	s	2.5
Machining capacity	Drilling(normalized mild steel)	mm	Φ60
	Tapping(normalized mild steel)	mm	M36
	Milling(normalized mild steel)	cm ³ /min	350
Others	Auto chip conveyer	-	rear side way
	Auto lubrication system	-	standard
	Electrical cabinet air conditioner	-	option
Accuracy	Positioning accuracy (X/Y/Z)	mm	0.010/0.010/0.008
	Repeatability accuracy (X/Y/Z)	mm	0.006/0.006/0.005
Others	CNC controller	-	NEWAY FANUC [SIEMENS、Mitsubishi]
	General power	KVA	35
	Air flow (L/min)/ pressure (bar)	-	280/6~8
	Machine weight	kg	15000
	Machine dimension (L×W×H)	mm	3560×4550×3950

Basic configurations:

Double spiral chip conveyer and chain type chip conveyer, coolant system, chip flush system, spindle oil chiller system, central lubrication system, full enclosure, air resource unit, spindle air curtain, air blow, air gun, three color lamp.

Optional accessories:

Mitsubishi M80 CNC controller, SIEMENS 828D CNC controller, 4th axis, column height increase, coolant through spindle, oil-water separator, special fixtures, various chip conveyers.

[option

VM Series

Five-axis Vertical Machining Center

This series of models are 5-axis vertical machining center, which can realize 5-axis interpolation of X, Y, Z, B and C axes at the same time. It is especially suitable for machining parts with complex curved surfaces, such as impeller, blade, mold and spatial cam. They are widely applied for military, mold, aerospace, power generation and shipbuilding industries.

- It is equipped with DDR spindle or built-in motor spindle, which are with little temperature rise and thermal deformation, suitable for precision cutting;
- It can configure the mechanical rotary table and direct drive table to ensure the accuracy of the machining surface;
- All of them configurate 5-axis linear scale to improve the machining accuracy;
- The integrated headstock design ensures fast response of Z-axis and better rigidity.

**Main parameters**

		VM450F	VM650F
Worktable size	mm	φ450	φ650
Axis travel X/Y/Z	mm	450/400/400	650/550/500
Axis rapid travel X/Y/Z	m/min	48/48/40	48/48/40
Max. spindle speed	rpm	15000	18000
Number of tools	Pc	30(disc type)	30(disc type)

- Gantry type structure with high rigidity, integrated cast iron of machine bed and column, a small distance from spindle center to the Z-axis, which reduces spindle box overturn moment, improves machine precision and stability;
- Main key parts, such as bed, cross beam, sliding saddle and spindle box are all made of phenolic resin molding, high-strength and good quality cast iron which ensures good stability;
- Adopting the international advanced machine design concept, the structure is reasonable and reliable.

1 Direct drive spindle

Standard direct drive spindle can effectively control thermal deformation and vibration to ensure machining accuracy.

2 Two-axis rotary table

Standard cradle-type two-axis rotary table can make the machine realize five-axis interpolation.

3 Full linear scale design

The machine adopts full grating design to ensure the good processing effect.

4 Cross beam design patent

By structural adjustment and innovative design, modifying the previous structure form of internal reinforcement ribs, to improve the cross beam rigidity, and also the overall rigidity.

5 Waterproof & chip-proof design of tool magazine

Full protection design of the tool magazine reduces the impact of processing flushing and cutting chips on the tool magazine. Improves the service life of tool magazine and the stability of machining.



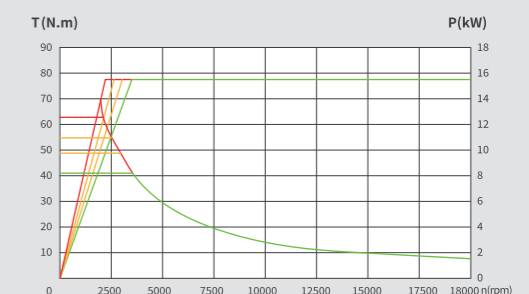
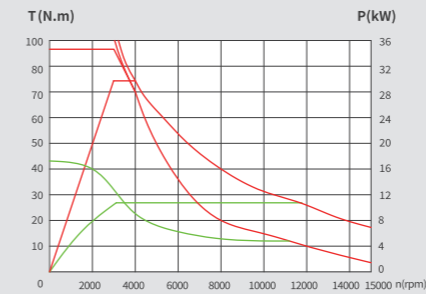
Spindle Power Torque Diagram

External Dimensions

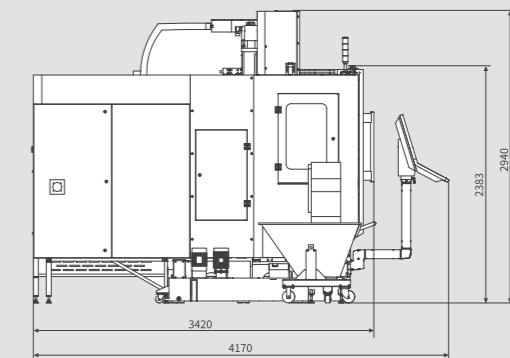
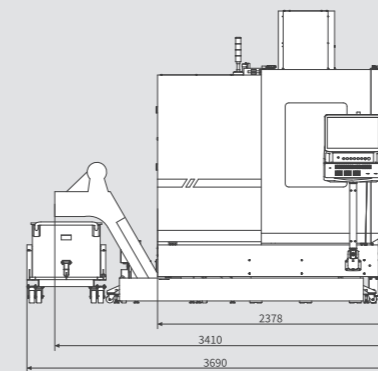
(Unit: mm)

VM450F

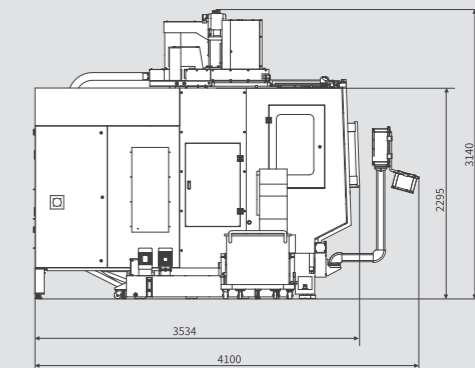
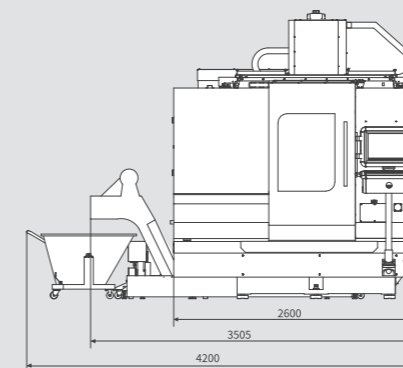
VM650F



VM450F



VM650F



	Item	Unit	VM450F	VM650F
Worktable	Worktable size	mm	φ450	φ650
	Max. worktable loading	kg	200	300
Axis travel	Axis travel X/Y/Z	mm	450/400/400	650/550/500
	B/C axis rotation angle	mm	±110°/360°	±110°/360°
	Spindle terminal to worktable	mm	140~540	175~675
Rapid travel	Axis rapid travel X/Y/Z	m/min	48/48/40	48/48/40
	Rotational speed B/C	rpm	25	25
Spindle	Spindle motor power	kW	10.6	15.5
	Max. spindle speed	rpm	15000	18000
	Spindle taper	-	7:24 taper NO.40	HSK A63
	Spindle temperature control	-	Water chiller	Water chiller
Tool magazine	Number of tools	Pc	30 (disc type)	30 (disc type)
	Tool shank	-	MAS403 BT40	HSK A63
	Max. tool dia./length/weight	mm/mm/kg	φ76/300/8	φ76/300/8
	Tool change time (T-T)	s	1.8	1.8
Machining capacity	Drilling (normalized mild steel)	mm	φ30	φ40
	Tapping (normalized mild steel)	mm	M16	M20
	Milling (normalized mild steel)	cm³/min	150	200
Others	Auto chip conveyer	-	side way	side way
	Auto lubrication system	-	Standard	Standard
	Electrical cabinet air conditioner	-	Standard	Standard
Accuracy	Positioning accuracy (X/Y/Z)	mm/sec	0.006/10	0.006/10
	Repeatability accuracy (X/Y/Z)	mm/sec	0.004/5	0.004/5
Others	CNC controller	-	SIEMENS ONE	SIEMENS ONE
	General power	KVA	35	35
	Air flow (L/min)/ pressure (bar)	--	280/6~8	280/6~8
	Machine weight	kg	8000	12000
	Machine dimension (L×W×H)	mm	3690×4170×2940	4200×4100×3140

Basic configurations:

5 axis with optical scales, chain type chip conveyer, coolant system, chip flush system, three color lamp, central lubrication system, air resource unit, spindle air curtain, air blow, air gun.

Optional accessories:

Coolant through spindle, special fixtures, built-in spindle 18000-24000, direct drive worktable, various chip conveyers.

[] Option

VM Series

High precision portal vertical machining center

- High rigidity mineral casting design, solid base and high rigidity column, high stability;
- The three axis are driven by linear motor, with high speed, high precision and efficient processing capacity;
- Three-axis grating, full closed-loop control;;
- Diversified system secondary development and rich selection items, convenient for customers to use, to meet the processing needs

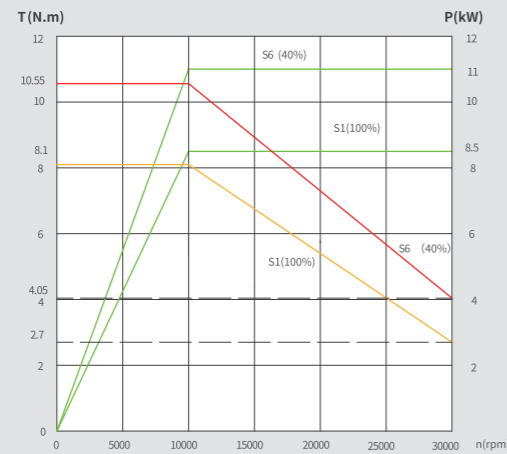
Main parameters		VD650L
Worktable size	mm	650x500
Axis travel X/Y/Z	mm	600/500/300
Axis rapid travel X/Y/Z	m/min	60/60/60
Max. spindle speed	rpm	30000
Number of tools	PV	16 (flatten)



Spindle Power Torque Diagram

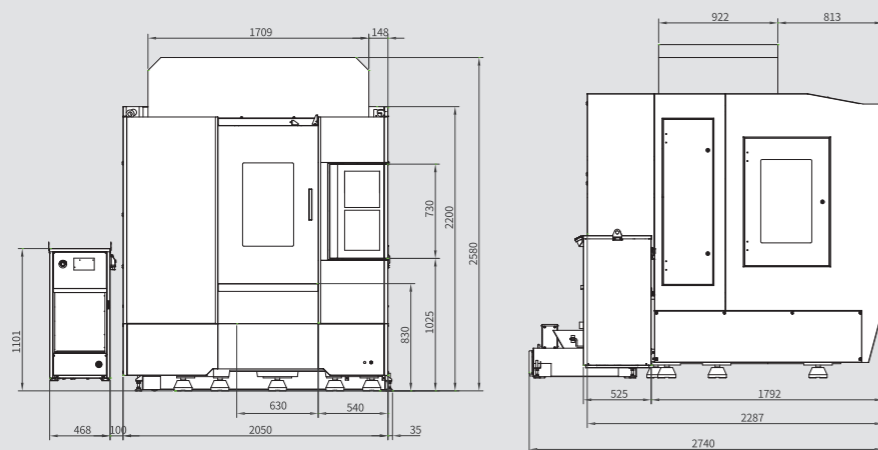
(Unit: mm)

VD650L



External Dimensions

VD650L



Item		单位	VD650L
Worktable	Worktable size	mm	650x500
	Max. worktable loading	kg	300
Axis travel	Axis travel X/Y/Z	mm	600/500/300
	Spindle terminal to worktable	mm	150~450
	Spindle center to column guideway	mm	/
Rapid travel	Axis rapid travel X/Y/Z	m/min	60/60/60
Spindle	Spindle motor power	kW	8.5
	Max. spindle speed	rpm	30000
	Spindle taper	-	1:10锥度 HSK E40
	Spindle temperature control	-	water cooler
Tool magazine	Number of tools	Pc	16 (flatten)
	Tool shank	-	HSK E40
	Pull stud	-	/
	Max. tool dia./length/weight	mm/mm/kg	Φ65/200/4
	Tool change time (T-T)	s	2.5
Machining capacity	Drilling(normalized mild steel)	mm	Φ16
	Tapping(normalized mild steel)	mm	M10
	Milling(normalized mild steel)	cm ³ /min	60
Others	Auto chip conveyer	-	rear side way
	Auto lubrication system	-	Standard
	Electrical cabinet air conditioner	-	Standard
Accuracy	Positioning accuracy (X/Y/Z)	mm	0.003
	Repeatability accuracy (X/Y/Z)	mm	0.002
Others	CNC controller	-	NEWAY FANUC [SIEMENS]
	General power	KVA	30
	Air flow (L/min)/ pressure (bar)	-	280/6~8
	Machine weight	kg	5500
	Machine dimension (L×W×H)	mm	2660×2740×2580

Basic configurations:

Three-axis grating ruler, centralized lubrication system, air source treatment unit, cooling system, air filtration system, motor, spindle cooling system;

Optional accessories:

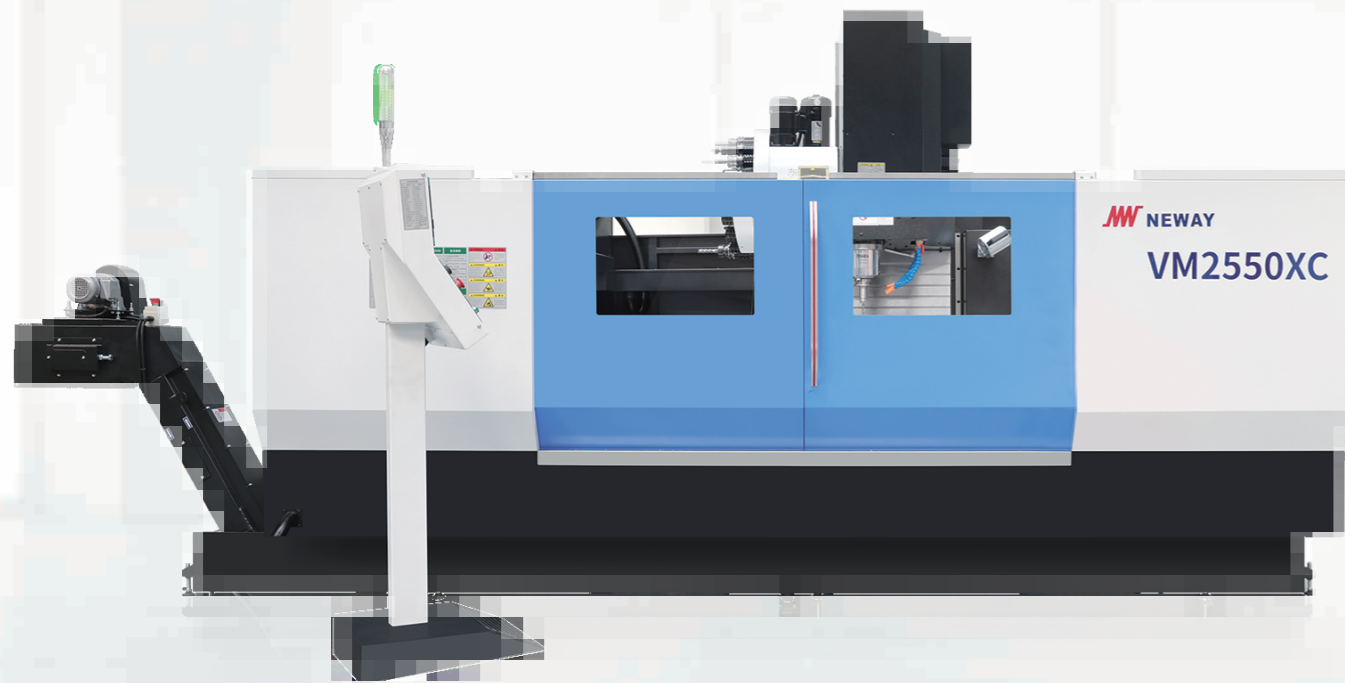
Contact/laser tool setting measurement, scraper chip removal machine/magnetic/aluminum scraper, workpiece detection, CNC rotary table, automatic door, water gun/spray/fixture flushing, oil and gas lubrication spindle 4200rpm, bed cooling system.

[]Option

VM Series- Industry Specific Machine Center

Specialized for die-cast aluminum parts, long parts and graphite/semiconductor parts

- This machine series is specially designed for high-efficiency machining of die-cast aluminum part, long parts, and graphite/semiconductor parts.
- The spindle adopts high-speed directly-connected structure, with higher vibration control requirements, smoother machining, higher surface quality, reducing manual grinding and trimming.
- Servo tool magazine, faster tool change, less auxiliary time and higher machining efficiency;
- High-acceleration design, higher efficiency in multi-hole machining;
- The large span bed and column structure design ensures more stable machining when working with high acceleration and deceleration;
- Equipped with dual-side screw type conveyor and chain type conveyor, more convenient for aluminum chip discharge;
- Grease lubrication system adopted, to reduce the contamination of thin oil on workpieces.

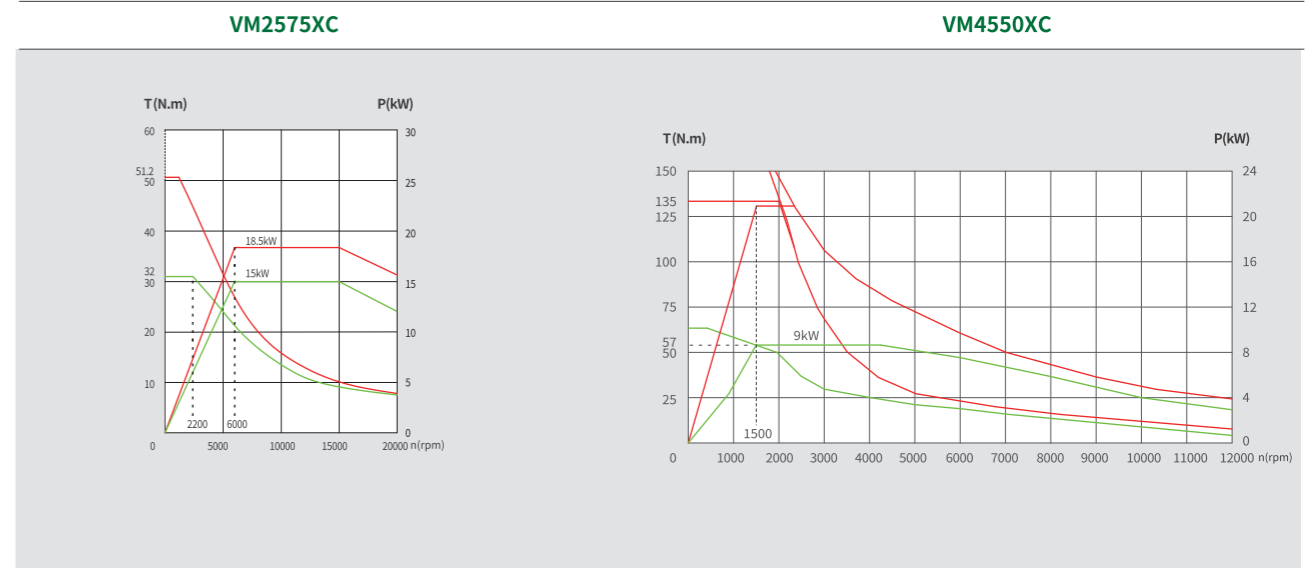
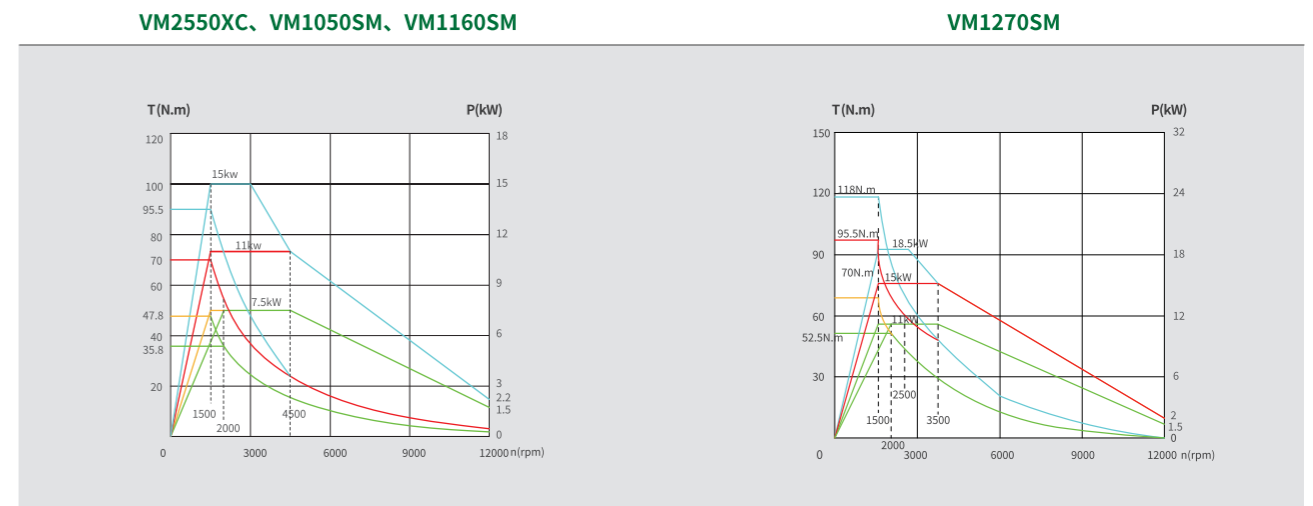
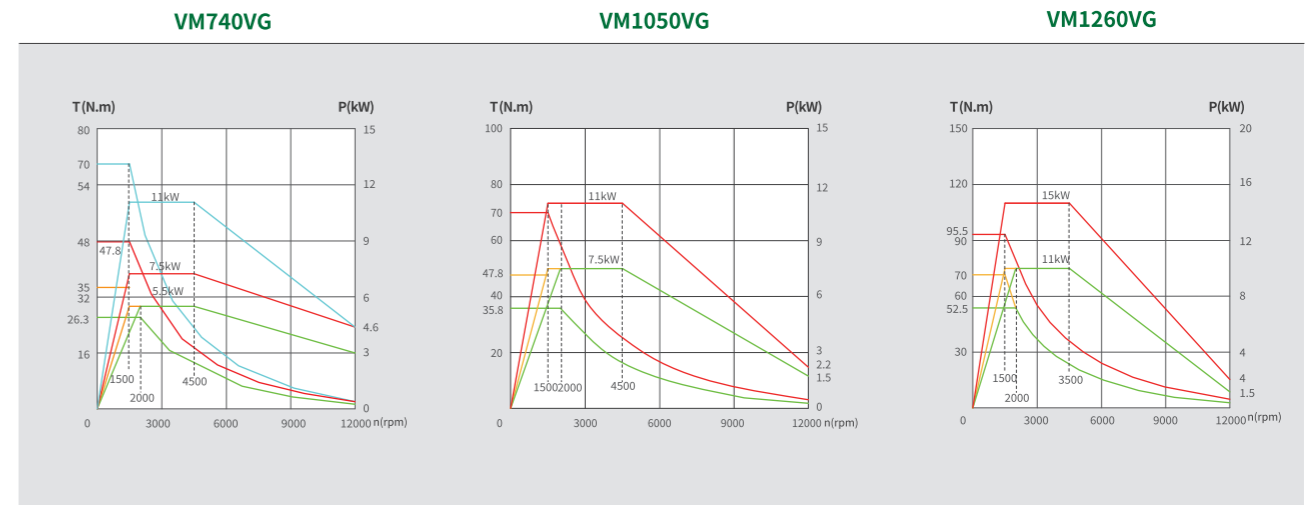


Main parameters

		VM1260VG	VM2550XC	VM1160SM
Worktable size	mm	1200×600	2700×550	1100×600
Axis travel X/Y/Z	mm	1100/650/600	2500/500/520	850/520/520
Axis rapid travel X/Y/Z	m/min	36/36/30	60/30/30	36/36/30
Max. spindle speed	rpm	12000(direct connection) [15000built in]]	12000(直联)	12000(direct connection)
Number of tools	Pc	24(Variable frequency tool magazine)	20(disc type)	24(disc type)

Spindle Power Torque Diagram

(Unit: mm)

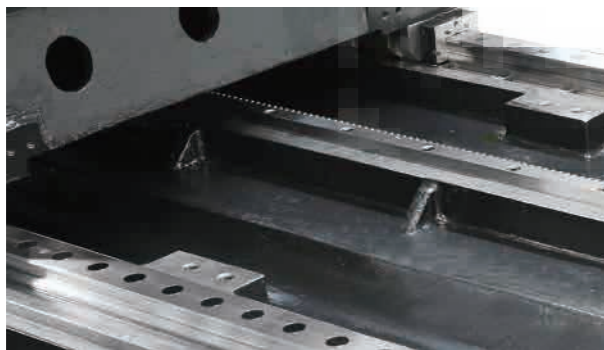


Special vertical machining center for long strip parts VM-XC系列

- This series of machine tools is specially designed for high-speed machining of long bar parts of profile class;
- Can increase the swing head for surface linkage processing, more convenient and fast;
- High speed motorized spindle machining, higher surface finish;
- Large span bed, column structure design, high-speed movement, the machine is more stable; Vertical machining center

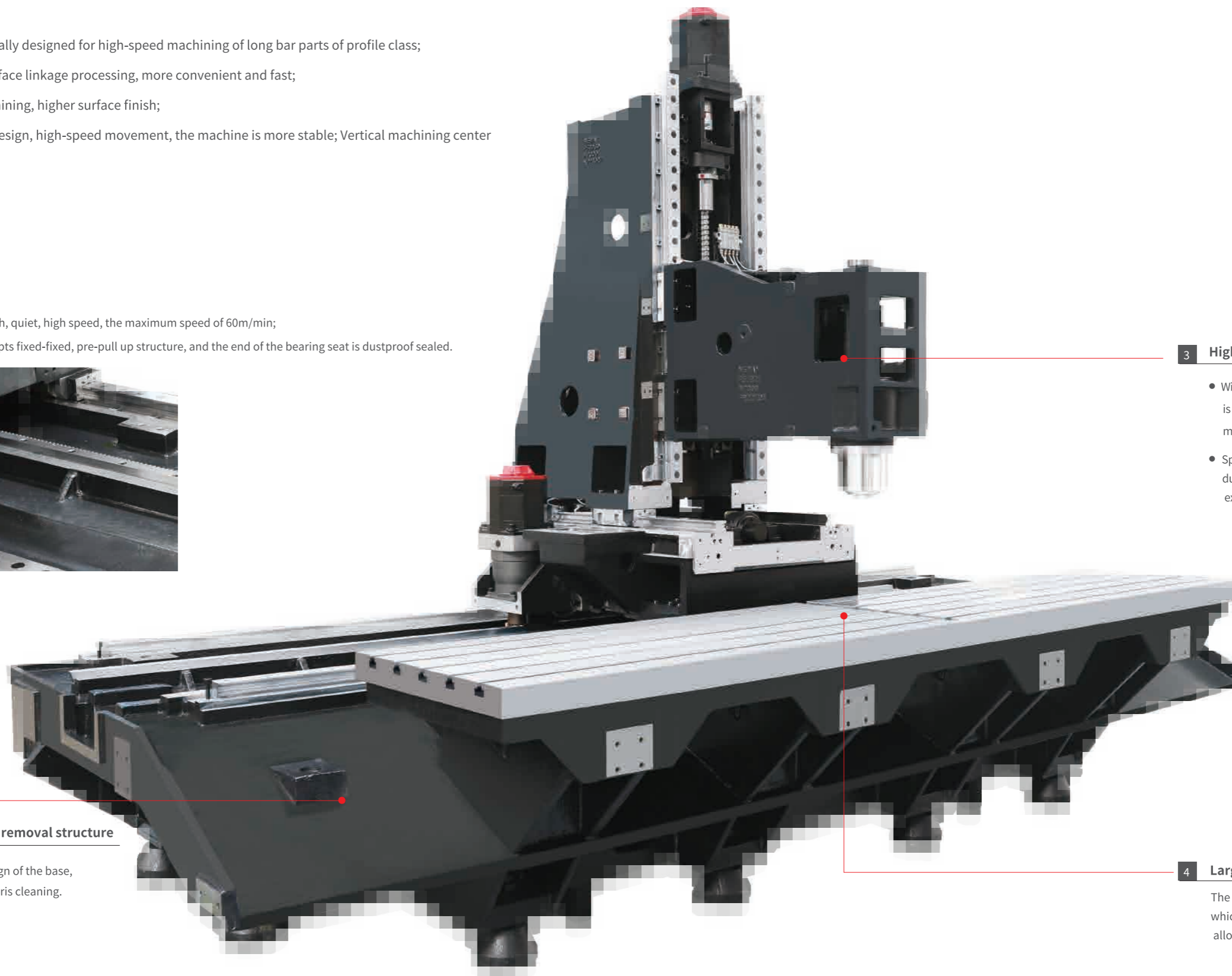
1 Main drive system

- X-axis rack and pinion drive, smooth, quiet, high speed, the maximum speed of 60m/min;
- Both ends of the Y and Z screw adopts fixed-fixed, pre-pull up structure, and the end of the bearing seat is dustproof sealed.



2 Large inclination Angle chip removal structure

Large tilt Angle chip removal design of the base,
Convenient chip removal and debris cleaning.



3 High speed direct spindle

- With high-speed direct spindle, the transmission chain is shorter and effectively reduce the vibration of the machine tool, so that the surface quality is better;
- Special labyrinth seal protection cover to prevent dust or iron filings to enter the spindle and effectively extend the machine life span



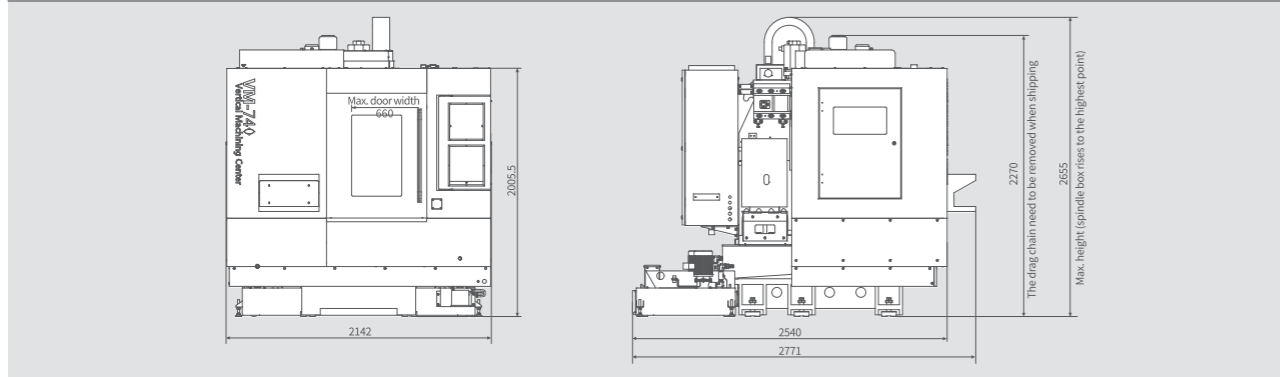
4 Large interior space

The internal space of the machine tool is large,
which can meet the processing of long aluminum
alloy parts in the new energy automobile industry.

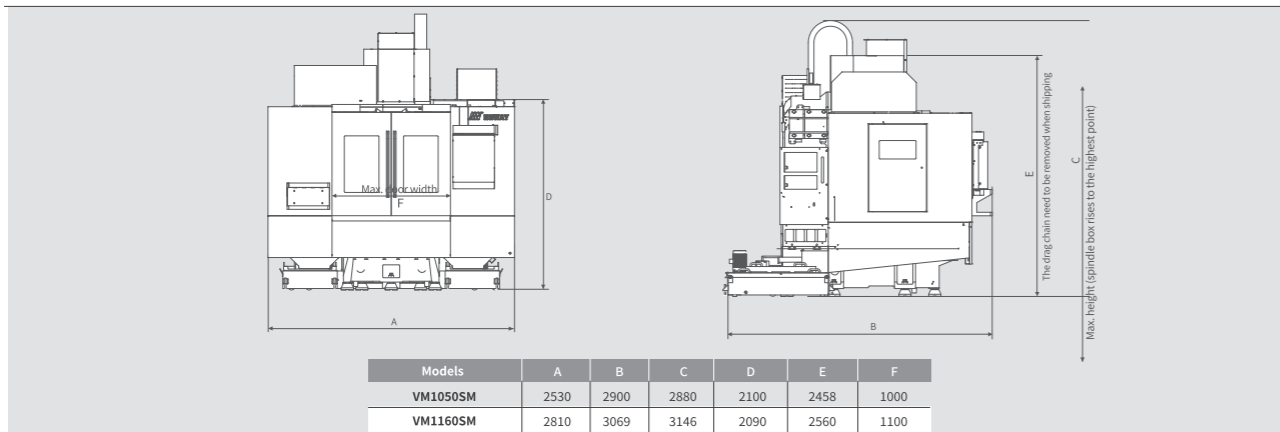
External Dimensions

(Unit: mm)

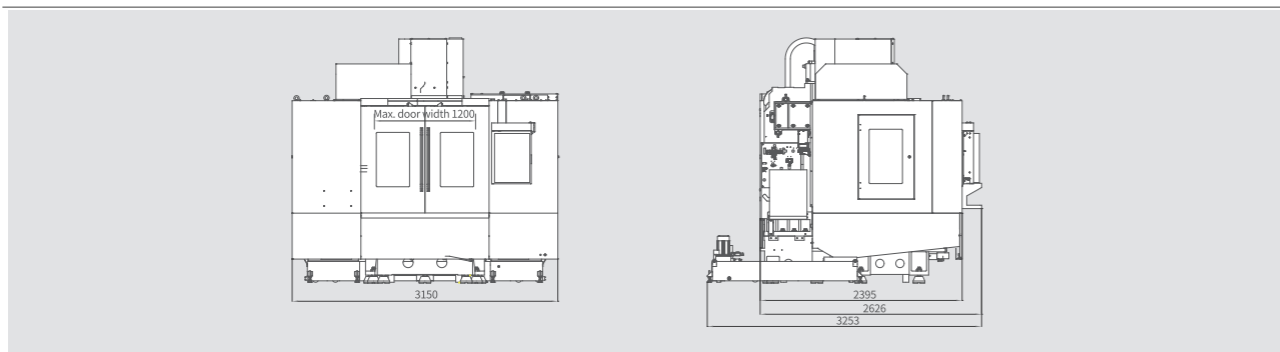
VM740VG



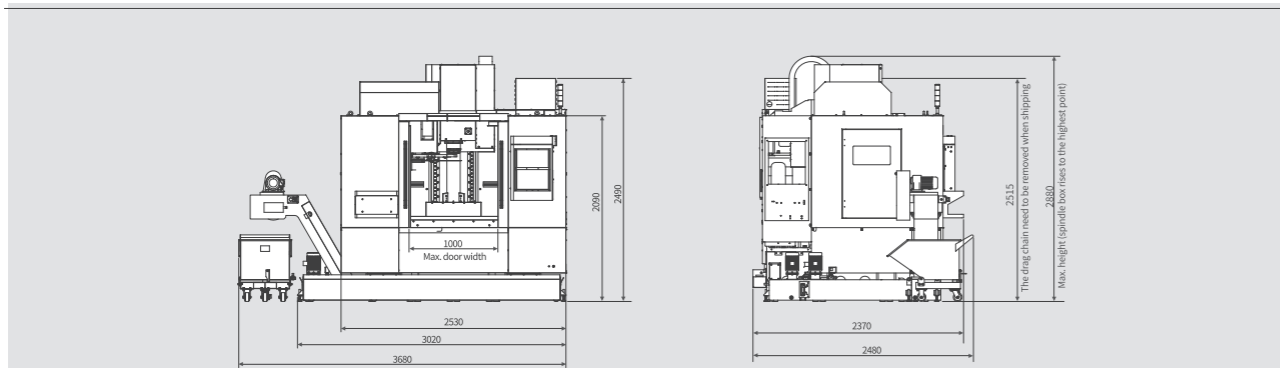
VM1050SM, VM1160SM



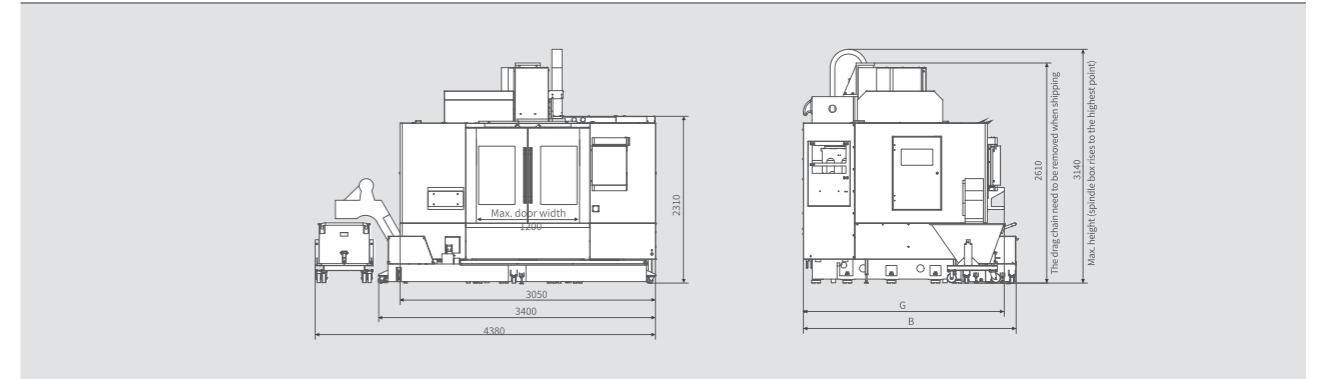
VM1270SM



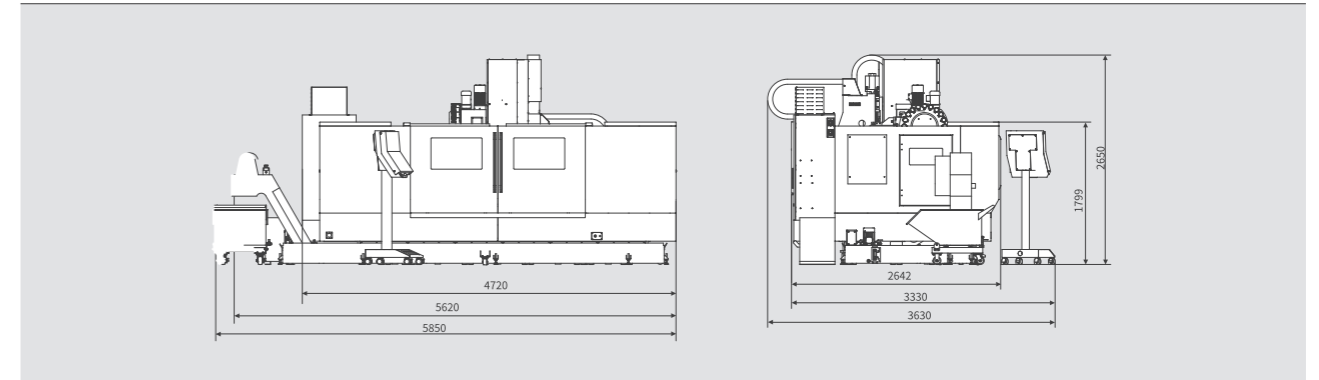
VM1050VG



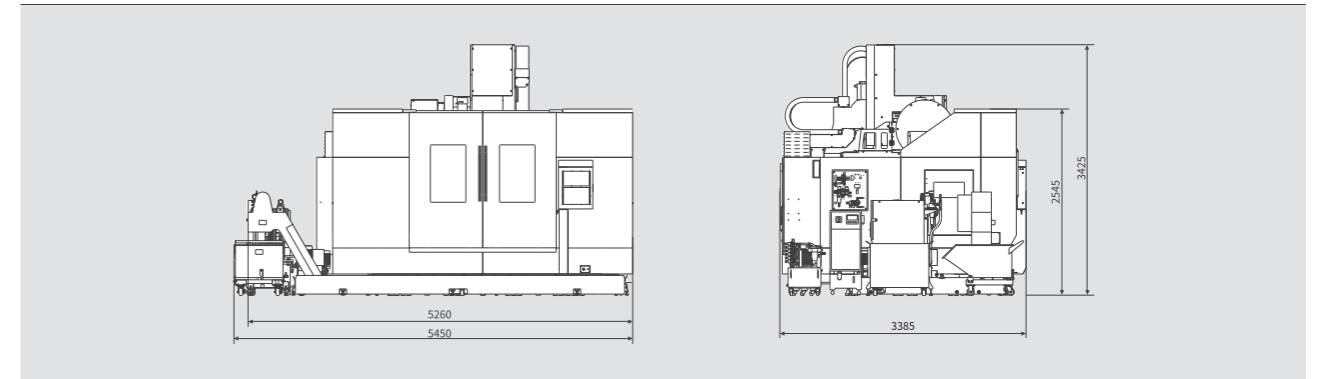
VM1260VG



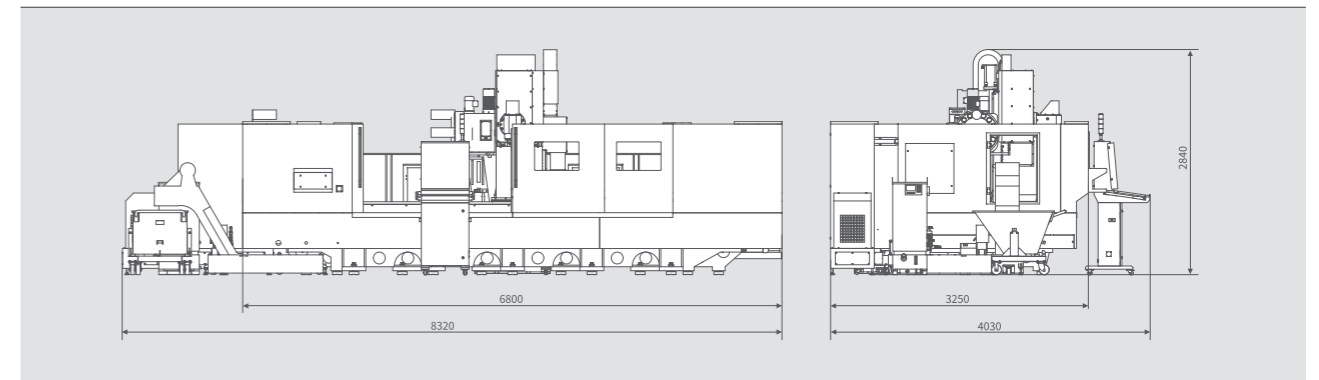
VM2550XC



VM2575XC



VM4550XC



Item	Unit	VM740VG	VM1050VG	VM1260VG	VM1050SM	VM1160SM	VM1270SM	VM2550XC	VM2575XC	VM4550XC	VM4550XC (with swing milling head)	
Worktable size	mm	750×420	1000×520	1200×600	1000×520	1100×600	1200×600	2700×550	2700×700	4500×550	4500×500	
Max. worktable loading	kg	350	650	800	550	750	800	800/m	800/m	800/m	800/m	
X/Y/Z Axis travel	mm	650/420/500	850/520/560	1100/650/600	720/460/520	850/520/520	920/655/560	2500/500/520	2000/750/750	4500/500/520	4500/500/600 B axis (with swing head)±100°	
Spindle terminal to worktable	mm	120~620	120~680	140~740	160~680	190~710	180~740	250~770	500~1250	250~770	120~720	
Spindle center to column guideway	mm	485	580	690	580	660	770	660	945	660	714	
Axis rapid travel X/Y/Z	m/min	48/48/48	40/40/36	36/36/30	48/48/48	36/36/30	30/36/24	60/30/30	25/25/25	50/30/30	50/30/30	
Spindle motor power	kW	5.5/7.5[7.5/11]	7.5/11[11/15]	11/15	7.5/11[11/15]	7.5/11[11/15]	7.5/11[11/15]	7.5/11	15/18.5	7.5/11	15/18.5	
Max. spindle speed	rpm	12000(direct connection) [15000(direct connection)]	12000(direct connection) [15000(built-in)]	12000(direct connection) [15000(built-in)]	12000(direct connection)	12000(direct connection)	12000(direct connection)	12000(direct connection)	15000(built-in)	12000(direct connection)	14000(built-in)	
Spindle taper	-	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	7:24 taper NO.40	
Spindle temperature control	-	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	oil cooler	
Number of tools	Pc	20(cam type quick change ATC)	24(Variable frequency magazine tool)	24(Variable frequency magazine tool)	24	24	24	20	24	20	16	
Tool shank	-	BT40	BBT40	BBT40	BBT40	BBT40	BBT40	BT40	BBT40	BT40	BBT40	
Pull stud	-	MAS403 P30T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	MAS403 P40T-1	
Max. tool dia./length/weight	mm/mm/kg	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ80/300/8	Φ75/300/8	Φ75/300/8	Φ75/300/8	Φ75/300/8	
Tool change time (T-T)	s	1.6	1.6	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
Drilling(normalized mild steel)	mm	Φ30	Φ40	Φ45	Φ40	Φ40	Φ40	Φ30	Φ20	Φ30	Φ25	
Tapping(normalized mild steel)	mm	M16	M20	M24	M20	M20	M20	M16	M12	M16	M14	
Milling(normalized mild steel)	cm ³ /min	150	200	250	200	200	200	150	80	150	100	
Auto chip conveyer	-	side chip conveyer	Double spiral chip conveyer + side chip conveyer	Double spiral chip conveyer + side chip conveyer	backside located coolant tank [Front side way]	backside located coolant tank [Front side way]	backside located coolant tank [Front side way]	side way	side way	side way	side way	
Auto lubrication system	-	oil lubrication	grease lubrication	grease lubrication	grease lubrication	grease lubrication	grease lubrication	oil lubrication	oil lubrication	oil lubrication	oil lubrication	
Electrical cabinet air conditioner	-	option	option	option	option	option	option	option	option	option	option	
Positioning accuracy (X/Y/Z)	mm	0.008	0.008	0.008	0.008	0.008	0.008	0.045/0.022/0.025	0.042/0.025/0.025	0.080/0.022/0.025	0.080/0.022/0.025	
Repeatability accuracy (X/Y/Z)	mm	0.005	0.005	0.005	0.005	0.005	0.005	0.030/0.012/0.015	0.020/0.015/0.015	0.050/0.012/0.015	0.050/0.012/0.015	
CNC controller	-	NEWAY FANUC [SIEMENS、Mitsubishi]					NEWAY FANUC [SIEMENS、Mitsubishi]					
General power	KVA	20	25	35	25	25	35	45	45	45	45	
Air flow (L/min)/ pressure (bar)	-	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	280/6~8	
Machine weight	kg	3800	5600	7200	5600	6800	8000	8500	11000	12000	12000	
Machine dimension (L×W×H)	mm	2020×2550×2700	3850×2650×3120	4530×2410×3170	2530×2900×2880	2810×3020×3160	3150×3260×2930	5850×3400×2700	5450×3750×3450	8320×4030×2840	8320×4030×2840	

[] option

Standard Configurations:

Chip conveyor system suitable for aluminum parts, Cooling system, Chip flushing system, Full enclosure guard, Pneumatic processing unit, Spindle air curtain protection, Air cooling, Air gun, Tri-color light, Servo tool magazine (Rapid tool magazine), High pressure coolant.

Optional Configurations:

Mitsubishi M80 CNC controller, SIEMENS 828D CNC controller, 4th axis, 5th axis, Column height increase, Coolant through spindle, Special jigs and fixtures, etc.; Dual rear chip conveyor, Roller type chip conveyor, Aluminum scraper type chip conveyor, Magnetic scraper type chip conveyor

Control System

The combination of powerful system functions and secondary function development greatly improves the easy use of the machine; the secondary development of the system brings convenience to customers regarding machine use, commissioning, safety alarm elimination, and maintenance.

FANUC system function and secondary development content display:

- 1. Overview of machining information**
- 2. Quick operations for finding workpiece center and setting coordinate system**
- 3. Convenient program transfer**
- 4. System preset function**
- 5. Selection of processing conditions**
- 6. Alarm maintenance messages**
- 7. Built-in common optional functions**
- 8. Complex function guidance operation**

Some functions need to be implemented in conjunction with system functions:

- 1 High precision, High efficiency, Smart**
 - The latest CNC and servo technology is equipped as standard
 - Easily optimize parameter Settings

- 2 Preparation support before processing**
 - Saves the manual calculation steps, simplifying the operation.

- 3 Smooth Tolerance+ Control (STC+)**
 - Smooth control of tool path by small segment command
 - In die mold machining specified with continuous small segments, high quality machining can be achieved

Better surface quality is achieved with high precision machining program.

- 4 Servo HRV+ Control**
 - Optimize current control to improve system response performance
 - Use resonance elimination filter to avoid the machine resonance elimination
 - Improved ability to suppress external interference by optimizing the speed control

SIEMENS system functions and secondary development content display:

- 1. Function selection**
- 2. Tool magazine debugging**
- 3. Alarm setting**
- 4. Machine setting**

For the commonly used function, customers only need to open the corresponding option when debugging.

It can debug the single step and troubleshoot at this interface in order to monitor some signals of the tool magazine.

Some alarms on the machine can be temporarily shielded to allow for any maintenance work.

Some parts of the machine such as lubrication and chip conveyor can be set and adjusted according to specific machining requirements.

- 1 Fine surface**
Fine surface can achieve the highest processing speed while ensuring excellent trajectory accuracy.

Intelligent Trajectory Control: Pre-reading function for optimizing speed curve calculations.

Shortest Program Segment Block Time: Automatically completes G01/G02 programs (60-500-degree polygons).

- 2 Three times overload**
The main motor and servo motor have three times overload capacity, which can be used for short-time heavy cutting.

Permissible Temperature Range Characteristics (Current, Speed, and Torque): IFR Motors are allowed to operate at a maximum average winding temperature of 145°C.

- 3 Program guide**
The machining cycle function significantly increases the productivity and flexibility of high-volume workpiece machining.

Neway Quality Control Manufacturing and Measurement



• Contour detection • Roundness detection • Three-coordinate detection



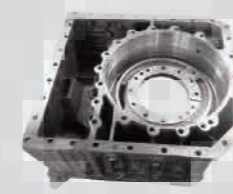
• Laser interferometer accuracy detection • Scraping • Torque wrench



Auto machining lines

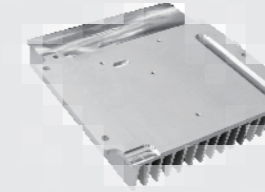
VM1260

Workpiece Name: Retarder housing
Workpiece Material: Aluminum
Industry: Automobile



VM1150

Workpiece Name: Radiator
Workpiece Material: Aluminum
Industry: Automobile



VM950

Workpiece Name: Input axis
Workpiece Material: 20# steel
Industry: Automobile



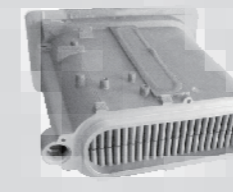
VM740

Workpiece Name: Garden machinery
Workpiece Material: Aluminum
Industry: Garden

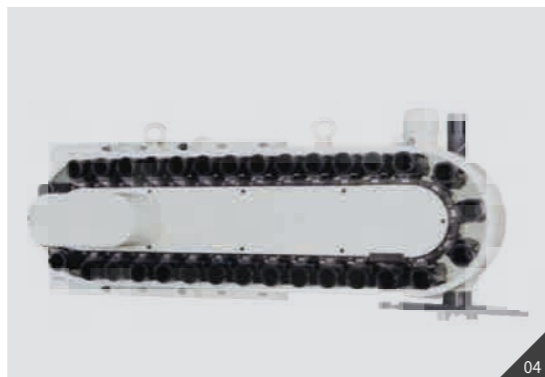
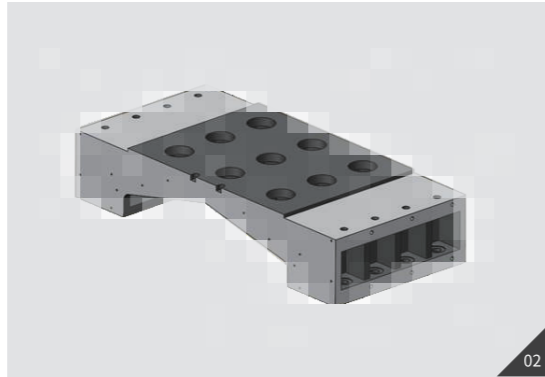


VM950

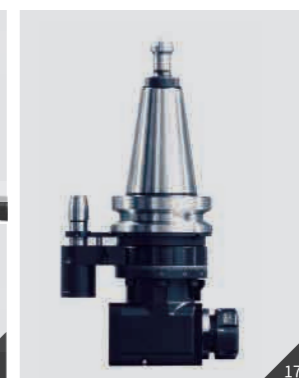
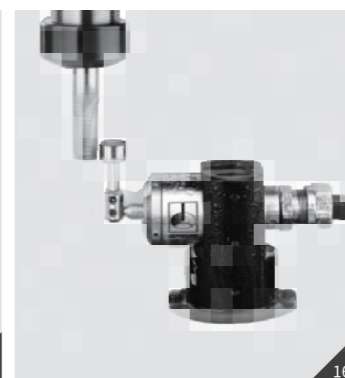
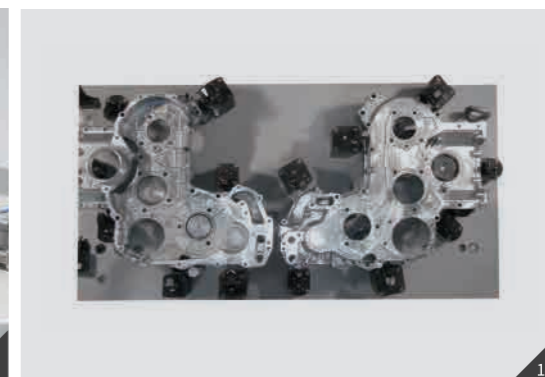
Workpiece Name: Heat exchanger
Workpiece Material: ZL104
Industry: Garden



Optional Configurations



- 01 Coolant through spindle
- 02 Heightening column
- 03 ZF gear box
- 04 Chain-type tool magazine
- 05 Oil chiller / cabinet air conditioner
- 06 5-axis rotary table
- 07 4th axis
- 08 Grating scale



- 09 Oil-water separator
- 10 Oil mist collector
- 11 Double back chip conveyor
- 12 Magnetic scrapers chip conveyer
- 13 Auto-door
- 14 Special fixture
- 15 Workpiece measurement
- 16 Tool setter
- 17 Angle head