

Global Sales Network



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L&W MACHINE TOOLS, INC.

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L&W MACHINE

HIGH SPEED
VERTICAL MACHINING CENTRES
VMC series



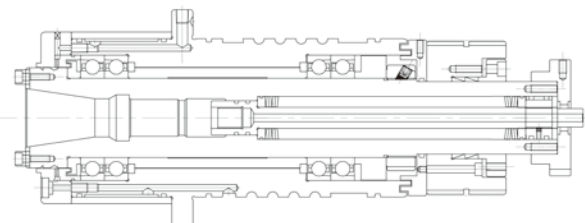


SPINDLE
HIGH PRECISION SPINDLE

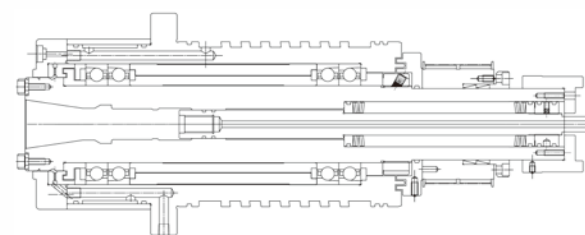
- The spindle is assembled by highly skilled technicians, each spindle is tested to ensure the optimum condition.
- The belt driven spindle runs on preloaded precision angular contact ball bearings.
- Standard spindle speed is 8,000 rpm. 10,000 or 12,000 rpm high speed spindles are available as an option.



VMC-610



VMC-860 / VMC-1020 / VMC-1100



OUTLINE

The space saving quality machine features operator friendly lift-up-type side windows for easy access, extra wide front doors for large components, sheet metal guarding designed for efficient chip removal.

CONSTRUCTION

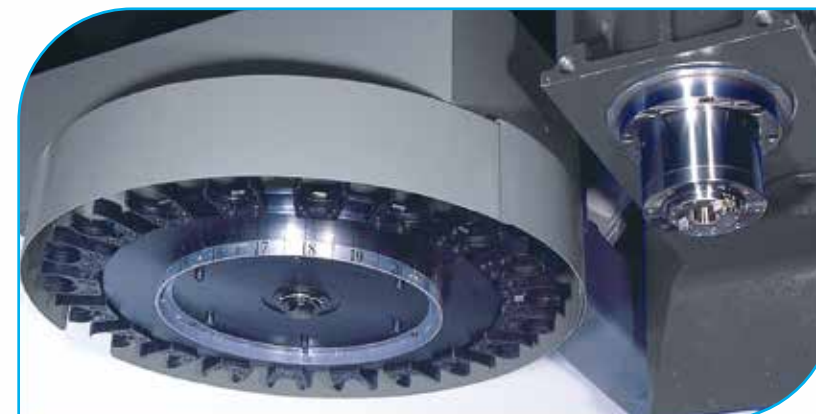
The new Cyclone VMC series is a high speed machining center that built with Cyclone's renowned features of a rigid structure, high speed motion control, low vibration and high accuracy. The machines are widely applied in aerospace, medical equipment, and other high precision industries for milling, drilling, tapping and various mold making processes.

Combined with our experience accumulated over more than 40 years, using the very latest 3D digital design techniques to enhance the mechanical structure so as to achieve the optimum cutting performance.



TOOL MAGAZINE

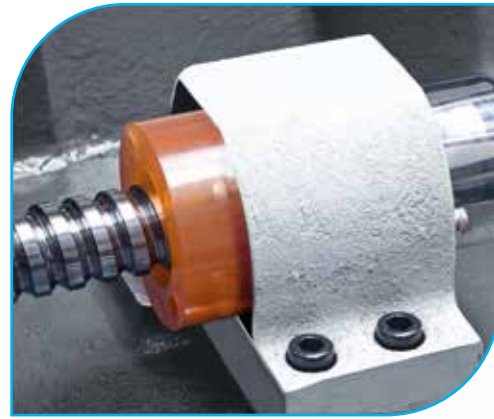
This unique ATC has the latest innovative cam driven tool mechanism to ensure the rotation accuracy, and smooth running is maintained when fully loaded. PLC software programming controls the bi-directional tool selection, the high speed ATC reduces non cutting time.



Armless type ATC tools: Simple magazine construction, easy maintenance, safe and trouble-free operation.



Arm type ATC 24 tools: High speed, automatic tool changer provides stable and reliable tool change (optional)



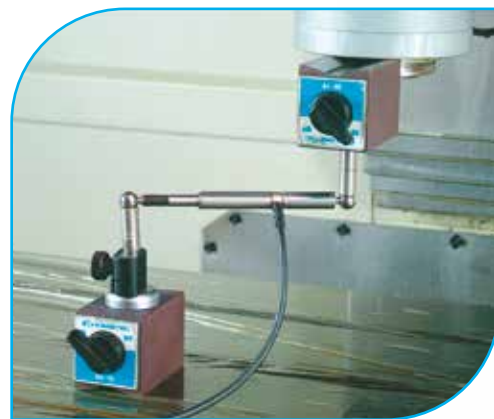
COLLISION PROTECTION

The machine is equipped with an axis collision protection device which can absorb and reduce the force in the event of a collision.



LASER INSPECTION

An advanced LASER instrument is used for inspecting and compensating linear accuracy and pitch error for optimum accuracy.



BALL-BAR TEST

Using Ball-Bar testing the circularity geometry error, and backlash, can be accurately obtained to allow the machine to be adjusted to the best possible accuracy.



AXIS DRIVE

- X/Y/Z axis uses linear guideways featuring high rigidity, low noise, low friction and optimum positioning accuracy.
- The ball screw is mounted using 4 sets of angular contact ball bearings, offering exceptional performance in axial movement.
- Servo motors and ball screws on all 3 axes are directly coupled.
- The C3 grade, pretensioned ball screws on X/Y/Z axes increases rigidity, reduces thermal deformation and stabilizes the machine's repeatability accuracy.
- The optional coolant through ball screw function is available for customers who require ultra high accuracy during long time operation.
- The pantograph type telescopic covers on 3 axes are capable of performing high speed low noise movements without vibration.



The pantograph type telescopic covers.

Technical Data

Spindle Torque and Power Diagram

Standard:

VMC-610
Motor: 10000 rpm
Spindle: 8000 rpm
Belt Ratio: 1.25 : 1

Optional:

VMC-610
Motor: 10000 rpm
Spindle: 10000 rpm
Belt Ratio: 1 : 1

Optional:

VMC-610
Motor: 10000 rpm
Spindle: 12000 rpm
Belt Ratio: 1 : 1.2

Standard:

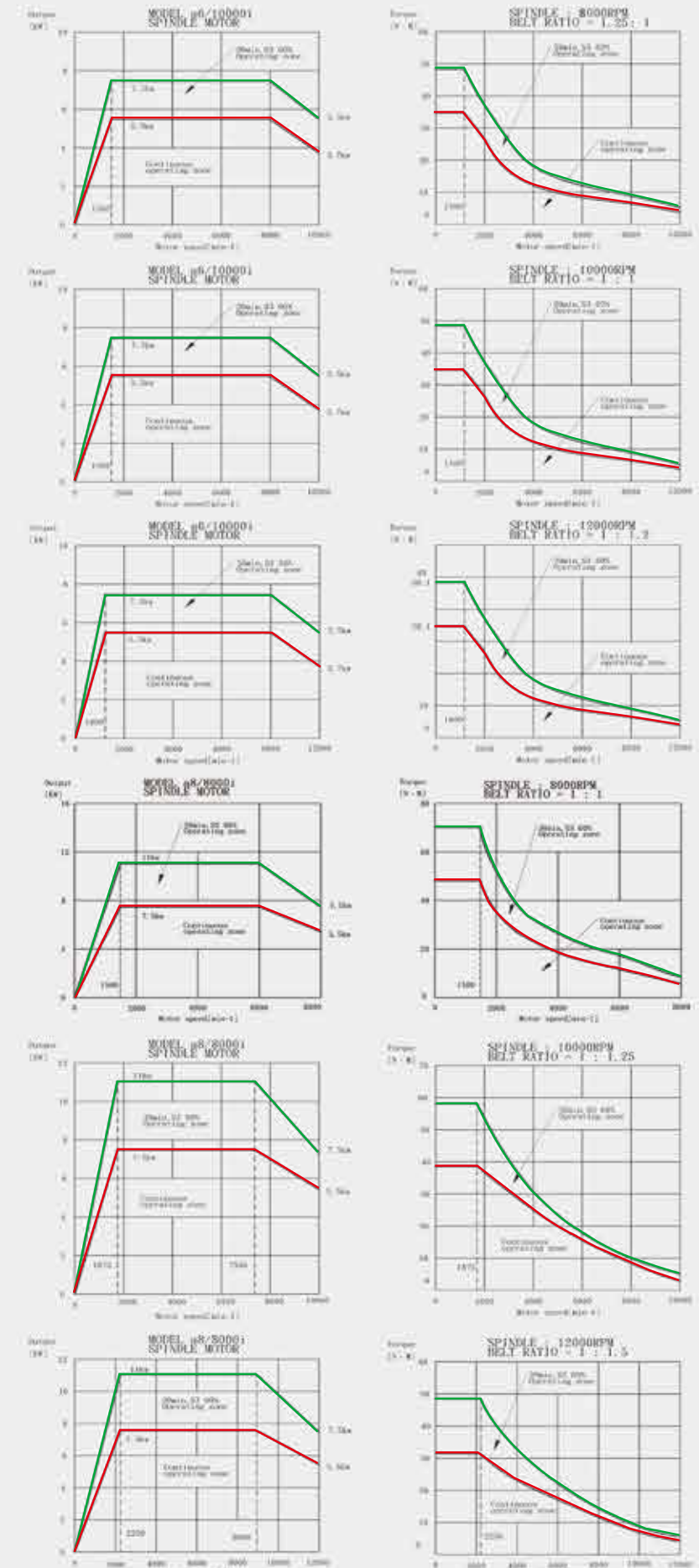
VMC-860/1020/1100
Motor: 8000 rpm
Spindle: 8000 rpm
Belt Ratio: 1 : 1

Optional:

VMC-860/1020/1100
Motor: 8000 rpm
Spindle: 10000 rpm
Belt Ratio: 1 : 1.25

Optional:

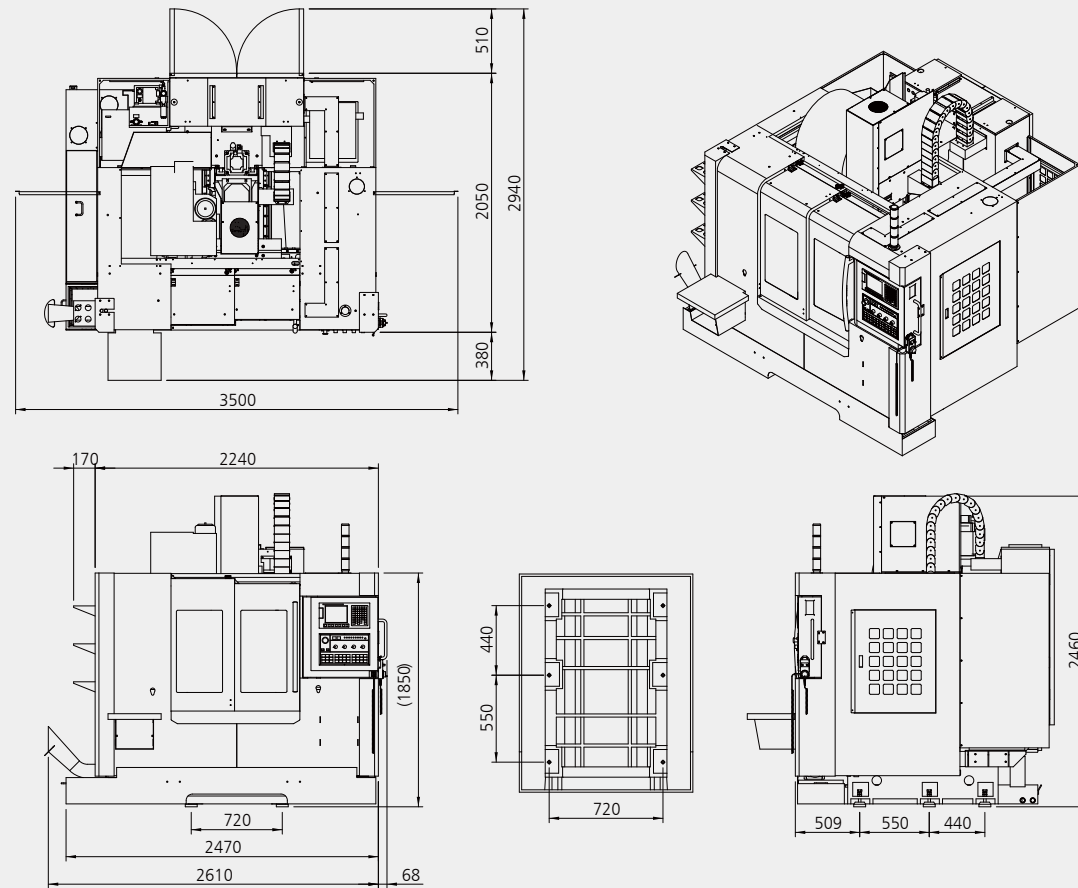
VMC-860/1020/1100
Motor: 8000 rpm
Spindle: 12000 rpm
Belt Ratio: 1 : 1.5



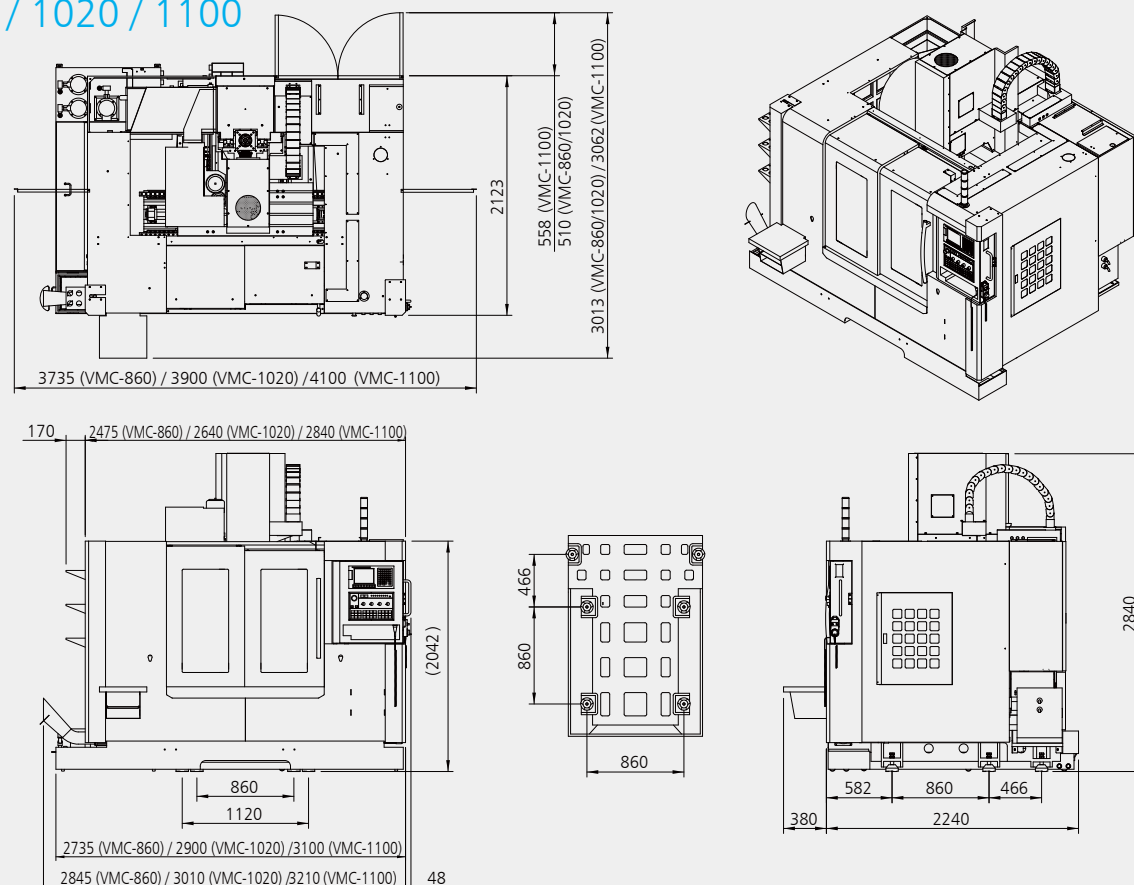
Machine Dimensions

Unit : mm

VMC-610



VMC-860 / 1020 / 1100



SPECIFICATIONS:

	Item	Unit	VMC-610	VMC-860	VMC-1020	VMC-1100
Travel	Max. Travel for X Axis	mm	610	860	1020	1100
	Max. Travel for Y Axis	mm	460	560	560	560
	Max. Travel for Z Axis	mm	480	600	600	600
	Spindle Nose to Table	mm	150~630	145~745	145~745	145~745
Spindle	Spindle Speed	rpm	Standard: 8000 Optional: 10000 / 12000 / 15000			
ATC System	Tool Capacity	pcs	Armless Type 16T / Arm Type 24T (Opt.)			
	Max. Tool Diameter	mm	105	105	105	105
	Max. Tool Length	mm	300	300	300	300
	Max. Tool Weight	kg	7	7	7	7
	Tool Shank		BT40	BT40	BT40	BT40
Motor	Spindle Motor	kW	5.5 / 7.5	7.5/11 (Opt. 15/18.5kW)		
	X / Y / Z Servo Motor	KW	1.6 / 1.6 / 3.0	4.0 / 4.0 / 4.0	4.0 / 4.0 / 4.0	4.0 / 4.0 / 4.0
Table	Table Size	mm	706 x 450	910 x 560	1100 x 560	1200 x 560
	Max. Table Capacity	kg	300	600	800	1000
	T-slot (Pitch x Width x No.)	mm	125 x 18 x 3T	100 x 18 x 5T	100 x 18 x 5T	100 x 18 x 5T
Feed Rate	X Rapid Travel	M/min	48	36	36	36
	Y Rapid Travel	M/min	48	36	36	36
	Z Rapid Travel	M/min	32	24	24	24
	Cutting Feed Rate	mm/min	1~10000	1~10000	1~10000	1~10000
Controller	Fanuc		OiMD			
Other	Machine Weight	kg	4000	5800	6200	6500
	Power Requirement	KVA	15	25	25	25
	Coolant Water	L	240	280	330	340
	Air Requirement	Kg/cm ²	6	6	6	6

Remark: The manufacturer reserves the right to modify the design, specifications or mechanisms, to improve the performance, without prior notice.
All the specifications shown here are for reference only.

Standard Accessories

- Fully enclosed guard
- Swarf auger
- Spindle air seal system
- Auto lubrication system
- Leveling block & screws
- Tool box
- Work light
- Alarm light
- M30 auto power off
- Portable air gun
- Wash down system
- Mechanical / Electrical operation manual
- Rigid Electric box heat exchanger
- Mechanical oil & coolant separator
- Armless type ATC system (16T)
- 3 axes telescopic covers
- RS-232 transmission socket+RJ45 Ethernet port
- Central guided counter-weight mechanism

Optional Accessories

- Spindle programmable air blow
- Fagor / Mitsubishi / Siemens controller
- 4th axis rotary table
- Spindle 10000 / 12000 / 15000 rpm (BT-40)
- Spindle direct drive (I.D.D.) transmission
- 3 axes linear scale
- Spindle oil cooling system
- Tool probe system
- Auto tool length measurement
- Oil demister
- Disc oil / coolant separator
- Arm type ATC system 24T
- Coolant through spindle (CTS)
- Spindle nose flood coolant
- Z axis with brake (without counter-weight)