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LONG CHANG MACHINERY CO., LTD.

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Build with Passion for Quality



First Criteria

The difference between “Manufacture” and “Assembly” is that we machine all critical parts by ourselves, we control the detail, and we own the genuine quality!

“First” is not just our brand name, it is our spirit of taking customer’s needs in the top priority position. All our devotion in technical innovation, manufacture and quality inspection aims one goal: “Customer First”.

With the expertise of manufacturing high quality machining centers for more than half a century, Long Chang Machinery Co., Ltd. insists in controlling all quality details by producing machine components by ourselves. The proven quality of Long Chang machines are widely accepted in all precision manufacturing industries especially in mold making, auto parts, rail road, power generator plant facilities... and so on.

We enjoy offering you a complete product lineup as well as technical service in vertical machining boundary. Our achievement in the past 55 years is originated from customers’ success and total satisfaction of our products.

In Long Chang, we treasure every customers’ opinion, and the repeat orders from worldwide markets are the concrete evidence that our persistence in quality is the best reward not just for us, but also for customers.

President

Eric Lin

55 Years of Manufacturing Experience

With over 55 years of experience in the design and manufacture of precision machine tools, Long Chang has maintained its reputation of quality excellence. Our designers, engineers and technicians combined with extensive and highly specialized manufacturing facilities allow us to fully meet customers' requirements for quality, performance and cost-effectiveness.

Quality is in the Detail

Serving Worldwide Customers in More Than 30 Countries

Long Chang exports 90% of its total production to more than 30 countries worldwide. Long Chang's dedication to quality and superb service has equalled customer satisfaction and loyalty. We wish to acknowledge our appreciation to our agents and confidence in Long Chang and its machines. In the future, we will be dedicated to further serve our agents and customers with excellent quality of machines to meet their expectations.



Seven Assembly Lines

Monthly Production of 300 Machines State-Of-The-Art Assembly Techniques

Long Chang's assembly shop is set up with seven assembly lines, providing monthly production capacity of 600 units of manual mills and machining centers. Precision assembly techniques ensure greater accuracy when Long Chang machines are placed in operation. Furthermore care to every detail is also provided by highly skilled technicians. This creates the most dependable machines with minimum maintenance.



Precision Machining In-House Guarantees Critical Parts Accuracy

In order to manufacture machines which provide extremely high machining accuracy, precision machining equipment for parts machining and highly skilled machinists are required. To meet this commitment, Long Chang has heavily invested more than US\$20 million in introducing world-famous machining equipment for machining critical parts in house. This allows us to thoroughly control parts accuracy and produce the highest level of machine performance.



VT18 series

Drilling & Tapping Center

Designed and Engineered to Significantly Boost Your Drilling and Tapping Productivity

Long Chang's VT18 Drilling & Tapping Center helps increase efficiency and ease of operation. It's a compactly constructed machine built to meet those who require higher machining speed in drilling and tapping operations. With its high speed spindle design, in combination with 48 / 48 / 36(48) M/min rapid traverse rates, much more throughput can be achieved.

Quality Features Include:

- ▶ Compact construction with small footprint.
- ▶ Choice of 10,000 and 15,000 rpm high speed direct-drive spindle.
- ▶ 4,000 rpm high speed rigid tapping.
- ▶ X, Y, Z-axis rapid traverse speed: 48 / 48 / 36(48) M/min
- ▶ Optional 20 tools arm type ATC with fast tool change.
- ▶ Heavy duty roller type linear units on 3 axes for maximum stability during high speed movement.
- ▶ Meehanite cast iron for all structural parts feature outstanding vibration dampening capacity and rigidity.



Machine Features



14 Tools Turret Type ATC
▶ Tool change is fast accomplished in only 1.8 seconds (tool to tool) and 2.8 seconds (chip to chip)



20 Tools Arm type ATC (option)
▶ Bi-directional random tool selection with fast tool change.



BT-30 Direct-Drive Spindle
▶ Choice of spindle speeds: 10,000/15,000 rpm
▶ Coolant through spindle for 15,000 rpm (option)



Automatic Lubrication Unit
▶ Excellent lubrication to all blocks and ball screws.



Coolant Tank: 200L

Specifications

Machine Specifications	VT18	
X-Axis	450 mm (17.71")	
Y-Axis	300 mm (13.77")	
Z-Axis	14T: 360 mm (14.17")	20T: 385 mm (15.15") / 485 mm (19.09") (Opt)
Rapid traverse speed	X / Y / Z: 48 / 48 / 36(48) M/min	
Type of tool shank	BT30 / DIN30	
Max. spindle speed	FANUC: 10000 / 15000 rpm (Opt: CTS)	
Type of transmission	Direct Drive	
Tool storage	14 T	20 T (Opt)
ATC type	Turret type	Arm type
Tool changing time (Tool to Tool)	1.8 sec	0.7 sec

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Edition / A01

V700 series

High Speed Machining Center

Precision, Speed and Durability makes the High Speed VMC a Super Performer.

Long Chang's V700 high speed vertical machining center offers high speed combined with precision accuracy and maximum dependability through design, making it well suited for high production and high accuracy machining operations.

Extra High Stability and Rigidity

To achieve a highly productive machine, the structural design of the V700 is focused on reducing vibration to a minimum.

- ▶ Meehanite cast iron for all major structural parts.
- ▶ Box type headstock construction provides outstanding cutting stability
- ▶ Heavy duty roller type linear ways on three axes.
- ▶ Three axes ball screws are directly driven.



Machine Features



Roller Type Linear Guide Ways
 ▶ Precision Heavy duty roller type linear ways are used on three axes for higher feed speeds and positioning accuracy.
 ▶ Size 35 mm on X, Y, Z-axis linear ways.



Spiral Type Chip Conveyor
 ▶ Standard spiral type chip conveyor in the middle removes chips easily.



BT40 Direct-Drive Spindle
 ▶ Choice of spindle speeds: 10,000 rpm (std.) 12,000 rpm / 15,000 rpm (opt.)
 ▶ Low vibration, low heat growth and low noise provide excellent surface finishes.



Automatic Lubrication Unit
 ▶ Excellent lubrication to all blocks and ball screws.



Extra Powerful Chip Flushing
 ▶ Designed with two independent pumps to ensure efficient cooling on workpiece and powerful chip flushing.

Specifications

Machine Specifications	V700
X-Axis	700 mm (27.5")
Y-Axis	400 mm (15.7")
Z-Axis	550 mm (21.6") / 650 mm (25.5")(Opt.)
Rapid traverse speed	X / Y / Z: 48 / 48 / 32(48) M/min
Type of tool shank	BT40 / CAT40 / DIN69871A
Max. spindle speed	10000 rpm / 12000 or 15000 rpm (Opt.)
Type of transmission	Direct Drive
Tool storage capacity	24T
ATC type	Arm type
Tool changing time (Tool to Tool)	2.0 sec

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Edison / A01

V33/V43 series

Vertical Machining Center

A New Level of Performance and Productivity in High Speed Cutting

- 920 mm span between Linear Ways on base
- ▶ Meehanite cast iron for all major structural parts.
- ▶ Choice of BT40 or BT50 spindle.
- ▶ X,Y,Z-axes rapid traverse rates: 32 m/min.
- ▶ Heavy duty roller type linear ways on 3 axes for maximum stability during high speed movement.
- ▶ Big diameter preloaded ball screw on three axes.
- ▶ 24 tools arm type ATC.
- ▶ Spindle chiller is standard.



Super Rigid Construction

Contributes towards what is a highly vibration-resistant machine

- ▶ Certified Meehanite cast iron provides a rock solid foundation.
- ▶ Oversized column in combination with massive base exhibit ultimate vibration-resistance.
- ▶ Heavy duty roller type linear ways on 3 axes for higher feed speed and positioning accuracy.
- ▶ Maximum table load 1,000 kgs.



Upgrade Product Quality and Reduce Production Cost at the Same Time

The V33/V43 Vertical Machining Centers from Long Chang make production cost savings possible through their exceptional speed and stability.

Machine Features



Rigid Spindle Head

- ▶ 6 blocks on Z-axis linear ways take more force from cutting.
- ▶ 10,000 rpm (#40) belt type spindle is standard.



Oversized Ball Screw

- ▶ Ball screw diameter for X, Y-axis is dia. 45 mm and dia. 50 for Z axis.
- ▶ Class C3, preloaded ball screws on three axes assure excellent feeding accuracy.



Heavy Duty Roller Type Linear Ways

- ▶ Large diameter of roller type linear ways (X-axis: 45 mm, Y, Z axis: 55 mm)
- ▶ Blocks are automatically lubricated.



920 mm span between linear ways on base.

Specifications

Machine Specifications	V33		V43	
X-Axis	850 mm (33.5")		1100 mm (43.3")	
Y-Axis	600 mm (23.6")			
Z-Axis	510 mm (20.1")			
Rapid traverse speed	32 M/min (1259.8" /min)			
Type of transmission	Direct Drive			
Type of tool shank	BT40 / CAT40 / DIN 69871A	BT50 / CAT50 / DIN 69871A	BT40 / CAT40 / DIN 69871A	BT50 / CAT50 / DIN 69871A
Max. spindle speed	10,000 / 15,000 or 20,000 rpm (Opt.)	6,000 / 8,000 rpm (Opt.)	10,000 / 15,000 or 20,000 rpm (Opt.)	6,000 / 8,000 rpm (Opt.)
Type of transmission	Belt / Direct drive or Build-in (Opt.)	Belt	Belt / Direct drive or Build-in (Opt.)	Belt
Tool storage capacity	24 Tools / 32 or 40 Tools (Opt.)	24 Tools / 32 or 40 Tools (Opt.)	24 Tools / 32 or 40 or 60 Tools (Opt.)	24 Tools / 32 or 40 Tools (Opt.)
ATC type	Arm type			
Tool changing time (Tool to Tool)	1.8 / 1.5 / 1.5 sec	2.9 sec	1.8 / 1.5 / 1.5 / 1.5 sec	2.9 sec

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MCV300 series

Vertical Machining Center

A Rebut VMC that's Built to Satisfy the Needs of High Metal Removal Rate.

Packed with lots of fine features, the heavy duty MCV300 is designed for efficient, vibration-free performance in various machining operations. Exceptionally rigid, the MCV300 is designed with box ways on three axes providing maximum stability during cutting. Top open front door design permits the operator to access the table easily. Powerful spindle motor contributes to high material removal rates.

Ruggedly Constructed Throughout Box Ways on Three Axes

- ▶ Certified Meehanite cast iron provides a rock solid foundation.
- ▶ All major parts are scientifically rib reinforced for high rigidity and excellent mechanical and thermal stability.



Machine Features



BT40, Belt-Drive Spindle

- ▶ Choice of spindle speeds: 8,000 rpm (standard) 10,000 rpm (optional)
- ▶ Cartridge type spindle is dynamically balanced, assembled in temperature controlled environment and easy to maintain.



Rigid Box Ways

- ▶ Extra wide box ways combined with large span between ways enable the machine to perform heavy cutting with maximum stability.
- ▶ Box ways are hardened, precision ground and coated with Turcite-II, featuring wear resistance and low friction efficient.



Heavy Table Loading Capacity

- ▶ With highly rigid machine structure the table loading capacity reaches 350 kgs.
- ▶ **Top Open Front Door**
- ▶ The top front door design makes the table easy to access, resulting in easier setup of workpieces.



Chip Flush System

- ▶ A simple but efficient removal mechanism can easily convey chips outside the machine.

Specifications

Machine Specifications

	MCV300		
X-Axis	610 mm (24")		
Y-Axis	355 mm (14")		
Z-Axis	460 mm (18.1")		
Rapid traverse speed	X/Y:20 M/min (787.4.8" / min), Z:18 M/min (708.7"/min)		
Type of tool shank	BT40 / CAT40 / DIN 69871A		
Max. spindle speed	8,000 / 10,000 rpm (Opt.)		
Type of transmission	Belt		
Tool storage capacity (Arm-Less)	10 tools	16tools (Opt.)	24 tools (Opt.)
ATC type	Armless type		Arm type
Tool changing time (Tool to Tool)	2 sec		3.2 sec

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MCV1000/1100 series

Vertical Machining Center

The Ultimate in Heavy and Precision Cutting Capability

Rugged! Stable! Precision Built for Years of accurate production work! The Long Chang MCV 1000/1100 are precision engineered VMC's incorporating outstanding features that have been asked for by users.

- ▶ Box ways on three axes.
- ▶ Oversized, preloaded ball screws for three axes transmission.
- ▶ BT40 or BT50 spindle taper.
- ▶ Maximum table load: 1000 kgs.
- ▶ Top open front door design for easy setup of workpiece.

Highly Rigid Construction

Outstanding Vibration-Dampening!
Minimized Deflection and Thermal Displacement.

- ▶ Meehanite cast iron for all major structural parts.
- ▶ Triangular column construction with internal ribbing for outstanding vibration-dampening and minimized deformation.
- ▶ Box ways on three axes with lifetime accuracy even under heavy cutting and high speed machining conditions.
- ▶ Massive base provides a solid support for heavy loads.



Machine Features



8,000 RPM Belt Type Spindle

- ▶ Choice of BT40 or BT50 spindle.
- ▶ 10,000 rpm direct-drive spindle is optional
- ▶ Coolant jets around spindle.



High Precision Ball Screw

- ▶ Class C3, preloaded ball screws on three axes are backlash free, leading to excellent feeding accuracy.



Extra Wide Box Ways

- ▶ Box ways are hardened, precision ground and coated with TiN-TiB. Way surface are precisely scraped to achieve high accuracy.



Precision Hand Scraping

- ▶ Hand scraping and precision grinding ensure stability and accuracy.

Specifications

Machine Specifications	MCV1000	MCV1100
X-Axis	1020 mm (40.2")	1,100 mm (43.3")
Y-Axis	510 mm (20")	600 mm (23.6")
Z-Axis	510 mm (20")	560 mm (22.0")
Rapid traverse speed	X/Y:20 M/min (787.4" /min), Z:18 M/min (708.7" /min)	X/Y:20 M/min (787.4" /min), Z:15 M/min (590.6" /min)
Type of tool shank	BT40 / CAT40 / DIN 69871A)	ISO40 (BT / CAT / DIN 69871A)
		ISO50 (BT / CAT / DIN 69871A)
Max. spindle speed	8,000 rpm / 10,000 rpm (Opt.)	8,000 rpm / 10,000 rpm (Opt.)
Type of transmission	Belt	Belt
Tool storage capacity	24 Tools	24T or 32T or 40T (Opt.)
ATC type		Armless type
Tool changing time (Tool to Tool)	3.2 sec	3.5 sec
		5 sec

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MCV1000: Edition / A01
MCV1100: Edition / A08

MCV1400/1600 series

Vertical Machining Center

A Big Capacity VMC that Handles Large Workpiece Easily

The quality built MCV1400/1600 are designed for large workpiece machining. Ruggedly constructed, they are capable of performing heavy cutting with maximum stability. Four box ways and base provide a firm support for heavy loads. Extra wide door opening design increases convenience when loading and unloading large workpieces.

4 Box Ways on Base

Dramatically Raising Table Loading Capacity

- ▶ Extra wide base, saddle and column construction eliminates overhang problems.
- ▶ Four box ways on base associated with great span between box ways to support heavy loads stably.
- ▶ The structural parts are reinforced by triangular webbing throughout for maximum rigidity and vibration-dampening.



Machine Features



Rigid Headstock

- ▶ Oversized box type headstock ensures high stability.
- ▶ Enlarged slideways for increased stability in heavy cutting.



4 Box Ways on Base

- ▶ 4 box ways are specially designed with large cross-section for higher loading capacity.



Center guided counter-balance weight



High Precision Ball Screw

- ▶ Class C3, preloaded ball screws on three axes are backlash free, leading to excellent feeding accuracy.

Specifications

Machine Specifications	MCV1400	MCV1600
X-Axis	1400 mm (55.11")	1600 mm (62.99")
Y-Axis	760mm (29.92")	
Z-Axis	680mm (26.77")	
Rapid traverse speed	X/Y:24 M/min (944.8"/min), Z:20 M/min (787.4"/min)	
Type of tool shank	BT40 / CAT40 / DIN 69871A	BT50 / CAT50 / DIN 69871A
Max. spindle speed	8,000 rpm / 10,000 rpm (Opt.)	8,000 rpm / 10,000 rpm (Opt.)
Type of transmission	Belt / ZFGear Box (Opt.)	
Tool storage capacity	24T / 32 or 40T (Opt.)	24T / 32 or 40T (Opt.)
ATC type	Arm type	
Tool changing time (Tool to Tool)	1.8 / 1.5 / 1.5 sec	2.9 sec

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Edison / A01

V2000 series

Double Column Machining Center

Big Cutting Capacity in a Rugged Structure

Unequaled in features and value, the V2000 double column machining center is designed for capacity and efficiency. It is well suited for both high precision and heavy cutting.

- ▶ Excellent and consistent accuracy.
- ▶ High Precision and rigid construction.
- ▶ Linear ways on 3 axes.
- ▶ Triple guideways on Y-axis provide better stability of spindle head.
- ▶ Wider door open range allows for convenient workpiece loading and unloading.
- ▶ Fully enclosed splash guard.

Optimal Double Column Design Tough! Rugged! Stable!

- ▶ Meehanite cast iron for all structural parts.
- ▶ Double column design features exceptional stability during heavy cutting.
- ▶ Enlarged saddle and rigid head structure.
- ▶ Linear ways on 3 axes.
- ▶ Two chip augers are equipped at both sides of base.



Machine Features



Triple Guideways on Y-axis
▶ Two roller type linear ways are mounted on the face of the beam, and another one is mounted on the top, providing an excellent holding of the headstock.



Big Table Loading Capacity
▶ Table sizes: 2,200 x 1,000 mm.
▶ Max. table loading: 3,000 kgs.
▶ One-piece fabricated base is equipped with two chip augers.



Chain Type Magazine
▶ #40, 30 tools arm type ATC is standard.
▶ #50, 32 tools arm type ATC is standard.
▶ #40 / 60 / 90 / 120 tools are optional.



Rotary Window (optional)

Specifications

Machine Specifications	V2000			
X-Axis	2050 mm (80.7")			
Y-Axis	1150 mm (45.27")			
Z-Axis	700 mm (27.55")			
Rapid traverse speed	X / Y / Z: 20 / 30 / 16 M/min			
Type of tool shank	BT40 / CAT40 / DIN69871A		BT50 / CAT50 / DIN 69871A	
Tool storage capacity	30 / (Opt.) 40 / 60T	(Opt.) 90 / 120T	30 / (Opt.) 40 / 60T	(Opt.) 90 / 120T
ATC type	Arm type			
Tool changing time (Tool to Tool)	2.5 sec	1.6 sec	3.5 sec	3.57 sec

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