

CNC MACHINING CENTER

EXTRON ยี่ห้อหนึ่งของ CNC Machining Center ที่ สยาม เอลมาเทค เป็นตัวแทนตั้งแต่เมื่อ 17 ปีก่อน จากนั้นไป Head Front Cover จะเปลี่ยนเป็นสี่เหลี่ยม และ Logo จะเปลี่ยนเป็นสี่เหลี่ยม M-Series เป็นรุ่น....เครื่องแรกในสี่ตัวใหม่นี้ น่าจะมาถึงมือลูกค้า ปลายปีนี้ ก็ต้นปีหน้า

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m Series
High Rigidity Vertical Machining Centers

EXTRON
THE ULTIMATE MANUFACTURING POWER

m SERIES

With 40 years experience of manufacturing machine tools, EXTRON has continuously developed and provided creative machine tools for global customers. We're always looking for solutions to improve our products and give you the best quality, reliable machines and service.

- 3 axes adopt high rigidity box ways design which is suitable for high rigidity requirements of heavy cutting.
- German made ZF gear box is option to provide high torque output to fulfill heavy cutting capability. Also, equipped 15,000 rpm direct drive spindle provides high speed high accuracy machining application is available for option.
- Arm type tool ATC system provides smooth tool changing without delay.
- Powerful coolant nozzles around spindle featured with high pressure flush coolant design provides high performance chip removal capability while ensuring outstanding machining accuracy.

HIGH RIGIDITY VERTICAL MACHINING CENTERS M860 / M1100 / M1320 / M1600 / M1600L

The M series featured excellent cutting and structural rigidity along with high torque ZF gear box, high speed spindle and ATC system to achieve heavy-duty machining capability. Drilling, milling and tapping can be processed in one set-up to fulfill your requests in the future.

m SERIES

- The Monolithic casting structure and A-shaped column design provide solid support to efficiently enhance structure rigidity.
- The massive structure of bed, column, and table are all adopted with enforced cross ribs design that offers the best stability and precision for constantly machining.
- By carrying the weight of tool magazine and tools on casting body can enforce reliability of tool change and extend usage of tool magazine.
- Box ways are coated with specialized Turcite-B which can not only prevent slow-moving and lower abrasion, but also maintain high rigidity, low wear and noiseless along with great positioning accuracy.

Bed Structure

- One piece wide bed structure with four box ways eliminates over-hung issue of working table to ensure optimal solid support.
- Contact surface between bed and column are carefully hand-scraped to ensure optimal precision assembly and enforce structural strength.

Rapid Axial System

- 3 axes are adopted with direct drive AC servo motor to ensure great heavy load ability and provide high dynamic accuracy and fast acceleration/deceleration.
- C3 class ball screw with double nuts ensures optimal accuracy and long lasting. Besides, pre-tension design on all axes elevates thermal deformation to ensure outstanding machining accuracy.

SUPER RIGID STRUCTURE M860 / M1100 / M1320 / M1600 / M1600L

M1100 High rigidity structure

Unique Spindle System

- Depend on machining characteristics, gear drive system provides high torque machining, or high speed direct drive system is also available for specific high accuracy dies & molds machining.
- High speed 15,000 rpm direct drive spindle provide high machining accuracy due to rotating least from motor.
- Equipped 2-step German made ZF gear box provides high torque heavy cutting capability at low rpm. (Option L1050 / L1320)
- Spindle frame is adopted enforced steel alloy and 3 sets of bearing. Spindle motor runs through dynamic balancing to ensure quality is beyond G6-high accuracy balancing according to ISO 1940 standard while ensuring spindle run-out less than 0.003mm.

All series are standard with spindle chiller to eliminate thermal deformation and ensure high accuracy and long lasting.

15,000 rpm Direct drive Spindle

8,000 rpm Ball drive Spindle **8,000 rpm ZF Gear drive**

Fast and Reliable ATC System

Belt drive system Direct drive system Gear drive system

BT 40 10,000 rpm Belt drive Spindle

BT 40 10,000 rpm Direct drive Spindle

BT 40 6,000 rpm Belt drive Spindle

BT 40 6,000 rpm ZF Gear drive

Fast and Reliable ATC System

➤ Equipped with high efficiency ATC system which provides reliable and smooth tool changing without delay.

High Efficiency Chips Removal

Side exit type

High pressure-chips flush coolant
Screw type chip auger x 1

M860 M1100 M1320

Side exit type Option

High pressure-chips flush coolant
Caterpillar type chip conveyor

M860 M1100 M1320

Rear exit type

High pressure-chips flush coolant
Screw type chip auger x 2

M1600 M1600L

Rear exit type Option

High pressure-chips flush coolant
Screw type chip auger x 2
Caterpillar type chip conveyor

M1600 M1600L

High Efficiency Chips Removal

Side exit type

High pressure-chips flush coolant
Screw type chip auger x 1

M860 M1100 M1320

Side exit type Option

High pressure-chips flush coolant
Caterpillar type chip conveyor

M860 M1100 M1320

Rear exit type

High pressure-chips flush coolant
Screw type chip auger x 2

M1600 M1600L

Rear exit type Option

High pressure-chips flush coolant
Screw type chip auger x 2
Caterpillar type chip conveyor

M1600 M1600L

Dimensions

Table Dimensions

Model	A	B	C	D
M860	984	500	120	53
M1100	1,260	600	120	60
M1320	1,220	700	145	80
M1600	1,800	800	165	70
M1600L	1,800	800	165	70

T-slot Dimensions (Unit: mm)

* 30 (M1000/M1600L)

Machine Dimensions M860/M1100/M1320

Model	A	B	C	D	E	F	G	H	I	J	K
M860	2,260	3,415	2,380	2,335	2,485	2,825	750	-	400	850	700
M1100	3,000	3,640	2,280	2,340	2,710	3,660	690	380	950	845	750
M1320	3,100	3,840	2,720	2,875	3,760	3,870	700	-	400	950	750

Tool Shank and Pull Stud Dimensions (Unit: mm)

BT40

BT50

CAT30

CAT50

Machine Dimensions M1600/M1600L

SPECIFICATIONS

	M860	M1100
Z-axis travel	205	170
X-axis travel	510	430
Z-axis level	435	750
Distance from spindle nose to table top	900	900
Distance from spindle nose to table top	750 ± 0.05	340 ± 0.05

WORKING TABLE

	M860	M1100
Table size	984 x 500	1,260 x 600
T-slot width x no. x space	18 x 4 x 130	18 x 4 x 120
Table load capacity	900	1,800

SPINDLE

	M860	M1100
Spindle motor (cont.) (30 min.)	7.5 / 11	7.5 / 11
Spindle speed	Belt drive 6,000 (Opt. 10,000) Direct drive 10,000 (Opt. 12,000 / 15,000 / 20,000)	Belt drive 6,000 (Opt. 10,000) Direct drive 10,000 (Opt. 12,000 / 15,000 / 20,000) Gear drive 6,000 (Opt. 6,000)

FEED RATE

	M860	M1100
X, Y, Z 2-axis rapid feed rate	24 / 24 / 16	24 / 24 / 16
Cutting feed rate	10	10

TOOL MAGAZINE

	M860	M1100
Tool magazine capacity	30	30
Max. tool diameter / wdg. pocket empty	Ø 76 / Ø 110	Ø 76 / Ø 110
Max. tool length	200	200
Max. tool weight	7	7

ACCURACY

	M860	M1100
Positioning accuracy (JIS B 6336)	± 0.010 / Full Travel	± 0.010 / Full Travel
Positioning accuracy (VDI 3441)	± 0.015 / Full Travel	± 0.015 / Full Travel
Repeatability (JIS B 6336)	± 0.005	± 0.005
Repeatability (VDI 3441)	± 0.005	± 0.005

GENERAL

	M860 / M1100	M1320 / M1600 / M1600L
Control system	FANUC / MITSUBISHI / SIEMENS / HEDENHAIN	FANUC / MITSUBISHI / SIEMENS / HEDENHAIN
Power requirement	32	48
Pneumatic pressure requirement (min.)	5 ~ 8 (1.5)	5 ~ 8 (1.5)
Coolant tank capacity (pump)	240 (1)	240 (1)
Machine weight	4,350	4,350

Standard Accessories

Spindle chiller	Centralized automatic lubricating system	Alarm light
Coolant nozzle around spindle	Chip flush coolant system	Wipe-off work light
Fully enclosed splash guard	Air gun system	Operation manual
Coolant system with pump and tank	Automatic power off system	Adjusting tools & tool box
Screw type chip auger	Leveling bolts & pads	

SPECIFICATIONS

	M1320	M1600	M1600L
Z-axis travel	130	160	160
X-axis travel	710	800	1,000
Z-axis level	750	800	800
Distance from spindle nose to table top	755	800	1,000
Distance from spindle nose to table top	Ø 110 ± 0.05	Ø 130 ± 0.04	170 ± 0.05

WORKING TABLE

	M1320	M1600	M1600L
Table size	1,220 x 700	1,800 x 800	1,800 x 800
T-slot width x no. x space	18 x 4 x 145	18 x 4 x 145	18 x 4 x 145
Table load capacity	1,800	2,800	2,800

SPINDLE

	M1320	M1600	M1600L
Spindle motor (cont.) (30 min.)	11 / 16.5 (Opt. 16.5 / 22)	11 / 16.5 (Opt. 16.5 / 22)	11 / 16.5 (Opt. 16.5 / 22)
Spindle speed	Belt drive 6,000 (Opt. 10,000) Direct drive 10,000 (Opt. 12,000 / 15,000 / 20,000) Gear drive 6,000 (Opt. 6,000)	Belt drive 6,000 Direct drive 10,000 (Opt. 12,000 / 15,000 / 20,000) Gear drive 6,000 (Opt. 6,000)	Belt drive 6,000 (Opt. 10,000) Direct drive 10,000 (Opt. 12,000 / 15,000 / 20,000) Gear drive 6,000 (Opt. 6,000)

FEED RATE

	M1320	M1600	M1600L
X, Y, Z 2-axis rapid feed rate	24 / 24 / 16	24 / 24 / 16	24 / 24 / 16
Cutting feed rate	10	10	10

TOOL MAGAZINE

	M1320	M1600	M1600L
Tool magazine capacity	30	30	30
Max. tool diameter / wdg. pocket empty	Ø 80 / Ø 110	Ø 125 / Ø 150	Ø 80 / Ø 150 or Ø 125 / Ø 200
Max. tool length	200	200	200
Max. tool weight	7	15	7 / 15

ACCURACY

	M1320	M1600	M1600L
Positioning accuracy (JIS B 6336)	± 0.010 / Full Travel	± 0.010 / Full Travel	± 0.010 / Full Travel
Positioning accuracy (VDI 3441)	± 0.015 / Full Travel	± 0.015 / Full Travel	± 0.015 / Full Travel
Repeatability (JIS B 6336)	± 0.005	± 0.005	± 0.005
Repeatability (VDI 3441)	± 0.005	± 0.005	± 0.005

GENERAL

	M1320	M1600	M1600L
Control system	FANUC / MITSUBISHI / SIEMENS / HEDENHAIN	FANUC / MITSUBISHI / SIEMENS / HEDENHAIN	FANUC / MITSUBISHI / SIEMENS / HEDENHAIN
Power requirement	42	48	48
Pneumatic pressure requirement (min.)	5 ~ 8 (1.5)	5 ~ 8 (1.5)	5 ~ 8 (1.5)
Coolant tank capacity (pump)	240 (1)	240 (1)	240 (1)
Machine weight	6,500	74,000	74,000

Optional Accessories

ZF gear box	Oil skimmer	ChC rotary table
15,000 rpm direct drive spindle	Oil mist system	A/C cooler for electrical cabinet
Coolant through spindle (30 bar)	Automatic tool length measurement	Caterpillar type chip conveyor
X, Y, Z 2-axis rapid feed scale	Automatic work piece measurement	Automatic chip collector

Specifications are subject to change without notice.