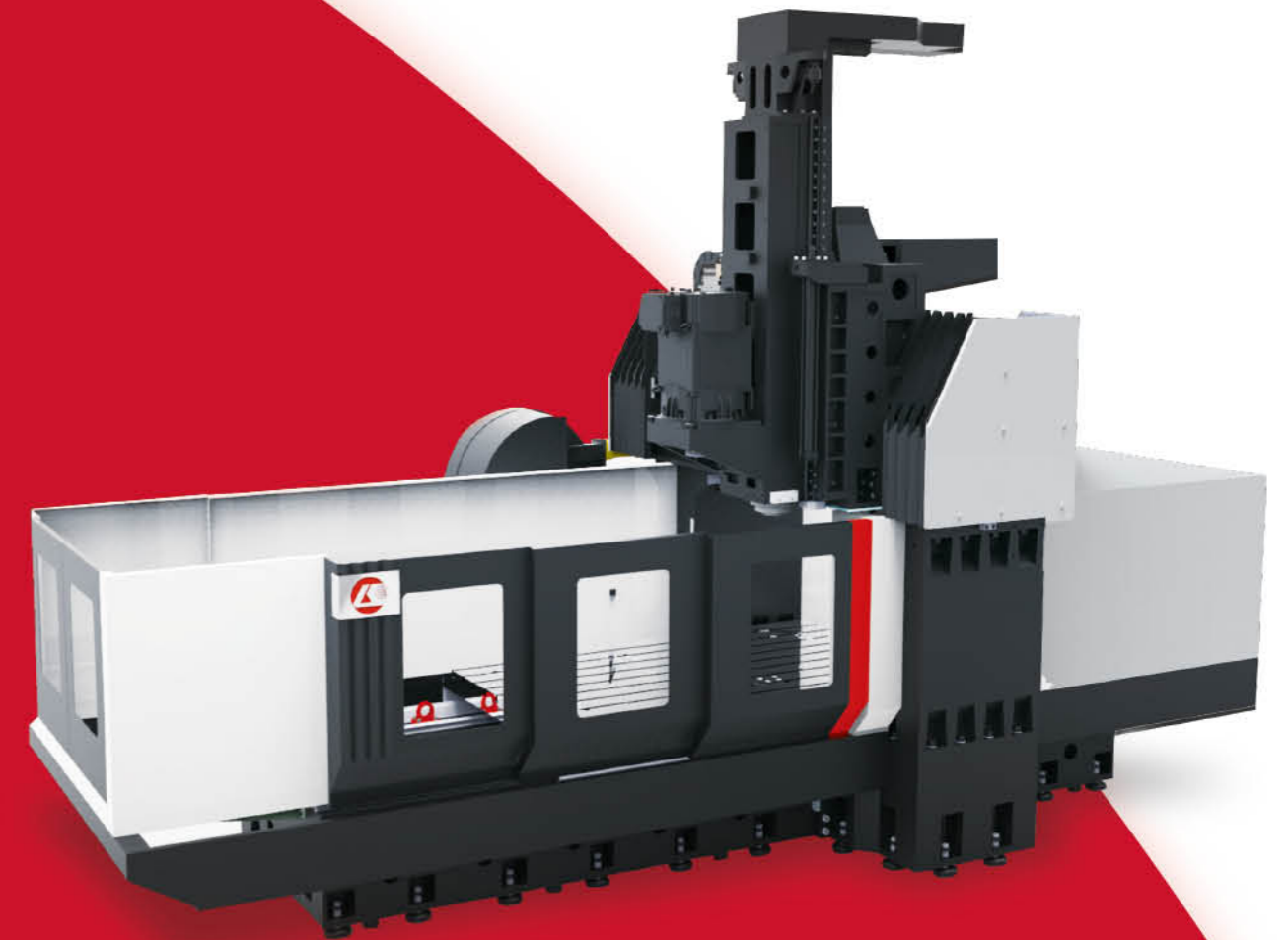




L.K Machinery Corp.

力盡淬鍊 勁是完美

LM series



L.K. Machinery Corp. (TAIWAN)

No.30, Keyuan Rd., Xitun Dist., Taichung City 40763, Taiwan (R.O.C.)

TEL: (+886) 4 2461 9797 FAX: (+886) 4 2461 1555

E-mail: lktw_sales@lkmachinery.com.tw

CE ISO 9001
ISO 14001

LM201808(E)

Machine Structure >>

- 3 axes roller linear guideways.
- Main structure of casting: base, table, column, beam, beam's carriage and head stock are 3D design with stress analysis to optimize rib , structure and enhance the machine's rigidity.



Quality Assurance >>

- **Quality Inspection**
ISO 9001 quality management system has carried out incoming, in-process and finished products inspection, along with detailed data recording for after-service and quality improvement
- **Quality Testing**
Machine has been through a completed & strict testing of quality control before final delivery



■ Cross-sectional (800x500 mm) column optimize the cutting accuracy

■ Optimum design of ladder beam and square rib , with high rigidity structure, significantly reduce distorted deformation

■ Table with square rib & box structure improves the table loading and guaranteed bearing weight provides rigidity & resist deformation

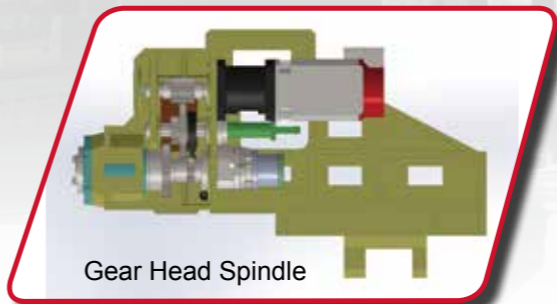
■ Box-typed spindle head, square rib structure reduce headstock's weight and improve the responsiveness and demonstrate the excellent rigidity

■ V-shaped rib designs on the base ensure no deformation under heavy loads, along with the best guideways ratio to obtain a stable of high speed cutting performance

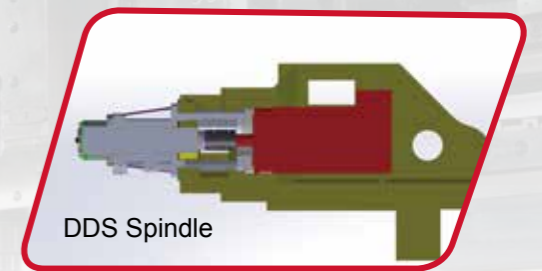
Spindle



- **One-piece molding design**
Providing high torque in low speed for heavy-duty machining & high speed cutting.
- **High efficiency cooling system**
Ensure the spindle running smoothly and maintain the temperature's stability

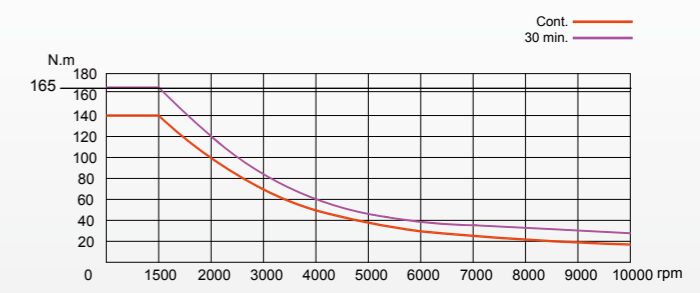
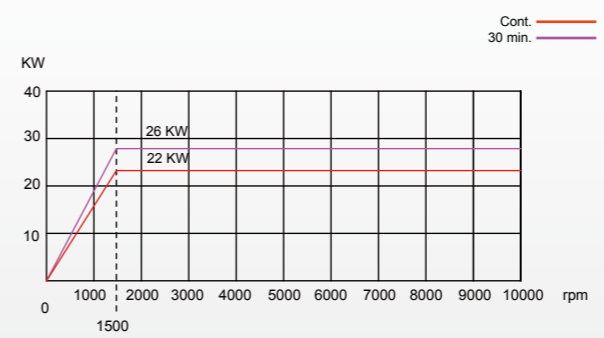


- High cutting efficiency
- Mechanical stability
- Can bear high-torque load at low-speed, for heavy cutting

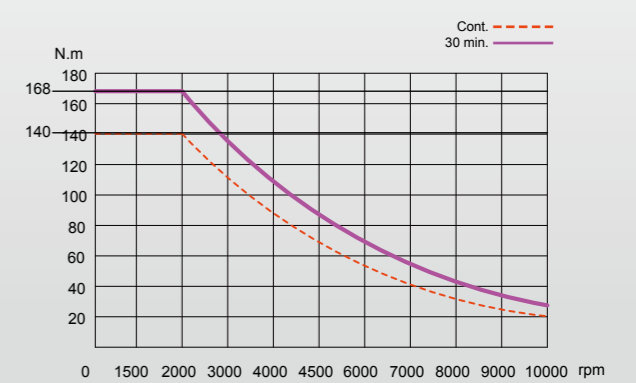
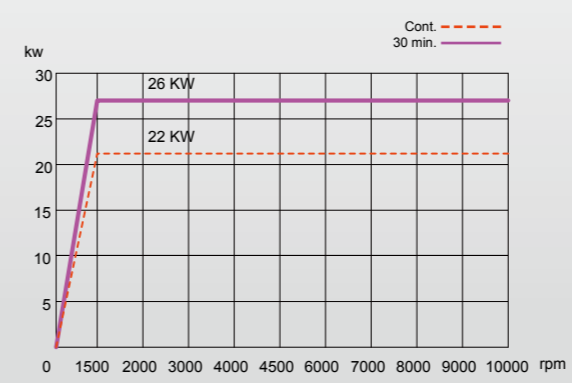


- Noise at high speed is much lower than the belt spindle
- DDS spindle without the trouble of vibration during driving, able to improve the workpiece surface roughness and precision
- When doing low-speed heavy cutting, compared with belt head haven't a trip problem

FANUC DDS Spindle ai22-10000

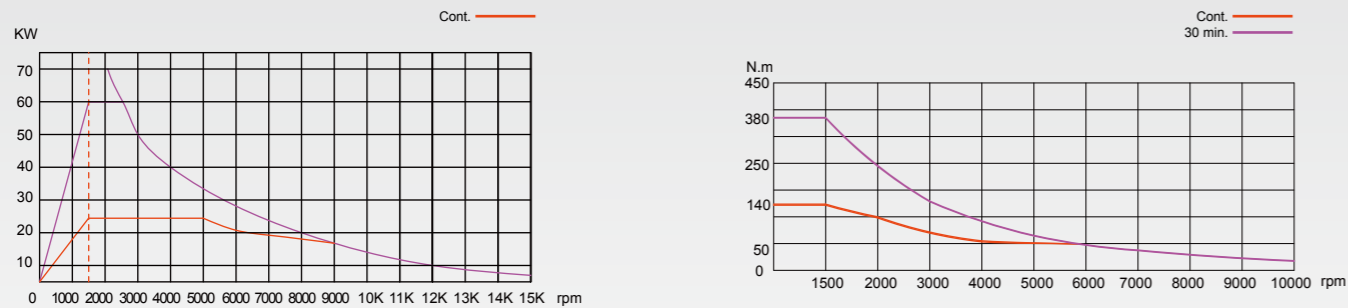


Mitsubishi DDS Spindle SJ-VK30-2FZT

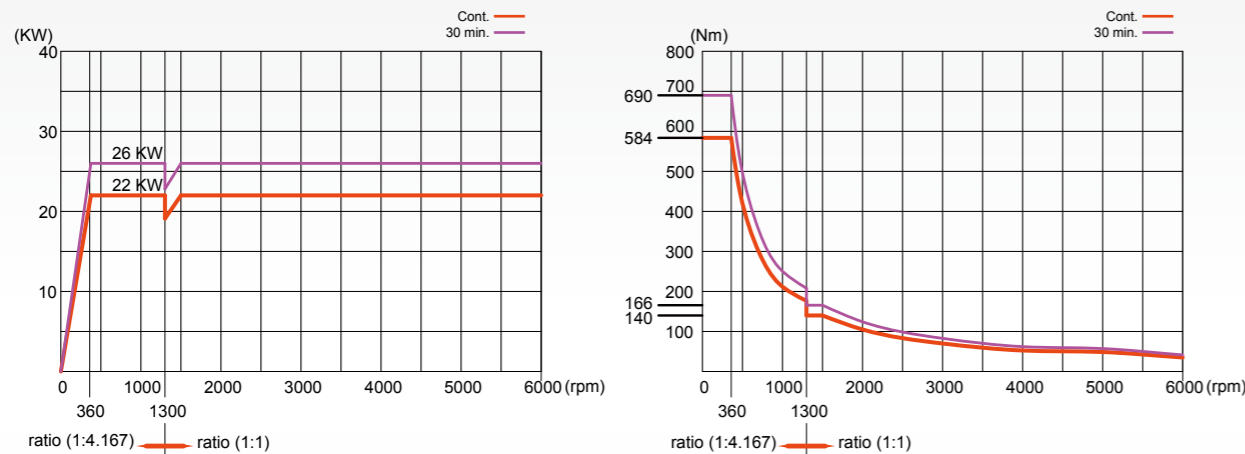


Power Chart

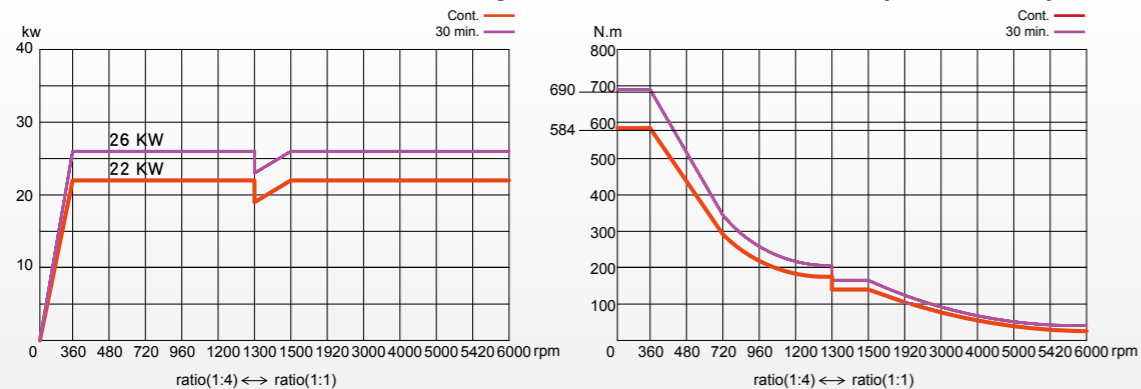
Siemens DDS Spindle 1PH8137-10F02



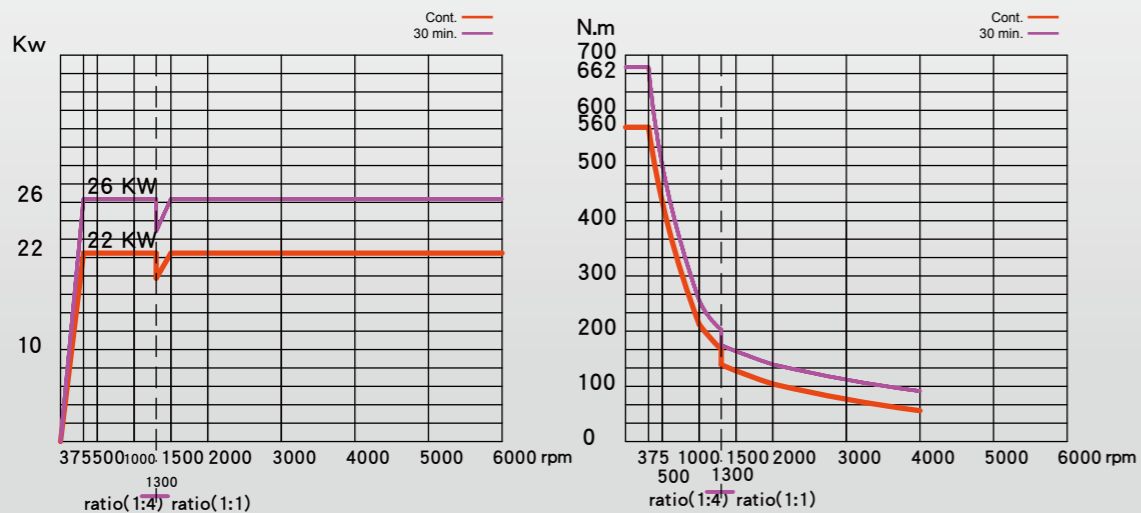
FANUC Gear Head Spindle ail22/7000 (Ratio 0.25)



Mitsubishi Gear Head Spindle SJ-VK26-01ZT (Ratio .25)



Siemens Gear Head Spindle 1PH8137-1DF02 (Ratio .25)

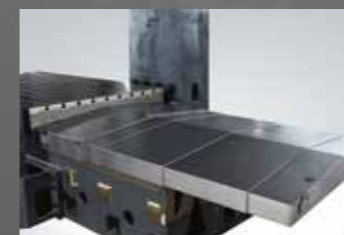


Tool Magazine

- Fast & Reliable ATC Configuration
- 24 tools arm type ATC system, improves the processing efficiency

Controller

- Self-developed circuit, PLC, control panel, and electric cabinet with heat exchanger matched with safety regulation, improves machine reliability & maintenance support.



- 3 axes transmission:
 - X-axis: gear transmission, with 1:3 gear ratio
 - Y-axis: direct drive
 - Z-axis: direct drive

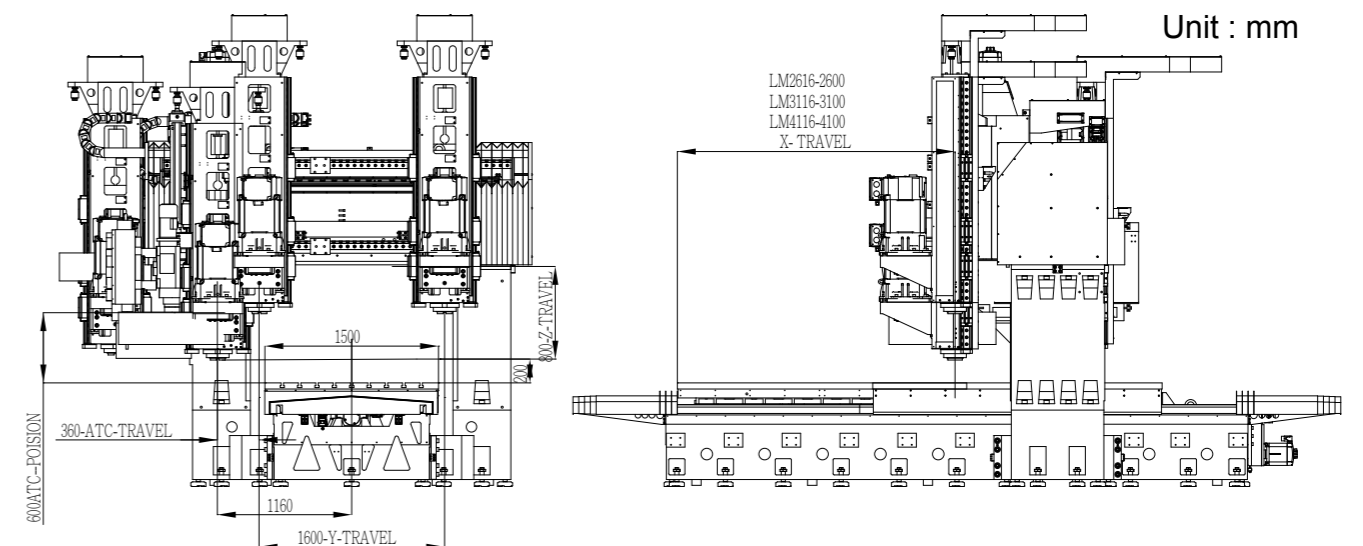
- 3 axes position feedback are used the motor with absolute encoder, the benefits:

- No need to home return when turn on the machine.
- Abnormal operation / power off, still be able to the absolute precise position.

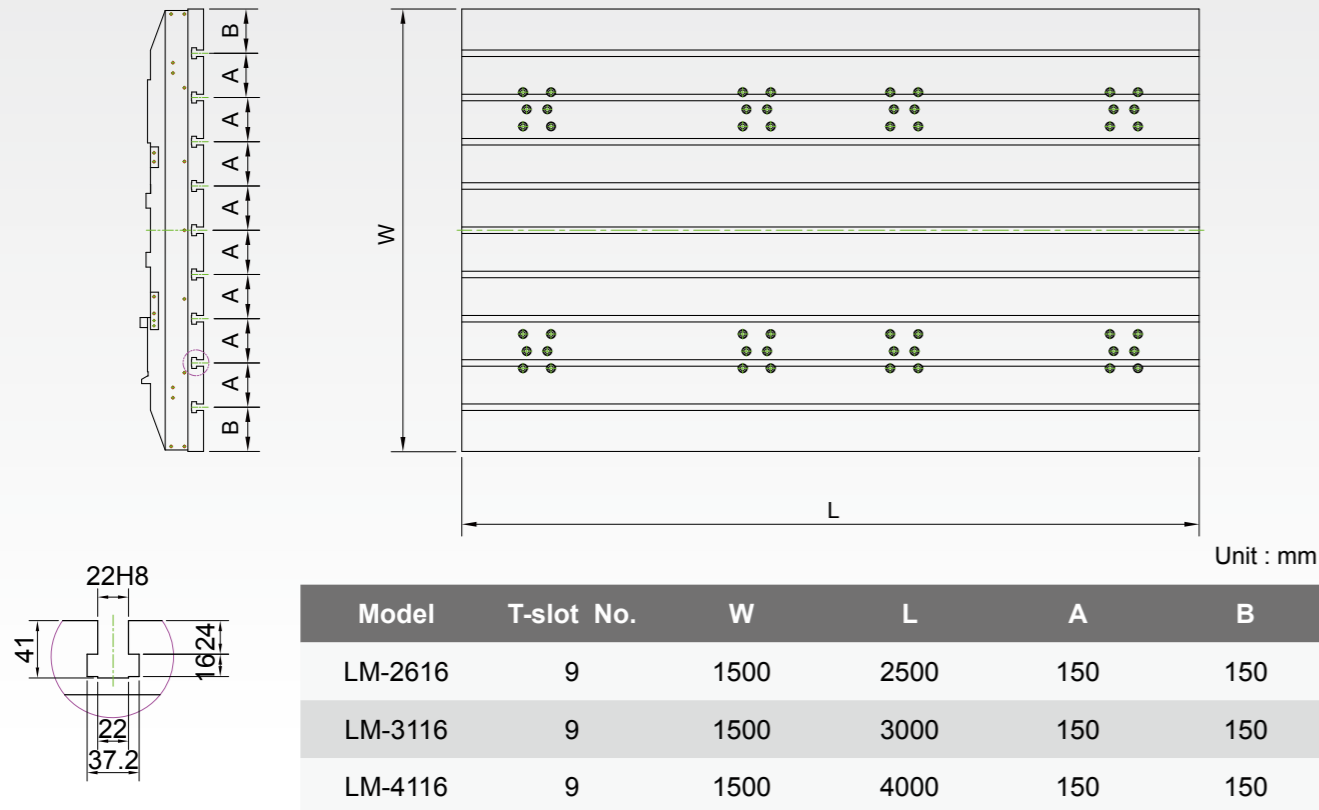
- 3 axes ball screw bearing seat is designed with anti-collision mechanism.

- Rotatably suspended operation box, providing the operator with a wide range of operating space, as well as easy operation & observation when processing.

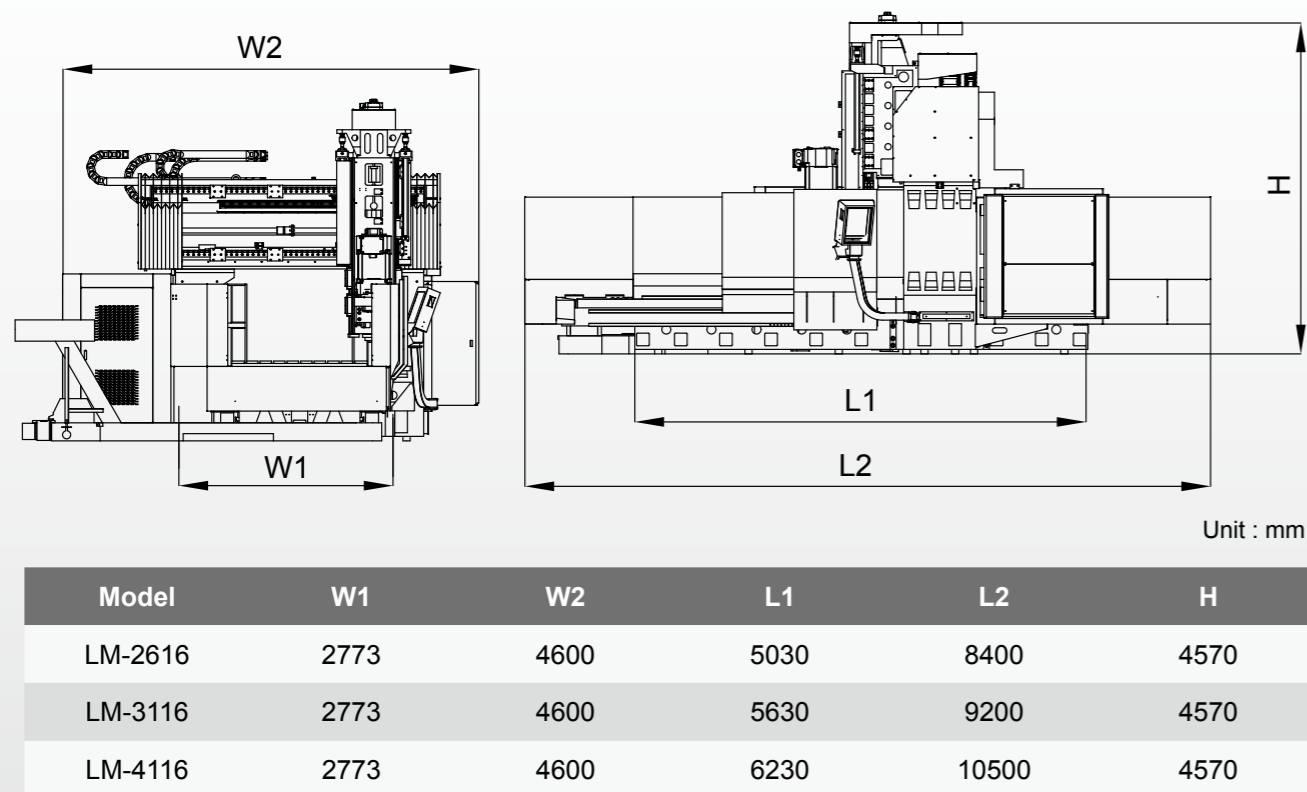
Interference Diagram



T-solt & Table



Floor Space



Model	Unit	LM-2616	LM-3116	LM-4116
CNC Control System	-	Fanuc 0i-MF	Fanuc 0i-MF	Fanuc 0i-MF
3 axis Travel				
X axis Travel	mm	2600	3100	4100
Y axis Travel	mm	1600	1600	1600
Z axis Travel	mm	800	800	800
Distance from Spindle Center to Table	mm	200~1000	200~1000	200~1000
Spindle				
Spindle Speed	rpm	DDS 8,000	DDS 8,000	DDS 8,000
Spindle Nose	BT	#50	#50	#50
Spindle Motor(Cont./30min)	kw	22/26	22/26	22/26
Table				
Table Size	mm	2500 x 1500	3000 x 1500	4000 x 1500
T Slot(Width x No. x Pitch)	mm	22 x 9 x 150	22 x 9 x 150	22 x 9 x 150
Max. Table Capacity	kg	9,000	10,000	12,000
Rapid Travel				
Rapid Travel(X/Y/Z)	m/min	24/24/15	24/24/15	24/24/15
Cutting Speed Rate	m/min	1-20	1-20	1-20
X/Y/Z Feed Motor	kw	8.2/7.7/4.85	8.2/7.7/4.85	8.2/7.7/4.85
Tool Magazine				
Tool Change Type	-	Arm	Arm	Arm
Tool Capacity	set	24	24	24
Max. Tool Weight	kg	15	15	15
Max. Tool Length Distance	mm	350	350	350
Max. Tool Diameter	mm	105/210	105/210	105/210
Tool Change Time(T-T)	sec	6	6	6
Tool Change Time(C-C)	sec	13	13	13
Others				
Compress Air Supply	kg/cm ²	5~7	5~7	5~7
Machine Size(LxWxH)	mm	8400 x 5100 x 4570	9200 x 5100 x 4570	10500 x 5100 x 4570
Net Weight	kg	23,800	25,000	28,000

- | | | |
|---|---|--|
| <p>Standard Equipment</p> <ul style="list-style-type: none"> ◆ Fanuc 0i-MF ◆ DDS 8,000 ◆ BT-50 ◆ Arm Type 24 tools ◆ Spindle Air Blast ◆ 3 axis Roller Type Linear Guideway ◆ Double Counterweight Cylinder ◆ Automatic Lubrication System ◆ Cutting Coolant System ◆ Open Type of Splash Guard ◆ Screw Type Chip Conveyor ◆ Link Type Chip Conveyor ◆ Portable Chip Bucket ◆ Coolant Tank ◆ Flushing Device ◆ Separate Hand Wheel (MPG) ◆ Heat Exchanger | <p>Optional Equipment</p> <ul style="list-style-type: none"> ◆ Rigid Tapping ◆ Working Light ◆ Tri-color Indicator Lamp ◆ RS-232 Interface ◆ Tool Box ◆ Leveling Bolts & Blocks ◆ Mechanical Operation Manual | <p>Optional Equipment</p> <ul style="list-style-type: none"> ◆ Mitsubishi M80 ◆ Siemens 828D ◆ DDS 10,000rpm ◆ Gear 6,000rpm ◆ Arm Type 32 tools ◆ Full Enclosure Splash Guard ◆ Coolant through Spindle ◆ Electrical Cabinet Air Conditioner ◆ Column add 200mm ◆ Linear Scale on X/Y/Z axis ◆ Oil Skimmer ◆ Automatic Workpiece Measurement System ◆ Automatic Tool Length Measurement System ◆ Fourth axis Interface ◆ Manual 90 degree Milling Head ◆ Manual Universal Milling Head ◆ Manual Extended Head |
|---|---|--|