

# LEADYANG

Professional Technique & Service

# LEADYANG

Professional Technique & Service

Since 1997 we always insist on the sincere service



#### LEADYANG PRECISION TECHNOLOGY CO., LTD.

ADDRESS: 55, Lane 357, sec. 1, Sinan Road, Wurih Dist.,  
Taichung City, Taiwan.  
Tel: (886)4-2335-8355 Fax: (886)-4-2335-1907 Post: 41467

#### LEADYANG INDUSTRIAL (HEFEI) LTD.

ADDRESS: 8, Qing Luan Rd., Privately Operated Technical  
Economic 2nd Garder, Hefei Economic & Technological  
Development Zone, Hefei, Anhui Province, P.R. CHINA  
Tel: (0551)6382-8868 Fax: (0051)6382-8858 Post: 230601  
<http://www.leadyang.com> E-mail: LY@leadyang.com.tw

AGENT

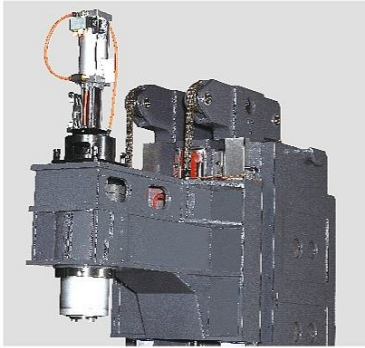
2016-09

Design & Print: 0925-530147

# VMC-147 High Speed Series

## Vertical Machining Center

X.Y Roller Linear Way Z Box Way X.Y.Z Roller Linear Way



## Various Spindle Selections

### Direct transmission

BBT40 10000/12000/15000 RPM  
Spindle arbor 70mm

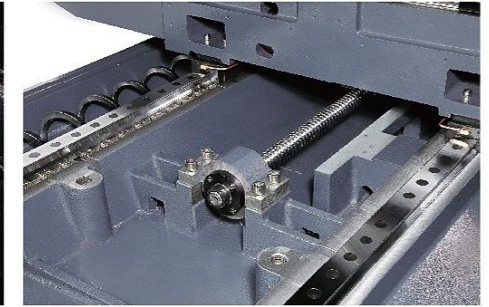
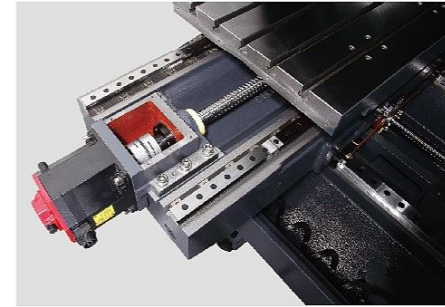
BBT50 10000/12000RPM  
Spindle arbor 90mm

### Belt transmission

BT50/BBT50 6000/8000RPM  
Spindle arbor 100mm

### Gear transmission

BBT50 6000RPM  
Spindle arbor 100mm



## C3 Class Ballscrew

Triaxial ballscrews are equipped with diameter Ø45 and C3 class ballscrews. All ballscrews are dealt with pre-pressing and pre-stretching to ensure lowest backlash and heat deformation.

## Strengthening the Support of the Ballscrew Both Ends

The both ends of the ballscrews are installed with 4 sets supporting bearings separately.



## Superior Spindle Gear Head

The gears are designed by two stage transmission. The lower speed gear is suitable for heavy cutting. The gears are manufactured by HAMADA KOKI Japan.

## Gear Spindle with High/Low Torque Design

100mm diameter arbor's design and P4 class precision bearings are applied for the gear spindle.



## Box Type Structure of Casting

Base, saddle, table, spindle head and column are designed with box structure. The structure of ribs is enhanced to improve machine's rigidity and avoid machine's deformation.

Five major MEEHANITE castings are made in Taiwan; the quality is stable and excellent.

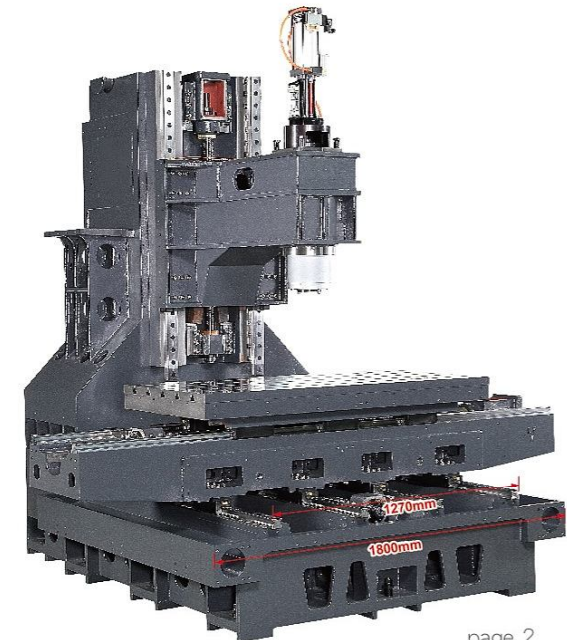
## Heavy Loading Roller Linear Guideway

Guideway Width	Guideway Quantity	Slider Quantity
X 45mm	2	6
Y 45mm	4	8
Z 55mm	2	4

Triaxial roller type linear guideway can improve insufficient loading and rigidity of the original ball type liner guideway design.

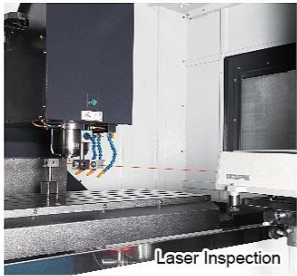
## One-Piece Casting for Chip Flute and Bottom Base

Dual screw chip conveyors are equipped in order to remove the chips easily and solve leakage problem.



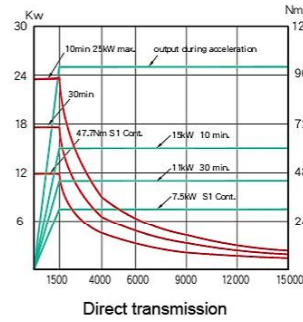
## Strict Quality Inspection Regulation

- ① Each machine has 100% full inspection.
- ② Entire machine has Geometric Accuracy Test.
- ③ Ball-Bar inspection:  
Use circular tester to adjust accuracy of roundness and machine.
- ④ Laser inspection:  
According to ISO230-2 (VDI3441) standard, machine will do multiple back and forth operation with compensation to meet the suitable machine accuracy. Each machine has individual inspection report.
- ⑤ Spindle dynamic balancing correction. This can ensure the spindle stability during high rotation speed.

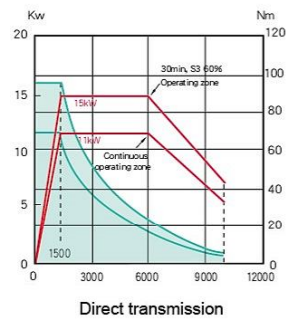


## Spindle Power and Torque Curve

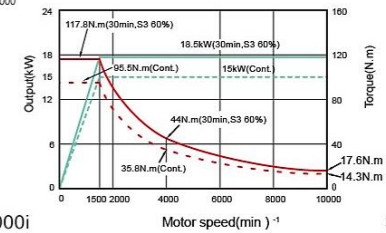
Spindle motor  $\alpha$  iT8/15000i



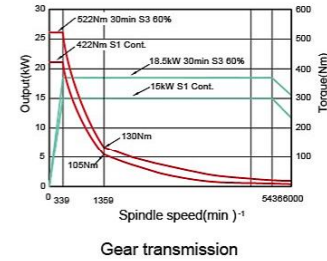
Spindle motor  $\alpha$  i12 / 10000i



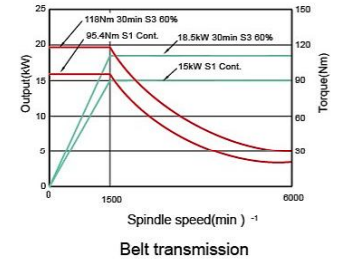
Spindle motor  $\alpha$  i15 / 10000i



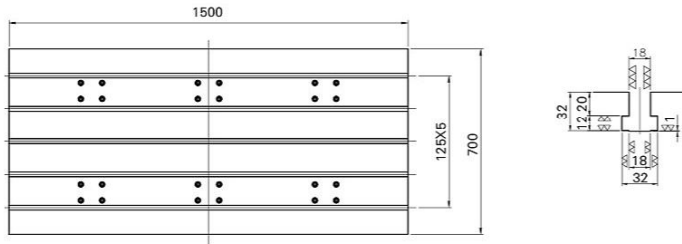
Spindle motor  $\alpha$  i15 / 7000i



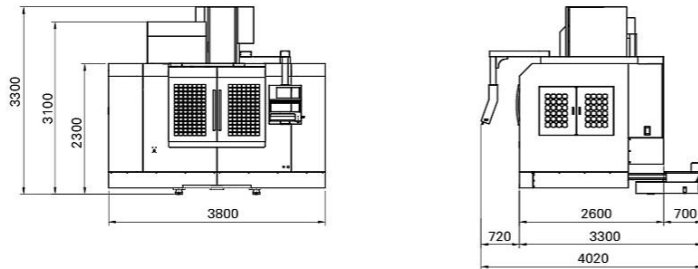
Spindle motor  $\alpha$  i15 / 7000i



## Table Dimension(mm)



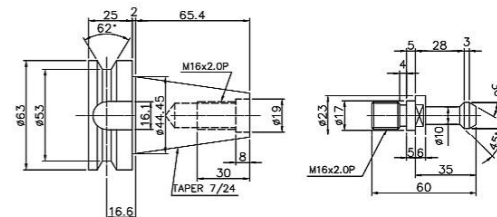
## Machine Dimension(mm)



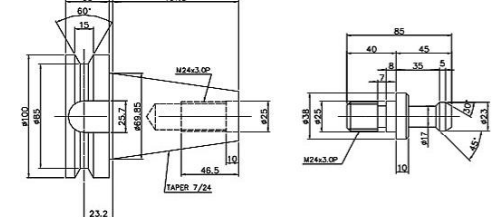
LEADYANG reserves the right to change the appearance design and specifications.  
And the above specifications are subject to change without notice

## Tool Taper Dimension(mm)

BT40 / BBT40



BT50 / BBT50



## Machine Specification

Model	Unit	VMC-147BL	VMC-147DL	VMC-147GL	VMC-147BH		VMC-147DH	
<b>TRAVEL</b>								
X/Y/Z Axes Travel	mm	1400/700/650	1400/700/650	1400/700/650	1400/700/650		1400/700/650	
Spindle Nose to Table	mm	150~800	150~800	150~800	100~750	150~800	100~750	150~800
Type of Guideway(X/Y)		Roller linear	Roller linear	Roller linear	Roller linear		Roller linear	
Type of Guideway (Z)		Box way	Box way	Box way	Roller linear		Roller linear	
Width of Linear Guideway		45/45	45/45	45/45	45/45/55		45/45/55	
Slider Quantity(X/Y/Z)		6/8	6/8	6/8	6/8/4(6)		6/8/4(6)	
<b>TABLE</b>								
Table Size	mm	1500x700	1500x700	1500x700	1500x700		1500x700	
T-Slot Size	mm	18x5x125	18x5x125	18x5x125	18x5x125		18x5x125	
Max. Table Load	kgs	1500	1500	1500	1500		1500	
<b>SPINDLE</b>								
Spindle Transmission		Belt type	Direct type	Gear type	Belt type		Direct type	
Spindle Taper		BT-50(BBT-50)	BBT-50	BBT-50	BT40	BT50	BBT-40	BBT-50
Spindle Speed	rpm	6000/8000	10000/12000	6000	8000/10000	6000/(8000)	10000/12000/15000	10000/12000
Spindle Motor (cont./ 30 mins)	kw	15/18.5	15/18.5	15/18.5	11/15(15/18.5)	15/18.5	11/15(15/18.5)	15/18.5
<b>CUTTING FEED RATE</b>								
X/Y/Z Rapid Travel Rate	m/min	24/24/12		24/24/12	24/24/20	24/24/20	24/24/20	24/24/20
X/Y/Z Cutting Feedrate	m/min	1-12m/min		1-12m/min	1-12m/min	1-12m/min	1-12m/min	1-12m/min
<b>A.T.C. (Optional)</b>								
Tool Change Method		Cam arm type		Cam arm type	Cam arm type	Cam arm type	Cam arm type	Cam arm type
Magazine Capacity	tools	24/(30/32)		24/(30/32)	24/(30/36)	24/(30/32)	24/(30/36)	24/(30/32)
Tool Change Time (Tool to Tool)	sec	3.5		3.5	2	3.5	2	3.5
Max. Tool Diameter	mm	125/200		125/200	75/150	125/200	75/150	125/200
Max. Tool Length	mm	250		250	250	250	250	250
Max. Tool Weight	kgs	15		15	7	15	7	15
<b>ACCURACY STANDARD ISO 230-2 (VDI3441)</b>								
Positioning Accuracy	mm	0.008		0.008	0.008	0.008	0.008	0.008
Repetitive Positioning Accuracy	mm	0.006		0.006	0.006	0.006	0.006	0.006
Ball-bar Accuracy	mm	0.01/300		0.01/300	0.01/300	0.01/300	0.01/300	0.01/300
<b>ACCESSORY EQUIPMENT</b>								
Spindle Cooling Ability	kcal	1250		1250	840	1250	840	1250
Cutting Coolant Pump	w	1270		1270	1270	1270	1270	1270
Grease System Pump	w	100		100	100	100	100	100
<b>OTHERS</b>								
Air Pressure Requirement	kgs/cm <sup>2</sup>	6		6	6	6	6	6
Electric Power Requirement	kva	35		35	25(35)	35	25(35)	35
Machine Weight (Approx.)	kgs	11500		12000	10500	10800	10500	10800

NOTE: 1. Standard controller: Fanuc OIMF. Depend on customer's demand can choose Seimens series or Mitsubishi series.

2. LEADYANG reserves the right to change the design and planning. And the above specifications are subject to change without notice.

3. Above accuracy value is in accordance with the new machine and standard inspection status of the test data.

4. Depends on customer's request, the columns can be heightened by having one 200mm raiser block as option.

## Accessories

### Standard Accessories

- Fully enclosed splash guard
- Dual screw chip conveyor for Y axis
- Three axes telescopic covers
- Heat exchanger for electric cabinet
- Spindle oil cooling system
- Spindle air blast (Automatic controlled by M07 program)
- Cutting cooling system
- Chips flush system on both sides
- 3-axes auto lubrication system
- Removable MPG
- Spindle air blow device
- Oil purifier (proportion type)
- Leveling pads and bolts
- Tri-color indicating light
- Air / water gun for chip remove
- Work lights on both sides
- Auto power off (M30)
- RS232C interface
- Tool box and adjustment tools
- Accuracy inspection report
- Machine operating and maintenance manual
- E-Book of FANUC program operating and maintenance manual
- 40' HQ shipping packing

### Optional Accessories

- AICC II
- Six slider blocks for Z Axis
- Independent water pump for water gun
- Oil cooling device of deep drilling
- Chain or scrape plate type chip conveyor
- Air conditioner for electric cabinet
- CNC rotary table
- Auto tool length measurement
- Auto workpiece measurement
- Data server & 2G memory
- Three axes linear scales
- Oil mist blast system
- Oil mist Collector
- Disc type oil skimmer
- C.T.S and external filtration tank
- Transformer (380V)
- Japan NSK ballscrews of three axes
- 24/30/36 Tools magazine capacity (BT40/BBT40)
- 24/30/32 Tools magazine capacity (BT50/BBT50)