Founded in 1976, Pinnacle is specialized in manufacturing all kinds of machining centers with excellent experience in technology, quality and service. Pinnacle machining centers range from 5-axis, double column, vertical and horizontal types, to CNC lathes as well as conventional milling machines.

Well-trained service engineers are familiar with each step of assembly to ensure our quality service works and keep all machines running in the best status. The sales and service departments provide customers pre-sale and after-sale services. Prompt reaction is just our basic attitude to all customers only, accurate and effective technical solutions are provided within the shortest time.

Product, Quality and Service, Pinnacle exceeds your expectations!

Pinnacle Machine Tool Co., Ltd.

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Pinnacle

Since 1976

Minimum Investment for Maximum Performance

Linear Guide Ways

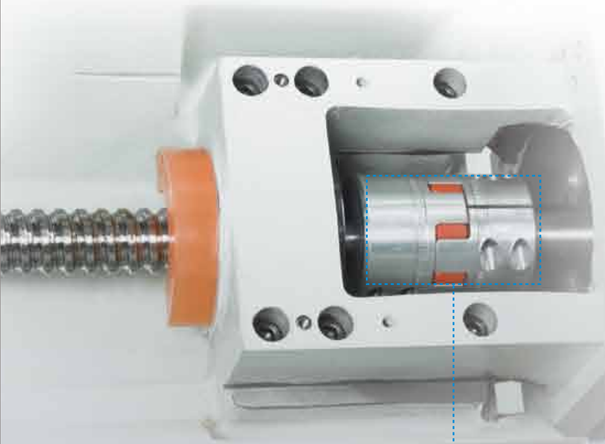
ISO 9001 BUREAU VERITAS Certification

CE EMC

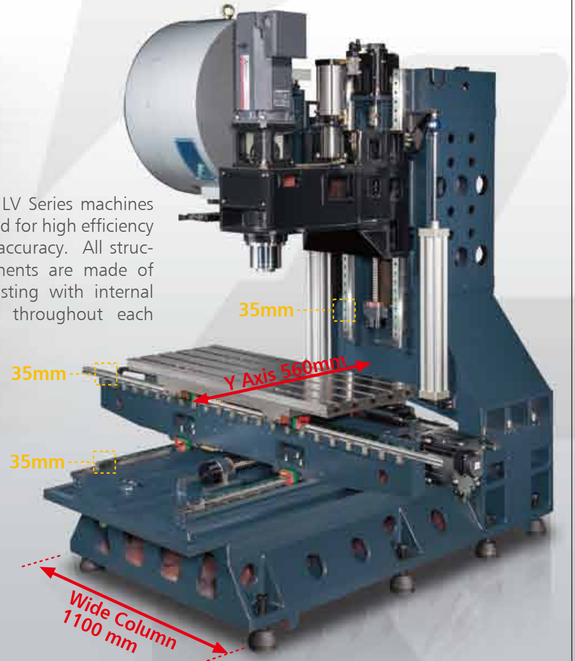
LV85 / LV105

The Best-Selling Pinnacle Models, the First Step to Your Automation

Meehanite Cast Iron with Inner Ribbed Structure

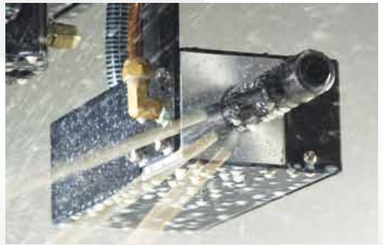


The Pinnacle LV Series machines are engineered for high efficiency with superb accuracy. All structural components are made of Meehinite casting with internal ribs running throughout each section.



Direct Transmission

Each axis is driven by a high precision ball screw which is bolted with angular contact thrust bearings. The preloaded ball screws feature higher machining rigidity and accuracy, better transmission efficiency with minimized backlash.



Programmable Coolant Nozzle (Option)

The coolant is precisely controlled aiming to the cutting point. The function increases lubrication efficiency, stabilizes cutting temperature, and extends cutting tool's lifetime.

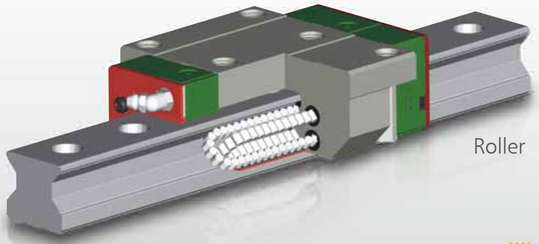
LV85 / LV105

- 850(1020) x 560 x 560 mm Travel
- Rapid Feedrate 36 / 36 / 24 m/min
- 10 HP Spindle Motor
- ISO40 Spindle Taper
- Spindle Speed 10,000 rpm
- Direct drive 12,000 / 15,000 rpm (option)
- X, Y & Z Axis Linear Way

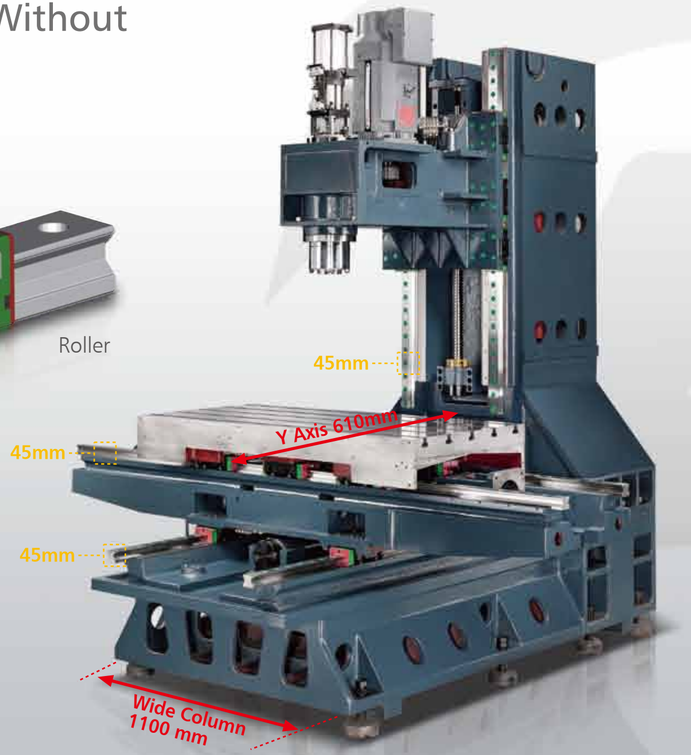
From 1994 until today, there are more than 2,000 units of Pinnacle LV series, including their previous versions, that have been sold to more than 35 countries. No matter if it is for mold making or for mass production purpose, the LV85 is the best general purpose machine for your versatile work shop.

LV116 / LV126

Maintaining Efficiency Without Sacrificing Rigidity



Roller



6 Rollers Support on X / Z Axis

For added support, each roller set is internally preloaded diagonally in a cross combination. Six sets of rollers are used in each roller pack.

Extra-wide Machine Base and Column

The extra large machine base and column are both sized 1,100 mm in width. The oversized machine structure features excellent damping co-efficient and stable metallic stability.

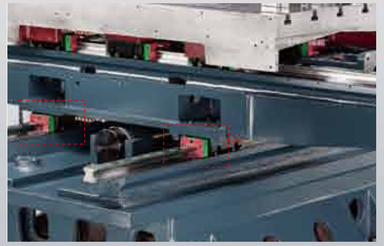
- The LV116, BT50 gear type model.

LV116 / LV126

- 1140(1270) x 610 x 610 mm Travel
- Rapid Feedrate 30 / 30 / 24 m/min
- 15 HP Spindle Motor
- ISO40 (ISO50) Spindle Taper
- Spindle Speed 8,000 rpm
- 10,000 rpm (option)
- Direct drive 12,000 / 15,000 rpm (option)
- X, Y & Z Axis Linear Way

Low Friction, High Efficiency

The Pinnacle LV series machines adopt heavy duty Roller linear guide ways instead of steel ball ones. Combining the benefit of box and linear guide ways, the machine's dynamic motion control features high sensitivity with heavy loading capacity.

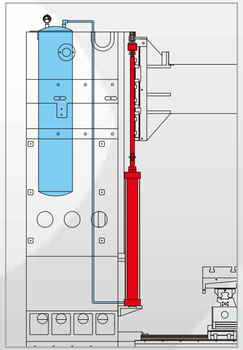


LV117 / LV137 / LV147

Sturdy Structure with Pneumatic Balancing System

Smooth Motion Control

Based on different performance demands. the LV series machines are designed with different counter-balancing mechanism.

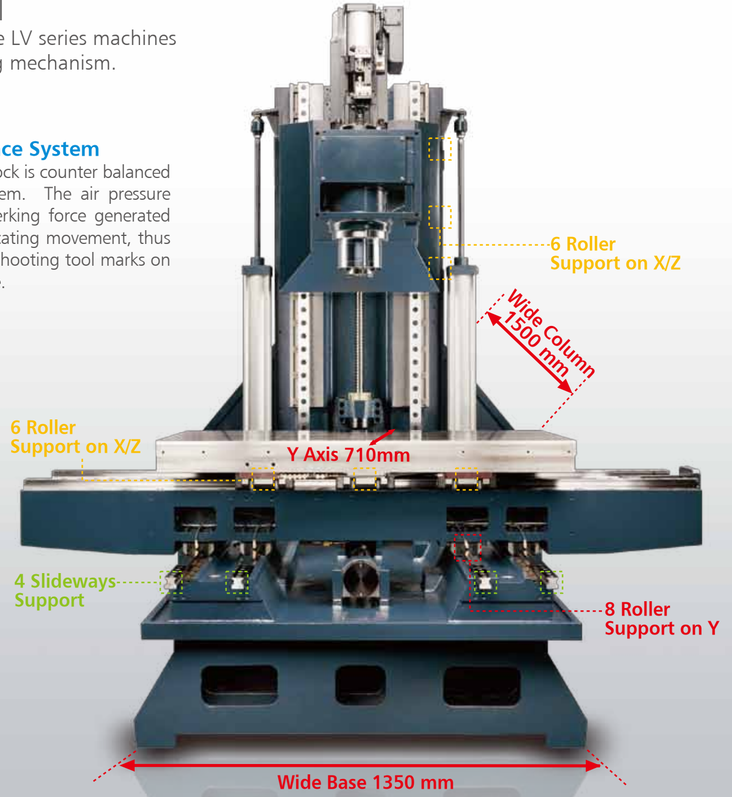


Pneumatic Balance System

The machine head stock is counter balanced by a pneumatic system. The air pressure tank absorbs mass jerking force generated during Z axis reciprocating movement, thus eliminating the over shooting tool marks on the workpiece surface.

LV117 / LV137 / LV147

- 1140(1300)(1400) x 710 x 610 mm Travel
- Rapid Feedrate 24 (30) / 24 (30) / 24 m/min
- 15 HP Spindle Motor
- ISO40 (ISO50 option) Spindle Taper
- Spindle Speed 8,000 rpm
- 10,000 rpm (option)
- Direct drive 12,000 / 15,000 rpm (option)
- X, Y & Z Axis Linear Way



LV159 / LV179 / LV209

Roller Type Linear Guideway with 4 Guideways on Y Axis

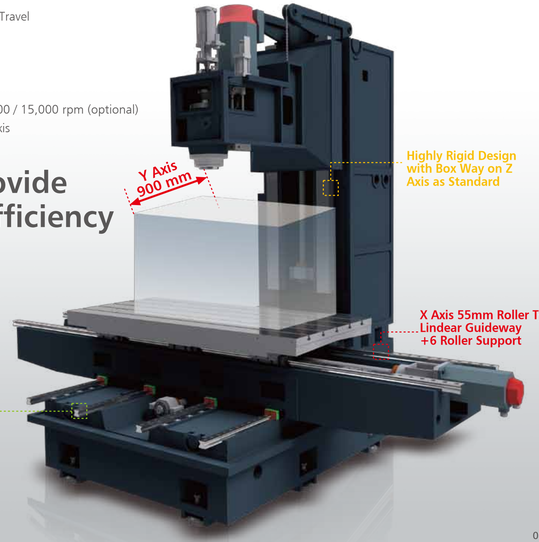
Z-axis available to mount with linear guideways, with outstanding dynamic accuracy, 55mm roller type linear guide ways in combination with the use of 6 blocks. Z-axis travel provides a choice of 800mm or 1100mm.The distance from spindle nose to table surface is 150~950mm or 150~1250mm.

LV159 / LV179 / LV209

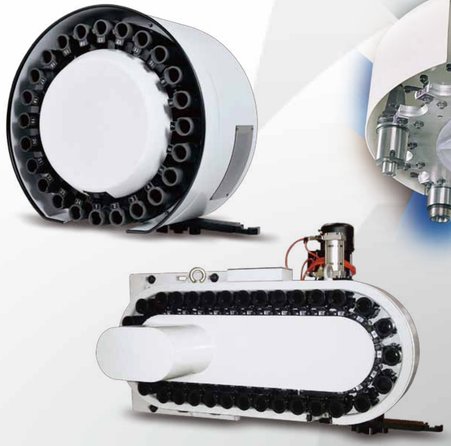
- 1500(1700)(2000) x 900 x 850 (1150) mm Travel
- Rapid Feedrate 24 / 24 / 12 m/min
- 20 / 25 HP Spindle Motor
- ISO50 (ISO40 optional) Spindle Taper
- ISO50 Spindle Speed 6,000 rpm
- ISO40 Spindle Speed 8,000 / 10,000 / 12,000 / 15,000 rpm (optional)
- Linear Guideways X/Y Axis, Box Way on Z Axis (optional: Linear Guideway)

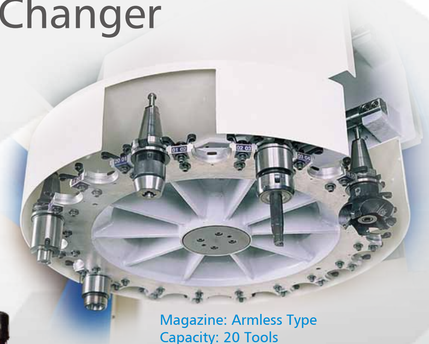
Roller Linear Guideways provide higher cutting efficiency as well as accuracy.

When jobs call for highly efficient machining and when outstanding accuracy is critical, a Pinnacle linear guideway machine is the perfect solution. The three axes move on roller linear guideways that minimize friction, while providing high accuracy of positioning and repeatability.



Automatic Tool Changer





Magazine: Armless Type
Capacity: 20 Tools

The armless carousal type tool magazine features simple construction, easy maintenance and trouble-free operations.

Magazine: Arm Type
Capacity: 24 / 32 Tools

The arm type tool magazine is activated by an electric motor transmitted via a U-Cam mechanism, featuring stable and rapid tool change.

Power Spindles

From high speed to high torque, from power milling to small radius interpolation, Pinnacle offers a wide range spindle specifications to choose from. Plus, the peripheral functions such as coolant through spindle and coolant curtain, the LV series machines are capable of handling all cutting conditions you need.

BT50 Gear

BT40 Direct Drive

BT40 Belt

Built-in

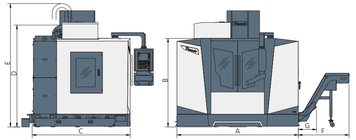
20 Bar Hi-pressure Pump And Tank
20μm filter and extra large coolant tank to assure CTS system offers the highest efficiency.(optional)

Chips Flushing Nozzles
Coolant flushing nozzles on rear inner wall of guard prevent jam of chips during operation.

Coolants Jets Around Spindle
Improved cooling efficiency on workpiece. (ISO 40 standard, ISO 50 optional)

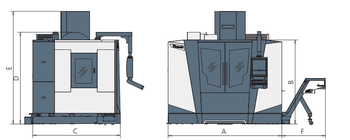
Chip Conveyor
Chip conveyor device in the front side of machine removes chips efficiently.(optional)

LV85 / LV105



MODEL	A	B	C	D	E	F	G
LV85	2600	2060	2280	2370	2650	1180	430
LV105	2820	2060	2280	2370	2650	1180	430

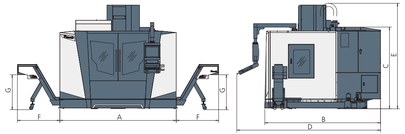
LV116 / LV126



MODEL	A	B	C	D	E	F
LV116	3100	2300	2390	2510	3080	1185
LV126	3400	2300	2390	2510	3080	1185

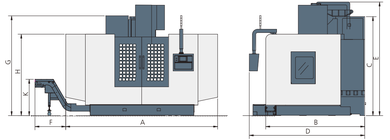
Machine Dimensions

LV117 / LV137 / LV147



MODEL	A	B	C	D	E	F	G
LV117	3250	3235	2286	4020	2950	1185	1000
LV137	3490	3235	2286	4020	2950	1065	1000
LV147	3890	3235	2286	4020	2950	865	1000

LV159 / LV179 / LV209



MODEL	A	B	C	D	E	F	G	H	J	K
LV159	4050	2980	2905	3380	3200	900	2950	2390	370	1065
LV179	4450	2980	2905	3380	3200	900	2950	2390	370	1065
LV209	5000	2980	2905	3380	3200	900	2950	2390	370	1065

SPECIFICATIONS:

MODEL	LV85	LV105	LV116	LV126	LV117	LV137	LV147	LV159	LV179	LV209
TABLE										
Table Size (mm)	1000 x 510	1200 x 510	1300 x 610	1400 x 610	1300 x 700	1500 x 700	1600 x 700	1700 x 850	2000 x 850	2200 x 850
Travel Ranges (X x Y x Z mm)	850 x 560 x 560	1020 x 560 x 560	1140 x 610 x 610	1270 x 610 x 610	1140 x 710 x 610	1300 x 710 x 610	1400 x 710 x 610	1500/900/850	1700/900/850	2000/900/850
Max. Table Load (Kgs)	600	600	850	850	1000	1200	1500	2000	2500	3000
Spindle Nose to Table Surface (mm)	100~660	100~660	110~720	110~720	110~720	110~720	110~720	100 ~ 950	100 ~ 950	100 ~ 950
T-Slot (Width x Distance x Number mm x mm x)	18 x 100 x 5	18 x 100 x 5	18 x 125 x 5	18 x 125 x 5	18 x 125 x 5	18 x 125 x 5	18 x 125 x 5	18 x 150 x 5	18 x 150 x 5	18 x 150 x 5
SPINDLE										
Distance Between Column (mm)	ISO40		ISO40	ISO50	ISO40		ISO50	ISO40		ISO50
Spindle Inner Diameter (mm)	Ø60		Ø70	Ø80 (Ø100)	Ø70		Ø100	Ø70		Ø100
Spindle Center to Column (mm)	620		675	675	760		760	760		760
Spindle Speed (rpm) Belt	60~10000		60~8000 (10,000)	60~8000	40~8000		40~6000 (8000)	40~8000		40~6000 (8000)
Spindle Speed (rpm) Gear	-		L40~2000, H2001~8000	L40~1500, H1501~6000	L40~2000, H2001~8000		L40~1500, H1501~6000	L40~2000, H2001~8000		L40~1500, H1501~6000
Spindle Speed (rpm) Direct-Drive	10000 (12000/15000)		12000	-	12000 (15000)		10000	12000 (15000)		10000
Draw Bar Force (kgf)	700		950	2000	950		2000	950		2000
Main Motor (con/30 min Kw)	5.5 / 7.5 (7.5 / 11)		7.5 / 11	11 / 15	7.5 / 11		11 / 15	11 / 15	15 / 18.5	15 / 18.5
FEED RATE										
Rapid Feed Rate (X/Y/Z m/min)	36 / 36 / 24		30 / 30 / 24		24(30) / 24(30) / 24			24 / 24 / 12	24 / 24 / 12	24 / 24 / 12
Feed Rate (X/Y/Z/ mm/min)	10000		10000		10000			10000	10000	10000
AXIS SERVOMOTOR										
Mitsubishi X/Y/Z (Kw)	HF354 (3.5)		HF354 (3.5)		HF354 (3.5)	HF453 (4.5)	HF453 (4.5)	HF703 (7.0)	HF703 (7.0)	HF703 (7.0)
Fanuc (Kw)	β22/3,000 i (3.0)		β22/3,000 i (3.0)			β22/3,000 i (3.0)		α22/3000i (4.0)	α30/4000i (7.0)	α30/4000i (7.0)
Siemens (Kw)	1FK7 063 (2.9)		1FK7 063 (2.9)			1FK7 083 (4.0)		1FK7101 (4.9)	1FK7105 (8.2)	1FK7105 (8.2)
Fagor (Kw)	FKM 64.30A		FKM 64.30A			FKM 64.3 (5.2)		FXM 75.20A (7.0)	FXM 75.20A (7.0)	FXM 75.20A (7.0)
Heidenhain (Kw)	QSY155B (2.47)		QSY155B (2.47)			QSY155D (5.68)		QSY190C (7.2)	QSY190C (7.2)	QSY190D (9.6)
AUTO TOOL CHANGER	ISO40		ISO40	ISO50	ISO40		ISO50		ISO50	
ATC Type	PLATE / DISK		PLATE / DISK		PLATE / DISK		DISK / CHAIN		DISK / CHAIN	
Cam Type	GENOVA / DAUL ARM		GENOVA / DAUL ARM		GENOVA / DAUL ARM		DAUL ARM		DAUL ARM	
Tool Selection (Bi-direction)	ABSOLUTE / RANDOM		ABSOLUTE / RANDOM		ABSOLUTE / RANDOM		RANDOM		RANDOM	
Tool Storage Capacity (PCs)	20 / 24		20 / 24	16 / 24	20 / 24 (30)		24 / 32		24 / 32 (40)	
Max. Tool Diameter (mm)	Ø100 / Ø90		Ø100 / Ø90	Ø145 / Ø105	Ø100 / Ø90 (Ø75)		Ø105 / Ø127		Ø105 / Ø127	
Max. Tool Length (mm), Weight (kgs)	250, 8		250, 8	300, 15	250, 8		350, 15		350, 20	
MISCELLANEOUS										
Air Requirement (Kg/cm^2)	6		6		6			6		
Voltage	220		220		220			220V, 3Ph, 50/60Hz		
Power Requirement (KVA)	20		25	30	25		30	40		
Coolant Tank Capacity (L)	200		300		300			700		
Machine Weight (Kgs)	5500	5700	6500	6800	9000	11000	12000	14000	15000	16000
Machine Height (mm)	2750		3080		3000	3000	3000	3200	3200	3200
Floor Space (L x W mm)	2600 x 2280	2820 x 2280	3100 x 2390	3400 x 2390	3250 x 3235	3490 x 3235	3890 x 3235	4050 x 2980	4450 x 2980	5000 x 2980
Packing Size (L x W x H mm)	2900 x 2300 x 2540	2900 x 2300 x 2540	3450 x 2300 x 2530	3450 x 2300 x 2530	2250 x 3130 x 2550	2250 x 3130 x 2550	2250 x 3130 x 2550	4350 x 3260 x 3550	4850 x 3260 x 3550	5300 x 3260 x 3550

● ALL SPECIFICATIONS AND DESIGNS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Standard Accessories:

Air blast through spindle
Air blast for workpiece (nose)
Coolant flushing system
3 axes telescopic covers
Full splash guard
Centralized automatic lubrication system
Working lamp
Operation status light
Cooling system
Air gun and water spray-gun
MPG handwheel
Heat exchanger
RS-232 Interface
Rigid tapping
Spindle oil cooler
Adjusting tools and box
Leveling bolts and pads
Operation and programming manual

Control System:

Mitsubishi: M80 / M830
Fanuc: 0i-MF / 31i-MB
Heidenhain: TNC620 / TNC640
Siemens: 828D / 840D
Fagor: 8055 / 8060