Built with Passion for Quality and Efficiency

LK Tapping Center Series is engineered for quality mass production with extraordinary yield rate. Led by a Seasoned Machining Center Design Expert, all LK Tapping Centers are designed for accuracy and reliability.

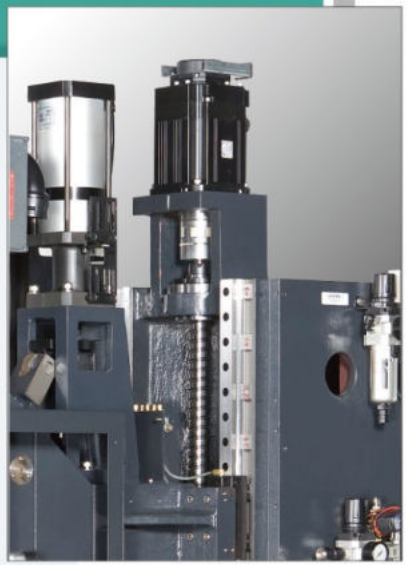
TC-510

TC- 710

Unmatched Productivity

From structural analysis to actual metal cutting, each Tapping Center produced by LK, displays the optimum performance that meets your most rigorous demands.

Speed is Everything



The 3 axes' motors are direct coupled with servo motors. The backlash-free design powers the axial motion to its optimum level, featuring no noise, low temperature rise and the high accuracy.

For every high productivity workshop, every second counts. To reach the maximum cutting performance, LK TC series machine employs a low inertia spindle motor* featuring high torque output during low speed range, as well as high acceleration/deceleration output, to reduce tapping time a minimum.

Spindle Acc/Dec from 0 – 15000 rpm: 1.4 Sec.

*Optional

TC-1200

Two Machines in One

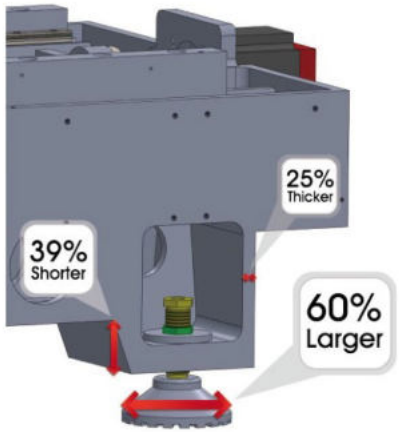
The design of traveling column TC-1200 allows two separate working areas that function the same as a pallet changer, or alternatively a large long work piece can be machined in one setup.

Wide Application Range

The powerful performance of LK Tapping Centers is widely applied in automobile, computer, communication electronics, watch, jewelry, aerospace and medical equipment industries.

Enlarged Foundation Block and Strengthened Machine Base

LK engineering team focuses on every small detail to optimize machine's rigidity and reliability.

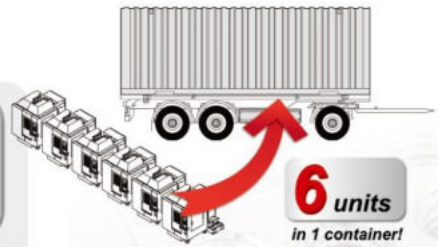


Maximum Cutting Area with Minimum Floor Space Required

The small footprint of the TC-510 allows 50 machines to fit in, only 5,000 square feet of space.

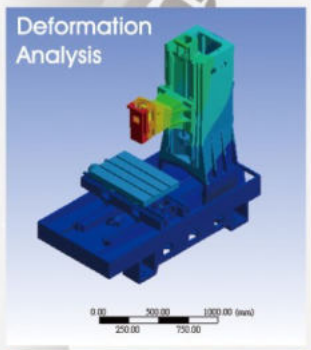
50 machines

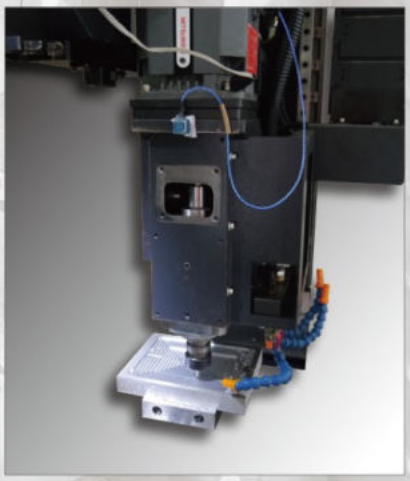
5000 ft² !



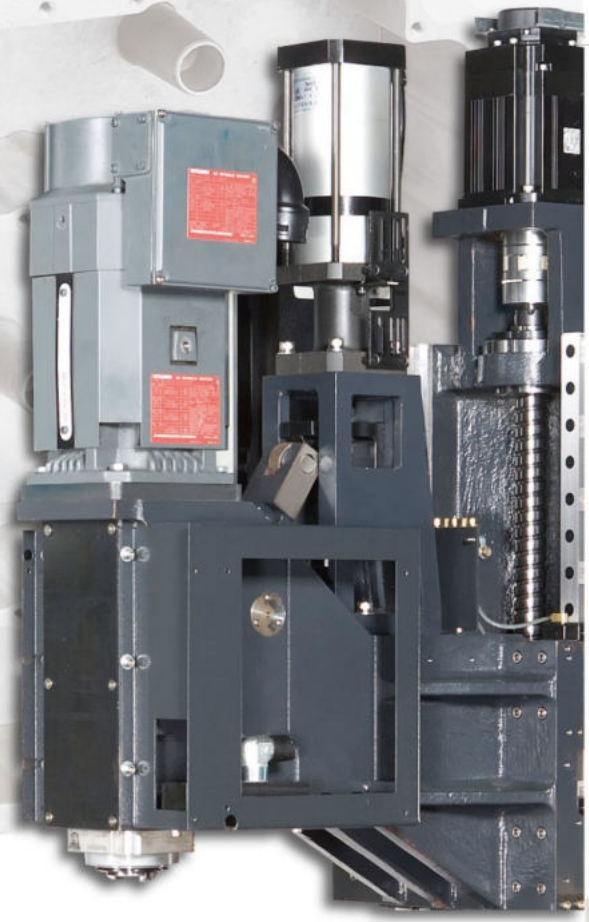
FEA Design

Through Finite Element Analysis, machine structure is optimized for the best performance.





Spindle Vibration Test in
Y Direction



No-Counter Balance Design

An oversized Z Axis motor, direct coupled with ball screw, eliminates the need to have a mechanical counter balance. This design produces better surface finishes so best cutting surface finish can be achieved.

Smooth Motion

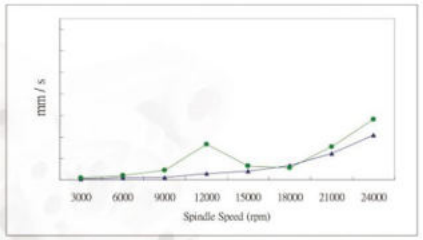
Linear motion guideways and pre-tensioned ball screws on X/Y/Z axes are installed to deliver more torque and thrust, featuring low thermo deformation and high dynamic positioning accuracy.

Z Axis Flexible Cover

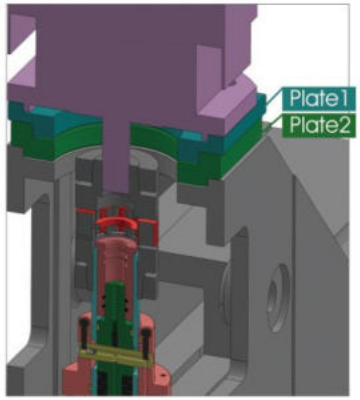
The telescopic covers on 3 axes are specially designed to protect ball screws and linear guideways under the high rapid traverse of max. **48 (to 60 M/min)**(opt.) per minute.

Better Concentricity Between Motor Shaft and Spindle

LK's two-plate spindle motor seat design adds more adjustment with lower tolerances. This produces better concentricity between the motor shaft and spindle, Reducing vibration and improving over all performance.



▲Vibration of two plate ●Vibration of Single plate



Reliable ATC Unit

TC-510/710 is standard equipped with Turret type ATC; while TC-1200 is fitted with Arm Type.

The Turret Type ATC provides rapid tool change time of 2.3 and Arm Type (Servo) 1.7 second (opt.) with impeccable reliability, suitable for high productivity 7/24 operation.

Design and mechanism tested over

400,000 times.

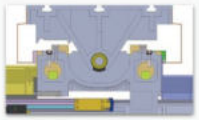
Rear Chip Disposal

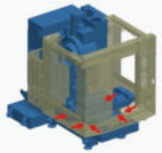
Cutting chips are efficiently conveyed to the rear side of machine with large flow coolant, and with the lift-up type chip conveyor (optional), chip removal is reliable and efficient.

Removing cutting chips efficiently from the cutting area is part of a critical know-how concerning stable long time operation. LK understands the importance of this issue, and designs the machine with various chip flushing / conveying mechanism to meet the demands.

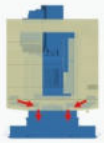
Complete Chip Protection

Our new generation telescopic cover effectively prevents the ingress of chips from entering the 3 axes transmission structure.





Isometric view



Front view

Right view

Automation

Right Angle / Universal Milling Head

For additional machining versatility, the Right Angle Milling Head / Universal Milling Head is capable of boosting high efficiency and accuracy especially for complicated workpieces. The Multi-purposes purposes milling head does not require any changes to the machine structure, it is suitable for auto parts, mold making and aerospace industry.

Auto Vise

Suitable for mass production processes, the Auto Vise features rapid workpiece clamping and unclamping. The adjustable clamping force prevents thin workpieces from collapsing due to improperly applied clamping force. The PLC-controlled vise is suitable for mass production jobs such as forged components, various hardware and automobile parts.

4th / 5th Rotary Table

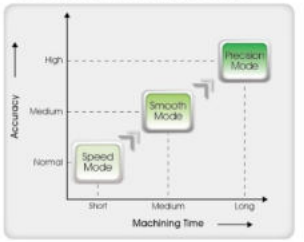
Featuring high accuracy and high efficiency, the complicated or multiple-face workpieces can be finished in one setup by using a 4+1 axis Rotary Table. The market demand for diverse high accuracy and complicated parts is growing rapidly, the accumulation of machining tolerance must be reduced to the minimum, thus the 4+1 axis Rotary Table is the answer to the high value-added machining demands.

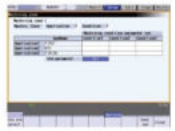
Robot:

The industrial Robot is the best solution for handling high frequency loading / unloading jobs. In combination with automatic vacuum fixtures, the performance of robots reach their maximum cost-performance ratio, which is suitable for high volume production applications

Custom Parameter Package Setting for Multiple Machining Modes

The CNC system offers 3 customer defined cutting modes. With these modes, proven motion control cutting parameters can be recalled from a standard library.





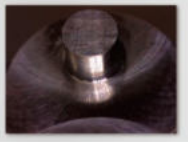
These user friendly controller functions allow customers to switch jobs without the need to change numerous motion control's system parameters.

Speed Mode

Speed Mode:
More Speed, Less Time

Suitable for:
Automobile / Motorcycle parts
Machinery components
Aluminum Parts
Smart phone cases
Work pieces of mass production

Smooth Mode



Smooth Mode:
Balance of Speed and Time

Suitable for:
Optical electronics
Forging molds
Glass molds
Shoe molds
Work pieces that require good surface finishes

Precision Mode

Accuracy Mode:
Extremely High Precision

Suitable for:
Medical equipments
Aerospace parts
Semi-conductor related parts
5-axis machining
All hard milling parts

	Surface Finish	Time	Curve Accuracy (Radius Tolerance)
First	Rough	Fast	0.101 mm
Mid	Medium	Medium	0.059 mm
Finish	Excellent	Slow	0.005 mm