



High Speed Tapping Center (TP510)

■ Value & Performance / Designed for Precision



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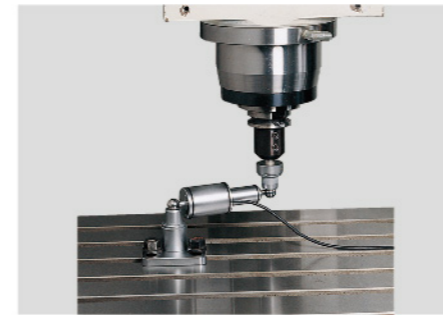




Year built: 1987
Facility size:
25000sqm (Nantou Plant)
6600sqm (Taiping Plant)
2450sqm (Head office)



Serious Quality Inspection



BALLBAR TEST
Every machine is inspected by a Ballbar test to ensure machining accuracy.



SPINDLE NOISE & VIBRATION CHECK



LASER INSPECTION SYSTEM
All 3 axes are checked by a Laser test to ensure positioning and repeating accuracy.



CMM measurement for materials

Positioning accuracy: ± 0.005 mm
Repeating accuracy: ± 0.003 mm

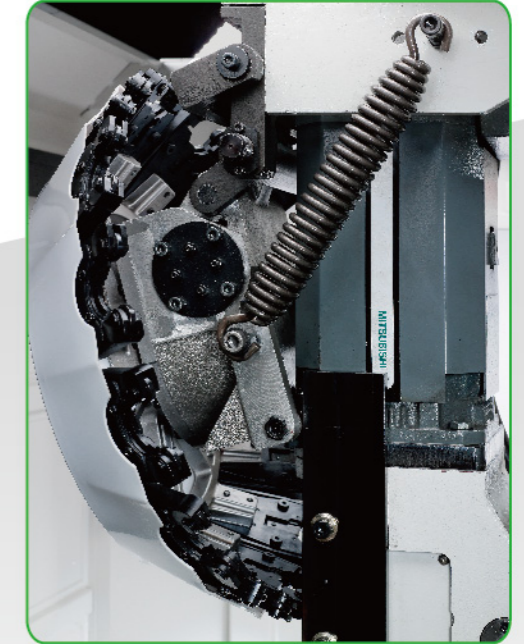
TP510

(Direct type spindle)

XYZ RAPID FEED RATE:

48 / 48 / 60 M /min

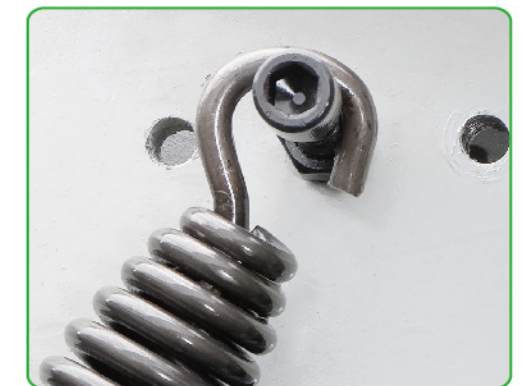
DISC TYPE ATC



ATC SPRINGS AND FIX BOLTS

Titanium Alloy Fix Bolts

1. Big size alloy springs offer quick and smooth tool change and extend its service life.
2. Fix bolts on each end of the spring are made of titanium alloy, assuring longer service life of ATC.



DRILL, TAPPING, ENGRAVING & MILLING

Rigid casting design provides sufficient rigidity during high speed movement and heavy cutting, which is not only suitable for drilling & tapping but also for engraving & milling.

HIGH RIGIDITY, HIGHLY EFFICIENT DESIGN

High Rigidity Casting, Fast Rapid Feed & Tool Change System Design.

SMALLER ATC PLATE

1. ATC plate is light Aluminum but rigid structure
2. ATC plate diameter is 550mm only (PCD)
3. ATC plate is designed to decrease magazine rotating inertia and spindle inertia load, giving ATC longer life and more load capacity.

FRONT SIDE DISC TYPE ATC

Rapid Tool Change Structure Greatly shortens Tool Change Time

1. Multi-link floating arm structure design efficiently shortens tool change time and reduces the vibration.
2. Built-in SENSOR with highly distinguishable signal light is designed for easy maintenance.
3. High Tough compound gripper protects spindle during tool change.
4. Individual unit design on grippers allows easy replacement after long periods of use or consuming.

TP510 (B)

(Build-in type spindle)

XYZ RAPID FEED RATE:

48 / 48 / 60 M /min
ARM TYPE ATC

Automatic opened side door allows robot arm to grab workpiece after a machining cycle. (optional)



1. TP510B standard with Built-in type spindle BT30/24000rpm 4.6kw (S1)
2. Built-in spindles do not cause vibrations imparted by belt drives.
3. Built-in spindles offer lower inertia and quicker acceleration/deceleration.
4. Arm type ATC remarkably shortens SENSOR reaction time.
5. Suitable for engraving.



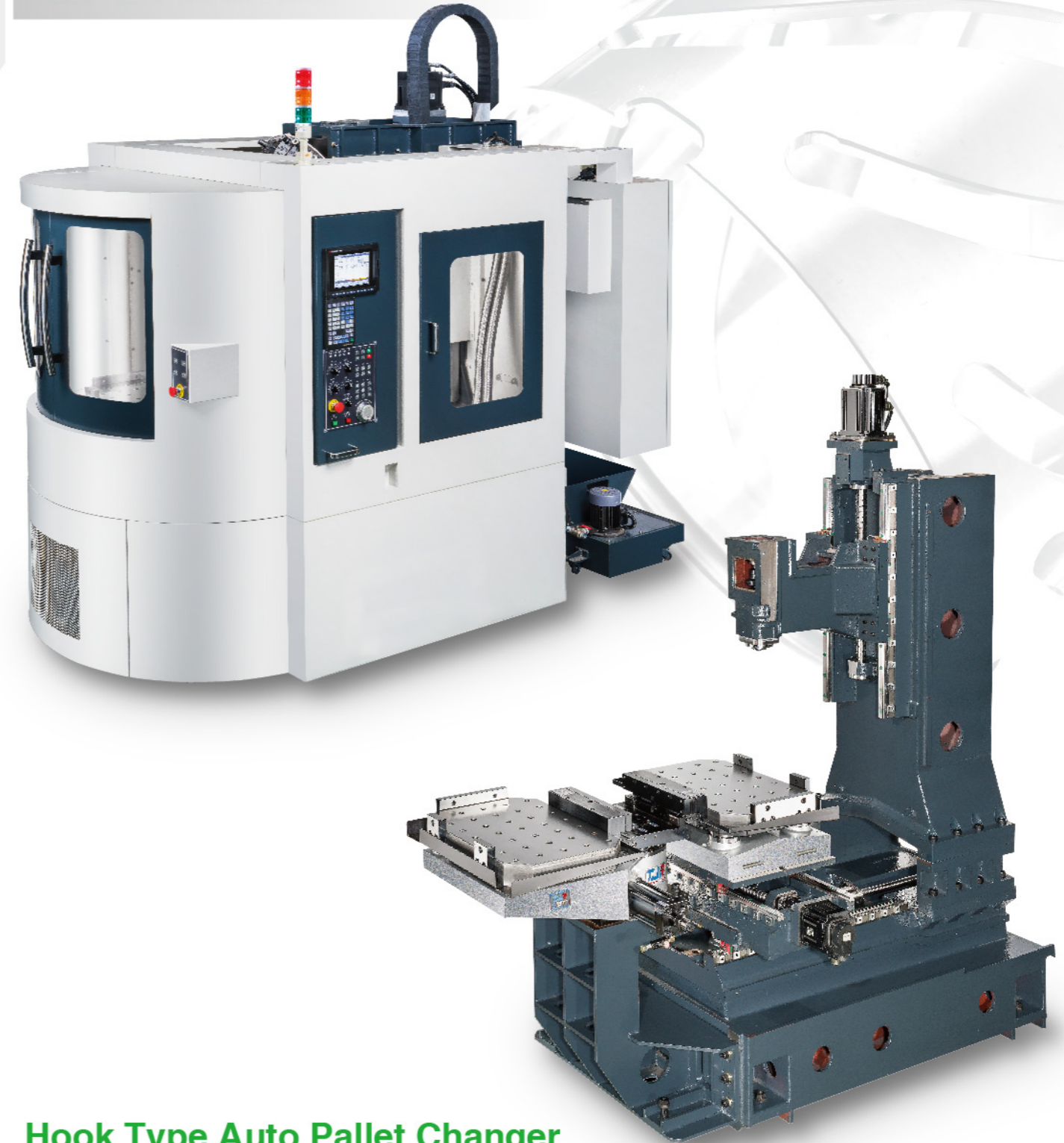
Robot Arm System Integration - Small Investment but High Efficiency

- Customization: Special designs for users with different needs.
- Automatic Systemization: A robot can be used with many machines, which increases working efficiency.
- Lower Cost: The maintenance cost of a robot is much lower than employees wages.

TP510 (APC)

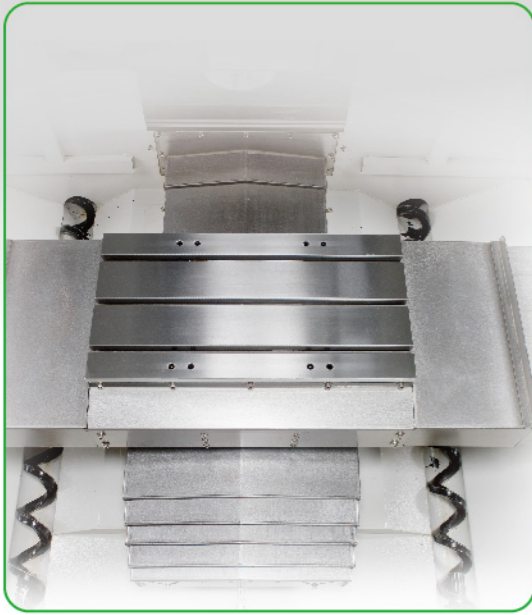
XYZ RAPID FEED RATE:

48 / 48 / 60 M /min



Hook Type Auto Pallet Changer

- Pallet change can be quickly accomplished in last around **8 seconds**, which excludes PLC delayed time of machine.
- Rotation angle: 180° to and fro.
- Rigorously tested according to **Japan JIS standard**.



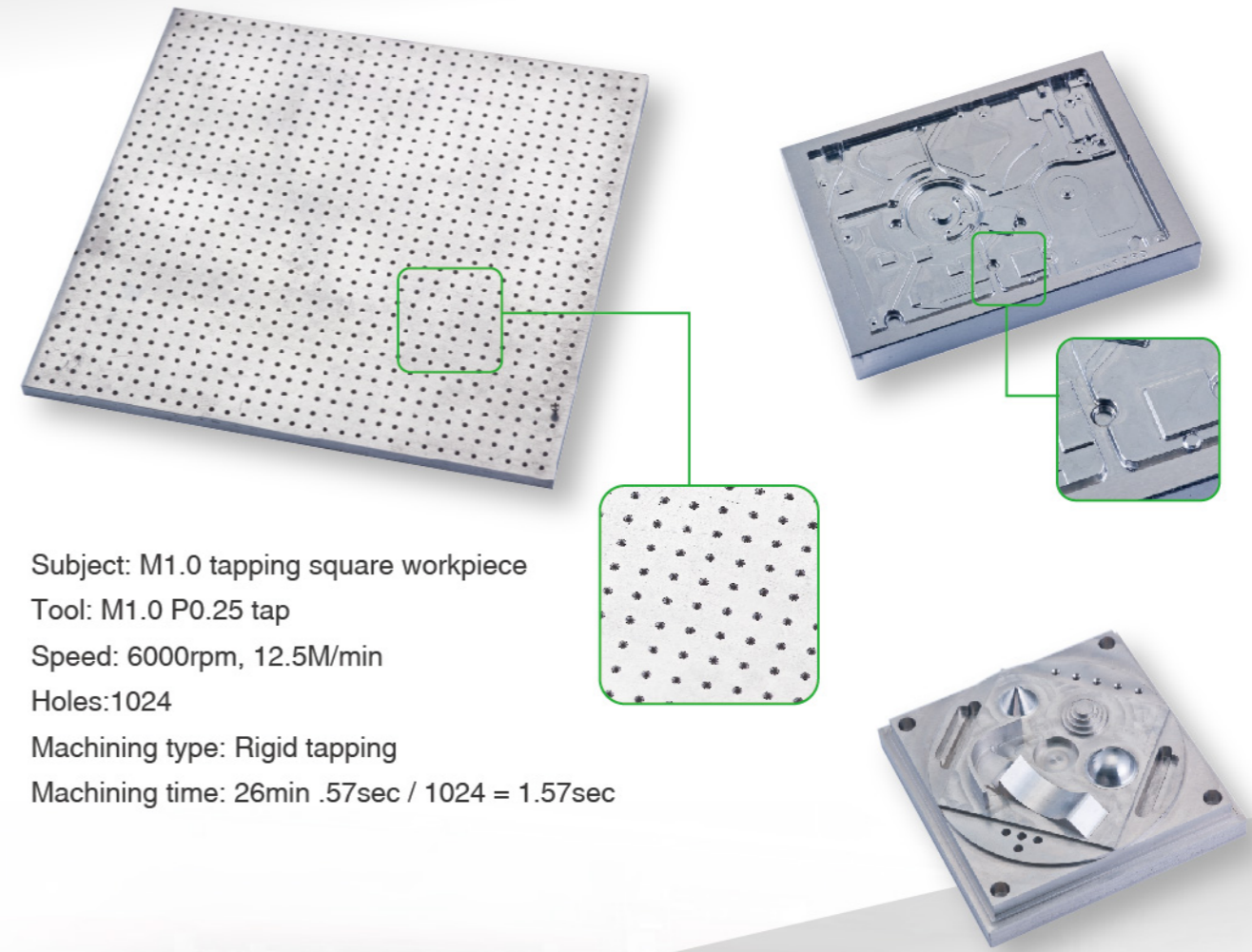
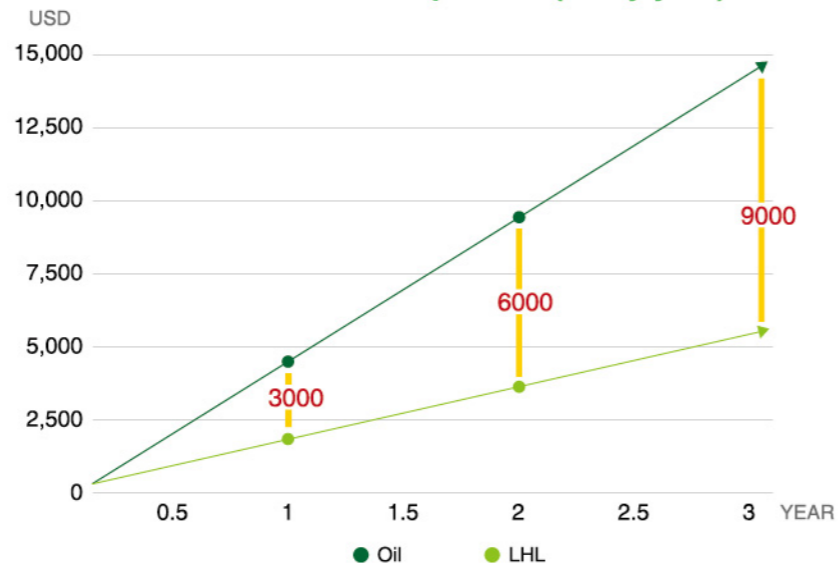
The dual screw type chip conveyor with optional "water scour for chip removal" device is good for 3C or tiny aluminum machining.



LUBE (LHL) integrates the features of thin oil and grease, and offers solutions for below problems from machine operation:

1. Save cost for thin oil
2. Save cost for thin oil and coolant filter
3. Reduce pollutions on working table
4. Save cost for coolant
5. Improve stink of thin oil

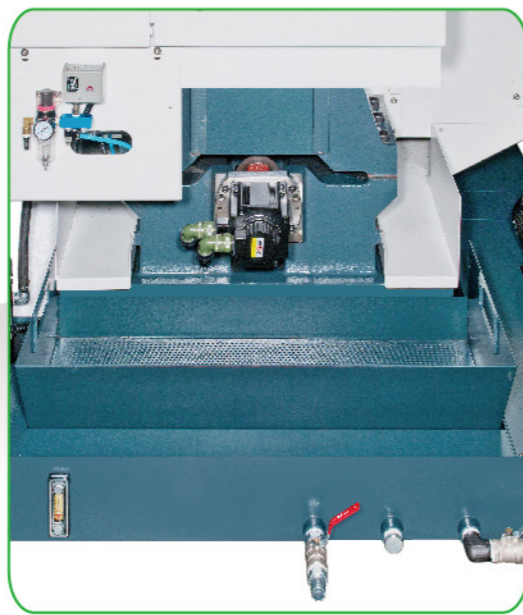
LHL VS OIL cost comparison (every year)



Subject: M1.0 tapping square workpiece
 Tool: M1.0 P0.25 tap
 Speed: 6000rpm, 12.5M/min
 Holes:1024
 Machining type: Rigid tapping
 Machining time: 26min .57sec / 1024 = 1.57sec



The design of dual screw type chip conveyor can make it easy to clean chips from coolant tank .



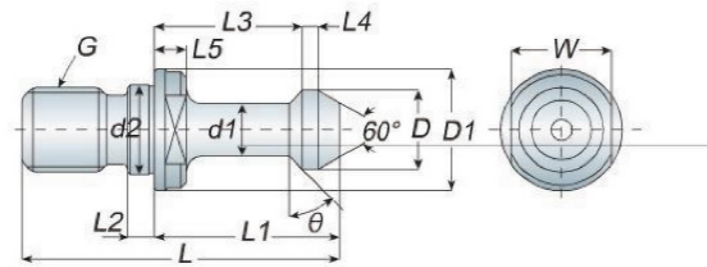
Extra Wide Coolant Tank

Filter net can be changed according to different type of chips. Maintenance is easy.



Production line capacity is 150 machines per month.

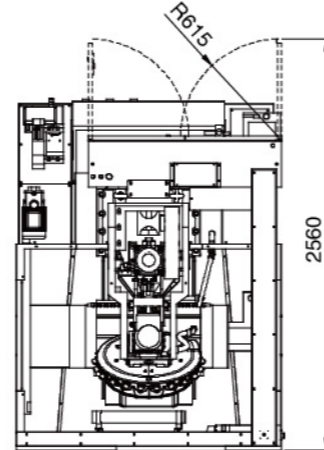
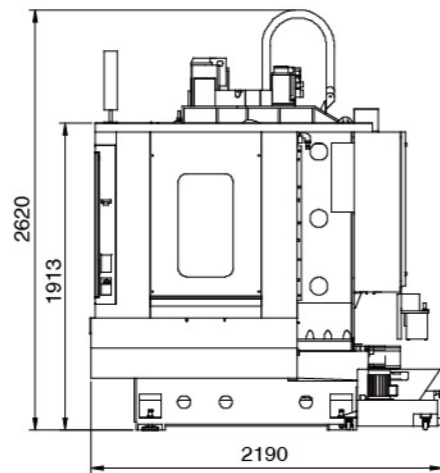
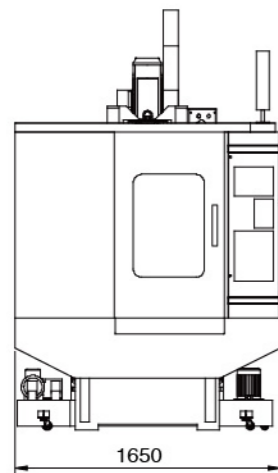
BT30 Pull Stud



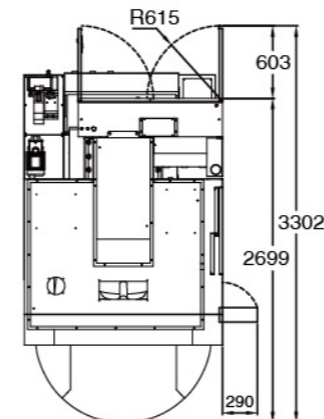
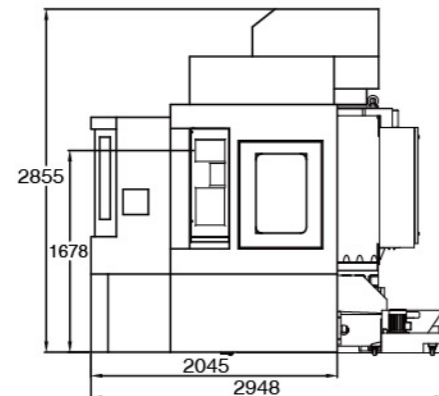
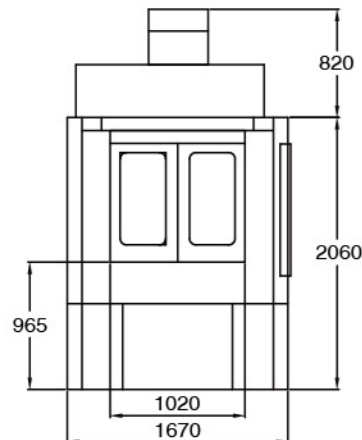
Model No.	L	L1	L2	L3	L4	L5	D	D1	d1	d2	W	G	θ	Weight (kg)
BT30 45	43	23	4	18	2.5	5	11	16.5	7	12.5	13	M12	45	0.04

Dimensions

TP510 / TP510B



TP510APC



Specifications

	UNIT:mm		
	TP-510	TP-510(B)	TP-510(APC)
TRAVEL			
X / Y / Z travel	510 / 400 / 330 mm	510 / 400 / 415 mm	510 / 400 / 330 mm
Spindle nose to table surface	200-530 mm	150-595 mm	200 ~ 530 mm
Spindle center to column surface	429 mm		429 mm
TABLE			
Table size	650 x 400 mm		600 x 400 mm
T-Slot (NO. x W x Distance)	3 x 14 x 125 mm		35 holes - M16 x P2.0
Table load	250 Kgs		250 Kgs
Spindle center to column surface			
Taper	BT30		
Speed	10,000 rpm (Opt. 12,000 / 20,000)	24,000 rpm	10,000 rpm (Opt. 12,000 / 20,000)
Transmission	Direct type	Built-in type	Direct type
FEED RATE			
Rapid feed rate of X , Y , Z	48 / 48 / 60 M / min		
Cutting feed rate	1 ~ 12 M / min		1 ~ 12 M / min
AUTOMATIC TOOL CHANGER			
Type	Disc type	Arm type	Disc type
Tool storage capacity	14 tools (Servo)	20 tools	14 tools
Max. tool diameter	Ø 80	Ø 60	Ø 80
Max. tool length	150 mm	200 mm	150 mm
Max. tool weight	3 Kgs	3 Kgs	3 Kgs
Tool change time (T-T)	1.6sec	1sec	1.6sec
Tool change time (C-C)	2.5sec		3.5sec / block
CNC CONTROL & MOTOR			
CNC control	MITSUBISHI		
Spindle motor	2.2 / 3.7 KW	4.6 KW (S1)	3.5 / 5.5 KW
Axis motors	1.5 / 1.5 / 3 KW (with brake)		
MACHINE SIZE			
Machine dimensions (L x W x H)	2190 x 1650 x 2620 mm		2837 x 1650 x 2620 mm
Machine net weight (approx.)	2600 Kgs		3300 Kgs
Machine gross weight (approx.)	2800 Kgs		3500 Kgs

STANDARD ACCESSORIES

- Full guarding
- Rigid tapping
- Coolant system
- Heat exchanger for exectcal box
- Auto power off
- Auto lubrication system
- LED work light
- RS-232 interface
- Program light
- Dual scraw type chip conveyor and coolant tank (VF550)
- Spindle air blow
- Levelin pads & bolts
- Tools & tool box

OPTIONAL ACCESSORIES

- 4th axis
- Spindle oil cooler
- Transformer
- High pressure water scour for chip removal (Left & right)
- Oil skimmer (VF550)
- Automatic tool length measurement
- Automatic workpiece measurement