CNC Flat Table Router

Model PET 510-FT

Precision, Reliability & High Quality Production at an AFFORDABLE PRICE!

The **Pro Edge Technology** CNC Flat Table Router, **PET 510-FT**, represents the latest in technology advancements and plays a critical role in today's high production demands in processing engineered and solid woods for the JIT manufacturing environment. The **PET 510-FT** CNC Router is unsurpassable in productivity, safety, reliability and operational efficiency in its class.

- **Moving gantry (stationary table) type machine**
- **1 (one) 12hp router spindle**
- **12 (twelve) position automatic tool changer with tool length measuring device**
- **1 (one) 2.25hp (1.7 kW) multiple spindle boring block**
- **12(twelve) independently selectable spindles for vertical drilling**
- **2 (two) EUROVAC 10hp vacuum pumps**
- **4 x 8, 5 x 8, 5 x 9, 5 x 10 selectable vacuum zones**
- **Fanuc Oi control, Fanuc Drives, Fanuc Servomotors**

With our specifically designed compact footprint, the **PET 510-FT** saves on floor space. The control panel is stowed away underneath the router table, the vacuum pumps come standard with a 2-tier custom stand

- and -

the **PET 510-FT** can be installed 10" from the wall on the Y-axis!!

CNC Router Technology for the Woodworking Industry

Tel: 844-PET-EDGE / 844-738-3343 · E-mail: info@ProEdgeTechnology.com Website: ProEdgeTechnology.com

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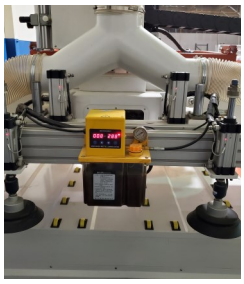
Rigid Frame:

The base structure is manufactured of stress relieved, heavy gauge steel with structural steel cross-members located at precise intervals to provide an extremely rigid platform. The most advanced CAD model structural analysis system has led to the development of a structure which is able to withstand the most demanding work environments. The **PET 510-FT** performs at high speeds providing the highest output of product while maintaining a precision finish.

Linear Guide Rail System:

Top quality linear guides provides a high precision linear tracking system for the X, Y and Z-axes. The ball rail systems are specifically designed to meet the extreme high load capacity and rigidity while ensuring accuracy at high production speeds. All linear guide systems and axis drive systems are automatically lubricated by the programmable central lubrication system.

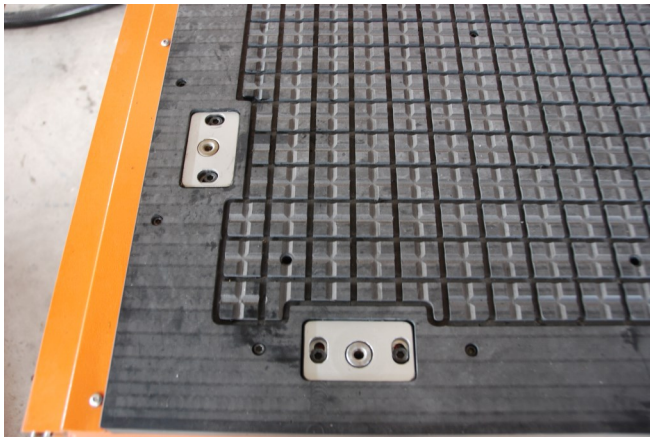


Vacuum Work Table:

The vacuum table is made with a grid-type tabletop for quick and easy placements of spoil-boards or holding fixtures. The vacuum table is divided into 4-zones which is electronically selected. The table is equipped with 5 pneumatically controlled pop-up pins; each pop-up pin is sensor protected to ensure they are in the lower position prior to starting the router.

- 4-zones: 4 x 8, 5 x 8, 5 x 9, 5 x 10
- X-axis: 1600 mm / 63”
- Y-axis: 3100 mm / 122”
- Z-axis: 180 mm / 7.8”

- Reverse airflow on the router table is controlled through the program while running or by the foot pedal for ease of loading heavy material sheets.
- Digital vacuum display and alarm.



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2 (two) EUROVAC 10hp (7.5 kW) Vacuum Pumps

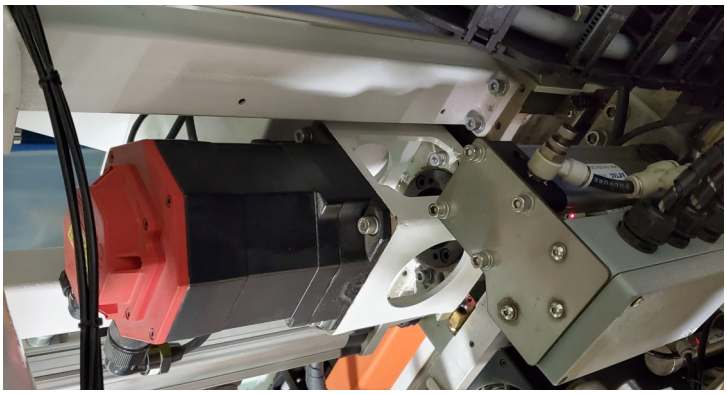
- Pumps are independently selectable through the router controls.
- Selectable on/off suction on each pump.
- Air intake filter on each pump.
- Pumps can be set-up next to router or plumbed to another area of the shop.
- 800mb vacuum capacity.
- Complete with custom stand to ensure adequate airflow and minimizing floor space.

Electrical Control Cabinet

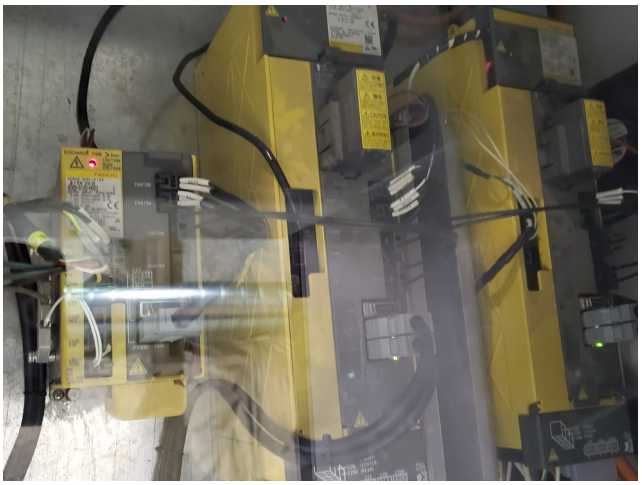
The *stow away* electrical control cabinet was specifically designed to save valuable floor space by utilizing the already existing space underneath the router table. With this smart cabinet design, there is no need to add space to the footprint creating a more compact machine.

FANUC Drive Systems:

FANUC AC brushless servomotors with digital drive units. The powerful motors accelerate from a standstill to full speed in 250 milliseconds while the digital drive ensures a smooth acceleration and deceleration ramp. The X and Y-axis drive systems utilizes a hardened helical rack which is bolted directly to the frame of the machine eliminating the transmission of vibration to the working unit. A hardened, precision ground, recirculating ball screw drives the Z-axis. A pneumatic counterbalance is utilized in order to offset the weight of the head which effectively eliminates the gravitational forces which ensures a long service life for the screw.



Fanuc Servo Drive Motor



Fanuc Servo Drives

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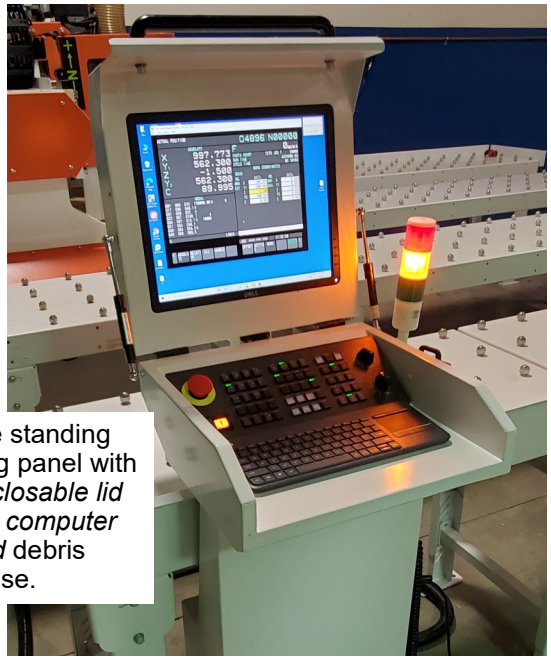
Fanuc OiMF Controller System + PC Front End with Windows 10

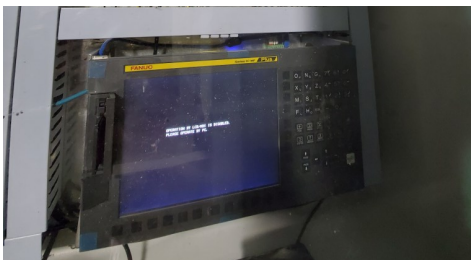
With over 700,000 systems installed, the Series 0/0i from FANUC is the world's most popular CNC model. Operators that already have experience with FANUC controls will be comfortable with the Series 0i in no time at all, with little or no additional training. Existing part programs will typically run without modifications. Each operator can select their preferred language quickly from any one of the 16 supported by the 0i, enhancing their comfort level and effectiveness.

FANUC's proficiency of quality ensures that our CNC systems are the most reliable available. Statistically, a FANUC hardware fault occurs only once for every 27 years of productive service (MTBF). With the commitment of a 25-year parts availability guarantee, convenient local parts inventories, over 34 US locations, and economical repair and return services, you can look forward to decades of trouble-free.

- AICC 2 package with jerk control, smooth tolerance control, machine quality level adjustment function / R386 & R660
- 400 block look ahead
- 8 maintenance and diagnostic LCD display
- All digital servo package
- Memory 512KB (1,280 meters)
- 4 simultaneously controlled axis
- Sub-micron control: least input increment .00001", .0001 degree, .0001 mm
- Fine accel/decal control
- Inch/metric conversion
- DNC operation
- DNC operation from memory card
- Program restart
- Rapid traverse override 0%, 25%, 50% and 100%
- Rapid traverse bell-shaped acceleration/deceleration
- Incremental feed MPG x1, x10, x100
- 1st and 2nd reference return
- Nano interpolation
- Automatic exponential G01 feed control
- Feed-rate override from 0 - 120%
- AI advanced preview control
- Memory card memory input/output
- High speed skip function
- Tangential speed constant control
- Work piece coordinate system 48 pairs
- Custom macros # 0 - # 99
- Macro common variables # 100 - # 199 and # 500 - # 999



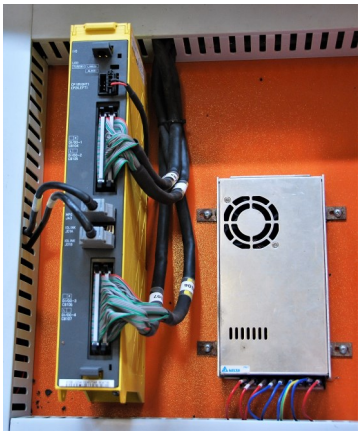
Portable, free standing PC interfacing panel with *monitor and closable lid to protect the computer from dust and* debris when not in use.



Fanuc Industrial Control is located inside control cabinet. PC is used as the interface.

PC Frontend with Monitor

- PC is used as a static IP address only.
- PC is used as an interface and memory storage of programs.



Fanuc I/O Device / Power Supply

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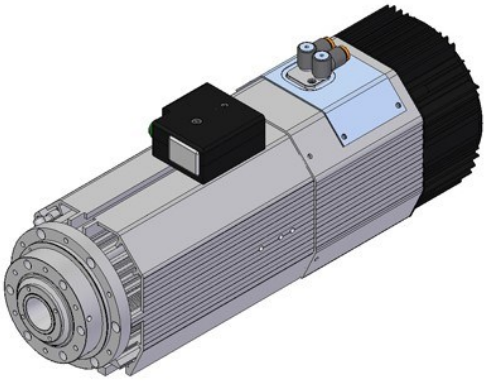
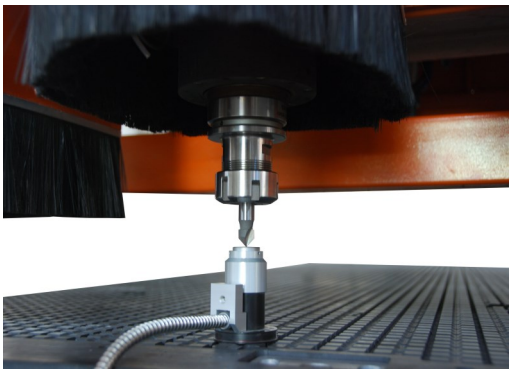
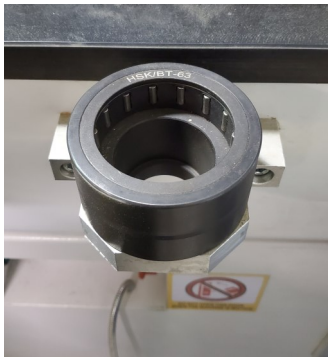
HSK Electrospindle:

- Power S6 9kW / 12HP
- HSK tools
- Automatic tool locking and unlocking with pneumatic piston
- Short nose
- Poles 4
- Bearings front ceramic
- Bearings rear ceramic
- Bearings long life lubricated
- Max rpm 24,000
- Spindle body aluminum alloy
- Weight 26 kg
- Cooling forced air



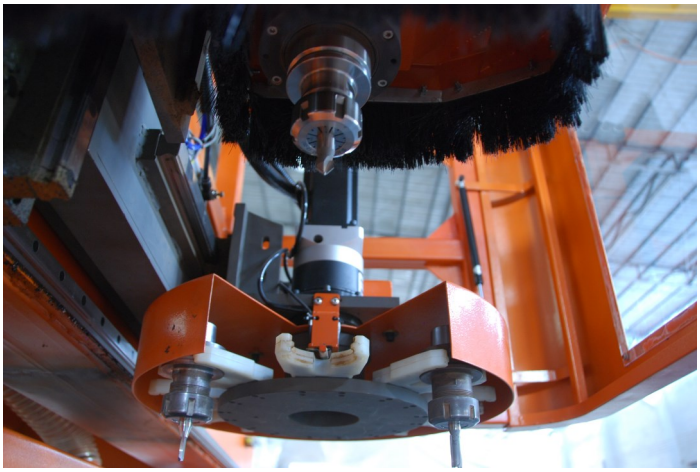


The Automatic Tool Touch-off Device is used to automatically measure tool lengths anytime a new tool is installed or spoilboard is machined. Once tool touch-off is complete, tooling data is automatically installed into Fanuc Control.



Tool changing block, tool touch-off controls and storage for tool touch-off device centrally located on front of machine.

12-position ride along tool changer with 12 HSK tool holders. Tool changing is on-the-fly so there is no downtime when bits are being selected and changed by the program.



Delta Servo Drive on tool changer, complete with tool -present sensor to avoid tool crashes with router when changing tools.

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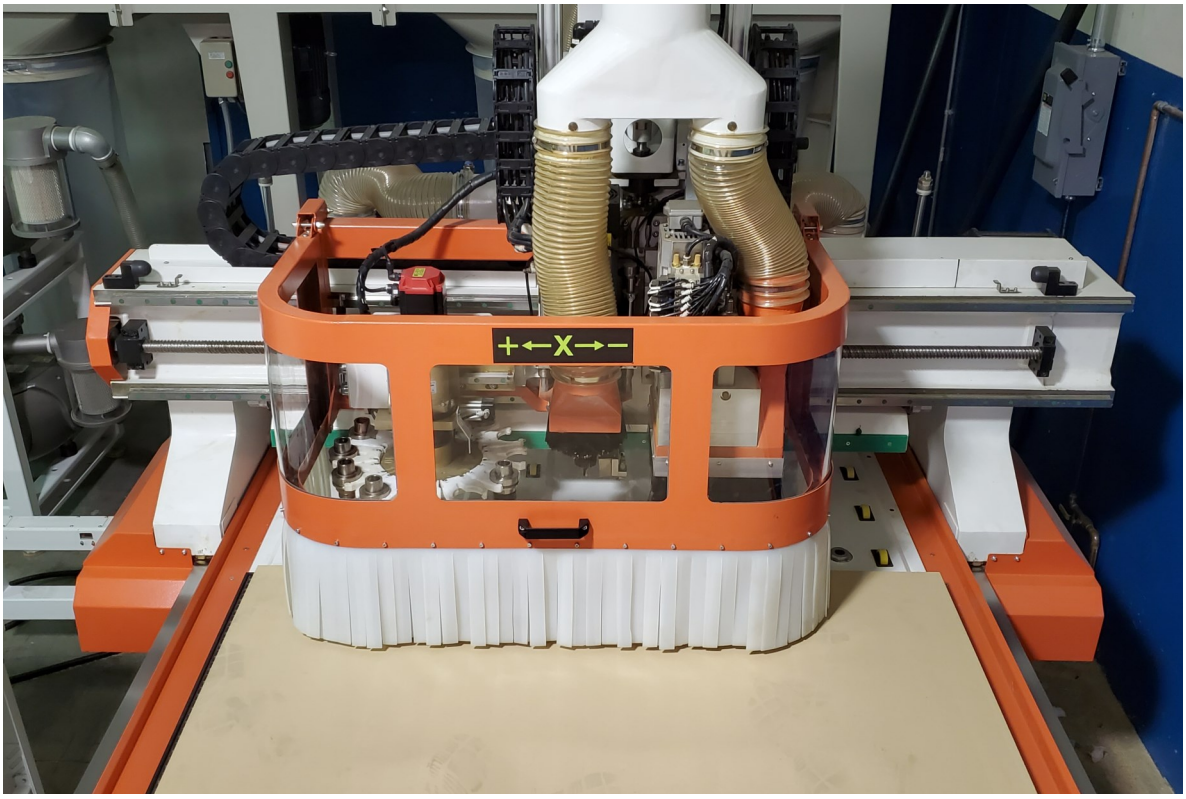
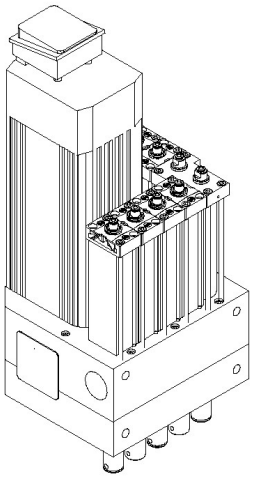
Boring Block, Router Spindle & Tool Magazine

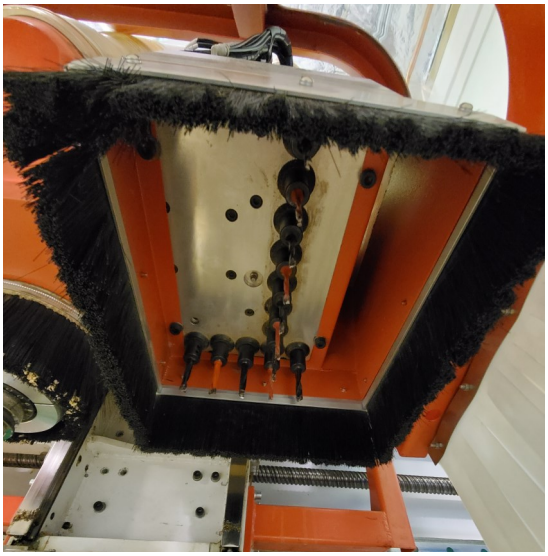


Vertical Boring Block:

The boring head is controlled by a VFD which allows for a soft start ensuring a long boring head life.

- 12 independent vertical spindles arranged in an “L” shape at 32 mm center-distance, 5 of which are placed along x and 7 along y.
- (1) 1.7 kW / 2.25hp motor: VFD spindle rotation speed can be programmed between 4000 - 6000 rpm.





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Built-in Dust Collection with Automatic Blast Gates

The built-in dust collection system consists of 3-zones; the boring block, the router and the material rake off system. Each zone is independently controlled through the program and when the zone is not in use the blast gate automatically closes allowing for optimal dust collection by the zone in use.

Material Rake-off System with Built-in Dust Collection

The rake-off system's dust collector is programmed to remove all the dust from the working zone while pushing the finished product off with the spoilboard AND when returning to its "parked" position. There is no need to blow off the dust from the router's tabletop between set-ups allowing for quicker processing of material; saving you time and money.

2 Handheld Pendants

1st Pendant has an Emergency Stop, a Cycle Start for program, Cycle Pause for program, a program Stop-Reset and Spindle Dust which raises and lowers the dust shroud around the router. The selector knob allows the operator to control the program router Feed Speed from 0 to 120 percent. This pendant is connected to a 24' cord for freedom of movement around the machine.

2nd Pendant, known as an "MPG" (Manual Pulse Generator), allows the operator to manually jog all 3 axes and can also be used to sequentially step through the program being run.

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Photo Eye Barrier

The electronic photo eye barrier protects the operator from the movement of the gantry. The photo eye barriers extend off the front of the machine by approximately 48”. Once the photo eye barrier has been broken the machine goes into *pause mode* and the operator must press the Cycle Start button to resume running the program.

The **PET 510-FT** has been specifically designed and engineered to maximize shop floor space and ensure total table coverage of both the router and all spindles on the boring block. With this design the rear Y-axis, as shown in this photo, can be placed within 10” of the wall. Many machines on the market today require a 32” to 36” offset from the wall, wasting your valuable shop floor space. Our design saves an average of 42 square feet of shop space on just the router alone. When material handling is added to the router, this can save up to an amazing 72 to 102 square feet of valuable shop floor space.

Material Handling System

Our material handling system allows for quick set-up time; typically only a 12 second material loading time is required, allowing for 65 to 90 sheet capacity, per 8 hour shift, compared to the 30 to 35 sheet capacity without the material handling system.

The material handling system saves on time and labor cost by up to 50% and reduces your power consumption.

More product gets out in less time!

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Working Field with Vacuum	
X Axis	1550 mm / 61”
Y Axis	3125 mm / 123”
Z Axis	260 mm / 10.25”
Clearance Under the Rake-off Bar	140 mm / 5.5”
Maximum Loadable Piece	1690 x 3200 x 140 mm / 66.5 x 126 x 5.5”
Maximum Feed Speeds	
X and Y Axis	50 m/min. / 164 fpm
Z Axis	260 mm / 10.25”
Boring Unit	
12 Vertical Spindles	5 + 7
Motor Power	1.7 kW / 2.5hp
Boring Block, VFD Controlled	4,000 to 6,000 rpm
Router ATC (Automatic Tool Change) Head	
Brand	HSK Made in Germany Full Ceramic Bearings
Type	Air Cooled
Motor Power	9 kW / 12hp
Tool Type	HSKF63
Rotation Speeds	1,000 to 24,000 rpm
Tool Magazine	
Slots in Tool Magazine	12
Maximum Tool Diameter	160 mm / 6.3”
Vacuum Pump	
2 EUROVAC Dry Vein Pumps	Model KVE 2501
RPM	1,126 rpm
Motor Power	7.5 kW / 10hp ea.
Inlet Capacity Per Pump	292 M^3H
Controller	
Fanuc NC Control	Model OiMF
Static PC	Windows 10
Monitor	14”
Total Connected Load	
X, Y, Z Axis	20 amps
Boring Block	7.4 amps
Router	27 amps
1st Pump	28.4 amps
2nd Pump	28.4 amps
Maximum Total Amperage	111 amps
Pneumatic Air Consumption	22 cfm
Air Line Connection	1/2”
Dust Collection Suction Capacity	1,745 cfm
Floor Area	
Router	X = 3,500 mm / 138”, Y = 4,270 mm / 168”, Z = 2,460 mm / 97”
Router with Material Handling System Installed	X = 4,200 mm / 166”, Y = 7,320 mm / 288”, Z = 2,460 mm / 97”
Weight	3,050 kg / 6,720lb