



**PRODUCT PROFILE &
INTELLIGENT 5 AXIS BRIDGE CUTTING
MACHINE-700 SERIES**



WELCOME



ABOUT THE COMPANY

Established in 2012 as **FUSION TECHNOCRAFT** and incorporated as an LLP on May 17, 2018, **FUSION CNC TECHSYSTEMS LLP** is a leading manufacturer and importer of advanced CNC Stone Carving and Cutting Machine technology and stone diamond tools. Under the visionary leadership of **Mr. Manish Sukhadia**, Founder and Managing Partner, the company specializes in a diverse product range including CNC engraving and cutting machines, profiling machines, stone temple and pillar carving systems, sculptures, granite monuments, and tombstone machinery. Renowned for exceptional performance, high durability, low maintenance costs, and competitive pricing, Fusion CNC ensures the highest quality by using premium raw materials and maintaining a robust network of trusted vendors with an efficient bulk manufacturing infrastructure. Driven by innovation and guided by experience, Fusion CNC continues to build a strong presence in the stone processing machinery industry and shape excellence in CNC technology and stone craftsmanship.



+900
CUSTOMER

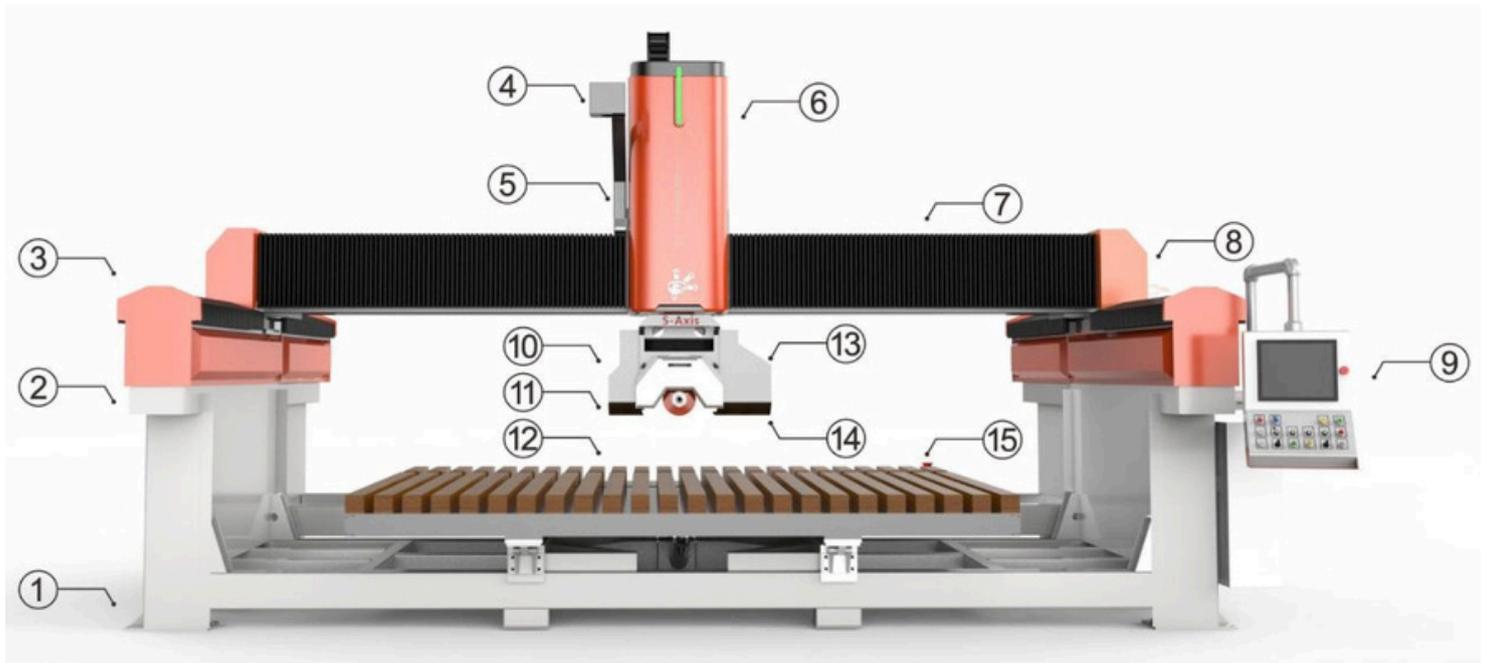


+100
PROJECT DONE

13+
YEARS OF EXPERIENCE



**5-Axis Bridge cutting machine
CS-Q3625-700**



1. High strength structural steel machine tools
2. Oil bath Y-axis lubrication
3. Y-axis double guide rails, four guide rails on both sides
4. HIK VISION industrial camera
5. Z-axis ball screw drive
6. X Z axis automatic lubrication system
7. X-axis three-linear guide
8. Y-axis dual servo motors
9. 19-inch touchscreen monitor
10. Vacuum sucker-option
11. Side spindle-option
12. 0~85° table tilting Rubber-option
13. 22KW permanent magnet high torque saw blade motor
14. Automatic thickness probe-option
15. Automatic tool setter
16. Safe door as option

5-Axis Bridge cutting machine CS-Q3625-700

Processing Size	X:3600mm Y: 2500mm Z: 600mm
Z stroke	600mm
Machine overall size	6300mm*3300mm*4600mm
Feeding height	300mm when hanging 700mm blades
Steel structure	welded and processed by working center
Hydraulic cylinder for tilting	Hydraulic
Control system	Cut CAM Full functions version Ethercat-China
Table turning Angle	0-85°
Head rotation Angle	-360°~360°
Machine head chamfering angle	0-90°
Maximum travelling speed	25m/min
Blade diameter	Max: 350mm~700mm
Main motor power	Permanent-magnet 22KW SNT Brand with inverter
Servo motor	XZC: 1.8KW, Z brake, Y: 2x1.3KW, A: 0.85KW-Veichi China
Total power	38KW
Servo drive system	Veichi-China

Ball screw	Ball screw for Z axis -TBI Taiwan-4010
Linear and Rack	Rack for X axis and Y axis -Hiwin X 35, Y 30 double, Z 35
Inverter	Veichi-China
Disconnecter	Schneider brand
Disconnecting switch	Schneider brand
Contactator	Schneider brand
Emergency stop button	Siemens brand
Other accessories	Pyun brand
System power supply	MW brand
Water consumption	Automatic supply
Gross weight	≈7800kg
Operating voltage	3P/380V/50Hz
Transformer	N/A, Standard voltage
Frequence	50Hz
Paint	Anti rust
Tool setter	Automatic for blades and the side spindle tool
Thickness Probe	Automatic for slab thickness measure
Camera	HIK VISION Camera self-positioning with cover, texture visualization
Ambient temperature	0~45 °C

2 Process workpiece

- Plate and profiling processing-can be selected directly in the control system with one-click-self programming.



- Kitchen countertop processing-can be selected directly in the control system with one-click-self programming.

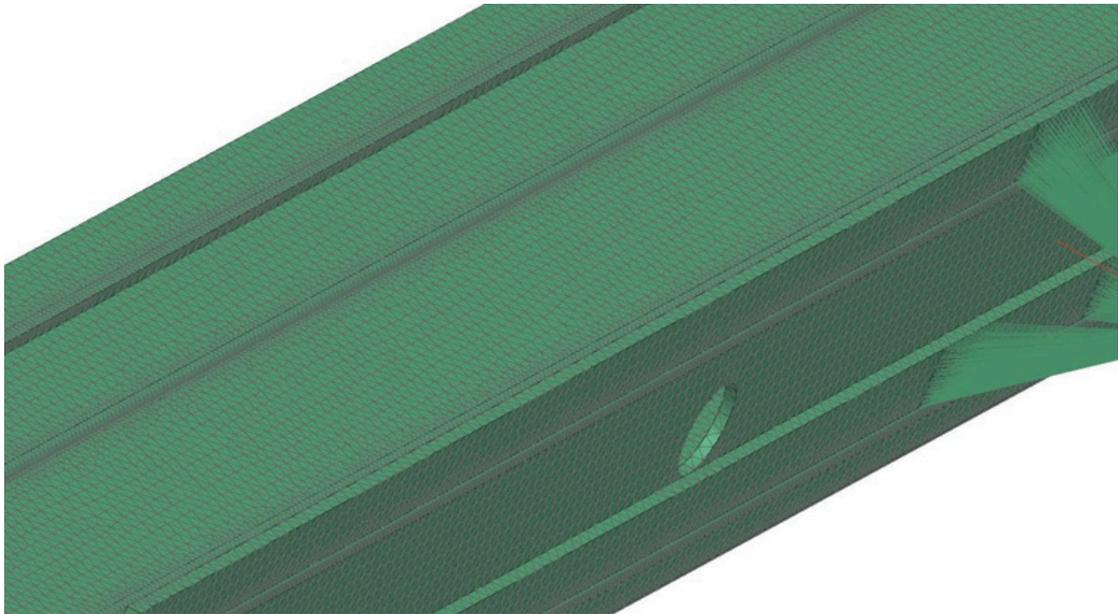


- Special shaped processing - can be directly integrated into the control system-self programming.



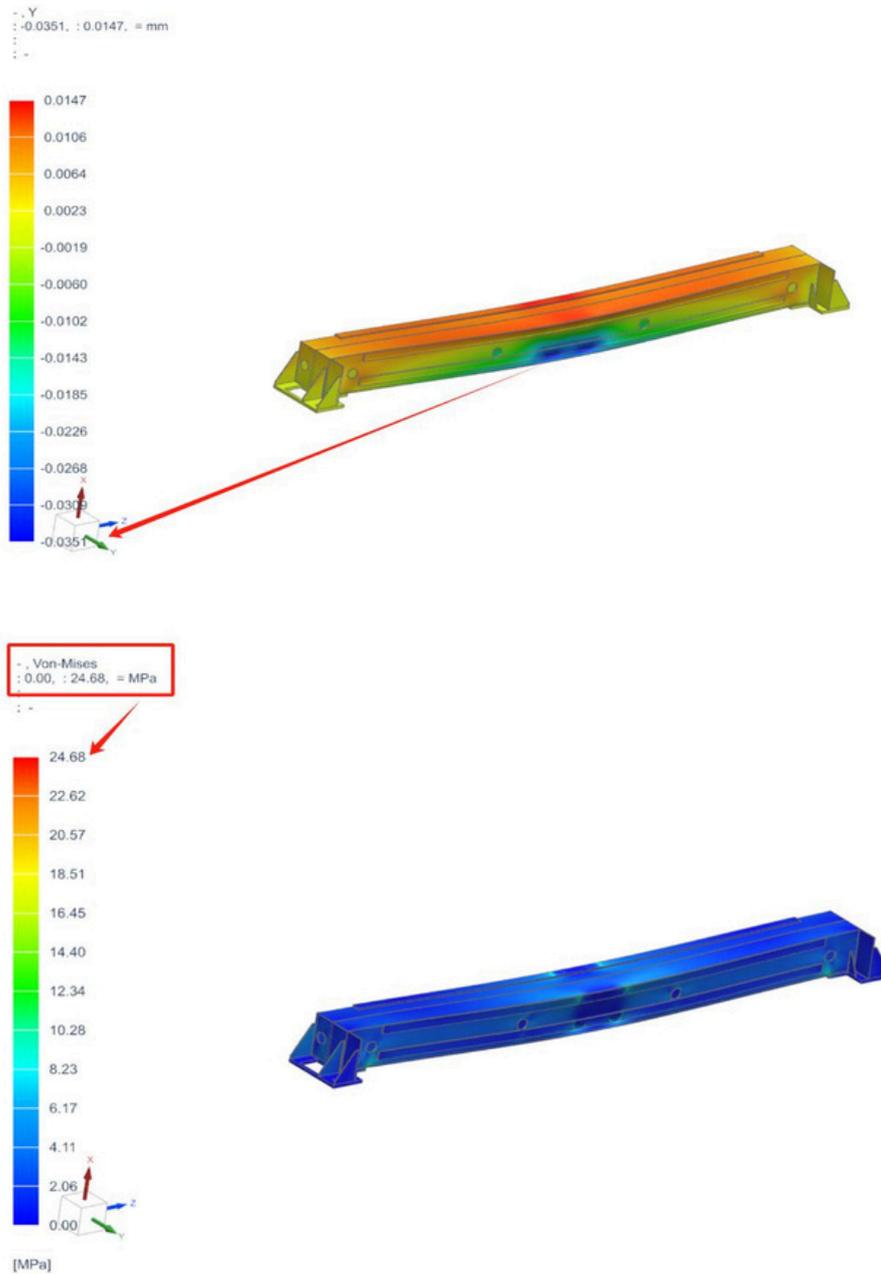
3 Detailed explanation of equipment

- Detailed design explanation - design concept based on **Ansys** finite element analysis



- All steel structures are analyzed using Ansys stress. Before analysis,
- they are evenly covered with high-density micro-grid divisions. These
- micro-grid units are used to simulate the mechanical properties of
- actual materials. The division of the grid will also directly affect the
- accuracy of subsequent calculation and analysis results. It is also more
- conducive to observing the stress concentration points during stress
- analysis, so as to adjust and change the structure in time to achieve
- the optimal solution of the geometry.

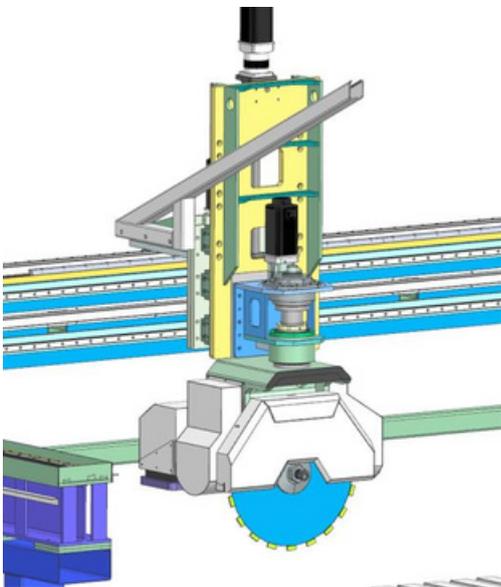
Anslys finite element analysis calculation results:



Summary of results: The crossbeam structure, the most critical structure of FusionCNC five-axis bridge cutting machine, even under the worst working conditions, the Y-direction elastic deformation of the crossbeam is only 0.0351mm, and the maximum local compressive stress is only 24.68Mpa. The yield limit of high-

strength structural steel is 345Mpa, and the stress on the structure is only 7.15% of the material limit. The amount of elastic deformation in the Y direction is 0.0351mm also lower than the enterprise standard of 0.05mm. The key component structure meets actual usage needs.

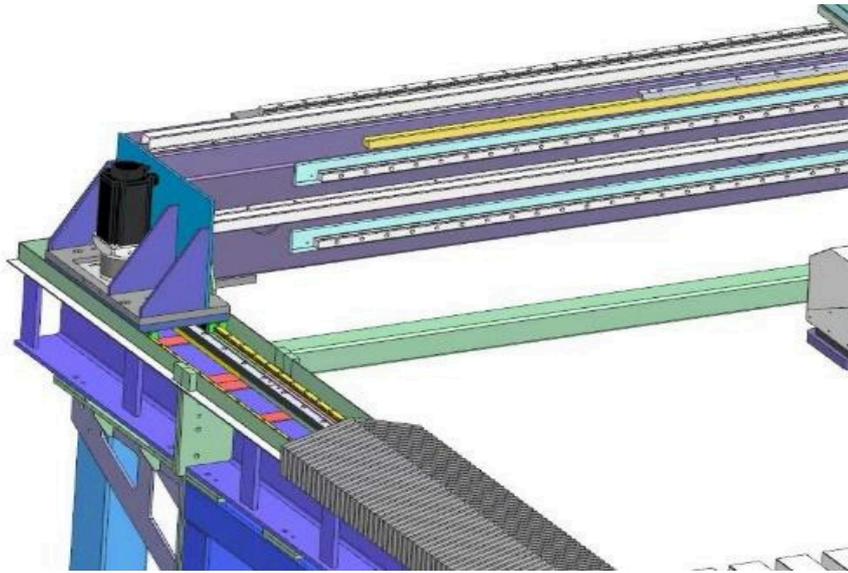
②Each mechanism is adjustable(after accidental operation)



Fusion five-axis bridge cutting machine combines many years of field experience and comprehensively considers the mistakes made by novice operators during actual use, the problem of partial motion mechanisms of the machine or loss of overall accuracy caused by machine collisions.

Each mechanism is adjustable, including XZ, YZ Flatness, verticality, C-axis rotation plane runout value, A-axis flip accuracy. The adjustment is simple, and the machine accuracy can be restored by adjusting the bolts of each mechanism. The factory accuracy difference of the equipment is $\leq 0.05\text{mm}$.

③ Segmented design facilitates installation



The Y-axis beam has its own sealing ring, the oil groove has good sealing performance, is self-lubricating, and is maintenance-free. The guide rails and racks at the cutting point are all wire cut, with smooth cutting surfaces and high precision.

4. Accessories selection:

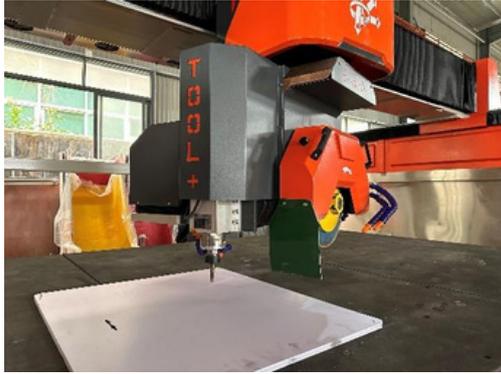
① Main Motor



The SNT permanent magnet saw blade motor has the characteristics of small size, high torque, small no-load current and low

energy consumption of the whole machine. The vibration value of the whole machine is 0.03mm/s, which is much higher than the industry standard.

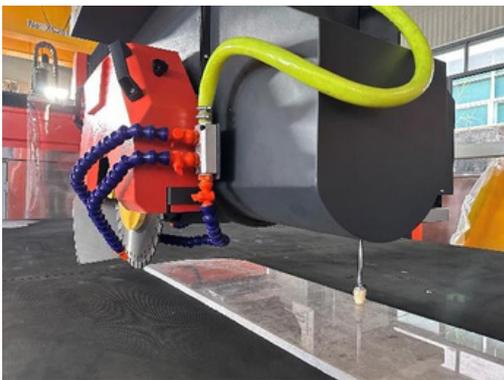
② Side spindle-option



High-speed side-mounted spindle, fully compatible with 5+1, the full- featured version of CutCAM supports fine engraving, automatically switches the spindle up and down,

start and stop, which is more practical for processing special shapes.

③ Slab Probe



High-precision plate detection can accurately measure the thickness of the stone. Especially in the state of angle cutting, the precise thickness of the stone must be accurately verified

to ensure the cutting accuracy.

④ Camera targeting



Higher speed: Industrial cameras are characterized by high speed and can quickly capture and process large amounts of image information. Higher accuracy: High-precision image collection, processing and

recognition can achieve accurate detection and analysis of tiny defects,

complex structures and tiny objects. High resolution: Able to capture more image details and information, providing clearer stone textures for texture layout cutting. High stability: It has the characteristics of high stability, durability and anti-interference, and can often work in harsh environments, providing high stability and accuracy for stone in harsh working conditions.

⑤ Vacuum System-option



High-quality vacuum components stably adsorbed during handling. The whole machine is equipped with 2 sets of vacuum suction cups, each with a maximum adsorption weight of 150Kg, with a total safety load of 300Kg

⑥ Automatic Tool Setter



High-precision tool detection components ensure that the actual values are accurately output when measuring the saw blade diameter

and tool length. The operator only needs to click a button to obtain the data of the saw blade and tool, so that the product accuracy is higher during processing.

⑦ Servo motors and servo drives



Well-known Chinese Veichi brand servo system: The response frequency is as high as 3.0kHz, and the dynamic response is faster; 23-bit high-precision encoder. Speed observation and load inertia identification greatly improve trajectory tracking accuracy, making low-speed processing more stable; supports high-speed industrial buses EtherCAT, RS-485, CANopen, M-II, M-III; supports more encoder protocols; supports USB host computer connection mode; add mid-frequency vibration suppression, robust control; electronic cam, gantry synchronization, intelligent gain adjustment and other functions.

⑧ Ball screw-Hiwin

High precision, high speed, high load, low friction and no gap. The manufacturing process of Hiwin ball screws is very precise, and the size and quality of each part are strictly controlled to ensure its accuracy and stability.



At the same time, the contact method between the balls and the guide rail makes it have higher precision and stability compared with the traditional threaded screw, and is particularly outstanding in precision machining and repeated positioning.

⑨ Linear guide rail-Hiwin

Hiwin linear guides can reduce the friction coefficient to $1/50$, so they can respond sensitively to small movements and achieve



precise positioning. Because the friction coefficient is reduced, the cost of production electricity can be greatly saved. High precision and small gap.

⑩ Reducer-Japan Nidec



All transmission shafts of XYZAC are driven by high-precision planetary reducers. The torque is 3~5 times higher than that of models without

reducers. There is no gap, so there is no loss of accuracy.

⑪ Vacuum suction cup

The fully automatic vacuum suction cup can absorb stones with a minimum size of 150x100mm, and the maximum safe load of the double suction cup is 2x150Kg. It also comes with air leakage protection. When there is a bad seal, the device will automatically alarm and stop moving.

⑫ Hydraulic station



Professional-grade hydraulic station, high-power hydraulic motor. It has a built-in double buffering function, which can automatically decelerate the front and rear sections of jacking, and achieve high speed in the middle range. While protecting the board, it greatly improves production efficiency.

⑬ Fully automatic water supply system

When starting the equipment and starting cutting, the system will automatically open the water valve of the water supply system. When cutting is completed, the system will automatically turn off the cooling water supply to save water.

⑭ Oil bath lubrication

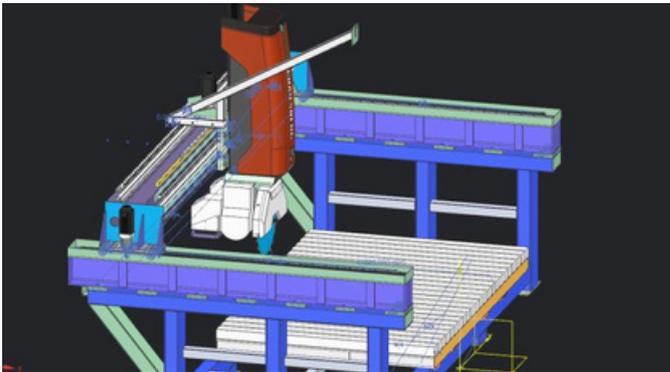


Y-axis oil bath lubrication, maintenance-free slider and gear row, fully automatic centralized oil supply system for XZ motion mechanism, oil injection time can be freely set according to production conditions and fully automatic lubrication of all motion mechanisms.

⑮ Y-axis double linear guide rail-four linear guide rail

Y-axis double guide rail oil bath tank design. The double guide rail has higher stability than a single guide rail. The oil tank keeps the guide rail and rack lubricated for a long time, saving maintenance costs.

⑩ Y-axis dual motor drive



Y-axis dual servo drive motors provide smoother and stronger driving force to ensure higher cutting speed while avoiding the

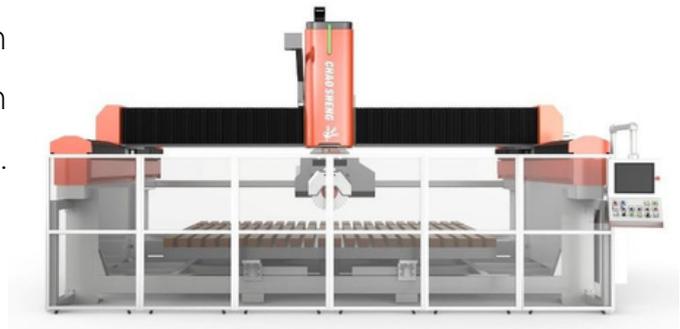
loss of beam accuracy after collision.

⑪ Except for the docking part, the entire design of the guide rail and rack

Except for the segmented ones, all guide rails and racks adopt the entire non-disconnecting solution to ensure the precision and reliability of all operating mechanisms during operation.

⑫ Safe door-option

The safety door has an automatic alarm function when people pass through. When the alarm is sounded,



the machine will automatically pause. After the danger is eliminated, the automatic program can be manually started to realize the automatic pause protection of the machine and continue processing after the pause.

⑱ Rubber table-option

Rubber worktable surfaces effectively extend the lifespan of the worktable. During cutting, the rubber



surface also provides anti-slip properties, increasing friction to firmly secure the stone to the worktable, thereby improving the precision of various cuts, especially chamfering.

5. Assembly process

- ① Welding CO2
- ② Internal stress release
- ③ Metal processing accuracy 0.03mm
- ④ Most of major components are made of casting steel
- ⑤ Maintenance-free oil tank design
- ⑥ All accessories are carefully calibrated before installation to ensure assembly process
- ⑦ Senior assembly engineer with more than ten years of experience
- ⑧ The overall cumulative error of the transmission

mechanism assembly is within 0.05mm (standard square ruler measurement)

⑨ Electrical aging during no-load trial operation to ensure that the machine is on-site

6. After-sales service

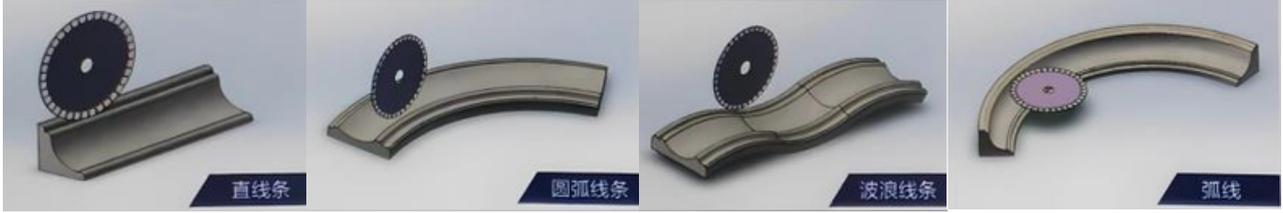
① 7*24 online remote answering, the response speed to customer questions is within 8 hours, and solutions are provided within 24 hours.

② On-site installation, calibration, and training services can be provided (additional fee).

③ Consumable parts are kept in safety stock at local offices/outlets (delivered within 24 hours, except holidays); non-conventional accessories are shipped domestically within 48 hours.

7. Warranty

service Under normal use and maintenance, it will take 12 months after receipt of the goods or 14 months after shipment, whichever comes first. Paid maintenance services are provided after warranty for the machine whole life.



Configuration description:

1. Main motor: high quality permanent magnet motor
2. System: Cut CAM intelligent system
3. Ethernet interface
4. 19-inch LCD touch screen computer
5. Drive and motor: Ether CAT absolute value servo and drive
6. Gears, racks, and guide rails: high-precision for all from Taiwan
7. Lubrication method: the gears, racks and guide rails of the X and Z axis are refueled by automatic oil pumps, the A/C axis are lubricated with grease, and the gears, racks and guide rails of the Y axis are lubricated by oil tank;

Cutting function:

1. Cutting (square, polygonal, shaped, round, chamfered, fan-shaped, oval, countertops, etc.);
2. Profiling function; (straight lines, arc lines, oblique lines, wavy lines, etc.);
3. One-click insert via AutoCAD for any shape cutting (Select in CAD, confirm, the system automatically obtains the cutting data)

<p>PRICE</p>	<p>INR 54,75,000 (Fifty-Four Lakh Seventy-Five Thousand Only).</p>
<p>Payment Terms & Conditions</p> <p>Local Tax</p> <p>Warranty Period</p> <p>Delivery</p> <p>Transposition</p> <p>Payment</p> <p>Order Confirmation</p> <p>Installation & Training</p> <p>Training & Service</p>	<p>Option price needs to be added as below: side spindle function 2,34,000₹(INR), Vacuum sucker system 3,35,600₹(INR), rubber working table 2,34,000₹(INR), safe door with alarm and protection system 2,45,000₹(INR).</p> <p>GST 18% will be charged extra. All over Indiapurchaser</p> <ol style="list-style-type: none"> 1. One year against faulty parts of the CNCmachine.Machinewarrantyis start from Invoice date one year's warranty. 2.Our warranty of machine does not coverthedamagescausedthroughfire created by any means, outside force,operation'smistake,naturalcalamity Items not covered under warranty suchasTool&Collet.NoWarrantyfor Vacuum pipes and dust collector pipes. 3.Spindle have 6 months warranty <p>Within 65 to 75 days after the receipt of order confirmation sign and stamp and Advance payment dated.</p> <p>Delivery Charge will Extra from customer side (Ahmedabad H.O.)</p> <p>50% Advance along with Purchase Order and the buyer shall pay balance payment 50% in advance before shipment and the seller shall arrange shipment after receiving the payment. Demand Draft / At Par Cheque for the payment should be in the name for "FUSION CNC TECHSYSTEMS LLP" payable at Ahmedabad Demand Draft / At Par Cheque for the payment should be in the name for "FUSION CNC TECHSYSTEMS LLP" payable at Ahmedabad</p> <p>Once the offer is accepted by purchaser by purchase order in writing or on receipt of the advance amount, such order shall be deemed to be confirmed orders. If the purchase order is cancelled then the advanced payment amount is not refundable.</p> <p>FUSION will depute service engineer charge for installation and training to the purchaser. Only actual expense for traveling, boarding and lodging will be charged extra. The purchaser shall be ready with the installation requirements (space, raw material, electrical connections, compressed air, Stabilizer as per requirement and tools etc.). FUSION will require 3-4 days to plan and depute service engineer at your site, if you require more days for training so per day charge is INR 5000.</p> <p>FUSION will provide operational training to customer's technical team. Once installation gets completed and machine is handed over to customer, all trainings required in future, will be on paid basis.</p>
<p>For Service During warranty period free of cost, Only actual expense for traveling, boarding and lodging will be from Customer side.</p>	
<p>Dispute</p>	<p>All disputes will be subject to Ahmedabad jurisdiction</p>



PROUD TO BE MEMBER OF



Centre for
Development of Stones



CONTACT US

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