Specification

Brand:	TWO TREES
Item Name:	CNC Router
Item Number:	TTC6050

1. Scope of application

Our consumer-grade CNC woodworking engraving machine is an innovative tool, It designed to provide users with an easy, efficient and precise engraving experience. This CNC woodworking engraving machine is designed to meet the needs of various creative, educational, manufacturing and personal projects. It shows excellent applicability in the following fields:

Creativity and design: Whether you are an artist, designer or creative enthusiast, our CNC woodworking engraving machine can turn your imagination into reality. By converting digital models or pictures into physical objects on the processed materials, you can get more inspiration and freedom in the creative process.

Education and learning: Educational institutions, schools and educators can use this printer to provide students with practical, hands-on learning experiences. From scientific models to geographical topography, from historical artifacts to mathematical geometry, CNC can enhance the interactivity and fun of learning and exercise hands-on ability and logical thinking ability.

OPrototyping: The manufacturing and engineering fields can use CNC engraving machines to make prototypes and samples, thereby accelerating the product development cycle. Whether it is to quickly verify design concepts or conduct small-batch manufacturing, this CNC can provide high-quality engraving results.

Personal Projects: Making personalized gifts, decorations, toys, furniture, and even parts replacements can all be easily achieved with this CNC woodworking engraving machine. Your creativity is unlimited, and the woodworking engraving machine will become the tool for you to realize your ideas.

Model Making: The fields of architecture, engineering, and model making can

benefit from the high precision and reliability of CNC woodworking engraving machines. Making architectural models, mechanical component models, or other complex structures can show amazing details and precision.

We believe that its excellent engraving quality and ease of use can still meet your needs in various application scenarios.

Whether you are a creator, educator, or manufacturer, our consumer-grade CNC type woodworking engraving machine will be a powerful assistant for your creativity and realization. It brings CNC processing technology into your hands and makes your ideas come true.
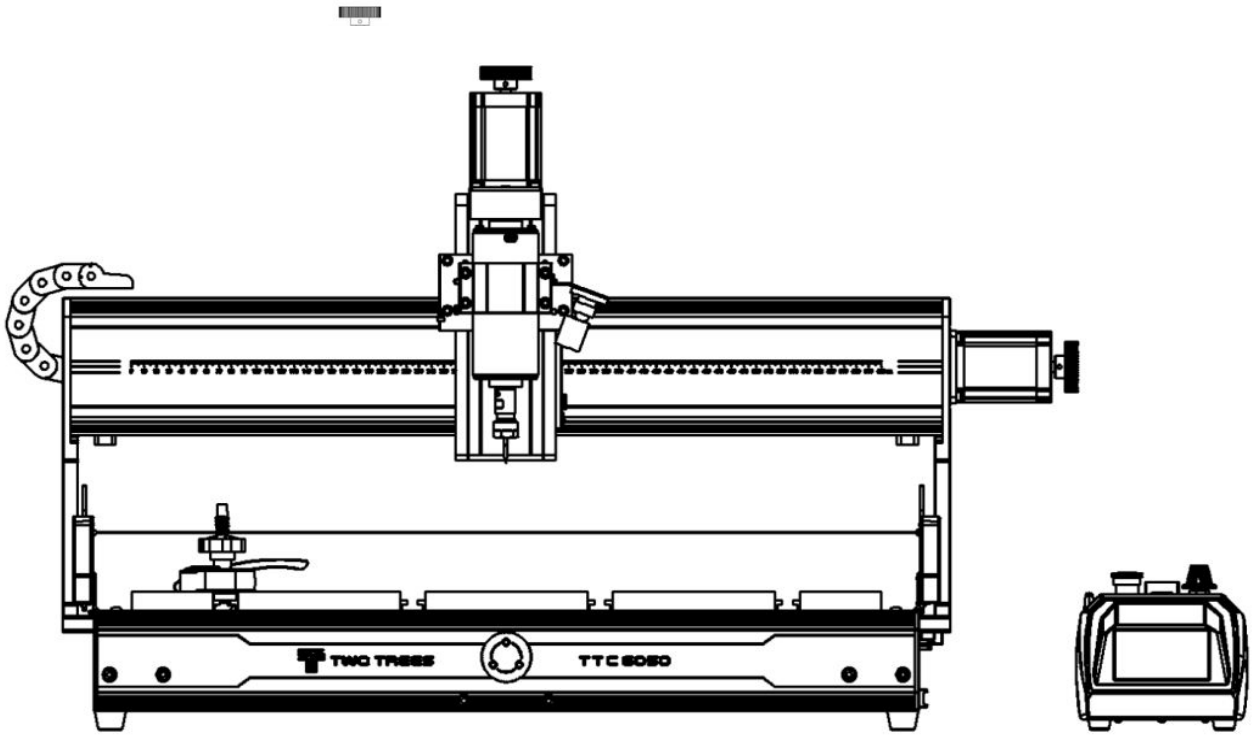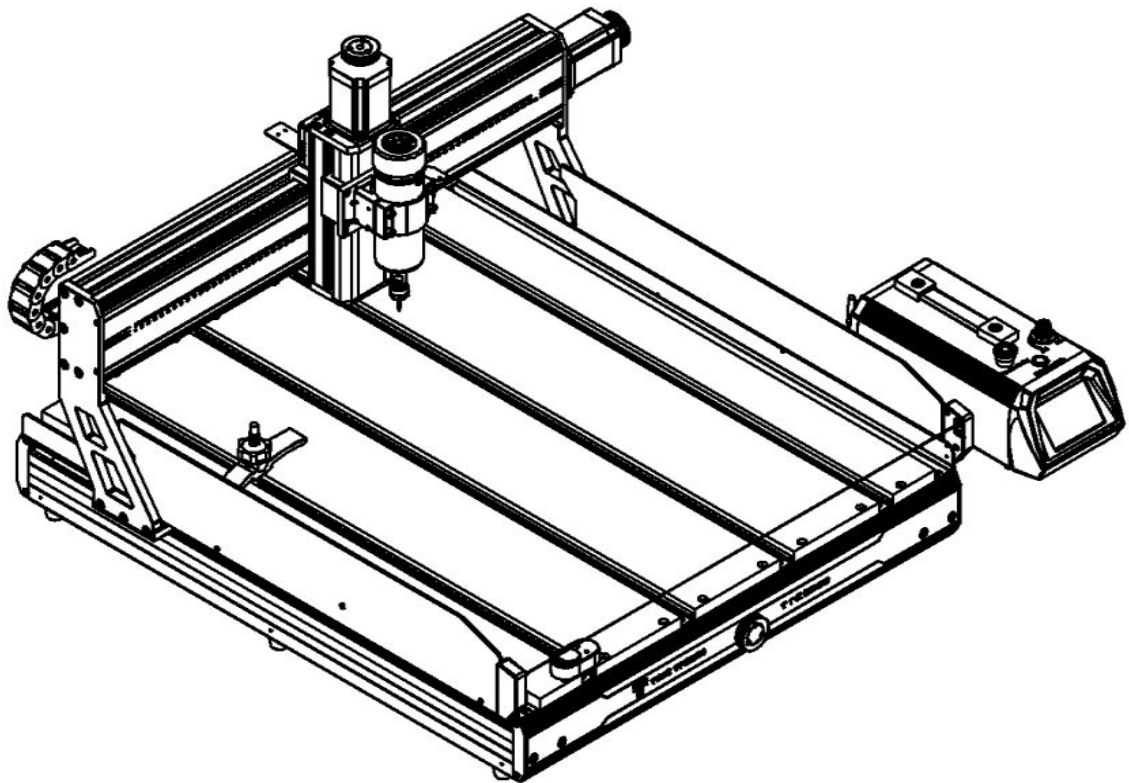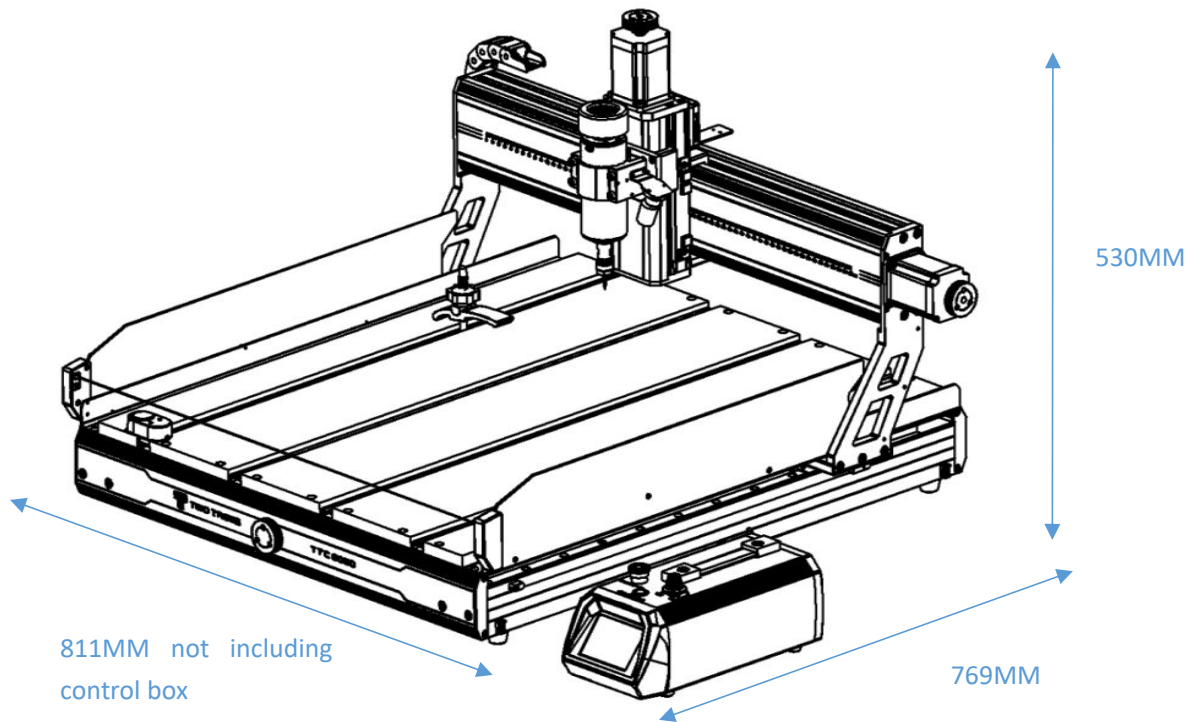
Features:

1. The main body of the machine is made of aluminum alloy, and is equipped with high-precision ball screws and linear guides. Ensure the stability of the spindle during movement.

2. An infrared sensor is installed in front of the device, which can sense objects during work to prevent accidents. Lighting accessories are installed above the spindle to provide better work convenience.

3. The transmission parts are hidden in the design to avoid debris generated during engraving that affects the stability of the equipment transmission.

4. A variety of optional accessories can be provided for air cooling, water cooling, multiple spindles and laser engraving.

3.Item appearance

Working area：600mm X 500mm X 100mm

530MM

811MM not including control box

769MM
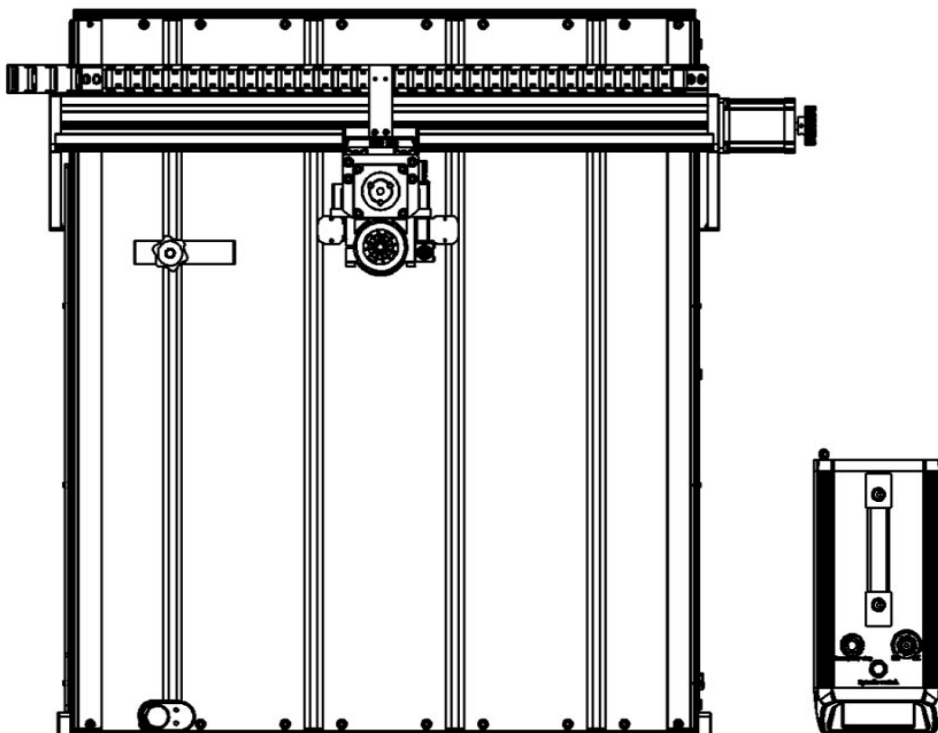
4.Specification

Type	Parameter	Feature
Basic Parameter	Name	CNC Router
	Model	TTC6050
	Technology	CNC
	Color	Red + Black
	Materials	Aluminum + injection molding + C7 ball screw + linear guide
	Materials	Aluminum
	Dimension	811mm X 769mm X 530mm（no including control box）
	Control box dimension	300mm X 137mm X 131mm
	Working scope	600mm X 500mm X 100mm（23.6in*19.6in*3.9in）
	Support tool diameter	0.5mm to 7mm(ER11 Chuck)
	Compatible engraving materials	Plywood/MDF/Solid wood/Acrylic/Carbon fiber/Aluminum/Copper/Stainless steel
	NW	35.9KG
	Item GW	39KG
	Package size	845mm*491mm*342mm
Electric Parameter	Power method	216W Dual switching power supply
	Switching power supply parameters	INPUT:100AC-240AC 50GHZ OUT｜:PUT:DC24V/4A OUT2:DC0-100V 100W
	Control board input voltage	24V
	Power consumption	150W
	Standby power consumption	15W
System Parameters	Motherboard model	TWO TREES CNC KIT V1.3
	Touchscreen	3.5-inch resistive touch screen (480*320 resolution)
	Firmware Type	GRBL is open source and supports both CNC and laser (no firmware required)
	X-axis drive	DRV8825
	Y-axis drive	DRV8825
	Z-axis drive	DRV8825
	A-axis drive	DRV8825
	Wifi-2.4G Hz	Support (built-in)
	Wifi-5G Hz	Not supported

	Bluetooth	Not supported
	Ethernet	Not supported
	TF Memory Card	Supported
	USB Port	Supported
	USB flash drive	Not supported
Mechanical parameters	Type of motion structure	XYZ
	Framework	Sheet metal + aluminum profile + injection molding + linear guide + ball screw
	X Axis motor model	57 stepper motor H76mm double output D axis 8mm 3.5A 2.3N
	Y Axis motor model	57stepper motor H76mm Daxis 8mm 3.5A 2.3N
	Z Axis motor model	57 stepper motor H76MM double output D axis 8MM 3.5A 2.3N
	Zero position	Lower left corner (customizable)
	XY stopper model	TM-1618D Micro Switch
	Z stopper model	TM-1618D Micro Switch
	Transmission screw model	SFU1210 SFU1610 Ball Screw
	X/Y Axis positioning accuracy	0.01mm
	Z Axis positioning accuracy	0.0025mm
	Engraving accuracy	100±0.05mm
	Highest carving speed	5000mm/min
	Max acceleration	500mm/s²
Spindle parameters	Spindle motor	500W original Spindle 800/2000/3000 AC tile trimmer BLDC4475 Brushless Motor
	Spindle speed	Depending on the installation, the spindle speed range is 8000-30000RPM
	Tool size	According to the inner hole size of ER11 collet, it supports 0.5-6MM diameter tools
	Carving layer height	Non-metal 0.1mm-20mm Metal 0.1mm-0.2mm
Touch screen function	Motion Control	Support
	Emergency Stop	Support
	Speed control	Support
	Tool setting control	Support
	Laser/CNC function switch	Support
	Accuracy	Support

	calibration	
	Language Switching	Support（Chinese\English\Spanish\German\French\Russian\Portuguese\Italian\Japanese\Korean\Turkey
	Online Help	Support
Compatibility parameters	Programming software	Artcam、Fusion360、EASEL、Carveco Maker 等
	Support system	MacOS\Windows\Linux
	Software language	Chinese\English\Spanish\German\French\Russian\Portuguese\Italian\Japanese\Korean\Turkey
	Program support formats	.nc\.Gcode
Safety parameters	Security certification	CE-EMC/CE-LVD/CE-MD/CE-RED/ROHS/FCC-Sdoc/FCC-ID
Environmental parameters	Engraving temperature	0°~40°

5. Feature Definition

5.1 Interface Definition
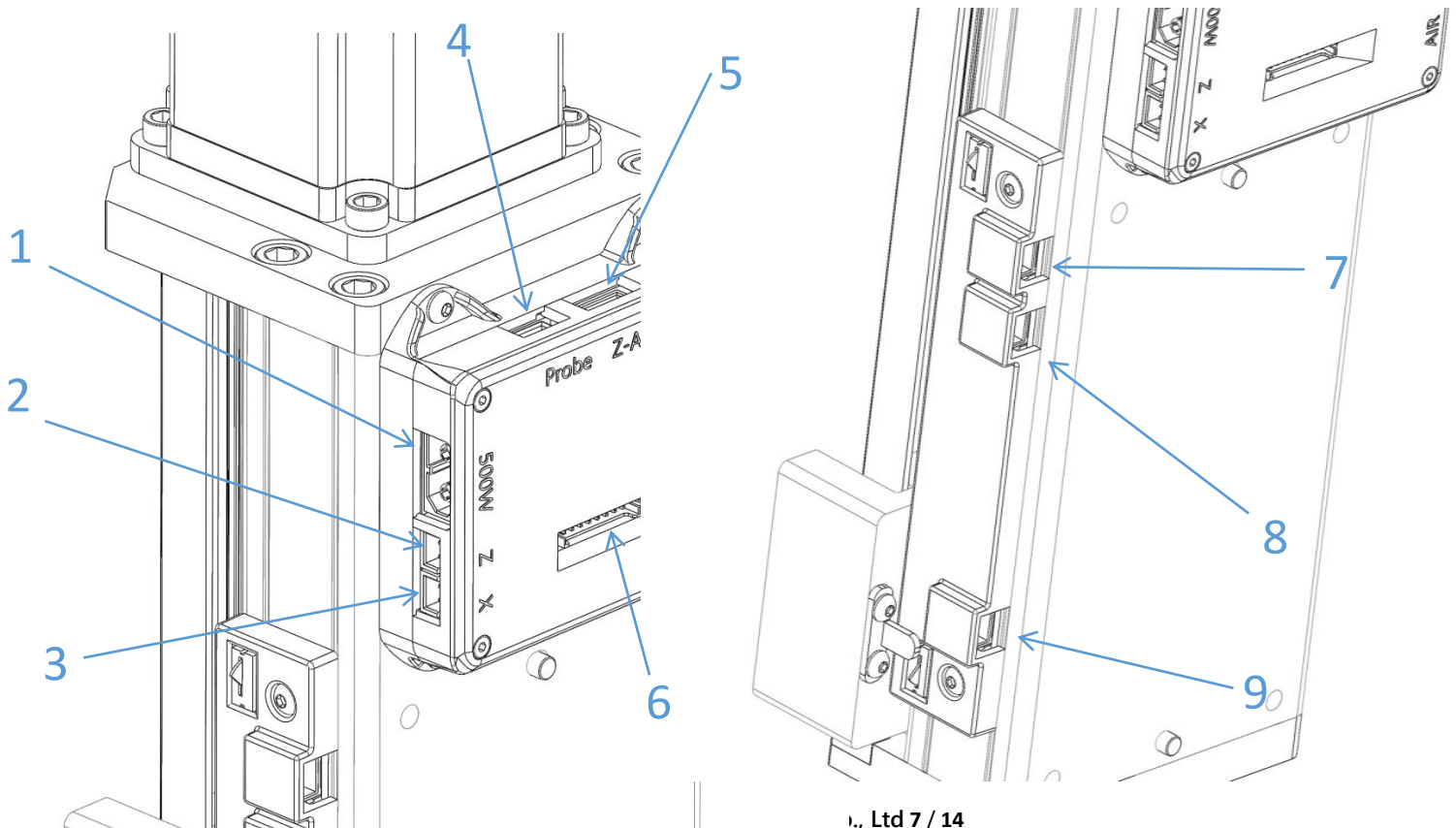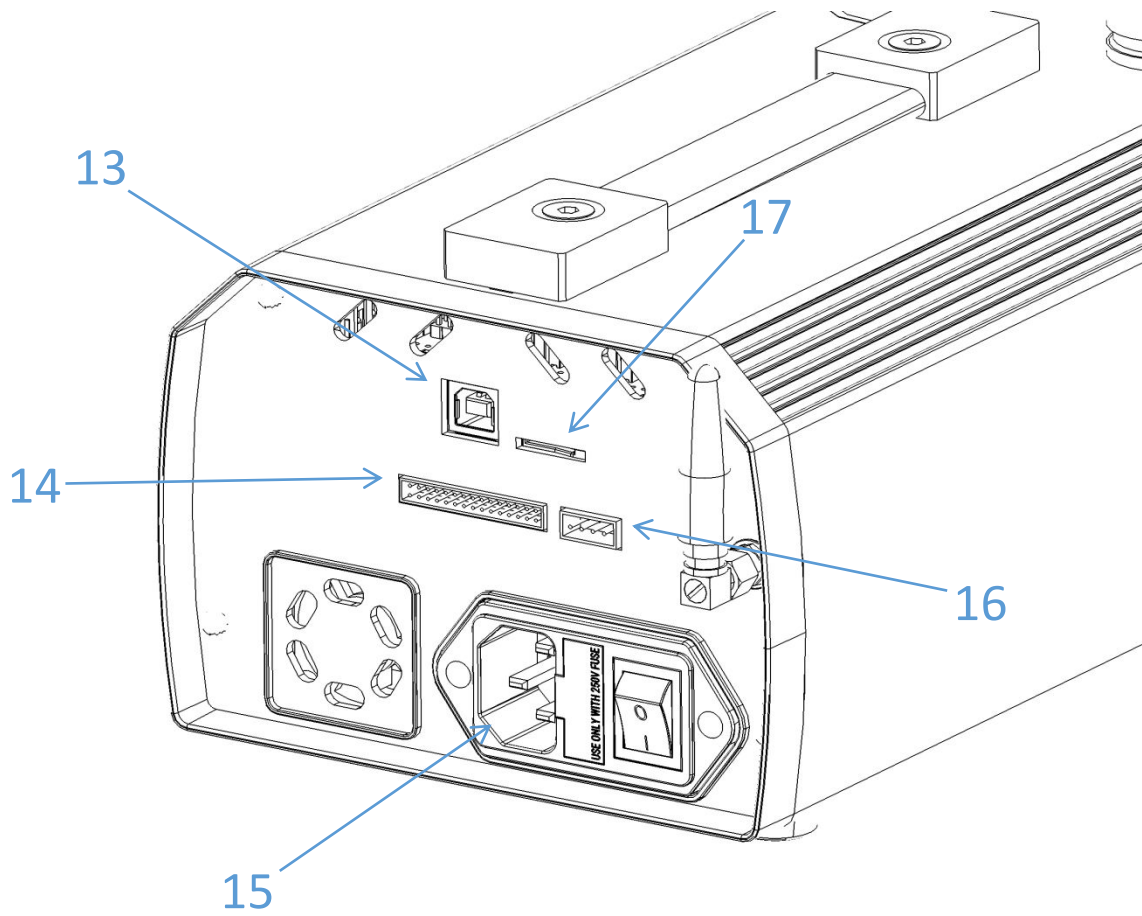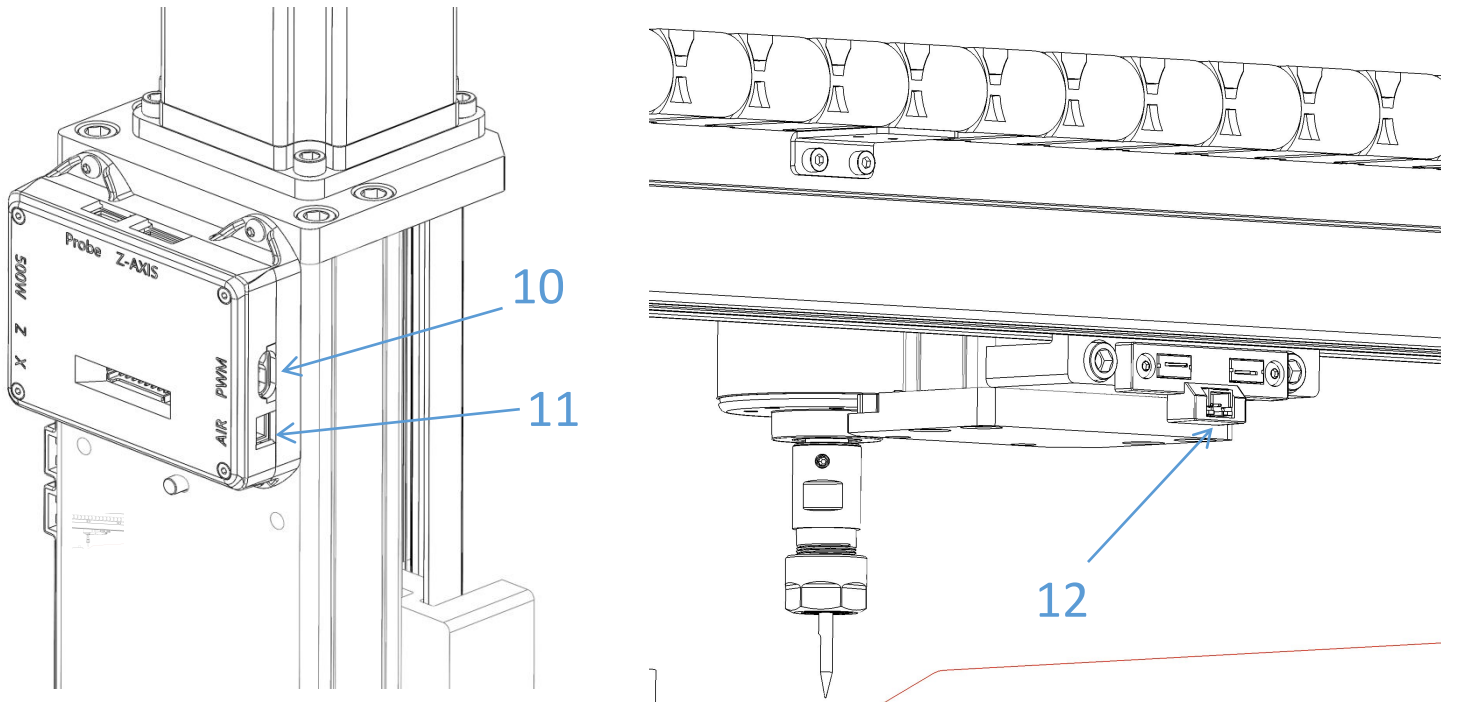
Series No.	Interface	Feature
1	500W Motor socket	500 installed then connect the power supply
2	Z Limit interface	Trigger limit to limit the machine's Z-axis travel
3	X Limit interface	Trigger limit to limit the machine's X-axis travel
4	Tool setting interface	Power supply and communication of tool setting probe
5	Z Axis motor interface	Z-axis stepper motor connection
6	Z Axis motor interface	Communication between the control box and the Z-axis adapter plate
7	Z Axis motor interface	Connect the Z-axis limit plate
8	Z Axis limit adapter board X signal interface	Connect the X-axis limit transfer signal
9	Z Axis limit adapter board X1 signal interface	Connect the X-axis limit plate
10	PWM Signal interface	Laser head power supply and control
11	24V interface	LED lights, 24V external devices
12	X Axis limit interface	Trigger limit to limit the machine's X-axis motion range
13	Communication interface	Used to connect to the PC to receive instructions and flash the firmware
14	Control box wiring harness interface	Power supply and communication of each adapter board
15	Power cord interface	Control box power supply
16	A Axis motor interface	A-axis stepper motor connection
17	TF interface	Card reading program file

6. Package

6.1 Package list

No.	List	QTY
1	Machine components	1
2	Screw fasteners	1bag
3	manual	1
4	Engraving material PP board	1
5	Clamp pressure plate	4
6	Tools: Sharp knives*10 Flat-bottom milling cutter*1	1

	Chamfering cutter*1	
7	Data cable + TF card data	1
8	500W Spindle	1

6.2 Package

TTC6050纸箱
纸箱内尺寸:830*476*317
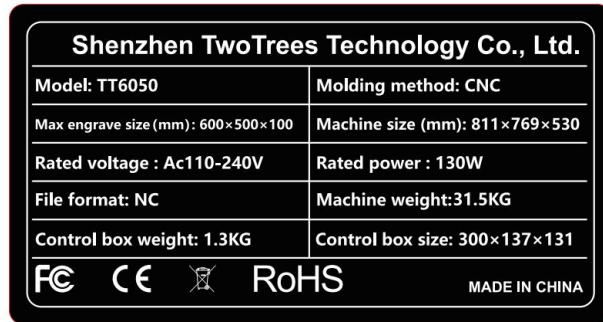纸箱外尺寸:845*491*342
材料为瓦楞纸板K=K (5层,厚度范围:6.0~6.5mm)
连接粘胶水,不打钉

7. Label

Size 19*70mm

WARNING

Do not unplug or insert cables when powered on, or the motherboard may be damaged.

Em português: Não desplugue ou insira cabos quando estiver ligado, caso contrário, pode danificar a placa-mãe.

Size 40*40mm

Shenzhen TwoTrees Technology Co., Ltd.	
Model: TT6050	Molding method: CNC
Max engrave size (mm): 600×500×100	Machine size (mm): 811×769×530
Rated voltage : Ac110-240V	Rated power : 130W
File format: NC	Machine weight:31.5KG
Control box weight: 1.3KG	Control box size: 300×137×131
FC CE RoHS	MADE IN CHINA

Size 85*45mm

8. Precautions

1. Safety Precautions:

The power supply and equipment should be placed in a well-ventilated environment to avoid overheating.

Avoid putting fingers or other objects into the running engraving machine to prevent injury.

Use an approved power cord and socket to ensure that the power cord is not damaged.

Ensure that the engraving machine is stably placed on a stable surface to avoid vibration or shaking and tipping.

8.2 Maintenance and Care:

Clean the engraving platform:

Remove the residue on the engraving platform, you can use a brush to clean it. Ensure clamping accuracy.

Lubricate the lead screw:

According to the instructions, apply appropriate lubricating oil or grease to the lead screw regularly. This helps to keep the three axes moving smoothly and improve engraving accuracy.

Calibrate the Y axis:

Check the verticality of the Y and X axis engraving, and adjust as needed to ensure engraving accuracy.

Replace the tool:

Check the wear of the tool regularly.

Depending on the frequency of use and the engraving material, the tool can be replaced regularly to maintain the engraving quality.

Check the lead screw transmission device:

Since vibration will be generated during engraving, it is necessary

to regularly check the tightness and wear of the transmission component screws.

Clean the cooling fan and motherboard: Check and clean the dust attached to the cooling fan and motherboard inside the control box to maintain normal heat dissipation and ventilation.

Adjust speed settings: Select the appropriate tool, engraving speed, cutting layer height and other parameters according to your engraving material and the required engraving quality.

Update firmware and software: Check regularly for new firmware or software updates. Updates can improve performance and fix potential problems.

Keep the working environment clean: Make sure the working area around the device is clean to prevent dust and debris from entering the control box.

Environmental considerations:

Material selection: Choose environmentally friendly engraving materials, such as PP, acrylic, wood and other degradable and recyclable materials, and the tool cutting during engraving should not produce odor.

Energy efficiency: Turn off the engraving machine and auxiliary equipment when not in use to save energy.

Deactivate power and materials: Make sure the power of the engraving machine is completely turned off when not in use to avoid unnecessary energy consumption.

If non-degradable engraving materials are used, pay attention to recycling to avoid polluting the environment.