

ARCBRO[®]

Stinger-PRO5100 SERIES

High Definition Cutting Machine install Manual



Operator Manual

ARCBRO | Revision 2 | English

Date of issue: August, 2020

Technical Support

Thank you very much to choose **ARCBRO** product, our whole engineer department work for you since the day you receive machine. When you have any questions during assembling or operating, it is free to contact us by Call, Email, Online help 7x24 hours.

Wish you enjoy a wonderful CNC cutting travel.

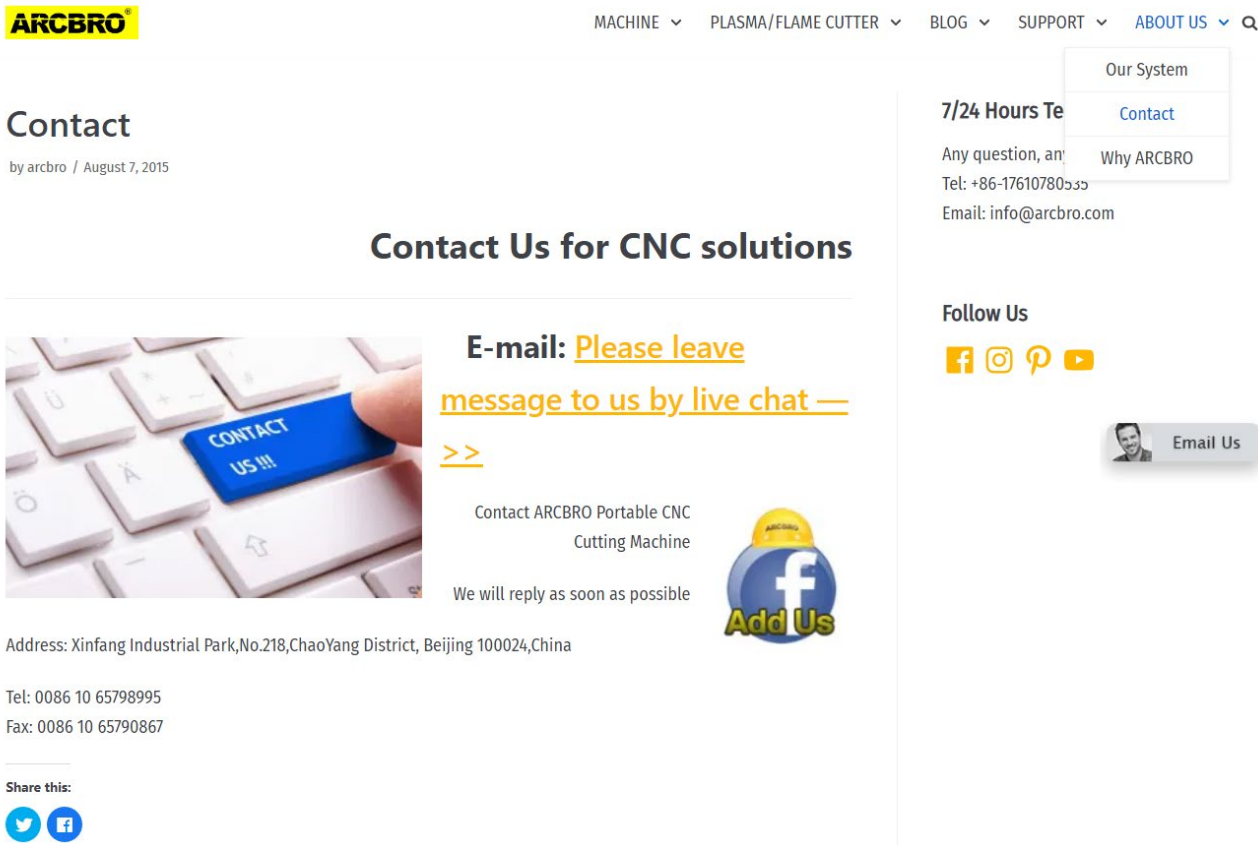
ARCBRO CNC Technical Support & Solutions

7x24 Hours

+86-10-65798995

support@arcbro.com

www.arcbro.com/about-arcbro-cnc-cutting-solutions/



The screenshot shows the ARCBRO website's contact page. At the top left is the ARCBRO logo. A navigation menu includes 'MACHINE', 'PLASMA/FLAME CUTTER', 'BLOG', 'SUPPORT', and 'ABOUT US'. The main heading is 'Contact Us for CNC solutions'. Below this is a call to action: 'E-mail: Please leave message to us by live chat'. A blue button labeled 'CONTACT US !!!' is shown over a keyboard image. Contact details include: 'Address: Xinfang Industrial Park, No.218, ChaoYang District, Beijing 100024, China', 'Tel: 0086 10 65798995', and 'Fax: 0086 10 65790867'. Social media icons for Facebook, Twitter, and LinkedIn are present. A sidebar on the right features a '7/24 Hours Te' section with 'Contact' and 'Why ARCBRO' links, and a 'Follow Us' section with icons for Facebook, Instagram, and YouTube. An 'Email Us' button is also visible.

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- ❖ No parts of this manual may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronically, mechanically, by photocopy, recording or otherwise, without the prior written permission of ARCBRO Company.
- ❖ This User's Manual is only available for **Stinger-PRO** CNC Plate Cutting Machine.
- ❖ Ensure that the operator has read and understood this User's Manual before any operation on **Stinger-PRO** CNC Plate Cutting Machine.
- ❖ There may be few differences between the pictures in this User's Manual and the machine you received.
- ❖ Never hesitate to contact us for on-line technical service when you have any questions or you need help, and it's our pleasure to be there for help.

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Technical Parameters

Type	Stinger-PRO 5100
Effective cutting range	1500x3000mm
Actual machine size	4150x2210x1600mm
Input power supply	1 phase, 110V, 220V, 50Hz/60Hz
Input capacity	3600W
Cutting model	High definition Plasma cutting
Max travel speed	20000mm/min
Drive motor	Servo motor
Reducer	3 reducer
CNC SYSTEM	
Display	15" color LCD screen
CPU	IPC
External format	TXT or NC format
Language	English, Spanish, Russian, French, Japanese, Czech, Slovenia
PLASMA CUTTING MODE	
Max cutting speed	15000mm/min
Max cutting thickness	Depends on plasma power source
Plasma power source	Support up to High definition plasma
THC	Arc voltage Auto Torch Height Controller
Accuracy	±0.3mm

Notes

Note 1: Propane cutting nozzles are included in standard package. Acetylene nuzzles can be ordered.

Note 2: Specific torch assembly must be ordered for Gasoline project.

Note 3: Nesting software standard Wizard is included in standard package.

Note 4: The machine must be grounded reliably when it is working. (Connect the plate and the earth)

Note 5: Clean dust regularly to keep the rail and rack clean for smooth movement.

Note 6: Avoid damage for the LED display screen of CNC system.

Note 7: Equipment use environment:

Ambient temperature: -10°C — $+50^{\circ}\text{C}$

Environment humidity: 90 % RH below

Storage temperature: -20°C — $+65^{\circ}\text{C}$

Sea level elevation: An altitude of 1000 m below

Safety


1. Information for your safety

The operator must read and understand the contents of this user's manual before any operation on **Stinger-PRO-PRO**.

Never hesitate to contact us for assistance when you have any questions or you need help, and you can reduce the amount of time your troubles take and solve your problem efficiently.

Note: Each of the following descriptions must be verified before any operation.

- 1. The operator should wear a face shield, welding gloves, caps, membrane filter dust mask and sound insulation earmuff. It is strictly forbidden to observe directly or approach the plasma arc with exposed skin.



Precautions for safe use & machine working properly, Please must obey the following rules:
(A) Do not move the equipment body during working;
(B) Without permission, Do not open the equipment cover;
(C) Read the directions carefully before using the equipment.



CAUTION



ROLLING
Keep clear

-2. The operator can't load external program in internal storage of the machine in case of the virus. Only the special software recognized by ARCBRO can be applied.

-3. During cutting period, when the floating voltage is too high, the operator should check the ground connection, neutral



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connection and insulation of the torch handle. Then isolate the workbench from the ground, Or install no-load open-circuit relay in the electrical control system.

-4. The cutting operator and assistant must wear labor protection articles by regulation and take safety measures to prevent electric shock, high-altitude falling, gas poisoning, fire or any other accidents.

-5. The site should build rain-proof, damp-proof and sun-proof machine shed, and install corresponding fire equipment. The machine should keep away from flammable and combustible materials.

-6. As the operation and maintenance has potential dangerous, operator should be careful in case getting injured. It's forbidden to wear loosen cloths or cotton ropes in case being entangled by the machine.

-7. The high voltage of plasma CNC cutter is fatal, so operator should install the machine step by step as the manufacturer stipulate.

-8. Only trained personnel can be allowed to operate the equipment. Any maintenance should obey the user's manual and before that the power should be cut off. Only experience technician is allowed to change assemblies.

1. Stinger-PRO Description

1.1. What is Stinger-PRO

Stinger-PRO-PRO pro 5100 ArcBro flagship true hole HD plasma CNC cutting table launched in 2020. This robust, industrial table is built with production in mind. The plasma table can handle the rigors of continuous production runs with industry leading repeatability and reliability. And it has been designed and built from the ground up by ARCBRO engineer team-ensuring a world class product with the quality and reliability you have come to expect.

It meet all the requirements of HD cutting, improve production efficiency, reduce operating costs, comprehensively upgrade the cutting process, and build for all day production.

This one perfect plasma machine for every professional workshop own.

1.2. Application

Stinger-PRO is an ideal CNC Plate Cutting Machine widely used in industry field, such as shipbuilding industry, metallurgic industry, petrochemical industry and water resources & electric power. It can cut various metal plates in seconds, for instance: carbon steel (flame cutting), stainless steel, copper and aluminum (plasma cutting).

1.3. Programming and Nesting

Using ARCBRO plate nesting software, you can edit and do the nesting process for your pattern designed by CAD, then generate a G-code cutting file in txt format. This txt cutting file can be recognized and carried out by our CNC system when you import it by a USB drive. Now, running **Stinger-PRO**, you can achieve accurate profiling of this pattern automatically.

2. Packing List

2.1. Introduction

Stinger-PRO is packed carefully in one wooden boxes. All equipment in the boxes are protected fully to avoid any damages during transportation.

The boxes have to be carried with care always and with the top cover up during handling and transportation.

2.2. Packing List

Open the top cover of the boxes. And remove all the screws fixing the cover to the box body.

The Stinger-PRO transportation boxes contain:

- ▶ This accessory is standard configuration, if your machine is customized, the accessories are according to the order requirements.
- ▶ The bolts of the machine are fixed to the machine.
- ▶ Packing List:



Standard configuration **ARCBRO**
Make Work Simple

Stinger-pro Standard Package

1. Stinger-Pro machine-1Set
2. Manual-1Pcs
3. USB disk and Nesting Software-1pcs
4. Electrical box-1Pcs
5. CNC System screen-1 set
6. Frame leg-6Pcs
7. The Side Board-6Pcs
8. Material table-1set

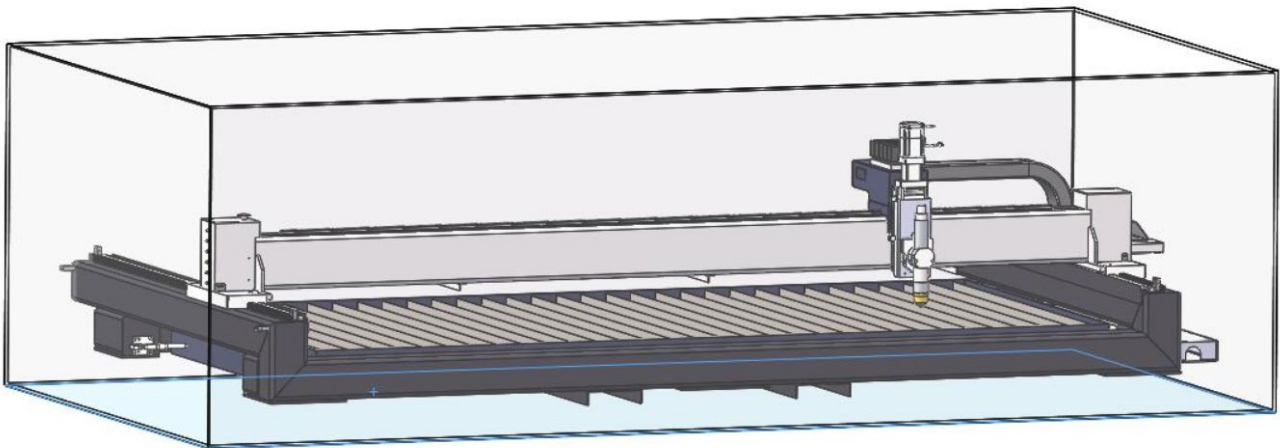
ARCBRO
Make Work Simple

3. Installation

3.1 Mechanical Assemble Steps

This part describe how to install **Stinger-PRO** 1.5x3m portable CNC cutting machine step by step.

Please assemble according to below steps carefully. Any questions or help needed, please do not hesitate to contact ARCBRO after sale service engineer, we will provide help as soon as possible.



- ▶ The installer needs to prepare: electric drill, spirit level, forklift. Two installation mechanical engineers are needed for faster installation.
- ▶ In order to install the machine faster, please read the installation steps carefully before installation, it will save installation time.

3.2 Basic assemble steps:

- ◆ Step 1: Assemble the legs of the Gantry Frame.

- ◆ Step 2: Installation of dust extraction table.

- ◆ Step 3: Assemble each Side Board onto the frame leg.

- ◆ Step 4: Assemble electrical box.

- ◆ Step 5: Assemble CNC System screen.

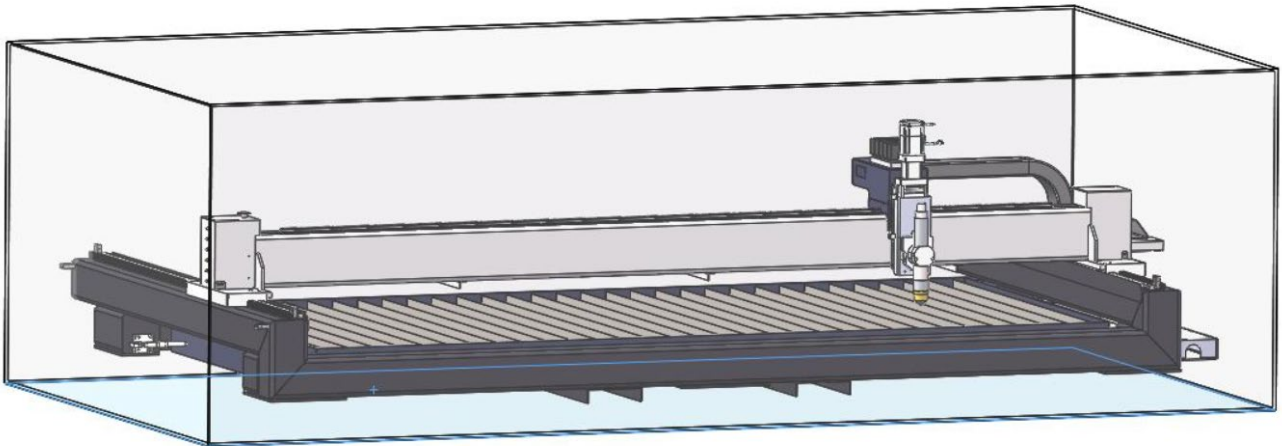
- ◆ Step 6: Adjust the flatness of the machine.

- ◆ Step 7: Plasma cutting part assemble.

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Step: Unpack the equipment box and remove all items

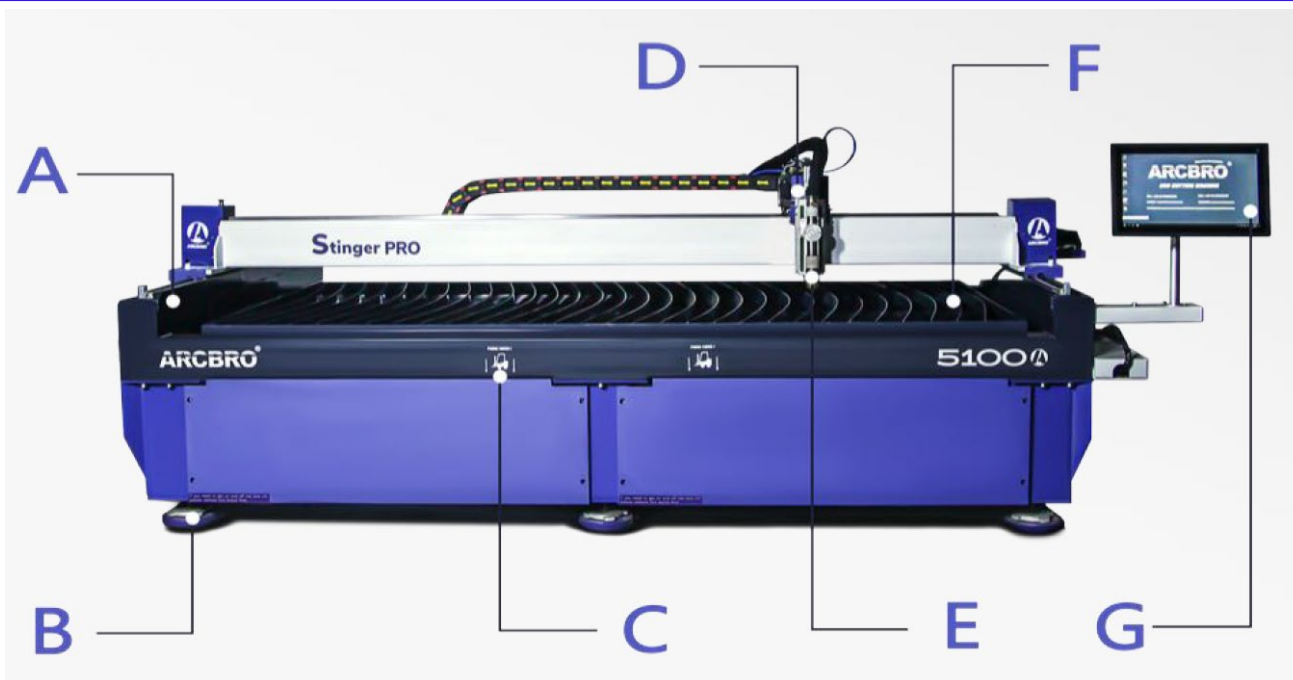
Remove all the screws which are fixed the box, check and confirm all the spare parts be inside and well, and then move all the parts out safely.



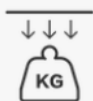
Stinger-pro Standard Package

No.	Name	No.	
1	Stinger machine-1Set	2	Manual-1Pcs
3	USB disk and Nesting Software-1pcs	4	Electrical box-1Pcs
5	CNC System screen-1 set	6	Frame leg-6Pcs
7	The Side Board-6Pcs	8	Material table-1set
9			

Standard configuration



A Main frame and crossbeam are heat treated. Machine body strength and durability are maximized.



B High loaded iron gasket, guarantee machine leveling and absorb resonance.



C Fork lift position was already setup, easy to move.



D Magnetic anti-collision torch holder, connected by wire-rope, provide best torch protection



E Plasma cutting for High definition true hole technology. High precision and high productivity.



F Cutting table is separated from machine frame. If cutting table is damaged by long time use, machine body get no any deformation.



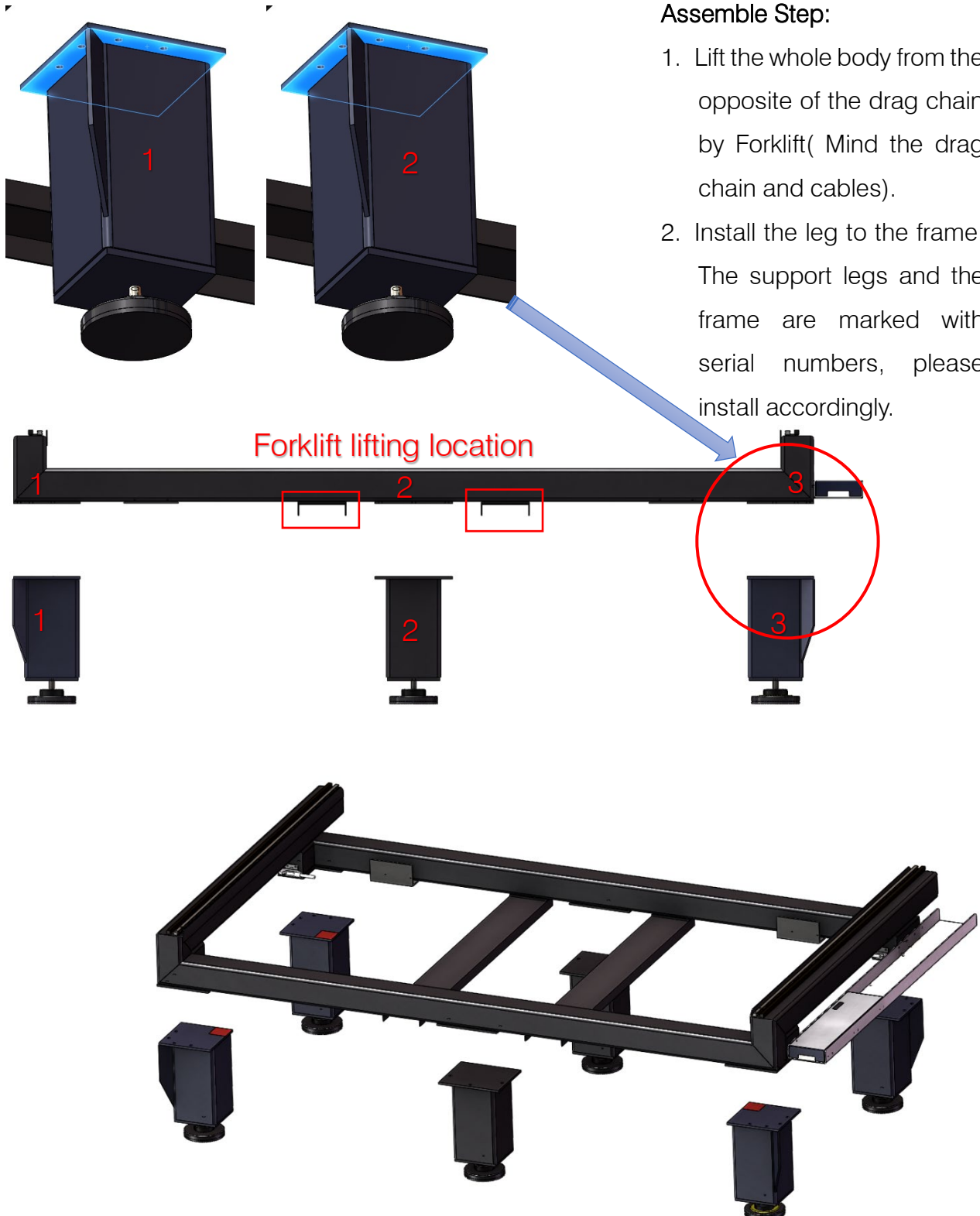
G 21" industrial touch screen, best operation experience.

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Step 1: Assemble the legs of the Gantry Frame

Note: Install the machine carefully step by step as the following instructions:

The gantry frame assembly:



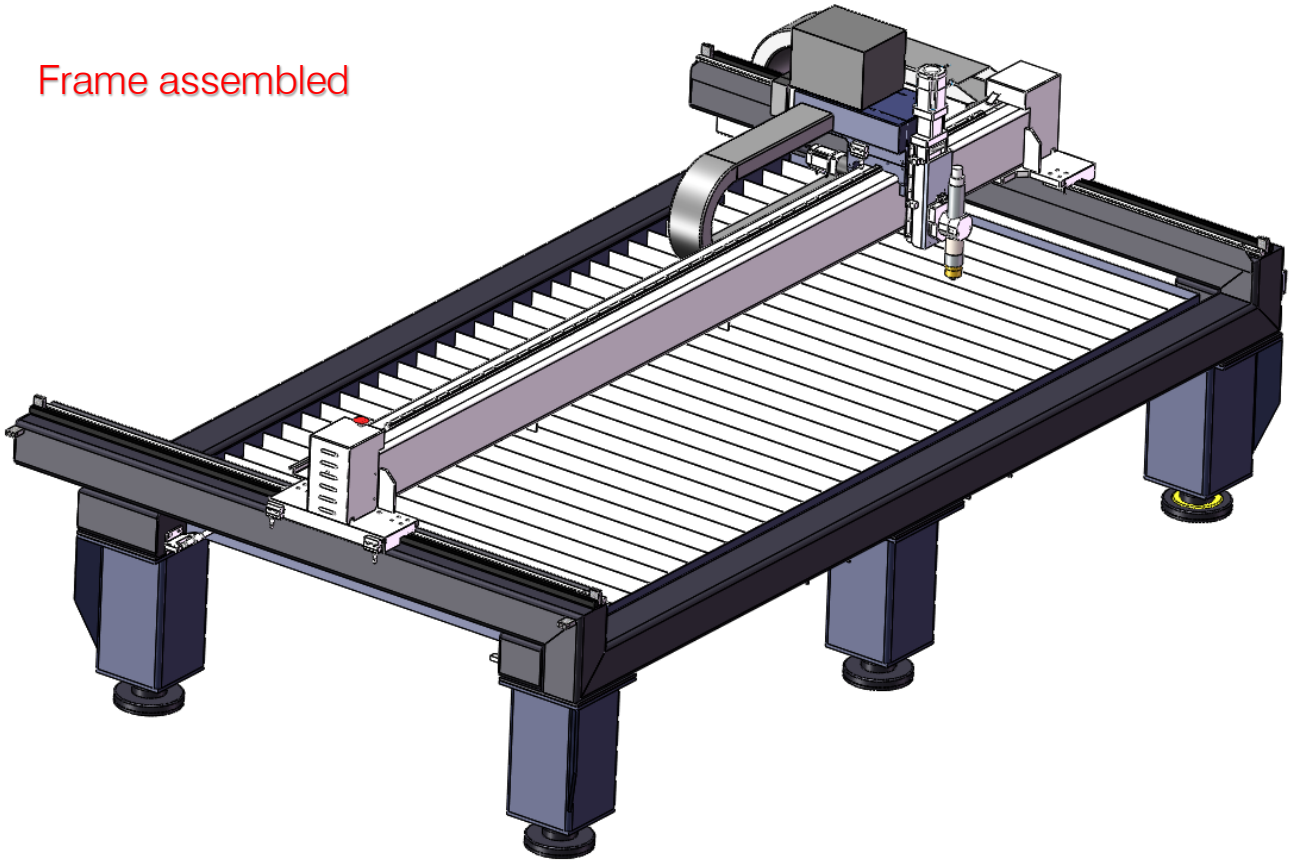
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Assemble Step:

3. Connect and fix all legs onto the Gantry Frame by screw.

Note: Keep the machine stable.

Frame assembled



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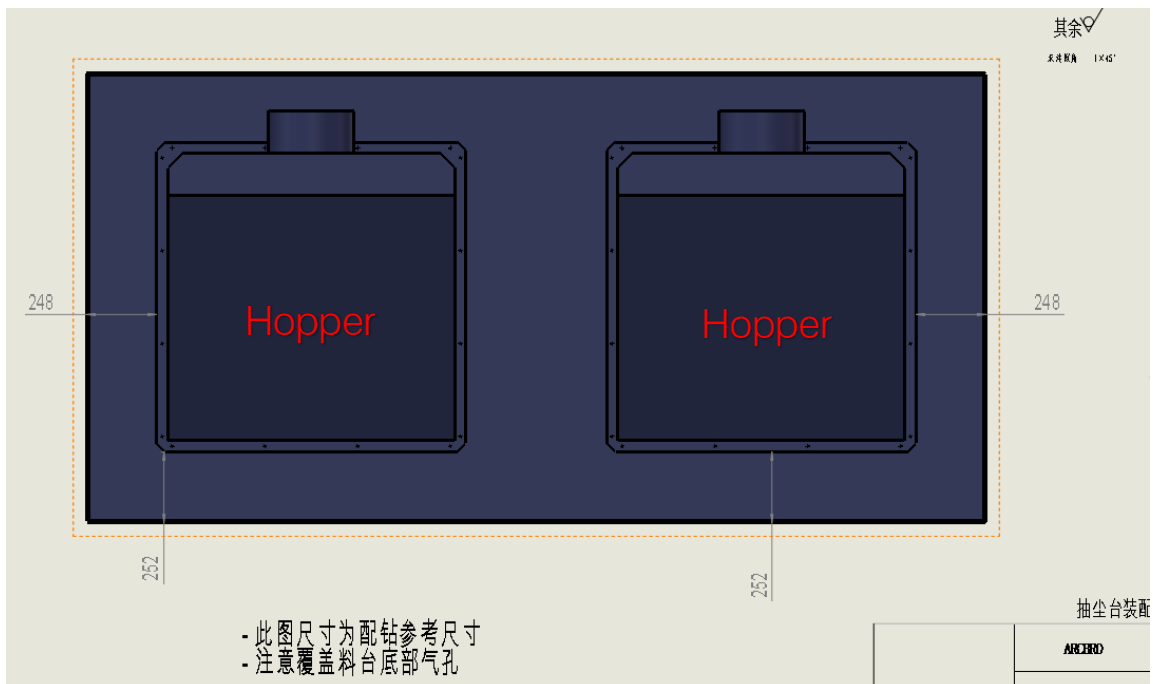
Step 2: Installation of dust extraction table.

- ◀ If the material table is an dust extraction table. Please refer to the step, the water table can be ignored.

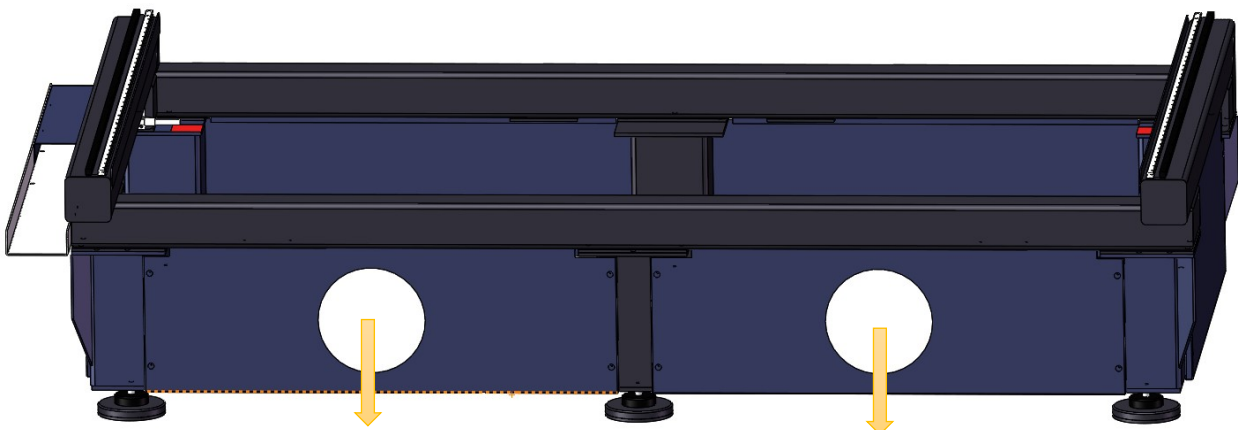
1-- Fix hopper onto dust extraction by screws.

NOTE: The hopper is too heavy and requires two people to install it.

In order to install simply, an installation engineer is required to install the hopper at the bottom of the frame.



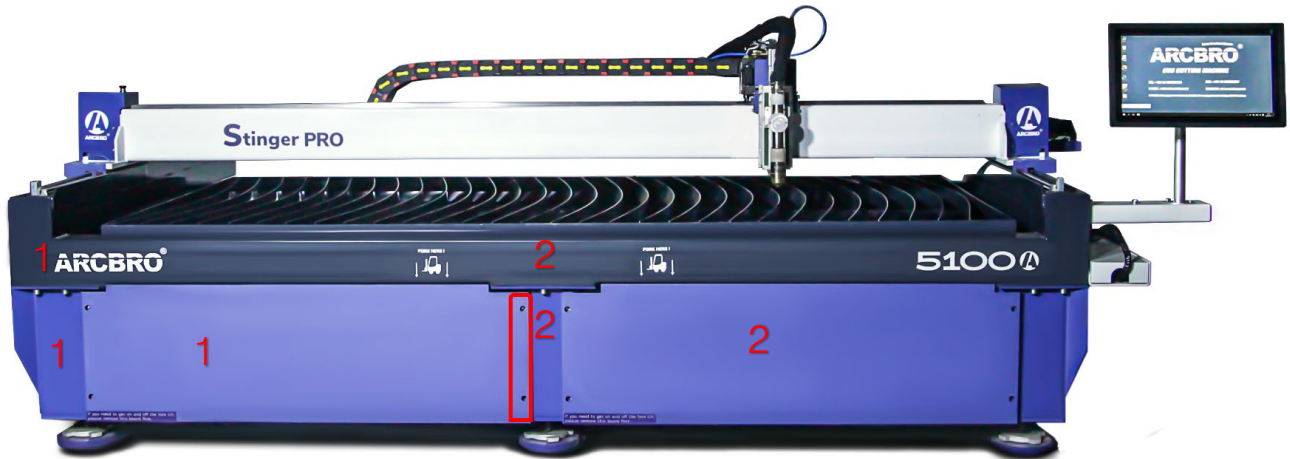
2--The two dust removal pipes of the hopper pass through the side board. Then connect to the dust collector.



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Step 3: Assemble each Side Board onto the frame leg

Fix each Side Board onto the frame leg by screws-4pcs. The Side Board and the frame are marked with serial numbers, please install accordingly.



The Side Board assembled

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Step 4: Assemble electrical box.

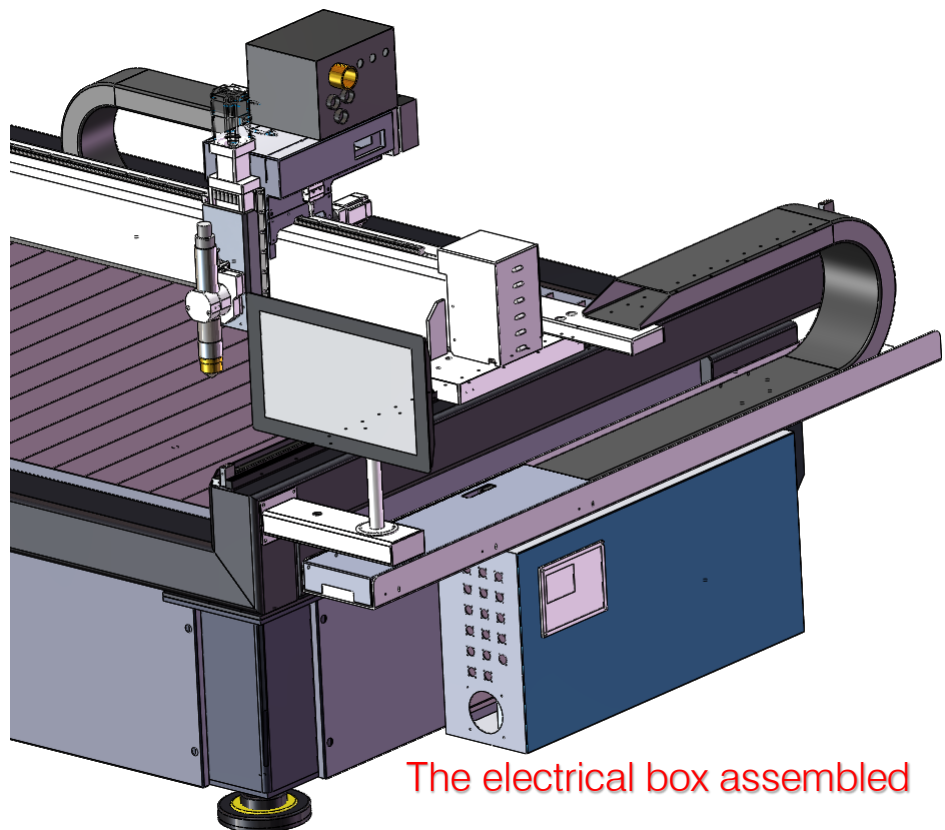
1--Fix electrical box onto drag chain trough by screws;



Assemble Step:

1-- Fix electrical box onto drag chain trough by screws.

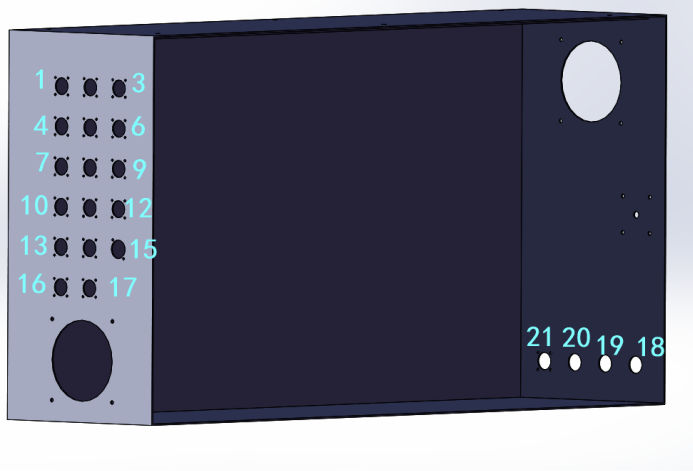
NOTE: The electric box is too heavy and requires two people to install it.



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2--The sockets and cables of the electrical box are marked with serial numbers, please connect the plugs accordingly;

◀ Note: Note: No. 17 is a network cable, one end is connected to the system and the other end is connected to the motion controller

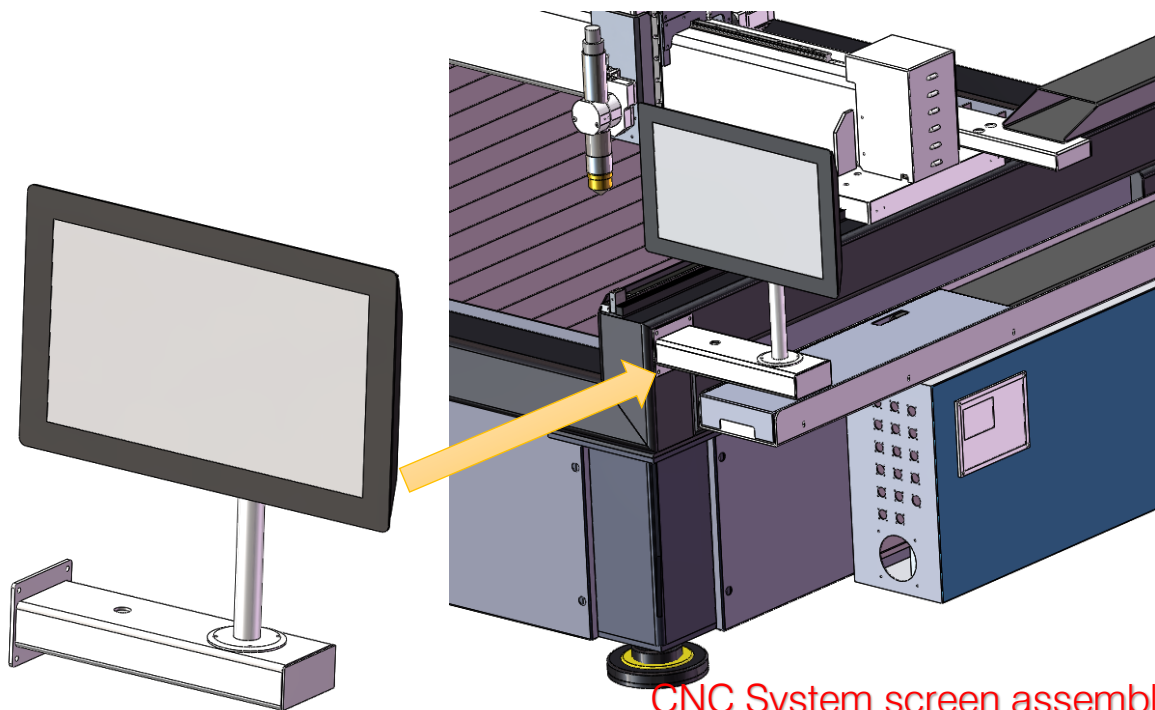


The motion controller

Step 5: Assemble CNC System screen.

1-- Fix Screen support shelf onto frame by screws.

2-- Fix CNC System onto Screen support shelf by screws.



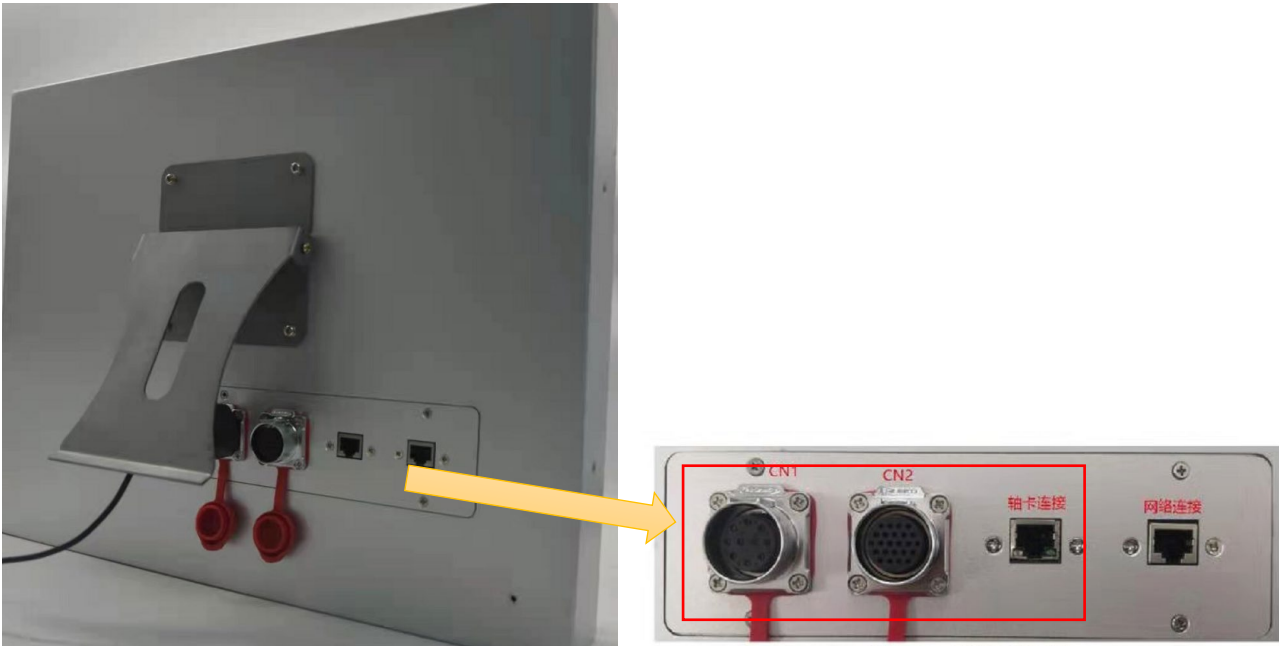
CNC System screen assembled

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3-- Connect the system cable.

F7600W CNC System: Two cables and a network cable need to be connected.

Connect CN1 and CN2 and network cable interface.



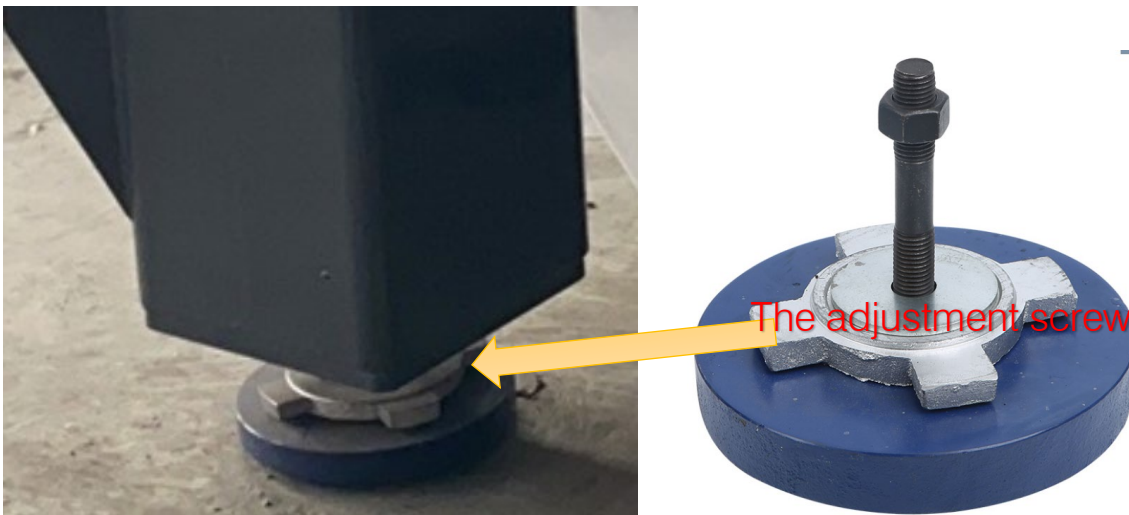
Step 6: Adjust the flatness of the machine.

In order to ensure the smooth operation of the machine, the machine needs to be adjusted flatness.

Adjust the flatness of the machine through the adjustment screw of the foot, to make sure:

a- the 2 track on same horizontal level [The level precision request: $\pm 0.5\text{mm}$];

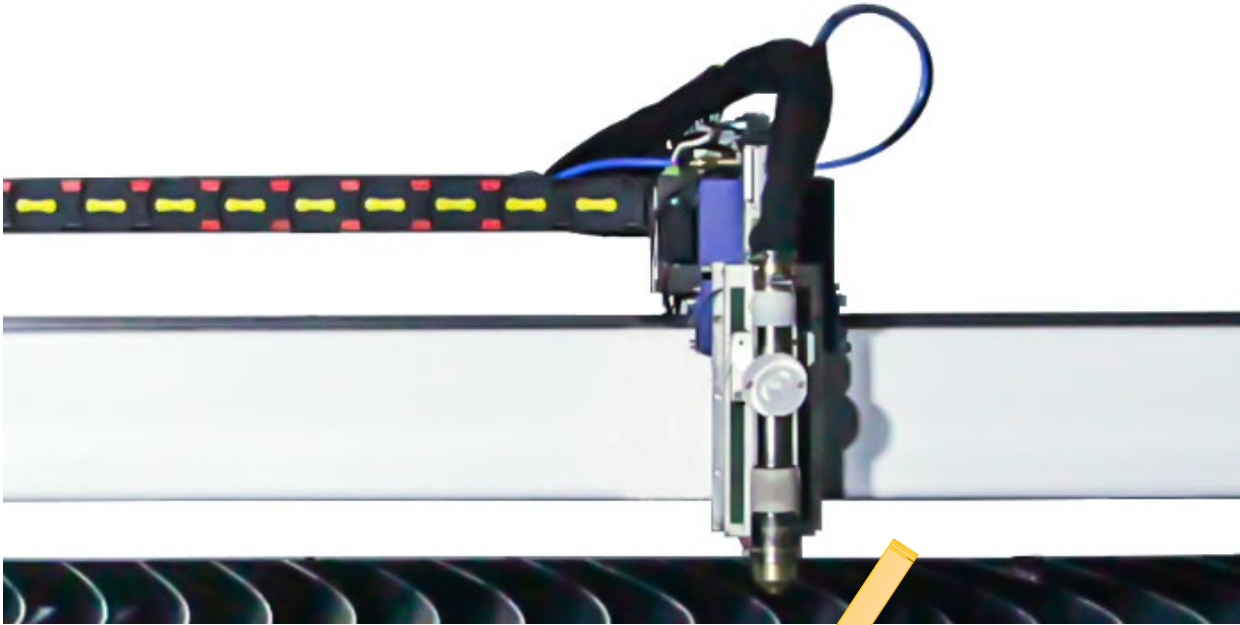
b- The overall flatness of the machine ≤ 1 ;



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Step 7: Plasma cutting part assemble.

1. Load the plasma torch to the holder.
2. Connected the plug to the IHS box.



IHS wire Connection:

Connect the IHS wire to the shield of the plasma torch.



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Wire connection:

Connect the all cables accordingly:

- Power Supply cable,
- Ground wire to cutting plate,
- ARC START cable to plug of the plasma power source,
- DIV ARC +/- cable to Original Arc Voltage ports inside of the plasma power source.

If HD plasma,

- Communication cable connected to the plasma.

Note: Ref. your plasma power source handbook for recommended Torch Height for different thickness.