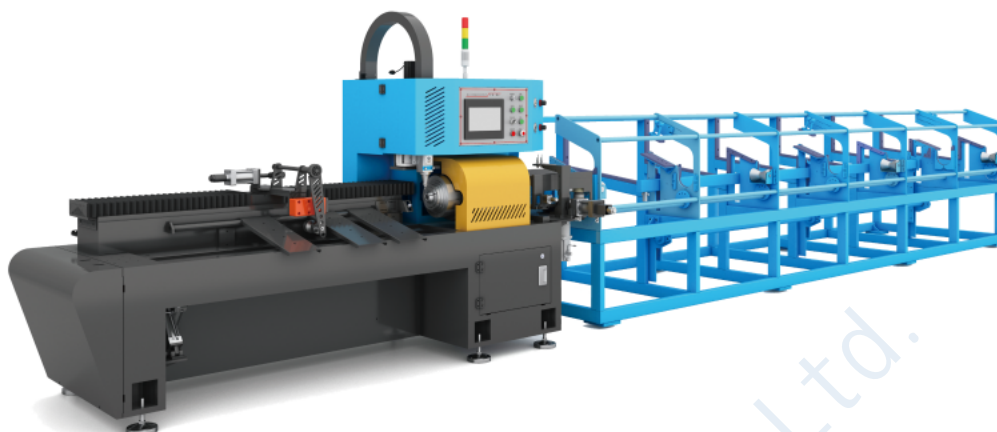




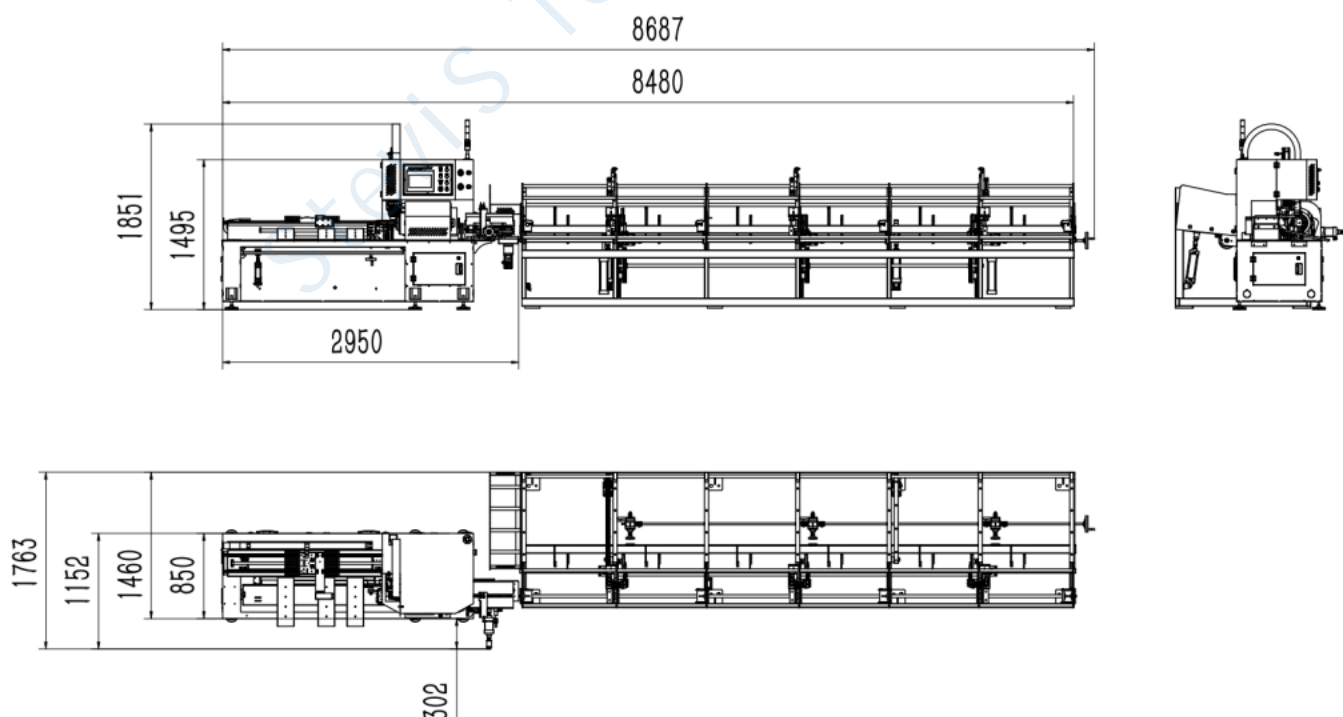
Fully automatic laser tube cutting machine installation manual



1. Preparations before equipment installation

(1) Prepare the site (Length 9meters X width 2meters X height 2meters), prepare lifting tools (recommended forklift above 2 tons), and operate by professionals.

The equipment is placed as shown below.





(2) Prepare 6 square 5-core wires (three fires, one and one ground), if there is no ground wire, drive the grounding pile in advance (simple grounding pile, use round galvanized steel pipe to drive into the mud ground (note that it must be mud ground) 2 Above the depth of meters, weld a 16 screw on the upper end of the galvanized pipe),

Notice The device must be grounded. The smaller the grounding resistance, the better. The standard is 4--10 ohms, and the maximum cannot be greater than 10 ohms. If the customer does not provide the grounding stake or removes the grounding wire without permission, the company will not be responsible for any safety accident.

(3) Prepare cutting gas (nitrogen or high pressure air).

If nitrogen cutting is used, the nitrogen pressure should not be lower than 1.6Mpa. Please contact the nitrogen supplier for the specific nitrogen supply device, and strictly abide by the nitrogen use regulations (provided and trained by the nitrogen supplier). If there is a safety accident caused by the use of nitrogen, the company is not responsible.

(4) If air cutting is used, it is recommended that:

Air compressor:

Air compressor exhaust pressure 3Mpa

Air compressor displacement $1\text{m}^3/\text{min}$

Air compressor power 11 KW

gas tank:

The volume of the gas tank 0.55 m^3

The design pressure of the air tank is 3Mpa

Air Dryer:

Compressed air dryer with 5-stage filtration

Compressed air dryer processing flow $1.2\text{N m}^3/\text{min}$

Compressed air dryer power 1KW

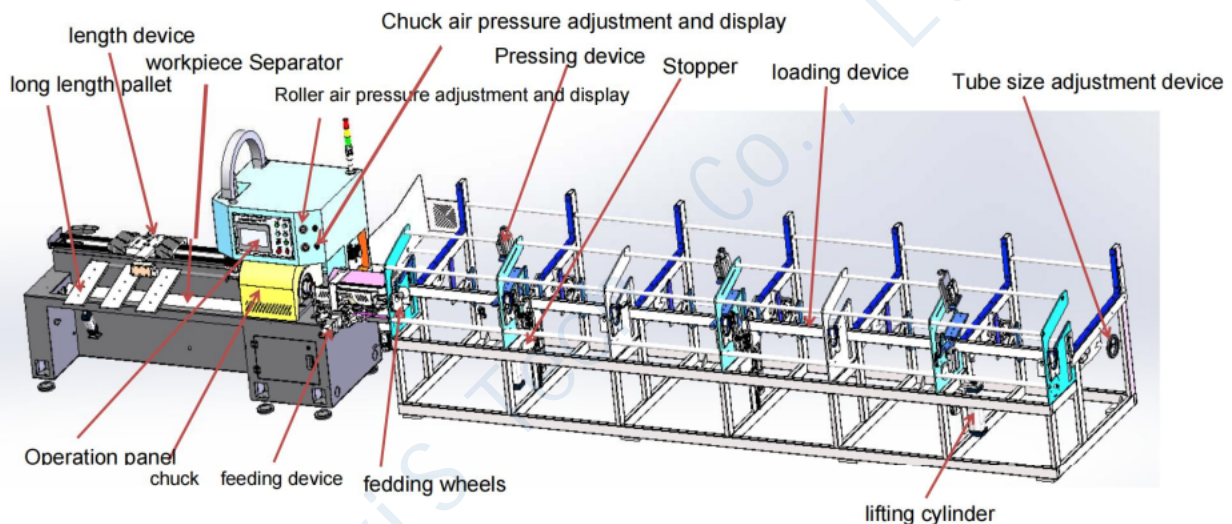
The above are only recommended values. Please contact the air compressor manufacturer for specific configuration. The manufacturer's data shall prevail. Before installation and use, accept the training of the air compressor manufacturer. If there is a safety accident caused by the air compressor, the company will not be responsible. .

If the customer uses high-pressure air for cutting, a gas path can also be separated from the high-pressure air, and a pressure reducing valve can be installed (the pressure is adjusted to about 0.6-0.8MPa after decompression), which is used as the working gas of the machine.

- (4) Prepare 30 liters of industrial grade distilled water (note that it is not pure water).
- (5) Prepare dust-proof gloves, finger cots, polyester fiber cotton fiber, ethanol, rubber air blower, dust-free cloth, textured paper, and transparent glue. These items are used to clean the lens and detect the coaxiality of the optical path. Please read the laser head product manual.
- (6) Prepare a fully automatic three-phase AC voltage stabilizer or a transformer (specific specifications depend on the model, the output is three-phase 380 volts). , the laser is damaged, the company is not responsible.

2. Equipment structure

This equipment consists of two parts: a laser pipe cutting machine and a feeder. The laser pipe cutting machine consists of a frame, a laser, a laser head, a chiller, a fixed-length device, a clamping device, etc.



3. Precautions

- (1) Please read this manual carefully before operation, and operate according to the steps of this manual
- (2) When unloading the truck and before unpacking, due to long-distance transportation, it is necessary to check whether the equipment has scratches or collision marks. If there is, please take photos and obtain evidence at the first time and contact the manufacturer.
- (3) When the grid voltage exceeds $\pm 10\%$ of the specified voltage (the voltage of each country is different), the equipment should not be started.
- (4) Before the equipment is put into use for the first time, the lubricator in the gas circuit system needs to be filled with lubricating oil of about 1/2 of the volume of the oil cup (for the cylinder piston). It is recommended to use ISOVG32 or the same grade oil to avoid damaging the equipment accuracy and causing equipment damage. .
- (5) Do not operate the water cooler before adding water to the water cooler.
- (6) The laser is not allowed to be turned on before the cutting gas is passed through.

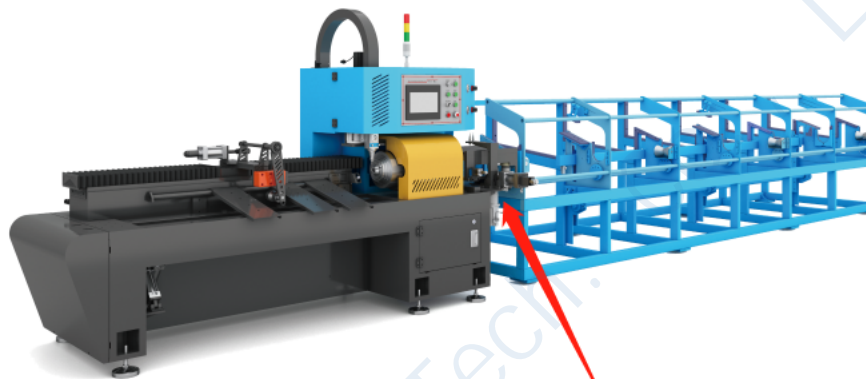
4. Open the package and make sure that the equipment parts are complete. Check that the appearance of the device is intact.

5. Equipment lifting

The best way to lift this equipment is to use a forklift (more than 2 tons), the feeder part is directly forklifted in the middle, the pipe cutting machine is forklifted with a forklift on the side close to the machine head, pay attention to lightly fork it first to see if it is balanced.

6. Equipment installation

Arrange the device as shown below (make sure the gap between the cutting part and loader is around 40-70mm).



Gap 40-70mm

7. First level the feeder with tools, after leveling, put expansion screws on the base of the feeder, then adjust the position of the pipe cutting machine, and use the tools to level it so that the center of the main shaft of the pipe cutting machine and the U-shaped center of the feeder are in a straight line, Align the tube with the center of the chuck so that the tube can pass smoothly through the clamp.

8. Prepare high-pressure, clean and dry cutting gas (when using air cutting, you need to prepare 1.6MPa-3.0MPa air compression equipment, including air compressors, air storage tanks, filters, refrigerated dryers, etc.). The compressed air is output to the pipe cutting machine in two ways, one of which is directly connected to the inside of the machine with an air pressure of 1.6MPa for the protective gas of the laser head; the other way is equipped with a pressure reducing valve to reduce the air pressure to 0.7MPa and then connect to the external air source of the machine Interface for machine operation.

Note: The air pressure of the cutting gas needs to be adjusted according to the material and thickness of the pipe.

干燥机
drying machine



高压 High pressure gas 1.6MPA(16KG)

1.6MPA(16KG)



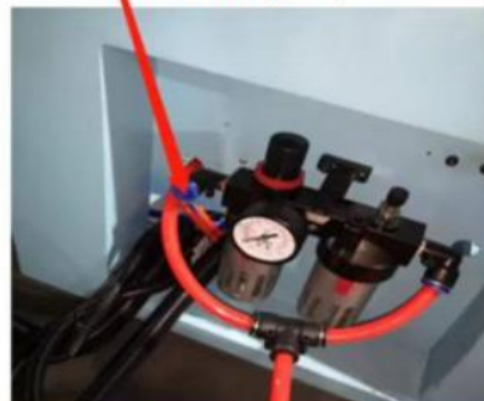
0.7MPA(7KG)



(Warning) 1.6MPA(16KG)

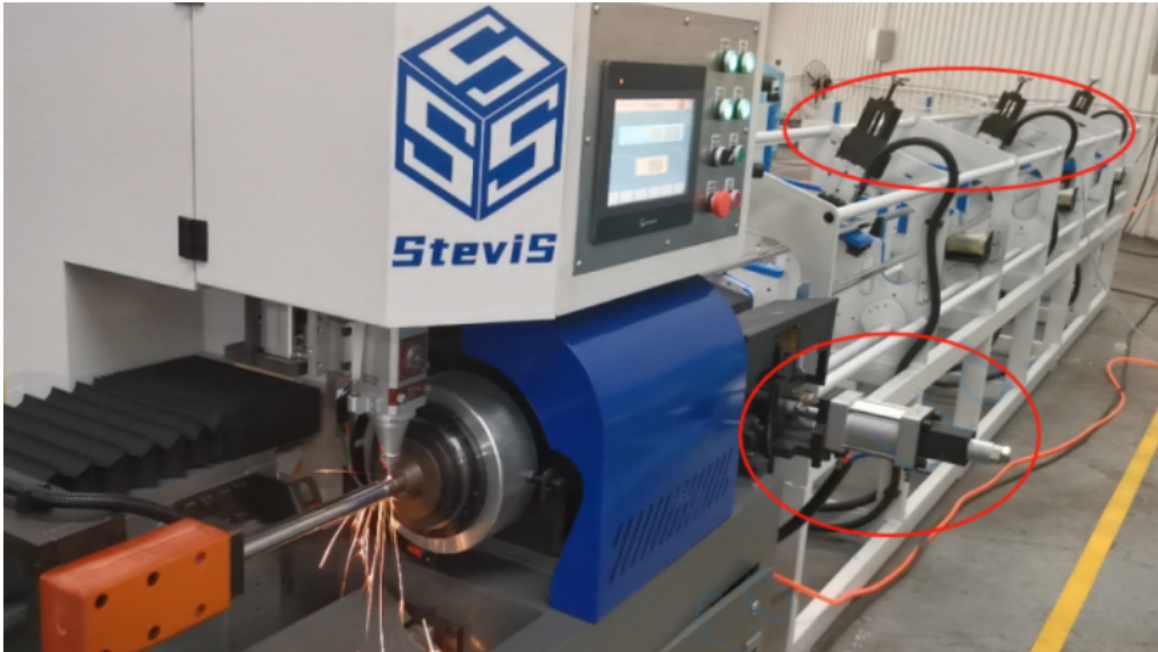


0.7MPA(7KG)



9. Install the cylinders

Reinstall the cylinders that were removed for transportation, tighten the screws, and connect the air pipe.



10. Install the laser head

- (1) Carefully take out the laser head, fix it to the base and tighten the screws.
- (2) Connect the optical fiber connector to the laser head, and insert the optical fiber head and the QBH interface against the red dot mark. After confirming that it is fully inserted, twist the QBH connector half a turn clockwise, and push the QBH upwards when it cannot be moved. The connector is stepped up, and continue to twist clockwise until it is fixed.
- (3) Connect the water pipe from the chiller to the laser head and the high-pressure gas pipe from the machine to the laser head.



插入
interposition

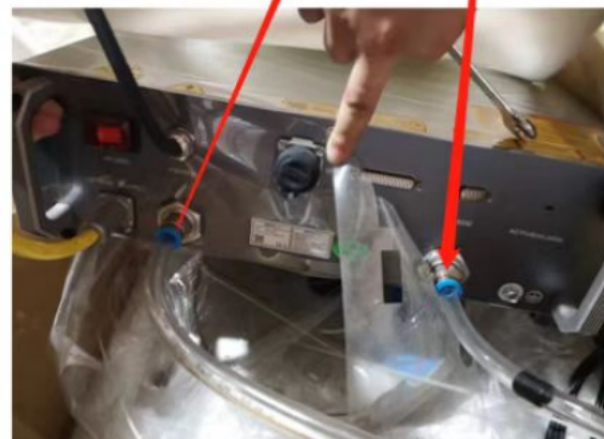
提升
UPWARD

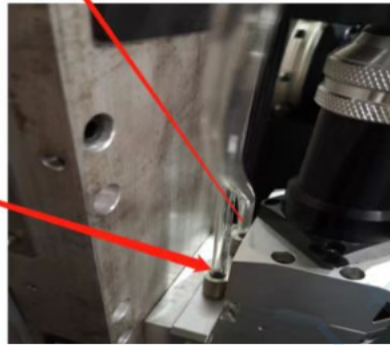
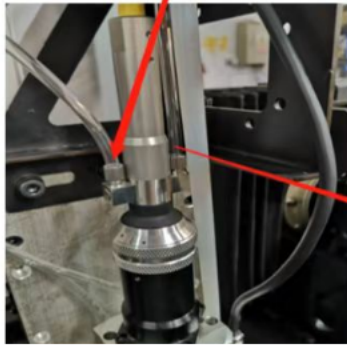
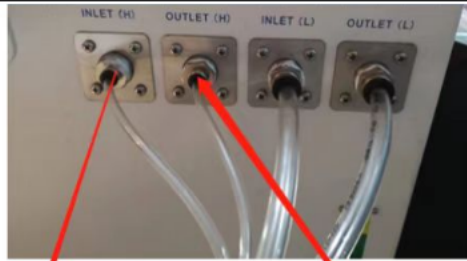
完成
OK



11. Pour an appropriate amount of pure water into the chiller, and connect the chiller water pipe

- (1) Add pure water to the water injection port on the back of the chiller until the liquid level gauge shows that the water level reaches the green area close to the yellow area.
- (2) Connect the water pipes of the chiller, the large two are connected to the laser, and the small two are connected to the laser head. Note that the water pipe connected to the laser must be connected to the laser water inlet according to the water outlet of the chiller, and the water inlet of the chiller to the water outlet of the laser.

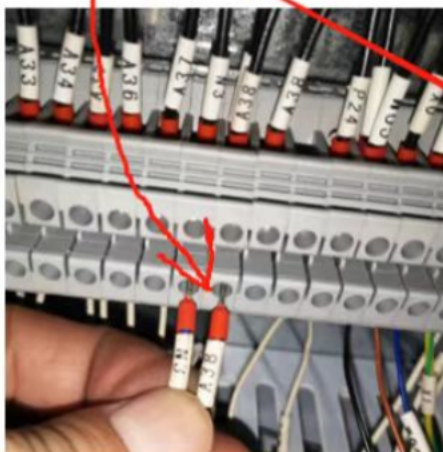




12. Connect the connecting wires from the chiller and the laser to the electrical cabinet inside the machine respectively, connect to the main power supply and power on.

(1) Connect the chiller alarm line, the chiller end is connected to the ALARM OUTLET connector, and the electric cabinet end is connected to A38 and N3 according to the line number.

(2) The chiller power supply N21 and L21 are connected to the electric cabinet N21 and L21. The laser power supply AC-N, AC-L, AC-PE is connected to the power cabinet N22, L22, PE.



13. Connect the laser cable

Laser connection cable connector, electric cabinet according to brown-white-X13, brown-COM, yellow-green-PE, green-0A+, green-white-0A-, black-and-white-PWM, red-white-SON, yellow-white-POW, yellow, red, black -24V sequential wiring.

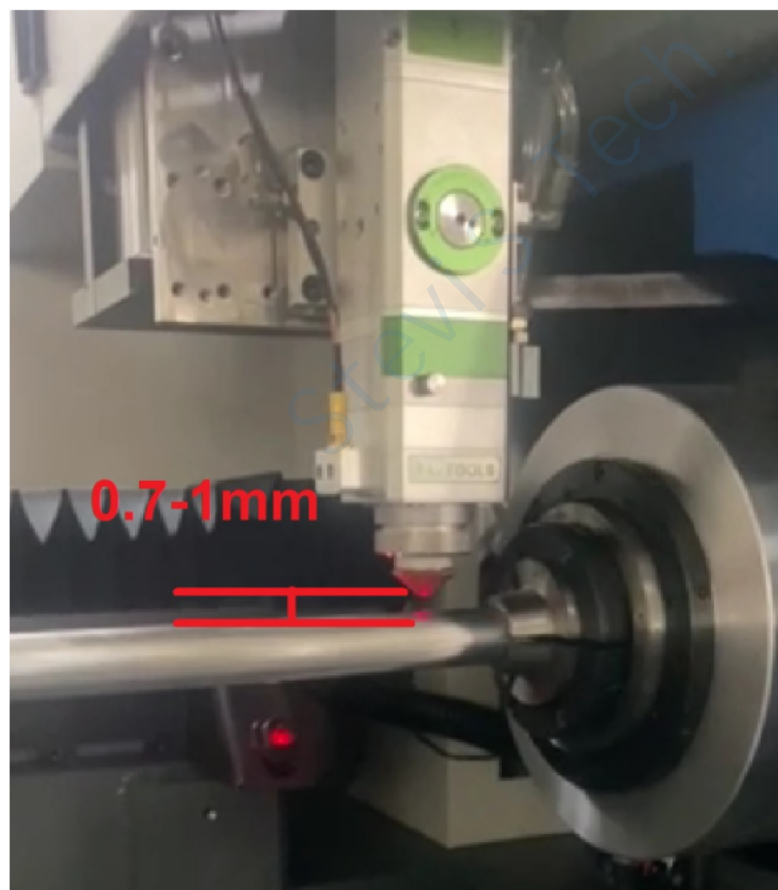


14. Connect the three-phase five-wire 380V power supply to the electric cabinet as the total power supply of the machine.

Notice: If the local 3 phase voltage is not 380V, please make sure to connect a voltage transformer to supply the 380V power to the machine.



- (1) Power on, press the servo button on the operation panel to start the servo.
- (2) Turn on the isolation switch on the front of the chiller, and press the chiller button on the operation panel to start the chiller.
- (3) Press the laser button on the operation panel to start the laser.
- (4) Press the power start button on the operation panel to start the pipe cutting machine control system.
- (5) After setting the pipe diameter on the touch screen, the laser head is automatically positioned at 0.7-1mm on the workpiece, and the production can be started.





SteviS Tech. Co., Ltd.

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Kind reminder: Please confirm with our engineers that all wiring connections and preparations are correct before starting the machine.

Please contact us if you have any questions.

Whatsapp/wechat/mobile: +86 13798632360

Email: info@stevistech.com

www.stevistech.com

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