



# Preparation Guide - Fiber Laser Cutting Machine

## 1. Machine Layout Area

Machine Type	Dimension	Layout Area	Weight
ACE Laser 3015	387" × 168" × 85"	10M×5M (394" x 197")	9 tons (18,000 lbs)

## 2.Preparation List Before Machine Installation

- A. **Electricity:** Three-phase power source properly grounded;
- B. Requirements as below:
  - Laser Source 500W-1000W: Air switch(60A), main power wire is AWG 6 copper.
  - Laser Source 1500W-6000W: Air switch(100A), main power wire is AWG 2copper
- C. **Purified Water:** 12Gal
- D. **Cutting assist gas:**

Gas Type	Gas Pressure	Purity	Equipment
Oxygen	1MPa	99.9%	Oxygen Gauge
Nitrogen	2Mpa	99.999%	Nitrogen Gauge
Air	1.2MPa	Three stage filtering	Air Compressor
<b>Remark: The assist gas, gauge and air compressor are the client responsibility.</b>			

### Notice of using assist gas:

- We suggest using screw-type air compressor when assist gas is air, which is 1.2MPa air pressure, air displacement **1000L/min(QPS)** with air dryer (processing capacity**2NM<sup>2</sup>/min**), and air storage tank(**0.6m<sup>3</sup>**)
- The vaporizer should be equipped when using liquid Nitrogen and liquid Oxygen
- It is critical to use purified gas or air. Improper gas supply will result in poor cutting performance. Additionally, cutting head problems caused by improper gas supply are not covered by warranty.

① Oxygen equipment diagrams:

- a. Oxygen tank
- b. Oxygen meter
- c. Change-over valve and high pressure gas pipe



② Nitrogen equipment diagrams:

- a. Liquid Nitrogen tank and Vaporizer(1Litter)
- b. Nitrogen meter
- c. Change-over valve and high pressure gas pipe



③ Air compressor equipment diagrams:

- a. Air compressor
- b. Air storage tank
- c. Air filter
- d. Drier
- e. Air filter
- f. Oil remover



## 2. Voltage Regulator

Laser Source Power	Voltage Regulator
500W-1000W	30KW
1500W-6000W	60KW

## 3. Metal plate material

For testing and tuning, client should prepare some metal plates (1-12mm thickness)

## 4. Requirement of machine layout area and working environment

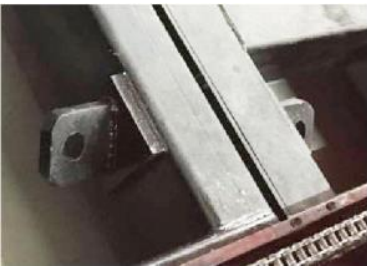
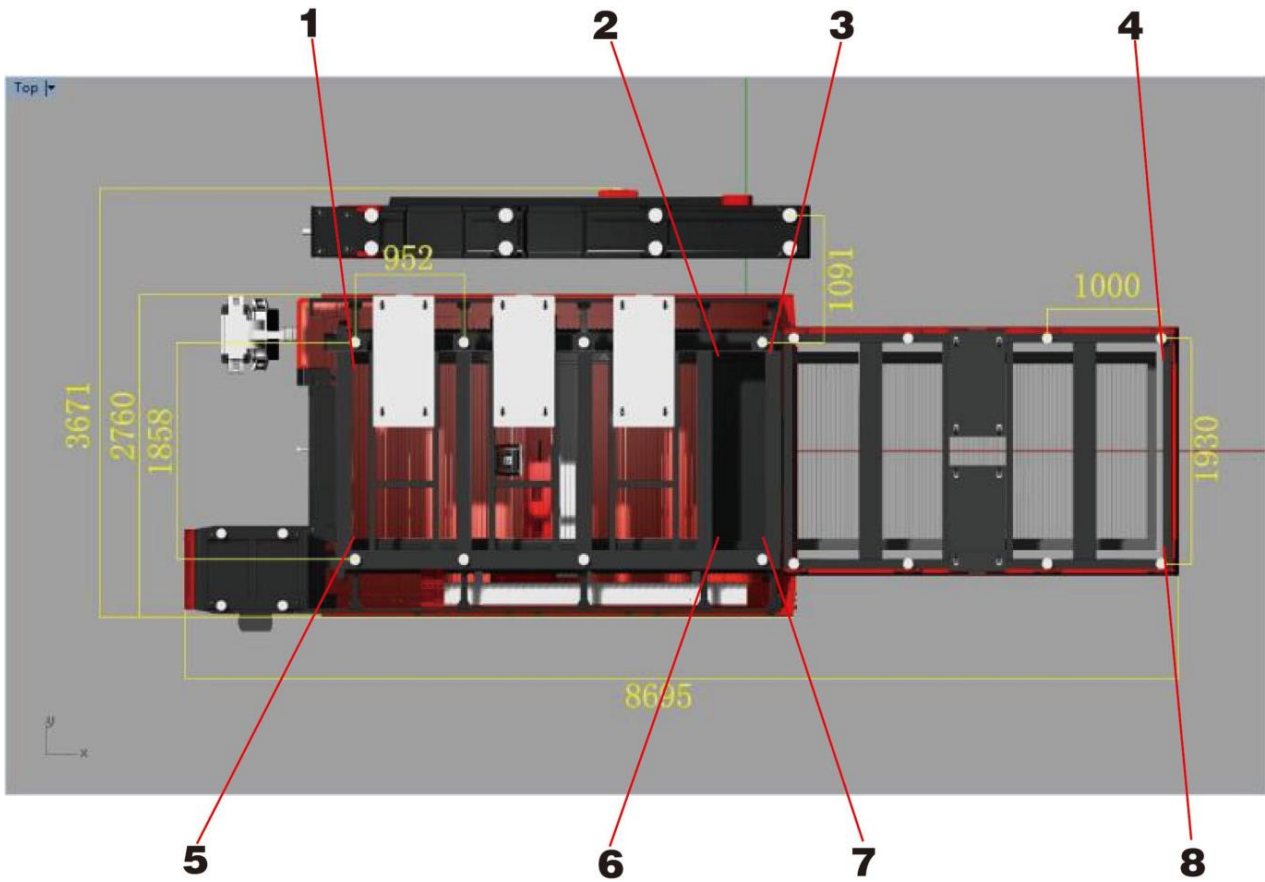
- The ground should be flat and solid. Avoid placing the cutting machine beside vibrating devices, punching or stamping machines, etc.
- The working environment should be ventilated. Keep dust and flammable and/or explosive materials away from machine.

## 5. Requirement of machine operator

- Operator skills: CAD software - AutoCAD Coreldraw, Solidworks
- Operator training: technical drawing, machine operation, daily maintenance, parameter setting and troubleshooting etc.

## 6. Notice of unloading machine:

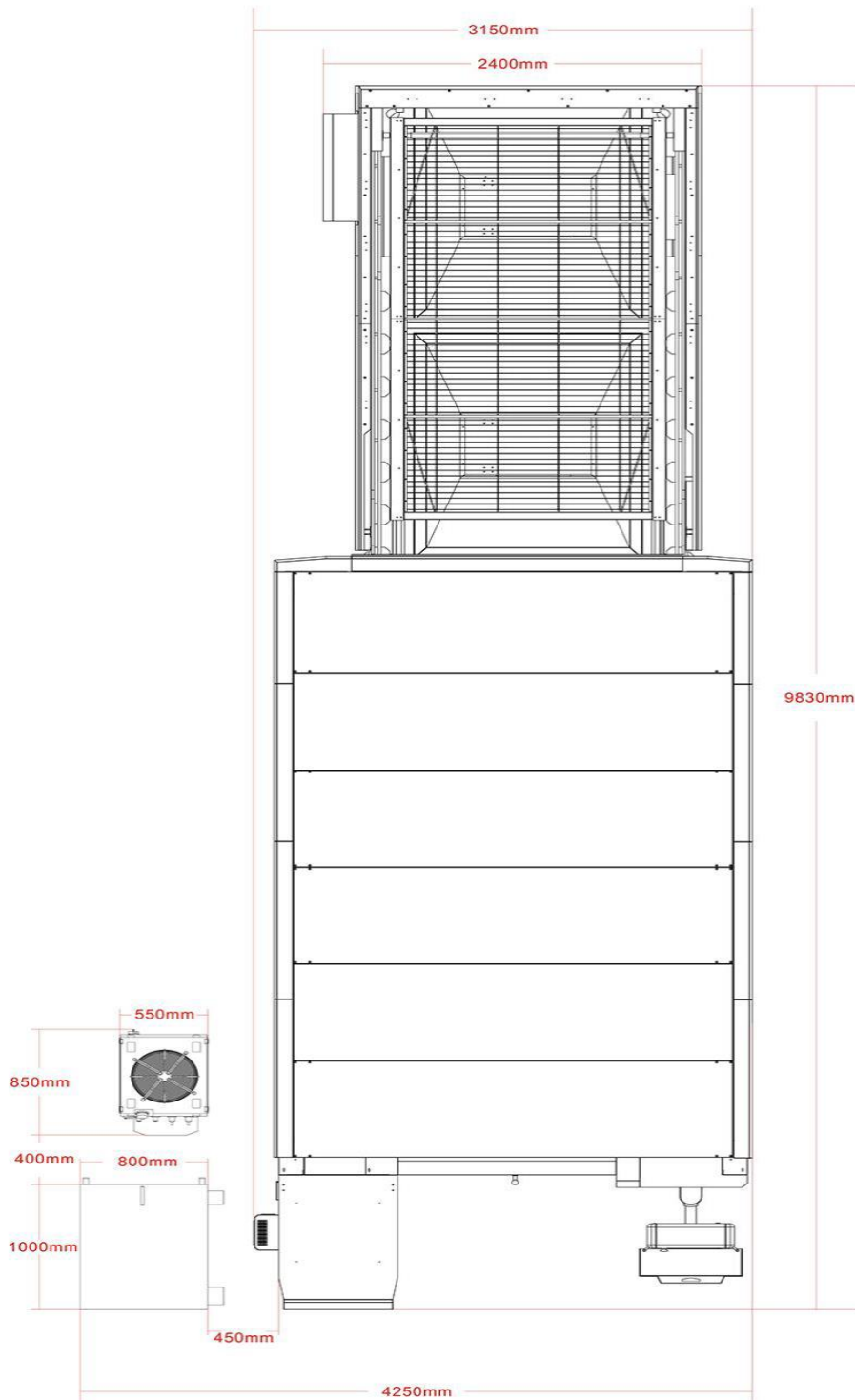
- For the model with full housing cover, the roof cover must be disassembled first
- There are 8 hanging holes in the machines for gantry crane unloading:



The hanging hole (left image) must be hooked up by the crane



The forklift truck should unload the machine like the image (left).



**Note: Many components can be moved around to accommodate different installation conditions. Each unit is separate and has long cables. The only pieces that have to be in place are the main housing and shuttle table, most other components can be placed nearby, such as the chiller, exhaust filter system, electrical cabinet, gas supply, etc.**