



# LASER SOLDER FUMES PURIFIER

**SFX-400L**

## OPERATION MANUAL





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## Product Features

### 1.Appearance and structure

- ◆ The appearance is simple and elegant, stable and elegant. Integrated design of the machine, metal frame structure, high-quality cold-rolled steel plate electrostatic spray process, all makes the machine durable. With stainless steel brushed panel, the machine is more classic and delicate.

Our product has a simple and elegant appearance. The machine is durable with its integrated metal frame design and high-quality cold-rolled steel plate electrostatic spray process. The appearance is more classic and elegant with its stainless-steel brushed panel.

- ◆ With external exhaust flange.

- ◆ The unique shape curve design of the air inlet flange is more in line with the principle of fluid dynamics.

- ◆ Humanized stepless governor is installed, which can adjust the air volume and suction at will.

- ◆ The product is small and does not need to be installed, which is conducive to a clean and beautiful work space and easy to move.

### 2.Fan

- ◆ The performance and quality of our product are guaranteed with the DC brushless motor and built-in controller.

- ◆ Stable operation, low noise, high efficiency, low energy consumption and long working hours. Regular maintenance is not required, lower cost.

- ◆ The wind rotor adopts an eddy current design and special alloy material, which can effectively prevent the wind rotor from being corroded. The unique dynamic balance correction technology makes the rotor run more smoothly and reliably. With this wind rotor, our product has a high air volume, high suction, and higher filtration rate.

### 3. Filtration system

- ◆ Our product adopts a six-layer filter design, filtering layer by layer to ensure that the harmful smoke and dust are filtered out more thoroughly. The purify rate can reach 99.97%.

- ◆ Our product has a modular design, ensuring layer by layer protection. Each layer can be replaced individually, and the filter element has a longer service life and lower cost.

- ◆ Internal unique sealing structure, coupled with special sealing materials, makes all harmful substances pass through Filtering system. The filtering efficiency is higher.

- ◆ Built-in circulating active filtration method avoids the discharge of indoor air-conditioning/heating to the outside, and does not damage the operation temperature and humidity environment in the working area.

### 4.Smoke collection device

- ◆ The machine is equipped with a universal smoking arm, which can change direction and position



at will (the length can be customized according to customer requirements).

The end is equipped with a new type of smoke collecting hood, which has a unique shape and higher smoking efficiency.

◆ Easy to install, easy to use, no need to lay additional pipes.

## 5. Safety certification and design standards, national patents

◆ Compliant with CE, UL, WHO certification, safe and reliable.

◆ As per design standards: "Indoor Air Quality Standards", GB21551.1- 2008, GB/T 18801.

## Specifications

| Model<br>Parameter                  | <b>SFX-400L Laser Soot Purifier</b>                               |
|-------------------------------------|-------------------------------------------------------------------|
| Air inlet                           | φ75mm (can be changed to 100mm air inlet)                         |
| Input voltage                       | AC220V 50Hz                                                       |
| Rated power                         | 600W (adjustable)                                                 |
| Air volume                          | 600m <sup>3</sup> /h (adjustable)                                 |
| Filtration effect                   | 0.5μm 99.97%                                                      |
| Noise                               | < 70dB                                                            |
| Smoking pipe (standard)             | Nylon pipe φ 75mm*L2M (can be replaced according to actual needs) |
| Exhaust pipe (optional)             | Connect to 100mm diameter hose                                    |
| Machine size (mm)                   | L500×W380×H1050                                                   |
| Machine weight(without smoking arm) | 45kg                                                              |

### Note:

1. The type, length and size of smoking pipes can be equipped according to customer requirements.

2. External control (optional)

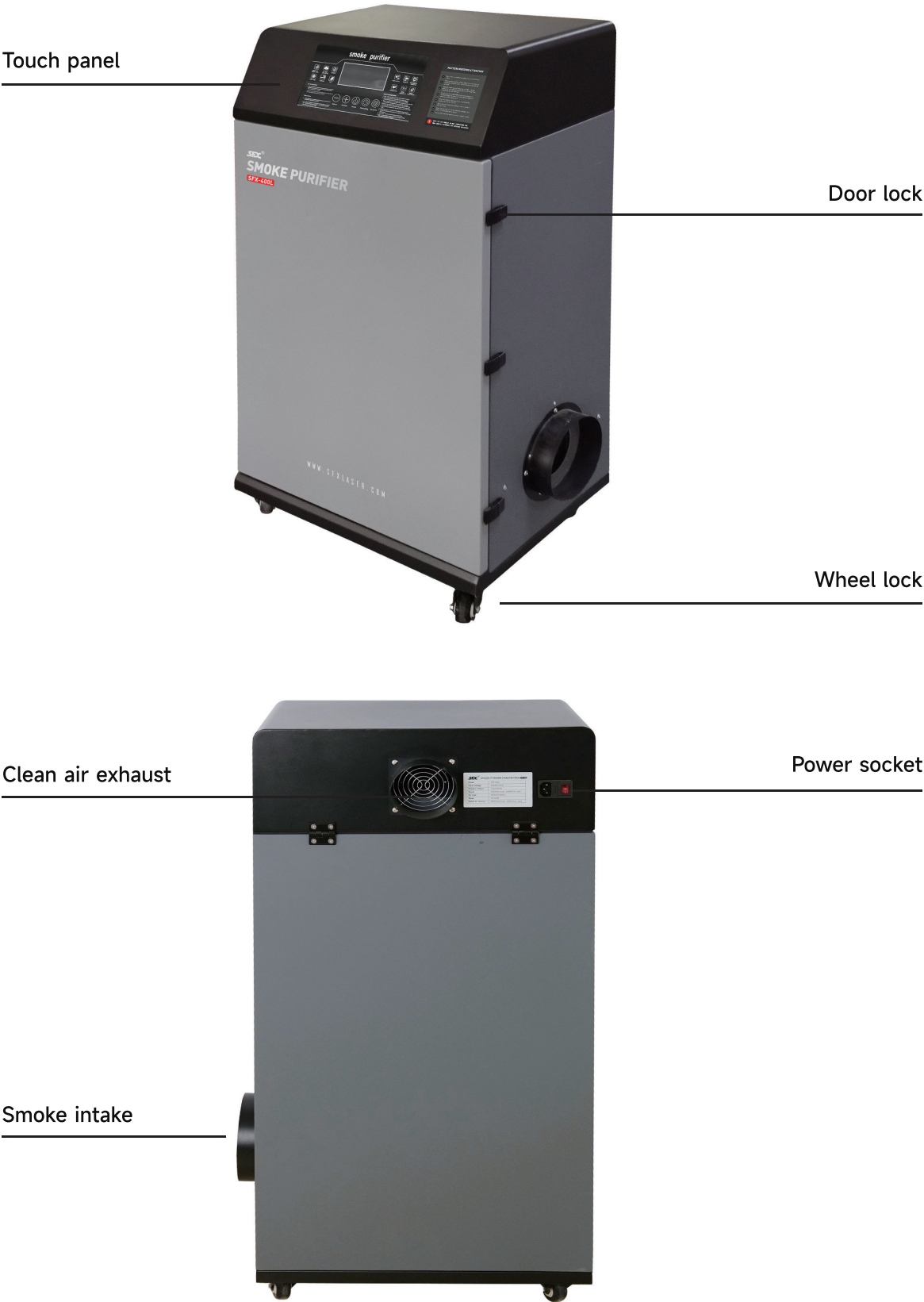
Remote operation and synchronous control of the purifier can be realized by connecting to the laser machine or remote PLC.

3. The packaging method is wrapped in stretch film, and then packed with the outside wooden frame, which is suitable for long-distance transportation.

**Outer packing: wooden frame/paper EPE packing    Packing weight: about 60KG**

# Appearance structure and working principle

## Appearance view



## Introduction to the working principle

The purification machine adopts physical active purification and filtration, and the pollutants are sucked in by the eddy current centrifugal fan. After being purified by a multi-layer filter device, the clean air is directly discharged indoors. (It can also be connected to a hose for external discharge.)



## Operation instructions

Open the box and lift out the purifier body. Tear off the protective film, open the 3 pcs of locks, open the front door, and take out the power cord and manual, as well as the suction pipe and throat hoop from the bottom cavity.

### 1. Smoking pipe assembly

Take out the purifier and place it on a flat floor or table (lock the caster brakes) to avoid vibration.

#### a. Bamboo tube

The smoking tube packaging bag contains the following parts: bamboo tube, bamboo joint, horn cover. As shown below, directly insert the tube into the flange port under the back of the machine (see the lower left picture).

#### b. Nylon hose

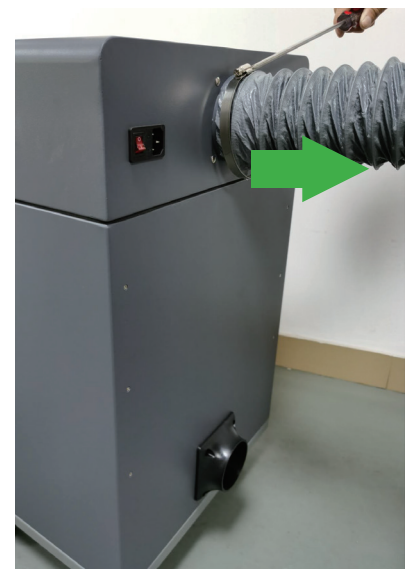
It is also directly inserted into the flange of the smoking port which is consistent with the connection method of the bamboo tube.

#### c. Rotate the tube to align the horn cover at the point where the smoke is generated.

★ Note: When adjusting the direction of the smoking pipe, try to keep the pipe body gently curved; The side of the horn with the logo is facing up, the bell mouth should be facing the point where the smoke is generated, and the distance should be kept within 10-15cm as much as possible.

### 2. Exhaust pipe connection

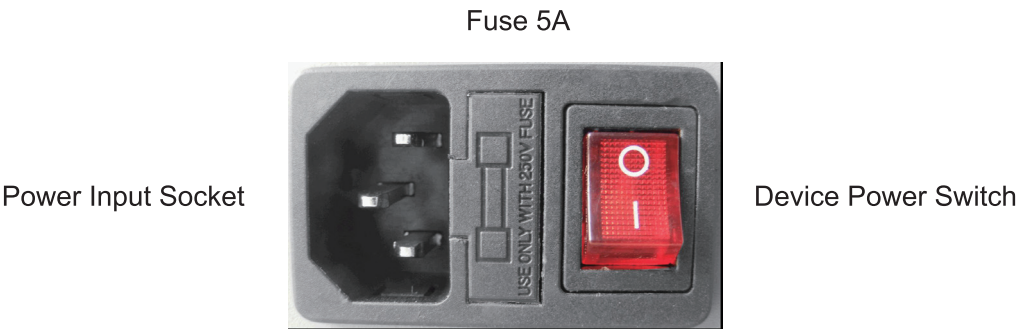
In some occasions where the odor is quite strong and irritating, and the indoor environment is more demanding, an external flange can be attached to the back of the device and connected with a hose to discharge the purified air. Put the hose on the upper external flange, and use a screwdriver to lock the hose clamp to tie the hose.





3. Start Work

a. Plug the power cord into the three-in-one socket on the back of the device and plug the other end into the power socket (AC220V 50Hz). Press the red switch, if the red light is on and there is a white light flashing on the front panel, the power supply is normal.



b. Lightly touch the power switch in the middle of the operation panel, the LCD screen will light up in blue, accompanied by a short sound of "beep", the machine circuit will self-check, and start working. Keep touching the second button to gradually increase the airflow (default max. 10).

★ When the equipment is working, the inhalation force should be adjusted to just inhale the smoke, rather than be adjusted to the maximum. The greater the suction, the noise and power consumption will increase correspondingly, and the filtering effect will be reduced.



RF Remote Control Reception      Touch Button

c. Airflow Regulation

Gently Touch the 2 buttons on the left, + to increase, - to decrease

The numbers on the upper left of the display can directly reflect the airflow.

d. Time Setting

Touch the "time setting" button, and when you hear a "beep", you can touch the second arrow + button to adjust the time of the scheduled work. Touch the first - button to decrease the time. When the time is set (in hours as minutes), touch the "Set" button again to confirm!

For example: if the timer is set for 3 minutes, the machine will turn off by itself after the time is up.

e. Buzzer Alarm

It is normal to hear a short beep when you start the machine for the first time.

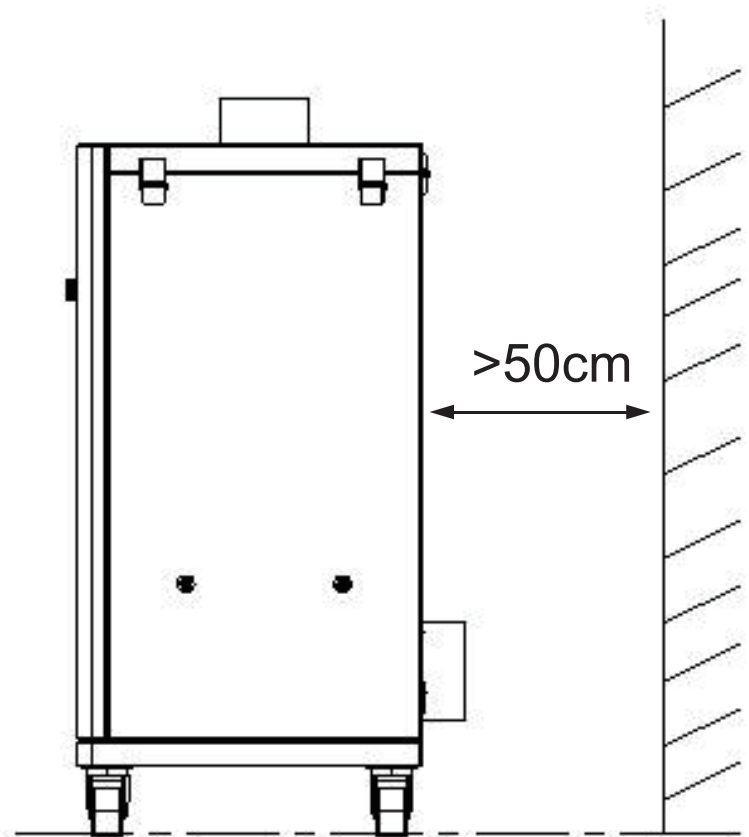
When there is a filter block, you will hear a constant "beep beep..." Beeping, and the display screen prompts the replacement of the filter element. At this time, the machine needs to be turned off, then open the front door, check the blockage of the filter element, and replace the filter element in time.

★ The filter element should be replaced in time, otherwise the blockage will lead to high-speed operation and heating up of the machine, burning out the internal motor and circuit control board. Our company is not responsible for this improper operation.



During the operation of the equipment, it is strictly forbidden to cover the air inlet or air outlet with objects. Otherwise, it will cause the machine to heat up at high speed and burn out the internal motor and circuit control board!

When the equipment is working, the distance between the back air outlet and the wall or barrier must be kept at least 50cm! (When connecting the exhaust pipe, the pipe should be as straight as possible, and it should not be bent too much, and it is strictly forbidden to block and bend it!) If the distance is too close, it will affect the suction power of the machine.



## Filter Replacement and Maintenance

### Note:



Since the purification equipment mainly adopts physical filtering method, the filtering device has a rated saturation. When the equipment absorbs pollutants and reaches the rated saturation of the filter element, the filter element will be blocked and lose its purification effect, and the machine will continue to make a continuous beeping sound of "beep beep...". At this time, the dust must be cleaned or replace a new filter element!

### 1. Filter Element Replacement Judgment



★ The placing order of each layer filter element shall be subject to the above drawing, and exchange is strictly prohibited.

Due to the different amount of pollution in each place, the specific replacement cycle is subject to the actual situation!

In the following cases, it is basically considered that the filter element needs to be cleaned or replaced:

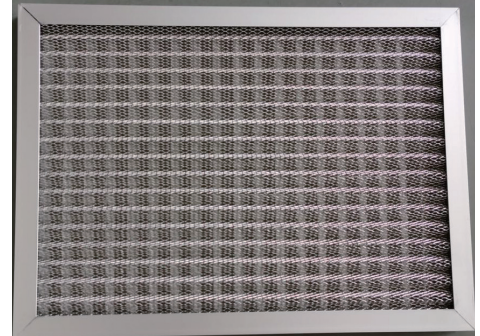


### a. Stainless steel-aluminum mesh combined fire mesh

This filter is used to intercept the sparks generated in the laser processing, preventing them from entering the interior of the purifier and causing combustion. And it also plays the role of filtering a small amount of oil.

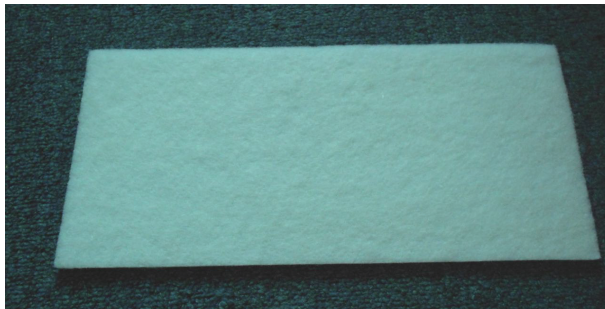
It can be blown with air gun or washed with water and used repeatedly.

When the steel mesh is damaged or the pores become larger, it needs to be replaced with a new one!



### b. Dust bag replacement feature

The suction of the equipment is weakened when the filter cotton turns yellow or black, and many particles accumulate on the surface. Replace it regularly according to the working cycle.



Before

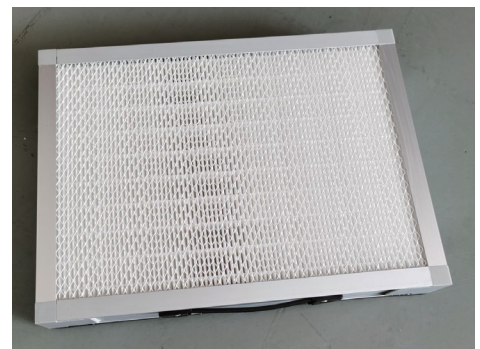


After

### c. Primary F6 or PP dust filter element

When the suction power of the purifier is weakened, the two filter elements turn yellow or black, and many particles accumulate on the surface. At this time, it is most likely to cause a blockage, and it should be replaced with new ones in time.

High efficiency PP filter (disposable)



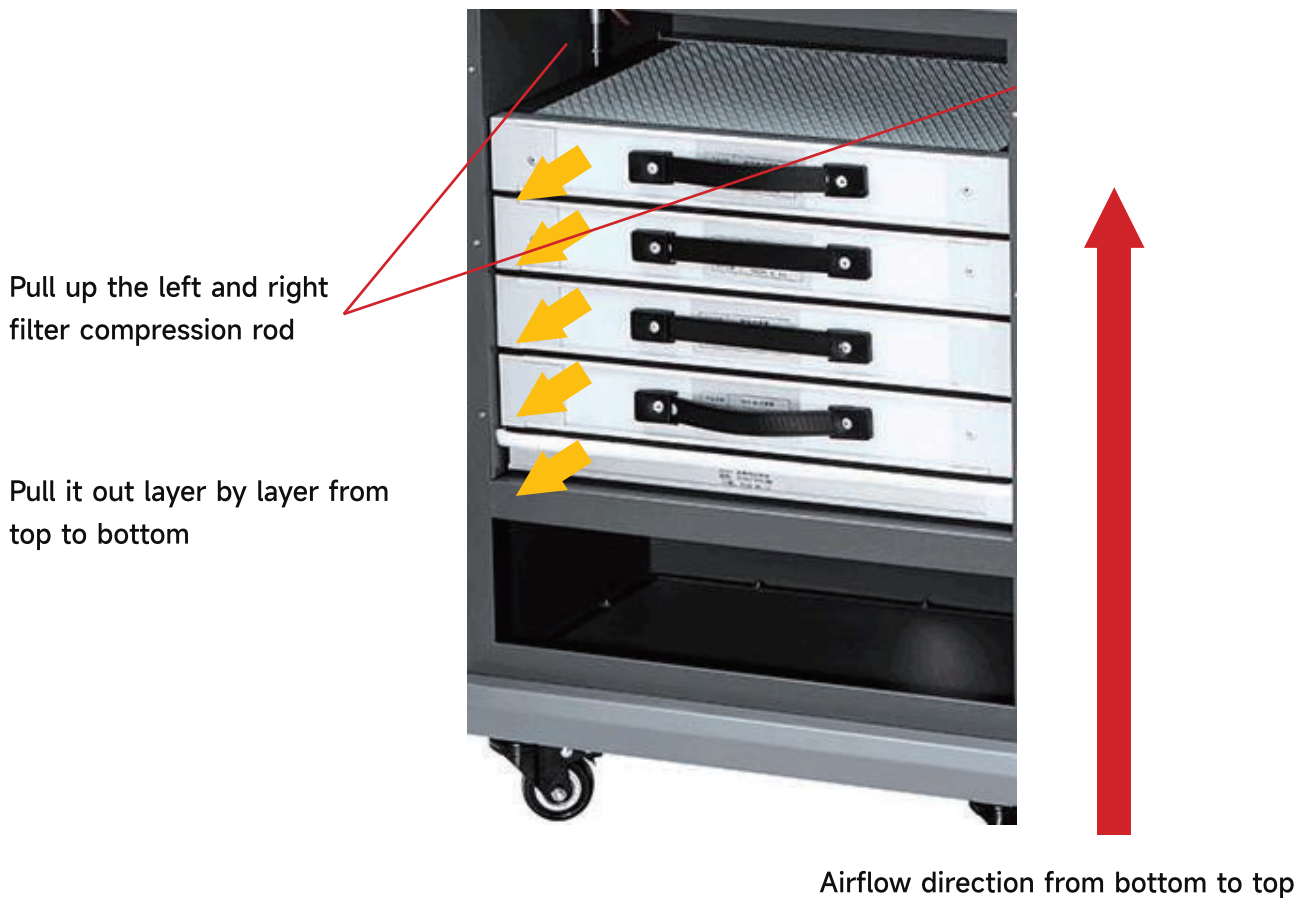
### d. Activated Carbon Filter Replacement Features

When the suction of the equipment is weakened and the odor at the exhaust port is serious, check whether the primary and high-efficiency filter elements need to be replaced. If the suction is still weak after replacing the new primary and middle-efficiency filters, a new activated carbon filter needs to be replaced. (Activated carbon filter can be exposed to the sun for 2-3 hours and be reused up to 3 cycles.)



## 2. Filter Replacement Steps

- A. Turn off the working equipment and cut off the external power supply.
- B. Pull up the 3 buckles on the right side of the machine, open the front door.
- C. Pull up the left and right compression rods, pull out the filter element layer by layer from top to bottom.



### Dust bag replacement/cleaning:





## Stainless steel-aluminum mesh combined fire mesh cleaning and replacement:

Take out the "fire screen" and blow out the dust repeatedly with an air gun, or wash it directly with soapy water. After drying, put it into the machine again.

If the steel mesh is damaged or the pores become larger, replace it directly!

## F6 Primary filter cleaning and replacement:

This filter can also be repeatedly blown out with an air gun, or washed directly with soapy water. After drying, load it into the machine. (F6 is not necessary if there is a dust collection bag)

★ It can only be cleaned and reused about 3 times at most!

## PP micro-dust filter

It can't be cleaned! Just replace the filter with a new one.

## Activated carbon filter

When the odor from the exhaust becomes severe, remove the 2 activated carbon filters, and expose them to the sun to release the saturated material. Then they can be reused.

★ It can only be reused up to 3 times or so!

According to the above, take out each filter element layer by layer, replace a new filter element, and then put it in according to the original order, and then press down the left and right filter element pressing rods.

★ When replacing a new filter, mark the activation date.

## Note:



★ Each layer of filter cartridge must be placed in order according to the original order, with the label text facing upward.

★ Must use the filter element provided by the original factory, otherwise the company will not be responsible for the machine failure caused by it!

★ The smoking arm should be cleaned regularly (usually once every 1-2 months, depending on the specific working environment).

★ When installing and disassembling the filter element, you should hold the surrounding frame with both hands, put it in and take it out slowly, and do not use your head or hands to hold the inside of the filter element during handling, to avoid the deformation or damage of the filter material, which will affect the filtering effect.

## Fault Phenomenon and Maintenance



Because of the high voltage and strong current inside the equipment, please be sure to cut off the power before checking and maintaining the equipment!

Non-professionals are strictly forbidden to disassemble the equipment to avoid safety accidents.

**1. Fault phenomenon:** the system still works, the noise increases, but the air volume is weak, and the suction force is greatly reduced.

**Possible reasons:**

- ① The air inlet or air outlet is blocked
- ② The filter element reaches saturation and fails, resulting in blockage

**Treatment method:**

turn off the power, open the top cover, and check whether there is any foreign matter blocking the air inlet, then check whether the air outlet is blocked.

If there is no abnormality after inspection and treatment, restart the machine. If the airflow is still small, the filter element needs to be replaced.

**2. Fault phenomenon:** the machine automatically shut down immediately after starting, and when it is turned on again, it will repeat the above phenomenon.

**Possible reasons:**

The internal airflow is blocked, and the resistance of the filter element is too large, resulting in excessive starting current of the fan, and the system automatically shuts down for protection.

**Treatment method:**

turn off the power, open the top cover, and check whether there is any foreign matter blocking the air inlet. If there is no abnormality after inspection and treatment, adjust the air volume button to the minimum, restart the machine, and adjust the button to the position of the appropriate air volume.

**3. Fault phenomenon:** the equipment does not work.

**Possible reasons:**

- ① The power switch on the back of the machine is not turned on
- ② The fuse in the three-in-one switch is blown
- ③ The switch button of the operation panel is not turned on

**Treatment method:**

① Check whether the power cord is plugged in properly, and whether the red switch on the back is pressed. If the red light on the back is on, the device is powered on normally. Turn on the front

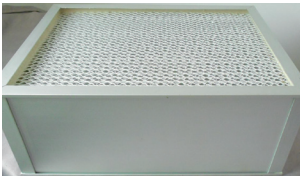
switch button again, if the white working indicator light is on, it means that the circuit control of the device is faulty. In this case, please contact the manufacturer.

② If the red light on the back does not light up, take out the fuse in the three-in-one switch to see if it is blown.

If the fuse blows, replace the spare fuse and turn it on again.

**If the fault cannot be eliminated after the above inspection and maintenance, please contact the manufacturer or dealer!**

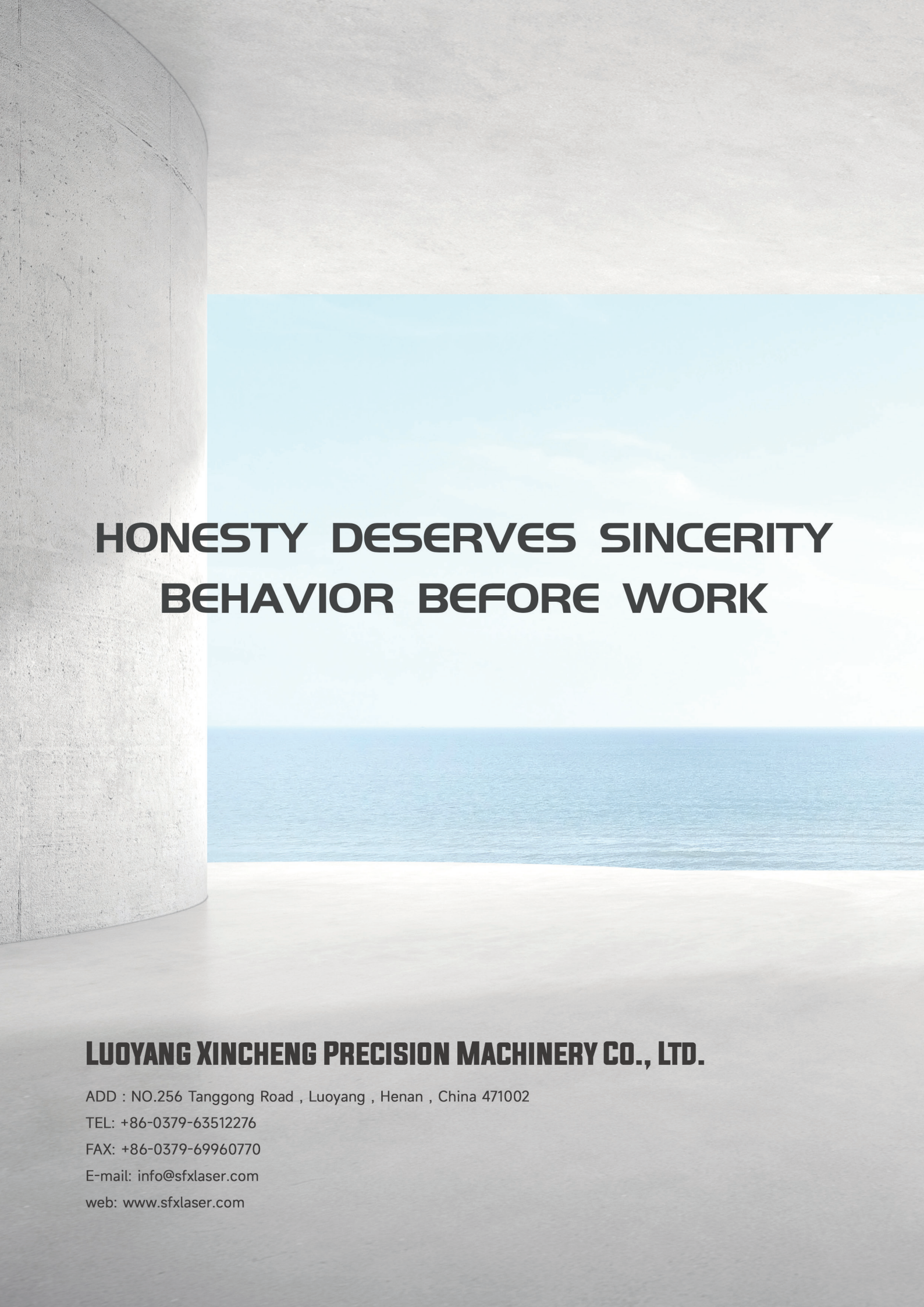
## Options and Consumables

| Item                    | Model             | Description                                   | Picture                                                                               |
|-------------------------|-------------------|-----------------------------------------------|---------------------------------------------------------------------------------------|
| Fire net                | L270*W200*H25mm   | Mainly intercept sparks                       |  |
| Dust bag                | L330*W270*H1000mm | Mainly filter out larger particles            |  |
| PP filter               | L400*W300*H75mm   | Used to filter out fine dust and smoke        |  |
| Activated carbon filter | L400*W300*H150mm  | Used to filter out odors and toxic substances |  |

| Item                        | Model | Description                                                                                                                        | Picture                                                                               |
|-----------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Corrugated hose             | φ 100 | Up to 4x extendibility, can be stretched and bent as needed                                                                        |    |
| Horn smoking cover          | φ 75  | Soft silicone material, high temperature resistance, anti-static<br>Smoking port size: W190*H90mm<br>Interface size: φ 50 and 75mm |    |
| Aluminum large smoking hood |       | Smoking port diameter: φ 350mm<br>Interface size: φ 75mm                                                                           |   |
| 75mm bamboo pipe            |       | Can change direction at will, self-positioning<br>Pipe diameter 75mm, up to 1.6 meters long                                        |  |
| RF remote control           |       |                                                                                                                                    |  |
| External control interface  |       | Connect the laser machine or remote PLC to control the purifier, realize remote operation and synchronous control                  |  |

\*\*As the product technology is constantly improving for you, the contents of the manual are subject to change without notice\*





**HONESTY DESERVES SINCERITY  
BEHAVIOR BEFORE WORK**

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