

USER MANUAL



Spray booth
Model: GL7

Company Introduction

About GuangLi

Guangzhou Guangli Electromechanical Facilities Engineering Co.,Ltd. is a professional spray booth and car lift manufacturer and the member of China Automobile Maintenance Equipment Association.Guangzhou Guangli was founded in February 1994,expanded a new factory in 2005,which cover areage of 58000 m2,,building area 36000m2,and have been completed in construction,and more,launched the production in 2007.

Our products have CE approved and our company has passed ISO9001:2000.The sales volume of spray booth ranks top in this field.

Guangzhou Guangli Electromechanical Facilities Engineering Co.,Ltd.is the first auto-spray booth manufacturer in China,the present largest spray booth maker in China and has a good reputation among Chinese auto-maintenance enterprices.

We have two brands,Guangli and Ritian,which are sold well in the domestic market and abroad over 20 countries.Guangli spray booth and lift have been approved and authorized by the following car manufacturers:Guangzhou Honda,Dongfeng Honda,FAW Toyota,Guangzhou Toyota,Dongfeng Peugeot,Dongfeng Citroen,Dongfeng Nissan,FAW Mazda,BMW South China,Chery Auto,Dongnan Auto,JAC Auto,MG,Hafei Auto,etc.

We respect quanlity as our first belief.Guangli has invested much in machines,which make the components for spray booth and car lift modularized.

Guangli is endeavring to develop itself and hopes we can work together with you for the bright future.



一. **FUNCTION AND CHARACTOR**

GL7 use water-soluble painting, and pure water as the carrier, increased four centrifugal fans to do the hot air circulation when baking, acceleration the hot air acceleration circulation in the cabin. In this way, it makes the paint to achieve the quick-drying and smoothing. Compared to conventional solvent paint, to reduce the production process pollution, promote environmental safety of these two incomparable advantages, we can minimize the damage to the natural environment pollution and human health. With the development of society, water-based paint coating process, will be the future direction of development of automotive painting

(1) Character of the water-soluble painting

Solvent-based paints could be worked in a wide temperature and humidity, but still require the surface is dry to enhance adhesion; solvent-based paint consistency is not easy flowing; smooth surface of solvent-based paints, less brushed or reel lines

Less harmful odor of the water-soluble paint with water and soap, without combine of the danger and flammable solvent, do not need to use solvent cleaning after construction; quick drying of water-soluble paint, recoating fast, and there is a strong anti-UV capability, it is still safe in places exposed to the sun

(2) The curing characteristics of the water-soluble paint

Most of cars use the solvent-based paint they use nitro paint, could be construction in a wide temperature and humidity, leveling in the range of 0.25-0.3m / s wind speed requirements of the paint room. Curing temperature is relatively modest at 60 ° C.

Due to the small consistency of the Water-soluble paint, requiring higher wind speed of the paint room, generally better leveling of paint in the 0.3-0.35m / s within the same time, the same curing temperature is 60 ° C need to adlarge wind speed, just like our clothes to dry, the principle, increase the flow of air, water evaporation faster, paint curing speed will be greatly improved.

FUNCTION:

(1) This equipment is suitable for water-soluble paint and automotive repair and spray paint job.

(2) Equipped with a main generator, 2 rows of the hot air circulation system, main generator and the hot air system all working when do the baking of water-soluble paint, normally only use the main generator if bake the traditional paint.

(3) Nozzle installed at a 45 ° angle in both side of the spray booth to ensure a uniform and constant hot air wind speed.

(4) The nozzle could be adjusted so that the hot air to focus on car surface flow, shorten the paint curing time.

(5) With three damper structure, respectively, to adjust the amount of air intake and exhaust volume.

二. **INSTALLATION OF GL7**

The bottom row of lights on the 45 ° angle on both sides of the original conventional barn, two rows of air space, each of the two exhaust space with 16 outlet mouth, every 8 outlet controlled by a centrifugal fan, the air volume of 2400m³/ h, power 0.75KW / points the direction of the outlet can be adjusted.





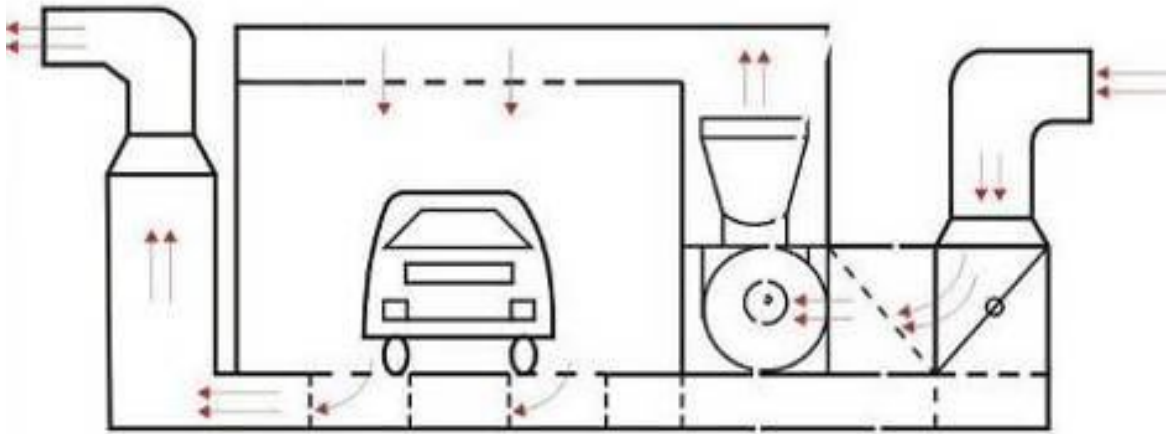


三. **Principle of spray booth**

GL7 is consisting of main cabin, ventilation system of purification systems, heating systems, lighting systems, electric control system, and water-soluble system section.

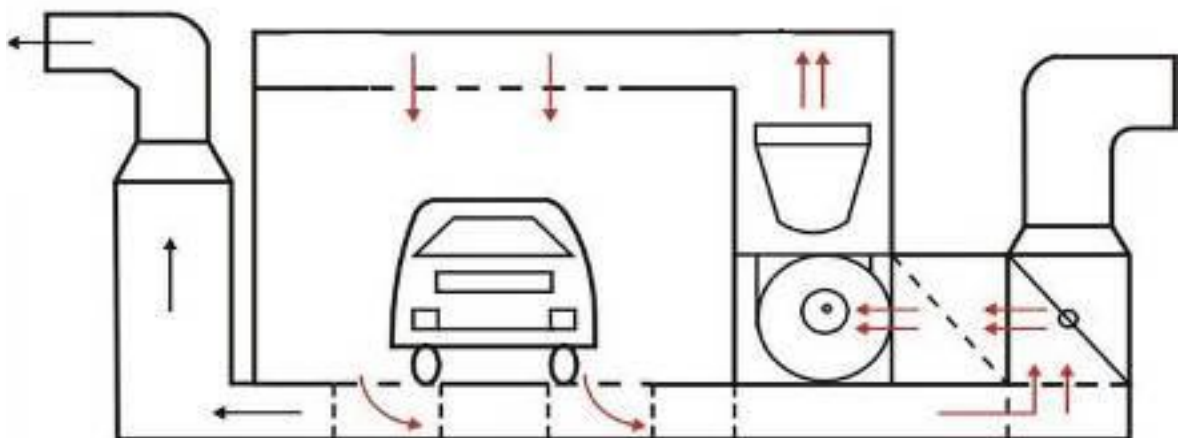
Spray Painting Phase

During the painting phase, both the intake fan and exhaust fan open, and the damper shutter place the position shown in Fig.1.11. The air capacity, aspirated from the outside by means of the generator fan is profiteered passing through the pocket filters, heated to the desired temperature (about 20°C), and introduced into the plenum. Here an even distribution is obtained and a there is a second filtration through the ceiling filter. After the filtration, the air crosses the booth from the top to the bottom part picking up the paint pigments and the solvents left by the spray painting, it is then aspirated by the exhaust air unit passing through the filters placed in the purification plant.(shown inf Fig.1.11)



Drying Phase

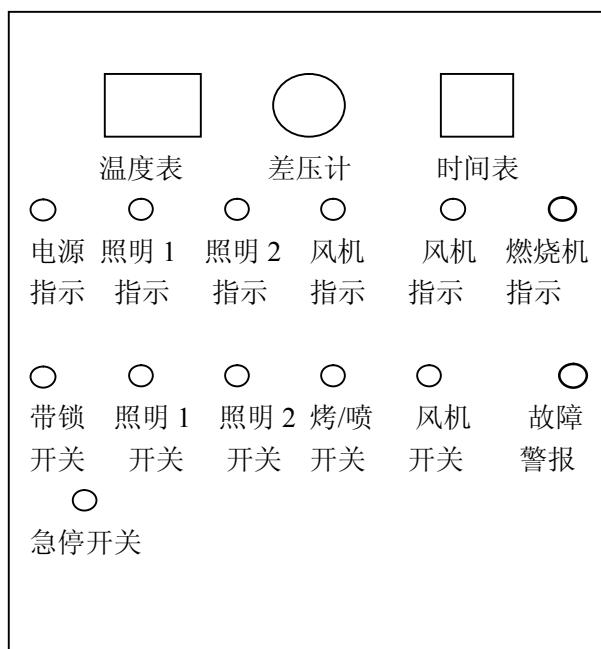
During the drying phase, exhaust fan will be turned off, the intake fan still operate, the damper change to the position shown in Fig.1.12. At the same time the burner start to operate, and supply the heating for the booth through the heat-exchanger, and the enter into the internal cycle system. The ventilation style is similar to the painting phase, but the air through the basement will be taken into the intake fan again and form the internal cycle system. The temperature of the air has to be fixed according to the type of paint. Usually the set temperature should be 60°C



四. SPECIFICATION

- 1、 internal dimension: 6.9×3.9×2.7(M)
- 2、 upper light : 10*4*4W
Side light : 8*4*40W
- 3、 intake fan : 1*11KW, 30000m³/H
- 4、 exhaust fan: 1*11KW, 30000 m³/H
- 5、 total power: 26KW
- 7、 wall panel: Rock wool
9. Fan: 4pcs、 0.75kw/pc

五. Control box



Power Supply Switch:

After turn on, connect the control circuit power.

2. Lighting Switch 1/2:

After turn on, lights will be lighted.(1 is up light, 2 is below light)

3. Baking/Painting/Plus Temp Painting Switch:

After temperature watch and timer defined, turn the switch to baking, damper auto closed, burner light fire. Turn it to Plus Temp Painting, damper open, burner with the lighting indicate light.

4. Timer:

Used to define the baking time, auto closed when define time finished. Baking details as

below:

First, turn the switch on the timer to “m” and “s”, then dial the number switch and define the required time. For example, dial the number to 4588 which means baking time is 45 mins and 88 secs. Baking time are already defined before leave the factory.

5. Temperature meter:

Control the spray booth temperature and auto closed the power supply when the temperature arrived the defined temperature.

To define the temperature of spray booth is as below process:

Press the temperature adjust button(↓and↑) to adjust the temperature you want, then press SET to confirm. Normally defined 55°C before leave factory. Customer can adjust according to requirements but should be less than 90°C.

Notes: Defined 60°C, the spray booth will auto closed the burner power supply when the temperature arrive 60°C. When it's lower than 60°C, burner will auto start to improve the temperature.

6. Power Indicate Light

lighting when power supply switch turn on

7. Exhauster1/2 Indicate Light

lighting when exhaust fan works.(1 means 11KW Exhaust-in, 2 means 11KW Exhaust-out)

8. Burner Indicate Light:

Lighting when burner works.

9. Burner Failure Indicate Light:

Lighting when burner light fire failed.

10. Exhauster Switch:

Open the exhauster. During Baking/painting/Plus Temp Painting, Burner can only work after exhaust fan work.

11. Lighting Indicate Light

Lighting when lights works. (1 is up lights, 2 is below lights)

12. Emergency Stop Button:

Press to turn off the power supply.

13. Pressure Meter:

Testing the pressure between inside and outside all the time to keep the operator's safe,

remind the user to maintain the filter system in time.

VI. Spray Booth Operation Process

1. Painting Operation process

- 1) Clean the inside space(include wall panel, top filter etc) of Spray Booth and the car for painting.
- 2) Close the door of Spray Booth, start the exhauster and air compressor, open the light, then use the compressed air to blow the spray booth include the car completely.
- 3) After below clean work finished, start painting; if the temp is lower than 20°C, in order to keep the fluxion of the paint, adjust the fire lighter switch to the 加温喷漆档 to keep the painting temp as 20°C.

2. Baking Operation Process

- 1) Check the oil in the tank and keep it enough
- 2) Check the temprature watch and timetable whether the baking temprature and time is defined(Notes: Defined temprature can't be lower than local enviroment temprature, time can't be zero)
- 3) Turn the fire lighter to Baking, light the burner. When temprature reached the defined temprature, enter into heat preservation period which is normally for 30-45 mins.

Notes: Baking time finished, continue open the exhauster for 15 mins then close the swtich with lock. Or the Heat exchanger will be too hot and easy broken. Close the light during Baking.

六. **BURNER**

Burner power for 15-20 seconds, this time the burner motor starts at the same time driven by the impeller fan and oil ,Turn the pump impeller fresh air blown into the combustion chamber, fuel from the inlet pipe inhalation pump, oil pump in the air and Excess oil back to the tank through the return pipe.15-20 seconds after the burning of mechanical and electrical pole start ignition, the solenoid valve to open the nozzle to spray atomized mist is ignited,10

seconds after the flame reached maximum and stable combustion. Such as nozzle injector 5 seconds later still did not fire a little, on the photoelectric did not receive the optical signal, the sensor will automatically cut off power to the burner, burner failure, Indicator lights. For re-start the burning of confidential and other burner after 30 seconds, press the red reset switch can.

ATTENTION: during the normal combustion process in the burner, not to fuel the tank, the refueling process Produce large amounts of bubbles, these bubbles into the pipeline to inhaled pump will cause the fuel supply is suddenly interrupted and flame. Refueling when the burner not ignition

Precautions

1. The floor of spray booth must be kept clean, and clean the floor before spraying the car.
2. Vehicle into the barn must be clean, and remove the inflammable and explosive dangerous goods (fuel tanks of gasoline).
3. Minimize the number of out of the barn in the painting process, to prevent dust from entering.
4. Each time before you spray the car must check the fuel tank for oil, to prevent pump damage due to dry friction.
- 5 Staff into the barn to wear the clothes and changing his shoes, smoking is prohibited in the baking room.
6. In the baking room in addition to the gun and the fuel load can not be more paint material on the baking room.
7. if in the baking room mosquito repellent, application drug to remove mosquitoes and then continue to do the paint operations



Please carrying out the maintenance intervention /cleaning as the following ordinary maintenance and frequency verification instructions:

- Keep the booth clean and keep the intake and exhaust duct be open.
- Change the top filter after painting 200sets of auto or use more than one year, But in the more dust situation, that should be shorten the filter changed period according to the

actual condition.

- Change the Pre-filter after painting 200sets of auto or use more than one year.
- Change the flour filter after painting 200sets of auto or use more than one year.
- Clean the filter oil cup and fire nozzle of the burner each week, keep the oil route be through.
- Add the diesel oil is forbidden when the burner is working.
- Make sure there are more than 5L oil in the oil tank, use Non diesel oil is forbidden.
- Check the filter net of the activated charcaod environmental cabinet after painting 20sets of auto or use more then 1 month.If the painting adhibit to the filter net fullled, change the filter net in time and keep the ventination be through.
- Check the heat exchanger every two months,examine whether have the bad welded phenomena,make sure saftey enough.
- Clean the dust adhered to the fans and blades semiyearly
- When you don't operate the booth for a long periods,cut off the general power,and open the door for ventination every three days,in case accumulate the moisture air inside the booth.
- Change the heat exchanger and all of the electric wire when using more than 8 years.

Appendix I: Malfunction and Remedy

MALFUNCTIONING	PROBABLE CAUSE	REMEDY
The moter can not Start	<ol style="list-style-type: none"> 1. Fusing fault 2. Thermal relay in operation 3. The motor,wires circuit break 	<ol style="list-style-type: none"> 1. Change new fuse 2. Push button of thermal relay reposition 3. Change the moter and wires
The Capacity of the fan is small	<ol style="list-style-type: none"> 1.Pre-filter Jam 2.Damper have been right open or not open enough position 	<ol style="list-style-type: none"> 1.Clean or change the filter 2.Open the damper completely
Burner malfunction light turn on after the burner have started 20 seconds	<ol style="list-style-type: none"> 1. Use out of oil in the reserrior 2. Oil pipe connector leakage 3. Too dirty in the filter net of the oil intake pipe 4. Electrical ege is too dirty 	<ol style="list-style-type: none"> 1. Add some diesel 2. Reconnect the pipe 3. Clean the fliter net 4. Clean the eletrical ege
The pump of burner does not start to work	<ol style="list-style-type: none"> 1. The pump strip is lock 2. The setted time have finish 3. The temperature valve have reach the setted valve 4. The burner is out of fuel 	<ol style="list-style-type: none"> 1. Check and clean the pump of the burner 2. Reset the time 3. Reset the temperature 4. Check the level of fuel in the reserrior
Black smoke come out after the burner open	<ol style="list-style-type: none"> 1. The open position of burner damper is not enough 2. The pressure of pump is not enough 	<ol style="list-style-type: none"> 1. Adjust the damper more to more big position 2. Reset to the standard valve
Temperature rise is slow	<ol style="list-style-type: none"> 1.The damper is not close or not closed completely 	<ol style="list-style-type: none"> 1.Closed the damper completely
The lights do not work	<ol style="list-style-type: none"> 1. The fuses have blown 2. Ballast is interrupted 3. Connection ports loose 	<ol style="list-style-type: none"> 1. Replace the light fuses 2. Replace the ballast 3. Fix the connection ports
The pressure inside the booth is higher than usual	<ol style="list-style-type: none"> 1. The motor of the exhaust ir unit is off or not working regularly. 2. The extraction duct is obstructed 	<ol style="list-style-type: none"> 1. CheckThe exhaust air unit fuses Ensure the cable is connectyed to the motor and the the locks of the control panel 2. Check the filter of the basement or the exhaust air unit and replace them if necessary.
The pressure in the booth is lower than usual	<ol style="list-style-type: none"> 1.The motor of the generator is off or does not work regularly 2.The emission duct is obstructed 	<ol style="list-style-type: none"> 1.Check the generator fuses. Ensure the cable is connected the motor and the locks of the control panel. 2.Check there are not obstacles at the mouth of emission of the intake air unit.