# 800 Series

## Instructions & Replacement parts



Hangzhou Color Powder coating Equipment co.,ltd

## FUNCTIONS

**.The fluidized powder in the powder hopper is sucked up in the injector by the conveying air. Through the powder hose the powder air mixture reached the gun**

**.The powder is electrostatically charged immediately it reaches the gun nozzle. An intense field also exists between the gun nozzle and the grounded workpiece. The electrostatically charged powder sprayed onto the workpiece adheres to the latter 's surface.**

**.This line voltage is converted in the control module to high –frequency current**

**this currents stopped up by the high-voltage transformer and the HV-cascade in the gun to 100KV and applier to the electrodes.**

**.The conveying air and the dosing air is to be regulated on the control module , the fluidizing air on the pneumatic unit.**

**.The powder is fluidized by forcing air from blow through a porous plastic plate.**

**.The fluidized powder gets liquid –like properties..**

## →Technical Data

**Electrical data**

| | |
|---|---|
| **Power range** | **220/110V (please see you control unit sticker)and choose the correct power supply** |
| **Frequency** | **50HZ/60HZ** |
| **Temperature range in use** | **-10 ℃+50 ℃** |
| **Powder Gun** | |
| **Gun weight:** | **500G** |
| **Rated output voltage** | **24VDC** |
| **Maximum output current** | **180Ua(max)** |
| **Maximum output voltage** | **0-100KV ( adjustable)** |
| **Maximum powder injection :** | **600g/min** |
| **Polarity** | **negative (-)** |
| **Pneumatic data** | |
| **Maximum input-air pressure** | **10kg/cm** |
| **Optimum input-air pressure** | **6kg/cm** |
| **Minimum input-air pressure** | **4kg/cm** |
| **Maximum water vapor content or compressed air** | **1.4g/N m3** |
| **Maximum oil vapor content of compressed air** | **0.1ppm** |
| **Maximum compressed-air consumption** | **13.2 m3/h** |

Dimensions for 800D-L5

| | |
|---|---|
| Width | 460mm |
| Depth | 832mm |
| Height | 1105mm |
| Weight | 45kgs |

## COLO-800D

# *800 series*

## *Innovative powder coating System*




*The 800D Powder Gun control is designed exclusively for use with COLO automatic and manual guns. All setting for efficient powder coating are made simple and reproducable on the 800D. Flow meters permit accurate setting of the optimum powder coating rate. In addition the corona current,and corona voltage also can be checked on the LED display.*






Allows user manually adjust the voltage as needs



**Recoat mode**
Adjusts both the volatge and current automatically for efficient recoating



**Corner mode**
Adjusts voltage while maintaining current output for coating complicated corners and recesses

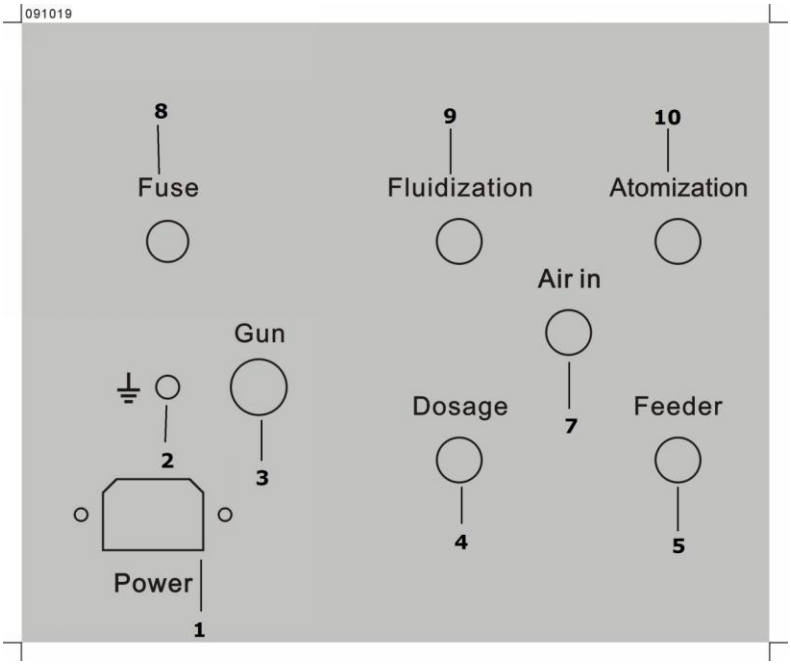


**Flat Mode**
Controls the voltage and current for maximum efficiency when coating flat workpieces.

| Designation | Function |
|---|---|
| 1 | Indicator light |
| 2 | Recoat shapes model |
| 3 | Complex shapes model |
| 4 | Flat shapes model: |
| 5 | Power on |
| 6 | High voltage display (in kV) |
| 7 | Automatic operate |
| 8 | Power off |
| 9 | Actual current display (in uA) |
| 10 | Manual operate |
| 11 | KV setting by manual |
| 12 | Dosage |
| 13 | Feeder |
| 14 | Dosing air gauge |
| 15 | conveying air gauge |

PLEASE CONFIRM THE MACHINE BE CONNECTED WITH EARTH BEFORE WORKING.

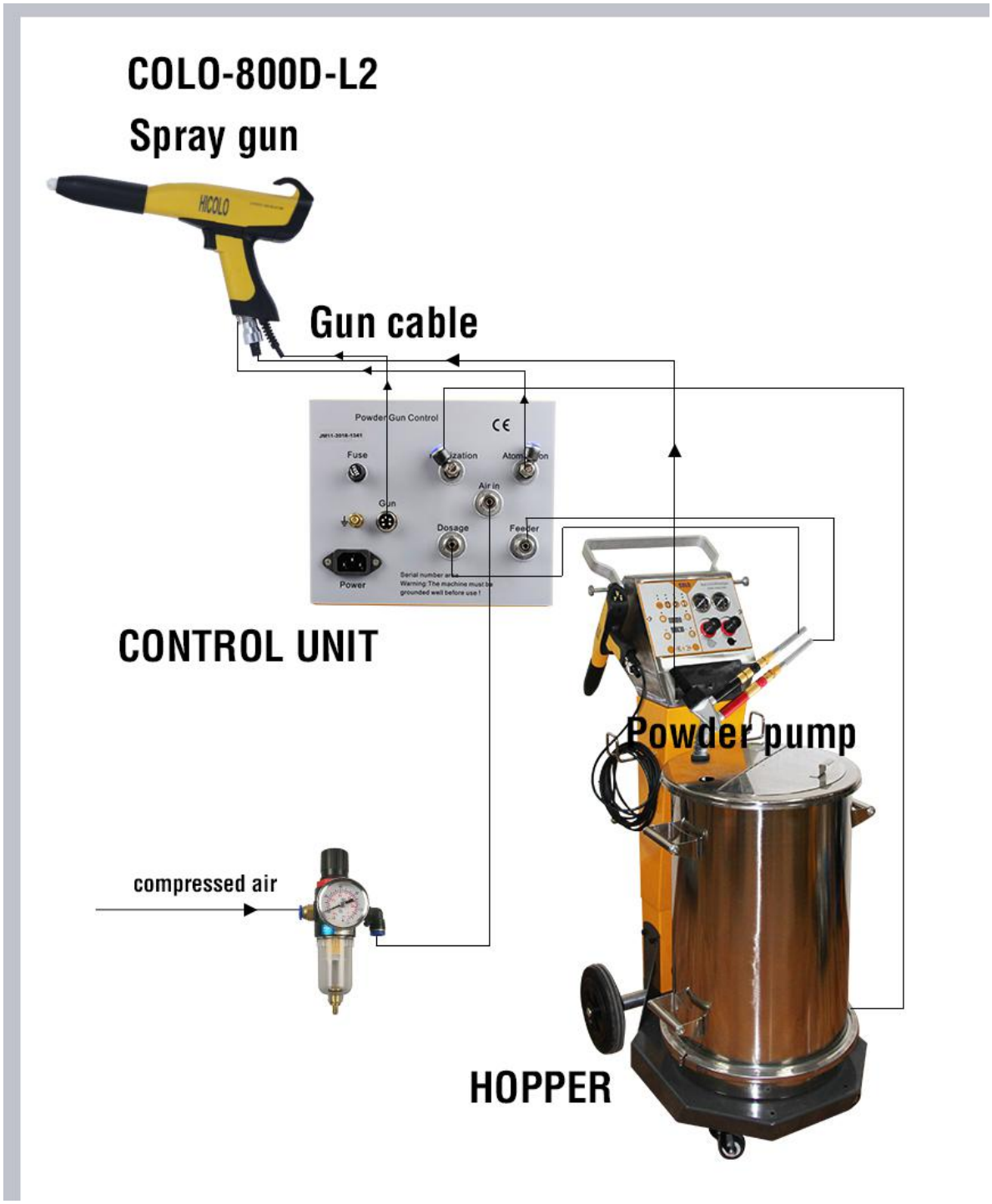
# Control unit rear panel



# 800D Series Powder coating systems

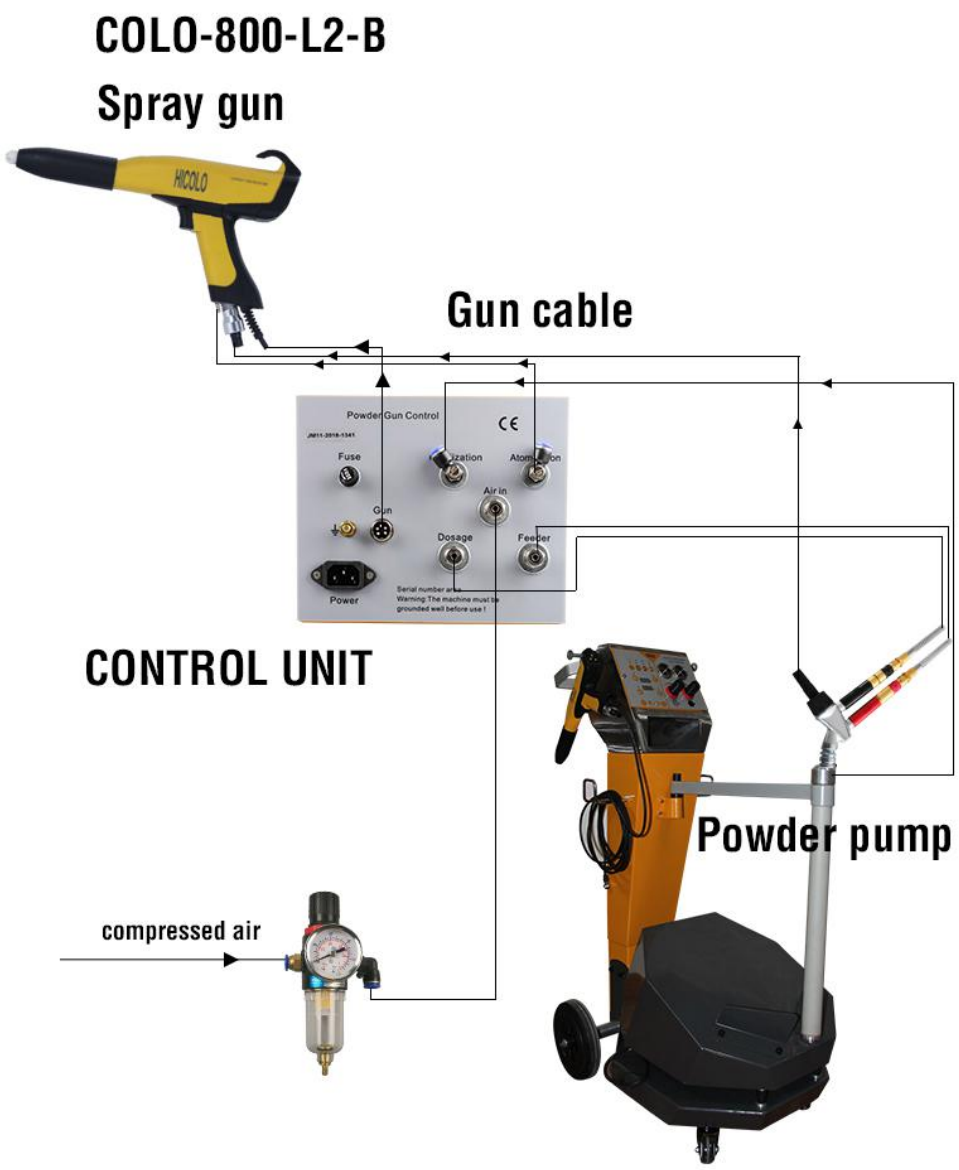


## Connecting guide



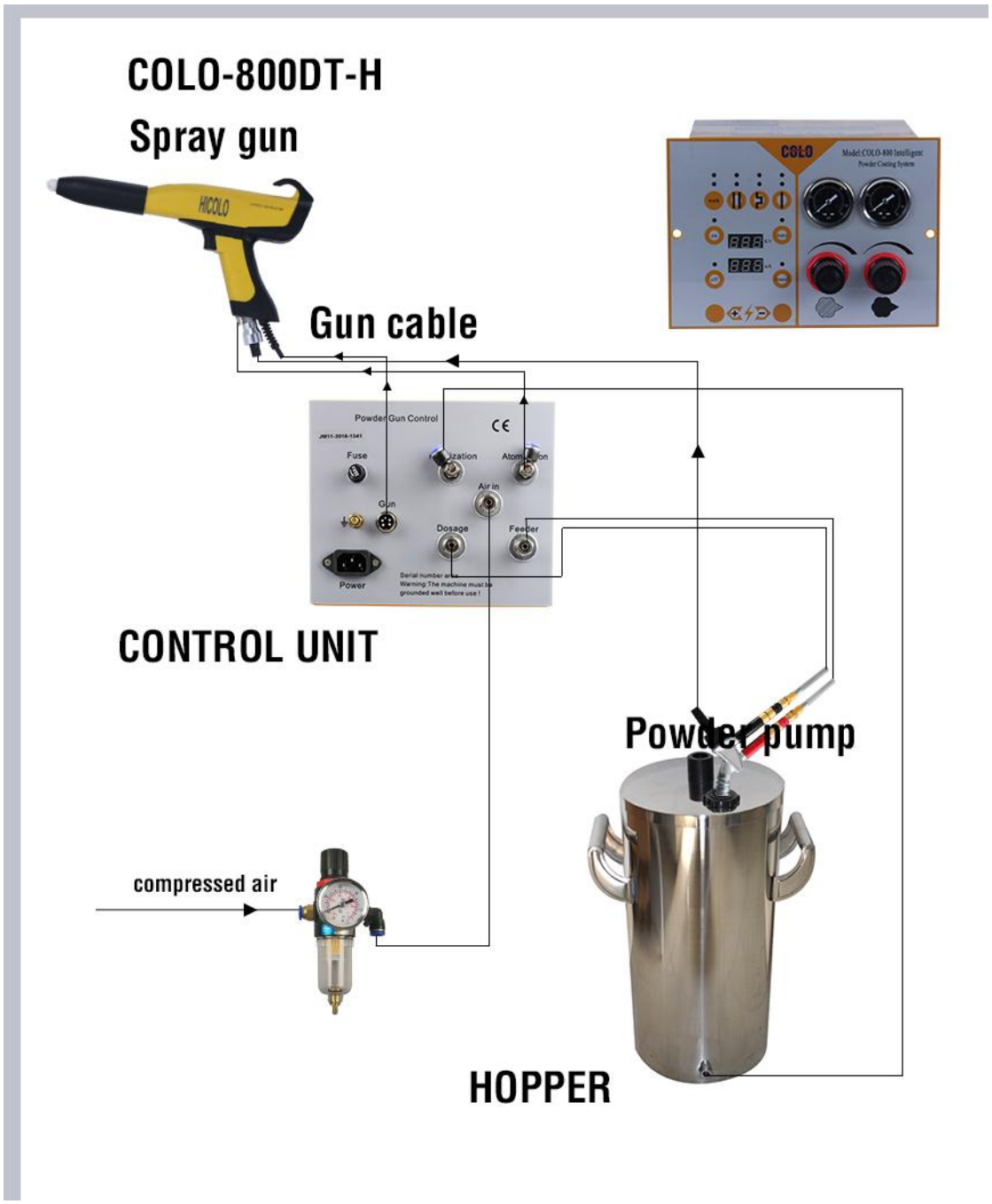

**Suitable for models : 800D-L2,800D**

**If use the different powder pump please according to your request.**

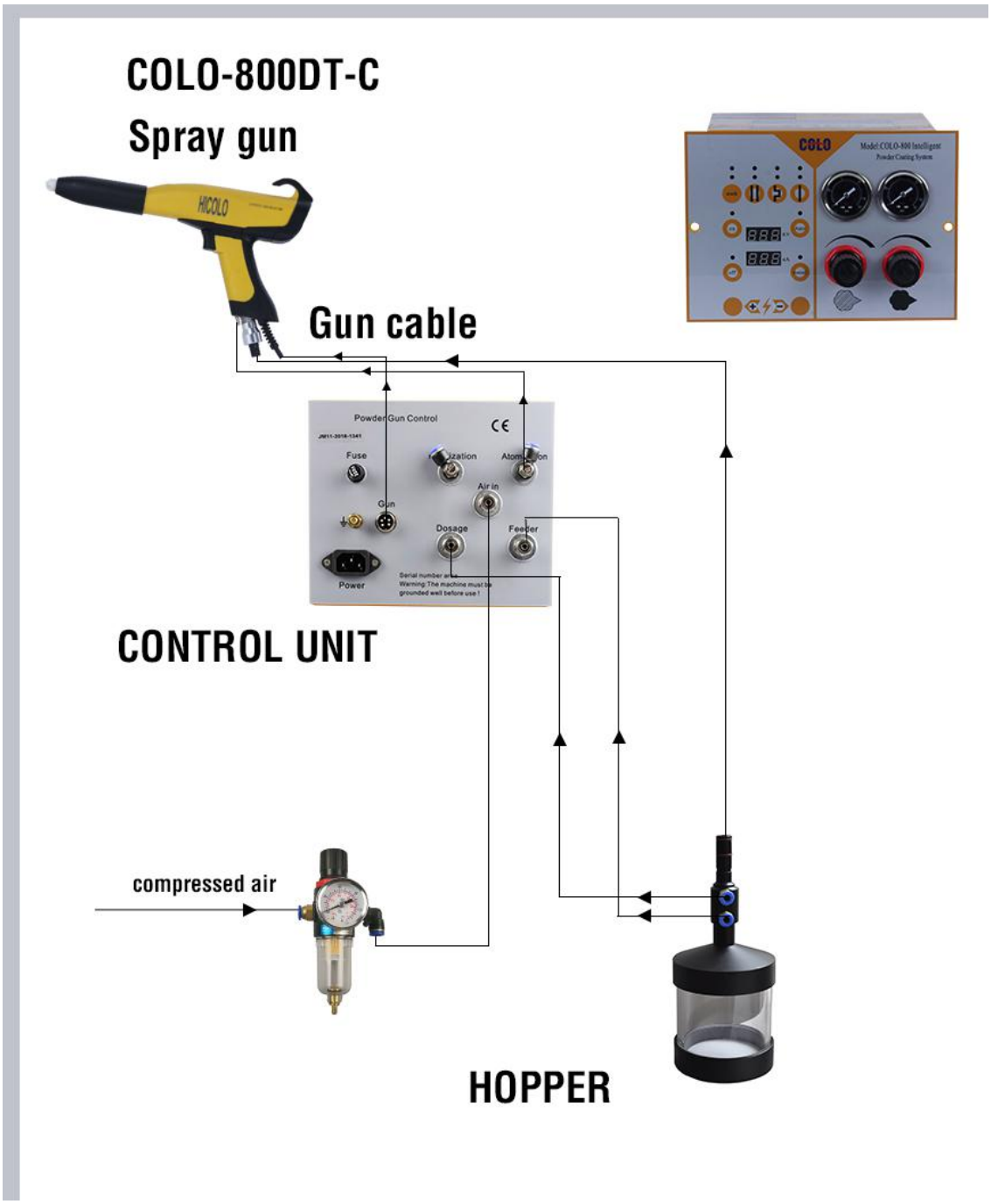



**Suitable for models : 800D-L2-B,800V,800V-2 with G42 powder pump**

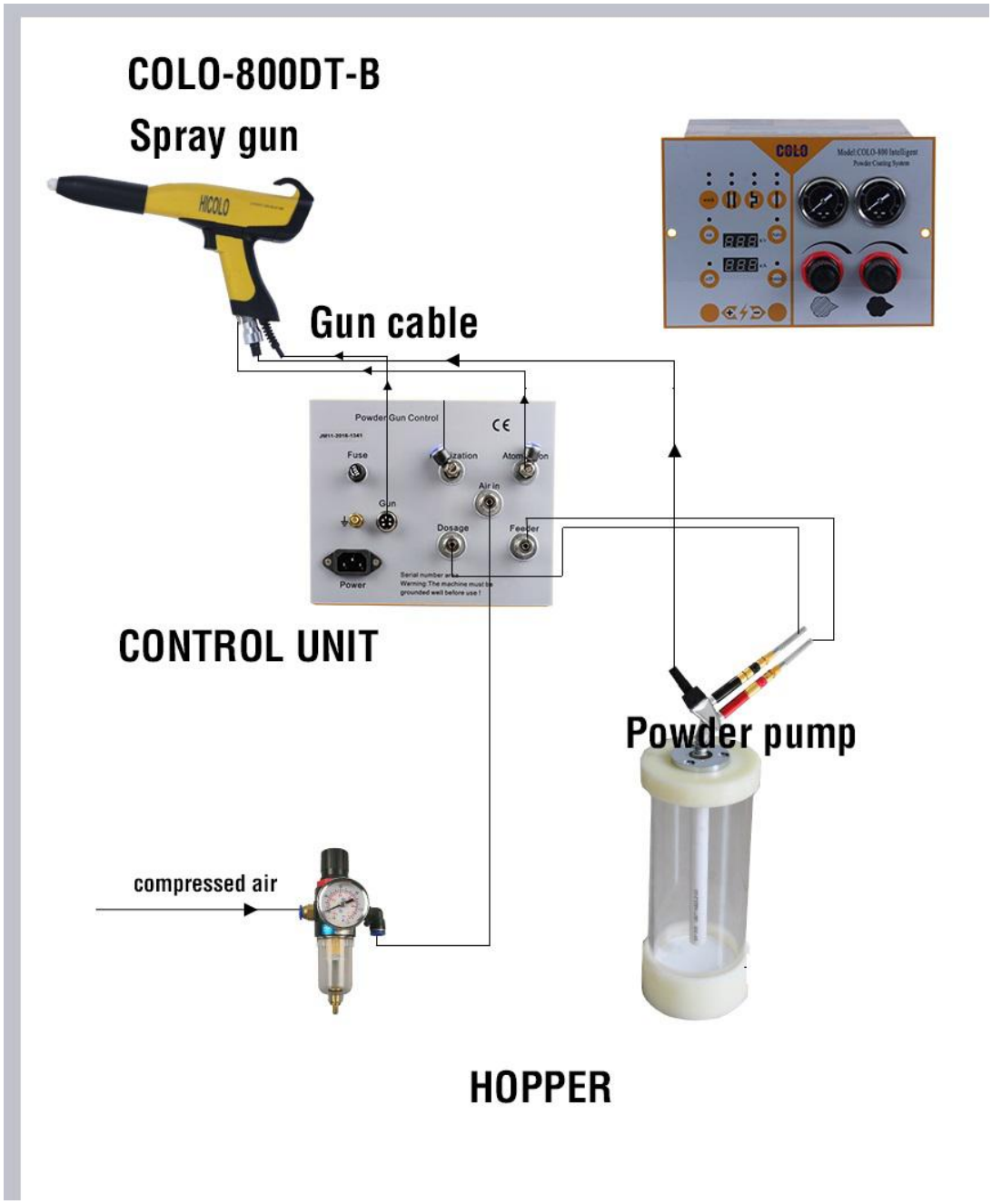
**If use the different powder pump please according to your request.**



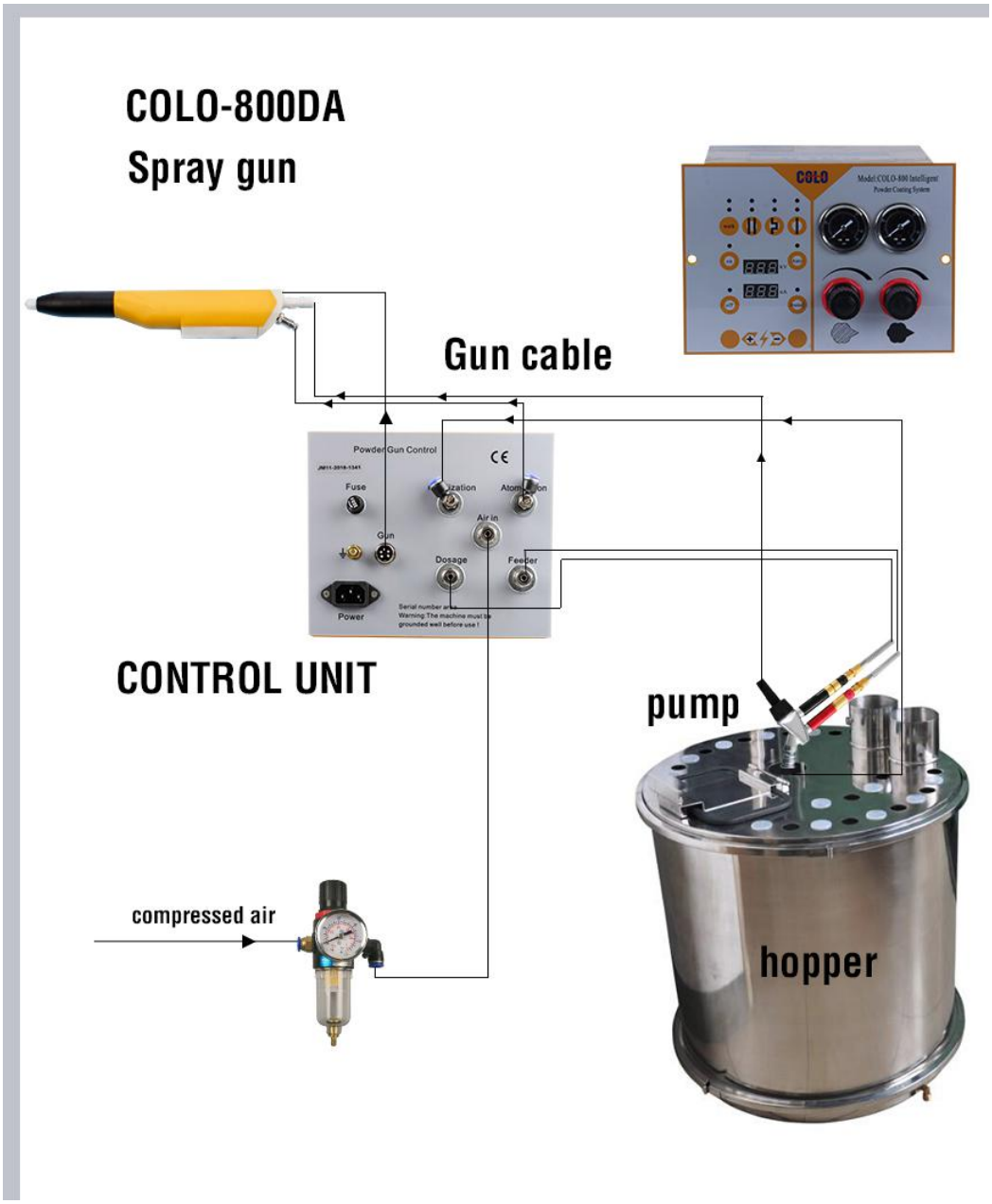

**Suitable for model : 800DT-H**




**Suitable for model : 800DT-08C**




**Suitable for model :800DT-B**




**Suitable for model :800DA-08A with G42 powder pump if your orders match the different powder pump please according to the order .**

## Manual coating equipment-Structure of COLO-800D-L2 -B



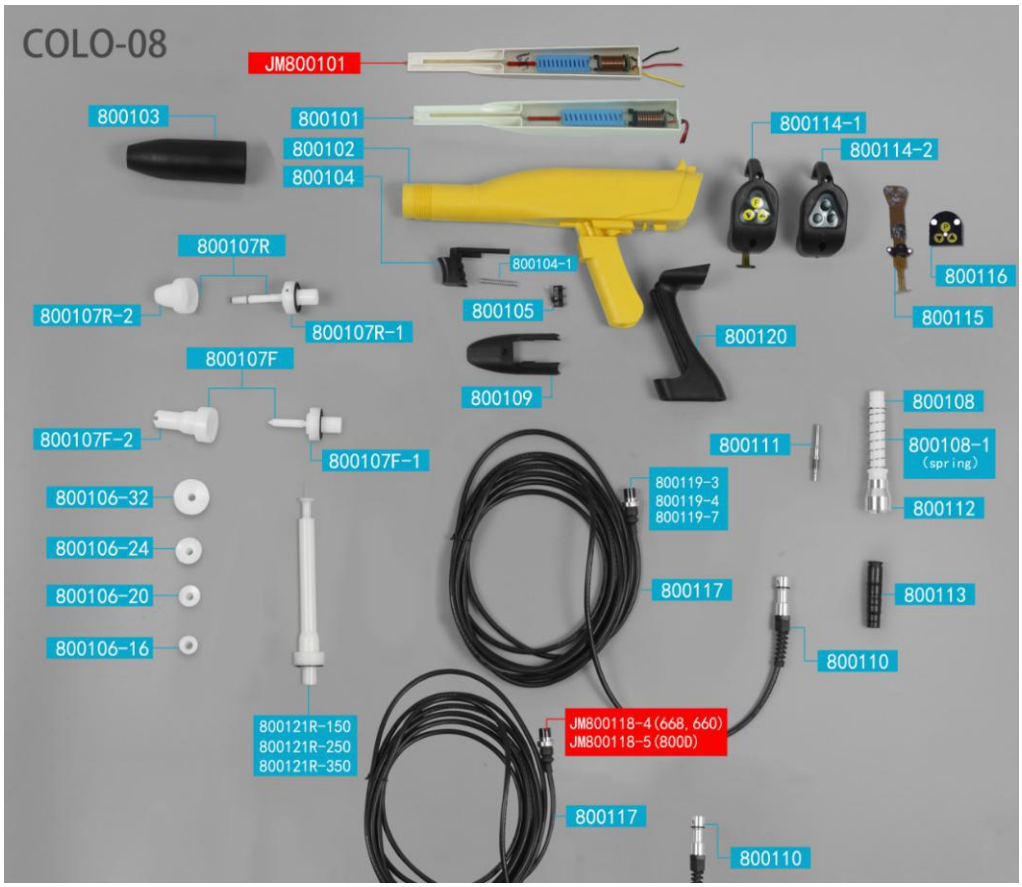

1 control unit 2 Manual powder gun
3 injector 4 Mobile frame with hand rail(Trolley L2)
5 Fluidizing/suction unit 6 Vibrating table
7 Filter unit 8 Swivel arm
9 Gun holder 10 Hose holder
11 Shelf 12 Swivel wheel
13 Rubber wheel

# Structure of COLO-800D-L2

Manual coating equipment-structure
1 control unit 2 Manual powder gun
3 injector 4 Mobile frame with hand rail （trolley）
5 Fluidized powder hopper 6 Powder filler flap
7 Swivel wheel 8 Filter unit
9 Gun holder 10 Shelf
11 Hose holder 12 Hose holder
13 Rubber wheel

# Spare parts list

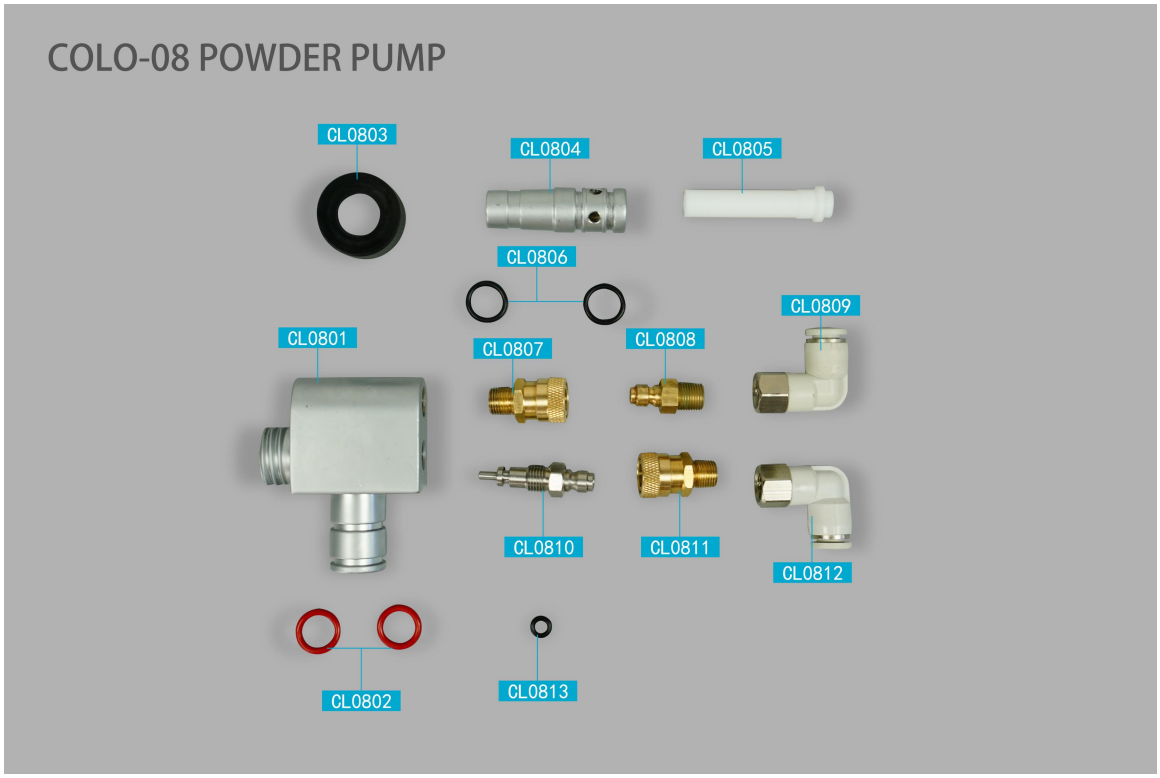
## COLO-08 manual powder gun




## COLO-08A Automatic powder gun




**Powder injector COLO-08 Powder injector**



When you need order the spare parts please tell us the item number !

> WARNING
--INSTALLATION
→Properly ground all equipment in the spray area to an earth ground and maintain this ground
→Remove all containers of volatiles from the spray area
→Establish and maintain a grounded area for the spray operator
→The gun of x series must be connect to x control unit

→OPERATION
→The operator should hold the gun in his bare hand
→If gloves are worm ,the palm should be out to assure skin to metal contact
→The operator should wear shoes with conductive shoes e.g leather
Rubber shoes are not conductive .
→Ground the tip of the gun before cleaning or changing nozzles.
→When the gun is not in use , it should be hung so that the nozzle is within four inches of a grounded conductor
→The operator should wear a filter-type respiator anytime he is exposed to dusty conditions
→High pressure powder many cause injury ,Keep the rear switch "off" position in no –use condition

→MAINTENANCE
→Make a periodic confirmation of grounding to earth of all equipment in the spray area .
→Exercise good housekeeping practices , do not allow dirt or powder to accumulate on the feeder /powder unit , cable or gun.
→Keep the cabinet door

PERSONNEL
→Use soap and water to remove powder from the skin washing with solvents can cause reactions resulting in allergies and disourders.
→Wash hands before eating and smoking.
→Do not use compressed air to blow powder off the hands and clothing.
This practice may result in damage to the ear drums or eyes.

2. INSTALLATION
→Connects the control units MAIN AIR to MAIN AIR(REGULATOR) output unit with air hose
→Connects the control unit DOSING AIR to INJECTOR with air hose
→Connects the FLUIDIZING AIR (REGULATOR )output unit to HOPPER with air hose
→Connects the control unit AUXILIARY AIR to GUN with air hose

→Connects the POWDER HOSE to INJECTOR
→Connects the GUN CABLE to CONTROL UNIT with air hose
→Connects ground connection cable from ground nut to the booth and trolley
→Connect main powder cable
3. OPERATION

→PREPARATION FOR TEST OPERATION
Adjustment for for voltage selection
All the shipped equipment are fixed at REQUEST

Connection of air supply
.Compressed air must not contain any oil or moisture
.It should be noticed that the oil and moisture container in the compressed air must be filtered out.
.The fluidization air must be locked in until all connections are complected.

Connection outlet hose
.Connect the hose by pressing it into the hoppers outlet –hose coupling hole.
.Place the opposite end of the hose within booth.
Caution:Atmospheric pressure should be present in the hopper during operation of the equipment

Connect ground line
The ground line should be connected to booth or conveyor with a clip

Safety regulations:
Operator should always take precaution to get grounded to the powder electroatic machine s GUN handle by marking hole in his gloves , He should also make it a rule to put on a pair of grounded shoes.
The floor of workplace should be conducted
All conduction material with 5 meters around powder booth are completely grounded
Fact the GUN to direction of BOOTH and not to the human body
In case of powder such as spaying paint ,dust density of 10g/ m3
Or more could cause explosion ,and the internal booth should be maintained in good and clean condition .

CHECK FUNCTION OPERATION
Functions
cuts off the powder supply from pressure-decrease valve.
Lowers the control box high –voltage adjustment handle down to bottom –lef position .
See what happens when the high-voltage adjustment handle is turned from to right to slowly increase the voltage level.
Approach the ground up to the distance of 20cm holding GUN and see the high-voltage display drop.

Pull the gun’s trigger.
The high-voltage indicator begins to operate
Check if the voltage level changes when the high-voltage adjustment handle is turned .
open MAIN AIR and supply air
pull the GUN′ trigger and open the CONVEYING AIR
The pressure gauge hand moves
Pull the gun s trigger close the CONVEYING AIR and open the DOSING AIR
The gauge stand moves .
If all factors suggested above is alright , every is O K
Remove powder from the nozzle of gun by AUXILIARY AIR
Power supply and fluidizing air supply.

LOADING
open the lid ,fill powder up to the hopper s handle level ,close the old and assemble hose
If everything checks all right, the equipment is ready
Slightest abnormality requires preferring to the emergency –measure guide.

→TEST OPERATION
PAINTING
CAUTION: Check if all the conducting material within 5 meters around powder booth are completely grounded
Check if the powder is fluidified
Turn on the powder switch
Face the gun to direction of booth
Pull the trigger
Adjust the high voltage to the required level-the level can be monitored by a meter
Wait until the first-spayed powder comes out completely dried.
Proceed with spraying object to be powder coated ..
Taking stop spraying measure
release the gun’s trigger
turn off the power switch
as the powder is still fluid , you should not adjust the amount of high voltage . Cleaning air and powder output.
Be sure to turn off the power switch and cut off air valve during lunch time or after finishing work

Cleaning the powder hose
CAUTION: In case of prolonged unuse of equipment , the powder remaining in hose should be eliminate as follows:
take our injector s hose coupling part from the hopper
Turn the GUN to the direction of booth
Attach the AIR GUN tightly to the hose entrance and blow into it
Reassemble it

FLUIDIZING POWDER

A .Fluidizing powder

The fluid state of powder is closely related to powder type , water content of compressed air and outler temperature

The fluidizing proceds independently of control functions

1 .Keep the hopper s lid open

2 Slowly increase the fluidzing AIR –the powder begins the boil mildy, AIR in the hopper and adjust to the minimum amount of AIR for uniform boiling

3 close the lid

B . The amount of powder output and control

The amount powder output is determined by powder type , the length and diameter of hose , and the amount of CONVERYING AIR and DOSING AIR.

check the powder is normally fluidizied

turn on the power switch

pull the trigger with the GUN facing to the direction to BOOTH

Open the CONVERYING AIR

Adjust the DOSING AIR

Turn slowly regulator of dosing air to clock wise from maximum counter clock wise pulling trigger until powder puffing is getting to normal injection

Comprehensive regulation

| Workpieces type | Output voltage | 1ST air | 2sec air | Painting distance |
|---|---|---|---|---|
| Big size new | 80-100kv | 4-6kg/cm2 | 2-3kg/cm2 | 15-20cm |
| Corner,sides | 40-60kv | 2-3kg/cm2 | 0.5-1 kg/cm2 | 10-15cm |
| repaint | 30-40kv | 2-3kg/cm2 | 0.5-1kg/cm2 | 15-20cm |

COLOR CHANGE

A. Changing powder color

1)Clean the outlet hose hopper completely

2)blow into the powder hose with compressed air

3)clean the GUN

4)put the powder to be used into hopper and finish all the preparation jobs

5)turn and spray the GUN toward BOOTH momentarily before the work begains

B.How to manage

Routine maintenance of equipment prologn product life and keeps its performance uniform

1. Daily check -----INJECTOR cleaning and INSERT SLEEVE worn-down

…….POWDER HOSE cleaning

……GUN cleaning

2.weekly check ….cleans the hopper , injector and GUN

..powder should not be put in the hopper just before work

…..check the ground line between CONTROL UNIT , BOOTH and CONVERYOR

…….After checking air dehydrator , any water in it should be removed , the air ,but for checking the presence of moisture in it

C. Checking for shutdown lasting 2-3 days
1)Turn off the power switch
2)Clean the CONTROL UNIT
3)Remove the input air and put it away
4)check above -1 .Daily check
5)Remove powder from HOPPER

CLEANING

**Hopper**

Remove fluidizing AIR LINE
Remove injector
take our suction pipe
wipe the electric line , air hose and powder hose cleanly with cloth
wipe the suction pipe clean
empty the remaining powder from hopper
clean the hopper s inner wall ,especially the bottom part , with vacuum cleaner
wipe the hoppers inner surface with clean cloth
replace the hopper to the original position
CAUTION: the hopper must not be filled with powder unit work begins , Above all , the hopper s inner surface must not be cleaned with thinner or water

**Manual powder Electrostatic gun**

Routine cleaning of gun ensures trouble –free operation and normal function at all times.
Daily cleaning
Remove the powder hose from gun
remove nozzle from gun and clean it
Clean the gun s powder outlet with AIR along the direction of its flow
clean the gun s body with AIR
Assemble it

**Spray Nozzle**

Daily cleaning
----clean the outer surface of nozzle with compressed air (Do not use thinner or other liquid for cleaning)
…Clean the nozzle s inside with compressed air after removing it . The powder accumulated in the GUN must be removed.
….check if the nozzle is worn down
Check if the compressed air s oil and moisture are completely removed

D .**Injector**

1. Disconnecting powder hose
2. Remove sleeve holder
3. Clean sleeve and inside of injector body.

## TROUBLES

| Problem | Cause | Measure |
|---|---|---|
| High –voltage display does not operated even after powder is on and trigger is pulled | . Electric faulty-The electric line coming into CONTROL UNIT is not property connected<br>. Faulty fuse and bad equipment on the part of external power source .<br>.Faulty lamp.<br>.Faulty printed circuit board(PCB)<br>.Faulty line in GUN<br>.Faulty in high-voltage generation part<br>.Faulty trigger switch | . connect the power<br><br><br><br>Replace<br>Preplace<br>Preplace<br>Preplace<br><br>Preplace<br><br>Preplace<br><br>Preplace |
| The powder would not be fluidized | .The fluidizing air hose is not connected or compressed air is not input<br>. Faulty fluidizing plate<br>. Faulty operation of pressure reduction valve | .Connect after checking<br>.Replace<br>.Replace |
| The gauge hands of CONVERYING AIR and DOSING AIR do not move during operation | .operation mistake:<br>The power switch is not pressed<br>.The trigger is not pulled<br>.Faulty SOLENOID valve<br>.Faulty PCB | . Turn on the power switch<br>.Check while pulling the trigger<br>. Replace |

| Problem | Cause | Measure |
|---|---|---|

| | | |
|---|---|---|
| The powder would not be ejected even after power switch is on and trigger is pulled | .Blolckage generated in injector , check valve sleeve in the injector paint hose or GUN<br>. worn-down sleeve<br>.Poor fluildizing operation<br>.CONVERYING AIR is not supplied.<br>. Faulty air –adjustment valve<br>. Faulty solenoid valve<br>. Faulty PCB<br>. Oil and moisture contained<br>In the compressed air | . Disassemble and clean<br><br><br>. Replace<br>.Replace<br>.check above issues<br>.Replace<br>.Replace<br>.Replace<br>.Install an air dehydrator |
| Powder is ejected from GUN but with its electrostatic intensity low | .High-voltage assembly is low<br>.Faulty GUN connector , wire and wire connector<br>.Faulty PCB<br>.Faulty high-voltage cascade<br>.Faulty ROD holder | .increase the voltage level<br>.Replace the faulty part<br>.Replace<br>.Replace |
| Powder ejection and electrostatic intensity is good , but its attach efficiency is poor | .Faulty earth of powder object<br>.Too much paint on the conveyor hangar and powder object area<br>.The high voltage pin caved in | .Check the earth state<br>.Remove powder from hangar and powder-object area<br>.Replace the rod holder |