



OWNER'S MANUAL
RED LINE *EZ50*
electrostatic
powder coating gun

RED LINE INDUSTRIES LIMITED

An ISO 9001:2000 Company

Sales Office: 232 Kaliandas Udyog Bhavan, Prabhadevi, Mumbai 400025, India

Tel: +91-22-24324737 / 24324787 Fax: +91-22-66466936

Web: www.redlineltd.com email: info@redlineltd.com / redline.email@gmail.com

Congratulations on your purchase of the **RED LINE EZ50** electrostatic powder coating gun. You could be a serious hobbyist or a first time powder coater or an industrial coater requiring portability or a powder coater who simply wants a low-cost powder gun. In any case, you will find its performance exceedingly satisfactory and closer to higher end professional models. You have purchased one of the finest and cost-effective electrostatic powder coating spray guns.

The **RED LINE EZ50** is designed and built to give you trouble-free performance.

Before using this equipment, please read this Owner's Manual completely. It will save you time, money and unnecessary effort in the future.

I know you will be thoroughly satisfied with your **RED LINE EZ50**. In case you require any assistance or information on this machine at any time, please do not hesitate to contact us directly or your nearest **Authorized RED LINE Sales & Service Center**. It will be our pleasure to be of assistance to you.

Please do not attempt to break open the gun as there are no user-serviceable or field-serviceable parts inside the gun. This should be handled strictly by an authorized and trained RED LINE Service Engineer only.

For further information on the full range of RED LINE powder coating equipments, systems and complete plants, please visit our website – **www.redlineltd.com** or write us or contact your nearest **Authorized RED LINE Sales & Service Center**.

We wish you all success.

With regards,

Himanshu Shah, Director
RED LINE INDUSTRIES LIMITED

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CAUTION AND CARE:



First and foremost, it is very important for you, as the user, to understand that although attention has been given to various safety factors and considerations, the ultimate responsibility of using and treating this machine responsibly and with care lies with you. This machine generates around 50kV (50,000 volts) for electrostatic use. Always treat this machine with the respect it deserves.

ALWAYS ...

- ✓ Read this manual completely before starting and feel free to refer to it as often as you need.
- ✓ Wear leather footwear and non-insulating gloves (if at all).
- ✓ Ensure that the equipment, the coating booth/cabin and everything within a 3 Meter (10') radius of the machine is properly earthed (grounded).
- ✓ Use jigs and jig holders which are clean and bare at their contact points and which are properly earthed (grounded) to ensure proper dissipation of electrostatic charge build-up.
- ✓ Avoid extended triggering of the gun without air or powder flow. Air and powder flow assists in dissipation of charge from near the gun tip as well as keeps the electronics inside the gun at an optimum operating temperature.
- ✓ Use only compressed air and a clean dry lint-free cloth, to clean the gun or its parts.
- ✓ In case of doubt, contact your local dealer or service centre or us directly
- ✓ Switch off the main switch and disconnect the plug when the machine is not in use.

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NEVER ...

- ☒ **NEVER** touch the charging electrode at the tip of the gun with your bare hands when the machine is on. If required to handle the electrodes, always earth (ground) the electrode first to dissipate any electrostatic charge build-up that may have taken place.
- ☒ **NEVER** inhale the powder that is sprayed. If the powder recovery system is not efficient to suck away all oversprayed (excess sprayed) powder, either get that handled or at least ensure that an appropriate air-filter is made available for the coater to breath in clean air.
- ☒ **NEVER** use any kind of solvents to clean the gun or any of its parts.
- ☒ **NEVER** expose this machine to water or rain
- ☒ **NEVER** open the gun. There are no user-serviceable or field-serviceable parts inside the gun.

AVOID ...

- ☒ **AVOID** using locally produced replacement parts – this may prove to be cheaper in the short term but may permanently damage the gun and force higher expenditure later
- ☒ **AVOID** using the equipment in damp or wet areas

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Packing List:

The **RED LINE** *ESD* consists of the following:

- Powder spray gun fitted with one powder cup and with fan pattern generator (flat spray nozzle)/star-jet nozzle at the tip of the gun outlet.
- Wall mounting adaptor (output 12VDC 1amp rating) with 1.8M meter (6') power cable with a 3 Meter (10') earth (ground) cable with crocodile clip.
- Three additional round powder flow deflectors (diffusers) of different sizes (12 mm, 19 mm & 25 mm – ½", ¾" and 1")
- This Owner's Manual
- All securely packed in Styrofoam packing in 1 carton

Infrastructural requirements:

Electrical power connection: 100-120V or 220 - 240 V AC, 50-60Hz, Single phase with earth (ground) – please see details on the power adapter

Pneumatic connection: Clean & dry compressed air at a pressure about 1kg/cm² (say 15 psi)

Performance may vary if there is variation in the electrical power or pneumatic inputs.

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First start up:

The **RED LINE** *ES50* comes virtually ready to operate. It requires only two facilities from you, as the user, to be used effectively – [a] a power connection [b] dry and clean compressed air pressure of minimum 1 kg/cm² (around 15 psi) pressure, regulated to not exceed 3 kg/cm². Carefully remove the equipment from its original packing

1. Check everything that is supposed to be with the set has been supplied – see list on facing page.
2. Unscrew the powder cup from the gun, fill in the desired amount of powder in the powder cup (the powder cup has a capacity of approx 500 gms) and screw it back onto the powder spray gun. Avoid any spillage of powder. Use of gloves is recommended when handling powder coatings.
3. Turn the flow-controller counter-clockwise completely so that it is closed. Set up your compressed air line to generate around 15-25 psi of pressure and connect it to the base of the flow-controller under the handle of the gun. Please ensure you have adequate filters on-line to generate clean and dry compressed air to the machine.
4. Plug in the power cord to your single phase AC outlet. Please ensure that this outlet (or an extension cord, if you are using one) has a good quality earth (ground). Plug in the output connection (12 VDC) of the adaptor to the socket at the base of the gun.
5. Connect the crocodile clip of the earth (ground – yellow/green) cable to the ground of the premises in which you are doing the coating. Good quality grounding is essential not only from a safety standpoint, but improves the quality of powder coating.

THE RED LINE *ES50* IS NOW CONNECTED FOR POWDER COATING.

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Operations:

1. Hang the article(s) to be coated in the spray booth or in a safe enclosure, ensuring that they are properly earthed (grounded).
2. Switch on the mains power switch to the machine from the power outlet.
3. Switch on the compressed air supply to the machine and set the pressure at around 15 psi.
4. Point the gun into the booth towards the articles to be coated and press the trigger on the spray gun. The indicator at the back of the gun (yellow) should light up. Turn the kV controller knob (at the back of the gun) clockwise to increase the charging voltage to the max – approx 50 kV. The range available is approx from 15 kV to 50 kV. Turn the flow controller clockwise till you achieve powder flow at a rate and density of satisfaction to you.
5. Keeping the nozzle of the gun about 15 to 20 cms (6" to 8") from the articles being coated, spray powder in smooth horizontal arm sweeps. Ensure that the part to be coated is completely coated with powder. Excessive coating may lead to unwanted and unnecessary thicker coats.
6. Releasing the trigger of the gun switches OFF the powder flow as well as shuts down the electronics used to generate and control the high voltage. Please note that your powder spray gun may still hold electrostatic charge. To prevent any accidents, please touch the charging tip to a ground point to discharge any residual electrostatic charge.
7. Place the coated article in the oven which has been preheated to the required temperature (350-390°F – 180-200°C). Check the curing time-temperature schedule with the powder manufacturer (this information may be available on the powder carton or from the powder supplier). Keep the article in the oven for the desired time. At the end of the curing period, switch off the oven, open the door of the oven, allow the parts to cool and remove them. Please note under-curing or over-curing (temperature or time) could give you unwanted results.
8. Your part is ready, duly powder-coated.

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Routine maintenance:

Always keep your RED LINE *E250* system clean.

- When the powder coating work is over, ground the gun tip to the ground point.
- Switch off the mains switch at the wall outlet. Unplug the machine from the wall outlet.
- Unscrew the cup and store the excess powder in the cup in a dry place as this powder can be used next time round.
- Clean the inside of the gun using compressed air.

Regular cleaning of the powder spray gun and the powder cups is normally all that is required to ensure that your system always operates at peak performance levels.

DO NOT USE ANY PETROCHEMICAL SOLVENTS OR OTHER CLEANING AGENTS. TO CLEAN THE GUN OR ANY PART OF THE MACHINE AS THIS MIGHT DAMAGE THE GUN OR OTHER COMPONENTS.

If any parts need to be replaced, please call for only genuine parts from your nearest Authorized RED LINE Service Center. Using locally procured or unauthorized parts may not only affect the performance of the system, but may also damage the delicate parts and components of the machine leading to possible unnecessary additional heavy expenditures ahead.

CAUTION:

The manufacturer and/or the distributor have provided the part list and part-diagram for information purposes only. Neither the manufacturer nor the distributor makes any kind of representation to the buyer in any way that he/she is qualified or authorized to make any repairs to the equipment or change any parts in the equipment. The manufacturer and distributor expressly states herein that any repairs or parts replacement should not under any circumstances be carried out by the user, but only by the certified and licensed technician. The buyer alone assumes all risk, responsibility and liability arising out of his/her repairs to the original equipment or replacement of any parts in the equipment or all risks, responsibility and liability arising out of the buyer's installation of replacement parts in the equipment.

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Suggestions for good results:

- To change spray pattern nozzles/deflectors: the *EZSO* comes fitted with the flat spray pattern nozzle (also known as the fan pattern nozzle). To replace this with the round deflector, [1] please pull out the flat pattern nozzle assembly along with the fan size control ring, [2] screw on the deflector onto the central deflector holder. To replace the round deflector with the flat spray nozzle, reverse this process.
- Ensure that the surface being coated is clean of all dust, rust or grease. Remove these contaminants if present on the surface using sand paper, polish paper, wire brushes or other mechanical or chemical means.
- Moist, dirty or oily compressed air may lead to imperfect coatings – including lumps of powder in places or splotches in some places after the part has gone through the oven. If this should happen, install or replace the compressed air filters (moisture separator) on your compressor line.
- Follow the curing schedule recommended by the powder manufacturer. Improper curing schedule will lead to less than good quality finishing. The color may be different from what is expected (for example, if you over-cure a white, you may end up with a yellow finish). Or the mechanical properties may not be as expected – the coat may peel off or scratch off easily. Or the gloss level may be different from what the powder manufacturer might have promised. These are the results you may see with incorrect powder curing time or temperature setting.

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Part list of RED LINE EZ50

1. Powder spray gun body assembly
2. Round powder deflector (3 sizes – 12 mm, 19 mm & 25 mm)
3. Fan pattern generator nozzle (also called flat spray nozzle)
4. Air flow controller
5. Earthing cable with crocodile clip
6. Powder cup (spare cups with cover available)
7. Wall-socket power adaptor (with plug adaptor, if provided)



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