



REMO-HSE

Discharge Lance

EL-120k-50cm

EL-120k-100cm

Discharge Lance for Surface Coating Systems

User's Manual

**REMO-HSE
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Discharge Lance
EL-120k-50cm
EL-120k-100cm
for Surface Coating Systems

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1 General view

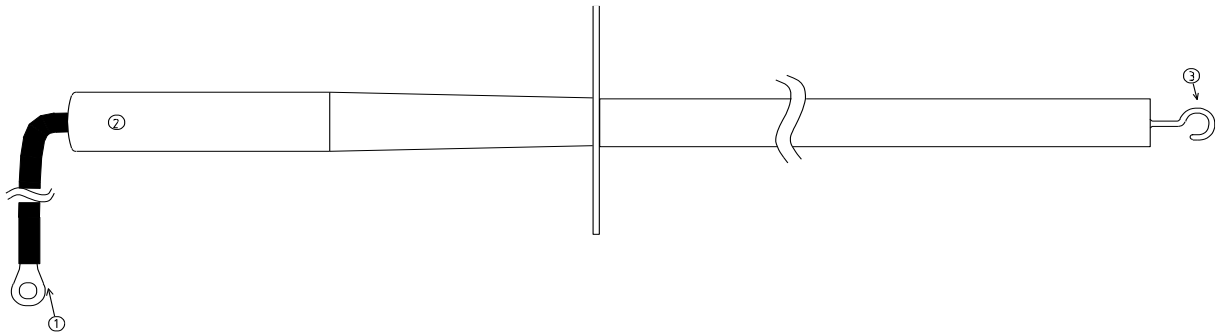


Figure 1: Discharge Lance EL-120k-50cm resp. EL-120k-100cm

Legend

- (1) Connection of ground cable
- (2) Handle
- (3) Grounding of high voltage

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2 Safety

2.1 Symbols

Throughout this manual there may be symbols, which are used as follows:



This symbol indicates dangers at these the corresponding hints in the user's manual must be observed.



This symbol indicates either potential for bodily harm or damage to hardware and tells you how to avoid the problem.

2.2 Standards and Regulations



The discharge lance is only allowed to be operated in fixed electrostatic spraying installations or oiling plants used with high voltage units of the HE-series from REMO-HSE or similar products, which fulfil the following safety requirements. Any usage not in accordance with product instructions is regarded as not being proper and regulation, especially in energy applications.



Electrostatic spraying installations can be potentially dangerous. Always, observe the operating instructions or manufacturer's instructions of your spraying installation and the regulations being in force in your country.

For mounting and operation of fixed electrostatic spraying installations the following standards and regulations must be observed:

- DIN VDE 0105 Part 1 Operation of electrical installations.
 DIN EN 50110-1 General requirements

- DIN VDE 0113 Part 1 Safety of machinery - Electrical equipment of machines
 DIN EN 60204-1 General requirements.

- VDE 0147 Part 101 Automatic electrostatic spraying installations for flammable liquid
 DIN EN 50176 spraying material.

- VDE 0147 Part 102 Automatic electrostatic spraying installations for flammable coating
 DIN EN 50177 powder.

- VDE 0147 Part 103 Automatic electrostatic spraying installations for flammable flock
 DIN EN 50223

- VDE 0147 Part 200 Automatic electrostatic spraying installations for nonflammable liq-
 DIN EN 50348 uid spraying material

- DIN VDE 0165 Explosive atmospheres
- DIN VDE 0170 Explosive atmospheres

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In addition, the following regulations must be observed: the regulations for prevention of accidents; the safety regulations and/or the corresponding national regulations of the respective country and the manufacturer's instructions of the respective electrostatic installation.

The above survey of standards and regulations makes no claim to be exhaustive; the valid editions have to be observed.

2.3 General Safety Precautions

- The discharge lance is not any grounding or shorting device in accordance with DIN VDE 0683 Part 100 (EN 61230) and must therefore not be used in electric power grids. The discharge lance may be used only to discharge electrostatic charges to earth.
- Mount the discharge lance only, if it is in perfect condition.
- The operating authority must see to it that the discharge lance runs always in perfect condition. The discharge lance must be operated by qualified persons, only.
- Unauthorized changes of design and modifications of the discharge lance are strictly forbidden.
- Please take special care when working with voltages above 25 V AC or 35 V DC. Even at these voltages, avoid touching live parts or conductive parts that may become a live part. This can cause a potentially lethal electric shock.
- If there are any reasons for supposing that risk-free operation is no longer possible, the unit must be deactivated and be secured against unintentional use. Risk-free operation can no longer be supposed when the equipment:
 - is visibly damaged;
 - does not ground properly;
 - has been stored under adverse conditions for a longer period;
 - has been exposed to intensive stress during transport
- All conductive parts of the installation and all conductive components must metallically conductive be connected with one another as well as with the grounding of the high voltage generator and altogether to the ground system of the electric power supply.
- A separate, low-inductance current conductor with a minimum 4-mm² cross section must be used for the current return line of the discharge lance to the grounding connection.

2.4 Technological Progress

REMO-HSE continually improves its products in accordance with technological progress. We therefore reserve the right to alter the performance and technical specification without special notice.

Modifications and/or additions with respect to this document, which are described in a supplement, take place of the corresponding instructions in this document.

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3 Installation and Mounting

3.1 Preparations to mount the Discharge Lance

Attention! Discharge any high voltage carrying parts before installation of the discharge lance. In any case, the corresponding safety regulations in standards and rules mentioned above must be observed.

Especially it must be observed that high voltage units are not discharged immediately. This can take a certain time because of the high resistance of the internal high voltage multiplier. Additionally, in systems with a discharge energy greater than 350 mJ it must be observed that the spraying cabin must not be entered until the discharge energy is smaller than 350 mJ. Otherwise, there is danger of electric shock.

Attention! The discharge lance is not designed for use in potentially explosive atmospheres. The regulations for equipment in potentially explosive atmospheres must be observed.

Attention! Ensure that the connection to ground is secure before use of the discharge lance.

3.2 Installation of the Discharge Lance

Attention! The grounding cable has to be connected with an appropriate screw to the grounding system of the spraying installation.

Attention! During operation of the installation the discharge lance has to be placed so, that distances to live parts comply with standards.

Attention! Safety clearance to electrical live parts must always be observed using the discharge lance especially to the user of the discharge lance.

4 Maintenance

Attention! Before starting to clean the spraying installation or to perform other work within the spraying area the high voltage must be turned off and protected against restoring power.

Attention! After the cleaning of the electrical components the perfect condition of the electrostatic coating equipment, in particular of insulating protective devices, must be checked by a competent electrician or under the supervision of a competent electrician.

- The regular maintenance of high voltage components in electrostatic coating installations is a prerequisite to ensure a trouble-free operation.
- The operating authority of the coating equipment must see to it that the coating equipment will be cleaned regularly within suitable intervals. The maintenance instructions of the individual system components must be observed. Damages due to non-observance of the maintenance instructions are chargeable to the operating authority

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- Do not use any cleaning tools that can mechanically or chemically damage insulating surfaces.
- The proper functioning of the protection equipment in the coating installations must be guaranteed.
- Check on a regular basis that the work pieces and the hangers are properly grounded.
- The insulation distance of the discharge lance must be dry and clean.

5 Warranty

REMO-HSE warrants in accordance with the following provisions that the discharge lance will be free from defects in material and workmanship affecting normal use, for a period of 12 months as of the original purchase date.

Claims must be made by contacting REMO-HSE within the warranty period. The customer must always supply proof of purchase, indicating date of purchase, model and serial number, name and address of customer and details of symptoms and configuration at time of malfunction, including peripherals used. Otherwise, REMO-HSE may refuse the warranty claim.

Discharge lances for which proper claims are made will, at REMO-HSE's option, be re-paired or replaced at REMO-HSE's expense. If a repair will be carried out on-site REMO-HSE will charge the customer for sending an engineer (travel, duration of travel, expenses).

This warranty does not apply to defects resulting from: improper or inadequate installation, use or maintenance; actions or modifications by unauthorized third parties, the customer or the end-user; accidental or willful damage or normal wear and tear. REMO-HSE refuses any liability and warranty if the usage of the discharge lance was not in accordance with product instructions and must be regarded as not being proper and regulation.

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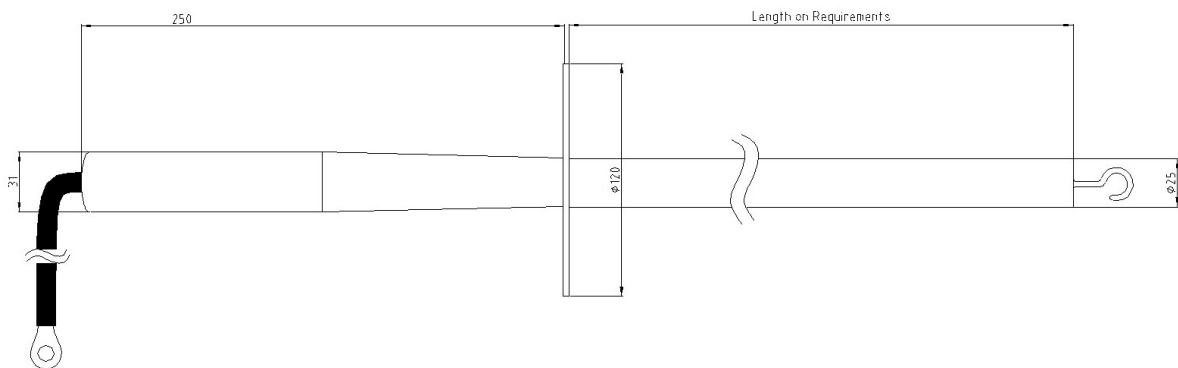
Technical Specifications

Rated voltage:	120 kV DC
Length:	Length of the lance 50 cm resp. 100 cm or on customer requirements
Grounding resistance:	$< 1 \Omega$
Cable cross section:	4 mm ²

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REMO-HSE GmbH has made every effort to ensure the accuracy of this manual. However, REMO-HSE GmbH makes no warranties with respect to this documentation. The documentation is subject to change without notice. REMO-HSE GmbH assumes no responsibility for any errors that may appear in this document

Appendix



Mechanical Dimensions: ± 2 mm

Figure 2: Mechanical Dimensions of the Discharge Lance

Accessories

Item	Order Code
User's Manual in German	909 0511
User's Manual in English	909 0515

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