SE-DCB-90 Pulsed DC Antistatic Bar – 9 kV

Compact 9 kV pulsed DC static elimination — no HV transformer, 24 V DC supply, up to 200 mm range

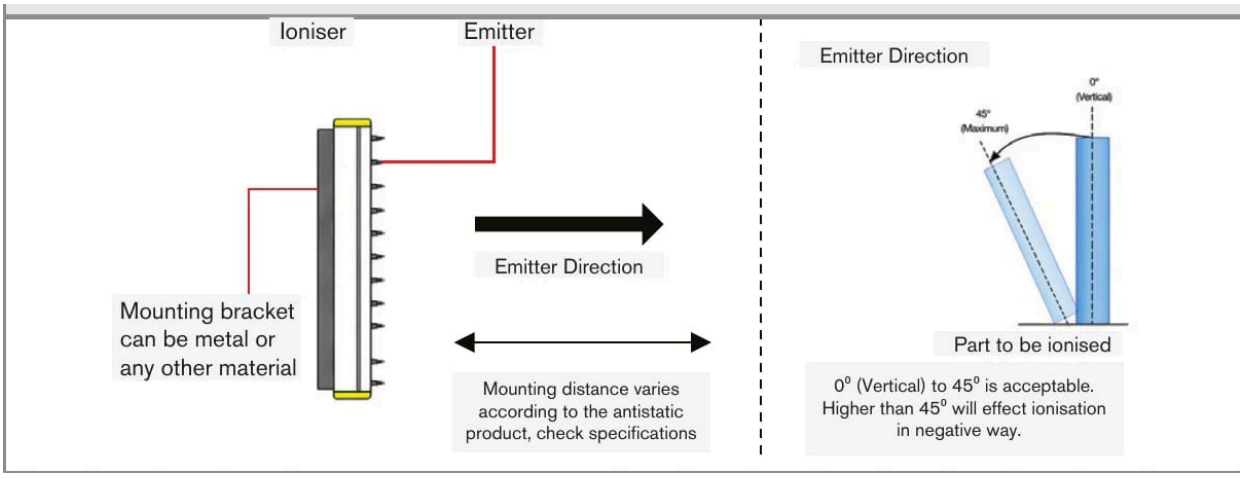


FÖGE Elektronik GmbH · Presentstr. 3 · 63939 Wörth am Main · Germany · +49 9372 9809477 · sales@fogegmbh.com

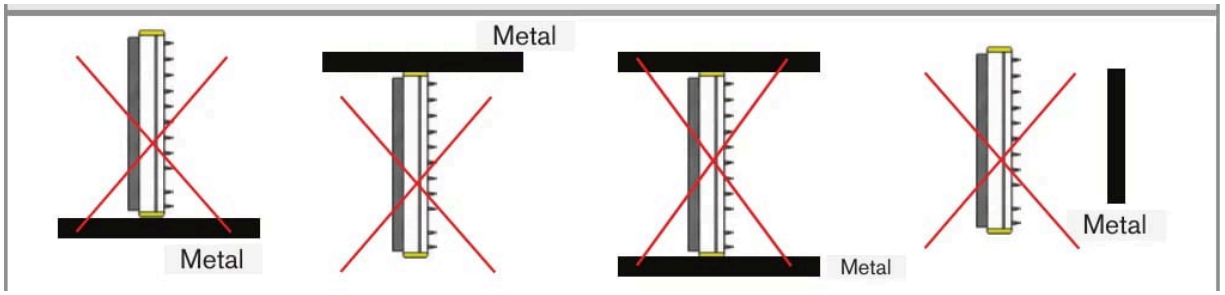
Important — mounting
Intended use
Operating limits
Technical information
Dimensions and installation
Grounding connection
Electrical connection — M12
Display and controls
Faults
Warnings
Maintenance
Safety
Liability for material defects
Decommissioning and disposal

1 Important — mounting

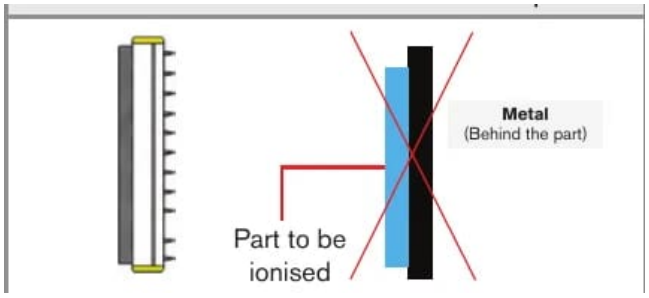
- When installing ionizers without air assist, always point the emitters towards the part. Tilted mounting of up to 45° from vertical is acceptable; a larger angle reduces ionization performance.
- Do not cover the ionizer with metal and do not attach metal close to the emitter pins.
- Never place metal behind the part to be ionized. Otherwise the static eliminator cannot neutralise the part.
- The mounting bracket can be metal or any other material.
- The mounting distance depends on the antistatic product — see the technical information.



Emitter direction and permissible tilt (0° – 45°)



Do not cover the ionizer with metal or attach metal close to the emitter pins



Never put metal behind the part to be ionized

2 Intended use

The SE-DCB-90 pulsed DC antistatic bar is designed for use in industrial areas. It neutralises charged plastic, glass, fabric and other non-conductive parts. Negative and positive ions produced by the tungsten emitter pins ionize the part and eliminate static electricity, which causes quality and safety problems.

The pulsed DC method is more effective than AC ionization, which makes these products suitable for high charges.

3 Operating limits

The system must be operated within the limits specified in the technical data and in accordance with the technical specifications and installation instructions.

The system must be used in such a way that no persons are endangered and no machines or other material goods are damaged in the event of a malfunction or total failure of the system. Take additional precautions for safety and damage prevention in safety-related applications.

4 Technical information

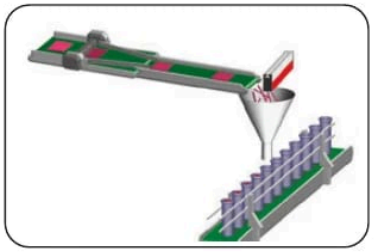
Product code	SE-DCB-90-xxxx (length in mm, e.g. SE-DCB-90-0600 = 600 mm)
Power supply (sold separately)	SE-PSU-24-C-M12 (220 V AC to 24 V DC)
Ionization type	Pulsed DC — shockless
Pin current (safety)	< 250 µA
Ionization output voltage	9 kV pulsed DC
Operating voltage	24 V DC (21 – 28 V) · 0.5 A max.
Ionization range	25 – 200 mm *
Ordering length	300 – 4500 mm (custom lengths on request)
Emitter pin material	Tungsten — extremely long lifetime
Polarity	Alternating pulsed DC — balanced ion output
Connector	M12 — use a 4-pin M12 cable (order separately)
Status indicator	Integrated LED — power, ionization and fault status
Operating temperature	0 – 50 °C
Max. humidity	70 % rH, non-condensing
Protection class	IP65 (with connector)
Housing	Industrial-grade, impact-resistant
EMC compliance	2014/30/EU — EMC Directive
Electrical safety	2014/35/EU — Low Voltage Directive

* Ionization range measured under standard conditions (20 °C, 50 % rH). Effective range may vary with ambient humidity, temperature and line speed.

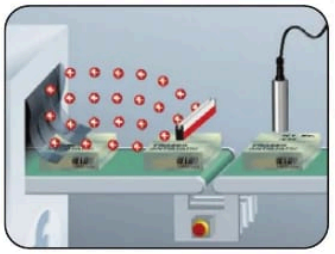
5 Dimensions and installation

Operating the system requires knowledge of the assembly instructions. The signal words used are explained in the section Safety.

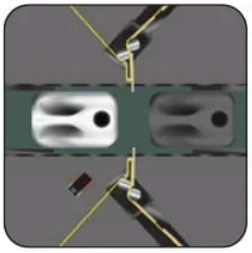
Mount the SE-DCB-90 at an effective working distance of 25 – 200 mm from the surface to be neutralised.



Filling Machine



M12 5 pin connector



Plastic Bottle Labeling



PET Blowing Machines

Application examples



6 Grounding connection

Connect the supplied grounding cable to the grounding point on the front side of the device, as shown below. Attach the cable lug securely under the grounding screw.

⚠ Proper grounding is required for safe operation and reliable device performance.

- Use the supplied grounding cable.
- Make sure the grounding connection is securely tightened.
- Check that the grounding cable is properly connected before operation.

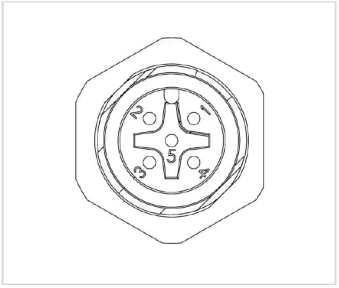


Grounding point and correct installation

7 Electrical connection — M12

⚠ Do not connect or disconnect while power is applied. Doing so may damage the product.

- Use a 4-pin M12 cable for the electrical connection. The device connector has 5 pins; the centre pin is reserved for factory programming and is not used by the 4-pin cable.
- Pin 2 is not used and must remain unconnected.
- Pin 4 provides a fault output signal for external fault indication.
- Ensure that all connections are secure and properly tightened.



M12 device connector, pin numbering

Pin	Function
1	+24 V DC
2	Not used
3	24 V– (GND)
4	Fault output

8 Display and controls



Status LEDs on the end cap

LED	Status	Action
Green, flashing	OK	—
Red	Input voltage is outside the 21 – 28 V range	Check the input voltage at the bar.
Red, flashing	Bar cleaning is required; the cleaning interval has been reached	Clean the bar.
Red, continuously on	The maximum cleaning limit has been reached, or the bar has entered an error state	Clean the bar. If the problem persists, contact FÖGE or your distributor.

9 Faults

- Do not open the product in any of the cases below or in any other case.
- Use the LED status (see Display and controls) to identify warnings and errors.

10 Warnings

- Connect the power supply and the display/output device according to the safety regulations for electrical equipment.
- The supply voltage must not exceed the specified limits.
- Avoid shocks and impacts to the device.
- Protect the cable against damage.

Possible consequences of non-observance: risk of injury by electric shock; damage to or destruction of the device.

11 Maintenance

Due to the ionization process, airborne particles stick to the emitter pins and carbonise. This reduces ionization performance. All AC and DC ionizing bars must be checked and cleaned regularly with the FÖGE Antistatic Products Maintenance Kit (cleaning fluid and brushes).

The cleaning interval depends on the process and the environment.

⚠ Switch the device OFF before cleaning and do not switch it ON again until it is dry.

1. Clean the static control device with the FÖGE cleaning brush.
2. Attach a spray head to the bottle containing the cleaning fluid.
3. Moisten a cloth with cleaning fluid and wipe the static control device, taking care around the emitters.
4. Repeat brushing and cleaning until the static control device is clean.
5. Carefully polish the pins with a dry cloth.

12 Safety

Operating the system requires knowledge of the assembly instructions. The following signal words are used in these instructions:

Signal word	Meaning
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
NOTICE	Indicates a situation that may result in property damage if not avoided.
ELECTRIC SHOCK	Indicates a risk of electric shock if the instructions are not followed.

13 Liability for material defects

All components of the device have been checked and tested for functionality at the production facility. If defects occur despite our careful quality control, FÖGE or your dealer must be notified immediately.

The liability for material defects is 12 months from delivery. Within this period, defective parts, except wearing parts, are repaired or replaced free of charge if the device is returned to FÖGE with shipping costs prepaid. Damage caused by improper handling, the use of force, or repairs or modifications by third parties is not covered. Repairs are carried out exclusively by FÖGE.

Further claims cannot be made. Claims arising from the purchase contract remain unaffected. In particular, FÖGE shall not be liable for any consequential, special, indirect or incidental damage. In the interest of further development, FÖGE reserves the right to make design changes without notice.

14 Decommissioning and disposal

Disconnect the power supply and the output cable from the device.

Incorrect disposal may harm the environment. Dispose of the device, its components and accessories, and the packaging materials in compliance with the waste treatment and disposal regulations applicable in the country and region of use.