

Genvolt Electrospinning Chamber



Specification Summary

The Genvolt Electrospinning Chamber is a compact, portable, benchtop enclosure—microwave-sized—for repeatable, safe and clean electrospinning and electrospraying experiments, with integrated accommodation for Genvolt 7000 / 7000SC power supplies and an internal HV routing to a paxolin needle holder and stainless-steel baseplate.

Also available pre-configured with: Genvolt 7000 Series Power Supply (factory-fitted) — Model: GEC-7000 series

Or with: Genvolt 7000SC Smart Control Power Supply (factory-fitted) — Model: GEC-7000SC

Specification

External dims (W×D×H)	350 × 350 × 300 mm
Weight (without PSU)	8 kg
Collector plate	Aluminium 250 × 250 mm
Needle holder	Paxolin single needle holder (std)
Needle-to-collector travel	20–200 mm (adjustable)
Mains	100–240 VAC, 47–63 Hz (dependent on PSU)
Fitted PSU (option)	Genvolt 7000 or 7000SC (0–30 kV, 1 mA)
Interlocks	Front door micro-switch (HV disable)
Warranty	12 months from delivery
Compliance	CE tested; UK/EU electrical safety checklist provided

Key Features

- **Compact & portable:** Small footprint (microwave-sized) — ideal for labs with limited bench space or for demonstration/teaching use.
- **Integrated HV supply options:** Pre-configured factory options with either the 7000 series or 7000SC Smart Control for simplified setup and safer cable routing.
- **Safe internal HV routing:** High-voltage connection run internally to the paxolin needle holder — minimises exposed HV cables and improves operator safety.
- **Controlled environment:** Stable local micro-environment for better process repeatability (reduces impact of drafts/ambient changes).
- **Plug & play:** Pre-wired, tested and delivered ready for use (requires only mains and grounding connection).
- **Flexible:** Works with single-needle and small multi-needle jaws/holders (single needle standard).

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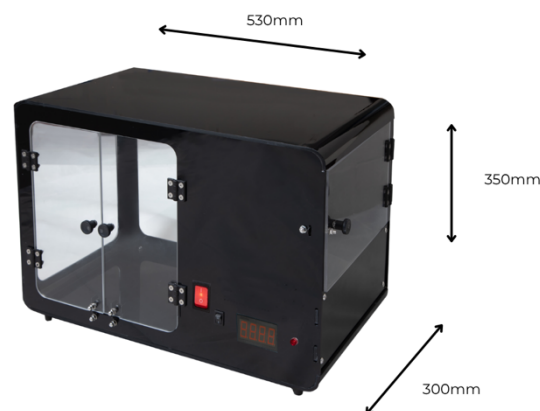
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- **Designed for research:** Ideal for labs performing electrospinning/electrospraying R&D, teaching demonstrations, formulation screening and method development.

support and maintenance packages available.

Mechanical & dimensional data



- **Dimensions (W × D × H):** 530 mm × 300 mm × 350 mm
- **Weight (empty, without power supply):** 8 kg
- **Materials:** Acrylic finish with clear viewing windows; Paxolin needle holder support with stainless steel baseplate.
- **Door / access:** Front-hinged door with safety interlock (door open → HV disabled).
- **Internal mounting:** Mounting provisions for standard syringe pump tubing (cable/tube gland) and needle holder positioning brackets (adjustable).
- **Collector options:** Flat aluminium collector included (250 mm × 250 mm). Rotating collectors are not fitted in this model due to size constraints; contact us for bespoke larger systems.

Typical Applications

- Laboratory electrospinning for nanofibre production
- Electrospraying for particle formation and coating trials
- Method development and reproducibility studies (drug delivery and particle engineering)
- Teaching, demonstrations and small-scale proof-of-concept projects

Safety and Compliance

- **Safety features:** Door interlock (HV disable), earth bonding point, resin-sealed HV feedthroughs, internal HV cable routing, over-voltage protection through fitted PSU.
- **User warnings:** Not suitable for untrained operators. Always connect to dedicated earth. Do not operate with door open. Use suitable PPE (insulating gloves) when interacting with HV parts during fault diagnostics (engineer only).
- **Standards & conformity:** Designed to meet common laboratory safety practices. Supplied with a CE conformity checklist (electrical safety tests performed prior to dispatch). Customers should ensure local compliance (e.g., UK/EU/US) for use in regulated environments.
- **Warranty:** 12 months from point of delivery (standard terms). Extended

Electrical Specifications (Chamber only)

- **Primary mains:** 100–240 VAC, 47–63 Hz (internal PSU determines exact requirement)
- **Power consumption:** Depending on the power supply fitted.
- **Grounding:** Dedicated protective earth terminal provided (must be connected to building earth).
- **Safety interlock:** Door micro-switch that disables HV when door is opened.
- **Internal HV cabling:** Factory-installed, shielded high-voltage lead from PSU to needle holder (insulated & resin-sealed at chassis feedthrough). Not user-serviceable.
- **Fused protection:** Internal fused circuits for low-voltage/chamber electronics.

Power supply compatibility & pre-configured options

Option A — GEC-7000

- Supplied with Genvolt 7000 Series Power Supply (standard model): 0–30 kV, 1 mA max, single polarity (choose + or – at order).
- HV cable routed internally to paxolin needle holder.

Option B — GEC-7000SC

- Supplied with Genvolt 7000SC Smart Control: 0–30 kV, 1 mA max, available in positive or negative polarity, RS485/USB & Bluetooth remote control and monitoring, LCD display, programmable

ramps, data logging.

Note: If you already own a Genvolt 7000/7000SC PSU, we can supply the chamber without an integrated PSU and pre-fit an external HV feedthrough for your PSU — please state at order.

Needle holder & collector

- **Needle holder:** Paxolin insulated holder (single-needle configuration standard) with stainless-steel base mounts. Accepts both coaxial and different diameter electrospinning needles that can be electrically connected to the internal HV lead.
- **Needle-to-collector spacing:** Adjustable from 30 mm to 300 mm (manual adjustment).
- **Collector base:** Stainless steel baseplate with removable anodised aluminium collector plate (250 × 250 mm). Collector is grounded via dedicated internal earth stud.

Environmental & process controls

- **Passive environment control:** chamber reduces airflow and ambient fluctuations — improves run-to-run reproducibility.
- **Solvent safety:** No integrated fume extraction; when using volatile/flammable solvents, operate within a fume hood or ensure adequate extraction and ventilation per your institutional safety policy.

Installation & site requirements

- **Space:** Bench area approx. 500 × 500 mm recommended for safe access and ancillary items.
- **Electrical supply:** See electrical specification - confirm mains voltage at point of order. If supplied with 7000SC, ensure 24 V DC option vs AC option is agreed at order.
- **Earthing:** Dedicated protective earth connection required.
- **Ventilation:** Use in well-ventilated lab or under fume hood when working with volatile solvents.
- **Delivery & unpacking:** Supplied fully assembled, packed in foam-lined crate. Retain packaging for return-to-factory repairs.

Ordering information & options

Standard product codes:

- GEC — Chamber only (no PSU)
- GEC-7000 — Chamber + Genvolt 7000 PSU (specify polarity: + or –)
- GEC-7000SC — Chamber + Genvolt 7000SC Smart Control PSU (specify polarity + or –)

Accessory codes:

- Aluminium collector plate
- HV spare cable, needle holders, — contact sales.

Delivery & lead time: Typical lead time for standard chamber: 2–4 weeks (subject to PSU selection and current production schedule). For bespoke configurations allow additional time — please enquire.

Maintenance & preventive care

- **Routine checks (weekly):** Inspect power & earth connections; visually check HV lead routing and door interlock operation.
- **Cleaning:** Wipe external surfaces with damp cloth and mild detergent. Do not immerse chamber or use aggressive solvents on viewing window. Remove collector plate and clean with compatible solvent.
- **Annual inspection:** Recommend factory inspection / HV integrity test annually or after any suspected impact or electrical fault.
- **Repair & RMA:** For warranty repairs raise RMA with Genvolt. Do not open HV feedthroughs or attempt internal HV repairs — return to factory or authorised service agent.

Technical support & training

- **Included:** Basic user manual, installation checklist, electrical safety checklist, commissioning guide, and a start-up checklist. One online commissioning/training session available on request.
- **Optional:** On-site installation, validation support, and hands-on training sessions (chargeable). Remote technical support via phone/email included during warranty period.

Package contents (standard)

- Genvolt Electrospinning Chamber (assembled)
- Aluminium collector plate (250 × 250 mm) mounted
- Paxolin single-needle holder (installed)
- AC mains cable (country specific)
- Earth/grounding lead with lug
- Datasheets for fitted power supply (if ordered)
- Quick start commissioning checklist

Frequently asked questions (FAQ)

Q: Can I run dehumidified air into the chamber?

A: The MODEL is not designed to actively pump conditioned/dehumidified air. If you require controlled intake of dehumidified air this can be considered as a bespoke modification — contact our sales/engineering team to discuss a custom solution.

Q: Is the HV cable user-serviceable?

A: No. The internal HV cable/feedthroughs are factory-installed and resin-sealed. Do not attempt to open or service HV components — return to Genvolt for any repair.

Q: Can I use with my existing Genvolt PSU?

A: Yes — order the chamber without PSU and request the external PSU feedthrough option. We will pre-fit the appropriate HV gland for your PSU cable.

Q: Can I use solvents inside the chamber?

A: Yes, but ensure adequate ventilation or use within a fume hood when using volatile or

flammable solvents. Follow your institution's solvent handling and fire safety protocols.

Q: Is the chamber suitable for teaching/demonstrations?

A: Absolutely — its compact form-factor and built-in safety interlock make it ideal for demonstration and teaching, provided operators are trained and local safety policies are followed.

Compliance, safety note & legal

This datasheet is for guidance only. Customers must ensure compliance with their local health and safety regulations, building electrical standards and solvent handling policies when operating high-voltage equipment. Genvolt accepts no liability for misuse, improper installation, unauthorised modification, or failure to connect to correct protective earth.

Contact & Ordering

Enquiries & Technical Support:

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