

# **B10-1324 Electrostatic High-Voltage GENECON**

## **Instruction Manual**

**Thank you for purchasing Electrostatic High-Voltage GENECON high-voltage generator. Please read this manual before use.**

## Safety Precautions (read before use)

### **Warning**

This sign indicates the risk of serious injury or damage to equipment.

1. Do not touch the output terminals or the clips at the ends of the output cables when turning the handle of Static GENECON. High voltage exceeding 10,000 volts is present, and **a strong electric shock can result and lead to serious injury.**
2. Never ask someone else to touch the output terminals or the clips at the tip of the output cables when turning the handle of Static GENECON. **A strong electric shock can result and lead to serious injury.**

### **Caution**

This sign indicates the risk of personal injury.

1. Do not turn the handle of Static GENECON forcefully at high speed. **The gears will break.** The voltage will not rise if you turn the resin drum too quickly. On the contrary, friction between the drum and the felt surface is reduced, decreasing the generating capacity.
2. Be careful not to spill water on the felt surface. The felt surface will not return to its original condition, even when it is dried, making static generation difficult.

## Constituent Parts



1. Static GENECON
2. Output cables (2)
3. Instruction manual

## Specifications

Static GENECON, housing:  
Static GENECON, generator:

Polycarbonate resin  
The negative pole is made of polyvinyl chloride (PVC) resin  
The positive pole is made of felt

Gears:  
Output cables:

Polyacetal resin  
High-voltage cables (withstand voltage: 30 kV)

Output: About 30,000 volts at the terminals in the housing; more than 10,000 volts at the output end of the dedicated cables

Size: 223 x 255 mm, thickness 75 mm, Weight: Approx. 400 g

## Features of Static GENECON

- ① High-voltage static electricity can be drawn from the output terminals as you turn the handle (see Fig. 1). The polarity of the output voltage remains the same whether you turn the handle to the right or to the left.
- ② It is best to turn the handle of GENECON at a rate of one or two turns per second. If you turn the handle too quickly, the gears may break and friction between the PVC drum and the felt is reduced, decreasing the voltage. Turn the handle slowly to feel the frictional resistance from the unit, and you will get high voltage static electricity.
- ③ High voltage static electricity is typically difficult to produce in a humid atmosphere. However, Static GENECON is best used in an environment with moderate humidity. This is because the friction between the felt and the PVC drum increases and the electric charges are smoothly transferred from the felt surface to the internal metal electrode when the felt is slightly moist. Therefore, in dry locations (about 20% humidity), the drum and the felt will slip on each other, making it difficult to generate high voltage. Electric currents drawn from the electrodes are also reduced. If this happens, turn the drum several times while blowing **humid exhaled air** into the area between the drum and the felt (see Fig. 2).  
\* **Humidifying with exhaled air is effective when the air is dry. Never use a humidifier or similar unit.**

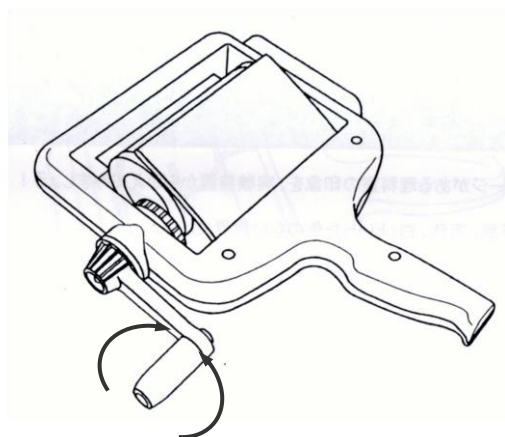


Fig. 1 Overview of Static GENECON



Fig. 2 Humidifying the Unit when the air is dry

## Storage and Precautions

### Storage

Place the unit in a plastic bag, etc. and keep away from dust.

### Precautions

As mentioned on the preceding page, the gears break when excessive force is applied to the unit. This includes turning the handle forcefully at high speed. Be careful not to spill water or any other liquid over the felt, which is an important component of the static electricity-generating system.

### Improving Performance

Static GENECON improves on its generating capability as the PVC-made drum fits comfortably into the felt surface through friction. The voltage and output generated may not be satisfactory immediately after purchase. To improve this, perform aging of the unit (turning the handle slowly about 100 times once every day) for a few days. Aging is complete when you see fine scars on the surface of the PVC drum and the felt is partly unraveled and entangled.

- \* This product is developed referring to the rotary generator devised by Mr. Atsushige Yano, formerly a teacher at Kagawa Prefectural High School, Japan.

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