

CE RoHS

STAT·CLEAN STATIC ERASER ION/BEAM GUN **G7R-E**

Thank you for purchasing our Stat Clean No.G7R-E.
Read this instruction manual before use. Keep it in a safe handy place for future reference.



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■ For Your Safety

Safety Precautions

- Carefully read these Safety Precautions before use. Observe the precautions indicated herein to ensure safety.
- Safety precautions in this instruction manual are categorized into two types by the degree of danger associated with each on the followings. Based on danger analyses performed by Vessel, all precautions in this instruction manual are of the CAUTION level.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

 WARNING	Indicates that improper handling can lead to serious injury or even death.
 CAUTION	Indicates that improper handling can lead to minor injury and property damage.














This symbol indicates a WARNING or CAUTION.



This symbol indicates a prohibited action.



This symbol indicates a mandatory required action

 CAUTIONS	
 PROHIBITED	Do not use G7R-E in environments that require explosion-proofing. G7R-E is not of explosion-proof construction, therefore explosion or fire may occur.
 PROHIBITED	Do not use G7R-E in flammable atmospheres. The corona discharge can act as an ignition source and cause an explosion or fire.
 PROHIBITED	Do not use G7R-E in environments subjected to sharp temperature fluctuations or dewing. This kind of environment can lead to breakdown.
 DO NOT WET	Do not use G7R-E in highly damp places or anywhere it may be wet by water, oil, solvent or other liquid. Contact with moisture can result in electric shock or breakdown.
 PROHIBITED	Do not use G7R-E for anything other than static erasure or dust removal.
 PROHIBITED	Do not use G7R-E with power supplies of ratings not specified in the specifications. Inappropriate power supplies can result in fire and electric shock.
 PROHIBITED	Do not install, use or service G7R-E until having understood the information in this instruction manual.
 REMEMBER	Keep this instruction manual in a safe handy place for future reference.
 CAUTION	Vessel assumes no responsibility whatsoever for consequences arising from the use of this product.
 Direct Beam Watching PROHIBITED	Never Look Into High Luminance Light Beam With Your Naked Eye.

■ Product Features

* Corona Discharge AC type

AC corona discharging created by high frequency voltage transformer supplies ion without re-uniting loss.

* Built-in high luminance LED

This high luminance LED beam for finding dust on surface of the articles.

* LED indicators

Two-color LEDs on both sides of handle grip (ambidextrous) indicates conditions (HV Transform / alarm). HV output will be shut down automatically in alarm condition.

* Compact and Light Weight

Built-in compact high frequency voltage transformer is for safety and compact design that secures fine aiming to the area for elimination. DC 24V power supply is included.

* Maintenance

Special tools for replacing needle pole is included.

* Environmentally Friendly

Compliant with RoHS standards.

* EMI Countermeasures

Lower noise emittance design protects other electronic devices from merely influence.

* CE Compliance

The G7R-E has been tested and approved under CE directive, EN61000-6-4, 6-2.

Uses

This product is designed for blowing away dust with static electricity or eliminating static electricity.

■ Product Specifications

ION/BEAM GUN

Model	: No. G7R-E
Ion generation method	: High voltage AC corona discharge
Impressed voltage	: about AC2.0kV
Input voltage	: DC24V \pm 5%
Power consumption	: 74mA (TYP.)
Dimensions	: W102 x H150 x D36(mm)
Weight	: 198g
Air consumption	: 0.1~0.6MPa
Ozone generation	: 0.05ppm or less (Measured at 50mm)
Warning output	: High voltage alarm (Red LED)
Protective function	: High-voltage output shut down function (overload detection)
Working ambient temperature / humidity	: 5~40°C 35~65%RH (No dewing)
Distance from target area	: 50~mm (Installation location: Non-dangerous indoor location)
Static electricity removal time	: Refer to the items in the capabilities chart.
Ion balance	: Within \pm 10V (At 0.3MPa and 150mm)
Material	Casing : ABS / Hook : SUS / Electrode Needle Pole : Tungsten
Accessories	: Instruction Manual, AC Adapter

■ Product Specifications

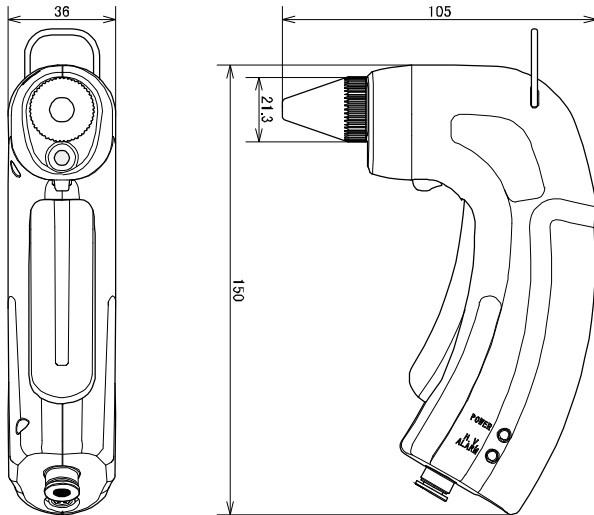
AC Adapter No.AD24-ITC

Rated input voltage	: AC100V-240V(50/60Hz) 0.4A(TYP.)
Rated output voltage	: DC24V 0.75A
Working ambient temperature / humidity	: 0~40°C 5~95%RH(No dewing)
Cable length	: DC input cable:2.5 m , AC output cable:1.8m
Weight	: about 170g

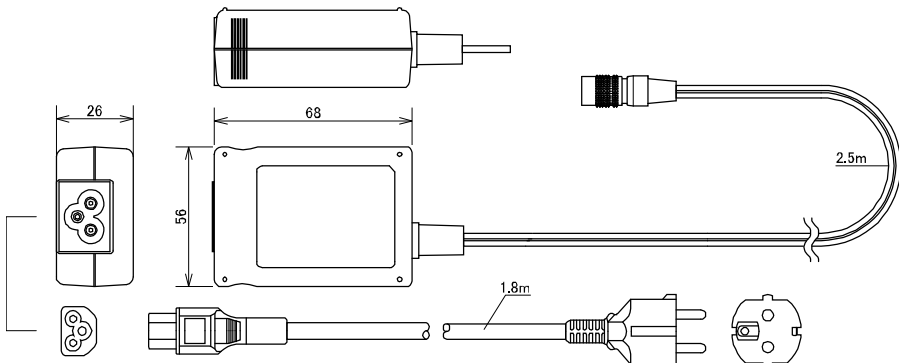
*The measurement values were obtained using the VESSEL measurement environment, so error could be induced depending on the operation environment.

■ External View

No.G7R-E




No.AD24-ITC









Performance (shipping inspection)

Air pressure (MPa)		0.1	0.2	0.3	0.4	0.5	0.6
Air flow (L/min)		80	137	180	229	277	327
Decay time (Sec.)	+1000V→+100V	0.8	0.6	0.5	0.5	0.6	0.6
	-1000V→-100V	0.8	0.5	0.5	0.5	0.6	0.6
Ion balance (V)		-2.5	-0.5	-1.0	-1.1	-1.1	-1.4

* Standard value. These values are not for guaranteed. CPM at 150mm.

 **CAUTIONS IN INSTALLATION**

 REMEMBER	Use only the included power supply adapter. Use of other adapters may result in fire, electric shock and static electricity removal trouble.
 REMEMBER	Uses an air hose of sufficient withstand pressure performance. Air hoses of insufficient withstand pressure will rupture and leak air.
 REMEMBER	Ground the G7R-E with the grounding wire before use. Using the G7R-E ungrounded runs the risk of electric shock
 REMEMBER	Install the G7R-E in the below environment. Adverse environments cause product deterioration and breakdown. Humidity: 20~80%RH (No dewing) Temperature: 0~50°C
 PROHIBITED	Do not use the G7R-E in the below environments. Adverse environments cause product deterioration and breakdown, as well as personal accidents. Where explosion-proofing is required, where found flammable atmospheres, high temperature and high humidity, or sharp temperature fluctuations, where dewing occurs, where possibly wet by water, oil or solvent
 PROHIBITED	Do not pull excessively on the tube. Abusive handling can damage the gun and internally disconnect the power cable and air hose.

Installation Site

Select a location that is suitable for work and near to an air source and 100-240V AC supply.

Hose

Uses an air hose (ODφ6 mm x IDφ4 mm) of sufficient withstand pressure performance.

Air

Remove all impurities with a mist separator (0.3μm). Remove all moisture with an air dryer.
Supply air at a temperature of 0~40°C.

■ Installation

Power Adapter

Use the power adapter. Use without the adapter can lead to breakdown. The included adapter is specifically designed for use with the G7R-E. Do not use the adapter for any other purpose than to supply power to the G7R-E.

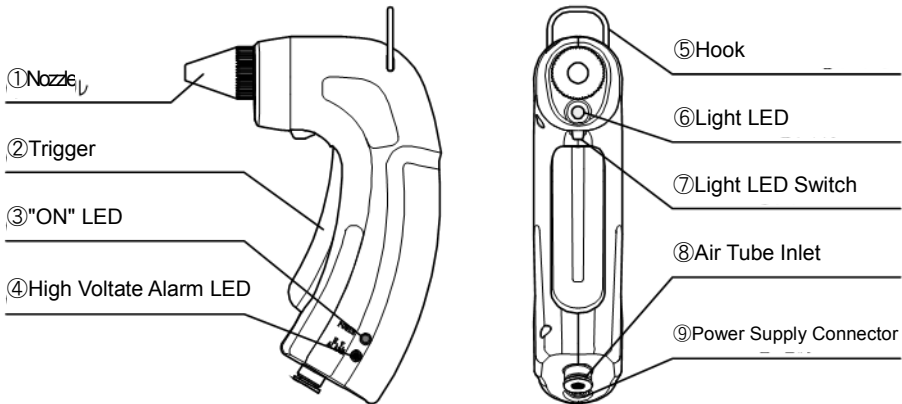
Ground

Ground the G7R-E using the grounding wire.

Before Use Checks

Before use, check the G7R-E, tube and power adapter for trouble. Make sure there is no damage, loose screws, disconnected hosing, loose connectors, etc.

■ Operation



① Nozzle

② Trigger

③ "ON" LED

④ High Voltage Alarm LED

⑤ Hook

⑥ Light LED Switch

⑦ Light LED

⑧ Air Tube Inlet

⑨ Power Supply Connector

Air Blow Point Part.

Pull the trigger for air blow and static electricity removal.

Lights up while the trigger pulled and static bustering.

H.V. ALARM LED lights while high voltage alarm.

To hang on this gun while not in use.











To be used at ON/OFF with Light LED

To check if the dust and foreign article stained and / or remained.

Air Tube connecting (Out dia. 6mm x Inner dia. 4mm)

Power Inlet fitting for attached power supply adapter (AD24-ITC)

 **CAUTIONS IN OPERATION**

 PROHIBITED	Do not use the G7R-E for anything other than static erasure or dust removal.
 REMEMBER	If noticing anything strange, stop using the G7R-E immediately.
 REMEMBER	Supply clean dry air. Improper air quality can lead to G7R-E deterioration and work contamination.
 REMEMBER	After cleaning the electrode wire, attach the nozzle. If the G7R-E is used without the nozzle, the electrode wire may fly off under the air pressure.
 PROHIBITED	Do not remodel or disassemble the G7R-E. The G7R-E contains high voltage parts.
 PROHIBITED	Do not drop the G7R-E or otherwise subject to harsh impacts.
 PROHIBITED	Do not pull excessively on the tube. Abusive handling can damage the gun and internally disconnect the power cable and air hose.
 PROHIBITED	Do the damage the hose or cabling. Keep the hose and cabling away from sources of heat.
 REMEMBER	Before leaving the workplace, return the gun to the specified place.
 REMEMBER	Do not use G7R-E if it has a defect.

OPERATION

1. Be sure if air tube correctly connected.
2. Plug the power adapter into a 100V-240V AC electrical outlet.
3. Power Supply Connector is correctly connected with Gun.
4. Regulate air pressure to 0.1~0.6 MPa from the pressure regulator.
5. Pull the trigger to blow ion air from the nozzle.
Blow air towards the statically charged work or dust covered work.
6. Release the Trigger when static elimination and dusting out have been completed.
7. Hang the gun in the specified place from the hook on the gun body.

■ Maintenance

⚠ CAUTIONS IN MAINTENANCE AND CHECKS	
⊘ DO NOT DISASSEMBLE	Do not perform any maintenance on the G7R-E except for the electrode wire.
● REMEMBER	Before cleaning the electrode wire, shut OFF power and unplug the adapter from its electrical outlet. Shut off air supply at the source and disconnect the air hose.
⊘ PROHIBITED	Do not wipe the G7R-E with detergent or solvent. Substances of the sort can cause cracking and result in electric shock or breakdown.
⊘ DO NOT WET	Do not wet the G7R-E. Contact with moisture can result in electric shock or breakdown.

1. How to Clean the Gun Casing

Remove the dirt over the gun with soft and dried cloth.

Use the vacuum cleaner to remove the dust stained around body.

Never apply with alcohol and/or thinner solvent and detergent.

2. How to Clean the Electrode Needle

Needle Pole cleaning should be practiced after power supply adaptor pulled off electric outlet.

Cleaning order:

*Remove the Nozzle.

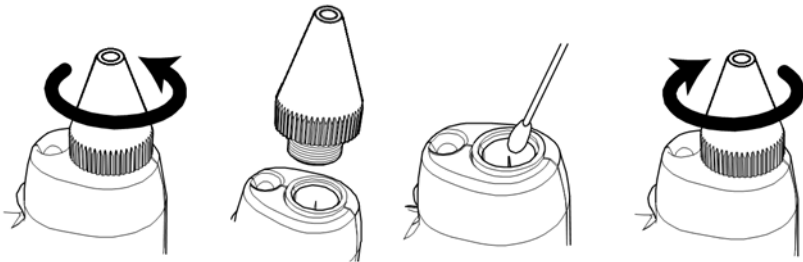
*Clean the point of the needle with cotton stick.

if it were heavily contaminated or dirty over the surface, use a few drops of alcohol wet cloth.

*How to mount the Nozzle back.

Be sure if this Nozzle fixed firmly.

If it were too tight fastened, it may damage or broken itself but if too light fastened this nozzle may be popped out due to it's air blow power.



3. How to Replace the Electrode Needle

Needle Pole replacement to be made with attached Needle Pole Replacement Changer (G-7DR) only. Pull off Power Supply Adapter first before the cleaning of Needle Pole.

Replacement Order:

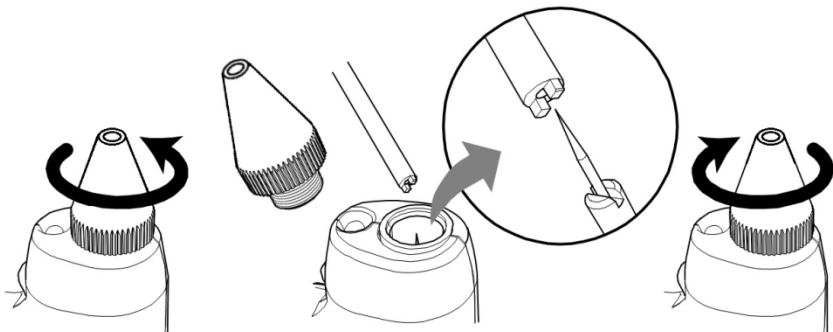
*Remove the Nozzle.

*Release the screw with attached replacement changer.

*Change it with new needle pole (G-7H) and fasten firmly with the same changer.

*Place the Nozzle back.

Mount the Nozzle firmly. Otherwise if it were too tight, it may damage and on the contrary, if it were too softly fastened, the Nozzle may be popped out.



4. Static Erasing Capacity Check

Measure ion balance and charge voltage dampening time using a charge plate monitor.

Reference: IEC61340-5-1-2, EOS/ESD S3.1

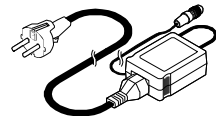
5. Replaceable Parts



Electrode Needle Pole G-NH



Standard Nozzle
G-7SN



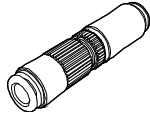
Transformer Robotic Cable
(AC Adapter) AD24-ITC

■ Maintenance

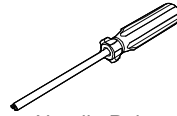
6.Optional Parts



Consent Nozzle
G-7THN



Speed Controller
G-7SC



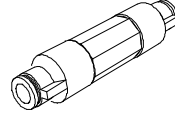
Needle Pole
Replacement
Screwdriver
G-7DR



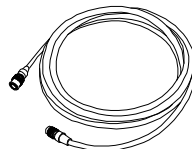
Brush
G-7B (60mm)



Soft Brush
G-7SB (40mm)



Micro Filter
G-7F







Extension Cable G-7EC3
(Cable Length:3m)

Extension Cable G-7EC5
(Cable Length:5m)

* Extension cable to connect G7R-E unit and AD24-ITC adapter cable.

* Available 99% or more Elimination of $0.01 \mu\text{m}$ particles.



To use G7R-E Micro Filter, mount an air filter and a mist separator ($1 \sim 10 \mu\text{m}$ or equivalent) on the air compressor.

 CAUTIONS IN TROUBLESHOOTING	
 PROHIBITED	Do not use the G7R-E in the following situations. Use can result in fire or electric shock. *If the power cable is damaged or hot *If the G7R-E has been damaged because of dropping or shock.
 UNPLUG POWER CABLE	Unplug Power cable if G7R-E has a defect.
 DO NOT DISASSEMBLE	Do not disassemble the G7R-E.

Using the G7R-E when in anything but proper working condition can cause product damage or personal accident.

Therefore, promptly request servicing if trouble occurs. For servicing, contact the place of purchase.

■ Storage

 CAUTIONS IN STORAGE	
 PROHIBITED	Do not store the G7R-E in the following places. Adverse environments can cause product breakdown. ●Where exposed to marked vibrations or shock ●Where temperature and humidity are outside specified ranges ●Where dewing occurs ●Where temperature fluctuates sharply ●Where there is the possibility of ignition or explosion of flammable solvents, dust, etc. ●Where there is heavy dust or smoke ●Where possibly wet by water, oil , chemicals, etc. ●Where strong electric or magnetic fields are generated

In the following cases, contact the place of purchase for servicing.

Do not service G7R-E yourself as this can be dangerous.

- * If the power lamp does not light when the trigger is pulled.
- * If the power cable is excessively hot
- * If the power supply adapter is excessively hot
- * If G7R-E emits strange noises or vibrates during use
- * If sparks are seen coming from electrode wire tips (In normal operation, sparks are not seen.)

LIMITED WARRANTY:

VESSEL expressly warrants that for a period of one (1) year from the date of purchase, VESSEL static erasers will be free of defects in material (parts) and workmanship (labour). Within the warranty period, Defects occurring will be repaired or products will be replaced at VESSEL's option and expense, if VESSEL receives notice during the warranty period. Defective products must be returned to VESSEL Osaka Japan with proof of purchase date. And if your unit is out of warranty, VESSEL will quote repair charges necessary to ship your unit freight prepaid to where you have originally purchased.

WARRANTY EXCLUSIONS:

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING FITNESS AND MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED.

The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean, or repair products.

LIMIT OF LIABILITY:

This electronic static eraser use high voltage corona discharge and should not be used in or near flammable or explosive environments. In no event will VESSEL or any seller is responsible or liable for any injury, loss or damage, direct or consequential, whether based in tort or contract arising out of the use of or the inability to use the product. Fulfillment of VESSEL's warranty obligations will be Customer's exclusive remedy and VESSEL's and Seller's limit of liability for any breach of warranty or otherwise. Before using this unit, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

Model	G7R-E	
Warranty	(1) year from the date of purchase	
Customer	Name	
	Address	
	Tel. No.	
Dealer	Name/Address/Tel. No.	

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