

# Model 930 Benchtop Ionizer



The Trek Model 930 Benchtop AC Air Ionizer is effective in solving problems in the workshop or on the production floor by neutralizing static charges that can cause ESD (electrostatic discharge) damage to sensitive semiconductor and LED devices due to contamination, dust attraction and device handling problems. The powerful high performance of the 930 provides efficient high volume air ionization and together with an exclusive automatic ion balance feature which generates the appropriate positive and negative ions reduces electrostatic charge generated voltages at the work surface to less than  $\pm 5$  V.

The compact size and the strength of the built-in fan in the Model 930 enable it to perform in a wide variety of settings and adjust to a wide range of air volume input levels. The fast discharging time eliminates electrostatic charges from devices and surfaces in one second or less for distances up to 30cm from the center of the air source. This is compliant with International Standards (IEC 61340) which covers the requirements for the design, implementation and maintenance of an ESD control program.

The 930 utilizes a Titanium electrode, a stainless steel housing, and is equipped with a built-in cleaning brush. The operator can perform periodic cleaning to help maintain the unit's high ionization efficiency by simply turning the center knob on the cleaning brush to sweep the ionizing elements clear of dust and other contamination. LED lights on the front panel indicate to the operator the status of the ion balance, as well as power on status, fan operation and abnormal voltage or ion levels. The unit is washable reusable polyurethane air filter.

- Eliminates Electrostatic Charges Efficiently, Quickly, Reliably
- Provides Work Area Voltages Within  $\pm 5$ V
- High Speed Electrostatic Elimination Conforms to International Standards\*  
\* IEC61340
- AC Operation Supports Stable and Consistent Ion Balance



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# Model 930 Specifications

## Features

### Automatic, High Speed Static Charge Elimination

Generates an equivalent amount of plus or minus ions to completely eliminate electrostatic in less than 1 second at a distance of 30cm or less from the center of the air source.

### Built-In Self Correction

Automatic ion balancing produces a work surface voltage of less than  $\pm 5V$  within the appropriate range without intervention by the operator.

### Variable Air Input

A single-step air flow adjustment adjusts to a maximum of  $4.4m^3/min$  (without the filter attached).

### Front Panel Indicators

5 LEDs indicate levels of plus and minus ion balance. Additional LEDs indicate power on, operation in progress, system failure and fan failure.

### Reusable Air Filter

Washable polyurethane foam, 13PPI.

### Dedicated AC/DC Adapter

#### Input Voltage

95 to 265 V AC, 47 to 63 Hz

#### Output Voltage

24 VDC  $\pm 5\%$ , 1.5 A MIN

## Performance

### Ion Balance

0V to less than  $\pm 5$  V (Automatic ion balance method)

### Discharge Time

1 second max. (At a distance of 300 mm, highest air capacity)

### Ozone Generation

Less than 0.02 ppm

\* DASHIBI 1003AH ozone monitor (ultraviolet absorption method) is used for the measurement.

### Air Volume

Max.  $4.4 m^3/min$  (without filter attached)

### Noise Volume

41 dB-A (lowest air capacity) to 59 dB-A (highest air capacity) (with filter attached)

### Wind Speed (measured at the central position of the air flow)

Distance	Highest (m/sec)	Lowest (m/sec)
30cm	1.9	0.6
60cm	1.7	0.5
90cm	1.4	0.4
120cm	1.0	0.4

## General

### Power Supply Voltage (from adapter)

24 VDC  $\pm 10\%$ , 1A maximum

### Operating Conditions

Temperature: 0 to 50°C

Relative Humidity: 10 to 85% (with no icing or condensation)

### Installation Distance

50 mm to 900 mm (Recommended installation distance: 300 mm, (work surface to air outlet).

### Power Switch

Switch on Rear Panel.

### Emitter Cleaner

Manual type nylon brush is provided

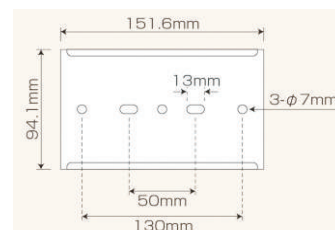
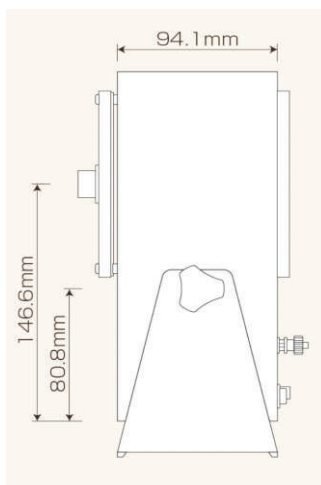
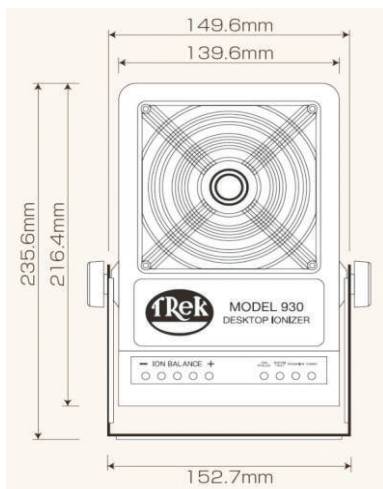
### Dimensions (mm)

150 W x 236 H x 94 D (housing only)

### Weight

Approx. 1.9g (stand part included)

## Dimensions



## Model 930 Accessories (supplied)

Operator's Manual



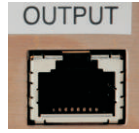
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# Model 930 Specifications



Abnormality Output Terminal

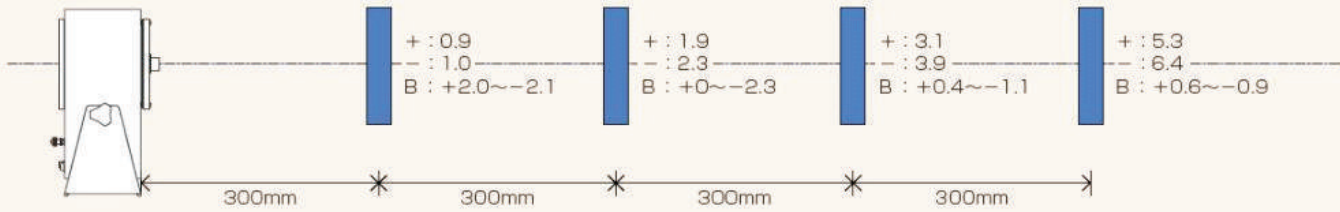


Display	Abnormality Indicator LED	Abnormality Output (Contact Output)
Ion Balance	Green $\pm 30V$ or less	OFF
	Yellow $\pm 50V$ or less	OFF
	Red $\pm 50V$ or less	ON
System Fault	Red	ON
Fan Stalled	Red	ON
Power OFF	Power LED OFF	ON



Electrode cleaning brush is provided. Easy daily maintenance is available just by turning the center knob to clean the electrode.

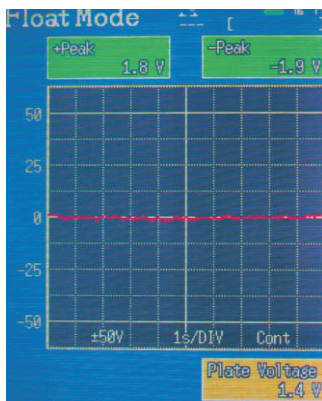
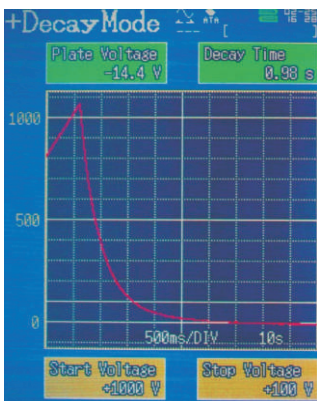
Ion balance : Electron discharge specification



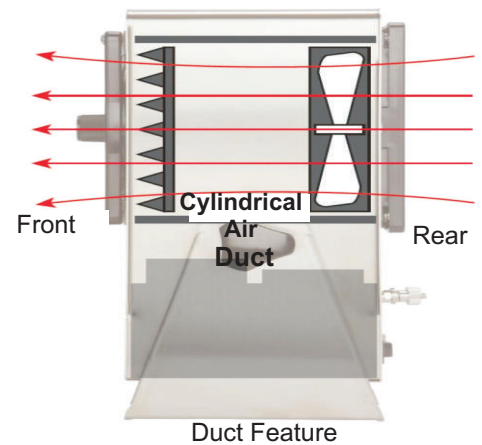
Position of Charged plate (center of the ionizer)

+: + decay time (sec)  
 -: -decay time (sec)  
 B: Bandwidth of Ion balance(V)

\*Without fan filter  
 \*Airflow: Max  
 \*The test data is actual measurement value and is not guaranteed



Discharge and balance characteristic data  
 Distance of 300 mm from the front side of the ionizer. Actual measured value for your reference (measured with Trek Model 158)



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