

Model 7380d

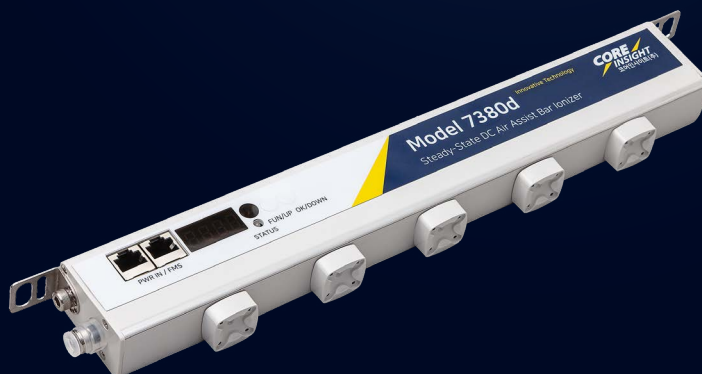
INNOVATIVE AirStat® Steady-State DC Bar Ionizer

FEATURES

- Steady-State DC Ion Emission
- Class 0 ESD Control Application
- Output Voltage Adjustable
- Very Low Offset Voltage
- Audio & Visual LED Alarms
- FMS Monitoring Interface

BENEFITS

- Ion Balance Alarms
- HV Power Failure Alarms
- No Swing Voltage
- No Induction Field



- * IR Remote Controller (Optional)
- * Single Crystal Silicon Emitter Point
- * Tungsten 99.99% Emitter Point
- * 1/4 Turn Easy Emitter Point Replacement

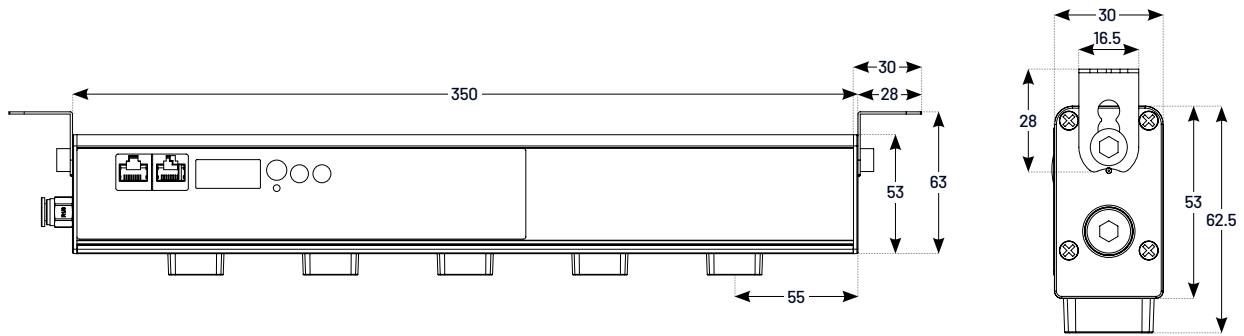
APPLICATIONS

Model 7380d AirStat® Steady-State DC Bar Ionizer is designed to provide ionization for the ESD sensitive device handling areas such as semiconductor back-end, surface mount process and telecommunication component handling applications. QuadPoint® nozzle design does not generate induction field by AC swing voltage source which could lead an ESD damage on device during processes. Model 7380d AirStat® Steady-State DC Bar Ionizer is designed for versatile ESD control applications, especially suited for space limited environment such as inside of automated handling equipment (AHE) and manual assembly areas. AirStat® Steady-State DC technology is adjustable linear output voltage and maintain offset balance at very low level for ESD safe handling. With LED display and output audio alarms, users can identify ion balance and HV power failure status.

SPECIFICATIONS

Input Voltage	24V DC, 1.4 W Max	Alarm	Visual & Audio alarm operates voltage feedback monitoring, cleaning cycle, power, sync and polling failures
Output Voltage	±3.5 kV DC, 10 V resolution adjustment	Display	4 digit LED display
Ion Emission	Steady-State DC Technology	Operating Environment	Temperature: 15 - 35 °C, nominal Humidity: 20 - 60% RH, non-condensing
Ion Balance	Less than ±5 V Peak Offset Voltage	Material	Enclosure: ABS plastic / Bracket: Stainless Steel
Decay Time	Less than 2 seconds at 300 mm	Dimensions	63 H x 30 D x 350 L mm (350, 590, 770, 860, 1040 L)
Output Control	IR Remote Controller	Warranty	1 year limited warranty
Emitter Point	Single Crystal Silicon and Tungsten 99.99%	Certification	CE RoHS UL LISTED

SIZE & DIMENSIONS (mm)



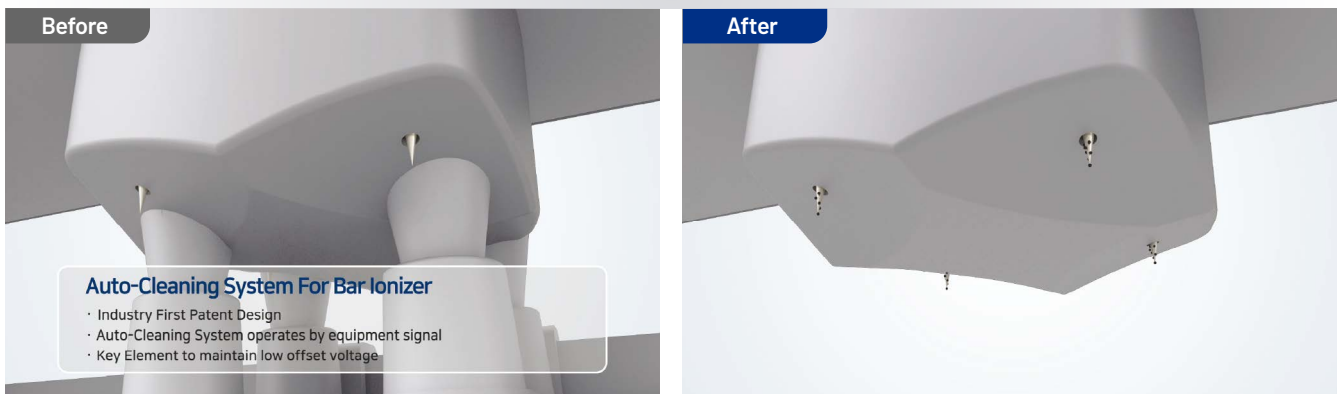
FMS OUTPUT SIGNAL

PIN No	Description	PIN No	Description
Pin 1	24 VDC Input	Pin 5	GND
Pin 2	N/A	Pin 6	HVP Alarm
Pin 3	DC Return	Pin 7	Port Detect Alarm
Pin 4	N/A	Pin 8	HVP Alarm COM

RELATED PRODUCTS

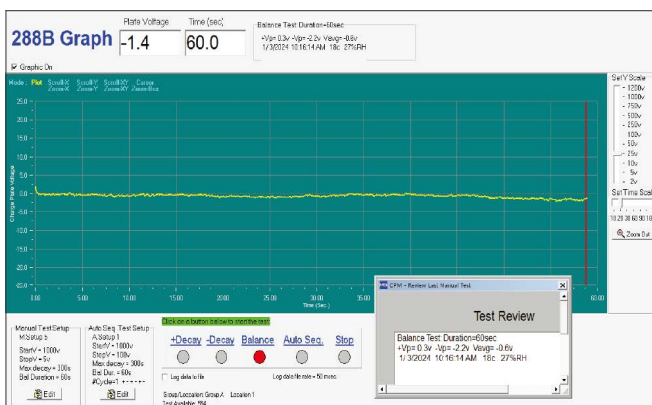
Model 5780ES	Single Crystal Silicon
Model 5780EP	Tungsten

QUADPOINT® NOZZLE DESIGN



ION BALANCE TEST RESULTS AC Switching Voltage can cause of ESD Damage by Induction

- ANSI/ESD STM3.1 & S20.20 - Offset Voltage means for DC based ionizer
- Test Equipment - Model 288B CPM by Monroe Electronics

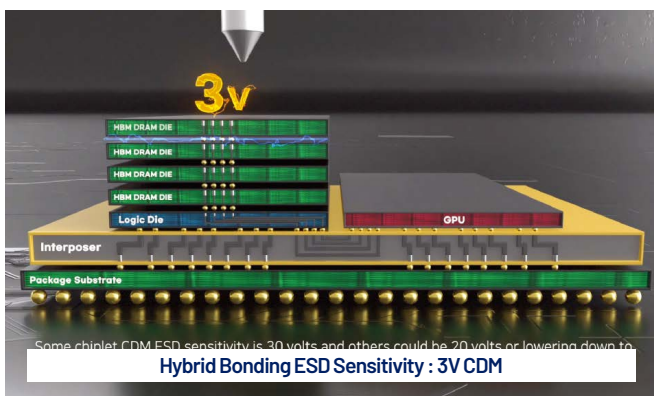
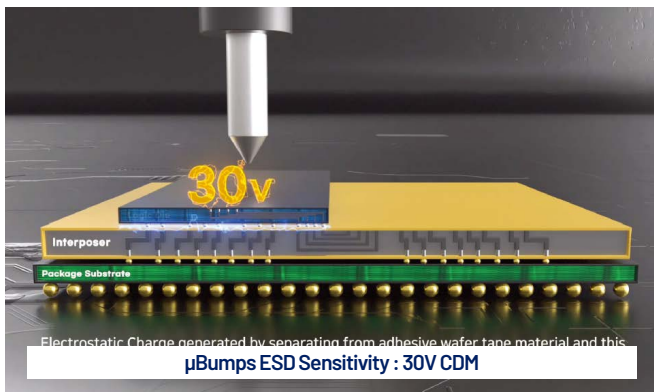


No Swing Voltage from Steady-State DC Ionizer

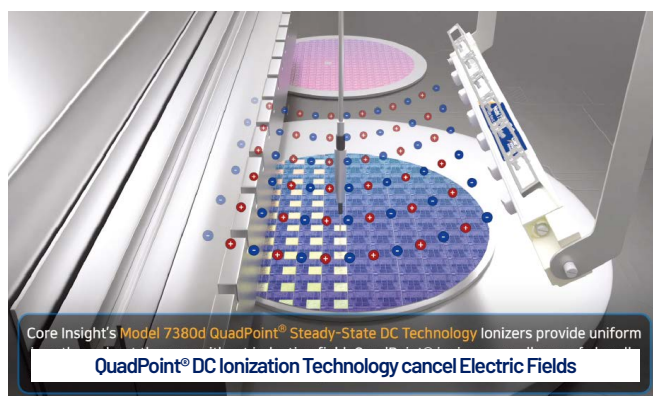
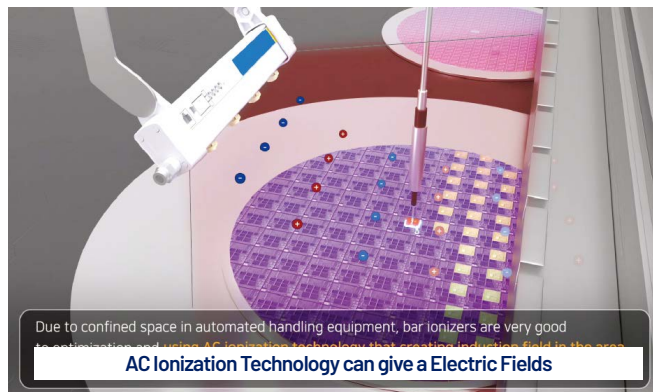


Induction Field Swing Voltage from Pulsed AC Ionizer
Peak-to-Peak value: +305 V to - 393 V

Sensitivity Level of Advanced Package Device

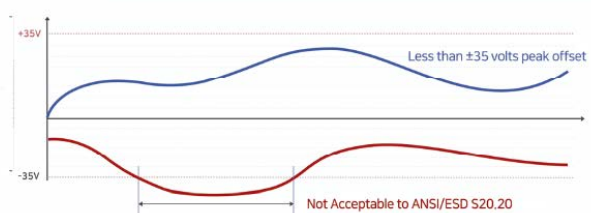


QuadPoint® DC Technology vs AC Technologies



ANSI/ESD STM3.1 and ANSI/ESD S20.20 standard requirements

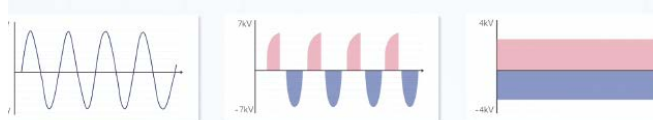
Ionizer Test Method Review



How to test ionizers?

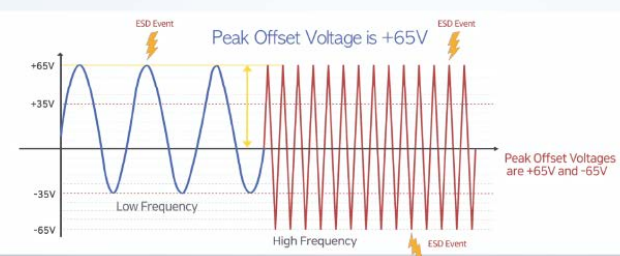
ANSI/ESD S20.20 standard requires less than ±35 volts peak offset

Ionizer Technology Comparison



Parameters	Conventional AC	Pulsed AC	Steady-State DC
Voltage	Fixed 5kV	Adjustable: 3 - 7kV	Fixed & Adjustable: 3 - 5kV
Frequency	Fixed 50/60 Hz	Adjustable Frequency: 10 - 70 Hz	N/A
Duty Ratio	Not Available	Down to 50% for both polarity	N/A

C Ionizers' Peak Offset Swing Voltage can cause of ESD Damage on ESD sensitive device



AC Ionizers' Peak Offset Swing Voltage does not compliance to ANSI/ESD S20.20 program

Traditional DC Bar vs QuadPoint® Nozzle Steady-State DC Bar Ionizers



Traditional DC bar ionizer has designated polarity and polarized region at each end.

QuadPoint® Nozzle Steady-State DC bar ionizer has both polarity on single nozzle and same offset voltage all regions.