

Validate the Effectiveness of Needlepoint Bipolar Ionization with Senseware IoT Ion Sensors

senseware

Take the guesswork out of Needlepoint Bipolar Ionization

The effectiveness of Needlepoint Bipolar Ionization (NBPI) varies greatly based on a variety of HVAC and environmental circumstances. Testing and measurement are needed to ensure ionization is achieving the desired outcomes.

Senseware measures and verifies both Indoor Air Quality (IAQ), and the ionization rate.

Senseware's IAQ measurement tools now integrate next-generation Ion sensors. At the forefront of IAQ innovation, Senseware provides a complete picture of your air and the efficacy of your NBPI system.

Senseware makes it easy to follow NBPI guidelines from the Centers for Disease Control and Prevention.

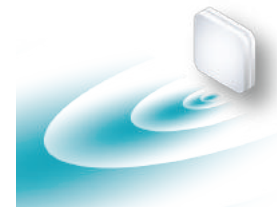
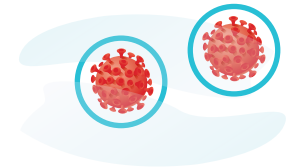
“Consumers should request efficacy performance data that quantitatively demonstrates a clear protective benefit under conditions consistent with those for which the consumer is intending to apply the technology.”

CDC POSITION ON NBPI



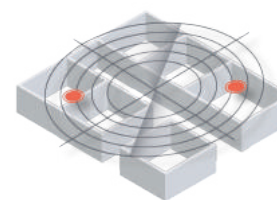
How We Verify

IONIZE NBPI is added to an existing HVAC system releasing ions that purify the air and neutralize contaminants at their source



MEASURE Senseware Real-Time Ion Sensors detect ions in the air throughout a building including hard to reach areas.

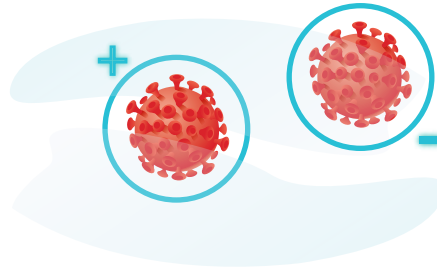
ADJUST Senseware real-time monitoring platform alerts to the areas of the building where concentrations of ions are not high enough for air purification, and additional ionization measures are needed.



REMEDiate After additional ionization measures are applied to the specific areas of need, Senseware Real-Time Ion Sensors continue to measure the air to ensure continued safety.

NBPI Explained

When outdoor air is carried into a building, Oxygen molecules are carried over NBPI tubes where an energy field converts the molecules to positively and negatively charged ions.



These ions then travel into spaces to seek out oppositely charged bad air particles, VOCs and odors. When they combine, it forces them to break down, and drop out of breathing range to reduce contaminant levels.

RESULTS OF NBPI:

Remove up to 95% of ultra fine particles

Harmful air particles that impact health.

- Dust
- Mold

Remove up to 90% of VOCs

Toxic gases and compounds from chemicals like:

- Cleaning products
- Pesticides
- Paints
- Solvents

DNA Alteration

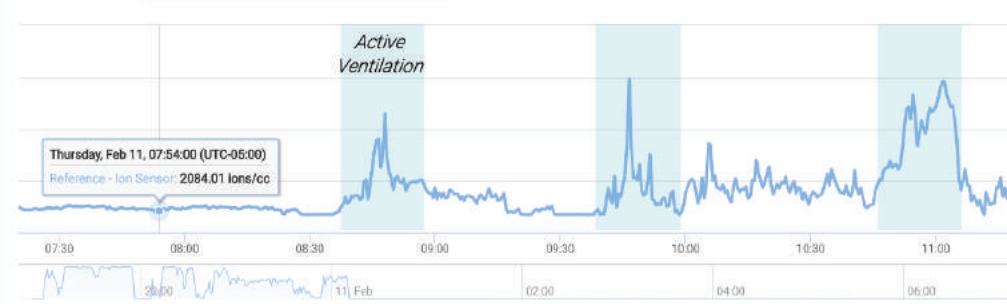
Negative alteration of the DNA of live air particles that spread sickness

- Viruses
- Bacteria

Ions In Action

Senseware's real-time dashboards allow you to see ion reach when ventilation is activated or turned off. Custom thresholds alert you when ion reach is lower than required for your specific application.

SENSEWARE ION DASHBOARD



Technical Specifications

Power Requirements	110-277V AC 50-60Hz, wall outlet or inline. 12V DC inline.
Power Consumption	1A max @ 12VDC
Size	4.3" high, 7.3" wide, 1.75" deep
Sampling Time	Variable to fit application. Recommended 1 minute for ambient air.
Ion Sensing Range	Selectable from: 0-10,000ions/cc, 0-100,000 ions/cc, or 0-1,000,000 ions/cc
User Interface	Senseware Cloud interface reports ion concentration and IAQ data in real-time and automatically delivers alert notifications.
Optional IAQ Sensors	Temperature (°F/°C) ± 0.3°C Relative Humidity (%): ± 2% Carbon Dioxide (CO ₂): 400-5000 ppm ± 30 ppm, ± 3% of reading Volatile Organic Compounds (VOC): 0-60000 ppb or 0-275 mg/m ³ Particulate Matter: PM1.0, PM2.5, PM10 (µg/m ³ and pcs/L). 0.3-10µm diameter. 0-1000 µg/m ³ , ± 3%