

MUSHIELD

®

The Next Generation of Air Ionization



Are You Happy With Your Indoor Air Quality?

NuShield® Air Ionization Systems Help Improve Your Indoor Air Quality



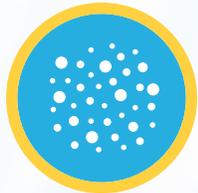
Helps Keep the HVAC Coil Cleaner Longer



Reduces Odors Associated with Dirty Sock Syndrome



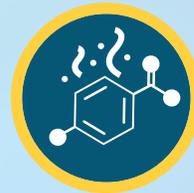
Reduces Smoke and Other Airborne Particulate



Helps Improve Overall Indoor Air Quality



Reduces Cooking Odors and Pet Odors



Reduces Volatile Organic Compounds (VOCs)

How NuShield Works

NuShield is an air ionization system that utilizes needlepoint bi-polar ionization to create equal amounts of positive and negative ions. NuShield installs in and functions with any air conditioning or heating system. When the positive and negative ions are injected into the air stream, they reduce certain bacteria and viruses, particles, smoke and odors in the air. These ions also reduce certain VOCs, pollutants, and airborne gases.

Ions reduce certain bacteria and viruses

As the NuShield emits both positive and negative ions into the airstream, they will reduce certain viruses and bacteria. Contact with ions has microbicidal effects on certain viruses and bacteria, which ultimately disrupts their surface proteins and renders them inactive.

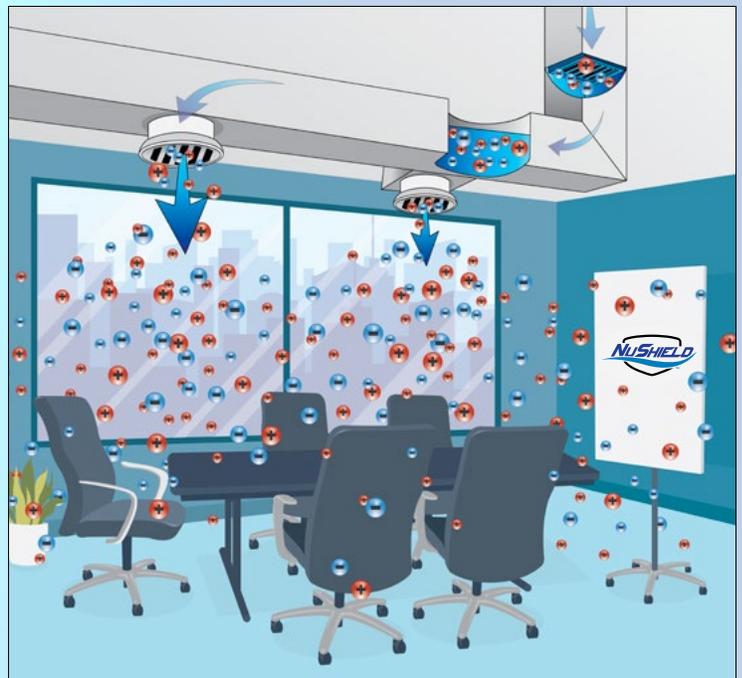
Ions reduce VOCs and airborne particulate

The ions emitted from the NuShield ionization system also attach to particles like dust and dander, causing them to band together until they are large enough to be caught by your ventilation system's air filter.

Nature's technology

NuShield's technology generates the same ions that nature creates with lightning, waterfalls, and ocean waves, etc. Nature uses energy to break apart molecules, naturally cleaning the air and producing a healthy environment. The only difference between the NuShield's technology and nature is that all NuShield models are validated to meet stringent UL 2998 zero ozone emission certification.

NuShield Actively Treats The Air In Residential And Commercial Environments.



Actual coverage depends on installation and air flow.

Breathe Cleaner, Fresher Air!

Who NuShield® Helps

NuShield is highly effective in homes, as well as schools, restaurants, medical offices and other types of businesses.

NuShield's patented technology uses positive and negative ions to address IAQ issues, cleaning the air inside industrial, commercial and residential buildings.



- Restaurants
- Assisted Living
- Places of Worship
- Residential Homes
- Sports Arenas
- Government Buildings
- Healthcare Facilities
- Schools and Universities
- Office Buildings
- Fitness Studios
- Museums and Galleries
- And Much More!

NuShield Models



Residential Air Ionization System.
Self-cleaning for systems up to 6 tons!



Commercial Air Ionization System For External Duct Mount.
Self-cleaning for systems up to 12 tons!



Commercial Air Ionization System For Internal Mount.
Self-cleaning for systems up to 12 tons!

NuShield has earned UL's stringent Zero Ozone Emissions Certification.

UL Certification	Standards	NuShield Model	
UL 2998	Certified to not introduce more than five parts per billion of ozone.	NuShield-R	4900-60
		NuShield-CX	4900-55
		NuShield-CI	4900-50

NUSHIELD® PERFORMANCE DATA

NuShield products are designed to work with air handling systems to deliver the benefits of ionization. These tests measure the reduction of certain viruses and bacteria through a combination of in-air testing and surface testing. Measurements of the specimen are taken at regular intervals and compared to a control without the introduction of ionization. All tests were run using proprietary NPBI technology and conducted in third party laboratories.

AIRBORNE ORGANISMS: These ionization tests measure the reduction of certain airborne viruses and bacteria by aerosolizing a test specimen into a large biosafety test chamber (BSL2 or BSL3) and suspending it in the air using mixing fans. Measurements of the specimen are taken at regular intervals and are compared to a control without the introduction of ionization.

SPECIMEN	AVG. ION DENSITY (NEGATIVE IONS/CC)	% NET REDUCTION 30 MIN. 60 MIN.
SARS-CoV-2	-10,000	40.78% 90.87%
	-18,000	65.38% 98.33%
SARS-CoV-2 Delta	-22,000	54.04% 98.70%
Influenza A	-22,000	43.13% 84.53%
Influenza B	-22,000	32.71% 83.93%
RSV	-22,000	49.52% 94.71%

SURFACE ORGANISMS: These ionization tests measure the reduction of certain airborne viruses and bacteria on surfaces by applying a specimen to glass slides, petri dishes or coupons and placing them within a large biosafety test chamber (BSL2 or BSL3). Measurements of the specimen are taken at regular intervals and are compared to a control without the introduction of ionization.

SPECIMEN	AVG. ION DENSITY (NEGATIVE IONS/CC)	% NET REDUCTION 30 MIN. 60 MIN.
SARS-CoV-2	-9,700	55.50% 62.85%
	-10,250	55.94% 70.71%
	-20,600	97.90% 99.97%
	-23,600	98.49% 99.98%
Staphylococcus aureus	-14,000	36.61% 91.55%
E.coli	-14,000	31.46% 86.36%
MRSA	-14,000	44.91% 87.87%

AIRBORNE PARTICLES: Test results demonstrate the additional reduction of particles in the air when NPBI is combined with mechanical filtration versus filtration alone. Particles from calibrated cigarettes were infused into a 10ft. x 10ft. x 10ft. chamber to simulate wildfire smoke. Testing occurred at six air changes per hour (ACH), consistent with ASHRAE guidelines.

CHANGE IN REMOVAL RATE OF PM2.5 AT 6 ACH (NPBI + MERV 8 VS. MERV 8 ALONE)		CHANGE IN REMOVAL RATE OF PM2.5 AT 6 ACH (NPBI + MERV 10 VS. MERV 10 ALONE)	
Test Duration in Hours	Average (12,060 ions/cc)	Test Duration in Hours	Average (10,640 ions/cc)
1	2.26x	0.5	1.51x
2	2.11x	1	1.56x
NPBI + MERV 8 removed PM2.5 twice as fast as MERV 8 alone.		NPBI + MERV 10 removed PM2.5 over 1.5 times faster than MERV 10 alone.	

Visit www.nushieldair.com for full performance data, including testing parameters, reduction rates and data related content. Locations will vary, and clients should evaluate their individual application and environmental conditions when making an assessment regarding the technology's potential benefits. NuShield products are not marketed as, nor cleared, by the FDA as medical devices.

