

Solutions *today* for a **Greener** *tomorrow*

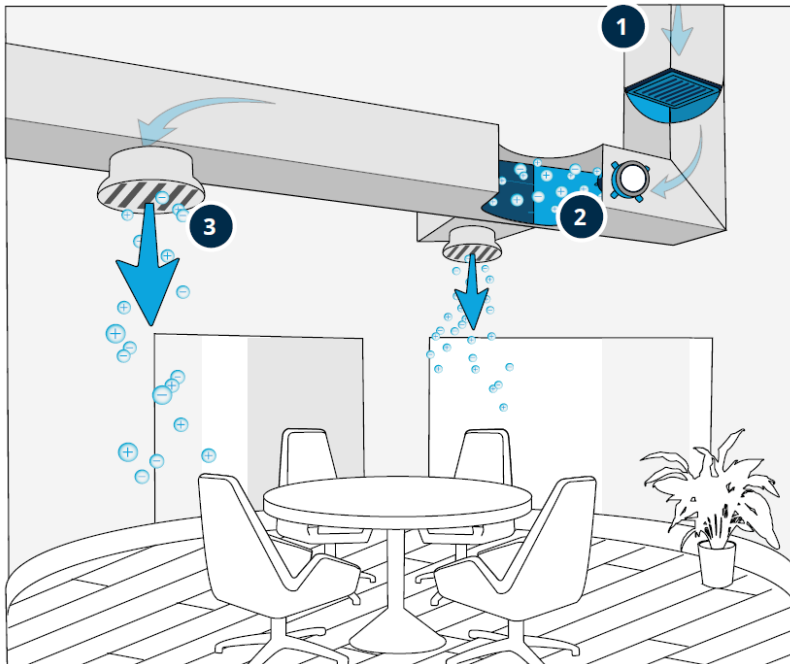
WE SPEND
90%
OF OUR TIME
INDOORS

Indoors pollutant concentration can be 2-5x higher. 98% of these Pollutants are less than 1 micron and often are missed by traditional filtration systems. As operators are taking steps to develop a multi-tiered approach to assure a safe and healthy return back to work.

Unify Energy Solutions offers revolutionary technology that fight pathogens and provides safe, cleaner air. Today this patented, needlepoint bipolar ionization (NPBI) technology can be found in more than 250,000 installations worldwide.

HOW NEEDLEPOINT BIPOLAR IONIZATION WORKS

NPBI produces a high concentration of positive and negative ions, delivering them into space via the building's EXISTING HVAC systems. Positive Ions flow through the vents and attach to particles like dust, dander, pollen, smoke, odors, and even pathogens, including mold, viruses, and bacteria. These Ions combine with these particles and increase their mass, allowing for existing filters to capture them. In addition to increasing the effectiveness of existing filters, these ions also disrupt any pathogens' surface proteins rendering them inactive.



STEP 1

Conditioned air flows into the distribution duct system

STEP 2

The air is ionized by Needlepoint bipolar Ionization

STEP 3

Positive and negative ions are delivered into your environment distributed duct system

ADDITIONAL ADVANTAGES

☒ NO HARMFUL BYPRODUCTS

NPBI does not produce harmful byproducts and is safe to use across commercial, industrial, and residential buildings

☒ DISPERSES IONS DIRECTLY INTO THE AIR

NPBI technology continuously disperses an abundance of ions to the indoor air while producing no harmful byproduct such as ozone.

☒ MAINTENANCE FREE

NPBI needlepoints are manufactured from a carbon fiber material that will not deteriorate over time and requires no maintenance.



SAVES ENERGY

By keeping indoor air cleaner, NPBI reduces the amount of outside air required from to keep things fresh savings you initial ventilation equipment costs and up to 30% on energy consumption



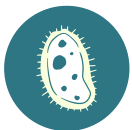
TARGETS PARTICLES

When these ions flow throughout a space, such as office or a schoolroom, they combine with particles suspended in the air. Creating a snowball effect in which particles of opposite polarities begin to cluster together, which makes them easier to capture in existing filtration systems.



TACKLES ODORS

GPS' NPBI technology breaks down chemical, pet, cooking, and other odor into basic harmless compounds, leaving indoor air smelling fresh and substantially reducing odor-causing VOCs.



REDUCES PATHOGENS

During the NPBI process, contact with ions disrupts pathogens' surface proteins, rendering them inactive and unable to replicate.

SENSITIVITY TESTING

A petri dish containing a pathogen is placed underneath a laboratory hood, then monitored to assess the pathogen's reactivity to NPBI over time. This controlled environment allows for comparison across different types of pathogens. Sensitivity Testing is not a measure of pathogen inactivation in the air.

Pathogen	Time in Chamber	Rate of Reduction	Test Agency
Norovirus	30 minutes	93.5%	ATS Labs
Human Coronavirus 229E	60 minutes	90.0%	Analytical Lab Group
Legionella	30 minutes	99.7%	EMSL
Clostridium Difficile	30 minutes	86.8%	EMSL

SIMULATION TESTING

Simulation testing measures in-air activation of pathogens. Counts of an airborne pathogen are taken before and after aerosolizing that pathogen into a sealed, unoccupied laboratory environmental room installed with NPBI technology.

Pathogen	Time in Chamber	Rate of Reduction	Test Agency
Tuberculosis	60 minutes	69.0%	EMSL
MRSA	30 minutes	96.2%	EMSL
Staphylococcus	30 minutes	96.2%	EMSL
E.coli	15 minutes	99.9%	EMSL

SPECIALTY TESTING

Unoccupied laboratory test environments are designed to evaluate NPBI performance in conditions unique to particular industries or customers, and may include special circumstances such as higher than average ion concentrations. Review individual test results for detail. The 2020 SARS-CoV-2 specialty testing conducted by Innovative Bioanalysis is not a measure of pathogen inactivation in the air.

Pathogen	Time in Chamber	Rate of Reduction	Test Agency
SARS-CoV-2	30 minutes	99.9%	Innovative Bioanalysis

NEEDLEPOINT BIPOLAR IONIZATION VS. OTHERS

	GPS NPBI	OTHER BPI	CORONA DISCHARGE	HEPA FILTERS	CARBON FILTERS	ULTRA VIOLET (UV)	UV-PCO
No Harmful Byproducts	✓			✓	✓		
Reduces Airborne Particles	✓	✓	✓	✓			
Tackles VOCs	✓	✓	✓				
Reduces Pathogens	✓	✓	✓	✓	✓		✓
Reduces Energy Cost	✓	✓	✓		✓	✓	✓
Treats In-Room Air	✓	✓	✓				
No Replacement Parts	✓						
No Maintenance	✓						
Simple To Install	✓						
Low Total Cost	✓	✓					