



**NanoStrike**<sup>®</sup>  
technology

# The First Line of Protection Against Airborne Viruses and Bacteria

NanoStrike is the core, patented technology that powers all Novaerus portable air dis-infection devices. This plasma-based nanotechnology kills all airborne microorganisms on contact providing the first line of protection against viruses and bacteria.

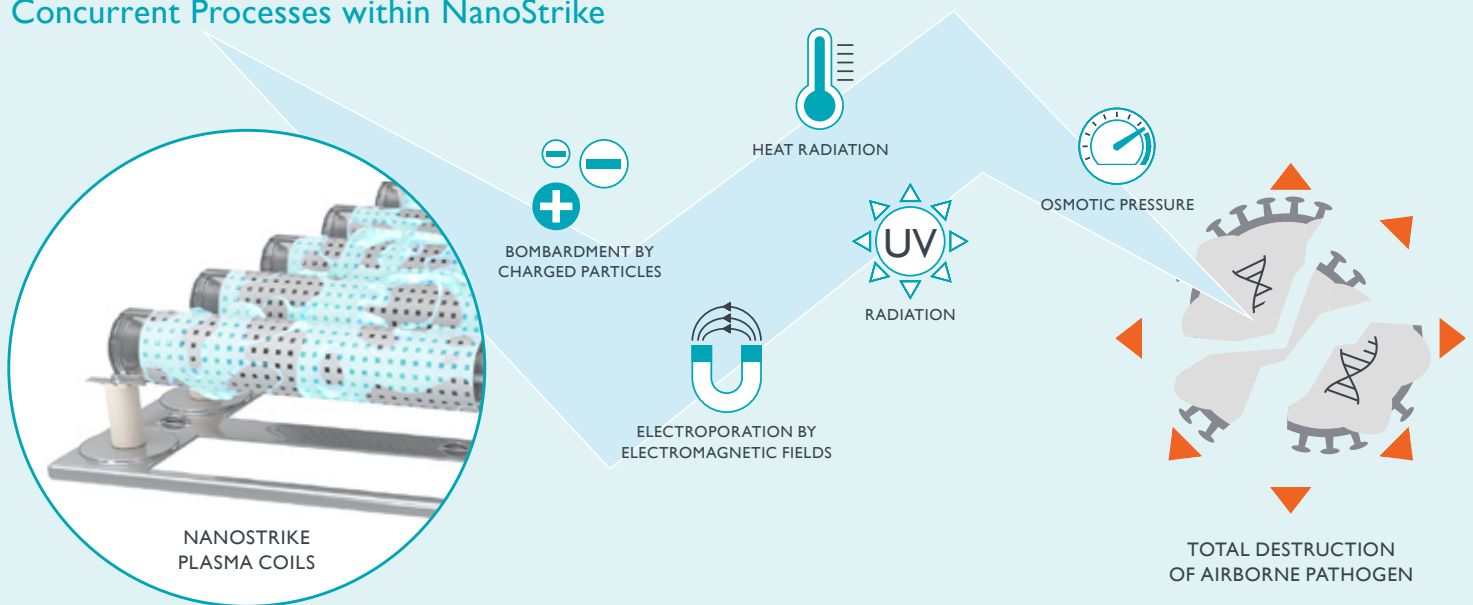
- Patented technology harnessing multiple pathogen inactivation processes in one powerful strike
- Kills and deactivates at the DNA level in a sub-second time frame
- Uniquely bursts the pathogen cell, preventing self-healing and ensuring no opportunity for antimicrobial resistance to develop
- Lowest total cost of ownership of any air purification technology
- Powerful but gentle for 24/7 use around the most vulnerable of people

# HOW NANOSTRIKE PROTECTS

## Multiple Inactivation Processes in One Powerful Strike

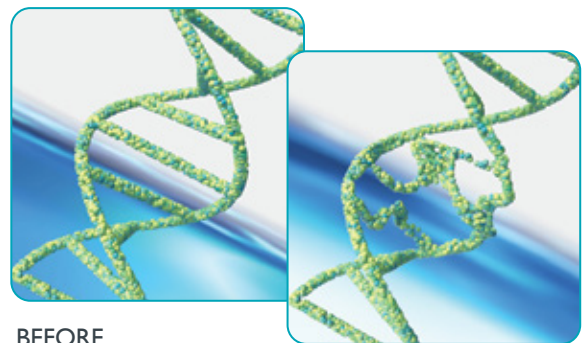
Developed by the Novaerus team of scientists and engineers, NanoStrike utilizes an atmospheric plasma discharge — the same type of discharge found in lightning strikes — to kill and deactivate harmful airborne microorganisms. NanoStrike plasma coils provide a deadly strike, made up of multiple concurrent processes, that work to rapidly destroy airborne pathogens.

### Concurrent Processes within NanoStrike



### Kills and Deactivates at a DNA Level in a Sub-second Time Frame

NanoStrike destroys the DNA and protein that make up nanosized viruses, bacteria and fungi. This stops viruses from spreading and bacterial and fungal spores from reproducing.




BEFORE...

... & AFTER NanoStrike

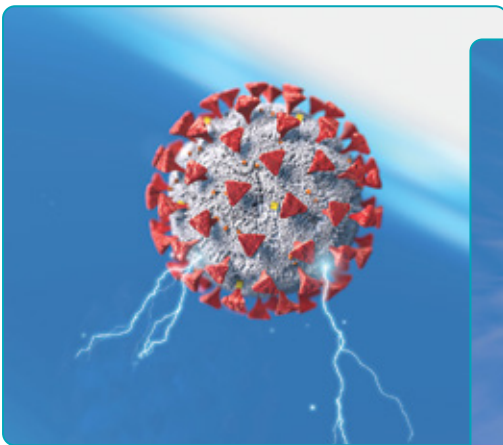
## Technology Comparison: Magnitude of Time to Kill Pathogens

NanoStrike is the only technology that successfully kills pathogens in the sub-second time frame.

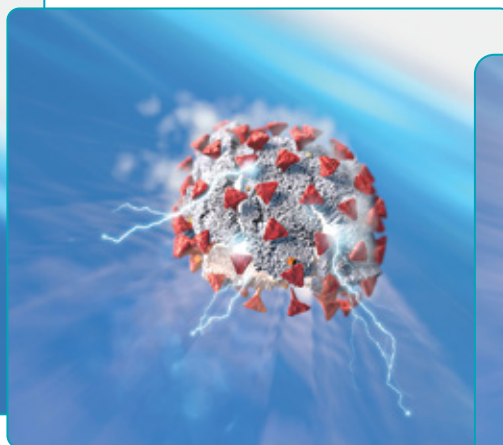
Microsecond	Millisecond	Seconds	Minutes	Hours	Days		
		UVGI		IONIZATION			
						PCO	
						AUTOCLAVE	
						OZONE	
						CHEMICAL MISTING	

### Bursts the Pathogen Cell

Unique to NanoStrike is its ability to burst a pathogen cell; other technologies simply deactivate them. NanoStrike concurrently attacks the cell membrane, DNA and protein, causing osmotic pressure which can quickly burst a cell. Once the cell bursts, there is no way for it to self-heal, ensuring it does not become viable as an infectious agent once again.



NanoStrike attacks the pathogen, perforating cell walls



DNA and protein within the cell are destroyed



Cell bursts due to osmotic pressure

### No Opportunity for Antimicrobial Resistance

Unlike single process air deactivation technologies there is no opportunity for Antimicrobial Resistance (AMR) to develop over time. AMR occurs when microorganisms such as bacteria, viruses and fungi evolve to develop a resistance to solutions designed to inactivate them, rendering these solutions ineffective.

## DELIVERING UNIQUE ADVANTAGES



### POWERFUL YET GENTLE

- Powerful enough to kill pathogens, gentle enough to use 24/7
- No harmful by-products
- No colonization of bacterial and fungal spores
- No biohazard waste that can lead to secondary level infection



### LEADER IN LOWEST COST OF OWNERSHIP

- Utilizes ultra-low energy – requiring less power than a light bulb
- No replacement components
- No maintenance or cleaning required
- No need for expensive PPE to protect service personnel from bio-hazard risks
- True plug and play with no installation, calibration or set up costs







### BEST-IN-CLASS OPERATIONAL PERFORMANCE

- Provides consistent “out of box” performance throughout entire operational life
- Can be used in a variety of small to large product form factors without impacting its efficacy
- Quiet operation

## Independently Tested and Proven

NanoStrike has been independently tested and proven effective at killing and deactivating the smallest of airborne viruses, bacteria, mold spores and VOCs in dozens of independent laboratory tests.

	<b>VIRUSES</b>	<ul style="list-style-type: none"> <li>• SARS-CoV-2</li> <li>• Influenza A</li> <li>• Phi X 174</li> <li>• Norovirus</li> <li>• Measles</li> </ul>
	<b>BACTERIA</b>	<ul style="list-style-type: none"> <li>• MRSA</li> <li>• <i>Bacillus subtilis</i></li> <li>• <i>Staphylococcus epidermidis</i></li> <li>• Tuberculosis</li> <li>• <i>Escherichia coli</i></li> <li>• <i>C. difficile</i></li> </ul>
	<b>MOULD SPORES</b>	<ul style="list-style-type: none"> <li>• <i>Aspergillus niger</i></li> </ul>
	<b>VOCs</b>	<ul style="list-style-type: none"> <li>• Formaldehyde</li> </ul>

REDUCING  
MS2 bacteriophage\*  
by **99.99%**  
a surrogate for **SARS-CoV-2**,  
the virus causing **COVID-19**

\*Novaerus portable devices, powered by NanoStrike Technology can help to remove airborne viruses like bacteriophage MS2, which travel in tiny aggregated droplets that can linger for hours before they settle on surfaces.