



**THE SMART CHOICE FOR HVAC&R
ANTI-MICROBIAL CLEANERS AND TREATMENTS**



Whole of System approach not only ensures HVAC&R systems perform better, last longer and cost less to run – it also helps building owners and managers create more sustainable built environments.

The Accor Hotel Group has initiated a Platinum Partnership with Aeris Environmental on energy efficiency and indoor air quality. Accor acknowledges that the partnership delivers improved energy efficiency, proven indoor air quality, extended asset life, elimination of toxic HVAC&R cleaners and provides a significant improvement in system efficiency across common areas and guest accommodation. The SmartHUB and AerisGuard™ smart hygiene system improvements target HVAC, cool room, refrigeration, kitchen range hood and ventilation systems across the Accor portfolio.

The rollout will commence in South East Asia with Novotel, Mercure, Sofitel, Pullman, MGallery, Ibis and hotelF1 properties.



Leading building owners and managers understand that air conditioning and refrigeration account for up to 60% of a business' electricity consumption plus a significant proportion of capital investment and maintenance costs. In today's competitive market, not only does it make sound financial sense to optimise HVAC&R systems, cleaner air can also improve occupant health and productivity – all with less impact on the environment.

Listed on the Australian Stock Exchange since 2002, Aeris Environmental Ltd is a world leader in the removal of, and protection from, microbial contamination as well as performance optimisation for the life of HVAC&R systems.

Proven technology derived from hospital infection microbial control, AerisGuard™ anti-microbial multi-enzyme technology safely cleans and removes contamination from coils, surfaces and ductwork as well as providing protection from recontamination.

The Smart Choice to Save Time and Money

Heat exchangers can quickly lose up to 80% system efficiency in normal operation because of airborne contaminants – resulting in higher running costs, maintenance costs, reduced occupant comfort, reduced asset life and therefore higher total cost of ownership. The AerisGuard™ range not only cleans the coil and restores the heat exchanger back to 'as new' efficiency, it also protects it from recontamination and maintains system efficiency for up to 12 months.

Independent validated testing has proven that SmartHUB can provide further savings of up to 50%. This technology can be retrofitted to new or existing equipment and offers real time measurement and verification, whilst maximising efficiency and savings for the life of the plant. Off-site monitoring and control can deliver time savings by assisting with predictive maintenance programs.

The Smart Choice for Cleaner and Healthier Air

Studies have shown that better indoor air quality (IAQ) can improve both occupant health as well as worker productivity. Cleaner filters and coils minimise the risk of Sick Building Syndrome (SBS). That's why AerisGuard™ has been the product of choice for leading hospitals, hotels, retailers and offices around the world.

The Smart Choice for the Environment

Aeris Environmental is passionate about minimising the impact of HVAC&R on the environment. Not only does it deliver significant emissions reduction by using less electricity, it is also environmentally safe and OH&S compliant. AerisGuard™ is non-corrosive and fully biodegradable – which is why AerisGuard was awarded the prestigious US Environmental Protection Agency seal of approval.

The company is also proud of its independent validation and certification from NATA, CSIRO, HACCP, NSF, TGA, and Ecospecifier.



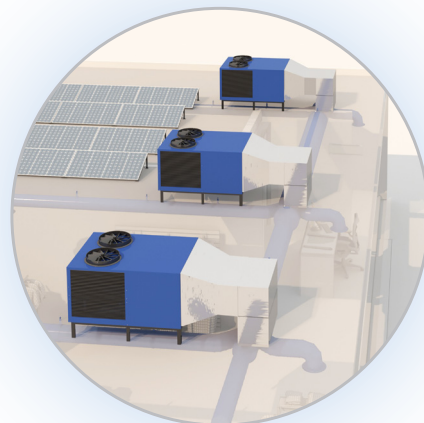
AERISGUARD™ IMPROVES WHOLE OF LIFE PERFORMANCE

AerisGuard™ Cleaners and Treatments safely clean and treat microbial contamination to improve energy efficiency, extend asset life and reduce whole of life operating cost



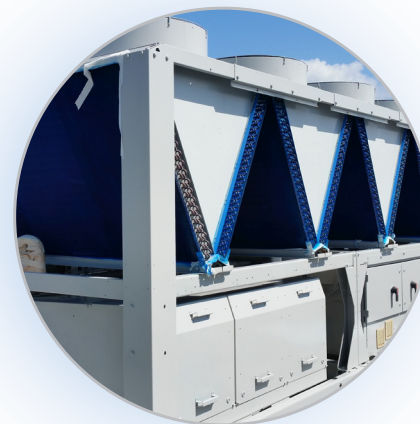
Air Conditioning Equipment

- Safely cleans and removes biofilm and other contaminants from air cooled coils, surfaces and filters
- Optimises heat exchanger performance
- Improves energy efficiency and reduces running costs
- Improves indoor air quality
- Up to 12 months anti-microbial protection



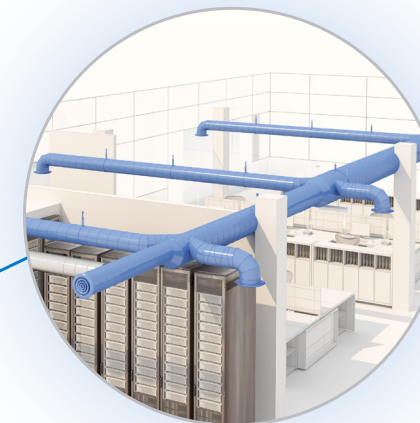
Corrosion Protection Plus

- On-site treatment provides up to 12 months corrosion protection for Coils and Surfaces
- Easy to use aerosol spray or bulk application
- Superior salt spray resistance. Tested to 12,000 hours ASTM B117-11



Duct Sealant

- Optimises efficiency by sealing air leakages.
- Improves indoor air quality.
- Up to 10 years protection from mould, mildew and bacterial growth



Cool Rooms and Refrigeration

AerisGuard™ and SmartHUB technology can be used for cool rooms and refrigeration



Kitchen Range Hood Cleaners

- Safer, easier and more hygienic method of cleaning. Simply coat and peel-off.
- Reduced downtime for the food outlet – ideal for clients with 24/7 operation
- Significantly reduces the cost of industry compliance



HACCP Approved Food and Beverage Cleaners

- Safely cleans and removes biofilm and contaminants from ice machines, beer lines and beverage processing equipment
- HACCP approved for food grade applications



AERIS ENVIRONMENTAL LEADS THE WAY FOR MORE SUSTAINABLE BUILT ENVIRONMENTS

A patented, whole of system approach not only ensures HVAC&R systems perform better, last longer and cost less to run – it also helps building owners and managers create more sustainable built environments.

A WHOLE OF SYSTEM SOLUTION TO HVAC&R OPTIMISATION



Filter Treatments

- Protects against anti-microbial growth for up to 12 months
- Optimises air flow and system efficiency
- Improves indoor air quality and minimises risk of Sick Building Syndrome from airborne contaminants
- Extends filter life



The SmartHUB Platform for compressor optimisation

- Optimises compressor performance by better matching heatload using real time dynamic demand management
- Improves energy efficiency and reduces running costs
- Retrofit solution for most HVAC&R systems



Coil Cleaners and Treatments

- Safely cleans and removes biofilm and other contaminants from air cooled coils
- Optimises heat exchanger performance by removing contaminant build-up and preventing re-contamination
- Improves energy efficiency and reduces running costs
- Improves indoor air quality
- Up to 12 months protection from mould, mildew and bacterial growth



Anti-Microbial Corrosion Resistant Coil Coating for OEMs

- Optimises heat exchanger performance
- Improves energy efficiency and reduces running costs
- Improves indoor air quality
- Up to 10 years corrosion protection
- Up to 10 years protection from mould, mildew and bacterial growth



Corrosion Protection Plus

- On-site treatment provides up to 12 months corrosion protection for Coils and Surfaces
- Easy to use aerosol spray or bulk application
- Superior salt spray resistance. Tested to 12,000 hours ASTMB117-11



Surface Cleaners and Treatments

- Safely cleans and removes biofilm and other contaminants from air handling units, surfaces and ductwork
- Improves airflow and performance
- Improves indoor air quality
- Up to 12 months protection from mould, mildew and bacterial growth



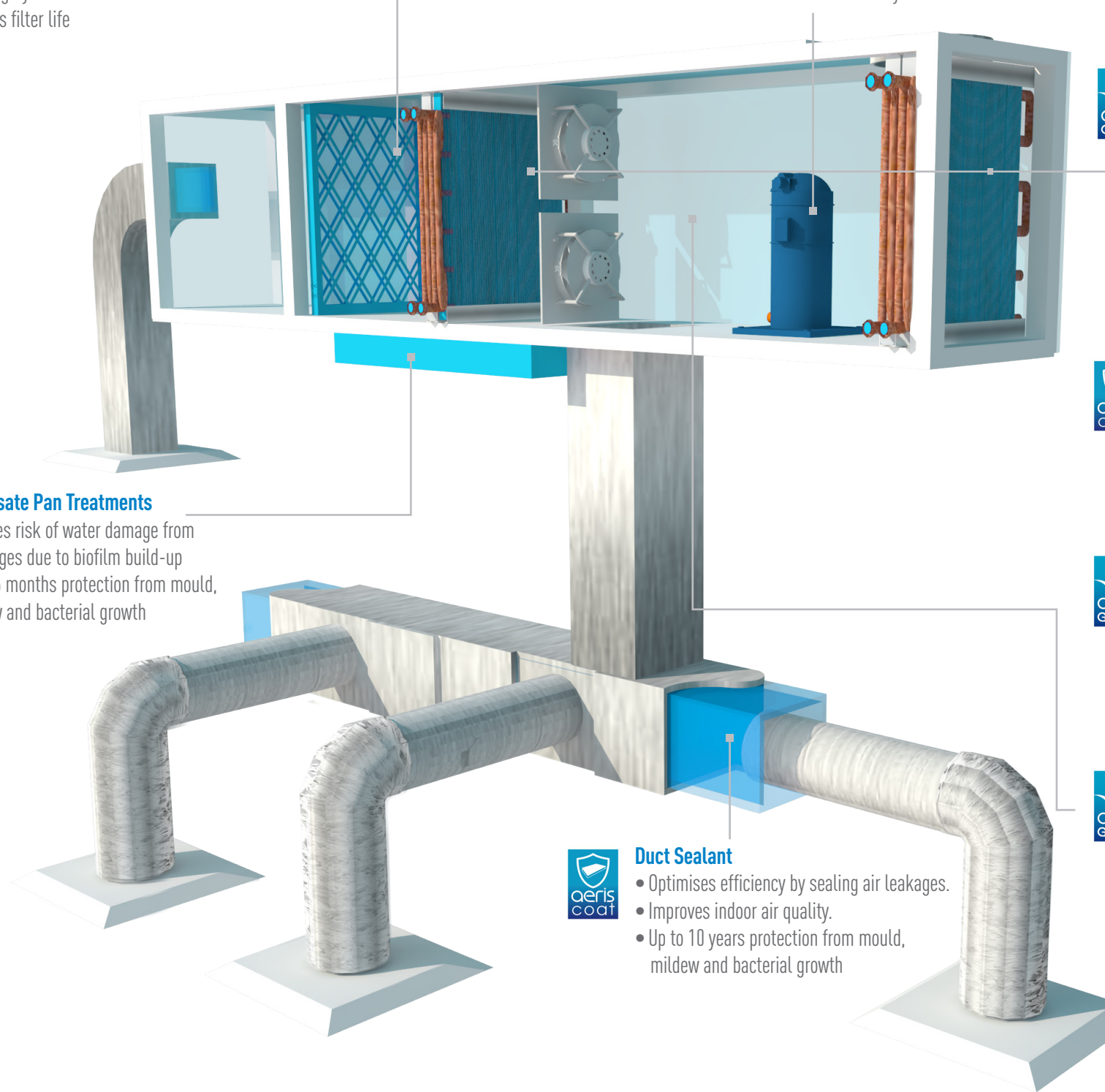
Duct Sealant

- Optimises efficiency by sealing air leakages.
- Improves indoor air quality.
- Up to 10 years protection from mould, mildew and bacterial growth

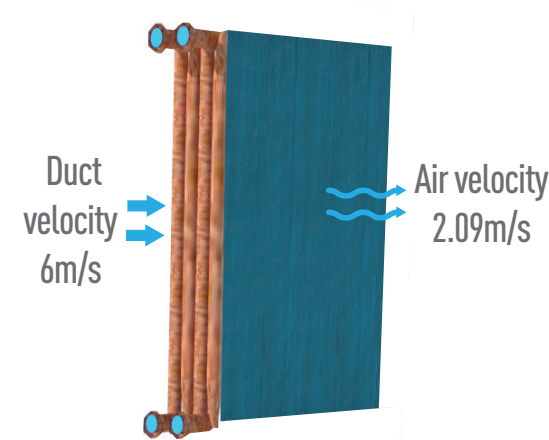


Condensate Pan Treatments

- Reduces risk of water damage from blockages due to biofilm build-up
- Up to 6 months protection from mould, mildew and bacterial growth

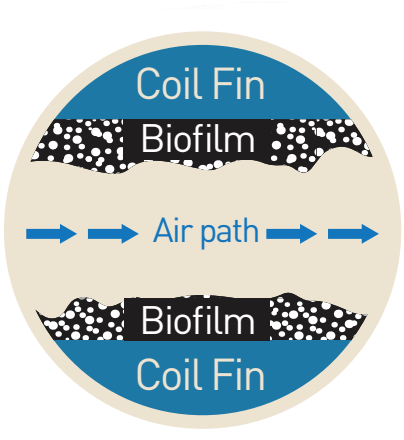


TRADITIONAL UNTREATED HVAC&R COIL



Over time, environmental corrosion can cause the coils and duct surface to deteriorate and metal oxides (rust) to form.

Dirt, dust, salt spray and other organic particles can also build up. Together with mould, fungi and bacteria, a biofilm can form around an air conditioner's coil or surface.



This biofilm reduces airflow and prevents the heat exchanger from working effectively. This can increase running costs as energy consumption rises during the heating and cooling cycle.

In addition, the biological contaminants in the recirculated air can affect indoor air quality and potentially result in occupant health issues.

* Results are based on Aeris Environmental Case Study for a leading Retailer in Townsville.
Actual results will vary depending on project and application. Refer to Case Study for more details.



Reduces running costs for air conditioning and refrigeration



Optimises heat exchanger efficiency



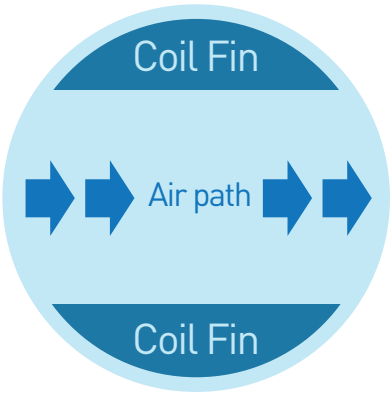
US EPA approved

HOW AERISGUARD™ WORKS

THE AERISGUARD™ OPTIMISATION PROCESS



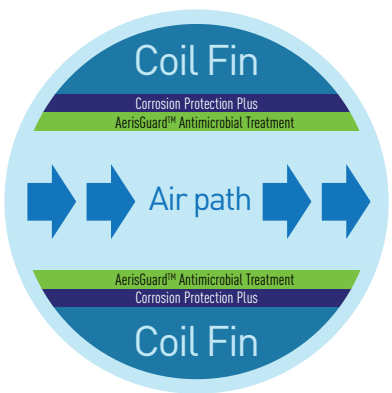
CLEANS



AerisGuard™ cleaners use patented anti-microbial multi-enzyme technology, which is non-toxic and non-acidic to breakdown and digest the biofilm and other contaminants. This is easily removed using a water pressure cleaner.



PROTECTS



AerisGuard™ Treatment is then applied to create a biostatic protective coating on the surface. This provides up to 12 months residual protection to control and prevent mould, fungi and odour causing bacteria. Ideal as part of an annual maintenance program.

AerisGuard™ Corrosion Protection Plus can be applied on-site to deliver superior corrosion protection from the elements.



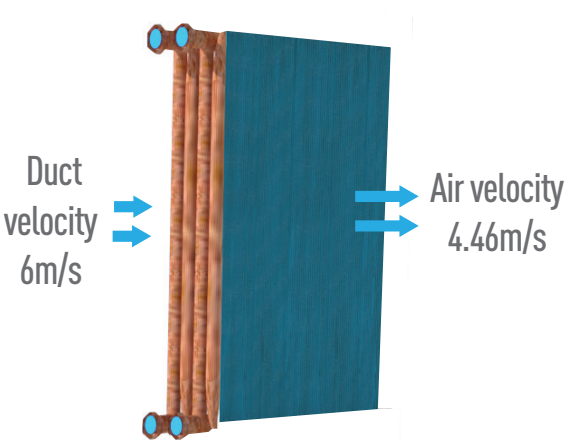
Safer for waterways and the environment



Cleaner, healthier air to minimise sick building syndrome and reduce worker absenteeism



OPTIMISES



Cleaner coils and surfaces result in improved air flow and more efficient heat exchange during the heating and cooling cycle.

Not only does this mean lower running costs, it also delivers cleaner, healthier air and improved occupant comfort.





















































Non corrosive for safer working conditions and less risk of property damage

AERISGUARD™
ANTI-MICROBIAL MULTI
ENZYME TECHNOLOGY

Safely cleans and
removes contaminants as
well as protecting from
recontamination

AERIS PRODUCT SELECTOR

CHOOSING THE RIGHT CLEANERS & TREATMENTS

What it does			Applications	SURFACE MATERIALS					
				Aluminium	Copper	Stainless Steel	Painted Surfaces	Plastic / Rubber	
 CLEANS		Multi Enzyme Coil Cleaner	Removes biofilm and organic material	   	✓	✓	✓	✓	✓
		Outdoor Surface & Coil Cleaner	Removes grease and scale		✓	✓	✓	✓	✓
		Surface Cleaner & Sanitiser	Cleans & sanitises surfaces	 	✓	✓	✓	✓	✓
		Heavy Duty Cleaner	Removes grease	  	✓	✓	✓	✓	✓
		Ice Machine Cleaner	Cleans, sanitises and descales		✓	✓	✓	✓	✓
 PROTECTS		Bioactive Coil Treatment	 Up to 12 months anti-microbial protection	   	✓	✓	✓	✓	—
		Bioactive Surface Treatment	 Up to 12 months anti-microbial protection	 	✓	✓	✓	✓	✓
		Bioactive Filter Treatment	 Up to 12 months anti-microbial protection		✓	✓	✓	✓	✓
		Condensate Pan Treatments	 Up to 6 months anti-microbial protection	  	✓	✓	✓	✓	✓
 PROTECTS		Duct Sealants	 Up to 120 months anti-microbial protection		✓	✓	✓	—	—
		Range Hood Coating	Paint on, peel off for easy cleaning		✓	✓	✓	—	—
 PROTECTS		Maintenance Corrosion Protection	 Up to 12 months corrosion protection for coils and surfaces	    	✓	✓	✓	—	—



HOW IT WORKS

Over time, environmental corrosion can cause the coils and duct surface to deteriorate and metal oxides (rust) to form. Dirt, dust, salt spray and other organic particles can also build up. Together with mould, fungi and bacteria, a biofilm can form around an air conditioner’s coil or surface.

This biofilm reduces airflow and prevents the heat exchanger from working effectively. This can increase running costs as energy consumption rises during the heating and cooling cycle. In addition, the biological contaminants in the recirculated air can affect indoor air quality and potentially result in occupant health issues.



CLEANS

AerisGuard™ cleaners use patented anti-microbial multi-enzyme technology, which is non-toxic and non-acidic to breakdown and digest the biofilm and other contaminants. This is easily removed using a water pressure cleaner.



PROTECTS

AerisGuard™ Treatment is then applied to create a biostatic protective coating on the surface. This provides up to 12 months residual protection to control and prevent mould, fungi and odour causing bacteria. Ideal as part of an annual maintenance program.



OPTIMISES

Cleaner coils and surfaces result in improved air flow and more efficient heat exchange during the heating and cooling cycle. Not only does this mean lower running costs, it also delivers cleaner, healthier air and improved occupant comfort.

AERISGUARD™ vs OTHER TECHNOLOGY

AERISGUARD™ COIL AND SURFACE CLEANERS

	AerisGuard™ Cleaners and Treatments	Other Enzymatic Cleaner	Traditional Caustic/ Acidic Cleaner	Comparison
Fast and effective removal of biofilm using multi-enzyme technology	✓	✗	✗	Independent laboratory testing confirmed that AerisGuard™ patented multi-enzyme cleaners were faster and more effective cleaners because traditional cleaners had little or no enzyme activity and did not effectively remove biofilm growth.
System ready to run after process	✓	✗	✗	On completion of the AerisGuard™ Process of cleaning and treatment the plant is put back into operation immediately. Traditional cleaners require prolonged application times (up to 30 hours by manufacturers specifications) this leaves fouling in the coil and the system cannot be run due to strong odours.
Non-corrosive. No risk of asset corrosion during cleaning. Same pH as potable water.	✓	✗	✗	Unlike traditional caustic cleaners, AerisGuard™ patented multi enzymes will not corrode or damage the surface of the coil because it has the same pH as potable water and only cleans and digests biofilm.
Safe for waterways and the environment. No costly removal of dangerous chemicals from site.	✓	✗	✗	AerisGuard™ has the same pH as potable water and biodegradable - which is safe for waterways and the environment. Other enzymatic and traditional cleaners, are highly acidic or caustic - and cannot be disposed into the waterways.
12 months anti-microbial protection	✓	✗	✗	After cleaning, the AerisGuard™ Treatments are applied to provide up to 12 months protection from re-contamination. Other processes clean but do not provide ongoing protection against microbial growth.
Reduced running costs for plant	✓	✗	✗	AerisGuard™ process will maintain the cleanliness of the coil, improving system efficiency through maintained heat transfer and improved airflow.
Government Financial rebates	✓	✗	✗	AerisGuard™ process is a crucial part of the SmartHUB system that has been approved for Energy Certificates as a financial incentive to reduce energy in Australia.
US EPA approved antimicrobial protection	✓	✗	✗	The long lasting antimicrobial protection has been verified by the US EPA.
HACCP approved for use in Food Industry	✓	✗	✗	AerisGuard™ range have been approved by HACCP for use in the food industry
Complete HVAC&R hygiene solution	✓	✗	✗	Aeris is a whole of system HVAC&R optimisation process. It Cleans, Protects and Optimises.



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