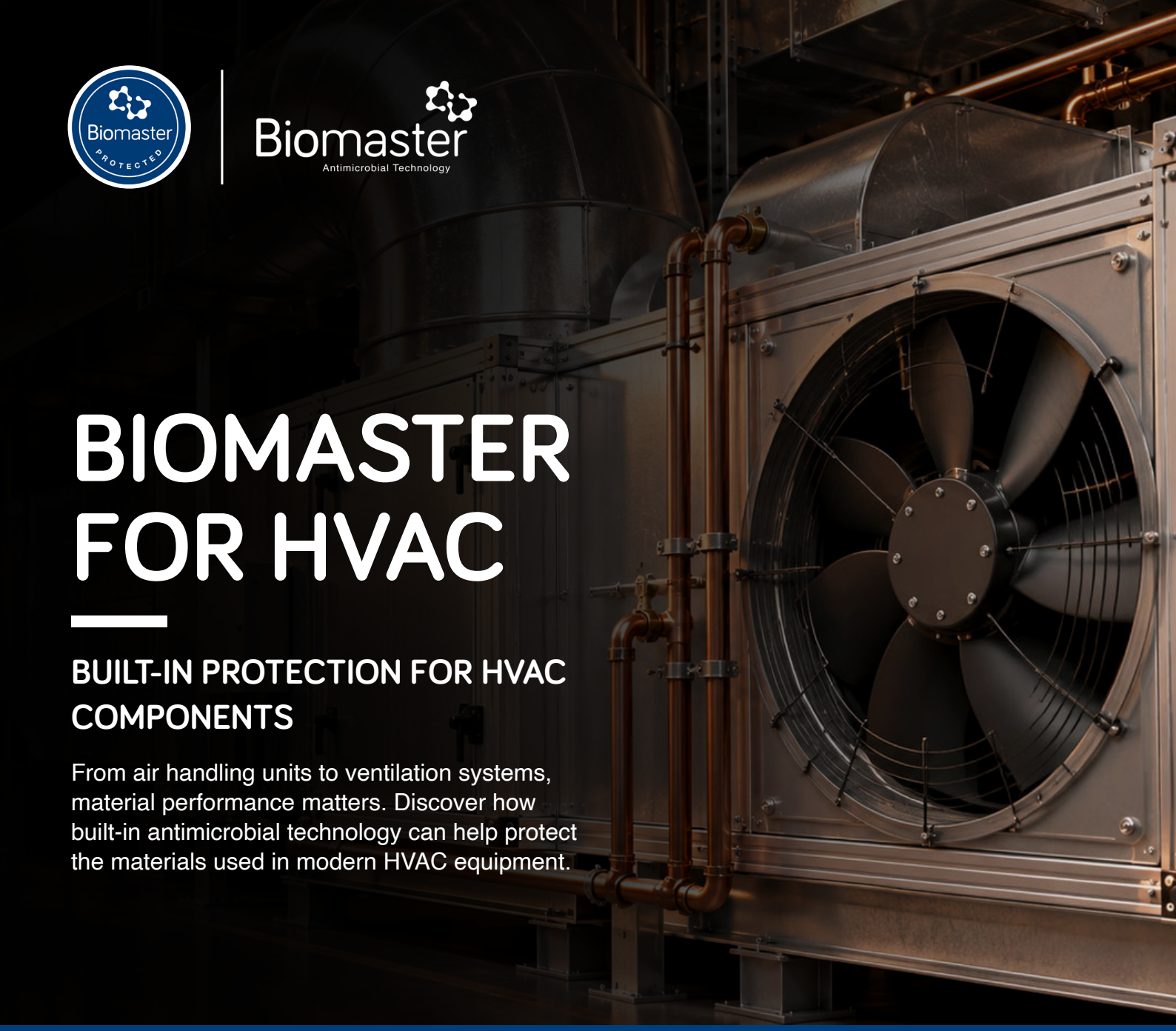


Biomaster
Antimicrobial Technology

BIOMASTER FOR HVAC

BUILT-IN PROTECTION FOR HVAC COMPONENTS

From air handling units to ventilation systems, material performance matters. Discover how built-in antimicrobial technology can help protect the materials used in modern HVAC equipment.

THE CHALLENGE OF MICROBIAL GROWTH IN HVAC SYSTEMS

Research into commercial air-conditioning systems highlights how microorganisms can accumulate on cooling coils, with moisture levels and filtration influencing microbial loading.

40
Commercial AC units studied

12 MILLION
Median bacterial cells per m² of cooling coil

760,000
Median fungal spore equivalents per m²

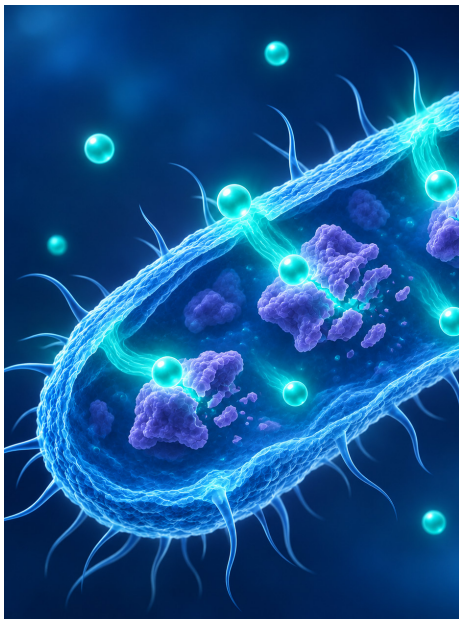
For HVAC manufacturers, protecting susceptible component materials against microbial growth is another consideration when developing equipment for demanding operating environments.

Source: Bakker et al., Indoor Air (2018), 28, 689–696. Figures are observational findings from commercial cooling coils, not Biomaster performance results.

HOW BIOMASTER WORKS

Biomaster antimicrobial technology can be incorporated into suitable HVAC plastics and coatings during manufacture. It inhibits microbial growth on the treated material that can contribute to odours, staining and deterioration.







01

DISRUPT

Biomaster binds to the cell wall of bacteria, disrupting its structure and preventing normal growth.

02

INHIBIT

Biomaster interferes with vital enzymes inside the bacterial cell, preventing the production of energy and essential nutrients.

03

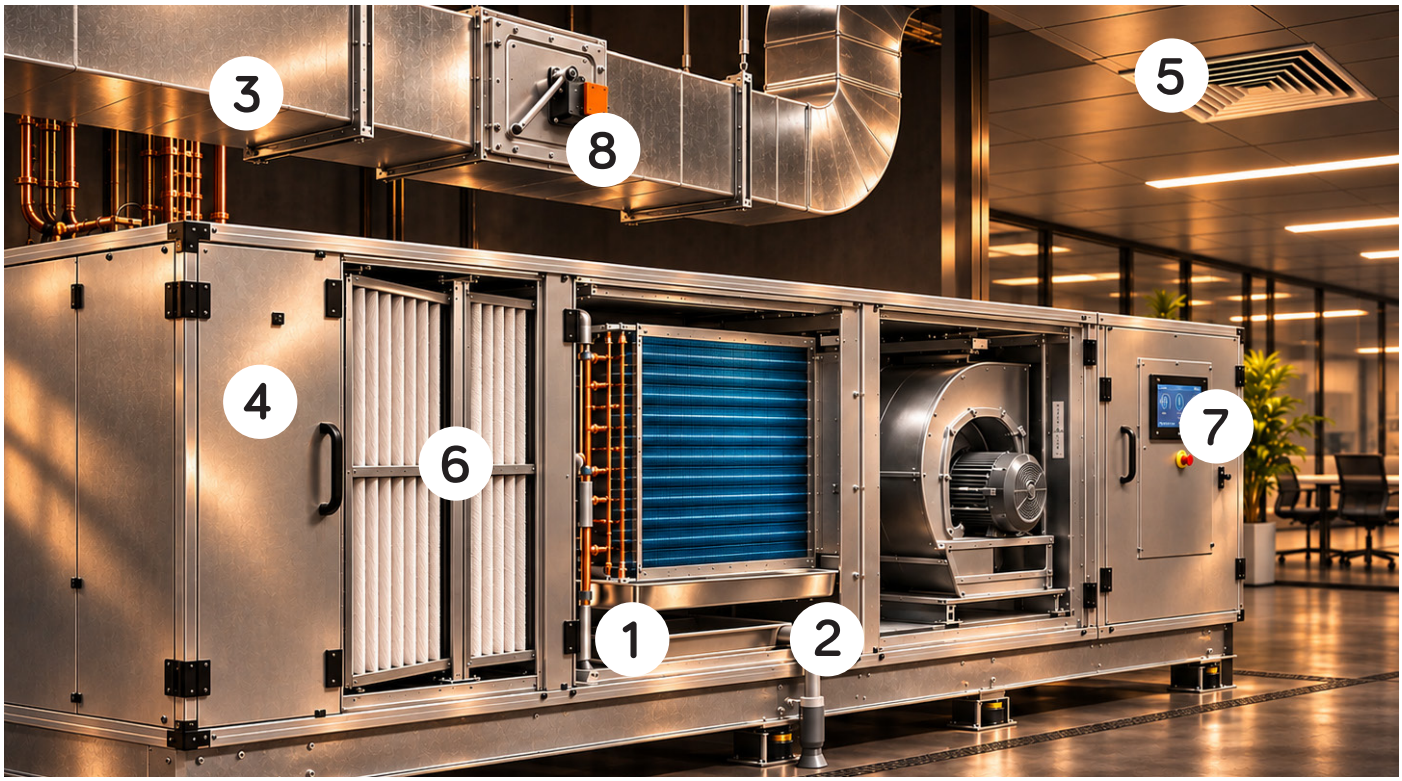
PREVENT

Biomaster penetrates the cell and binds to the DNA, preventing replication and stopping the bacteria from multiplying.

Biomaster is for treated-article protection only. It does not purify air, protect people from pathogens or replace routine cleaning, filtration or maintenance. Performance must be verified for each finished application.

BIOMASTER APPLICATIONS

Potential antimicrobial product protection points across modern HVAC equipment and ventilation systems. The right formulation begins with the material, manufacturing process and operating environment.



1 CONDENSATE TRAYS
Suitable polymer or coated condensate collection trays and reservoirs.

2 CONDENSATE DRAINAGE COMPONENTS
Suitable polymer drain outlets, traps and associated drainage components.

3 DUCTWORK COMPONENTS
Suitable polymer-based ducting, connectors and coated internal panels.

4 AIR HANDLING UNIT HOUSINGS
Moulded polymer covers, internal panels and compatible coated surfaces.

5 GRILLES & DIFFUSERS
Polymer and coated air distribution components.

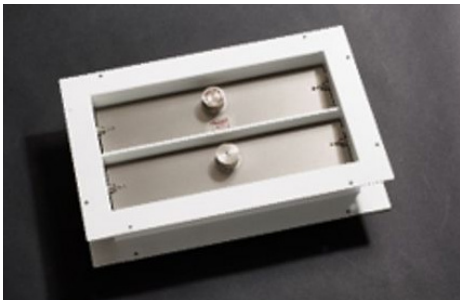
6 FILTER FRAMES & HOUSINGS
Suitable plastic filter frames, supports and enclosures.

7 CONTROL COMPONENTS
Thermostat housings, control panels, buttons and bezels.

8 VENTILATION FITTINGS
Selected valves, dampers, access covers and associated components.

PROVEN IN HVAC APPLICATIONS

AERCON



Since 2005, specialist ventilation manufacturer Aercon has incorporated Biomaster into powder coatings used on its air pressure stabilisers and control valves. Integrated during manufacture, Biomaster inhibits microbial growth on treated surfaces, providing built-in antimicrobial product protection for HVAC components.

MORE THAN AN ADDITIVE

PART OF THE POLYGIENE GROUP

POLYGIENE®

Addmaster is part of Polygiene Group, bringing specialist material technologies to manufacturers worldwide. With more than 25 years of additive development experience, we help HVAC manufacturers incorporate built-in antimicrobial protection into suitable plastics, coatings and components, supported by technical expertise, testing and regulatory guidance.

A TRUE PARTNERSHIP

Complimentary expertise from concept to commercialisation.

TECHNICAL

Formulation, manufacturing trials and performance testing.

REGULATORY

Guidance on market requirements and responsible product claims.

MARKETING

Co-branding, sales materials and product communication.

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