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HIROCLEAN-AIR PRESENTATION

OPTIMISE YOUR HVAC FOR ENERGY EFFICIENCY AND SAVINGS

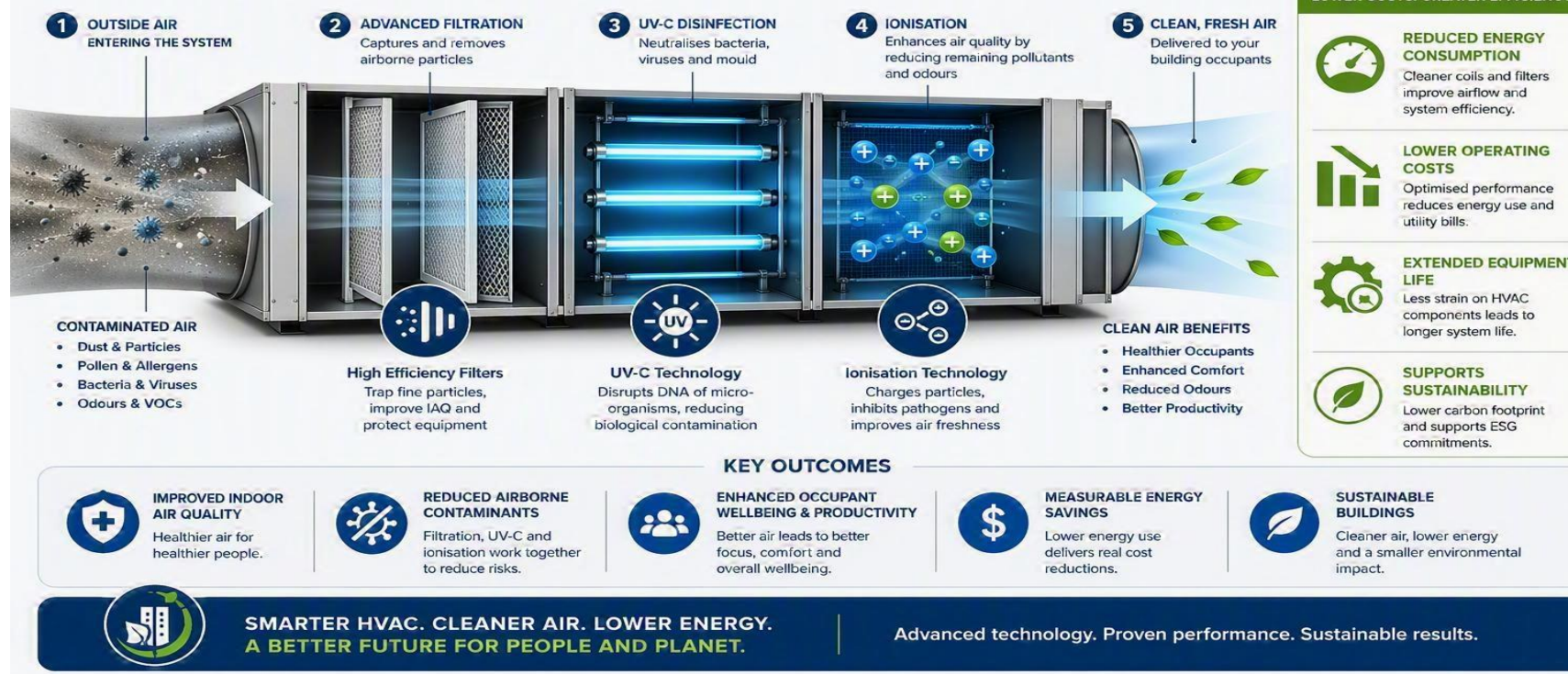
“Clean Air + Energy Efficiency = Smarter Buildings”

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OPTIMISE HVAC PERFORMANCE

CLEANER AIR. LOWER ENERGY. BETTER OUTCOMES.

Optimising your HVAC system through advanced filtration, UV-C and ionisation technologies **improves indoor air quality**, reduces airborne contaminants and delivers **sustainable energy savings**.



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Maintenance

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HVAC MAINTENANCE IS CRITICAL!

Maintenance and access are critical factors in the complying with the requirements of AS3666 and AIRAH DA19, as well as ensuring your asset life cycle.

Maintenance records will need to be reviewed to assess status of HVAC system maintenance and associated tasks.

Any proposed energy savings and infection control mitigation strategies are ineffective without being coupled with effective maintenance strategies.

Hiroclean-air highlights maintenance areas that require attention that may not be incorporated in traditional maintenance planning with technology optimisation..



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Our Approach

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PHASE 1: SITE INSPECTION

- Initial site inspection to understand current ventilation make up.
- Assess any latent conditions/equipment suitability.
- Determine air quality infrastructure is needed.
- Determine which aspects of Feasibility phase.

PHASE 3: IMPLEMENTATION

- May include:
 - installation of new equipment/technologies.
 - changes to maintenance strategies.
 - education on clean air principles based on the implemented program.

PHASE 2: FEASIBILITY

- Documenting improved and/or upgraded ventilation operations.
- Feasibility Report capturing suggested requirements, benefits and life cycle.
- Client considerations and options presented.

PHASE 4: ONGOING TESTING, MAINTENANCE & MONITORING

- Client reporting on sustainability outcomes.
- Education on health of building occupants and employee well being.
- Protecting HVAC systems, associated components and infrastructure.

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Solutions

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HIROCLEAN-AIR “SOLUTIONS”

SEAMLESS INTEGRATION ACROSS THE ENTIRE AIR FLOW STREAM

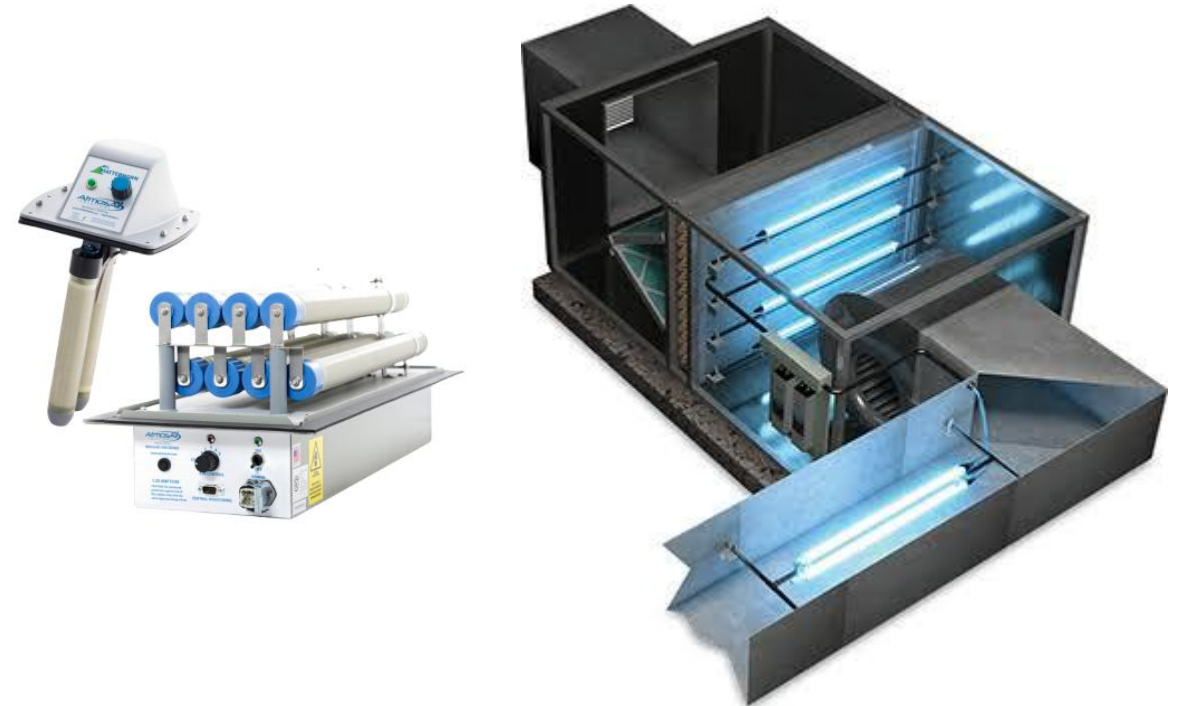
Ultraviolet Sterilisation Equipment

Bi-Polar Ionisation Air Purifier

Filter Optimisation

Coil Cleaners

Corrosion Protection



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Solutions-In the System

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ULTRAVIOLET STERILISATION

Clean airstreams in the HVAC coil system

Eliminates mould and containment coil build up

Optimises the HVAC system for unencumbered air flow

Complements filter capture

Improve energy efficiency

Improves equipment life span



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Solutions-In the Space

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DBD-BI-POLAR IONISATION

In the space complementary air cleaning technology.

Maintains healthy air quality and control in populated environments.

Continuous protection against harmful pathogens.

Helps reduce odours, mold, viruses, bacteria and VOCs.

Enables reduced external air calculation for HVAC energy savings.

Provides a healthy and safe indoor working environment.



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Monitoring

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IEQ PACKAGES & MONITORING

Enhance employee comfort and wellbeing with installed air quality monitoring units.

Ensure a comprehensive assessment of ventilation and quality across different areas of any given workspace

Showcase with effect displays of indoor environmental quality

Provides clients with real measurable indoor air quality records for WELL, Leed and/or other sustainable standards.

HiroLytics can provide stand alone monitoring without the need for integration to existing BMS controls systems. Easy to install providing immediate data on your facility.



Temperature (°F/°C) $\pm 0.3^{\circ}\text{C}$, Relative Humidity (RH) $\pm 2\%$
Carbon Dioxide (CO₂): 400-5000 ppm ± 25 ppm, $\pm 3\%$ of reading
Volatile Organic Compounds (VOC): 0-60000 ppb
Particulate Matter (PM): PM1.0, PM2.5, PM4.0, PM10 ($\mu\text{g}/\text{m}^3$)
#particles 0.3 to $x \mu\text{m}/\text{cm}^3$ of Air ($x = 0.5, 1.0, 2.5, 4.0, 10$)
PM2.5: 0-1000 $\mu\text{g}/\text{m}^3$, $\pm 10\%$

Carbon Monoxide (CO): 0-1000ppm, $\pm 3\%$
Formaldehyde (HCHO): 0-2.5 mg/m³, $< \pm 5\%$
Hydrogen Sulfide (H₂S): 0-10ppm, $\pm 3\%$
Nitrogen Dioxide (NO₂): 0-20ppm, $\pm 3\%$
Sulfur Dioxide (SO₂): 0-20ppm, $\pm 3\%$
Ozone (O₃): 0-0.5 ppm, $< \pm 0.008$ ppm for 0-0.1 ppm

Light: Lights On/Off based on lux threshold
Motion: Up to 5m or 12m Detection Distance
Pressure: 0-1psi; $\pm 0.25\%$
Sound: 30dBa-130dBa, $\pm 1.5\text{dBa}$; 31.5Hz to 8.5KHz
Vibration: Roll/Yaw Range: $\pm 180^{\circ}$; Pitch Range: $\pm 90^{\circ}$; Accelerometer Range: $\pm 2g$; Gyroscope Range: $\pm 2000^{\circ}/\text{s}$



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Carbon Dioxide (CO₂): 400-5000 ppm ± 25 ppm, $\pm 3\%$ of reading
Volatile Organic Compounds (VOC): 0-60000 ppb
Particulate Matter (PM): PM1.0, PM2.5, PM10 ($\mu\text{g}/\text{m}^3$ and pcs/L)
0.3-10 μm diameter: 0-1000 $\mu\text{g}/\text{m}^3$, $\pm 3\%$
Ions (-): selectable from: 0-10k, 0-100k, or 0-1M ions/cc

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Energy Efficiency & Savings

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HVAC OPTIMISATION SOLUTIONS

Filtration-The right filtration selection for enhanced particle capture and minimising maintenance costs on replacement.

UVC-Coil for continuous cleaning, ensuring a permanent active cleaning solution in the HVAC coil system.

DBD Bipolar Ionisation-For occupants, staff and employees in the space reducing aerosols and person to person risk transmission.

Energy savings-With the right combination of technologies from an asset and equipment inspection, energy savings in your HVAC system are realised by reduction in the dilution factor with added scope 2 emissions reduction opportunities.

Hiroclean-air adopts the latest real world proven technologies and solutions all governed within the standards to ensure a suite of HVAC optimisation for an engineered performance-based solution.



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