

# PRODUCT BROCHURE

INNOVATING SPACES THAT HEAL





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2019-2025

+50

SHENZHEN

+20



Founded

Team

Location

Installation

# About Us.

Founded in 2019 in Shenzhen, ICARELIFE delivers innovative modular operating theater (MOT) solutions. With expertise in air treatment and hygiene technologies, including leadership in PAPR solutions during COVID-19, we focus on creating clean and efficient healthcare environments.

Our key products—hermetic doors, Corian scrub sinks, and surgical control panels—set new standards in hygiene and design. Expanding into wall panels, embedded cabinets, laminar airflow ceilings, and HVAC systems, we provide a complete modular OT ecosystem.

Partnering with MOT and medical cleanroom contractors, we offer cost-effective, high-quality solutions through China's advanced supply chain. Driven by innovation, we're transforming healthcare spaces worldwide.



# Vision & Mission

## VISION

To be the global leader in empowering modular OT and medical cleanroom contractors, transforming healthcare spaces through innovation, efficiency, and design.

## MISISON

To continuously innovate and provide integrated, cost-effective solutions that enhance hygiene, improve efficiency, and elevate patient care—helping healthcare providers create safe, efficient, and healing environments.





# Our Philosophy.

Deliver exceptional value to customers by combining cost efficiency, quality innovation, and aesthetic design, supported by a professional and passionate team dedicated to excellence.



# Our Values.

## **CREATE VALUE CONTINUOUSLY**

Strive to bring cost-effective, innovative solutions that deliver measurable benefits.

## **LOVE LIFE, LEAD WITH PASSION**

A positive and passionate mindset drives everything we do

## **INTEGRITY AND RESPECT**

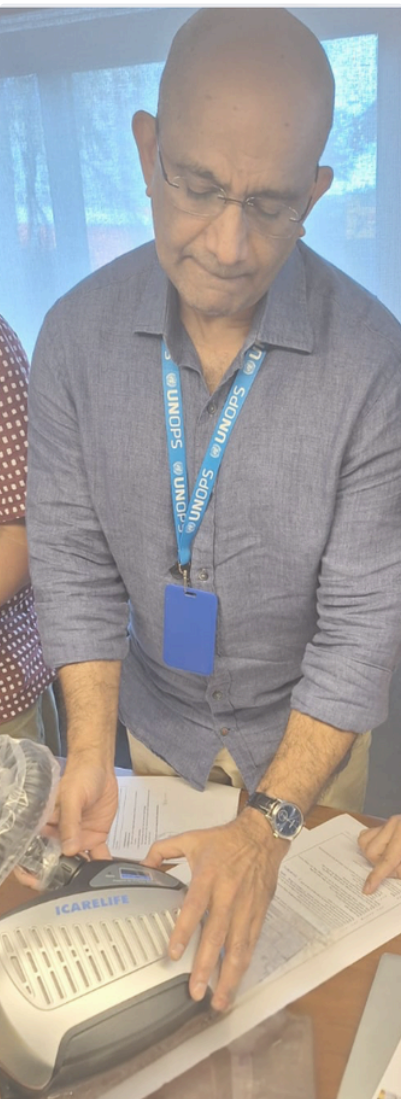
Honesty and fairness define our relationships.

## **RELENTLESS QUALITY**

We never compromise on excellence.

At ICARELIFE, we believe in creating value by combining innovation and efficiency, embracing life with passion, and maintaining the highest standards of integrity and quality.





## CUSTOMER SUCCESS STORIES

ICARELIFE has a proven track record of success, including market leadership in PAPR solutions in ASEAN and Europe during the pandemic, trusted by **UNOPS(United Nations Office for Project Services.)** to deliver critical hygiene solutions under challenging conditions.

## INDUSTRY POSITION

ICARELIFE is an innovator and competitive player in the modular OT market, addressing gaps in contractor support and leveraging China's unmatched supply chain efficiency. By offering high-quality, cost-effective solutions, we empower contractors to excel in delivering world-class healthcare environments.

# BIOAIRO® MODULAR AIR HANDLING UNIT

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# BIOAIRO® COMPACT MODULAR AHU

The ICARELIFE Compact Modular AHU is an advanced air handling solution designed specifically for cleanrooms, operating rooms, and ICU environments. With its space-saving design and plug-and-play installation, it eliminates the need for dedicated AHU rooms, significantly reducing construction costs and simplifying system integration.



## Compact Modular AHU



## Conventional AHU

	ICARELIFE Compact Modular AHU	Conventional AHU
Size and Design	Compact design with integrated functionality.	Large and bulky, requiring more space.
Space Requirement	No need for a dedicated equipment room.	Requires a separate equipment room for installation.
Installation	Plug-and-play, easy installation.	Complicated installation requiring more labor.
Modularity	Highly modular for flexible configurations.	Modular but less integrated; assembled on-site.
Noise Level	Ultra-low noise operation with advanced EC fans.	Relatively louder due to older fan technologies.
Maintenance	Easy access to components, reduced downtime.	Time-consuming maintenance with more complex layouts.
Aesthetic Design	Modern and compact for seamless integration.	Industrial look, less focus on aesthetics.
Cost Efficiency	Lower overall costs due to compact design and ease of installation.	Higher costs due to large size and complex setup.
Weight	Lightweight structure for easy handling.	Heavy structure, difficult to transport and install.
Noise Reduction	Internal noise reduction treatments for silent operation.	Limited noise reduction capabilities.



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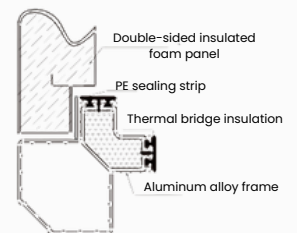


## Outdoor Unit

**High-efficiency scroll compressor with low noise, stable performance, and durable operation.**  
**Designed for diverse climates with efficient cooling, ensuring smooth operation.**  
**R410A Refrigerant, eco-friendly and efficient.**

## Cabinet

**High-strength structural materials, with a compact design to reduce vibrations and noise.**  
**Double-layer thermal insulation for optimal energy efficiency.:**  
**Anti-corrosion coating ensures long-term operation in various conditions.**



## Filters

**G4, medium, and high-efficiency filters.**  
**Filters ensure air cleanliness, removing particulates and harmful microorganisms effectively.**  
**Easy to replace, with long service life.**

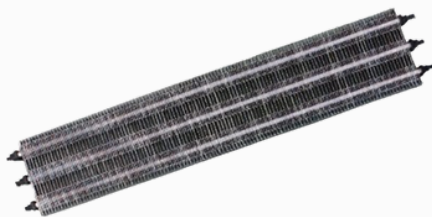
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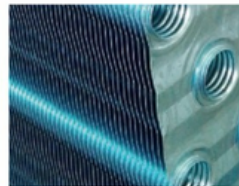
## Cooling/Heating Coil

**Premium-quality copper with anti-corrosion treatment.:**  
**Provides excellent thermal exchange efficiency, suitable for diverse climates.**  
**Long-lasting durability with easy cleaning access.**



## Advanced Air Supply Fan

**High efficiency with direct-drive backward-curved fans.**  
**Low operational noise for a quieter environment.**  
**Stepless control for precise airflow adjustment (0% to 100%).**  
**Energy optimization to reduce consumption while ensuring optimal air delivery.**



## Electric Heating

**PTC Electric Heater: Ensures safe and efficient heating without dust accumulation, maintaining uniform heat distribution.**

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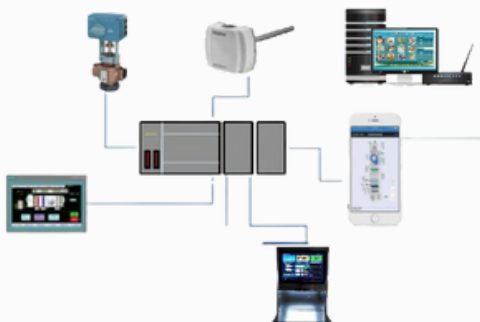
## Humidifier

**Type:** Electrode-type humidifier with adjustable output.

**Ease of Maintenance:** Washable and replaceable steam cylinder for convenient operation.

**Hygiene:** Stainless steel pipes ensure clean, contamination-free humidification.

**Durability:** Stainless steel construction prevents bending and blockages, reducing failure rates.



## Damper

**Material:** Aluminum alloy damper with aerofoil blades for minimal airflow resistance and efficient air distribution.

**Sealing:** Rubber strips ensure superior airtightness.

**Mechanism:** Concealed gear drive ensures smooth, jam-free operation.

**Integration:** Automatic actuators link return and fresh air dampers with the fan to prevent backflow and contamination.



## Intelligent Control System

**Precise Airflow Control:** Wide-range adjustment, resolving airflow issues caused by filter clogs.

**Energy Efficiency:** Optimizes fresh air usage, reducing energy consumption.

**Real-Time Monitoring:** Tracks filter performance, indoor air quality (CO<sub>2</sub>, PM2.5, VOC), and system operation.

**Integrated Design:** Year-round temperature and humidity control for seamless operation.

# BIOAIRO® COMPACT MODULAR AHU



## Technical Specifications

Main Section	Model	TAHM3.0H-ZS	TAHM5.0H-ZS	TAHM10.0H-ZS
Fan Unit	Airflow Rate (Supply)	3000 m³/h	5000 m³/h	10000 m³/h
	Airflow Rate (Fresh)	1000 m³/h	1600 m³/h	1600 m³/h
	External Static Pressure	550 Pa	550 Pa	550 Pa
	Fan Type	German EC Fan	German EC Fan	German EC Fan
	Fan Power	1.3 kW	2.2 kW	2.2+2.0 kW
Cooling Coil	Cooling Capacity	24 kW	42 kW	42 kW
	Heating Capacity	10 kW	17 kW	17 kW
	Water Flow Rate	3.96 T/h	7.20 T/h	7.20 T/h
	Water Resistance	12 kPa	20 kPa	20 kPa
Electric Heater	Electric Heating Total Power	6 kW	12 kW	12 kW
	Control Levels	1:2:3	2:4:6	2:4:6
Humidifier	Humidifier Capacity	8 kg/h	15 kg/h	15 kg/h
	Humidifier Power	6.0 kW	11.3 kW	11.3 kW
Filters	Filter Grade	G4+F8	G4+F8	G4+F8
Others	Sterilization Device	UV Lamp	UV Lamp	UV Lamp
	Total Power	13.3 kW	25.5 kW	27.5 kW
	Power Supply	380/3/50	380/3/50	380/3/50
	Unit Noise	56 dB(A)	59 dB(A)	62 dB(A)
	Unit Dimensions	W2030×D750×H1980 mm	W2320×D750×H1980 mm	W2320×D750×H3000 mm
	Unit Weight	340 kg	420 kg	650 kg

Outdoor Unit	TCS10/D	TCS15/T	TCS15/T
Compressor Power	9.3 kW	14.3 kW	14.3 kW
Outdoor Unit Dimensions	W1000×D900×H1260 mm	W1700×D900×H1300 mm	W1700×D900×H1300 mm
Outdoor Unit Weight	250 kg	360 kg	360 kg



# BIOAIRO® COMPACT MODULAR AHU



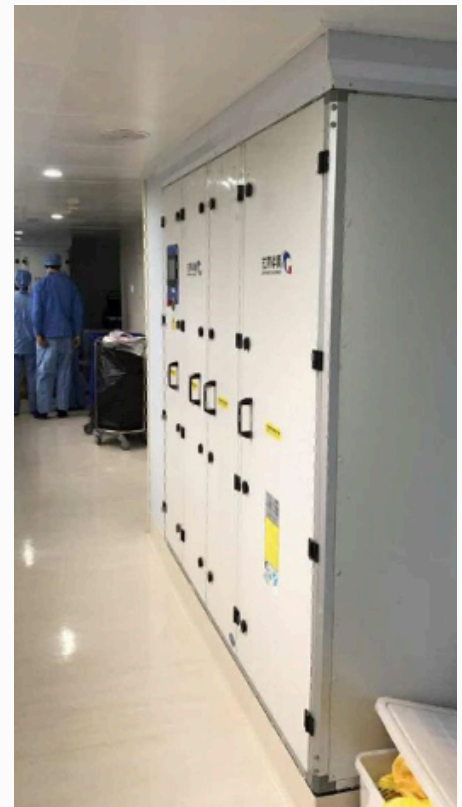
## Data Sheet

Category	Parameter	Specification
	Model Range	CM-AHU-3000, CM-AHU-5000, CM-AHU-10000
Design Features	Footprint	≤ 50% of conventional AHU systems
	Installation Environment	No dedicated AHU room required; direct corridor installation
	Construction Material	Double-layer aluminum alloy panels with cold bridge thermal break
	Noise Level	≤ 56 dB(A) at 1-meter distance
	Maintenance Accessibility	Tool-free access panels for easy component replacement
Performance	Energy Efficiency	≥ 90% with EC plug fans (German origin)
	Air Volume	0–100%, seamless adjustment via intelligent control
	Temperature Control	±1°C fluctuation
	Humidity Control	±3% relative humidity fluctuation
	Filter System	Dual-stage: G4 (pre-filter) + F8 (fine filter) achieving ≥ 99.95% particle filtration
	UV Sterilization	Integrated UV-C lamp with automatic power cutoff during maintenance
Control & Intelligence	Control System	Siemens PLC with BMS (Building Management System) integration
	Monitoring Capabilities	Real-time CO <sub>2</sub> , PM2.5, VOC, and differential pressure monitoring
Compliance	Standards	ISO 14644-1 (Cleanroom Classification), GB/T 19569-2004, EN 1886 (Mechanical Performance)
	Certifications	CE, RoHS, ISO 9001
Customization	Options	Tailored sizes, configurations, and finishes to meet specific project needs
	Modularity	Fully modular design for quick scalability
Operational Benefits	Energy Savings	Direct energy savings through state-of-the-art EC fans
	Installation Cost	Reduced site preparation costs due to compact design
	Maintenance	Predictive maintenance alerts and modular replacements
Warranty	Period	5 years for structural components, 2 years for electrical components



# BIOAIRO® COMPACT MODULAR AHU

## Application



# ICARELIFE

INNOVATING SPACES THAT HEAL



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CARING SPACES THAT HEAL