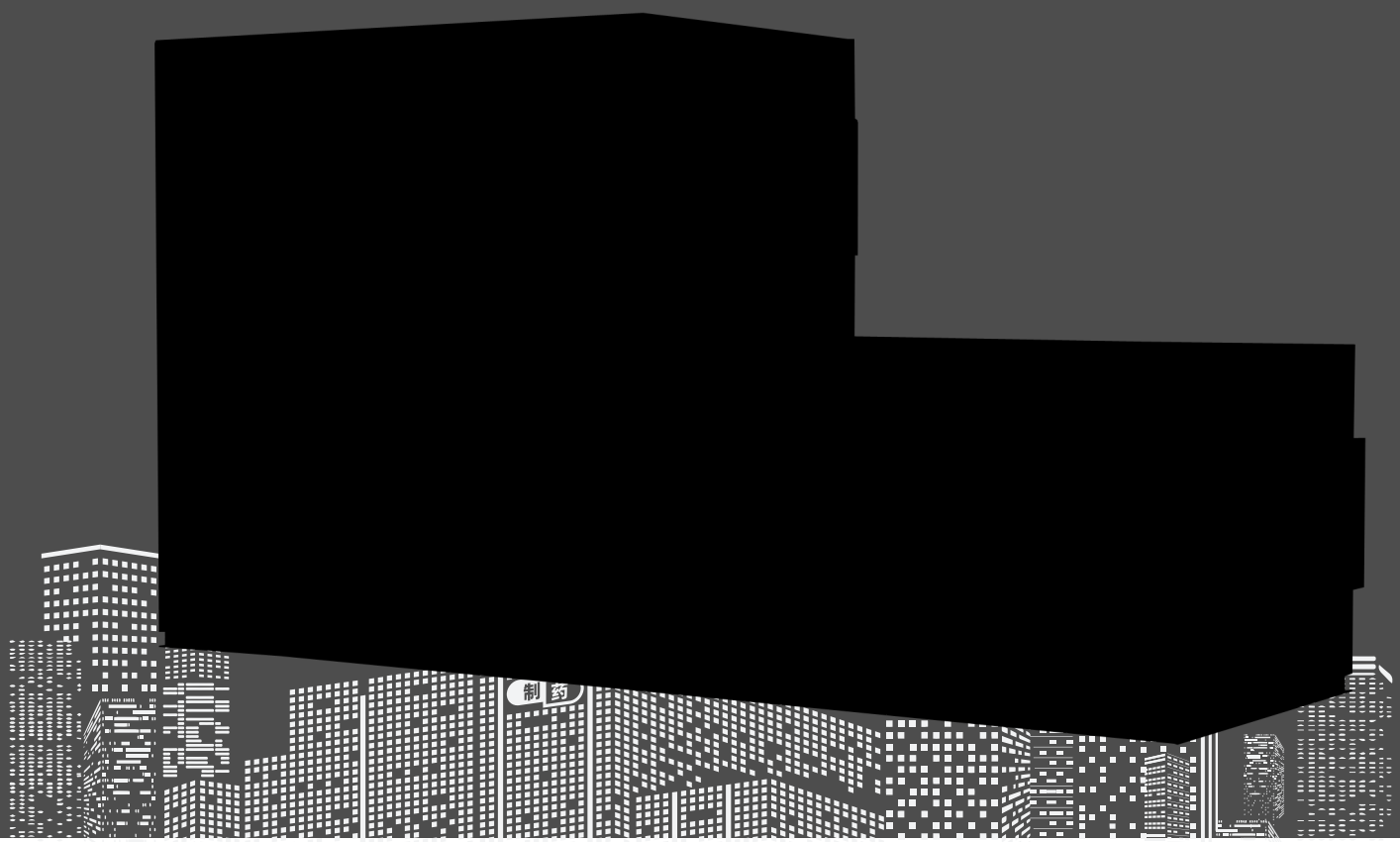
BriseAir®
Powered by Shitsudo

BRIESE AIR MODULAR AIR HANDLING UNIT

BAC/BBC Series



GMP/FDA ±1℃ ±5% ISO Class 1

Genius of the air

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

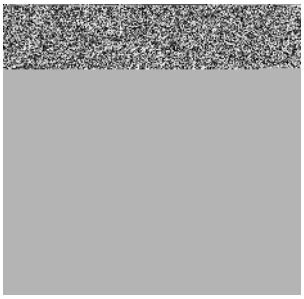
Design

Modular design with free combination
Energy-efficient module with low resistance



Application

Focusing on low-carbon energy saving solutions
Customization base on personalized demand



Production

International first-class manufacturing production line
Intelligent order design system



Service

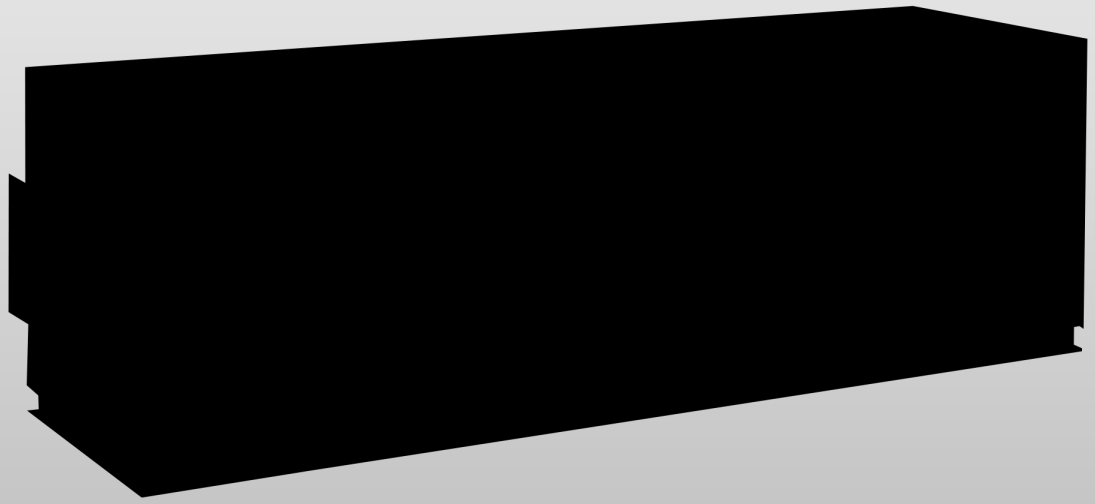
Professional sales service Bcare

Introduction

Overview

We have accumulated a lot of project experience and valuable suggestions from customers and engineers. The innovative micro module design, leads to a brand-new cabinet design concept, significantly improving the structural flexibility.

Therefore, Briese Air Pioneer has higher energy-saving property and reliability, meeting the customization needs of more professional scenarios.



Series A-BAC

Casing thickness: sandwich insulation panel 25mm

Installation type: horizontal / vertical / ceiling

Air flow range: 1,000 to 60,000m^3/h

Higher flexibility and economical design

Commercial building application

Convenient installation



Series B - BBC

Casing thickness: sandwich insulation panel 50mm

Installation type: horizontal / vertical /ceiling

Air flow range: 1,000 to 360,000m^3/h

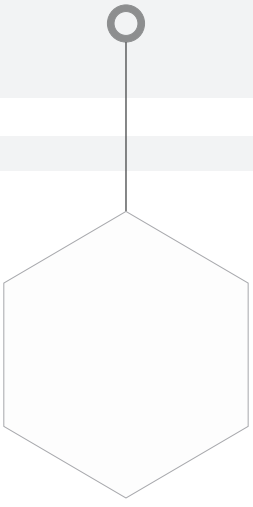
Higher-level Casing performance

Critical industrial application

Ultra-strong installation adaptability

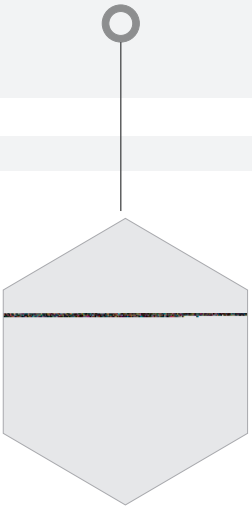
Professional Design

Briese Air air handling unit has a patented casing structure and excellent detailed design, as well as outstanding performance in the industry in terms of mechanical strength, air tightness, thermal insulation performance, and anti-cold bridge. (ZL 2014 2 0122442.9)
It also meets the EN1886 standard for casing performance and is certified by EUROVENT.



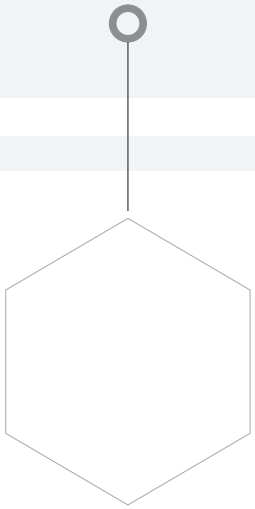
Flat and clean inside

Casing inside is flatly and seamlessly spliced
No corners with possible dust deposition



High-efficiency heat exchanger

Obtained AHRI certification for heat exchanger and RoHS certification for copper pipe
High-efficiency heat exchange, high reliability



Sandwich insulation panel

50kg/m^3 high-density polyurethane
Lower heat loss, high strength without deformation

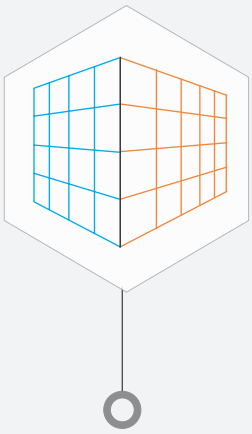
Self-developed casing structure

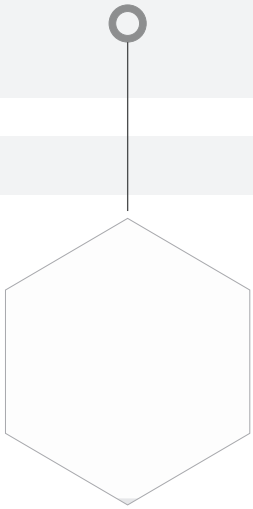
A labyrinth sealing structure, with the concave and convex modules interlocked
Aluminum-plastic composite profile with soft and hard co-extrusion sealing strip



Micro module design

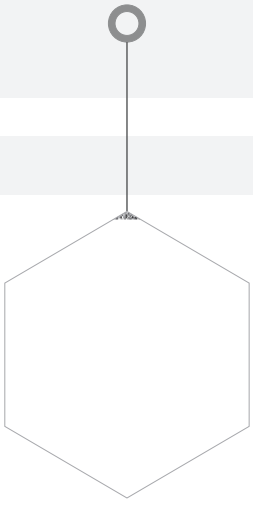
Full distribution of coils in the unit section
Reduced internal resistance, good energy saving property





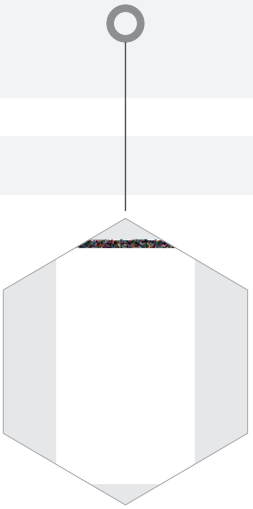
Highly-sealed filter installation frame

Highest level of EN1886 airtightness
Supply clean air after filtering



High-efficiency and energy saving fan

EC fan with higher energy efficiency
Cleaner without volute and belt dust

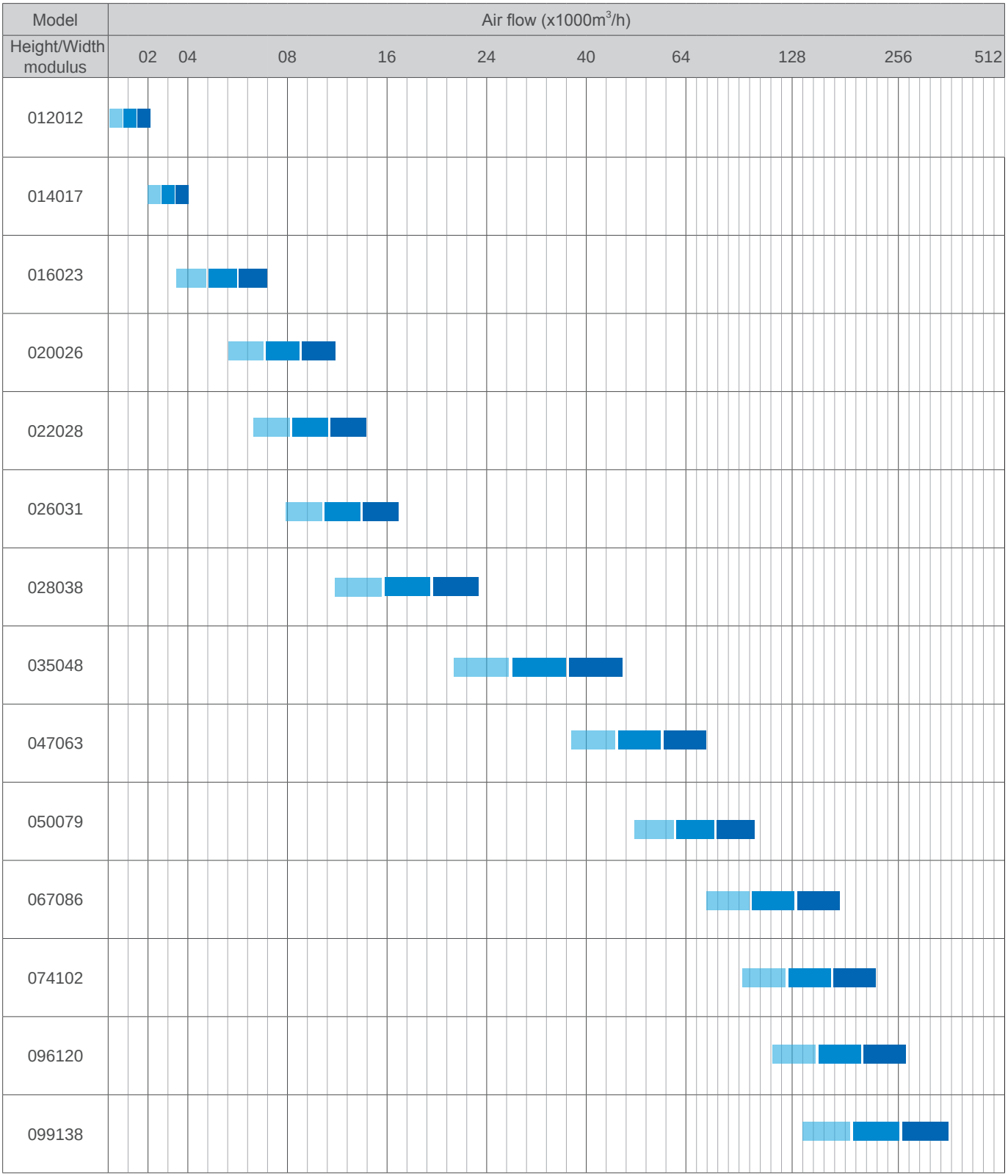


Access door

Full-size door with large space, more convenient repair
Seamless foaming of door leaf, with good airtightness
Pressure relief design for door handle, ensuring operation safety

Model Selection

Select unit models according to air flow and air face speed of the coil.



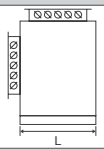
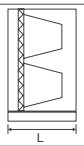
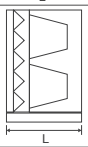
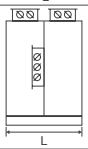
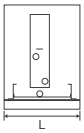
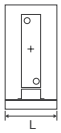
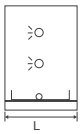
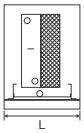
Note: Unit facing velocity (m/s)

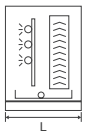
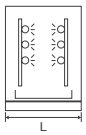
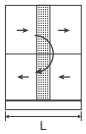
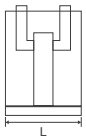
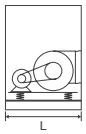
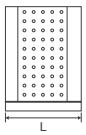
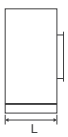
1.5 2.0 2.5 3.0

Unit dimension and filter size

Model	Internal dimensions (H × W)	External dimensions (H × W) (mm)		Number of filters		
	mm	BAC	BBC	24"*24"	20"*24"	12"*24"
012012	612*612	662*662	712*712	0	0	2
014017	714*867	764*917	814*967	0	1	1
016023	816*1173	866*1223	916*1273	0	1	2
020026	1020*1326	1070*1376	1120*1426	2	0	2
022028	1122*1428	1172*1478	1222*1528	2	2	0
026031	1326*1581	1376*1631	1426*1681	4	0	2
028038	1428*1938	1478*1988	1528*2038	6	0	0
035048	1785*2448	1835*2498	1885*2548	8	4	0
047063	2397*3213	2447*3263	2497*3313	15	5	0
050079	2550*4029	2600*4079	2650*4129	24	0	4
067086	3417*4386	3467*4436	3517*4486	35	0	7
074102	3774*5202	3824*5252	3874*5302	48	0	6
096120	4896*6120	4946*6170	4996*6220	80	0	0
099138	5049*7038	5099*7088	5149*7138	88	0	8

Sections

Section	Legend	Dimensions (mm) (reference value)
Mixing box		010013-020028: L=500 022028-023033: L=600 026031-035044: L=700 035048-042060: L=900 047055-050069: L=1000 050074-067072: L=1200 067086-074090: L=1400 074102-099138: L=1600
Exterior filter		Installed outside the box, taking up no box space
Primary filter		L=100, optional primary and medium efficiency filters * Placed in the mixing section or outside, taking up no space alone
Bag/HEPA filter		Bag / HEPA: L=400
Primary+Bag filter		L=500
3-way damper		Model 010013-035051: L=1200 Model 035055-057076: L=1500 Model 067072-099138: L=1800
Cooling coil		Coils (rows 1-6): L=600, L (staggered with coil)=1000 Coils (rows 8-10): L=700, L (staggered with coil)=1200 * Standard drain pan: width < 49 modulus -- Pipe diameter: DN32 49 modulus < Width < 68 modulus -- Pipe diameter: DN50 Width > 69 modulus -- Pipe diameter: DN50 (2 pcs)
Heating coil		Coils (row 1): L=200, L (staggered with coil)=500 Coils (rows 2-4): L=300, L (staggered with coil)=600
Electric heater		Electric heating capacity: 200kW L=300, < 200kW L=200 * Insufficient box space or air speed less than 3.0m/s, L=700
Steam humidifier		L=600 * Placed behind the fan section, L=900, with drain pan, drain pipe diameter: DN32
Wet film humidifier		L=600 * Share section length with the cooling coil section, with drain pan, drain pipe diameter: DN32

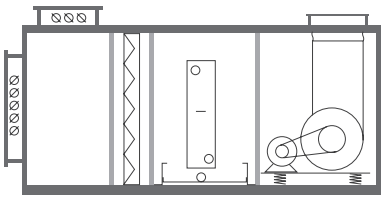
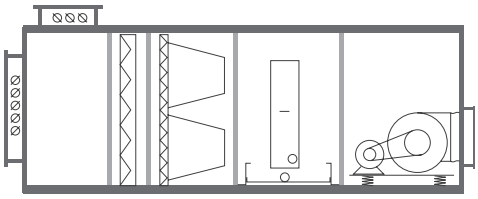
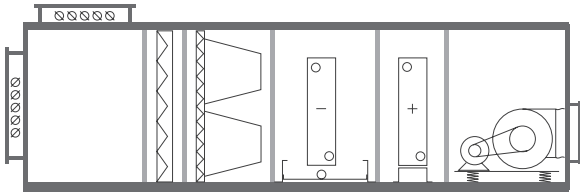
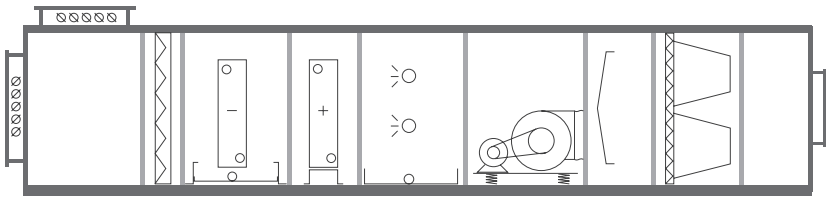
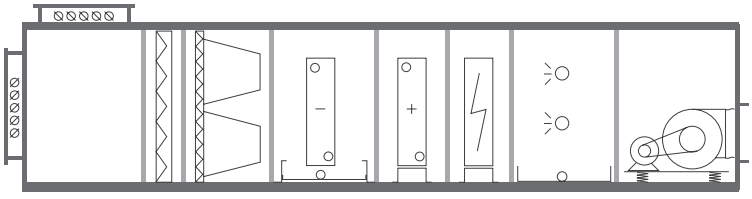
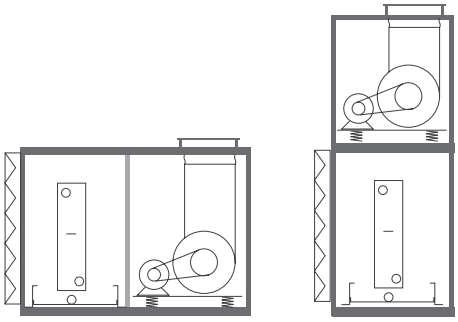
Function section	Simple diagram	Dimensions (mm) (reference value)
Water Mist humidifier		L=900, water eliminator required * With standard drain pan: width < 49 modulus -- Pipe diameter: DN32 49 modulus < Width < 68 modulus -- Pipe diameter: DN50 Width > 69 modulus -- Pipe diameter: DN50 (2 pcs)
Spray section		L=2100 *Double-row spray nozzel
Heat recovery section		*Customizable according to the specific requirement
Dehumidification section		*Customizable according to the specific requirement
Fan section		L=700~3500
Diffuser section		010013-026035: L=500 028034-047058: L=600 047063-050074: L=800 050079-099138: L=1000
Silencing section		L=500/800/1100
Middle section		010013-026035: L=500 028034-099138: L=600 * Placed before the filter section, cooling coil section, heating section, silencing section and other function sections
Air outlet section		010013-020028: L=500 022028-023033: L=600 026031-035044: L=700 035048-042060: L=900 047055-050069: L=1000 050074-067072: L=1200 067086-074090: L=1400 074102-099138: L=1600
Other function sections	Eliminator section	* Shared with cooling coil section
	Evaporation & cooling section	L=900
	Self-purification high-efficiency cartridge filter section	L=1800
	Inflamer section	L=3000

Note

1. The total length of the unit can be estimated from the length of each function section: L=L1+…+Ln+T BAC series: T=50 BBC series: T=100.

2. The section length is only for reference of length estimation. Contact Brise Air for detail information.

Basic Configuration

System type	Basic features	Section configuration
Commercial unit	· Temperature control · Applicable to commercial applications	 Mixing section + plate filter section + cooling coil section (/heating section) + fan section  Mixing section + plate filter section + bag filter section + cooling coil section + fan section
	· Temperature control · Apply to 4-pipe commercial applications	 Mixing section + plate filter section + bag filter section + cooling coil section + heating section + fan section
Constant temperature and humidity unit	· Temperature and humidity control · Applicable to process projects	 Mixing section + plate filter section + cooling coil section + heating section + humidification section + fan section + flow equalization section + bag filter section + air supply section
Constant temperature and humidity with heat recovery unit	· Temperature and humidity control as well as heat recovery · Applicable to process projects	 Mixing section + plate filter section + bag filter section + DX cooling coil + heat recovery section + electric heating section + humidification section + fan section
Full fresh air unit	· Focus on fresh air humidity treatment · Applicable to air-conditioning systems in comfortable projects	 External filter section + cooling coil section + fan section

Genius of the air

Industry Solutions

Taking into account the real needs of application scenarios and summing up the experience in the subdivision fields, we have continuously improved the design of Air Pioneer according to the scenarios and are committed to providing users with extremely clean and refined energy-saving scenario application solutions.

Medical Operating Room

Application features

Hygiene requirements for air supply:
5~75cfu/m^3 bacterial concentration
ISO 5~8.5 cleanliness

Frequent cleaning and disinfection inside the equipment

Low humidity in special operating department, requiring energy consumption for reheating

Product features

· Professional antibacterial configuration such as broad-spectrum high-efficiency UVC, silver ion antibacterial filter, and dust-free fan
· Stainless steel inner plate is suitable for frequent disinfection and is easy to clean, splicing is smooth
· The DX unit can provide low-humidity air supply and precise heat recovery, thereby guaranteeing the performance of the energy-saving system with temperature and humidity control typically used in hospitals.



Argenzil antibacterial filter + UV germicidal lamp

High efficiency impeller install to Electronically Commutated motor directly

Stainless steel inner plate is suitable for frequent disinfection and is easy to clean, splicing is smooth

Briese Air DX unit can reach low supply air temperature, which means can provide good dehumidifying performance even without a desiccant dehumidifier

Biopharmaceutical workshops

Application features

GMP — Comply with GMP whole-process supervision

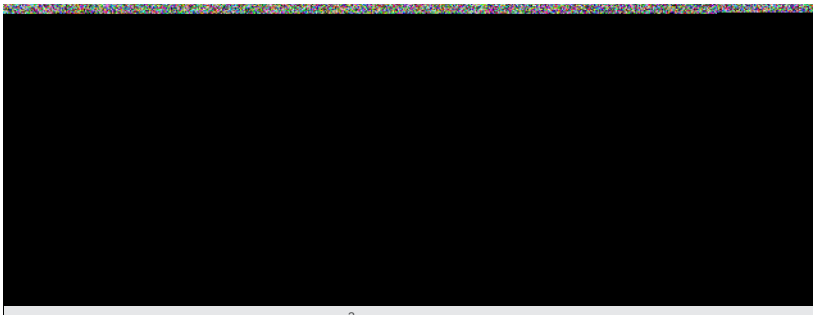
Microbial contamination is strictly controlled in the production process

The airtightness of HEPA meets the GMP cleanliness requirements

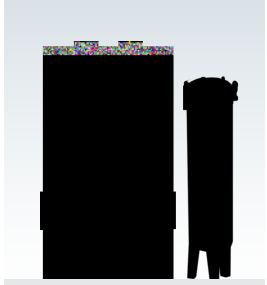
Product features

· With the patented sealed HEPA mounting frame (ZL 2015 2 0338421.5), the air supply cleanliness after HEPA reaches ISO Class 5
· Ozone sterilization is used with a variable air flow fan to achieve disinfection mode switching, meeting GMP/FDA requirements
· 20+ large air-conditioning testing laboratories accredited by CNAS & ILAC MRA;
· Mature FAT testing solutions

Highly-sealed HEPA installation



120,000 m^3/h large air flow testing



Ozone sterilization



Inverter motor



ILAC MRA certified testing laboratories

Industry Solutions

Large air flow MAU for Semiconductor factories

Application features

APC and AMC pollutants are strictly controlled

The demand for fresh air is complex and changeable

Large air flow and high air pressure fresh air devices are equipped

Product features

· Primary, medium and high efficiency filters, as well as water spray filter and chemical filter are configured for purification in electronics plants.
· The multi-stage high-efficiency heat exchanger suitable for large load of fresh air can cope with complex and changeable working conditions and meet indoor constant temperature and humidity requirements.
· High-strength MAU box ensures no deformation under large air flow and large static pressure.



Activated carbon filter



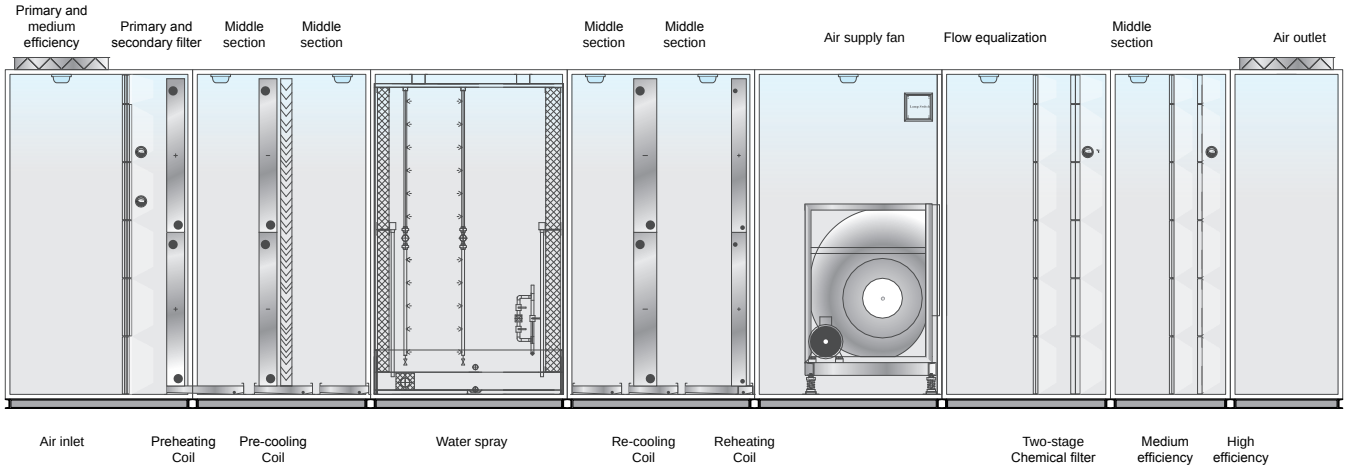
Spray humidification

Large-capacity and multi-stage heat exchanger

High-strength MAU box

Arrangement of full fresh air MAU function section in electronics plant

Air inlet + primary and medium efficiency + preheating + middle section + pre-cooling + middle section + water spray + middle section + re-cooling + middle section + reheating + fan + flow equalization + two-stage chemical + middle section + medium efficiency + high efficiency + air outlet



Main parameter estimation table for typical applications

Air flow (m^3/h)	ESP (Pa)	Motor power (kW)	Pre-cooling capacity (kW)	Re-cooling capacity (kW)	Preheating capacity (kW)	Reheating capacity (kW)	Unit dimensions (L x W x H) (mm)
40000	800	45	550	340	610	105	12900×3007×2085
45000	800	55	610	380	700	115	12900×2854×2442
50000	800	75	685	425	770	130	12900×3160×2442
55000	800	75	750	467	850	145	13900×2905×2697
60000	800	75	810	500	920	155	14000×3313×2697
70000	800	90	950	590	1080	180	14000×3619×2850
80000	800	90	1090	680	1240	205	14000×3874×2850
100000	800	110	1370	850	1550	260	15200×3772×3717
120000	800	132	1630	1010	1850	310	15200×4486×3717
140000	800	160	1900	1150	2100	360	15400×4690×4074
180000	800	200	2450	1520	2750	450	15400×5098×4686

Notes:
1. The above is a full fresh air unit for a chip plant. For other solutions, consult Briese Air factory.
2. The motor power is the estimated value of the reserved margin. The current motor power is based on the resistance brought by the final-stage H13 high efficiency filter.
3. The unit size is an estimated value, and the space of the machine room should be no smaller than the required size. For further dimension selection of the unit, consult Briese Air factory.
4. The air inlet conditions in cooling season and heating season are 38°C/60% and -6°C/50%, respectively.
5. The inlet and outlet temperatures of cold water are 14/20°C (pre-cooling) and 7/13°C (re-cooling), respectively, and the inlet and outlet temperatures of hot water are both 38/32°C.
6. The recommended principle for size selection is that the windward fan speed of the coil does not exceed 2.5m/s.

BCARE

Customized service

As a professional clean processing system integrator and service provider, we provide air treatment design and product customization services that fit the users' business format for various extreme industrial environments and comfortable living environments, fully covering common needs. We are committed to providing users with the optimal clean environment solutions.

Personalized customization and quick model selection

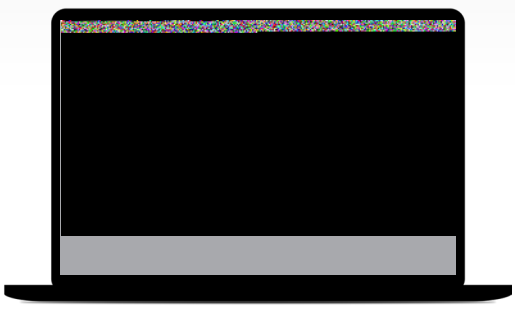
Specialized operating system, automatic association design, quick and accurate model selection, perfect project management, and quick feedback on customer needs.

Model selection functions

A variety of standardized modules, directly providing models for selection;
A variety of function section configurations, meeting requirements for process design;
A large-capacity model database, coping with various scenario requirements.

Professional model selection software

The heat exchanger model selection software passes AHRI certification.
The whole model selection software passes.
Eurovent certification.



Output of professional model selection reports

The model selection results can be output through a complete set of reports, including the technical parameter detail list of each function section of the unit, the coil model selection detail list, enthalpy/humidity chart, operating conditions, fan curve, weight report and unit dimension diagram.


Genius of the air

Core Components

Fan section

Intelligent selection of optimal model, speed, and motor

- The fan impeller and belt pulley are corrected by static and dynamic balance before delivery, and operate stably.
- A damping device is equipped to greatly reduce the operating noise.
- The impeller and frame are made of high-strength alloy steel plate, with high structural strength.
- A variety of inverter fans are available.

Centrifugal fan

· Double inlet forward/backward
· Belt-driven, with good aerodynamic performance
· Variable speed motor is optional

Plug fan

· Direct-drive, easy to clean, small vibration, and low noise
· Variable speed motor is optional

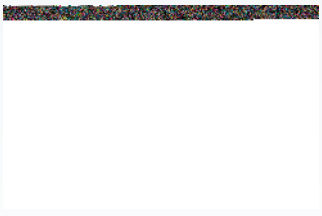
Coil section

- All coils will undergo a pressure test before delivery to ensure worry-free operation.
- Zigzag-shaped circuit can effectively prevent the problem of freezing cracks due to uncompleted drainage in winter.
- All fins are made of hydrophilic aluminum foil to improve heat exchange efficiency and anti-oxidation effect.
- The drain pan is V-shaped with an inclination angle of over 5° to ensure rapid drainage.
- With a variety of circuit forms and AHRI-certified professional selection software, the water resistance can be flexibly optimized.



Cold/hot water coil

· High-quality copper pipes and hydrophilic aluminum fins
· Adoption of integrated mechanical expansion pipe



Steam coil

· Excellent cavitation resistance and water hammer resistance
· Optional aluminum fins/steel fins

AHRI CERTIFIED®
www.ahridirectory.org
Air-cooling and Air-Heating Coils
AHRI Standard 410

Filter section

- Micro modular design of imperial units, with full distribution of filters in the unit height direction
- Uniform air flow, reducing the average air speed of the section and improving the filtration efficiency
- Airtight installation and overhaul frame, ensuring low leakage rate and convenient overhaul

Plate filter
Filtration efficiency:
MERV7-MERV9

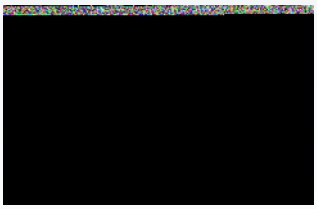
Bag filter
Filtration efficiency:
MERV7-MERV13

HEPA filter
Filtration efficiency:
E10-E12/H13-H14

Anti-bacterial filter section

The requirement of healthy ventilation in public places can be met by the optional antibacterial filter section:

- It is recommended to choose a media filter with silver ions to prevent secondary pollution from bacterial reproduction.
- A high-voltage electrostatic sterilization filter is equipped to capture particulate matter and kill microorganisms.
- Photocatalyst degrades toxic and harmful gases in the air, effectively killing a variety of bacteria.



Anti-bacterial filter
· Meltblown PP plus chemical ion coating



Plate type electrostatic
· Microorganisms are killed through high pressure ionization and adsorption.

Core Components

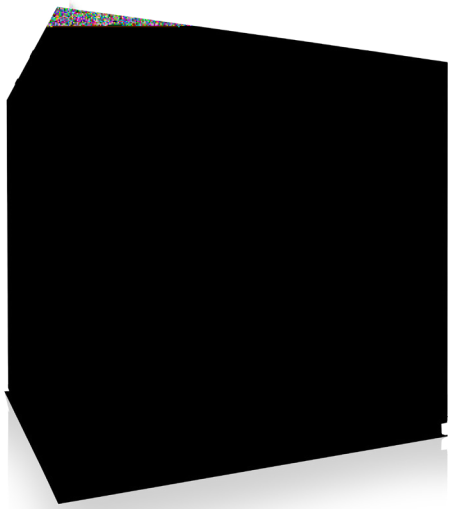
Heat recovery

- Modern air conditioning increasingly uses heat recovery systems.
- It not only directly saves operating costs, but also indirectly plays a role in ecological protection.

Rotary type heat recovery



Heat pipe type heat recovery



Humidification section

Humidification is an essential function in order to provide healthy air with the right humidity.

The following performance should be considered when choosing a humidifier:

- Saturated efficiency
- Humidification cleanliness
- Control precision
- Absorption distance



Wet film humidification



Dry steam humidification

BrieseAir®

Powered by Shitsudo

Genius of the air