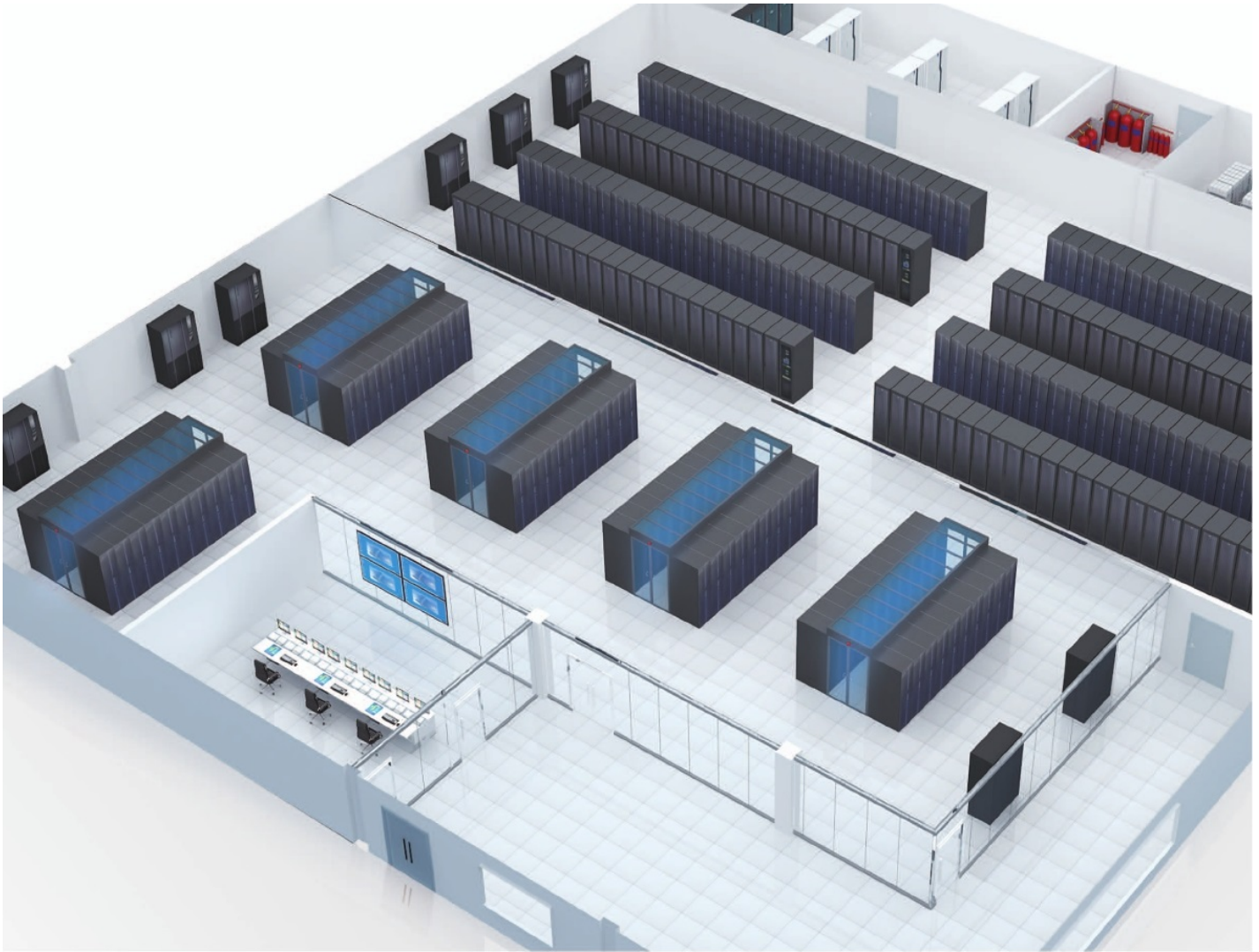




## Precision Cooling Solution





## Hot / Cold Aisle Containment Product Introduction

### ◎ Product Overview

The equipment of enterprise data center room generally faced with high density fever, high power energy consumption, limited room and cabinet space, and room planning behind the growth in demand for business and other issues. All along, in order to meet the rising data center cooling requirements of the engine room, computer room air conditioner equipment is also continuing to increase and replacement. However, engine room still exists the problem of local heat island. Cold air and hot air are mixed directly and waste large amounts of cooling capacity. The equipment in the cabinet upper can not get the cold quantity of demand, the overall energy consumption PUE value is still high. Especially with the increasing power consumption of the server device, the needs of cabinet cooling capacity greatly enhanced.

PowerUps's hot/cold aisle containment product is an energy-saving program for medium to large data center deployments. It can greatly improve data center cooling capacity and more efficient make full use of cabinet and engine room space.

## ◎ Product Features

### ● Modular Design, Flexible Configuration

According to different application requirements, product provides several sizes and components. The design of hot/cold aisle containment is a unit module, that is, the corresponding two cabinets as a unit and each unit can separate installation or removal. It can be connected with the adjacent unit, easy removal.

### ● Effective Air Seal, to Prevent the Short Circuit of the Air Flow, Good Energy Saving Effect

- The unit module at the top of hot/cold aisle containment closely connected. Effectively prevent airflow leakage
- The strip of rubber and the brush used between enclosed doors and cabinet door, It can maximize the isolation air
- The glass of door use 5mm toughened glass to effectively increase the heat insulation, sound insulation effect
- The good sealing seal used in door frame, it can prevent cold air leak on the hot/cold aisle containment
- Automatic door system (optional) with semi automatic delay closing assembly, effectively prevent the loss of cold air if you forget to close door.

### ● Reliable Security

- The hot/cold aisle containment system use non flammable, flame retardant materials
- The built-in smoke detection system supports the roof automatic drop and seamless access to the engine room fire system.
- Compatible with mainstream monitoring system, timing control the hot/cold aisle containment state
- Optional emergency open door system can realize a key to open the door

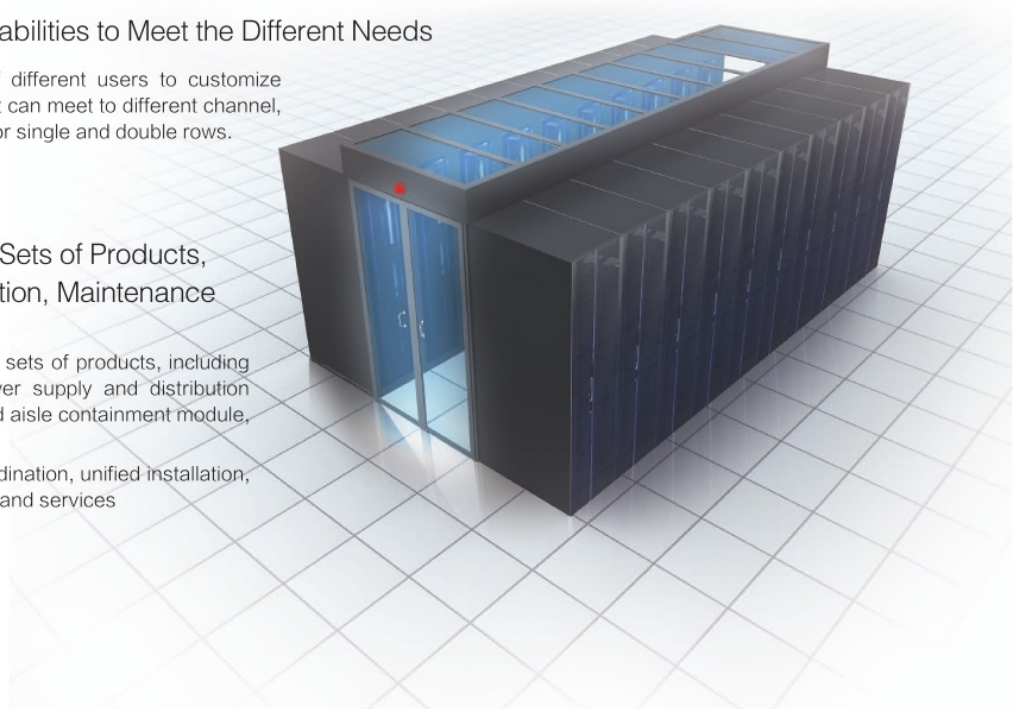
### ● Customization Capabilities to Meet the Different Needs

According to the needs of different users to customize different system modules, it can meet to different channel, hot/cold aisle containment, or single and double rows.

### ● Provide Complete Sets of Products, Convenient Installation, Maintenance

Provide one-stop complete sets of products, including UPS, air conditioning, power supply and distribution system, the cabinet, hot/cold aisle containment module, monitoring system.

All products Seamless coordination, unified installation, maintenance, management and services



## How to Improve Data Center Cooling Effect Better?

# MatrixAir™ Precision Air Conditioner, A Perfect Solution for You.

---

### Reliability • Efficiency • Environment Protection • Flexibility

#### ⦿ High Reliability

- High strength testing verification
- Highly efficient and stable system matching design
- High quality components
- Advanced and reliable intelligent control system

#### ⦿ High Efficiency

- High efficiency configuration
- Precisely controlled refrigerant flow
- Intelligent humidification control
- Electronic expansion valve
- Dynamic airflow
- 3 kinds of staged heating system

#### ⦿ Flexiable

- Personalized customized design
- Wide range cooling capacity
- Module design
- Six kinds of sizes
- Seven kinds of cooling types

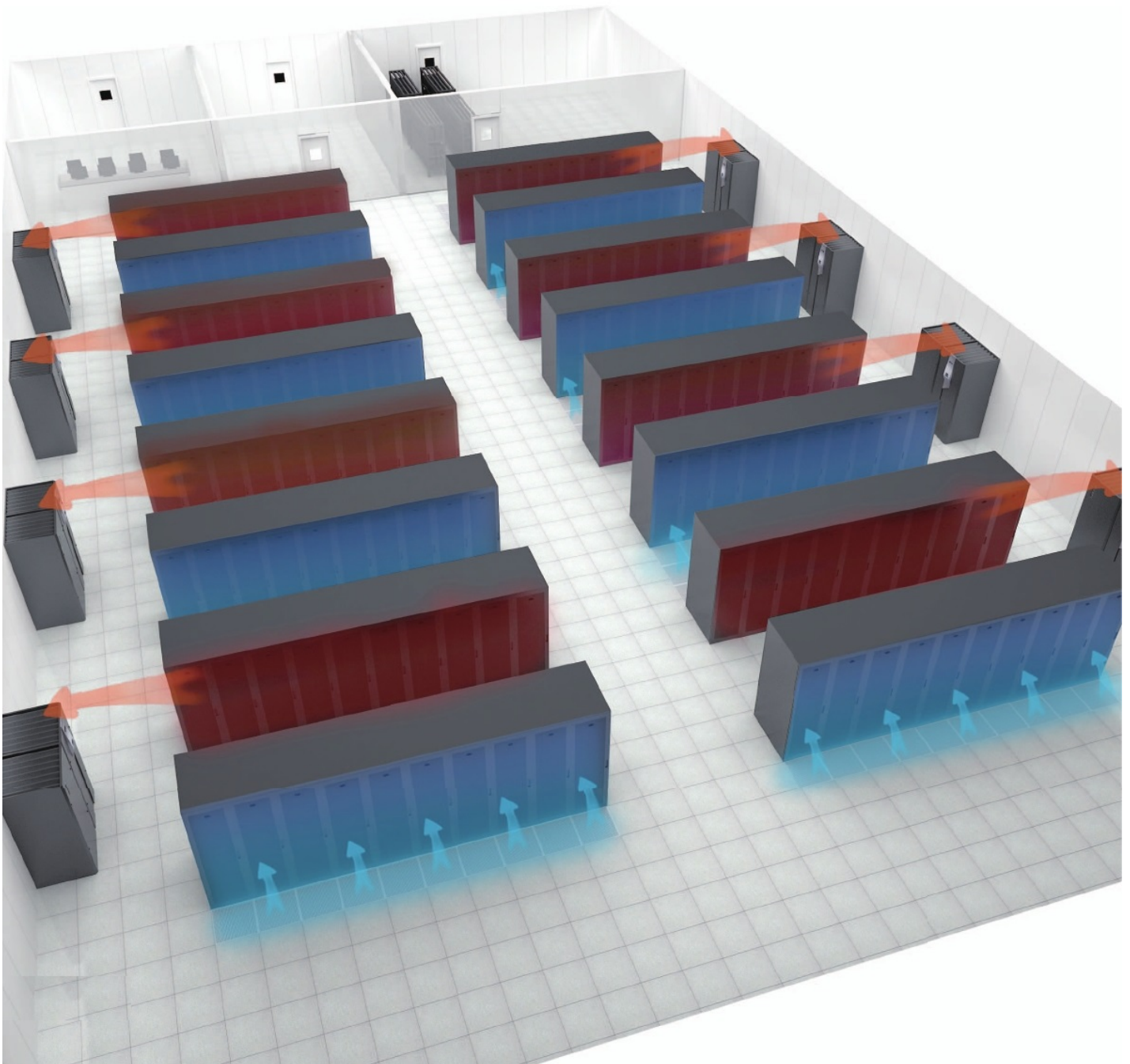
#### ⦿ Environment Protection

- Green refrigerant

MatrixAir™ Series  
Precision Air Conditioner Solution Features

High Reliability

With the powerful platform of technical tools and resources, we concentrates on every step of R&D and production to build MatrixAir™ precision air conditioner, green, reliable and efficient, to protect your data center critical IT equipment running 365 days × 24 hours.



## ◎ High Strength Test Verification

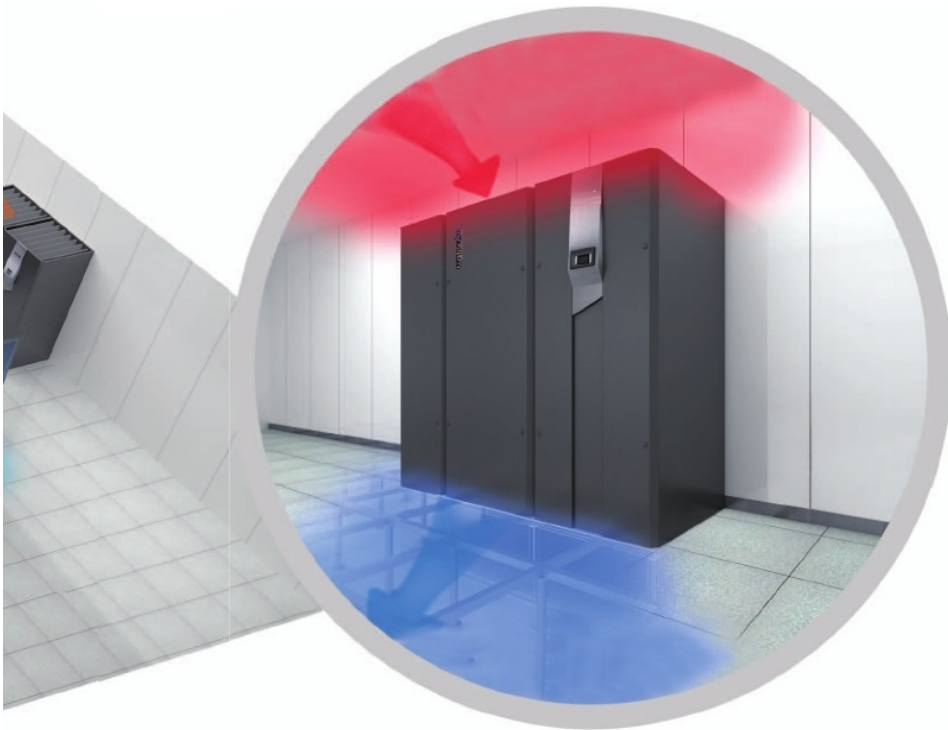
Every MatrixAir™ unit was fully tested and verified to be able to run under extreme condition.

## ◎ Highly Efficient and Stable System Matching Design

The refrigeration system of MatrixAir™ was carefully designed. Better heat exchanging effect, better flow control, better air distribution to make unit more efficient and more robust.

## ◎ High Quality Components

MatrixAir™ unit is made of carefully selected components. Compressor, fan, valves, control system, heating and humidifying system are all industry recognized brands, which keep the unit reliable and long life.





## ◎ Advanced and Reliable Intelligent Control System

- The powerful control system of MatrixAir™ unit can achieve the high efficiency, energy saving and reliability.
- Group working mode (achieve energy saving operation, rotating operation and rotating when main unit fails)
- Remote monitoring access with common protocol
- Status and alarm display by diagram
- All alarm records
- Display and setting the environmental parameters
- Records the operating time of main components and maintenance time
- Multiple level password protection
- Auto restart after power regains
- Optional 5.7" (320 × 240) color touch screen, the page more friendly, the manipulation more convenient.



Standard Controller



Standard Controller

MatrixAir™ is made of highly efficient components and precise control system. All components are carefully controlled to work together in harmonized and efficient mode.

### ⦿ Efficient Configurations

#### • High Efficiency Fan

Backward centrifugal fan means lower energy consumption, less maintenance, better air distribution and cooling efficiency comparing with the forward fan. Optional EC fan with 90% efficiency motor brings wider airflow range and lower fan power consumption.



#### • High Efficiency Scroll Compressor

The high quality scroll compressor means high reliability, low noise and long running life.

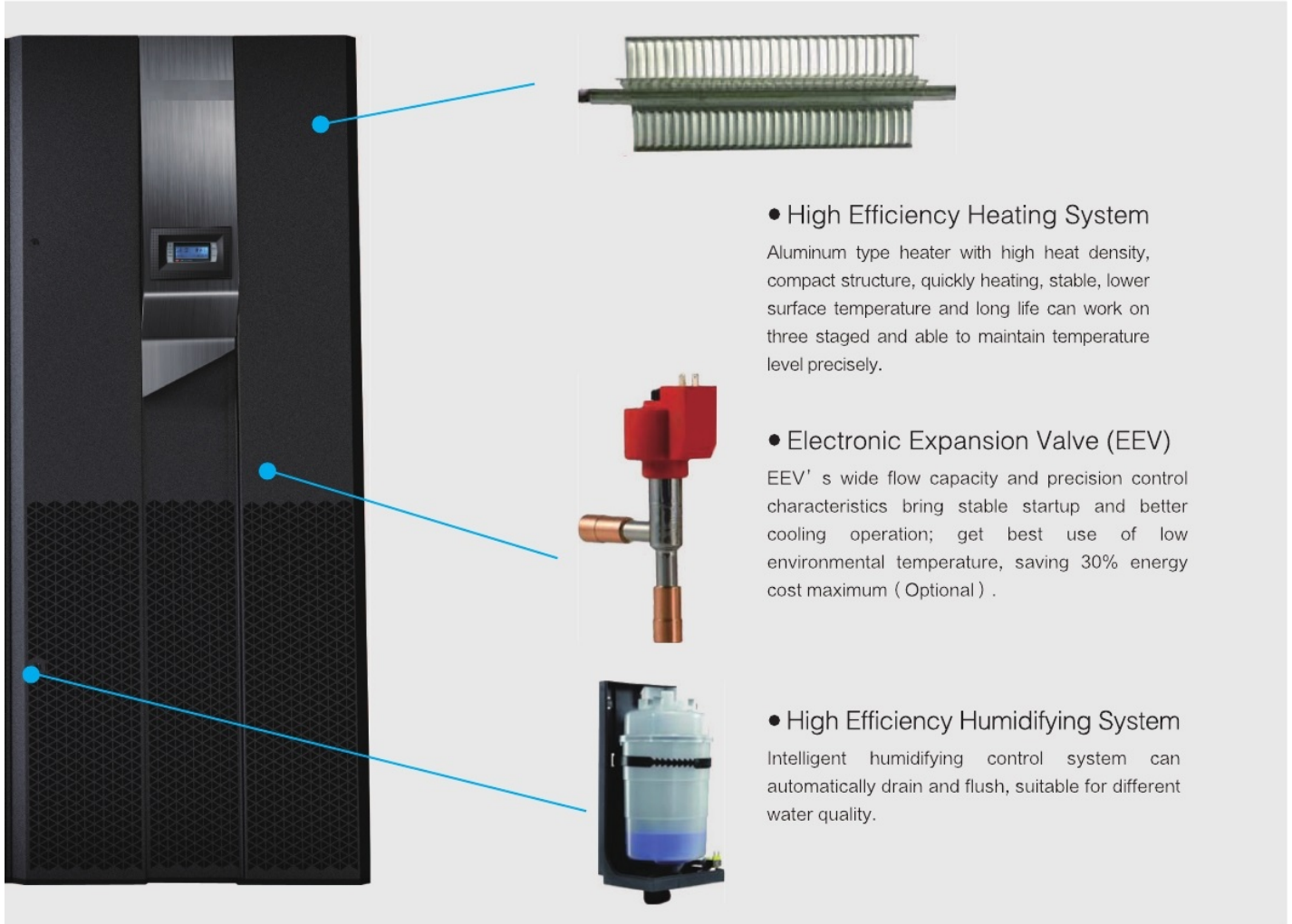


### ⦿ Intelligent Humidifying Control

Humidifying capacity is adjustable from 20%~100%.

### ⦿ Dynamic Airflow

EC fan can make a quick response to the output requirement and gains maximum 30% energy saving than general fan.



- High Efficiency Heating System

Aluminum type heater with high heat density, compact structure, quickly heating, stable, lower surface temperature and long life can work on three staged and able to maintain temperature level precisely.

- Electronic Expansion Valve (EEV)

EEV' s wide flow capacity and precision control characteristics bring stable startup and better cooling operation; get best use of low environmental temperature, saving 30% energy cost maximum ( Optional ) .

- High Efficiency Humidifying System

Intelligent humidifying control system can automatically drain and flush, suitable for different water quality.

◎ 3 Kinds of Staged Heating System

Staged heater matches environmental requirements with adjustable heating output, stably maintaining optimum temperature envelop.

◎ Optimized Refrigerant Flow Control

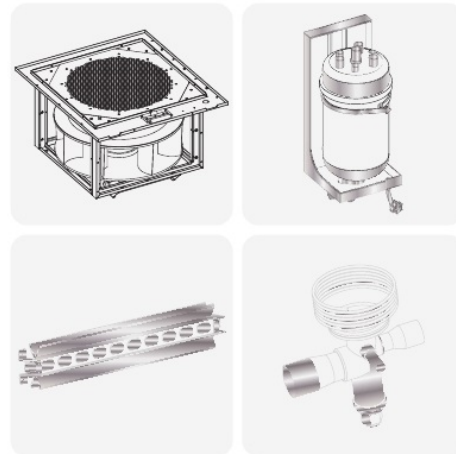
The valve' s output can match all situations, which could improve the performance and efficiency. Microcomputer controlled EEV could save 30% consumption.

MatrixAir™ precision air conditioner is available with 7 kinds of cooling types, 6 kinds of frames, upflow & downflow, wide cooling capacity range and any other customized configuration, to meet your specified requirements.

### Adaptable Modular Assembly

MatrixAir™ is built with high quality modular assembly, which is adjustable to match your data center design choice.

- Fan assembly
- Humidifying assembly
- Throttling assembly
- Heating assembly
- Cooling assembly



- Upflow air chamber
- Floor stand
- High power heater
- Level F5 high efficiency filter
- Large size display
- EEV (electronic expansion valve)
- Water leaking detection system
- Low-temperature operation component
- High ESP



### Customized Options

Per requirement, we are ready to go to design a suitable cooling solution only for you.

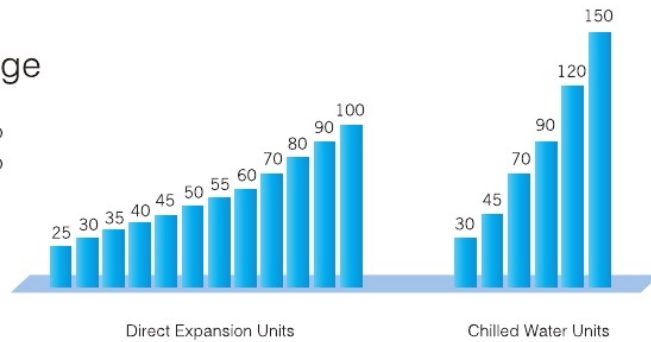
### Flexible Capacity Configuration

Every MatrixAir™ unit has a separate control system, supporting ground working mode, or stand alone working mode. It can be planned and deployed as your business changes.



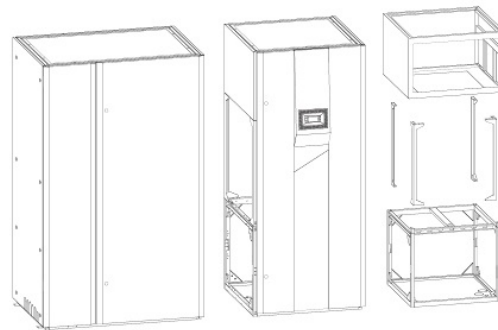
## Wide Cooling Capacity Range

The cooling capacity of MatrixAir™ is from 25kW to 150kW and is extendable to 200kW above, to overcome the mega data center capacity challenges.



## Modular Structure Design

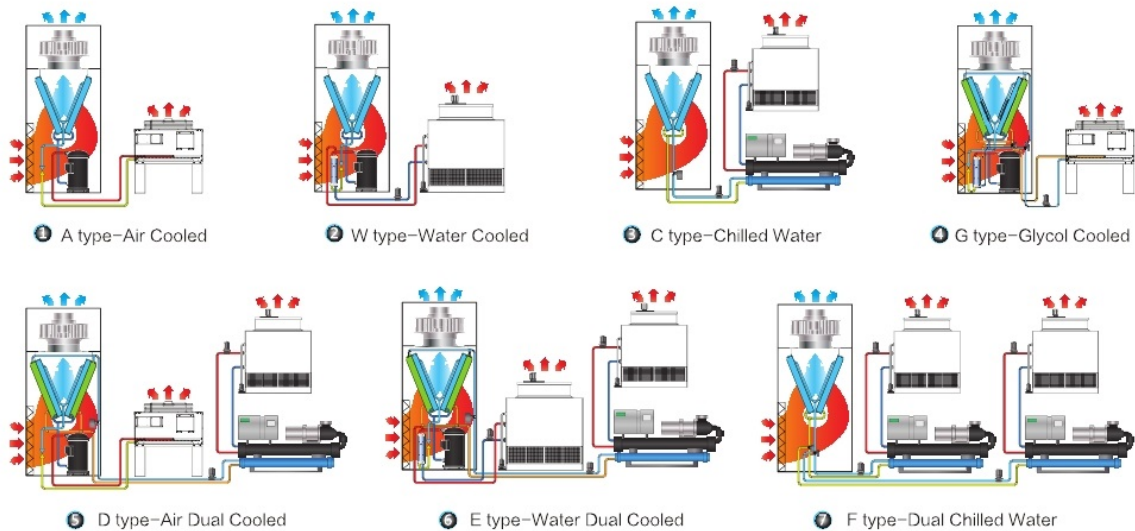
Compact Footprint, Easier Service, Easier Transportation.  
The MatrixAir™ is designed with modularity mechanical frame. The unit can be torn down to several modular sub-assemblies. It is easy to be transported to site wherever the lift space is limited. It can be front serviced for all components, the flank and back side also can be opened.



## 7 Kinds of Cooling Types

MatrixAi™ is available with 7 kinds of cooling types: air cooled, water cooled, chilled water, glycol cooled, air dual cooled, water dual cooled and dual chilled water systems.

The dual cooling system of MatrixAir™ series precision air conditioner is better in the aspect of redundancy, and stronger fault strain ability.





# KC Series Air-cooled Condenser

KC series air-cooled condenser is high performance, environment-friendly, flexible application. It can meet the rigorous application requirements.



## ◎ Double Anticorrosion Design

- High quality aluminium alloy
- Powder coated protection

## ◎ Double Protection

- Unitary Header cover
- Coil pipe protection against damage

## ◎ High Quality Fan

- Industry recognized brand, High quality and service free.
- Full speed controller and high efficient fan, High efficiency and low noise.

## ◎ Single and Dual System Available, Heat Exchange Capacity 24kW ~ 120kW

- Match with indoor unit 1+1 or 1+2. Free to choice.
- Combined heat exchange capacity can expand to 240kW.

## ◎ Positively Sealing Between Fans

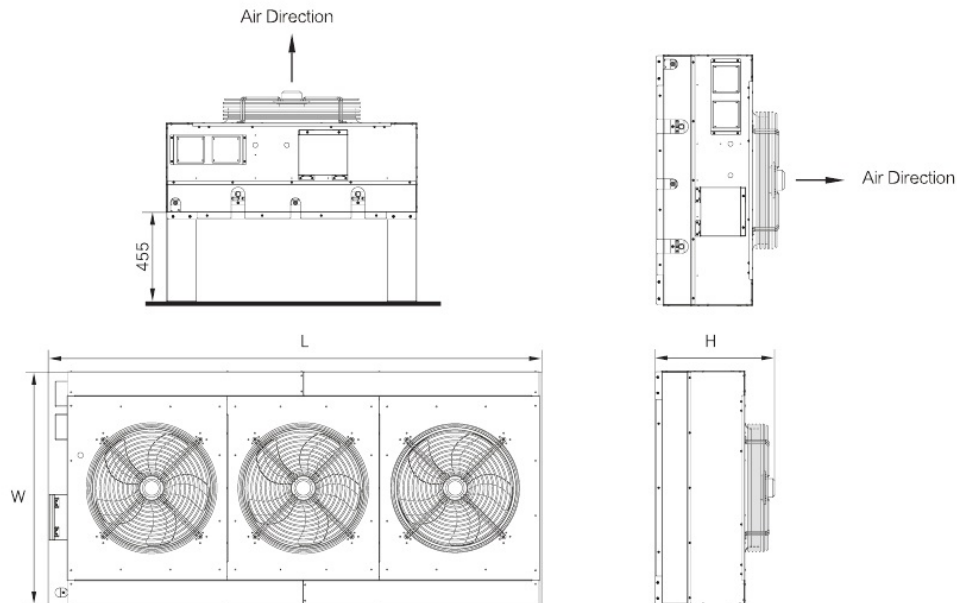
## ◎ Enhanced Heat Transfer

- Inner groove piping.
- High quality wavy fin

## ◎ Intelligent Control System

- High precision pressure transducer
- Intelligent full speed controller

## ◎ IP55 Electric Cabinet



Comment: L-length, W-width, H-height

## © KC Technical Specifications

KC Single air-cooled Condenser														
KCS***	Unit	024	028	032	036	042	048	054	064	072	084	096	108	120
Heat Exchanging Capacity	kw	23.8	27.2	31.0	36.8	42.2	47.6	54.4	62.4	71.6	82.3	95.4	101.6	124.8
Voltage	V	220	220	220	220	220	220	220	220	220	220	220	220	220
Frequency	Hz	50	50	50	50	50	50	50	50	50	50	50	50	50
Phase	P	1	1	1	1	1	1	1	1	1	1	1	1	1
Full-load current	A	2.98	2.98	2.98	5.96	5.96	5.96	5.96	5.96	8.94	8.94	8.94	8.94	11.92
Noise	dB(A)	54.9	52.9	54.1	44.8	53.0	52.0	52.1	55.1	51.8	52.1	54.2	56.9	57.9
weight	kg	117	124	125	138	143	152	165	185	225	235	260	270	300
Unit length	mm	1601	1401	1601	1801	1801	1801	1801	2001	2701	2701	3201	3201	3901
Unit width	mm	975	975	975	975	975	1274	1274	1274	1274	1274	1274	1274	1274
Unit height	mm	651	651	651	651	651	651	651	651	651	651	651	651	651
Foot stool Height	mm	455	455	455	455	455	455	455	455	455	455	455	455	455

KC Double air-cooled Condenser														
KCD***	Unit	048	054	064	072	084	096	108	120	-	-	-	-	-
Heat Exchanging Capacity	kw	47.6	54.4	62.4	71.6	82.3	95.4	101.6	124.8	-	-	-	-	-
Voltage	V	220	220	220	220	220	220	220	220	-	-	-	-	-
Frequency	Hz	50	50	5050	5050	50	50-	- -	- -					
Phase	P	11	1 1	1 1	1 1	- -	- -	-						
Full-load current	A	5.96	5.96	5.96	8.94	8.94	8.94	8.94	11.92	-	-	-	-	-
Noise	dB(A)	52.0	52.1	55.1	51.8	52.1	54.2	56.9	57.9	-	-	-	-	-
weight	kg	152	165	185	225	235	260	270	300	-	-	-	-	-
Unit length	mm	1801	1801	2001	2701	2701	3201	3201	3901	-	-	-	-	-
Unit width	mm	1274	1274	1274	1274	1274	1274	1274	1274	-	-	-	-	-
Unit height	mm	651	651	651	651	651	651	651	651	-	-	-	-	-
Foot stool Height	mm	455	455	455	455	455	455	455	455	-	-	-	-	-

- Note**
1. Standard unit minimum working temperature is -20°C, Low temperature unit minimum working temperature is -40°C
  2. We can provide low-noise type and other customized products.
  3. The noise data is sound pressure level value of 10m free field.
  4. Specifications are subject to change without prior notice.



Australia PowerUps

Address : 73 Boomerang Place, Seven Hills, NSW 2147, Australia  
 Website : [www.powerups.com.au](http://www.powerups.com.au)  
 Tel : 61 2 98318412  
 Email : [enquiry@powerups.com.au](mailto:enquiry@powerups.com.au)