



Introduction

Data centre containment is the separation of cold supply air from the hot exhaust air from IT equipment. Containment enables uniform, stable supply temperature to the intake of IT equipment and a warmer, drier return air to cooling infrastructure. The amount of energy used to maintain acceptable temperatures in the data center can be greatly reduced by containment. By separating the air, you are able to save revenue by reducing your energy consumption and improving overall equipment performance and efficiency.

The GIGANET™ Data Centre Containment consists of rows of cabinets opposite of each other, with in-row cooling cabinet(s) and power cabinets with Front and back sliding doors with a SKY roof. The containment system allows the cold air to circulate within the aisle cooling servers, storage and network equipment and the hot air is expelled from the back of the active equipment.

The GIGANET™ cooling system can either be in-row cooling or in-between the row of cabinets. It can also be from centralized chiller unit where the cold air comes from beneath the floor tiles directly into the cabinet. The in-row cooling cabinet can either be 300mm or 600mm depending on the cooling capacity required.

The GIGANET™ power cabinet consists of a UPS with external battery packs to cater for extended run time, PDUs mounted vertically at the back of the cabinets, an Automatic transfer switch (ATS) for power redundancy and in some scenarios Inverter cabinet with batteries for more backup time in case there is power from the grid or generator.

The GIGANET™ Environmental Monitoring system (EMS) consists of sensors such as temperature/humidity, water leakage, contact, sound, intrusion, infrared, etc. The wired or wireless sensors can be installed in the row of cabinets to monitor and alert the health status through the EMS. The EMS can give notifications when a threshold is met via E-mail, SMS or Beacon.

The GIGANET™ Data Center Infrastructure Management (DCIM) system is a dashboard which gives real-time information of the Containment System on Power, cooling and EMS.

Data Centre Containment

Product introduction

The GIGANET™ Data Centre Containment is an overall solution for data center construction and is highly integrated. A single module can include five major systems, including cabinets, cold aisles, power supply and distribution, cooling, and management. One module can meet all the basic conditions for stable IT load operation. Containment systems are mainly in the form of double-row cold aisles, but they can also be made into single-row or hot aisle forms. The containment can support any counter and adapt to different field conditions. The system adopts the row-level near-end cooling method, which can improve the return air temperature and further reduce the PUE.

Scope of application

- Government
- IDC
- Finance
- Education
- Operator
- Big Data & Internet



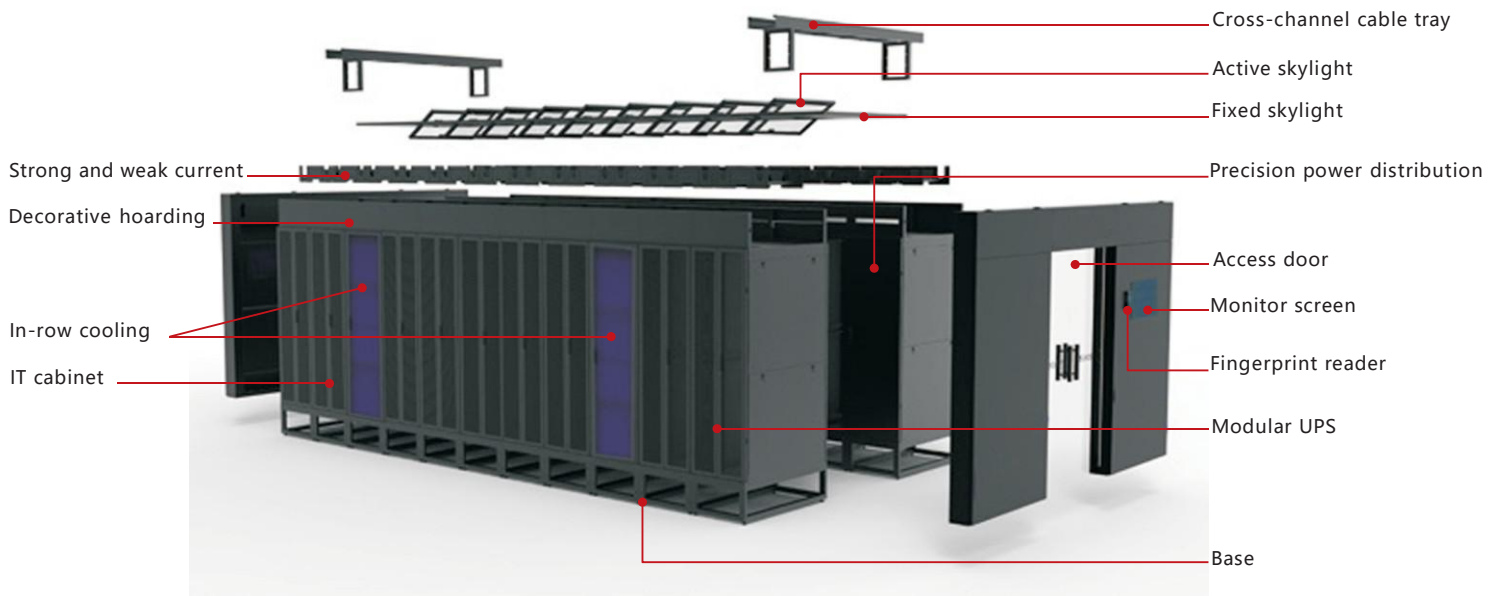
Features

- Factory prefabricated, fast splicing on site, plug and play, fast deployment and delivery.
- Skylights and end doors are directly installed on the cabinet, saving user space. UPS, power distribution, and air conditioning use the same size, simple layout and space saving.
- The sunroof is automatically opened and reset manually. The end door can be selected automatically or manually according to the needs, with access control and camera video monitoring, linkage with the fire protection system, and quick response in the event of a fire.
- As-needed configuration can save the investment of the equipment room and reduce the cost.
- It can be smoothly upgraded from cold aisle to containment system and the power supply capacity can be flexibly upgraded according to the load situation.
- Adopt inter-column air conditioners to increase the return air temperature, completely isolate the cold and hot air, and reduce the energy consumption of the air conditioner. Avoid local hot spots, reduce cooling dissipation, and reduce PUE.

Data Centre Containment product classification

- Double Row Cabinet System
- Isolated cold aisle
- Functional module

Product Structure



* Fire linkage module is optional.

Product advantages



Fast delivery

- Factory prefabricated, fast splicing on site.
- Plug and play, fast deployment delivery.



Easy to manage

- All key equipment and working status of the system can be monitored and managed through the monitoring system.
- Can be managed through device-side touch screen and remote computer.

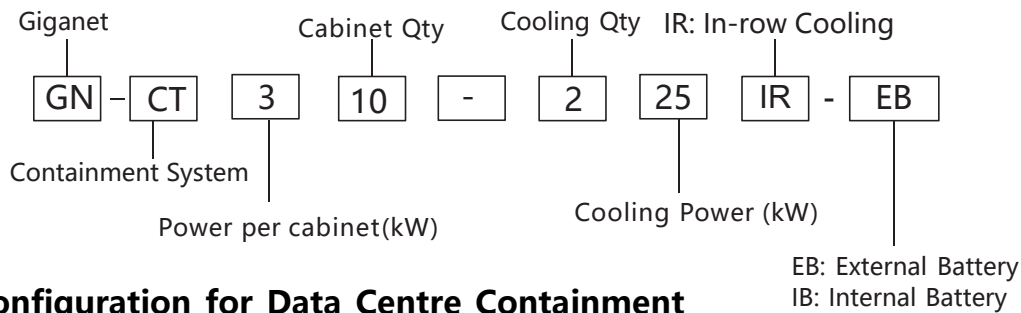


Cost-effective

- Engineering productization.
- On-demand configuration, saving equipment room investment.

Data Centre Containment

Part Number Info



Standard configuration for Data Centre Containment

System	Model	Load Estimate Kw	Distribution Cabinet	IT Cabinet	Battery Location	Cooling Qty	Cooling Power	UPS Qty	UPS Power	Battery Cabinet	Cabinet Qty
10Cabinet	GN-CT310-225IR-EB	18	1	6	External	2	25kW	1	40kVA (100kVA)	0	10
12Cabinet	GN-CT312-225IR-IB	18	1	6	Internal	2	25kW	1	40kVA (100kVA)	2	12
12Cabinet	GN-CT312-225IR-EB	24	1	8	External	2	25kW	1	40kVA (100kVA)	0	12
14Cabinet	GN-CT314-225IR-IB	24	1	8	Internal	2	25kW	1	40kVA (100kVA)	2	14
14Cabinet	GN-CT314-230IR-EB	30	1	10	External	2	30kW	1	60kVA (100kVA)	0	14
16Cabinet	GN-CT316-230IR-IB	30	1	10	Internal	2	30kW	1	60kVA (100kVA)	2	16
16Cabinet	GN-CT316-240IR-EB	36	1	12	External	2	40kW	1	60kVA (100kVA)	0	16
18Cabinet	GN-CT318-240IR-IB	36	1	12	Internal	2	40kW	1	60kVA (100kVA)	2	18
18Cabinet	GN-CT318-240IR-EB	42	1	14	External	2	40kW	1	60kVA (100kVA)	0	18
20Cabinet	GN-CT320-240IR-EB	48	1	16	External	2	40kW	1	80kVA (100kVA)	0	20
22Cabinet	GN-CT322-240IR-EB	54	1	18	External	2	40kW	1	80kVA (100kVA)	0	22
30Cabinet	GN-CT330-425IR-EB	72	1	24	External	4	25kW	1	100kVA (100kVA)	0	30
36Cabinet	GN-CT336-430IR-EB	90	1	30	External	4	30kW	1	120kVA (150kVA)	0	36
40Cabinet	GN-CT340-440IR-EB	102	1	34	External	4	40kW	1	120kVA (150kVA)	0	40
46Cabinet	GN-CT346-640IR-EB	114	1	38	External	6	40kW	1	150kVA (150kVA)	0	46

*Cabinet Size (WxDxH in mm): 600x1200x2000

Data Centre Containment (Cabinet)

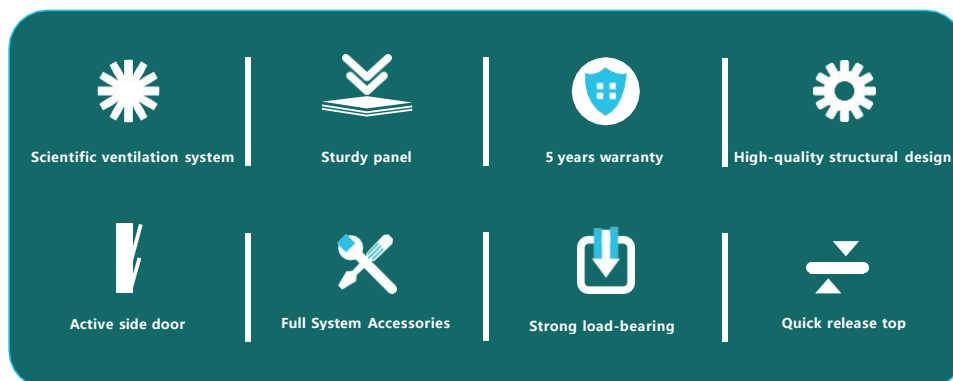
Product Introduction

The GIGANET™ data center cabinets used in a containment are widely used in computer data and network systems, and are suitable for many industries such as banking, securities, transportation, and education. The mechanical, chemical, electrical and other properties of the materials and devices used are in line with national standards, communication industry standards and relevant IEC standards. Unique geometric structure design, advanced cable management solutions, can install equipment in the cabinet and provide a high-quality safe and stable operating environment, and can choose a full range of matching cabinet accessories and cable management accessories, the cabinet can be adapted to various environments. The front and rear doors of the cabinet are provided with dedicated cooling channels to meet the compatibility of other IT equipment and facilitate integrated wiring and management.



Features

- Provide a variety of cabinet sizes and components, flexible configuration according to different application requirements.
- Welded frame, combined structure design, light weight, firm structure, flexible and changeable.
- Tool-free installation of the top cover, multi-cable entrance, convenient for a large number of cables to enter and exit; Customizable opening brush to seal, effectively prevent foreign objects and dust from entering the cabinet.
- The rear of the cabinet is equipped with two installation cable management racks as standard, which is convenient for cable management and PDU installation.
- Built-in side door does not require tools to install and disassemble, and can be equipped with lock and tamper proof; the front and rear doors can be quickly disassembled without tools, and can be interchanged left and right. The opening angle is 130°, which is convenient for equipment installation and maintenance.
- Advanced revolving door handle, all the front and rear door lock keys of the entire series can be used in common; it comes with cabinet accessories.
- Complete accessories, comes with snap nut fixing tool.
- With adjustable movable feet, the maximum static load is 1800kg.



Data Centre Containment (Cold aisle)

Product introduction

The closed cold aisle system module of the data center realizes green energy saving through the closed cold aisle, which is an effective way to solve the cooling problem of high heat density cabinets in the data center. Under the premise of the same cooling effect, compared with the traditional open cold and hot aisle, the air supply volume of the air conditioner indoor fan when the cold aisle is closed is 60% of that of the traditional open type, which means that the electrical power in the closed cold aisle The energy consumption is 60% of the traditional open type, which can save more than 40% of energy consumption.

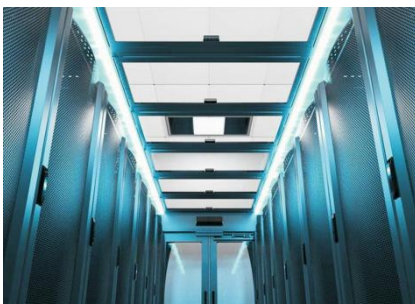
The cold aisle solution came into being in response to "energy saving and emission reduction in computer rooms, and promoting green new computer rooms". Consists of a two-column cabinet matrix. The air-conditioning in the traditional computer room cannot be effectively controlled, and the cold source is chaotic, resulting in uneven cooling and heating of the computer room and local hot spots. The cold aisle cabinet will transport the cold air sent to the inside of the cabinet to the cooling equipment in a very economical and effective way, and the heat in the cabinet will be transported out of the cabinet in a specified direction.

Appearance and Structure



Framework

- The structure is firm, reliable and safe.
- Reasonable cable routing space is designed to meet the cable management requirements in the cold aisle.
- Tightly cooperate to ensure the gas organization in the sealed cold channel.



Light system

- LED cold light source lighting.
- RGB three primary color LED ambient light, reflect the temperature and environment state in the cold aisle through different color lights.

Fire linkage skylight

- Unit design, independent installation, can be connected with adjacent units, no gaps, to ensure the sealing of the gas organization in the cold aisle.
- Through the window magnetic control, the fire linkage is realized, and the movable skylight accounts for more than 60% of the total area of the cold aisle.

Data Centre Containment (UPS)

Product introduction

This GIGANET™ series is a three phase input /three phase output UPS. The product adopts modular design and N+X parallel redundancy technology. The product capacity ranges from 20/30/40/50/60kVA to 200/300/400/500/600/720k VA, which is convenient for users flexible configuration and gradual investment. This series of UPS can almost completely solve all power problems, such as power failure, mains high voltage, mains low voltage, instantaneous voltage drop, damping oscillation, high voltage pulse, voltage fluctuation, surge voltage, harmonic distortion, and no clutter. interference, frequency fluctuation, etc. This product is suitable for a wide range of applications, from computer equipment to communication systems and automatic equipment.



Modular UPS product parameters

Capacity	Power module/ System Cabinet	Power module: 20/30/40/50/60kVA; system cabinet capacity covers each power segment between 20kVA and 200/300/400/500/600/720kVA
Input	Phase	Three-phase four-wire + ground
	Rated voltage	380V/400V/415Vac
	Voltage range	208~478Vac
	Frequency Range	40~70Hz
	Power factor	≥0.99
	Input current harmonics	≤3% (100% nonlinear load)
Output	Phase	Three-phase four-wire + ground
	Rated voltage	380V/400V/415Vac
	Power factor	0.95/1
	Voltage accuracy	±1%
	Load peak ratio	3:1
	Switching time	Mains mode to bypass mode: 0ms (tracking); mains mode to battery mode: 0ms
	Overload capacity	Load ≤110%, keep for 60min; <125%, keep for 10min; <150%, keep for 1min; ≥150, shut down immediately
Communication interface		RS232, RS485, 2 Intelligent Slots (smart card slots), dry contacts
Battery	Battery voltage	±192V\±204V\±216V\±228V\±240V DC ; (32 pcs, 34 pcs, 36 pcs, 38 pcs, 40 pcs)
	Executive standard	CE, EN/IEC 62040-2, EN/IEC 62040-1-1, YD/T2165-2017

Containment System(In-row cooling)

Product introduction

GIGANET™ In-row precision cooling is specially designed for high heat density computer rooms and Containment System configurations. They can be close to the heat source for cooling, reduce the distance between the return air and increase the return air temperature. The characteristics of high energy efficiency ratio. Full frequency conversion design, with electronic expansion valve to accurately adjust the flow, adapt to different load changes. Realize 30%-100% variable capacity output and precise temperature control. The 7-inch color touch screen realizes the display of the running status of each component, and can realize intelligent group control of 32 units to ensure the stable operation of the entire module. According to the load change, the speed of the EC fan is dynamically adjusted, and a variety of control methods are available to ensure the maximum energy saving of the system. Standard RS485 interface and water leakage alarm.



In-row cooling product parameters

Model IRW-LA	012			025			040			050			060			
Function	A:cooling only, B:cooling+ Electric heating, C:Constant temperature and humidity															
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
Air supply method	F/S			F/S			F			F			F			
Input power form	380Vac/3Ph/50Hz			380Vac/3Ph/50Hz			380Vac/3Ph/50Hz			380Vac/3Ph/50Hz			380Vac/3Ph/50Hz			
Cooling capacity(kW)	12.5	12.5	12.5	25	25	25	40	40	40	50	50	50	60	60	60	
Sensible cooling capacity (kW)	12.5	12.5	12.5	25	25	25	40	40	40	50	50	50	60	60	60	
Heating capacity (kW)	—	2	2	—	3	3	—	6	6	—	6	6	—	6	6	
Humidification amount (kg)	—	—	1	—	—	1.5	—	—	3	—	—	3	—	—	3	
Compressor form	Inverter compressor			Inverter compressor			Inverter compressor			Inverter compressor			Inverter compressor			
Refrigerant form	R410A			R410A			R410A			R410A			R410A			
Fan form	DC EC centrifugal fan			DC EC centrifugal fan			DC EC centrifugal fan			DC EC centrifugal fan			DC EC centrifugal fan			
Air volume (m ³ /h)	3200	3200	3200	5000	5000	5000	8800	8800	8800	11000	11000	11000	12500	12500	12500	
External residual pressure	Standard residual pressure is 20Pa, adjustable from 0-400Pa															
Electric heating form	PTC Electric Heater			PTC Electric Heater			PTC Electric Heater			PTC Electric Heater			PTC Electric Heater			
Electric heating capacity (kW)	—	2	2	—	3	3	—	6	6	—	6	6	—	6	6	
Humidification form	Wet Film Humidifier			Wet Film Humidifier			Wet Film Humidifier			Wet Film Humidifier			Wet Film Humidifier			
Maximum humidification (kg/h)	—	—	1.5	—	—	1.5	—	—	3	—	—	3	—	—	3	
Throttling form	Electronic expansion valve			Electronic expansion valve			Electronic expansion valve			Electronic expansion valve			Electronic expansion valve			
Air filter	G4 Panel Filter			G4 Panel Filter			G4 Panel Filter			G4 Panel Filter			G4 Panel Filter			
Humidifier inlet pipe In	G1/2			G1/2			G1/2			G1/2			G1/2			
Condensate drain pipe Φ (mm)	19			19			19			19			19			
Refrigerant gas pipe Φ (mm)	15.88			19.05			19.05			22			22			
Refrigerant liquid pipe Φ (mm)	9.52			12.7			15.88			19.05			19.05			
Maximum operating current (A)	12.0	23.0	23.0	26.0	44.0	44.0	31.0	51.0	51.0	39.0	57.0	57.0	40.0	60.0	60.0	
Power cable size (mm ²)	5x2.5	5x4	5x4	5x4	5x6	5x6	5x4	5x10	5x10	5x6	5x10	5x10	5x6	5x10	5x10	
Indoor unit structural																
Dimensions: W×D×H (mm)	300X1200X2000 300X1400X2000			300X1200X2000			600X1200X2000			600X1200X2000			600X1200X2000			
Weight (kg)	190			230			285			310			330			
Outdoor unit model	Standard	CY0191-A1S			CY0451-A1S			CY0742-A1S			CY0893-A1S			CY0893-A1S		
Number of matches	Tower	1			1			1			1			1		

Data Centre Containment (Power Distribution)

Product introduction

The GIGANET™ intelligent column head cabinet is a power distribution cabinet that comprehensively collects all energy data for the energy end of the data center room. Provide high-precision measurement data for the terminal energy monitoring system, through the display unit, reflect the power quality data in real time and upload it to the background power environment control system through digital communication to achieve real-time monitoring of the entire power distribution system and effective management of operating quality, helping users Optimize network data center, strengthen energy consumption management, improve server operation efficiency, and provide reliable guarantee for all-round green data center.



Intelligent column head cabinet product parameters

Rated power	60kW、100kW、160kW
Rated current	100A、160A、250A
Rated voltage	380VAC/50Hz
Power supply system	Three-phase five-wire (TN-S)
Output branch	Single-channel maximum 108 channels, dual-channel maximum 54 channels
Power indicator	A, B, C three-phase LED indication
Parameter display	7 inch touch screen
The main parameters	Three-phase voltage, three-phase current, frequency, status, bus temperature (customized), harmonics, load percentage, energy, active power, reactive power, apparent power, power factor
Branch parameters	Phase voltage, phase current, load percentage, energy, active power, power factor, frequency, status, temperature (customized)
Bus alarm	Over voltage, under voltage, phase loss, loss, current ultra-high limit, current ultra-low limit, frequency fault, over temperature
Tributary alarm	Over current, instantaneous over current, current ultra high limit, Current Ultra Low Limit, switch open, switch closed, switch fault, over temperature
Communication interface	RJ45
Withstand voltage	2000VAC/min
Operation environmental conditions	The temperature range is -5°C~+40°C, the humidity range is 0%~90% (no condensation), and the altitude is less than 2000m (when the altitude exceeds 1000m, derating should be considered)
Executive standard	GB7251-1、GB7251-3



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