AIRSYS

TELECOOL

Cabinet Cooling Unit

Cooling Capacity：500W–3000W

Brief Introduction

TELECOOL cabinet cooling unit is cooling with compressor or heat pipe, and it will remove the heat inside the cabinet to outside. It can also keep the dust and heat outside the cabinet, avoiding problems from using fan. The inside cabinet can be maintained at an ideal temperature for electrical components which effectively guarantees the stability of the electronic equipment and improves the reliability of the whole system. The products can be widely used for outdoor communication cabinets, battery cabinets, electric cabinets, industry control cabinets etc.

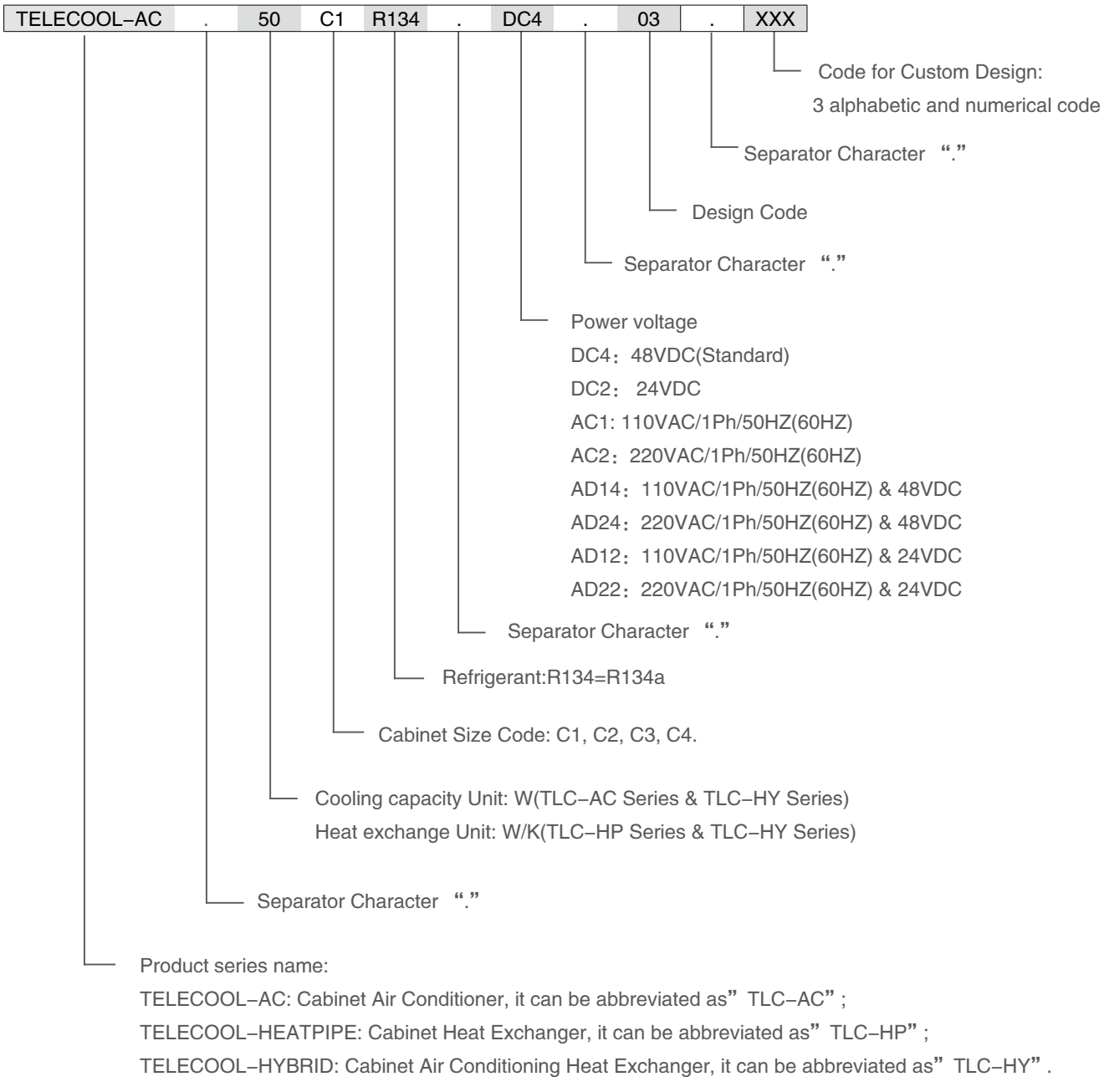
Applications

Battery Cabinet

Outdoor Cabinet

Telecommunication Base Station

Nomenclature



TLC–HP Heat Exchanger

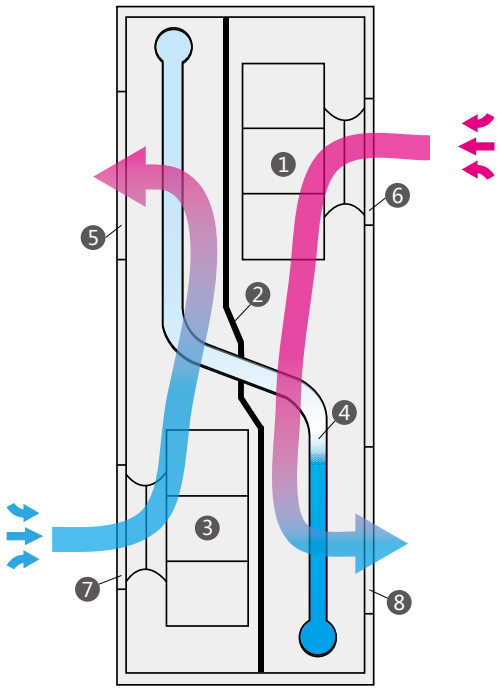
Brief Introduction

Heat exchanger is a device that utilizes the natural cool resource to exchange heat between hot inside and cool outside of cabinet with limited power consumption. When there is large temperature difference. The device will effectively exchange heat between hot inside and liquid refrigerant, between cool outside and gaseous refrigerant, bringing out heat through heat pipe, which make the cabinet to be an enclosed system with temperature control, and equipment inside can work normally.

Product Features

⊙Unique Z shaped heat pipe structure, high heat exchange efficiency
⊙Without compressor, compact structure and light in weight, easy for installation and maintenance
⊙Parallel flow heat exchanger featured as short aisle, large fin space, making dust easy to pass. No need to install filter and maintain regularly
⊙Low startup temperature difference, making the most of natural cooling source
⊙Word–famous key components makes the system more stable
⊙Enclosed air circuit cooling system design, effectively avoid contamination from outside
⊙RS485 Communication port, monitor control
⊙48VDC power supply standard, 24VDC, AC, AC&DC power supply are available on request
⊙Tested before leaving factory, performance and quality is assured

Working Principle



1 Evaporator fan
2 Seporator
3 Condenser fan
4 Heat pipe
5 Air outlet for external circulation
6 Air inlet for internal circulation
7 Air inlet for external circulation
8 Air outlet for internal circulation

TLC–AC Air Conditioner

Brief Introduction

Comparing to the ones of traditional outdoor mobile base station without a temperature management device, the new battery of outdoor base station with a cooling unit has a service life prolonged 3 to 4 times. The new–type compression multi–functional cooling unit, which applies DC power supply, is able to ensure that the temperature of battery cabinet will not exceed 25℃ when the environmental temperature is as high as 55℃, and that its energy consumption only takes 1/4 of that of the traditional cabinet cooling unit. By advantage of the adaptation of 48V DC direct–driving compressor, the cooling unit doesn't need to bear any traditional failure risk and energy consumption caused by inverter, and continues working by using the electric energy from accumulator after the interruption of mains supply. Owing to the excellent energy efficiency ratio(EER), the working cooling unit only consumes a little of back–up power.

For the regions where the mains supply is in a better and stable condition, we also provide a type of multi–functional cooling unit which applies the bi–model (AC & DC) power supply technologies. The compressor is AC–powered.

When the mains supply is interrupted, the DC–powered fan and electric air valve will operate in time for indoor/ outdoor air exchange, so as to prevent the battery cabinet from excessive high temperature as a result of the interruption of mains supply.

The electric air valve also has the function of exhausting hydrogen and acid gases produced by the working battery from the cabinet in daily use.

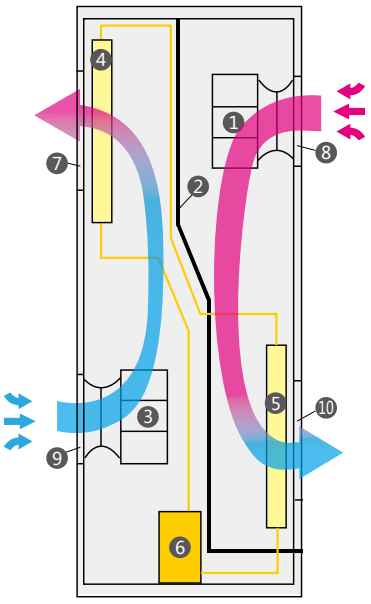
The installation of multi–functional cooling unit not only can extend the service life of battery of outdoor station, but also prevent the station from paralysis as a result of battery failure.

The multi–functional cooling unit not only can be used for the cooling of battery chamber, and also applies to the heat management of small outdoor cabinet due to its compact and light structure.

Product Features

⊙Low noise mode, can be activated on site, meet special requirements
⊙Word–famous key components makes the system more stable
⊙Enclosed air circuit cooling system design, effectively avoid contamination from outside
⊙RS485 Communication port, monitor control
⊙48VDC power supply standard, 24VDC, AC, AC&DC power supply are available on request
⊙Tested before leaving factory, performance and quality is assured

Working Principle



1 Evaporator fan
2 Seporator
3 Condenser fan
4 Condenser
5 Evaporator
6 Compressor
7 Air outlet for external circulation
8 Air inlet for internal circulation
9 Air inlet for external circulation
10 Air outlet for internal circulation

TLC–HY Integrated Air Conditioning Heat Exchanger Unit

Brief Introduction

An ideal mini–shelter heat management equipment shall have low energy consumption as the heat exchanger but with the same cooling capacity as the cabinet air–conditioning. Furthermore, when the cooling system malfunctions, the heat exchanger can operate automatically, so as to prevent the entire system of outdoor base station from "out of service" due to loss of temperature control. The innovative design integrates the compression cooling system and the independent flow heat exchanger, creating the "Integrated Air–conditioning Heat Exchanger", a brand–new heat management device which doesn't belong to cabinet air–conditioning and is different from ordinary heat exchanger.

The outdoor base station works under changing temperatures. In general, the daily maximum temperature is in the time period from 10:00AM to 3:00PM. During such period, the compression cooling unit is used for cooling supply, while the heat exchanger is used to control the temperature during the rest periods.

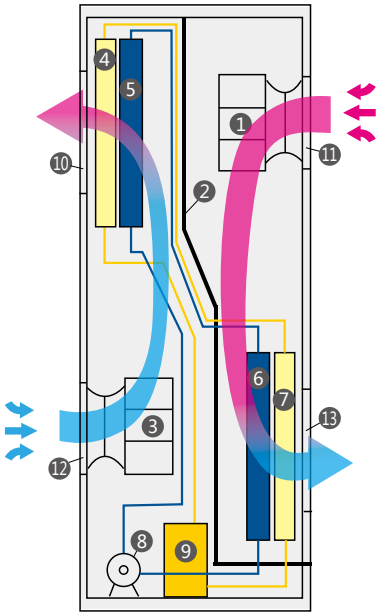
Therefore, under the same condition, the energy consumption of integrated air–conditioning heat exchanger is 70% lower than that of traditional cabinet air–conditioning.

With an independent cooling and heat exchange system installed inside, the mini–shelter possesses two redundant sets of equipment even if merely one set in installed.

Product Features

⊙Integrated with independent refrigerating system and heat exchanger
⊙Refrigerating system can work simultaneously and back up for each other, more stable
⊙Make the most of natural cooling source with intelligent step cooling
⊙Strongly recommend for energy saving projects
⊙Word–famous key components makes the system more stable
⊙Enclosed air circuit cooling system design, effectively avoid contamination from outside
⊙RS485 Communication port, monitor control
⊙48VDC power supply standard, 24VDC, AC, AC&DC power supply are available on request
⊙Tested before leaving factory, performance and quality is assured

Working Principle



1 Evaporator fan
2 Seporator
3 Condenser fan
4 Condenser
5 Outside heat exchanger
6 Inside heat exchanger
7 Evaporator
8 Magnetic pump
9 Compressor
10 Air outlet for external circulation
11 Air inlet for internal circulation
12 Air inlet for external circulation
13 Air outlet for internal circulation

Technical Parameters

TLC–HP Heat Exchanger

Model		80C2	120C3	180C4
Rated heat exchange	W/K	80	120	180
Rated power input	W	135	192	173
Power input			–48V DC	
Working temperature	℃		–40~ +45	
Color			RAL7035	
Refrigerant			R134a	
Noise level	dB		65	
Ambient air circuit	m^3/h	620	1130	1910
Cabinet air circuit	m^3/h	620	1130	1910
Unit dimensions and weight				
Width	mm	497	567	646
Height	mm	797	1007	1191
Depth	mm	180	200	218
Weight	kg	20	28	34

TLC–AC Air Conditioner

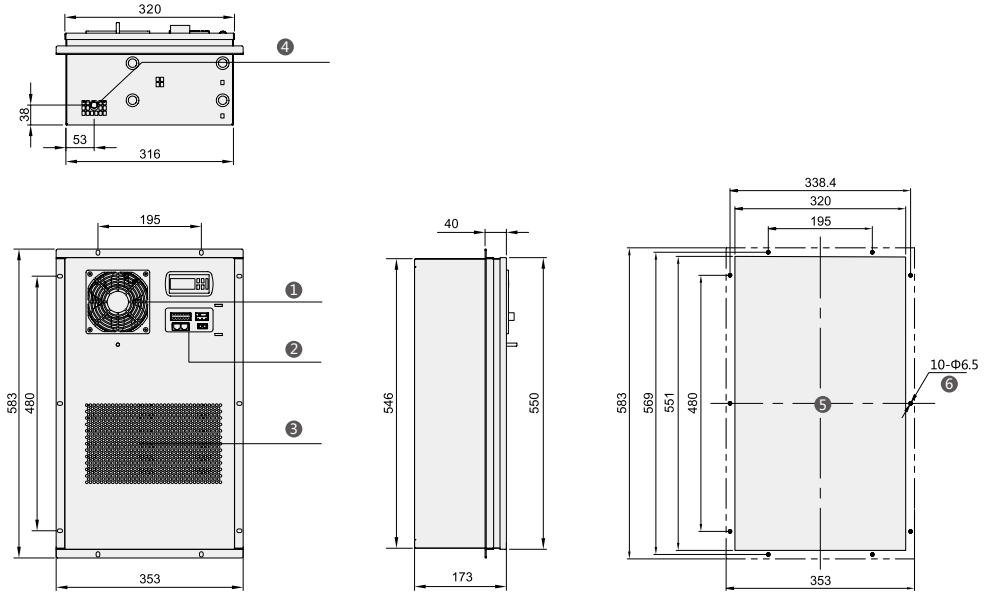
Model		50C1	100C2	150C2
Cooling capacity（L35/L35）	W	500	1000	1500
Rated power input	W	200	440	550
Power supply			–48V DC	
Working temperature	℃		–20~+55	
Color			RAL7035	
Refrigerant			R134a	
Noise level	dB		65	
Ambient air circuit	m^3/h	360	420	420
Cabinet air circuit	m^3/h	255	420	420
Unit dimensions and weight				
Width	mm	352	497	497
Height	mm	583	797	797
Depth	mm	173	180	180
Weight	kg	16	26	28

TLC–HY Integrated Air Conditioning Heat Exchanger Unit

Model		150C3	300C4
Cooling capacity（L35/L35）	W	1500	3000
Rated power input	W	550	970
Rated heat exchange	W/K	80	120
Power supply		–48V DC	
Working temperature	℃	–40~+60	
Color		RAL7035	
Refrigerant		R134a	
Noise level	dB	65	
Protection grade			
Internal circuit		IP34	
External circuit		IP55	
Height			
Depth	mm	507	600
Weight	mm	947	1295
Depth	mm	198	220
Weight	kg	45	59

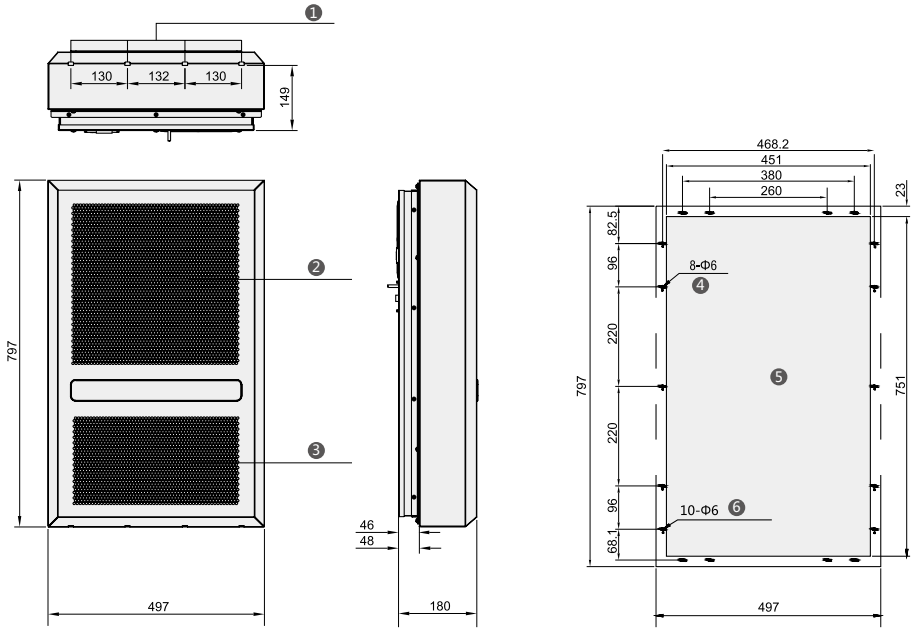
Unit Dimension Drawing

C1 Cabinet Dimension Drawing



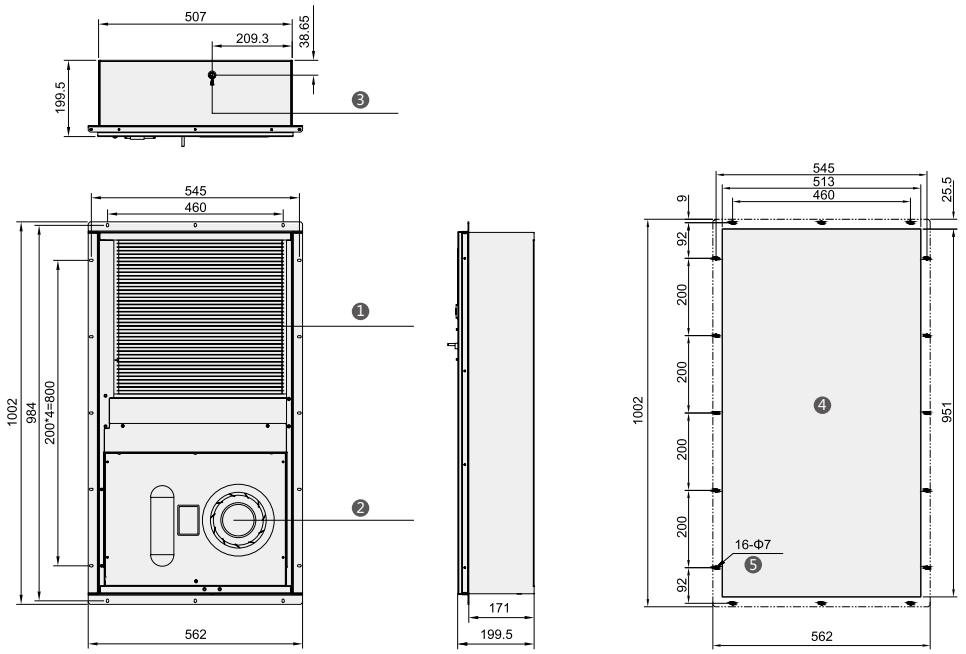
1 Inside air inlet
2 Power connection
3 Inside air outlet
4 Drain hose
5 Cutting area
6 Mounting hole

C2 Cabinet Dimension Drawing



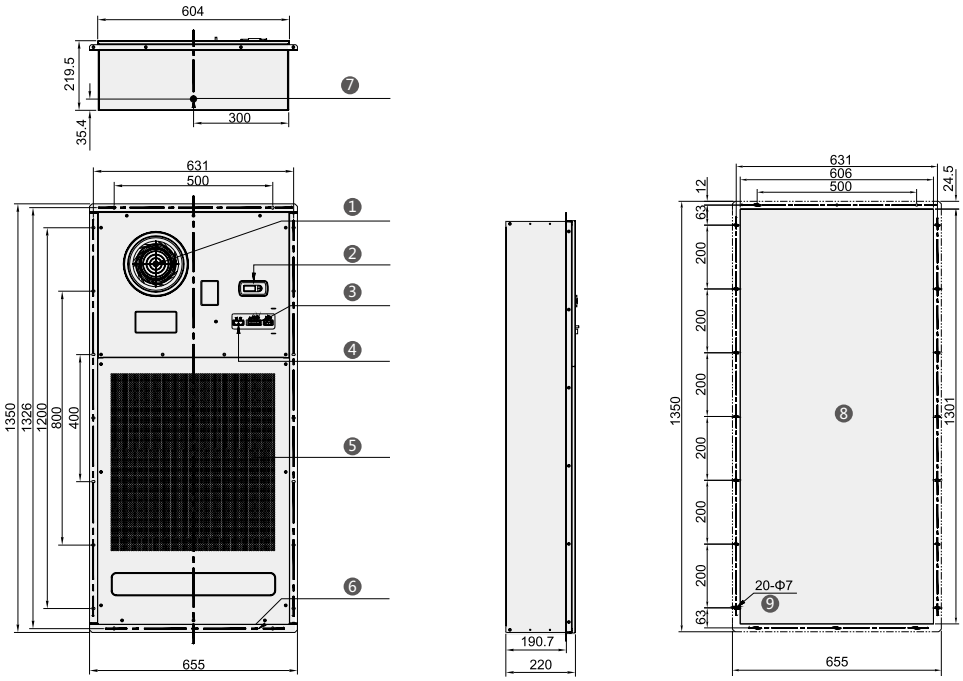
1 Drain hose
2 Outside air outlet
3 Outside air inlet
4 Panel locking hole
5 Cutting area
6 Mounting hole

C3 Cabinet Dimension Drawing



1 Outside air outlet
2 Outside air inlet
3 Drain hose
4 Cutting area
5 Mounting hole

C4 Cabinet Dimension Drawing



1 Inside air inlet
2 The terminal
3 –48VDC+alarm input power connection
4 RJ45 communication interface
5 Inside air outlet
6 Mounting flange
7 Drain hose
8 Cutting area

AIRSYS

AIRSYS is a cooling product and solution provider for ICT (Information & Communication Technology) industry.

The products include:

- Air conditioner and Chiller for IT room and large data center
- Intelligent Control system (BAS) for IT room and data center
- Air conditioning equipments for telecom shelters
- Intelligent control system for shelter cooling.

Air conditioner and heat exchanger for telecom cabinets.

The solution include:

- Cooling system design
- System integration
- Installation and Commissioning
- Operation and Maintenance

AIRSYS is also a global leader in providing cooling solution for Medical Imaging System.

AIRSYS Refrigeration Engineering Technology (Beijing) Co. Ltd.

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