AIO system

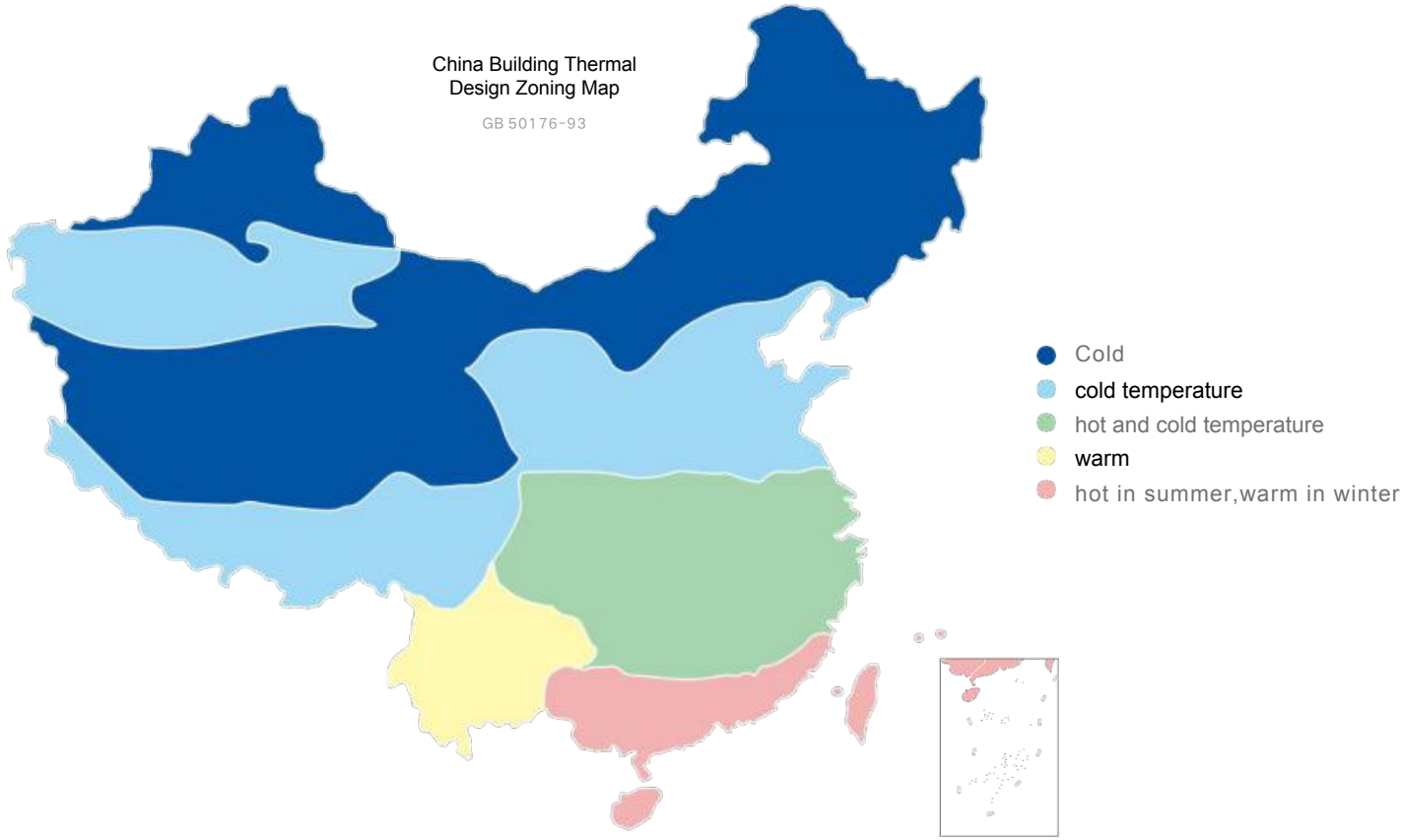
- Everything in one system.
- Everything in one App
- Everything at your fingertips
- **Air source heat pumps**

Contents

Air source heat pumps advantages

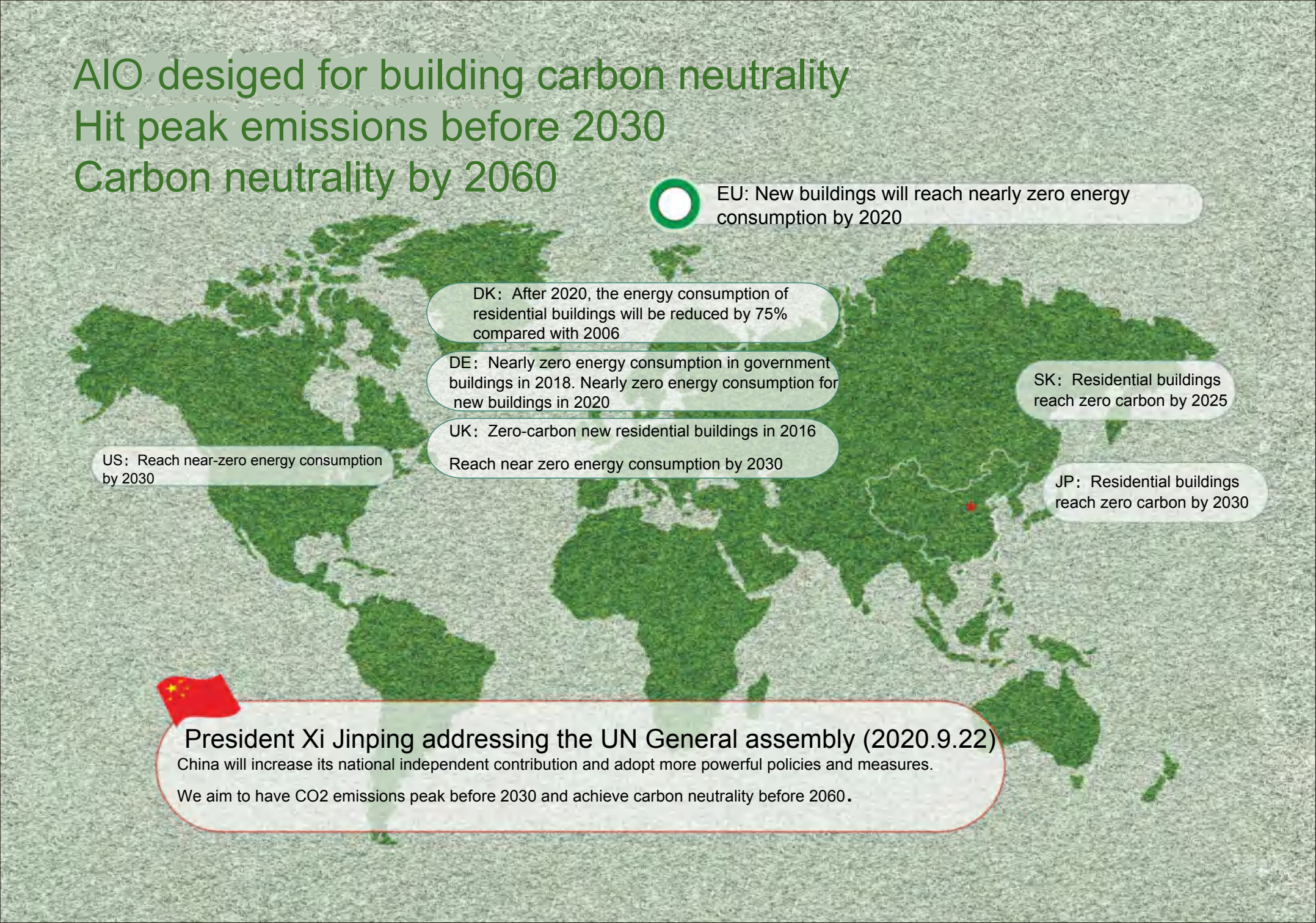
- Heat pump heating & cooling systems
- Reduce CO2
- Operating a heat pump saves valuable resources, it reduce the consumption of fossil fuels, conserving valuable resources in the operation. It also lower CO2 emissions that harm the environment.
- This heat pumps hold a further advantage. Many of our solutions feature active and natural cooling functions. This means that as well as generating heat on cold days, also can bring fresh cool air into the room during the summer.
- Heat pump radiant heating and cooling solutions are designed and produced to the highest standards, offering impressive efficiency and longevity.

Different climates determine the design of your home



From “saving energy” to “energy efficient”

AIO desiged for building carbon neutrality
Hit peak emissions before 2030
Carbon neutrality by 2060



EU: New buildings will reach nearly zero energy consumption by 2020

DK：After 2020, the energy consumption of residential buildings will be reduced by 75% compared with 2006

DE：Nearly zero energy consumption in government buildings in 2018. Nearly zero energy consumption for new buildings in 2020

UK：Zero-carbon new residential buildings in 2016

Reach near zero energy consumption by 2030

US：Reach near-zero energy consumption by 2030

SK：Residential buildings reach zero carbon by 2025

JP：Residential buildings reach zero carbon by 2030

President Xi Jinping addressing the UN General assembly (2020.9.22)

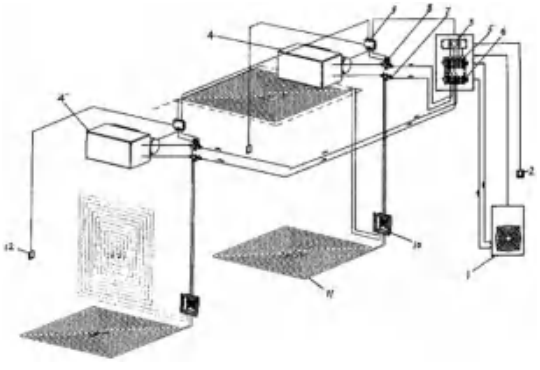
China will increase its national independent contribution and adopt more powerful policies and measures.

We aim to have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060.

Perseverance and innovation

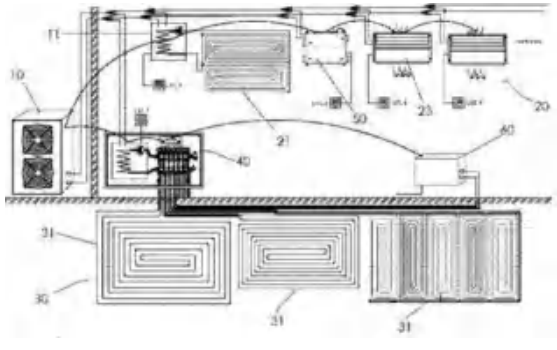
2012

invention patent
Licensing No.：CN102538142B
《Radiation and air conditioning heating and cooling integrated system》



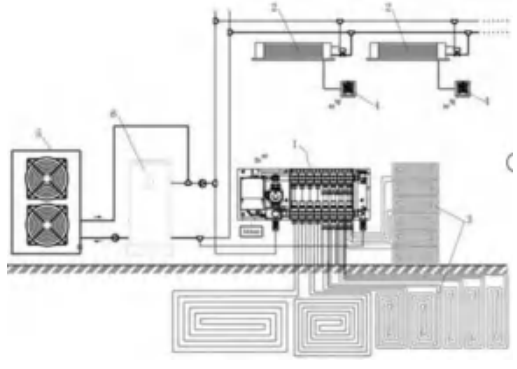
2015

utility model patent
Licensing No.：CN204648744U
《Indoor Environmental System》



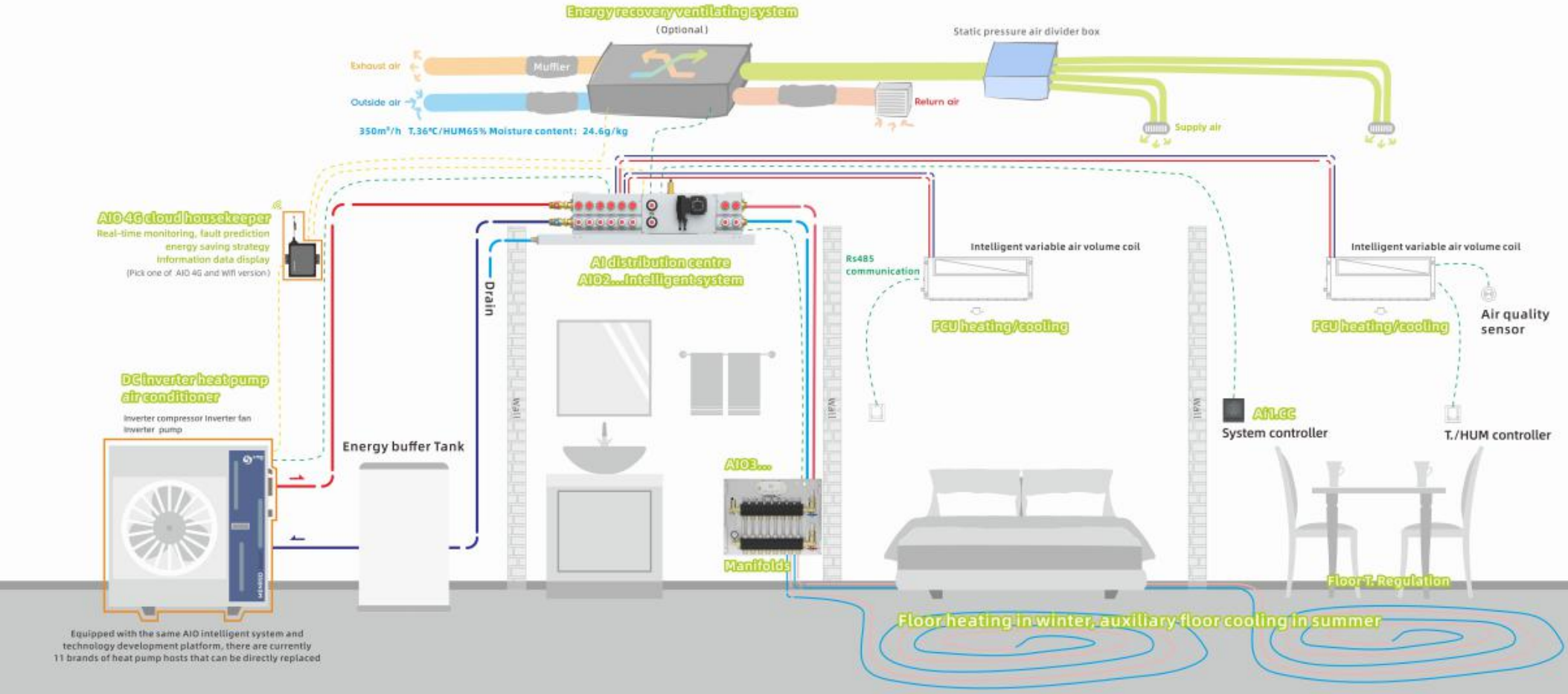
2020

utility model patent
Licensing No.：CN213395567U
《A fully integrated supply system》



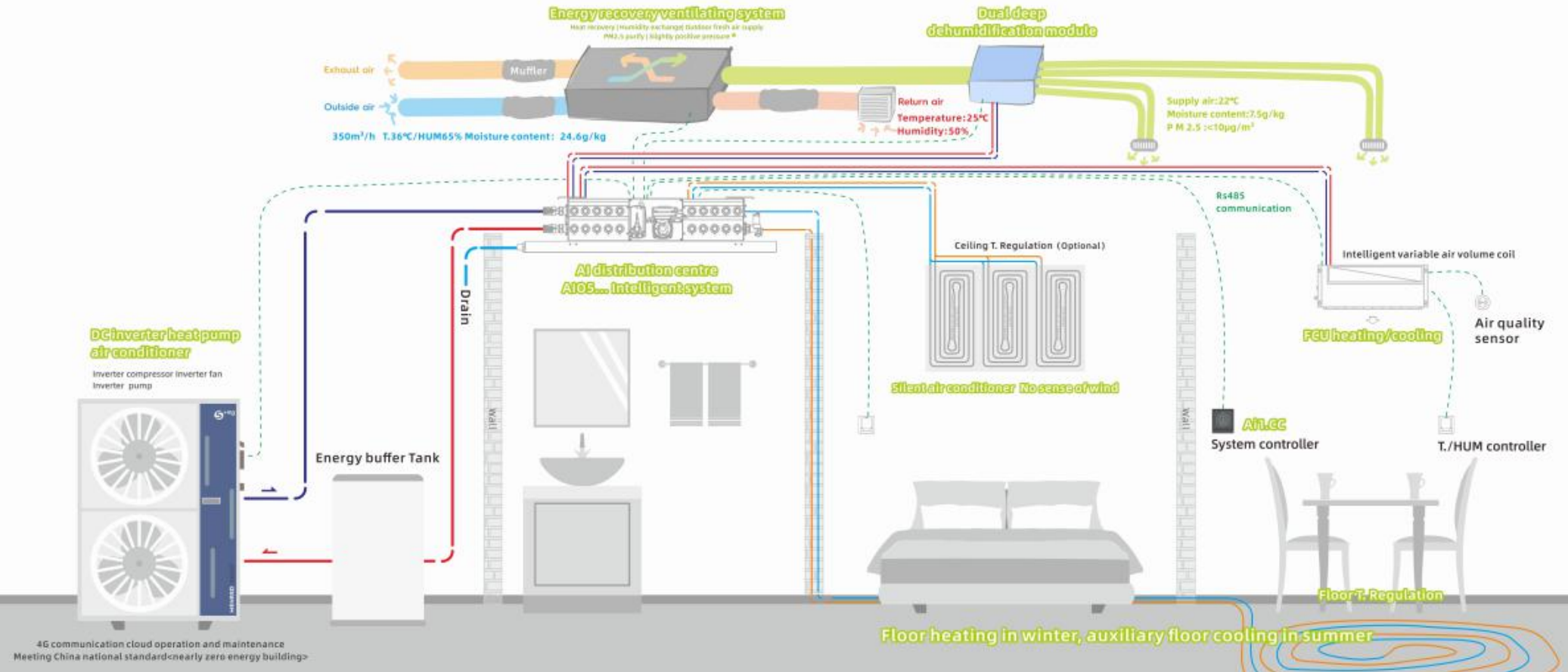
Dual-supply Plus household central air-conditioning

AC+floor heating | Floor T. Regulation | Open source system | Smart home app



AIO system household central AC

AC and floor heating | Building T. Regulation | Fresh air ventilation | Smart home app



Heat Pump for AIO AC

DC frequency conversion
Energy saving and mute
Stable and efficient

Desiged for

building carbon neutrality

Comply with
"Near Zero Energy Building Technical Standard"
GB/T 51350－2019

Variable-frequency heat pump

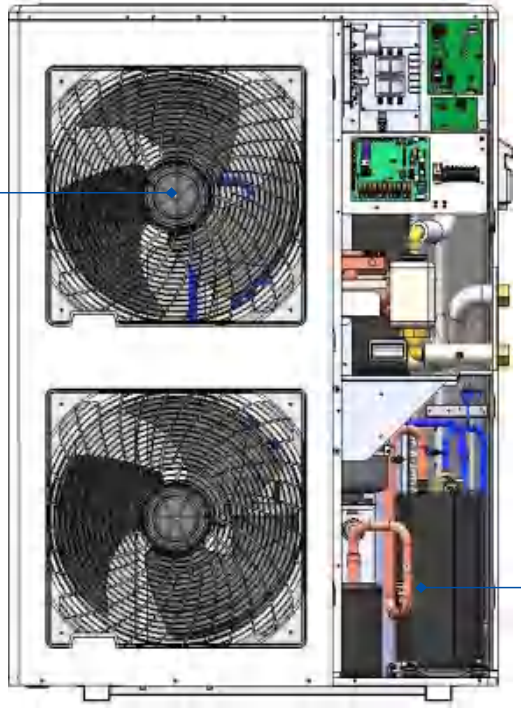
DC frequency conversion Fan Pump compressor

Heat pump host GPRS communication, icloud on duty to monitor power consumption and operation status

DC inverter motor

Compared with AC motors, DC variable frequency motors can be steplessly adjusted according to system requirements to ensure that the motors are always running at the highest efficiency.

It saves more than 15% energy consumption compared with general AC motors.

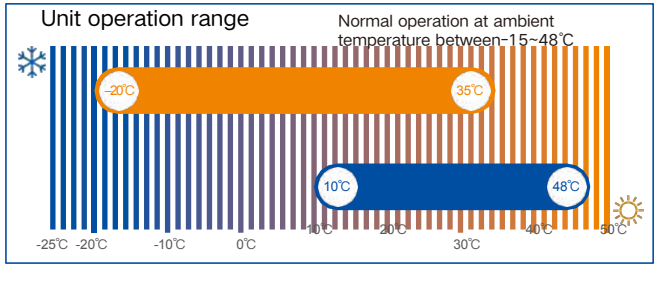


Frequency conversion water pump

Anti-overheating automatic protection | Anti-condensation water | Automatic anti-stuck rotation

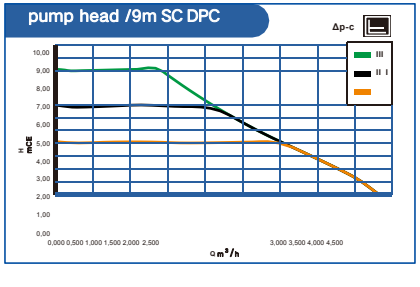
DC inverter compressor

It can be adjusted steplessly, the capacity change range is as high as 15%~140%, and the ultra-wide capacity change range, combined with the Master dynamic fuzzy loading technology, can be loaded on demand, running more efficiently and saving costs.



water pump parameter

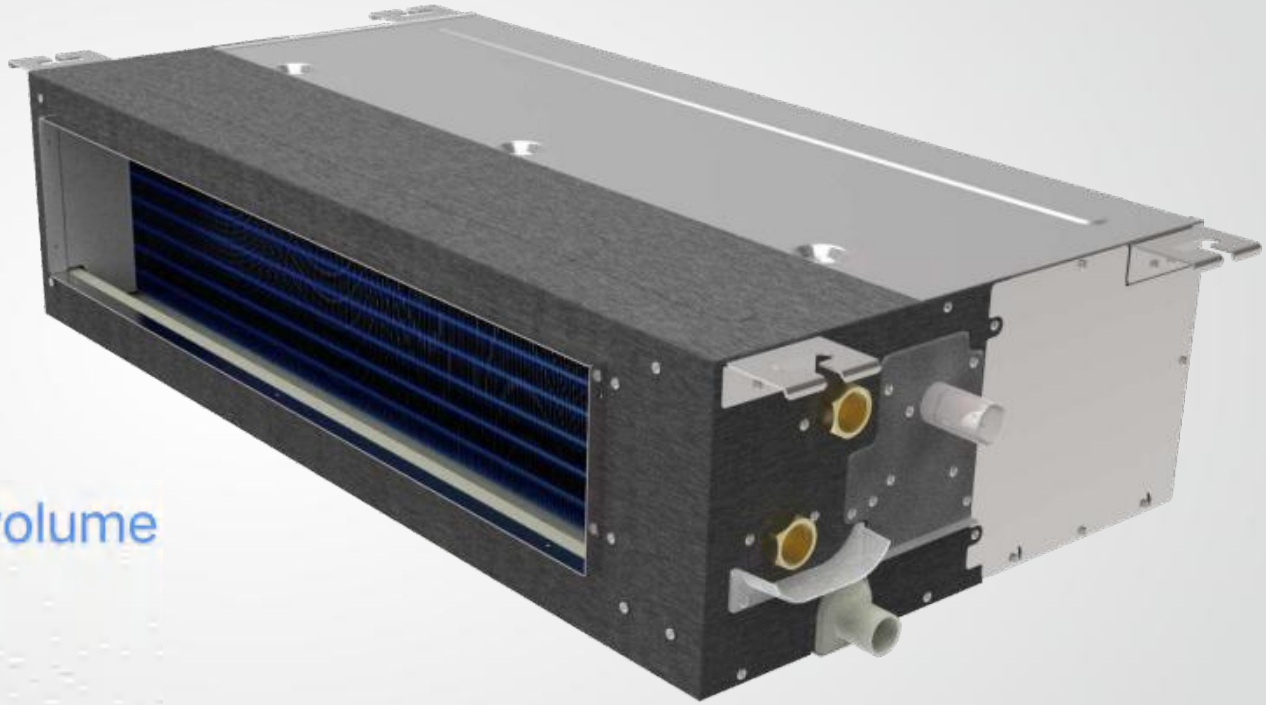
规 格	额定水流量 (m^3/h)	水泵选型扬程 (M)	机组水阻力 (M)	机外扬程 (M)	水泵选型输入功率 (W)
MG100DT2	1.5	8.4	1.9	6.5	85
MG120DT2	1.9	7.7	2.1	5.6	85
MG145DT2	2.3	10.5	2.4	8.1	160
MG200DT2	3.1	10.5	3.0	7.5	190
MG270DT3	4.3	9.4	3.0	6.4	305



Appearance						
Model		MG100DT2	MG120DT2	MG145DT2	MG175DT2	MG200DT2
Nominal cooling ca.（kW)		9	11	13.5	16	18
Nominal heating ca.（kW)		10	12	14.5	17.5	20
Nominal cooling input power（kW)		2.66	3.49	4.72	5.07	6.08
Nominal cooling current（A		12.2	15.4	21.3	22.8	26.7
Nominal heating input powe（kW)		2.86	3.67	4.36	5.36	6.54
Nominal heating current（A		13	16.2	19.9	24.0	29.2
IPLV		4.70	4.58	4.30	4.72	4.65
Coefficient of refrigeration performance		3.38	3.15	2.86	3.16	2.96
Power		220V~/50Hz				
Compressor	type	DC variable frequency rotor compressor				
	Qty（unit）	1	1	1	1	1
Fan motor	type	DC variable frequency axial fan				
	Qty（unit）	1	1	1	2	2
	Rated output power(KW/unit)	0.1	0.1	0.17	0.1	0.1
Pump	Rated power（W)	85	85	160	170	190
water heat exchanger	type	Brazed plate heat exchanger				
	water flow（m^3/h)	1.55	1.89	2.32	2.75	3.10
unit water resistance（kPa)		17	19	22	24	27
unite outer head（m）		6.5	5.6	8.1	7.9	7.5
Unit inlet/outlet pipe connection size		Rc1/ Rc1				
Design max. temp. difference between inlet and outlet water（℃）		7				
Dimension（LxWxHmm）		1000 x 400 x 1025	1000 x 400 x 1025	1000 x 400 x 1025	1000 x 400 x 1390	1000 x 400 x 1390
unit operation quality（kg）		119	119	125	148	148
unit total quality（kg）		117	117	123	146	146
unit water system Min, water ca.（L）		55	55	96	98	98

国家3C认证

Appearance					
Model		MG240DT3	MG270DT3	MG300DT3	MG340DT3
Nominal cooling ca. (kW)		22	25	28	32
Nominal heating ca. (kW)		24	27	30	34
Nominal cooling input power (kW)		6.85	7.75	8.96	10.88
Nominal cooling current (A)		11.8	13.3	16.3	18.6
Nominal heating input powe (kW)		7.45	8.30	8.70	10.18
Nominal heating current (A)		13.0	14.5	15.8	17.5
IPLV		4.50	4.40	4.16	4.10
Coefficient of refrigeration performance		3.21	3.23	3.13	2.94
Power		380V/3N~/50Hz			
Compressor	type	DC variable frequency rotor compressor			
	Qty (unit)	1	1	1	1
Fan motor	type	DC variable frequency axial fan			
	Qty (unit)	2	2	2	2
	Rated output power(KW/unit)	0.1	0.17	0.17	0.17
Pump	Rated power (W)	190	190	260	260
water heat exchanger	type	Brazed plate heat exchanger			
	water flow (m^3/h)	3.78	4.30	4.82	5.51
unit water resistance (kPa)		30	30	30	33
unite outer head (m)		6.1	5.5	7.2	5.9
Unit inlet/outlet pipe connection size		Rc1¼ / Rc1¼			
Design max. temp. difference between inlet and outlet water (℃)		7			
Dimension (LxWxHmm)		1000x400x1390	1000x400x1570	1000x400x1570	1000x400x1570
unit operation quality (kg)		180	192	199	200
unit total quality (kg)		177	189	196	197
unit water system Min, water ca. (L)		148	150	168	168



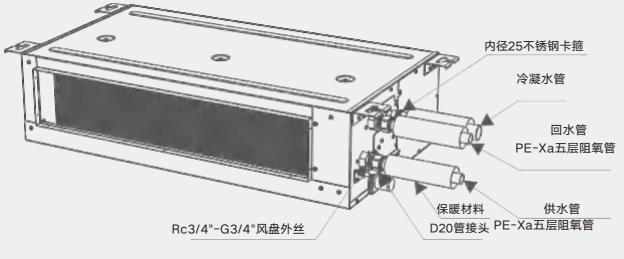
Intelligent Variable air volume FCU

DC brushless motor
Ai smart setting volume and power
Slim design 200mm thickness
Static design
Film-coated EPS water tray

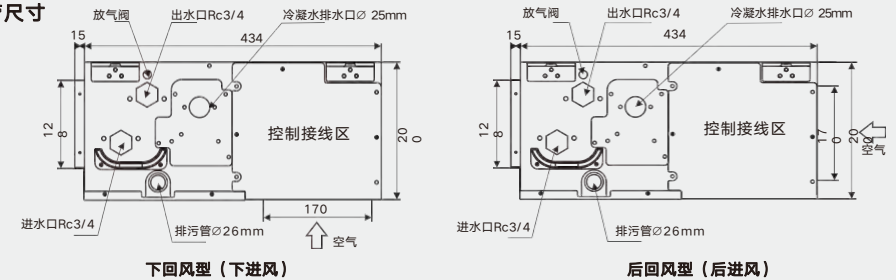
Specification

Model	FCU0500Y（Z）36.1	FCU0700Y（Z）45.1	FCU0900Y（Z）60.1	FCU1200Y（Z）80.1
Power	Single phase 220V/50Hz			
Variable air volume(m^3/h)	0~500	0~700	0~900	0~1200
Rated cooling capacity(W)	3600	4500	6000	8000
Rated heating capacity(W)	5400	6750	9300	12300
Input power(W)	27	49	49	64
Noise(dB(A))	35	40	42	43
Static pressure outside (Pa)	12			
Condensate tray form	The EPS foam has a blister tray inside, and the outlet pipe diameter is DN20			
water flow capacity(m^3/h)	0.62	0.77	1.06	1.39
water resistance(Kpa)	25	21	37	38
inlet and outlet pipe diameter(inch)	Rc3/4' water internal thread			
Fan type	Forward curved multi-wing ABS plastic centrifugal double suction impeller			
Fan Qty（unit）	2	2	3	4
motor type	Brushless DC motor			
moter Qty（unit）	1	1	1	2
Condensate lift pump	Built-in，head700mm，Outlet pipe diameter φ25mm			
Dimension（LxWxHmm)	800x450x200	1000x450x200	1200x450x200	1450x450x200

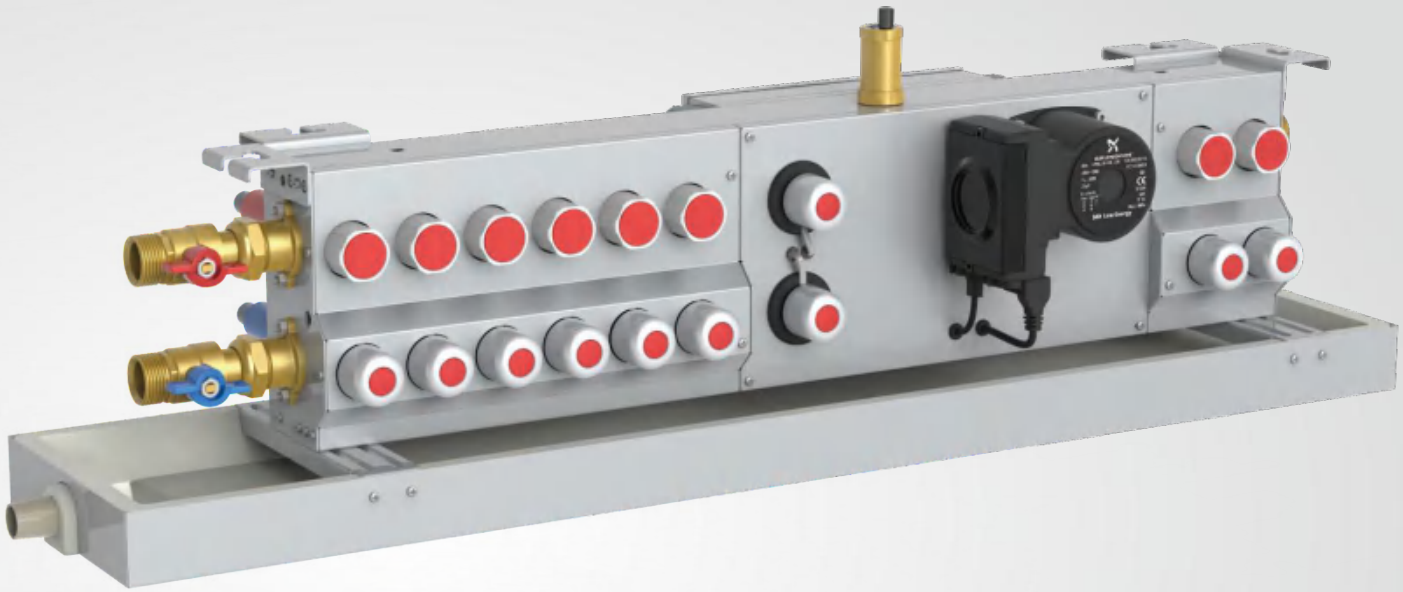
Schematic detailed drawing of unit



机组接管尺寸



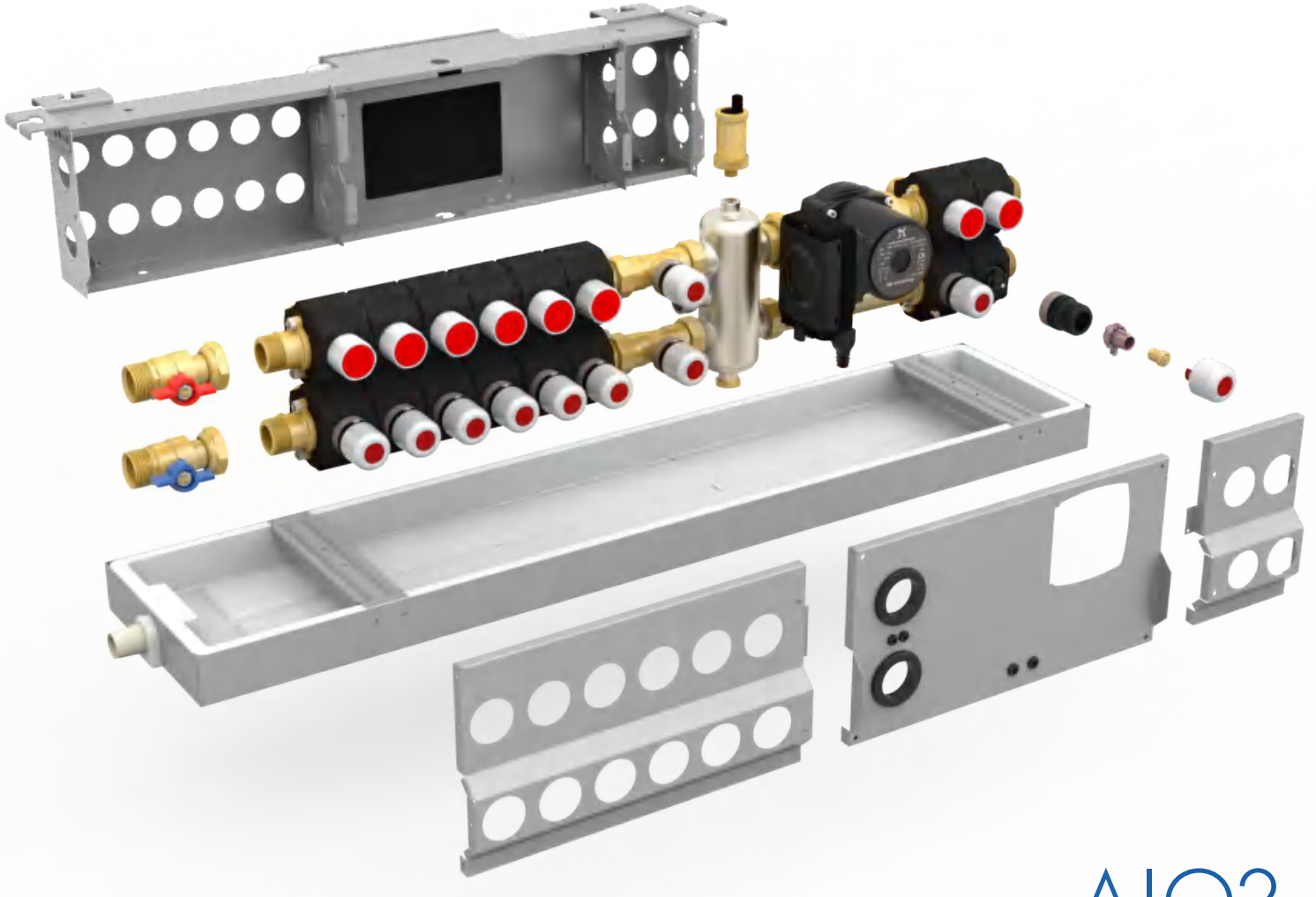
下回风型（下进风）　　后回风型（后进风）



AIO2...

AI IoT transmission and distribution station

Change water temperature to chase dew point
Swiss EMS copper-plastic composite
EPP insulation, anti-scaling adjustment
Equipped with AIO smart home system and open technology platform,
The main pipe is connected to the left side by default,
right side is also available for connection.



AIO2...

AI IoT transmission and distribution station

Holiday resort village

scan QR code

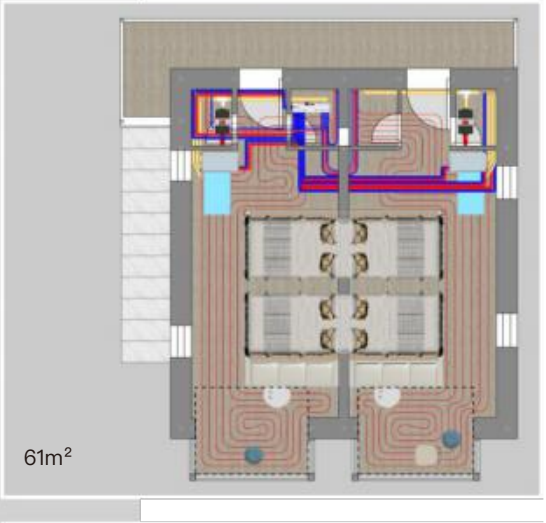
get the BIM design

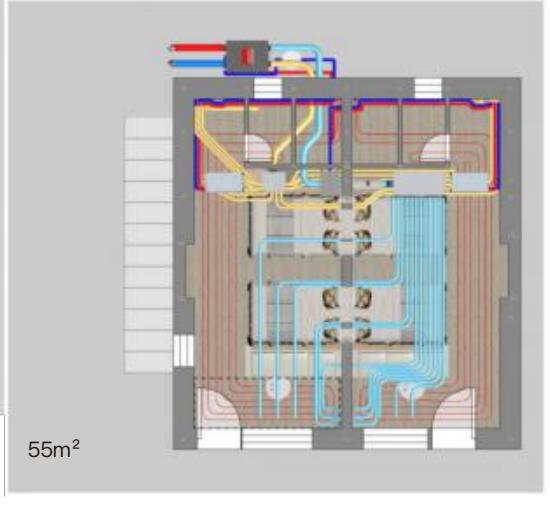
100m²

125m²

33m²

scan QR code
get the BIM design

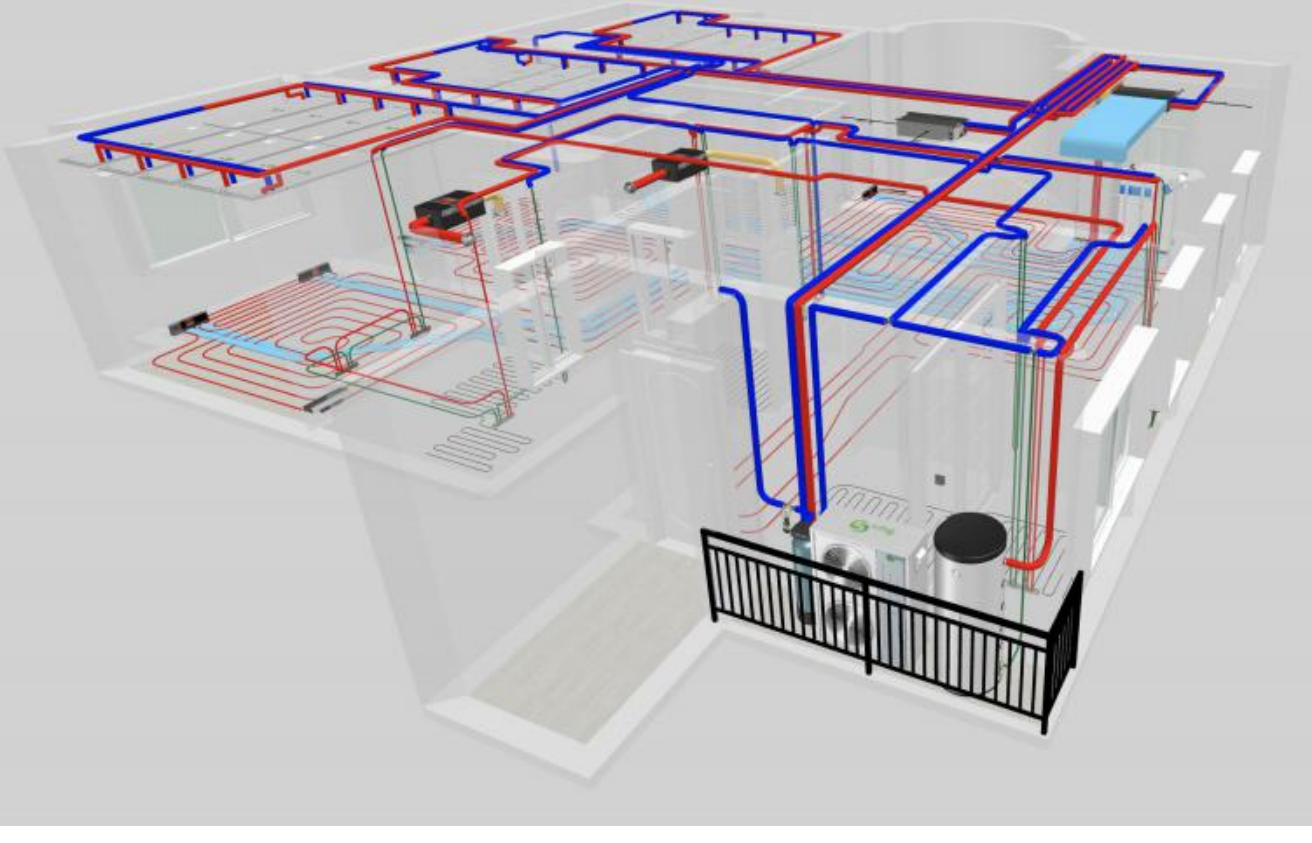


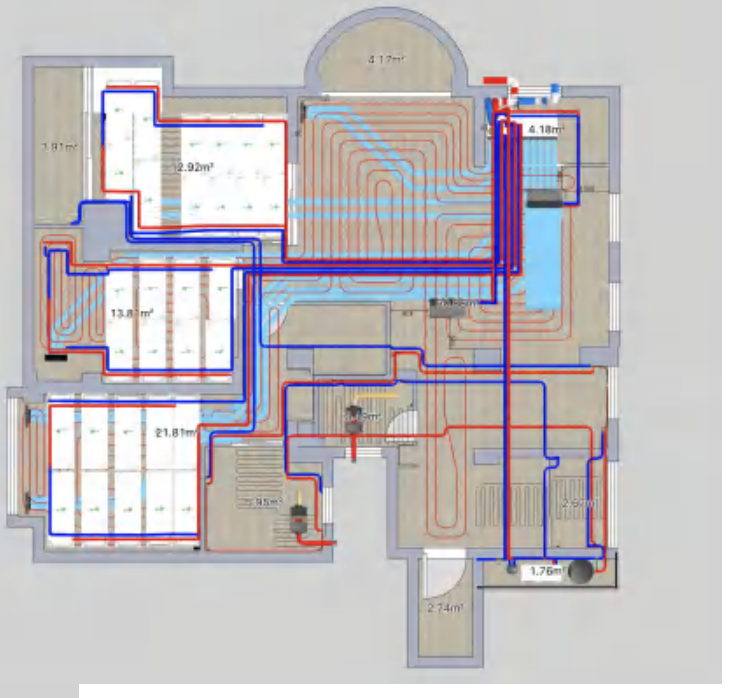


Residential apartment

scan QR code

get the BIM design





Solar decathlon

- The U.S. Department of Energy Solar Decathlon® is a collegiate competition that has inspired thousands of students worldwide to enter the clean energy workforce since its inception in 2002. Today, the 10 contests that are the foundation of Solar Decathlon challenge students to design and build high-performance, low-carbon buildings that mitigate climate change and improve our quality of life through greater affordability, resilience, and energy efficiency.
- Solar Decathlon China (SDC) was initiated in China in 2011 as an achievement of the Sino-U.S. Strategic and Economic Dialogues signed by the U.S. and Chinese governments. SDC aims to create a workforce development and education program which can provide student architects, engineers, business majors, and communicators the opportunity to cooperate in designing and building sustainable housing projects that can respond to people's daily realities and regional development.
- SDC2021 invites up to 15 teams to build competition prototypes to meet a triple challenge in the context of the host city: sustainable development, smart connection and human health.
- menred sponsored 7 universities in this competition, that including energy recovery ventilation system, radiant cooling and heating system, smart home control system and water purification system to improve indoor comfort and energy saving

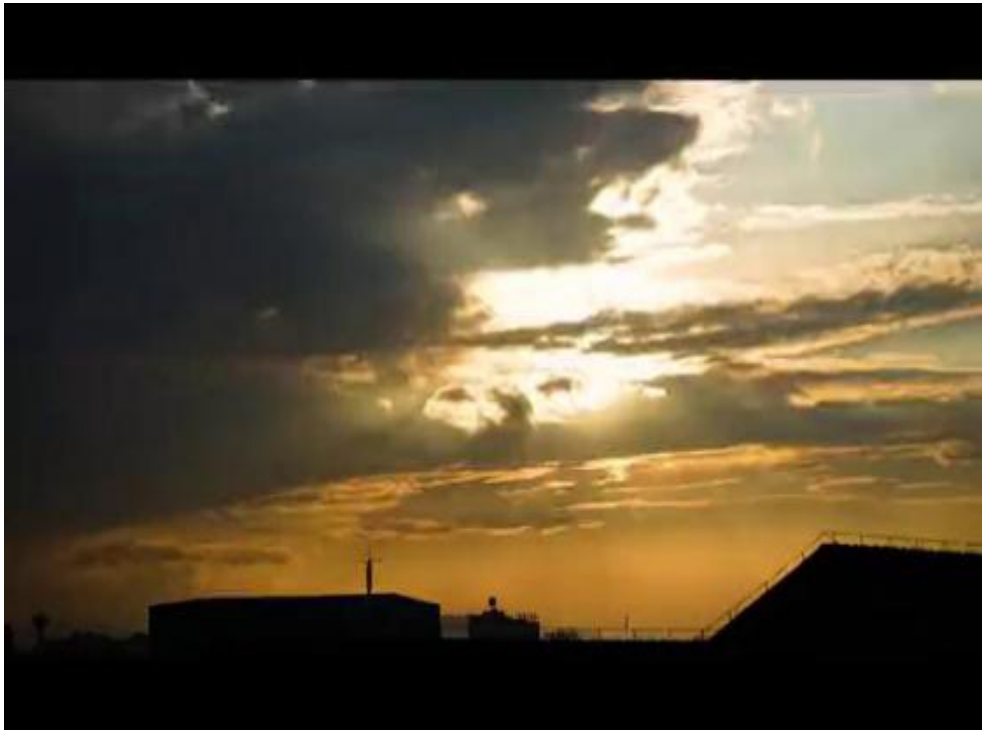
Application
Solar Decathkon China 2021

Project name: QIJU 3.0
by Xi'an university of architecture and technology

Click for video

Application
Solar Decathkon China 2021

Project name: The hope land
by Xi'an university of architecture and technology, shenyang jianzhu university and Chemnitz University technology (Germany)



Click video for more information

Let us reduce the CO^2 (or global warming) gas emission on the planet together