

# AIRSYS



## **DATA COOL PACKAGED**

Packaged Precision Air Conditioner  
with Built-in Fresh Air Free Cooling

Cooling Capacity: 16.5kW-48.6kW

[www.air-sys.uk](http://www.air-sys.uk)



The Datacool Packaged is a technologically advanced range of precision cooling units, combining fresh air free cooling and refrigeration to offer maximum value for critical environment consumers, reducing installation expenditure and minimising energy consumption and operation costs.

# Unit Identification

01	02	03	04	05	06	07	08	09	10	11	12	13
DCP	.	ID	.	DN	45	E2	A3	R407	.	02	.	BRT

01	DATACOOL-PACKAGED	Product series name: DATACOOL-PACKAGED: Packaged air conditioner with built-in free cooling
02	.	Separator Character ""
03	ID	Installation mode: ID - Indoor installation
04	.	Separator Character ""
05	DN	Air supply pattern: O - Air delivery from unit top via header or air duct U - Air delivery from unit bottom via raised floor
06	45	Nominal cooling capacity: kW
07	E1	Compressor type & number: E1 means the unit is equipped with 1 hermetic scroll compressor, E2 means the unit is equipped with 2 hermetic scroll compressors
08	A1	Cabinet size code: "A" cabinet with 3 sizes A1, A2 & A3.
09	R407	Refrigerant: R407C
10	.	Separator Character ""
11	02	Section number: 02: Two sections 03: three sections (only available for 45kW)
12	.	Separator Character ""
13	BRT	Code for custom design

# Engineered features

## 1 Energy Saving

When the outdoor temperature is lower than that of the room, the built-in free cooling system will bring fresh air into the room to avoid the compressor working, which reduces the power consumption. When the temperature difference between indoor and outdoor is greater than 10°C, the free cooling system can supply 100% of the cooling capacity, saving 90% energy.

## 2 Good structure design and easy maintenance

All routine maintenance is from the front of the unit, with easily removable access panels. The unit is supplied in sections for on-site assembly, making transport and installation easier.

## 3 Corrosion-proof

The unit framework is provided for corrosion protection, with a 15 year lifespan. For coastal regions we can treat the coils with saline protection as well.

## 4 High sensible heat ratio

The sensible heat ratio of all the units is typically higher than 0.9.

## 5 Wide working range

The unit can work at minimum -30°C to +45°C ambient temperature continuously and reliably.

## 6 High efficiency fan

The unit is fitted with EC, super high efficiency and variable speed fans. The fan will deliver more than 90% of the designed air flow even when the pressure drop of the filter reaches 250Pa.

## 7 Fully automatic control

The unit is equipped with a full automatic control system, with auto restart.

## 8 High torque and low leakage air damper

The unit is fitted with air dampers with high torque actuators to ensure reliability and low leakage. The on/off cycle is less than 90 seconds, with air leakage less than 5% when under pressure of 125Pa.

## 9 Auto changeover of working mode

The unit automatically selects the working mode: mechanic cooling or free cooling according to the outdoor and indoor temperatures. In the event of failure of the refrigeration system, the unit will revert to fresh air cooling mode.

## 10 Auto restart

When the power is recovered after an outage, the unit will restart automatically. The controls have an inbuilt time delay, adjustable between 1 to 60 seconds to avoid components starting at the same time.

## 11 Automatic self-diagnosis

The unit continuously monitors its operation, displaying real-time conditions and the unit alarm status.

## 12 4-Level password protection

There are four levels of password protection for the control system which are:

Read only: for visual inspection of unit status

Read/write: for altering set points etc

Maintenance and commissioning: for initial commissioning engineers

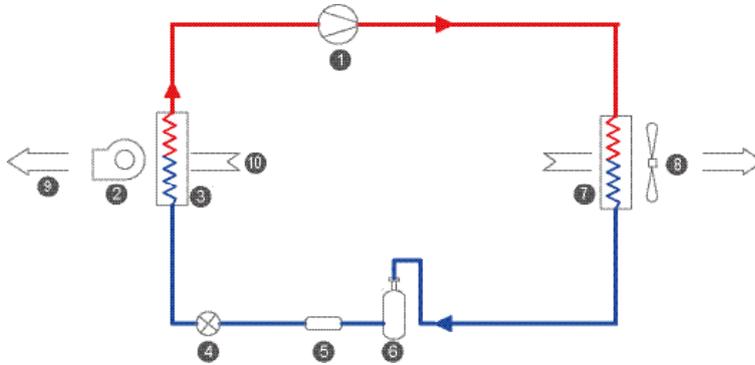
OEM: factory settings.

## 13 Voltage protection

The unit is fitted with voltage protection. When the supply voltage exceeds the permitted range, or if a phase fails then the unit will be stopped.

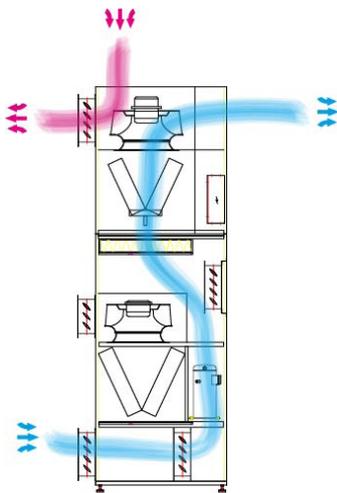
# Working Flow Schematic Diagram

## Mechanical cooling

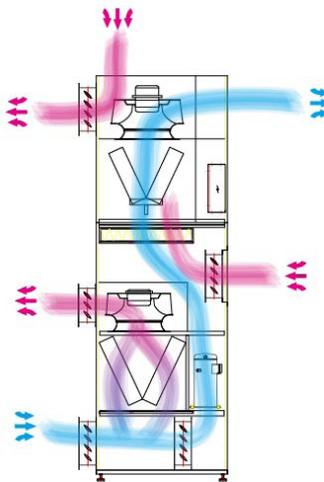


## Free Cooling

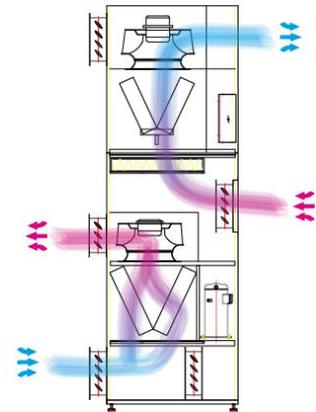
Air flow circuit of upflow units.



Only Free Cooling

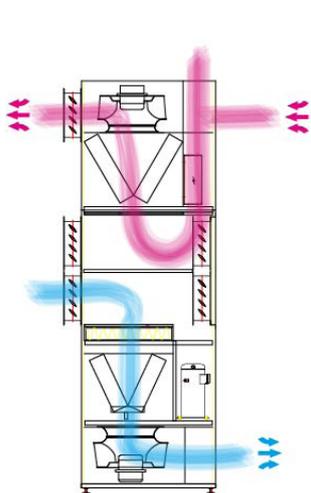


Mechanical & Free Cooling

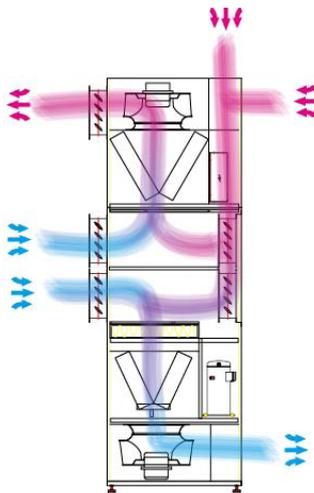


Only Mechanical Cooling

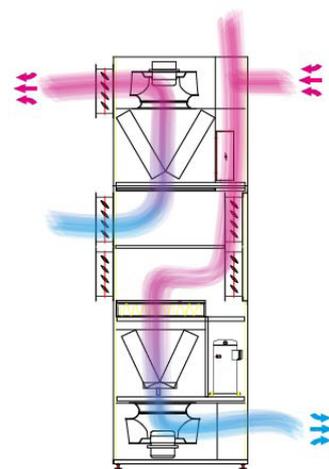
Air flow circuit of downflow units.



Only Free Cooling



Mechanical & Free Cooling



Only Mechanical Cooling

# Technical Parameters

## Datacool Packaged

Unit model		15.UPE1A1	15.DN.E1A1	22.UPE1A2	30.DN.E2A2	45.DN.E2A3
Supply air scheme(1)		O/U				
<b>Cooling capacity</b>						
Total (2)	kW	16.7	16.7	23.9	32.3	46.3
Sensible (2)	kW	15.2	15.2	22.2	30.0	43.3
Total (3)	kW	17.3	17.3	24.7	33.8	48.2
Sensible (3)	kW	16.2	16.2	23.1	31.8	45.3
Free cooling Capacity (4)	kW	16.7	16.7	24.6	33.0	48.6
<b>Compressor</b>						
Type		Hermetic scroll				
Power input (2)	kW	4.5	4.5	6.2	9.0	12.2
Current (2)	A	8.1	8.1	12	16.2	22.1
Power (3)	kW	4.6	4.6	6.4	9.2	12.6
Current (3)	A	8.3	8.3	12.6	16.5	23.8
Overload current	A	11	11	16.4	22	32.8
Circuit breaker	A	11	11	16.4	22	32.8
<b>Supply fan</b>						
Type		EC centrifugal fan				
Qty. of fan	n.	1	1	1	1	2
Air volume	m <sup>3</sup> /h	4650	4650	6830	9150	13500
External static pressure (ESP)	Pa	0 ~ 150 Pa (Adjustment)				
Power	kW	0.7	0.7	1.3	1.6	2.6
Current	A	1.2	1.2	2.1	2.6	4.4
Overload current	A	1.7	1.7	4	4	8
Circuit breaker	A	1.7	1.7	4	4	8
<b>Condenser fan</b>						
Type		EC centrifugal fan				
Qty. of fan	n.	1	1	2	2	2
Air volume	m <sup>3</sup> /h	5860	5860	8460	11500	18300
Power	kW	0.9	0.9	1.6	1.8	2.9
Current	A	1.5	1.5	2.8	3.1	4.6
Unit operating current	A	2.3	2.3	4.6	4.6	5.8
<b>Electric heater (5)</b>						
Heat supply	kW	6	6	6	6	9.0
Current	A	8.9	8.9	8.9	8.9	15.0
Working mode	n.	2	2	2	2	2
Unit operating current	A	9.6	9.6	9.6	9.6	16.2
<b>Unit power</b>						
Power		415V/3Ph/50Hz				
Unit operating power	kW	6.1	6.1	9.1	12.4	17.7
Unit operating current	A	10.8	10.8	16.9	21.9	31.1
<b>Main air filter</b>						
		G4 plate				
<b>Fresh air filter</b>						
		G2 nylon pre-filter				
<b>External dimensions and weight of packaged unit</b>						
Width	mm	1200	1200	1450	1450	2050
Depth	mm	1075	1075	1075	1075	1225
Height	mm	2745	2770	3020	3020	3250
Weight	kg	765	765	830	890	1200

(1) O:Up flow U:Down flow;

(2) Indoor return air dry bulb temperature 24°C, wet bulb temperature 17.1°C, outdoor ambient dry bulb temperature 35°C

(3) Indoor return air dry bulb temperature 28°C, wet bulb temperature 17.1°C, outdoor ambient dry bulb temperature 35°C

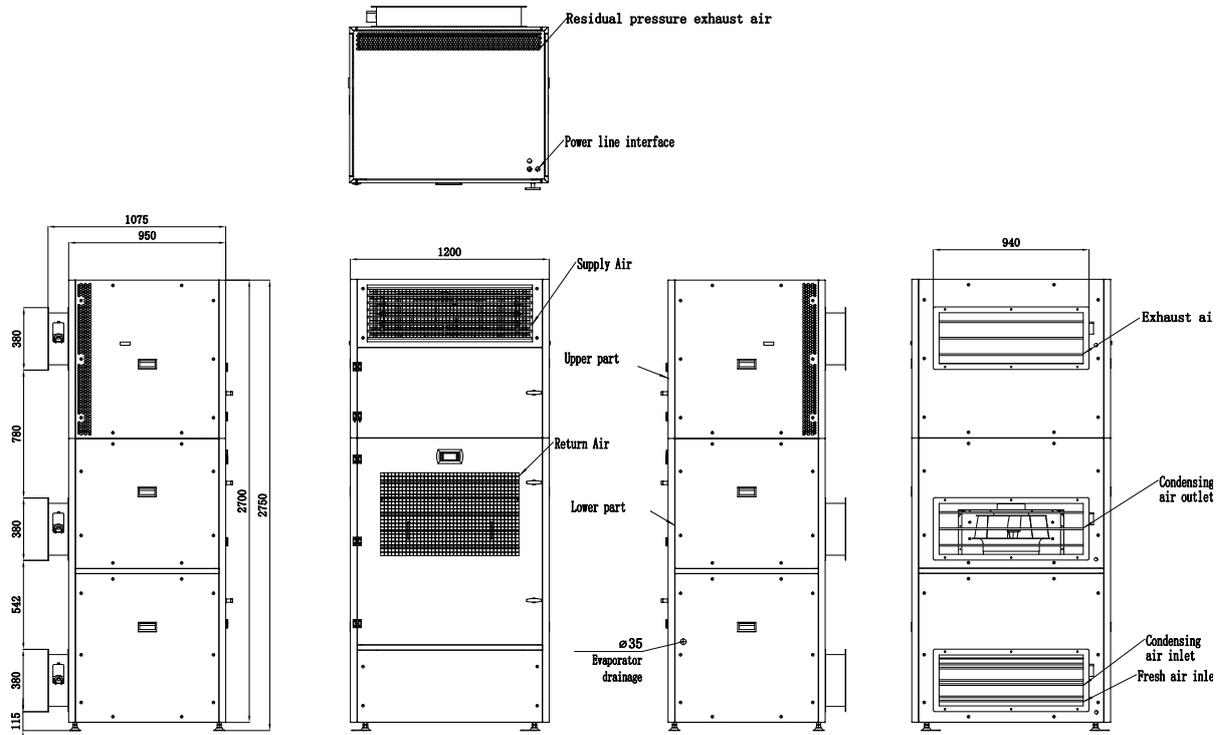
(4) Outdoor temperature is lower than indoor temperature, and the temperature difference is 12°C

(5) Optional

# Unit Dimension Drawing

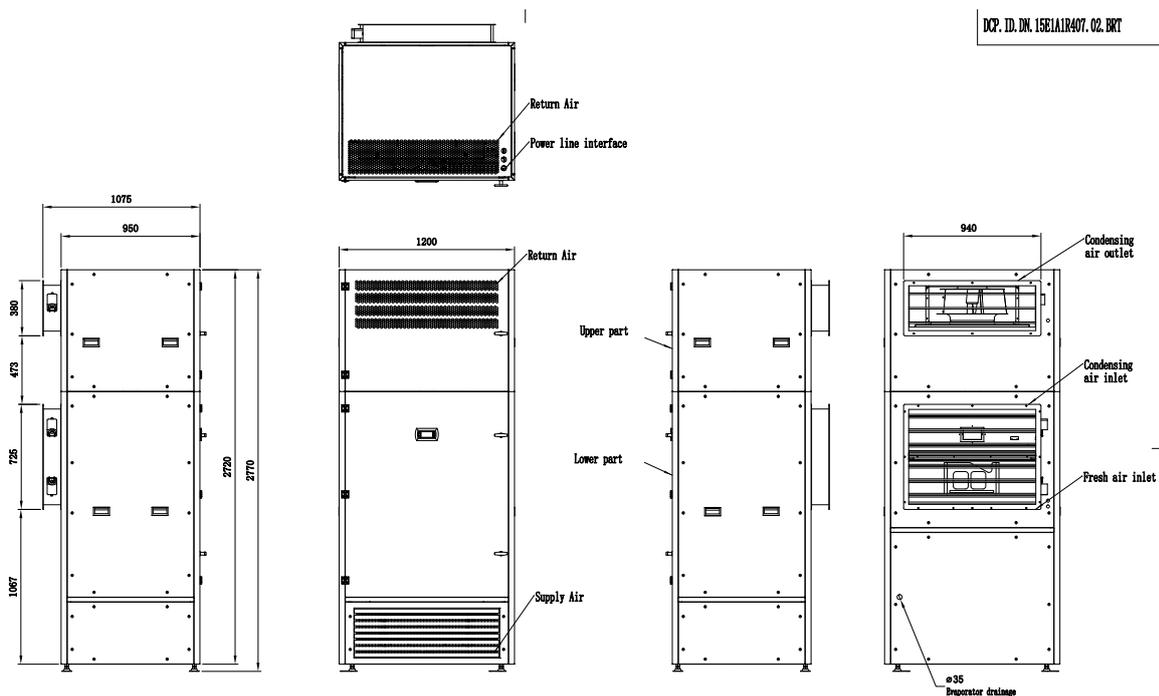
## Datacool Packaged 15kW Upflow

DCP. ID. 15E1A1R401. 02.1

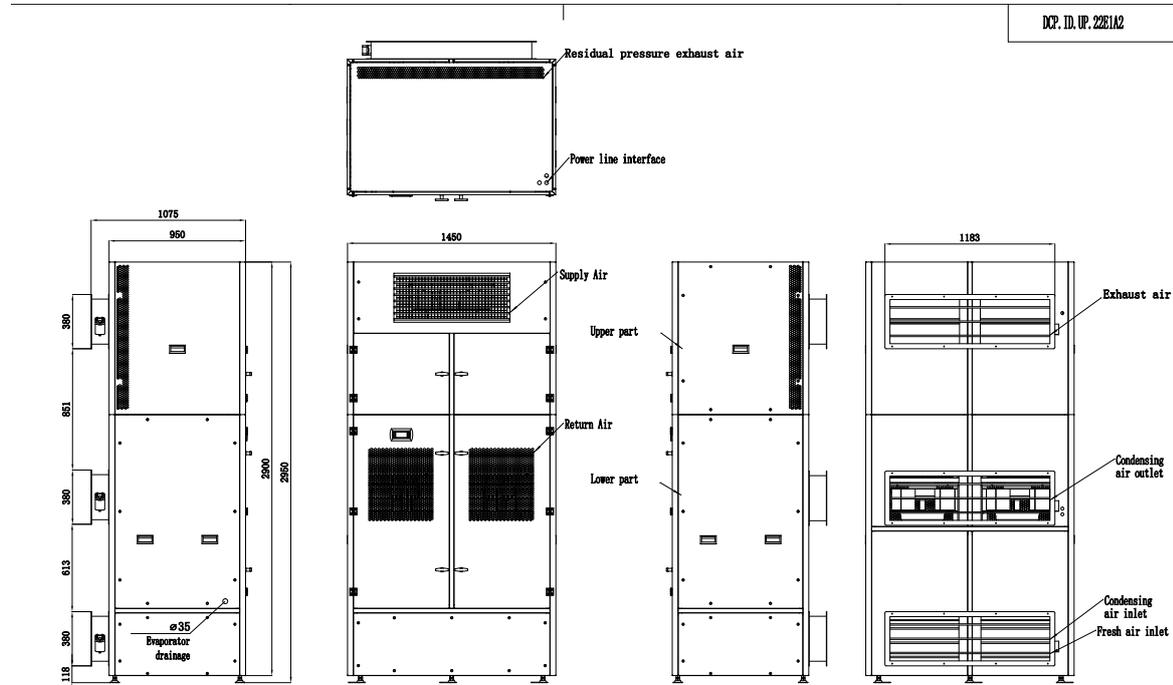


## Datacool Packaged 15kW Downflow

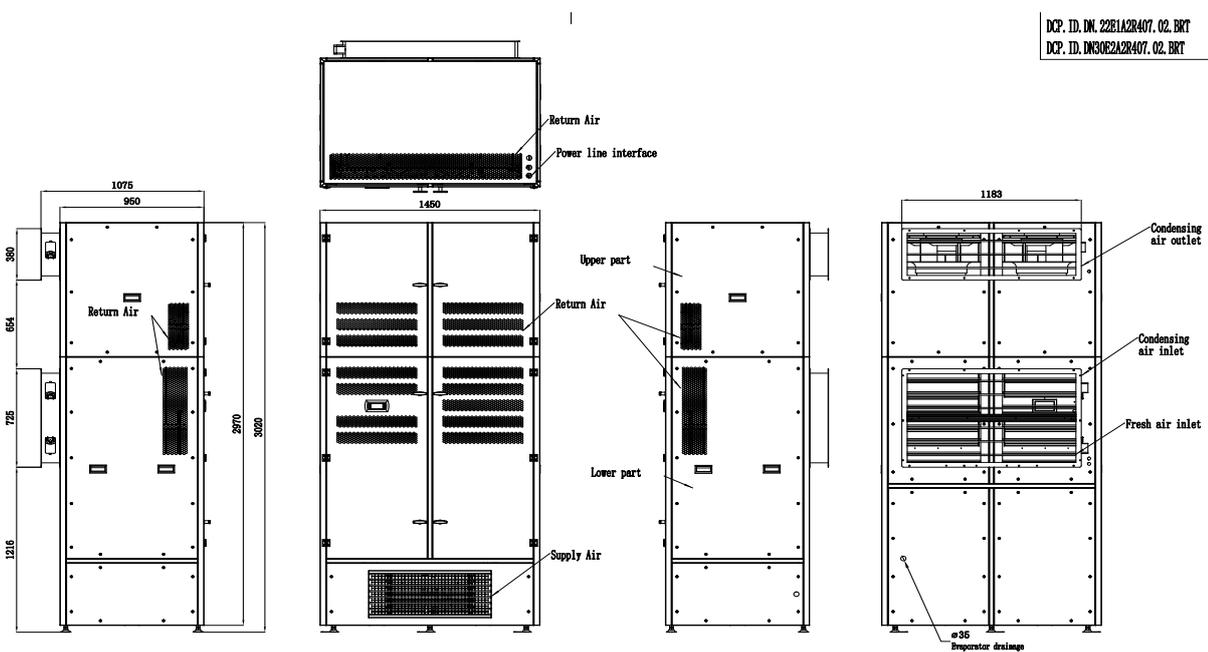
DCP. ID. 15E1A1R407. 02. BRT



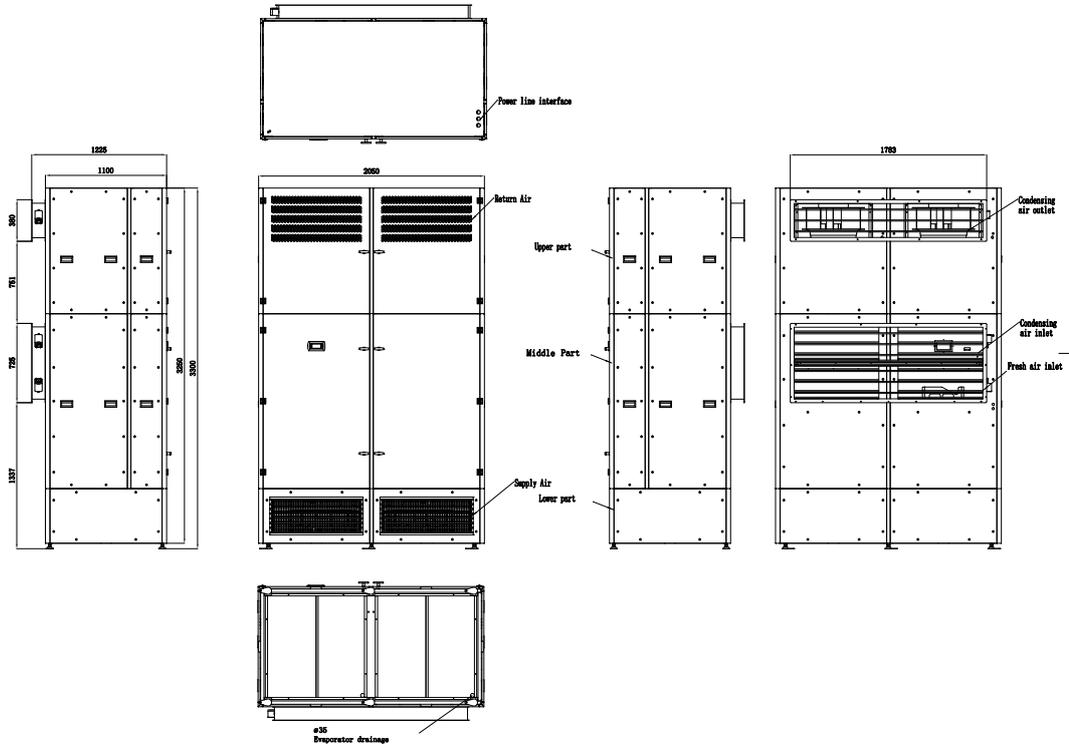
Datacool Packaged 22kW Upflow



Datacool Packaged 30 kW Downflow



Datacool Packaged 45kW Downflow





**Airsys Refrigeration Engineering Technology (Beijing) Co., Ltd.**  
Add: 10th floor, Hongkun Shengtong building, 19, Ping Guo Yuan Xi Xiao Jie, Shijingshan, Beijing, China 100043  
Tel: +86(0)10 68656161

**Gu'an Airsys Environment Technology Company Ltd.**  
Add: 25, Dongfang Street, Gu'an Industry Park, Langfang City, Hebei Province, China  
Tel: +86(0)10 68656161

**Shanghai Airserve HVAC System Service Co., Ltd.**  
Add: #7-2, No.658, Daduhe Rd., Putuo District, Shanghai, China, 200333  
Tel: +86(0)21 62452626 Fax: +86 (0)21 62459622

**AIRSYS Australia Sales Office**  
Add: PO BOX 1088, Flagstaff Hill, SA, 5159, Australia  
Tel: +61 479151080

**AIRSYS BRASIL LTDA.**  
Add: Av. Moaci, 395 Conj 35/36 04083-000 – Planalto Paulista SAO PAULO – SP  
Tel: +55 (11) 25976817 / +55 (11) 21585560

**AIRSYS Deutschland GmbH**  
Add: Dahlweg 120, D-48153 Münster Germany  
Tel: +43 676 5516510

**AIRSYS Klima Sanayi ve Ticaret A.Ş.**  
Add: Barbaros Mah. Evren Cad. Erzurumlular Sk. No:23 Ataşehir / Istanbul Turkey  
Tel: +90(216) 4706280 Fax: +90(216) 4706290

**AIRSYS North America, LLC**  
**ICT Cooling:**  
Add: Spartanburg, South Carolina, USA  
Tel: +1 805 3127536  
Callcenter:+1 855 8745380

**Medical Cooling:**  
Add: 3127 Independence Dr Livermore, CA 94551, USA  
Tel: +1 800 7131543

**AIRSYS Singapore Pte. Ltd**  
Add: 12 Lorong Bakar Batu #06-01 Singapore (348745)  
Tel: +65 62787188 Fax: +65 68416301

**AIRSYS (UK) Ltd.**  
Add: 245 Europa Boulevard, Warrington, UK. WA5 7TN  
Tel: +44 (0) 1925 377 272 Call Centre: +44(0)8456099950

[www.air-sys.uk](http://www.air-sys.uk)

Product design and specification subject to change without prior notice.