

# AIRSYS

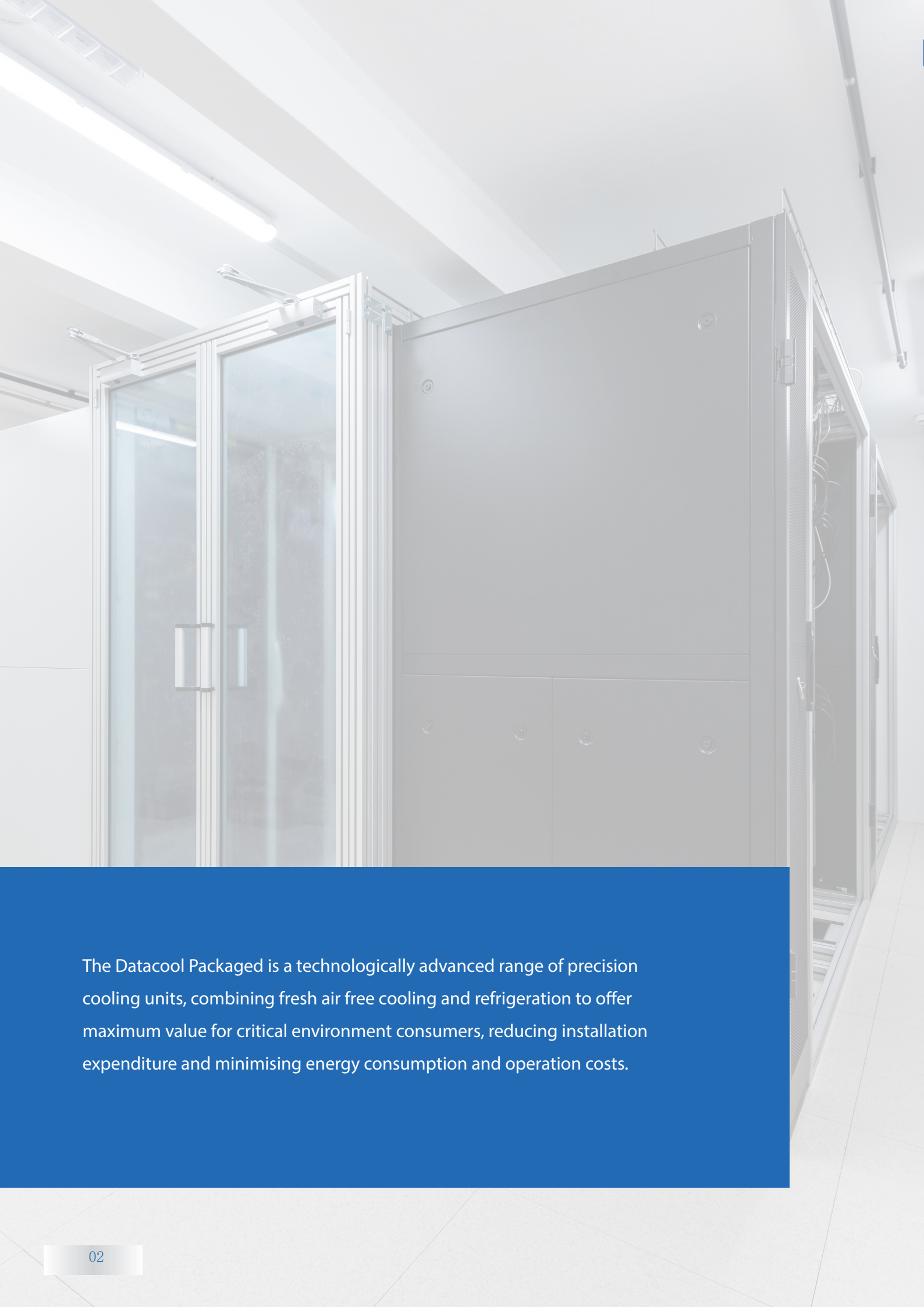


## **DATA COOL PACKAGED**

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)

A large, grey industrial cooling unit, likely a Datacool Packaged unit, is shown in a server room. The unit has a glass door on the left side, which is slightly ajar, revealing internal components. The unit is situated in a room with white walls and a tiled floor. A long, bright fluorescent light fixture is visible on the ceiling. The unit has a sleek, modern design with a combination of solid grey panels and glass. The overall scene is clean and professional, emphasizing the technological nature of the equipment.

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	DATA COOL-PACKAGED	Product series name: DATA COOL-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.

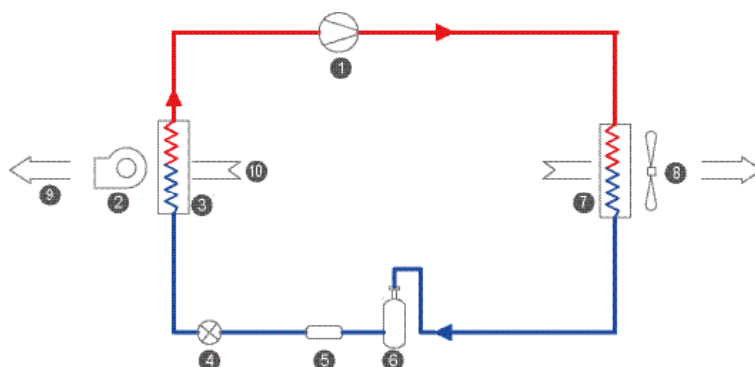
## 13 Voltage protection

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.



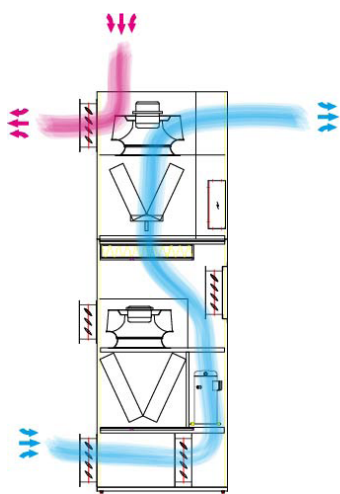
# Working Flow Schematic Diagram

## Mechanical cooling

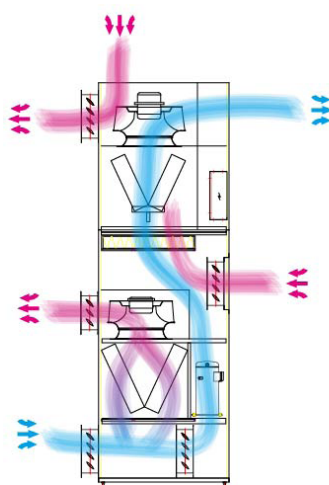


## Free Cooling

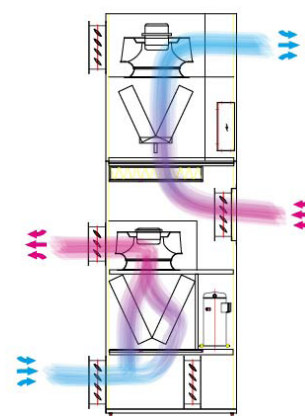
Air flow circuit of upflow units.



Only Free Cooling

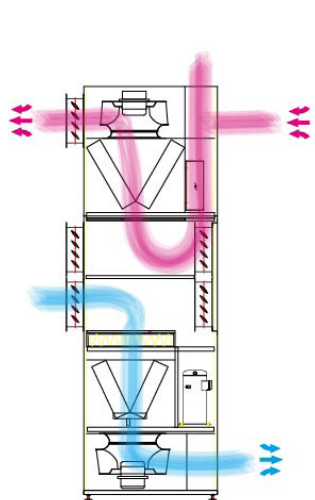


Mechanical & Free Cooling

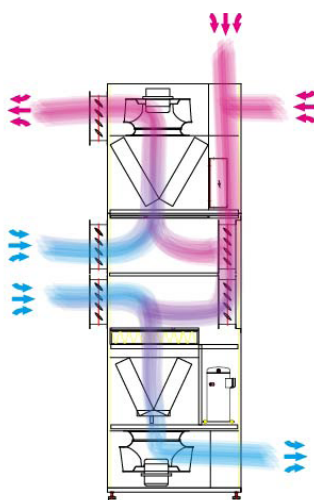


Only Mechanical Cooling

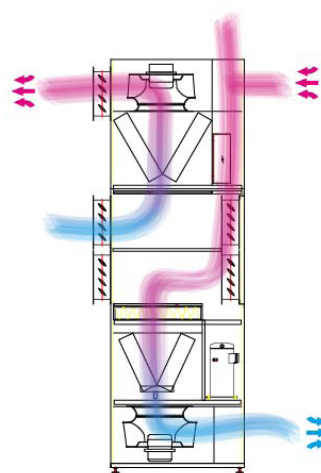
Air flow circuit of downflow units.



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				
Cooling capacity						
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
Compressor						
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
Supply fan						
Type		EC centrifugal fan				
Qty. of fan	n.	1	1	1	1	2
Air volume	m³/h	4650	4650	6830	9150	13500
External statis 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
Condenser fan						
Type		EC centrifugal fan				
Qty. of fan	n.	1	1	2	2	2
Air volume	m³/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
Electric heater (5)						
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
Unit power						
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
Main air filter		G4 plate				
Fresh air filter		G2 nylon pre-filter				
External dimensions and weight of packaged unit						
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

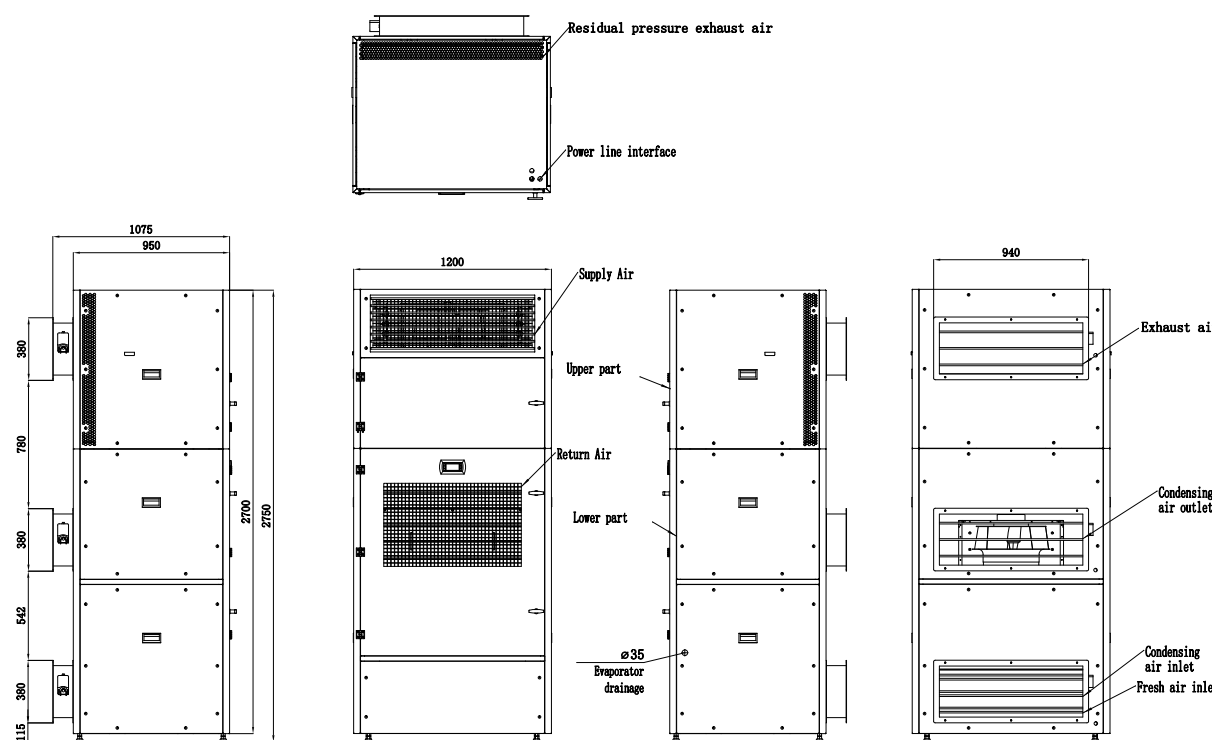
(5) Optional



# Unit Dimension Drawing

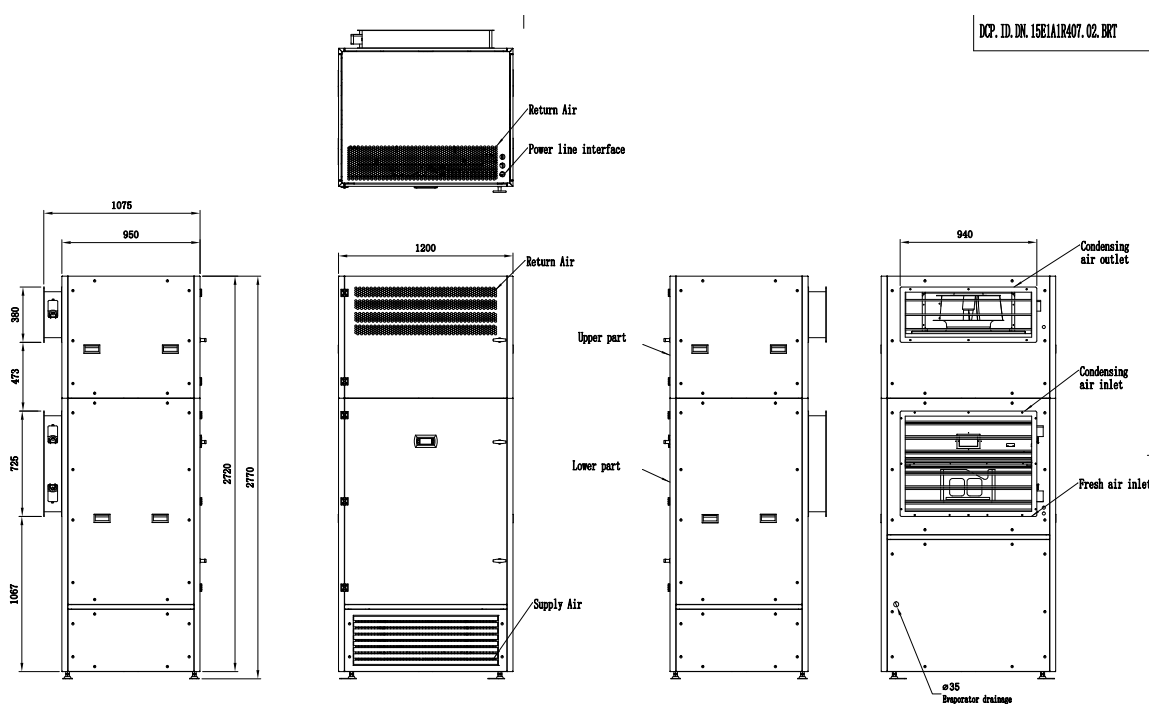
## Datacool Packaged 15kW Upflow

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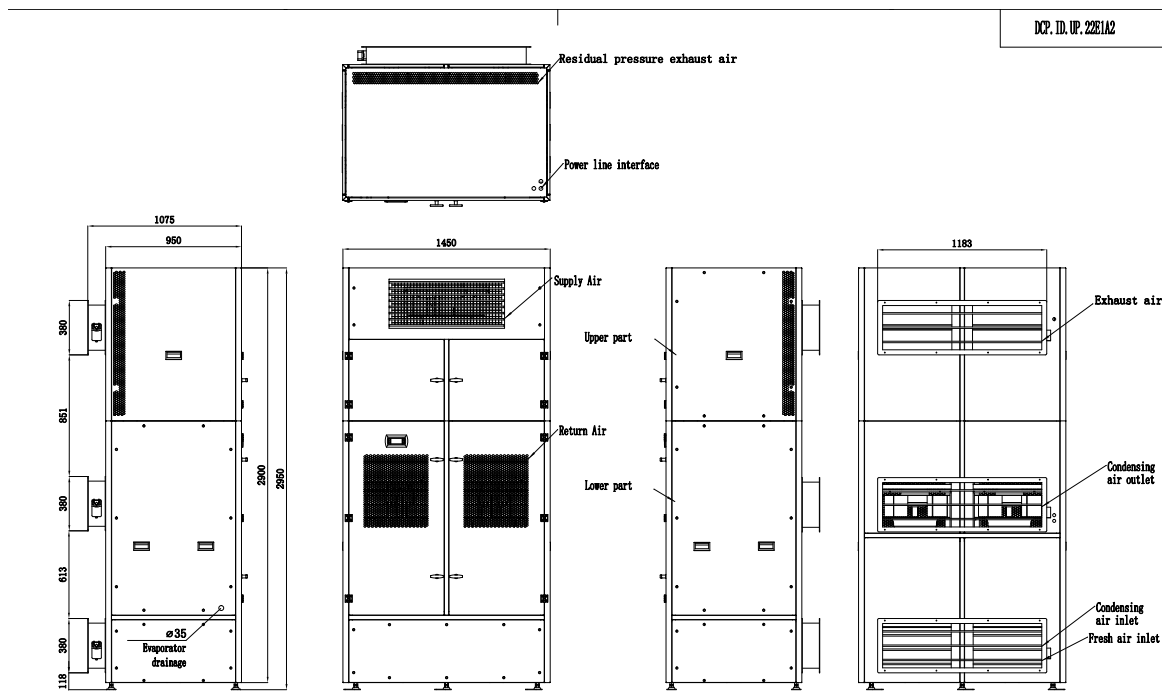


## Datacool Packaged 15kW Downflow

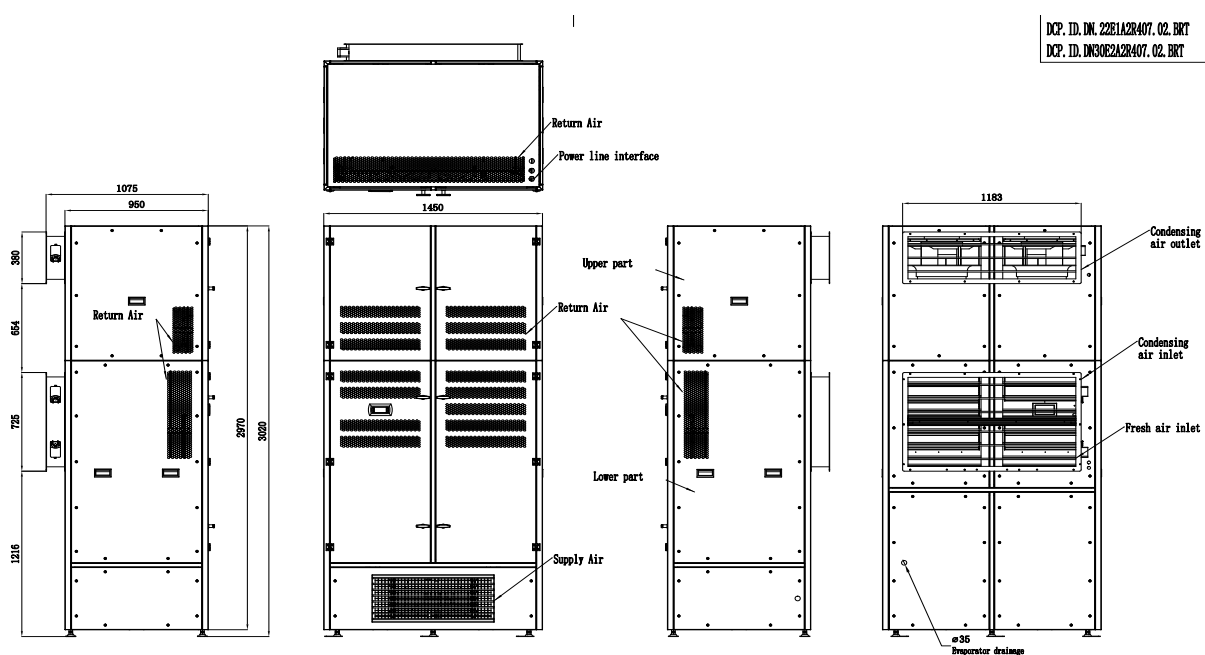
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## Datacool Packaged 22kW Upflow

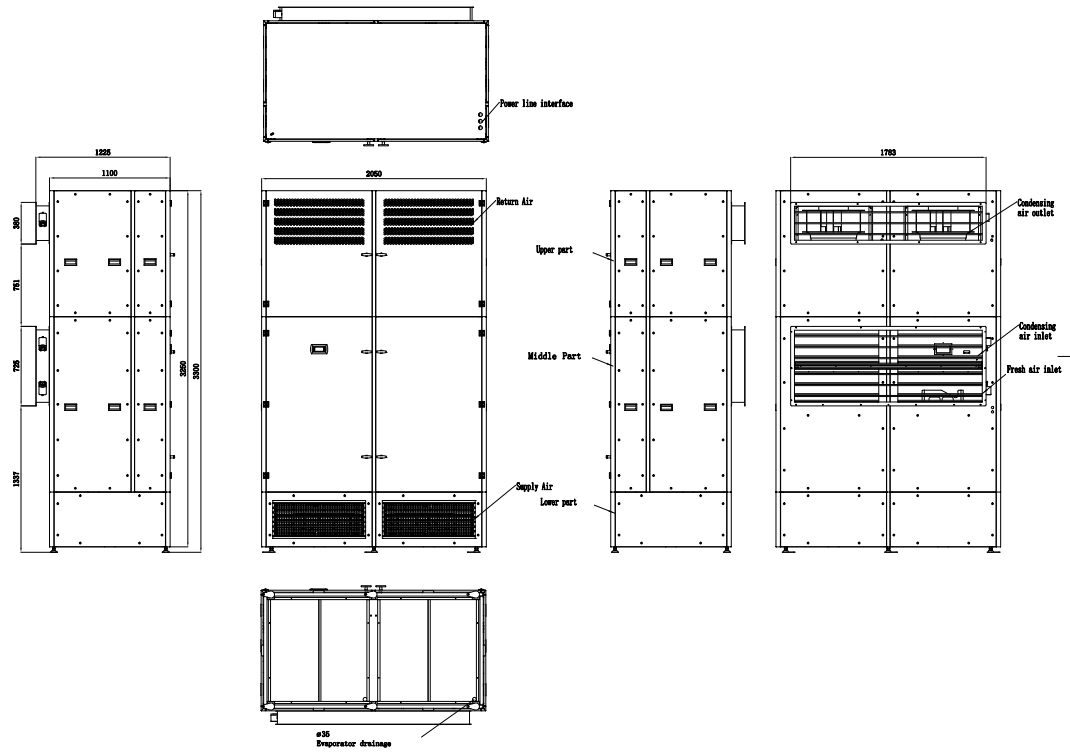


## Datacool Packaged 30 kW Downflow





## Datacool Packaged 45kW Downflow





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Product design and specification subject to change without prior notice.