

AIRSYS



INV-DATACOOOL PACKAGED

Variable speed packaged precision cooling solution with integrated fresh air free cooling

Cooling Capacity: 15kW-74kW

www.air-sys.uk



INV-Datacool Packaged is a technologically advanced range of precision cooling packaged units designed to be reliable and robust. Combining fresh air free cooling with the latest variable speed DX technology, the INV-Datacool Packaged product range offers a low TCO cooling solution for critical environments, such as Data Centres and Telecoms environments.

Unit Identification

01	02	03	04	05	06	07	08	09	10	11	12	13
INV-DCP	.	U	.	DXA	15	A2	V1	R513	.	400/3/50	.	XXX

01	INV-DCP	Product series name: INV-DATACOOOL-PACKAGED: Packaged air conditioner with built-in free cooling
02	.	Separator Character ""
03	U	Air supply pattern: U - Air delivery from low level
04	.	Separator Character ""
05	DXA	Cooling method: DXA - Direct expansion cooling with air cooled condenser
06	15	Nominal cooling capacity: kW
07	V1	Compressor type & number: V1 means the unit is equipped with 1 hermetic scroll compressor, V2 means the unit is equipped with 2 hermetic scroll compressors
08	A1	Cabinet size code: "A" cabinet with 4 sizes A1, A2, A3 & A4
09	R513	Refrigerant: R513A
10	.	Separator Character ""
11	400/3/50	Power source: Voltage/Phase/Frequency
12	.	Separator Character ""
13	XXX	Code for custom design

Engineered features

1 Energy Saving

Standard on all units. The integrated free cooling economiser ensures ultra-low energy consumption when ambient temperature conditions are lower than configurable indoor setpoints. During higher ambient conditions, the variable speed DX technology ensures maximum efficiency.

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.

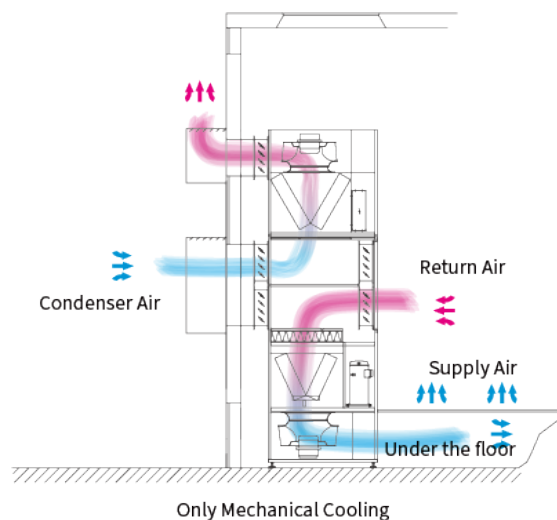
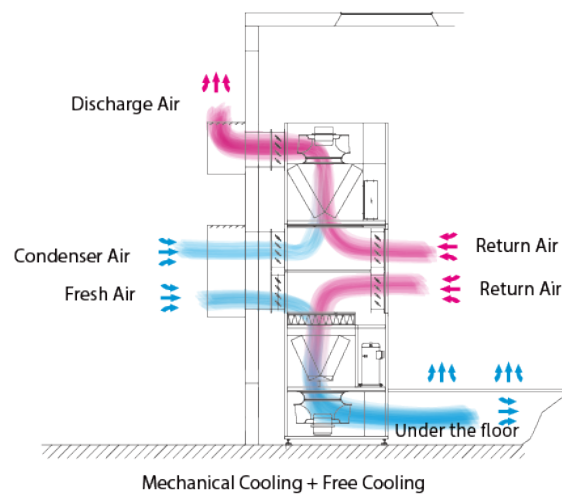
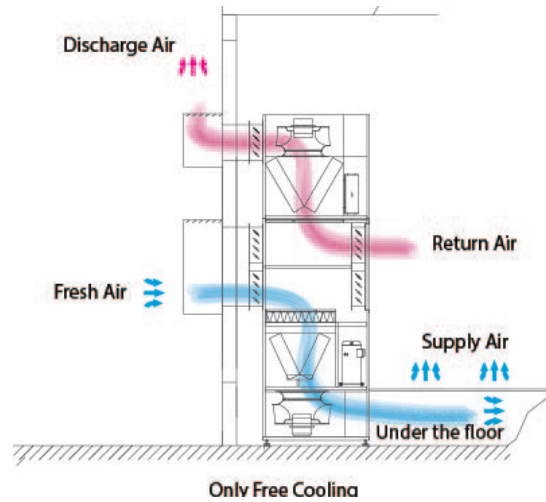
13 Voltage protection

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

Free Cooling

Air flow circuit of downflow units.



Technical Parameters

INV-Datacool Packaged

Unit model		INV-DCP15	INV-DCP30	INV-DCP45	INV-DCP60
Supply air scheme(1)		U			
Cooling capacity					
Part or no cold aisle containment (2)	kW	15	30	45	62
Full cold aisle containment (3)	kW	18	33	50	67
Full hot aisle containment (4)	kW	23	38	56	74
Compressor					
Type		Hermetic scroll			
Fan data					
Type		Caseless backward centrifugal fan			
Qty. of supply fans	n.	1	1	2	2
Qty. of condenser fans	n.	1	1	2	2
Maximum supply airflow	m ³ /h	1.3	2.30	4.15	5.66
Refrigerant					
Type		R513A			
Recommended charge per circuit	kg	6.8	6.8	9.5	12
Number of circuits	n.	1	2	2	2
Power supply					
Power		400V/3Ph/50Hz			
Full load current - dual supply	A	3.0/13.9	4.4/25.5	11.5/34.3	14.3/34.8
Full load current - single supply	A	16.9	29.9	45.8	49.1
Main air filter					
		G4 plate			
Fresh air filter					
		G2 nylon pre-filter			
Dimensions					
Width	mm	1200	1450	2050	2400
Depth (including dampers)	mm	1075	1075	1400	1400
Depth (excluding dampers)	mm	950	950	1275	1275
Height (inclusive of feet)	mm	2770	3286	3390	3390
Weight	kg	785	940	1310	1570

(1) U: Down flow;

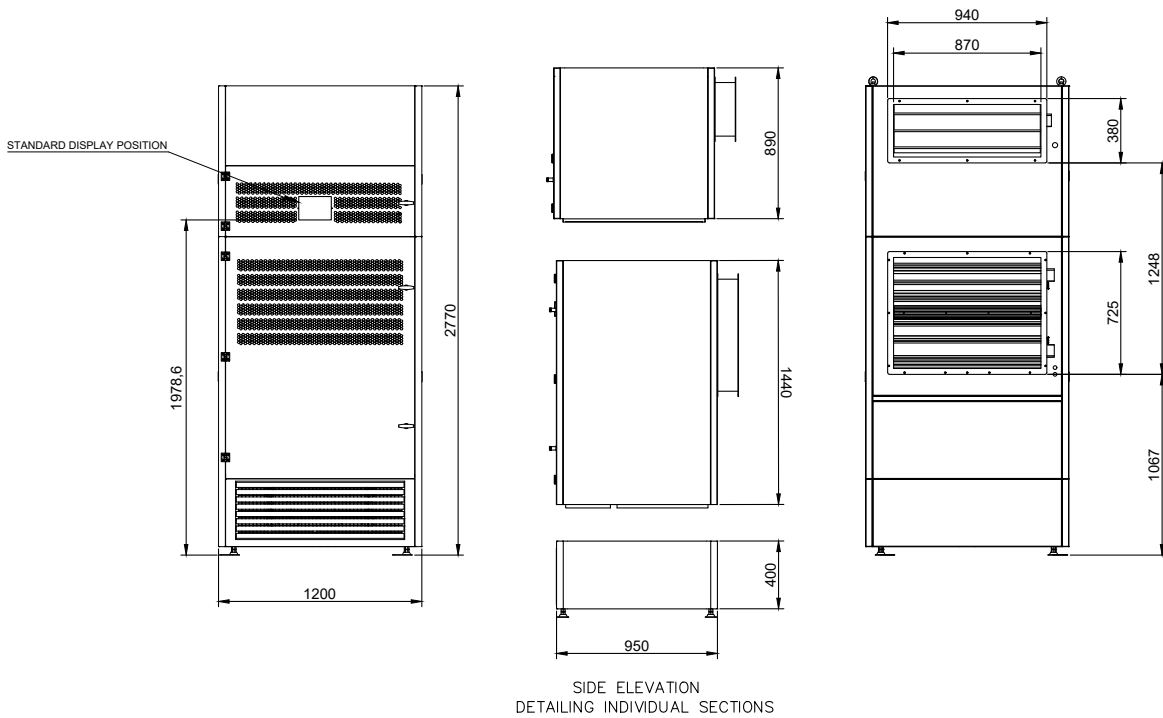
(2) Indoor return air dry bulb temperature 24°C, wet bulb temperature 17.1°C, outdoor ambient dry bulb temperature 45°C

(3) Indoor return air dry bulb temperature 30°C, wet bulb temperature 17.1°C, outdoor ambient dry bulb temperature 45°C

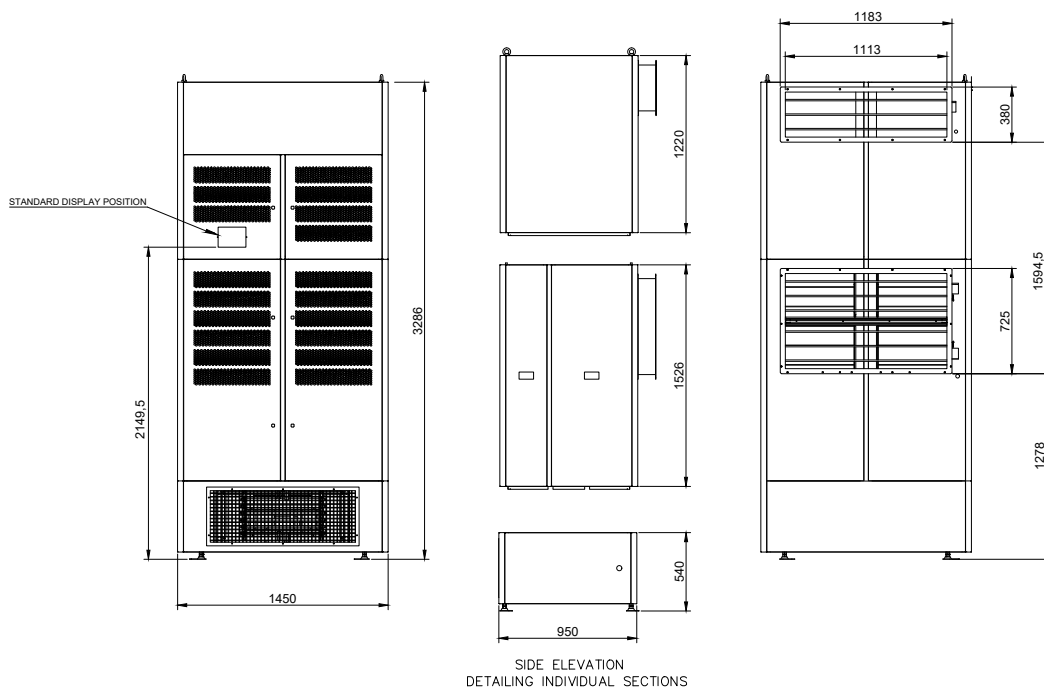
(4) Indoor return air dry bulb temperature 37°C, wet bulb temperature 17.1°C, outdoor ambient dry bulb temperature 45°C

Unit Dimension Drawing

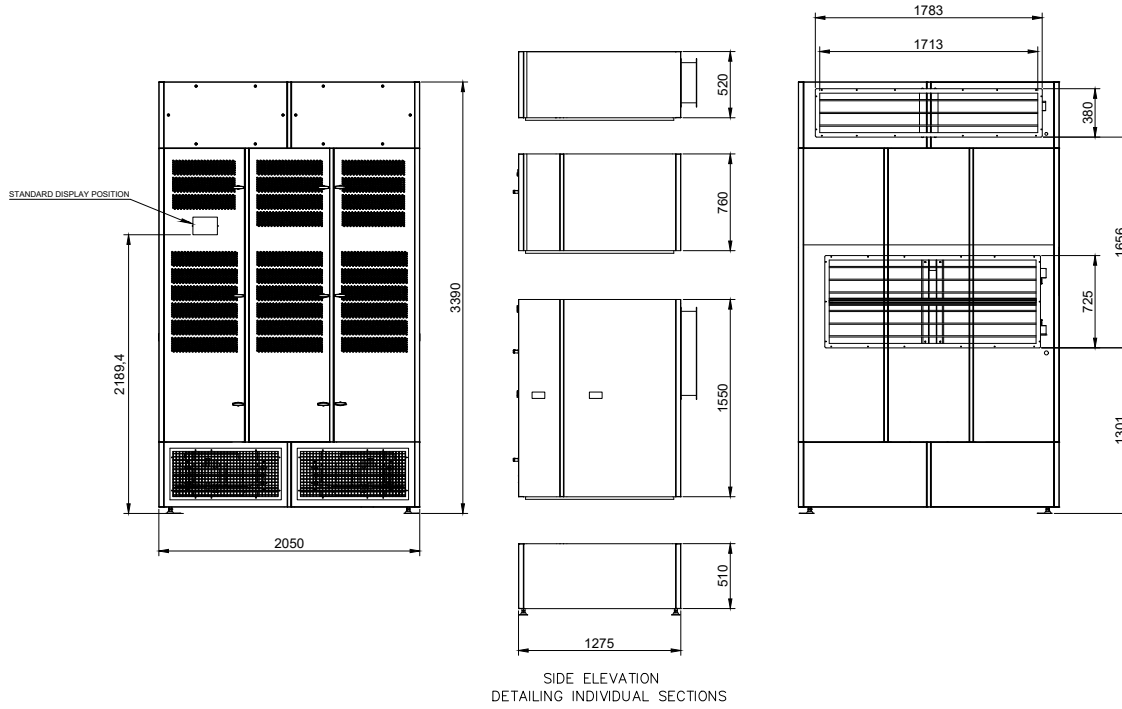
Datacool Packaged INV 15kW Downflow



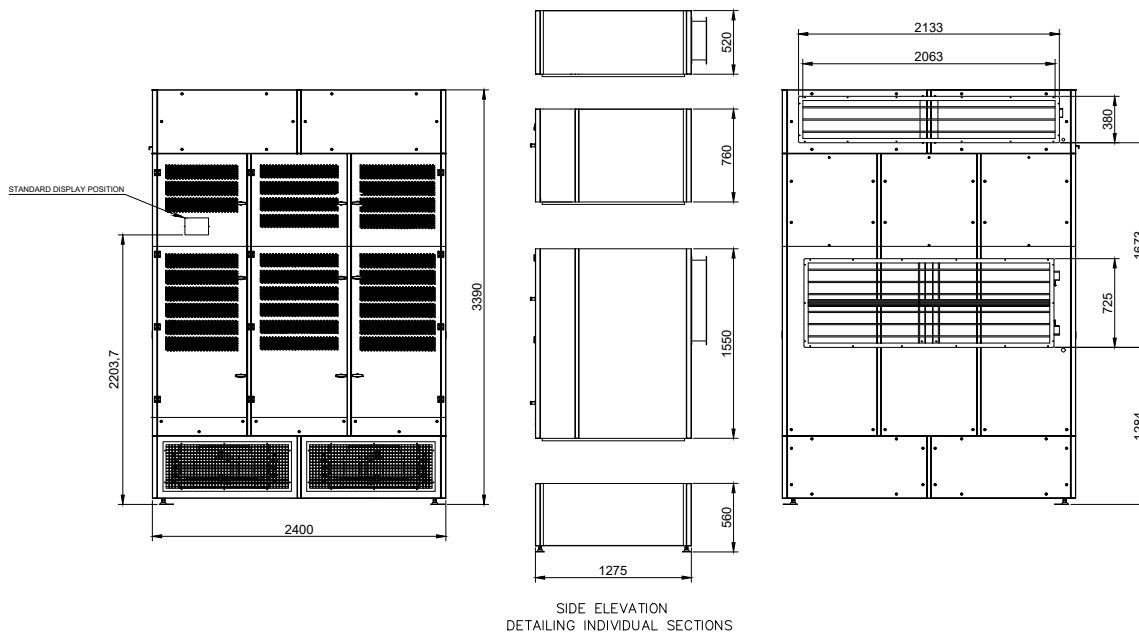
Datacool Packaged INV 30kW Downflow



Datacool Packaged INV 45kW Downflow



Datacool Packaged INV 60 kW Downflow





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Product design and specification subject to change without prior notice.