

AIRSYS



UNICOOL-EDGE

Variable Speed Packaged Cooling
Solution for Edge Environments

Cooling Capacity: 35kW (105kW triple-stacked)

www.air-sys.uk

The world's first stackable, horizontal packaged system...



The UNICOOL-EDGE is a pioneering, horizontal packaged system designed for edge computing applications, allowing seamless integration with cold aisle and hot aisle configuration, managing airflow distribution and enhancing system efficiency.

UNICOOL-EDGE combines variable speed technology with integrated free cooling to deliver a cutting-edge solution.

...designed for Edge Data Centre Environments



Designed to be robust, the Unicool-Edge can withstand harsh and remote environments, operating in temperatures ranging from -35°C to 55°C .

The Unicool-Edge product range can deliver cooling capacities that range from 12kW with one unit, up to 105kW with three units (stacked), making it applicable for a wide range of customer applications.

Unit Identification

01	02	03	04	05	06	07	08	09	10	11
UNI-EDGE	.	40	V1	R3	M	R410	A	AC	.	XXX

01	UNI-EDGE	Product series name: UNICOOL-EDGE: Horizontal installation packaged telecom air conditioner with fresh air free cooling.
02	.	Separator Character ""
03	40	Unit nominal cooling capacity by kW: 20, 40
04	V1	Compressor type & number V1: 1 Variable speed compressor
05	R3	Cabinet type and size code: R1, R3 and L1, L3 R: Right air supply / L: Left air supply
06	M	Control configuration: S: Single control M: Multiple control
07	R410	Refrigerant: R410=R410A
08	A	Power source code: A, B, C, D, E A: 208/230V 1PH 60Hz B: 208/230V 3PH 60Hz C: 460V 3PH 60Hz D: 380V 3PH 50Hz E: 220V 1PH 50Hz
09	AC	Supply fan power: AC powered EC fan
10	.	Separator Character ""
11	XXX	Special design code

Engineered features



Horizontal & Stackable - Configurable Horizontal air supply scheme, built for precise cooling of hot and cold aisle Edge Data Centres and containerised solutions



Optimised scalability - Easily deployed. Cooling infrastructure grows in line with your facility



Reliability - Designed for harsh environments and can operate in ambient temperatures ranging from -35°C to 55°C



Advanced control - Real-time performance reporting and multi-unit control (6 units standard, expandable to 16)



Serviceability - Outdoor, compact, externally wall-mounted package, designed for ease of maintenance with front access



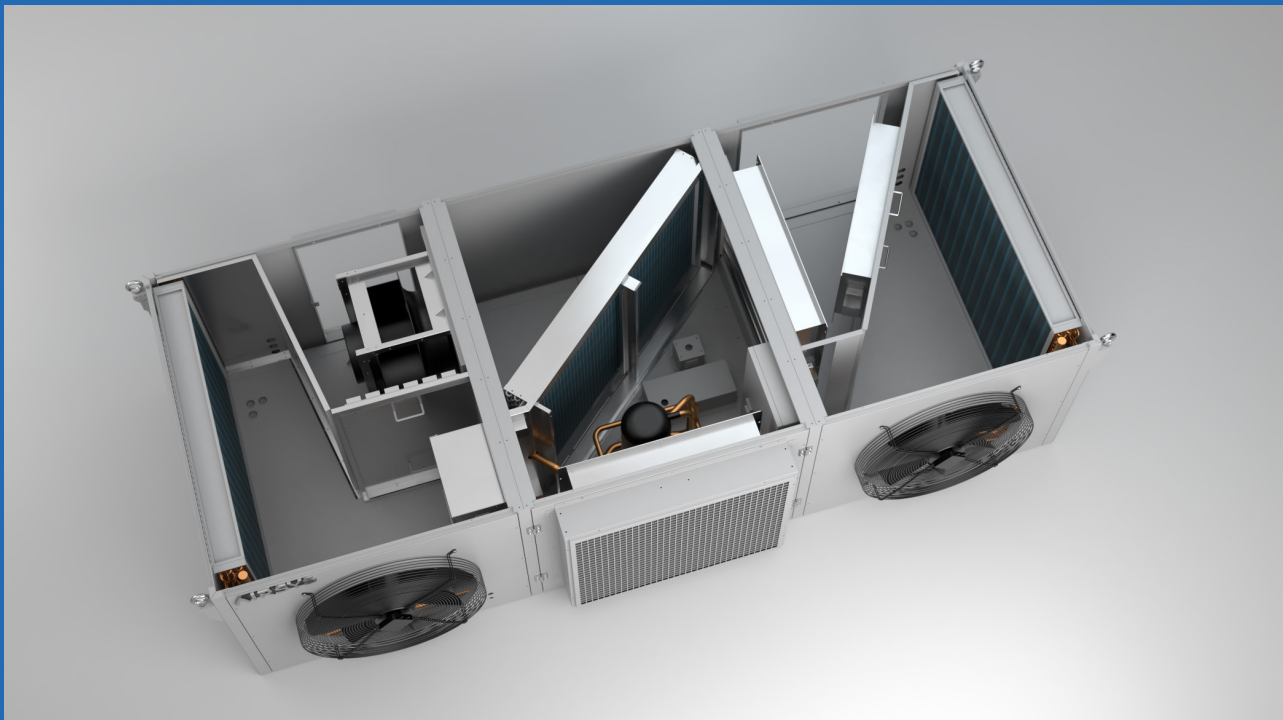
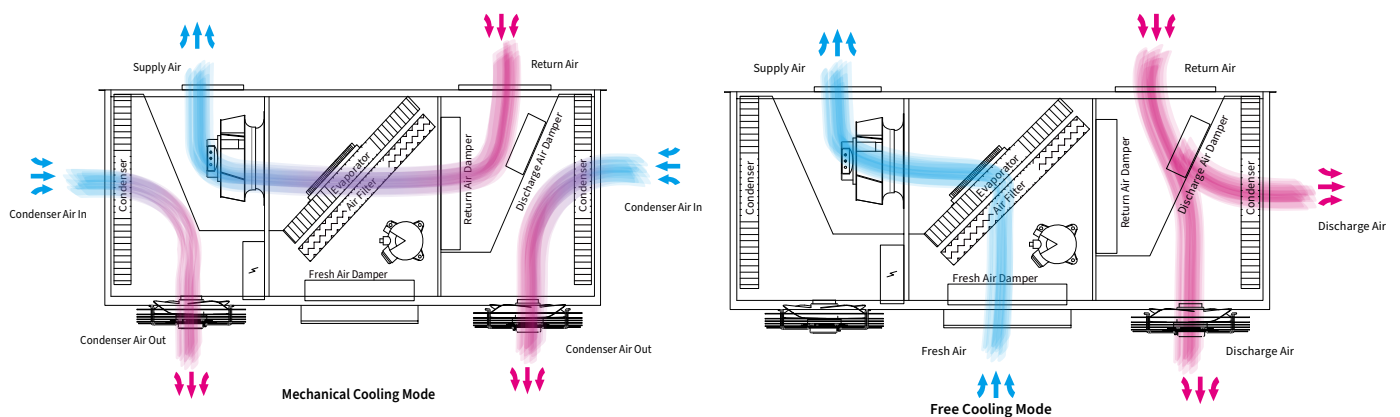
Efficiency - Combining variable speed technology with integrated free cooling function (economiser) to achieve a low TCO solution

Working Flow Schematic Diagram

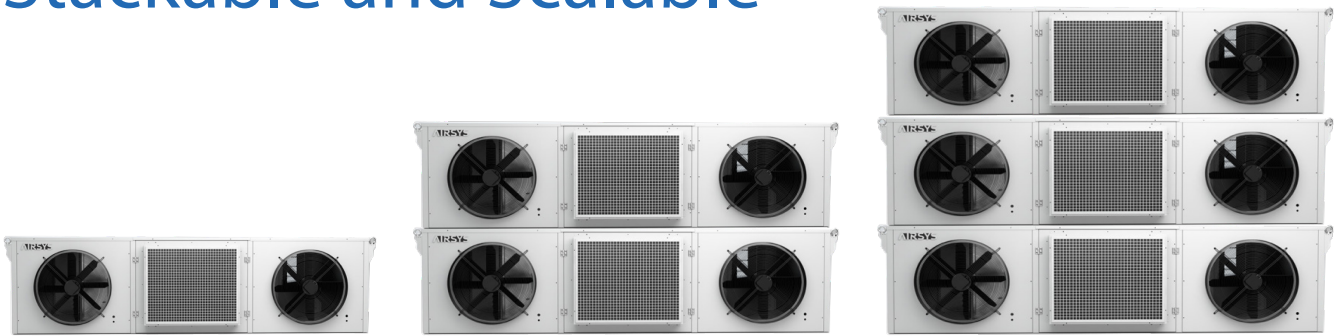
Free Cooling System

Each unit is equipped with both mechanical cooling and free cooling as standard. Fresh air free cooling is designed to be the primary source of cooling.

When the outdoor and indoor temperature difference meets the free cooling requirements (2°C default, adjustable), the free cooling system will automatically bring in outside air to the room and stop the mechanical cooling system, therefore reducing power consumption.



Stackable and Scalable

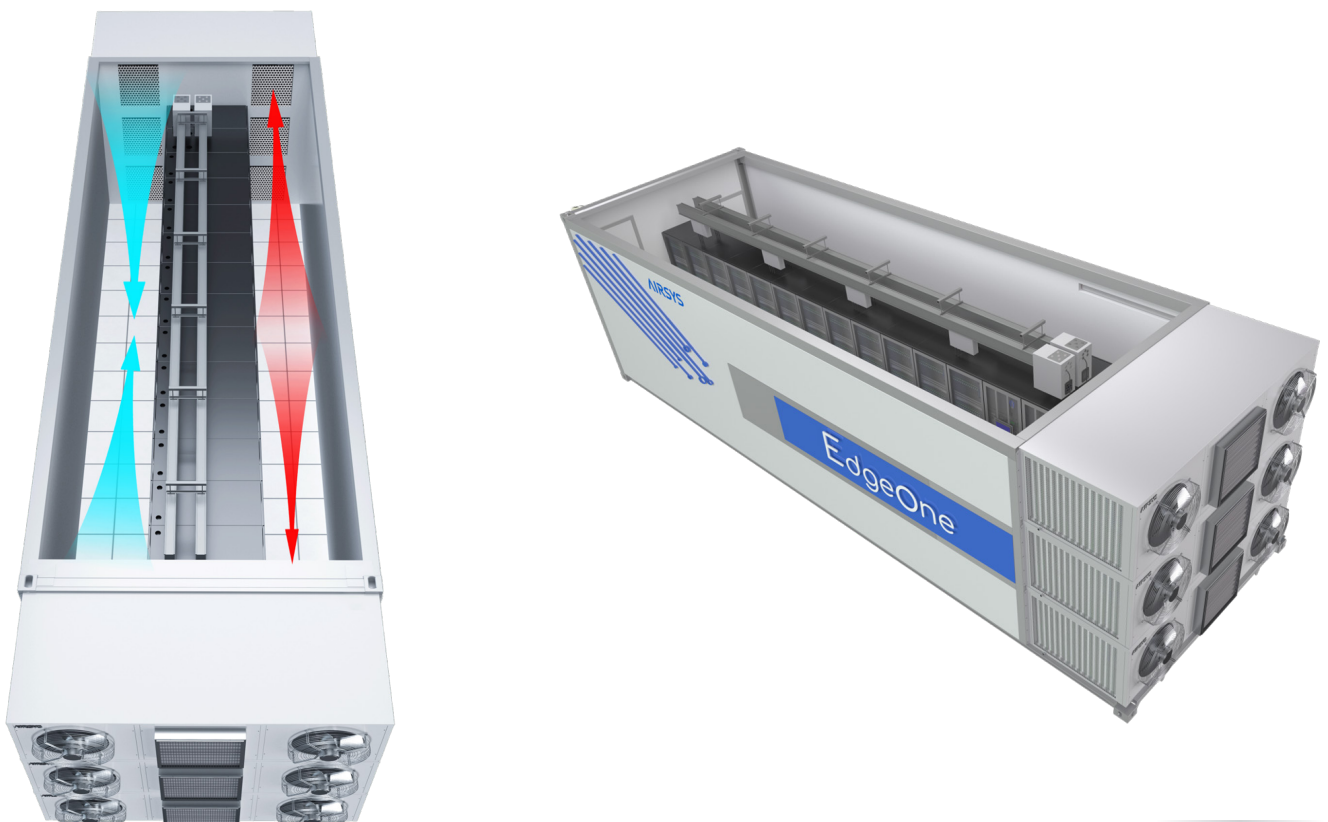


Unicool-Edge has been developed to be scalable, in order to grow in line with critical environments. The units can be stacked up to three units high, delivering three times the cooling capacity into a single cold aisle up to 105kW (N) and 70kW (N+1).

Each stackable unit can be linked to operate as one single entity.

Configuration and Redundancy

Each Unicool-Edge unit size is available in two configurations. It can be supplied either in left air supply or right air supply configuration, allowing the Unicool-Edge to be installed at either end of each aisle, thereby providing a cooling capacity of 175kW with N+1 redundancy (5 run, 1 standby).



Technical Parameters

Unit model		40V1
Power Supply		
Power Source		400V/3PH/50Hz
Max Input Power	kW	19.2
Rated Power	kW	11.3
Rated Current	A	18.3
Performance		
Total Capacity (1)	kW	35.0
Sensible Capacity (1)	kW	34.3
Sensible Heat Ratio (1)		0.98
EER (1)		3.11
Max cooling capacity(2)	kW	42.0
Max Sensible Capacity (2)	kW	41.1
Min cooling capacity(3)	kW	13.5
Min Sensible Capacity (3)	kW	13.2
Free Cooling Capacity (4)	kW	28.1
EER (4)		12.8
Electric Heater		
Heating Capacity	kW	6.0
Current	A	15.1
Compressor		
Type		Scroll
QTY	n.	1
Power Input (1)	kW	8.1
Current Input (1)	A	13.7
Evaporator Fan		
Type		EC Centrifugal Fan
QTY	n.	1
Power Input(1)	kW	2.2
Current Input(1)	A	3.2
Air Volume(1)	m ³ /h	7000
Condenser Fan		
Type		Axial Fan
Qty	n.	2
Power Input(1)	kW	1.0
Current Input(1)	A	1.4
Air Volume(1)	m ³ /h	15000
Refrigerant		
Type		R410A
Control		Electronic Expansion Valve
Air Filter		
Preliminary Air Filter (G2)	n.	1
Main Air Filter (G4)	n.	4
Dimensions		
Width	mm	3000
Depth	mm	1300
Height	mm	870
Weight	kg	625
Noise (3)		
Indoor side	dB(A)	65
Outdoor side	dB(A)	69

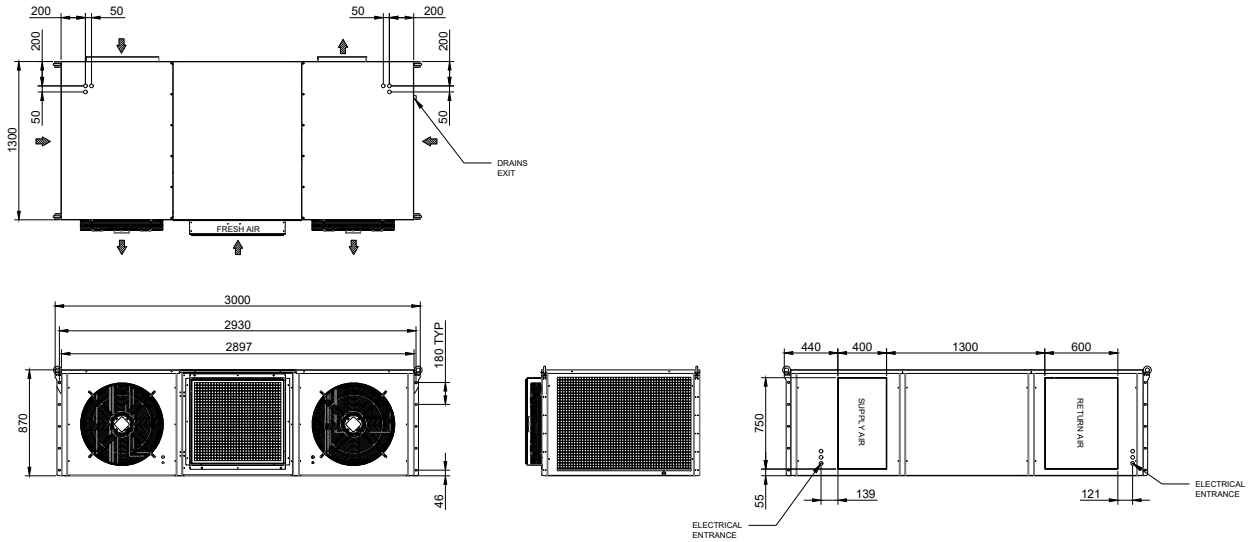
(1)— Cooling rated at 35°C and 35°C, RH 25% indoor, and 35°C outdoor Rated Capacity.

(2)— Measured at DT (Tinside-Toutside) = 12°C.

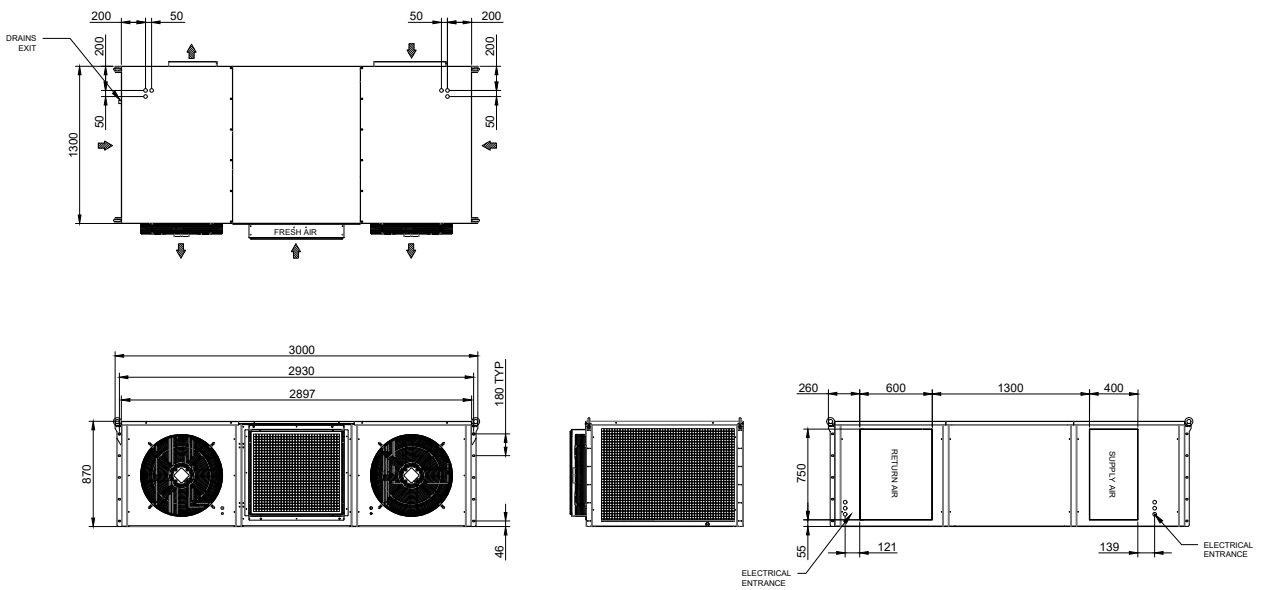
(3)— When ambient temperature is 35°C 2m (6.5 feet) distance from unit in open space

Unit Dimension Drawing

40V1L3



40V1R3





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Product design and specification subject to change without prior notice.