

AIRSYS



CHILLROW

In-Row Precision Cooling Technology

Cooling Capacity: 13.2kW-62.5kW



The CHILLROW series from Airsys provide precise, targeted cooling for data centre applications. The units are installed between the server cabinets and discharge cold air directly into the cold aisle. Used stand-alone or as part of a larger CRAC unit installation, areas of localised high-density heat can be effectively targeted by the horizontal supply arrangement of the CHILLROW units, increasing the capacity and efficiency of the overall cooling solution.

Unit Identification

01	02	03	04	05	06	07	08	09	10	11	12	13	15	16
CHILLROW	.	F	.	DXA	24	V1	C1	R410	.	380/3/50	.	B	.	XXX

01	CHILLROW	Product series name: CHILLROW
02	.	Separator Character ""
03	F	Air Supply Scheme: FRONT - Horizontal flow with front supply, abbr. as "F".
04	.	Separator Character ""
05	DXA	Cooling scheme: DXA - Direct expansion with air cooled condenser
06	24	Nominal cooling capacity: kW
07	V1	Compressor type and quantity: V1: one Hermetic DC inverter compressor
08	C1	Cabinet size code: There are 2 standard cabinet sizes C1 & C3
09	R410	Refrigerant: R410=R410A
10	.	Separator Character ""
11	380/3/50	Power source: Voltage/Phase/Frequency
12	.	Separator Character ""
13	B	Configuration option: B: humidifier is not available for 24B model
14	.	Separator Character ""
15	XXX	Code for custom design

Engineered features

1 Consistent Appearance

CHILLROW units are available in two industry-standard widths (300mm and 600mm), and are designed to match typical server cabinets in both dimensions and colour.

2 Supply air arrangements

The short horizontal air path through the units, with both front supply and lateral supply available and rear return, reduces the required fan power and therefore increases the overall efficiency.

3 Heat rejection options

The CHILLROW precision coolers are available in both DXA (refrigerated) and CW (chilled water) heat rejection options. DXA units eliminate the risk of water leakage and can provide some level of redundancy, while CW units are viable where a new or existing chilled water system is available. The heat rejection configuration can be selected to best meet the needs of each particular installation.

4 Eco-friendly refrigerant

R410A is used in DXA units and has an Ozone Depletion Potential (ODP) of 0.

5 Double layer water tray

Primary stainless-steel water tray is arranged under the evaporator, and the base of the unit is designed with a secondary water tray to prevent leakage of water.

6 Condensate water pump (optional)

When gravity drainage is not feasible then the client can select a condensate water pump option. This pump will be arranged at the same level as the primary water tray, and is fitted with a check valve, to achieve safe condensate removal.

7 Electrical heater and humidifier (optional)

Standard unit is not equipped with an electric heater or humidifier, but these can be selected as options (humidifier is not available for 24B model).

8 Convenient maintenance

Service access is via both the front and rear of the units, allowing routine maintenance to occur in situ, without affecting the operation of the surrounding equipment or any other installed precision coolers.

9 Convenient installation

CHILLROW units have four composite castors, for increased maneuverability in tight spaces, and height adjustable fixed legs, for stability and support once in place. As well as this, pipe connections can be either via the top or bottom of the unit, according to the installation requirements.

10 High level of flexibility

The small dimensions and horizontal supply air arrangement allow for a large amount of flexibility in placement of the CHILLROW units. They are suitable for both new and existing data centres, can be located on a standard or raised floor, and are highly scalable to easily meet demand as cooling demand grows.

11 Reduced running costs

When CHILLROW units are installed between server cabinets, directly adjacent to the heat-producing equipment, they can effectively minimize the mixture of hot and cold air, thereby potentially increasing the cooling effectiveness by 30% to 45% when compared with traditional cooling systems.

Working Flow Schematic Diagram

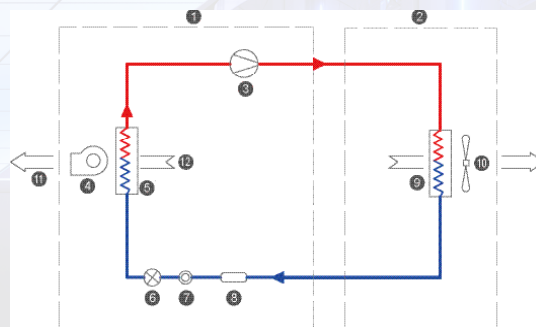
Chillrow.DXA

Heat from the indoor air is transferred to the refrigerant at the evaporator coil and rejected to the outside air via the air-cooled condenser.

Air cooled direct expansion (DXA) includes throttle, evaporator coil, scroll compressor and refrigeration piping configuration.

Indoor unit: CHILLROW.DXA

Outdoor unit: AMAE air cooled condenser



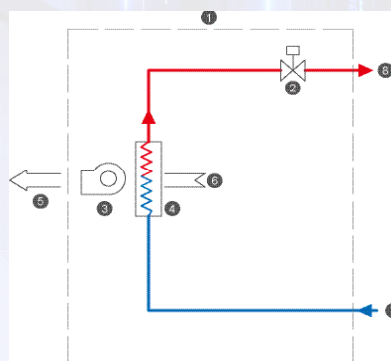
- 1 Indoor
- 2 Outdoor
- 3 Compressor
- 4 Indoor Fan
- 5 Evaporator
- 6 Expansion Valve
- 7 Sight Glass
- 8 Filter Dryer

Chillrow.CW

The CW unit is fitted with a chilled water cooling coil and either a 2-port or 3-port control valve and actuator, and is connected to an external chilled water source. The valve will modulate with cooling demand to ensure optimized efficiency. Server heat is absorbed by the chilled water and rejected to ambient by the chiller.

Indoor unit: CHILLROW.CW

Outdoor unit: Chiller



- 1 Indoor
- 2 Electric Valve
- 3 Supply Fan
- 4 Evaporator
- 5 Supply Air
- 6 Return Air
- 7 Water In
- 8 Water Out

Technical Parameters

CHILLROW.DXA

Unit model		DXA12V1C1	DXA24V1C1.B	DXA38V1C3	DXA24V1C1
Supply air scheme(1)		FRONT(F)			
Cooling capacity					
Total (1)	kW	13.2	23.5	36.5	22.6
Sensible (1)	kW	13.2	23.5	36.5	22.6
Compressor					
Type		Inverter Rotor Type		Inverter Scroll Type	
Power input (1)	kW	3.3	6.7	9.5	6.7
Current input (1)	A	8.2	10.8	14.3	10.8
Supply fan					
Type		AC Powered EC Fan		DC Powered EC Fan	
Qty. of fan	n.	4	6	2	4
Air volume	m ³ /h	2950	4650	8260	4350
Power	kW	0.5	0.8	1.7	0.7
Outdoor condenser					
Model*QTY. (4)		VMEG25V2*1	VMEG40V2*1	VMEG55V2*1	VMEG40V2*1
Model*QTY. (5)		AMAE5*1	AMAE8*1	AMAE15*1	AMAE8*1
Electric heater (2)					
		PTC			
Electric heater capacity	kW	2.25	2.25	4.5	2.25
Current	A	3.2	3.2	6.5	3.2
Humidifier (3)					
Type		Electrode	N/A	Electrode	
Humidification capacity	kg/h	3	N/A	3	3
Power	kW	2.3	N/A	2.3	2.3
Current	A	3.3	N/A	3.3	3.3
Power supply					
Power supply		380V/3Ph/50Hz			
Unit maximum operation power	kW	9.9	12.7	21.1	12.6
Unit maximum operation current	A	21.0	26.4	31.3	26.1
Air filter					
		G4			
Unit piping connection					
Humidifier water supply Φ	in	1/2"	NA	1/2"	1/2"
Condensate water drainage Φ	in	3/4			
Refrigerant discharge line Φ	mm	19	19	22	19
Refrigerant liquid line Φ	mm	16	16	19	16
Unit dimension and weight					
Width	mm	300	300	600	300
Depth	mm	1200	1200	1200	1200
Height	mm	2000	2000	2000	2000
Weight	kg	120	145	350	140

(1) (1) Return air bulb temperature 37°C, RH 24%, outdoor dry bulb temperature 35°C;

(2) Optional;

(3) Optional;

(4) standard condenser configuration, horizontal installation and top air exhaust;

(5) Optional condenser configuration horizontal or vertical installation;

(6) Maximum operating power and current are calculated at the unit in dehumidification mode and electric heater operating at full load.

Technical Parameters

CHILLROW.CW

Unit model		CW25C1	CW50C3	CW65C3
Supply air scheme(1)			FRONT(F)	
Cooling capacity				
Total (1)	kW	28.7	52.6	62.5
Sensible (1)	kW	27.6	52.6	62.5
Cooling coil				
Water flow (1)	m ³ /h	5.1	8.7	10.8
Water pressure drop (coil and valve) (1)	kPa	56.4	75.2	63.5
Supply fan				
Type		AC Powered EC Fan		
Qty. of fan	n.	6	2	3
Air volume	m ³ /h	4650	8260	11500
Power	kW	0.8	1.7	2.3
Electric heater (2)				
			PTC	
Electric heater capacity	kW	2.25	4.5	4.5
Current	A	3.2	6.5	6.5
Humidifier (3)				
Type		Electrode		
Humidification capacity	kg/h	3	3	3
Power	kW	2.3	2.3	2.3
Current	A	3.3	3.3	3.3
Power supply				
Power source		380V/3Ph/50Hz		
Unit maximum operation power (4)	kW	5.3	8.5	9.3
Unit maximum operation current (4)	A	12.1	12.8	14.2
Air filter				
		G4		
Unit piping connection				
Chilled water outlet/inlet Φ	in	1"	1 1/2"	1 1/2"
Humidifier water supply Φ	in	1/2"	1/2"	1/2"
Condensing water Φ	in	3/4"	3/4"	3/4"
Unit dimension and weight				
Width	mm	300	600	600
Depth	mm	1200	1200	1200
Height	mm	2000	2000	2000
Weight	kg	175	252	300

(1) Return air dry bulb temperature 37°C, RH 24%, inlet/outlet water temperature 10/15°C;

(2) Optional;

(3) Optional;

(4) Maximum operating power and current are calculated at the unit in dehumidification mode and electric heater operating at full load.

Technical Parameters

■ AMAE

Unit model		AMAE5	AMAE8	AMAE15
Capacity (1)	kW	24.2	36.2	57.2
Fan				
Qty. of fan	n.	1	1	2
Air flow rate	m ³ /h	12500	11800	22000
Power supply				
Input power	kW	0.63	0.63	1.26
Input current	A	2.8	2.8	5.6
Connection tube size				
Gas pipe	mm	19	19	22
Liquid pipe	mm	16	16	16
Unit external dimensions and weight				
Width	mm	1365	1665	1985
Depth	mm	620	620	620
Height	mm	1080	1080	1080
Weight	kg	60	92	139

(1)The capacity is rated at entering air temperature 35°C and condensing temperature 50°C condition.

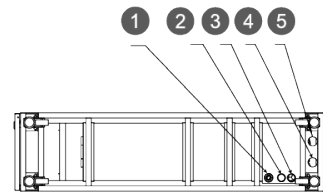
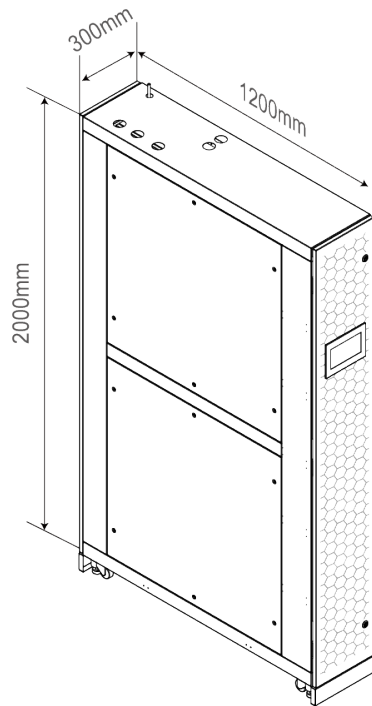
■ VMEG

Unit model		VMEG25V2	VMEG40V2	VMEG55V2
Capacity (1)	kW	25	40	55
Fan				
Qty. of fan	n.	1	1	1
Air flow rate	m ³ /h	8500	14000	21000
Power supply				
Maximum input power	kW	0.63	1.13	1.85
Maximum input current	A	3.00	2.35	4.00
Connection tube size				
Gas pipe	mm	22	22	28
Liquid pipe	mm	16	19	19
Unit external dimensions and weight				
Width	mm	1380	1380	1380
Depth	mm	1000	1000	1000
Height	mm	1295	1550	1570
Weight	kg	90	140	180

(1)The capacity is rated at entering air temperature 35°C and condensing temperature 50°C condition.

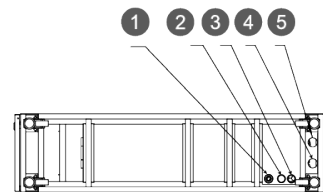
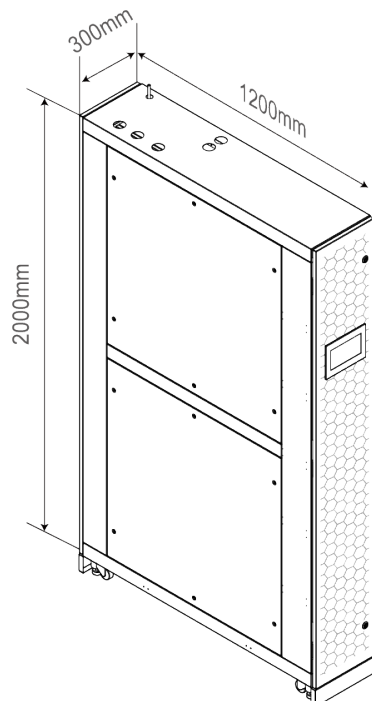
Unit Dimension Drawing

DXA12/24V1C1



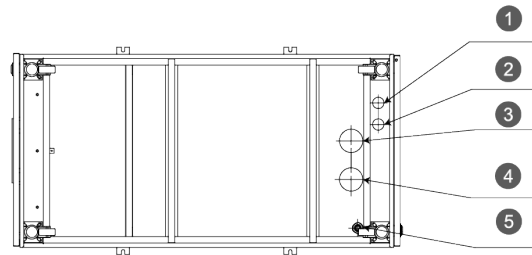
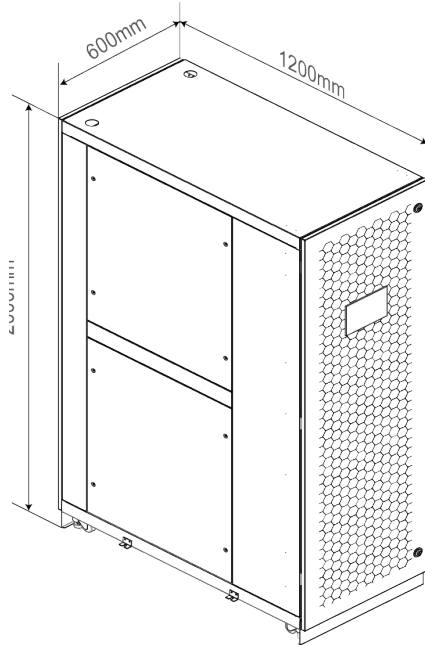
1. Bottom Drain Outlet
2. Gas Pipe
3. Liquid Pipe
4. Wiring Hole
5. Top Drainage Outlet

DXA24V1C1.B



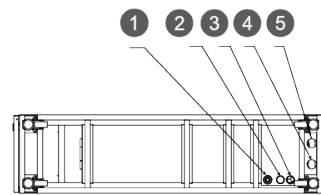
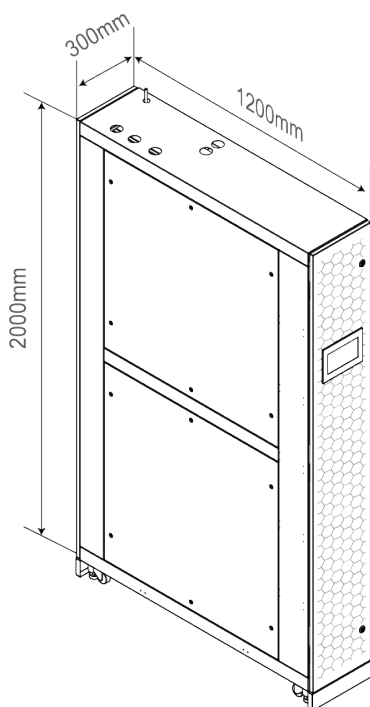
1. Bottom Drain Outlet
2. Gas Pipe
3. Liquid Pipe
4. Wiring Hole
5. Top Drainage Outlet

DXA38V1C3



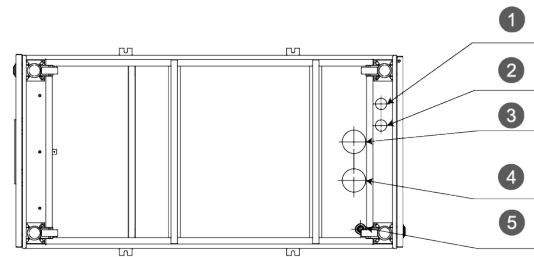
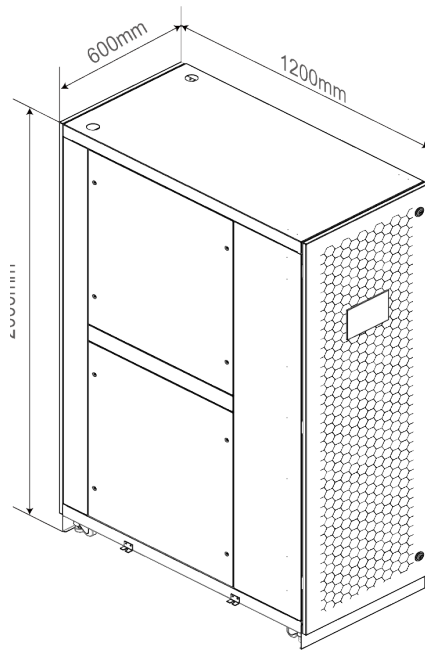
- 1. Wiring hole
- 2. Gas Pipe
- 3. Liquid Pipe
- 4. Drain Outlet
- 5. Humidifier Filling Inlet

CW25C1



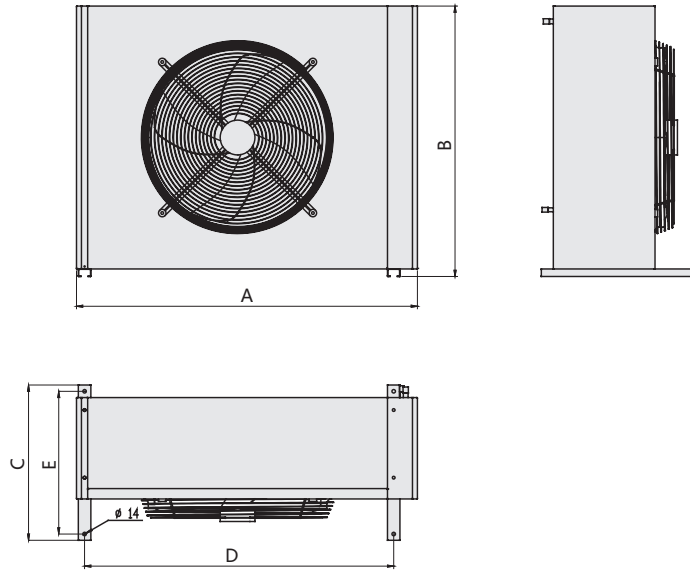
- 1. Return Air
- 2. Water Inlet
- 3. Water Outlet
- 4. Bottom Drain Outlet
- 5. Wiring Hole
- 6. Humidifier Filling Inlet
- 7. Supply Air
- 8. Top Drain Outlet

CW50/65C3



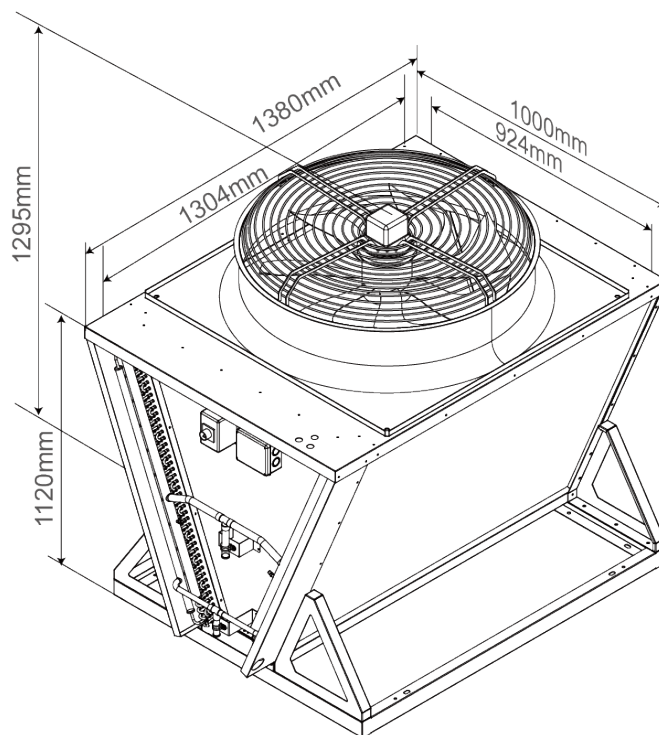
1. Wiring Hole
2. Humidifier
Filling Inlet
3. Water Outlet
4. Water Inlet
5. Drain Outlet

■ AMAE

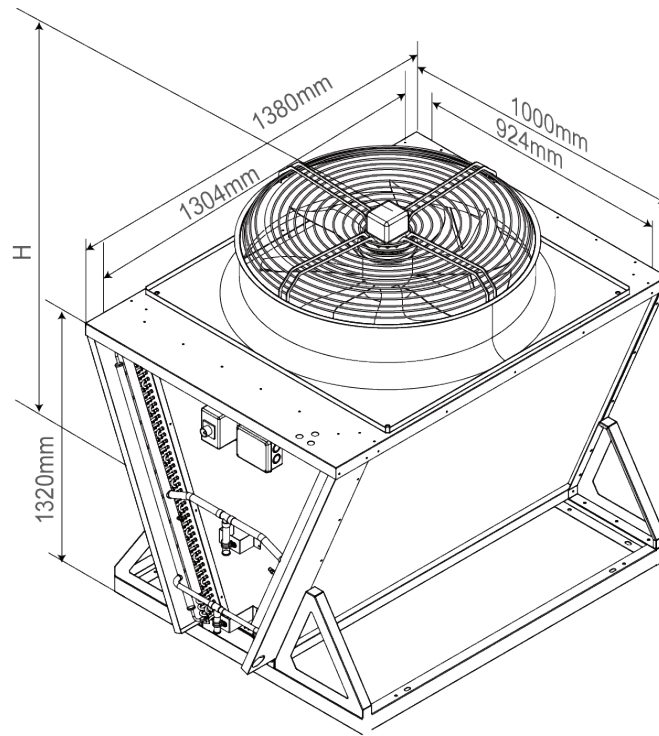


	AMAE5	AMAE6	AMAE8	AMAE10	AMAE12	AMAE15	AMAE18	AMAE20
A	1365	1365	1665	1665	1985	1985	2785	2785
B	1080	1080	1080	1080	1080	1080	1080	1080
C	620	620	620	620	620	620	620	620
D	1237	1237	1537	1537	1857	1857	2657	2657
E	570	570	570	570	570	570	570	570

■ VMEG25V2



■ VMEG40/55V2





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Product design and specification subject to change without prior notice.