



Extensive range of chilled water or direct expansion systems

Compact and attractive design

Energy savings with EC motor

and self-regulating control

Easy to install



Cooling capacity: 10 to 116 kW
Air flow rates: 3 000 to 27 500 m³/h



USE

Close control unit specially designed for spaces with high heat loads or sensitive rooms (data centres, computer rooms, switch rooms, etc.).

Its built-in technologies - self-regulating control that adjusts to room loads and electronically commutated motor - keep its energy consumption down. **MAGISTER** boasts a sleek design that blends into any space.

CHILLED WATER OPERATION

MAGISTER CW (Chilled Water)



Vertical chilled-water air handling unit.

The fan also has a ModBus card which allows faults and settings such as the actual power input, current, rotation speed, etc. to be transmitted.

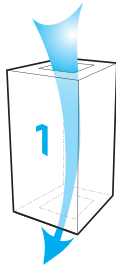
DIRECT EXPANSION OPERATION

Magister DXA - Direct expansion

Vertical self-contained unit with air condensation unit (R410A fluid).

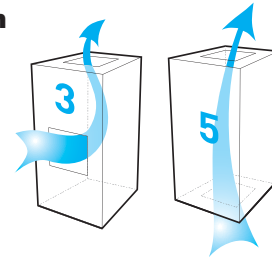
UNDER configuration

Air discharge into raised flooring



OVER configuration

Front return air (except CW 115)



Bottom return air (except CW 115 - DXA)

QUICK SELECTION GUIDE

(except CW 115)

CW range - Chilled Water

CW	CW 40		CW 53		CW 78		CW 100		CW 115	
	Nominal(1)	Maximum(2)	Nominal(1)	Maximum(2)	Nominal(1)	Maximum(2)	Nominal(1)	Maximum(2)	Nominal(1)	Maximum(2)
Air flow rates (m ³ /h)	10 000	13 300	13 300	13 300	18 800	20 500	24 500	27 000	27 000	27 500
Sensible cooling capacity (kW)	40	45	55	53	78	78	100	100	127	130
Nominal capacity (kW)	3.7		3.7		7.1		7.1		9.6	
Nominal current (A)	6.4		6.4		11.8		11.8		15.7	

(1) Conditions: return air at 24°C with 45% RH
Water temperature range of 7/12°C

* Excluding optional electric heater and humidifier

(2) Conditions: return air at 26°C with 40% (RH)
Water temperature range of 10/15°C

* Excluding optional electric heater and humidifier

Magister DXA - Direct expansion

	DXA 59	DXA 65	DXA 70	DXA 85
Outdoor unit no./type	2 x CD100	2xCD 120	2 x CD120	2 x CD 150
Air flow in (m ³)	15 000	15 700	18 500	21 000
Total cooling capacity (kW)	60	67	72	86

Characteristics: Total cooling capacity, air 24°C 45%, 32°C outdoor

Correction factors	30°C	32°C	35°C	40°C
24°C / 50%	1.02	1	0.98	0.93
26°C / 50%	1.06	1.04	1.02	0.96

Correction factors to apply to the cooling capacity based on the outdoor temperature and the return air conditions.

OPTIONS (AVAILABLE CAPACITIES)

Electric heaters

Units	CW					DXA				
	CW 40	CW 53	CW 78	CW 100	CW 115	DXA 59	DXA65	DXA70	DXA85	
Capacity (KW)	12	18	24	33.6	32.4	43.2	18	18	24	24
Total current (A)	17.3	26	34.7	48.6	46.77	62.35	26	26	34.7	34.7

Hot water coil (CW only)

CW	CW 40		CW 53		CW 78		CW 100		CW 115	
	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum
Air flow (m ³ /h)	10 000	13 300	13 300	13 300	18 800	20 500	24 500	27 000	27 000	27 500
Heating capacity (kW)*	36	40	44	44	63	66	71	73		
Heating capacity (kW)**	18	21	23	23	33	34	37	38		

* 17°C - 80/60°C

** 17°C - 45/40°C

Humidifier

Model	CW 40 to CW 115	DXA59 to DXA85
Steam flow rate (kg/h)	8	
Electrical capacity (kW)	6	
Current (A)	8.7	

Ventilation

Units	CW										DXA			
	CW 40		CW 53		CW 78		CW 100		CW 115		DXA59	DXA65	DXA 70	DXA 85
Air flow rates (m ³ /h)	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal	Maximum	15 000	15 700	18 500	21 000
	10 000	13 300	13 300	13 300	18 800	20 500	24 500	27 000	27 000	27 500				
Operating pressure max. with G4 filter (Pa)	400	171	229	229	400	400	343	157	400	400	400	400	400	355
Operating pressure max. with F7 filter (Pa)	400	60	140	140	400	400	261	68	400	385	400	400	400	345

DESCRIPTION

Casing

Double-wall construction (M0/A1 fire resistance).
 Detachable pre-coated grey (RAL 7035 and RAL 7024) panels.
 - 0.8mm painted pre-coated exterior panel.
 - 25 mm mineral wool insulation.
 - 0.8 mm galvanised interior panels.

Filtration

Filter cells: G4, F7.
 DXA: Filter cells tightly compressed against counterframe by a gasket to ensure a leaktight seal.
 CW: Holds filter cells pressed against the counter frame with the gasket directly on the filter cells.
 Filter restriction monitored by an analogue sensor. Restriction values displayed by controller.

Cooling coil section

Copper tubes, aluminium fins.
 Aluminium or stainless steel condensate drain pan.
 Stainless steel coil casings (option).
 Fitted and connected two-way or three-way control valve.

Ventilation section

Plug fan coupled with an induction motor or an electronically commutated (EC) motor.
 EC motor: fan speed adjusted by a potentiometer or automatically by the controller based on room loads (system air control).
 The fan* also has a ModBus card which allows faults and settings such as the actual power input, current, rotation speed, etc. to be transmitted.
 *CW only

Electrics box

Electrical power and control box consisting of:
 - Power supply (three phase, 400 V, earth).
 - Main disconnect switch.
 - Protected transformer (three phase, 400 V, 50 Hz).
 - All electrical components protected and controlled by a circuit breaker and contact switch.
 - CIAT µAIR CONNECT2 controller.
 - Monitoring of return air dry-bulb temperature.
 - Monitoring of return air humidity during supply or dehumidification.
 - Options: water leak detection
 - Remote control and fault summary contact.

Outdoor unit (DXA model)

CONDENCIAT CD air condensation unit.
 Power supply: Three-phase 400V / 50Hz + earth T.
 SCROLL heat compressor.
 HP safety pressure switch.
 2-speed IP54 motor.
 Coil protection grille.

Accessories (options)

Free cooling box.
 Support base for delivering supply air into a raised floor.
 Cased base with grille or damper.
 Supply plenum.
 Motorised intake damper.
 Fire thermostat.
 Supply air low-limit sensor.
 LON gateway.
 Management of pressure in raised floor (only for CW).
 Changeover thermostat (only for CW).

OPTIONS

■ Electric heater

Controlled by fan.
2-stage or TRIAC control.
High-limit safety thermostat with automatic and manual reset.

■ Hot water coil (CW model)

One-row coil made of copper tubes with aluminium fins.
Two or four-way modulating valve fitted and connected.

■ Humidifier

Immersed-electrode humidifier with CPY control board to relay humidifier information directly to the CIAT μ AIR CONNECT2 PLC:

- Stainless steel, large surface area electrodes.
- Flow rates of 8 kg/h, depending on the model.
- Steam cylinder in a single easy to remove component.
- Drain pump and filling solenoid valve.
- Electronic control panel.
- Distributor pipe.

For use with city water only (with a conductivity of between 350 and 1250 μ S and a hardness of between 15 and 30°F). Do not use deionised or softened water.

CONTROL

Controlling and monitoring the units :

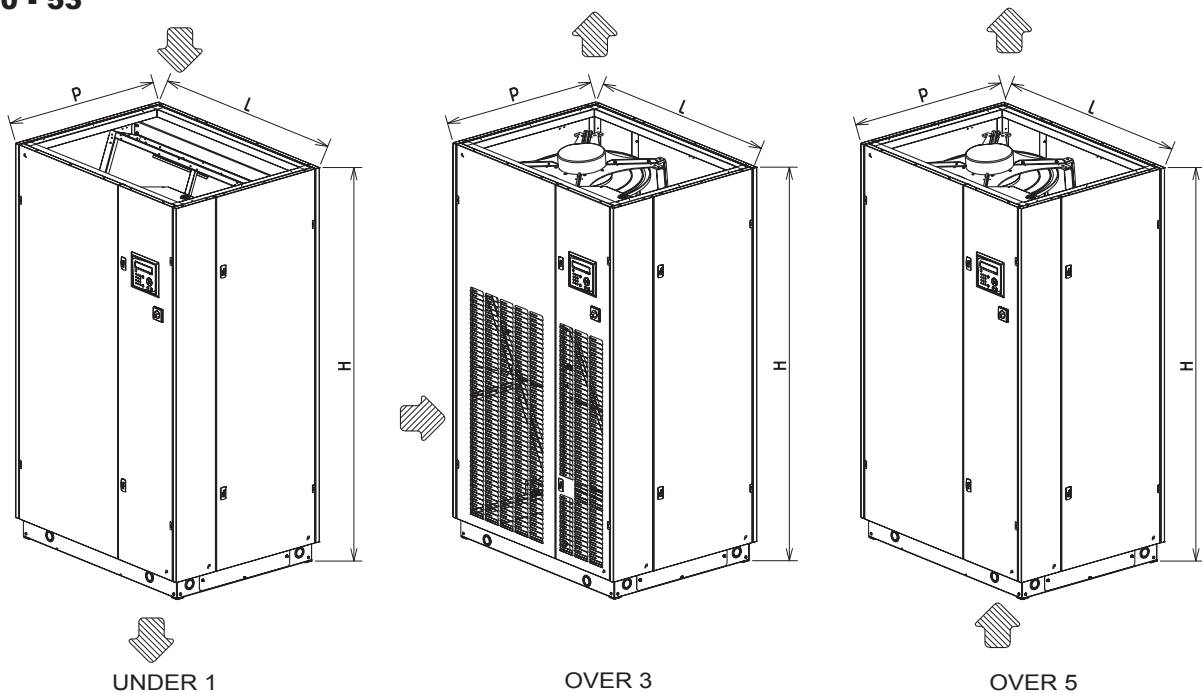
CIAT μ AIR CONNECT2 control system

- 160-character display shows operating instructions, operating states, faults and solutions. Configurable controller.
- Two fault levels.
- Monitoring of running times.
- RS485 output with a Jbus / ModBus protocol.
- Master/slave operation possible.
- LON gateway (optional).
- Management of pressure in raised floor (optional).
- Changeover thermostat (optional).
- Bus management between the centrifugal plug fan and the μ AIR CONNECT2 controller.
- Transmits fan faults and settings such as the actual power input, current, rotation speed, etc. to the controller (for CW only)



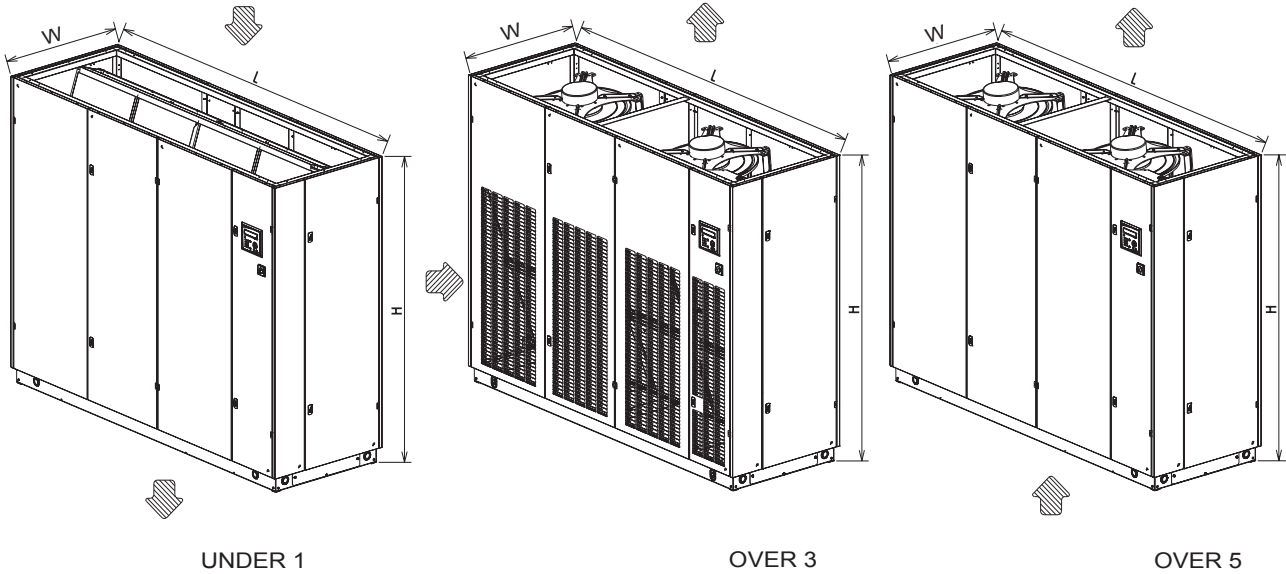
DIMENSIONS

CW 40 - 53



CW	H	L	W
40	1990	1190	890
53		1520	

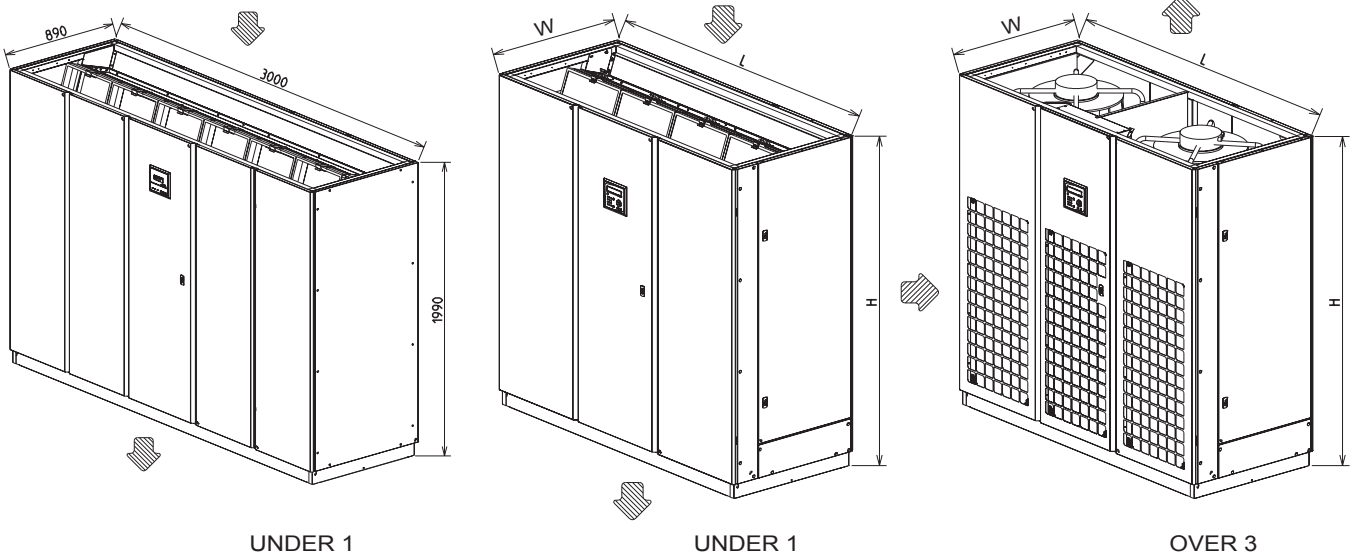
CW 78 - 100



CW	H	L	W
78	1990	2070	890
100		2620	

CW 115

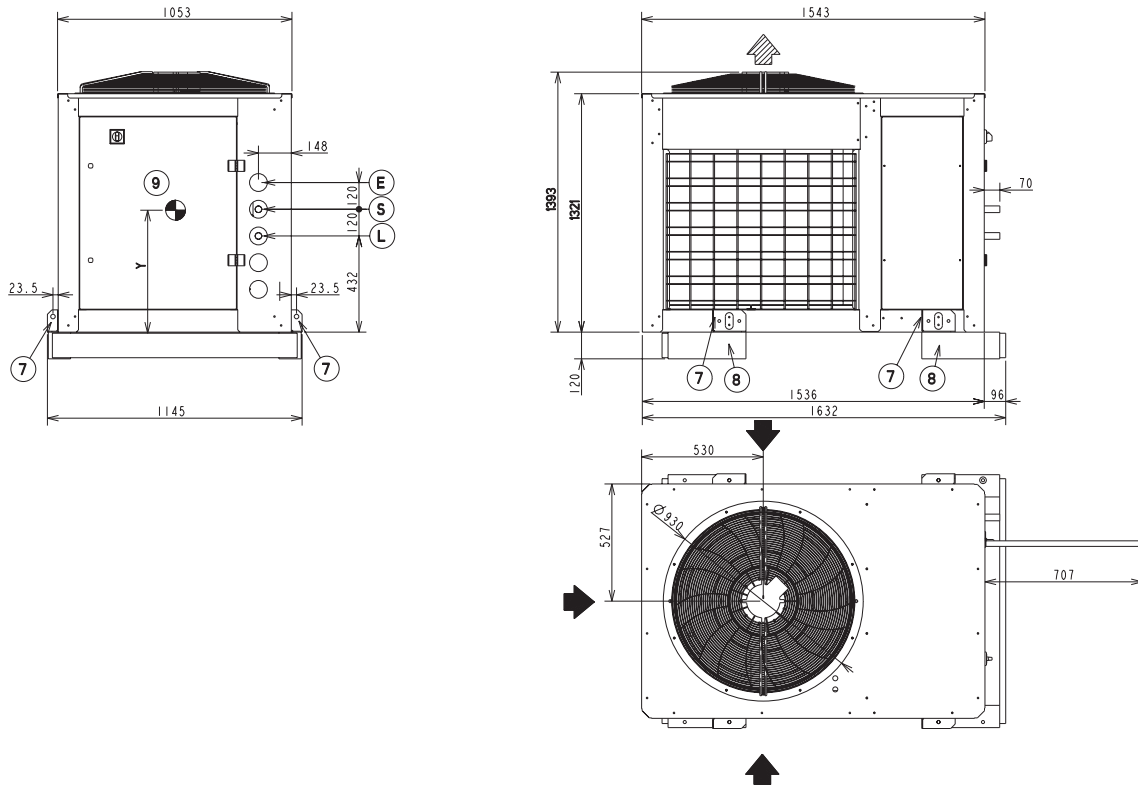
DXA 59 - 65 - 70 - 85



DXA	H	L	W
59 - 65	1990	2070	890
70 - 85		2620	

MEASUREMENTS

CD 100 - 120 - 150



CD	100	120	150
E = Ø	80		
Aspiration S = Ø	1" 3/8		1" 5/8
Liquid L = Ø	7/8"		
Empty unit weight (kg)	290		350

WEIGHT

Chilled water (CW)

CW	40	53	78	100	115
Weight (kg)	350	385	545	635	730

Direct expansion (DXA)

Indoor unit

DXA	59	65	70	85
Weight (kg)	510	510	620	620

Outdoor unit

CD	100	120	150
Empty unit weight (kg)	290	290	350

This document is non-contractual. As part of its policy of continual product improvement, CIAT reserves the right to make any technical modification it feels appropriate without prior notification.

Head office

Avenue Jean Falconnier - B.P. 14
01350 - Culoz - France
Tel.: +33 (0)4 79 42 42 42
Fax: +33 (0)4 79 42 42 10
info@ciat.fr - www.ciat.com



CIAT Service

Tel. : 08 11 65 98 98 (0,15 € / mn)
Fax : 08 26 10 13 63 (0,15 € / mn)

