



Precision air handling cabinets

Compact and sleek
Broad range of functions and performance
Energy efficient (EC motor)
and self-regulating control
Easy to install



MAGISTER 2



Cooling capacity: 10 to 116 kW
Air flow rates: 3.000 to 27.000 m³/h

USE

Vertical self-contained air conditioner specially designed for spaces with high heat loads or sensitive rooms (data centres, computer rooms, switch rooms, etc.).

Magister 2 boasts a sleek design that blends seamlessly with any space. Its built-in technologies - self-regulating control that adjusts to room loads and electronically commutated motor - keep its energy consumption down.

CHILLED WATER OPERATION

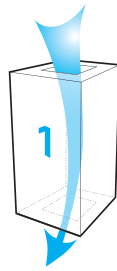
Magister 2 CW

Vertical chilled-water air handling unit.

ASSEMBLY

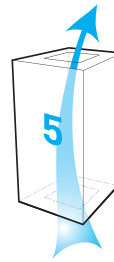
UNDER configuration

Air discharge into raised flooring



OVER configuration (except CW115)

Front return air



Bottom return air

CW RANGE - QUICK SELECTION GUIDE

CW range - Chilled Water

CW	12	18	24	30	35	45	61	70	80	90	115
Cooling capacity (kW)	12.1	18.4	24.2	30.5	34.7	44.6	60.9	69.5	80.3	87.4	116
Rated air flow (m3/h)	3000	4500	6000	7500	8400	11000	15000	16800	19400	21500	27000
Rated capacity (kW) *	3	3	3	2.9	2.9	3.1	5.8	5.8	6.2	6.2	9.3
Rated current (A)*	4.8	4.8	4.8	4.5	4.5	4.9	9	9	9.8	9.8	14.7

Conditions: return air at 24 °C with 45 % RH

Water temperature range of 7/12 °C

* Excluding optional electric heater and humidifier

OPTIONS (Available capacities)

Electric heaters

Model	Capacity (kW)	Current (A)
CW12	4 - 6	10 - 8.7
CW18	6 - 9.8	8.7 - 16.3
CW24	6 - 11.8	8.7 - 21.3
CW30	8 - 13.8	13.7 - 19.9
CW35	10 - 18	18.7 - 26
CW45	13.8 - 23.4	19.9 - 33.8
CW61	18 - 27.6	26 - 39.8
CW70 / CW80	21.6 - 35.4	31.2 - 51.1
CW90	27.6 - 46.8	39.8 - 67.5
CW115	32.4 - 43.2	46.7 - 62.3



Precision air handling cabinets

Hot-water coil

Model	CW12	CW18	CW24	CW30	CW35	CW45	CW61	CW70	CW 80	CW 90	CW 115
Capacity (kW)	11	15	21.8	24	30	35	48	58	71	75	

Conditions: return air at 20 °C
 water temperature range of 80/60 °C

Humidifier

Model	CW12	CW18	CW24	CW30	CW35	CW45	CW61	CW70	CW 80	CW 90	CW 115
Steam flow rate (kg/h)	3			8							
Electrical capacity (kW)	2.25			6							
Current (A)	3.2			8.7							

Conditions: return air at 20 °C
 water temperature range of 80/60 °C

DESCRIPTION

Casing

Double-wall construction (M0/A1 fire resistance).
 Detachable pre-coated grey (RAL 7035 and RAL 7024) panels.

- 1 mm pre-coated exterior panels.
- 25 mm mineral wool insulation.
- 0.8 mm galvanised interior panels.

Filtration

Filter cells: G4, F7 or combination of both.
 Filter cells tightly compressed against counterframe by a gasket to ensure a leaktight seal.
 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).

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 Connect 2 controller or Carel pCO controller.
- Monitoring of return air dry-bulb temperature.
- Monitoring of return air humidity during supply or dehumidification.
- Options: water leak detection, fire thermostat and supply air low-limit monitoring;
- Remote control and fault summary contact.



Accessories (options)

- Support base for delivering supply air into a raised floor.
- Supply plenum.
- Motorised intake damper.
- Water leak detection.
- Fire thermostat.
- Supply air low-limit sensor.

OPTIONS

Electric heater

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

Hot water coil

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

Humidifier

Immersed-electrode humidifier:

- Stainless steel, large surface area electrodes.
- Flow rates of 3 or 8 kg/h, depending on the model.
- One-piece steam cylinder.
- Blowdown and filling solenoid valve.
- Electronic control panel.
- Distributor pipe.

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

CONTROL

Possibility of two controllers for controlling and monitoring the units.

CIAT $\mu\text{Airconnect 2}$ 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.



Carel pCo control system

- Programmable controller handles all specific control requests.
- Can manage rotations, backups and auxiliaries between units.
- Modbus / LON communication possible.



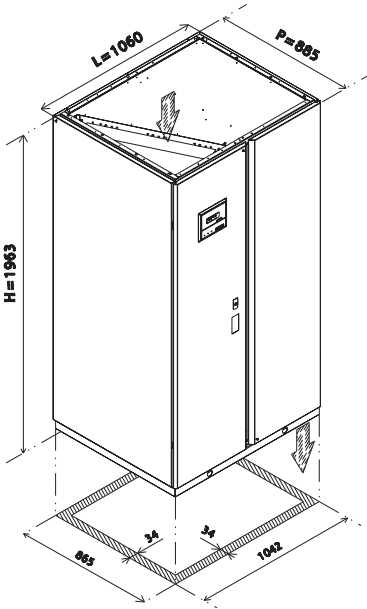


Precision air handling cabinets

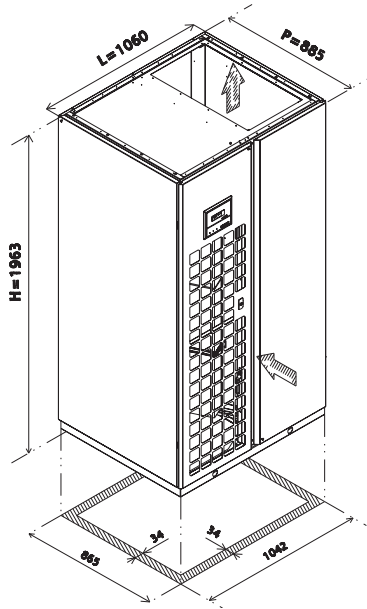
DIMENSIONS

CW 12 - 18 - 24 - 30 - 35

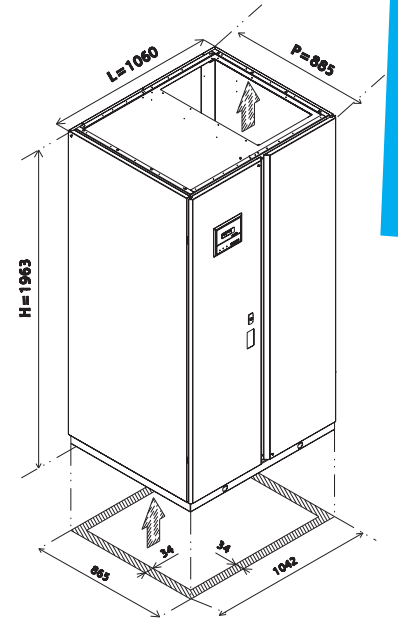
UNDER 1



OVER 3



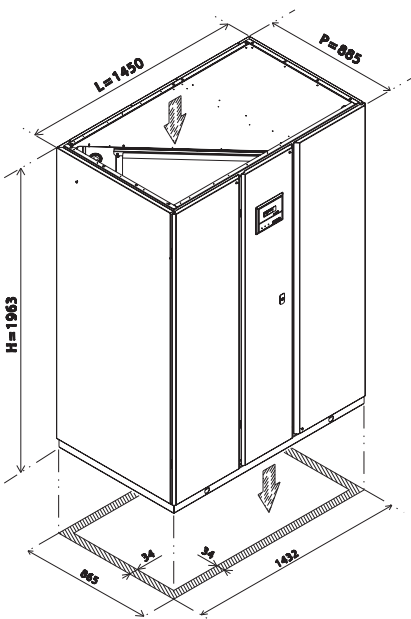
OVER 5



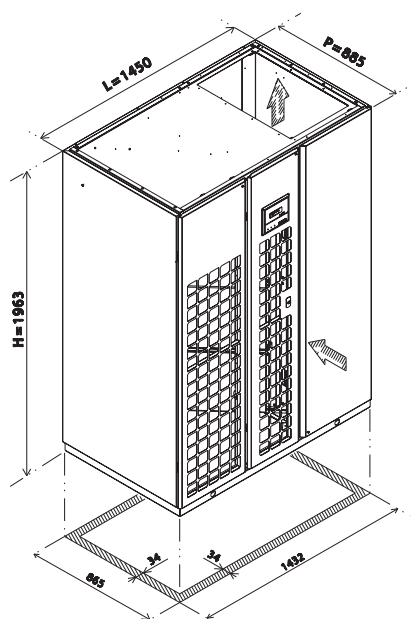
MAGISTER 2

CW 45

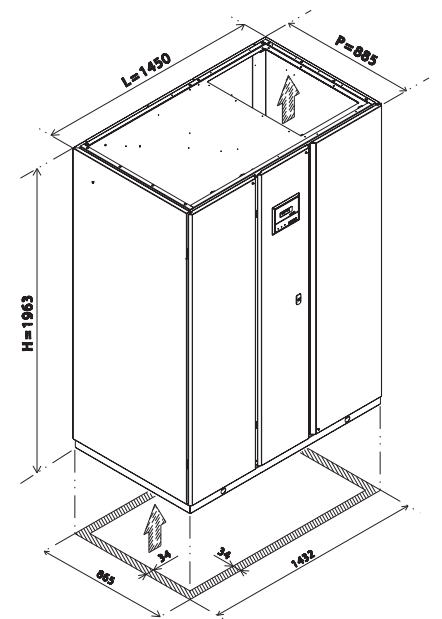
UNDER 1



OVER 3



OVER 5

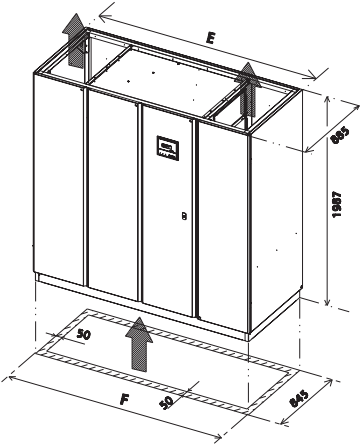




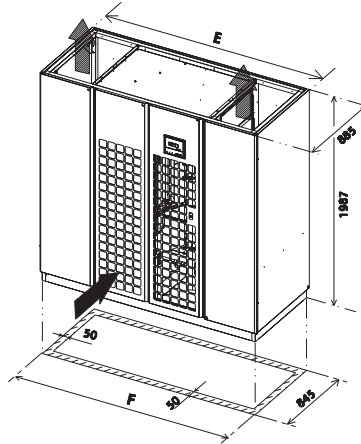
DIMENSIONS

CW 61 - 70 - 80 - 90

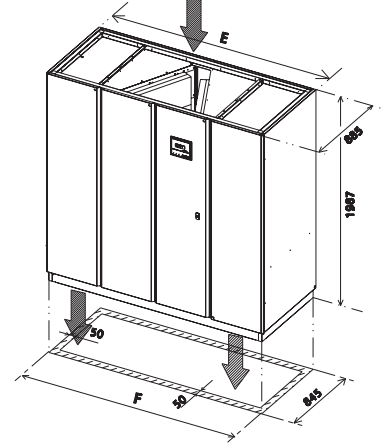
OVER 5



OVER 3

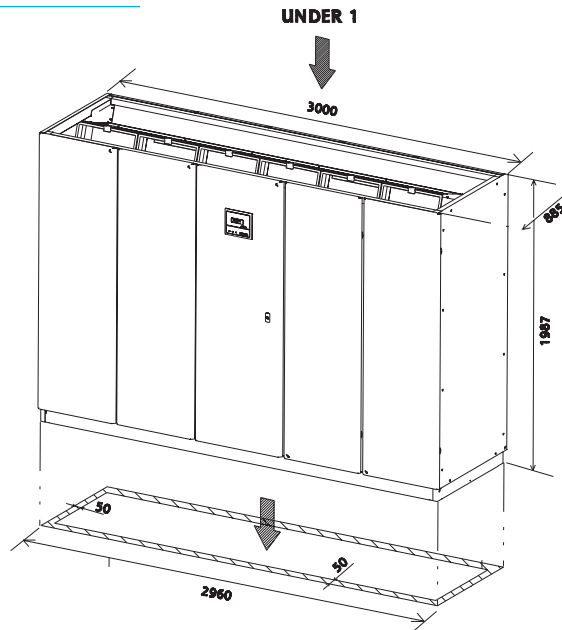


UNDER 1



CW	61 - 70	80 - 90
E	2072	2622
F	2037	2587

CW 115



WEIGHT

CW	12	18	24	30	35	45	61	70	80	90	115
Kg	250	256	267	278	293	348	510	520	600	610	730

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.

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