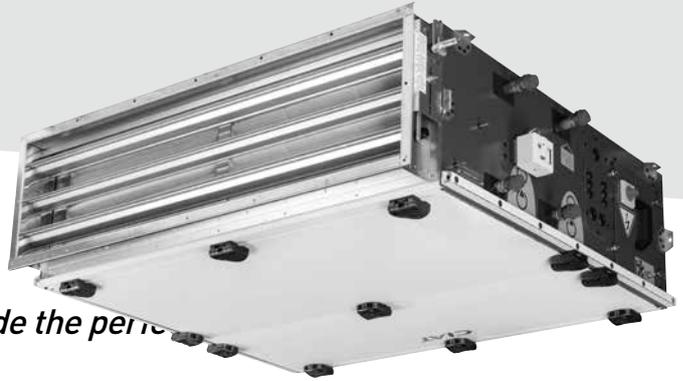




AIR COMPACT

Air handling unit



The **modular Ultra-Slim AHU** is guaranteed to provide the performance you need.
 Ideal for a **compact** installation
 Available in a **single-flow** and **dual-flow** version

Air flow capacity: up to 6000 m³/h
 Operating pressure: up to 1000 Pa

USE

The **AIR COMPACT** air handling unit is a modular ventilation unit, which can be configured to meet all your requirements whilst complying with current standards.

It is available in a single-flow or dual-flow version.

The AIR COMPACT AHU is used for fresh air introduction or compensation, air recirculation, and air extraction using its filtration, heating, cooling, recovery and ventilation functions.

Three versions of the Air Compact AHU are available, ensuring it is easy to integrate:

- horizontal ceiling-mounted version, accessed from underneath,
- horizontal floor-mounted version, accessed from the top,
- vertical wall-mounted version, accessed via the front.

It is available in 3 sizes to provide a perfect match for your requirements, handling air flow rates from 1000 to 6000 m³/h.

At 400 mm thick, it is ultra compact and can be fitted into the tightest of spaces.

This range is particularly well-suited to tertiary buildings:

- administration, offices,
- education facilities, libraries, community centres,
- cafés, hotels, restaurants,
- shopping centres, nursing homes, healthcare facilities,
- collective housing

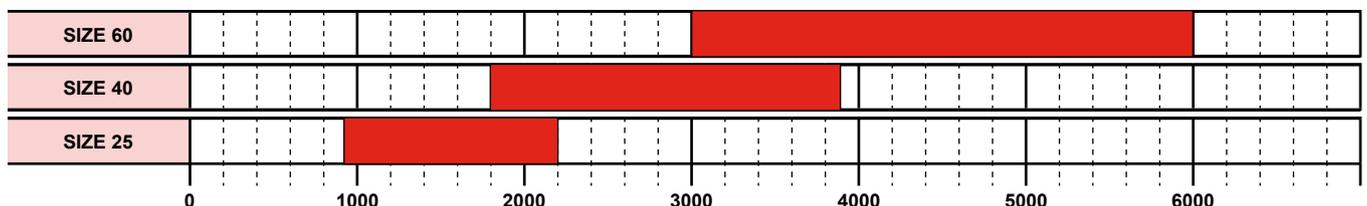
All installations requiring ventilation.

RANGE

The AIR COMPACT range comprises three sizes from 1000 to 6000 m³/h.

There are four standardised lengths of module, adapted to the selected configuration and options.

The AHU will therefore comprise one or several modules, depending on your selection; 610, 830, 1100 and 1400 mm modules.



DESCRIPTION

Casing

Double-skin panels made from galvanised sheet steel, 0.8 mm thick
 External panels made from galvanised steel, precoated in RAL 7035 and RAL 7024
 M0/A1 class fire insulation
 Mineral wool, thickness 25 mm

Connection and utilities

Hydraulic connection possible on the right or left (to be specified when ordering).
 The access doors are positioned according to the choice of model:

- horizontal ceiling-mounted model: access doors located underneath the unit,
- horizontal floor-mounted model: access doors located on top of the unit,
- vertical wall-mounted model: access doors on the front of the unit.

Damper

Uncased external damper
 Class 1 leakage as per EN1751; class 3 dampers available as an option
 Optional servomotor

Filtration

Filter cells with universal dimensions (287x592 mm)
 Three filtration stages possible Pressure tapping as standard on each filtration stage
 Pressure switch and pressure gauge available as an option

Filters	Efficiency EN779:2012	Efficiency ISO16890
Compact filters	G4	Coarse 65%
	M5	ePM10 50%
	F7	ePM1 60%
	F9	ePM1 90%
Flexible bag filters	M6	ePM10 65%
	F7	ePM1 60%
	M6	ePM10 70%
Rigid bag filters	F7	ePM1 60%
	F8	ePM1 70%
	F9	ePM1 80%

Ventilation

"Plug fan" type direct drive fan motor assembly.
 1 or 2 fans for each air flow rate, depending on the size and conditions.

Heat exchange coil

■ Hydraulic coil
 Copper tubes, aluminium fins
 Choice of 3 coil sizes for each AHU size
 Antifreeze thermostat with optional automatic reset
 Stainless condensate drain pan

■ Evaporator coil
 Copper tubes, aluminium fins
 Choice of 3 coil sizes for each AHU size
 Stainless condensate drain pan

■ Electric heater
 Shielded resistors in scrolled finned tubes
 Two high temperature safety thermostats: one automatic and one manual reset
 Anti-radiation screen, depending on the upstream and downstream elements

Output power supplied by the electric heaters			
AHU size	Main casing	Additional box	
	2 stages	2 stages	4 stages
25	2 x 7.5 = 15 kW	2 x 7.5 = 15 kW	4 x 7.5 = 30 kW
40	2 x 12 = 24 kW	2 x 12 = 24 kW	4 x 12 = 48 kW
60	2 x 16.5 = 33 kW	2 x 16.5 = 33 kW	4 x 16.5 = 66 kW

Two motor technologies are available:
 AC motor with optional frequency inverter.
 EC motor (electronically commutated motor with built-in variable speed control).

AIR COMPACT SIZE		25	40	60
Rated air flow rate (m ³ /h)		2000	4000	6000
Number of fans for each air flow rate		1	1 or 2	2
AC motors*	Output per unit	0.55 kW / 1.1 kW / 1.4 kW		
	Power supply	3~230/400 V (or 1~230 V with the single-phase inverter option)		
EC motors	Output per unit	1 kW		
	Power supply	3~400 V - 50/60 Hz		

* Requires a frequency inverter

Accessories and options

2-channel mixing box: 3 air flow positions available
 3-way mixing box
 Angled or straight plenum
 Sound attenuator

Adjacent plate heat exchanger (available on sizes 25 and 40)
 Control system

Controls (Option)

- Electrics box for power, control and regulation built into the unit, comprising as standard:
 - compatibility with a 3~400 V + E - 50 Hz power supply
 - main disconnect switch
 - 24 V transformer with primary and secondary protection
 - protection and control of all electrical components by a circuit breaker and contact switch

- surface-mounted electric heater unit, or delivered unassembled
- control via a PLC, preinstalled with a program developed by CIAT
- hand-held cabled micro-terminal
- fault summary contact
- ventilation actuated at a constant flow rate, constant pressure, or via a CO₂ sensor
- pressure and temperature sensors, depending on the selection

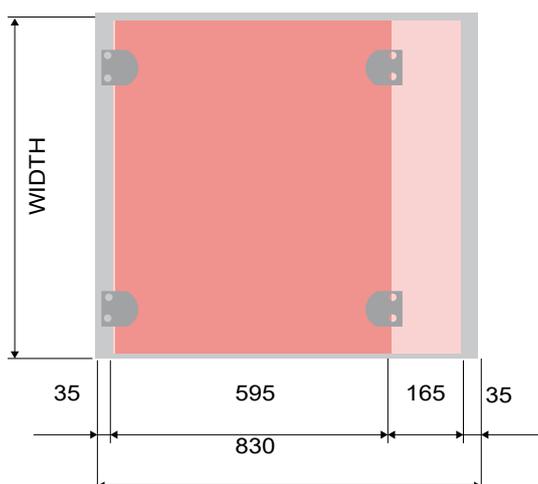
AIR COMPACT Control functions available		Included	Option
Timer	Option to define up to 4 weekly programs and 4 annual programs. The programs available are: temperature and ventilation in eco/comfort mode, frost protection, night cooling	x	
Human Machine Interface	LCD screen	x	
	Room remote control with special interface for the end user		x
Remote actuation and CMS	Communication Protocols	MODBUS RS485 (RTU)	x
		MODBUS IP	
		BACnet IP	
		KNX	
		LON	
Filtration	Monitoring filter fouling (via analogue sensor or pressure switch depending on the number of filter stages)	x	
Ventilation management	Maintaining the air flow rate with compensation for filter fouling	x	
	Single zone	Constant volume air flow rate	x
		Variable air volume via the CO ₂ sensor	
	Multi-zone	Constant supply air pressure (for installations equipped with ducted variable flow louvres)	
Temperature management	Control of the supply air temperature	x	
	Control of the return air or ambient temperature		x
	Free-cooling (depends on the machine configuration)		x
Direct expansion coil	On/off output for outdoor unit in cooling only mode	x	
Heat recovery unit anti-icing	Via ΔP control on the exhaust air		x
Protection of the internal components	Checking the heat protection for the motors	x	
	Checking the temperature and pressure sensors	x	
	Alarm if the operating limit thresholds are exceeded	x	
Auxiliary contacts	Inputs (dry contacts)	Fire fault	x
		Remote On/Off	x
		Electric heater load shedding	x
		External humidifier fault	x
	Outputs (dry contacts)	AHU operating feedback	x
		Maintenance fault summary	x
		Danger fault summary	x
		Direct expansion unit On/Off	x

SPACE REQUIREMENTS AND DIMENSIONS:

DIMENSIONAL SPECIFICATIONS			
AHU size	25	40	60
External dimensions of the single-flow modules (width x height in mm)	750 x 400	1310 x 400	1880 x 400
Casing length (in mm)	610 – 830 – 1100 – 1400: Four standardised lengths of casing, automatically adapted to the components and options selected		

610 mm module ► 1 x 540 mm door
830 mm module ► 1 x 595 mm door

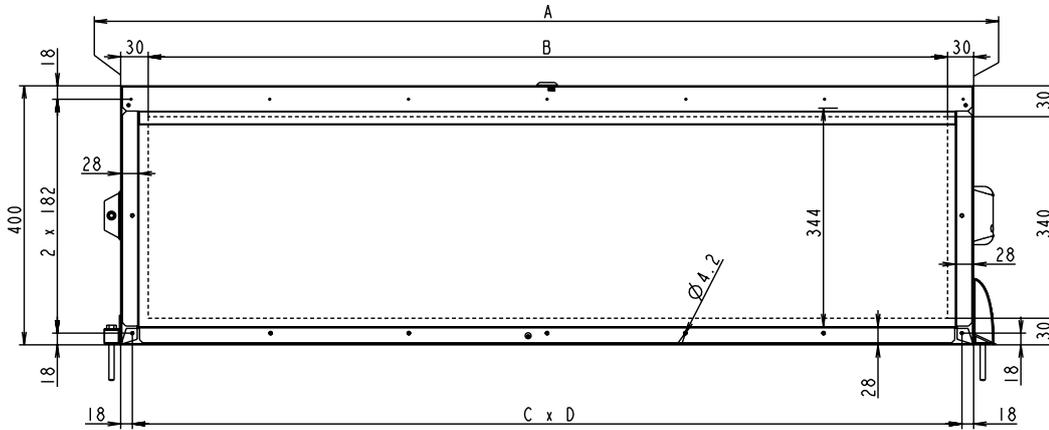
1100 module ► 1 x 595 mm door + 1 x 435 mm door
1400 module ► 1 x 595 mm door + 1 x 735 mm door



AIR CONNECTION

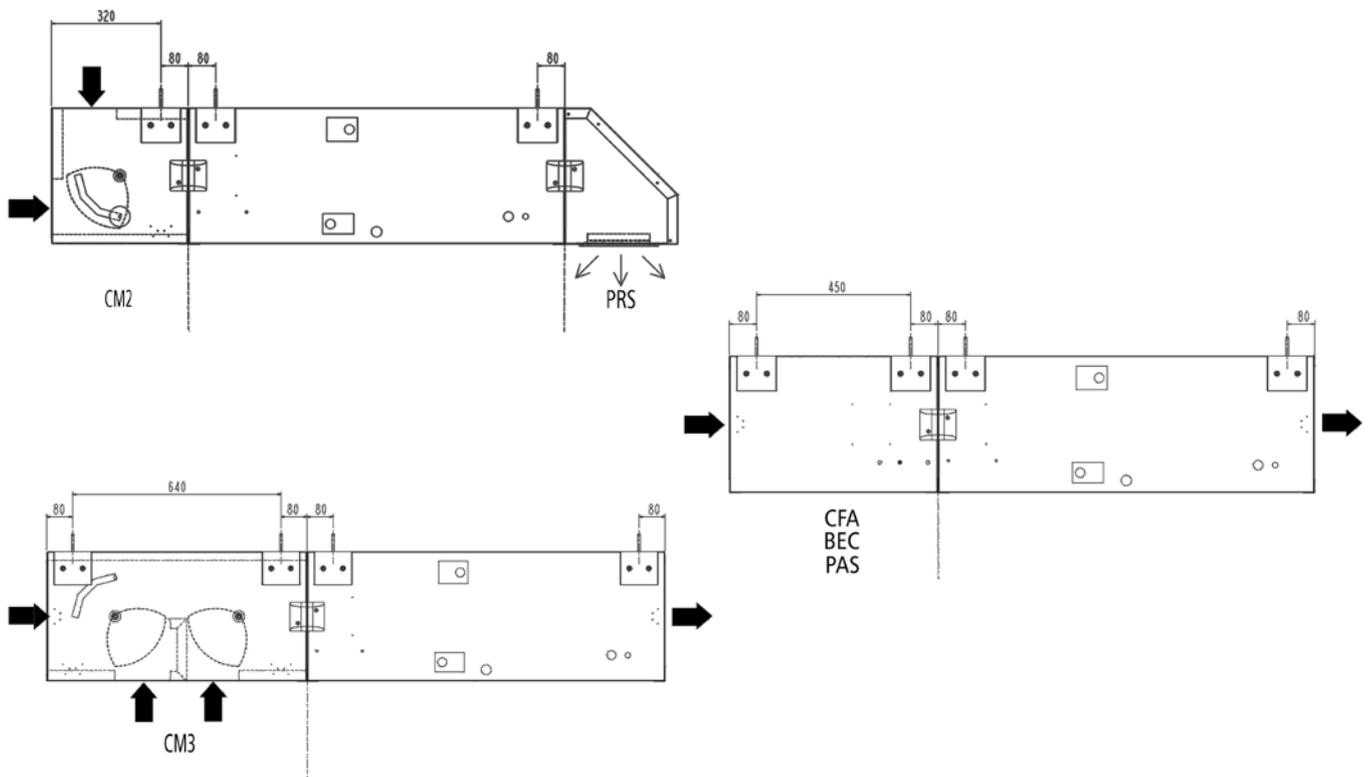
■ Air connection

Air connection AHU intake - AHU discharge - Mixing and plate heat exchanger



	A	B	C	D
AIR COMPACT 25	750	690	3	238
AIR COMPACT 40	1310	1250	6	212,3
AIR COMPACT 60	1880	1820	8	230,5

■ Examples of compositions



This document is not legally binding. As part of its continuous drive to improve its equipment, CIAT reserves the right to make any technical modifications without prior notice.
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