



 United Technologies

PRODUCT GUIDE



- The modular Ultra-Slim AHU is the guaranteed perfect solution
- Ideal for a compact installation
- Available in single-flow or aligned or adjacent dual-flow versions

Compact air handling unit

39CQ

USE

The **39CQ** 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 several versions: single-flow, aligned dual-flow, adjacent dual-flow.

The 39CQ AHU is used for fresh air change, air recirculation, air extraction and air handling using its filtration, heating, cooling, recovery and ventilation functions...

There are three different installations in the range, so it can be adapted to meet your needs:

- 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 three sizes to meet all your needs, able to handle air flows from 1 000 to 6 000 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 39CQ range comprises 3 sizes from 1000 to 6000 m³/h. There are four standardised lengths of casing, adapted to the configuration and options selected.

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

39CQ		025	040		060
Assembly		Ceiling-mounted (C), Floor-mounted (F), Vertical (V)			
Width/Height		750*400	1310*400		1880*400
Nominal air flow (m ³ /h) (Speed: 3.1 m/s across finned layer)		2000	4000		6000
"Asynchronous motor NPL technology"	Plug fan	1	1	2	2
	Electric motor	1	1	2	2
	Available power	0.55 kW - 4-pole/1.1 kW - 2-pole/1.4 kW - 2 pole			
	Number of inverters	1	1	1	1
"EC motor EBM technology"	Plug fan	1	1	2	2
	EC motor	1	1	2	2
	Available power	1 kW			
Pleated filters		G4 / M5 / F7 HEE / F9 HEE			
Opacimetric filters (Short flexible pockets)		M6 / F7			
Opacimetric filters (Rigid pockets)		M6 / F7 / F8 / F9			
Hydraulic heating coil		1/2/3 rows	1/2/4 rows		1/2/4 rows
Hydraulic cooling coil		3/4/6 rows			
Direct expansion cooling oil		3/6 rows			
Electric heating coil		15 kW	24 kW		33 kW
Adjacent plate heat exchanger		Yes	Yes		No

DESCRIPTION

Casing

Double-skin panels made from sheet steel, galvanised on both sides, thickness 8/10 mm
RAL 7035 lacquer coated finish on external panels
M0/A1 fire rating
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
Damper in choice of sealing class 1 or 3, as per EN 1751
Damper thickness 110 mm and height 310 mm
Optional servomotor

Filtration

Filter cell with universal dimensions
Three filtration stages possible per air flow rate
Pleated filters in efficiency class G4, M5, F7 and F9 HPE
Short bag filters in efficiency classes M6 to F7
Rigid bag filters in efficiency classes M6 to F9
Pressure tapping as standard on each filtration stage
Option, pressure switch, pressure gauge, ...

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

Ventilation

"Plug Fan" type direct drive FMA.
1 or 2 FMA for each air flow rate, depending on the size and conditions.

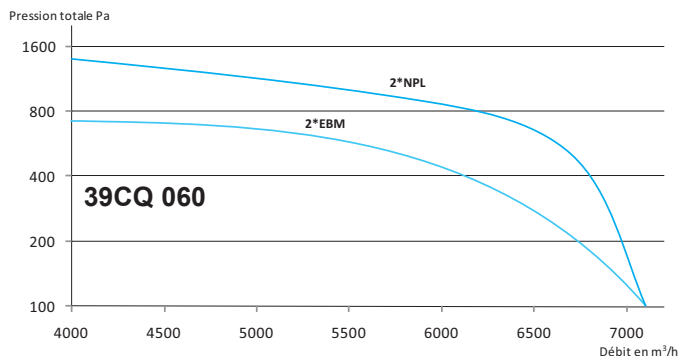
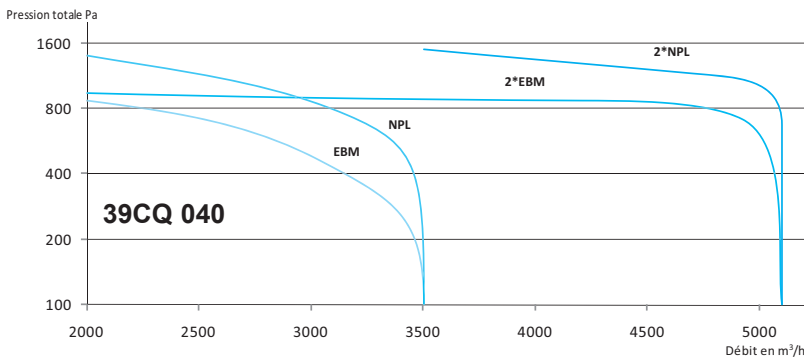
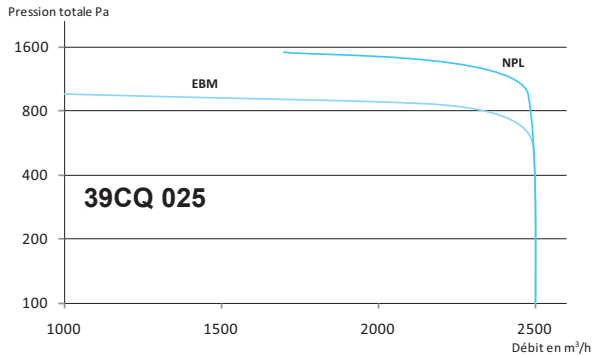
Electric heater

Shielded resistors in scrolled finned pipes
2 high-limit 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
025	2 * 7.5 = 15 kW	2 * 7.5 = 15 kW	4 * 7.5 = 30 kW
040	2 * 12 = 24 kW	2 * 12 = 24 kW	4 * 12 = 48 kW
060	2 * 16.5 = 33 kW	2 * 16.5 = 33 kW	4 * 16.5 = 66 kW

Plug fan combined with a motor at the end of the shaft.
AC motor with optional frequency inverter.
EC motor (electronically commutated motor with built-in variable speed control).

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Assembly		Ceiling-/floor-mounted/vertical			
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	Electric motor	1	1	2	2
	Available power	0.55 kW - 4-pole/1.1 kW - 2-pole/1.4 kW - 2 pole			
	Number of inverters	1	1	1	1
"EC motor EBM technology"	Plug fan	1	1	2	2
	EC motor	1	1	2	2
	Available power	1 kW			



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 (sizes 025 and 040 only)
 Control

- surface-mounted electric heater unit, or delivered unassembled
- control by factory preprogrammed controller, algorithm created in-house
- hand-held cabled micro-terminal
- fault summary contact
- control by constant flow/constant pressure/CO₂
- pressure and temperature sensors, depending on the selection
- numerous options and functions available

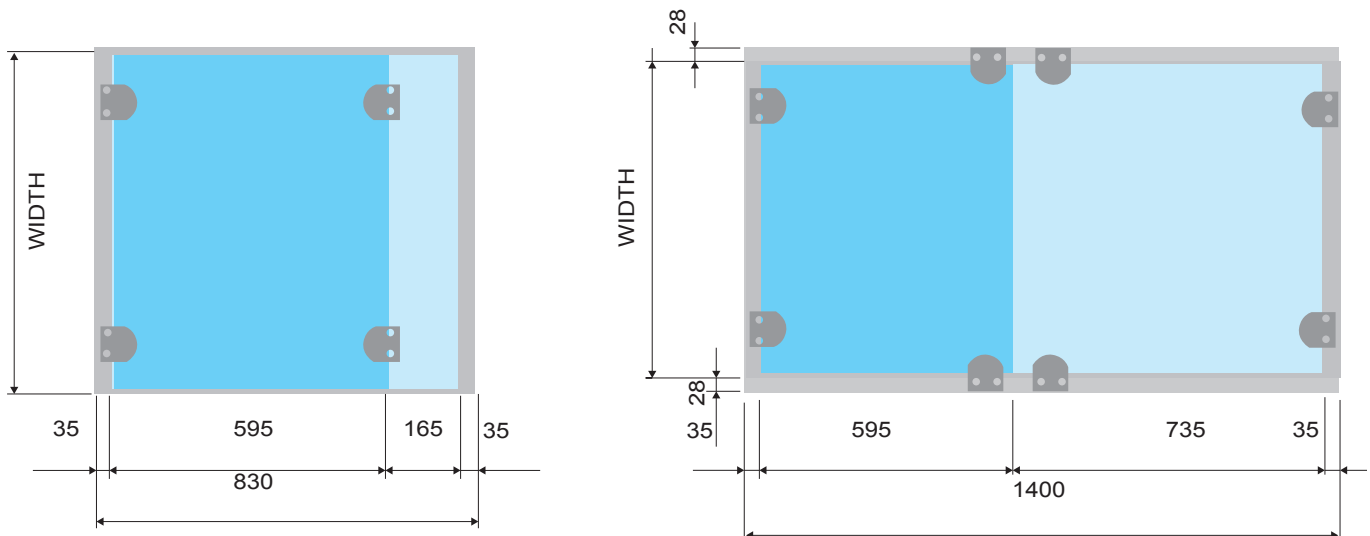
Control

- Electrics box for power, control and internal regulation of the unit, comprising as standard:
 - 3-ph 400 V power supply + Earth
 - main disconnect switch
 - protected transformer
 - protection and control of all electrical components by a circuit-breaker and contact switch
 - peripheral options and power terminal block

SPACE REQUIREMENTS AND DIMENSIONS:

DIMENSIONAL SPECIFICATIONS			
AHU size	025	040	060
External dimensions (in mm)	750 * 400	1310 * 400	1880 * 400
Casing length (in mm)	610 - 830 - 1100 - 1400: Four standardised lengths of casing, automatically adapted to the components and options selected		

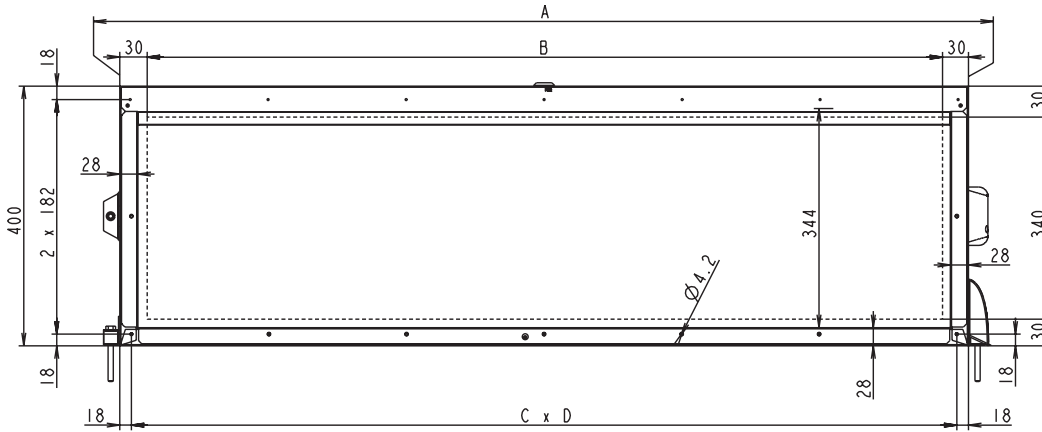
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|----------------|-------------------------------------|
| 610 mm module | ▶ 1 x 540 mm door |
| 830 mm module | ▶ 1 x 595 mm door |
| 1100 mm module | ▶ 1 x 595 mm door + 1 x 435 mm door |
| 1400 mm module | ▶ 1 x 595 mm door + 1 x 735 mm door |



AIR CONNECTION

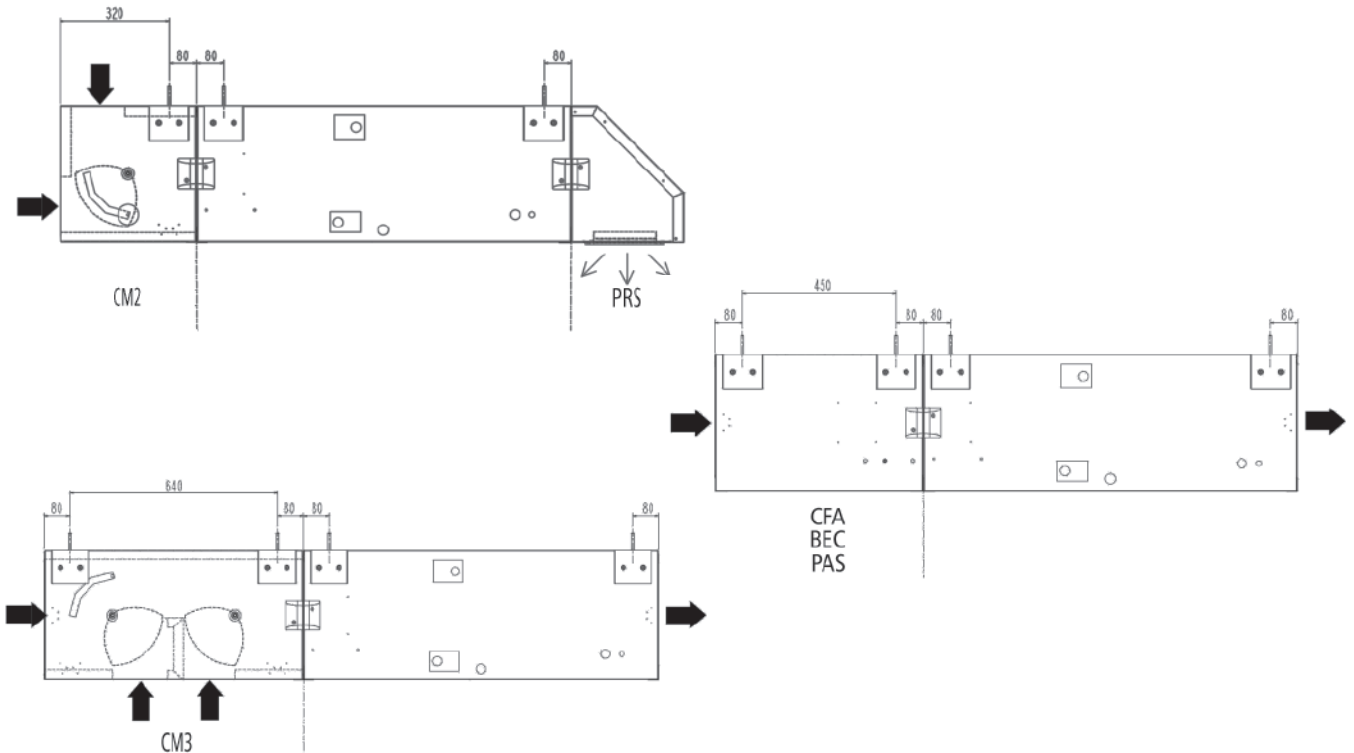
■ Air connection

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



	A	B	C	D
39CQ 025	750	690	3	238
39CQ 040	1310	1250	6	212,3
39CQ 060	1880	1820	8	230,5

■ Examples of compositions





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The manufacturer reserves the right to change any product specifications without notice.



Quality and Environment
Management Systems
Approval

Produced for Carrier in France.
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