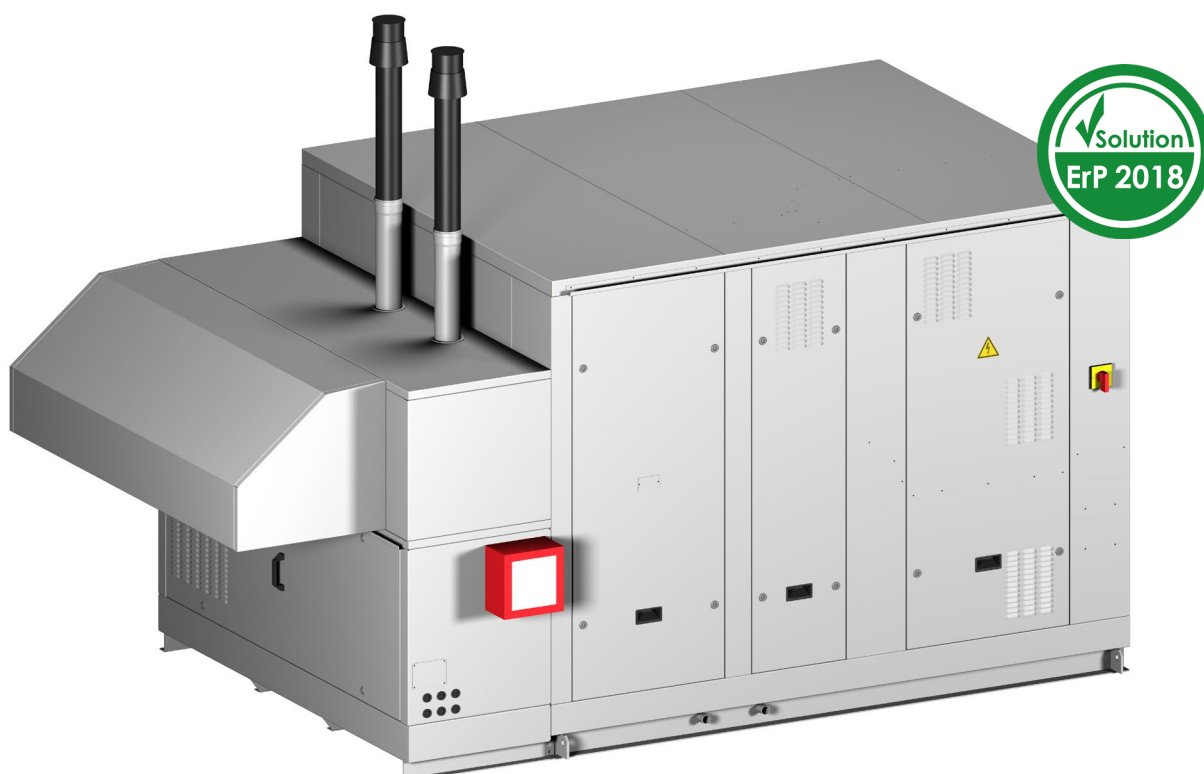
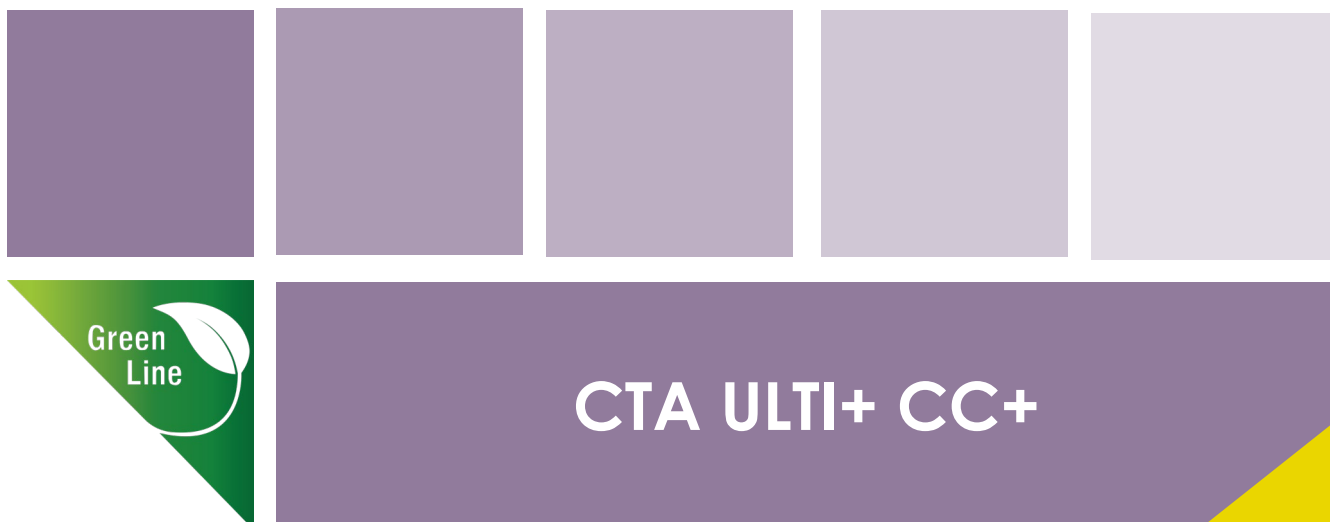




ENVIRONMENTAL
CLIMATE CONTROL
EQUIPMENT & SOLUTIONS



Single Flow Air Handling Unit with condensing boiler(s)



www.ett-hvac.com

CTA ULTI+ CC+ from THE ULTIMA Green Line CTA range

The **CTA ULTIMA Green Line** is the new **modular range** of **ETT next generation** CTA. It combines material quality, acoustic performance, energy savings, regulation and next-generation connected components to keep units running at peak performance.

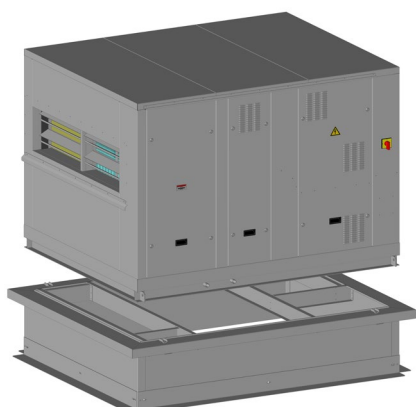
For floor standing, the CTA ULTIMA Greenline comes with its support feet. But the peculiarity of this CTA is that it can also be installed on **roof curb** with supply and return air from below through **the roof**.

The range has been completely designed to meet the constraints of weight and dimensions that we encounter on renovation sites, replacing existing units.

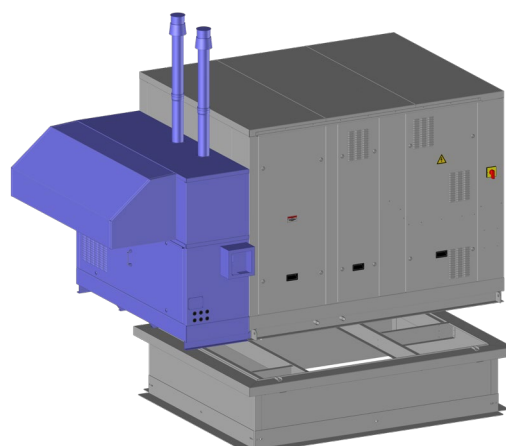
The CTA ULTIMA GREENLINE range is modular: The basic single stream version (CTA ULTI+) can be equipped with a housing comprising one or more condensation boilers (CTA ULTI+ CC+) in order to adapt the unit to climatic constraints and/or site requirements.

INSTALLATION ON ROOF CURB through the roof

CTA ULTI+



CTA ULTI+ CC+
Condensing boilers module

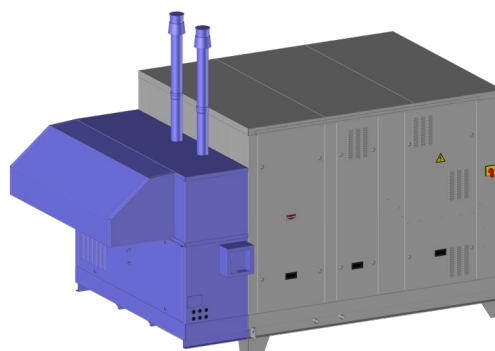


INSTALLATION ON FEET, Ground level

CTA ULTI+



CTA ULTI+ CC+
Condensing boilers module



ErP: CTA range single flow



At the root of ErP: Directive 2009/125/EC

When they adopted the KYOTO protocol, the Member States of the European Union (EU) voted a set of measures known as the “energy-climate package”, aiming at, before 2030:

- ✓ Reduce greenhouse gas emissions by 20%
- ✓ Reduce energy consumption by 20%
- ✓ Increase the share of renewable energy in final energy consumption to 20%

This directive applies to all products using energy or having an impact on energy consumption. It includes a “**bunch of regulations**” that sets performance requirements for each type of product.

Regulation (EU) 2016/2281 on cooling products, high temperature process chillers and fan:

- 1 January 2018
- 1 January 2021

Date of application of EU 813/2013 on space heaters and combination heaters:

- 26 September 2015
- 26 September 2017

Date of application of EU 1253/2014 for ventilation units:

- 1 January 2018



Regulation (EU) 1253/2014 on ErPs

Units involved:

- **CTA SF** Single Flow Air Handling Unit
 - The **CTA ULTI+** and **CTA ULTI+ CC+** included in the ETT range



Nota: To the exclusion of:

- Ventilation units used for applications related to the industrial/manufacturing process
- CTA is equipped with a heat pump (thermodynamic system)
ex: Ranges "**DESHU**" and "**PACARE**" from ETT

Requirements for Single Flow UVSF+ non-residential ventilation units

1 - Requirement thresholds for

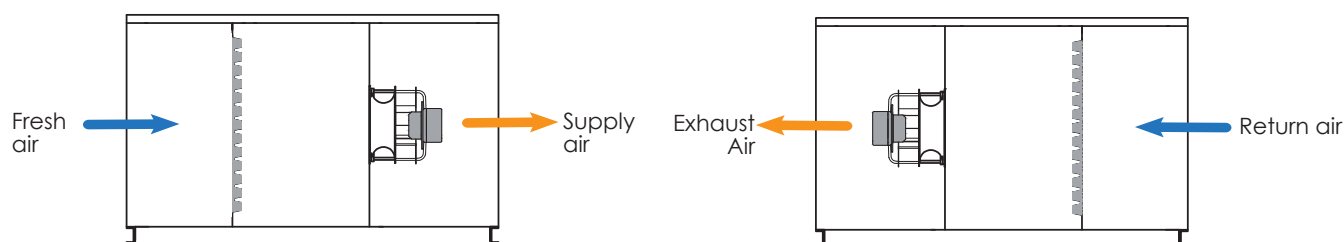
Requirement thresholds for SFVUs		1 January 2016	1 January 2018
Fan minimum efficiency $[\eta_{v0}]$	$P < 30 \text{ KW}$	$6.2 \% \times \ln (P) + 35 \%$	$6.2 \% \times \ln (P) + 42 \%$
	$P > 30 \text{ KW}$	56.1%	63.1%
Internal SFP (reference configuration) $\text{SFP}_{\text{int max}} [\text{W}/(\text{m}^3 / \text{s})]$		250	230
Multi-speed or variable speed motor		Yes	Yes
Light signal or alarm in case of filter fouling $> \Delta P_{\text{max}}$		-	Yes

The requirement thresholds shall be calculated in relation to a reference configuration.

2 - Reference configuration

The unit shall be a single flow air handling unit (fresh air or exhaust air), including:

- ✓ A unidirectional air flow box
- ✓ A clean F7 filter
- ✓ At least one variable-speed drive or multi-speed motor fan



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General description

The **ETT** packaged unit is delivered ready to operate. Its full aluminium structure (frame and casing), ensures an excellent corrosion protection (20-year anti-corrosion guarantee).

Aluminium facilitates the REFURBISHMENT of machines for a second life, unlike a steel structure.

Our technical choices have a major impact on the environment

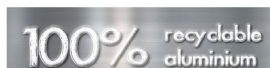
• DECARBONATION:

ETT is committed to an ambitious approach to reducing greenhouse gas emissions:

- Reducing the energy consumption of our machines
- Fluid refrigerants with low GWP
- Energy monitoring & AI
- Adiabatic cooling
- Development of machine retrofits

• ALUMINIUM : PERFORMANCE AND DURABILITY!

- Lightweight: 3 times lighter than steel
- Corrosion resistant and long lifespan
- Thermal performance
- 100% recyclable indefinitely
- Facilitates the refurbishment of our machines



• ECO-DESIGN:

Our technologies are designed with sustainability in mind, reducing their environmental impact throughout their life cycle.

• LOW-POLLUTION MANUFACTURING PROCESS:

- Selective sorting: 80% recovery rate
- No paint or solvents

• END OF MACHINE LIFE:

In compliance with regulations, ETT is a member of the Ecologic eco-organisation for the end-of-life processing of machines, which are 98% recyclable.



• ETT CERTIFICATIONS

▪ **CSR assessment:** ECOVADIS Gold Medal for our CSR approach



▪ **ISO 14001 & ISO 9001 certification :** our Quality and Environmental Management System



▪ **Certificate of competence for handling refrigerants**

▪ **Membership of the UN Global Compact**

▪ **Qualiopi certification** for our training centre



As a positive-impact company, ETT contributes to a more sustainable world through its decarbonising products and services.

CE In addition, each unit is delivered with a certificate of conformity to EU standards and complies with the following standards:

- Machinery Directive 2006/42/EC - Operator's safety
- Low Voltage Directive (LVD) 2014/35/EU - Electricity
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Regulation (EU) 2016/426 – Gas appliances
- Standard NF EN 60204 -1- Electrical appliances
- Standard EN 378-2 : 2017 – Safety and environmental requirements
- PED Directive 2014/68/EU (in accordance with Articles 2.10, 2.11, 3.4, 5a and 5d of Annex 1) - Pressure equipment
- EcoDesign regulations ErP UE 2281/2016

20-year guarantee
against corrosion
frame - casing



Unit description

Ecodesign filtration

Low pressure drop.

Fouling analogue control.

ISO Coarse 65% (G4) options refillable
ISO ePM10 50% (M5),
ISO Coarse 65% (G4)+ISO ePM1 50% (F7),
ISO Coarse 65% (G4)+ISO ePM1 80%(F9),
ISO ePM1 50% (F7),
ISO ePM1 80%(F9).

Aluminium frame and casing

Optimised tightness and thermal insulation.

Reduced weight, for new and renovation projects.

Numerous available arrangements.

20-Year anti-corrosion guarantee.

Waterproof electrical enclosure

Separate electrical plate in IP44 waterproof housing for added safety.

Connected components

Optimum unit operation.
Connection to myETTVision communication platform possible



Condensing boiler(s)

Highly modular capacity with 1 to 4 boilers module.

Thermal exchangers

Exchange optimized for better energy performance.

Vinyl option available.

Internal fans

Variable speed fans with flow measurement.

Communicating, direct transmission, electronically commutated " EC", optimum performance and low acoustic level.

Low Noise option available.

AFC option available Level 3 with flow rate auto-adjustment.



New generation controller with display

Control enabling optimum operation in all conditions.

20-year guarantee
against corrosion
frame - casing

Unit description

ENERGYSaving

The CTA ULTIMA range Green Line is an efficient, economical and environmentally friendly solution for buildings heating and air conditioning.

By its design, CTA ULTI+ has **precise regulation of aero and thermal parameters** for an optimal and continuous energy performance throughout its years of operation.

PREMIUMProcess and component quality

- **Sustainable and recyclable equipment: Aluminium body and frame**, 100% recyclable, 20 year corrosion proof warranty.
- Non polluting manufacturing process.
- Replacement of units possible by keeping the existing roof curbs.
- Reduced unit size and weight

Accessibility and flexibility

- **Separate technical compartment** from the air vein allowing intervention on the PLC without having to switch off the unit.
- **Easy access** to coils and filters via removable panels.
- **Widechoice of power ratings** to suit the needs of each project
- **Numerous airflow configurations** to meet integration requirements.

Connected components New Generation PLC

- Allows communication between units.
- Sending technical data from the units to an external server to allow optimum remote control with myETTVision



Inside air quality

- Eco-concept filtration up to ISO ePM1 80% (F9) possible.
- CO₂ sensor to control fresh air supply
- **Quick and easy filter replacement.**

ETT goes the extra mile...

Installation

Outdoor on roof (with roof curb) or floor (on feet).

ETT services

- 5-year guarantee as standard
- A team to guide you from commissioning to operational support
- Manufacturer visits and audits
- Installation optimisation and retrofit
- Service contracts
- Staff training
- Access to the ETT Services hotline

Acoustic performance

IMPORTANT POINT

- **New generation variable-speed fans.**

Because environmental noise reduction is essential, our **standard** self-contained units **are designed to meet your acoustic requirements.**

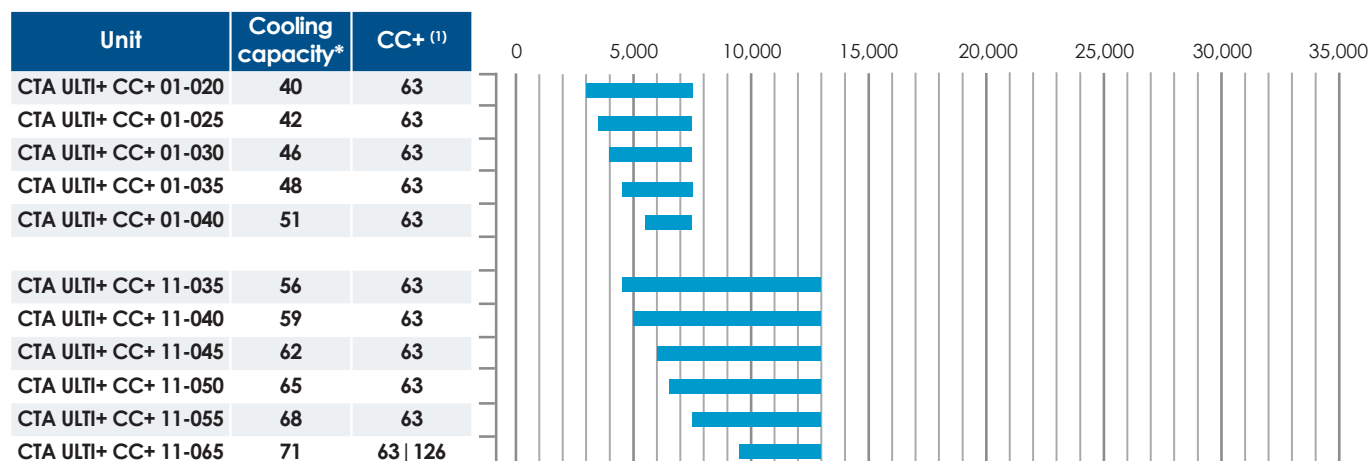
myETTVision platform

myETTVision allows you to control and optimize your installation remotely.

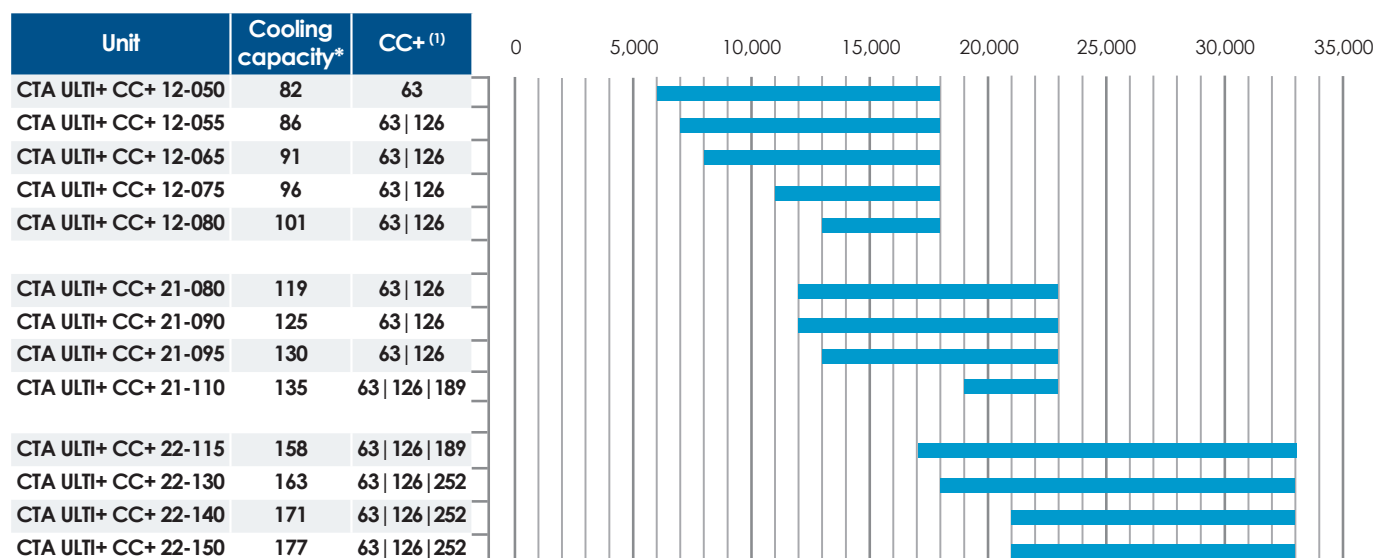
Unit description

A WIDE RANGE

Flow rates [m³/h]



Flow rates [m³/h]



* New all fresh air operation at 35°C / 40% conditions with a water temperature of 5°C / 10°C at nominal flow.

⁽¹⁾ heat output per condensation boiler

Consult ETT for performance under different climatic conditions or water temperatures and at specific flow rates.

Operating principles

The unit operates by heat exchange:

- > Source: Chilled water loop, hot water loop and/or electric coils
- > Processed fluid: return air and fresh air

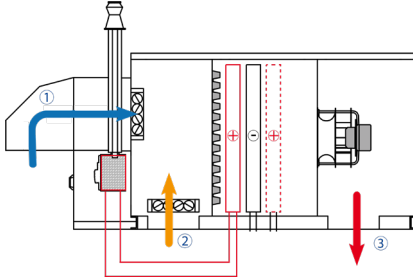
The following operating modes are available:

- > Heating
- > Cooling
- > Free Cooling: cooling with outside air

In these modes, the unit can operate:

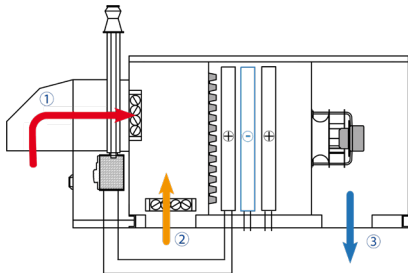
- > With all recirculated air
- > With all fresh air
- > Fresh air + return air

Heating mode



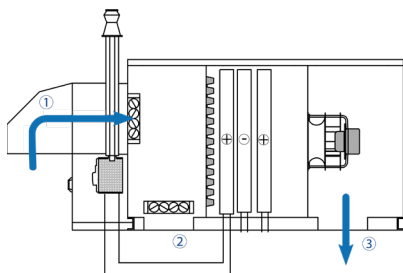
Heating mode: In winter, comfort temperature is maintained thanks to the hot water coil and/or to the boiler(s) system.

Cooling mode



Cooling mode: In summer, comfort temperature is maintained thanks to the chilled water coil.

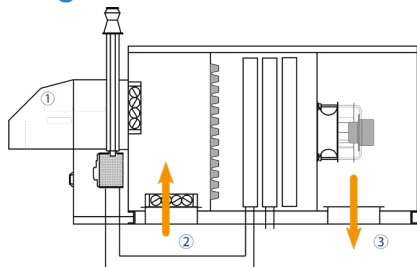
Free Cooling mode



Free Cooling mode: In mid-season, comfort temperature is maintained using in priority the difference between outside air and inside air to cool the building.

Free Cooling **allows considerable savings** by delaying the use of water coils.

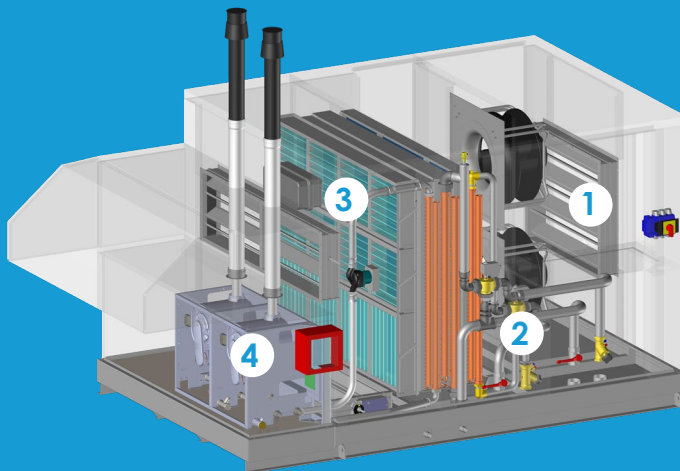
Recycling mode



Recycling mode: De-stratification of the volume treated by recycling, where the recovery temperature is significantly higher than the room temperature in winter and the CO2 sensor does not indicate a need to introduce fresh air.

① Fresh air ② Return air ③ Supply air

Detailed components



The CTA ULTI+ CC+ unit comprises 4 different sections:

- 1 a sealed, air-flow insulated electrical compartment (IP44).
- 2 a separate technical compartment containing the refrigerating and regulating components.
- 3 the body of the unit incorporating the filters, coils and fans.
- 4 a separate housing comprising the condensation boiler(s) and their regulating components.

aluminium frame-body assembly :

- **Motorised**, aluminium, low pressure drop **2-damper mixing box** with class 3 upstream/downstream airtightness and class B frame airtightness (according to EN1751), the CTA ULTI+ offers:
 - ✓ Optimum fresh air supply proportions, thanks to the CO₂ sensor.
 - ✓ Switching to Free Cooling mode.
- **Watertight floor** with drainage outlets around the unit, connected to rubber siphons.
- **Aluminium vertical panels and roof, mounted on aluminium frame.**
 - ✓ Perfect weather resistance, 20-year anti corrosion guarantee on casing.
- **Access via removable panels sized** for ease of service. Doors tightness is ensured by a flexible gasket under compression, providing ideal sealing day after day.
- A separate **technical compartment** that facilitates maintenance and control of the unit, enables measurements to be taken and settings to be fine-tuned during operation.
- **Sound and thermal insulation provided by rock wool from 80 mm to 100 mm** (classification M0) in the chassis and **by glass wool from 50 mm** (classification M0) in accordance with **the regulations on ERP** (article CH36) **at the walls and roof.**
- Optional rain proof cowl on fresh air (to be fitted by the installer).

Air assembly:

- **Eco-design type filtration**, easily dismantled - ISO Coarse efficiency 65% (G4) in pleated media **98 mm** to increase filter life and reduce pressure drop, fouling controlled by analogue pressure switch.
- **Various filtration levels available** to suit your project needs: ISO Coarse 65% refillable (G4) 98mm, ISO ePM10 50% (M5) 98mm, ISO Coarse 65% (G4) + ISO ePM1 50% (F7) 48+48mm, ISO ePM1 50% (F7) 98mm, ISO Coarse 65% (G4) + ISO ePM1 80% (F9) 48+48mm, ISO F9).
- **Replacement filter sets can be ordered.**
- **Last generation internal fans (High Energy Performance):**
 - ✓ Direct transmission (gain on maintenance, reliability and consumption);
 - ✓ Equipped with a variable speed "EC" electronic switching motor . The commissioning of the unit is simplified thanks to the presence of an analogue air flow controller (AFC).
 - ✓ With an aluminium wheel design,
 - ✓ Communicating for real time operation adjustment.
 - ✓ Integrated Soft Starter system for reduced starting current and soft start (textile ducting).
- **AFC option level 3** allowing the automatic adaptation of the supply air flow to compensate for the increase in filter fouling.

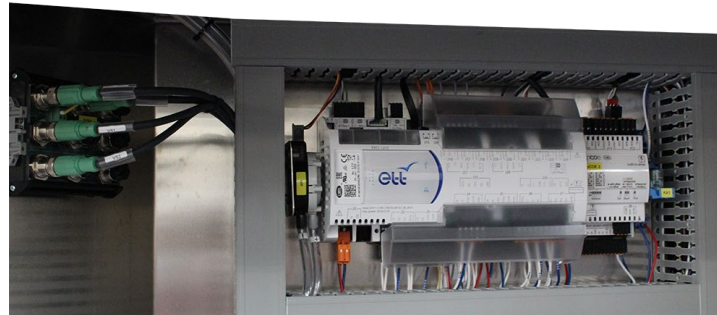
Detailed components

Energy package :

- **Internal exchangers:** Hot water coil powered by condensation boiler(s) + chilled water coil with external power supply + recovery water coil or hot water coil with external power supply, made of copper tube, aluminium fins and aluminium frame. These coils can be supplied with hot and chilled water to operate in Heating or Cooling mode.

Electrical assembly in a sealed compartment (IP44):

- **Electric stage** in accordance with NF EN C 15-100 and NF EN 60204-01 comprising:
 - ✓ An ETT (native RS485 Modbus protocol) PLC that can be connected to the optional ETT Control Box remote display or to a GTC.
 - ✓ Power switch with lockable external handle for full load cut-off Connection using standard universal cable.
 - ✓ A 400-230-24 volt transformer for control circuits.
 - ✓ Fault synthesis with pending dry contact on terminal
 - ✓ Numbered terminal blocks with disconnecting terminals for remote controls and transfers.
 - ✓ Internal wiring with numbered ferrules at both extremities
 - ✓ An Ik3 breaking capacity of 10 kA basic.
 - ✓ All components protected by circuit breakers.
 - ✓ A phase controller.



- ✓ **The LV distribution voltage rating** is governed by the Interministerial Order of 24 December 2007. This sets the nominal voltage level at 230/400 V. It defines minimum and maximum values that are acceptable at a user's point of delivery (average value over 10 ml), corresponding to a range of -10 % / +10 % around the nominal values. They also define the maximum acceptable value of the voltage drop gradient to 2%. This is the additional voltage drop generated at a point in the network if 1 single phase kW is added at the same point.
- **Optional copper/aluminium connection boxes.**

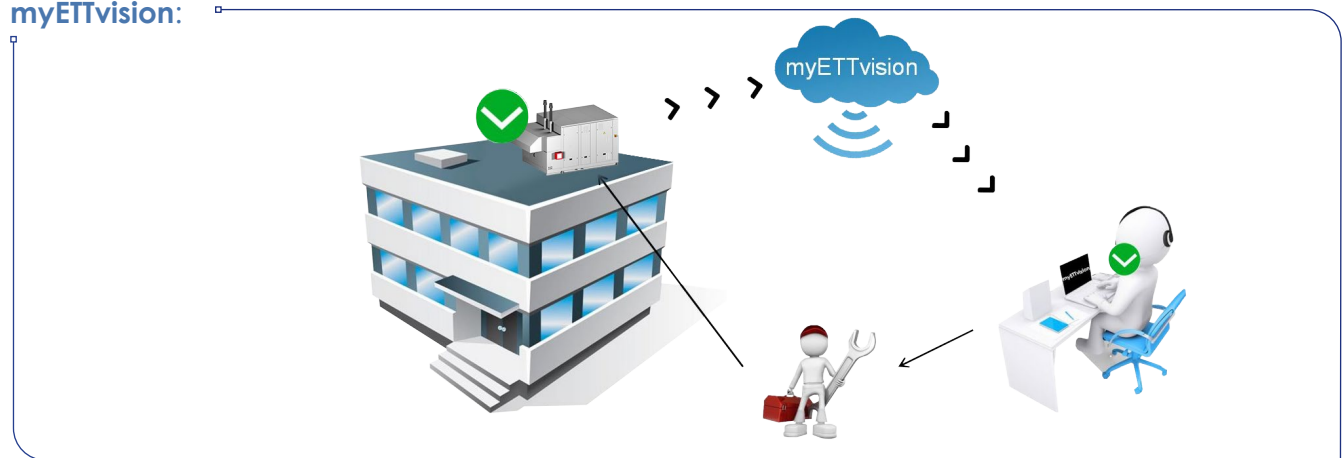
Advanced control assembly:

- **One or more BEST controllers** (Building Energy Saving Technology) especially developed by ETT for this range of units. Programs are updated annually in order to add functions requested for some applications and to optimise units power consumption.
- The controller is in a plastic box that guarantees a high mechanical protection and reduces electrostatic shock threats.
- **The controller has also the following functions:**
 - ✓ **On/Off with remote contact** or vacancy contact.
 - ✓ **On/Off according to programmed schedule** (2 time slots per day).
 - ✓ **Fault overview** with dry contact for transfer to customer system.
 - ✓ **Monitoring, diagnostic and security and fault management** (freezestat, smoke detector, fire thermostat, ...), with written fault history.
 - ✓ **Operating time counting** (unit and auxiliaries).
 - ✓ **Electrical energy metering**, with distribution of power consumption according to operating modes.
 - ✓ **Position Free Cooling**, cooling with outside air.
 - ✓ **Function Prohibition of Free Cooling by weight of water** comparison, optional, to limit latent intakes in Free Cooling phase by comparison of indoor and outdoor water weights.
 - ✓ **De-stratification** (comparison between ambient and outdoor temperature).

Detailed components

- ✓ **Economy mode or Comfort mode controls available.**
- ✓ **Air quality control with CO₂ sensor** to optimise fresh air quantities and reduce energy consumption.
- ✓ **Temperature control with 2 setpoints for Cooling/Heating mode according to 2002/91/EC Directive: reactivity, accuracy and anticipation.**
- **CTN type temperature probes.** Their accuracy and reliability have been tested and validated both at the factory and on site.
- **Optional Filters fouling analogue control (FFAC)**, fouling measurement and indication on the controller enabling preventive filter replacement for optimum air quality and reduced consumption.
- **Analogue Air Flow Controller (AFC)**, for measuring and indicating the air flow of the supply air fans on the PLC, with optional self-adaptation of the air flow, in particular to compensate filter fouling (AFC Level 3 option).
- **Optional MyETVision remote communication platform** allowing access to parametrization, operation and energy monitoring, access to faults in your fleet of units.

myETVision:



Additional heating equipment - CC+ module:

- **Premix type condensing boiler** compliant with the 2009/142/EC directive on gas appliances.
- **High power modularity** with 1 to 4 condensation boilers with an efficiency of 98% to 108% PCI.
- **Battery Hot water**, fed by the condensation boiler(s), placed in the supply air vein
- **Circulation pump.**
- **Expansion tank.**

This equipment ensures exchanges between two separated circuits:

- **Smoke circuit** with concentric flue to separate smoke evacuation from air supply, except for applications < -20°C (supplied by ETT, to be mounted by the installer).
- **Anti-acid syphons** for draining condensate.
- **Control board** to constantly monitor boiler securities.
- **Differential pressure switch** to control boiler operation.
- **Water outlet/inlet temperature probes.**
- **Water flow regulator.**
- **One controller** for all boilers' electronic cards to modulate capacity from 30% to 100%.

The module controller and the rooftop unit controller are wired in order to adjust the air flow rate and capacity according to requirements.

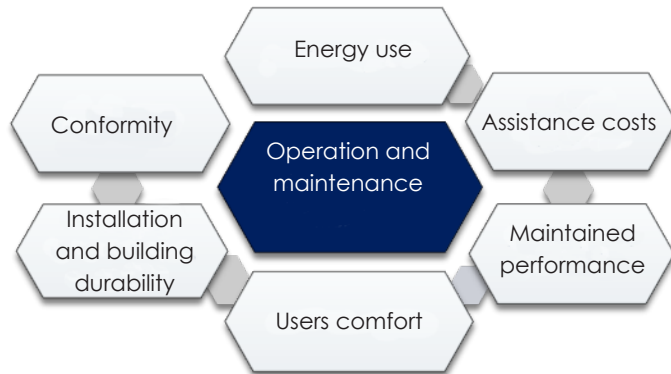
CTA ULTI+ CC+ operational advice

OPERATION: COSTS, PERFORMANCE AND GUARANTEES

Equipment installation and optimisation have a major impact on **units total cost**.

They affect 3 levers:

- **Total cost**
 - ✓ Purchase and Implementation (20-25%)
 - ✓ Operating costs (75-80%)
- **Installation efficiency**
 - ✓ **Operating cost**
 - ✓ **Users' comfort**
 - ✓ **Durability**
 - ✓ **Availability**
- **Conformity**
 - ✓ **Regulations**
 - ✓ Manufacturer's guarantee



Equipment operation and maintenance must ensure **regulatory compliance**, starting with commissioning. Operating instructions aim at optimising unit performance and settings. Also, the validity of the guarantee is conditional upon strict compliance with these instructions.

Periodic checks must include, at least:

- **Technical features control and setting** (safety devices, ventilation, connections circuits, etc.)
- **Control adjustment** (setpoints, operating schedule, advanced parameters, etc.)
- **Technical and regulatory checks:**
 - ✓ Filters replacement, 2 to 4 times a year depending on the type of filters and installation environment
 - ✓ Sensor element control and replacement for humidity sensors, CO2 sensors and smoke detectors.
- Related equipment control and maintenance (diffusion networks, probes condition, etc.)

ETT services allow **trouble-free operation of your equipment** and guarantee **optimum performance** and **regulatory compliance** of the installation.

Main options

Frame - Casing	<ul style="list-style-type: none"> Aluminium double skin in internal section Painting Vertical supply air (V) Supply air on side Supply air on end Return air on side External damper powered by blowing except blow down (CH38 - Directive 2006/42/EC)
Acoustics	<ul style="list-style-type: none"> Fresh air cowl acoustic insulation
Air handling	<ul style="list-style-type: none"> Operation with all recirculated air (excluding Public Buildings) Operation with all fresh air Actuating smoke detector with battery back-up Epoxy coating for supply air fans Filters fouling analogue control (FFAC) Analogue air flow controller (AFC Level 3) with supply air fans flow rate auto-adjustment Pressure gauge for supply air filters ISO Coarse 65% (G4) refillable 98mm blow-by ISO filters with analogue sensor EPM10 50% (M5) 98mm on supply air ISO filters with analogue sensor Dual ISO Coarse 65% (G4) + ISO ePM1 50% (F7) or ISO ePM1 80% (F9) (48 + 48mm) supply air filters with analogue sensor ISO EPM10 55% (F7) 98mm on supply air filters with analogue sensor ISO EPM10 80% (F9) 98mm on supply air filters with analogue sensor A set of replacement filters Fresh air cowl extension
Energy	<ul style="list-style-type: none"> Hot water coil with external power supply and analogue anti-freeze thermostat Chilled-water coil with external power supply and analogue antifreeze thermostat Recovery water coil with external power supply and analogue antifreeze thermostat Vinyl coating on exchanger Progressive 3-way valve for hot and chilled water coil. Stop valve on outlet + TA regulating valve on inlet for hot and chilled water coil. Electric heaters auxiliary
Electricity	<ul style="list-style-type: none"> Total electrical energy metering according to 2002/91/EC Aluminium/copper connection terminal block (aluminium mandatory for power cables) 230V / 16A single phase PC socket in the technical room (separate power supply at the cost of the installer) IT earthing system compatibility Cable protective cowl for outside power supply (to be mounted by the installer)
Installation	<ul style="list-style-type: none"> Aluminium adjustable connection roof curb Aluminium adaptation connection roof curb Aluminium adjustable ventilated roof curb Aluminium ventilated adaptation roof curb Aluminium feet 200, 400 or 600 mm a height.
Control	<ul style="list-style-type: none"> Control function in Comfort mode (setpoint temperatures control by PID) Free Cooling banning based on specific humidity comparison Average room temperature (4 probes) Min. fresh air slaving using turret contact (max. 3)
Gas	<ul style="list-style-type: none"> Connectable gas metering (delivered dismounted - external mounting by the installer). Mounted 30020 mbar gas expansion valve (different according to the types of gas) Condensing boilers used for preheating Condensing boilers used as auxiliaries
Communication	<ul style="list-style-type: none"> myETTvision ETT ControlBox remote display CCAD remote display Modbus IP BacNet IP

	DESIGNATION	Unit	020	025	030	035	040
VENTILATION	FLOW RATES						
	Rated air flow rate	m ³ /h	4,500	5,000	6,000	6,500	7,500
	Minimum air flow rate	m ³ /h	3,000	3 500	4,000	4,500	5,500
	Maximum air flow rate	m ³ /h	7,500	7,500	7,500	7,500	7,500
	SUPPLY AIR VENTILATION ⁽¹⁾						
	Absorbed electrical power	W	207	232	316	361	470
	Efficiency of fans	%	52	53	50	49	47
	SFPint	W/m ³ /s	166	167	189	200	225
	ACOUSTICS⁽²⁾						
	Sound power level on supply air	dB(A)	86	85	78	85	86
COOLING PERFORMANCE	Outside sound power level	dB(A)	78	77	76	76	76
	Resulting outside sound pressure at 10 m, reference 10 ⁻⁵ in free field	dB(A)	50	49	48	48	48
	NOMINAL PERFORMANCE AT +35°C / 40% ON THE EXCHANGER						
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	39,7	41,8	45,6	47,3	50,3
	Refrigeration capacity for a water temperature 7°C/12°C	kW	34,8	36,6	39,8	41,3	43,9
	NOMINAL PERFORMANCE AT +27°C / 47% ON THE EXCHANGER						
PERFORMANCES HEATING	Refrigeration capacity for a water temperature 5°C/10°C.	kW	23,2	24,4	26,6	27,6	29,4
	Refrigeration capacity for a water temperature 7°C/12°C	kW	19,2	20,3	22,1	23,0	24,5
	NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER						
	Heat output for water temperature 80°C/60°C	kW	83.2	88.9	99.1	103.8	112.4
	Heat output for water temperature 55°C/35°C	kW	53.1	56.6	62.8	65.6	70.9
	NOMINAL PERFORMANCE AT 20°C / 50% ON THE EXCHANGER						
GAS GENERATOR	Heat output for water temperature 80°C/60°C	kW	53.4	56.9	63.2	66.1	71.4
	Heat output for water temperature 55°C/35°C	kW	21.5	23.1	25.7	26.8	28.7
CC+ MODULE							
	Heating capacity	kW	63	63	63	63	63
GENERAL	ELECTRICAL DATA						
	Total installed electrical power ^{(2) (3)}	kW			7.4		
	Total installed electrical intensity ⁽²⁾⁽³⁾	A			11.9		
	Starting current ⁽²⁾	A			11.9		
	Maximum absorbed electrical power ⁽²⁾	kW			7.4		
	CASING DIMENSIONS						
	Casing length (excluding options)	mm			2,558		
	Casing width (excluding options)	mm			1,487		
	Casing height (excluding options)	mm			2,126		
	WEIGHT						
	Unit weight without options ⁽²⁾	kg			567		
	Connection roof curb weight	kg			73		
	Standard ventilated roof curb weight	kg			135		

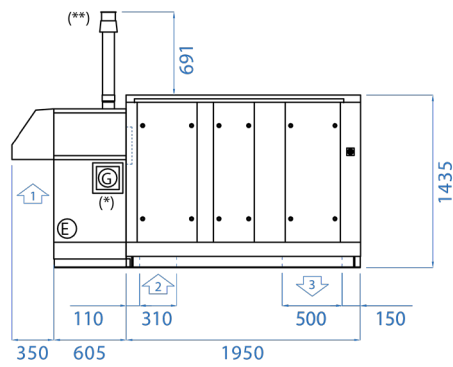
(1) Conditions according to ERP regulation EU 1253/2014.

(2) For a total available pressure of 400Pa.

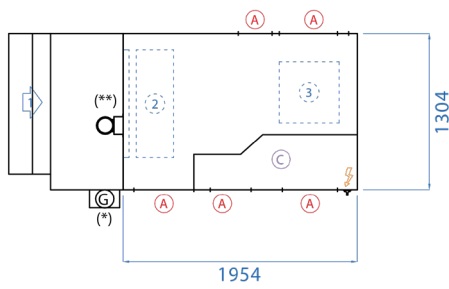
(3) Power to be used for power cables selection. 400V/50 Hz 3-phase power supply + earth without neutral.

SUPPLY & RETURN AIR BELOW

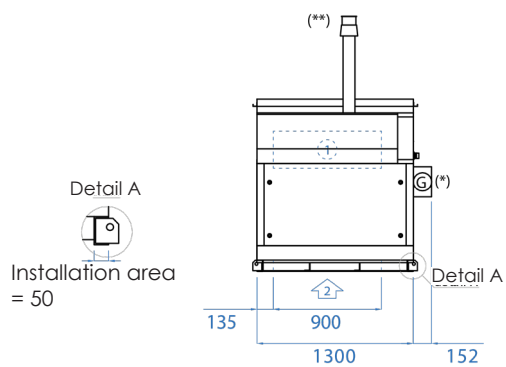
Side view:



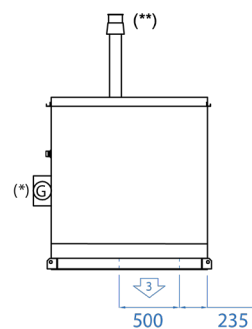
Top view:



Return air side view:



Supply air side view:



- ① Fresh air
- ② Return air
- ③ Supply air
- ⚡ Power supply
- Ⓐ Access
- Ⓒ Technical section
- Ⓔ Condensates evacuation
- Ⓖ Gas supply
- (*) Basic gas box, connection to be made by the installer.
- (**) Number of available chimney ducts: Connection shall be made by the installer.

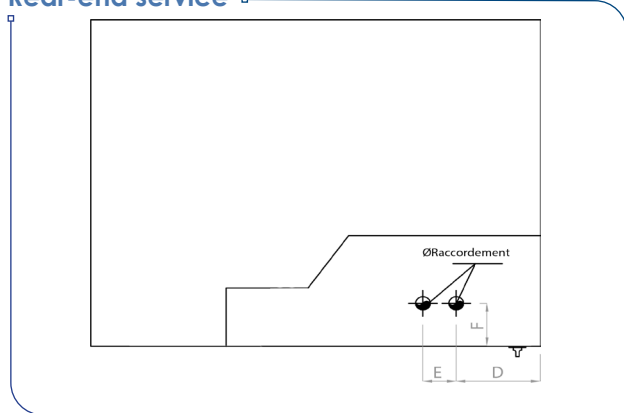
	Length	Width	Height	
Casing dimensions	2558 mm	1487 mm	2126 mm	
Transport overall dimensions	2608 mm	1537 mm	2176 mm	
OPTIONS	Fresh air cowl	2908 mm	1,487 mm	2,126 mm
	Side return air	2,558 mm	1612 mm	2,126 mm
	Recovery	2,558 mm	1937 mm	2,126 mm
	Supply air on side	2,558 mm	2233 mm	2,126 mm

Hot water coil with external connection

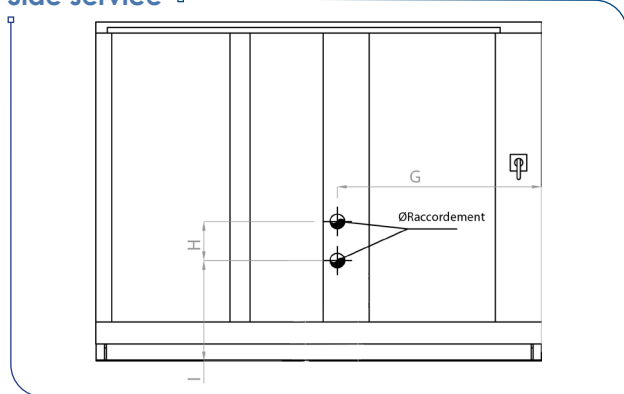
CTA ULTI+ CC+ 01

SCHEMATIC DIAGRAM AND CONNECTION

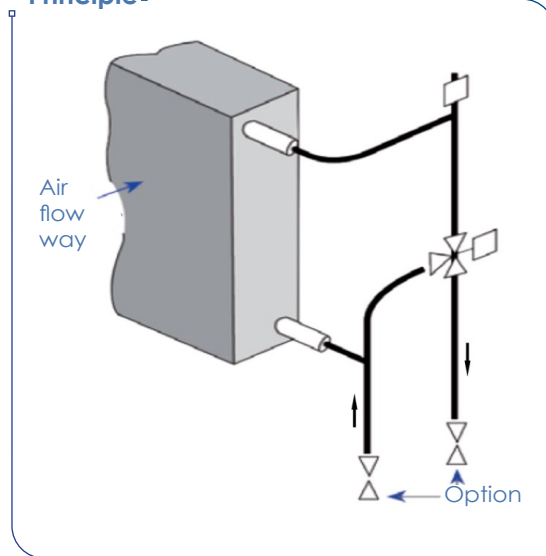
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 01-XXX
Utility background	D	mm	298
	E	mm	163
	F	mm	194
Utility Side	G	mm	802
	H	mm	163
	I	mm	297
Connection	Ø	mm x mm	40 x 49

CAPACITIES

	UNIT	020	025	030	035	040
Flow rate (Nm ³ /h)		4 500	5000	6000	6500	7500
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%						
Heating capacity	kW	83.2	88.9	99.1	103.8	112.4
Water flow rate	m ³ /h	3.7	3.9	4.4	4.6	5.0
Exchanger pressure drop	mWC	1.1	1.2	1.5	1.6	1.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.6	1.8	2.2	2.4	2.8
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.8	2.0	2.4	2.6	3.1
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%						
Heating capacity	kW	53.1	56.6	62.8	65.6	70.9
Water flow rate	m ³ /h	2.3	2.5	2.7	2.9	3.1
Exchanger pressure drop	mWC	0.5	0.5	0.7	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.7	0.8	0.9	1.0	1.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.8	0.8	1.0	1.1	1.3
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%						
Heating capacity	kW	53.4	56.9	63.2	66.1	71.4
Water flow rate	m ³ /h	2.4	2.5	2.8	2.9	3.2
Exchanger pressure drop	mWC	0.5	0.5	0.6	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.7	0.8	0.9	1.0	1.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.7	0.8	1.0	1.1	1.3
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%						
Heating capacity	kW	21.5	23.1	25.7	26.8	28.7
Water flow rate	m ³ /h	0.9	1.0	1.1	1.2	1.3
Exchanger pressure drop	mWC	0.1	0.1	0.1	0.1	0.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.1	0.1	0.2	0.2	0.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.1	0.2	0.2	0.2	0.2

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

Excl. CC+ coil



CTA ULTI+ CC+
MARK-BRO_49-EN_G

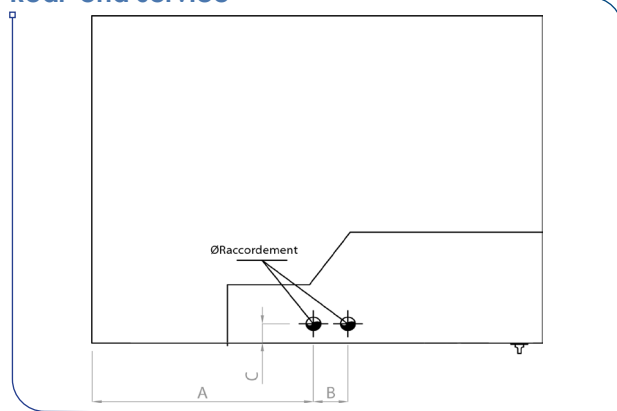
ETT may change equipment technical data without prior notice.
Specifications given in this document are for information only and are not contractual.

Chilled-water coil with external connection

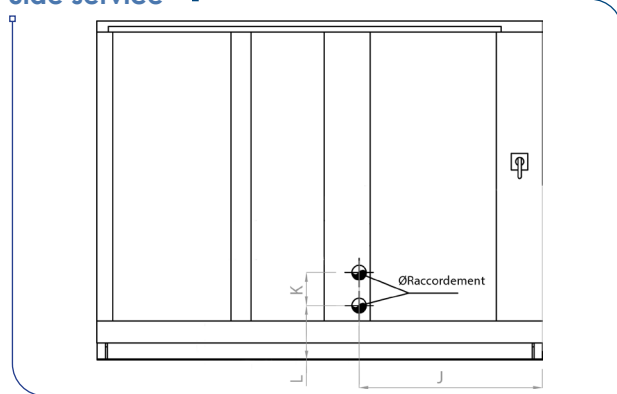
CTA ULTI+ CC+ 01

SCHEMATIC DIAGRAM AND CONNECTION

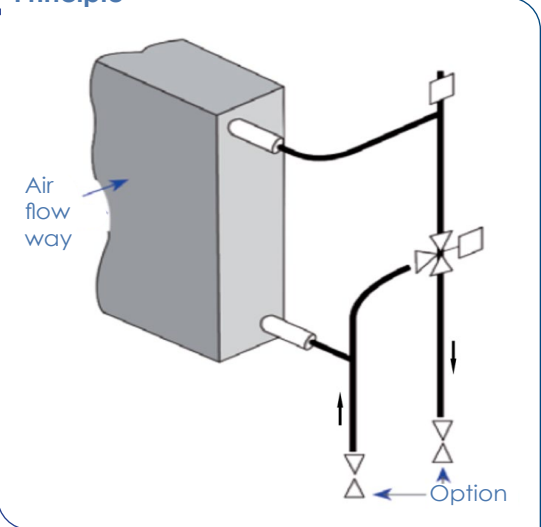
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 01-XXX
Utility background	A	mm	914
	B	mm	163
	C	mm	98
Utility Side	J	mm	684
	K	mm	164
	L	mm	293
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	020	025	030	035	040
Flow rate (Nm ³ /h)		4 500	5000	6000	6500	7500
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%						
Cooling capacity	kW	32.9	34.6	37.5	38.8	41.1
Water flow rate	m ³ /h	6.1	6.5	7.0	7.2	7.7
Exchanger pressure drop	mWC	4.1	4.4	5.1	5.5	6.1
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	5.4	6.0	6.9	7.4	8.3
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	6.0	6.5	7.6	8.1	9.1
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%						
Cooling capacity	kW	28.5	30.0	32.5	33.7	35.8
Water flow rate	m ³ /h	5.3	5.6	6.1	6.3	6.7
Exchanger pressure drop	mWC	3.1	3.4	3.9	4.2	4.7
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4.1	4.5	5.3	5.6	6.3
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	4.5	4.9	5.8	6.1	6.9
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%						
Cooling capacity	kW	15.1	16.1	17.9	18.8	20.7
Water flow rate	m ³ /h	2.8	3.0	3.3	3.5	3.9
Exchanger pressure drop	mWC	0.8	1.1	1.3	1.5	1.7
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.1	1.4	1.7	1.9	2.3
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.2	1.5	1.9	2.1	2.5
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%						
Cooling capacity	kW	12.7	13.5	15.1	15.9	17.4
Water flow rate	m ³ /h	2.4	2.5	2.8	3.0	3.2
Exchanger pressure drop	mWC	0.6	0.6	1.0	1.1	1.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.8	0.9	1.2	1.4	1.6
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.9	1.0	1.4	1.5	1.8

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

Excl. CC+ coil

ETT may change equipment technical data without prior notice.
Specifications given in this document are for information only and are not contractual.

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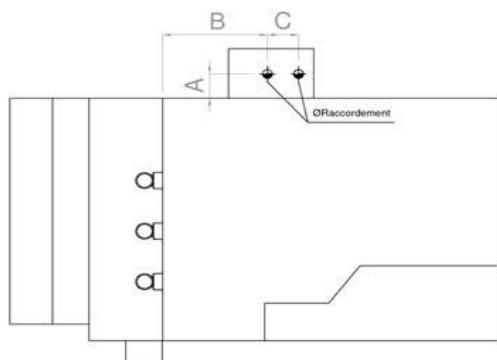


Recovery water coil with external connection

CTA ULTI+ CC+ 01

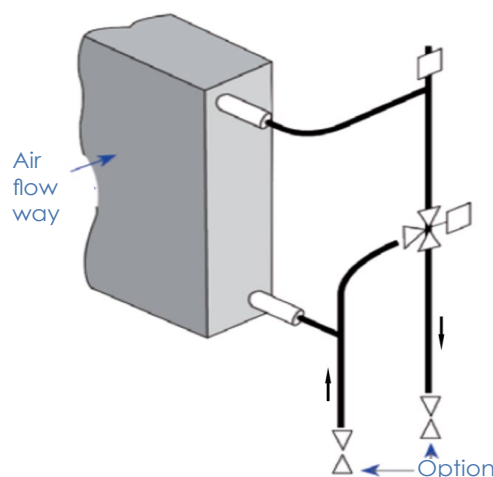
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIES 01-XXX	SERIES 11-XXX	SERIES 12-XXX	SERIES 21-XXX	SERIES 22-XXX
A	mm	260	235	220	220	220
B	mm	590	658	815	860	895
C	mm	245	210	240	255	235
Ø	mm x mm	40 x 49	40 x 49	50 x 60	50 x 60	50 x 60

Principle



CAPACITIES

	Unit	020	025	030	035	040
Flow rate (Nm ³ /h)		4 500	5000	6000	6500	7500
WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 10°C						
Heating capacity	kW	23.6	25.3	28.6	30.1	32.9
Water flow rate	m³/h	4.1	4.4	5.0	5.2	5.7
Exchanger pressure drop	mWC	1.4	1.6	2.0	2.2	2.6
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.1	2.4	3.0	3.3	3.9
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.7	3.1	4.0	4.4	5.2
WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 20°C						
Heating capacity	kW	12.6	13.4	15.1	15.9	17.3
Water flow rate	m³/h	2.2	2.3	2.6	2.7	3.0
Exchanger pressure drop	mWC	0.5	0.5	0.6	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.6	0.7	0.9	1.0	1.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.8	0.9	1.2	1.3	1.5

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

	DESIGNATION	Unit	035	040	045	050	055	065
VENTILATION	FLOW RATES							
	Rated air flow rate	m³/h	7,500	8,500	9,500	10,500	11,500	13,000
	Minimum air flow rate	m³/h	4,500	5,000	6,000	6,500	7,500	9,500
	Maximum air flow rate	m³/h	13,000	13,000	13,000	13,000	13,000	13,000
	SUPPLY AIR VENTILATION ⁽¹⁾							
	Absorbed electrical power	W	172	196	219	248	293	361
	Efficiency of fans	%	50	51	53	53	51	49
	SFPint	W/m³/s	165	166	166	170	183	200
	ACOUSTICS ⁽²⁾							
	Sound power level on supply air	dB(A)	91	90	89	88	88	88
Outside sound power level	dB(A)	84	82	81	80	79	79	
Resulting outside sound pressure at 10 m, reference 10 ⁻⁵ in free field	dB(A)	56	54	53	52	51	51	
COOLING PERFORMANCE	NOMINAL PERFORMANCE AT +35°C / 40% ON THE EXCHANGER							
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	55.6	58.9	61.9	64.6	67.0	70.4
	Refrigeration capacity for a water temperature 7°C/12°C	kW	48.6	51.5	54.1	56.5	58.6	61.6
	NOMINAL PERFORMANCE AT +27°C / 47% ON THE EXCHANGER							
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	32.7	34.7	36.6	38.3	39.8	42.0
Refrigeration capacity for a water temperature 7°C/12°C	kW	27.3	29.0	30.6	32.1	33.5	35.4	
PERFORMANCES HEATING	NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER							
	Heat output for water temperature 80°C/60°C	kW	147.9	160.3	171.8	182.6	192.7	206.7
	Heat output for water temperature 55°C/35°C	kW	96.4	104.1	111.3	117.9	124.2	132.9
	NOMINAL PERFORMANCE AT 20°C / 50% ON THE EXCHANGER							
	Heat output for water temperature 80°C/60°C	kW	96.1	103.9	111.1	117.8	124.2	132.9
Heat output for water temperature 55°C/35°C	kW	42.3	45.4	48.2	50.9	53.3	56.7	
GAS GENERATOR	CC+ MODULE							
	Heating capacity	kW	63	63	63	63	63	63 126
GENERAL	ELECTRICAL DATA							
	Total installed electrical power ^{(2) (3)}	kW	11.7					
	Total installed electrical intensity ⁽²⁾⁽³⁾	A	18.7					
	Starting current ⁽²⁾	A	18.7					
	Maximum absorbed electrical power ⁽²⁾	kW	11.7					
	CASING DIMENSIONS							
	Casing length (excluding options)	mm	2,558					
	Casing width (excluding options)	mm	1,867					
	Casing height (excluding options)	mm	2,621					
	WEIGHT							
	Unit weight without options ⁽²⁾	kg	746					
	Connection roof curb weight	kg	80					
	Standard ventilated roof curb weight	kg	148					

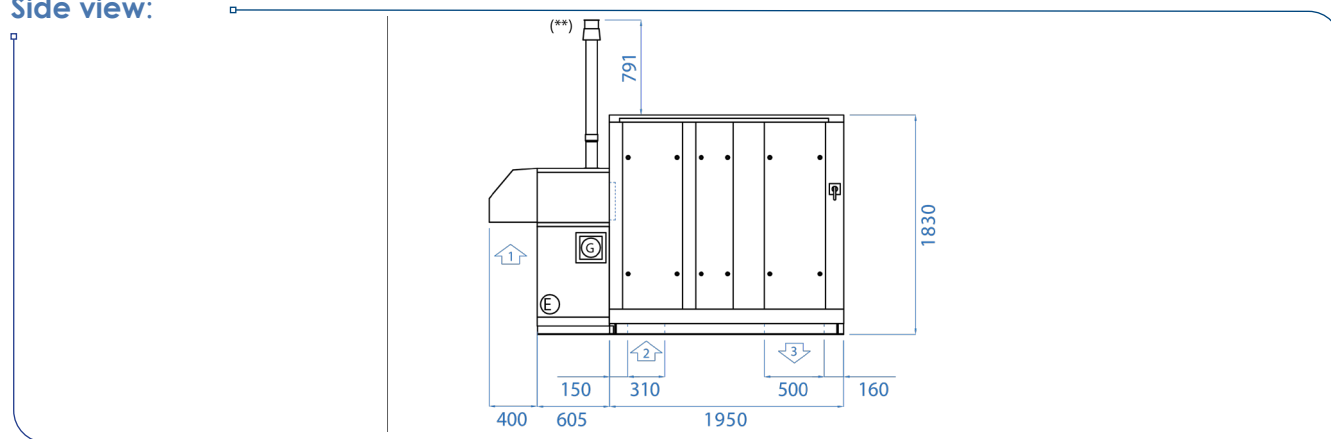
(1) Conditions according to ERP regulation EU 1253/2014.

(2) For a total available pressure of 400Pa.

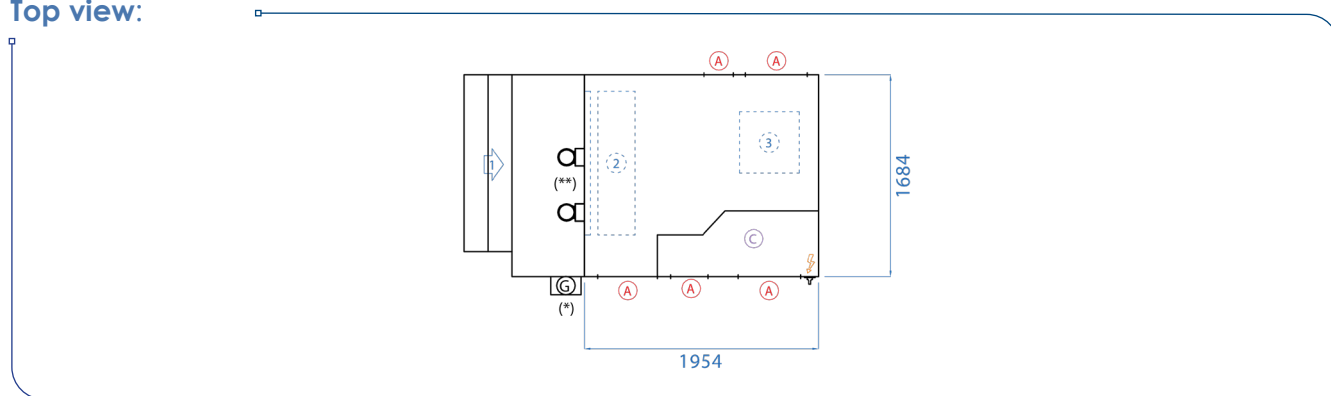
(3) Power to be used for power cables selection. 400V/50 Hz 3-phase power supply + earth without neutral.

SUPPLY & RETURN AIR BELOW

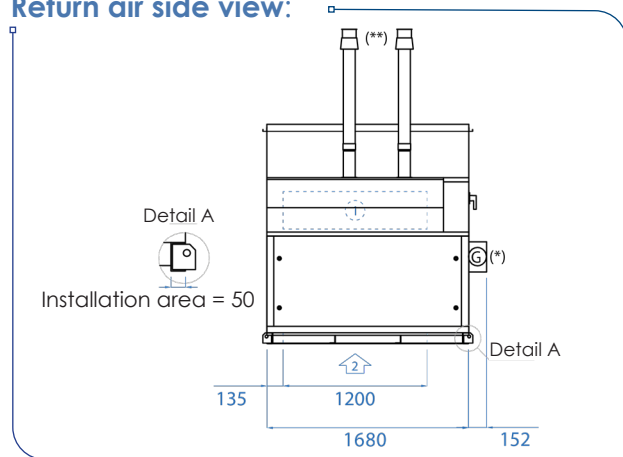
Side view:



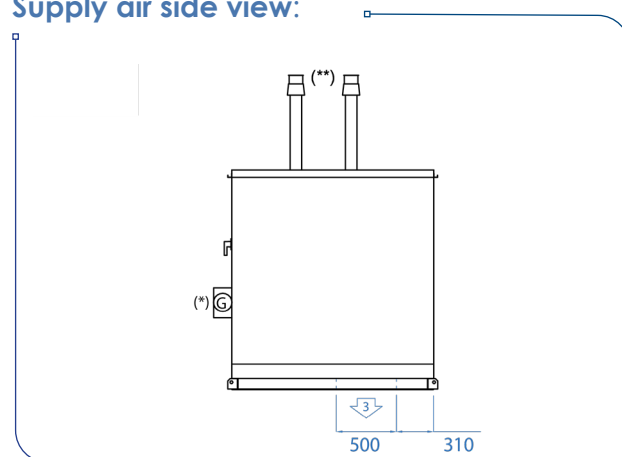
Top view:



Return air side view:



Supply air side view:



- ① Fresh air
- ② Return air
- ③ Supply air
- ⚡ Power supply
- (A) Access
- (C) Technical section
- (E) Condensates evacuation
- (G) Gas supply
- (*) Basic gas box, connection to be made by the installer.
- (**) Number of available chimney ducts: Connection shall be made by the installer.

	Length	Width	Height
Casing dimensions	2558 mm	1,867 mm	2,621 mm
Transport overall dimensions	2,608 mm	1,917 mm	2,671 mm

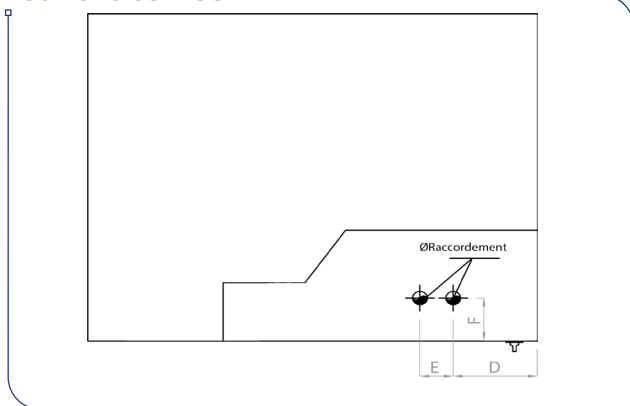
OPTIONS	Fresh air cowl	2958 mm	1,867 mm	2,621 mm
	Side return air	2,558 mm	1992 mm	2,621 mm
	Recovery	2,558 mm	2317 mm	2,621 mm
	Supply air on side	2,558 mm	2634 mm	2,621 mm

Hot water coil with external connection

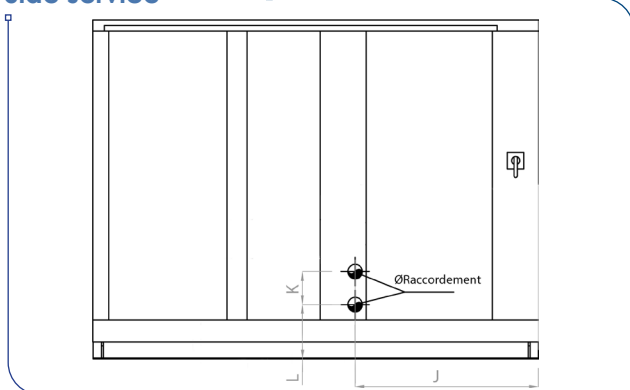
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SCHEMATIC DIAGRAM AND CONNECTION

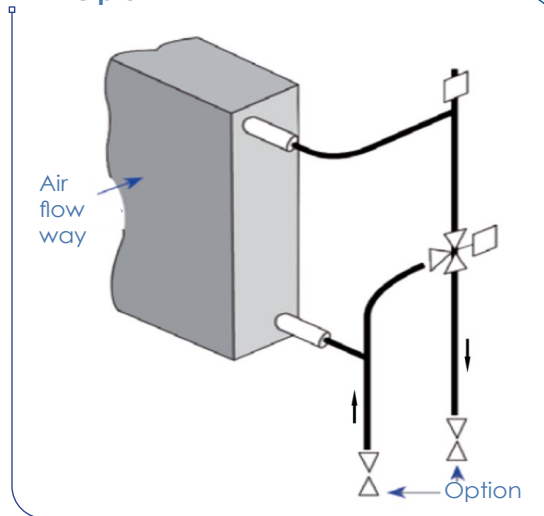
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 11-XXX
Utility background	D	mm	365
	E	mm	190
	F	mm	259
Utility Side	J	mm	711
	K	mm	164
	L	mm	329
Connection	Ø	mm x mm	40 x 49

CAPACITIES

	UNIT	035	040	045	050	055	065
Flow rate (Nm ³ /h)		7500	8500	9500	10500	11500	13000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%							
Heating capacity	kW	147.9	160.3	171.8	182.6	192.7	206.7
Water flow rate	m³/h	6.5	7.1	7.6	8.1	8.5	9.1
Exchanger pressure drop	mWC	2.3	2.6	3.0	3.4	3.7	4.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.9	3.4	3.9	4.4	4.8	5.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	3.5	4.1	4.6	5.2	5.8	6.7
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%							
Heating capacity	kW	96.4	104.1	111.3	117.9	124.2	132.9
Water flow rate	m³/h	4.2	4.5	4.9	5.2	5.4	5.8
Exchanger pressure drop	mWC	1.1	1.2	1.4	1.5	1.7	1.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.3	1.5	1.7	1.9	2.2	2.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.6	1.8	2.1	2.3	2.6	2.9
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%							
Heating capacity	kW	96.1	103.9	111.1	117.8	124.2	132.9
Water flow rate	m³/h	4.3	4.6	4.9	5.2	5.5	5.9
Exchanger pressure drop	mWC	1.0	1.2	1.3	1.5	1.6	1.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.3	1.5	1.7	1.9	2.1	2.4
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.5	1.8	2.0	2.3	2.5	2.8
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%							
Heating capacity	kW	42.3	45.4	48.2	50.9	53.3	56.7
Water flow rate	m³/h	1.9	2.0	2.1	2.2	2.3	2.5
Exchanger pressure drop	mWC	0.2	0.3	0.3	0.3	0.4	0.4
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.3	0.3	0.4	0.4	0.4	0.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.3	0.4	0.4	0.5	0.5	0.6

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

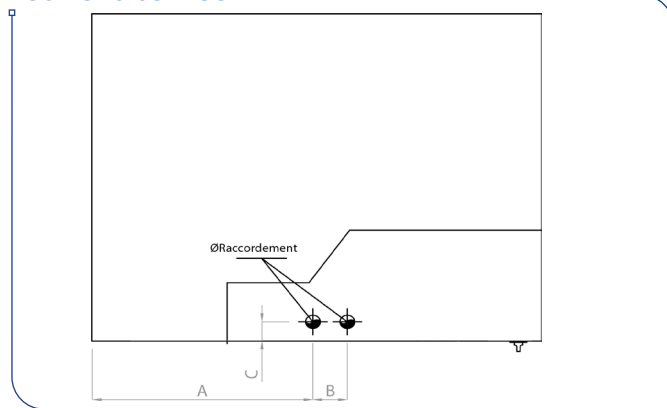
Excl. CC+ coil

Chilled-water coil with external connection

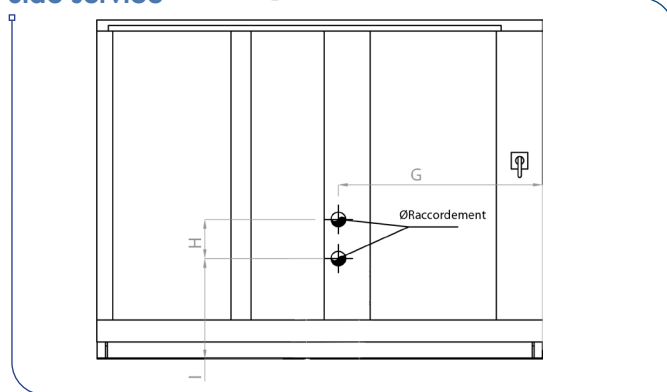
CTA ULTI+ CC+ 11

SCHEMATIC DIAGRAM AND CONNECTION

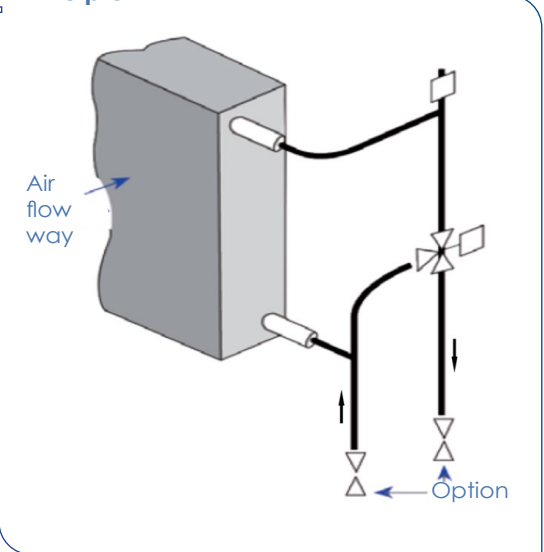
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 11-XXX
Utility background	A	mm	795
	B	mm	183
	C	mm	98
Utility Side	G	mm	852
	H	mm	180
	I	mm	337
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	035	040	045	050	055	065
Flow rate (Nm ³ /h)		7500	8500	9500	10500	11500	13000
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%							
Cooling capacity	kW	46.1	48.9	51.3	53.4	55.0	58.1
Water flow rate	m ³ /h	8.6	9.1	9.6	10.0	10.3	10.8
Exchanger pressure drop	mWC	2.1	2.4	2.6	2.8	3.0	3.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	3.2	3.6	4.0	4.3	4.6	5.1
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	4.2	4.8	5.2	5.6	6.1	6.7
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%							
Cooling capacity	kW	39.3	42.3	44.7	46.7	48.5	51.1
Water flow rate	m ³ /h	7.3	7.9	8.3	8.7	9.0	9.5
Exchanger pressure drop	mWC	1.6	1.8	2.0	2.1	2.3	2.5
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.4	2.7	3.0	3.3	3.6	3.9
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	3.1	3.6	4.0	4.3	4.7	5.2
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%							
Cooling capacity	kW	21.5	23.1	24.6	26.1	27.5	29.6
Water flow rate	m ³ /h	4.0	4.3	4.6	4.9	5.1	5.5
Exchanger pressure drop	mWC	0.5	0.5	0.7	0.7	0.8	0.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.7	0.8	1.0	1.1	1.2	1.4
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.9	1.0	1.3	1.4	1.6	1.8
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%							
Cooling capacity	kW	18.5	19.8	21.1	22.3	23.5	25.3
Water flow rate	m ³ /h	3.4	3.7	3.9	4.2	4.4	4.7
Exchanger pressure drop	mWC	0.3	0.4	0.4	0.5	0.6	0.7
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.5	0.6	0.6	0.7	0.9	1.0
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.7	0.8	0.9	0.9	1.1	1.3

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

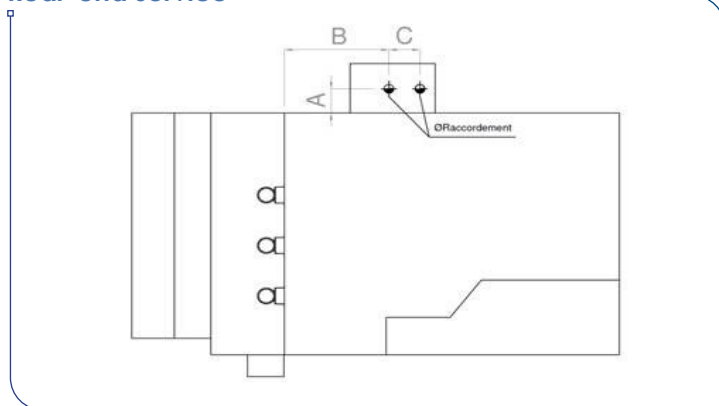
Excl. CC+ coil

Recovery water coil with external connection

CTA ULTI+ CC+ 11

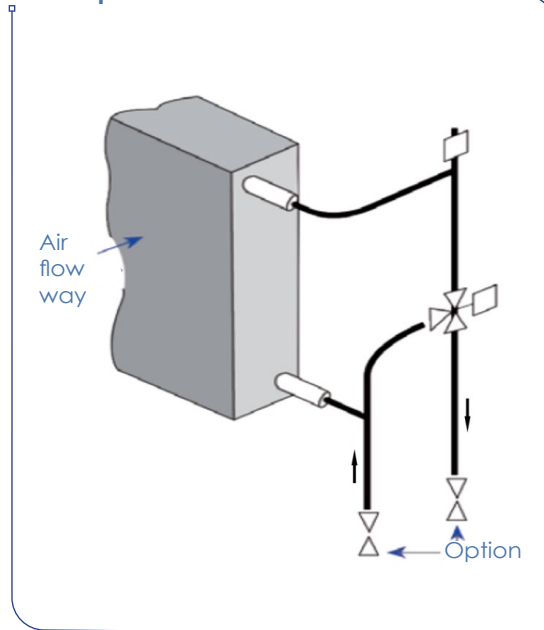
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIES 01-XXX	SERIES 11-XXX	SERIES 12-XXX	SERIES 21-XXX	SERIES 22-XXX
A	mm	260	235	220	220	220
B	mm	590	658	815	860	895
C	mm	245	210	240	255	235
Ø	mm x mm	40 x 49	40 x 49	50 x 60	50 x 60	50 x 60

Principle



CAPACITIES

	Unit	035	040	045	050	055	065
Flow rate (Nm ³ /h)		7500	8500	9500	10500	11500	13000
WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 10°C							
Heating capacity	kW	41.0	44.7	48.2	51.5	54.7	59.1
Water flow rate	m ³ /h	7.1	7.7	8.4	8.9	9.5	10.2
Exchanger pressure drop	mWC	2.9	3.5	4.0	4.5	5.0	5.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4.9	5.8	6.7	7.6	8.5	9.8
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	6.9	8.2	9.4	10.7	12.0	14.0
WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 20°C							
Heating capacity	kW	22.2	24.1	25.9	27.6	29.3	31.5
Water flow rate	m ³ /h	3.8	4.2	4.5	4.8	5.1	5.5
Exchanger pressure drop	mWC	1.0	1.1	1.3	1.4	1.6	1.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.5	1.8	2.1	2.3	2.6	3.0
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.1	2.5	2.9	3.2	3.6	4.2

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

	DESIGNATION	Unit	050	055	065	075	080
VENTILATION	FLOW RATES						
	Rated air flow rate	m³/h	11,000	12,500	14,000	16,000	18,000
	Minimum air flow rate	m³/h	6,000	7,000	8,000	11,000	13,000
	Maximum air flow rate	m³/h	18,000	18,000	18,000	18,000	18,000
	SUPPLY AIR VENTILATION ⁽¹⁾						
	Absorbed electrical power	W	246	289	332	427	520
	Efficiency of fans	%	54	55	56	53	52
	SFPint	W/m³/s	161	167	171	192	208
	ACOUSTICS ⁽²⁾						
	Sound power level on supply air	dB(A)	88	88	89	90	92
COOLING PERFORMANCE	Outside sound power level	dB(A)	80	79	80	81	82
	Resulting outside sound pressure at 10 m, reference 10 ⁻⁵ in free field	dB(A)	52	51	52	53	54
	NOMINAL PERFORMANCE AT +35°C / 40% ON THE EXCHANGER						
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	81.1	85.9	90.2	95.4	100.0
	Refrigeration capacity for a water temperature 7°C/12°C	kW	71.1	75.3	79.0	83.5	87.6
	NOMINAL PERFORMANCE AT +27°C / 47% ON THE EXCHANGER						
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	48.3	51.3	54.0	57.2	60.2
	Refrigeration capacity for a water temperature 7°C/12°C	kW	40.3	42.9	45.2	48.1	50.7
	NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER						
	PERFORMANCES HEATING	Heat output for water temperature 80°C/60°C	kW	197.2	213.0	227.8	245.8
Heat output for water temperature 55°C/35°C		kW	123.9	133.4	142.2	152.9	162.7
NOMINAL PERFORMANCE AT 20°C / 50% ON THE EXCHANGER							
Heat output for water temperature 80°C/60°C		kW	125.2	134.9	143.9	154.9	164.9
Heat output for water temperature 55°C/35°C		kW	41.2	45.2	49.1	54.3	59.3
CC+ MODULE							
GAS GENERATOR	Heating capacity	kW	63	63 126	63 126	63 126	63 126
GENERAL	ELECTRICAL DATA						
	Total installed electrical power ⁽²⁾ ⁽³⁾	kW	11.7				
	Total installed electrical intensity ⁽²⁾ ⁽³⁾	A	18.7				
	Starting current ⁽²⁾	A	18.7				
	Maximum absorbed electrical power ⁽²⁾	kW	11.7				
	CASING DIMENSIONS						
	Casing length (excluding options)	mm	3,038				
	Casing width (excluding options)	mm	2,137				
	Casing height (excluding options)	mm	2,621				
	WEIGHT						
	Unit weight without options ⁽²⁾	kg	891				
	Connection roof curb weight	kg	104				
	Standard ventilated roof curb weight	kg	192				

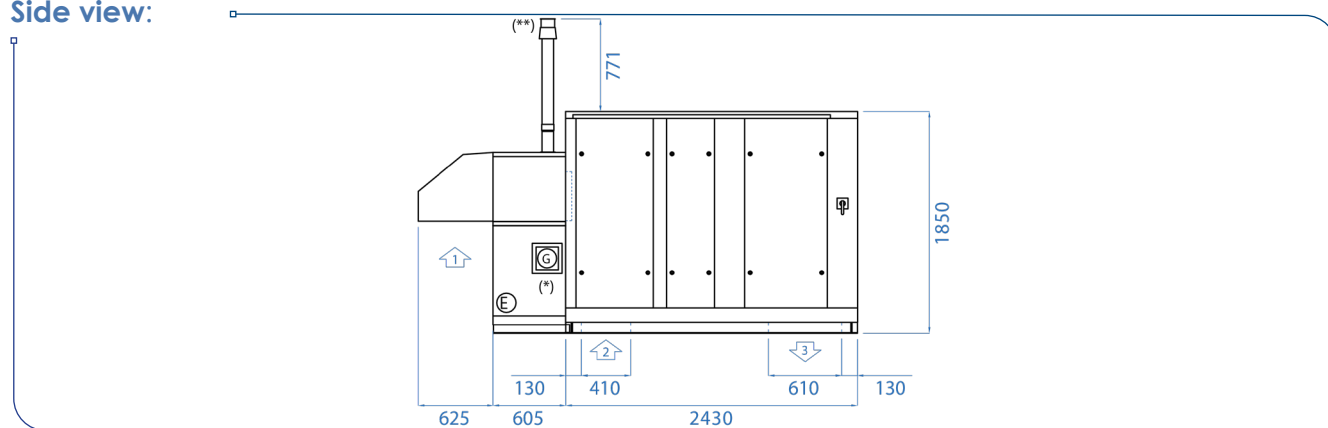
(1) Conditions according to ERP regulation EU 1253/2014.

(2) For a total available pressure of 400Pa.

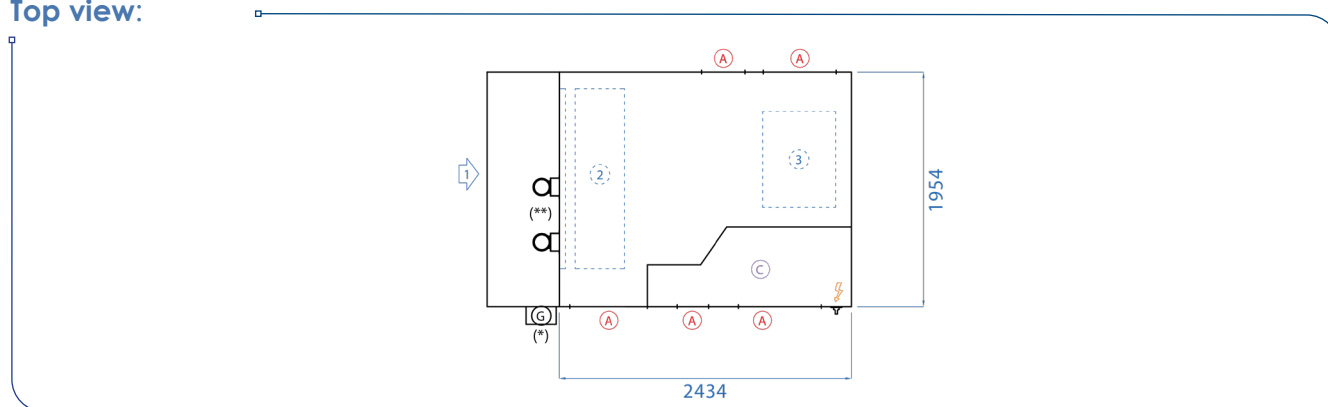
(3) Power to be used for power cables selection. 400V/50 Hz 3-phase power supply + earth without neutral.

SUPPLY & RETURN AIR BELOW

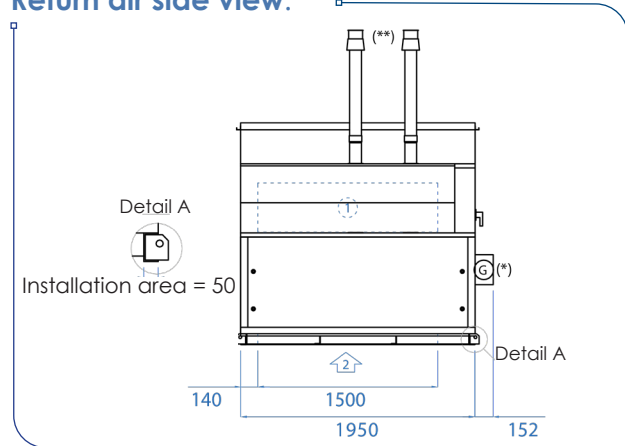
Side view:



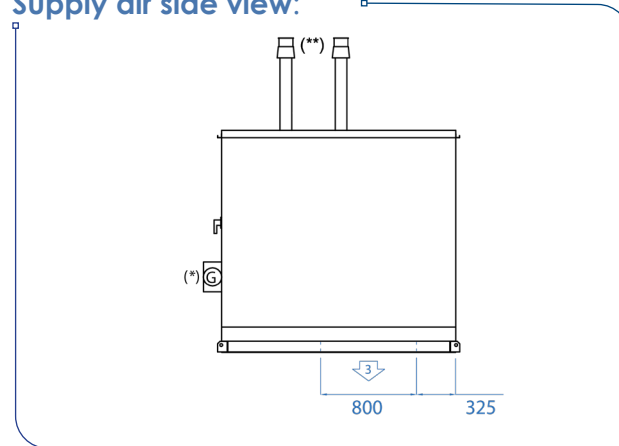
Top view:



Return air side view:



Supply air side view:



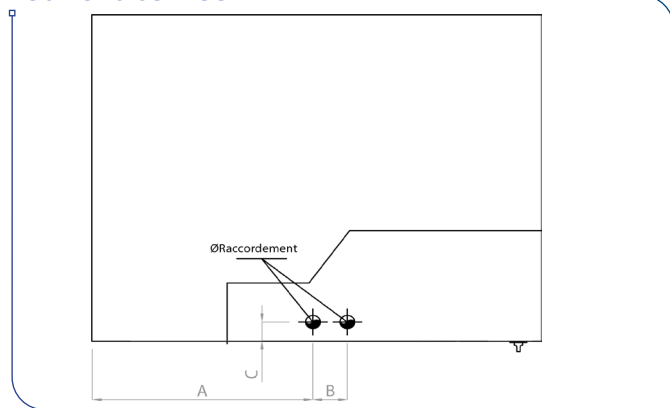
- ① Fresh air
- ② Return air
- ③ Supply air
- ⚡ Power supply
- (A) Access
- (C) Technical section
- (E) Condensates evacuation
- (G) Gas supply
- (*) Basic gas box, connection to be made by the installer.
- (**) Number of available chimney ducts: Connection shall be made by the installer.

	Length	Width	Height
Casing dimensions	3038 mm	2,137 mm	2,621 mm
Transport overall dimensions	3,088 mm	2,187 mm	2,671 mm

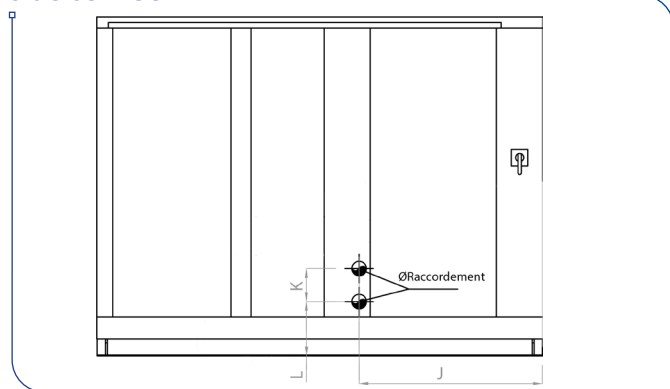
OPTIONS	Fresh air cowl	3663 mm	2,137 mm	2,621 mm
	Side return air	3,038 mm	2262 mm	2,621 mm
	Recovery	3,038 mm	2587 mm	2,621 mm
	Supply air on side	3,038 mm	3004 mm	2,621 mm

SCHEMATIC DIAGRAM AND CONNECTION

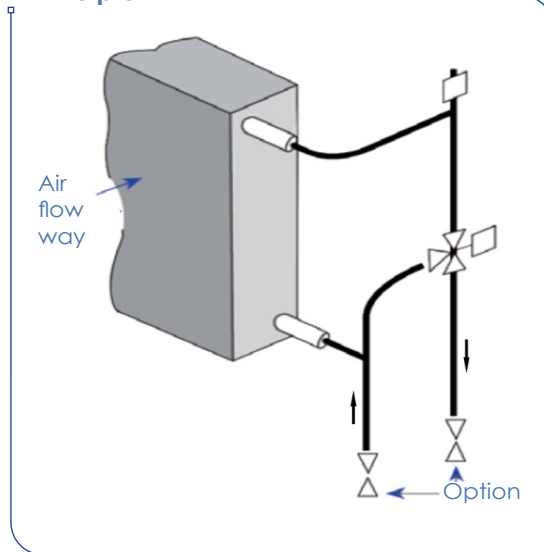
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 12-XXX
Utility background	A	mm	1,194
	B	mm	186
	C	mm	113
Utility Side	J	mm	1 000
	K	mm	180
	L	mm	297
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	050	055	065	075	080
Flow rate (Nm ³ /h)		11000	12500	14000	16000	18000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%						
Heating capacity	kW	197.2	213.0	227.8	245.8	262.2
Water flow rate	m ³ /h	8.7	9.4	10.1	10.9	11.6
Exchanger pressure drop	mWC	1.1	1.2	1.4	1.6	1.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.3	2.6	3.0	3.5	3.9
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	3.3	3.8	4.3	5.1	5.7
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%						
Heating capacity	kW	123.9	133.4	142.2	152.9	162.7
Water flow rate	m ³ /h	5.4	5.8	6.2	6.7	7.1
Exchanger pressure drop	mWC	0.5	0.5	0.6	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.9	1.0	1.2	1.4	1.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.3	1.5	1.7	1.9	2.2
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%						
Heating capacity	kW	125.2	134.9	143.9	154.9	164.9
Water flow rate	m ³ /h	5.5	6.0	6.4	6.8	7.3
Exchanger pressure drop	mWC	0.5	0.5	0.6	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.9	1.1	1.2	1.4	1.6
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.3	1.5	1.8	2.0	2.3
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%						
Heating capacity	kW	41.2	45.2	49.1	54.3	59.3
Water flow rate	m ³ /h	1.8	2.0	2.2	2.4	2.6
Exchanger pressure drop	mWC	0.1	0.1	0.1	0.1	0.1
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.1	0.1	0.1	0.2	0.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.2	0.2	0.2	0.2	0.3

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

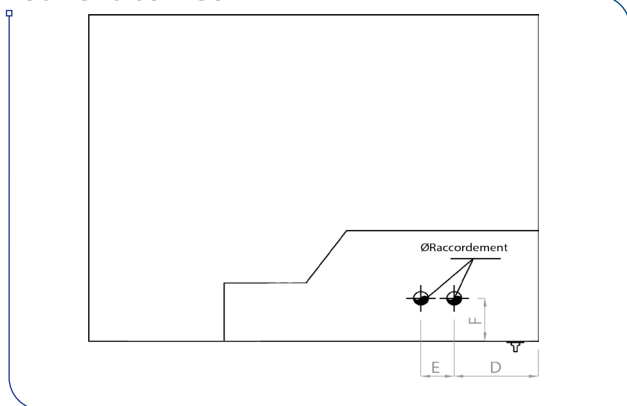
Excl. CC+ coil

Chilled-water coil with external connection

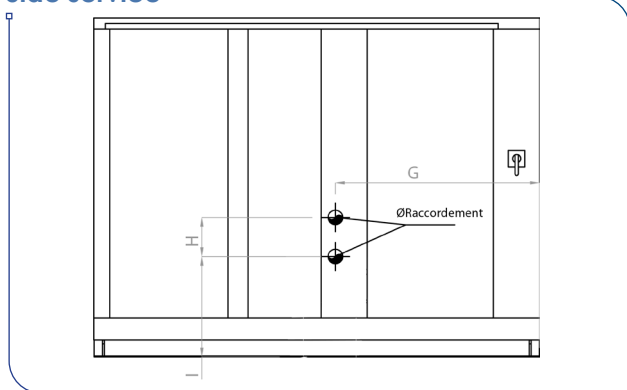
CTA ULTI+ CC+ 12

SCHEMATIC DIAGRAM AND CONNECTION

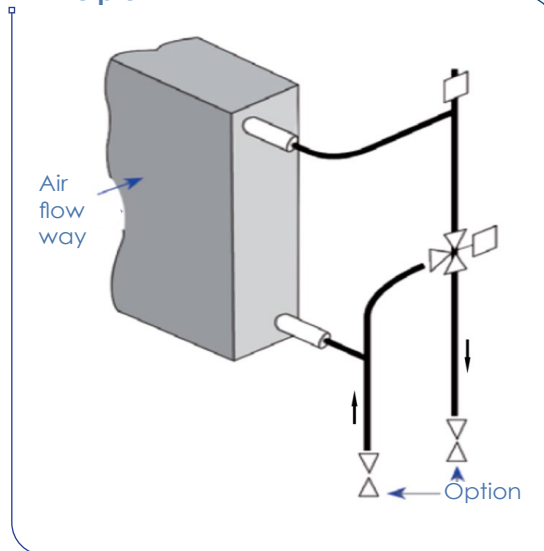
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 12-XXX
Utility background	D	mm	455
	E	mm	180
	F	mm	264
Utility Side	G	mm	1,113
	H	mm	214
	I	mm	548
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	050	055	065	075	080
	Flow rate (Nm ³ /h)	11000	12500	14000	16000	18000
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%						
Cooling capacity	kW	69.3	73.2	76.9	81.1	84.9
Water flow rate	m ³ /h	12.9	13.7	14.3	15.1	15.8
Exchanger pressure drop	mWC	3.3	3.6	4.0	4.4	4.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	5.9	6.5	7.2	7.9	8.7
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	8.2	9.1	10.0	11.1	12.1
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%						
Cooling capacity	kW	60.5	64.0	67.2	71.0	74.4
Water flow rate	m ³ /h	11.3	11.9	12.5	13.2	13.9
Exchanger pressure drop	mWC	2.5	2.8	3.1	3.4	3.7
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4.5	5.0	5.5	6.1	6.7
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	6.2	7.0	7.6	8.5	9.3
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%						
Cooling capacity	kW	35.8	39.0	42.1	45.9	49.3
Water flow rate	m ³ /h	6.7	7.3	7.8	8.6	9.2
Exchanger pressure drop	mWC	1.0	1.2	1.3	1.6	1.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.7	2.0	2.3	2.7	3.1
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.3	2.7	3.1	3.7	4.2
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%						
Cooling capacity	kW	29.5	32.1	34.6	37.9	41.0
Water flow rate	m ³ /h	5.5	6.0	6.5	7.1	7.6
Exchanger pressure drop	mWC	0.7	0.8	0.9	1.1	1.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.2	1.3	1.6	1.8	2.1
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.6	1.8	2.1	2.5	2.9

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

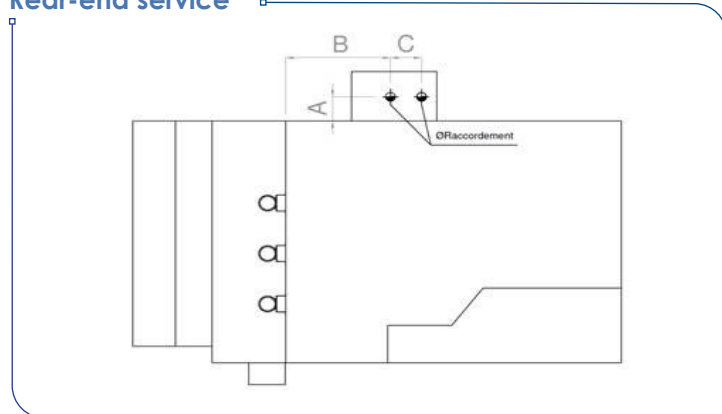
Excl. CC+ coil

Recovery water coil with external connection

CTA ULTI+ CC+ 12

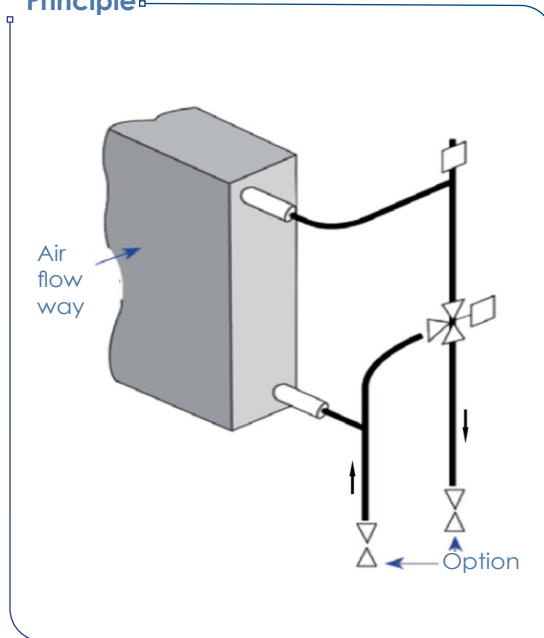
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIES 01-XXX	SERIES 11-XXX	SERIES 12-XXX	SERIES 21-XXX	SERIES 22-XXX
A	mm	260	235	220	220	220
B	mm	590	658	815	860	895
C	mm	245	210	240	255	235
Ø	mm x mm	40 x 49	40 x 49	50 x 60	50 x 60	50 x 60

Principle



CAPACITIES

Unit	050	055	065	075	080
Flow rate (Nm ³ /h)	11000	12500	14000	16000	18000

WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 10°C

Heating capacity	kW	56.1	61.1	65.8	71.7	77.1
Water flow rate	m³/h	9.7	10.6	11.4	12.4	13.4
Exchanger pressure drop	mWC	1.5	1.7	2.0	2.3	2.7
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.8	3.3	3.9	4.5	5.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	4.4	5.2	6.0	7.0	8.1

WATER TEMPERATURE 35/30°C AND INTERCOOLER AIR INLET TEMPERATURE 20°C

Heating capacity	kW	29.5	32.0	34.4	37.3	40.0
Water flow rate	m³/h	5.1	5.5	6.0	6.5	6.9
Exchanger pressure drop	mWC	0.4	0.5	0.6	0.7	0.8
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.8	0.9	1.1	1.3	1.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	1.2	1.4	1.7	2.0	2.2

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

	DESIGNATION	Unit	080	090	095	110
VENTILATION	FLOW RATES					
	Rated air flow rate	m ³ /h	17,000	19,000	21,000	23,000
	Minimum air flow rate	m ³ /h	12,000	12,000	13,000	19,000
	Maximum air flow rate	m ³ /h	23,000	23,000	23,000	23,000
	SUPPLY AIR VENTILATION ⁽¹⁾					
	Absorbed electrical power	W	196	219	248	293
	Efficiency of fans	%	51	53	53	51
	SFPint	W/m ³ /s	166	166	170	183
	ACOUSTICS⁽²⁾					
	Sound power level on supply air	dB(A)	90	90	91	91
COOLING PERFORMANCE	Outside sound power level	dB(A)	81	81	81	82
	Resulting outside sound pressure at 10 m, reference 10 ⁻⁵ in free field	dB(A)	53	53	53	54
	NOMINAL PERFORMANCE AT +35°C / 40% ON THE EXCHANGER					
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	118.6	124.5	129.8	134.7
	Refrigeration capacity for a water temperature 7°C/12°C	kW	104.3	109.4	114.0	118.3
	NOMINAL PERFORMANCE AT +27°C / 47% ON THE EXCHANGER					
PERFORMANCES HEATING	Refrigeration capacity for a water temperature 5°C/10°C.	kW	71.4	75.1	78.4	81.5
	Refrigeration capacity for a water temperature 7°C/12°C	kW	59.6	62.8	65.8	68.5
	NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER					
	Heat output for water temperature 80°C/60°C	kW	295.0	315.1	333.8	351.4
	Heat output for water temperature 55°C/35°C	kW	186.8	199.0	210.5	220.9
	NOMINAL PERFORMANCE AT 20°C / 50% ON THE EXCHANGER					
GAS GENERATOR	Heat output for water temperature 80°C/60°C	kW	188.1	179.1	212.2	222.8
	Heat output for water temperature 55°C/35°C	kW	74.0	79.6	84.4	88.7
CC+ MODULE						
	Heating capacity	kW	63 126	63 126	63 126	63 126 189
GENERAL	ELECTRICAL DATA					
	Total installed electrical power ^{(2) (3)}	kW			16.1	
	Total installed electrical intensity ⁽²⁾⁽³⁾	A			26.5	
	Starting current ⁽²⁾	A			26.5	
	Maximum absorbed electrical power ⁽²⁾	kW			16.1	
	CASING DIMENSIONS					
	Casing length (excluding options)	mm			3,359	
	Casing width (excluding options)	mm			2,425	
	Casing height (excluding options)	mm			2,639	
	WEIGHT					
	Unit weight without options ⁽²⁾	kg			1,129	
	Connection roof curb weight	kg			121	
	Standard ventilated roof curb weight	kg			224	

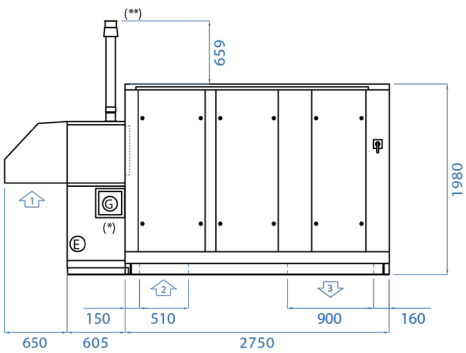
(1) Conditions according to ERP regulation EU 1253/2014.

(2) For a total available pressure of 400Pa.

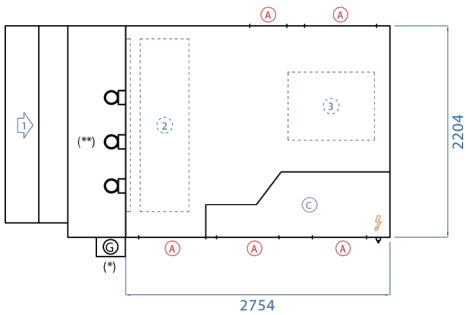
(3) Power to be used for power cables selection, 400V/50 Hz 3-phase power supply + earth without neutral.

SUPPLY & RETURN AIR BELOW

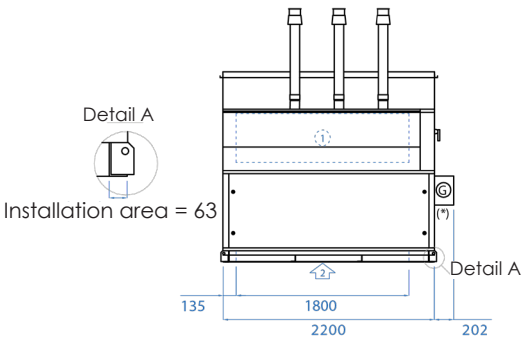
Side view:



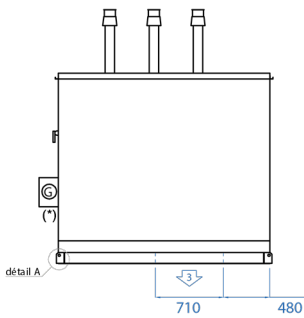
Top view:



Return air side view:



Supply air side view:



- ① Fresh air
- ② Return air
- ③ Supply air
- ⚡ Power supply
- (A) Access
- (C) Technical section
- (E) Condensates evacuation
- (G) Gas supply
- (*) Basic gas box, connection to be made by the installer.
- (**) Number of available chimney ducts: Connection shall be made by the installer.

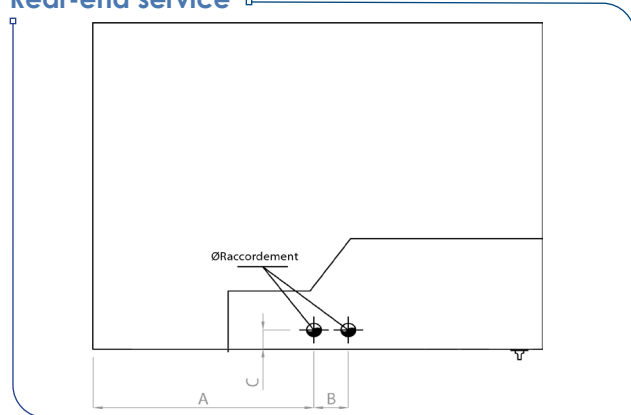
	Length	Width	Height	
Casing dimensions	3359 mm	2,425 mm	2,639 mm	
Transport overall dimensions	3,409 mm	2,475 mm	2,689 mm	
OPTIONS	Fresh air cowl	4009 mm	2,425 mm	2,639 mm
	Side return air	3,359 mm	2550 mm	2,639 mm
	Recovery	3,359 mm	2875 mm	2,639 mm
	Supply air on side	3,359 mm	3353 mm	2,639 mm

Hot water coil with external connection

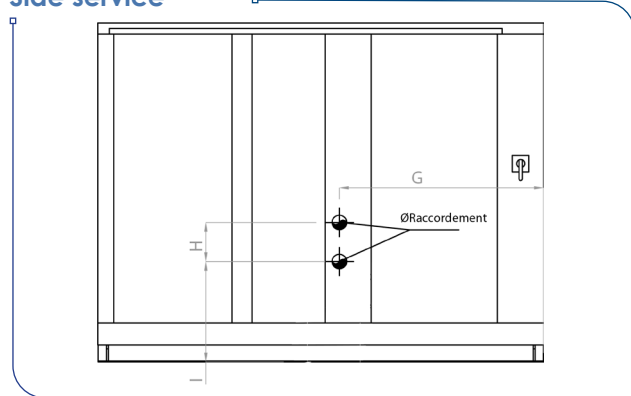
CTA ULTI+ CC+ 21

SCHEMATIC DIAGRAM AND CONNECTION

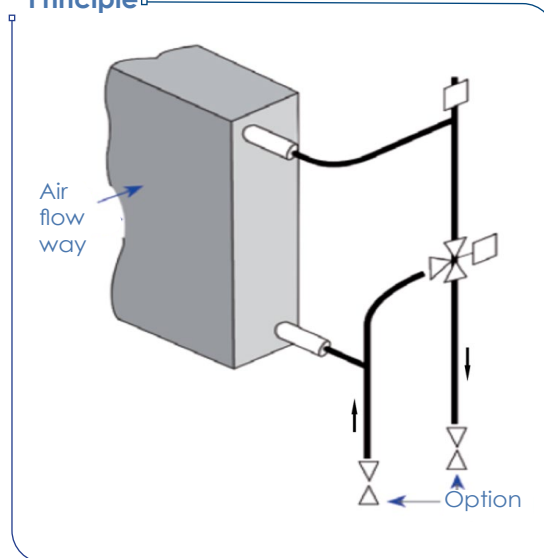
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 21-XXX
Utility background	A	mm	1,249
	B	mm	200
	C	mm	134
Utility Side	G	mm	1,070
	H	mm	180
	I	mm	348
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	080	090	095	110
Flow rate (Nm ³ /h)		17000	19000	21000	23000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	295,0	315,1	333,8	351,4
Water flow rate	m³/h	13,0	13,9	14,8	15,5
Exchanger pressure drop	mWC	2,1	2,4	2,7	3,0
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4,8	5,4	6,1	6,7
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	5,0	5,8	6,4	7,1
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	186,8	199,0	210,5	220,9
Water flow rate	m³/h	8,2	8,7	9,2	9,7
Exchanger pressure drop	mWC	0,9	1,0	1,1	1,3
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1,9	2,2	2,4	2,7
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2,0	2,3	2,6	2,8
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%					
Heating capacity	kW	188,1	179,1	212,2	222,8
Water flow rate	m³/h	8,3	8,9	9,4	9,9
Exchanger pressure drop	mWC	0,9	1,0	1,1	1,3
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2,0	2,2	2,5	2,8
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2,1	2,4	2,6	2,9
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%					
Heating capacity	kW	74,0	79,6	84,4	88,7
Water flow rate	m³/h	3,2	3,5	3,7	3,9
Exchanger pressure drop	mWC	0,2	0,2	0,2	0,2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0,3	0,4	0,4	0,4
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0,3	0,4	0,4	0,5

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

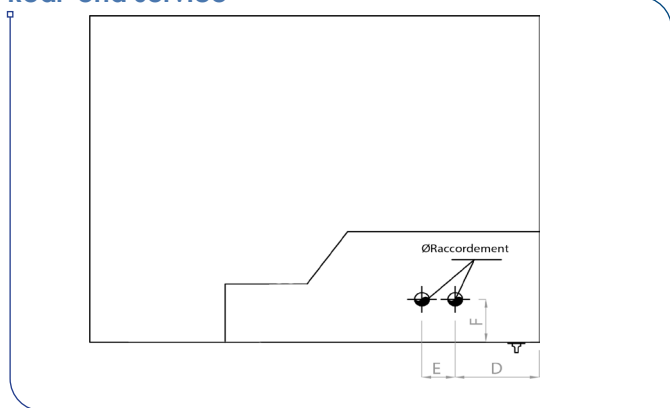
Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

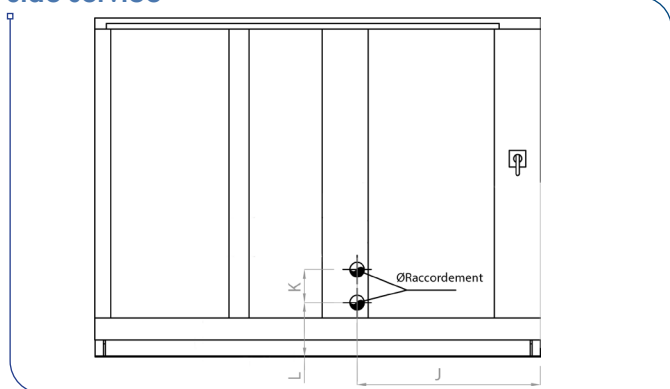
Excl. CC+ coil

SCHEMATIC DIAGRAM AND CONNECTION

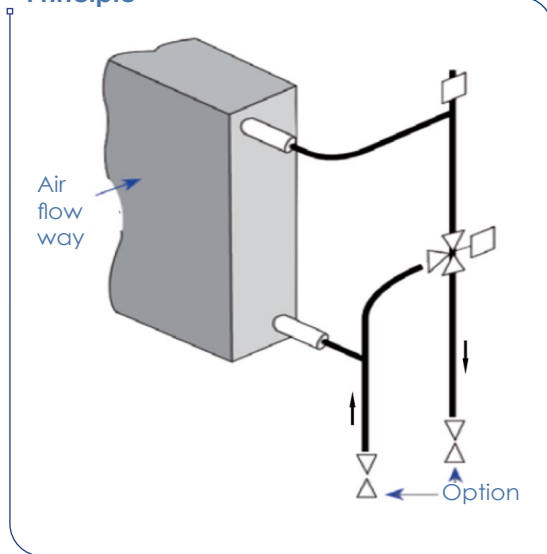
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 21-XXX
Utility background	D	mm	562
	E	mm	217
	F	mm	303
Utility Side	J	mm	896
	K	mm	333
	L	mm	402
Connection	Ø	mm x mm	66 x 76

CAPACITIES

	UNIT	080	090	095	110
Flow rate (Nm ³ /h)		17000	19,000	21,000	23,000
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%					
Cooling capacity	kW	103.4	108.3	112.8	116.9
Water flow rate	m ³ /h	19.3	20.2	21.0	21.8
Exchanger pressure drop	mWC	6.1	6.6	7.1	7.6
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	11.9	12.9	13.4	13.9
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	12.5	13.5	14.1	14.5
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%					
Cooling capacity	kW	90.3	94.7	98.6	102.4
Water flow rate	m ³ /h	16.8	17.6	18.4	19.1
Exchanger pressure drop	mWC	4.7	5.1	5.5	5.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	9.1	9.9	10.7	11.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	9.6	10.5	11.3	12.1
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%					
Cooling capacity	kW	60.2	63.4	66.2	68.9
Water flow rate	m ³ /h	11.2	11.8	12.4	12.8
Exchanger pressure drop	mWC	2.3	2.5	2.7	2.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4.2	4.7	5.1	5.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	4.4	4.9	5.3	5.7
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%					
Cooling capacity	kW	49.6	53.1	56.1	58.5
Water flow rate	m ³ /h	9.2	9.9	10.4	10.9
Exchanger pressure drop	mWC	1.6	1.8	2.0	2.1
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.9	3.3	3.7	4.0
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	3.0	3.4	3.8	4.2

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

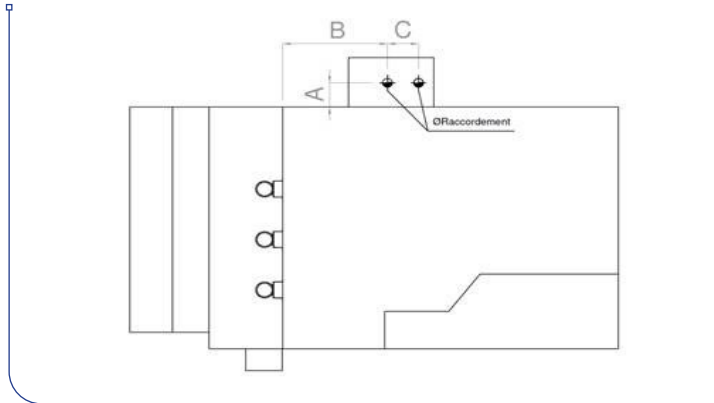
Excl. CC+ coil

Recovery water coil with external connection

CTA ULTI+ CC+ 21

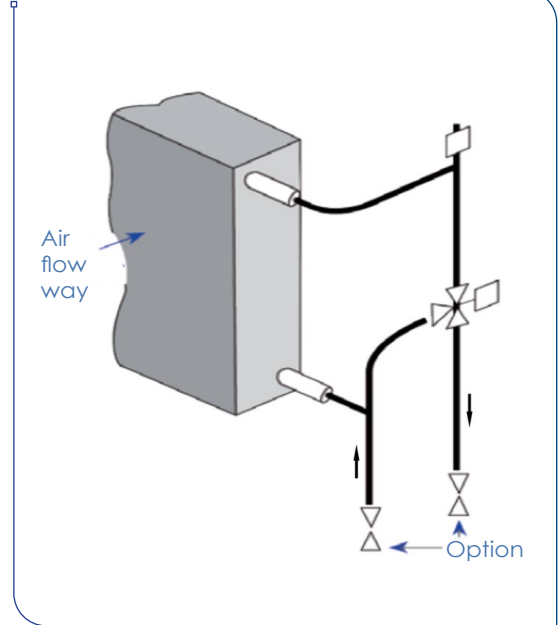
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIES 01-XXX	SERIES 11-XXX	SERIES 12-XXX	SERIES 21-XXX	SERIES 22-XXX
A	mm	260	235	220	220	220
B	mm	590	658	815	860	895
C	mm	245	210	240	255	235
Ø	mm x mm	40 x 49	40 x 49	50 x 60	50 x 60	50 x 60

Principle



CAPACITIES

	Unit	080	090	095	110
Flow rate (Nm ³ /h)		17000	19,000	21,000	23,000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	83.8	90.1	96.0	101.7
Water flow rate	m³/h	14.5	15.6	16.6	17.6
Exchanger pressure drop	mWC	2.9	3.3	3.7	4.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	5.9	6.8	7.7	8.7
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	9.4	10.8	12.2	13.7
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	44.2	47.4	50.4	53.3
Water flow rate	m³/h	7.7	8.2	8.7	9.2
Exchanger pressure drop	mWC	0.9	1.0	1.1	1.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	1.7	2.0	2.2	2.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.7	3.1	3.5	3.8

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

	DESIGNATION	Unit	115	130	140	150
VENTILATION	FLOW RATES					
	Rated air flow rate	m³/h	25,000	27,000	30,000	33,000
	Minimum air flow rate	m³/h	17,000	18,000	21,000	21,000
	Maximum air flow rate	m³/h	33,000	33,000	33,000	33,000
	SUPPLY AIR VENTILATION ⁽¹⁾					
	Absorbed electrical power	W	289	318	378	450
	Efficiency of fans	%	55	55	54	52
	SFPint	W/m³/s	167	169	182	196
	ACOUSTICS ⁽²⁾					
	Sound power level on supply air	dB(A)	91	91	92	93
COOLING PERFORMANCE	Outside sound power level	dB(A)	82	82	83	84
	Resulting outside sound pressure at 10 m, reference 10 ⁻⁵ in free field	dB(A)	54	55	55	56
	NOMINAL PERFORMANCE AT +35°C / 40% ON THE EXCHANGER					
	Refrigeration capacity for a water temperature 5°C/10°C.	kW	157.7	162.8	170.0	176.5
	Refrigeration capacity for a water temperature 7°C/12°C	kW	138.8	143.2	149.4	155.0
	NOMINAL PERFORMANCE AT +27°C / 47% ON THE EXCHANGER					
PERFORMANCES HEATING	Refrigeration capacity for a water temperature 5°C/10°C.	kW	95.2	98.4	102.9	107.0
	Refrigeration capacity for a water temperature 7°C/12°C	kW	79.5	82.3	86.2	89.9
	NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER					
	Heat output for water temperature 80°C/60°C	kW	328.3	344.0	366.1	386.7
	Heat output for water temperature 55°C/35°C	kW	209.4	218.9	232.5	245.0
	NOMINAL PERFORMANCE AT 20°C / 50% ON THE EXCHANGER					
GAS GENERATOR	Heat output for water temperature 80°C/60°C	kW	210.3	220.0	233.7	246.4
	Heat output for water temperature 55°C/35°C	kW	86.6	90.5	95.8	100.5
GAS GENERATOR	CC+ MODULE					
	Heating capacity	kW	63 126 189	126 189 252	126 189 252	126 189 252
GENERAL	ELECTRICAL DATA					
	Total installed electrical power ^{(2) (3)}	kW	19.6			
	Total installed electrical intensity ⁽²⁾⁽³⁾	A	31.9			
	Starting current ⁽²⁾	A	31.9			
	Maximum absorbed electrical power ⁽²⁾	kW	19.6			
	CASING DIMENSIONS					
	Casing length (excluding options)	mm	3,749			
	Casing width (excluding options)	mm	2,575			
	Casing height (excluding options)	mm	3,107			
	WEIGHT					
	Unit weight without options ⁽²⁾	kg	1,482			
	Connection roof curb weight	kg	163			
	Standard ventilated roof curb weight	kg	302			

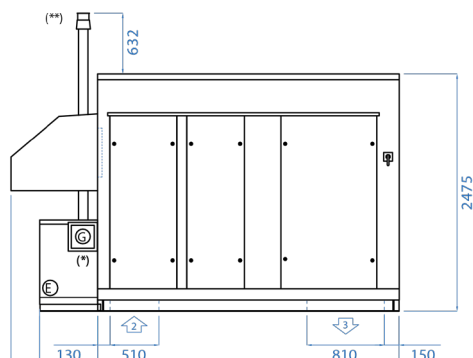
(1) Conditions according to ERP regulation EU 1253/2014.

(2) For a total available pressure of 400Pa.

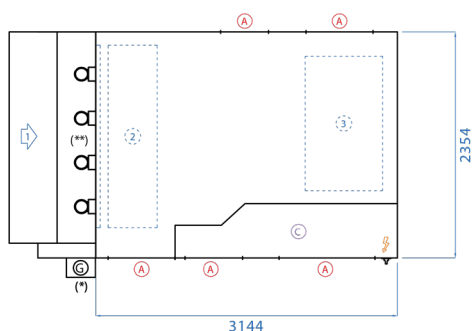
(3) Power to be used for power cables selection. 400V/50 Hz 3-phase power supply + earth without neutral.

SUPPLY & RETURN AIR BELOW

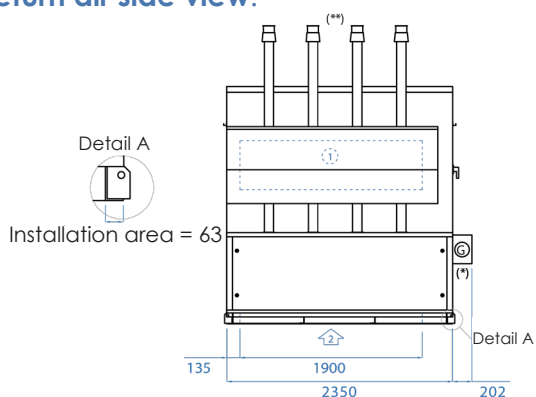
Side view:



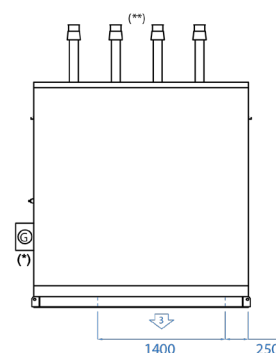
Top view:



Return air side view:



Supply air side view:



- ① Fresh air
- ② Return air
- ③ Supply air
- ⚡ Power supply
- (A) Access
- (C) Technical section
- (E) Condensates evacuation
- (G) Gas supply
- (*) Basic gas box, connection to be made by the installer.
- (**) Number of available chimney ducts: Connection shall be made by the installer.

	Length	Width	Height
Casing dimensions	3749 mm	2,575 mm	3,107 mm
Transport overall dimensions	3,799 mm	2,625 mm	3,157 mm

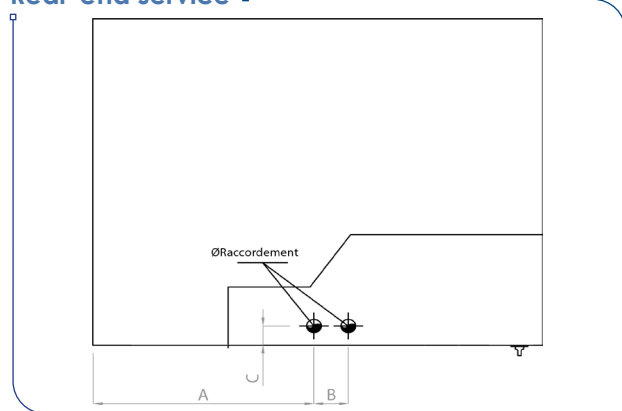
OPTIONS	Fresh air cowl	4044 mm	2,575 mm	3,107 mm
	Side return air	3,749 mm	2700 mm	3,107 mm
	Recovery	3,749 mm	3025 mm	3,107 mm
	Supply air on side	3,749 mm	3504 mm	3,107 mm

Hot water coil with external connection

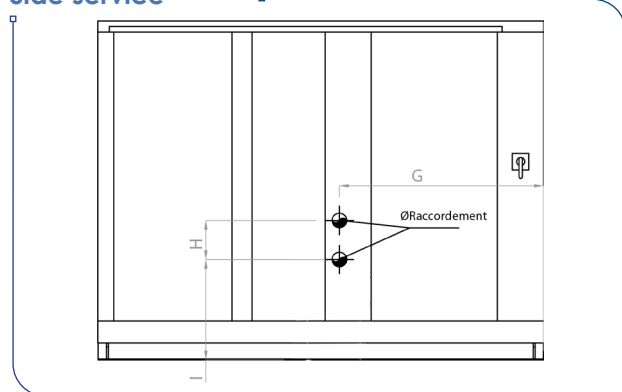
CTA ULTI+ CC+ 22

SCHEMATIC DIAGRAM AND CONNECTION

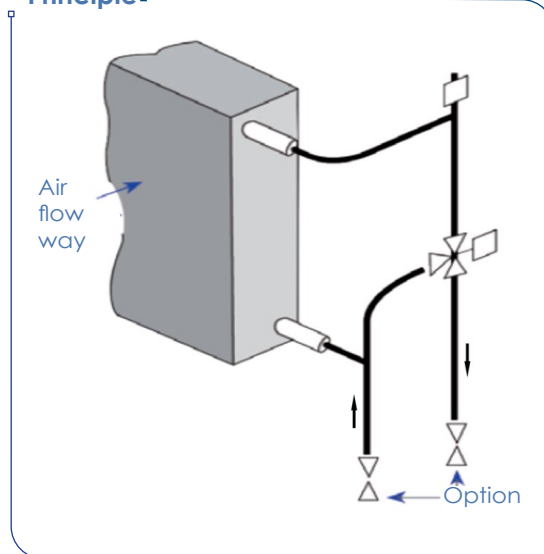
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 22-XXX
Utility background	A	mm	1,282
	B	mm	186
	C	mm	167
Utility Side	G	mm	1,522
	H	mm	180
	I	mm	382
Connection	Ø	mm x mm	50 x 60

CAPACITIES

	UNIT	115	130	140	150
Flow rate (Nm ³ /h)		25000	27,000	30,000	33,000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	328.3	344.0	366.1	386.7
Water flow rate	m ³ /h	14.5	15.2	16.2	17.1
Exchanger pressure drop	mWC	2.6	2.8	3.2	3.6
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	5.9	6.5	7.3	8.1
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	6.2	6.8	7.7	8.5
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	209.4	218.9	232.5	245.0
Water flow rate	m ³ /h	9.1	9.6	10.2	10.7
Exchanger pressure drop	mWC	1.1	1.2	1.4	1.5
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.4	2.6	3.0	3.3
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.6	2.8	3.1	3.5
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%					
Heating capacity	kW	210.3	220.0	233.7	246.4
Water flow rate	m ³ /h	9.3	9.7	10.3	10.9
Exchanger pressure drop	mWC	1.1	1.2	1.4	1.5
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.4	2.7	3.0	3.3
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	2.6	2.8	3.2	3.5
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 20°C/50%					
Heating capacity	kW	86.6	90.5	95.8	100.5
Water flow rate	m ³ /h	3.8	4.0	4.2	4.4
Exchanger pressure drop	mWC	0.2	0.2	0.3	0.3
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	0.4	0.5	0.5	0.6
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	0.4	0.5	0.5	0.6

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

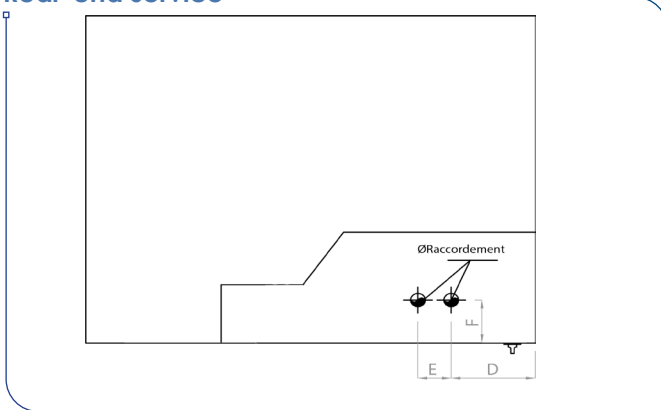
Excl. CC+ coil

Chilled-water coil with external connection

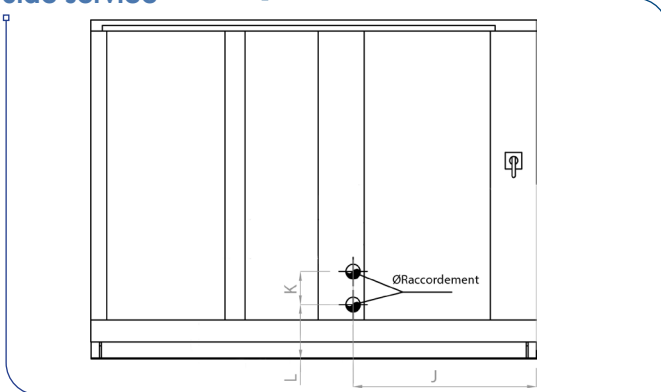
CTA ULTI+ CC+ 22

SCHEMATIC DIAGRAM AND CONNECTION

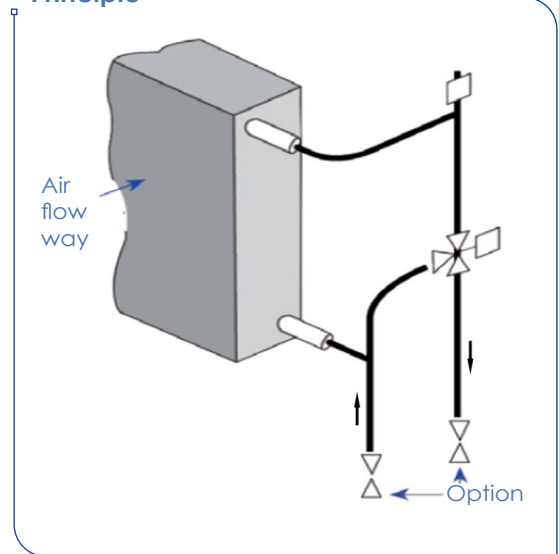
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 22-XXX
Utility background	D	mm	831
	E	mm	263
	F	mm	301
Utility Side	J	mm	1,316
	K	mm	307
	L	mm	416
Connection	Ø	mm x mm	66 x 76

CAPACITIES

	UNIT	080	090	095	110
Flow rate (Nm ³ /h)		25000	27,000	30000	33000
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%					
Cooling capacity	kW	139.2	143.5	149.5	155.0
Water flow rate	m ³ /h	25.9	26.8	27.9	28.9
Exchanger pressure drop	mWC	6.5	6.9	7.4	7.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	12.8	13.1	13.7	14.2
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	13.4	13.8	14.3	14.8
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 35°C/40%					
Cooling capacity	kW	121.3	125.2	130.5	135.5
Water flow rate	m ³ /h	22.6	23.3	24.3	25.2
Exchanger pressure drop	mWC	5.0	5.3	5.7	6.1
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	11.2	11.5	12.0	12.4
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	11.9	12.2	12.6	13.0
5/10°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%					
Cooling capacity	kW	81.4	84.1	88.0	91.5
Water flow rate	m ³ /h	15.2	15.7	16.4	17.1
Exchanger pressure drop	mWC	2.5	2.6	2.8	3.0
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	6.0	6.4	7.0	7.6
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	6.4	6.8	7.5	8.0
7/12°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS 27°C/47%					
Cooling capacity	kW	67.8	70.7	74.4	77.6
Water flow rate	m ³ /h	12.6	13.2	13.9	14.5
Exchanger pressure drop	mWC	1.7	1.9	2.1	2.2
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	4.2	4.6	5.0	5.5
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	4.5	4.8	5.3	5.8

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

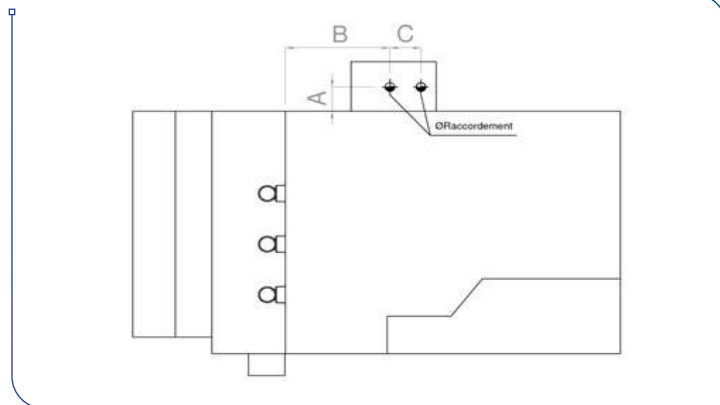
Excl. CC+ coil

Recovery water coil with external connection

CTA ULTI+ CC+ 22

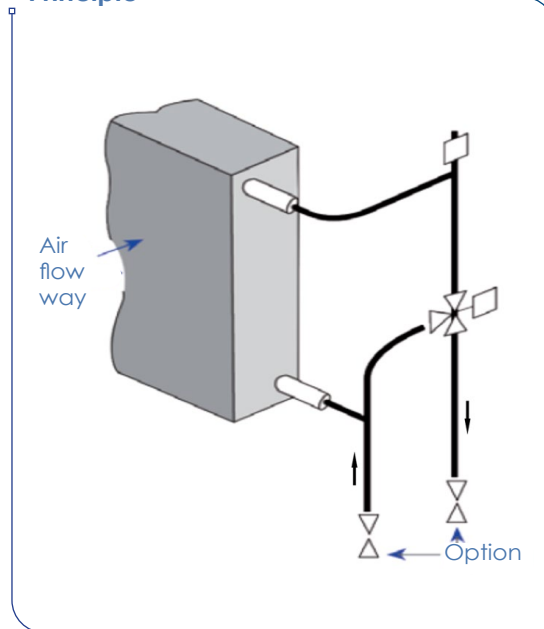
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIES 01-XXX	SERIES 11-XXX	SERIES 12-XXX	SERIES 21-XXX	SERIES 22-XXX
A	mm	260	235	220	220	220
B	mm	590	658	815	860	895
C	mm	245	210	240	255	235
Ø	mm x mm	40 x 49	40 x 49	50 x 60	50 x 60	50 x 60

Principle



CAPACITIES

	Unit	080	090	095	110
Flow rate (Nm ³ /h)		25000	27,000	30,000	33,000
80/60°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	93.7	98.5	105.4	111.9
Water flow rate	m³/h	16.2	17.1	18.3	19.4
Exchanger pressure drop	mWC	3.5	3.9	4.4	4.9
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	7.3	8.1	9.2	10.4
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	11.6	12.8	14.6	16.5
55/35°C WATER TEMPERATURE AND EXCHANGE AIR INLET CONDITIONS -7°C/95%					
Heating capacity	kW	49.6	52.0	55.5	58.8
Water flow rate	m³/h	8.6	9.0	9.6	10.2
Exchanger pressure drop	mWC	1.1	1.2	1.3	1.5
Exchanger and 3WV pressure drop ⁽¹⁾	mWC	2.1	2.3	2.6	3.0
Exchanger, 3WV, SV and TAV pressure drop ⁽²⁾	mWC	3.3	3.6	4.1	4.6

⁽¹⁾ With 3WV Option

⁽²⁾ With 3WV, SV and TAV option

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Technical data for non-glycol water, at rated air flow rate.

Dimensions taken in relation to the unit frame

Technical features: Condensing boiler

TECHNICAL DATA

Designation	Unit	Reference LHV			
LHV HEATING CAPACITY	kW	63	126	189	252
Heating capacity modulation	%	26 to 100	13 to 100	9 to 100	7 to 100
Circulation pump electrical capacity	W	90	90	310	310
G25 natural gas flow rate (25 mbar) LVH = 9.3 kWh/Nm ³	Nm ³ /h	7.4	14.8	22.2	29.6
2E-G20 natural gas flow rate (GZ-50) (20 mbar) LVH = 10.2 kWh/Nm ³	Nm ³ /h	7.2	14.4	21.6	28.8
2LW-G27 natural gas flow rate (GZ-41.5) (20 mbar) LVH = 9.3 kWh/Nm ³	Nm ³ /h	8.0	16.0	24.0	32.0
G30/31 propane gas flow rate (37 mbar)	kg/h	4.9	9.8	14.7	19.6
Required pressure for the NG burner with gas expansion valve	mbar	300			
Gas connection diameter	mm x mm	15 x 21	20 x 27	20 x 27	20 x 27

GAS CONNECTION

The gas supply must correspond to the thermal module capacity and feature all appropriate security and control devices (such as a stop valve) according to the applicable standards.

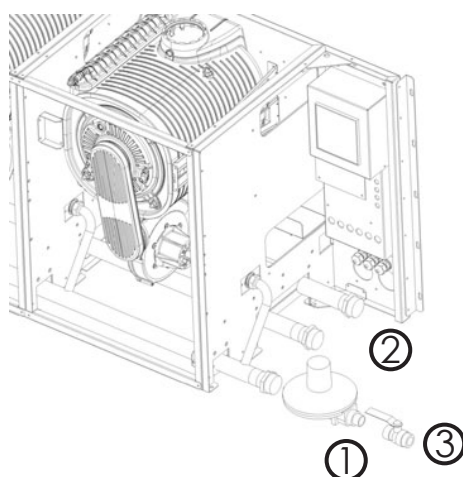
Pipe diameters shall be specifically studied, considering gas type, gas flow rate and pipelines length. Pipes pressure drop must not exceed 5 % of the supply pressure.

The gas thermal module is intended for low pressure gas supply, below 50mbar.

In case of higher supply pressure, install a flow regulator suitable for the total installed power (available as an option, to be fitted by the installer).

In case of serial connection, install a single regulator manifold.

- 1 - Gas inlet
- 2 - Gas expansion valve
- 3 - Stop valve



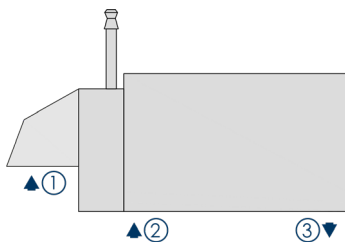
Nota: For simultaneous operation, the main network pressure regulator must be suitably dimensioned to handle the maximum flow from all equipment installed on the network.

Arrangements

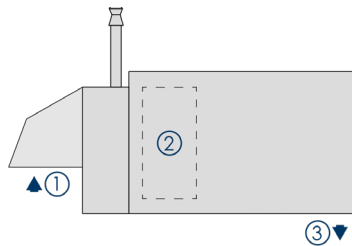
SUPPLY AIR *downwards*

Installation on roof curb or customer frame on roof

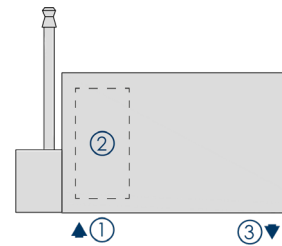
Arrangement 1.1



Arrangement 1.8



Arrangement 1.10



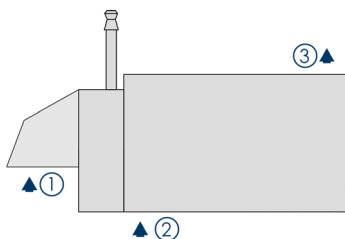
① Fresh air ② Return air ③ Supply air

SUPPLY AIR *upwards*

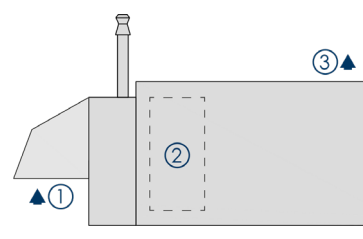
Installation on feet (200 mm minimum) or customer frame

Feet are optional. A supply air damper is necessary for units bigger than 10000 m³/h in Public Access Buildings.

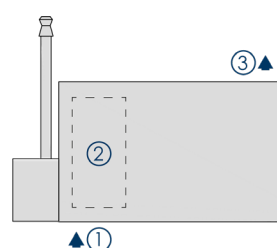
Arrangement 2.1



Arrangement 2.8



Arrangement 2.10



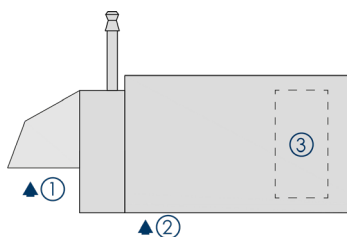
① Fresh air ② Return air ③ Supply air

Arrangements

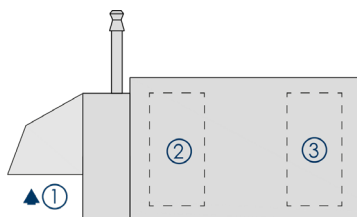
SUPPLY AIR *on side*

Opposite the technical section (with 200 mm feet minimum)

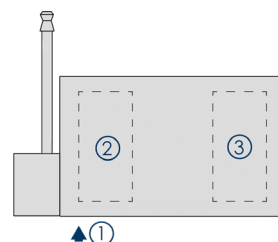
Arrangement 3.1



Arrangement 3.8



Arrangement 3.10

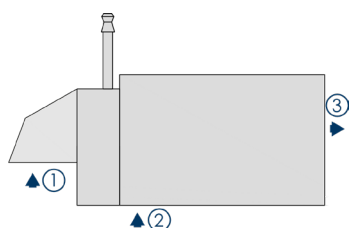


① Fresh air ② Return air ③ Supply air

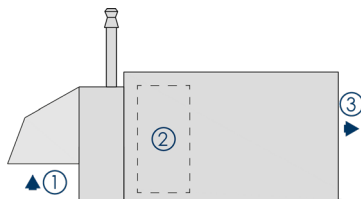
SUPPLY AIR *at the end*

Opposite the technical section (with 200 mm feet minimum)

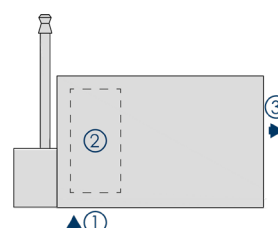
Arrangement 4.1



Arrangement 4.8



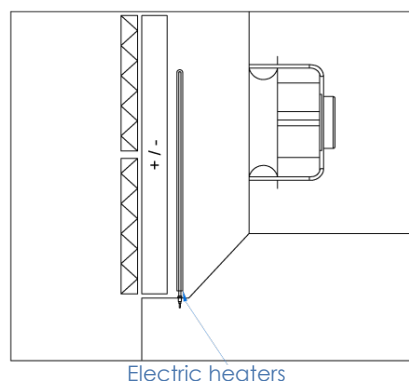
Arrangement 4.10



① Fresh air ② Return air ③ Supply air

Auxiliary: Sequential electric heaters

SCHEMATIC DIAGRAM



AVAILABLE CAPACITIES

Total capacity (kW)	Current (A)	1 st stage	2 nd stage	CTA ULTI+ CC+ 01	CTA ULTI+ CC+ 11	CTA ULTI+ CC+ 12	CTA ULTI+ CC+ 21	CTA ULTI+ CC+ 22	Weight (kg)
7.5	10.8	3	4.5	•	•	•	•	•	2.4
9	13.0	3	6	•	•	•	•	•	2.9
12	17.3	4.5	7.5	•	•	•	•	•	3.4
12	17.3	3	9	•	•	•	•	•	3.4
15	21.7	6	9	•	•	•	•	•	4.2
18	26.0	9	9	•	•	•	•	•	4.7
18	26.0	6	12	•	•	•	•	•	5.0
21	30.3	6	15	•	•	•	•	•	5.9
21	30.3	9	12	•	•	•	•	•	5.5
24	34.6	9	15	•	•	•	•	•	6.4
27	39.0	12	15		•	•	•	•	7.2
30	43.3	12	18		•	•	•	•	7.8
33	47.6	9	24		•	•	•	•	8.6
33	47.6	12	21			•	•	•	6.4
36	52.0	12	24			•	•	•	9.4
36	52.0	15	21			•	•	•	10.6
39	56.3	15	24			•	•	•	10.3
39	56.3	18	21			•	•	•	12.4
42	60.6	12	30			•	•	•	11.3
42	60.6	18	24			•	•	•	12.1
45	65.0	15	30			•	•	•	12.2
45	65.0	21	24				•	•	12.7
48	69.3	18	30				•	•	14.0
54	77.9	18	36				•	•	17.6
60	86.6	24	36				•	•	18.0
60	86.6	18	42					•	18.8
66	95.3	24	42					•	19.2
72	103.9	30	42					•	21.1
81	116.9	39	42					•	25.3

Nota: For higher performances, please contact us.

Options weight (kg)

Options		CTA ULTI+ CC+ 01	CTA ULTI+ CC+ 11	CTA ULTI+ CC+ 12	CTA ULTI+ CC+ 21	CTA ULTI+ CC+ 22
Frame - Casing						
Unit with supply air on side (L)		30	36	42	45	51
Removal of FA + RA dampers		-10	-16	-22	-33	-34
Double skin		9	14	17	30	43
Fresh air cowl		4	7	12	15	22
Thermal exchangers						
Hot water	Hot water coil	21	36	48	61	65
	Hot water coil with 3WV option	36	52	67	83	83
	Hot water coil with option 3WV, TAV, VA	38	54	70	87	87
Chilled water	Chilled water coil	21	34	56	77	110
	Chilled water coil with 3WV option	38	60	91	132	168
	Chilled water coil with option 3WV, TAV, VA	42	64	95	146	182

3WV: 3-way valve

SV: Stop valve on outlet

TAV: TA regulating valve on inlet, opened 7/8

Sound level

ACOUSTIC OUTPUT ON SUPPLY AIR in dB(A)

	FREQUENCY BANDS (Hz)								Overall level L _w (dB(A))
	62.5	125	250	500	1 000	2,000	4,000	8,000	
01- 020	61	78	75	80	82	77	71	67	86
01- 025	57	76	74	80	81	77	72	67	85
01- 030	51	58	64	72	74	70	66	59	78
01- 035	50	69	71	78	82	77	72	67	85
01- 040	47	64	71	78	84	78	72	68	86
11- 035	59	70	87	83	85	81	74	68	91
11- 040	57	67	85	82	85	80	74	68	90
11- 045	54	65	83	82	84	80	75	68	89
11- 050	52	63	81	81	84	80	75	69	88
11- 055	51	62	79	81	84	81	77	69	88
11- 065	50	60	76	82	84	81	79	69	88
12- 050	52	63	80	81	84	80	76	69	88
12- 055	50	60	77	81	84	81	78	69	88
12- 065	50	59	76	82	85	82	81	70	89
12- 075	50	59	76	83	86	83	83	73	90
12- 080	50	59	77	84	87	84	86	77	92
21- 080	53	64	81	83	86	82	78	71	90
21- 090	52	62	79	83	86	83	80	71	90
21- 095	51	61	77	84	86	83	82	72	91
21- 110	51	60	78	84	87	84	84	74	91
22- 115	53	63	80	84	87	84	81	72	91
22- 130	53	62	79	85	87	84	83	73	91
22- 140	53	62	79	85	88	85	85	75	92
22- 150	53	62	79	86	89	86	87	77	93

> Rated flow rate

Sound level

EXTERIOR SOUND POWER in dB(A)

	FREQUENCY BANDS (Hz)								Overall level Lw (dB(A))
	62.5	125	250	500	1 000	2,000	4,000	8,000	
01- 020	60	72	71	73	70	65	61	59	78
01- 025	56	70	69	73	70	65	61	59	77
01- 030	50	67	67	72	70	66	61	59	76
01- 035	49	64	67	72	71	66	61	59	76
01- 040	47	59	67	71	72	66	62	60	76
11- 035	58	65	82	76	74	69	63	60	84
11- 040	55	62	80	76	73	69	64	60	82
11- 045	53	60	78	75	73	69	64	61	81
11- 050	51	58	76	74	72	69	65	61	80
11- 055	50	56	74	74	72	69	66	61	79
11- 065	49	56	72	75	73	70	69	62	79
12- 050	50	57	75	74	72	69	65	61	80
12- 055	50	56	73	75	73	70	68	62	79
12- 065	49	55	72	75	73	70	70	63	80
12- 075	49	55	72	76	74	72	73	66	81
12- 080	50	56	73	77	76	73	75	70	82
21- 080	52	59	76	76	74	71	68	63	81
21- 090	51	57	74	77	75	71	70	63	81
21- 095	51	57	73	77	75	72	72	64	81
21- 110	51	57	74	78	76	73	73	66	82
22- 115	52	59	76	78	76	73	71	64	82
22- 130	52	58	74	78	76	73	73	65	82
22- 140	52	58	75	79	77	74	74	67	83
22- 150	52	58	75	79	78	75	76	70	84

> Rated flow rate

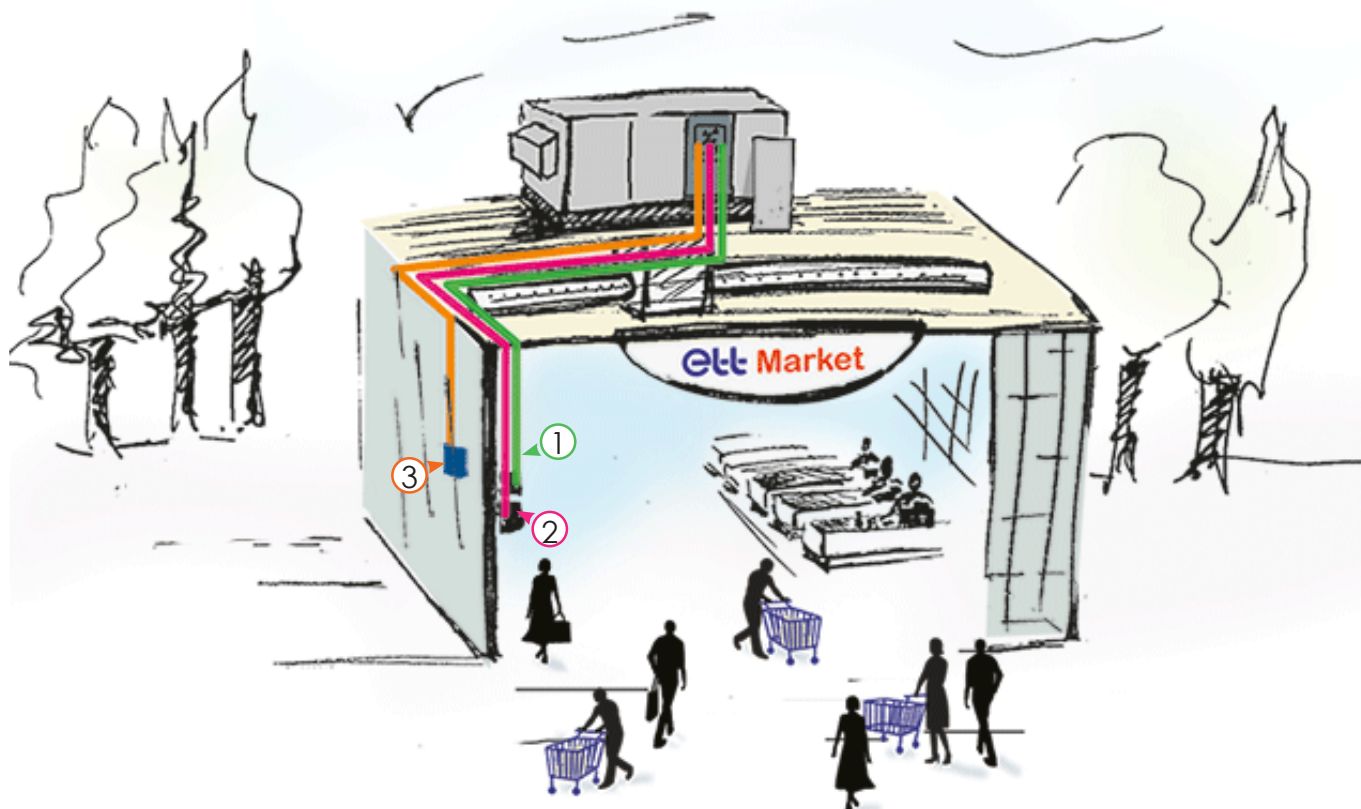
Sound level

RESULTING OUTSIDE SOUND PRESSURE LEVEL AT 10 M, REF. $2 \cdot 10^{-5}$ IN FREE FIELD, DIRECTIVITY 2 in dB(A)

	FREQUENCY BANDS (Hz)								Overall level L _w (dB(A))
	62.5	125	250	500	1 000	2,000	4,000	8,000	
01- 020	32	44	43	45	43	37	33	31	50
01- 025	28	42	41	45	42	37	33	31	49
01- 030	22	39	40	44	42	38	33	31	48
01- 035	21	36	39	44	43	38	33	31	48
01- 040	19	31	39	43	44	38	34	32	48
11- 035	30	37	54	48	46	41	35	32	56
11- 040	27	34	52	48	45	41	36	32	54
11- 045	25	32	50	47	45	41	36	33	53
11- 050	23	30	49	46	44	41	37	33	52
11- 055	22	28	46	46	44	41	38	33	51
11- 065	21	28	44	47	45	42	41	34	51
12- 050	22	29	47	46	44	41	37	33	52
12- 055	22	28	45	47	45	42	40	34	51
12- 065	21	27	44	47	45	42	42	35	52
12- 075	21	27	44	48	46	44	45	38	53
12- 080	22	28	45	49	48	45	47	42	54
21- 080	24	31	48	48	46	43	40	35	53
21- 090	23	29	46	49	47	43	42	35	53
21- 095	23	29	45	49	47	44	44	36	53
21- 110	23	29	46	50	48	45	45	38	54
22- 115	25	31	48	50	48	45	43	37	54
22- 130	24	30	46	50	48	45	45	37	55
22- 140	24	30	47	51	49	46	46	39	55
22- 150	24	30	47	51	50	47	48	42	56

> Rated flow rate

Sensors connection principle



- ① **Room sensor:** 1 twisted shielded pair wire, 2 x 0.75 mm² LiY-CY (max. length 100m)
- ② **CO₂ sensor:** 2 twisted shielded pairs wire, 3 x 0.75 mm² LiY-CY (max. length 100m)
- ③ **Humidity sensor:** 2 twisted shielded pairs wire, 5 x 0.75 mm² LiY-CY (max. length 100 m) (optional)

- Nota:**
- Please note that the value indicated can vary depending on sensor location. For more representative results, do not install them:
 - > Close to heat sources (spotlights, cooking appliances, glass walls, smoke ducts)
 - > In draft zones (close to entrance, stockrooms, openings)
 - > In dead zones (behind shelving, in a corner)
 - > Close to crowded areas (checkouts, fitting rooms)
 - For accurate measurements:
 - > Do not install the probes in the axis of the duct used for their wiring.
 - > Do not install control cables and power cables in the same duct (risk of electromagnetic interference).

Installation accessories: Roof curbs

DESCRIPTION

The roof curb provides the interface between the roof and the rooftop. Its design makes it easy to mount on roofs and simplifies installation of the machine.

Standard curb on header:

Adjustable connecting curb:

- Complies with French standard NF P 84-206-1 (installation of corrugated steel sheet roofs with a waterproofing coating) and fire regulations for Public Access Buildings (French Order of 14 February 2000).
- A one-piece aluminium curb that is significantly lighter than a galvanised steel curb.
- Adjustable L-sections to compensate for the slope of the roof. Other slope percentages are available on request (option). In this case, specify the percentage and direction of the slope when carrying out the work.
- Skirtboard for up to 100 mm of insulation according to French RT 2005 specifications.
- The curbs are designed for a maximum height of 145 mm for

the steel tray and 200 mm for the insulation (i.e. maximum height $H = 345$ mm).

- Lifting lugs for easy positioning when craning.
- Inside side insulation in Stopflam 20 mm, to limit the risk of condensation.

Adjustable ventilated curb

In addition to the 7 points listed for the "connection adjustment":

- Ventilated air gap of 200 mm. The machine is bolted on 4 (or 6) legs, with foam gasket sealing applied to the frames of the supply and return air ducts.
- The air gap also provides acoustic insulation, significantly reducing the noise radiated from the underside of the machine.
- The outlets of the supply and return

ducts and the roof of the ventilated curb are insulated with 25 mm thick glass wool with protective fleece. The insulation is welded to the sheet using aluminium clips, providing a better hold than glued solutions. Insulation limits heat loss and prevents condensation on the underside.

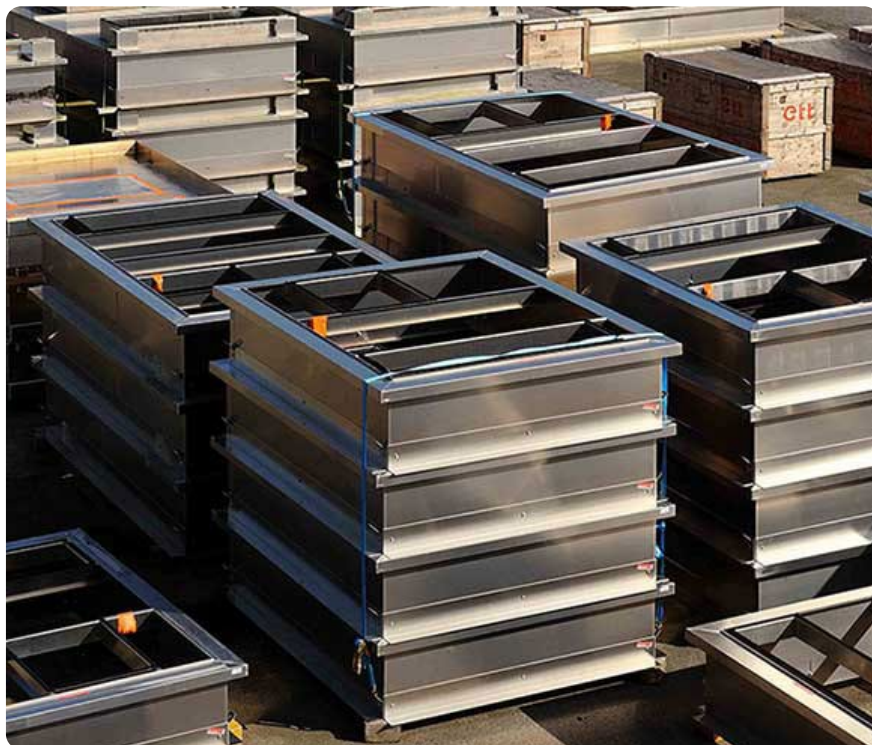
- Sleeves for routing power supply cable and hot water coil pipes through the underside of the machine.

Adaptation curb:

on existing header

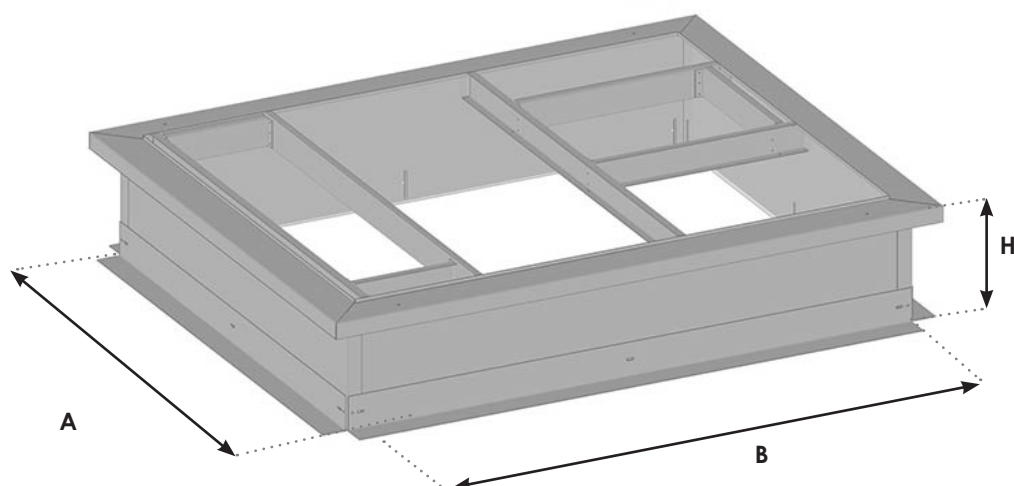
Or existing roof curb

- Custom-made curb to fit all types of existing curbs or headers according to dimensions supplied by the installer (see our special clauses for this type of equipment).
- Complies with French standard NF P 84-206-1 (installation of corrugated steel sheet roofs with a waterproofing coating) and fire regulations for Public Access Buildings (French Order of 14 February 2000).
- A one-piece aluminium curb that is significantly lighter than a galvanised steel curb.
- Possible compensation for the slope of the roof. To be checked with the Engineering and Design office.
- Inside isolation.



Installation accessories: Roof curbs

ADJUSTABLE CONNECTION ROOF CURB



ATTENTION : With this type of roof curb installation, the installer is responsible for the ten-year roofing guarantee. If the value of the slope is greater than that in the table below, you must send us (see MARK-NOT_55-EN_Measurement_Form):

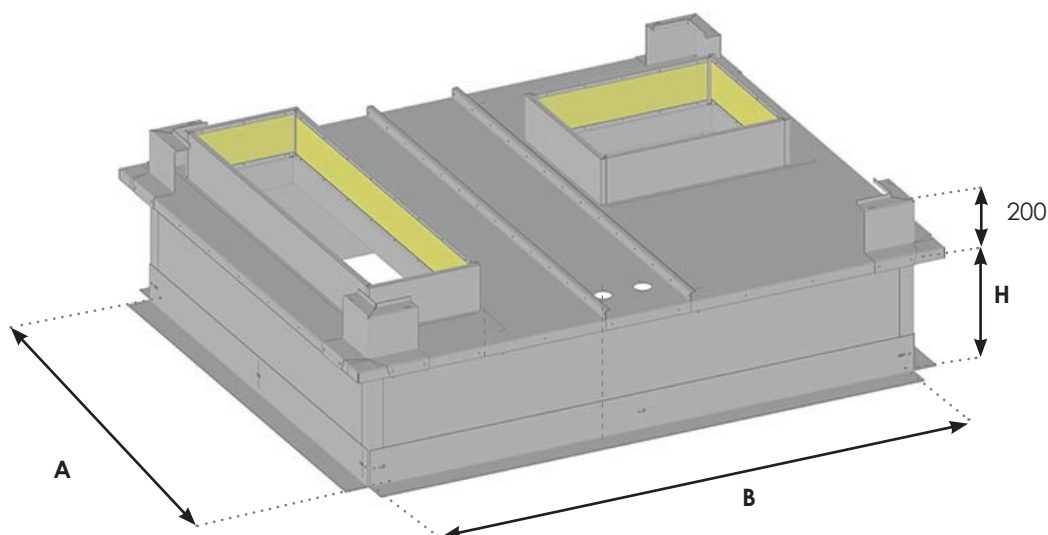
- the value of the slope of your roof in %,
- the direction of the slope
- the orientation of the machine in relation to the slope of the building
- the thickness of the waterproofing complex (insulation + steel deck + membrane)

The roof curbs must be counter-drilled after assembly. **The machine must be bolted to the roof curb.** Putty must be applied to the underside of the machine frame.

Dimensions (mm)	A	B	H	Overall width	Overall length	Overall height	Maxi slope lengthwise (%)	Maxi slope widthwise (%)	Weight
CTA ULTI+ CC+ 01	1,320	1,970	550	1,534	2,178	568	5.0	7.5	73
CTA ULTI+ CC+ 11	1,700	1,970	550	1,914	2,178	563	5.0	5.8	80
CTA ULTI+ CC+ 12	1,970	2,450	600	2,184	2,658	618	5.0	6.2	104
CTA ULTI+ CC+ 21	2,220	2,770	600	2,434	2,978	618	5.0	6.2	121
CTA ULTI+ CC+ 22	2,370	3,160	600	2,584	3,368	618	5.0	6.7	163

Installation accessories: Roof curbs

ADJUSTABLE VENTILATED ROOF CURB



ATTENTION : With this type of roof curb installation, the installer is responsible for the ten-year roofing guarantee.

If the value of the slope is greater than that in the table below, you must send us (see MARK-NOT_55-EN_ Measurement_ Form):

- the value of the slope of your roof in %,
- the direction of the slope
- the orientation of the machine in relation to the slope of the building
- the thickness of the waterproofing complex (insulation + steel deck + membrane)

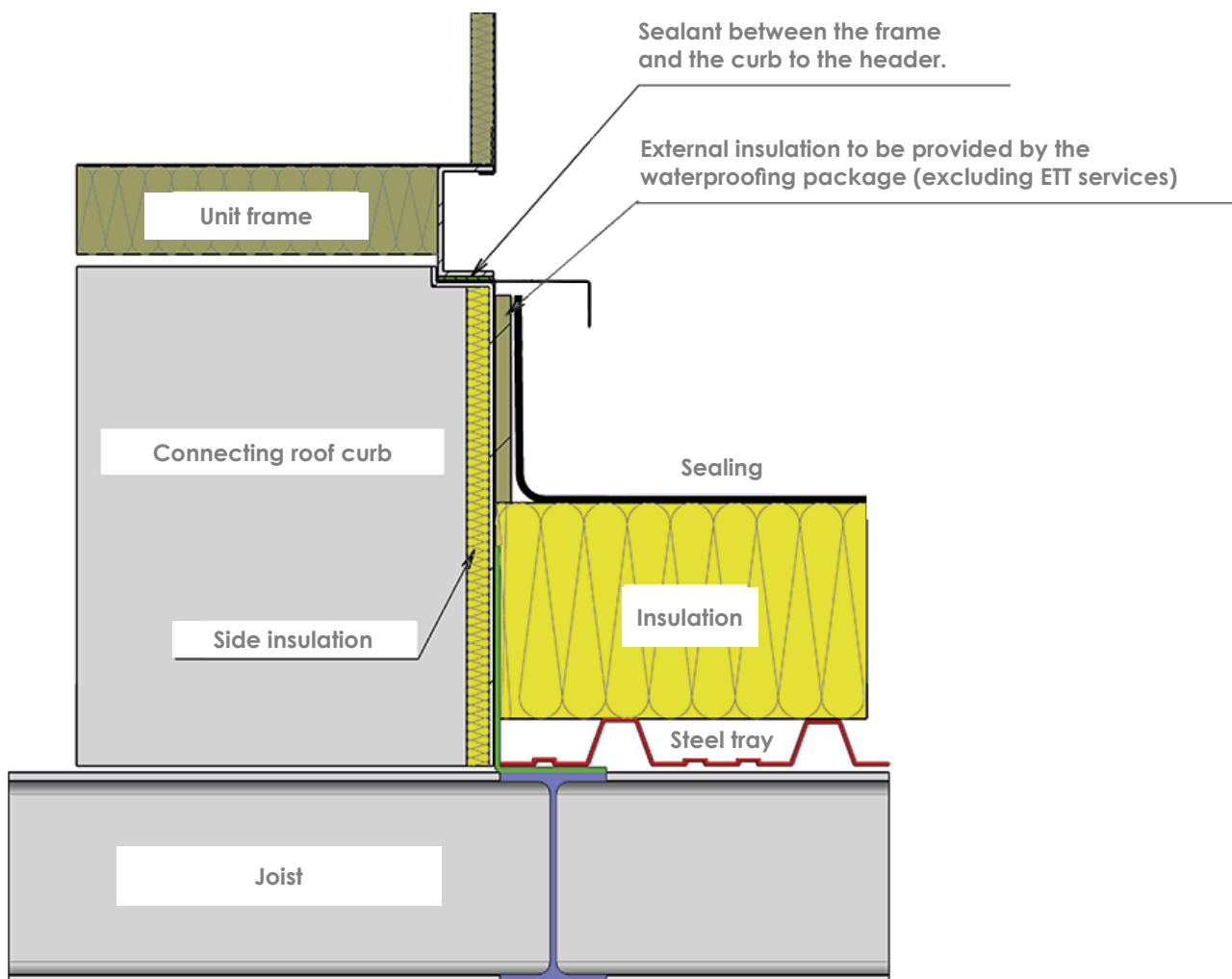
The roof curbs must be counter-drilled after assembly. **The machine must be bolted to the roof curb.**

Dimensions Dimensions (mm)	A	B	H	Overall width	Overall length	Overall height	Maxi slope lengthwise (%)	Maxi slope widthwise (%)	Weight
CTA ULTI+ CC+ 01	1,320	1,970	550	1,524	2,168	768	5.0	7.5	102
CTA ULTI+ CC+ 11	1,700	1,970	550	1,904	2,168	763	5.0	5.8	112
CTA ULTI+ CC+ 12	1,970	2,450	600	2,174	2,648	818	5.0	6.2	146
CTA ULTI+ CC+ 21	2,220	2,770	600	2,424	2,968	818	5.0	6.2	169
CTA ULTI+ CC+ 22	2,370	3,160	600	2,574	3,358	818	5.0	6.7	228

Accessories for installation: Roof curbs

HOW TO INSTALL ROOF CURBS

The diagram below is a schematic diagram,, se conforming to French standard DTU 43.1 (Sealing of flat roofs and pitched roofs with load-bearing masonry elements in lowland climates):

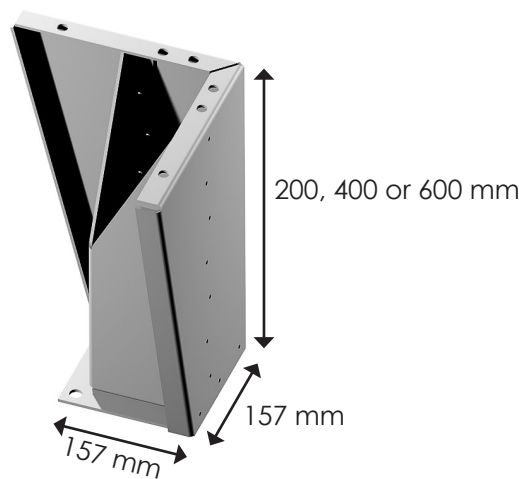


Note: The curbs are designed for a maximum total height of 345 mm of steel tray and insulation. To maintain a standard curb height (refer to the curb drawing), you need to check that, depending on the slope of the roof on site, the 'insulation and steel tray' height dimension leaves sufficient insulation height in accordance with French standard DTU 43.1.

An optional blanking plate can be supplied to protect the building from the bad weather between the installation of the curb and the unit.

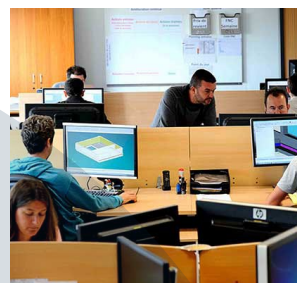
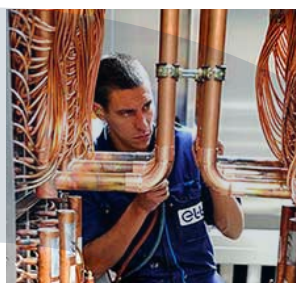
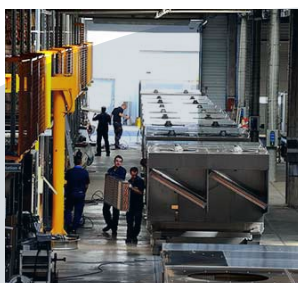
Installation accessories: Feet

Aluminium fixed foot
Unit weight: 1 kg



	CTA ULTI+ CC+ 01	CTA ULTI+ CC+ 11	CTA ULTI+ CC+ 12	CTA ULTI+ CC+ 21	CTA ULTI+ CC+ 22
No. of feet	4	4	4	4	4





Reference: MARK BRO_49_EN_G

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