ENVIRONMENTAL
CLIMATE CONTROL
EQUIPMENT &
SOLUTIONS

Green Line

CTA ULTI+

Single Flow Air Handling Unit

MADE IN FRANCE

www.ett-hvac.com

CTA ULTI+: CTA ULTIMA Green Line unit

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.**

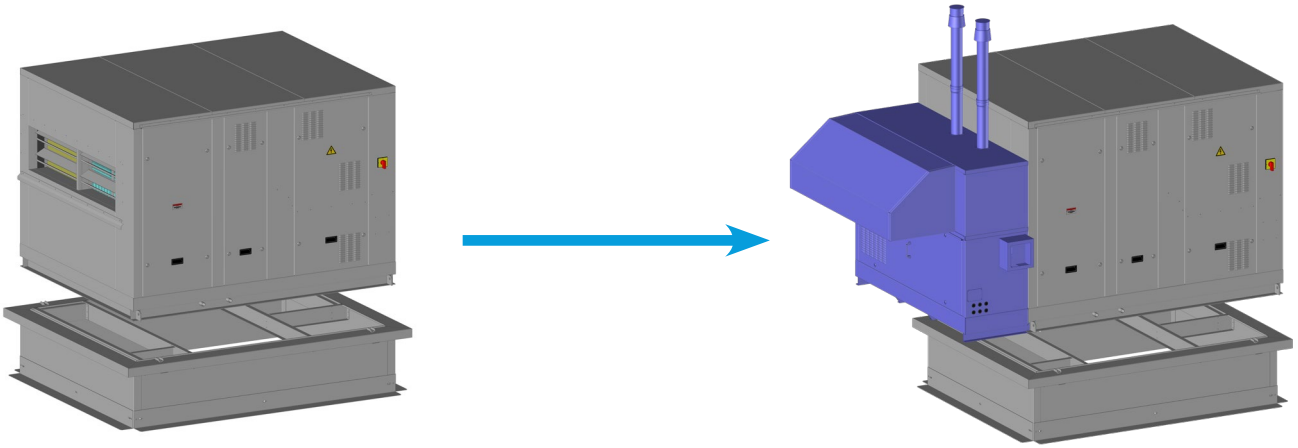
The range has been completely designed to meet the constraints of weight and dimensions that we encounter on renovation sites, replacing existing units.

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+

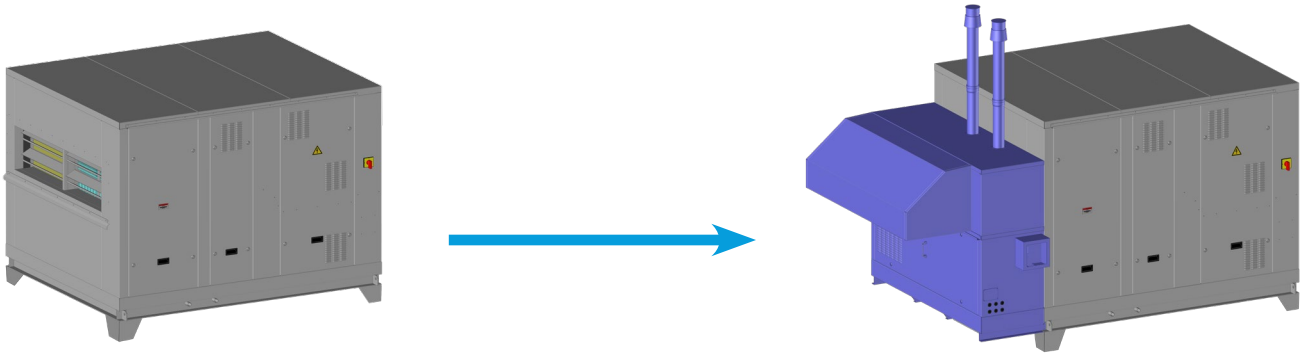
CTA ULTI+ CC+
Condensing boilers module



INSTALLATION ON FEET,
Ground level

CTA ULTI+

CTA ULTI+ CC+
Condensing boilers module



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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**

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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

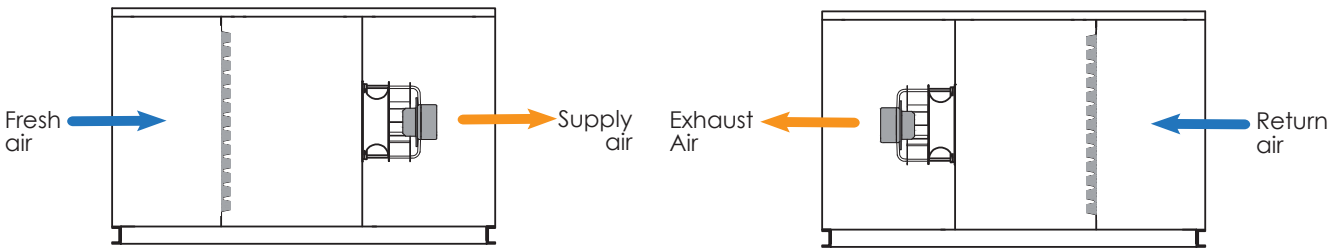
Requirement thresholds for SFVUs		1 January 2016	1 January 2018
Fan minimum efficiency [η_{vu}]	P < 30 KW	6.2 % x ln (P) + 35 %	6.2 % x ln (P) + 42 %
	P > 30 KW	56.1%	63.1%
Internal SFP (reference configuration) SFP $_{int\ max}$ [w/(m³ / s)]		250	230
Multi-speed or variable speed motor		Yes	Yes
Light signal or alarm in case of filter fouling > ΔP_{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.

EcoLogic

• ETT CERTIFICATIONS

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

GOLD | Top 5% ecovadis Sustainability Rating JAN 2025

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

ISO 14001 ISO 9001

- **Certificate of competence for handling refrigerants**
- **Membership of the UN Global Compact**
- **Qualiopi certification** for our training centre

Qualiopi processus certifié RÉPUBLIQUE FRANÇAISE
La certification qualité a été délivrée au titre de la catégorie d'action suivante : Actions de formation

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

ENERGY SAVING

ENVIRONMENTAL ATTITUDE

SERVICE LINK

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Unit description

Aluminium frame and casing

Optimised tightness and thermal insulation.

Reduced weight, for new and renovation projects.

Numerous available arrangements.

20-Year anti-corrosion guarantee.

Ecodesign filtration

Low pressure drop.

Fouling analogue control.

ISO Coarse 65% Options (G4) type refillable

ISO ePM10 50% (M5),

ISO Coarse 65% (G4)+ISO ePM1 50% (F7),

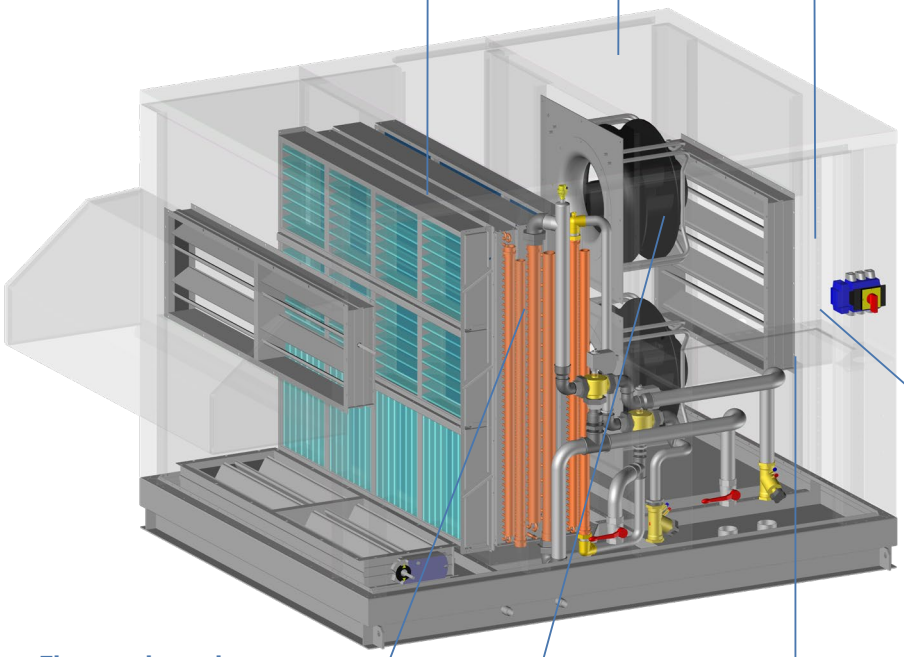
ISO Coarse 65% (G4)+ISO ePM1 80%(F9),

ISO ePM1 50% (F7),

ISO ePM1 80%(F9).

Waterproof electrical enclosure

Separate electrical plate in IP44 waterproof housing for added safety.



Connected components

Optimum unit operation.

Connection to myETTvision communication platform possible

myETTvision

Thermal exchangers

Exchange optimized for better energy performance.

Vinyl option available.

New generation controller with display

Control enabling optimum operation in all conditions.

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.

20-year guarantee against corrosion frame - casing

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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.
- Simplified replacement of existing machines; **identical existing roof curbs.**
- Reduced unit size and weight

Accesibility and flexibility

- **Separate technical compartment** from the air vein allowing intervention on the PLC without having to switch off the unit.
- **Free and simplified access to the filters** by removable panels.
- **Accessible components for maintenance.**
- **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 - Concepttype filtration up to ISO ePM1 80% (F9) possible.
- CO_2 probe 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

myETTvisionallows you to control and optimize your installation remotely.

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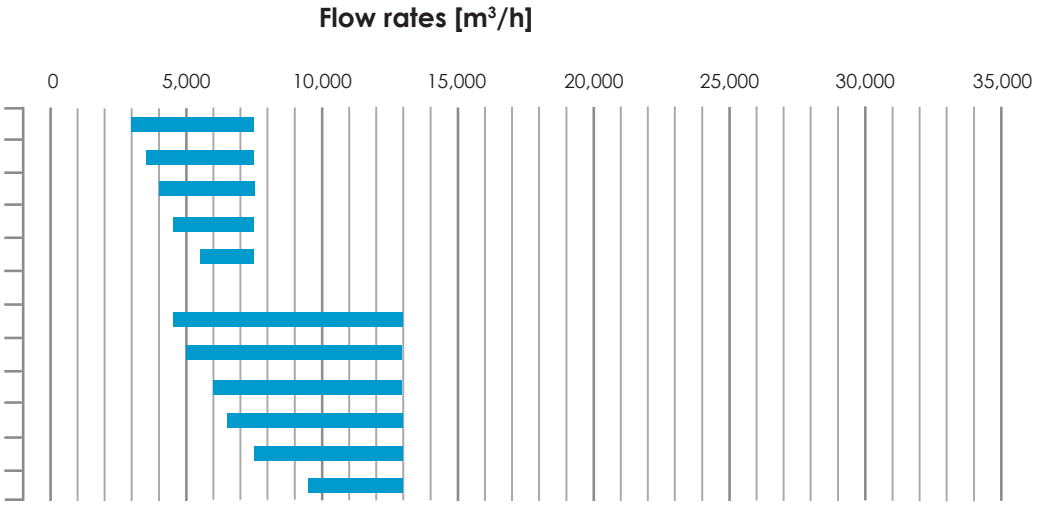
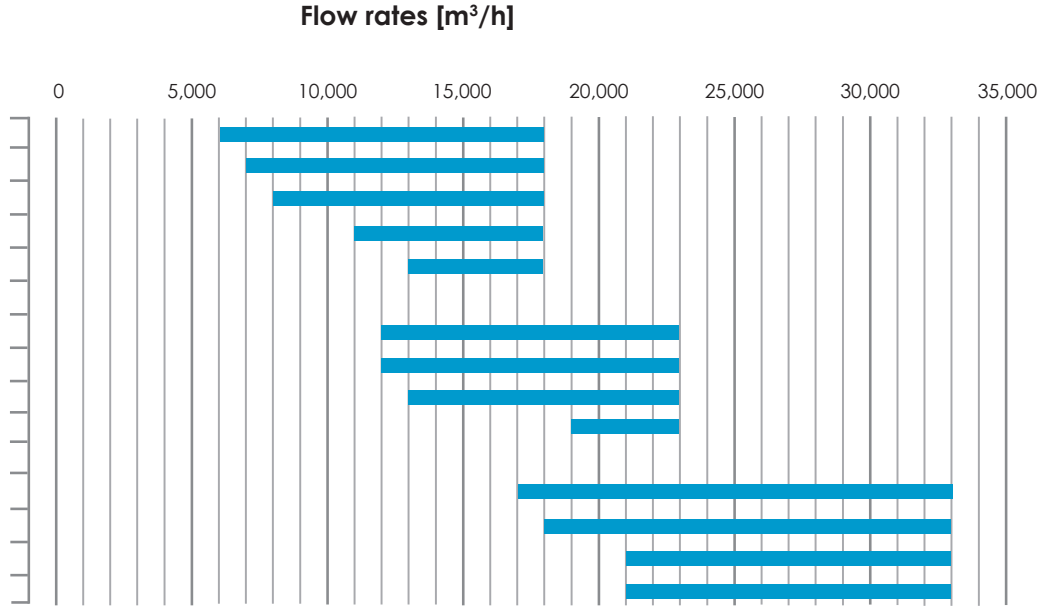
Unit description

A WIDE RANGE

Unit	Cooling capacity*
CTA ULTI+ 01-020	40
CTA ULTI+ 01-025	42
CTA ULTI+ 01-030	46
CTA ULTI+ 01-035	48
CTA ULTI+ 01-040	51
CTA ULTI+ 11-035	56
CTA ULTI+ 11-040	59
CTA ULTI+ 11-045	62
CTA ULTI+ 11-050	65
CTA ULTI+ 11-055	68
CTA ULTI+ 11-065	71



Unit	Cooling capacity*
CTA ULTI+ 12-050	82
CTA ULTI+ 12-055	86
CTA ULTI+ 12-065	91
CTA ULTI+ 12-075	96
CTA ULTI+ 12-080	101
CTA ULTI+ 21-080	119
CTA ULTI+ 21-090	125
CTA ULTI+ 21-095	130
CTA ULTI+ 21-110	135
CTA ULTI+ 22-115	158
CTA ULTI+ 22-130	163
CTA ULTI+ 22-140	171
CTA ULTI+ 22-150	177



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

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

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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

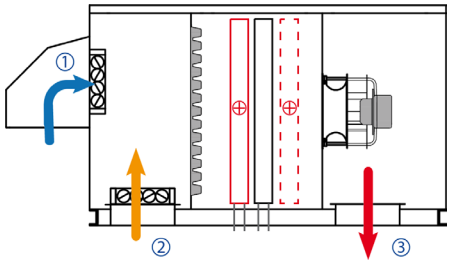
In these modes, the unit can operate:

>With all recirculated air

> With all fresh air

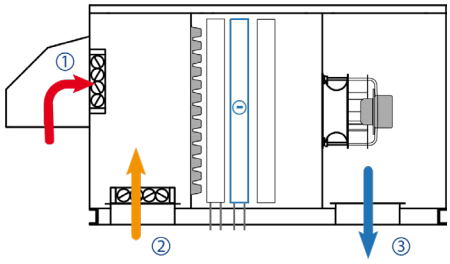
> Fresh air + return air

Heating mode



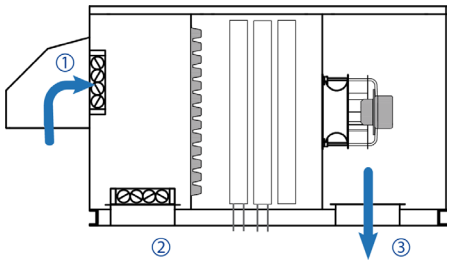
Heating mode: Maintenance of the comfort temperature in the winter by the hot water coil and by the recovery coil and/or the auxiliaries.

Cooling mode



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

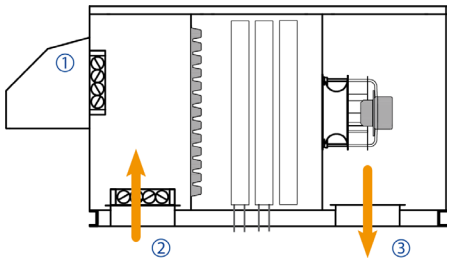
Free Cooling mode



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 CO_2 sensor does not indicate a need to introduce fresh air.

① Fresh air ② Return air ③ Supply air

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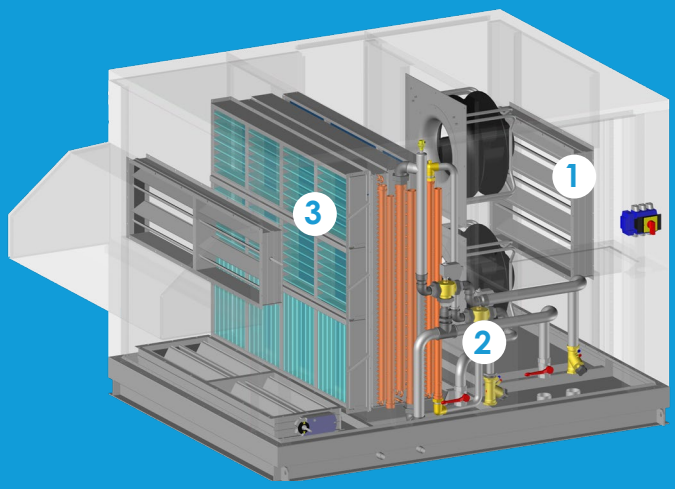
Detailed components



The ULTI CTA + unit comprises 3 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.

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 CO_2 probe.
  - ✓ 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.

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Detailed components

Energy package :

- **Internal exchangers:** Recovery water coil with external power supply + chilled water coil with external power supply + 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.

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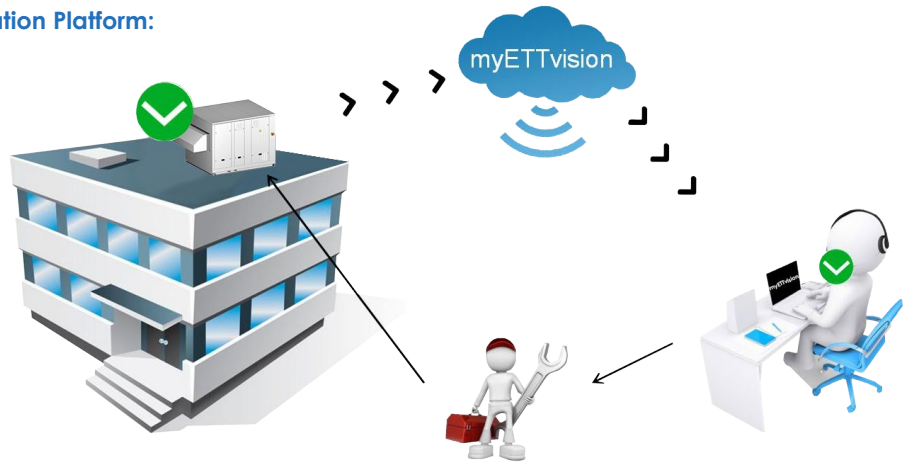
Detailed components

- ✓ **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).
- ✓ **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 MyETTvision remote communication platform** allowing access to parametrization, operation and energy monitoring, access to faults in your fleet of units.

myETTvision:

ETT Remote Communication Platform:



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.

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Main options

Frame - Casing
- 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
- Fresh air cowl acoustic insulation

Air handling
- 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
- 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
- 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
- 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
- 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)

Communication
- myETTvision
- ETT ControlBox remote display
- CCAD remote display
- Modbus IP
- BacNet IP

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Technical features

	DESIGNATION	Unit	020	025	030	035	040
VENTILATION	**FLOW RATES**						
	Rated air flow rate	**m³/h**	4,500	5,000	6,000	6,500	7,500
	Minimum air flow rate	**m³/h**	3,000	3 500	4,000	4,500	5,500
	Maximum air flow rate	**m³/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/m³/s**	166	167	189	200	225
	ACOUSTICS(2)						
	Sound power level on supply air	**dB(A)**	86	85	78	85	86
	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
COOLINGPERFORMANCE	**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						
	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
PERFORMANCES HEATING	**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						
	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
GENERAL	**ELECTRICAL DATA**						
	Total installed electrical power (2) (3)	**kW**			7.0		
	Total installed electrical intensity (2)(2)	**A**			10.9		
	Starting current (2)	**A**			10.9		
	Maximum absorbed electrical power (2)	**kW**			7.0		
	CASING DIMENSIONS						
	Casing length (excluding options)	**mm**			1,954		
	Casing width (excluding options)	**mm**			1,382		
	Casing height (excluding options)	**mm**			1,435		
	WEIGHT						
	Unit weight without options (2)	**kg**			398		
	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.

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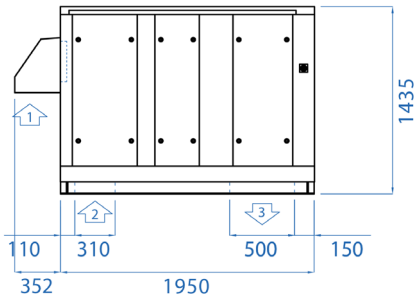
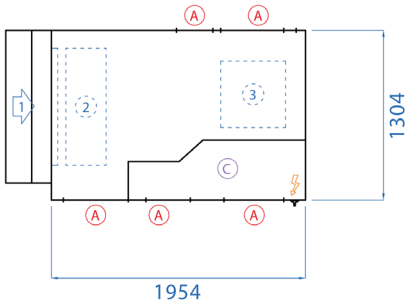
Dimensions and connections

SUPPLY & RETURN AIR BELOW

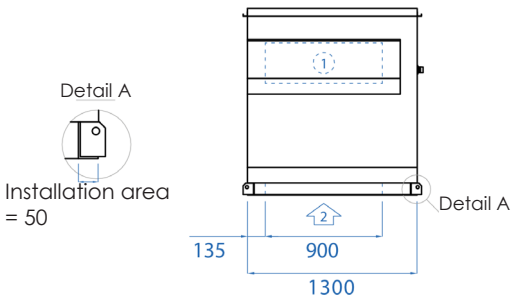
Side view:



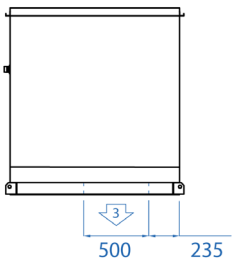
Top view:



Return air side view:



Supply air side view:



① Fresh air
② Return air
③ Supply air
⚡ Power supply
Ⓐ Access
Ⓒ Technical section

		Length	Width	Height
Casing dimensions		**1954 mm**	**1,382 mm**	**1,435 mm**
Transport overall dimensions		**2004 mm**	**1432 mm**	**1485 mm**
OPTIONS	Fresh air cowl	2304 mm	1382 mm	1435 mm
	Side return air	1954 mm	1507 mm	1435 mm
	RA/FA/SA on top	1954 mm	1382 mm	1560 mm
	Recovery	1954 mm	1832 mm	1435 mm
	Supply air on side	1954 mm	2133 mm	1435 mm

Nota: Fresh air cowls shall be fitted by the installer.

FA = Fresh air; RA = Return air; SA = Supply air

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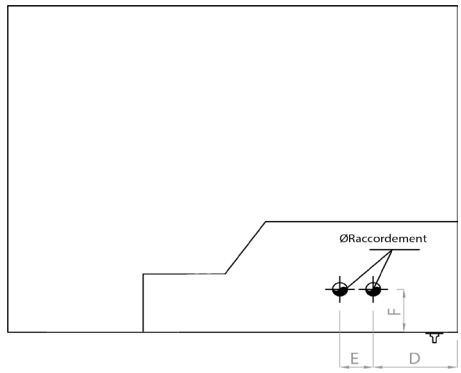
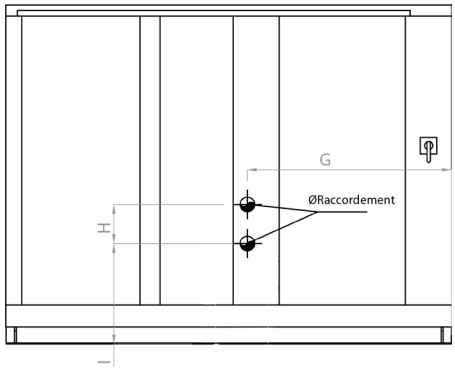
Hot water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

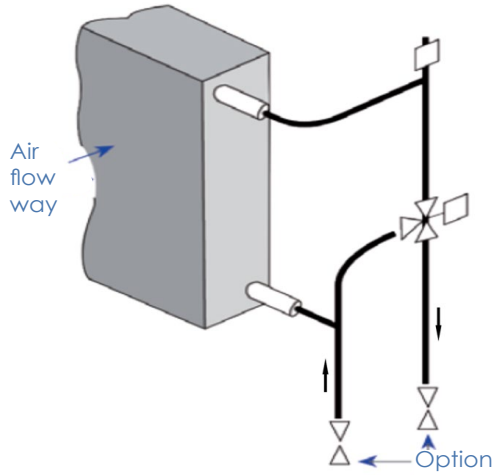
Rear-end service



Side service



Principle



	DIMENSIONS	UNIT	SERIE 01-XXX
Service 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 (Nm3/h)		4,500	5,000	6,000	6,500	7,500
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	**m3/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	**m3/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	**m3/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	**m3/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

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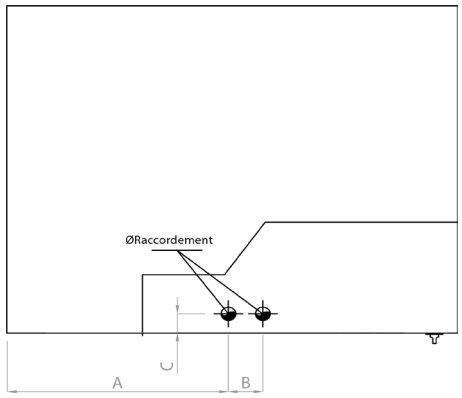
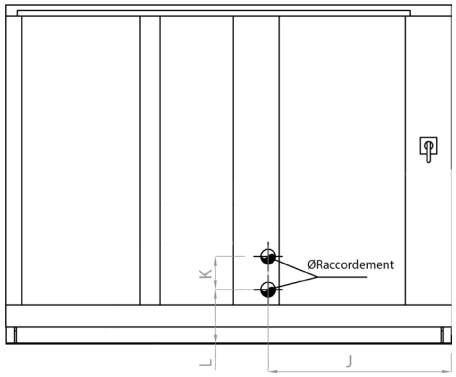
Chilled-water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

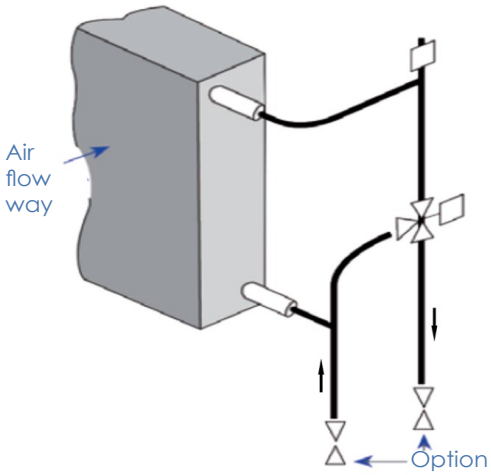
Rear-end service



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 (Nm3/h)		4,500	5,000	6,000	6,500	7,500
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	**m3/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	**m3/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	**m3/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	**m3/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

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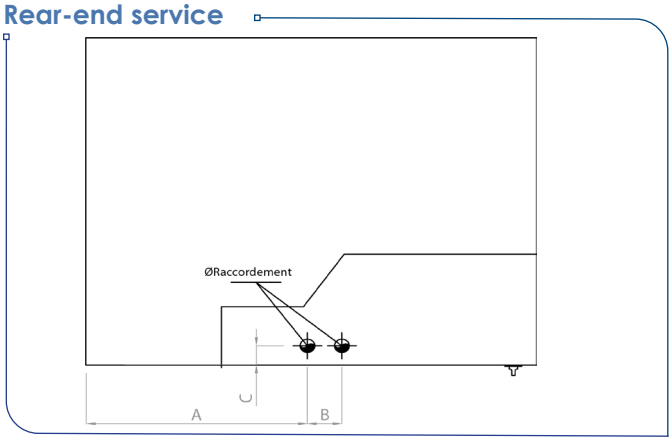
Recovery water coil
with external connection

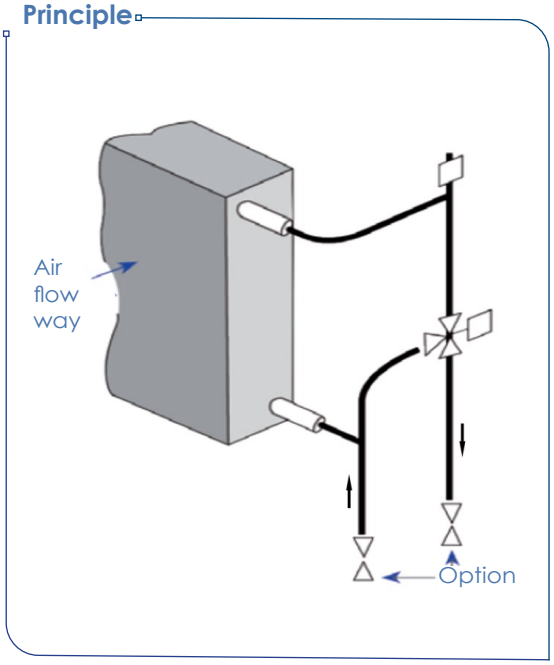
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIE 01-XXX
A	mm	914
B	mm	163
C	mm	112
Ø	mm x mm	40 x 49

Principle



► possibility to connect the coil on the opposite side to the technical compartment.

CAPACITIES

	Unit	020	025	030	035	040
	Flow rate (Nm3/h)	4,500	5,000	6,000	6,500	7,500
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

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Technical features

	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
COOLINGPERFORMANCE	**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
GENERAL	**ELECTRICAL DATA**							
	Total installed electrical power (2) (3)	kW	11.0					
	Total installed electrical intensity (2)(3)	A	17.1					
	Starting current (2)	A	17.1					
	Maximum absorbed electrical power (2)	kW	11.0					
	CASING DIMENSIONS							
	Casing length (excluding options)	mm	1,954					
	Casing width (excluding options)	mm	1,781					
	Casing height (excluding options)	mm	1,830					
	WEIGHT							
	Unit weight without options (2)	kg	520					
	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.

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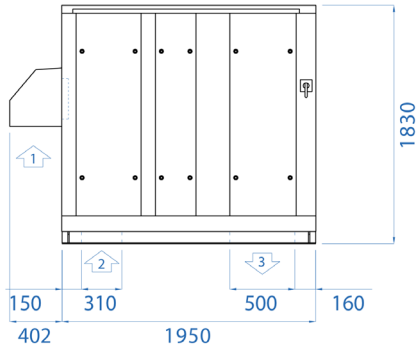
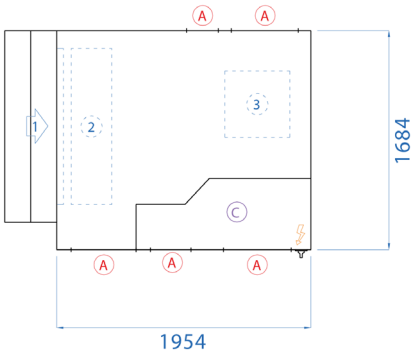
Dimensions and connections

SUPPLY & RETURN AIR BELOW

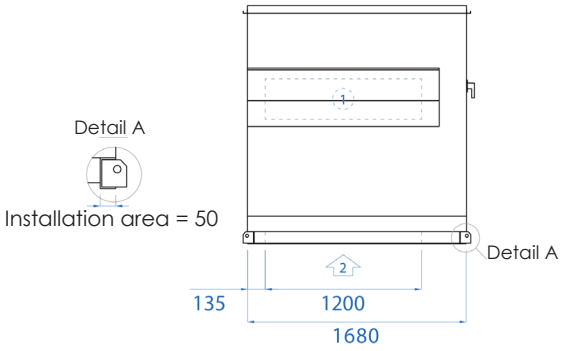
Side view:



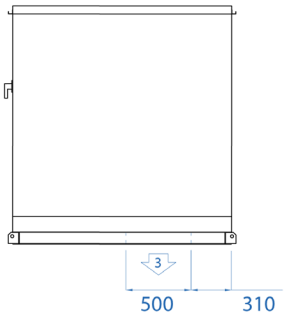
Top view:



Return air side view:



Supply air side view:



① Fresh air
② Return air
③ Supply air
⚡ Power supply
Ⓐ Access
Ⓒ Technical section

		Length	Width	Height
Casing dimensions		**1954 mm**	**1781 mm**	**1830 mm**
Transport overall dimensions		**2004 mm**	**1831 mm**	**1880 mm**
OPTIONS	Fresh air cowl	2354 mm	1781 mm	1830 mm
	Side return air	1954 mm	1906 mm	1830 mm
	RA/FA/SA on top	1954 mm	1781 mm	1955 mm
	Recovery	1954 mm	2231 mm	1830 mm
	Supply air on side	1954 mm	2546 mm	1830 mm

Nota: Fresh air cowls shall be fitted by the installer.

FA = Fresh air; RA = Return air; SA = Supply air

ETT may change equipment technical data without prior notice.
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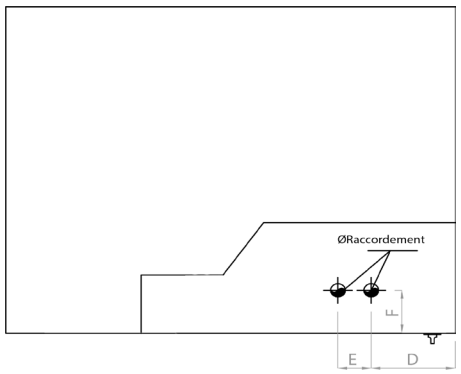
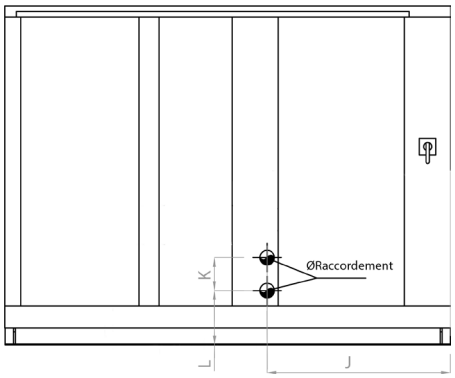
Hot water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

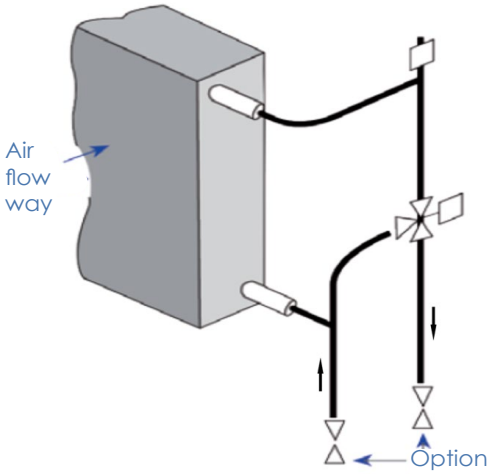
Rear-end service



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 (Nm3/h)		7,500	8,500	9,500	10,500	11,500	13,000
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

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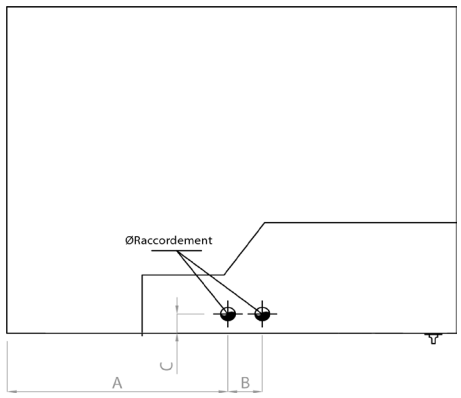
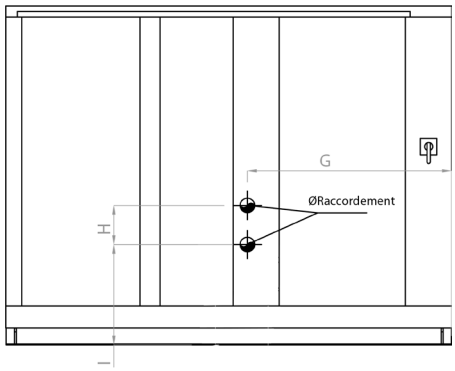
Chilled-water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

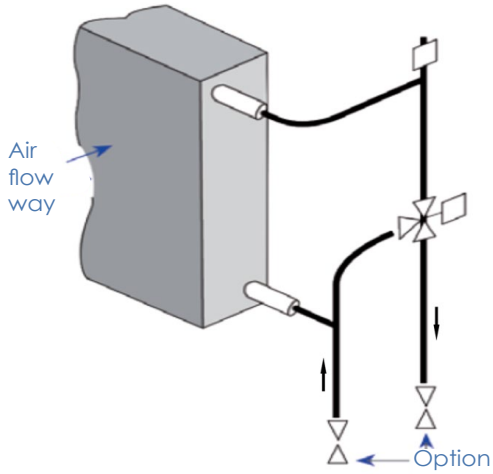
Rear-end service



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 (Nm3/h)		7,500	8,500	9,500	10,500	11,500	13,000
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	**m3/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	**m3/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	**m3/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	**m3/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

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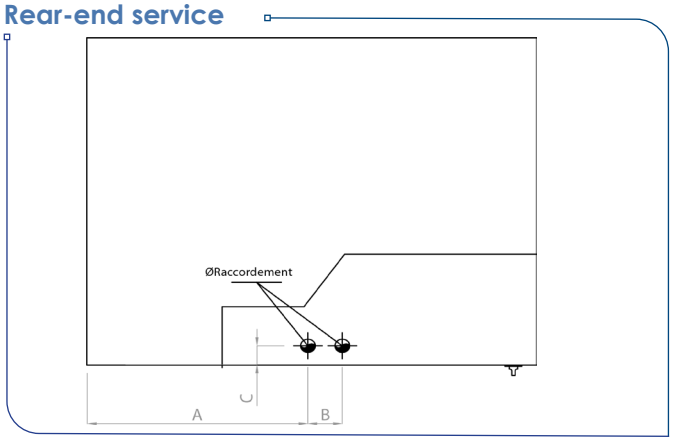
Recovery water coil
with external connection

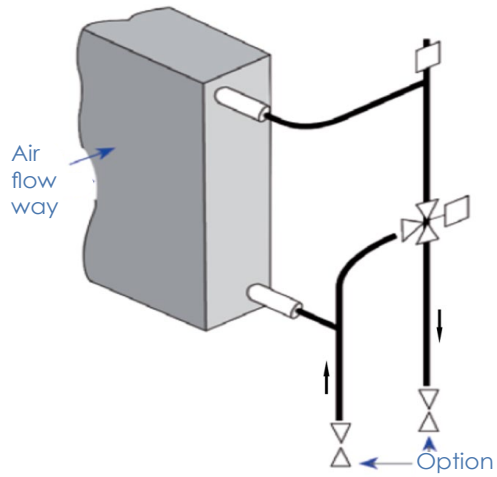
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIE 11-XXX
A	mm	795
B	mm	183
C	mm	98
Ø	mm x mm	40 x 49

Principle



► possibility to connect the coil on the opposite side to the technical compartment.

CAPACITIES

	Unit	035	040	045	050	055	065
	Flow rate (Nm3/h)	7,500	8,500	9,500	10,500	11,500	13,000
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	**m3/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	**m3/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

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Technical features

	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
	Outside sound power level	**dB(A)**	79	79	79	81	82
	Resulting outside sound pressure at 10 m, reference 10^{-5} in free field	**dB(A)**	51	51	51	53	54
COOLINGPERFORMANCE	**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
PERFORMANCES HEATING	**NOMINAL PERFORMANCE AT -7°C / 95% ON THE EXCHANGER**						
	Heat output for water temperature 80°C/60°C	**kW**	197.2	213.0	227.8	245.8	262.2
	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
GENERAL	**ELECTRICAL DATA**						
	Total installed electrical power (2) (3)	**kW**			11.0		
	Total installed electrical intensity (2)(3)	**A**			17.1		
	Starting current (2)	**A**			17.1		
	Maximum absorbed electrical power (2)	**kW**			11.0		
	CASING DIMENSIONS						
	Casing length (excluding options)	**mm**			2,434		
	Casing width (excluding options)	**mm**			2,049		
	Casing height (excluding options)	**mm**			1,850		
	WEIGHT						
	Unit weight without options (2)	**kg**			641		
	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.

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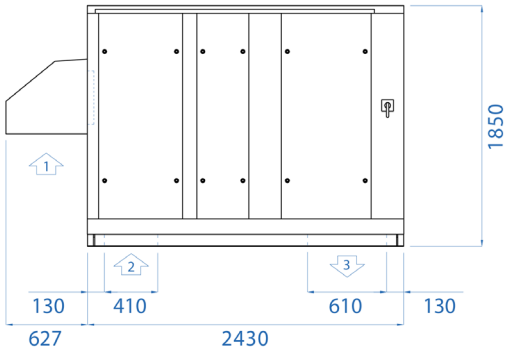
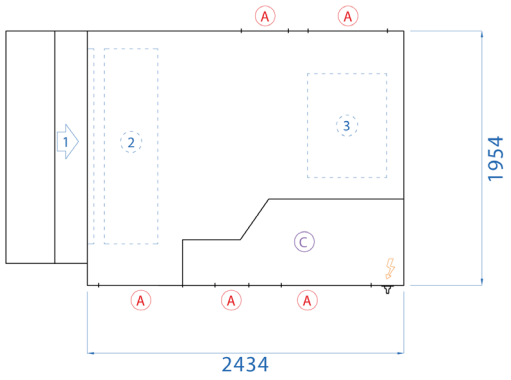
Dimensions and connections

SUPPLY & RETURN AIR BELOW

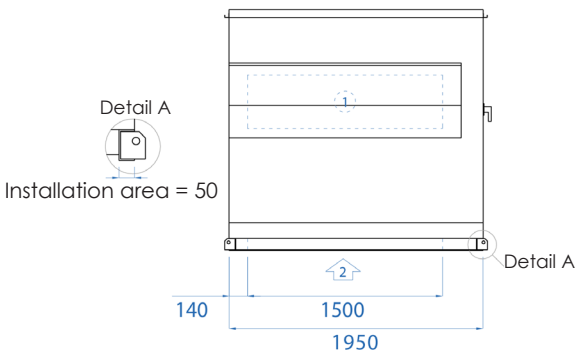
Side view:



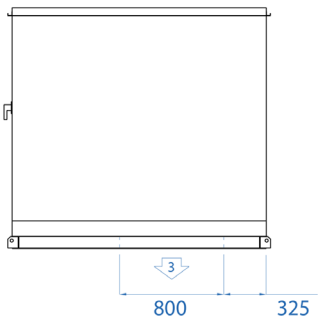
Top view:



Return air side view:



Supply air side view:



① Fresh air
② Return air
③ Supply air
⚡ Power supply
Ⓐ Access
Ⓒ Technical section

		Length	Width	Height
	Casing dimensions	**2434 mm**	**2049 mm**	**1850 mm**
	Transport overall dimensions	**2484 mm**	**2099 mm**	**1900 mm**
OPTIONS	Fresh air cowl	3059 mm	2049 mm	1850 mm
	Side return air	2434 mm	2174 mm	1850 mm
	RA/FA/SA on top	2434 mm	2049 mm	1975 mm
	Recovery	2434 mm	2499 mm	1850 mm
	Supply air on side	2434 mm	2916 mm	1850 mm

Nota: Fresh air cowls shall be fitted by the installer.

FA = Fresh air; RA = Return air; SA = Supply air

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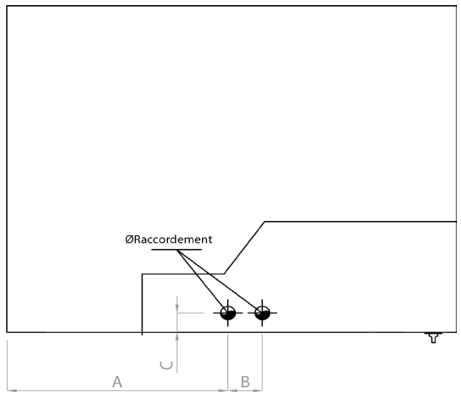
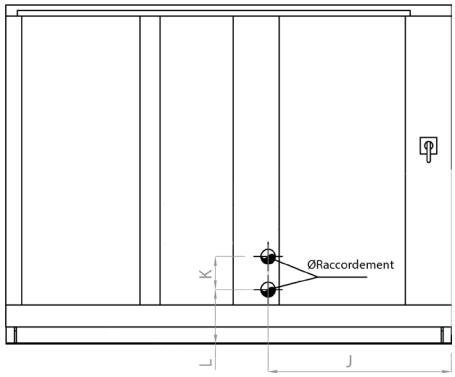
Hot water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

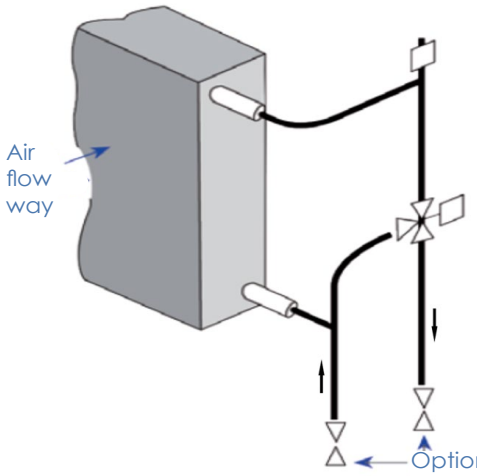
Rear-end service



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 (Nm3/h)	11,000	12,500	14,000	16,000	18,000
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	**m3/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	**m3/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	**m3/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	**m3/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

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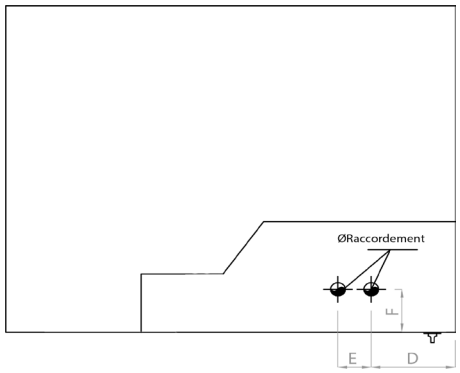
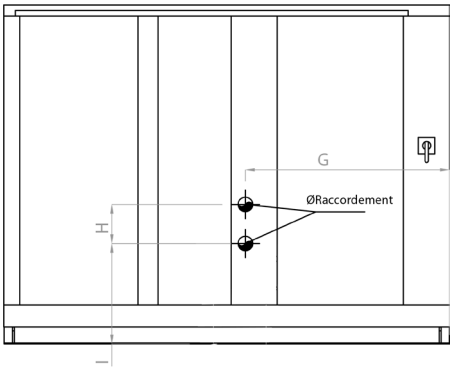
Chilled-water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

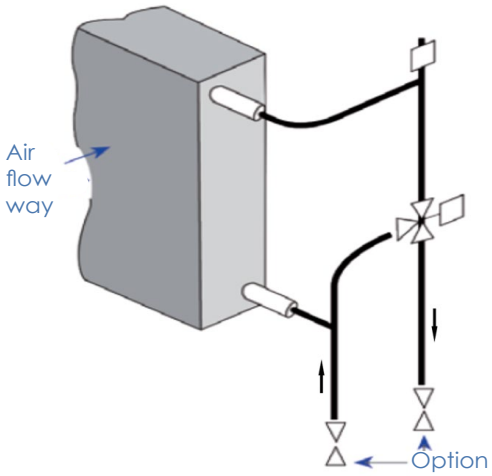
Rear-end service



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 (Nm3/h)		11,000	12,500	14,000	16,000	18,000
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	**m3/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	**m3/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	**m3/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	**m3/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

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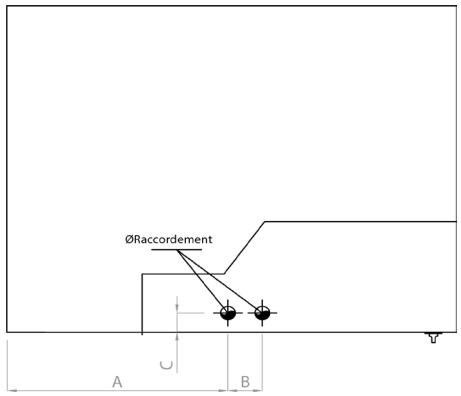
Recovery water coil
with external connection

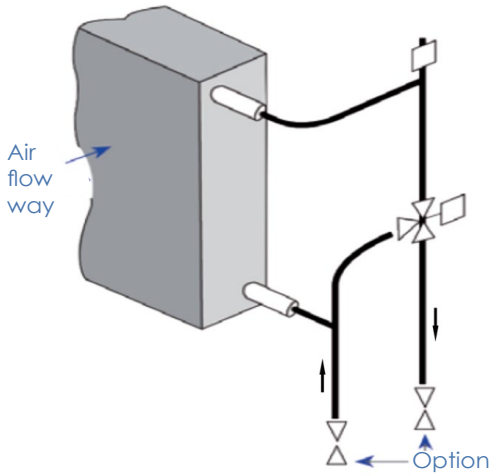
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIE 12-XXX
A	mm	1994
B	mm	186
C	mm	113
Ø	mm x mm	50 x 60

Principle



► possibility to connect the coil on the opposite side to the technical compartment.

CAPACITIES

	Unit	050	055	065	075	080
	Flow rate (Nm3/h)	11,000	12,500	14,000	16,000	18,000
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

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Technical features

	DESIGNATION	Unit	080	090	095	110
VENTILATION	**FLOW RATES**					
	Rated air flow rate	**m³/h**	17,000	19,000	21,000	23,000
	Minimum air flow rate	**m³/h**	12,000	12,000	13,000	19,000
	Maximum air flow rate	**m³/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/m³/s**	166	166	170	183
	ACOUSTICS(2)					
	Sound power level on supply air	**dB(A)**	90	90	91	91
	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
COOLINGPERFORMANCE	**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					
	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
PERFORMANCES HEATING	**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					
	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
GENERAL	**ELECTRICAL DATA**					
	Total installed electrical power (2) (3)	**kW**		14.5		
	Total installed electrical intensity (2)(3)	**A**		22.5		
	Starting current (2)	**A**		22.5		
	Maximum absorbed electrical power (2)	**kW**		14.5		
	CASING DIMENSIONS					
	Casing length (excluding options)	**mm**		2,754		
	Casing width (excluding options)	**mm**		2,280		
	Casing height (excluding options)	**mm**		1,980		
	WEIGHT					
	Unit weight without options (2)	**kg**		812		
	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.

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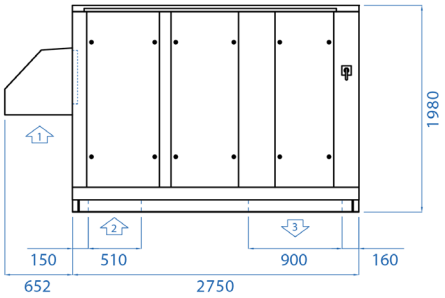
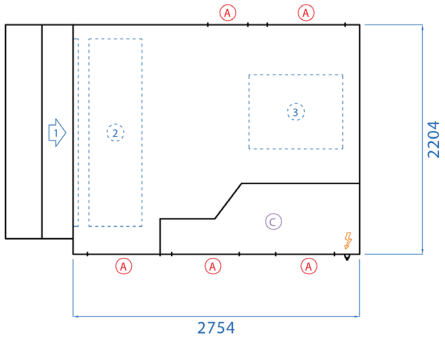
Dimensions and connections

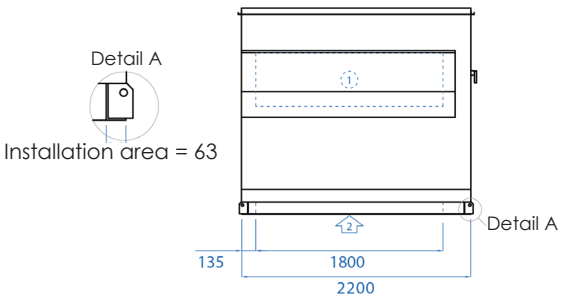
Side view:



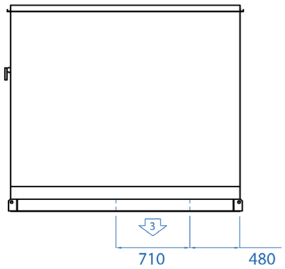
Top view:



Return air side view:



Supply air side view:



① Fresh air
② Return air
③ Supply air
⚡ Power supply
Ⓐ Access
Ⓒ Technical section

		Length	Width	Height
Casing dimensions		**2754 mm**	**2280 mm**	**1980 mm**
Transport overall dimensions		**2804 mm**	**2330 mm**	**2030 mm**
OPTIONS	Fresh air cowl	3404 mm	2280 mm	1980 mm
	Side return air	2754 mm	2405 mm	1980 mm
	RA/FA/SA on top	2754 mm	2280 mm	2105 mm
	Recovery	2754 mm	2730 mm	1980 mm
	Supply air on side	2754 mm	3209 mm	1980 mm

Nota: Fresh air cowls shall be fitted by the installer.

FA = Fresh air; RA = Return air; SA = Supply air

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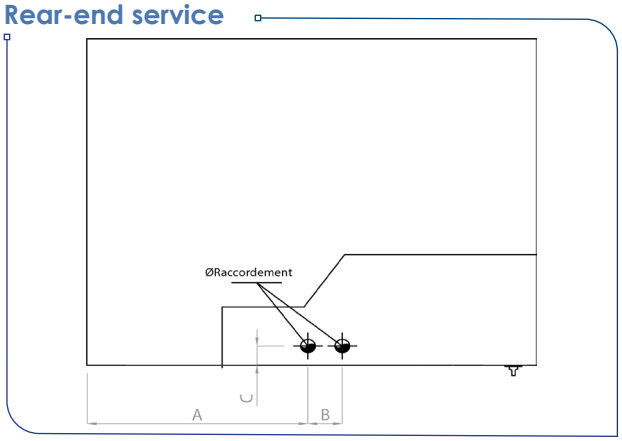
Hot water coil with external connection

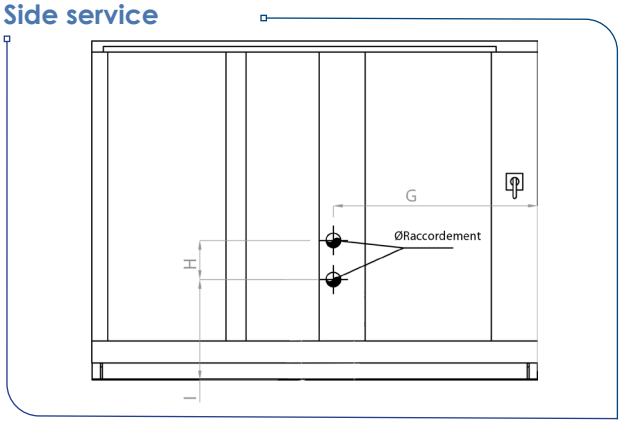
SCHEMATIC DIAGRAM AND CONNECTION

CTA ULTI+ 21

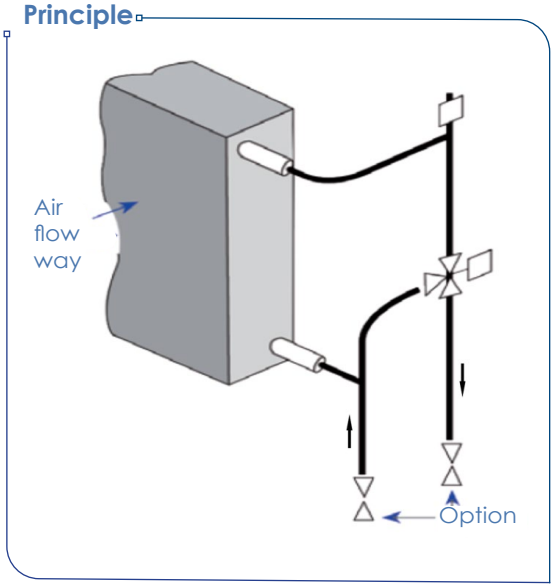
Rear-end service



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 (Nm3/h)	17,000	19,000	21,000	23,000
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

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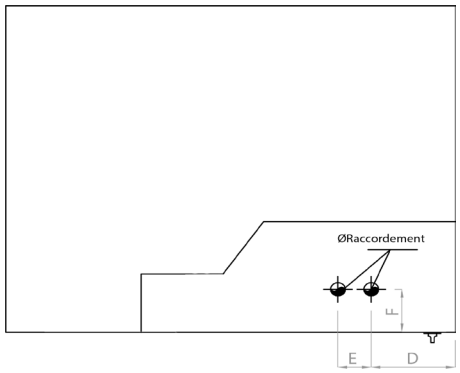
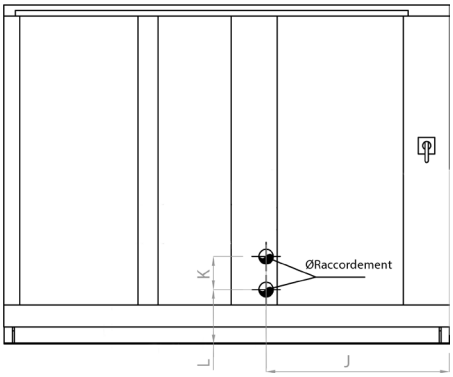
SCHEMATIC DIAGRAM AND CONNECTION

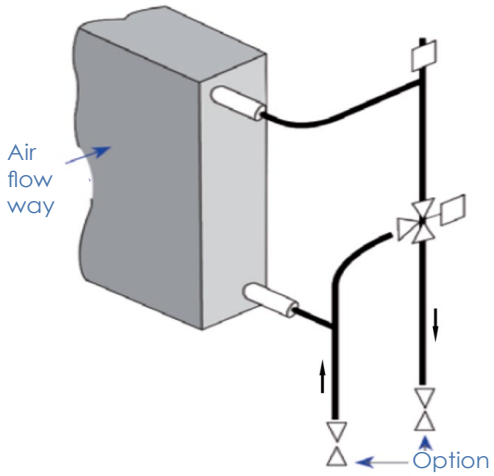
Rear-end service



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 (Nm3/h)	17,000	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	**m3/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	**m3/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	**m3/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	**m3/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

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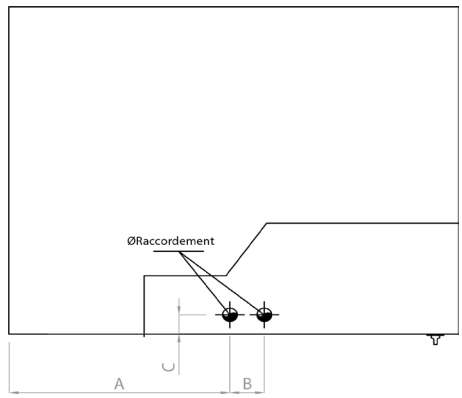
Recovery water coil
with external connection

SCHEMATIC DIAGRAM AND CONNECTION

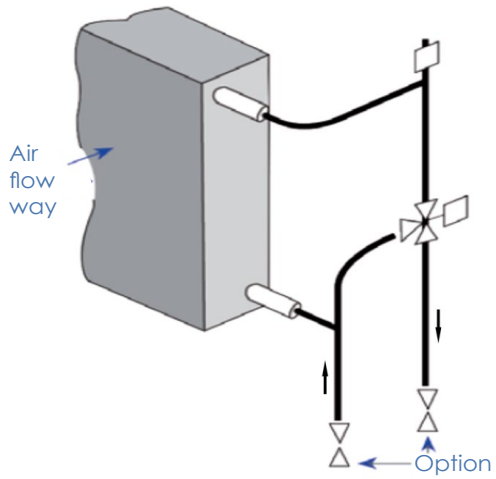
Rear-end service



DIMENSIONS	Unit	SERIE 21-XXX
A	mm	1,250
B	mm	200
C	mm	135
Ø	mm x mm	50 x 60

► possibility to connect the coil on the opposite side to the technical compartment.

Principle



Capacities

	Unit	080	090	095	110
	Flow rate (Nm3/h)	17,000	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

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Technical features

	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
	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	54	55	56
COOLINGPERFORMANCE	**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					
	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
PERFORMANCES HEATING	**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					
	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
GENERAL	**ELECTRICAL DATA**					
	Total installed electrical power (2) (3)	kW	18.0			
	Total installed electrical intensity (2)(3)	A	27.9			
	Starting current (2)	A	27.9			
	Maximum absorbed electrical power (2)	kW	18.0			
	CASING DIMENSIONS					
	Casing length (excluding options)	mm	3,144			
	Casing width (excluding options)	mm	2,437			
	Casing height (excluding options)	mm	2,475			
	WEIGHT					
	Unit weight without options (2)	kg	1113			
	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.

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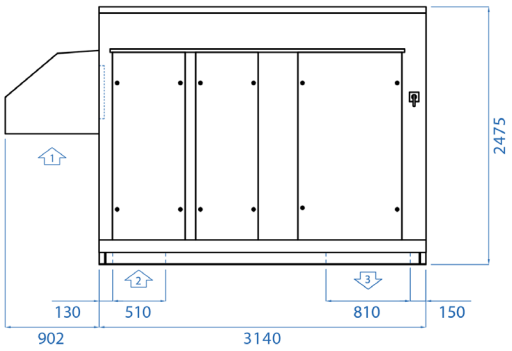
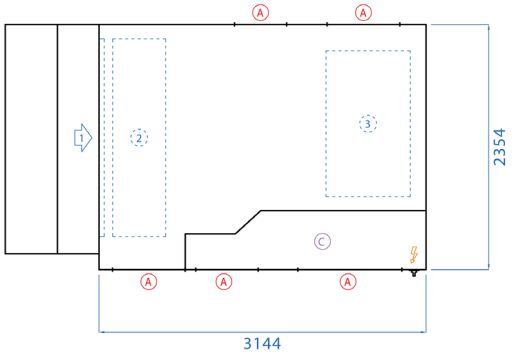
Dimensions and connections

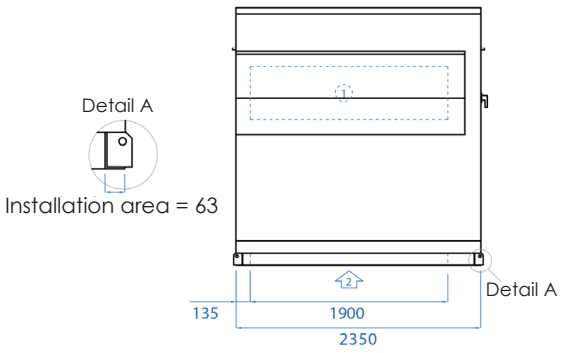
Side view:



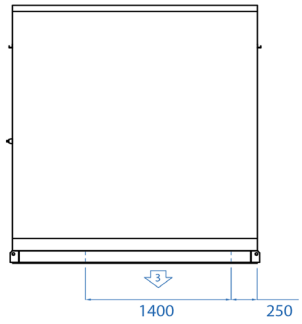
Top view:



Return air side view:



Supply air side view:



① Fresh air
② Return air
③ Supply air
⚡ Power supply
Ⓐ Access
Ⓒ Technical section

		Length	Width	Height
	Casing dimensions	**3144 mm**	**2437 mm**	**2475 mm**
	Transport overall dimensions	**3194 mm**	**2487 mm**	**2525 mm**
OPTIONS	Fresh air cowl	4044 mm	2437 mm	2475 mm
	Side return air	3144 mm	2562 mm	2475 mm
	RA/FA/SA on top	3144 mm	2437 mm	2600 mm
	Recovery	3144 mm	2887 mm	2475 mm
	Supply air on side	3144 mm	3359 mm	2475 mm

Nota: Fresh air cowls shall be fitted by the installer.

FA = Fresh air; RA = Return air; SA = Supply air

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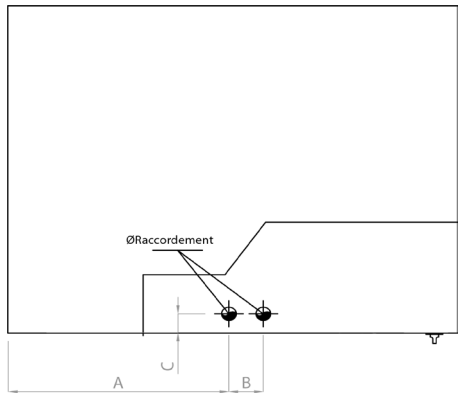
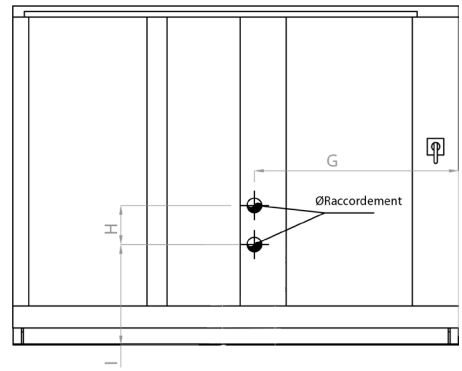
Hot water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

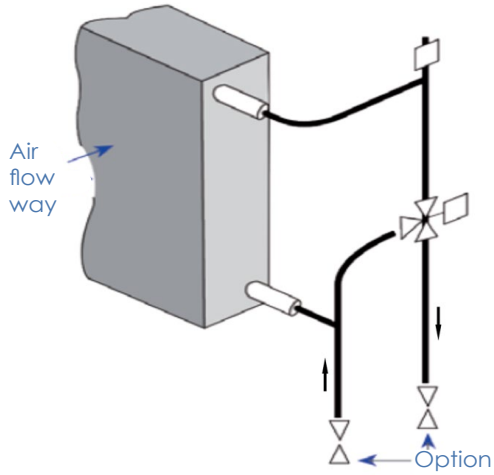
Rear-end service



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 (Nm3/h)	25,000	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	**m3/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	**m3/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	**m3/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	**m3/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

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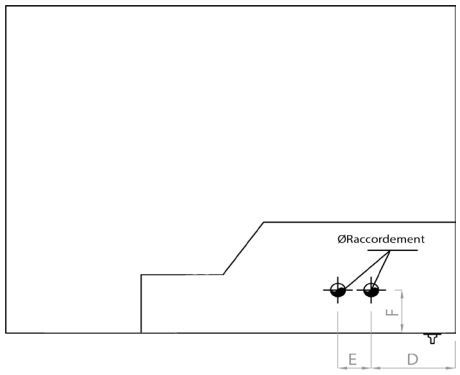
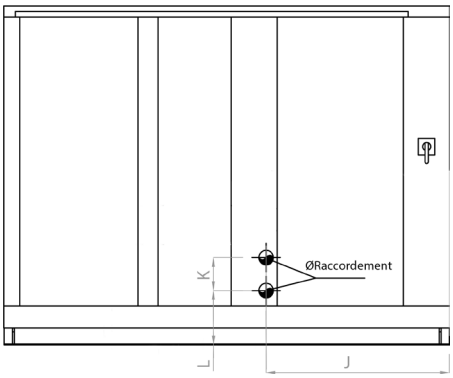
Chilled-water coil with external connection

SCHEMATIC DIAGRAM AND CONNECTION

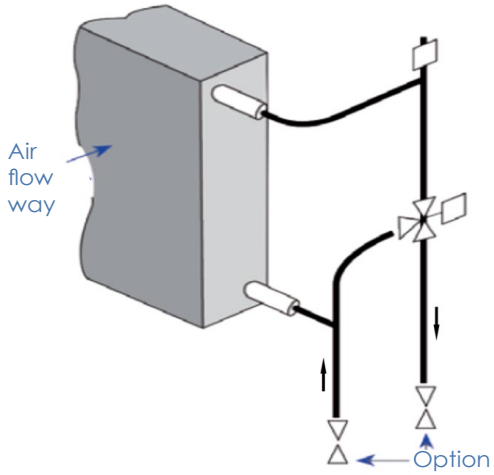
Rear-end service



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 (Nm3/h)	25,000	27,000	30,000	33,000
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	**m3/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	**m3/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	**m3/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	**m3/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

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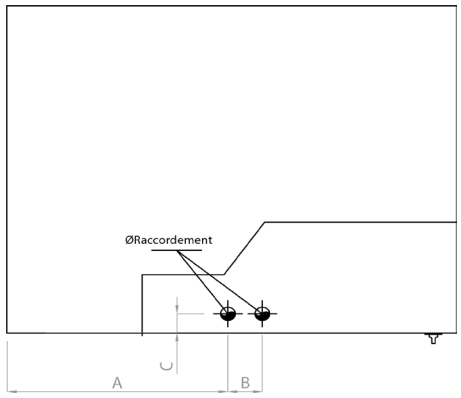
Recovery water coil
with external connection

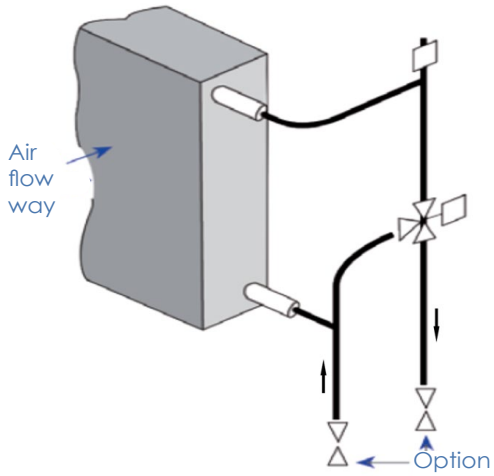
SCHEMATIC DIAGRAM AND CONNECTION

Rear-end service



DIMENSIONS	Unit	SERIE 22-XXX
A	mm	1282
B	mm	186
C	mm	167
Ø	mm x mm	50 x 60

Principle



► possibility to connect the coil on the opposite side to the technical compartment.

CAPACITIES

	Unit	080	090	095	110
	Flow rate (Nm3/h)	25,000	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

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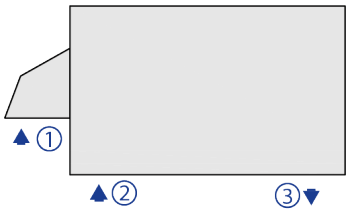
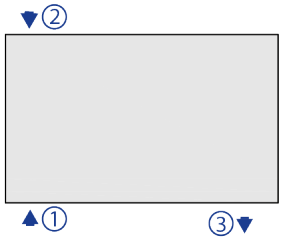
Arrangements

SUPPLY AIR *downwards*
Installation on roof curb or customer frame on roof

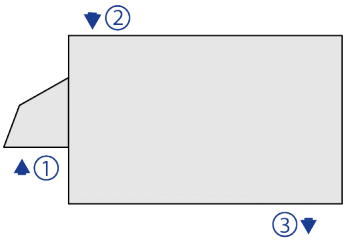
Arrangement 1.1



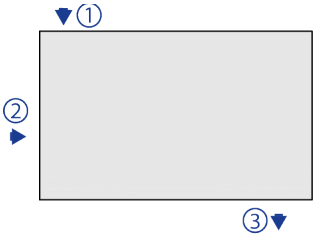
Arrangement 1.2



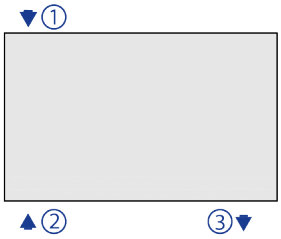
Arrangement 1.3



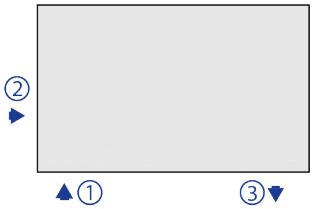
Arrangement 1.4: with whistle shaped cowl (optional)



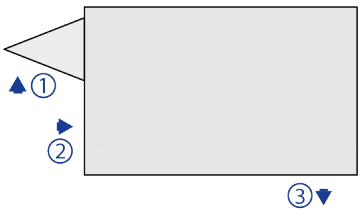
Arrangement 1.5: with whistle shaped cowl (optional)



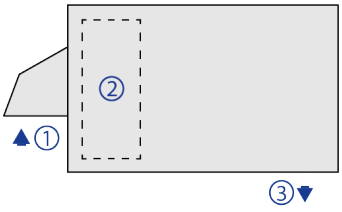
Arrangement 1.6



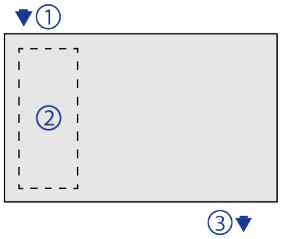
Arrangement 1.7



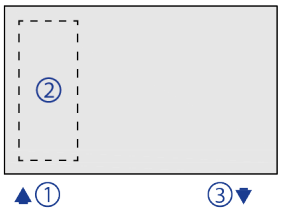
Arrangement 1.8



Arrangement 1.9: with whistle shaped cowl (optional)



Arrangement 1.10



① Fresh air ② Return air ③ Supply air

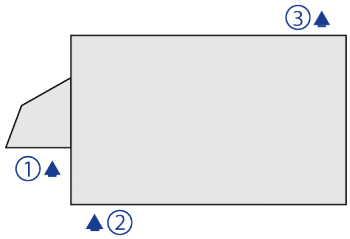
Arrangements

SUPPLY AIR *upwards*

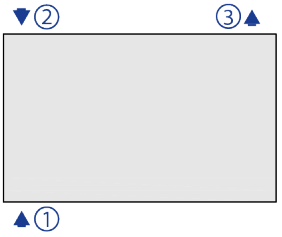
Installation on feet (200 mm minimum) or customer frame

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

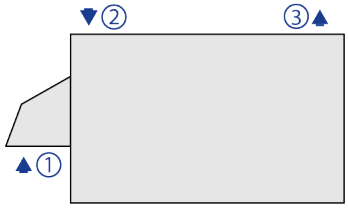
Arrangement 2.1



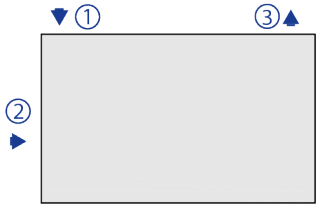
Arrangement 2.2



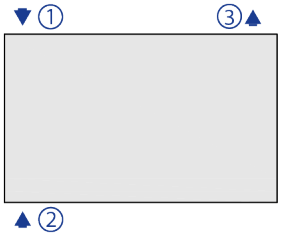
Arrangement 2.3



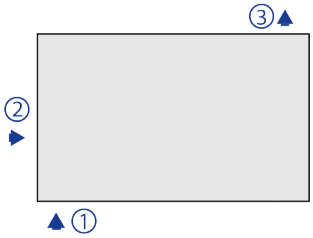
Arrangement 2.4: with whistle shaped cowl (optional)



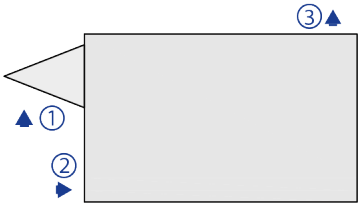
Arrangement 2.5: with whistle shaped cowl (optional)



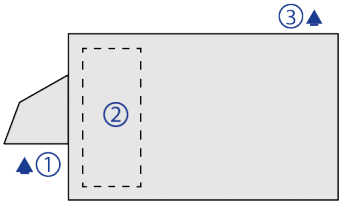
Arrangement 2.6



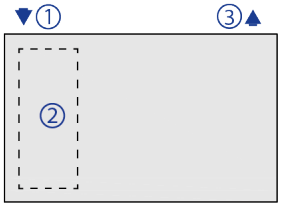
Arrangement 2.7



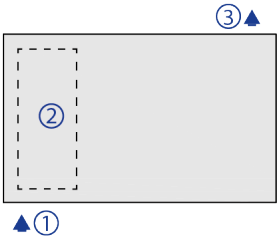
Arrangement 2.8



Arrangement 2.9: with whistle shaped cowl (optional)



Arrangement 2.10



① Fresh air ② Return air ③ Supply air

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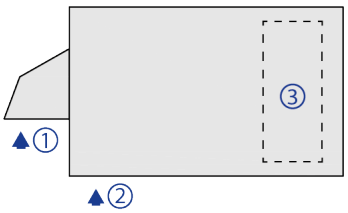
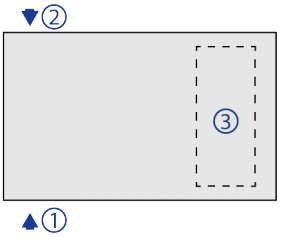
Arrangements

SUPPLY AIR *on side*
Opposite the technical section (with 200 mm feet minimum)

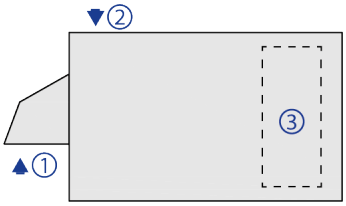
Arrangement 3.1



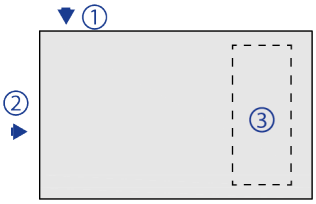
Arrangement 3.2



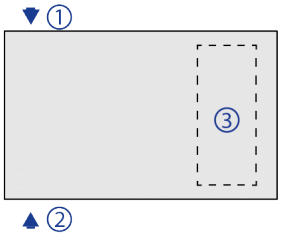
Arrangement 3.3



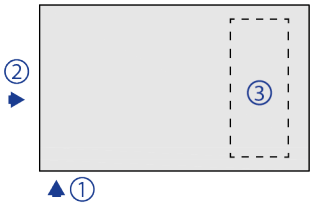
Arrangement 3.4: with whistle shaped cowl (optional)



Arrangement 3.5: with whistle shaped cowl (optional)

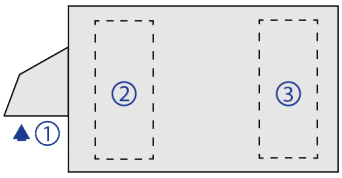


Arrangement 3.6

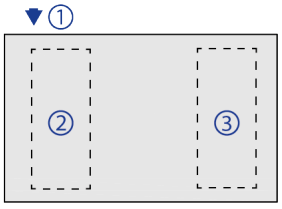


Arrangement 3.7

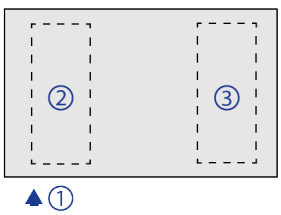
Arrangement 3.8



Arrangement 3.9: with whistle shaped cowl (optional)



Arrangement 3.10



① Fresh air ② Return air ③ Supply air

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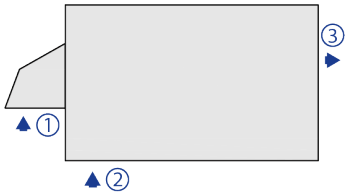
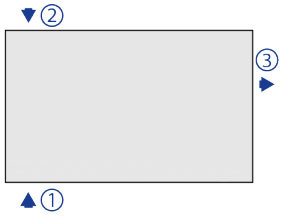
Arrangements

SUPPLY AIR *at the end*
Opposite the technical section (with 200 mm feet minimum)

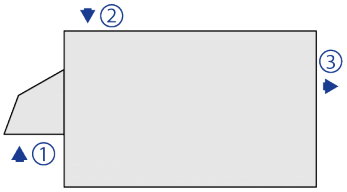
Arrangement 4.1



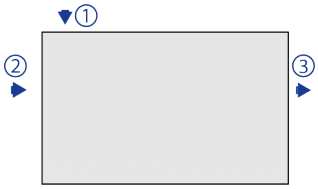
Arrangement 4.2



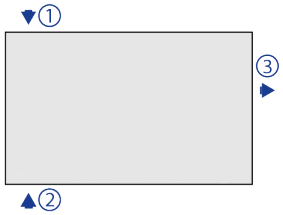
Arrangement 4.3



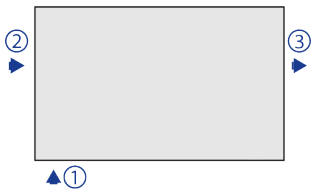
Arrangement 4.4: with whistle shaped cowl (optional)



Arrangement 4.5: with whistle shaped cowl (optional)

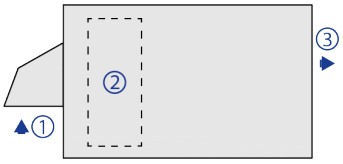


Arrangement 4.6

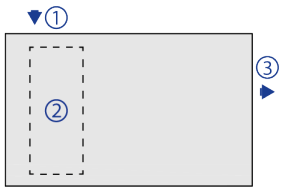


Arrangement 4.7

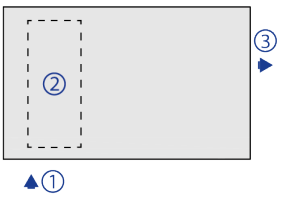
Arrangement 4.8



Arrangement 4.9: with whistle shaped cowl (optional)



Arrangement 4.10



① Fresh air ② Return air ③ Supply air

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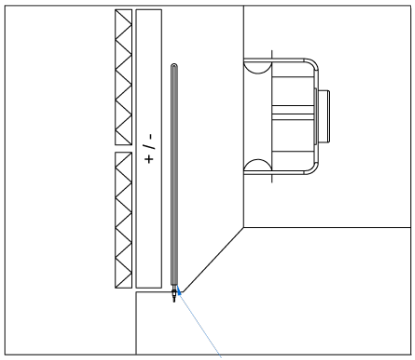
Auxiliary: Sequential electric heaters

SCHEMATIC DIAGRAM



Electric heaters

AVAILABLE CAPACITIES

Total capacity (kW)	Current (A)	1st stage	2nd stage	CTA ULTI+ 01	CTA ULTI+ 11	CTA ULTI+ 12	CTA ULTI+ 21	CTA ULTI+ 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.

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Options weight (kg)

Options		CTA ULTI+ 01	CTA ULTI+ 11	CTA ULTI+ 12	CTA ULTI+ 21	CTA ULTI+ 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

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Sound level

ACOUSTIC OUTPUT ON SUPPLY AIR 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	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**

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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	60	59	**78**
01- 025	56	70	69	72	70	65	60	59	**77**
01- 030	50	67	67	71	70	65	61	59	**76**
01- 035	48	64	67	70	71	65	61	59	**76**
01- 040	46	58	67	70	72	66	61	60	**76**
11- 035	58	65	82	76	74	69	63	60	**84**
11- 040	55	62	80	75	73	69	63	60	**82**
11- 045	53	59	78	74	73	69	64	61	**81**
11- 050	50	57	76	74	72	69	64	61	**80**
11- 055	49	56	74	74	72	69	66	61	**79**
11- 065	48	54	72	74	73	70	69	62	**79**
12- 050	50	56	75	74	72	69	65	61	**79**
12- 055	49	54	72	74	73	69	68	61	**79**
12- 065	48	53	71	75	73	70	70	62	**79**
12- 075	48	53	72	75	74	71	72	66	**81**
12- 080	49	54	72	77	75	73	75	70	**82**
21- 080	51	58	76	76	74	71	67	63	**81**
21- 090	50	56	74	76	74	71	70	63	**81**
21- 095	50	55	73	76	75	72	72	64	**81**
21- 110	50	55	73	77	76	73	73	66	**82**
22- 115	52	57	75	77	76	72	71	64	**82**
22- 130	51	56	74	77	76	73	72	65	**82**
22- 140	51	56	74	78	77	74	74	67	**83**
22- 150	51	56	75	79	78	75	76	70	**84**

> Rated flow rate

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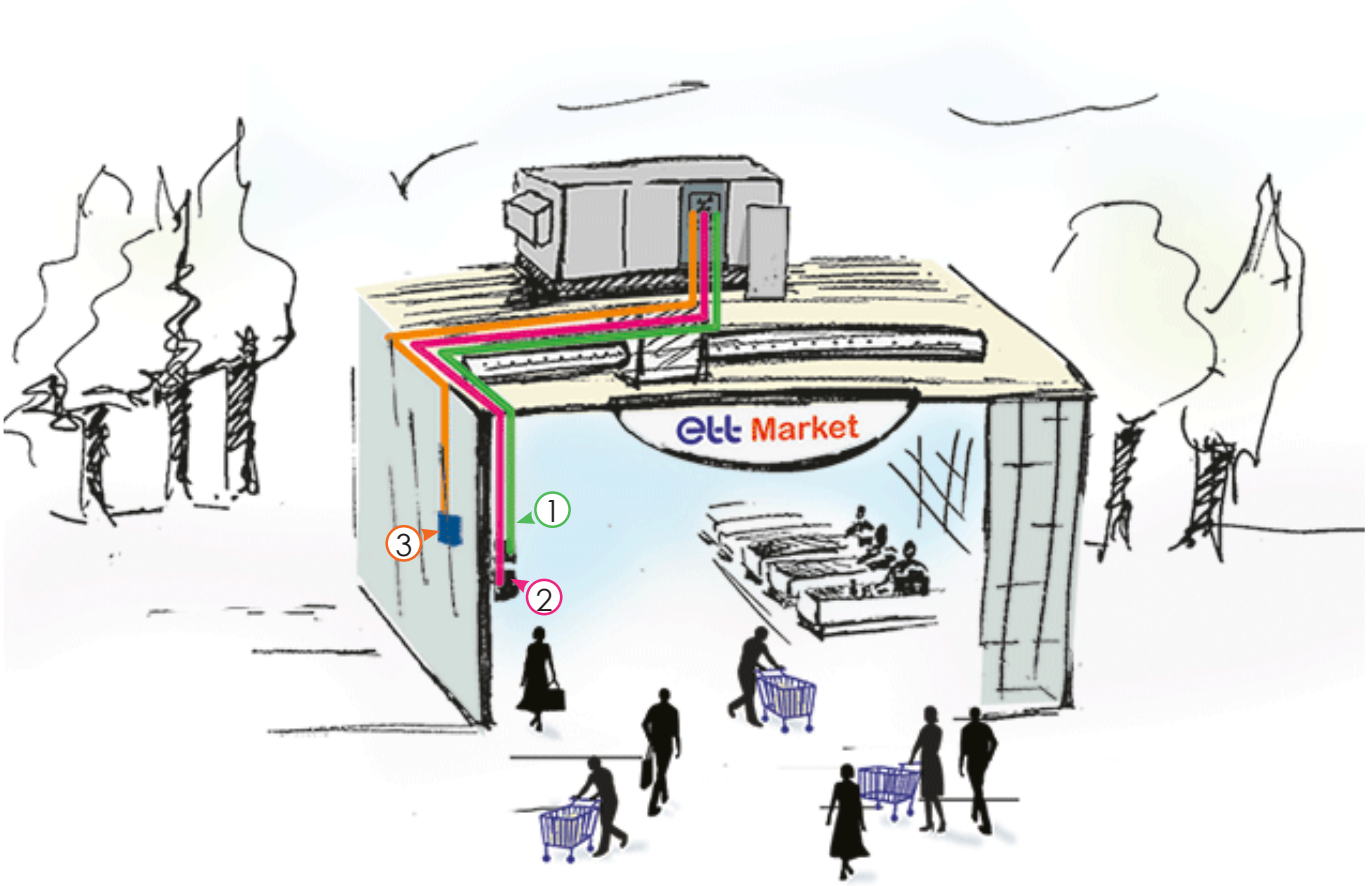
Sound level

RESULTING OUTSIDE SOUND PRESSURE LEVEL AT 10 M, REF. 2*10^{-5} IN FREE FIELD, DIRECTIVITY 2 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	32	44	43	45	42	37	32	31	**50**
01- 025	28	42	41	44	42	37	32	31	**49**
01- 030	22	39	39	43	42	37	33	31	**48**
01- 035	20	36	39	42	43	37	33	31	**48**
01- 040	18	30	39	42	44	38	33	32	**48**
11- 035	30	37	54	48	46	41	35	32	**56**
11- 040	27	34	52	47	45	41	35	32	**54**
11- 045	25	31	50	46	45	41	36	33	**53**
11- 050	22	29	48	46	44	41	36	33	**52**
11- 055	21	28	46	46	44	41	38	33	**51**
11- 065	20	26	44	46	45	42	41	34	**51**
12- 050	22	29	47	46	44	41	37	33	**51**
12- 055	21	26	44	46	45	41	40	33	**51**
12- 065	20	25	43	47	45	42	42	34	**51**
12- 075	20	25	44	47	46	43	44	38	**53**
12- 080	21	26	44	49	47	45	47	42	**54**
21- 080	23	30	48	48	46	43	39	35	**53**
21- 090	22	28	46	48	46	43	42	35	**53**
21- 095	22	27	45	48	47	44	44	36	**53**
21- 110	22	27	45	49	48	45	45	38	**54**
22- 115	24	29	47	49	48	44	43	36	**54**
22- 130	23	28	46	49	48	45	44	37	**54**
22- 140	23	28	46	50	49	46	46	39	**55**
22- 150	23	28	47	51	50	47	48	42	**56**

> Rated flow rate

Probes connection principle



- ① **Room sensor:** 1 twisted shielded pair wire, 2 x 0.75 mm² LiY-CY (max. length 100ml)
- ② **CO_2 sensor:** 2 twisted shielded pairs wire, 3 x 0.75 mm² LIY-CY (max. length 100ml)
- ③ **Humidity sensor:** 2 twisted shielded pairs wire, 5 x 0.75 mm² LIY-CY (max. length 100 ml) *(optional)*

Nota:

- Please note that the value indicated can vary depending on probe 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 shelvings, 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).

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Accessories for installation: 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":

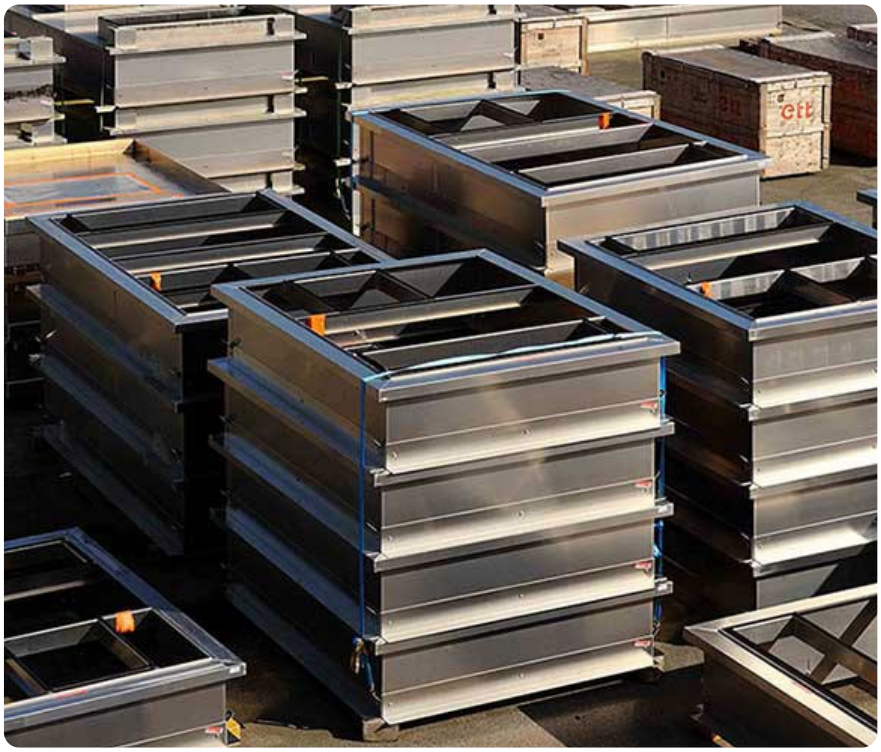
- Ventilated air gap of 200 mm. The machine is bolted on 4 (or 6) legs, with foam gasket sealing applied to the frames of the supply and return air ducts.
- The air gap also provides acoustic insulation, significantly reducing the noise radiated from the underside of the machine.
- The outlets of the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



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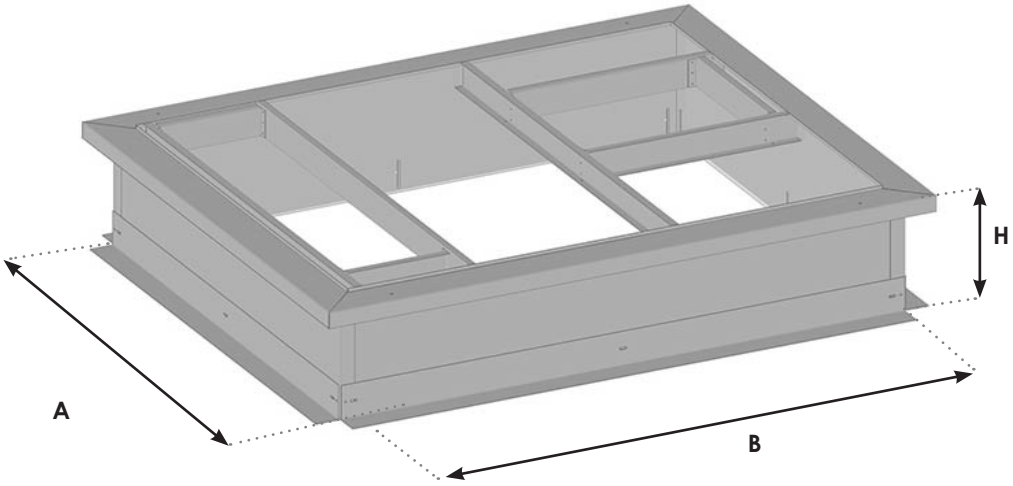
Installation accessories: Roof curbs

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+ 01	1,320	1,970	550	1,534	2,178	568	5.0	7.5	73
CTA ULTI+ 11	1,700	1,970	550	1,914	2,178	563	5.0	5.8	80
CTA ULTI+ 12	1,970	2,450	600	2,184	2,658	618	5.0	6.2	104
CTA ULTI+ 21	2,220	2,770	600	2,434	2,978	618	5.0	6.2	121
CTA ULTI+ 22	2,370	3,160	600	2,584	3,368	618	5.0	6.7	163

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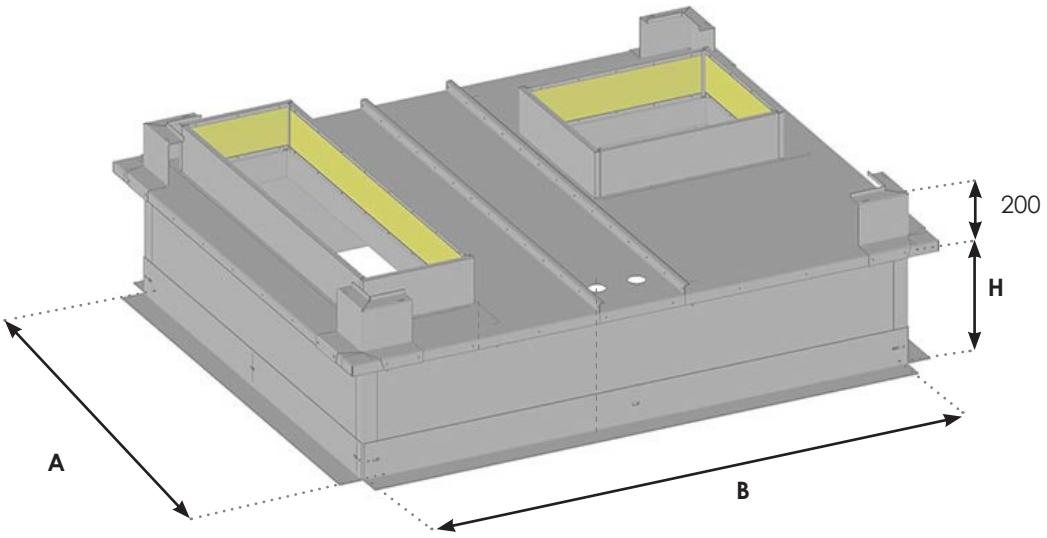
Installation accessories: Roof curbs

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+ 01	1,320	1,970	550	1,524	2,168	768	5.0	7.5	102
CTA ULTI+ 11	1,700	1,970	550	1,904	2,168	763	5.0	5.8	112
CTA ULTI+ 12	1,970	2,450	600	2,174	2,648	818	5.0	6.2	146
CTA ULTI+ 21	2,220	2,770	600	2,424	2,968	818	5.0	6.2	169
CTA ULTI+ 22	2,370	3,160	600	2,574	3,358	818	5.0	6.7	228

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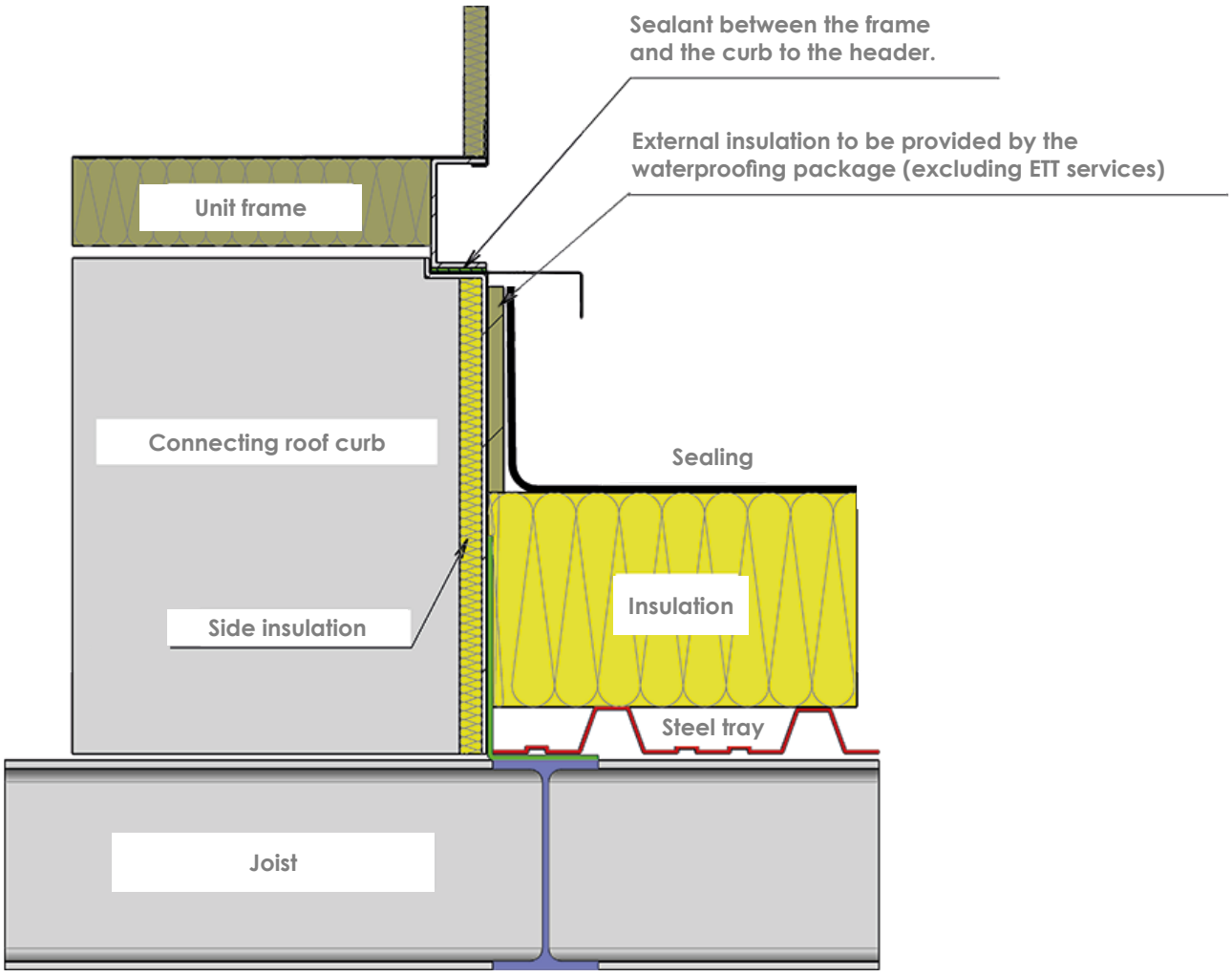
Accessories for installation: Roof curbs

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.

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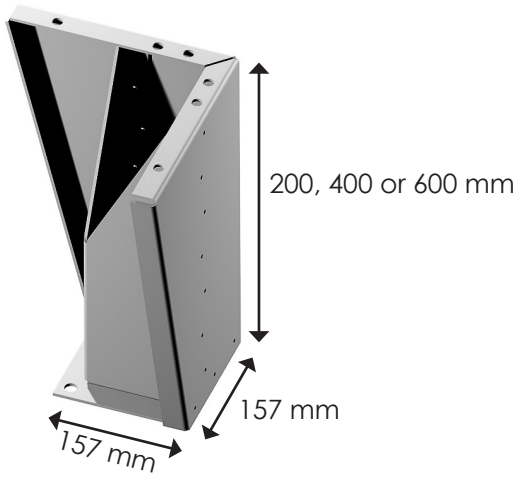
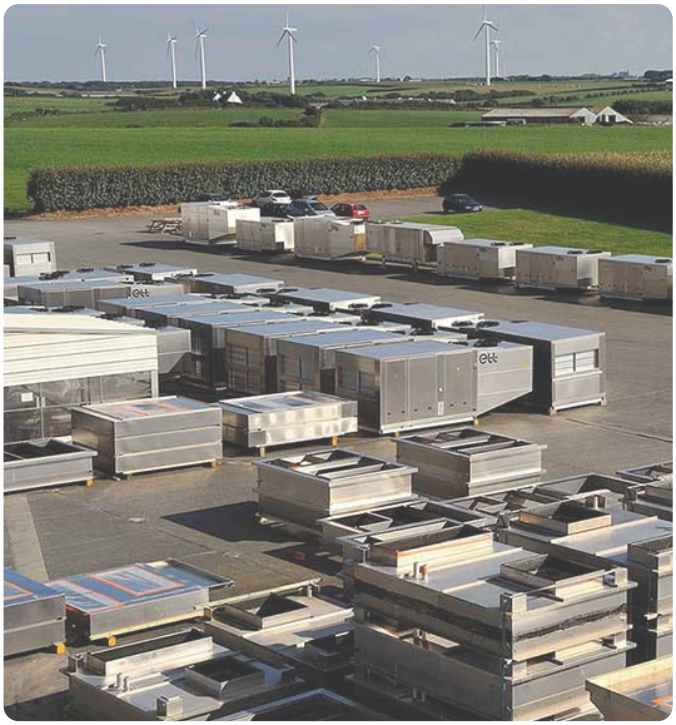
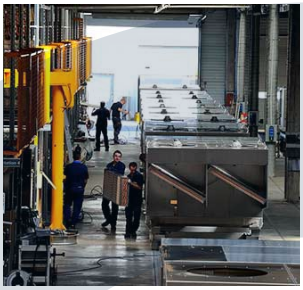
Installation accessories: Feet

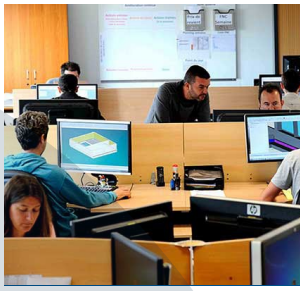
Aluminium fixed foot
Unit weight: 1 kg



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





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