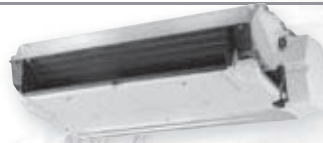




*Versatile unit meeting all building-specific constraints. Eco-design and energy efficiency Improved occupant comfort, very low sound level Innovative design ensuring easy installation and simplified maintenance*



NCH model



CV model



## MAJOR LINE

Designed for heating and cooling, **MAJOR LINE** is available in 4 models (cased or uncased, horizontal or vertical).

Thanks to its different assembly options and range of accessories, the versatility of the MAJOR LINE means it can be adapted to any type of installation.

In Europe, it has become a benchmark solution for renovations of large office blocks and hotel chains and restoration of buildings, etc.

Modern aesthetic lines, excellent sound levels and optimised thermal performance,... with Major Line, CIAT offers a comfort solution which is both economic and quick to set up.

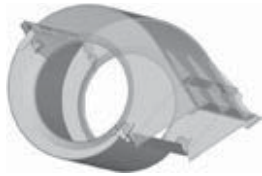
## INNOVATIVE DESIGN

A true stylistic evolution, Major Line has distinguished lines with a slim and elegant shape. Its attractive and modern design will blend in perfectly with all types of interior.

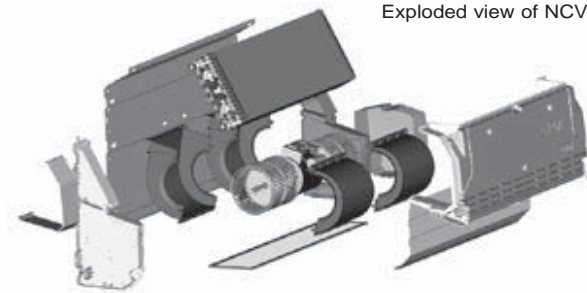


## INNOVATIVE DESIGN

- New shaped ABS volute (V0) designed to optimise output and performance.
- 160 mm HEE impeller (High Energy Efficiency), with CIAT-exclusive airfoil blades in self-extinguishable ABS (V0).
- Hydraulic coil with total frontal surface increased from 5 to 15% (according to the size and in relation to the units of previous ranges) for improved performance and output.



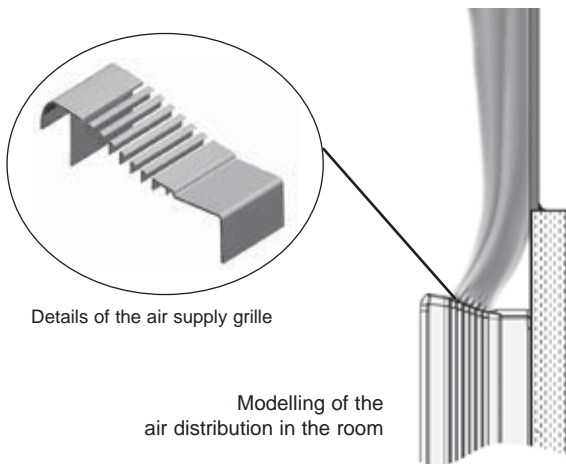
Shaped ABS volute



Exploded view of NCV model

## LATEST GENERATION OF COMFORT

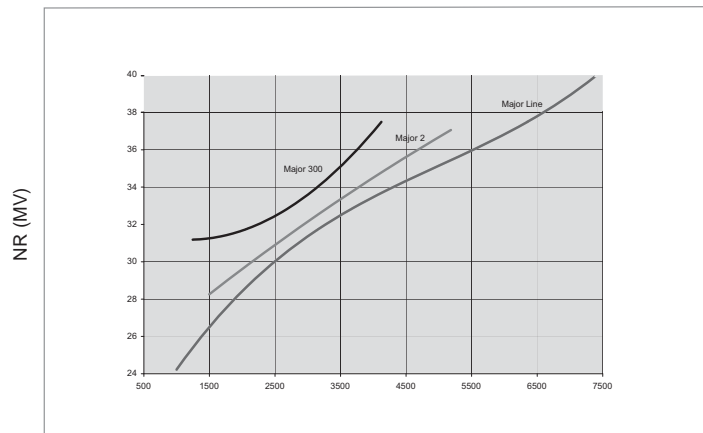
- Improved control of the supply air temperature to reduce discomfort.
- Diffusion grille optimised in our Research & Innovation Centre for increased overall comfort in accordance with the most demanding standards.



Details of the air supply grille

Modelling of the air distribution in the room

Acoustic performance (MV trend line)



MV cooling capacity (W)

## VERSATILITY OF THE MODELS

- Two versions:
- Cased (exposed mounting)
  - Uncased (flush-mounted)
- A single reference for the two applications: CV (Cased Vertical unit)/CH (Cased Horizontal unit).
- A single reference for the two applications: NCV (Uncased Vertical unit)/NCH (Uncased Horizontal unit).

Units with left/right hydraulic connections available for easier adaptation to refurbished buildings.

Cased or uncased models available with classic air recovery (assemblies 1, 41, 1V and 41V) and front mounted air recovery (assemblies 1D, 41D, 1VD and 41VD).

A large selection of accessories available in:

- Fresh air and mixing
- Air distribution and return air

For NCH, the hydraulic and electrical connections can be supplied on the same side making the unit more compact and simplifying installation.

Unit operates with 50 and 60 Hz supply.

## EXTENSIVE CAPACITY RANGE

### Capacities covered by Major Line in Eurovent operation:

- 2-tube cooling capacity (27 °C, WB 19, 7/12°C): 0.7 to 7.5 kW
- 2-tube heating capacity (air 20°C, water 50°C): 1 to 10.9 kW
- 4-tube cooling capacity (27°C, WB 19, 7/12°C): 0.8 to 7.6 kW
- 4-tube heating capacity (air 20°C, water 70/60°C): 1 to 7.3 kW

- Pan in ABS and PSE insulation thickness greater than 20 mm meets application requirements in all countries and climates.
- Solutions for the new buildings of tomorrow with minimal needs (low energy buildings) and responses for high capacity geographical areas.
- Large selection of coils to meet the customised water temperature conditions of today and tomorrow.



Condensate drain pan with reinforced insulation.



Water heat exchange coil

## COMPLIANCE WITH ENERGY AND ENVIRONMENTAL REQUIREMENTS

- A small size developed for buildings whose use of energy is optimised.
- Intelligent design of the unit allowing the absorbed power of the standard motor to be reduced by an average of 20%.
- Reduction of the electrical heating power (resistors) to better fit the requirements of new buildings.
- HEE motor (very low consumption) also available as an option for this range.



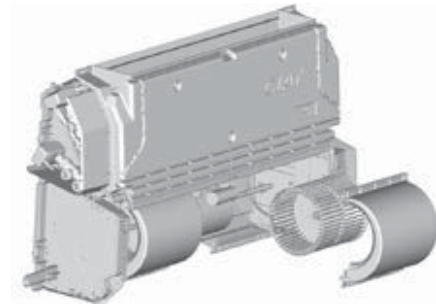
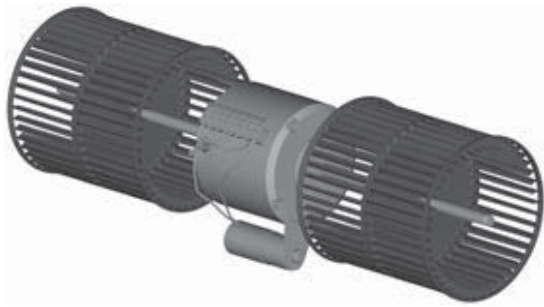
## ECO-DESIGN

- The MAJOR LINE comfort unit is at least **85% recyclable**.
- MAJOR LINE has been designed using up to 20% less raw materials compared with previous ranges.
- 100% of the MAJOR LINE's parts are made from ABS . They are recyclable and stamped with the logo below which enables the materials used to be traced and thus facilitates sorting at the end of its life.
- Designed for easy dismantling at end of life.
- The French production sites of the CIAT group are ISO 14001 certified. This certification is awarded for environmental management, thereby formalising the company's contribution to **sustainable development**.

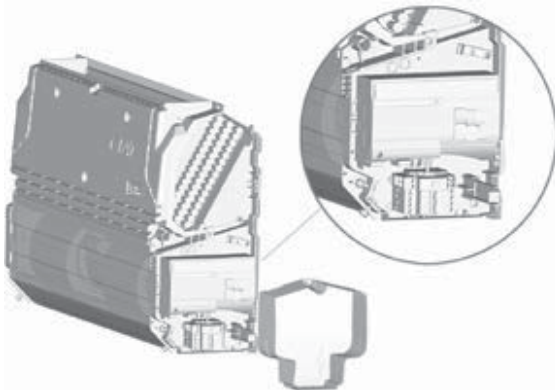


## EASY INSTALLATION AND MAINTENANCE

- Filter easily accessible.
- Single piece casing easily removed with two screws in the lower part of the unit.
- When repairing the fan motor assembly, only the defective part need to be replaced: only the motor or the impeller.
- All the speeds are connected to the electrical terminal of the unit and are easily accessible on site for personalised adjustment.
- No plastic moving parts on the casing (hinged access hatch for example) for increased durability of the unit over time.



## INCREASED SAFETY



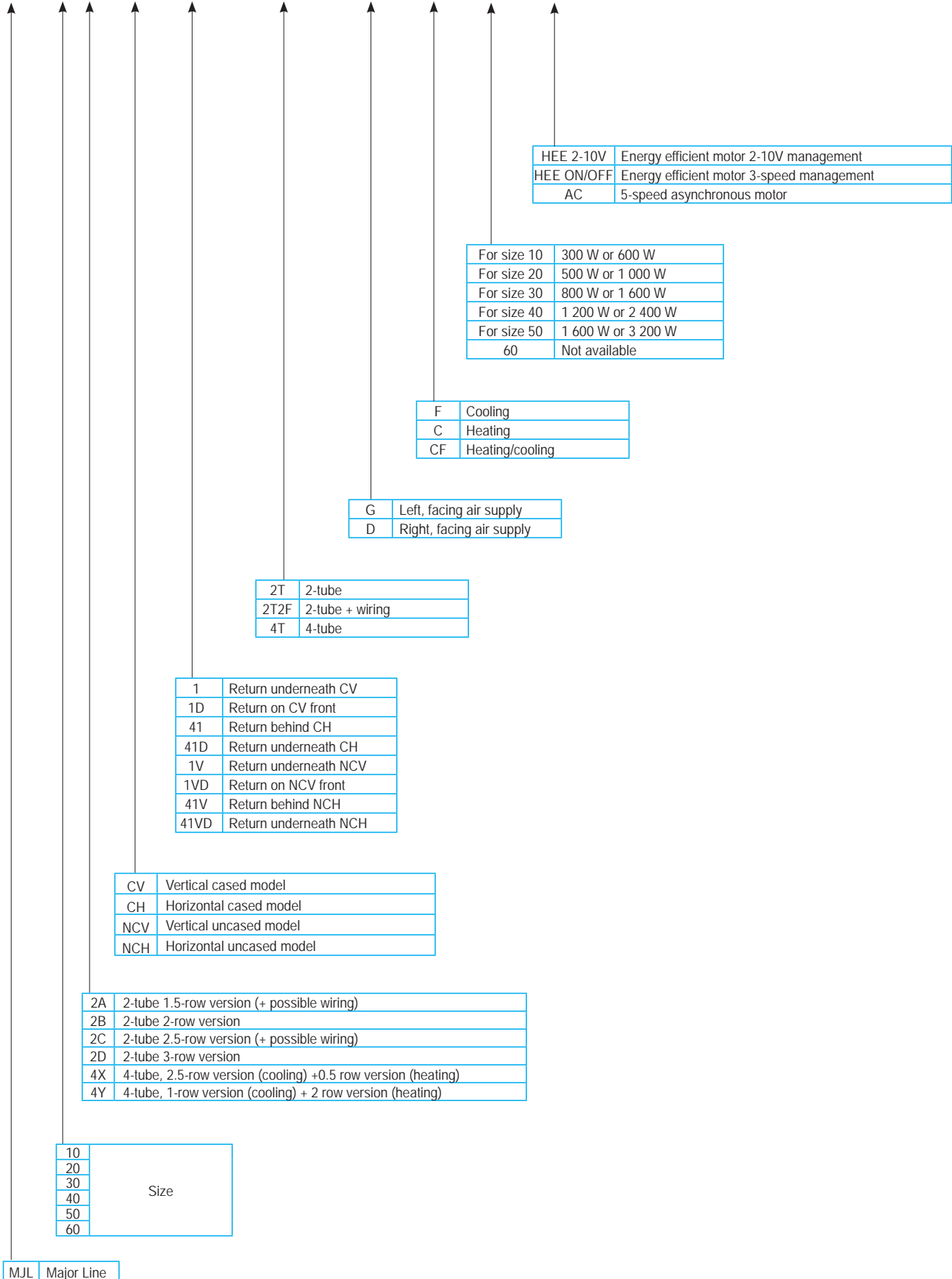
- The entire electrical connection part is encased in a housing. Access is only possible using a tool.
- No electrical terminals on the motor.
- Large size condensate pan to prevent water leaks and any damage to the building.
- Pan in ABS to eliminate the risk of corrosion present with metal pans and limit the creation of biofilm that causes the proliferation of bacteria.
- A tool must be used to access the inside of the unit. This prevents users from modifying the product or rearming the safety limiters contrary to specifications.
- The electrical unit has been sized to enable all types of controls to be fitted.
- For NCH, the condensate outlet has been raised 30 mm to facilitate the gravity drain.

## LARGE SELECTION OF PART REFERENCES IN STOCK

- 22 basic sizes are stocked for 2-tube versions (right and left hydraulic access).
- 6 basic sizes are stocked for 4-tube versions.
- 8 basic sizes are stocked for 2-tube/2-wire versions.
- 2 versions are stocked: cased (CV and CH) and uncased (NCV and NCH).
- **Over 60 unit references in stock**
- On/Off 2- and 4-way valve kits are also stocked to achieve configurations with control at very short notice.
- Additional references will progressively be added.

## MORPHO CODES - MAJOR LINE DESCRIPTION

Range	Size	Model	Assembly	Coil type	Coupling	Thermal function	Motor	Speeds	Filter
MJL	10 2A	CV	1	2T2F	G	F + 500W	HEE	depending on selection	G3



## TECHNICAL DESCRIPTION

### Frame

- Packaged chassis and side panels in ABS PC V0
- Front/rear panel in galvanised steel with mounting holes for easy fixing.

### Casing

#### ■ CV/CH models

Bi-material casing in two colours:

- Flange, side member and air supply grille in RAL 7035 grey ABS PC
- Front metal panel painted in RAL 9010 white and front mounted air return grille (1D, 41D) in RAL 7035 grey
- Central access point for housing the built-in thermostats

### Water coil

- High performance coil concept
- Coil casing in galvanised panels.
- Copper tubes, continuous aluminium fins.
- Water coil tap on the left or right of the unit from the front of the air supply (to be specified when ordering)
- 2 or 4-tube main coil fitted with ½" or ¾" rotary couplings with air bleed valve and drain.
- Additional coil for 4 tubes fitted with ½" rotary couplings with 40 mm centre-to-centre distance.
- Nominal pressure of 16 bar (at 20°C)
- Test pressure: 24 bar.
- Max. water T°: 90°C
- Maximum hot water inlet temperature:
  - 4-tube application: 90°C
  - 2-tube application: 90°C
  - 2T/2-wire application: 55°C (min. air flow rate: 200 m<sup>3</sup>/h)

### Electric heater

- Single tube 230V single phase 50/60 Hz electrical elements inserted into the aluminium housing.
- Two capillary tube temperature limiters with manual and automatic reset inserted in the aluminium housing.

### Condensate drain pan

- ABS V0 pan
- Increased insulation for all climates, PSE panel (20 mm thick) M1 class
- ABS V0 auxiliary pan
- Condensate outlet raised Ø exterior 22 mm

### Fan motor assembly

#### ■ Fan(s)

Scroll(s) in ABS V0 in split units for total accessibility of the different parts of the fan motor assembly. 160 mm HEE impellers with airfoil blades (exclusive to CIAT) in self-extinguishing V0 ABS.

#### ■ HEE motor

High energy efficiency motor enabling a reduction of up to 85% in electricity consumption.

- BLAC (Brushless Alternating Current) brushless technology offering more linear torque progression and a lower operating sound level than BLDC (Brushless Direct Current) technology.
- Sealed, tropicalised, with protected shaft
- 3-speed gradual operation by 0-10V or on/off control signal, without expansion board.
- Internal automatic overload protection as standard on winding.
- "DFS" motor fault output using a photocoupler for potential alarm feedback via a Konnex protocol communication bus (via the V3000 control).
- Mounted on anti-vibration mounts.
- Supply 230V±10%/1-Ph/50-60 Hz.

**N.B.** : the minimum voltage required for start-up of the motor is 2V.

or

#### ■ Asynchronous motor

- 5 factory-fitted wired speeds (connected and available at the terminal) for customised adjustment.
- Sealed, tropicalised type, class F with protected shaft.
- Permanent capacitor.
- Ball bearings.
- Automatic overload protection as standard on winding.
- Resilient mounts.
- 230V single-phase 50/60 Hz power supply, **reduced consumption.**

### Electrics box

- Unit incorporated into the side of the housing
- Entirely enclosed by a cover in ABS V0
- Terminal block on DIN rail in accordance with EN 50022 depth 7.5 mm
- Wire clamps for customer connection
- Unit opposite side to hydraulic connections (possibility of putting all on the same side optional with NCH)

### Air filter

- Positioned at the air intake of the unit.
- Flexible filter medium made of regenerative polyester fibre.
- Efficiency class EN 779: G3.
- Fire resistance: M1.
- Rigid frame.
- Mounted on pivoting runners for easy maintenance.

### Wiring diagrams

- **2-tube application:** 7406955
- **2-tube application + C/O:** 7406956
- **4-tube application:** 7406957
- **2-tubes + 2-wire application ≤2000W:** 7406958
- **2-tubes + 2-wire application >2000W:** 7406959

### Packaging

- Delivered in individual boxes on pallets protected by stretch wrap film

### Controls

- RTR-E electromechanical thermostat range.
- V30 electronic range
- V300 electronic range
- Networked electronic range (KNX): V3000
- Networked electronic range (LON): V-LON2

### Accessories

#### ■ Factory-fitted:

- Condensate drain pump
- Rectangular air supply sleeve for direct distribution in soffit (optional).

#### ■ Delivered separately:

See accessories pages.

### Option (contact us)

- Hydraulic coil with blades protected for harmful/corrosive atmospheres (coastal locations, or areas close to chemical industries).

**N.B.** : for more information, refer to the operator's manual.

## EASY COMFORT SOLUTIONS

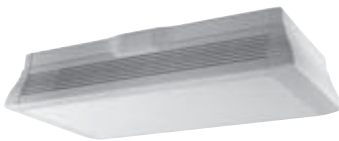
### CASED MODEL



#### Advantages :

- An **attractive solution** combining eco-design and cutting-edge technology
- The ideal solution for **renovated premises** without suspended ceilings.
- **Optimum air distribution ensures high quality comfort.**

<b>Models</b>	CV: Cased Vertical CH: Cased Horizontal
<b>Main markets</b>	Small businesses, Hotel chains, Residential
<b>Construction</b>	New and Renovation
<b>Location</b>	Visible on ceiling or below the windowsill
<b>Distribution</b>	Integrated and optimised
<b>Variant</b>	Air recovery underneath or front mounted



#### > CH model (Cased Horizontal unit)

The Cased Horizontal model is fitted in an overhang on the ceiling of the premises to be air conditioned. It is well suited to premises with insufficient space either under the windowsill or on the ground to fit a vertical model.



#### > CV model (Cased Vertical unit)

The Cased Vertical model is fitted to walls beneath windowsill level. This simple and elegant assembly is adapted to all premises, replacing the radiators, for example and requires no particular changes to be made to the room.

### UNCASED MODEL



#### Advantages:

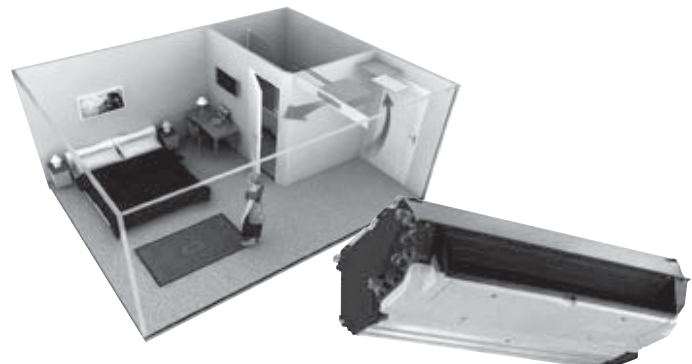
- An **economical solution**
- Simple to install using easy work coordination procedures
- This solution is extremely **versatile** with many optional accessories
- Offers great flexibility with various grilles available to suit the architect's design
- The uncased model is the **optimum solution for renovating installations with induction units**

<b>Models</b>	NCV: Uncased Vertical NCH: Uncased Horizontal
<b>Main markets</b>	Offices, Hotels
<b>Construction</b>	Refurbishment/Renovation/Soffit
<b>Location</b>	In suspended ceilings or in custom enclosures below the windowsill



#### > NCV Model (Uncased Vertical unit)

The architect can integrate the Uncased Vertical model in a specific casing to blend in with other decorative elements of the premises.  
The NCV model is specifically designed for renovation.



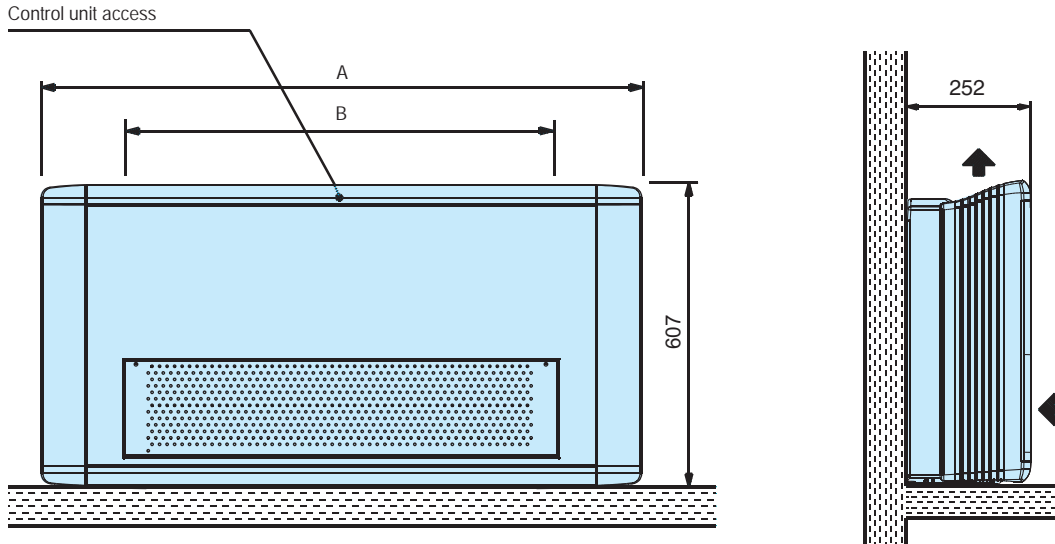
#### > NCH model (Uncased Horizontal unit)

The Uncased Horizontal model is designed to be fitted into a suspended ceiling or soffit. It is possible to connect a network of air distribution ducts to the supply air with the NCH model.

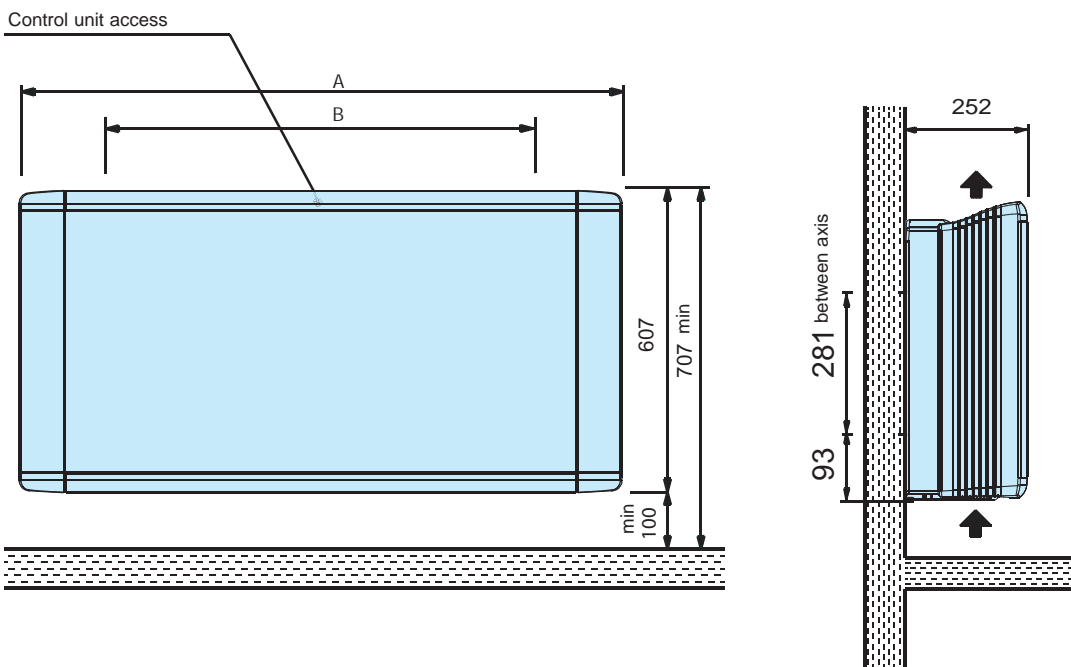
→ **Available pressure up to 50 Pa**

## ASSEMBLY AND DIMENSIONS – CV MODEL (CASED VERTICAL)

→ **Assembly 1D:** Unit with front mounted recovery



→ **Assembly 1:** Basic unit with bottom mounted recovery



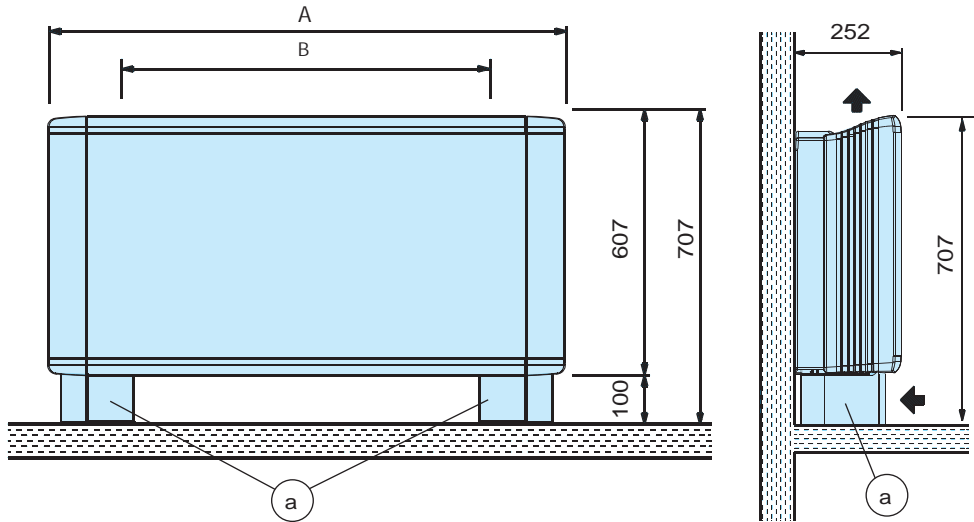
MAJOR LINE Sizes	A	B between axis	Weight (kg) *
10	840	505	20
20	1000	665	23
30	1200	865	28
40	1400	1065	34
50	1600	1265	39
60	1800	1465	44

\* Weight of heaviest unit in 4-tube configuration



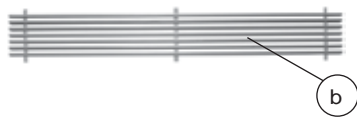
## ASSEMBLY AND DIMENSIONS – CV MODEL (CASED VERTICAL)

→ **Assembly 2:** Basic unit with feet



Options available with assembly 2:

- Base mounted grille



- Rear painted panel



- Rear skirting support



Accessories for assembly configurations (supplied separately)

- a Support feet
- b Aluminium indoor return air grille between feet
- c Painted rear skirting support
- j Rear painted panel RAL 7035

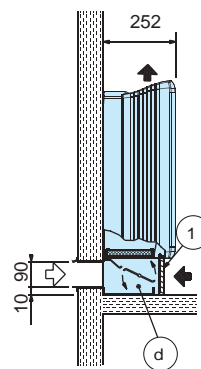
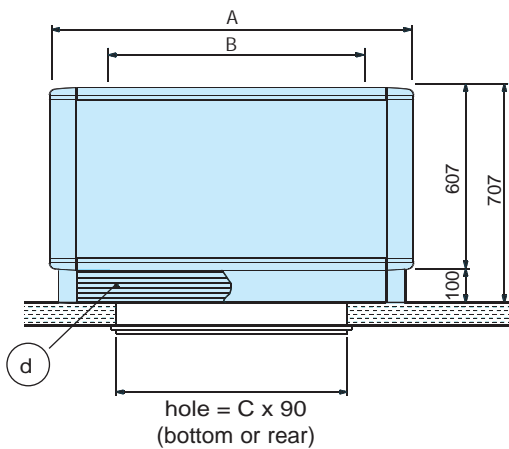
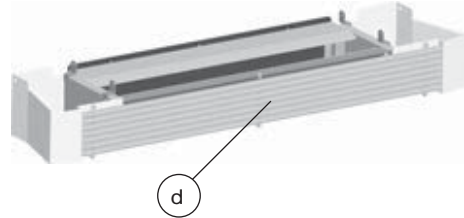
MAJOR LINE Sizes	A	B between axis	Weight (kg) *
10	840	505	21
20	1000	665	24
30	1200	865	29
40	1400	1065	35
50	1600	1265	40
60	1800	1465	45

\* Weight of heaviest unit in 4-tube configuration

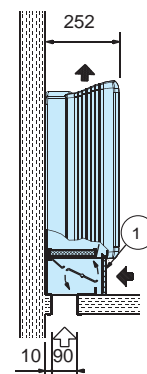
## ASSEMBLY AND DIMENSIONS – CV MODEL (CASED VERTICAL)

### → Assemblies 5 and 6:

Basic unit equipped with a manual pretreated air/recycled air mixing unit with a return air grille and a damper regulating the pretreated air intake.



Assembly 5



Assembly 6

⇨ Air pretreated by an air handling unit

Accessories for assembly configurations (supplied separately)

d : Manually controlled int./ext. air recovery unit with return air grille ① for filter removal

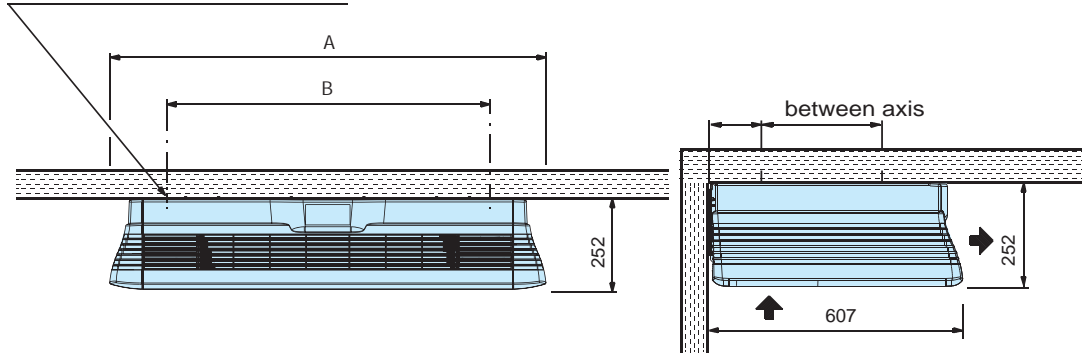
MAJOR LINE Sizes	A	B between axis	C hole space	Weight (kg) *
10	840	505	430	24
20	1000	665	430	28
30	1200	865	780	32
40	1400	1065	780	40
50	1600	1265	1180	45
60	1800	1465	1180	50

\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – CH MODEL (CASED HORIZONTAL)

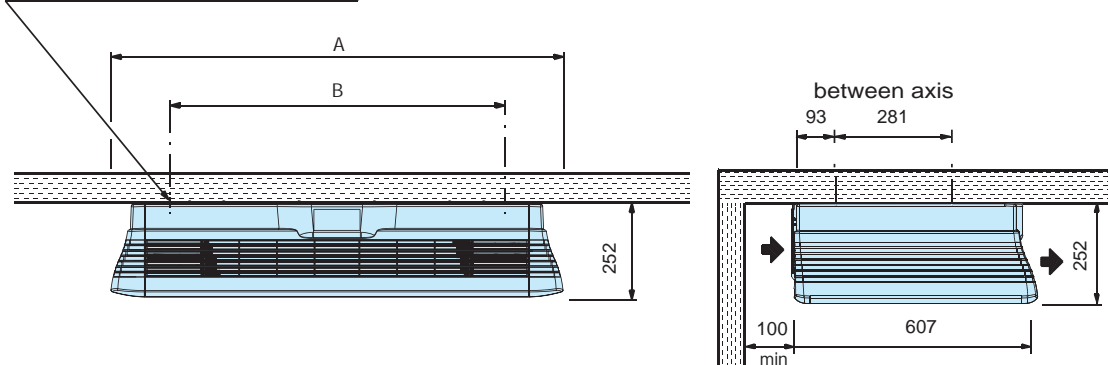
### → **Assembly 41D:** Unit with front mounted recovery

Mounting: 4 sealed M6 shafts, nuts and washers (not supplied)



### → **Assembly 41:** Basic unit

Mounting: 4 sealed M6 shafts, nuts and washers (not supplied)



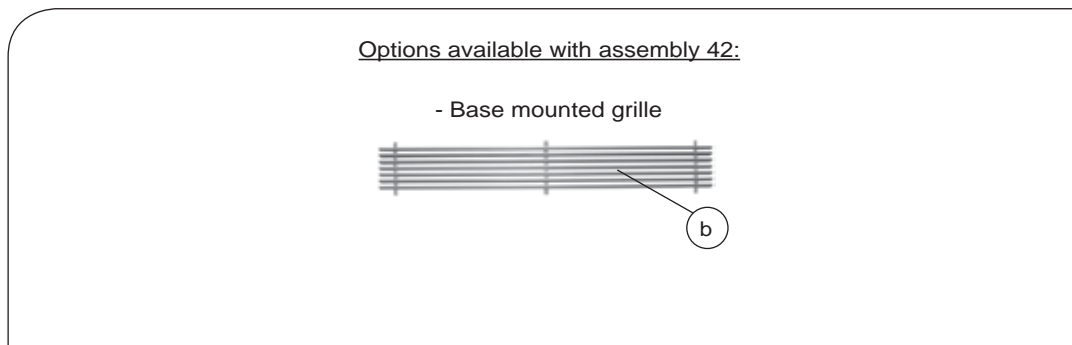
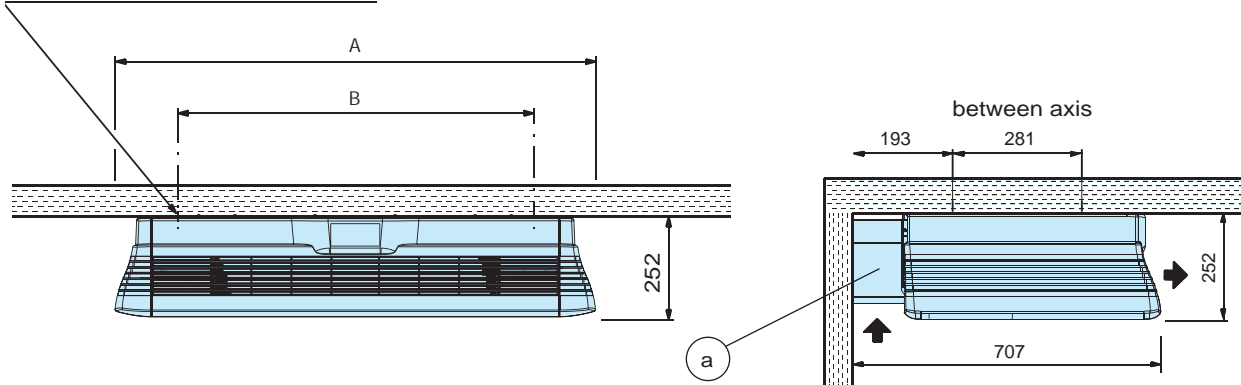
MAJOR LINE Sizes	A	B between axis	Weight (kg)*
10	840	505	20
20	1000	665	23
30	1200	865	28
40	1400	1065	34
50	1600	1265	39
60	1800	1465	44

\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – CH MODEL (CASED HORIZONTAL)

→ **Assembly 42:** Basic unit with feet

Mounting: 4 sealed M6 shafts, nuts and washers (not supplied)



Accessories for assembly configurations (supplied separately)

- a Support feet
- b Aluminium internal return air grille between feet

Note: For assembly 42 the condensate drain pump must be used.

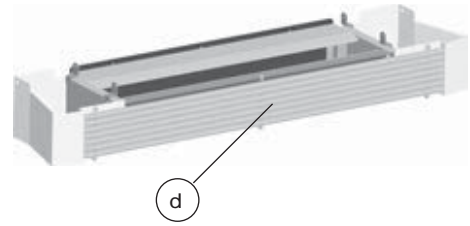
MAJOR LINE Sizes	A	B between axis	Weight (kg) *
10	840	505	21
20	1000	665	24
30	1200	865	29
40	1400	1065	35
50	1600	1265	40
60	1800	1465	45

\* Weight of heaviest unit in 4-tube configuration

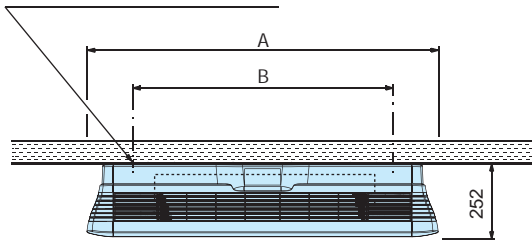
## ASSEMBLY AND DIMENSIONS – CH MODEL (CASED HORIZONTAL)

### → Assemblies 45 and 46:

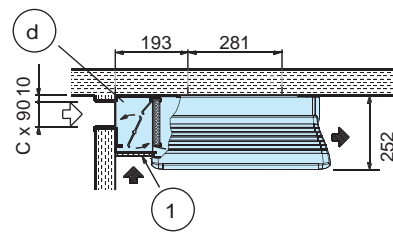
Basic unit equipped with a manual pretreated air/ recycled air mixing unit with a return air grille and a damper regulating the pretreated air intake.



Mounting: 4 sealed M6 shafts, nuts and washers (not supplied)



between axis



**Assembly 46**

**Assembly 45 :**  
identical with ceiling mounted fresh air intake

⇨ Air pretreated by an air handling unit

Accessories for assembly configurations (supplied separately)

d Manually controlled int./ext. air recovery unit with return air grille ① for filter removal

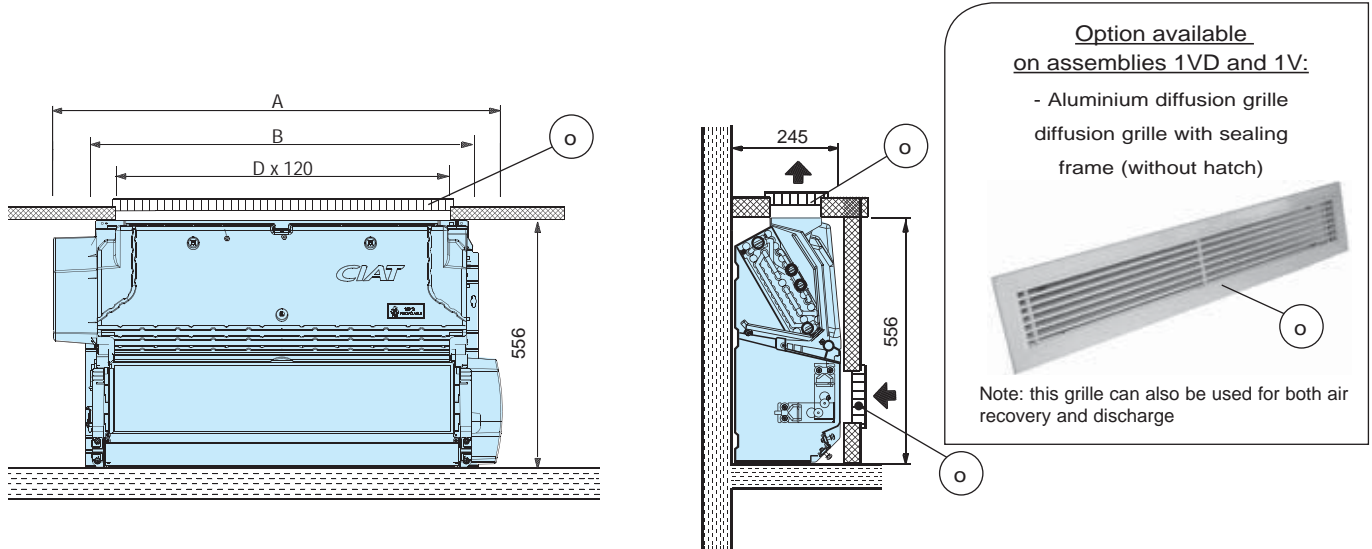
Note: For assemblies 45-46 the condensate drain pump must be used.

MAJOR LINE Sizes	A	B between axis	C hole space	Weight (kg) *
10	840	505	430	24
20	1000	665	430	28
30	1200	865	780	32
40	1400	1065	780	40
50	1600	1265	1180	45
60	1800	1465	1180	50

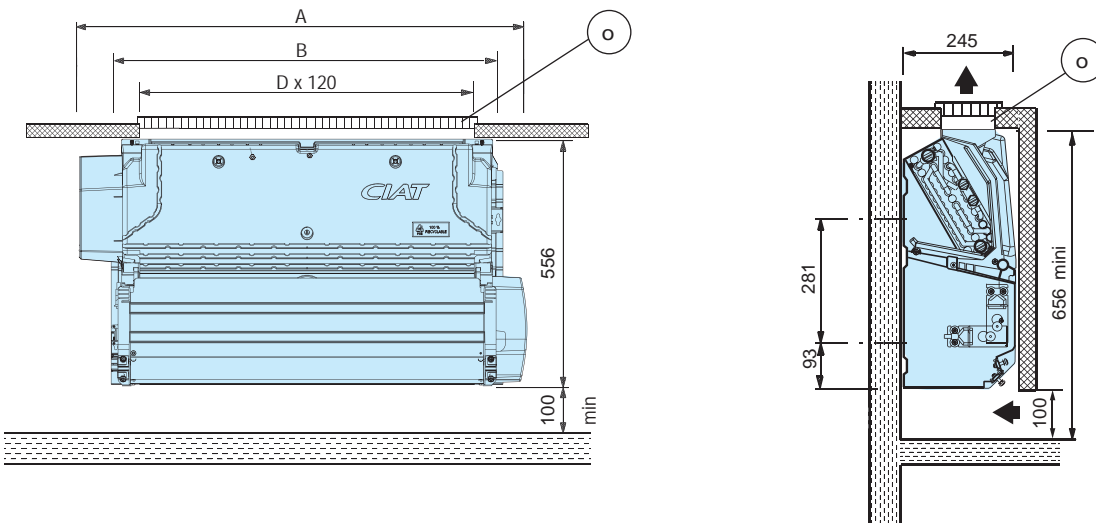
\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – NCV MODEL (UNCASED VERTICAL)

→ **Assembly 1VD:** Unit with front mounted recovery



→ **Assembly 1V:** Basic unit with bottom mounted recovery



Accessories for assembly configurations (supplied separately)

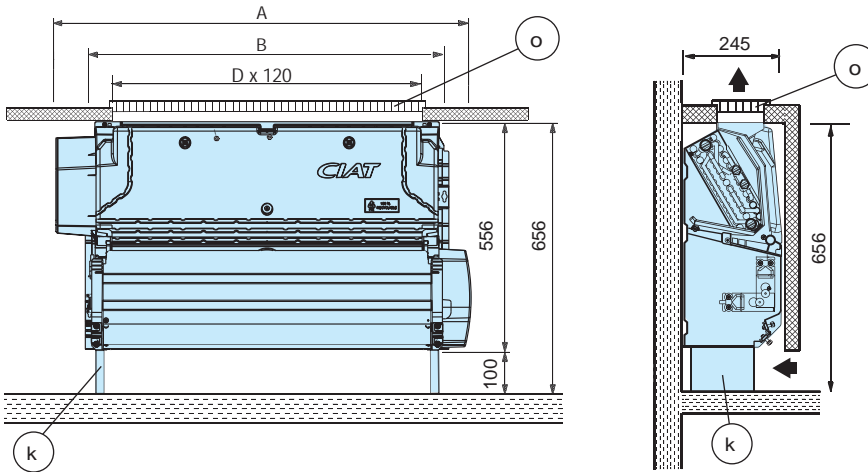
- o Aluminium single deflection diffusion or return air grille with sealing frame (without hatch). For other applications, please consult us.

MAJOR LINE sizes	A	B between axis	D grille space	Weight (kg) *
10	652	505	355	15
20	812	665	515	18
30	1012	865	715	22
40	1212	1065	915	28
50	1412	1265	1115	32
60	1612	1465	1315	36

\* Weight of heaviest unit in 4-tube configuration

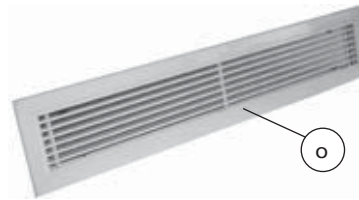
## ASSEMBLY AND DIMENSIONS – NCV MODEL (UNCASED VERTICAL)

→ **Assembly 2V:** Basic unit with support base



Option available  
on assemblies 2V, 5V and 6V:

- Aluminium diffusion grille  
diffusion grille with sealing  
frame (without hatch)



Accessories for assembly configurations (supplied separately)

- k Support base
- o Aluminium single deflection diffusion or return air grille with sealing frame (without hatch). For other applications, please consult us.

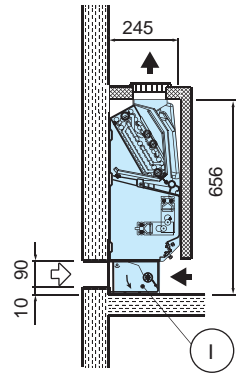
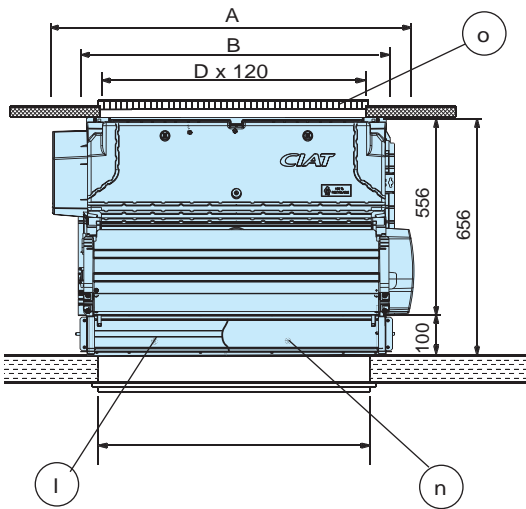
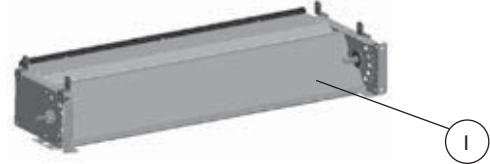
MAJOR LINE sizes	A	B between axis	D grille space	Weight (kg) *
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40	1212	1065	915	28
50	1412	1265	1115	32
60	1612	1465	1315	36

\* Weight of heaviest unit in 4-tube configuration

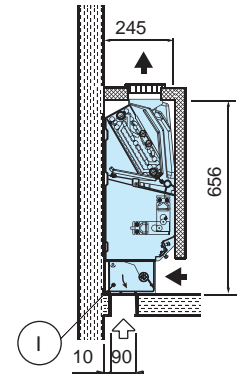
## ASSEMBLY AND DIMENSIONS – NCV MODEL (UNCASED VERTICAL)

### → Assemblies 5V and 6V :

Basic unit equipped with a manual pretreated air/recycled air mixing unit with a return air grille and a damper regulating the pretreated air intake.



Assembly 5V



Assembly 6V

⇨ Air pretreated by an air handling unit

Accessories for assembly configurations (supplied separately)

- k Support base
- l Internal/external manually controlled air recovery unit
- o Aluminium single deflection diffusion or return air grille with sealing frame (without hatch).  
For other applications, please consult us.

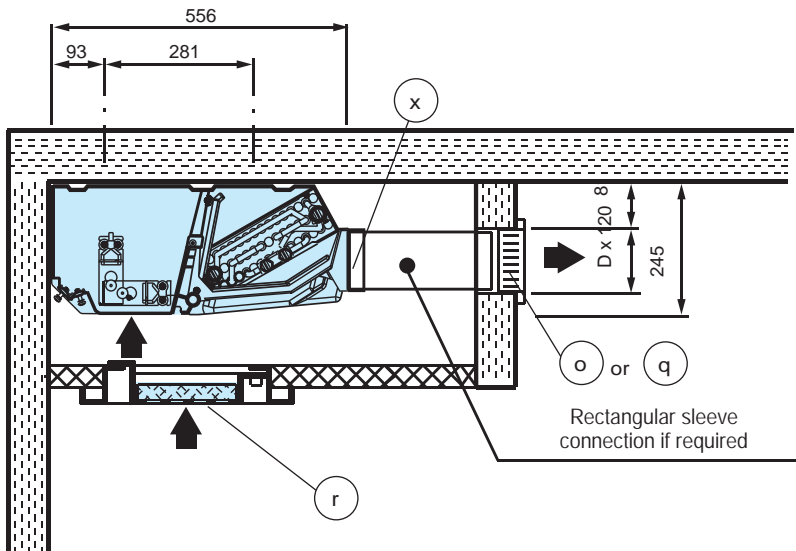
MAJOR LINE sizes	A	B between axis	C hole space	D grille space	Weight(kg) *
10	652	505	430	355	16,5
20	812	665	430	515	20
30	1012	865	780	715	25
40	1212	1065	780	915	32
50	1412	1265	1180	1115	37
60	1612	1465	1180	1315	42

\* Weight of heaviest unit in 4-tube configuration

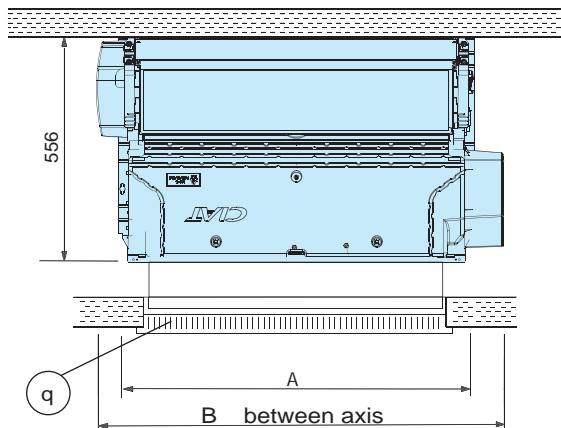


## ASSEMBLY AND DIMENSIONS – NCH MODEL (UNCASED HORIZONTAL)

→ **Assembly 41VD:** Unit with front mounted recovery

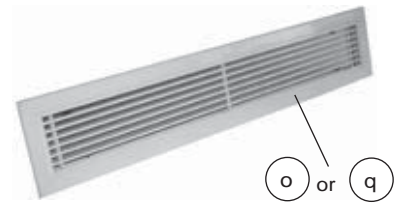


View from beneath

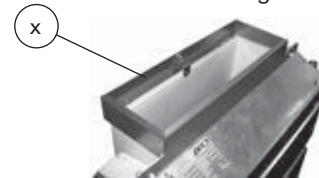


Option available  
on assemblies 41VD, 41V and 42V:

- Aluminium single (o) or double (q) deflection diffusion grille with sealing frame



- Metal sleeve for connection to air discharge



Accessories for assembly configurations (supplied separately)

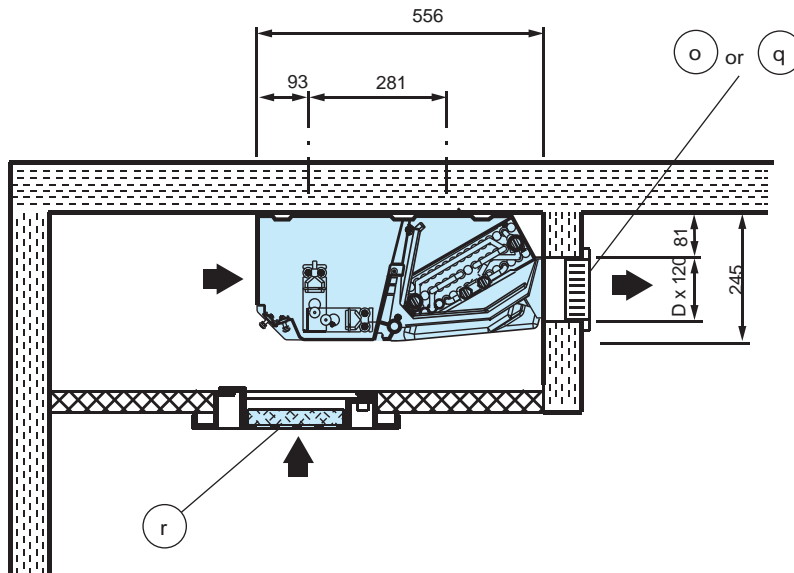
- o Aluminium single deflection diffusion or return air grille with sealing frame (without hatch). For other applications, please consult us.
- q Aluminium double deflection diffusion grille with sealing frame
- r 600x600 microperforated return grille
- x Metal sleeve connecting rectangular sleeve to supply air

MAJOR LINE sizes	A	B between axis	D grille space	Weight (kg) *
10	652	505	355	15
20	812	665	515	18
30	1012	865	715	22
40	1212	1065	915	28
50	1412	1265	1115	32
60	1612	1465	1315	36

\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – NCH MODEL (UNCASED HORIZONTAL)

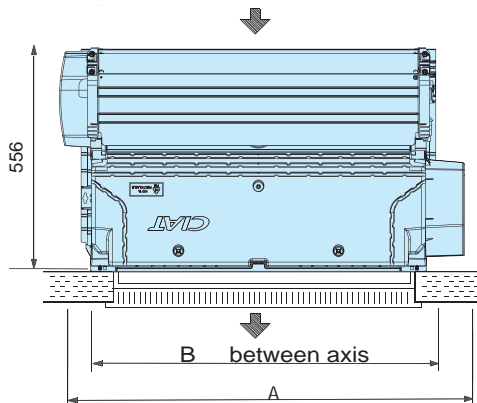
→ **Assembly 41V:** Basic unit with rear mounted recovery



Option available  
on assemblies 41VD, 41V and 42V:

- Aluminium single or double deflection diffusion grille with sealing frame

View from beneath



Accessories for assembly configurations (supplied separately)

- o Aluminium single deflection diffusion or return air grille with sealing frame (without hatch). For other applications, please consult us.
- q Aluminium double deflection diffusion grille with sealing frame
- r 600x600 microperforated return grille

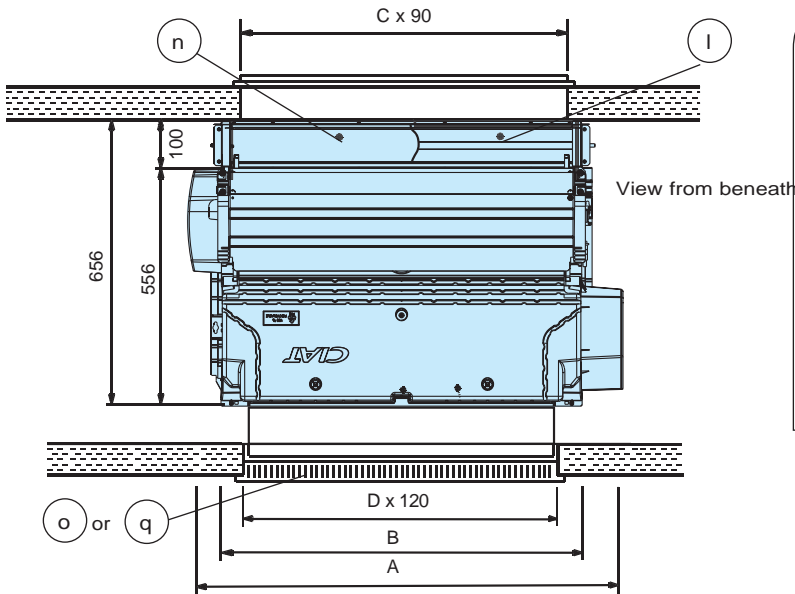
MAJOR LINE sizes	A	B between axis	D grille space	Weight (kg) *
10	652	505	355	15
20	812	665	515	18
30	1012	865	715	22
40	1212	1065	915	28
50	1412	1265	1115	32
60	1612	1465	1315	36

\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – NCH MODEL (UNCASED HORIZONTAL)

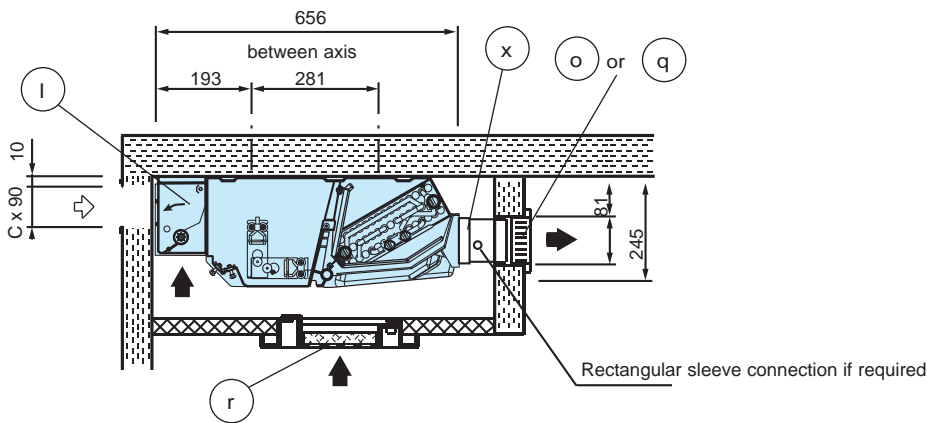
### → Assemblies 45V and 46V :

Basic unit equipped with a manual pretreated air/recycled air mixing unit with a return air grille and a damper regulating the pretreated air intake.



Option available  
on assemblies 45V, 46V :

- Aluminium single or double deflection diffusion grille with sealing frame



⇨ Air pretreated by an air handling unit

Accessories for assembly configurations (supplied separately)

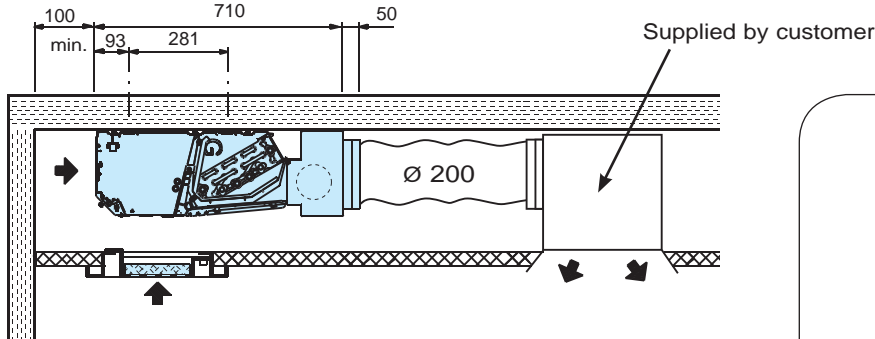
- l Internal/external manually controlled air recovery unit
- o Aluminium single deflection diffusion grille with sealing frame
- q Aluminium double deflection diffusion grille with sealing frame
- r 600x600 microperforated return grille
- x Metal sleeve connecting rectangular sleeve to supply air

MAJOR LINE sizes	A	B between axis	C hole space	D grille space	Weight (kg) *
10	652	505	430	355	16,5
20	812	665	430	515	20
30	1012	865	780	715	25
40	1212	1065	780	915	32
50	1412	1265	1180	1115	37
60	1612	1465	1180	1315	42

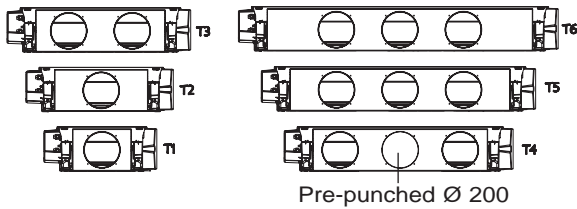
\* Weight of heaviest unit in 4-tube configuration

## ASSEMBLY AND DIMENSIONS – NCH MODEL (UNCASED HORIZONTAL)

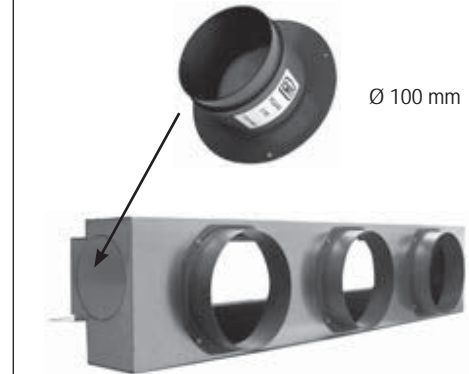
### → Y assembly:



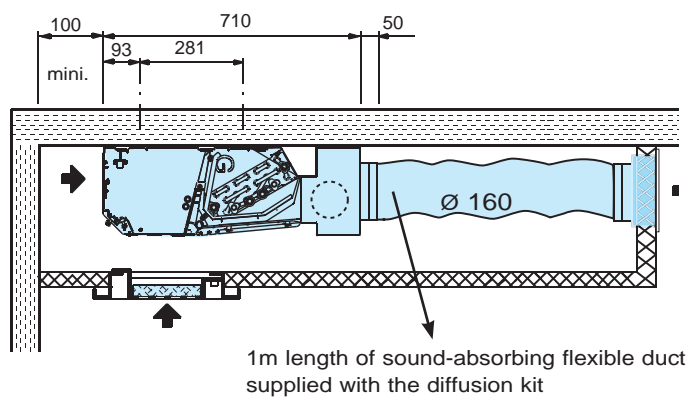
Number of collars Ø 200 depending on unit size



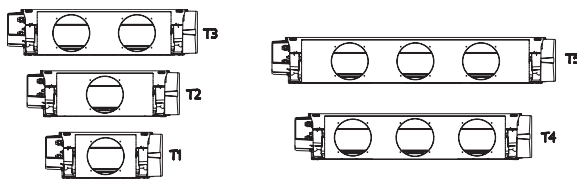
option AVAILABLE on assembly Y:  
- Smooth fresh air supply sleeve



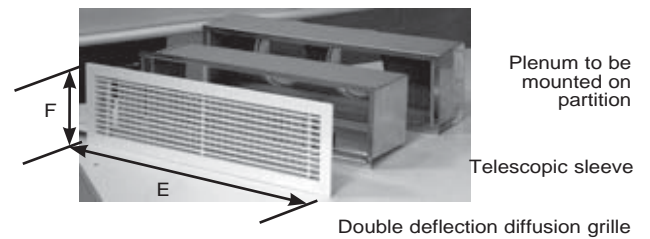
### → Montage YK:



Number of collars Ø 160 depending on unit size



### DIFFUSION KIT FOR YK ASSEMBLY:



Accessories for assembly configurations (supplied separately)

M01 Smooth fresh air supply sleeve alone (external Ø: 100 mm), screws and bolts supplied separately

MAJOR LINE sizes	A	B between axis	E overall length	F overall height	Number of collars		Weight (kg) *
					Y	YK	
10	652	505	430	180	1	1	16,5
20	812	665	430	180	1	1	20
30	1012	865	630	180	2	2	25
40	1212	1065	830	180	2 (3)	3	32
50	1412	1265	830	180	3	3	37
60	1612	1465			3		42

\* Weight of heaviest unit in 4-tube configuration

## PERFORMANCE – 2 TUBE SYSTEM

Cold water temperature: 7 / 12°C, Summer air temperature: 27°C 19° (BH) - Hot water temperature : 50°C, Winter air temperature : 20°C.

Major Line	Motor code	Air flow (m <sup>3</sup> /h)	Cooling power (W)		Heating capacity W	Sound power LW dB(A)	Comfort level ISO or NR	Average air temperature rise (in K) Auxiliary electric heater 230/1/50			
			Total	Sensible				1 resistor		2 resistors	
								(W)	(°C)	(W)	(°C)
102A	V5	300	1 200	1 070	1 780	49	34	300	600	3.0	5.9
	V4	255	1 050	923	1 580	46	30			3.5	7.0
	V3	220	920	804	1 380	42	25			4.1	8.1
	V2	190	799	695	1 180	39	22			4.7	9.4
	V1	165	705	611	1 060	36	18			5.4	10.8
102C	V5	280	1 520	1 230	2 000	49	33	300	600	3.2	6.4
	V4	245	1 350	1 080	1 780	46	30			3.6	7.3
	V3	200	1 130	900	1 460	42	26			4.5	8.9
	V2	180	1 020	810	1 310	40	23			5.0	9.9
	V1	145	854	674	1 110	37	20			6.1	12.3
202A	V5	520	2 000	1 840	2 990	54	38	500	1000	2.9	5.7
	V4	430	1 790	1 610	2 630	49	33			3.5	6.9
	V3	385	1 630	1 450	2 410	46	29			3.9	7.7
	V2	320	1 440	1 270	2 110	42	25			4.6	9.3
	V1	255	1 240	1 070	1 770	37	19			5.8	11.6
202C	V5	495	2 570	2 180	3 610	55	39	500	1000	3.0	6.0
	V4	405	2 200	1 840	3 060	50	33			3.7	7.3
	V3	355	1 970	1 630	2 730	46	29			4.2	8.4
	V2	300	1 680	1 380	2 310	43	27			5.0	9.9
	V1	240	1 400	1 140	1 910	38	22			6.2	12.4
202D	V5	495	2 820	2 270	3 790	55	39				
	V4	405	2 450	1 950	3 260	50	33				
	V3	355	2 190	1 730	2 820	46	29				
	V2	300	1 850	1 450	2 300	43	27				
	V1	240	1 550	1 190	1 910	38	22				
302A	V5	840	2 900	2 820	4 800	56	40	800	1600	2.8	5.7
	V4	710	2 640	2 550	4 190	53	37			3.3	6.7
	V3	565	2 320	2 190	3 490	47	30			4.2	8.4
	V2	405	1 700	1 540	2 540	39	22			5.9	11.7
	V1	250	1 110	987	1 610	27	<15			9.5	19.0
302B	V5	840	3 620	3 150	5 130	56	40				
	V4	710	3 250	2 780	4 580	53	37				
	V3	565	2 840	2 280	3 780	47	30				
	V2	405	2 060	1 650	2 860	39	22				
	V1	250	1 270	973	1 260	27	<15				
302C	V5	785	4 130	3 430	5 820	56	41	800	1600	3.0	6.1
	V4	675	3 700	3 020	5 130	53	37			3.5	7.0
	V3	550	3 180	2 550	4 310	47	30			4.3	8.6
	V2	385	2 330	1 800	3 100	40	23			6.2	12.3
	V1	210	1 390	1 000	1 780	28	<15			11.3	22.6
402C	V5	1105	5 480	4 690	7 850	61	44	1200	2400	3.2	6.5
	V4	1025	5 240	4 460	7 410	60	43			3.5	7.0
	V3	825	4 560	3 770	6 250	54	36			4.3	8.6
	V2	655	3 880	3 110	5 200	49	30			5.4	10.9
	V1	475	3 030	2 330	3 940	42	22			7.5	15.0
502C	V5	1230	6 510	5 420	8 930	62	45	1600	3200	3.9	7.7
	V4	1125	6 110	5 020	8 310	61	43			4.2	8.4
	V3	920	5 270	4 220	7 030	55	37			5.2	10.3
	V2	760	4 560	3 580	5 980	50	31			6.3	12.5
	V1	530	3 430	2 610	4 370	43	23			9.0	17.9
602D	V5	1420	7 520	6 360	10 900	64	46				
	V4	1300	7 110	5 940	10 200	62	44				
	V3	1150	6 560	5 390	9 250	59	40				
	V2	935	5 690	4 550	7 820	54	34				
	V1	675	4 470	3 450	5 920	48	28				

Basic standard speeds

Table with hypothetical acoustic attenuation of the room and installation for 2-tube system from previous page:

**CV/CH/NCV models:**

12dB: Sizes 102A, 102C, 202A, 202C, 202D, 302A, 302B, 302C

14dB: Sizes 402C, 502C

15dB: Size 602D

**NCH models:**

14dB: Sizes 102A, 102C, 202A, 202C, 202D, 302A, 302B, 302C

16dB: Sizes 402C, 502C, 602D

(1) **Important:** the supply air temperature should not exceed 65°C (CIAT recommendation).

## PERFORMANCE – 4 TUBE SYSTEM

Cold water temperature: 7/12°C, Summer air temperature: 27°C 19° (BH) - Hot water temperature: 70/60°C, Winter air temperature: 20°C.

Major Line	Motor code	Air flow rate (m <sup>3</sup> /h)	Cooling capacity (W)		Heating capacity W	Sound power LW dB(A)	Comfort level ISO or NR
			Total	Sensible			
104X	V5	280	1 520	1 230	1 480	49	33
	V4	245	1 350	1 090	1 380	46	30
	V3	200	1 130	902	1 230	42	26
	V2	180	1 020	812	1 150	40	23
	V1	145	852	676	1 020	37	20
204X	V5	495	2 570	2 170	2 470	55	39
	V4	405	2 200	1 830	2 260	50	33
	V3	355	1 970	1 620	2 110	46	29
	V2	300	1 680	1 370	1 910	43	27
	V1	240	1 400	1 130	1 700	38	22
304X	V5	785	4 130	3 440	3 800	56	41
	V4	675	3 700	3 070	3 540	53	37
	V3	550	3 180	2 600	3 210	47	30
	V2	385	2 330	1 810	2 630	40	23
	V1	210	1 390	1 010	1 800	28	<15
404X	V5	1105	5 480	4 700	5 140	61	44
	V4	1025	5 240	4 430	4 980	60	43
	V3	825	4 560	3 750	4 510	54	36
	V2	655	3 880	3 120	4 040	49	30
	V1	475	3 030	2 360	3 380	42	22
504X	V5	1230	6 510	5 430	6 120	62	45
	V4	1125	6 110	5 030	5 870	61	43
	V3	920	5 270	4 240	5 330	55	37
	V2	760	4 560	3 590	4 840	50	31
	V1	530	3 430	2 620	3 950	43	23
604X	V5	1420	7 630	6 220	7 310	64	46
	V4	1300	7 180	5 800	7 030	62	44
	V3	1150	6 570	5 240	6 630	59	40
	V2	935	5 650	4 410	5 960	54	34
	V1	675	4 380	3 340	4 950	48	28

Basic standard speeds

Table with hypothetical acoustic attenuation of the room and the installation:

**CV/CH/NCV models:**

12dB: Size 104X, 204X, 304X

14dB: Size 404X, 504X

15dB: Size 604X

**NCH models:**

14dB: Size 104X, 204X, 304X

16dB: Size 404X, 504X, 604X

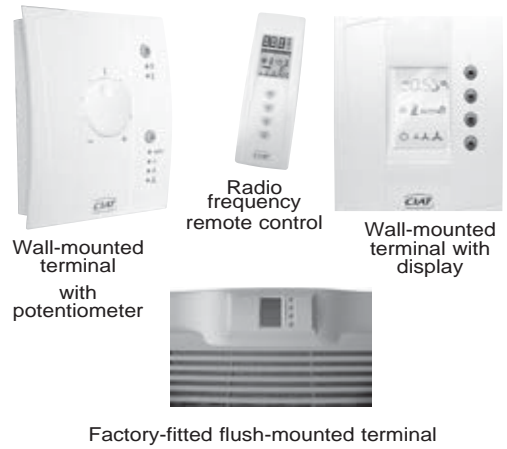
## CIAT - MAJOR LINE CONTROL RANGE

### V3000 KNX PID "networked" control

#### The excellence of networked systems

- > Networked system based on the KNX communications protocol (international standard).
- > Modulating control of valve(s) and electric heater (2-tube/2-wire version).
- > Automatic or manual control.
- > Various control units with discreet and intuitive ergonomic design are available.
- > Radiofrequency remote control.
- > Modulating control of the ventilation with HEE motor (optional).

Option for control by networked PID also available with LON protocol (contact us)



Wall-mounted terminal (also available in factory flush-mounted version)

### V300 PI Control

#### Simplified performance

- > Technology that makes it possible to control several units with a single terminal (suites, conference rooms, landscape offices, etc.).

Available 1st quarter 2015

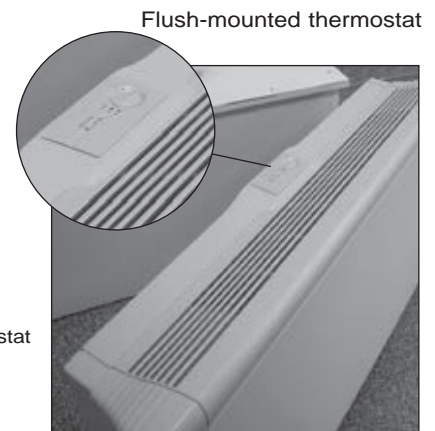
### V30 Electronic On/Off control

#### Individualised performance

- > A single electronic terminal that meets all individual control needs.
- > The accuracy of electronic control programmable on-site with switches.
- > Management of a window switch for energy savings.
- > 3 manually selected ventilation speeds.
- > Control of ventilation or valve(s).



Wall-mounted thermostat with potentiometer



Flush-mounted thermostat



### RTR - E Electromechanical On-Off control

#### Absolute simplicity

The robustness of an electromechanical thermostat with three manual fan speeds.

### Valves Valve kits supplied separately

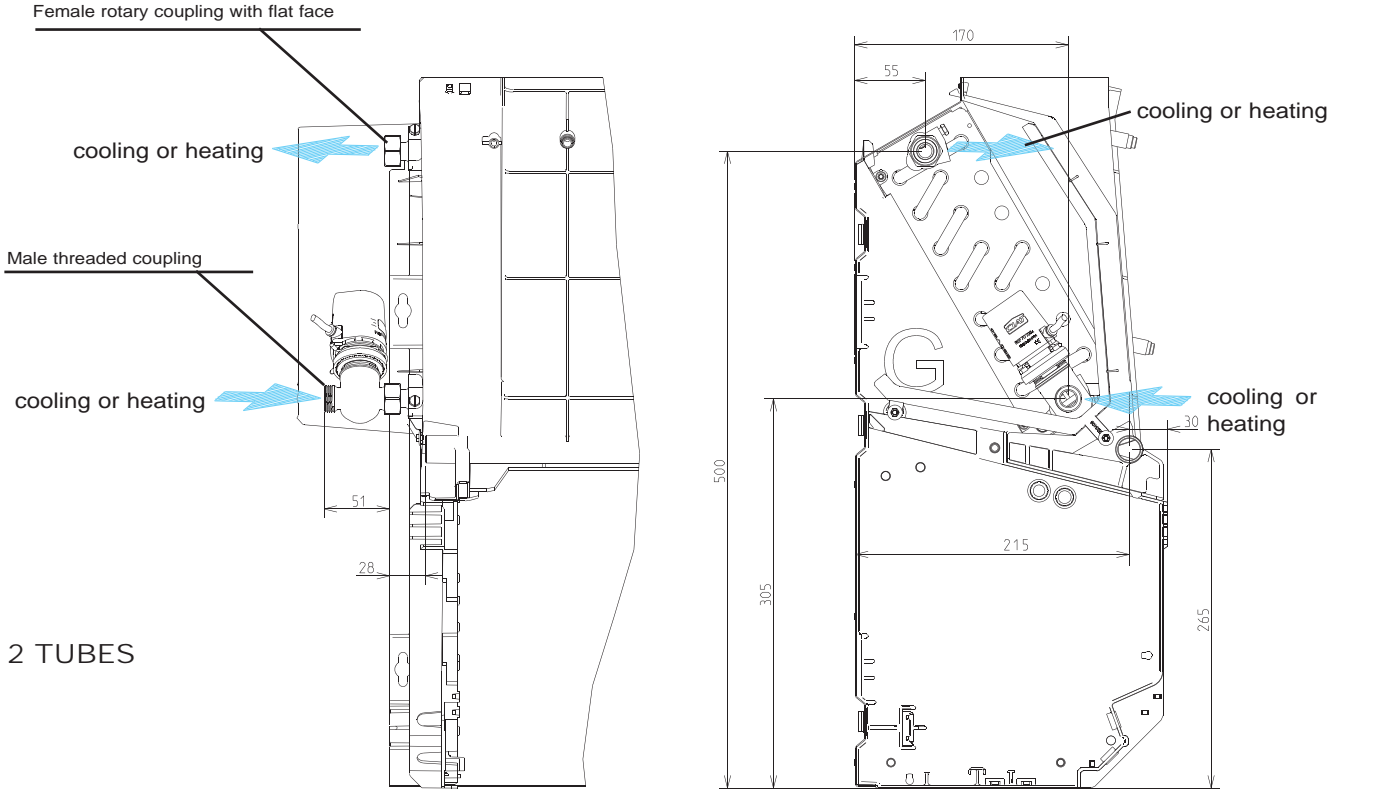
#### Quick on-site installation

- > Valve kits for each application (2 or 4-tube coils and thermal on/off 230V 2 or 3-way valves) available in stock.

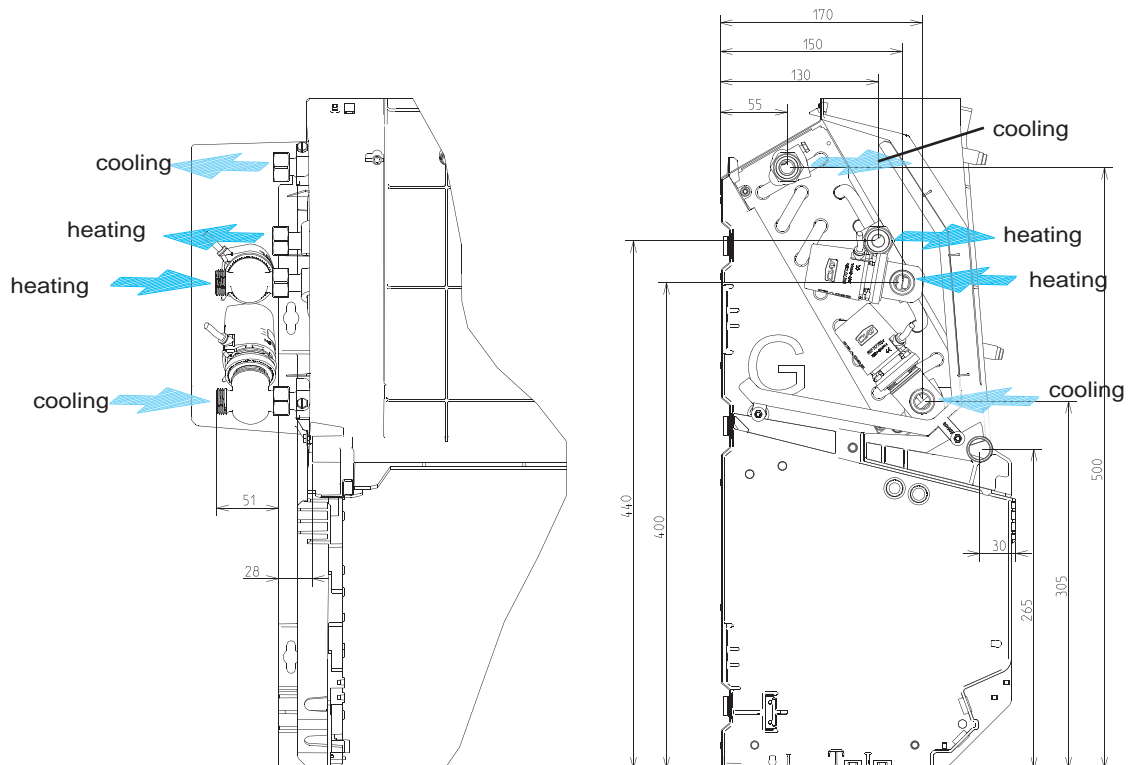


**HYDRAULIC CONNECTIONS WITH FITTED VALVES**

With assembly of 2-way valves



2 TUBES

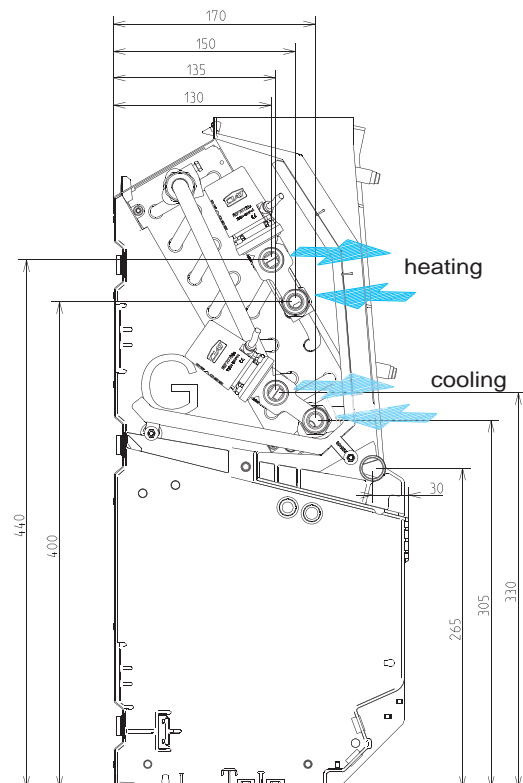
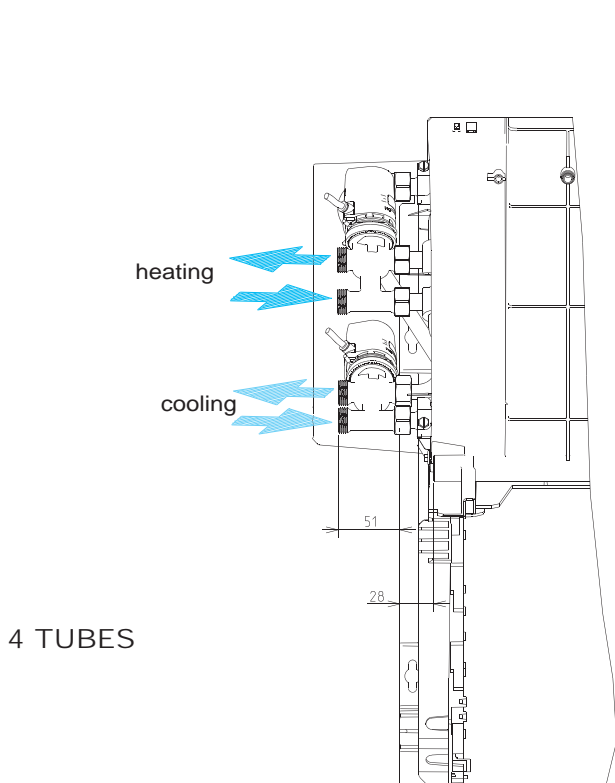
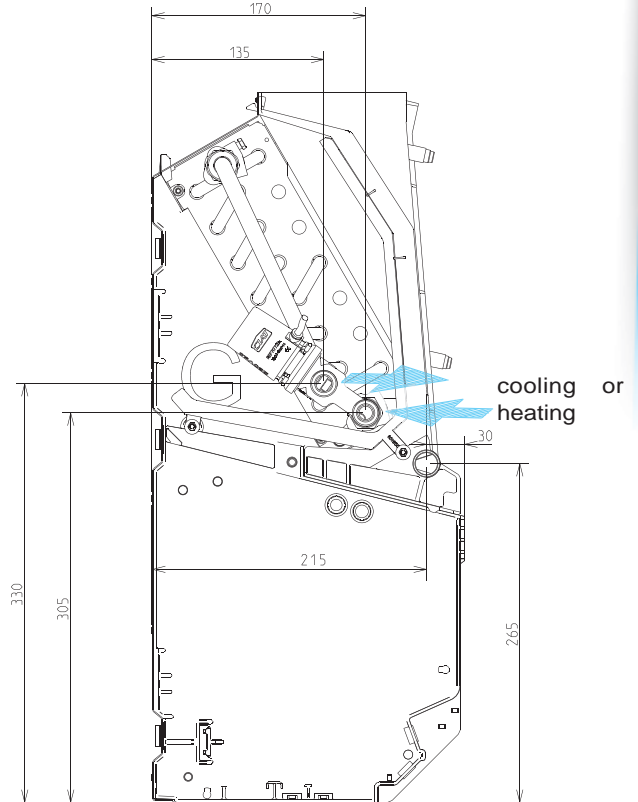
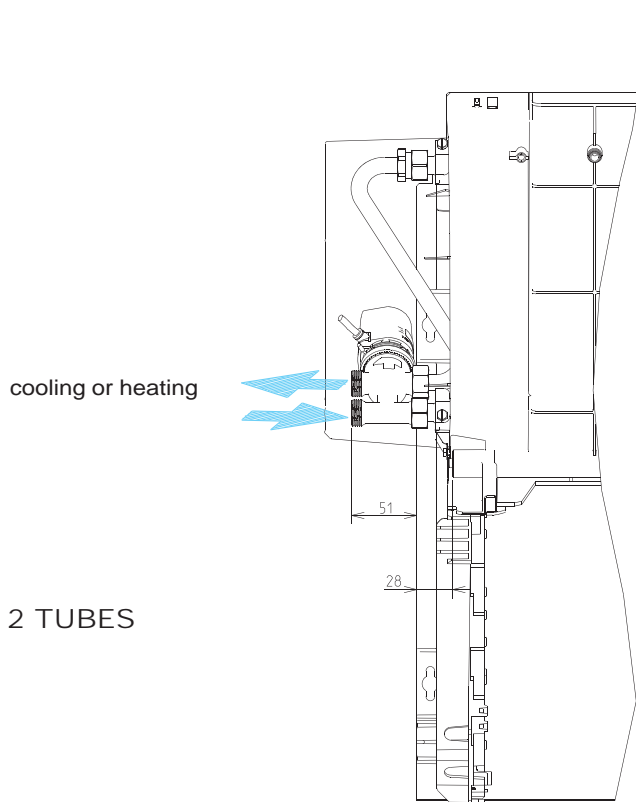


4 TUBES



## HYDRAULIC CONNECTIONS WITH FITTED VALVES

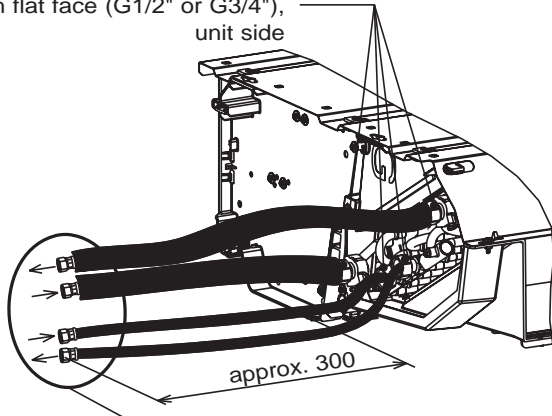
With 3-way valves + by-pass fitted (distance between axes 40 mm)



## FLEXIBLE COUPLING KIT (OPTIONAL) WITH VALVES OR ON THE UNIT - NCH/NCV

### ASSEMBLY ON UNIT

Male cylindrical fixed couplings with flat face (G1/2" or G3/4"), unit side



Female rotary couplings with flat face (G1/2" or G3/4"), customer side

### TECHNICAL DESCRIPTION

- Machined brass coupling unless otherwise specified
- Thread and internal thread in line with standards NFE 03-004 and NFE 03-005

- Pipe in EPDM elastomer in line with EN 684-1 and AISI 304 stainless steel sheath

- Stainless steel crimped bush between coupling and tube + sheath

Only on cold insulated flexible couplings		<ul style="list-style-type: none"> <li>- Heat insulating sheath in M1 cellular foam (9 mm thick) glued at each end to the crimping bush</li> <li>-- Protective end-piece glued at each end to the heat insulating sheath</li> </ul>
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- DN corresponds to the pipe's internal diameter

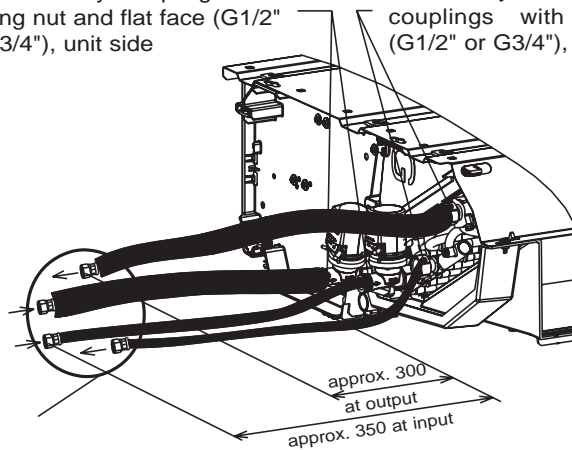
- Min./max. operating temperature = 6°C to 110°C

- Max. operating pressure 110°C, 10 bars

### ASSEMBLY WITH 2-WAY VALVES

Female rotary couplings with turning nut and flat face (G1/2" or G3/4"), unit side

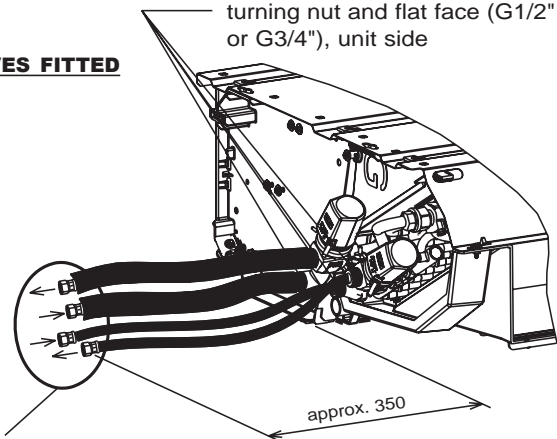
Male cylindrical fixed couplings with flat face (G1/2" or G3/4"), unit side



Female rotary couplings with flat face (G1/2" or G3/4"), customer side

### ASSEMBLY WITH 3-WAY VALVES + BYPASS VALVES FITTED

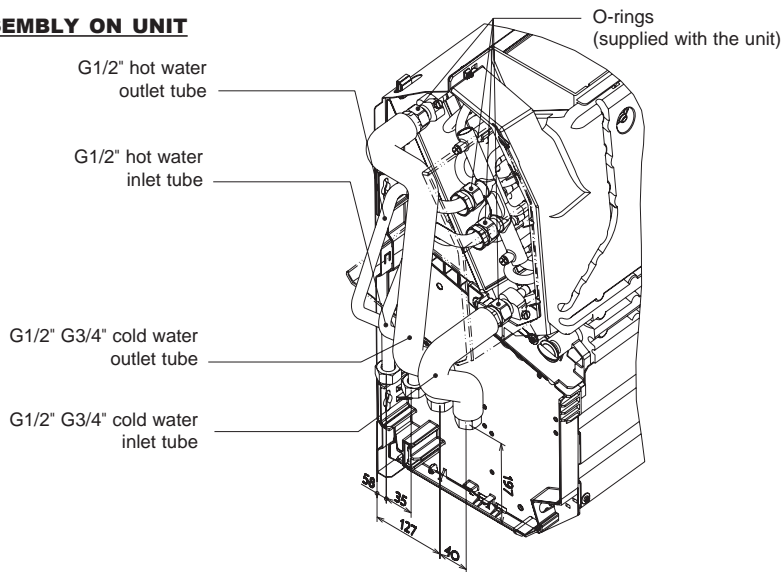
Female rotary couplings with turning nut and flat face (G1/2" or G3/4"), unit side



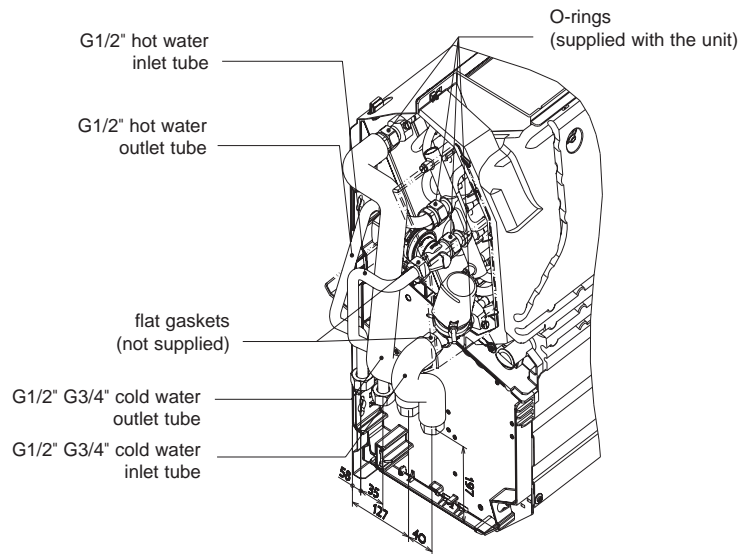
Female rotary couplings with flat face (G1/2" or G3/4"), customer side

## CONNECTING THE TUBE KIT WITH VALVES OR ON UNIT - CV/CH

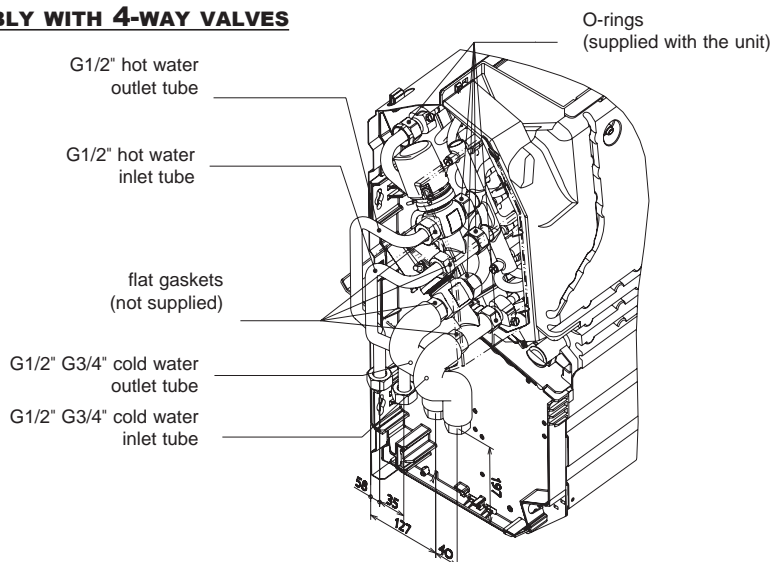
### ASSEMBLY ON UNIT



### ASSEMBLY WITH 2-WAY VALVES

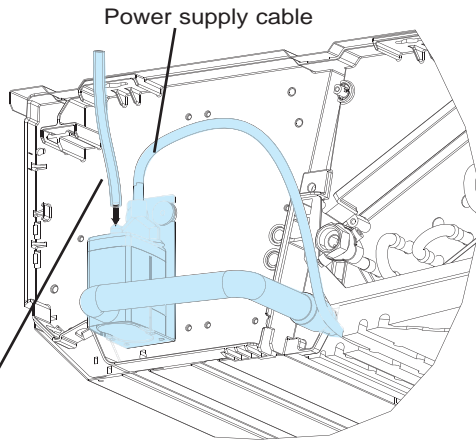


### ASSEMBLY WITH 4-WAY VALVES



TECHNICAL CHARACTERISTICS

Condensate drain pump



The pump outlet must be connected to the water pipe with a flexible tube of 6 mm internal diameter **not supplied**.

Technical characteristics

Maximum flow rate	20 l/h
Maximum discharge height	10 m (flow rate = 4l/h)
Maximum pressure	14 m (flow rate = 0l/h)
Sound level at 1 m as per EN ISO 3744 (Measurements made at the LNE metrology lab, pump in water, outside of application)	23 dBA
Sound level within application at 1 m: (Measurements made in the Sauermann acoustic lab, pump in water)	< or = 28 dBA
Power supply	230 V - 50/60 Hz - 14 W
Insulation class	Double insulation
Detection levels	ON: 18 mm, OFF: 12 mm, AL: 21 mm
Safety contact	NF 8 A resistive - 250 V
Heat protection (overheating)	90°C (automatic restart)
Operating cycle	30%: 3s ON - 7s OFF
Protection	IP54
Safety standard	CE
RoHS Directive	Compliant
DEEE Directive	Compliant
Packaging	0.390 kg - L 112 x W 91 x H 91 mm
Masterpack	25 pieces

Electrical specifications of motors

MAJOR LINE	Motor speed	AC Asynchronous Motor						HEE Brushless motor					
		102/104	202/204	302/304	402/404	502/504	602/604	102/104	202/204	302/304	402/404	502/504	602/604
Absorbed power during operation (W)	V5	33	58	88	106	108	135	11	25	32	77	90	100
	V4	31	41	67	93	94	114	9	15	22	63	80	75
	V3	29	36	52	80	79	99	6	11	13	36	42	55
	V2	27	31	42	72	72	88	5	8	7	21	26	32
	V1	26	27	35	63	63	77	4	5	3	11	13	16
Max. absorbed current (A)	V5	0.14	0.25	0.38	0.46	0.47	0.59	0.11	0.20	0.29	0.62	0.71	0.74
	V4	0.13	0.18	0.29	0.40	0.41	0.50	0.09	0.13	0.20	0.50	0.62	0.67
	V3	0.13	0.16	0.23	0.35	0.34	0.43	0.07	0.11	0.13	0.30	0.35	0.44
	V2	0.12	0.13	0.18	0.31	0.31	0.38	0.06	0.09	0.08	0.19	0.21	0.27
	V1	0.11	0.12	0.15	0.27	0.27	0.33	0.06	0.06	0.06	0.11	0.13	0.16

CONDITIONS: Maximum values with outlet open; Supply voltage 230V ± 10% / 50-60Hz



The name plate is located on the condensate pan, on the electrical connection side

Coil capacity (litres)

MAJOR LINE		102A	102C	202A	202C	202D	302A	302B	302C	402C	502C	602D
2-tube system	Hot or cold water coil	0.358	0.592	0.478	0.792	0.95	0.628	0.835	1.042	1.292	1.542	3.846
Major Line		104X		204X			304X		404X	504X	604X	
4-tube system	Cold water coil		0.592		0.792			1.042	1.292	1.542	3.206	
	Hot water coil		0.123		0.163			0.213	0.263	0.313	0.646	

Diameters of coil couplings

- Type of coil couplings: rotary couplings with flat face;
- Type of valve couplings: threaded male couplings must be provided.

MAJOR LINE		102A	102C	202A	202C	202D	302A	302B	302C	402C	502C	602D
2-tube system	Hot or cold water coil	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G3/4"	G3/4"
MAJOR LINE		104X		204X			304X		404X	504X	604X	
4-tube system	Cold water coil		G1/2"		G1/2"			G1/2"	G1/2"	G3/4"	G3/4"	
	Hot water coil		G1/2"		G1/2"			G1/2"	G1/2"	G1/2"	G1/2"	



## CODIFICATION – 2-TUBE SYSTEM

MAJOR LINE		WATER COIL ONLY							
		2-TUBE SYSTEM							
		CV Assembly 1		CV Assembly 1D		NCV Assembly 1V		NCV Assembly 1VD	
		CH Assembly 41		CH Assembly 41D		NCH Assembly 41V		NCH Assembly 41VD	
Size		Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right
102A	Code	<span style="border: 1px solid black; padding: 2px;">7243000</span>	<span style="border: 1px solid black; padding: 2px;">7243002</span>	7243001	7243003	<span style="border: 1px solid black; padding: 2px;">7243250</span>	7243252	7243251	7243253
102C	Code	<span style="border: 1px solid black; padding: 2px;">7243016</span>	<span style="border: 1px solid black; padding: 2px;">7243018</span>	7243017	7243019	<span style="border: 1px solid black; padding: 2px;">7243266</span>	7243268	7243267	7243269
202A	Code	<span style="border: 1px solid black; padding: 2px;">7243040</span>	<span style="border: 1px solid black; padding: 2px;">7243042</span>	7243041	7243043	<span style="border: 1px solid black; padding: 2px;">7243290</span>	7243292	7243291	7243293
202C	Code	<span style="border: 1px solid black; padding: 2px;">7243056</span>	<span style="border: 1px solid black; padding: 2px;">7243058</span>	7243057	7243059	<span style="border: 1px solid black; padding: 2px;">7243306</span>	7243308	7243307	7243309
202D	Code	<span style="border: 1px solid black; padding: 2px;">7243068</span>	<span style="border: 1px solid black; padding: 2px;">7243070</span>	7243069	7243071	<span style="border: 1px solid black; padding: 2px;">7243318</span>	7243320	7243319	7243321
302A	Code	<span style="border: 1px solid black; padding: 2px;">7243080</span>	<span style="border: 1px solid black; padding: 2px;">7243082</span>	7243081	7243083	<span style="border: 1px solid black; padding: 2px;">7243330</span>	7243332	7243331	7243333
302B	Code	<span style="border: 1px solid black; padding: 2px;">7243092</span>	<span style="border: 1px solid black; padding: 2px;">7243094</span>	7243093	7243095	<span style="border: 1px solid black; padding: 2px;">7243342</span>	7243344	7243343	7243345
302C	Code	<span style="border: 1px solid black; padding: 2px;">7243096</span>	<span style="border: 1px solid black; padding: 2px;">7243098</span>	7243097	7243099	<span style="border: 1px solid black; padding: 2px;">7243346</span>	7243348	7243347	7243349
402C	Code	<span style="border: 1px solid black; padding: 2px;">7243136</span>	<span style="border: 1px solid black; padding: 2px;">7243138</span>	7243137	7243139	<span style="border: 1px solid black; padding: 2px;">7243386</span>	7243388	7243387	7243389
502C	Code	<span style="border: 1px solid black; padding: 2px;">7243176</span>	<span style="border: 1px solid black; padding: 2px;">7243178</span>	7243177	7243179	<span style="border: 1px solid black; padding: 2px;">7243426</span>	7243428	7243427	7243429
602D	Code	<span style="border: 1px solid black; padding: 2px;">7243216</span>	<span style="border: 1px solid black; padding: 2px;">7243218</span>	7243217	7243219	<span style="border: 1px solid black; padding: 2px;">7243466</span>	7243468	7243467	7243469

## CODIFICATION – 4-TUBE SYSTEM

MAJOR LINE		WATER COIL ONLY							
		4-TUBE SYSTEM							
		CV Assembly 1		CV Assembly 1D		NCV Assembly 1V		NCV Assembly 1VD	
		CH Assembly 41		CH Assembly 41D		NCH Assembly 41V		NCH Assembly 41VD	
Size		Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right
104X	Code	<span style="border: 1px solid black; padding: 2px;">7243032</span>	7243034	7243033	7243035	<span style="border: 1px solid black; padding: 2px;">7243282</span>	7243284	7243283	7243285
204X	Code	<span style="border: 1px solid black; padding: 2px;">7243072</span>	7243074	7243073	7243075	<span style="border: 1px solid black; padding: 2px;">7243322</span>	7243324	7243323	7243325
304X	Code	<span style="border: 1px solid black; padding: 2px;">7243112</span>	7243114	7243113	7243115	<span style="border: 1px solid black; padding: 2px;">7243362</span>	7243364	7243363	7243365
404X	Code	<span style="border: 1px solid black; padding: 2px;">7243152</span>	7243154	7243153	7243155	<span style="border: 1px solid black; padding: 2px;">7243402</span>	7243404	7243403	7243405
504X	Code	<span style="border: 1px solid black; padding: 2px;">7243192</span>	7243194	7243193	7243195	<span style="border: 1px solid black; padding: 2px;">7243442</span>	7243444	7243443	7243445
604X	Code	<span style="border: 1px solid black; padding: 2px;">7243220</span>	7243222	7243221	7243223	<span style="border: 1px solid black; padding: 2px;">7243470</span>	7243472	7243471	7243473

Unit in stock for quick delivery  
See Control pages for complete package

## CODIFICATION - 2-TUBE + 2-WIRE

MAJOR LINE		WATER COIL + ELECTRIC							
		2-TUBE + 2-WIRE SYSTEM							
		CV Assembly 1		CV Assembly 1D		NCV Assembly 1V		NCV Assembly 1VD	
		CH Assembly 41		CH Assembly 41D		NCH Assembly 41V		NCH Assembly 41VD	
Size		Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right	Connection on Left	Connection on Right
102A		1 Resistor/300W							
	Code	7243004	7243006	7243005	7243007	7243254	7243256	7243255	7243257
		2 Resistors/600W							
	Code	7243008	7243010	7243009	7243011	7243258	7243260	7243259	7243261
102C		1 Resistor/300W							
	Code	7243020	7243022	7243021	7243023	7243270	7243272	7243271	7243273
		2 Resistors/600W							
	Code	7243024	7243026	7243025	7243027	7243274	7243276	7243275	7243277
202A		1 Resistor/500W							
	Code	7243044	7243046	7243045	7243047	7243294	7243296	7243295	7243297
		2 Resistors/1 000W							
	Code	7243048	7243050	7243049	7243051	7243298	7243300	7243299	7243301
202C		1 Resistor/500W							
	Code	7243060	7243062	7243061	7243063	7243310	7243312	7243311	7243313
		2 Resistors/1 000W							
	Code	7243064	7243066	7243065	7243067	7243314	7243316	7243315	7243317
302A		1 Resistor/800W							
	Code	7243084	7243086	7243085	7243087	7243334	7243336	7243335	7243337
		2 Resistors/1 600W							
	Code	7243088	7243090	7243089	7243091	7243338	7243340	7243339	7243341
302C		1 Resistor/800W							
	Code	7243100	7243102	7243101	7243103	7243350	7243352	7243351	7243353
		2 Resistors/1 600W							
	Code	7243104	7243106	7243105	7243107	7243354	7243356	7243355	7243357
402C		1 Resistor/1 200W							
	Code	7243140	7243142	7243141	7243143	7243390	7243392	7243391	7243393
		2 Resistors/2 400W							
	Code	7243144	7243146	7243145	7243147	7243394	7243396	7243395	7243397
502C		1 Resistor/1 600W							
	Code	7243180	7243182	7243181	7243183	7243430	7243432	7243431	7243433
		2 Resistors/3 200W							
	Code	7243184	7243186	7243185	7243187	7243434	7243436	7243435	7243437










## ACCESSORIES (FITTED TO UNIT)

CV/CH	NCV/NCH	Assembly	Figures	Assembly markings and dimensions	Description
●	●	All			Condensate drain pump fitted to unit with high safety device
	●	41V, 45V, 46V, 47V, 48V, 41VD		x	Metal sleeve for connection to air discharge
	●	NCH only			Hydraulic and electrical connections on same side

## ACCESSORIES (SUPPLIED SEPARATELY)

CV/CH	NCV/NCH	Assemblies	Figures	Assembly markings and dimensions	Description		102-104	202-204	302-304	402-404	502-504	602-604
●		2, 42		a	Support feet for cased model	<b>Code</b>	7242933					
●		2, 42		b	Internal return air grille between feet	<b>Code</b>	7242935	7242936	7242937	7242938	7242939	7242940
●		2		c	Rear skirting support in RAL7035 light grey, 55 mm thick (for 70 mm skirting)	<b>Code</b>	7242926	7242927	7242928	7242929	7242930	7242931
●		2		j	Rear panel painted in RAL7035	<b>Code</b>	7262703	7262704	7262705	7262706	7262707	7262708
●		5/6, 45/46		d	Manual internal/external air recovery unit with return air grille	<b>Code</b>	7242949	7242950	7242951	7242952	7242953	7242954
●		2V		k	Support base for uncased unit	<b>Code</b>	7242932					

ACCESSORIES (SUPPLIED SEPARATELY)

CV/ CH	NCV/ NCH	Assemblies	Figures	Assembly markings and dimensions	Description			102-104	202-204	302-304	402-404	502-504	602-604
	●	5V/6V, 45V/46V		l	Manual internal/external air recovery unit	Code		7242956	7242957	7242958	7242959	7242960	7242961
	●	All		o	Single deflection diffusion grille with sealing frame for vertical and horizontal models	Code		7256897	7256898	7256899	7256900	7256901	7256902
	●	41V, 42V, 45V/46V, 45/46VS, 47V/48V, 41VD		q	Double deflection diffusion grille with sealing frame for horizontal models	Code		7242942	7242943	7242944	7242945	7242946	7242947
	●	Y		v	Supply plenum with collars Ø 200 mm	Code		7242991	7242992	7242993	7242994	7242995	7242996
	●	YK		w	Supply plenum with Ø 160 mm collars + air diffusion grille + 1 m sheath	Code		7243486 E046175	7243487 E046175	7243488 E046183	7243489 E046191	7243490 E046191	
	●	●	All			Condensate drain pump to be fitted to unit with high safety device.	Code						7203415
	●	All			Resilient mounts supplied separately (4 per unit)	Code							0219453
	●	Y		M01	Smooth sleeve alone (external Ø 100 mm), screws and bolts supplied separately	Code							7013442
	●	Y		M07	Assembly comprising Ø100 external diameter collar* with auto-adjustable module fitted with a seal. Packaged with screws, bolts and plan. The flow regulator is designed to supply the determined flow** with a pressure difference of between 50 and 100 Pa.	Code	15/30/45 m³/h						7013440



Flexible connections for Horizontal/Vertical chassis models

Assembly	Figures	Description		102A-102C-202A-202C-202D-302A-302B-302C-402C	502C-602D
<b>For 2-tube coils</b>				<b>G1/2" customer side coupling</b>	<b>G3/4" customer side coupling</b>
All Without Valve		2 M1 9 mm thick insulated flexible connections EPDM pipe+PN10 stainless steel braid length 300 mm Male coupling with flat end/Female rotary coupling on customer side	Code	2 x 5202288	2 x 7247867
All 4-way valve		2 M1 9 mm thick insulated flexible connections EPDM pipe+PN10 stainless steel braid length 300 mm Female rotary couplings	Code	2 x 5202289	2 x 5202298
All 2-way valve		2 M1 9 mm thick insulated flexible connections EPDM pipe+PN10 stainless steel braid length 300 mm, including: 1 Male coupling with flat end/Female rotary coupling on customer side 1 Female rotary coupling	Code	5202288 + 5202289	7247867 + 5202298
<b>For 4-tube coils</b>				<b>104X-204X-304X-404X</b>	<b>504X-604X</b>
				<b>Customer side coupling Heating G1/2" - Cooling G1/2"</b>	<b>Customer side coupling Heating G1/2" - Cooling G3/4"</b>
All Without Valve		4 EPDM pipe+PN10 stainless steel braid length 300 mm flexible connections Male coupling with flat end/ Female rotary coupling on customer side HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 2 x 7247868 COOLING: 2 x 5202288	HEATING: 2 x 7247868 COOLING: 2 x 7247867
All 4-way valve		4 EPDM pipe+PN10 stainless steel braid length 300 mm flexible connections Female rotary couplings HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 2 x 7247837 COOLING: 2 x 5202289	HEATING: 2 x 7247837 COOLING: 2 x 5202298
All 2-way valve		4 EPDM pipe+PN10 stainless steel braid length 300 mm flexible connections, including: 1 Male coupling with flat end/Female rotary coupling on customer side 1 Female rotary coupling HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 7247868 + 7247837 COOLING: 5202288 + 5202289	HEATING: 7247868 + 7247837 COOLING: 7247867 + 5202298

Tubes for Horizontal/Vertical cased models

Assembly	Figures	Description	Code	102A to 102D - 202A to 202D - 302A to 302D - 402A and 402C	402B and 402D - 502A to 502D - 602B to 602D
<b>For 2-tube coils</b>				<b>G1/2" customer side coupling</b>	<b>G3/4" customer side coupling</b>
All Without valve		2 M1 9 mm thick insulated tubes Copper tube Ø 12.7 - PN 16 Male coupling with flat end/Female rotary coupling on customer side	Code	7299040 (L/R)* 7299041 (L) + 7299064 (R)	7299059 (L/R)* 7299061 (L) + 7299071 (R)
All 4-way valve		2 M1 9 mm thick insulated tubes Copper tube Ø 12.7 - PN 16 Female rotary couplings	Code	7299049 (L/R) 7299050 (L/R)	7299063 (L/R) 7299062 (L/R)"
All 2-way valve		2 M1 9 mm thick insulated tubes Copper tube Ø 12.7 - PN 16 1 Male coupling with flat end/Female rotary coupling on customer side 1 Female rotary coupling	Code	7299049 (L/R) 7299041 (L) + 7299064 (R)	7299062 (L/R) 7299061 (L) + 7299071 (R)
<b>For 4-tube coils</b>				<b>204X - 304X - 404X</b>	<b>504X - 604X</b>
				<b>Customer side coupling Heating G1/2" - Cooling G1/2"</b>	<b>Customer side coupling Heating G1/2" - Cooling G3/4"</b>
All Without Valve		4 copper tubes Ø 12.7 - PN 16 Male coupling with flat end/Female rotary coupling on customer side HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 7299048 (L) + 7299046 (L) 7299066 (R) + 7299065 (R) COOLING: 7299040 (L/R) 7299041 (L) + 7299064 (R)	HEATING: 7299048 (L) + 7299046 (L) 7299066 (R) + 7299065 (R) COOLING: 7299059 (L/R) 7299061 (L) + 7299071 (R)
All 4-way valve		4 copper tubes Ø 12.7 - PN 16 Female rotary couplings HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 7299054 (L) + 7299051 (L) 7299070 (R) + 7299068 (R) COOLING: 7299049 (L/R) 7299050 (L/R)	HEATING: 7299054 (L) + 7299051 (L) 7299070 (R) + 7299068 (R) COOLING: 299063 (L/R) 7299062 (L/R)
All 2-way valve		4 copper tubes Ø 12.7 - PN 16 - including: 1 Male coupling with flat end/Female rotary coupling on customer side 1 Female rotary coupling HEATING: 2 non-insulated COOLING: 2 M1 9 mm thick insulated	Code	HEATING: 7299051 (L) + 7299048 (L) 7299068 (R) + 7299066 (R) COOLING: 7299049 (L/R) 7299041 (L) + 7299064 (R)	HEATING: 7299051 (L) + 7299048 (L) 7299068 (R) + 7299066 (R) COOLING: 7299062 (L/R) 7299061 (L) + 7299071 (R)

\* (L) : Left / (R) : Right

## SPECIFICATIONS

**The comfort units** will conform to the standards and regulations in force. They will be manufactured under ISO 9001 quality assurance and in compliance with environmental certification ISO 14001. All comfort units, as well as being Eurovent certified, must bear the CE mark.

The **bi-material and two-colour casing** will be of a modern and refined design to blend in with all types of interior. Its robust packaged design must enable it to be dismantled easily and quickly. No plastic cover or moving parts will weaken the robustness of the unit.

**The base** will have mounting holes on the metal rear panel to facilitate fixing to walls and ceilings. Under no circumstances will it be constructed using materials liable to wear out.

**The air filter**, minimum G3 type according to EN779, with M1 fire resistance and fitted on removable runners must be easily accessible and removable.

**Air supply** will be via a COANDA effect grille in order to ensure compliance with comfort standard ISO 7730. The fins must not under any circumstances be directed or able to be directed towards the occupied space.

**The water coil** will be made of copper tubes and continuous fins in seamed aluminium. To ensure the best energy efficiency possible, different variants will be available thus limiting surplus power. The hydraulic connections will be fitted with female rotary couplings with flat faces to facilitate the fitting of regulation valves. The PN16 coils will be equipped with air bleed and draining valves. They must be tested with a minimum test pressure of 24 bar.

**The main condensate pan**, in class V0 non-corrodible smooth ABS-type material, will as standard have reinforced insulation of at least 20 mm for use in all climates. An auxiliary pan will be available to collect condensate from the regulation valves. All metal trays will be prohibited. Condensate draining must be of the raised type, raised by at least 30 mm to facilitate the gravity drain.

**The fan motor assembly** is equipped with an asynchronous motor or an HEE motor with a 230V (50/60 Hz) closed and tropicalised power supply, with a protected shaft and internal automatic overload protection as standard on the winding. The impellers will be HEE type in ABS, class V0 with a diameter of 160 mm to ensure high acoustic and air flow performance. The fan motor assembly will be sized to meet the requirements of installations needing up to 50 Pa of operating pressure.

The impellers of the unit will be in ABS, class V0 and designed for optimum performance. They will be split unit type, therefore easily removed, enabling the maintenance operator to replace only the defective part if necessary (motor or impeller)..

- **The asynchronous motor** has 5 speeds connected to the electrics box of the unit for optimised selection on site.
- **The HEE motor** is a high energy efficiency motor enabling a reduction of up to 80% in electricity consumption, which uses BLAC (Brushless Alternate Current) brushless technology offering more linear torque progression and a lower operating sound level than BLDC (Brushless Direct Current) technology. It has 3-speed gradual operation by 0-10V or on/off control signal.

**An electrical box** that is enclosed and of large dimensions, fitted with a DIN rail, will be able to accommodate and protect all the control components from dust. A cable clamp will ensure the electrical wires are secure. The electrical box will be large enough to contain all the components of a complete regulation loop. **Parallel control of 2 motors is prohibited.**

**The technical design** of the unit should allow it to be installed horizontally or vertically without modification.

**The control** will be factory-fitted to the units to ensure correct operation. With vertically cased units, the control unit will be flush-mounted to the top of the casing. The flush-mounted control terminals will integrate perfectly with the exterior design of the casing by using the same RAL colours.

**Eco-design** should be a permanent consideration at every stage of the unit's conception process. Recyclable parts must be stamped with the current logo to facilitate sorting and identification at end of life. The unit as a whole must be at least 85% recyclable. The unit must be easy to dismantle at end of life.

### Guarantees

The manufacturer guarantees the equipment's performance, and will provide the documents attesting to the equipment's compliance with the attached specifications and with the STANDARDS, in particular the heating and cooling capacity (total and sensible), the air flow, the motor power input, the efficiency of the filters and the sound power spectrum. Using a simulation tool, the manufacturer of the terminal units must be able to give the relevant comfort indices or the values in compliance with the standard EN ISO 7730. The system start-up and maintenance guide for the unit must be in the language used in the country of installation. The manufacturer's technical specifications and the equipment's sound pressure must be given **in the documents to be appended to the submission.**



→ Comfort units

MAJOR LINE

This document is non-contractual. As part of its policy of continual product improvement, CIAT reserves the right to make any technical modification it feels appropriate without prior notification.

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