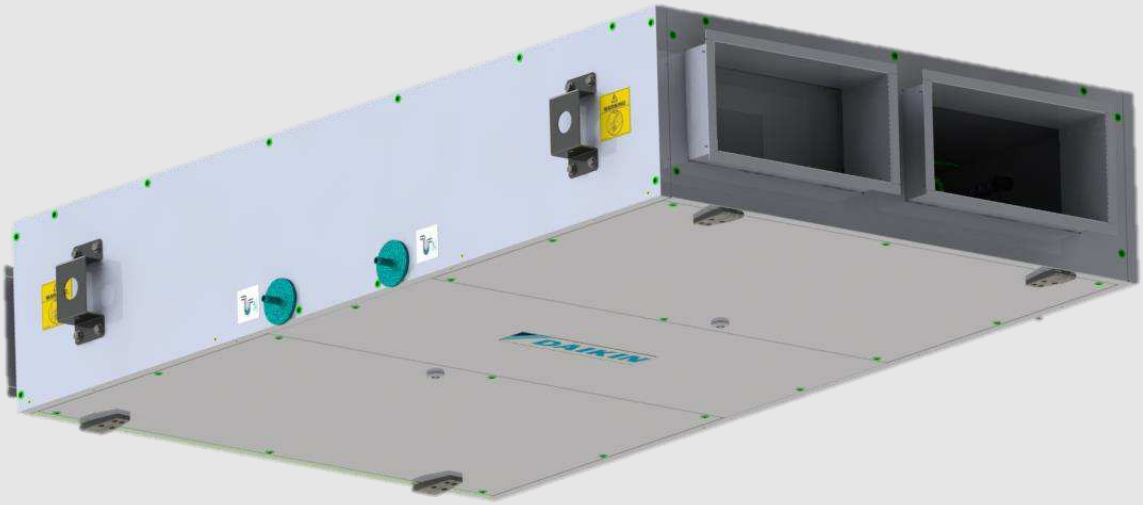
Air Handling Unit
Technical Data

Modular Light



ASTRA WEB version 10.0.0.0

15/06/2018

Index

Features 3
Unit description 4
Standard material name – Base module 5
Specifications 6
Technical data 6
Electrical data 7
Declaration EU. REG. 1253/2014 7
Bearing structure 8
Insulation 8
Heat exchanger 8
Fan 8
Filter 9
Control 9
Default values 10
Accessories 12
Accessories list 12
Installation location (air direction) 12
Useful information 12
External electric coil 13
External water coil 13
Rails 14
Compact filter 14
Performance data: size 2 15
Performance data: size 3 18
Performance data: size 4 21
Performance data: size 5 24
Performance data: size 6 27
Performance data: size 7 30
Unit installation 33
Unit clearances 35
Wiring diagram 36

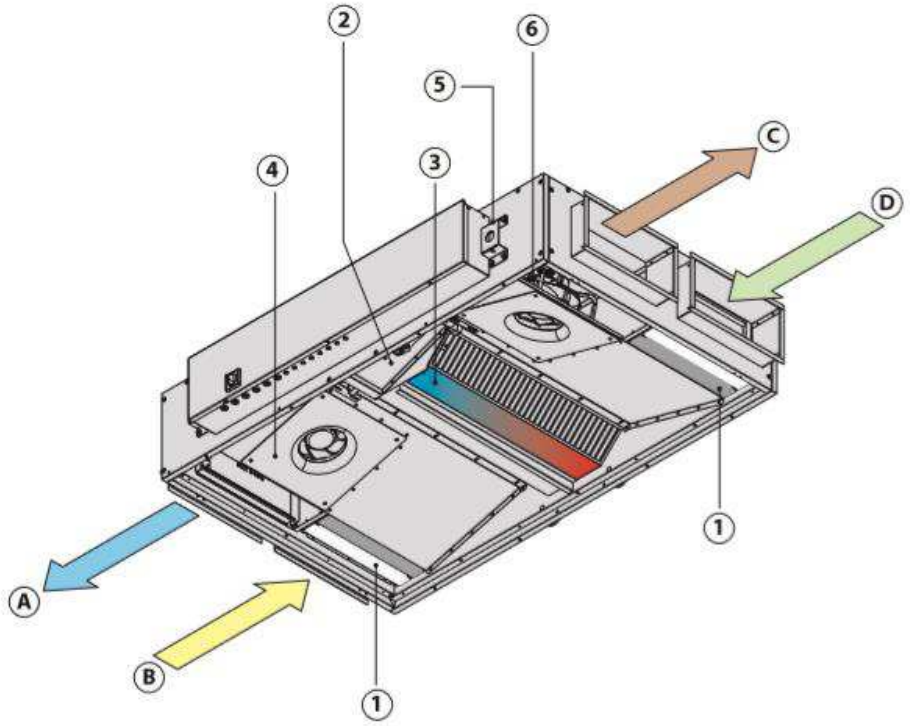
Features

Heat recovery unit for decentralized ventilation system

- Available in 6 sizes with an air flow up to 3600 m3/h
- From 150 Pa up to 500 Pa of external static pressure, depending on the model sizes
- Smallest size is 280 mm of height, while the biggest size is 500 mm of height
- Energy saving solution thanks to the 100% automatic bypass
- Reduced energy consumption thanks to EC fans with IE4 motor efficiency
- Free-cooling operation and energy efficient defrost logic
- Counter flow plate heat exchanger with efficiency up to 92%
- Double filter on supply and return, up to F7+F9 filtration level
- Possibility to have pre – filter (G4, M5, F7)
- CO2 level management thanks to optional CO2 sensor
- 50mm double skin panels, mineral wool insulated
- Modbus and BACnet compatible (accessory)
- Ideal solution for light commercial applications as: retail shops, small and large offices, hotels, cinemas, theatres, school, colleges, universities, etc
- Left or right versions
- Available also with integrated heating coil (water)



Unit description



Components

1. Filter and pre filter
2. By - pass
3. Heat exchanger
4. Supply fan
5. Bracket for ceiling suspension
6. Return fan

Airflow direction

- A Supply air
- B Return air
- C Exhaust air
- D Fresh air

Standard material name – Base module

	Product		Components	Size		Connection side	Model revision
Digit	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Character	**A**	**L**	**B**	**0**	**2**	**R**	**B**
	A = Ahu	L = Modular Light	B = Base module	02= Size 02 03= Size 03 : : 07 = Size 07		R = Right L = Left	A = First release B = Second release

Standard unit will be provided with: programmable controller, aluminium counter flow plate heat exchanger, F7 filter on supply air, M5 filter on return air. Double skin panel (inner Aluzinc AZ185, outer pre – painted)

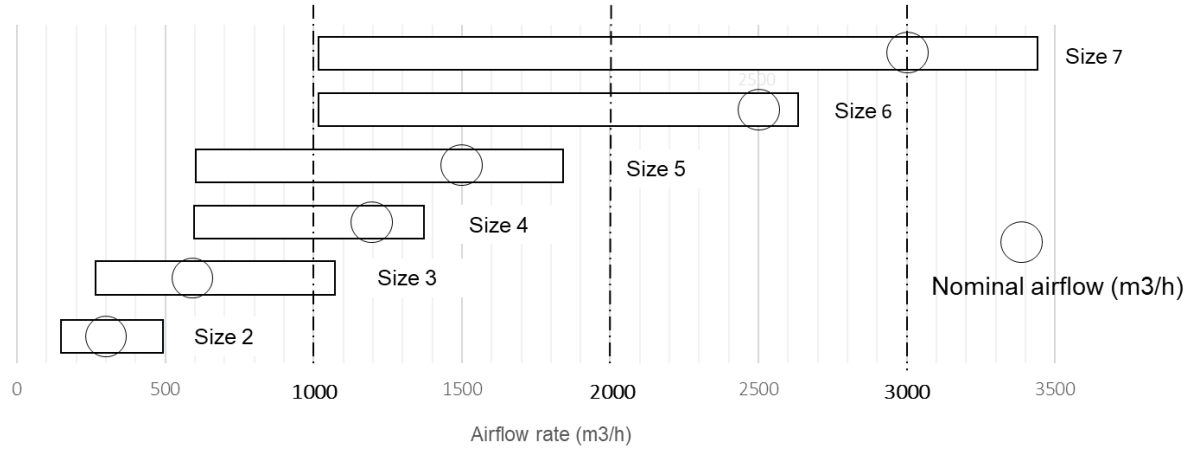
Modular Light	Main Unit		
	Right		**Left**
Size 2	ALB02RB		ALB02LB
Size 3	ALB03RB		ALB03LB
Size 4	ALB04RB		ALB04LB
Size 5	ALB05RB		ALB05LB
Size 6	ALB06RB		ALB06LB
Size 7	ALB07RB		ALB07LB

Specifications

Technical data

			ALB02*B	ALB03*B	ALB04*B	ALB05*B	ALB06*B	ALB07*B
Airflow		m3/h	300	600	1200	1500	2500	3000
HE Thermal efficiency 1.		%	93	93	93	92	94	93
External static pressure	Nom.	Pa	100	100	100	100	100	100
Current	Nom.	A	0,52	1,17	1,91	2,48	4,39	5,39
Power input	Nom.	kW	0,12	0,27	0,44	0,57	1,01	1,24
SFPv 2.		kW/m3/s	1,24	1,49	1,25	1,31	1,42	1,46
Electrical supply	Phase	ph	1	1	1	1	1	1
	Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
	Voltage	V	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac
Main unit Dimensions	Width	mm	920	1100	1600	1600	2000	2000
	Height	mm	280	350	415	415	500	500
	Length	mm	1660	1800	2000	2000	2000	2000
Rectangular duct flange	Width	mm	250	400	500	500	700	700
	Height	mm	150	200	300	300	400	400
Unit sound power level		dBA	48	54	57	53	62	57
Unit sound pressure level 3.		dBA	34	39	41	37	46	41
Weight unit		kg	125	180	270	280	355	360

1. Winter design condition: Outdoor: -10°C, 90% Indoor: 22°C,50%
2. SFPv is a parameter that quantifies the fan efficiency (the lower it is the better will be). This reduces if airflow decreases.
3. EN 3744. Surrounding, Directivity (Q) = 2, @1,5m distance



Max airflow calculated @100 Pa of ESP

For any performances out of the nominal condition here above mentioned kindly refer to the online selection available online at tools.daikinapplied.eu

Electrical data

			ALB02*B	ALB03*B	ALB04*B	ALB05*B	ALB06*B	ALB07*B
Power supply	Phase	ph	1 ~					
	Frequency	Hz	50/60					
	Voltage	V	200 - 240	200 - 277				
Full Load Condition	FLA	A	2,8	4,5	4,5	4,7	8,9	9,3
	FLI	W	371	1033	1033	1033	2033	2033

Declaration EU. REG. 1253/2014

			ALB02*B	ALB03*B	ALB04*B	ALB05*B	ALB06*B	ALB07*B
Manufacturer's name			Daikin Applied Europe S.p.A.					
Typology (NRVU,UVU or BVU)*			NRVU BVU					
Type of drive			Variable Speed Drive					
Type of HRS			Other					
Thermal efficiency of the HR		%	77,8	79,6	81,9	80,4	82,1	80,7
Nominal NRVU Flow rate	Supply	m3/s	0,15	0,32	0,4	0,54	0,76	1,01
	Return	m3/s	0,15	0,32	0,4	0,54	0,76	1,01
Effective Electric Power Input	Total	kW	0,31	0,69	0,67	0,92	1,26	1,72
SFP Internal		W/(m3/s)	842	1181	631	787	810	1010
Face velocity at design flow rate	Supply	m/s	1,5	2	1,4	1,9	1,7	2,3
	Return	m/s	1,5	2	1,4	1,9	1,7	2,3
Internal Pressure Drop of	Supply	Pa	227	351	169	244	221	315
Ventilation Components	Return	Pa	218	347	167	244	220	315
Nominal External Pressure	Supply	Pa	30					
	Return	Pa	30					
Static efficiency of fans**	Supply	%	53	59	53	61	53	61
	Return	%	53	59	53	63	56	64
Maximum External Leakage Rate	+400	%	< 4%	< 3%	< 4%	< 3%	< 3%	< 2%
	-400	%	< 4%	< 3%	< 4%	< 3%	< 3%	< 2%
Maximum Internal Leakage Rate		%	< 3%	< 2%	< 3%	< 2%	< 2%	< 2%
Summer Outdoor Conditions	Temperature	°C	34					
	Humidity	%	50					
Winter Outdoor Conditions	Temperature	°C	-10					
	Humidity	%	90					
Filter Energy Classification			-					
Filter Service Warning***			Displayed on HMI Controller					
Sound Power Level		dBA	53	61	62	58	63	60
Pre-/Dis- assembly Instructions			http://www.daikinapplied.eu/en/index/page/download/1350					

* In accordance with Commission Regulation (EU) No 1253/2014 of July 2014
** In accordance with Regulation (EU) No 327/2011
***Clean/Replace Filter(s) when maximum pressure drop is reached or when warning is displayed on HMI Controller

Bearing structure

The units feature double-skin panels that consist of two folded panels.
Panel thickness is 50 mm for all unit sides.
The standard versions provide Aluzinc AZ185 (C4 corrosion resistance) for the inner skin and pre-coated panel for the outer skin.
The units are constructed with removable or hinged doors allowing full maintenance access from bottom side. The units have of rectangular flanges to be connected to a rectangular ducts network.
If needed transition from rectangular to circular flange can be ordered as accessory.

Insulation

Insulation material used is Mineral Wool with a density of 120 kg/m3 (EN 1602).
Thermal conductivity is 0.036 W/m°K and mineral wool is A1 class for fire classification (EN13501-1).

Heat exchanger

The units feature a counterflow plate heat exchanger (PHE).
The PHE is able to recover up to 93% of thermal energy in wet conditions.
They are made of aluminium alloy with a minimum content of iron and copper (to avoid corrosion issues).
PHE is Eurovent certificated and protected by minimum M5 & F7 grade pleated filters on extract and supply.
PHE incorporates an automatic bypass with actuator and a condensation drain pan with opportune slope.

Fan

The units comply with ErP 2018 rated and have IP54 EC fan/motor assemblies.
EC fans are of IE4 class.
Fans provide low specific fan power (SFP) and a stepless speed control.
According to their energy balance, performances, flow and noise characteristics the rotor shall be made by plastic (reinforced if necessary). The airflow rate shall be measure on the fan arrangement in real time.
Fans can run at least at 3 speeds (30%,60% or 90% of the maximum fan speed) as well as in Automatic speed.
Fans can provide a constant air volume regardless filter clogging or duct/system pressure drops (within the fans operation limits).
They are also able to provide a fixed pressure value regardless the supplied air volume or the pressure drops' changes in the system.
In terms of power supply, the unit must operate on 220/240 V AC, 50/60 Hz single-phase main supply.

Filter

Filter types are plane (compact) made with glass fibre material.
All the filters - regardless of their type – are mounted in opportune rails equipped with a mechanical frame that maintains the filters in pressure.
The total filter list is: G4, M5, F7 and F9. They can be combined in order to meet any kind of requirement.
The units come standard with M5 and F7 filters respectively for extract and supply air side.
In accordance with the ISO 16890, the unit is able to reach SUP 1 level from ODA 3 level (See the table below).

Outdoor Air Quality	**Supply air class**			
	SUP 1 (High)	SUP 2 (Medium)	SUP 3 (Moderate)	SUP 4 (Low)
ODA 1 (Pure Air)	M5+F7	F7	F7	F7
ODA 2 (Dust)	F7 + F7	M5 + F7	F7	F7
ODA 3 (Very high concentration of dust)	F7 + F9	F7 + F7	M6 + F7	F7

For easy reference the EN779 will be replaced by the ISO 16890. The new naming are included in the following table.

Filter name (EN 779)	**Filter name (ISO 16890)**	ePM_1	$ePM_{2,5}$	ePM_{10}
G4	ISO Coarse 55%	N/A		
M5	ePM_{10} 75%	44%	55%	83%
F7	ePM_1 50%	59%	67%	87%
F9	ePM_1 80%	86%	89%	95%

The units, in fact, can accommodate on supply air stream two filters: F7 and F9.
In order to avoid the fast clogging of the fine filter from gross particles, units can also provide a class G4 pre - filter either on Supply and Exhaust side.
According to the hygienic requirements of the VDI 6022, filter frames are designed in such a way so they can be easily extracted and cleaned.
The filter replacement is carried out from the bottom side opening the hinged doors.
The filters replacement trigger is activated through pressure differential switches, following the provision of EU 1253.
Replacement filters are available as a standard accessory.

Control

Unit control system is provided on the basis of a programmable direct digital controller (DDC). Its software allows user configuration setting based on original manufacturer logics.
The unit controls are factory mounted and fully operational on site.
A web server (HMI) is also provided as a standard feature.
The unit offers the possibility to be integrated into BACnet/IP or Modbus-RS485 based BMS through dedicated accessories.
The unit is connectable to a Cloud monitoring system (optional).
The unit is able to operate either in CAV and VAV systems.

For the constant air volume (CAV) logic the unit provides a constant airflow regardless of system pressure drops.
For the variable air volume (VAV) logic the unit guarantees a constant static pressure in a specific point of the system (through dedicated accessory).
The unit is able to control the indoor air quality by controlling and monitoring the CO2 level (CO2 sensor is optional).
In fact, when the threshold value is overcome, the control forces the fan to increase the extracted and supplied air volume in order to decrease the CO2 level faster.
When signals are received, the units vary its fan speed proportionally until the desired set points are met.
An optional humidity sensor is also available to control the airflow according to the actual internal humidity conditions.
The automatic operation of the bypass, instead, is determined by an algorithm that varies output based on temperature evaluations.
Bypass control provides free cooling operation (depending on the temperature level of the fresh air) and defrost operation together with a modulating internal water heating coil (if available) in order to give the best solution in terms of energy efficiency and cost reduction.
Units fit four temperature probes to measure: Supply air temperature, Return Air temperature, Fresh air and Exhaust Air Temperature.

Modular Light Control	
Control platform	Programmable controller
Remote controller	Room controller: ALC00822A
	Commissioning tool: ALC00895A
CO2 control	Yes, ALP00COA (mandatory accessory)
RH% control	Yes, ALP00HUA (mandatory accessory)
BMS Connectivity	BACnet/IP: ALC00908A (accessory)
	Modbus-RS485: ALC00902A (accessory)
Ethernet connection	WEB - Human Machine Interface (Web server)
Cloud connection	Daikin on Site

Default values

Modular Light	**Constant air volume (CAV)[1.]**		**Variable air volume (VAV)[2.]**		**Supply air temperature[1.]**		**CO2 Control[3.]**		**Scheduler[1.]**		**Filter replacement[4.]**	
Material name	Auto (m3/h)	Eco (m3/h)	Auto (Pa)	Eco (Pa)	Winter (°C)	Summer (°C)	Trigger value (PPM)	Max forcing (%)	Time	Day	M5 filter (Pa)	F7 filter (Pa)
ALB02*B	300	150	100	50	22	22	1000	25 of the maximum fan speed	08:00 - 18:00	Monday - Friday	250	250
ALB03*B	600	300										
ALB04*B	1200	600										
ALB05*B	1500	750	150	75								
ALB06*B	2500	1250										
ALB07*B	3000	1500										

1. Pre-set values (default)
2. Values fixed but not enabled (VAV kit required)
3. Values fixed but not enabled (ALP00COA CO_2 probe accessory mandatory)

4. Trigger value for the filters' replacement. In case of non - standard filters, the installer needs to change manually the differential pressure value in accordance with the filter class. The recommended values are mentioned in the filter accessory section.
All the values can be changed using the Commissioning Module (ALC00895A)

Accessories

Accessories list

		ALB02*B	ALB03*B	ALB04*B	ALB05*B	ALB06*B	ALB07*B
Compact filter	G4	ALF02G4A	ALF03G4A	ALF05G4A		ALF07G4A	
	M5	ALF02M5A	ALF03M5A	ALF05M5A		ALF07M5A	
	F7	ALF02F7A	ALF03F7A	ALF05F7A		ALF07F7A	
	F9	ALF02F9A	ALF03F9A	ALF05F9A		ALF07F9A	
Silencer	900 mm depth	ALS0290A	ALS0390A	ALS0590A		ALS0790A	
Probes	CO2	ALP00COA					
	Humidity (%RH)	ALP00HUA					
	Temperature	ALP00TEA					
Coil module	Electric pre -heating	ALD02HEFA	ALD03HEFA	ALD05HEFA		ALD07HEFA	
	Electric post - heating	ALD02HESA	ALD03HESA	ALD05HESA		ALD07HESA	
	Water cooling (post - heating)	ALD02CWSA	ALD03CWSA	ALD05CWSA		ALD07CWSA	
	Water heating (pre/post - heating)	ALD02HWUA	ALD03HWUA	ALD05HWUA		ALD07HWUA	
Mechanical accessories	Rail	ALA02RLA	ALA03RLA	ALA05RLA		ALA07RLA	
	Rectangular-Circular duct transition	ALA02RCA	ALA03RCA	ALA05RCA		ALA07RCA	
Valves	2-way water heating	ALV02HW2A	ALV03HW2A	ALV05HW2A		ALV07HW2A	
	3-way water heating	ALV02HW3A	ALV03HW3A	ALV05HW3A		ALV07HW3A	
	2-way water cooling	ALV02CW2A	ALV03CW2A	ALV05CW2A		ALV07CW2A	
	3-way water cooling	ALV02CW3A	ALV03CW3A	ALV05CW3A		ALV07CW3A	
Electrical Accessories	Modulating Valve Actuator	ALE00AMVA					
Controls	Module Bacnet Interface	ALC00908A					
	Module Modbus Interface	ALC00902A					
	Room Thermostat (included in Main Unit)	ALC00822A					
	Commissioning Module	ALC00895A					

Installation location (air direction)

		Supply	Fresh	Return	Exhaust
Coil	Electric pre - heating		●		
	Electric post - heating	●			
	Water cooling (post - heating)	●			
	Water heating (pre/post - heating)	●	●		
Silencer	900 mm depth	●	●	●	●
Compact filter	Filter		●	●	
Probes	C02			●	
	Humidity (%RH)			●	
Mechanical accessories	Rectangular - circular duct transition	●	●	●	●

Useful information

- Both pre (ALD**HEFA) and post (ALD**HESA) electric coils must be equipped with an additional temperature probe (ALP00TEA) fitted in the duct and wired to the terminal.
- Both water heating (ALD**CWSA) and water cooling coil must be equipped with an additional temperature probe (ALP00TEA) fitted in the duct and wired to the terminal. In addition, either a 2 or 3 ways valves (ALV**HW2A, ALV**HW3A, ALV**CW2A, ALV**CW3A) must be ordered along with its modulating actuators for water valve (mandatory option ALE00AMVA)
- Electric pre – heating (ALD**HEFA) is available in two steps while electric post – heating (ALD**CWSA and ALD**HWUA) is modulating

- The accessory compatibility might be limited on the basis of the control features. Kindly refer to your sales representative in case of doubts
- CO2 probe (ALP00COA) selection leaves the Humidity probe(ALP00HUA) out and vice versa.
- For Modbus (ALC00902A) and BACnet (ALC00908A) modules selection there is no exclusion
- Room thermostat (ALC00822A) is supplied with the main unit (ALB***B) as a standard item
- Commissioning module (ALC00895A) is required for purpose of either airflow volumes' or static pressure value changes from the ones set at factory.

Note:
The unit get delivered with its nominal air flow rate set up at factory. To adjust its operation to the selected parameters, kindly select the optional commissioning module ALC00895A or make reference to Daikin Service Dept.
Alternatively, you can also commission the units using the web server access

External electric coil

Material Name	Main unit size	Description	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	V,ph,Hz	Output (kW)
ALD02HEFA	2	Electric pre - heating	485	370	220	7,5	230/1/50	1,5
ALD03HEFA	3		635	370	270	10		3
ALD05HEFA	4		735	500	370	14	400/3/50	7,5
	5							
ALD07HEFA	6		935	500	470	21	400/3/50	15
	7							
ALD02HESA	2	Electric post - heating	485	370	220	7,5	230/1/250	2,1
ALD03HESA	3		635	370	270	10	400/3/50	4
ALD05HESA	4		735	500	370	18	400/3/50	10
	5							
ALD07HESA	6		935	500	470	21	400/3/50	15
	7							

External water coil

Material Name	Main unit size	Description	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Airflow (m3/h)	Press.drop (Pa)
ALD02CWSA	2	Water cooling (post - heating)	NOT YET RELEASED					
ALD03CWSA	3		590	395	298	12,6	600	60
ALD05CWSA	4		690		398	16,6	1500	100
	5						1500	100
ALD07CWSA	6		890		498	27,3	3000	125
	7						3000	125
ALD02HWUA	2	Water heating (pre/post - heating)	NOT YET RELEASED					
ALD03HWUA	3		563	190	238	5,5	600	25
ALD05HWUA	4		663		338	8	1500	45
	5						1500	45
ALD07HWUA	6		863		438	12,5	3000	55
	7						3000	55

Material Name	Main unit size	Description	Inlet air temp. (°C)	Outlet air temp. (°C)	Output (KW)	Water flow (l/s)	Water press. Drop (kPa)	N° tube rows
ALD02CWSA	2	Water cooling (post - heating)	25	NOT YET RELEASED				
ALD03CWSA	3			13,9	2,5	0,12	2,56	4
ALD05CWSA	4			13,9	6,5	0,31	9,44	
	5			13,9	6,5	0,31	9,44	
ALD07CWSA	6			14,1	12,5	0,6	13,95	
	7			14,1	12,5	0,6	13,95	
ALD02HWUA	2	Water heating (pre/post - heating)	0	NOT YET RELEASED				
ALD03HWUA	3			21,8	4,7	0,23	9,22	2
ALD05HWUA	4			19,7	10,7	0,52	23,12	
	5			19,7	10,7	0,52	23,12	
ALD07HWUA	6			18,5	2,1	0,97	29,89	
	7			18,5	2,1	0,97	29,89	

The outlet air temperature is based on 0°C air inlet (pre – heating). For post – heating please consider that air inlet to the coil is higher taking into account the heat recovery system

Rails

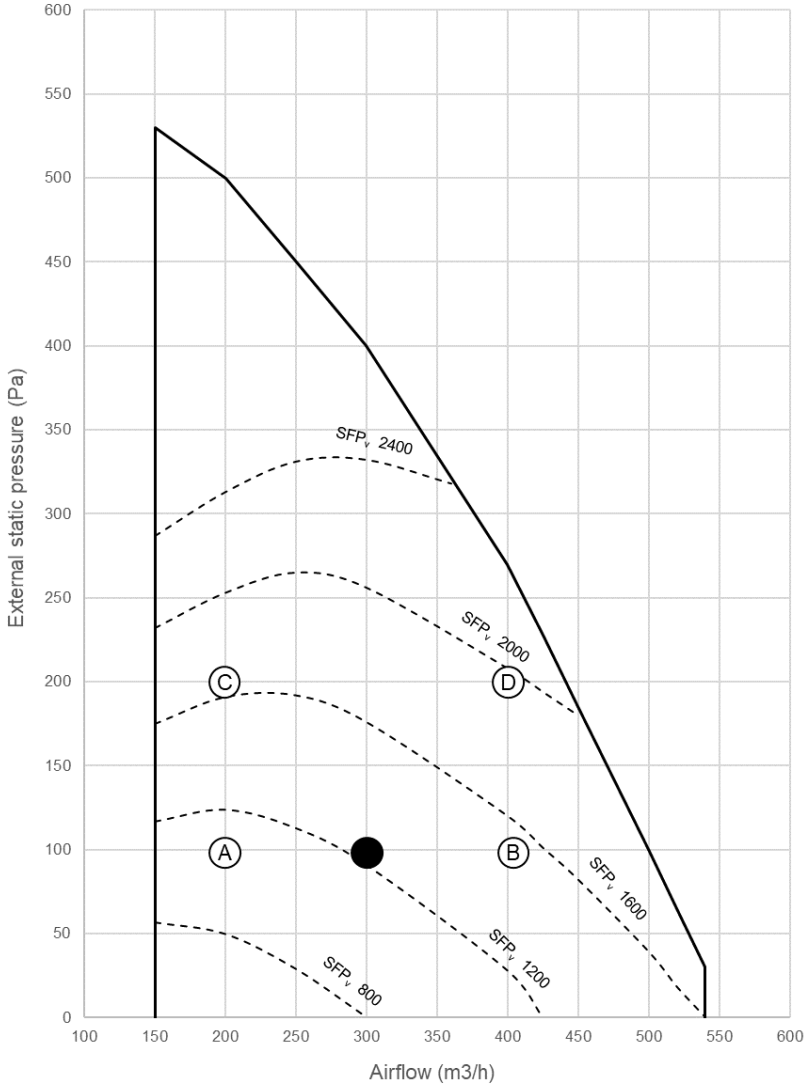
Material Name	Main unit size	Description	Length (mm)	Width (mm)	Height (mm)	Weight (kg)
ALA02RLA	2	Rail	1660	84	51	3,5
ALA03RLA	3		1800	84	51	3,5
ALA05RLA	4		2000	84	51	3,92
	5		2000	84	51	3,92
ALA07RLA	6		2000	84	51	4,3
	7		2000	84	51	4,3

Compact filter

Material Name	Main unit size	Description	ΔP Clean (Pa)
ALF02G4A	2	G4 Compact Filter	76
ALF03G4A	3		92
ALF05G4A	4		72
	5		90
ALF07G4A	6		100
	7		120
ALF02M5A	2	M5 Compact Filter	44
ALF03M5A	3		53
ALF05M5A	4		41
	5		51
ALF07M5A	6		57
	7		69
ALF02F7A	2	F7 Compact Filter	61
ALF03F7A	3		74
ALF05F7A	4		58
	5		72
ALF07F7A	6		80
	7		96
ALF02F9A	2	F9 Compact Filter	76
ALF03F9A	3		92
ALF05F9A	4		72
	5		90
ALF07F9A	6		100
	7		120

The pressure drop is referring to nominal airflow.

Performance data: size 2



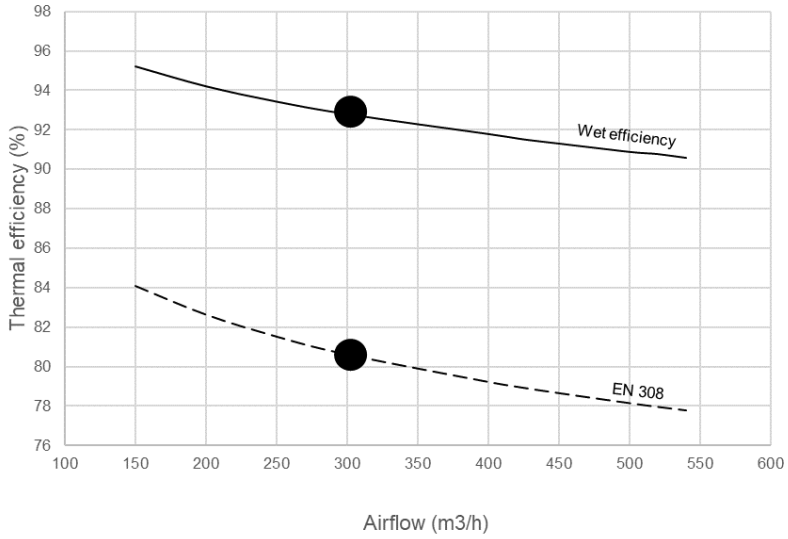
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

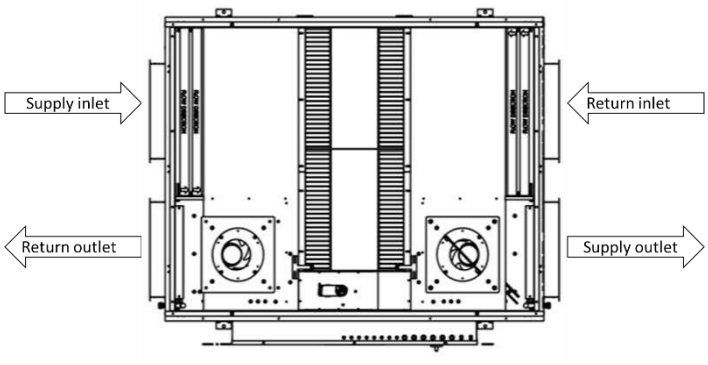
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2.

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	54	55	53	44	45	42	28	18	50
	Supply outlet	59	62	67	65	59	60	52	47	67
	Return inlet	54	55	54	45	45	42	28	19	50
	Return outlet	59	63	67	66	59	61	53	47	67
	Surrounding power	62	54	50	48	39	38	31	20	48
Surrounding pressure (dBA)										31

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	58	56	56	47	48	47	36	29	54
	Supply outlet	64	64	69	68	63	66	60	57	71
	Return inlet	58	56	55	47	48	47	36	28	53
	Return outlet	63	64	69	67	62	66	60	57	51
	Surrounding power	67	55	52	50	43	43	38	30	52
Surrounding pressure (dBA)										35

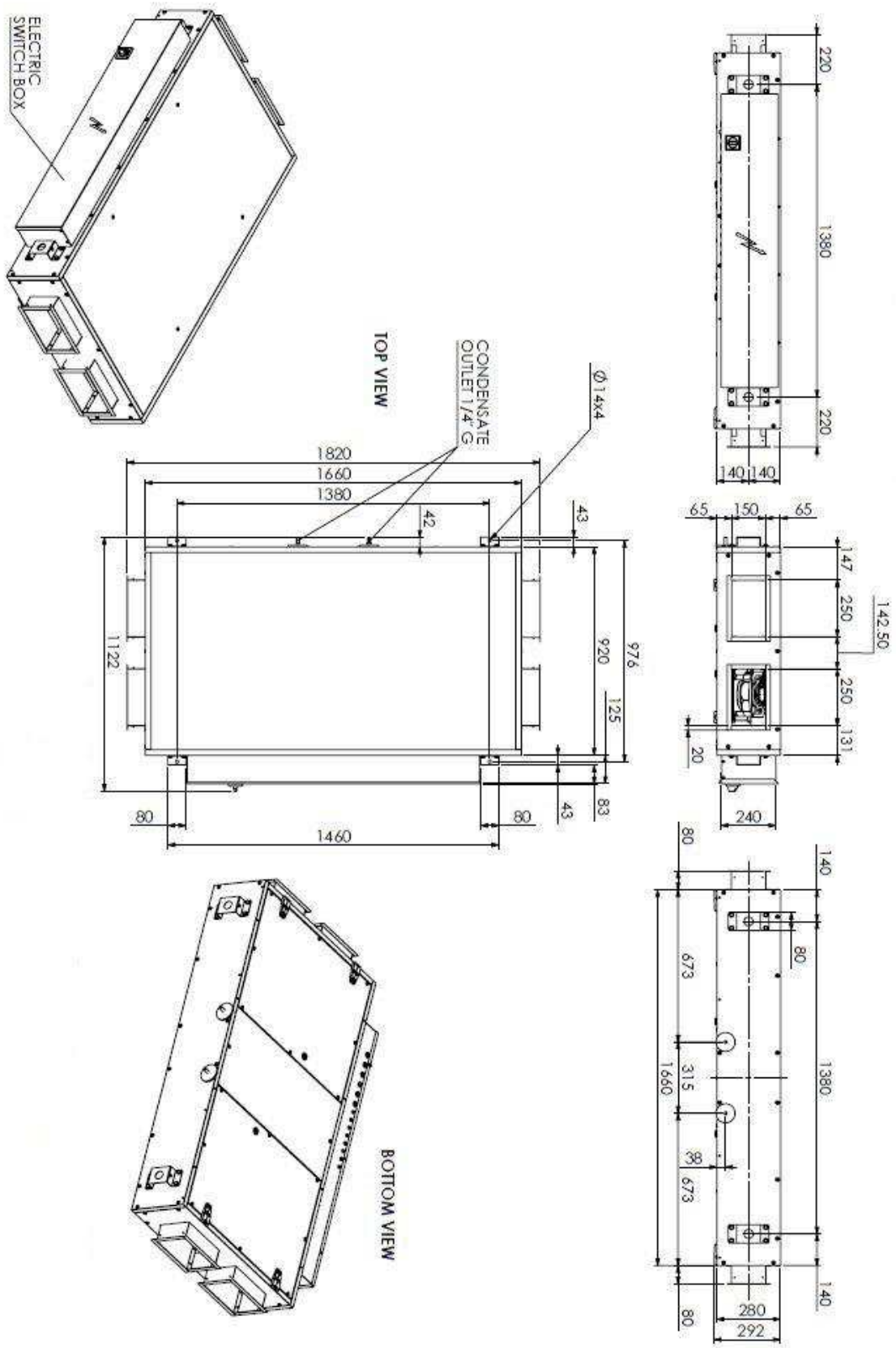
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	57	58	57	49	48	46	32	24	54
	Supply outlet	62	66	71	70	62	64	57	52	71
	Return inlet	57	59	58	49	48	46	33	24	54
	Return outlet	62	66	71	70	63	64	57	52	71
	Surrounding power	65	57	54	52	43	42	35	25	52
Surrounding pressure (dBA)										35

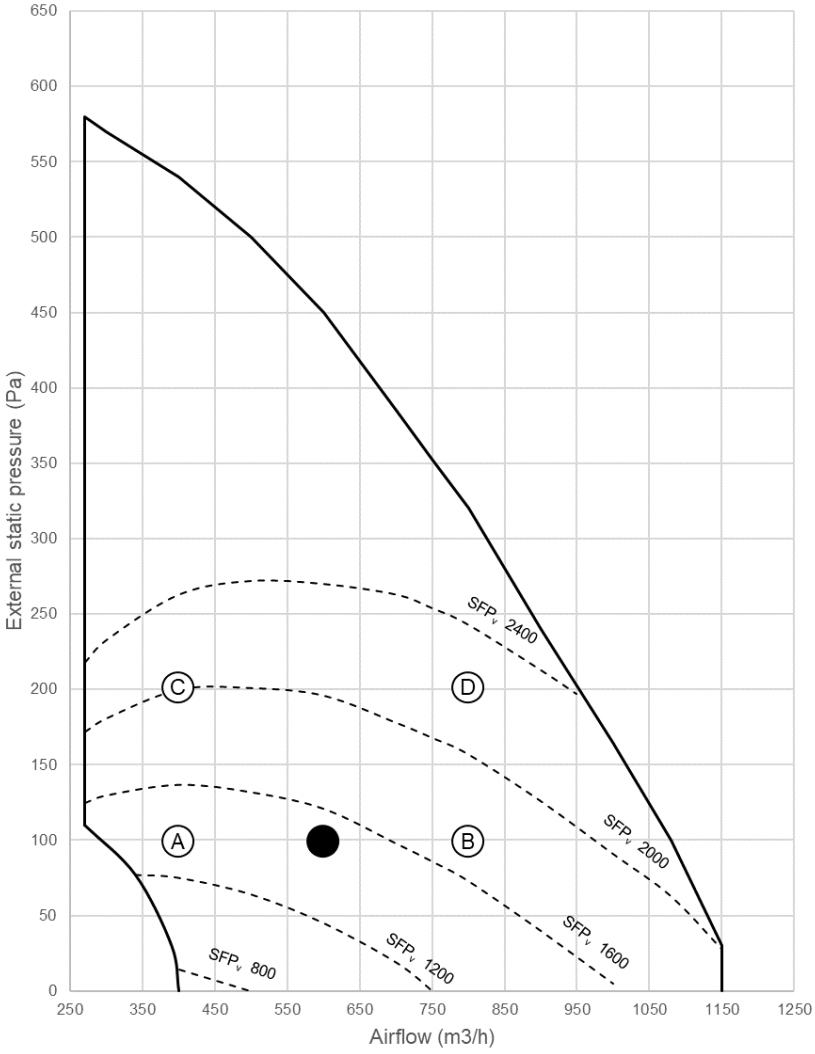
Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	60	59	59	50	51	49	38	31	56
	Supply outlet	65	67	72	71	66	68	63	59	74
	Return inlet	60	59	59	50	51	49	38	31	56
	Return outlet	65	66	72	71	65	68	62	59	74
	Surrounding power	68	58	55	53	45	45	40	33	54
Surrounding pressure (dBA)										37

Dimensional drawing: size 2



Performance data: size 3



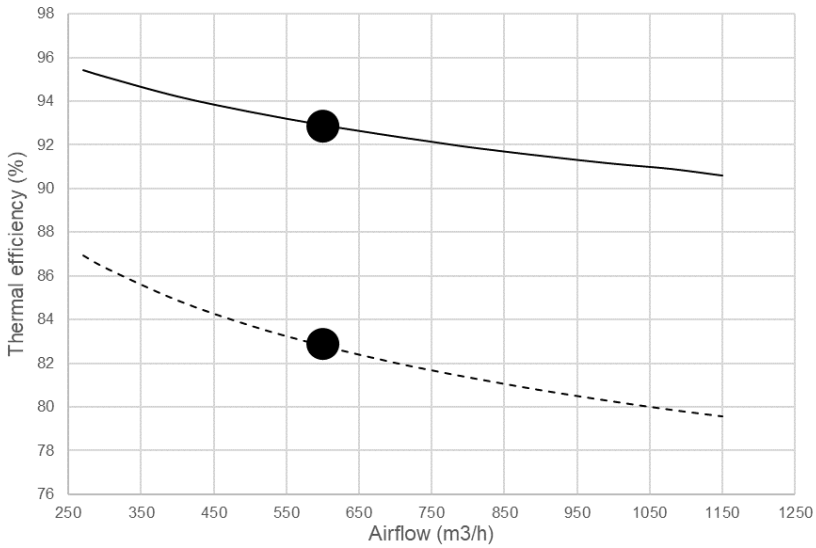
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

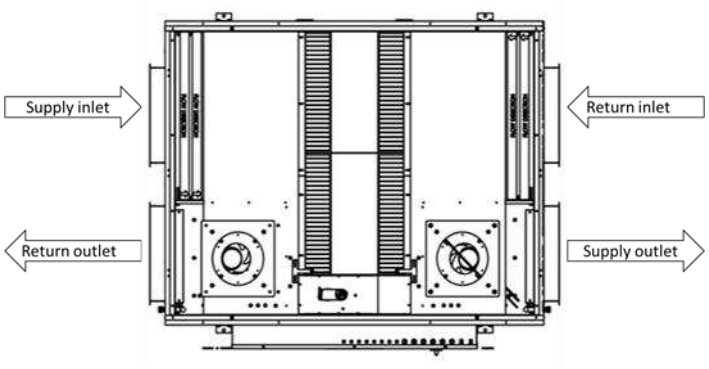
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	62	64	62	53	51	46	32	20	58
	Supply outlet	67	72	76	74	65	64	56	48	74
	Return inlet	62	64	62	53	51	46	32	20	58
	Return outlet	67	72	76	74	65	64	56	48	74
	Surrounding power	70	63	59	56	45	42	34	21	56
Surrounding pressure (dBA)										39

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	67	69	63	51	52	50	38	28	59
	Supply outlet	72	76	77	72	66	68	62	56	75
	Return inlet	68	69	64	53	53	51	39	29	60
	Return outlet	73	77	78	74	67	69	63	57	76
	Surrounding power	76	68	61	55	47	47	41	30	59
Surrounding pressure (dBA)										42

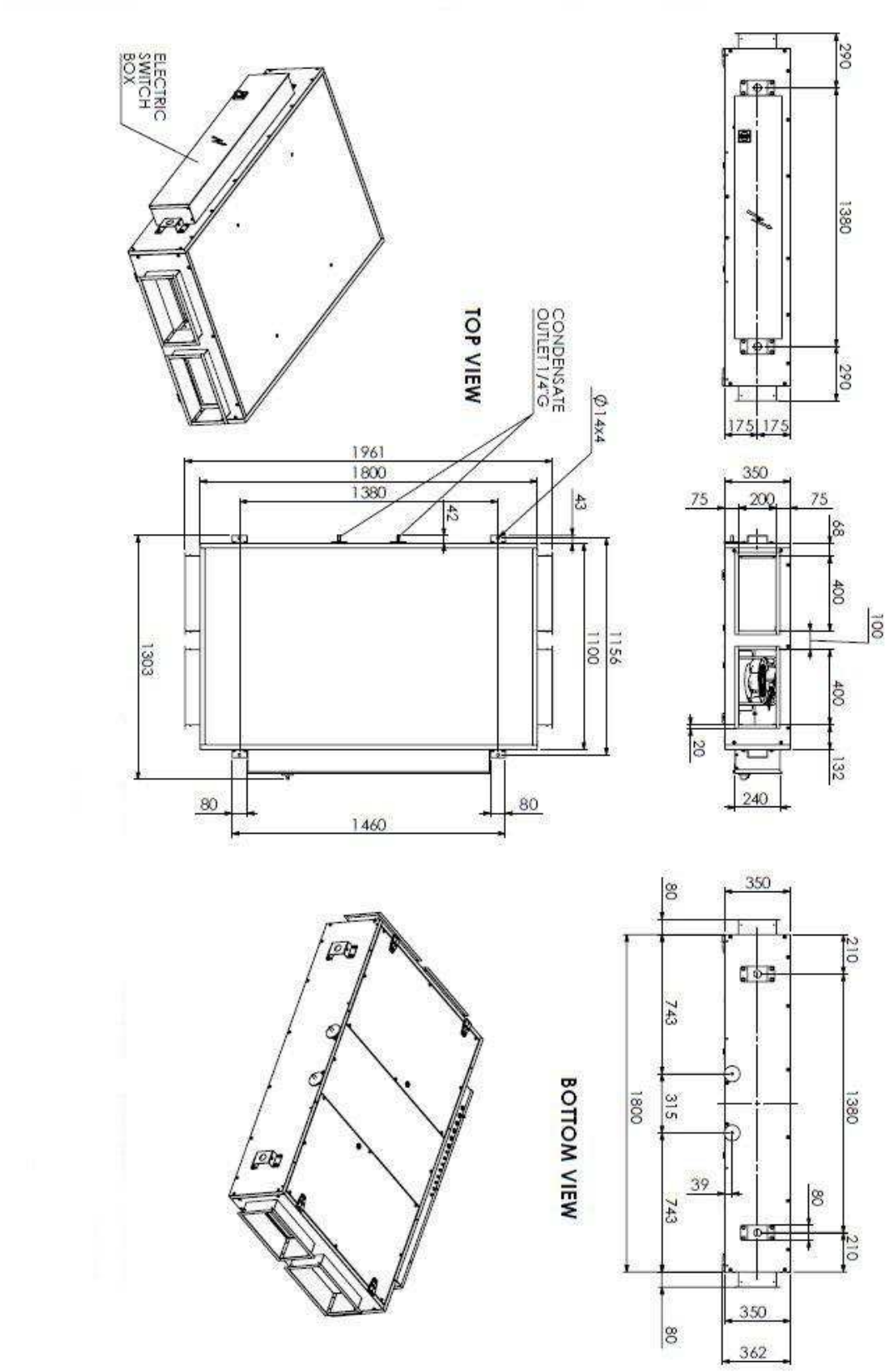
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	64	67	66	56	54	49	36	24	61
	Supply outlet	69	75	80	77	68	68	60	52	77
	Return inlet	64	68	66	57	54	49	36	24	61
	Return outlet	69	75	80	77	68	68	60	53	78
	Surrounding power	72	66	63	60	48	45	38	26	60
Surrounding pressure (dBA)										43

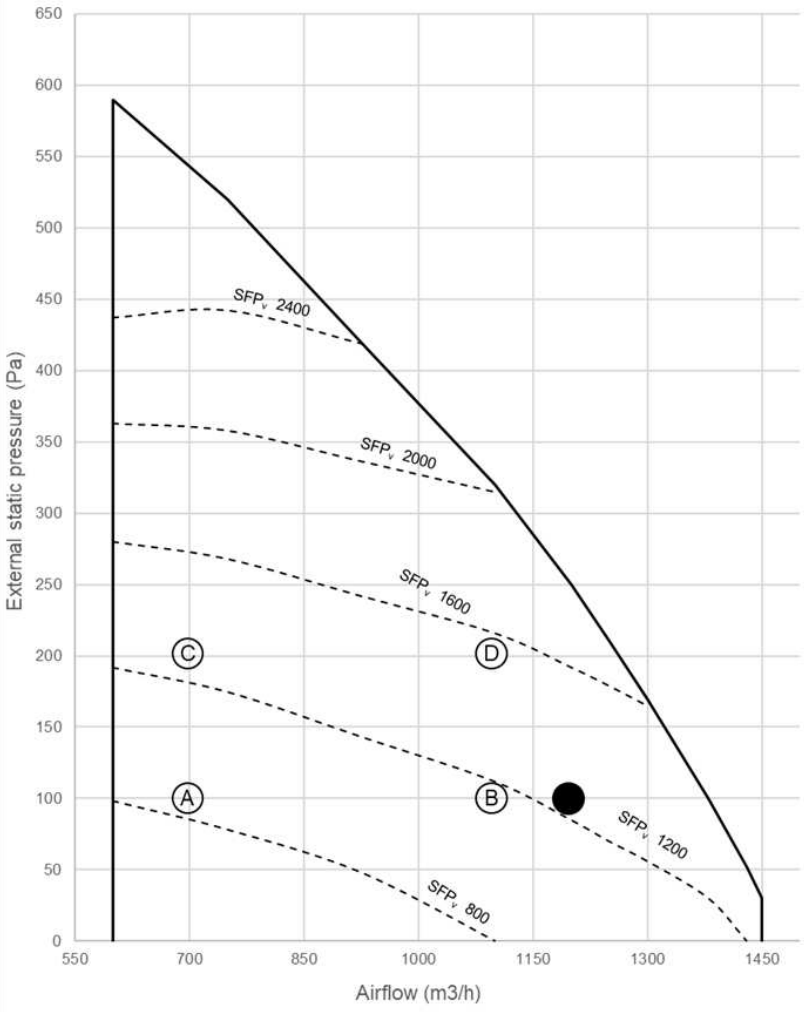
Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	69	70	66	55	55	52	41	31	62
	Supply outlet	74	78	80	76	69	71	65	59	78
	Return inlet	69	71	67	56	56	53	41	32	63
	Return outlet	74	79	81	77	70	72	66	60	79
	Surrounding power	77	70	64	59	50	49	44	33	61
Surrounding pressure (dBA)										44

Dimensional drawing: size 3



Performance data: size 4



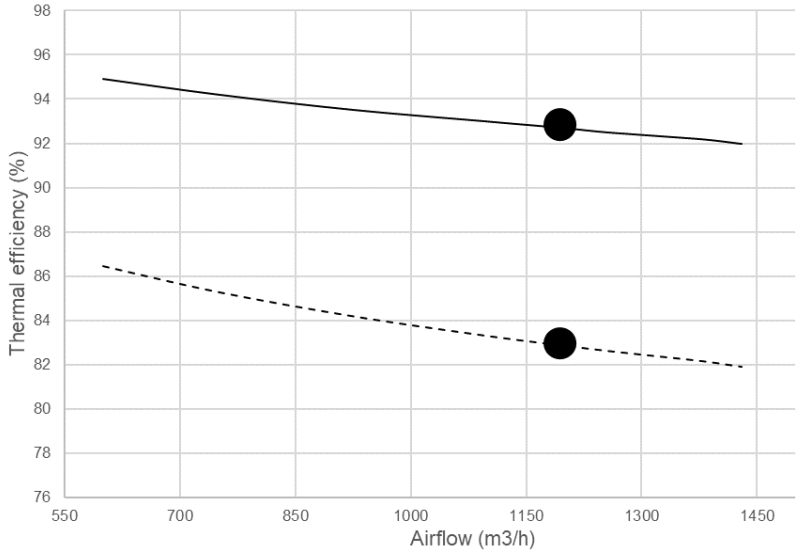
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

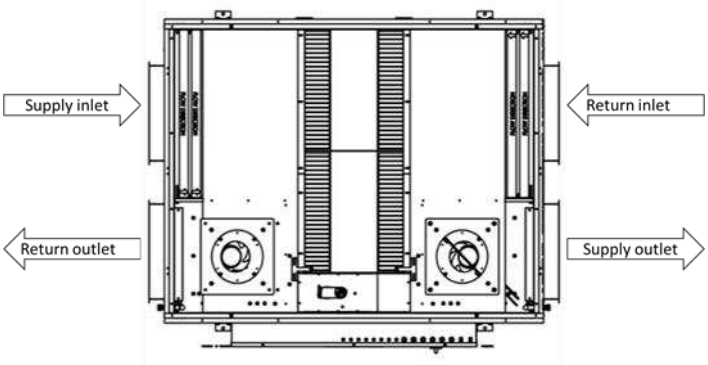
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	63	64	57	44	46	44	31	20	53
	Supply outlet	68	72	71	65	60	62	56	48	69
	Return inlet	64	64	58	45	46	44	32	21	54
	Return outlet	68	72	71	66	60	63	56	49	69
	Surrounding pow er	71	63	54	48	40	40	34	22	52
Surrounding pressure (dBA)										34

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	58	61	60	50	52	51	40	31	57
	Supply outlet	63	68	73	71	66	70	64	59	75
	Return inlet	60	62	60	50	52	51	40	31	58
	Return outlet	65	70	74	71	66	70	65	60	75
	Surrounding pow er	67	60	57	53	46	47	43	33	55
Surrounding pressure (dBA)										37

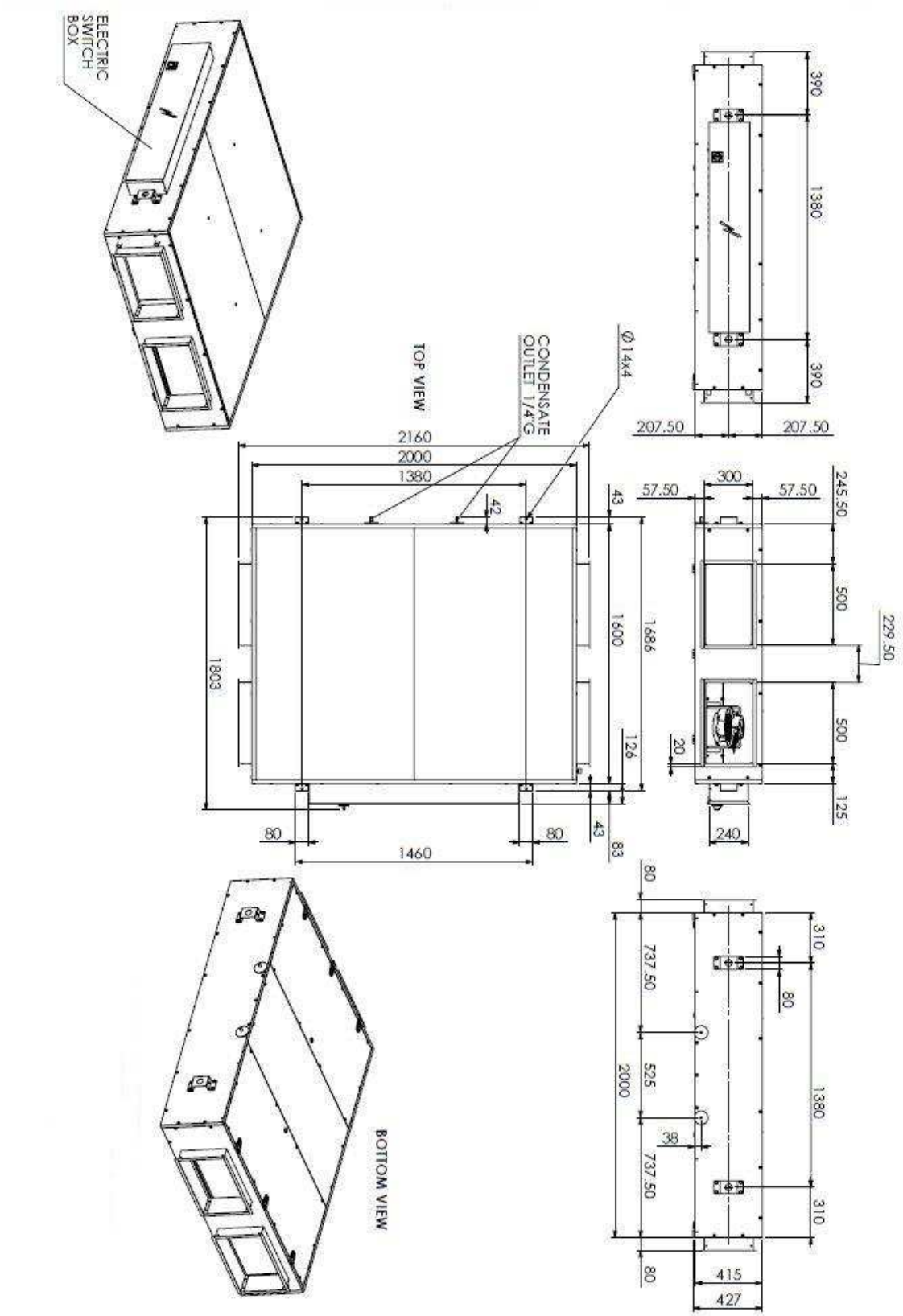
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	65	67	61	50	50	47	35	24	57
	Supply outlet	70	74	75	70	64	66	60	53	73
	Return inlet	65	67	62	50	50	48	35	25	57
	Return outlet	70	74	75	71	74	66	60	53	73
	Surrounding pow er	73	65	58	53	44	44	37	26	56
Surrounding pressure (dBA)										38

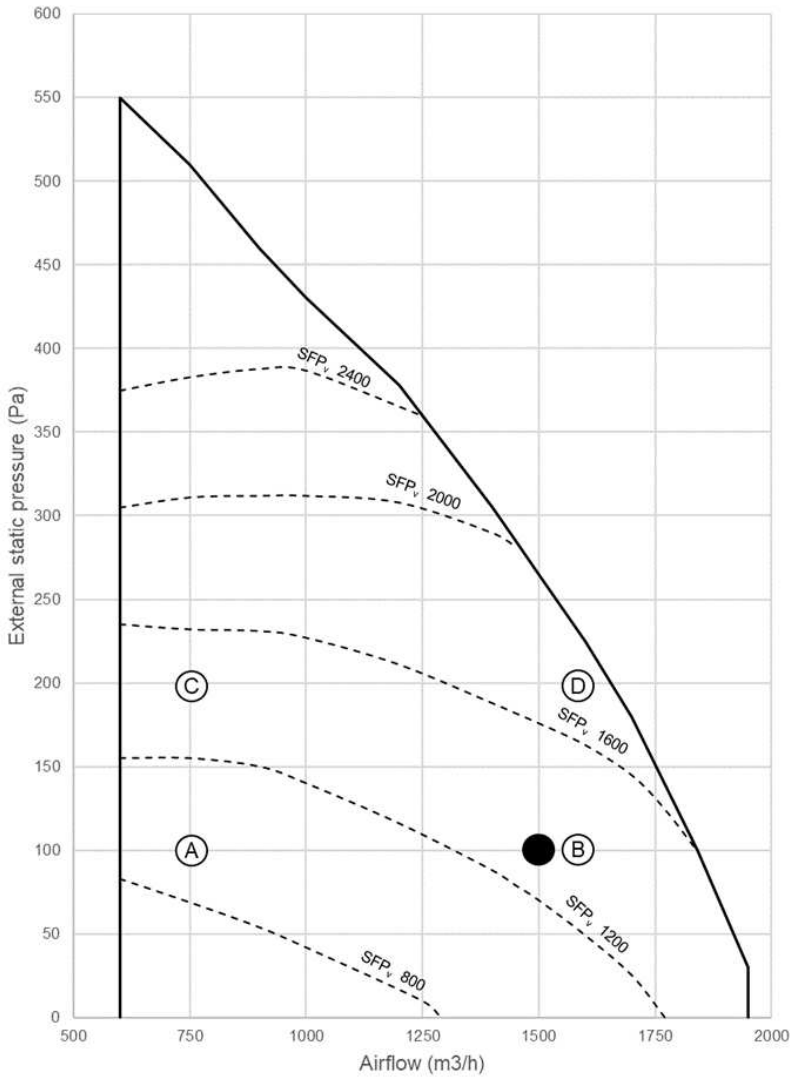
Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	68	69	64	52	53	52	42	32	60
	Supply outlet	73	76	78	72	68	71	66	61	77
	Return inlet	69	69	64	52	53	52	42	33	60
	Return outlet	74	77	78	73	68	71	66	61	77
	Surrounding pow er	76	68	61	55	47	48	44	34	59
Surrounding pressure (dBA)										41

Dimensional drawing: size 4



Performance data: size 5



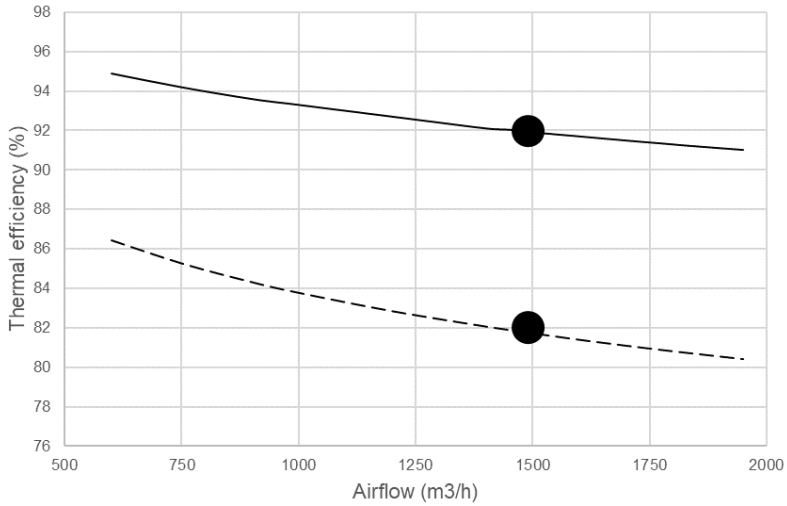
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

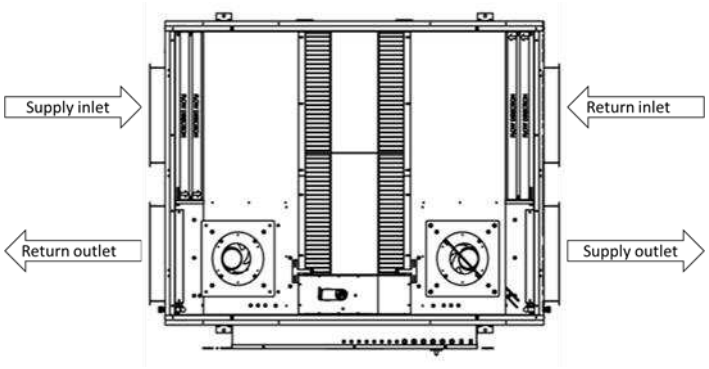
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level:

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	68	68	58	43	42	38	30	16	54
	Supply outlet	66	75	70	64	58	61	54	46	68
	Return inlet	68	69	59	43	42	38	30	17	55
	Return outlet	66	76	71	64	58	62	55	46	69
	Surrounding power	69	67	54	47	38	39	33	19	53
Surrounding pressure (dBA)										35

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	73	69	62	51	50	47	39	31	59
	Supply outlet	64	66	74	69	64	69	62	58	73
	Return inlet	74	70	64	52	51	48	40	32	59
	Return outlet	67	68	75	69	65	69	62	59	74
	Surrounding power	69	58	57	52	45	46	40	32	55
Surrounding pressure (dBA)										37

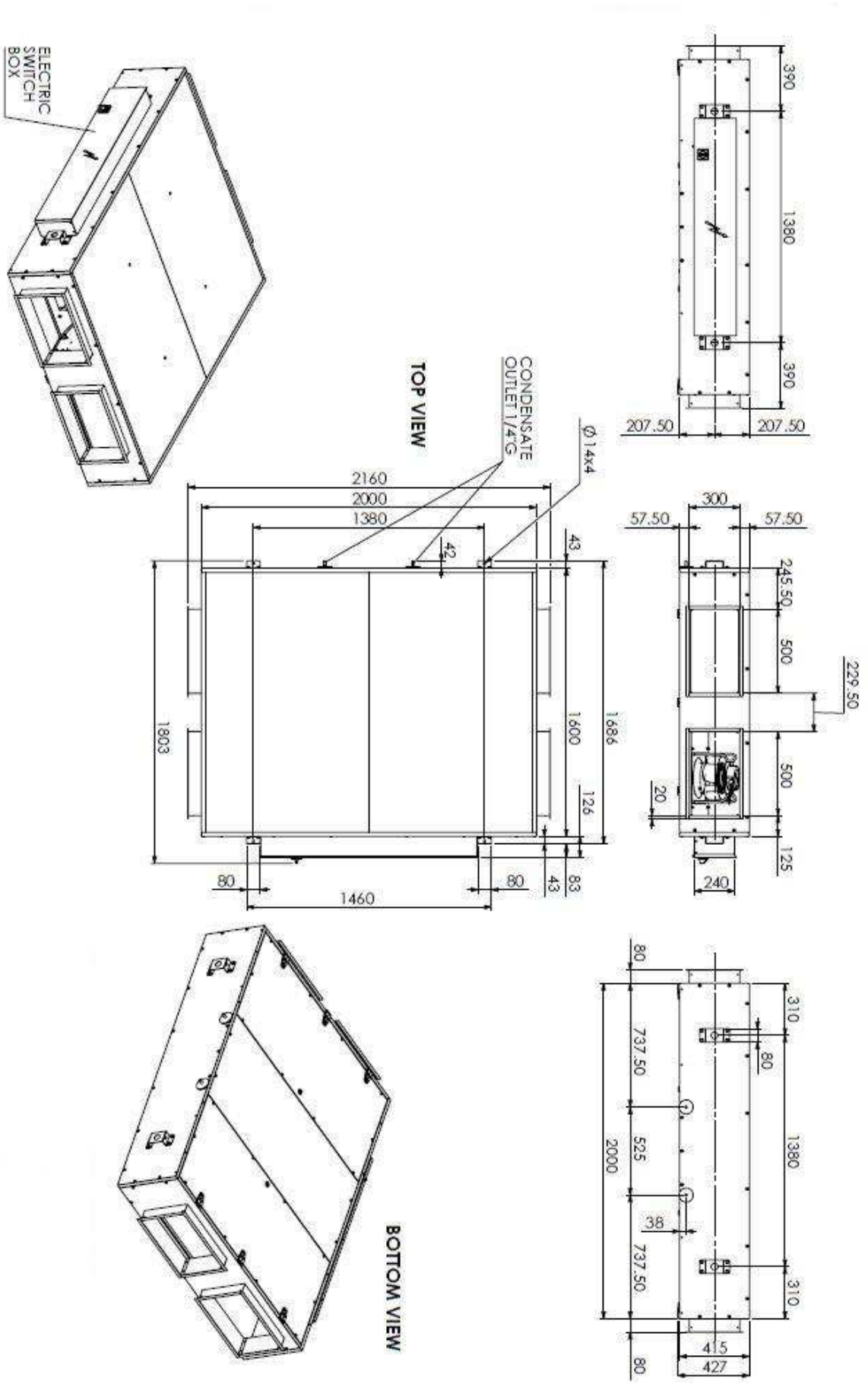
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	70	73	64	48	46	42	35	22	60
	Supply outlet	73	81	77	70	63	67	59	51	74
	Return inlet	70	73	65	48	46	42	35	22	60
	Return outlet	73	81	77	70	63	67	59	51	74
	Surrounding power	76	72	60	53	43	44	37	24	59
Surrounding pressure (dBA)										41

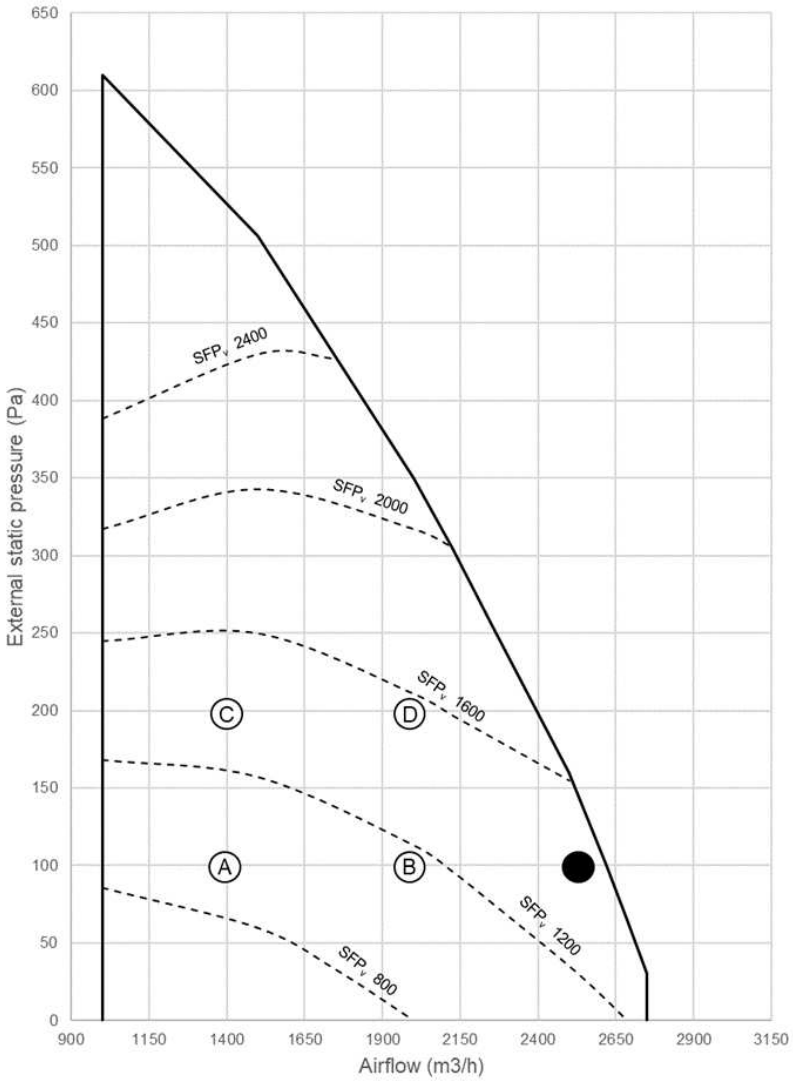
Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound power (dB)	Supply inlet	74	72	66	53	52	48	41	32	61
	Supply outlet	70	70	77	72	66	71	64	61	76
	Return inlet	74	72	66	54	52	49	42	32	62
	Return outlet	70	71	78	73	68	72	66	63	77
	Surrounding power	73	62	61	55	47	49	43	35	58
Surrounding pressure (dBA)										40

Dimensional drawing: size 5



Performance data: size 6



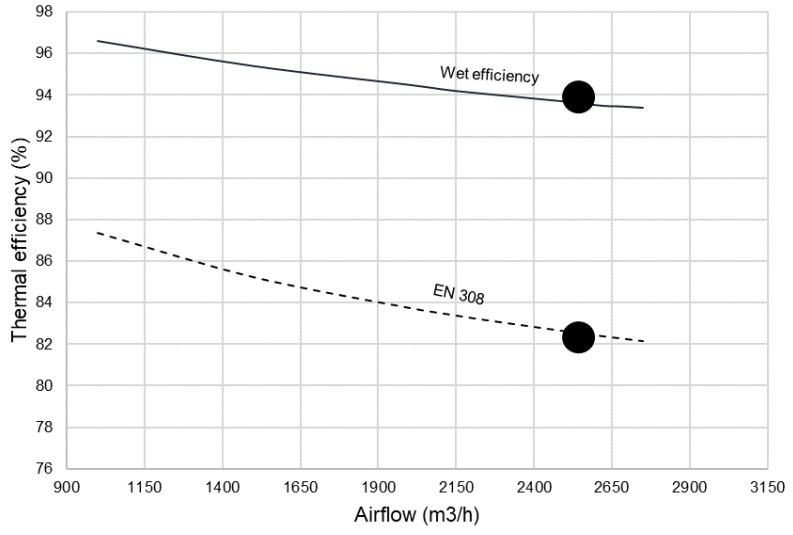
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

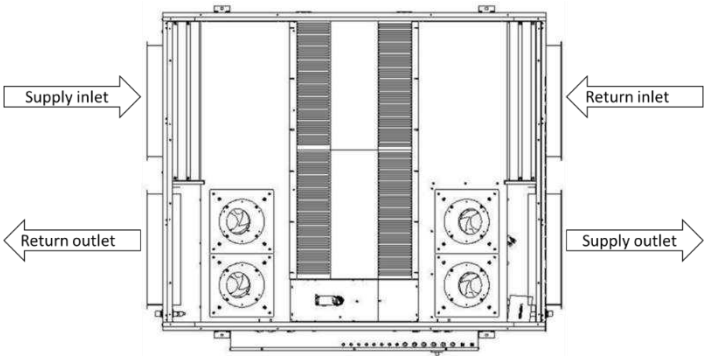
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level:

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	66	67	70	47	49	47	34	23	56
	Supply outlet	71	75	74	68	63	66	59	51	72
	Return inlet	67	68	62	49	50	48	36	25	58
	Return outlet	72	76	75	70	64	67	70	53	73
	Surrounding pow er	75	67	57	51	44	44	38	26	56
Surrounding pressure (dBA)										38

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	72	71	62	48	47	43	35	23	58
	Supply outlet	68	76	74	68	63	66	60	52	72
	Return inlet	73	73	65	51	49	45	38	25	61
	Return outlet	71	79	78	71	65	68	62	54	75
	Surrounding pow er	73	69	59	52	44	44	38	26	57
Surrounding pressure (dBA)										39

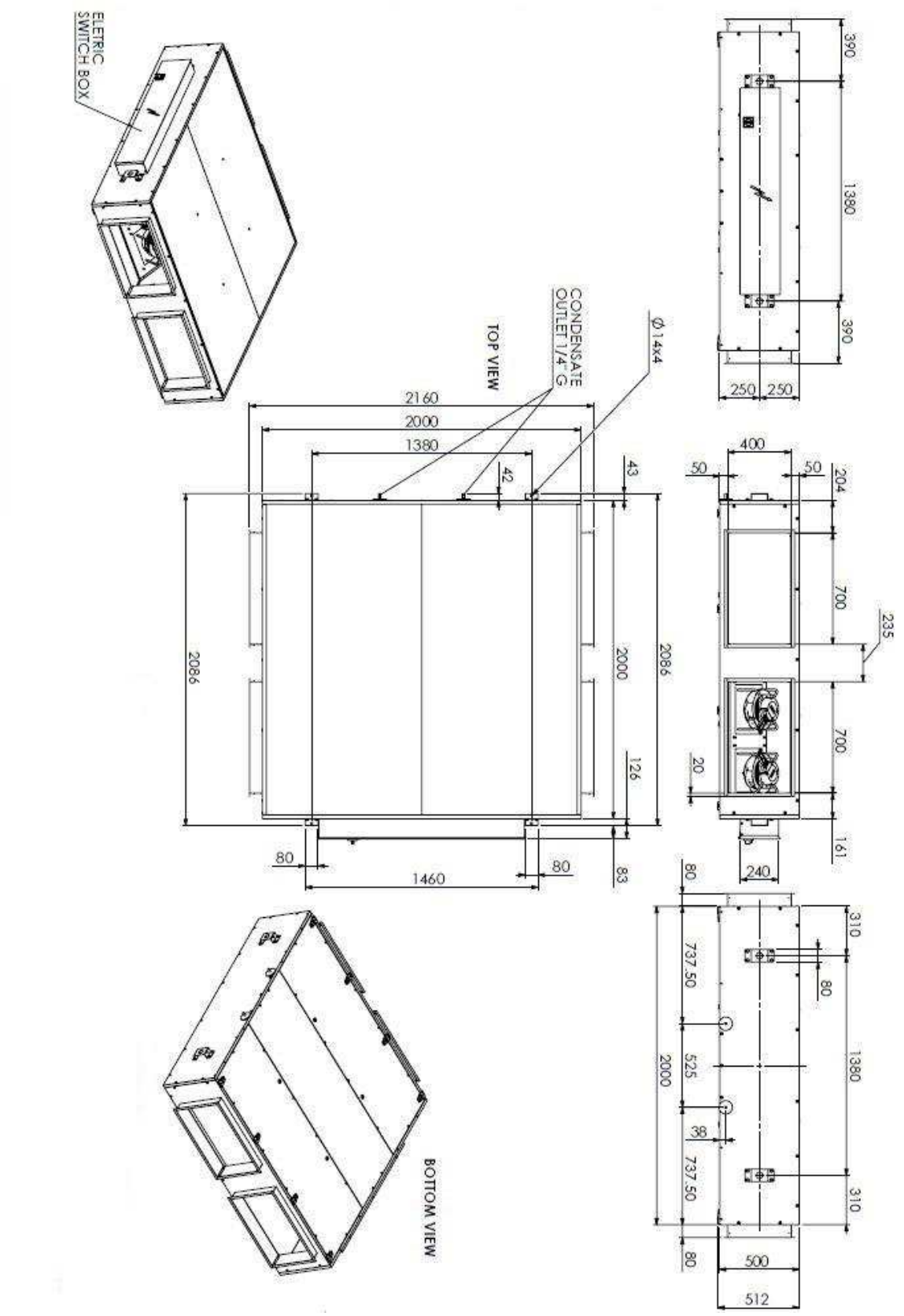
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	68	70	64	53	53	50	38	28	60
	Supply outlet	73	77	78	73	67	69	63	56	76
	Return inlet	69	70	66	54	54	52	39	29	61
	Return outlet	74	78	79	75	69	70	64	57	77
	Surrounding pow er	77	69	62	57	48	47	41	30	60
Surrounding pressure (dBA)										42

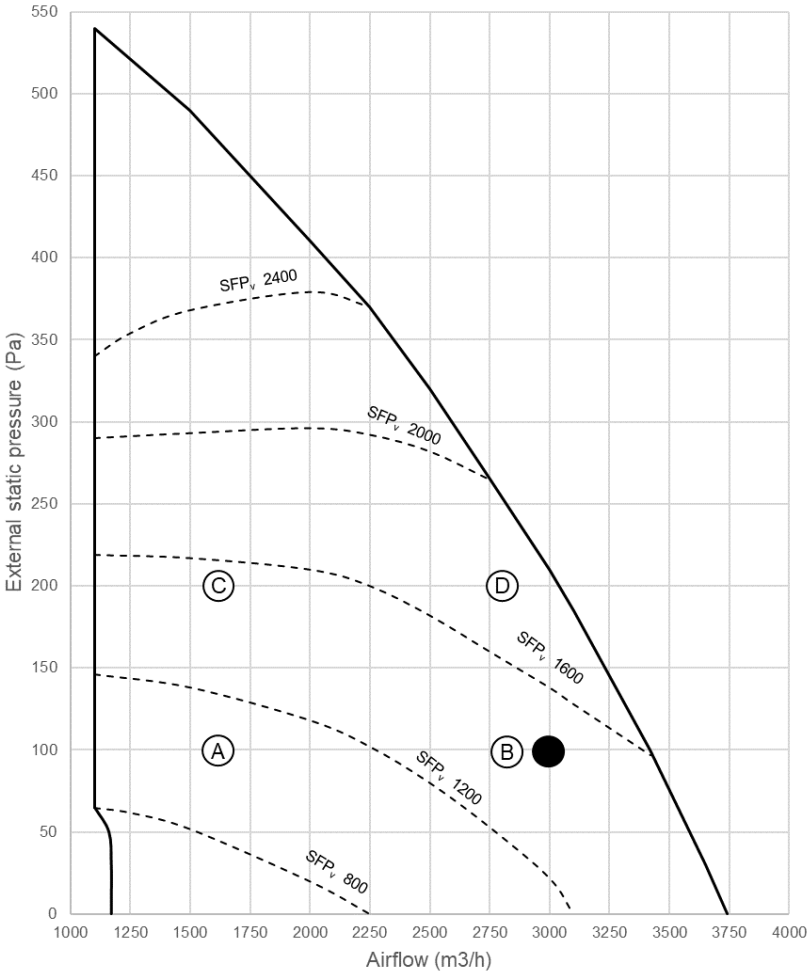
Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	74	74	67	54	50	46	39	27	62
	Supply outlet	72	80	82	73	66	69	63	56	77
	Return inlet	75	75	70	57	51	47	41	28	64
	Return outlet	73	81	87	76	66	70	64	58	80
	Surrounding pow er	76	72	68	57	46	47	42	30	62
Surrounding pressure (dBA)										44

Dimensional drawing: size 6



Performance data: size 7



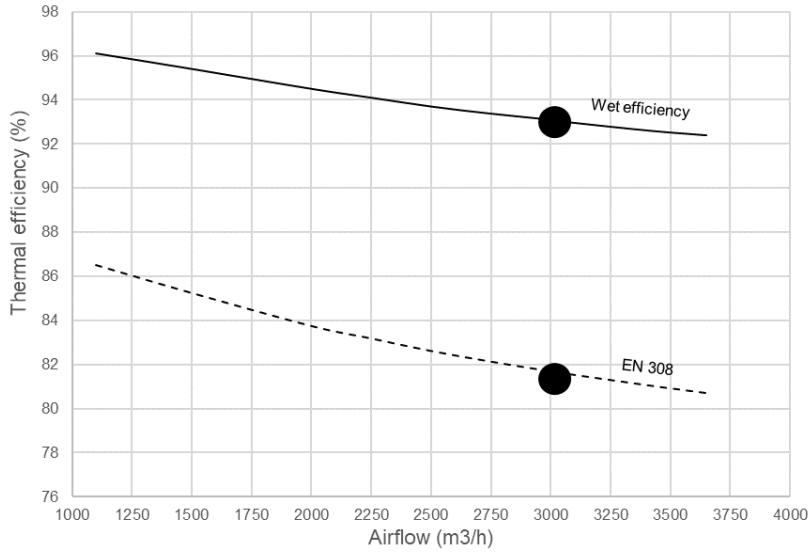
The diagram shows the available external pressure for the duct system given an airflow.

SFPv = Specific Fan Power (W/m3/s)

The SFPv curves are referring to the complete unit. Moreover, it includes power to both supply and extract fan divided by either the supply or extract volume whichever is the greater.

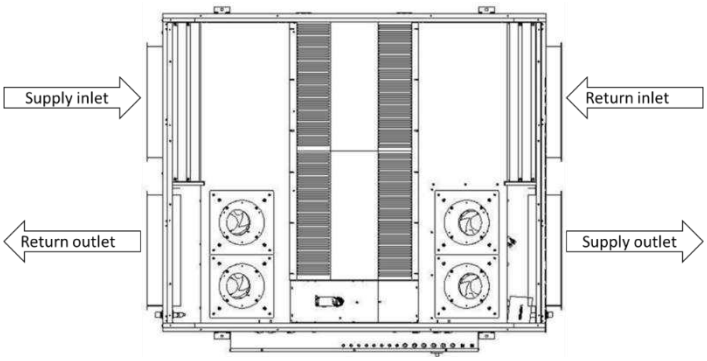
● Nominal working point

Ⓐ Ⓑ Ⓒ Ⓓ Sound data
(see next page)



Thermal efficiency

- Wet efficiency: -10°C/ RH 90% Outdoor and +22°C/50% Indoor
- With air ratio 1:1 and according to EN 308



Surrounding power level

The airborne is the sound power emitted by the unit. The surrounding power level is the logarithmic sum of the two airborne values (supply and return).

Surrounding pressure level:

It is calculated in accordance with EN3744. The evaluation is done at 1,5m from the source and with a directivity factor equal to 2

Point Ⓐ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	71	71	61	46	45	41	32	20	57
	Supply outlet	68	78	73	66	61	64	57	49	71
	Return inlet	72	74	64	48	46	42	35	22	60
	Return outlet	72	82	76	70	64	67	60	51	74
	Surrounding pow er	73	71	58	51	42	43	36	23	58
Surrounding pressure (dBA)										40

Point Ⓑ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	76	72	65	53	52	50	42	33	61
	Supply outlet	66	69	76	71	66	70	64	60	75
	Return inlet	76	74	68	56	54	51	43	34	63
	Return outlet	72	73	80	74	68	72	66	62	78
	Surrounding pow er	73	62	61	55	47	49	43	34	58
Surrounding pressure (dBA)										40

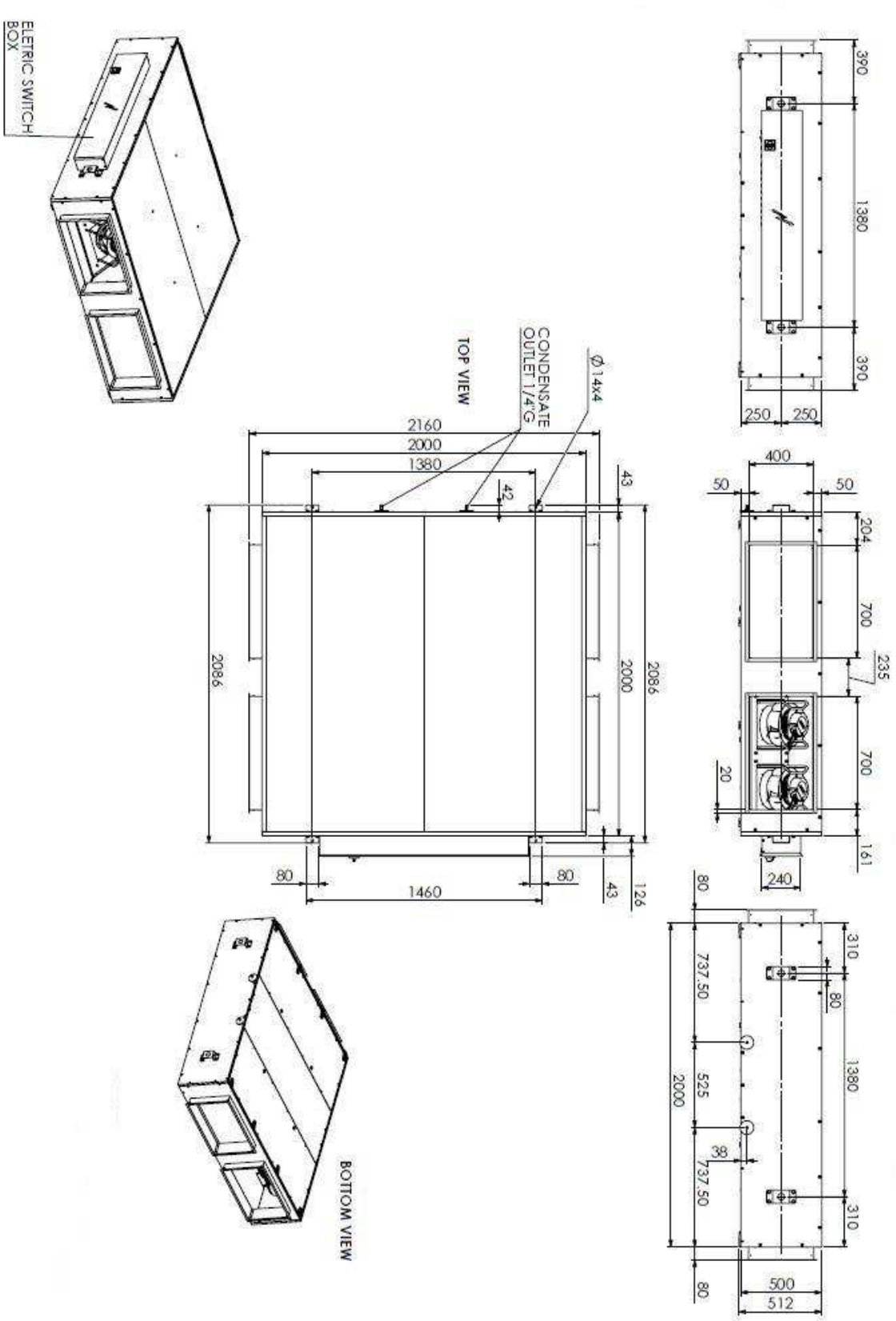
Point Ⓒ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	74	71	66	53	51	48	40	31	61
	Supply outlet	70	70	78	72	65	70	63	59	75
	Return inlet	74	72	66	54	51	48	41	31	61
	Return outlet	71	71	79	72	66	70	64	60	76
	Surrounding pow er	74	62	62	55	46	47	42	33	58
Surrounding pressure (dBA)										40

Point Ⓓ

Frequency (Hz)		63	125	250	500	1000	2000	4000	8000	Avg (dBA)
Sound pow er (dB)	Supply inlet	76	74	68	56	54	51	43	34	63
	Supply outlet	72	73	80	74	68	72	66	62	78
	Return inlet	77	76	70	58	55	52	45	35	65
	Return outlet	75	75	83	77	71	76	69	66	81
	Surrounding pow er	77	65	64	58	50	52	46	37	61
Surrounding pressure (dBA)										43

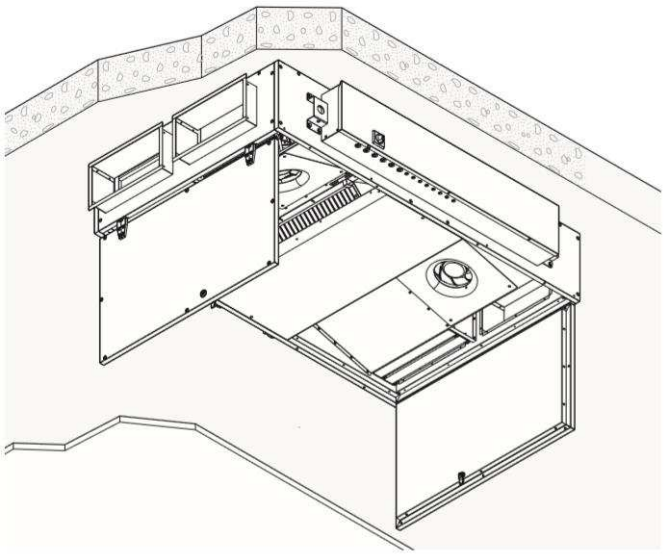
Dimensional drawing: size 7



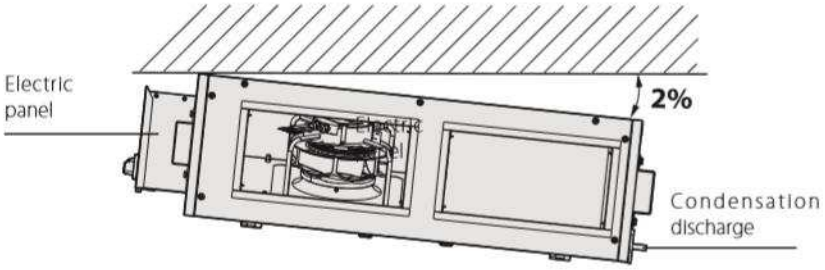
Unit installation

Modular Light perfectly fits with false ceiling applications. The ceiling must be:

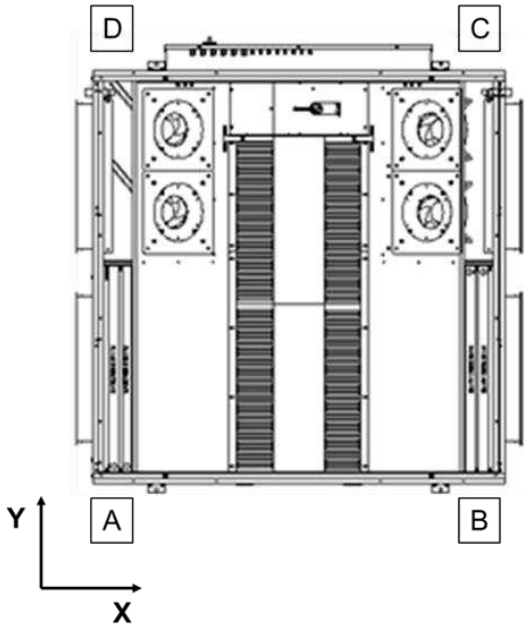
- Perfectly flat and without roughness
- Able to support the weight of the unit considering an appropriate safety margin



The unit must be tilted by approximately 2% of the width (lifting it towards the electrical panel)

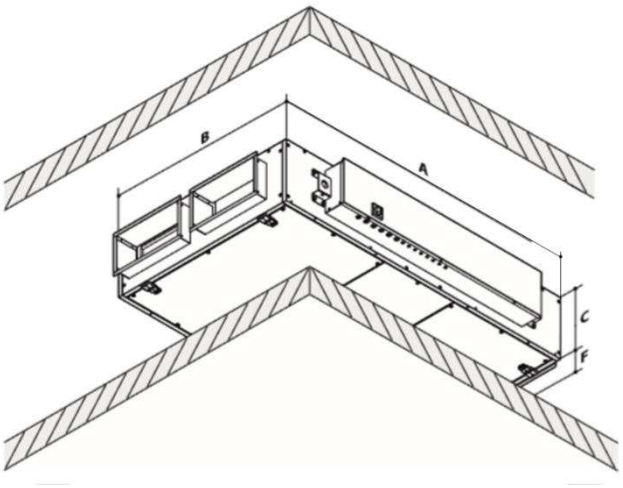


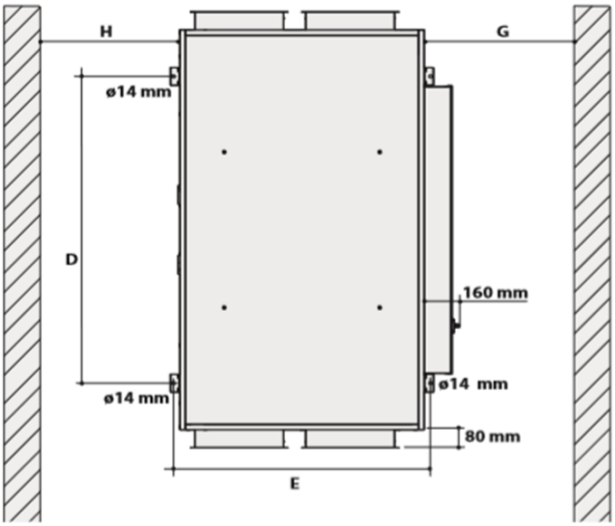
Centre of gravity



Size	Centre of gravity (mm)		Load (kg)			
	X	Y	A	B	C	D
ALB02*B	830	485,2	32	32	36	36
ALB03*B	900	573	46	46	50	50
ALB04*B	1000	837	69	69	76	76
ALB05*B	1000	838	70	70	77	77
ALB06*B	1000	1048	93	93	102	102
ALB07*B	1000	1051	93	93	103	103

Unit clearances



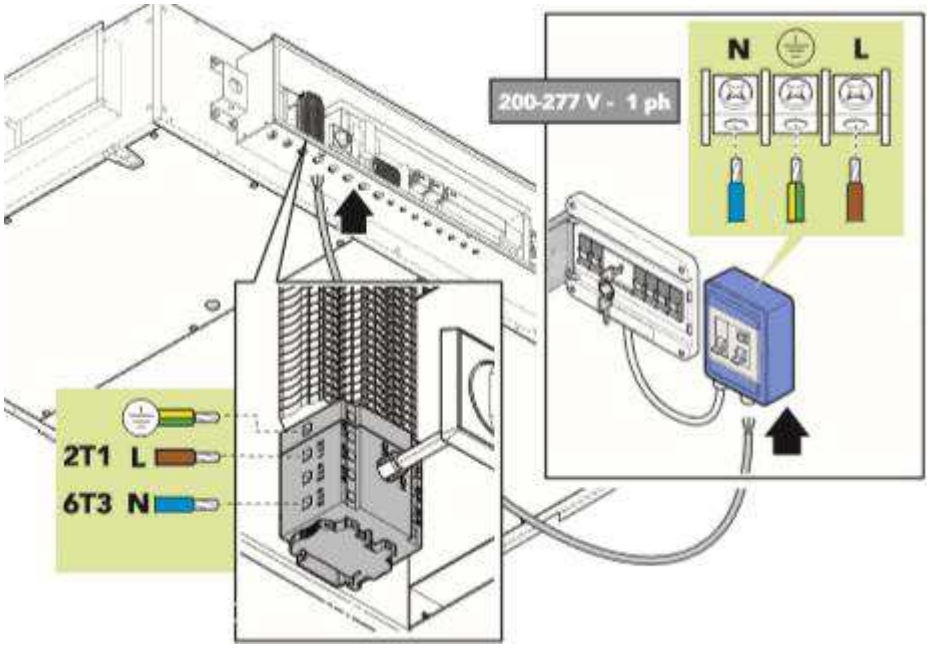


		ALB02*B	ALB03*B	ALB04*B	ALB05*B	ALB06*B	ALB07*B
A	mm	1660	1800	2000			
B	mm	920	1100	1600		2000	
C	mm	280	350	415		2000	
D	mm	1380					
E	mm	976	1156	1656		2056	
F*	mm	630	670	675			
F**	mm	70					
G	mm	500					
H	mm	300					

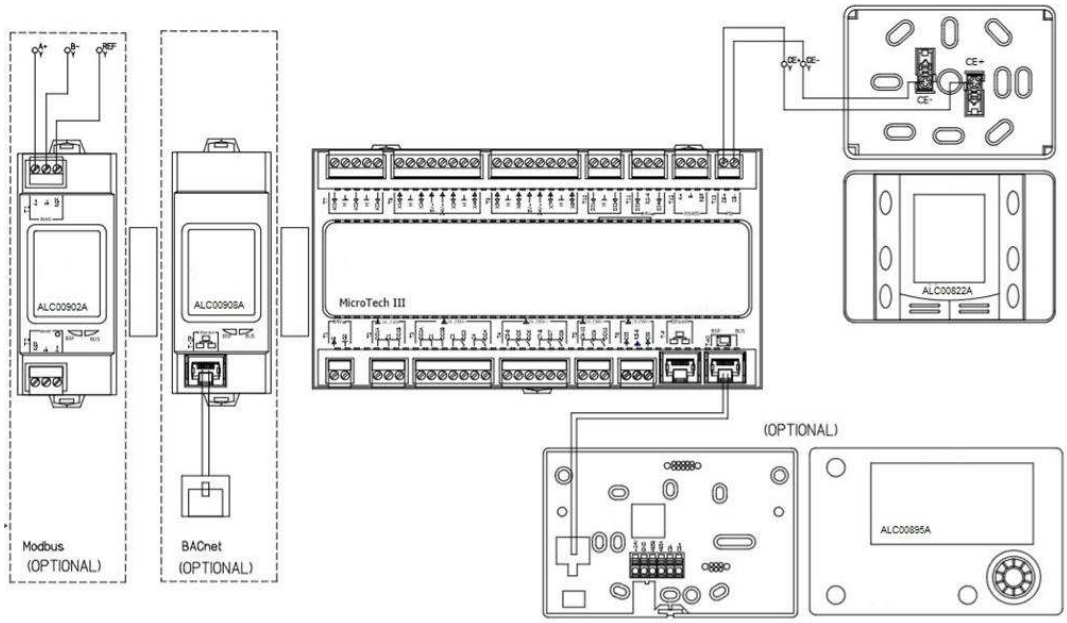
Note:
* Hinged doors
** Sliding doors with optional rails (ALA**RLA)

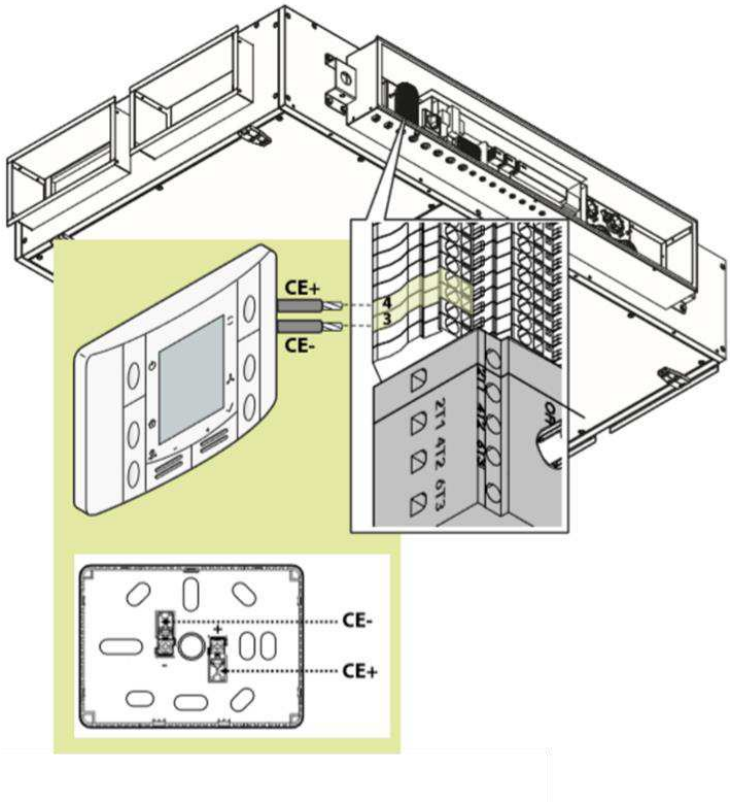
Wiring diagram

Unit connection to the power supply



The unit is supplied with a Room Thermostat (ALC00822A). The following images show its connection to the main unit.




CE+
CE-
4
3
211 4T2 6T3
CE-
CE+

All the technical data and perfomances included within this document are subject to change without prior notice. Please refer to the last version of selection software available online for updated information (tools.daikinapplied.eu)