



Air Handling Units - Technical Submittal (TSM)

Project: Angel Meadows, Plots 2 & 3
Project No: MC1120
TSM No: MC1120/TSM024
Revision: A
Date: 4th February 2020

Revision Notes:

- 1) Orientation of units changed to vertical to aid coordination

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ameon

Building Services Engineering

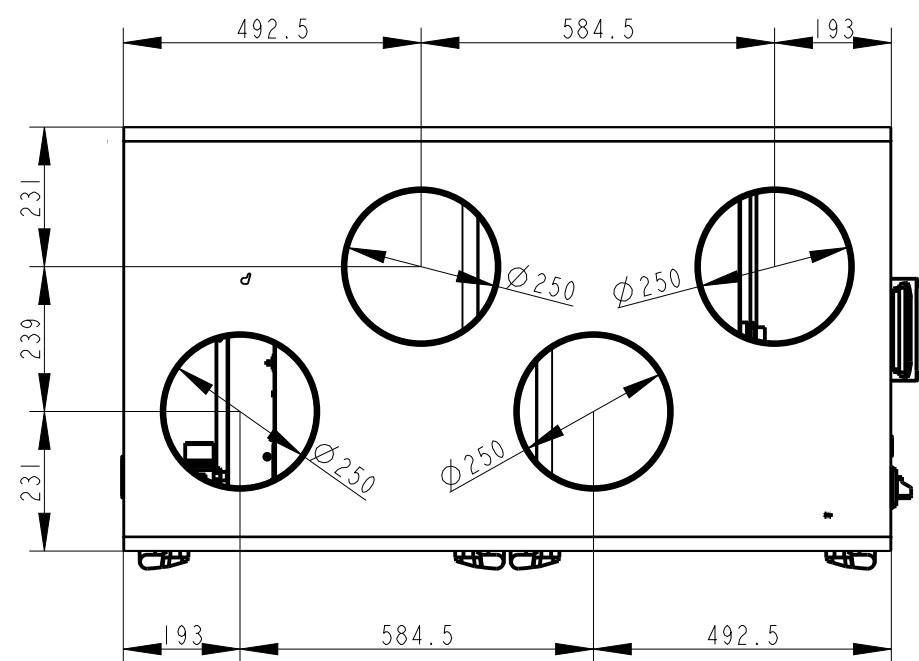
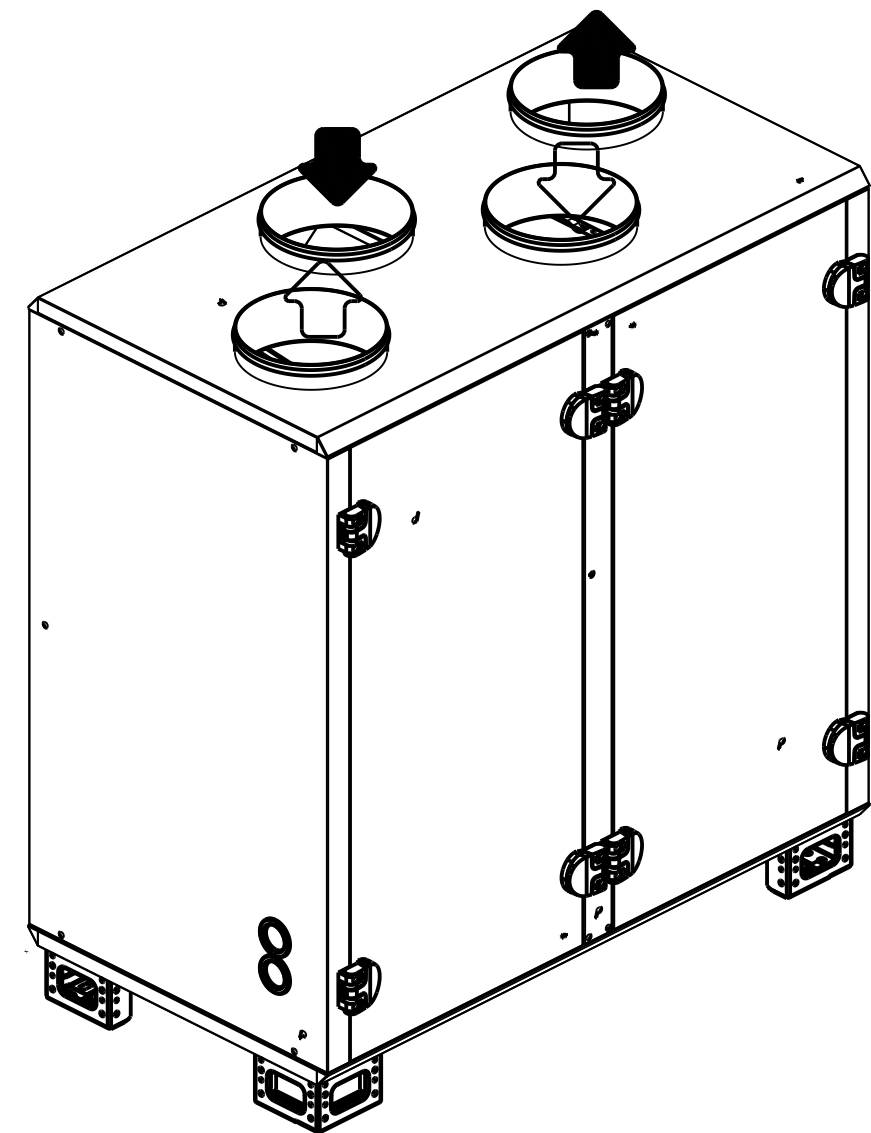
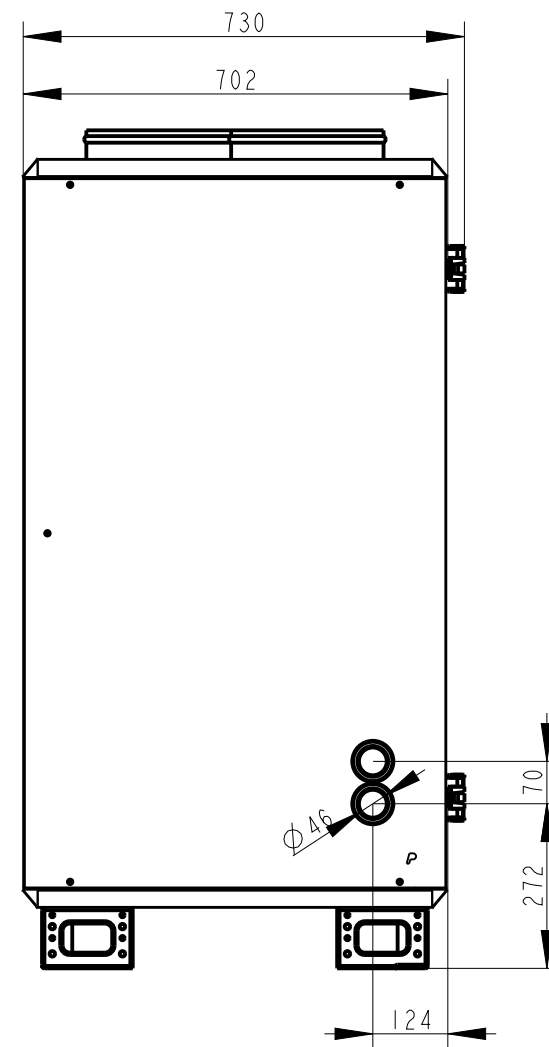
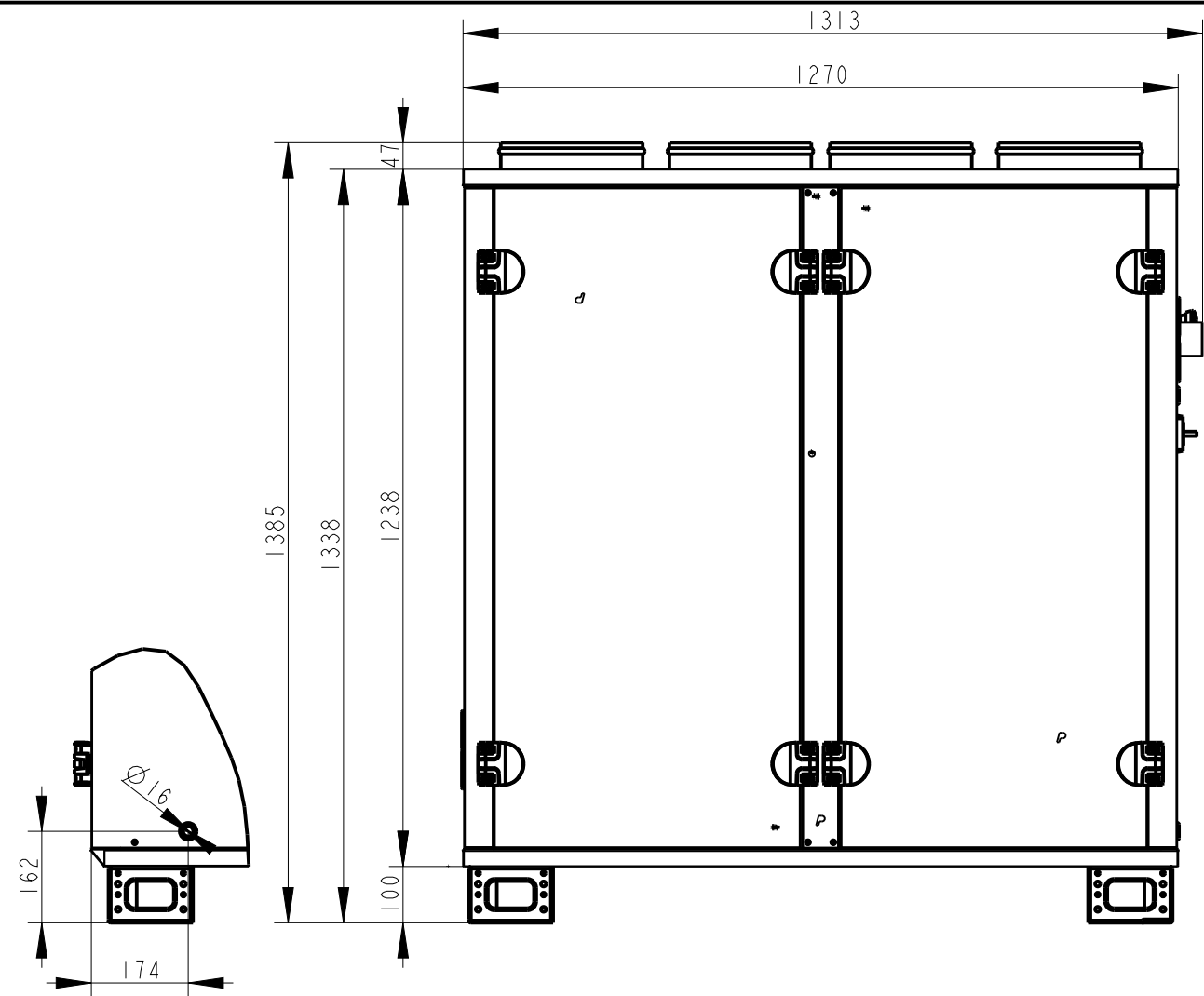
Project Angel Meadows, Plots 2 & 3
Project No. MC1120
TSM No. MC1120/TSM024
Revision A
Date 04/02/2020



Air Handling Unit - Technical Submittal			
Ref.	AHU/01	AHU/02	AHU/03
Location	Plot 3 - L2 - Plantroom 2	Plot 3 - L2 - Plantroom 1	Plot 3 - L2 - Plantroom 1
Serving	L2 - Gym	L2 - Gym	L2 - Private Dining
Manufacturer	Ciat	Ciat	Ciat
Model	FLOWAY VERTICAL 1500	FLOWAY VERTICAL 1500	FLOWAY VERTICAL 700
Configuration	Vertical Supply & Extract w. Heat Recovery	Vertical Supply & Extract w. Heat Recovery	Vertical Supply & Extract w. Heat Recovery
Dimensions	1,614mm(L)x 814mm(W)x 1,759mm(H)	1,614mm(L)x 814mm(W)x 1,759mm(H)	1,344mm(L)x 714mm(W)x 1,387mm(H)
Weight	250kg	250kg	180kg
Electric HTG Coil	8(kW) Sized to achieve required air volume based on: Extract Air Temp on : 22°C Exhaust Air Temp off: N/A Fresh Air Temp on: -5°C Supply Air Temp off: 18°C	8(kW) Sized to achieve required air volume based on: Extract Air Temp on : 22°C Exhaust Air Temp off: N/A Fresh Air Temp on: -5°C Supply Air Temp off: 18°C	4(kW) Sized to achieve required air volume based on: Extract Air Temp on : 22°C Exhaust Air Temp off: N/A Fresh Air Temp on: -5°C Supply Air Temp off: 18°C
Fans	2no. EC Motor	2no. EC Motor	2no. EC Motor
Volume	466 l/s	466 l/s	302 l/s
ESP	283 Pa	197 Pa	156 Pa
Electrical Supply	400/3/50 (V/ph/Hz)	400/3/50 (V/ph/Hz)	400/3/50 (V/ph/Hz)
SFP	1.78w/(l/s)	1.47 W/(l/s)	1.38 W/(l/s)
Thermal Efficiency	88.70%	88.70%	88.50%
Accessories	M5 Filter (extract) F7 Filter (Supply) APS x 2no. Supply Air Temperature Sensor Fresh Air intake Temperature Sensor Inlet Damper	M5 Filter (extract) F7 Filter (Supply) APS x 2no. Supply Air Temperature Sensor Fresh Air intake Temperature Sensor Inlet Damper	M5 Filter (extract) F7 Filter (Supply) APS x 2no. Supply Air Temperature Sensor Fresh Air intake Temperature Sensor Inlet Damper

Notes:

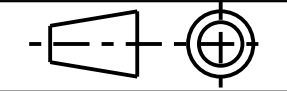
- 1) Each AHU to have standalone control panel w. output to provide common 'Fault' indication to BMS.
- 2)
- 3)
- 4)

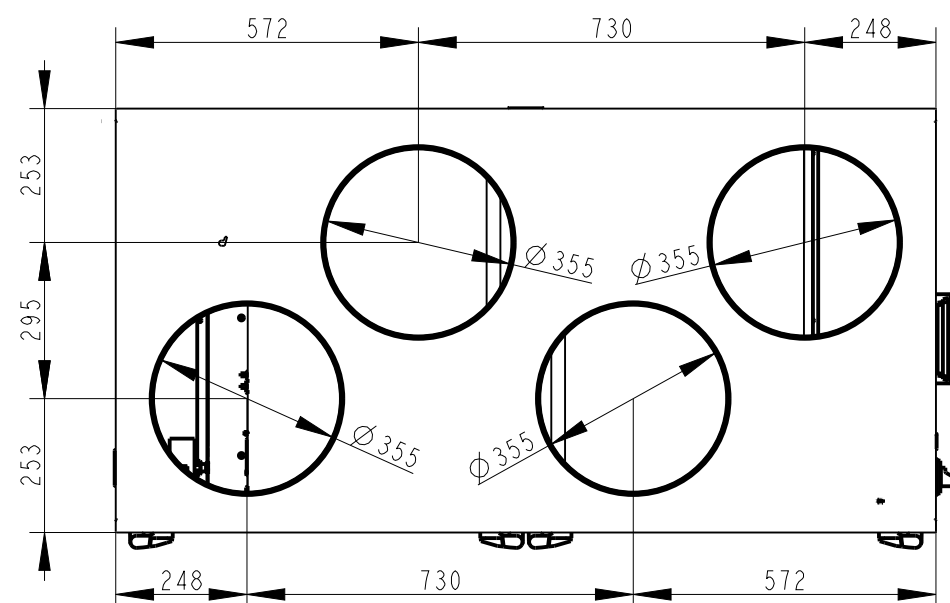
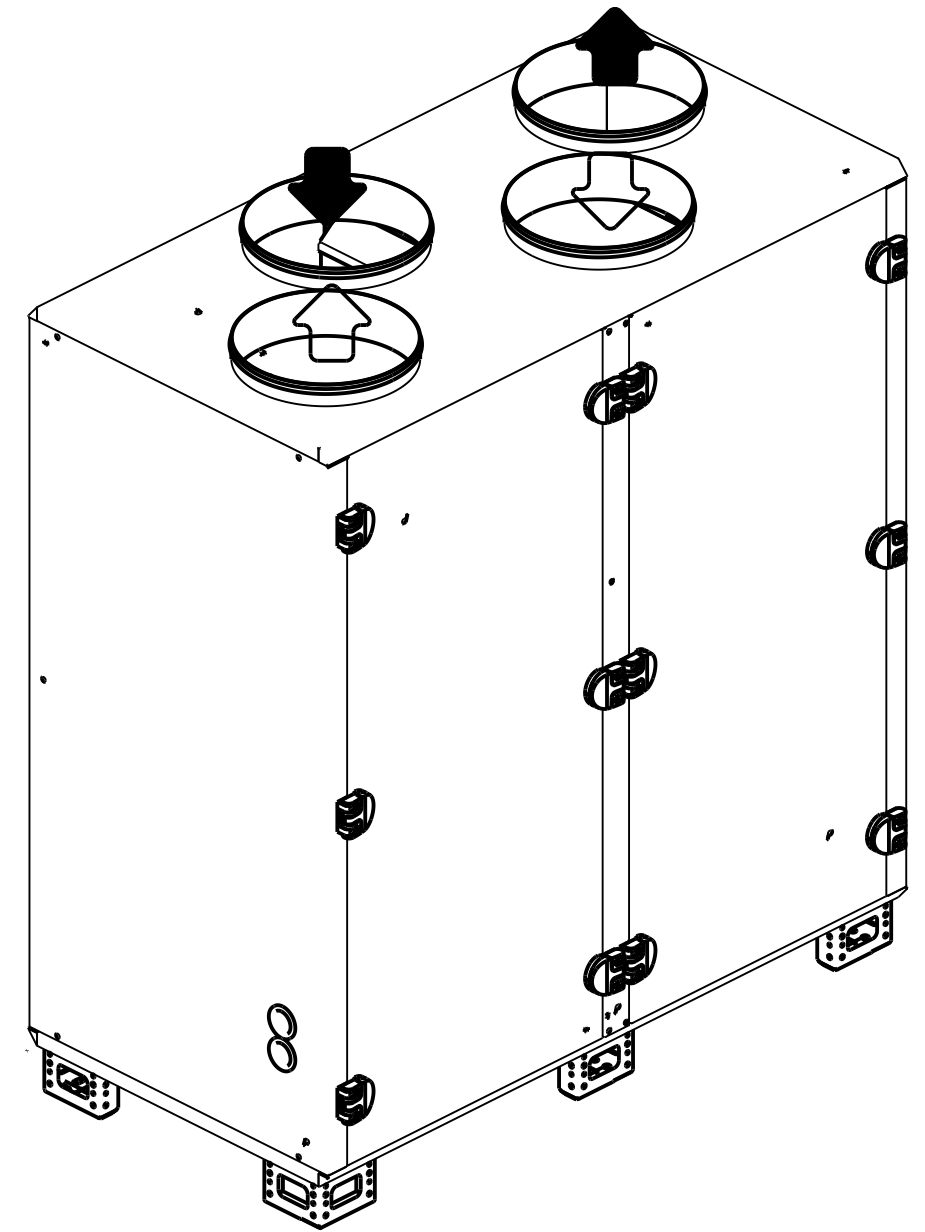
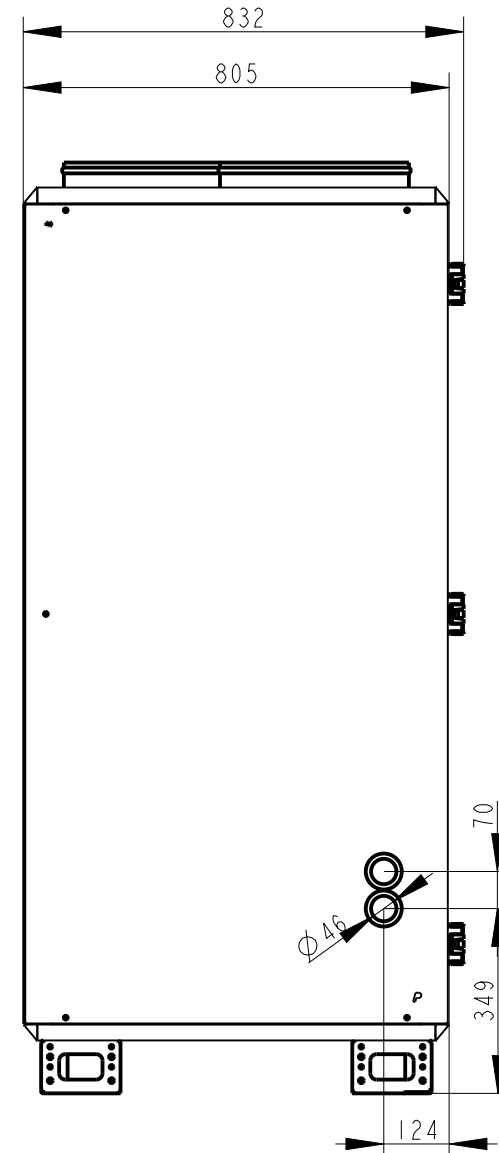
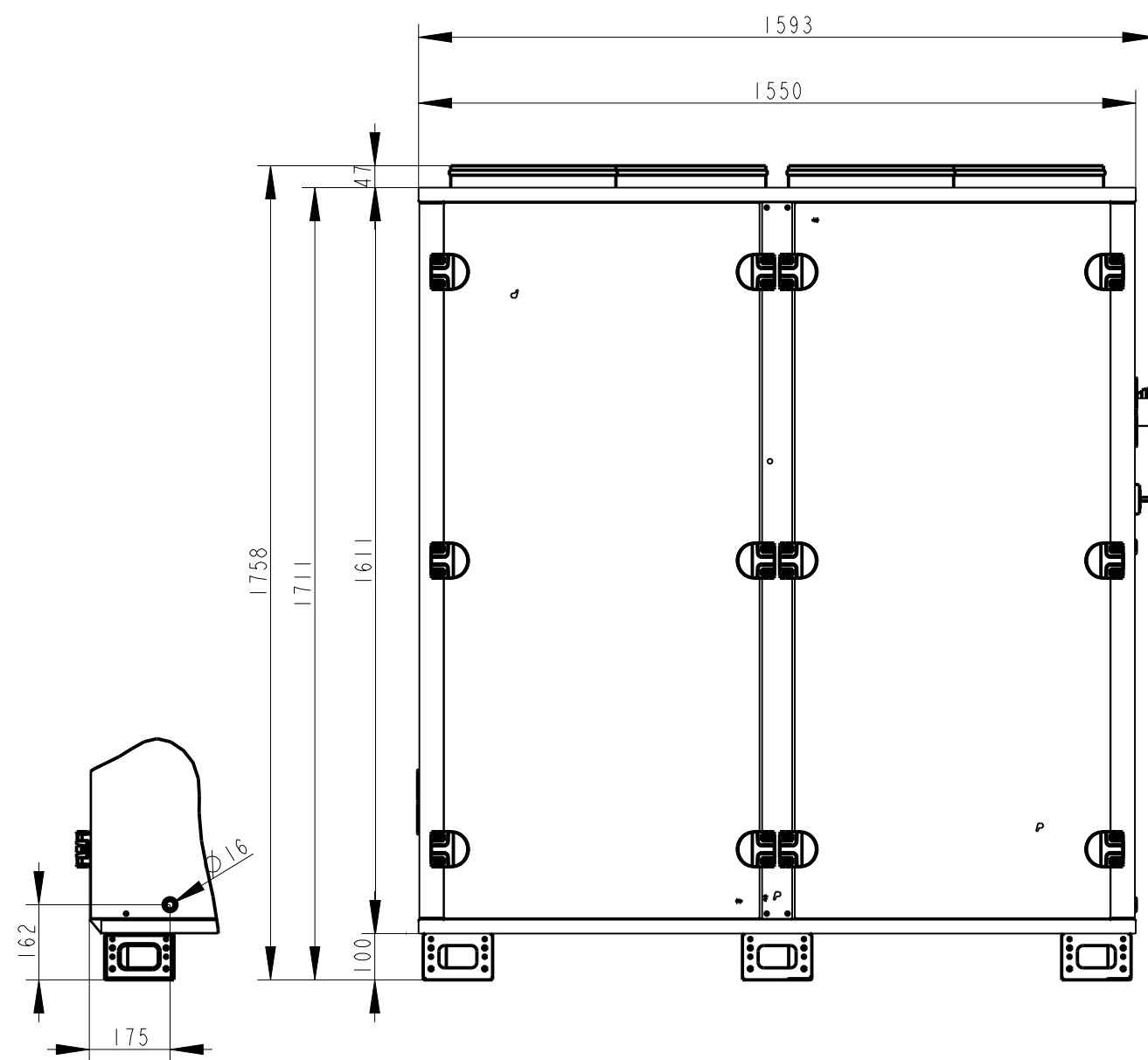


LEGENDE: FLECHE BLANCHE = AIR NEUF

LEGEND: WHITE ARROW = FRESH AIR

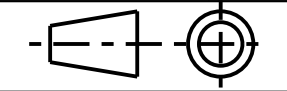
FLECHE NOIR = AIR EXTRAIT
BLACK ARROW = EXTRACTED AIR

LEBOE N	13.04.15	OMT 33616 - MAJ ENS portes		
MODIFIE PAR	DATE	MODIFICATION		
		APPAREIL OU UNITE FLOWAY		MATIERE : SPEC :
		DESIGNATION VERTICAL 700		ECHELLE 0.080
01350 CULOZ FRANCE		VERIFIE PAR : DESSINE PAR : DEJEY		FOLIO 1/3
		DATE : DATE : 13-Apr-15		FORMAT A3
				NORME : EPAISSEUR (mm) : TRAITEMENT : MASSE (kg) : 186.000 REPLACE : NUMERO DE PLAN 7293029 INDICE 01



LEGENDE: FLECHE BLANCHE = AIR NEUF
FLECHE NOIR = AIR EXTRAIT

LEGEND: WHITE ARROW = FRESH AIR
BLACK ARROW = EXTRACTED AIR

LEBOE N	13.04.15	OMT 33616 - MAJ ENS portes		
MODIFIE PAR	DATE	MODIFICATION		
		APPAREIL OU UNITE FLOWAY		MATIERE : SPEC :
 01350 CULOZ FRANCE		DESIGNATION VERTICAL 1500		ECHELLE 0.080
				FOLIO 1/3
VERIFIE PAR :		DATE :	NORME : EPAISSEUR (mm) :	
DESSINE PAR : DEJEY		DATE : 13-Apr-15	TRAITEMENT : MASSE (kg) : 306.000	
			REMPLECE :	
			FORMAT A3	NUMERO DE PLAN 7293032
				INDICE 01



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 1 / 7

Your reference : Angel Meadows Plot 2 a
Offer line number : 10
Specification item : AHU 01

Floway Vertical 1500

Extract unit 0.466 m³/s

Supply unit 0.466 m³/s

SFPv : 1,786 W/(m³/s), 0.50 W/(m³/h)



EUROVENT performances (M) : D2, L1/L1, F9, T3, TB2

EUROVENT CERTIFIED PERFORMANCE

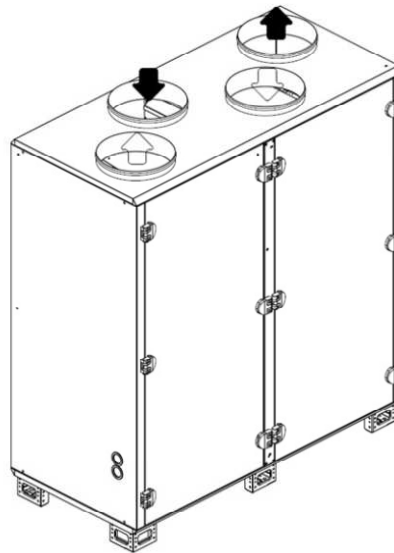
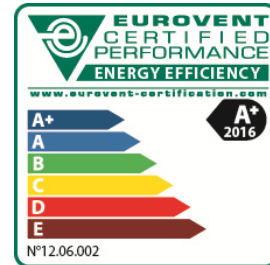
CIAT participates in the ECC program for: Air Handling Unit

Check ongoing validity of certificate online:

www.eurovent-certification.com

Taking into account recommendation of norm EN 13053

Classification as per European standard EN 1886



DIMENSIONS AND WEIGHT		
Length : 1,614 mm	Width : 814 mm	Height : 1,759 mm
Weight 330 kg (+/-10%)		

All weights are dry weights



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 2 / 7

Description	Quantity
Unit Floway Vertical size 1500 (PLAC02)	1

Based on our general terms and conditions of sale in your possession.

As part of our policy of continual improvement, we reserve the right to make any technical modifications we feel necessary without prior notice.

Validity of prices: 1 month.

**Unit Floway Vertical size 1500 (PLAC02)****Double-skin construction with 50 mm insulation****Outside wall with lacquered paint**Flow rate : SUPPLY UNIT 0.466 m³/s / EXTRACT UNIT 0.466 m³/s (Frontal speed : 1.42 / 1.42 m/s)

(Filtration surface area / Filtration surface area)

Speed class V1 EN13053

AHU Assembly Delivery : Side by side / Internal

With control system Compact AHU control**Electrical power supply Three-phase, four wires (Phases + Earth), 400 V, 50 Hz**

Altitude : 250 m

Reference air conditions supply unit : 20 °C / 50 % (RH) / 1.16 kg/m³Reference air conditions extract unit : 20 °C / 50 % (RH) / 1.16 kg/m³Specific Fan Power v : 1,786 W/(m³/s), 0.50 W/(m³/h)

Winter fresh air reference temperature EUROVENT -5 °C

Mixing ratio 0.00

Supply

Pressure difference inside unit : 215.1 Pa

Extract

Pressure difference inside unit : 220 Pa

Designed for wet conditions

ERV_2016, Subgroup 1 Energy class A+

EN 1886-2007 CAL(R) -400 Pa / +400 Pa = 1.11 / 1.59 %

Internal leak flow rate = 0.1 % of supply air flow rate

ECODESIGN 1253-2014 / 2018

Typology : NRVU BVU

SUPPLY UNIT : ΔPint : 177.2 Pa

EXTRACT UNIT : ΔPint : 204.5 Pa

SFPint : 707 W/(m³/s)

SRC efficiency: 85.4 % in accordance with EN308 (Minimum efficiency: 73.0 %)

EXTRACT UNIT :

Temperature sensor fitted on exhaust air inlet

1 filtration section

Slides assembly 1

1 Cell type M5HEE

Filtration Class (EN 779-2012)

:

M5

Filtration Class (ISO16890)

:

ePM10 50%

Air pressure drop (Mid point)

:

43 Pa

Pressure drop on the 3 fouling levels : Clean point 29 Pa / Mid point 43 Pa / Dirty point 58 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

7249343

1 Fan section (free wheel)

Number of fan(s)

:

1

Air flow rate

:

0.466 m³/s0.466 m³/s

Duct available pressure

:

283 Pa

Total static pressure

:

503 Pa

K-factor

:

93

Vitesse variable asservie par l'automate

Material of fan impeller

:

Aluminium

Diameter of fan impeller

:

0.28 m

Motor and fan efficiency

:

65%

Impeller rotation speed

:

2,401 rpm

Total electrical power input

:

433.5 W

Specific Fan Power

:

904 W/(m³/s), 0.25 W/(m³/h)

Single motor

Unit specifications:

Rated current

:

1.60 A

Motor EC

:

1 kW

Voltage

:

TRI_400V_50HZ

Control voltage

:

7.75 V

Hinged door

Pressure sensor

Main control and capacity electrics box.

1 cross flow plate heat recuperator Fresh air bypass Type REC0007



Efficiency: fresh air	:	88.7 %
Efficiency in accordance with EN308	:	85.4 %
Recovery class H1 EN13053		
Recovery capacity	:	13.07 kW
Supply side		
- Compute on air flow	:	0.4249 m3/s (-5 °C / 90 %(RH))
- air inlet t° / rh %	:	-5 °C / 90 %(RH)
- air outlet t° / rh %	:	19 °C / 17.3 %(RH)
- Air pressure drop	:	134 Pa
Extraction side		
- Compute on air flow	:	0.4695 m3/s (22 °C / 50 %(RH))
- air inlet t° / rh %	:	22 °C / 50 %(RH)
- Air pressure drop	:	176 Pa
- Supply unit, pressure drop on air at 1.2 kg/m3	:	154 Pa
- Extract unit, pressure drop on air at 1.2 kg/m3	:	154 Pa

Damper (external)

7249459

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	57	53	52	45	46	47	31	<25	52
Ducted air inlet	66	62	72	69	64	65	62	55	72
Ducted discharge	68	64	74	72	74	73	68	59	79

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz

SUPPLY UNIT :

Temperature sensors fitted on fresh air inlet and supply

Damper (external)

7249459

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

1 filtration section

Slides assembly 1

1 Cell type F7HEE

7249344

Filtration Class (EN 779-2012)	:	F7
Filtration Class (ISO16890)	:	ePM1 60% - ePM2.5 65%
Air pressure drop (Mid point)	:	65 Pa

Pressure drop on the 3 fouling levels : Clean point 44 Pa / Mid point 65 Pa / Dirty point 87 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

1 Fan section (free wheel)

Number of fan(s)	:	1
Air flow rate	:	0.466 m3/s 0.466 m3/s
Duct available pressure	:	283 Pa
Total static pressure	:	498 Pa
K-factor	:	93
Vitesse variable asservie par l'automate		
Material of fan impeller	:	Aluminium
Diameter of fan impeller	:	0.28 m
Motor and fan efficiency	:	65%
Impeller rotation speed	:	2,394 rpm
Total electrical power input	:	429.4 W



Diameter of fan impeller	:	0.28 m
Motor and fan efficiency	:	65%
Impeller rotation speed	:	2,394 rpm
Total electrical power input	:	429.4 W
Specific Fan Power	:	882 W/(m3/s), 0.24 W/(m3/h)
Single motor		
Unit specifications:		
Rated current	:	1.60 A
Motor EC	:	1 kW
Voltage	:	TRI_400V_50HZ
Control voltage	:	7.72 V
Hinged door		
Pressure sensor		
Main control and capacity electrics box.		

1 cross flow plate heat recuperator Fresh air bypass Type REC0007

See EXTRACT UNIT.

Cased coil**1 electrical heating battery****7249640**

Heating capacity	:	8.1 kW
Fitted with 9 heating elements connected and electrical box		
Connection 1 stage 400 V / 3 ph / 50 Hz		
1 stage of 8.1 kW		
2 safety thermostats(1 with automatic reset, 1 with manual reset)		
air inlet t° / rh %	:	18 °C / 90 %(RH)
air outlet t° / rh %	:	32.6 °C / 37.6 %(RH)
Air pressure drop	:	15 Pa

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	57	53	51	45	46	47	31	<25	51
Ducted air inlet	64	60	69	67	61	59	56	47	68
Ducted discharge	66	63	73	71	73	72	66	56	77

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz



Control Unit:

- Outstation : Compact AHU control
- Display : PGD
- Communication protocol : MODBUS TCP / BACNET IP
- Control : Constant volume
- Language : ENG

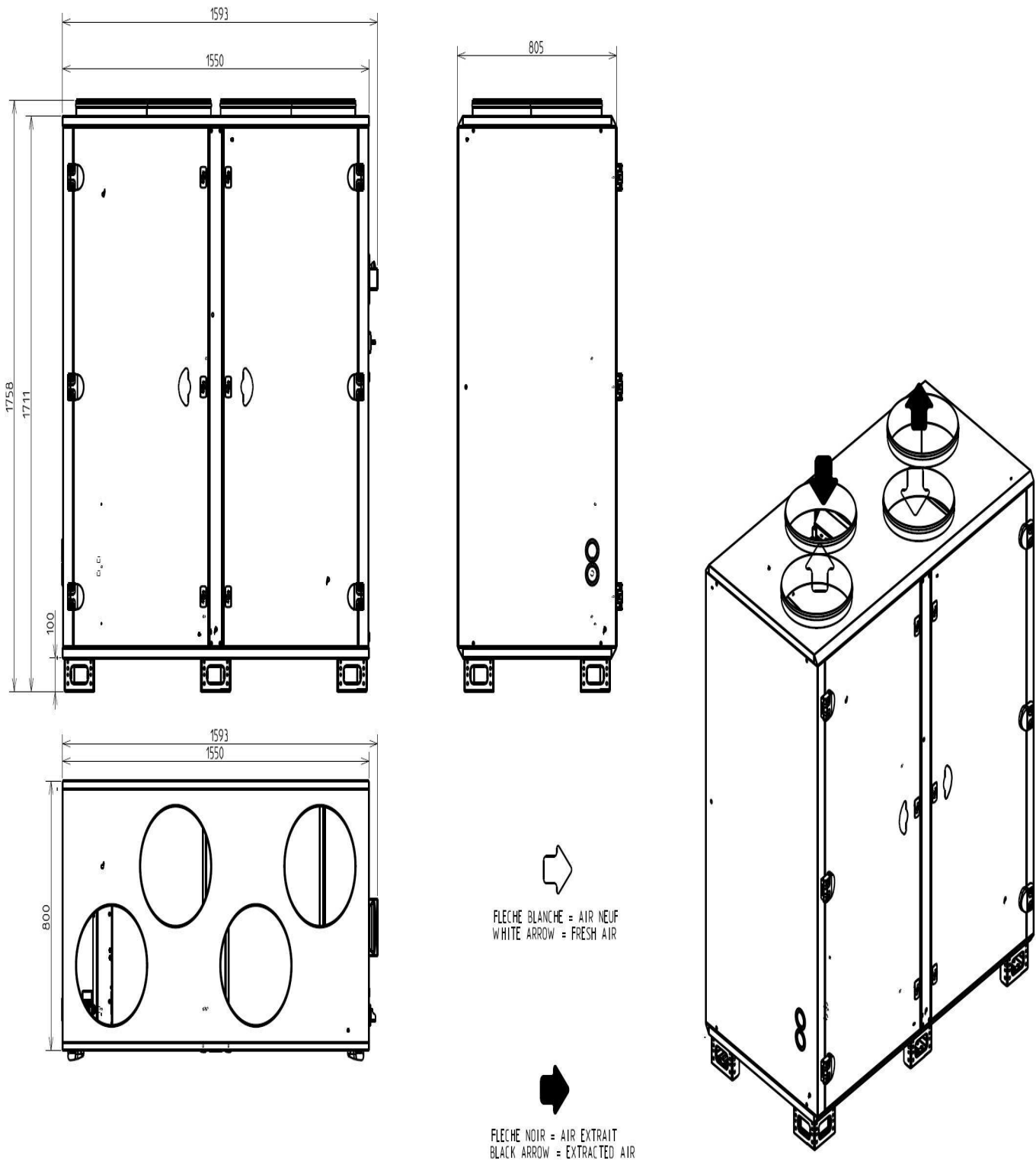
NOTE: The information available for communication is provided in the last section of the controller specifications. Connection to the bus on the unit as well as communication testing remain the responsibility of the site integrator.

Operation summary:

Air handling unit with heat recovery unit and built-in control system. Hand-held micro-terminal for viewing and adjusting settings.

Controls:

The range is controlled by the controller and set via the hand-held micro-terminal. Temperatures are displayed in °C, air flows in m3/h and pressures in Pa (absolute pressure).



DIMENSIONS AND WEIGHT		
Length : 1,614 mm	Width : 814 mm	Height : 1,759 mm
Weight 330 kg (+/-10%)		

All weights are dry weights

This diagram is provided as guidance only and is subject to change.



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 1 / 7

Your reference : Angel Meadows Plot 2 a

Offer line number : 20

Specification item : AHU 02

Floway Vertical 1500

Extract unit 0.466 m³/s

Supply unit 0.466 m³/s

SFPv : 1,478 W/(m³/s), 0.41 W/(m³/h)



EUROVENT performances (M) : D2, L1/L1, F9, T3, TB2

EUROVENT CERTIFIED PERFORMANCE

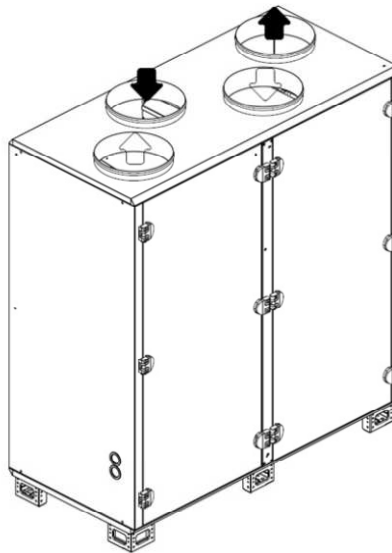
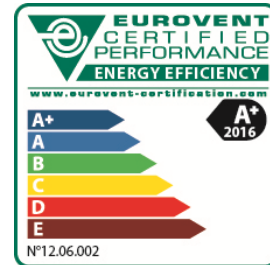
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www.eurovent-certification.com

Taking into account recommendation of norm EN 13053

Classification as per European standard EN 1886



DIMENSIONS AND WEIGHT		
Length : 1,614 mm	Width : 814 mm	Height : 1,759 mm
Weight 330 kg (+/-10%)		

All weights are dry weights



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 2 / 7

Description	Quantity
Unit Floway Vertical size 1500 (PLAC02)	1

Based on our general terms and conditions of sale in your possession.

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Validity of prices: 1 month.

**Unit Floway Vertical size 1500 (PLAC02)****Double-skin construction with 50 mm insulation****Outside wall with lacquered paint**Flow rate : SUPPLY UNIT 0.466 m³/s / EXTRACT UNIT 0.466 m³/s (Frontal speed : 1.42 / 1.42 m/s)

(Filtration surface area / Filtration surface area)

Speed class V1 EN13053

AHU Assembly Delivery : Side by side / Internal

With control system Compact AHU control**Electrical power supply Three-phase, four wires (Phases + Earth), 400 V, 50 Hz**

Altitude : 250 m

Reference air conditions supply unit : 20 °C / 50 % (RH) / 1.16 kg/m³Reference air conditions extract unit : 20 °C / 50 % (RH) / 1.16 kg/m³Specific Fan Power v : 1,478 W/(m³/s), 0.41 W/(m³/h)

Winter fresh air reference temperature EUROVENT -5 °C

Mixing ratio 0.00

Supply

Pressure difference inside unit : 215.1 Pa

Extract

Pressure difference inside unit : 220 Pa

Designed for wet conditions

ERV_2016, Subgroup 1 Energy class A+

EN 1886-2007 CAL(R) -400 Pa / +400 Pa = 1.11 / 1.59 %

Internal leak flow rate = 0.1 % of supply air flow rate

ECODESIGN 1253-2014 / 2018

Typology : NRVU BVU

SUPPLY UNIT : ΔPint : 177.2 Pa

EXTRACT UNIT : ΔPint : 204.5 Pa

SFPint : 716 W/(m³/s)

SRC efficiency: 85.4 % in accordance with EN308 (Minimum efficiency: 73.0 %)

EXTRACT UNIT :

Temperature sensor fitted on exhaust air inlet

1 filtration section

Slides assembly 1

1 Cell type M5HEE

Filtration Class (EN 779-2012)

:

M5

Filtration Class (ISO16890)

:

ePM10 50%

Air pressure drop (Mid point)

:

43 Pa

Pressure drop on the 3 fouling levels : Clean point 29 Pa / Mid point 43 Pa / Dirty point 58 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

7249343

1 Fan section (free wheel)

Number of fan(s)

:

1

Air flow rate

:

0.466 m³/s0.466 m³/s

Duct available pressure

:

197 Pa

Total static pressure

:

417 Pa

K-factor

:

93

Vitesse variable asservie par l'automate

Material of fan impeller

:

Aluminium

Diameter of fan impeller

:

0.28 m

Motor and fan efficiency

:

65%

Impeller rotation speed

:

2,277 rpm

Total electrical power input

:

360.1 W

Specific Fan Power

:

748 W/(m³/s), 0.21 W/(m³/h)

Single motor

Unit specifications:

Rated current

:

1.60 A

Motor EC

:

1 kW

Voltage

:

TRI_400V_50HZ

Control voltage

:

7.35 V

Hinged door

Pressure sensor

Main control and capacity electrics box.

1 cross flow plate heat recuperator Fresh air bypass Type REC0007



Efficiency: fresh air	:	88.7 %
Efficiency in accordance with EN308	:	85.4 %
Recovery class H1 EN13053		
Recovery capacity	:	13.07 kW
Supply side		
- Compute on air flow	:	0.4249 m3/s (-5 °C / 90 %(RH))
- air inlet t° / rh %	:	-5 °C / 90 %(RH)
- air outlet t° / rh %	:	19 °C / 17.3 %(RH)
- Air pressure drop	:	134 Pa
Extraction side		
- Compute on air flow	:	0.4695 m3/s (22 °C / 50 %(RH))
- air inlet t° / rh %	:	22 °C / 50 %(RH)
- Air pressure drop	:	176 Pa
- Supply unit, pressure drop on air at 1.2 kg/m3	:	154 Pa
- Extract unit, pressure drop on air at 1.2 kg/m3	:	154 Pa

Damper (external)

7249459

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	57	54	50	44	44	45	30	<25	50
Ducted air inlet	66	63	70	68	63	64	61	53	71
Ducted discharge	68	65	72	71	72	72	66	57	77

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz

SUPPLY UNIT :

Temperature sensors fitted on fresh air inlet and supply

Damper (external)

7249459

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

1 filtration section

Slides assembly 1

1 Cell type F7HEE

7249344

Filtration Class (EN 779-2012)	:	F7
Filtration Class (ISO16890)	:	ePM1 60% - ePM2.5 65%
Air pressure drop (Mid point)	:	65 Pa

Pressure drop on the 3 fouling levels : Clean point 44 Pa / Mid point 65 Pa / Dirty point 87 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

1 Fan section (free wheel)

Number of fan(s)	:	1
Air flow rate	:	0.466 m3/s 0.466 m3/s
Duct available pressure	:	197 Pa
Total static pressure	:	412 Pa
K-factor	:	93
Vitesse variable asservie par l'automate		
Material of fan impeller	:	Aluminium
Diameter of fan impeller	:	0.28 m
Motor and fan efficiency	:	66%
Impeller rotation speed	:	2,270 rpm
Total electrical power input	:	355.9 W



Diameter of fan impeller	:	0.28 m
Motor and fan efficiency	:	66%
Impeller rotation speed	:	2,270 rpm
Total electrical power input	:	355.9 W
Specific Fan Power	:	730 W/(m3/s), 0.20 W/(m3/h)
Single motor		
Unit specifications:		
Rated current	:	1.60 A
Motor EC	:	1 kW
Voltage	:	TRI_400V_50HZ
Control voltage	:	7.32 V
Hinged door		
Pressure sensor		
Main control and capacity electrics box.		

1 cross flow plate heat recuperator Fresh air bypass Type REC0007

See EXTRACT UNIT.

Cased coil**1 electrical heating battery****7249640**

Heating capacity	:	8.1 kW
Fitted with 9 heating elements connected and electrical box		
Connection 1 stage 400 V / 3 ph / 50 Hz		
1 stage of 8.1 kW		
2 safety thermostats(1 with automatic reset, 1 with manual reset)		
air inlet t° / rh %	:	18 °C / 90 %(RH)
air outlet t° / rh %	:	32.6 °C / 37.6 %(RH)
Air pressure drop	:	15 Pa

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	57	54	50	44	43	45	30	<25	50
Ducted air inlet	64	61	68	66	60	58	55	45	67
Ducted discharge	66	64	71	70	71	71	64	54	76

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz



Control Unit:

- Outstation : Compact AHU control
- Display : PGD
- Communication protocol : MODBUS TCP / BACNET IP
- Control : Constant volume
- Language : ENG

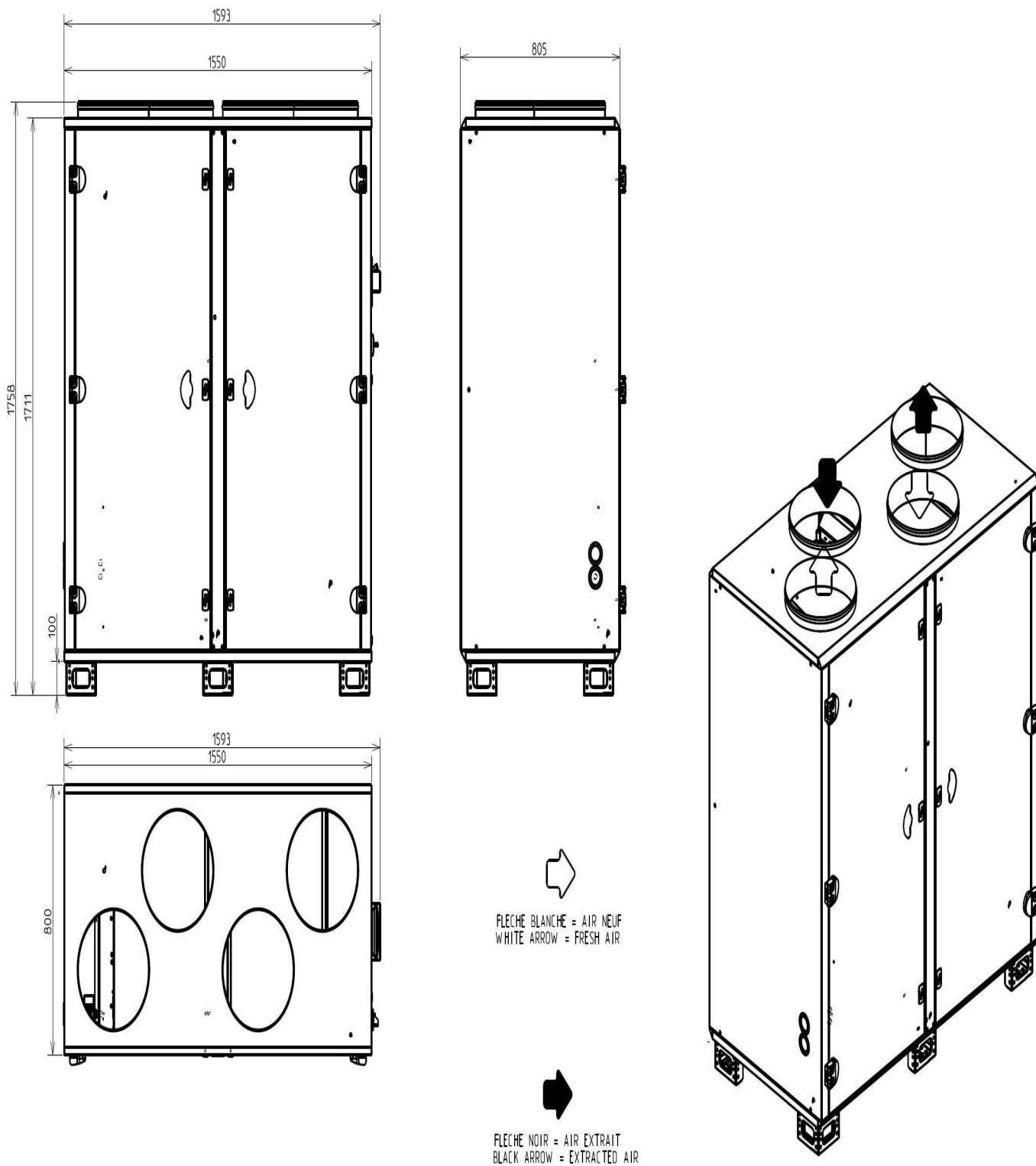
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The range is controlled by the controller and set via the hand-held micro-terminal. Temperatures are displayed in °C, air flows in m3/h and pressures in Pa (absolute pressure).



DIMENSIONS AND WEIGHT		
Length : 1,614 mm	Width : 814 mm	Height : 1,759 mm
Weight 330 kg (+/-10%)		

All weights are dry weights

This diagram is provided as guidance only and is subject to change.



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 1 / 7

Your reference : Angel Meadows Plot 2 a

Offer line number : 30

Specification item : AHU 03

Floway Vertical 700

Extract unit 0.302 m³/s

Supply unit 0.302 m³/s

SFPv : 1,386 W/(m³/s), 0.39 W/(m³/h)



EUROVENT performances (M) : D2, L1/L1, F9, T3, TB2

EUROVENT CERTIFIED PERFORMANCE

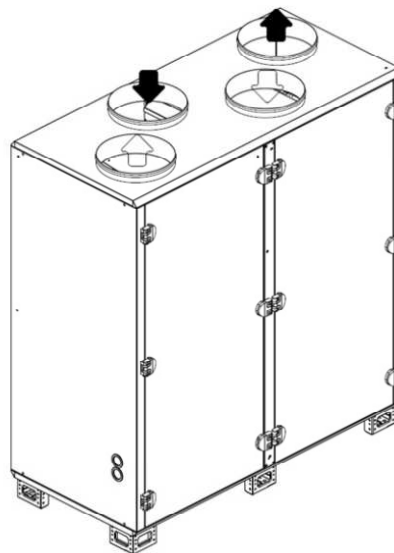
CIAT participates in the ECC program for: Air Handling Unit

Check ongoing validity of certificate online:

www.eurovent-certification.com

Taking into account recommendation of norm EN 13053

Classification as per European standard EN 1886



DIMENSIONS AND WEIGHT		
Length : 1,334 mm	Width : 714 mm	Height : 1,387 mm
Weight 202 kg (+/-10%)		

All weights are dry weights



No. : SA30 2019 19263

Dated : 04/02/2020

Page : 2 / 7

Description	Quantity
Unit Floway Vertical size 700 (PLAC02)	1

Based on our general terms and conditions of sale in your possession.

As part of our policy of continual improvement, we reserve the right to make any technical modifications we feel necessary without prior notice.

Validity of prices: 1 month.

**Unit Floway Vertical size 700 (PLAC02)****Double-skin construction with 50 mm insulation****Outside wall with lacquered paint**Flow rate : SUPPLY UNIT 0.302 m³/s / EXTRACT UNIT 0.302 m³/s (Frontal speed : 1.53 / 1.53 m/s)

(Filtration surface area / Filtration surface area)

Speed class V1 EN13053

AHU Assembly Delivery : Side by side / Internal

With control system Compact AHU control**Electrical power supply Single-phase, three wires (Line + Neutral + Earth), 230 V, 50 Hz**

Altitude : 250 m

Reference air conditions supply unit : 20 °C / 50 % (RH) / 1.16 kg/m³Reference air conditions extract unit : 20 °C / 50 % (RH) / 1.16 kg/m³Specific Fan Power v : 1,386 W/(m³/s), 0.39 W/(m³/h)

Winter fresh air reference temperature EUROVENT -5 °C

Mixing ratio 0.00

Supply

Pressure difference inside unit : 239.3 Pa

Extract

Pressure difference inside unit : 242.1 Pa

Designed for wet conditions

ERV_2016, Subgroup 1 Energy class A+

EN 1886-2007 CAL(R) -400 Pa / +400 Pa = 1.14 / 1.63 %

Internal leak flow rate = 0.1 % of supply air flow rate

ECODESIGN 1253-2014 / 2018

Typology : NRVU BVU

SUPPLY UNIT : ΔPint : 196 Pa

EXTRACT UNIT : ΔPint : 225.1 Pa

SFPint : 775 W/(m³/s)

SRC efficiency: 85.1 % in accordance with EN308 (Minimum efficiency: 73.0 %)

EXTRACT UNIT :

Temperature sensor fitted on exhaust air inlet

1 filtration section

Slides assembly 1

1 Cell type M5HEE

Filtration Class (EN 779-2012)

:

M5

Filtration Class (ISO16890)

:

ePM10 50%

Air pressure drop (Mid point)

:

48 Pa

Pressure drop on the 3 fouling levels : Clean point 32 Pa / Mid point 48 Pa / Dirty point 64 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

7249323

1 Fan section (free wheel)

Number of fan(s)

:

1

Air flow rate

:

0.302 m³/s0.302 m³/s

Duct available pressure

:

156 Pa

Total static pressure

:

398 Pa

K-factor

:

70

Vitesse variable asservie par l'automate

Material of fan impeller

:

Aluminium

Diameter of fan impeller

:

0.25 m

Motor and fan efficiency

:

72%

Impeller rotation speed

:

2,286 rpm

Total electrical power input

:

221.1 W

Specific Fan Power

:

703 W/(m³/s), 0.20 W/(m³/h)

Single motor

Unit specifications:

Rated current

:

2.80 A

Motor EC

:

0.45 kW

Voltage

:

MONO_230V_50HZ

Control voltage

:

7.83 V

Hinged door

Pressure sensor

Main control and capacity electrics box.

1 cross flow plate heat recuperator Fresh air bypass Type REC0003



Efficiency: fresh air	:	88.5 %
Efficiency in accordance with EN308	:	85.1 %
Recovery class H1 EN13053		
Recovery capacity	:	8.453 kW
Supply side		
- Compute on air flow	:	0.2754 m3/s (-5 °C / 90 %(RH))
- air inlet t° / rh %	:	-5 °C / 90 %(RH)
- air outlet t° / rh %	:	18.9 °C / 17.4 %(RH)
- Air pressure drop	:	148 Pa
Extraction side		
- Compute on air flow	:	0.3042 m3/s (22 °C / 50 %(RH))
- air inlet t° / rh %	:	22 °C / 50 %(RH)
- Air pressure drop	:	193 Pa
- Supply unit, pressure drop on air at 1.2 kg/m3	:	169 Pa
- Extract unit, pressure drop on air at 1.2 kg/m3	:	169 Pa

Damper (external)

7249457

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	60	62	53	46	43	41	29	<25	51
Ducted air inlet	67	69	71	68	65	61	59	51	70
Ducted discharge	71	74	77	74	71	67	65	55	76

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz

SUPPLY UNIT :

Temperature sensors fitted on fresh air inlet and supply

Damper (external)

7249457

Airtight damper box	
Air pressure drop	: 1 Pa
Outdoor motorized control	
Servomotor included	

1 filtration section

Slides assembly 1

1 Cell type F7HEE

7249324

Filtration Class (EN 779-2012)	:	F7
Filtration Class (ISO16890)	:	ePM1 60% - ePM2.5 65%
Air pressure drop (Mid point)	:	72 Pa

Pressure drop on the 3 fouling levels : Clean point 48 Pa / Mid point 72 Pa / Dirty point 96 Pa

With pressure valves

All filters must be equipped with a visual device or monitoring by the control

1 Fan section (free wheel)

Number of fan(s)	:	1
Air flow rate	:	0.302 m3/s 0.302 m3/s
Duct available pressure	:	156 Pa
Total static pressure	:	395 Pa
K-factor	:	70
Vitesse variable asservie par l'automate		
Material of fan impeller	:	Aluminium
Diameter of fan impeller	:	0.25 m
Motor and fan efficiency	:	72%
Impeller rotation speed	:	2,279 rpm
Total electrical power input	:	219.5 W



Diameter of fan impeller	:	0.25 m
Motor and fan efficiency	:	72%
Impeller rotation speed	:	2,279 rpm
Total electrical power input	:	219.5 W
Specific Fan Power	:	684 W/(m3/s), 0.19 W/(m3/h)
Single motor		
Unit specifications:		
Rated current	:	2.80 A
Motor EC	:	0.45 kW
Voltage	:	MONO_230V_50HZ
Control voltage	:	7.81 V
Hinged door		
Pressure sensor		
Main control and capacity electrics box.		

1 cross flow plate heat recuperator Fresh air bypass Type REC0003

See EXTRACT UNIT.

Cased coil**1 electrical heating battery****7249638**

Heating capacity	:	4.5 kW
Fitted with 5 heating elements connected and electrical box		
Connection 1 stage 230 V / 1 ph / 50 Hz		
1 stage of 4.5 kW		
2 safety thermostats(1 with automatic reset, 1 with manual reset)		
air inlet t° / rh %	:	18 °C / 90 %(RH)
air outlet t° / rh %	:	30.6 °C / 42.4 %(RH)
Air pressure drop	:	18 Pa

ACOUSTIC OUTPUT SPECTRUM									
	Frequencies (Hz) / Levels per octave band (dB Lin)								Overall
	63	125	250	500	1000	2000	4000	8000	dB (A)
Radiated	60	62	53	46	43	41	28	<25	51
Ducted air inlet	65	67	69	66	62	55	53	43	67
Ducted discharge	69	73	76	73	70	66	63	52	75

Tolerance on the global spectrum: +/- 3dB

Tolerance on the octave spectrum : +/-5 dB @ 63-125 Hz

Tolerance on the octave spectrum : +/-3 dB @ 250-8000 Hz



Control Unit:

- Outstation : Compact AHU control
- Display : PGD
- Communication protocol : MODBUS TCP / BACNET IP
- Control : Constant volume
- Language : ENG

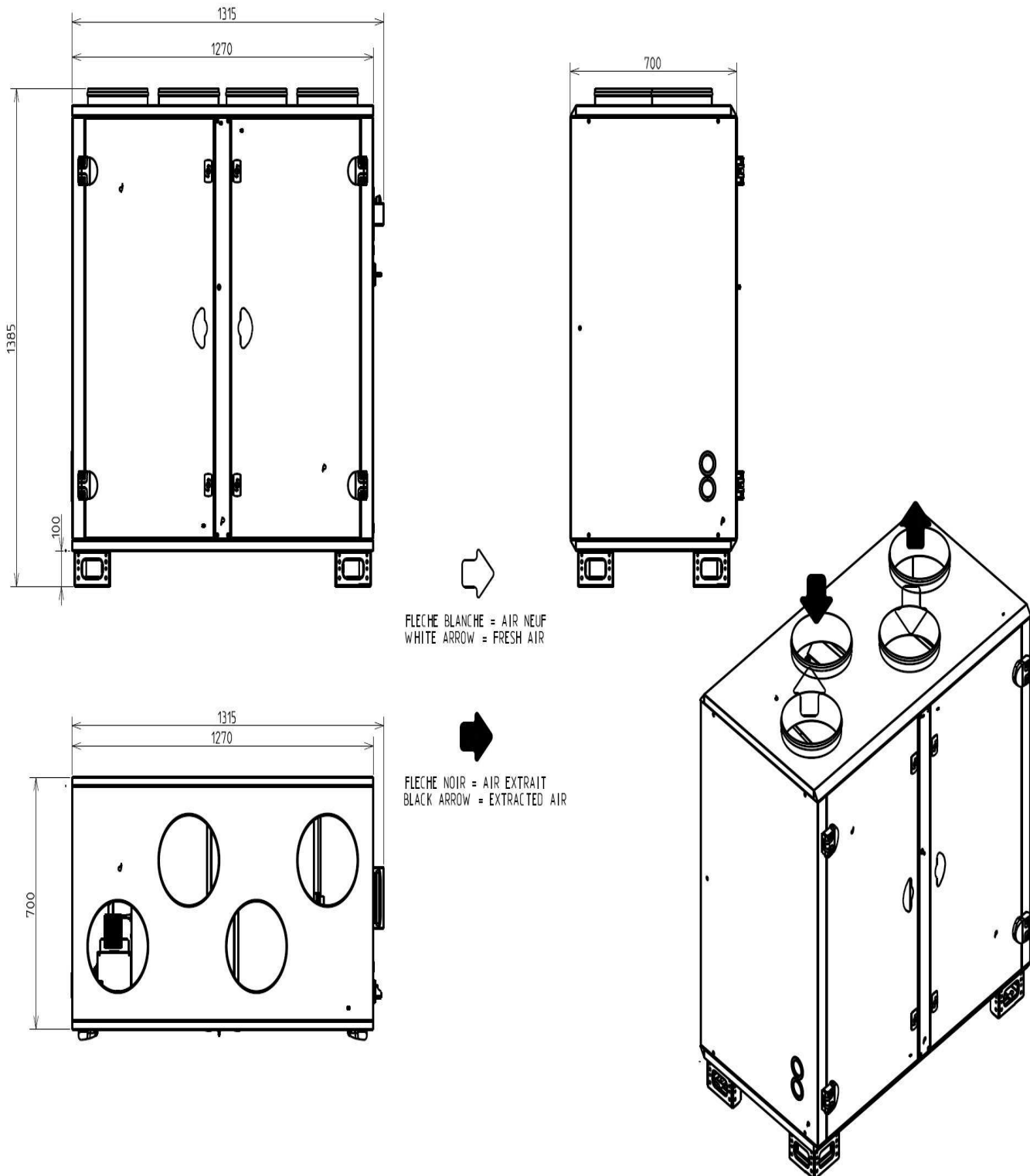
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