

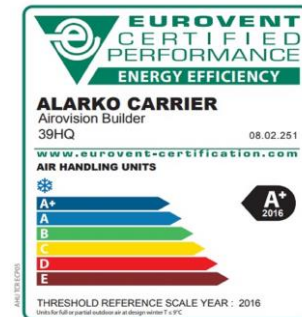
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.4 AHU Technical Guide / 007	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.4.1 PHE 5000 06.06
Number off	1
Location	External (flat roof)
Delivery	In sections
AHU finish	Outside in standard colour (RAL 7035)
Product	Air handling unit
AHU configuration	Side by side (opposite)
Pallet option	Excluded
Lifting Beam	Included
Total weight (each)	kg 1477
(Radiated casework SWL)	dB(A) 66
ErP identification code	NRVU / BVU

Eurovent energy classification



SFPe	kJ/m ³	2.48	SFPv	kJ/m ³	2.26
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Calculations conform to the Regulation for bidirectional ventilation unit (BVU) for delivery after 01.01.2018

Ecodesign 1253/2014 2018 BVU after 01.01.2018

Intermediate calculations

E (HR Bonus) (Pa)	21
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	912.7
SFP int supply air (W/(m ³ /s))	371.4
SFP int extract air (W/(m ³ /s))	299.2
SFP int (W/(m ³ /s))	670.6

Supply air unit data

Airflow (m ³ /s)	1.39
Static pressure (Pa)	900
p fan (kW)	1.95
n fan (%)	64.2
Fine Filter	Yes
dp Fine filter (Pa)	58
nt nrvu (%)	74
dp HRS (Pa)	180

Extract air unit data

Airflow (m ³ /s)	1.39
Static pressure (Pa)	701
p fan (kW)	1.50
n fan (%)	65.1
Medium Filter	Yes
dp Medium filter (Pa)	15
nt nrvu (%)	74
dp HRS (Pa)	180

Check

Fan is selected with VSD	Passed
Heat recovery	Passed
Thermal by-pass facility	Passed
SFP int	Passed
Filters equipped with pressure gauge	Passed
Total check	Passed

ACCESS DATA

Handle type	L-Handle	Pressure guard at positive pressure doors	Included
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EXHAUST DATA

Type	39HQ 06.06	Air volume	m ³ /s	1.39
Casing construction	GP080	Internal sheet		Galvanised 0.80mm
Insulation	60 mm Glasswool 23 kg/m ³	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.64	Profile		Steel
SFPe	kJ/m ³ 1.08	SFPv	kJ/m ³	1.00

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Mechanical performance according EN1886	Model box	D1	L1 (-400Pa)	L1 (+400Pa)	L1 (+700Pa)	F9	T2	TB2	
	Real Unit		L2 (-400Pa)	L2 (+400Pa)	L2 (+700Pa)				

(Sound data exhaust SWL)	Hz	125	250	500	1k	2k	4k	8k	dB(A)
	dB	59	63	66	71	68	69	59	75
	dB	59	62	69	76	69	68	58	77

SUPPLY DATA

Glasswool 23 kg/m ³ Type	39HQ 06.06	Air volume	m ³ /s	1.39
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Design outdoor temperature	°C 9.0	External sheet		PUR-PA painted galvanized steel 0.80mm
Design outdoor temperature (summer)	°C 37.5	Insulation		Glasswool 23 kg/m ³
Design outdoor dew point (summer)	°C 16.8	Profile		Steel
Unit velocity	m/s 1.64			
SFPe	kJ/m ³ 1.40	SFPv	kJ/m ³	1.26

Mechanical performance according EN1886	Model box	D1	L1 (-400Pa)	L1 (+400Pa)	L1 (+700Pa)	F9	T2	TB2	
	Real Unit		L2 (-400Pa)	L2 (+400Pa)	L2 (+700Pa)				

(Sound data supply SWL)	Hz	125	250	500	1k	2k	4k	8k	dB(A)
	dB	60	65	66	62	59	47	40	67
	dB	64	70	77	82	82	79	70	86

In direction of airflow, the unit comprises:

DELIVERY SECTION(S)

Section	Width (mm)	Height (mm)	Length (mm)	Baseframe (mm)	Weight (kg)	Weight (Lifting Beam) (kg)
1	1058	1058	1378	62	191	
2	1058	1058	1058	62	98	
3	1058	1058	1058	62	126	
4	2116	1058	2018	62	564	26
5	1058	1058	1329	62	235	
6	1058	1058	960	62	121	
7	1058	1058	849	62	140	

EXHAUST COMPONENTS

INLET

Opening Position		Full face	Provided with:	
Number of openings		1	Opening product	Duct spigot
Opening, width x height	mm	960 x 960		
Pressure drop	Pa	2		

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FILTER					
Filter type		Panel (Synthetic)	Withdrawal method		Side
Test method		EN 779 / ISO 16890	Filter frame material		Galvanised
EN 779 Class		M5	Filter casing material		Galvanised
Eurovent Efficiency Class		NA			
ISO 16890 Class		ISO ePM10 50			
Design pressure drop		Mean pd			
Initial pressure drop	Pa	51			
Mean pressure drop	Pa	101			
Final pressure drop	Pa	151			
Filter length	mm	48			
Filters					
592x592	Qty	1	592x287	Qty	2
287x287	Qty	1			
ACCESS					
Access type		Hatch	Access side		Right
EXTRAS					
1 x Pressure gauge wall mounted, Magnehelic 2000					

INLET PLENUM		
Air pressure drop	Pa	0

FAN										
Fan type		K3G400PI9205								
Fan arrangement		Fan Wall - 1x1			Installed motor power	kW	2.50			
Air volume	m ³ /s	1.39			Motor		Run			
External static pressure	Pa	392			Motor efficiency class		IE4			
Internal static pressure	Pa	306			Motor nominal speed	rpm	2450			
Static pressure ISP+ESP	Pa	698			Voltage	V	380-480			
System effect	Pa	4			Current	A	3.8			
Extra static pressure	Pa	0			Abs. motor power incl. F.I.	kW	1.50			
Total static pressure	Pa	701			Control Signal (0-10V)	V	6.96			
Dynamic pressure	Pa	38			Fan bulkhead material		Galvanised			
Total pressure	Pa	740								
Fan speed	rpm	2070								
Max fan speed	rpm	2450								
Efficiency (total)	%	68								
Fan shaft power	kW	1.50								
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k	
Total	Inlet dB	40	60	64	67	72	69	71	61	
	Outlet dB	43	60	64	72	80	75	75	66	

FAN EXTRAS					
Inlet cone measuring points					
ACCESS					
Access type		Door	Access side		Right
EXTRAS					
2 x Measuring nipple, 6mm			1 x Fanwall terminal box		

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RECUPERATOR					
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	180
Exhaust air off	°C/%RH	7.2 / 100			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 47	Exhaust pressure drop	Pa	180
Exhaust air off	°C/%RH	34.7 / 30	Exhaust eliminator type		None

SUPPLY COMPONENTS

DOUBLE MIXING BOX					
Opening Position		Full face	Provided with:		
Number of exhaust openings		1	Opening product		None
Exhaust opening, w x h	mm	960 x 960	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP0858x0858-200-162-5-D1Y1-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5
Opening Position		Right side	Provided with:		
Number of Recirc openings		1	Opening product		None
Recirc opening, w x h	mm	640 x 960	Damper		Internal, Opposed blades, Aluminium
Pressure drop	Pa	13	Number of Dampers		1
Actuator type		Internal	Damper Code		DMP0378x0802-110-162-5-D1Y1-0
Actuator Side		Air inlet side			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 4
Opening Position		Full face	Provided with:		
Number of openings		1	Opening product		None
Fresh air opening, w x h	mm	960 x 960	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP0858x0858-200-162-5-D1Y1-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5
Mixing ratio, winter (recirculation air/supply air) in %	%	0			

FILTER					
Filter type		Panel (Synthetic)	Withdrawal method		Side
Test method		EN 779 / ISO 16890	Filter frame material		Galvanised
EN 779 Class		G4	Filter casing material		Galvanised
Eurovent Efficiency Class		NA			
ISO 16890 Class		ISO Coarse 60			
Design pressure drop		Mean pd			
Initial pressure drop	Pa	46			
Mean pressure drop	Pa	71			
Final pressure drop	Pa	96			
Filter length	mm	48			
Filters					
592x592	Qty	1	592x287	Qty	2
287x287	Qty	1			



Date: 19/6/2022



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ACCESS
Access type Hatch Access side Left

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

ANY COMPONENT

Pressure drop Pa 0

RECUPERATOR

Recuperator Model SV-120/AX/0910/BSK095

Recuperator material	Aluminium	Bypass type		Side bypass	
Winter conditions		Bypass damper		Included	
Supply air on	°C/%RH 2.5 / 62	Supply total efficiency	%	79	
Supply air off	°C/%RH 18.0 / 22	Supply pressure drop	Pa	180	
Total duty	kW 26.00	Dry efficiency at equal airflow	%	74	
Summer conditions					
Supply air on	°C/%RH 37.5 / 30	Supply total efficiency	%	73	
Supply air off	°C/%RH 29.8 / 46	Supply pressure drop	Pa	180	
Total duty	kW 13.20				

EXTRAS
1 x Syphone

FILTER

Filter type	Bag (Synthetic)	Withdrawal method		Side	
Test method	EN 779 / ISO 16890	Filter frame material		Galvanised	
EN 779 Class	F7	Filter casing material		Galvanised	
Eurovent Efficiency Class	E				
ISO 16890 Class	ISO ePM1 50				
Design pressure drop	Mean pd				
Initial pressure drop	Pa 58				
Mean pressure drop	Pa 108				
Final pressure drop	Pa 158				
Filter length	mm 500				

Filters

592x592	Qty 1	287x592	Qty 1
592x287	Qty 1	287x287	Qty 1

ACCESS
Access type Door Access side Right

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

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CHILLED WATER COIL			Number of coils		
Coil Code	P25-10AR-5R-34T-763A-2.0PA-16NC-Cu	0.36/Al 0.10-1 1/2"			1
Air volume	m³/s	1.39	Fluid	100%	Water
Duty	kW	33.12	Fluid flow rate	l/s	1.58
Air on db	°C	27.0	Fluid on	°C	7.0
Air on wb/RH	°C/%	19.0/47	Fluid off	°C	12.0
Air off db	°C	12.5	Fluid content	l	12.52
Air off wb/RH	°C/%	12.0/95	Fluid pressure drop	kPa	34
Sensible duty	kW	24.17			
Air pressure drop coil (Dry)	Pa	79	Air pressure drop elim.	Pa	11
Tubes/fins/connections		Cu / Al / Fe	Connection type		Threaded (Right)
Coil frame		Galvanised	Connection size		1 1/2"
Tube thickness	mm	0.36	Fin spacing	mm	2.0
Tube Diameter	mm	9.2388	Fin thickness	mm	0.10
Face velocity	m/s	2.1			
Eliminator		Plastic – side withdrawal	Eliminator frame		Galvanised
Drainpan type		Recessed (sloped)	Drainpan material		Stainless steel 304
Drain pipes on drainpan		1	Intermediate drainpan		No
Condensed Water	l/min	0.2	Syphon Type		Negative
Coil Weight	kg	40.28	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	164/57/76/76

EXTRAS
1 x Syphone

HOT WATER COIL			Number of coils		
Coil Code	P25-10AR-2R-34T-768A-2.0PA-12NC-Cu	0.36/Al 0.10-1 1/4"			1
Air volume	m³/s	1.39	Fluid	100%	Water
Duty	kW	25.00	Fluid flow rate	l/s	1.21
Air on db	°C	10.0	Fluid on	°C	45.0
Air off db	°C	25.0	Fluid off	°C	40.0
Air pressure drop	Pa	25	Fluid content	l	6.08
			Fluid pressure drop	kPa	15
Tubes/fins/connections		Cu / Al / Fe	Connection type		Threaded (Right)
Coil frame		Galvanised	Connection size		1 1/4"
Tube thickness	mm	0.36	Fin spacing	mm	2.0
Tube Diameter	mm	9.2388	Fin thickness	mm	0.10
Face velocity	m/s	2.0	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	124/54/71/71
Coil Weight	kg	22.11			

EXTRAS
1 x Syphone

STEAM HUMIDIFIER					
Air volume	m³/s	1.39	Humidifier supplier		Condair
Moisture addition	kg/h	23	Number of steam lances		1
Air on db	°C	25.0	Steam lance length	mm	800
Air on moisture content	g/kg	2.8			
Air on rh	%	32			
Air off db	°C	25.7			
Air off moisture content	g/kg	6.6			
Air off rh	%	32			
Steam boiler type 1		EL24	Power each	kW	18.0
Max steam capacity, each	kg/h	24	Current each	A	26.0
Number off		1	Voltage	V	3x400V, 50/60Hz
Boiler weight, each	kg	40			
Section length	mm	960	Drainpan material		Stainless steel 304
Drainpan		Included			

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Note: Electric boilers will be delivered separately (not mounted on the unit). Boiler weights not included in unit weights.

ACCESS
Access type Door Access side Right

EXTRAS
1 x Syphone

ANY COMPONENT

Pressure drop Pa 0

INLET PLENUM

Air pressure drop Pa 0

ACCESS
Access type Door Access side Right

FAN

Fan type		K3G400PA2775							
Fan arrangement		Fan Wall - 1x1		Installed motor power	kW	3.35			
Air volume	m ³ /s	1.39		Motor		Run			
External static pressure	Pa	392		Motor efficiency class		IE4			
Internal static pressure	Pa	504		Motor nominal speed	rpm	2750			
Static pressure ISP+ESP	Pa	897		Voltage	V	380-480			
System effect	Pa	4		Current	A	5.2			
Extra static pressure	Pa	0		Abs. motor power incl. F.I.	kW	1.95			
Total static pressure	Pa	900		Control Signal (0-10V)	V	7.57			
Dynamic pressure	Pa	38		Fan bulkhead material		Galvanised			
Total pressure	Pa	938							
Fan speed	rpm	2260							
Max fan speed	rpm	2750							
Efficiency (total)	%	66							
Fan shaft power	kW	1.95							

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	45	65	70	72	74	74	72	65
	Outlet dB	47	64	70	77	82	82	79	70

FAN EXTRAS
Inlet cone measuring points

ACCESS
Access type Door Access side Right

EXTRAS
2 x Measuring nipple, 6mm 1 x Fanwall terminal box

OUTLET

Opening Position		Full face	Provided with:	
Number of openings		1	Opening product	Duct spigot
Opening, width x height	mm	960 x 960		
Pressure drop	Pa	2		