

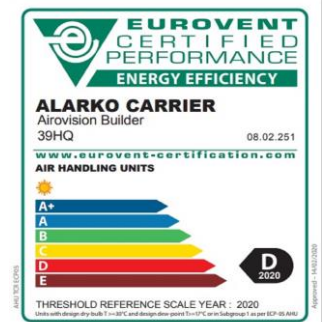
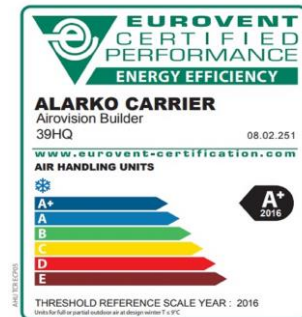
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.4 AHU Technical Guide / 008	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.4.1 PHE 7500 06.08
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 1743
(Radiated casework SWL)	dB(A) 65
ErP identification code	NRVU / BVU

Eurovent energy classification



SFP _e	kJ/m ³	2.66	SFP _v	kJ/m ³	2.48
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)	15
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	815.0
SFP int supply air (W/(m ³ /s))	416.0
SFP int extract air (W/(m ³ /s))	329.4
SFP int (W/(m ³ /s))	745.4

Supply air unit data

Airflow (m ³ /s)	2.08
Static pressure (Pa)	959
p fan (kW)	3.18
n fan (%)	62.9
Fine Filter	Yes
dp Fine filter (Pa)	67
nt nrvu (%)	74
dp HRS (Pa)	194

Extract air unit data

Airflow (m ³ /s)	2.08
Static pressure (Pa)	727
p fan (kW)	2.35
n fan (%)	64.4
Medium Filter	Yes
dp Medium filter (Pa)	18
nt nrvu (%)	74
dp HRS (Pa)	194

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 06.08	Air volume	m ³ /s	2.08
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 1.83	Profile		Steel
SFP _e	kJ/m ³ 1.13	SFP _v	kJ/m ³	1.07

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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	51	64	68	69	70	69	60	75
	dB	52	63	69	73	70	69	59	76

SUPPLY DATA

Glasswool 23 kg/m³ Type	39HQ 06.08	Air volume	m³/s	2.08
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/m³
Design outdoor dew point (summer)	°C 16.8	Profile		Steel
Unit velocity	m/s 1.83			
SFPe	kJ/m³ 1.53	SFPv	kJ/m³	1.41

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	49	63	66	60	60	56	44	67
	dB	55	67	74	80	81	85	74	88

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	1378	1218	62	223	
2	1058	1378	1058	62	111	
3	1058	1378	1058	62	149	
4	2116	1378	2018	62	689	26
5	1058	1378	1329	62	282	
6	1058	1378	960	62	138	
7	1058	1378	689	62	146	

EXHAUST COMPONENTS

INLET

Opening Position		Full face		Provided with:	
Number of openings		1		Opening product	Duct spigot
Opening, width x height	mm	960 x 1280			
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	60							
Mean pressure drop	Pa	110							
Final pressure drop	Pa	160							
Filter length	mm	48							
Filters									
592x592	Qty	2		592x287	Qty	2			
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		K3G355PH4905		Installed motor power	kW	1.90			
Fan arrangement		Fan Wall - 2x1		Motor		Run			
Air volume	m³/s	2 x 1.04		Motor efficiency class		IE4			
External static pressure	Pa	392		Motor nominal speed	rpm	2870			
Internal static pressure	Pa	329		Voltage	V	380-480			
Static pressure ISP+ESP	Pa	721		Current	A	3.0			
System effect	Pa	6		Abs. motor power incl. F.I.	kW	1.18			
Extra static pressure	Pa	0		Control Signal (0-10V)	V	6.98			
Total static pressure	Pa	727							
Dynamic pressure	Pa	39		Fan bulkhead material		Galvanised			
Total pressure	Pa	766							
Fan speed	rpm	2434							
Max fan speed	rpm	2870							
Efficiency (total)	%	67							
Fan shaft power	kW	1.18							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	39	52	65	69	70	71	71	62
	Outlet dB	42	53	65	72	77	76	76	67
FAN EXTRAS									
Inlet cone measuring points									
ACCESS									
Access type		Door		Access side		Right			
EXTRAS									
2 x Measuring nipple, 6mm									
2 x Fanwall terminal box									

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RECUPERATOR					
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	194
Exhaust air off	°C/%RH	7.3 / 100			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 47	Exhaust pressure drop	Pa	194
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 1280	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	3	Number of Dampers		1
Actuator type		External	Damper Code		DMP0858x1178-200-162-7-D1Y1-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
Opening Position		Right side	Provided with:		
Number of Recirc openings		1	Opening product		None
Recirc opening, w x h	mm	640 x 1280	Damper		Internal, Opposed blades, Aluminium
Pressure drop	Pa	15	Number of Dampers		1
Actuator type		Internal	Damper Code		DMP0378x1122-110-162-7-D1Y1-0
Actuator Side		Air inlet side			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
Opening Position		Full face	Provided with:		
Number of openings		1	Opening product		None
Fresh air opening, w x h	mm	960 x 1280	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	3	Number of Dampers		1
Actuator type		External	Damper Code		DMP0858x1178-200-162-7-D1Y1-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
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	54			
Mean pressure drop	Pa	79			
Final pressure drop	Pa	104			
Filter length	mm	48			
Filters					
592x592	Qty	2	592x287	Qty	2

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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/-E/1230/BSK145

Recuperator material	Aluminium	Bypass type		Side bypass
Winter conditions		Bypass damper		Included
Supply air on	°C/%RH 2.5 / 62	Supply total efficiency	%	78
Supply air off	°C/%RH 17.6 / 23	Supply pressure drop	Pa	194
Total duty	kW 38.20	Dry efficiency at equal airflow	%	74
Summer conditions				
Supply air on	°C/%RH 37.5 / 30	Supply total efficiency	%	74
Supply air off	°C/%RH 29.8 / 46	Supply pressure drop	Pa	194
Total duty	kW 19.90			

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 69			
Mean pressure drop	Pa 119			
Final pressure drop	Pa 169			
Filter length	mm 500			

Filters

592x592	Qty	2	287x592	Qty	2
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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	1
Coil Code	P25-10AR-5R-46T-763A-2.0PA-22NC-Cu	0.36/Al 0.10-1 1/2"		
Air volume	m³/s	2.08	Fluid	100% Water
Duty	kW	44.53	Fluid flow rate	l/s 2.12
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	13.5	Fluid content	l 17.01
Air off wb/RH	°C/%	12.8/93	Fluid pressure drop	kPa 34
Sensible duty	kW	33.75		
Air pressure drop coil (Dry)	Pa	93	Air pressure drop elim.	Pa 13
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	2.3		
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	52.76	Xin/Yin/Xout/Yout	mm/mm/mm/mm 164/57/76/76

EXTRAS

1 x Syphone

HOT WATER COIL			Number of coils	1
Coil Code	P25-10AR-2R-46T-763A-2.0PA-17NC-Cu	0.36/Al 0.10-1 1/2"		
Air volume	m³/s	2.08	Fluid	100% Water
Duty	kW	37.50	Fluid flow rate	l/s 1.81
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	30	Fluid content	l 9.20
			Fluid pressure drop	kPa 17
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	2.3	Xin/Yin/Xout/Yout	mm/mm/mm/mm 143/57/75/75
Coil Weight	kg	30.56		

EXTRAS

1 x Syphone

STEAM HUMIDIFIER				
Air volume	m³/s	2.08	Humidifier supplier	Condair
Moisture addition	kg/h	35	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		EL35	Power each	kW 26.3
Max steam capacity, each	kg/h	35	Current each	A 37.9
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 Hatch Access side Right

FAN

Fan type		K3G310PH5807							
Fan arrangement		Fan Wall - 2x1							
Air volume	m³/s	2 x 1.04							
External static pressure	Pa	392							
Internal static pressure	Pa	561							
Static pressure ISP+ESP	Pa	953							
System effect	Pa	6							
Extra static pressure	Pa	0							
Total static pressure	Pa	959							
Dynamic pressure	Pa	61							
Total pressure	Pa	1020							
Fan speed	rpm	3255							
Max fan speed	rpm	4000							
Efficiency (total)	%	66							
Fan shaft power	kW	1.59							
Installed motor power	kW	2.95							
Motor		Run							
Motor efficiency class		IE4							
Motor nominal speed	rpm	4000							
Voltage	V	380-480							
Current	A	4.6							
Abs. motor power incl. F.I.	kW	1.59							
Control Signal (0-10V)	V	7.08							
Fan bulkhead material		Galvanised							

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	43	54	68	72	72	75	81	69
	Outlet dB	48	55	67	74	80	81	85	74

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							
Number of openings		1							
Opening, width x height	mm	960 x 1280							
Pressure drop	Pa	2							
Provided with:									
Opening product									Duct spigot