

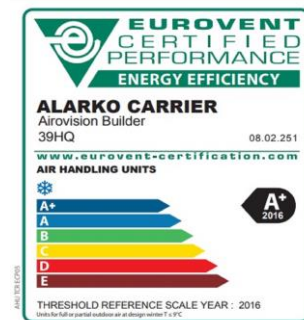
## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.2 AHU Technical Guide / 008	Eurovent identification number: 08.02.251

### GENERAL DATA

Customer reference	6.2.1 5000 PHE 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	Double deck (opposite)
Pallet option	Excluded
Lifting Beam	Included
Total weight (each)	kg 1340
(Radiated casework SWL)	dB(A) 66
ErP identification code	NRVU / BVU

### Eurovent energy classification



SFP <sub>e</sub>	kJ/m <sup>3</sup>	2.55	SFP <sub>v</sub>	kJ/m <sup>3</sup>	2.32
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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)	6
F (Filter correction) (Pa)	0
SFP int_limit (W/(m <sup>3</sup> /s))	897.7
SFP int supply air (W/(m <sup>3</sup> /s))	395.0
SFP int extract air (W/(m <sup>3</sup> /s))	334.0
SFP int (W/(m <sup>3</sup> /s))	729.1

#### Supply air unit data

Airflow (m <sup>3</sup> /s)	1.39
Static pressure (Pa)	915
p fan (kW)	1.98
n fan (%)	64.1
Fine Filter	Yes
dp Fine filter (Pa)	58
nt nrvu (%)	73
dp HRS (Pa)	195

#### Extract air unit data

Airflow (m <sup>3</sup> /s)	1.39
Static pressure (Pa)	729
p fan (kW)	1.56
n fan (%)	65.0
Medium Filter	Yes
dp Medium filter (Pa)	15
nt nrvu (%)	73
dp HRS (Pa)	202

#### 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 <sup>3</sup> /s	1.39
Casing construction	GP080	Internal sheet		Galvanised 0.80mm
Insulation	60 mm Glasswool 23 kg/m <sup>3</sup>	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.64	Profile		Steel
SFP <sub>e</sub>	kJ/m <sup>3</sup> 1.12	SFP <sub>v</sub>	kJ/m <sup>3</sup>	1.03

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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	61	64	66	71	70	66	59	75
	dB	61	64	70	73	70	65	57	76

### SUPPLY DATA

Glasswool 23 kg/m <sup>3</sup> Type	39HQ 06.06	Air volume	m <sup>3</sup> /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 <sup>3</sup>
Design outdoor dew point (summer)	°C 16.8	Profile		Steel
Unit velocity	m/s 1.64			
SFPe	kJ/m <sup>3</sup> 1.43	SFPv	kJ/m <sup>3</sup>	1.29

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	61	65	66	62	59	47	41	67
	dB	64	71	77	83	82	79	71	87

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	198	
2	1058	1058	578	62	64	
3	1058	1058	578	62	89	
4	1058	2178	1858	62	446	
5	1058	1058	2338	62	334	15
6	1058	1058	-382	62	23	
7	1058	1058	1378	62	184	

### 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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<b>FILTER</b>			
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	

<b>Filters</b>			
592x592	Qty	1	592x287
287x287	Qty	1	Qty
			2

<b>EXTRAS</b>			
1 x Pressure gauge wall mounted, Magnehelic 2000			

<b>INLET PLENUM</b>			
Air pressure drop	Pa	0	

<b>FAN</b>			
Fan type	K3G450PA2375		
Fan arrangement	Fan Wall - 1x1	Installed motor power	kW
Air volume	m³/s	1.39	2.90
External static pressure	Pa	392	Run
Internal static pressure	Pa	329	Motor efficiency class
Static pressure ISP+ESP	Pa	721	IE4
System effect	Pa	8	Motor nominal speed
Extra static pressure	Pa	0	rpm
Total static pressure	Pa	729	2140
Dynamic pressure	Pa	24	Voltage
Total pressure	Pa	753	V
Fan speed	rpm	1726	380-480
Max fan speed	rpm	2140	Current
Efficiency (total)	%	66	A
Fan shaft power	kW	1.56	4.5
			Abs. motor power incl. F.I.
			kW
			1.56
			Control Signal (0-10V)
			V
			7.30
			Fan bulkhead material
			Galvanised

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	45	62	65	67	72	71	68	61
	Outlet dB	46	62	66	73	77	76	72	65

<b>FAN EXTRAS</b>			
Inlet cone measuring points			

<b>ACCESS</b>			
Access type	Door	Access side	Left

<b>EXTRAS</b>			
2 x Measuring nipple, 6mm		1 x Fanwall terminal box	

<b>RECUPERATOR</b>			
Winter conditions			
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop
Exhaust air off	°C/%RH	7.3 / 100	Pa
			195
Summer conditions			
Exhaust air on	°C/%RH	27.0 / 47	Exhaust pressure drop
Exhaust air off	°C/%RH	34.7 / 30	Pa
			195
			Exhaust eliminator type
			Plastic

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### SUPPLY COMPONENTS

<b>DOUBLE MIXING BOX</b>					
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	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5
Access side		None	Provided with:		
Opening Position		Bottom	Opening product		None
Number of Recirc openings		1	Damper		Internal, Opposed blades, Aluminium
Recirc opening, w x h	mm	960 x 480	Number of Dampers		1
Pressure drop	Pa	25	Damper Code		DMP0698x0318-110-162-2-D1Y1-0
Actuator type		External	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 2
Actuator Side		Left	Provided with:		
Access side		None	Opening product		None
Opening Position		Full face	Damper		External, Opposed blades, Aluminium
Number of openings		1	Number of Dampers		1
Fresh air opening, w x h	mm	960 x 960	Damper Code		DMP0858x0858-200-162-5-D1Y1-0
Pressure drop	Pa	2	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5
Actuator type		External	Provided with:		
Actuator Side		Left	Opening product		None
Access side		None	Damper		External, Opposed blades, Aluminium
Mixing ratio, winter (recirculation air/supply air) in %	%	0	Number of Dampers		1
			Damper Code		DMP0858x0858-200-162-5-D1Y1-0
			Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5

EXTRAS (SUPPLY)  
1 x Coupling rod for dampers

<b>FILTER</b>					
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			
<b>Filters</b>					
592x592	Qty	1	592x287	Qty	2
287x287	Qty	1			
<b>ACCESS</b>					
Access type		Hatch	Access side		Right

EXTRAS  
1 x Pressure gauge wall mounted, Magnehelic 2000

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<b>EMPTY SECTION</b>					
Pressure drop	Pa	0			
<b>RECUPERATOR</b>					
Recuperator Model KV-100/P1/0915/BSK107					
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	17.7 / 22	Supply pressure drop	Pa	195
Total duty	kW	25.60	Dry efficiency at equal airflow	%	73
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	195
Total duty	kW	13.10			
<b>EXTRAS</b>					
1 x Syphone					
<b>FILTER</b>					
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			
<b>Filters</b>					
592x592	Qty	1	287x592	Qty	1
592x287	Qty	1	287x287	Qty	1
<b>ACCESS</b>					
Access type		Door	Access side		Right
<b>EXTRAS</b>					
1 x Pressure gauge wall mounted, Magnehelic 2000					

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CHILLED WATER COIL				Number of coils		1
Coil Code	P25-10AR-5R-34T-763A-2.0PA-18NC-Cu	0.36/Al	0.10-1 1/2"			
Air volume	m³/s	1.39	Fluid	100%	Water	
Duty	kW	31.06	Fluid flow rate	l/s	1.85	
Air on db	°C	27.0	Fluid on	°C	8.0	
Air on wb/RH	°C/%	19.0/47	Fluid off	°C	12.0	
Air off db	°C	13.0	Fluid content	l	12.54	
Air off wb/RH	°C/%	12.5/95	Fluid pressure drop	kPa	33	
Sensible duty	kW	23.33				
Air pressure drop coil (Dry)	Pa	78	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	40.26	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-34T-768A-2.0PA-12NC-Cu	0.36/Al	0.10-1 1/4"			
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 Hatch Access side Right

### FAN

Fan type		K3G400PA2775							
Fan arrangement		Fan Wall - 1x1		Installed motor power	kW	3.35			
Air volume	m <sup>3</sup> /s	1.39		Motor		Run			
External static pressure	Pa	392		Motor efficiency class		IE4			
Internal static pressure	Pa	519		Motor nominal speed	rpm	2750			
Static pressure ISP+ESP	Pa	911		Voltage	V	380-480			
System effect	Pa	4		Current	A	5.2			
Extra static pressure	Pa	0		Abs. motor power incl. F.I.	kW	1.98			
Total static pressure	Pa	915		Control Signal (0-10V)	V	7.61			
Dynamic pressure	Pa	38		Fan bulkhead material		Galvanised			
Total pressure	Pa	953							
Fan speed	rpm	2273							
Max fan speed	rpm	2750							
Efficiency (total)	%	66							
Fan shaft power	kW	1.98							

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	45	66	70	72	74	74	72	66
	Outlet dB	47	64	71	77	83	82	79	71

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							