

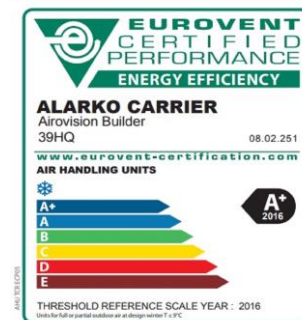
## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.3 AHU Technical Guide / 019	Eurovent identification number: 08.02.251

### GENERAL DATA

Customer reference	6.3.1 25000 RHW 15.12
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 3852
(Radiated casework SWL)	dB(A) 69
ErP identification code	NRVU / BVU

### Eurovent energy classification



SFPe	kJ/m³	2.28	SFPv	kJ/m³	2.08
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Calculations conform to the Regulation for bidirectional ventilation unit (BVU) for delivery after 01.01.2018  
Remarks are needed to be solved to comply with the Regulation.

### Ecodesign 1253/2014 2018 BVU after 01.01.2018

#### Intermediate calculations

E (HR Bonus) (Pa)	22
F (Filter correction) (Pa)	0
SFP int_limit (W/(m³/s))	822.1
SFP int_supply air (W/(m³/s))	277.4
SFP int_extract air (W/(m³/s))	212.1
SFP int (W/(m³/s))	489.4

#### Supply air unit data

Airflow (m³/s)	6.94
Static pressure (Pa)	844
p fan (kW)	8.97
n fan (%)	65.4
Fine Filter	Yes
dp Fine filter (Pa)	57
nt nrvu (%)	74
dp HRS (Pa)	124

#### Extract air unit data

Airflow (m³/s)	6.94
Static pressure (Pa)	646
p fan (kW)	6.86
n fan (%)	65.4
Medium Filter	Yes
dp Medium filter (Pa)	14
nt nrvu (%)	74
dp HRS (Pa)	124

#### Check

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

#### Total check

##### Passed

Remark  
To comply with Regulation EU No 1253 you need to equip the heat wheel with a rotor controller.

### ACCESS DATA

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

Type	39HQ 15.12	Air volume	m <sup>3</sup> /s	6.94
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Insulation	Glasswool 23 kg/m <sup>3</sup>	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.57	Profile		Steel
SFPe	kJ/m <sup>3</sup> 0.99	SFPv	kJ/m <sup>3</sup>	0.91

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	66	67	72	72	78	64	80
	dB	60	65	75	77	73	75	62	81

### SUPPLY DATA

Glasswool 23 kg/m <sup>3</sup> Type	39HQ 15.12	Air volume	m <sup>3</sup> /s	6.94
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 1.57	SFPv	kJ/m <sup>3</sup>	1.17
SFPe	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	53	62	62	58	56	47	38	63
	dB	62	69	77	89	84	81	75	91

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	2498	2018	529	62	182	
2	2498	2018	1009	62	471	
3	2498	2018	738	62	226	
4	2498	2018	738	62	329	
5	2818	1969	898	-	-	
	2818	2191	898	62	1089	
6	2498	2018	1649	62	772	32
7	2498	2018	960	62	253	
8	2498	2018	849	62	526	

### EXHAUST COMPONENTS



Date: 19/6/2022



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<b>INLET</b>									
Opening Position		Full face		Provided with:					
Number of openings		1		Opening product				Duct spigot	
Opening, width x height	mm	2400 x 1920							
Pressure drop	Pa	2							
<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	9		437x592			Qty	3	
<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		K3G560PC0405		Installed motor power	kW			5.00	
Fan arrangement		Fan Wall - 1x2		Motor				Run	
Air volume	m <sup>3</sup> /s	2 x 3.47		Motor efficiency class				IE4	
External static pressure	Pa	392		Motor nominal speed	rpm			1760	
Internal static pressure	Pa	248		Voltage	V			380-480	
Static pressure ISP+ESP	Pa	640		Current	A			7.7	
System effect	Pa	6		Abs. motor power incl. F.I.	kW			3.43	
Extra static pressure	Pa	0		Control Signal (0-10V)	V			7.33	
Total static pressure	Pa	646		Fan bulkhead material				Galvanised	
Dynamic pressure	Pa	64							
Total pressure	Pa	710							
Fan speed	rpm	1539							
Max fan speed	rpm	1760							
Efficiency (total)	%	71							
Fan shaft power	kW	3.43							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	37	60	67	68	73	73	80	66
	Outlet dB	46	62	67	78	81	78	81	70
<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				2 x Fanwall terminal box					

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HEAT WHEEL					
Rotor situation		Build-in			
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	124
Exhaust air off	°C/%RH	7.7 / 95			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 50	Exhaust pressure drop	Pa	124
Exhaust air off	°C/%RH	34.4 / 33			

### 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	2400 x 1920	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP2298x1818-200-162-12-D2Y2-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 22
Opening Position		Top	Provided with:		
Number of Recirc openings		1	Opening product		None
Recirc opening, w x h	mm	2400 x 640	Damper		Internal, Opposed blades, Aluminium
Pressure drop	Pa	29	Number of Dampers		1
Actuator type		External	Damper Code		DMP2138x0478-110-162-3-D1Y2-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 7
Opening Position		Full face	Provided with:		
Number of openings		1	Opening product		None
Fresh air opening, w x h	mm	2400 x 1920	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP2298x1818-200-162-12-D2Y2-0
Actuator Side		Left			
Access side		None	Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 22
Mixing ratio, winter (recirculation air/supply air) in %	%	0			
EXTRAS (SUPPLY)					
1 x Coupling rod for dampers					

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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		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	9	437x592	Qty	3
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### EXTRAS

1 x Pressure gauge wall mounted, Magnehelic 2000

### EMPTY SECTION

Pressure drop	Pa	0
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### HEAT WHEEL

Rotor Model RRS-P-E20 2675/2675-2515

Rotor type		Condensation	Rotor frame material	Galvanised
Rotor material		Aluminium	Rotor purging sector	Excluded
Rotor situation		Build-in	Delivery requirement	Supply/Exhaust Split Half Moon
Component mountings		Galvanised	Rotor Motor Type	Gear Motor-Ready to connect Micromax
Winter conditions				
Supply air on	°C/%RH	2.5 / 62	Supply pressure drop	Pa 124
Supply air off	°C/%RH	16.9 / 27		
Supply dry efficiency	%	74	Supply latent efficiency	% 10
Supply dry effectiveness	%	74	Supply latent effectiveness	% 10
Total duty	kW	128.86		
Summer conditions				
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa 124
Supply air off	°C/%RH	30.1 / 45		
Supply dry efficiency	%	71	Supply latent efficiency	% 0
Supply dry effectiveness	%	71	Supply latent effectiveness	% 0
Total duty	kW	62.85	Dry efficiency at equal airflow	% 74
Housing coated		No		

### EXTRAS

1 x Syphone

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<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		D			
ISO 16890 Class		ISO ePM1 50			
Design pressure drop		Mean pd			
Initial pressure drop	Pa	82			
Mean pressure drop	Pa	132			
Final pressure drop	Pa	182			
Filter length	mm	500			
<b>Filters</b>					
592x592	Qty	9	437x592	Qty	3
<b>ACCESS</b>					
Access type		Door		Access side	Right
<b>EXTRAS</b>					
1 x Pressure gauge wall mounted, Magnehelic 2000					

<b>CHILLED WATER COIL</b>					
Coil Code		P25-10AR-5R-70T-2163A-2.0PA-72NC-Cu		Number of coils	1
Air volume	m <sup>3</sup> /s	6.94		Fluid	100% Water
Duty	kW	165.62		Fluid flow rate	l/s 7.89
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 74.28
Air off wb/RH	°C/%	12.0/95		Fluid pressure drop	kPa 39
Sensible duty	kW	120.83			
Air pressure drop coil (Dry)	Pa	63		Air pressure drop elim.	Pa 8
Tubes/fins/connections		Cu / Al / Fe		Connection type	Threaded (Right)
Coil frame		Galvanised		Connection size	3"
Tube thickness	mm	0.36		Fin spacing	mm 2.0
Tube Diameter	mm	9.2388		Fin thickness	mm 0.10
Face velocity	m/s	1.8			
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	1.0		Syphon Type	Negative
Coil Weight	kg	207.31		Xin/Yin/Xout/Yout	mm/mm/ mm/mm 207/98/107/107
<b>EXTRAS</b>					
1 x Syphone					

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HOT WATER COIL			Number of coils		
Coil Code	P25-10AR-2R-70T-2173A-2.0PA-55NC-Cu	0.36/Al 0.10-2 1/2"			1
Air volume	m <sup>3</sup> /s	6.94	Fluid	100%	Water
Duty	kW	125.00	Fluid flow rate	l/s	6.04
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	19	Fluid content	l	36.98
			Fluid pressure drop	kPa	17
Tubes/fins/connections	Cu / Al / Fe		Connection type	Threaded (Right)	
Coil frame	Galvanised		Connection size	2 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	1.7	Xin/Yin/Xout/Yout	mm/mm/	175/91/89/89
				mm/mm	
Coil Weight	kg	107.73			

EXTRAS  
1 x Syphone

STEAM HUMIDIFIER			Humidifier supplier		
Air volume	m <sup>3</sup> /s	6.94	Humidifier supplier	Condair	
Moisture addition	kg/h	116	Number of steam lances	3	
Air on db	°C	25.0	Steam lance length	mm	1800
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		EL120	Power each	kW	3 x 30.0
Max steam capacity, each	kg/h	120	Current each	A	3 x 43.3
Number off		1	Voltage	V	3x400V, 50/60Hz
Boiler weight, each	kg	120			
Section length	mm	960	Drainpan material	Stainless steel 304	
Drainpan		Included			

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

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**FAN**

Fan type		K3G450PB2405							
Fan arrangement		Fan Wall - 1x3		Installed motor power	kW	5.25			
Air volume	m³/s	3 x 2.31		Motor		Run			
External static pressure	Pa	392		Motor efficiency class		IE4			
Internal static pressure	Pa	445		Motor nominal speed	rpm	2600			
Static pressure ISP+ESP	Pa	837		Voltage	V	380-480			
System effect	Pa	7		Current	A	8.0			
Extra static pressure	Pa	0		Abs. motor power incl. F.I.	kW	2.99			
Total static pressure	Pa	844		Control Signal (0-10V)	V	7.24			
Dynamic pressure	Pa	67							
Total pressure	Pa	911		Fan bulkhead material		Galvanised			
Fan speed	rpm	2145							
Max fan speed	rpm	2600							
Efficiency (total)	%	70							
Fan shaft power	kW	2.99							

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	38	60	69	71	74	76	78	71
	Outlet dB	42	62	69	77	89	84	81	75

**FAN EXTRAS**

Inlet cone measuring points

**ACCESS**

Access type Door Access side Right

**EXTRAS**

2 x Measuring nipple, 6mm 3 x Fanwall terminal box

**OUTLET**

Opening Position		Full face	Provided with:	
Number of openings		1	Opening product	Duct spigot
Opening, width x height	mm	2400 x 1920		
Pressure drop	Pa	2		