

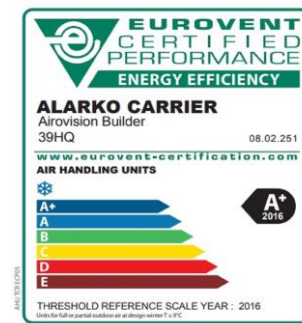
## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.3 AHU Technical Guide / 006	Eurovent identification number: 08.02.251

### GENERAL DATA

Customer reference	6.3.1 4000 RHW 07.04
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 905
(Radiated casework SWL)	dB(A) 65
ErP identification code	NRVU / BVU

### Eurovent energy classification



SFPe	kJ/m <sup>3</sup>	2.53	SFPv	kJ/m <sup>3</sup>	2.39
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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)	33
F (Filter correction) (Pa)	150
SFP int_limit (W/(m <sup>3</sup> /s))	816.3
SFP int supply air (W/(m <sup>3</sup> /s))	365.4
SFP int extract air (W/(m <sup>3</sup> /s))	266.4
SFP int (W/(m <sup>3</sup> /s))	631.8

#### Supply air unit data

Airflow (m <sup>3</sup> /s)	1.11
Static pressure (Pa)	894
p fan (kW)	1.62
n fan (%)	61.2
Fine Filter	Yes
dp Fine filter (Pa)	60
nt nrvu (%)	74
dp HRS (Pa)	164

#### Extract air unit data

Airflow (m <sup>3</sup> /s)	1.11
Static pressure (Pa)	657
p fan (kW)	1.19
n fan (%)	61.6
Medium Filter	No
dp Medium filter (Pa)	0
nt nrvu (%)	74
dp HRS (Pa)	164

#### 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 07.04	Air volume	m <sup>3</sup> /s	1.11
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 1.71	Profile		Steel
SFPe	kJ/m <sup>3</sup> 1.07	SFPv	kJ/m <sup>3</sup>	1.03

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	62	67	68	70	69	61	75
	dB	50	62	67	73	71	70	59	77

### SUPPLY DATA

Glasswool 23 kg/m <sup>3</sup> Type	39HQ 07.04	Air volume	m <sup>3</sup> /s	1.11
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 1.71	SFPv	kJ/m <sup>3</sup>	1.36
SFPe	kJ/m <sup>3</sup> 1.46			

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	46	61	63	56	55	49	39	63
	dB	53	67	74	80	81	84	76	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	1218	738	529	62	66	
2	1218	738	689	62	110	
3	1218	738	418	62	49	
4	1218	738	418	62	71	
5	1218	1538	578	62	191	
6	1218	738	1329	62	201	17
7	1218	738	960	62	111	
8	1218	738	689	62	103	

### EXHAUST COMPONENTS

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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	1120 x 640		
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		G4	Filter casing material	Galvanised
Eurovent Efficiency Class		NA		
ISO 16890 Class		ISO Coarse 60		
Design pressure drop		Mean pd		
Initial pressure drop	Pa	48		
Mean pressure drop	Pa	73		
Final pressure drop	Pa	98		
Filter length	mm	48		

<b>Filters</b>				
592x592	Qty	1	437x592	Qty
				1

**EXTRAS**

1 x Pressure gauge wall mounted, Magnehelic 2000

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

<b>FAN</b>				
Fan type		K3G355PI9305	Installed motor power	kW
Fan arrangement		Fan Wall - 1x1	Motor	2.68
Air volume	m³/s	1.11	Motor efficiency class	Run
External static pressure	Pa	392	Motor nominal speed	IE4
Internal static pressure	Pa	261	Voltage	rpm
Static pressure ISP+ESP	Pa	653	Current	3230
System effect	Pa	4	Abs. motor power incl. F.I.	V
Extra static pressure	Pa	0	Control Signal (0-10V)	A
Total static pressure	Pa	657	Fan bulkhead material	kW
Dynamic pressure	Pa	44		1.19
Total pressure	Pa	701		V
Fan speed	rpm	2410		6.70
Max fan speed	rpm	3230		
Efficiency (total)	%	65		
Fan shaft power	kW	1.19		

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	33	52	63	68	69	71	71	63
	Outlet dB	36	52	64	70	77	76	76	67

**FAN EXTRAS**

Inlet cone measuring points

**ACCESS**

Access type Hatch Access side Left

**EXTRAS**

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

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<b>HEAT WHEEL</b>					
Rotor situation		Build-in			
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	164
Exhaust air off	°C/%RH	7.5 / 99			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 50	Exhaust pressure drop	Pa	164
Exhaust air off	°C/%RH	34.8 / 32			
Recirculation Damper		None			
Damper blade		-			
Damper material		-			
Damper code		-			
Damper qty.		-			
Damper torque	Nm	-			

### 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	1120 x 640	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP1038x0558-110-102-6-D1Y1-0
Actuator Side		Left	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
Access side		None	Provided with:		
Opening Position		Top	Opening product		None
Number of Recirc openings		1	Damper		Internal, Opposed blades, Aluminium
Recirc opening, w x h	mm	1120 x 320	Number of Dampers		1
Pressure drop	Pa	42	Damper Code		DMP0858x0158-110-102-1-D1Y1-0
Actuator type		External	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 1
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	1120 x 640	Damper Code		DMP1038x0558-110-102-6-D1Y1-0
Pressure drop	Pa	2	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
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		DMP1038x0558-110-102-6-D1Y1-0
			Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 6
<b>EXTRAS (SUPPLY)</b>					
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	48			
Mean pressure drop	Pa	73			
Final pressure drop	Pa	98			
Filter length	mm	48			

Filters					
592x592	Qty	1	437x592	Qty	1

EXTRAS  
1 x Pressure gauge wall mounted, Magnehelic 2000

EMPTY SECTION					
Pressure drop	Pa	0			

HEAT WHEEL					
Rotor Model ST1-LL-WV-0975-SM-K3-A1-0,W1075,H1075					
Rotor type		Condensation	Rotor frame material		Aluzinc
Rotor material		Aluminium	Rotor purging sector		Excluded
Rotor situation		Build-in	Delivery requirement		Single section
Component mountings		Galvanised	Rotor Motor Type		Gear Motor-Constant Speed
Winter conditions					
Supply air on	°C/%RH	2.5 / 62	Supply pressure drop	Pa	164
Supply air off	°C/%RH	17.0 / 24			
Supply dry efficiency	%	74	Supply latent efficiency	%	0
Supply dry effectiveness	%	74	Supply latent effectiveness	%	0
Total duty	kW	19.50			
Summer conditions					
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	164
Supply air off	°C/%RH	29.7 / 46			
Supply dry efficiency	%	74	Supply latent efficiency	%	0
Supply dry effectiveness	%	74	Supply latent effectiveness	%	0
Total duty	kW	10.80	Dry efficiency at equal airflow	%	74

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	61			
Mean pressure drop	Pa	111			
Final pressure drop	Pa	161			
Filter length	mm	500			
Filters					
592x592	Qty	1	437x592	Qty	1

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ACCESS  
 Access type Hatch Access side Right

EXTRAS  
 1 x Pressure gauge wall mounted, Magnehelic 2000

CHILLED WATER COIL			Number of coils		1
Coil Code	P25-10AR-5R-22T-938A-2.0PA-11NC-Cu 0.36/Al 0.10-1"		Fluid	100%	Water
Air volume	m <sup>3</sup> /s	1.11	Fluid flow rate	l/s	1.00
Duty	kW	25.11	Fluid on	°C	7.0
Air on db	°C	27.0	Fluid off	°C	13.0
Air on wb/RH	°C/%	19.0/47	Fluid content	l	8.38
Air off db	°C	13.0	Fluid pressure drop	kPa	34
Air off wb/RH	°C/%	12.4/94	Air pressure drop elim.	Pa	11
Sensible duty	kW	18.67			
Air pressure drop coil (Dry)	Pa	80			
Tubes/fins/connections	Cu / Al / Fe		Connection type	Threaded (Right)	
Coil frame	Galvanised		Connection size	1"	
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	0.1	Syphon Type	Negative	
Coil Weight	kg	29.90	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	164/50/76/76

EXTRAS  
 1 x Syphone

HOT WATER COIL			Number of coils		1
Coil Code	P25-10AR-2R-22T-938A-2.0PA-10NC-Cu 0.36/Al 0.10-1"		Fluid	100%	Water
Air volume	m <sup>3</sup> /s	1.11	Fluid flow rate	l/s	0.97
Duty	kW	20.00	Fluid on	°C	45.0
Air on db	°C	10.0	Fluid off	°C	40.0
Air off db	°C	25.0	Fluid content	l	3.89
Air pressure drop	Pa	25	Fluid pressure drop	kPa	13
Tubes/fins/connections	Cu / Al / Fe		Connection type	Threaded (Right)	
Coil frame	Galvanised		Connection size	1"	
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	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	111/50/67/67
Coil Weight	kg	15.62			

EXTRAS  
 1 x Syphone



Date: 19/6/2022



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STEAM HUMIDIFIER					
Air volume	m³/s	1.11	Humidifier supplier		Condair
Moisture addition	kg/h	19	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			

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

ACCESS			
Access type	Hatch	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 - 1x1							
Air volume	m³/s	1.11	Installed motor power	kW	2.95	Motor	Run		
External static pressure	Pa	392	Motor efficiency class		IE4	Motor nominal speed	rpm	4000	
Internal static pressure	Pa	495	Voltage	V	380-480	Current	A	4.6	
Static pressure ISP+ESP	Pa	887	Abs. motor power incl. F.I.	kW	1.62	Control Signal (0-10V)	V	7.13	
System effect	Pa	7	Fan bulkhead material		Galvanised				
Extra static pressure	Pa	0							
Total static pressure	Pa	894							
Dynamic pressure	Pa	70							
Total pressure	Pa	964							
Fan speed	rpm	3274							
Max fan speed	rpm	4000							
Efficiency (total)	%	65							
Fan shaft power	kW	1.62							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	37	53	68	72	72	75	80	72
	Outlet dB	41	53	67	74	80	81	84	76

FAN EXTRAS  
Inlet cone measuring points



Date: 19/6/2022



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**ACCESS**

Access type	Hatch	Access side	Right
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**EXTRAS**

1 x Fanwall terminal box	2 x Measuring nipple, 6mm
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**OUTLET**

Opening Position	Full face	Provided with:	
Number of openings	1	Opening product	Duct spigot
Opening, width x height	mm 1120 x 640		
Pressure drop	Pa 2		