

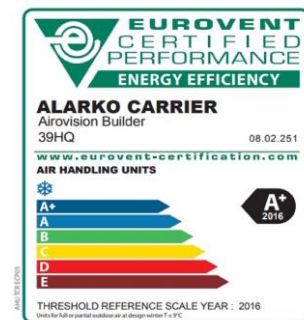
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.3 AHU Technical Guide / 005	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.3.1 3500 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 886
(Radiated casework SWL)	dB(A) 61
ErP identification code	NRVU / BVU

Eurovent energy classification



SFPe	kJ/m ³	2.53	SFPv	kJ/m ³	2.34
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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)	15
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	969.2
SFP int_supply air (W/(m ³ /s))	352.6
SFP int_extract air (W/(m ³ /s))	310.6
SFP int (W/(m ³ /s))	663.1

Supply air unit data

Airflow (m ³ /s)	0.97
Static pressure (Pa)	853
p fan (kW)	1.33
n fan (%)	62.4
Fine Filter	Yes
dp Fine filter (Pa)	50
nt nrvu (%)	74
dp HRS (Pa)	170

Extract air unit data

Airflow (m ³ /s)	0.97
Static pressure (Pa)	681
p fan (kW)	1.13
n fan (%)	58.6
Medium Filter	Yes
dp Medium filter (Pa)	12
nt nrvu (%)	74
dp HRS (Pa)	170

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	m³/s	0.97
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Insulation	Glasswool 23 kg/m³	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.50	Profile		Steel
SFPe	kJ/m³ 1.16	SFPv	kJ/m³	1.09

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	48	62	65	64	64	62	55	69
	dB	51	65	68	68	67	62	55	72

SUPPLY DATA

Glasswool 23 kg/m³ Type	39HQ 07.04	Air volume	m³/s	0.97
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 1.50			
SFPe	kJ/m³ 1.37	SFPv	kJ/m³	1.25

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	47	60	60	54	51	39	31	60
	dB	54	69	71	78	77	76	69	82

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	369	62	54	
2	1218	738	529	62	99	
3	1218	738	418	62	49	
4	1218	738	418	62	71	
5	1218	1538	578	62	186	
6	1218	738	1329	62	201	17
7	1218	738	960	62	111	
8	1218	738	689	62	111	

EXHAUST COMPONENTS

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

FILTER			
Filter type		Panel (Synthetic)	Withdrawal method
Test method		EN 779 / ISO 16890	Filter frame material
EN 779 Class		M5	Filter casing material
Eurovent Efficiency Class		NA	Side
ISO 16890 Class		ISO ePM10 50	Galvanised
Design pressure drop		Mean pd	Galvanised
Initial pressure drop	Pa	45	
Mean pressure drop	Pa	90	
Final pressure drop	Pa	134	
Filter length	mm	48	

Filters			
592x592	Qty	1	437x592 Qty 1

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

INLET PLENUM			
Air pressure drop	Pa	0	

FAN			
Fan type		K3G280PS10J2	
Fan arrangement		Fan Wall - 1x2	Installed motor power kW 1.05
Air volume	m ³ /s	2 x 0.49	Motor Run
External static pressure	Pa	392	Motor efficiency class IE4
Internal static pressure	Pa	283	Motor nominal speed rpm 3400
Static pressure ISP+ESP	Pa	675	Voltage V 380-480
System effect	Pa	6	Current A 1.6
Extra static pressure	Pa	0	Abs. motor power incl. F.I. kW 0.56
Total static pressure	Pa	681	Control Signal (0-10V) V 6.94
Dynamic pressure	Pa	27	
Total pressure	Pa	708	Fan bulkhead material Galvanised
Fan speed	rpm	2710	
Max fan speed	rpm	3400	
Efficiency (total)	%	60	
Fan shaft power	kW	0.56	

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	37	49	63	66	65	65	64	57
	Outlet dB	46	53	67	71	72	72	68	63

FAN EXTRAS
Inlet cone measuring points

ACCESS			
Access type	Hatch	Access side	Left

EXTRAS
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	170
Exhaust air off	°C/%RH	7.7 / 99			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 50	Exhaust pressure drop	Pa	170
Exhaust air off	°C/%RH	34.7 / 32			
Recirculation Damper		None			
Damper blade		-			
Damper material		-			
Damper code		-			
Damper qty.		-			
Damper torque	Nm	-			

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	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	32	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
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	40			
Mean pressure drop	Pa	65			
Final pressure drop	Pa	90			
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-0895-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	170
Supply air off	°C/%RH	16.8 / 24			
Supply dry efficiency	%	74	Supply latent efficiency	%	0
Supply dry effectiveness	%	74	Supply latent effectiveness	%	0
Total duty	kW	16.90			
Summer conditions					
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	170
Supply air off	°C/%RH	29.8 / 46			
Supply dry efficiency	%	74	Supply latent efficiency	%	0
Supply dry effectiveness	%	74	Supply latent effectiveness	%	0
Total duty	kW	9.40	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	51			
Mean pressure drop	Pa	101			
Final pressure drop	Pa	151			
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-10NC-Cu 0.36/Al 0.10-1"				
Air volume	m ³ /s	0.97	Fluid	100%	Water
Duty	kW	23.19	Fluid flow rate	l/s	0.92
Air on db	°C	27.0	Fluid on	°C	7.0
Air on wb/RH	°C/%	19.0/47	Fluid off	°C	13.0
Air off db	°C	12.5	Fluid content	l	8.37
Air off wb/RH	°C/%	12.0/95	Fluid pressure drop	kPa	38
Sensible duty	kW	16.92			
Air pressure drop coil (Dry)	Pa	65	Air pressure drop elim.	Pa	8
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	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	0.1	Syphon Type	Negative	
Coil Weight	kg	29.91	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-9NC-Cu 0.36/Al 0.10-1"				
Air volume	m ³ /s	0.97	Fluid	100%	Water
Duty	kW	17.50	Fluid flow rate	l/s	0.85
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	20	Fluid content	l	3.87
			Fluid pressure drop	kPa	15
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	1.8	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	111/50/67/67
Coil Weight	kg	15.63			

EXTRAS
 1 x Syphone

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STEAM HUMIDIFIER					
Air volume	m ³ /s	0.97	Humidifier supplier		Condair
Moisture addition	kg/h	16	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		K3G355PI9305							
Fan arrangement		Fan Wall - 1x1							
Air volume	m ³ /s	0.97	Installed motor power	kW	2.68	Motor	Run		
External static pressure	Pa	392	Motor efficiency class		IE4	Motor nominal speed	rpm	3230	
Internal static pressure	Pa	458	Voltage	V	380-480	Current	A	4.1	
Static pressure ISP+ESP	Pa	850	Abs. motor power incl. F.I.	kW	1.33	Control Signal (0-10V)	V	6.99	
System effect	Pa	3	Fan bulkhead material		Galvanised				
Extra static pressure	Pa	0							
Total static pressure	Pa	853							
Dynamic pressure	Pa	34							
Total pressure	Pa	887							
Fan speed	rpm	2503							
Max fan speed	rpm	3230							
Efficiency (total)	%	64							
Fan shaft power	kW	1.33							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	35	54	67	69	70	71	70	64
	Outlet dB	38	54	69	71	78	77	76	69

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

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