

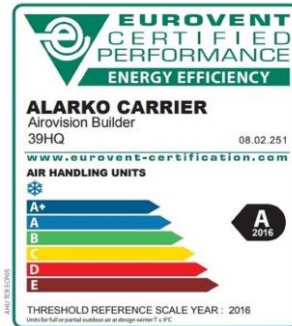
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.3 AHU Technical Guide / 009	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.3.1 10000 RHW 09.08
Number off	1
Location	External (flat roof)
Delivery	In sections
AHU finish	Outside in standard colour (RAL 7035)
Product	Air handling unit
AHU configuration	Double deck (opposite)
Pallet option	Excluded
Lifting Beam	Included
Total weight (each)	kg 1760
(Radiated casework SWL)	dB(A) 64
ErP identification code	NRVU / BVU

Eurovent energy classification



SFPe	kJ/m ³	2.73	SFPv	kJ/m ³	2.47
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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)	84
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	884.0
SFP int_supply air (W/(m ³ /s))	473.0
SFP int_extract air (W/(m ³ /s))	358.3
SFP int (W/(m ³ /s))	831.2

Supply air unit data

Airflow (m ³ /s)	2.78
Static pressure (Pa)	930
p fan (kW)	4.41
n fan (%)	58.5
Fine Filter	Yes
dp Fine filter (Pa)	58
nt nrvu (%)	76
dp HRS (Pa)	219

Extract air unit data

Airflow (m ³ /s)	2.78
Static pressure (Pa)	742
p fan (kW)	3.16
n fan (%)	65.2
Medium Filter	Yes
dp Medium filter (Pa)	15
nt nrvu (%)	76
dp HRS (Pa)	219

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 09.08	Air volume	m ³ /s	2.78
Casing construction	GP080 60 mm	Internal sheet		Galvanised 0.80mm
Insulation	Glasswool 23 kg/m ³	External sheet		PUR-PA painted galvanized steel 0.80mm
Unit velocity	m/s 1.60	Profile		Steel
SFPe	kJ/m ³ 1.14	SFPv	kJ/m ³	1.06

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	60	65	69	71	71	70	61	76
	dB	59	64	72	76	75	73	60	80

SUPPLY DATA

Glasswool 23 kg/m ³ Type	39HQ 09.08	Air volume	m ³ /s	2.78
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 ³
Design outdoor dew point (summer)	°C 16.8	Profile		Steel
Unit velocity	m/s 1.60	SFPv	kJ/m ³	1.41
SFPe	kJ/m ³ 1.59			

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	65	65	62	59	54	38	32	63
	dB	76	73	78	81	79	74	69	84

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	1538	1378	529	62	107	
2	1538	1378	849	62	219	
3	1538	1378	578	62	89	
4	1538	1378	578	62	136	
5	1698	2818	578	62	405	
6	1538	1378	1489	62	388	21
7	1538	1378	960	62	165	
8	1538	1378	849	62	247	

EXHAUST COMPONENTS

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INLET				
Opening Position		Full face	Provided with:	
Number of openings		1	Opening product	Duct spigot
Opening, width x height	mm	1440 x 1280		
Pressure drop	Pa	2		

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	51		
Mean pressure drop	Pa	101		
Final pressure drop	Pa	151		
Filter length	mm	48		

Filters				
592x592	Qty	2	437x592	Qty
592x287	Qty	2		2

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

INLET PLENUM				
Air pressure drop	Pa	0		

FAN				
Fan type		K3G400PA2775		
Fan arrangement		Fan Wall - 2x1		
Air volume	m ³ /s	2 x 1.39		
External static pressure	Pa	392	Installed motor power	kW
Internal static pressure	Pa	346	Motor	3.35
Static pressure ISP+ESP	Pa	738	Motor efficiency class	Run
System effect	Pa	4	Motor nominal speed	IE4
Extra static pressure	Pa	0	Voltage	rpm
Total static pressure	Pa	742	Current	2750
Dynamic pressure	Pa	38	Abs. motor power incl. F.I.	V
Total pressure	Pa	780	Control Signal (0-10V)	A
Fan speed	rpm	2111	Fan bulkhead material	kW
Max fan speed	rpm	2750		1.58
Efficiency (total)	%	68		7.03
Fan shaft power	kW	1.58		

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	43	61	66	70	72	72	72	63
	Outlet dB	45	61	66	75	80	80	79	68

FAN EXTRAS
Inlet cone measuring points

ACCESS				
Access type		Door	Access side	Left

EXTRAS
2 x Measuring nipple, 6mm

1 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	219
Exhaust air off	°C/%RH	7.2 / 96			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 50	Exhaust pressure drop	Pa	199
Exhaust air off	°C/%RH	35.0 / 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	1440 x 1280	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP1338x1178-200-162-7-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	1440 x 480	Number of Dampers		1
Pressure drop	Pa	35	Damper Code		DMP1178x0318-110-162-2-D1Y1-0
Actuator type		External	Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 3
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	1440 x 1280	Damper Code		DMP1338x1178-200-162-7-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		DMP1338x1178-200-162-7-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	46			
Mean pressure drop	Pa	71			
Final pressure drop	Pa	96			
Filter length	mm	48			
Filters					
592x592	Qty	2	437x592	Qty	2
592x287	Qty	2			

EXTRAS

1 x Pressure gauge wall mounted, Magnehelic 2000

EMPTY SECTION					
Pressure drop	Pa	0			

HEAT WHEEL					
Rotor Model ST1-SL-WV-1455-SM-K3-A1-0,W1555,H1555					
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	219
Supply air off	°C/%RH	17.3 / 24			
Supply dry efficiency	%	76	Supply latent efficiency	%	4
Supply dry effectiveness	%	76	Supply latent effectiveness	%	4
Total duty	kW	51.30			
Summer conditions					
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	199
Supply air off	°C/%RH	29.5 / 46			
Supply dry efficiency	%	76	Supply latent efficiency	%	0
Supply dry effectiveness	%	76	Supply latent effectiveness	%	0
Total duty	kW	27.30	Dry efficiency at equal airflow	%	76

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	59			
Mean pressure drop	Pa	109			
Final pressure drop	Pa	159			
Filter length	mm	500			
Filters					
592x592	Qty	2	437x592	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

CHILLED WATER COIL			Number of coils		1
Coil Code	P25-10AR-5R-46T-1230A-2.0PA-26NC-Cu		0.36/Al 0.10-2"		
Air volume	m ³ /s	2.78	Fluid	100%	Water
Duty	kW	62.77	Fluid flow rate	l/s	2.49
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	13.0	Fluid content	l	26.54
Air off wb/RH	°C/%	12.4/94	Fluid pressure drop	kPa	37
Sensible duty	kW	46.67			
Air pressure drop coil (Dry)	Pa	69	Air pressure drop elim.	Pa	9
Tubes/fins/connections	Cu / Al / Fe		Connection type	Threaded (Right)	
Coil frame	Galvanised		Connection size	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	1.9			
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	0.4	Syphon Type	Negative	
Coil Weight	kg	83.20	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	190/63/81/81

EXTRAS
 1 x Syphone

HOT WATER COIL			Number of coils		1
Coil Code	P25-10AR-2R-46T-1243A-2.0PA-24NC-Cu		0.36/Al 0.10-1 1/2"		
Air volume	m ³ /s	2.78	Fluid	100%	Water
Duty	kW	50.00	Fluid flow rate	l/s	2.42
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	21	Fluid content	l	12.23
			Fluid pressure drop	kPa	14
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	1.9	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	143/57/75/75
Coil Weight	kg	42.19			

EXTRAS
 1 x Syphone

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STEAM HUMIDIFIER					
Air volume	m ³ /s	2.78	Humidifier supplier		Condair
Moisture addition	kg/h	47	Number of steam lances		2
Air on db	°C	25.0	Steam lance length	mm	1200
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		EL60	Power each	kW	2 x 22.5
Max steam capacity, each	kg/h	60	Current each	A	2 x 32.5
Number off		1	Voltage	V	3x400V, 50/60Hz
Boiler weight, each	kg	80			
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

FAN									
Fan type		K3G500PA2375							
Fan arrangement		Fan Wall - 1x2							
Air volume	m ³ /s	2 x 1.39		Installed motor power	kW	3.45			
External static pressure	Pa	392		Motor		Run			
Internal static pressure	Pa	530		Motor efficiency class		IE4			
Static pressure ISP+ESP	Pa	922		Motor nominal speed	rpm	1910			
System effect	Pa	8		Voltage	V	380-480			
Extra static pressure	Pa	0		Current	A	5.3			
Total static pressure	Pa	930		Abs. motor power incl. F.I.	kW	2.21			
Dynamic pressure	Pa	16		Control Signal (0-10V)	V	7.40			
Total pressure	Pa	945		Fan bulkhead material		Galvanised			
Fan speed	rpm	1652							
Max fan speed	rpm	1910							
Efficiency (total)	%	59							
Fan shaft power	kW	2.21							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	49	72	72	71	75	74	69	65
	Outlet dB	52	76	73	78	81	79	74	69

FAN EXTRAS
Inlet cone measuring points



Date: 19/6/2022



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ACCESS

Access type	Door	Access side	Right
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EXTRAS

2 x Measuring nipple, 6mm	2 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 1440 x 1280		
Pressure drop	Pa 2		