

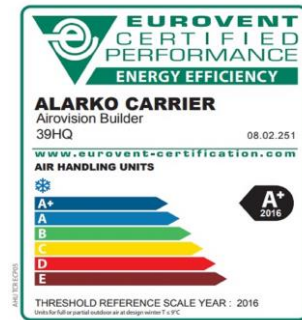
Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.3 AHU Technical Guide / 008	Eurovent identification number: 08.02.251

GENERAL DATA

Customer reference	6.3.1 7500 RHW 08.06
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 1329
(Radiated casework SWL)	dB(A) 65
ErP identification code	NRVU / BVU

Eurovent energy classification



SFPe	kJ/m ³	2.59	SFPv	kJ/m ³	2.42
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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)	6
F (Filter correction) (Pa)	0
SFP int_limit (W/(m ³ /s))	806.0
SFP int supply air (W/(m ³ /s))	387.2
SFP int extract air (W/(m ³ /s))	301.5
SFP int (W/(m ³ /s))	688.7

Supply air unit data

Airflow (m ³ /s)	2.08
Static pressure (Pa)	929
p fan (kW)	3.09
n fan (%)	62.6
Fine Filter	Yes
dp Fine filter (Pa)	67
nt nrvu (%)	73
dp HRS (Pa)	175

Extract air unit data

Airflow (m ³ /s)	2.08
Static pressure (Pa)	708
p fan (kW)	2.30
n fan (%)	64.1
Medium Filter	Yes
dp Medium filter (Pa)	18
nt nrvu (%)	73
dp HRS (Pa)	175

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 08.06	Air volume	m³/s	2.08
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 1.83	Profile		Steel
SFPe	kJ/m³ 1.11	SFPv	kJ/m³	1.04

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	64	67	68	70	69	59	75
	dB	50	62	68	73	71	70	58	77

SUPPLY DATA

Glasswool 23 kg/m³ Type	39HQ 08.06	Air volume	m³/s	2.08
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 1.83	SFPv	kJ/m³	1.38
SFPe	kJ/m³ 1.48			

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	61	63	56	55	50	36	63
	dB	54	67	74	80	81	85	74	88

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	1378	1058	529	62	88	
2	1378	1058	689	62	168	
3	1378	1058	578	62	72	
4	1378	1058	578	62	109	
5	1538	2178	578	62	312	
6	1378	1058	1329	62	279	19
7	1378	1058	960	62	137	
8	1378	1058	689	62	160	

EXHAUST COMPONENTS



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INLET			
Opening Position		Full face	
Number of openings		1	Provided with: Duct spigot
Opening, width x height	mm	1280 x 960	Opening product
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 Galvanised
ISO 16890 Class		ISO ePM10 50	Galvanised
Design pressure drop		Mean pd	
Initial pressure drop	Pa	60	
Mean pressure drop	Pa	110	
Final pressure drop	Pa	160	
Filter length	mm	48	

Filters			
592x592	Qty	2	592x287 Qty 2

EXTRAS
1 x Pressure gauge wall mounted, Magnehelic 2000

INLET PLENUM		
Air pressure drop	Pa	0

FAN			
Fan type		K3G355PH4905	
Fan arrangement		Fan Wall - 1x2	Installed motor power kW 1.90
Air volume	m ³ /s	2 x 1.04	Motor Run
External static pressure	Pa	392	Motor efficiency class IE4
Internal static pressure	Pa	310	Motor nominal speed rpm 2870
Static pressure ISP+ESP	Pa	702	Voltage V 380-480
System effect	Pa	6	Current A 3.0
Extra static pressure	Pa	0	Abs. motor power incl. F.I. kW 1.15
Total static pressure	Pa	708	Control Signal (0-10V) V 6.92
Dynamic pressure	Pa	39	
Total pressure	Pa	747	Fan bulkhead material Galvanised
Fan speed	rpm	2413	
Max fan speed	rpm	2870	
Efficiency (total)	%	67	
Fan shaft power	kW	1.15	

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	39	52	65	68	69	71	71	61
	Outlet dB	41	52	64	71	77	76	76	66

FAN EXTRAS
Inlet cone measuring points

ACCESS			
Access type	Door	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	175
Exhaust air off	°C/%RH	7.7 / 99			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 50	Exhaust pressure drop	Pa	175
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	1280 x 960	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	3	Number of Dampers		1
Actuator type		External	Damper Code		DMP1178x0858-200-162-5-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		Top	Opening product		None
Number of Recirc openings		1	Damper		Internal, Opposed blades, Aluminium
Recirc opening, w x h	mm	1280 x 480	Number of Dampers		1
Pressure drop	Pa	26	Damper Code		DMP1018x0318-110-162-2-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	1280 x 960	Damper Code		DMP1178x0858-200-162-5-D1Y1-0
Pressure drop	Pa	3	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		DMP1178x0858-200-162-5-D1Y1-0
			Number of Drive shafts (Total) x Torque for one shaft	Nm	1 x 5
EXTRAS (SUPPLY)					
1 x Coupling rod for dampers					

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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	54		
Mean pressure drop	Pa	79		
Final pressure drop	Pa	104		
Filter length	mm	48		

Filters

592x592	Qty	2	592x287	Qty	2
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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 ST1-LL-WV-1295-SM-K3-A1-0,W1395,H1395

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	175
Supply air off	°C/%RH	16.8 / 24			
Supply dry efficiency	%	73	Supply latent efficiency	%	0
Supply dry effectiveness	%	73	Supply latent effectiveness	%	0
Total duty	kW	36.20			

Summer conditions

Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	175
Supply air off	°C/%RH	29.8 / 46			
Supply dry efficiency	%	73	Supply latent efficiency	%	0
Supply dry effectiveness	%	73	Supply latent effectiveness	%	0
Total duty	kW	20.00	Dry efficiency at equal airflow	%	73

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	69		
Mean pressure drop	Pa	119		
Final pressure drop	Pa	169		
Filter length	mm	500		

Filters

592x592	Qty	2	592x287	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-34T-1083A-2.0PA-22NC-Cu		0.36/Al 0.10-1 1/2"		
Air volume	m ³ /s	2.08	Fluid	100%	Water
Duty	kW	47.08	Fluid flow rate	l/s	2.24
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	13.0	Fluid content	l	16.22
Air off wb/RH	°C/%	12.4/94	Fluid pressure drop	kPa	34
Sensible duty	kW	35.00			
Air pressure drop coil (Dry)	Pa	86	Air pressure drop elim.	Pa	12
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	2.2			
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	0.3	Syphon Type	Negative	
Coil Weight	kg	51.66	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	

EXTRAS
1 x Syphone

HOT WATER COIL			Number of coils		1
Coil Code	P25-10AR-2R-34T-1083A-2.0PA-17NC-Cu		0.36/Al 0.10-1 1/2"		
Air volume	m ³ /s	2.08	Fluid	100%	Water
Duty	kW	37.50	Fluid flow rate	l/s	1.81
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	28	Fluid content	l	8.26
			Fluid pressure drop	kPa	17
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	2.2	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	
Coil Weight	kg	28.83			

EXTRAS
1 x Syphone

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STEAM HUMIDIFIER					
Air volume	m ³ /s	2.08	Humidifier supplier		Condair
Moisture addition	kg/h	35	Number of steam lances		1
Air on db	°C	25.0	Steam lance length	mm	1000
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		EL35	Power each	kW	26.3
Max steam capacity, each	kg/h	35	Current each	A	37.9
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	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		K3G310PH5807							
Fan arrangement		Fan Wall - 1x2							
Air volume	m ³ /s	2 x 1.04		Installed motor power	kW	2.95			
External static pressure	Pa	392		Motor		Run			
Internal static pressure	Pa	531		Motor efficiency class		IE4			
Static pressure ISP+ESP	Pa	923		Motor nominal speed	rpm	4000			
System effect	Pa	6		Voltage	V	380-480			
Extra static pressure	Pa	0		Current	A	4.6			
Total static pressure	Pa	929		Abs. motor power incl. F.I.	kW	1.55			
Dynamic pressure	Pa	61		Control Signal (0-10V)	V	7.00			
Total pressure	Pa	990		Fan bulkhead material		Galvanised			
Fan speed	rpm	3226							
Max fan speed	rpm	4000							
Efficiency (total)	%	66							
Fan shaft power	kW	1.55							
(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	43	54	68	72	72	75	81	69
	Outlet dB	48	54	67	74	80	81	85	74

FAN EXTRAS
Inlet cone measuring points



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ACCESS

Access type	Door	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 1280 x 960		
Pressure drop	Pa 2		