

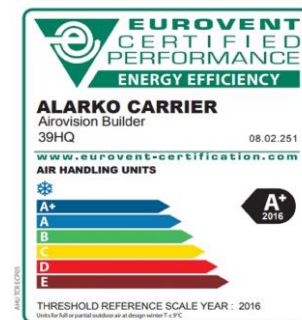
## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

### GENERAL DATA

Customer reference	6.5.1 RHW 17500 11.12
Number off	1
Location	External (flat roof)
Delivery	In sections
AHU finish	Outside in standard colour (RAL 7035)
Product	Air handling unit
AHU configuration	Side by side (opposite)
Pallet option	Excluded
Lifting Beam	Included
Total weight (each)	kg 2608
(Radiated casework SWL)	dB(A) 65
ErP identification code	NRVU / BVU

### Eurovent energy classification



SFPe	kJ/m <sup>3</sup>	2.27	SFPv	kJ/m <sup>3</sup>	2.08
------	-------------------	------	------	-------------------	------

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)	7
F (Filter correction) (Pa)	0
SFP int_limit (W/(m <sup>3</sup> /s))	806.9
SFP int supply air (W/(m <sup>3</sup> /s))	276.0
SFP int extract air (W/(m <sup>3</sup> /s))	218.4
SFP int (W/(m <sup>3</sup> /s))	494.4

#### Supply air unit data

Airflow (m <sup>3</sup> /s)	4.86
Static pressure (Pa)	845
p fan (kW)	6.22
n fan (%)	66.1
Fine Filter	Yes
dp Fine filter (Pa)	54
nt nrvu (%)	73
dp HRS (Pa)	129

#### Extract air unit data

Airflow (m <sup>3</sup> /s)	4.86
Static pressure (Pa)	645
p fan (kW)	4.82
n fan (%)	65.0
Medium Filter	Yes
dp Medium filter (Pa)	13
nt nrvu (%)	73
dp HRS (Pa)	129

#### 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
-------------	----------	-------------------------------------------	----------

### Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

**EXHAUST DATA**

Type	39HQ 11.12	Air volume	m³/s	4.86
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 0.99	SFPv	kJ/m³	0.92

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	53	62	66	71	70	73	61	77
	dB	54	62	69	75	71	72	59	78

**SUPPLY DATA**

Glasswool 23 kg/m³ Type	39HQ 11.12	Air volume	m³/s	4.86
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	SFPv	kJ/m³	1.16
SFPe	kJ/m³ 1.28			

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	60	61	56	57	44	32	62
	dB	59	69	77	79	81	78	70	85

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	1858	2018	1378	62	407	
2	1858	2018	1218	62	243	
3	1858	2018	1218	62	321	
4	3716	2338	578	62	528	
5	1858	2018	1489	62	599	24
6	1858	2018	960	62	217	
7	1858	2018	849	62	290	

**EXHAUST COMPONENTS**

### Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

<b>INLET</b>					
Opening Position		Full face		Provided with:	
Number of openings		1		Opening product	Duct spigot
Opening, width x height	mm	1760 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	48			
Mean pressure drop	Pa	96			
Final pressure drop	Pa	145			
Filter length	mm	48			

<b>Filters</b>					
592x592	Qty	6		437x592	Qty 3

<b>ACCESS</b>					
Access type		Door		Access side	Right

**EXTRAS**  
1 x Pressure gauge wall mounted, Magnehelic 2000

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

<b>FAN</b>					
Fan type		K3G400PI9205		Installed motor power	kW 2.50
Fan arrangement		Fan Wall - 2B1		Motor	Run
Air volume	m³/s	3 x 1.62		Motor efficiency class	IE4
External static pressure	Pa	392		Motor nominal speed	rpm 2450
Internal static pressure	Pa	247		Voltage	V 380-480
Static pressure ISP+ESP	Pa	640		Current	A 3.8
System effect	Pa	5		Abs. motor power incl. F.I.	kW 1.61
Extra static pressure	Pa	0		Control Signal (0-10V)	V 7.20
Total static pressure	Pa	645			
Dynamic pressure	Pa	52		Fan bulkhead material	Galvanised
Total pressure	Pa	697			
Fan speed	rpm	2139			
Max fan speed	rpm	2450			
Efficiency (total)	%	69			
Fan shaft power	kW	1.61			

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	39	54	63	67	72	71	75	63
	Outlet dB	41	56	64	72	79	76	78	67

**FAN EXTRAS**  
Inlet cone measuring points

<b>ACCESS</b>					
Access type		Door		Access side	Right

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

### Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

HEAT WHEEL					
Rotor situation		Build-in			
Winter conditions					
Exhaust air on	°C/%RH	22.0 / 40	Exhaust pressure drop	Pa	129
Exhaust air off	°C/%RH	7.8 / 95			
Summer conditions					
Exhaust air on	°C/%RH	27.0 / 47	Exhaust pressure drop	Pa	129
Exhaust air off	°C/%RH	34.4 / 31			

### 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	1760 x 1920	Damper		External, Opposed blades, Aluminium
Pressure drop	Pa	2	Number of Dampers		1
Actuator type		External	Damper Code		DMP1658x1818-200-162-12-D2Y2-0
Actuator Side		Right	Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 22
Access side		None	Provided with:		
Opening Position		Left side	Opening product		None
Number of Recirc openings		1	Damper		Internal, Opposed blades, Aluminium
Recirc opening, w x h	mm	800 x 1920	Number of Dampers		1
Pressure drop	Pa	17	Damper Code		DMP0538x1762-110-162-12-D2Y1-0
Actuator type		Internal	Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 11
Actuator Side		Air inlet side	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	1760 x 1920	Damper Code		DMP1658x1818-200-162-12-D2Y2-0
Pressure drop	Pa	2	Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 22
Actuator type		External	Provided with:		
Actuator Side		Right	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		DMP1658x1818-200-162-12-D2Y2-0
			Number of Drive shafts (Total) x Torque for one shaft	Nm	2 x 22

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	43			
Mean pressure drop	Pa	68			
Final pressure drop	Pa	93			
Filter length	mm	48			
<b>Filters</b>					
592x592	Qty	6	437x592	Qty	3

## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

EXTRAS  
1 x Pressure gauge wall mounted, Magnehelic 2000

<b>ANY COMPONENT</b>			
Pressure drop	Pa	0	

<b>HEAT WHEEL</b>					
Rotor Model RRU-P-E20 2195/2195-2070					
Rotor type		Condensation	Rotor frame material		Galvanised
Rotor material		Aluminium	Rotor purging sector		Excluded
Rotor situation		Build-in	Delivery requirement		Single section
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	129
Supply air off	°C/%RH	16.8 / 27			
Supply dry efficiency	%	73	Supply latent efficiency	%	10
Supply dry effectiveness	%	74	Supply latent effectiveness	%	10
Total duty	kW	89.47			
Summer conditions					
Supply air on	°C/%RH	37.5 / 30	Supply pressure drop	Pa	129
Supply air off	°C/%RH	30.2 / 45			
Supply dry efficiency	%	70	Supply latent efficiency	%	0
Supply dry effectiveness	%	70	Supply latent effectiveness	%	0
Total duty	kW	43.60	Dry efficiency at equal airflow	%	73
Housing coated		No			

EXTRAS  
1 x Syphone

<b>FILTER</b>					
Filter type		Bag (Glassfibre)	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	85			
Mean pressure drop	Pa	135			
Final pressure drop	Pa	185			
Filter length	mm	360			
<b>Filters</b>					
592x592	Qty	6	437x592	Qty	3
ACCESS					
Access type		Door	Access side		Right

EXTRAS  
1 x Pressure gauge wall mounted, Magnehelic 2000

## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

CHILLED WATER COIL			Number of coils		1
Coil Code	P25-10AR-5R-70T-1533A-2.0PA-57NC-Cu		0.36/AI 0.10-2 1/2"		
Air volume	m³/s	4.86	Fluid	100%	Water
Duty	kW	122.08	Fluid flow rate	l/s	5.81
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	12.0	Fluid content	l	53.62
Air off wb/RH	°C/%	11.6/95	Fluid pressure drop	kPa	38
Sensible duty	kW	87.50			
Air pressure drop coil (Dry)	Pa	61	Air pressure drop elim.	Pa	8
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			
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	0.8	Syphon Type	Negative	
Coil Weight	kg	150.46	Xin/Yin/Xout/Yout	mm/mm/ mm/mm	177/91/89/89

EXTRAS  
1 x Syphone

HOT WATER COIL			Number of coils		1
Coil Code	P25-10AR-2R-70T-1533A-2.0PA-46NC-Cu		0.36/AI 0.10-2 1/2"		
Air volume	m³/s	4.86	Fluid	100%	Water
Duty	kW	99.17	Fluid flow rate	l/s	4.79
Air on db	°C	10.0	Fluid on	°C	45.0
Air off db	°C	27.0	Fluid off	°C	40.0
Air pressure drop	Pa	19	Fluid content	l	30.91
			Fluid pressure drop	kPa	16
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/ mm/mm	175/91/89/89
Coil Weight	kg	87.21			

EXTRAS  
1 x Syphone

STEAM HUMIDIFIER					
Air volume	m³/s	4.86	Humidifier supplier	Condair	
Moisture addition	kg/h	81	Number of steam lances	2	
Air on db	°C	25.0	Steam lance length	mm	1500
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	EL90		Power each	kW	2 x 33.8
Max steam capacity, each	kg/h	90	Current each	A	2 x 48.7
Number off	1		Voltage	V	3x400V, 50/60Hz
Boiler weight, each	kg	80			
Section length	mm	960	Drainpan material	Stainless steel 304	
Drainpan	Included				

## Technical Specification

Project name :	Airovision Builder version: E1.13 (12-4-2022)(R086)/A
Quotation no. : 6.5 AHU Technical Guide / 012	Eurovent identification number: 08.02.251

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	K3G400PI9205		Installed motor power	kW	2.50
Fan arrangement	Fan Wall - 2B1		Motor		Run
Air volume	m <sup>3</sup> /s	3 x 1.62	Motor efficiency class		IE4
External static pressure	Pa	392	Motor nominal speed	rpm	2450
Internal static pressure	Pa	448	Voltage	V	380-480
Static pressure ISP+ESP	Pa	840	Current	A	3.8
System effect	Pa	5	Abs. motor power incl. F.I.	kW	2.07
Extra static pressure	Pa	0	Control Signal (0-10V)	V	7.95
Total static pressure	Pa	845	Fan bulkhead material		Galvanised
Dynamic pressure	Pa	52			
Total pressure	Pa	897			
Fan speed	rpm	2321			
Max fan speed	rpm	2450			
Efficiency (total)	%	69			
Fan shaft power	kW	2.07			

(Fan sound data SWL)	Hz	63	125	250	500	1k	2k	4k	8k
Total	Inlet dB	41	60	67	70	72	77	75	65
	Outlet dB	44	59	69	77	79	81	78	70

FAN EXTRAS  
Inlet cone measuring points

ACCESS  
Access type Door Access side Right

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

### OUTLET

Opening Position	Full face		Provided with:	
Number of openings	1		Opening product	Duct spigot
Opening, width x height	mm	1760 x 1920		
Pressure drop	Pa	2		