

CUSTOMER
PROJECT REFERENCE

EVERSCHOLT STREET

UNIT REFERENCE

AHU1

QUANTITY

1

PACKING TYPE

Plus

ALTITUDE

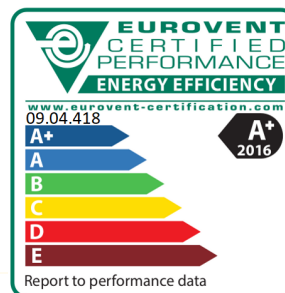
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TEMP. WINTER/SUMMER PROJECT

-4.0°C / 80% U.R. - +30.0°C / 50% U.R.

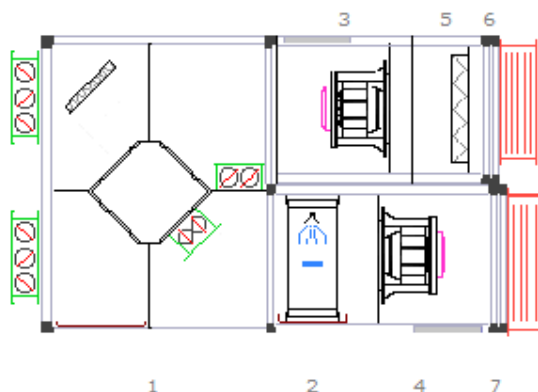
TEMP. MIN/MAX UNIT

-40.0°C / 100% U.R. - +40.0°C / 80% U.R.


UNIT SIZE: 23MK-60-014017S

SUPPLY AIR FLOW	m³/h	1296	RETURN AIR FLOW	m³/h	1296
SUPPLY EXTERNAL STATIC PRESSURE	Pa	200	RETURN EXTERNAL STATIC PRESSURE	Pa	200
AIR VELOCITY ACROSS SUPPLY	m/s	0.77	AIR VELOCITY ACROSS EXHAUST	m/s	0.57

Length mm **3200**
Width mm **1780**
Height mm **570 + 150**
Inspection side **Right**
Connection side **Right**
Drain side **Right**
Total weight kg **751**
SFPv (clean filters) 2.21 W/l/s
SFPe (mean filters) 2.31 W/l/s
ERP 2018 COMPLIANT



AHU's dimensions, weight and divisions are approximate and will be optimized during the executive phase

STRUCTURAL FEATURES

Profile	60 mm Al. Anod.	Profile insulated	No
Corners	A-60	Drainable floor	No
Panel	60 mm	Sloped drain pan	Yes
Insulation	Mineral wool 90 kg/mc A1 class	Roof material	No
Internal paneling	Galvanized steel 8/10 mm	Roof type	-
External paneling	Prepainted sheet 10/10 mm	Technical space	No
Screw material	Galv. Steel	Control equipment	No
Internal guides and supports	Galv. Steel	Feet	No
Drain pan	Above the floor panel Inox AISI 304	H feet	-
Drain Type	Frontal	Providing feet	-
Baseframe material	galvanized steel	Handles with key	No
Baseframe H/Thickness	150 mm	Applications	Standard

CLASSIFICATION ACCORDING TO EN1886 (MB)

Mechanical strength D1(M)	Leakage -400/+700 Pa L1(M) / L1(M)	Thermal transmittance T2	Thermal bridging TB4	Filters by-pass F9(M)
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Panels acoustic attenuation - frequency analysis

F [Hz]	63	125	250	500	1000	2000	4000	8000
[dB]	10	10	13	16	19	31	39	45

EXHAUST SIDE

6 **DAMPER REGULATION**

		Tot. P.	0	Pa
NOTES				
ACCESSORIES				
1 Flexible connection				

5 **SYNTHETIC/METALLIC PANEL FILTER**

G4 synthetic EN779:2012 / ISO Coarse 55% ISO16890										Air density [kg/m³]		1.20		Tot. P.		208		Pa			
1		592 x 490 x 48mm										1.50-1.50 Kg									
Clean filter pressure drop 183 Pa-Calculated filter pressure drop 208 Pa-Dirty filter pressure drop 233 Pa																					
COMPONENT NOISE REDUCTION										NOTES											
Hz		63	125	500	1000	1000	2000	4000	8000	Air speed 5.02 m/s											
dB		1	1	1	1	1	1	2	2	Synthetic fiber											
ACCESSORIES																					
1 Differential manometer Magnehelic type																					

RETURN FAN

Plug fan EC K3G310-PT08-J4		MOTOR IE4	
Size	310	Installed power	1.29 kW
Quantity / Behavior	1 x 100.0%	Electrical power	400/3/50 V/ph/Hz
Air flow	1296 m³/h m³/h	Alimentazione	380 ..480 V
External static pressure	200 Pa	Motor shaft diameter	- mm
Additional external static pressure	0 Pa	Insulation Class	F
Internal pressure drops	396 Pa	Protection	IP 54
Total static pressure	596 Pa		
Dynamic pressure	7 Pa	Nominal current / current in operating po	1.90 / 0.74 A
Total pressure	603 Pa	Motor size	M3G084-GF
Fan speed	2153 rpm	Motor efficiency	- %
Max fan speed	3010 rpm	Ucontrol	5.9 V
Absorbed power each	0.22 kW	K-Factor : 116	
Electrical power input tot.	0.44 kW		
LwA_in	74.4 dB(A)		
Fan total / static efficiency	49.15 / 48.55 %		
Air speed on fan outlet	3.5 m/s		
Entering air temperature	20 C°		
Altitude	0 m.slm		
SFP	1.17 kW/(m³/s)		
Air density	1.20 Kg/m3		
Tmin / Tmax	-25/40 C°/C°		

Octave bands sound power level (dB)

F [Hz]	63	125	250	500	1000	2000	4000	8000
Outlet (dB)	71	85	75	74	72	69	66	60
Inlet (dB)	70	83	75	74	64	64	62	57

NOTES

Motor with integrated electronic speed controller 0-10 Vdc signal with Modbus support
 EMC interference immunity acc. to EN 61000-6-2 (industrial environment)
 EMC interference emission acc. to EN 61000-6-3 (household environment)
 Conforming to standard EN 61800-5-1; CE
 For the certification UL, EAC, CAN/CSA please check with the manufacturer
 Designed for wet conditions
 The fan system effect is taken into account in the fan performances

ACCESSORIES

1 Mainswitch
 1 Safety microswitch
 1 Lamp holder, switch and wiring
 1 Protection guard drive
 1 Inspection window
 1 Motor wiring

SUPPLY SIDE

PLATE HEAT RECOVERY UNIT

PCF-I-3-55-463-B-137-A-SM

Tot. P. 250 Pa

	WINTER			SUMMER		
	SUPPLY	EXHAUST		SUPPLY	EXHAUST	
External air flow	1296 m³/h	1296 m³/h	m³/h	1296 m³/h	1296 m³/h	m³/h
External air temperature IN	-4	21	°C	30	24	°C
External air temp. in (wet bulb)	-4.91	14.62	°C	22.01	17.08	°C
External relative humidity IN	80	50	%	50	50	%
External air temperature OUT	16.95	6.97	°C	25.5	28.52	°C
External air temp. out (wet bulb)	7.02	6.97	°C	20.71	18.62	°C
External relative humidity OUT	18.19	100	%	65.21	38.39	%
External air side pressure drop	181	181	Pa	177	177	Pa
External p.d. air density 1,2 kg/m³	181	181	Pa	181	181	Pa
Recovery capacity	8.9	8.9	kW	1.96	1.96	kW
Condensate	-	4.19	lt/h	0.00	-	lt/h
Frost temperature	-	-	°C			

EFFICIENCY					
Eff. ERP	75.20	%	Maximum differential pressure		2000 Pa
Energetic efficiency class (EN13053)	H1				
Eff./Ratio Hum. Winter/Summer	-	%			
Eff./Ratio Temp. Winter/Summer	84/75	%			
Recirculation factor	0.00	%			

PANEL FILTER

G4 synthetic EN779:2012 / ISO Coarse 55% ISO16890

N° 1 592 x 592 x 48

0.60-0.60 m2

1.80-1.80 Kg

Class-

Clean filter pressure drop 36 Pa-Calculated filter pressure drop 61 Pa-Dirty filter pressure drop 86 Pa

DAMPER REGULATION

Damper	Fresh air damper	Exhaust air	Free-cooling	Recirculation
Material	Aluminium L4	Aluminium L4	Aluminium L4	Aluminium L4
Orientation	frontal	frontal	-	
Air flow	1296	1296	1296	1296
Dimensions	845x855mm	845x210mm	L137Hmm	370x200mm
Weight	12.38Kg	2.86Kg	-	1.43Kg

COMPONENT NOISE REDUCTION

NOTES

Hz	63	125	500	1000	1000	2000	4000	8000
dB	7	9	9	9	14	14	17	17

ACCESSORIES

1 With drain pan made of stainless steel AISI 304

DX COIL

Cu-Al-FeZn P3012ED 6R-10T-560A-2.5pa 2C 22 mm		Air density [kg/m³]		1.165		Tot. P. 82		Pa		
AIR SIDE		FLUID SIDE								
Air flow	1296 m³/h	R410A								
Entering temperature	30 °C	Evaporation temperature						5 °C		
External air temp. in (wet bulb)	22.01 °C	Overheating						25 °C		
Relative humidity	50 %	Subcooling						5 °C		
Leaving temperature	21 °C	Fluid flow						120.58 kg/h		
External air temp. out (wet bulb)	18.04 °C	Pressure drop						18.5 kPa		
Relative humidity	75.3 %	Number of gas circuits						1		
Capacity	5.8 kW	Internal volume						4.7 l.		
Air pressure drop (wet)	82 Pa									
Air pressure drop (dry)	20 Pa									
Sensible/Total heat factor	0.68									
Condensate	3.00 kg/h									
Air velocity	2.14 m/s	220/15-15								
GENERAL INFORMATION		COMPONENT NOISE REDUCTION								
Tubes	12.45 x 0.6 Copper	Hz	63	125	500	1000	1000	2000	4000	8000
Fins	Aluminium 0.11 mm	dB	3	3	3	5	6	6	8	11
Frame	Galv. 2.0 mm	NOTES								
Connection	12 mm									
Surface	18.89 mq									
Weight (dry)	23 kg									
Calculation mode	Industrial use									
ACCESSORIES										
1 Drain pan made of stainless steel AISI 304										

Winter condition

AIR SIDE		FLUID SIDE	
Entering temperature	14 °C	Entering temperature	45 °C
Relative humidity	18 %	Leaving temperature	23.6 °C
Leaving temperature	23.6 °C	Fluid flow	121 l/h
Relative humidity	9.95 %		
Capacity	4.2 kW		

SUPPLY FAN

Plug fan EC K3G310-PT08-J4				MOTOR IE4				
Size	310			Installed power	1.29	kW		
Quantity / Behavior	1 x 100.0%			Electrical power	400/3/50	V/ph/Hz		
Air flow	1296 m³/h	m³/h		Alimentazione	380 ..480	V		
External static pressure	200 Pa			Motor shaft diameter	-	mm		
Additional external static pressure	0 Pa			Insulation Class	F			
Internal pressure drops	331	Pa		Protection	IP 54			
Total static pressure	531	Pa						
Dynamic pressure	7	Pa		Nominal current / current in operating po	1.90 / 0.67	A		
Total pressure	538	Pa		Motor size	M3G084-GF			
Fan speed	2040	rpm		Motor efficiency	-	%		
Max fan speed	3010	rpm		Ucontrol	5.6	V		
Absorbed power each	0.19	kW		K-Factor : 116				
Electrical power input tot.	0.39	kW						
LwA_in	72.3	dB(A)						
Fan total / static efficiency	49.28 / 48.61	%						
Air speed on fan outlet	3.5	m/s						
Entering air temperature	20	C°						
Altitude	0	m.slm						
SFP	1.03	kW/(m³/s)						
Air density	1.20	Kg/m3						
Tmin / Tmax	-25/40	C°/C°						
Octave bands sound power level (dB)								
F [Hz]	63	125	250	500	1000	2000	4000	8000
Outlet (dB)	69	83	72	72	70	67	65	58
Inlet (dB)	68	80	73	71	62	62	60	55
NOTES								
Motor with integrated electronic speed controller 0-10 Vdc signal with Modbus support EMC interference immunity acc. to EN 61000-6-2 (industrial enviroment) EMC interference emission acc. to EN 61000-6-3 (household enviroment) Conforming to standard EN 61800-5-1; CE For the certification UL, EAC, CAN/CSA please check with the manufacturer Designed for wet conditions The fan system effect is taken into account in the fan performances								
ACCESSORIES								
1 Mainswitch 1 Safety microswitch 1 Lamp holder, switch and wiring 1 Protection guard drive 1 Inspection window 1 Motor wiring								

NOTES**ACCESSORIES**

1 Flexible connection

Additional elements

N°1 HEIGHT 570+150 mm
N°2 DX coil with one gas circuit and in heat pump
N°1 EU5 prefilter at fresh air inlet

SOUND POWER LEVEL AT AHU									
Octave band (Hz)	63	125	250	500	1000	2000	4000	8000	Tot. dBA
Lw at fresh air inlet [dB]	58	69	61	59	48	42	35	27	59
Lw at supply air outlet [dB]	69	83	72	72	70	67	65	58	76
Lw at extract air inlet [dB]	69	82	74	73	63	63	60	55	73
Lw at extract air outlet [dB]	64	77	66	65	63	55	49	43	68
Lw to enviroment [dB]		75	62	58	53	38	27	15	62

Sound pressure measured at 1 mt. distance in free field condition 45 dB(A)



EN13053	
Supply Power Class	-
Supply Velocity Class	V0
Return Power Class	-
Return Velocity Class	V0
Heat Recovery Class	H1
Mixing box eff. Class	M1

ECODESIGN

Manufacturer	Anonimo	
Unit model	23MK-60-014017S	
Typology	NRVU;BVU	
SFPint / SFPint limit 2018 [W/(m³/s)]	737 / 772	
Type of HRS	PLATE HEAT RECOVERY UNIT	
Thermal efficiency of heat recovery [%]	75.2	
Nominal flow rate [m³/s]	0.36	
Maximum external leakage rate (RU) +400Pa / -400Pa [%]	L1(M) - L1(M)	
Maximum internal leakage rate [%]	1 %	
	Supply	Return
Nominal flow rate [m³/s]	0.36	0.36
Type of drive	electronic speed control	electronic speed control
Effective electric power input [Kw]	0.39	0.44
Face velocity [m/s]	0.77	0.57
Nominal external pressure [Pa]	200	200
Internal pressure drop of ventilation components [Pa]	180	180
Static efficiency of fan [%]	49.0	48.8
Filter energy performance	B	E
Sound power level [LWA] see technical schedule		
Internet address for disassembly instructions: check in the end of this page		
Ecodesign compliance 2018 <i>If the unit includes a filter section, the AHU must be equipped with a visual signal or alarm in the control system which is activated if the pressure drop across the filter exceeds the maximum allowed final pressure drop.</i>		