

Technical specification

Project Pulitzer Amsterdam 15.814JZ.472	Position AHU 2.	C- : KNL10002	Prod. : 0701-974	M2,2 30.9.2015
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Customer		Designer	
Customer Name	Vacom Air	Designer Name	
Contact name	Gerard Kuiper	Phone	
Phone	+31 594 63 19 11		

Basic data

Product	AHU	Line	Mandik M
Total dimensions (LxWxH)	mm 3280 x 570 x 1260	Size	M2,2
contour dimensions (LxWxH)	mm 3675 x 720 x 1520	Panel thickness	mm 50
Weight	kg 417	Insulation density	kg/m3 50
Weight attached accessories	kg 0		
Unit fastening mode: Baseframe			
Surface treatment outside	galvanised	Surface treatment inside	galvanised
terminal panel surface	galvanised	built-in holder surface	galvanised
holder surface	galvanised		
execution: Indoor			

Test according to EN 1886 (07/2009)

Mechanical strength of casing	D1 (M)							
Casing air leakage	L1 (M)							
Filter bypass leakage	< 0,5% - F9 (M)							
Thermal transmittance	T3							
Thermal bridging of the casing	TB2							
Sound insertion loss in band	Hz	125	250	500	1000	2000	4000	8000
	dB	15.8	23.6	31.3	37.3	39.5	39.7	43.2



Supply part	cross-section air velocity	m/s	1.1
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Compact block A

Terminal panel	air flow	m3/h	840	pressure loss	Pa	1
Damper, tightness class 2 EN1751:2003	outside 3 Nm	Ending		flexible connection		

Service side:

front

Filter	air flow	m3/h	840	pressure loss	Pa	67
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Filter parts composition: 1 x 440 x 440 mm
 pressure loss reserve Pa 50
 Filter class, length F7 - bag filter 630 mm
 Initial pressure loss Pa 17
 Max. allowed final pressure loss Pa 450
 Max. final pressure loss acc. EN13053 Pa 200

Service side:

front, door with hinges and handles

Accessories:

Pressure measuring gauge with analogue display DPG 500, 0-500Pa, 106.007.001 1 mounted on unit

Compact block B

Plate recuperator	air flow	m3/h	840	pressure loss	Pa	231
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by-pass damper mounted, tightness class 2 EN1751:2003 4 Nm, 0 Pa

winter calculation point

Supply

Air inlet temperature °C -7.0
 Air inlet humidity % 60.0
 air outlet temperature °C 13.6
 air outlet humidity % 13.0
 Risk of freezing under °C -3.0
 recuperation efficiency % 76.4
 Heat gain kW 6.0

Exhaust

Air inlet temperature °C 20.0
 Air inlet humidity % 40.0
 air outlet temperature °C 2.3
 air outlet humidity % 100.0
 Amount of condensate l/h 1.0

summer calculation point

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Supply		Exhaust	
Air inlet temperature	°C 28.0	Air inlet temperature	°C 26.0
Air inlet humidity	% 60.0	Air inlet humidity	% 40.0
air outlet temperature	°C 26.6	air outlet temperature	°C 27.4
air outlet humidity	% 65.1	air outlet humidity	% 36.7
Amount of condensate	l/h 0.0		
recuperation efficiency	% 72.0		
Heat gain	kW 0.0		
Temperature efficiency dry	t, dry % 71.0	EN13053:2006+A1:2011	
Energy efficiency	e % 67.8	EN13053:2006+A1:2011	heat recovery class H2
heat exchanger in standard execution, without silicone			

Service side:

front, removable panel , lock with clamping bolt

Accessories:

Condensate syphon with Condensate syphon with Ball-HL136NGG 1 attached

Compact block C

Water heater	air flow	m3/h	840	pressure loss	Pa	14
count of rows		1		heating medium		water
Air inlet temperature	°C	13.6		medium temperature	°C	90.0/70.0
air outlet temperature	°C	20.0		medium flow rate	m3/h	0.08
Power	kW	1.8		waterside pressure drop	kPa	0.27
with frame for capillary thermostat				pipe connection		DN15

Service side:

front, removable panel , lock with clamping bolt

Water cooler	air flow	m3/h	840	pressure loss	Pa	39
with drop eliminator	Pa	7		Condensate drain		DN32
count of rows		5		Coolant		water
Air inlet temperature	°C	28.0		medium temperature	°C	6.0/12.0
Air inlet humidity	%	60.0		medium flow rate	m3/h	0.90
air outlet temperature	°C	16.0		waterside pressure drop	kPa	19.40
air outlet humidity	%	90.0		pipe connection		DN20
Power	kW	6.3				
pressure drop of dry exchanger	Pa	32		pressure drop of wet exchanger	Pa	43

Service side:

front, removable panel , lock with clamping bolt

Accessories:

Condensate syphon with Condensate syphon with Ball-HL136NGG 1 attached

Compact block D

Fan	air flow	m3/h	840	pressure loss	Pa	1
Fan type, motor with thermistor		ER25C-6ID.BD.CR		Total pressure	Pa	612
Motor technology: EC				Static pressure loss	Pa	604
air flow	m3/h	840		Dynamic pressure	Pa	8
External pressure loss	Pa	250		SFP	W/(m3/s)	1313
SFP class acc. EN13779		SFP4				
Nominal parameters				Parameters in working point		
voltage	V	230		voltage	V	230
Frequency	Hz	50		Frequency	Hz	50
Power	kW	0.50		Power	kW	0.30
current	A	1.80		current	A	1.31
RPM	RPM	3080		RPM	RPM	2671
				aggregate efficiency	%	45.6
	LwA			Frequency band [Hz] / Lw [dB]		
	dB(A)			63 125 250 500 1000 2000 4000 8000		
	Sum					

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Sound power level to exhaust	77.1	80.7	73.9	81.8	71.3	70.1	68.8	62.7	59.4
Sound power level to intake	58.0	77.7	64.4	64.3	46.8	42.1	39.2	32.0	30.5
Sound power level to surround	51.8	72.7	57.9	57.8	40.3	33.1	28.8	22.7	16.4

Service side:

front, door with hinges and handles

Accessories:

service switch, wired KEM 310U Y/R, 10A, unlockable 1 mounted on unit

Terminal panel	air flow	m3/h 840	pressure loss	Pa 0
Damper	not mounted	Ending	flexible connection	

Exhaust part	cross-section air velocity	m/s 1.1
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Compact block B				
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Plate recuperator	air flow	m3/h 840	pressure loss	Pa 243
	Condensate drain		DN32	

Accessories:

Condensate syphon with Condensate syphon with Ball-HL136NGG 1 attached

Compact block E				
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Terminal panel	air flow	m3/h 840	pressure loss	Pa 0
Damper	not mounted	Ending	flexible connection	

Filter	air flow	m3/h 840	pressure loss	Pa 59
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Filter parts composition: 1 x 440 x 440 mm
 pressure loss reserve Pa 50
 Filter class, length M6 - bag filter 630 mm
 Initial pressure loss Pa 9
 Max. allowed final pressure loss Pa 450
 Max. final pressure loss acc. EN13053 Pa 200

Service side:

front, door with hinges and handles

Accessories:

Pressure measuring gauge DPG 500, 0-500Pa, 106.007.001 1 mounted on unit
 with analogue display

Compact block F				
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Sound attenuator	air flow	m3/h 840	pressure loss	Pa 5
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Silencer length mm 600

Frequency band [Hz] / Lw [dB]								
63	125	250	500	1000	2000	4000	8000	

Attenuator noise reduction Lw 2.0 3.0 8.0 15.0 20.0 23.0 22.0 18.0

Service side:

front, screw fixed panel

Empty section	air flow	m3/h 840	pressure loss	Pa 0
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Compact block G				
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Fan	air flow	m3/h 840	pressure loss	Pa 4
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top: damper outside 3 Nm, tightness class 2 EN1751:2003, flexible connection Pa 3
 Fan type, motor with thermistor ER25C-6ID.BD.CR Total pressure Pa 569

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Motor technology: EC										
air flow	m3/h	840	Static pressure loss	Pa	561					
External pressure loss	Pa	250	Dynamic pressure	Pa	8					
SFP class acc. EN13779		SFP3	SFP	W/(m3/s)	1210					
Nominal parameters			Parameters in working point							
voltage	V	230	voltage	V	230					
Frequency	Hz	50	Frequency	Hz	50					
Power	kW	0.50	Power	kW	0.27					
current	A	1.80	current	A	1.21					
RPM	RPM	3080	RPM	RPM	2584					
			aggregate efficiency	%	46.0					
	LwA		Frequency band [Hz] / Lw [dB]							
	dB(A)		63	125	250	500	1000	2000	4000	8000
	Sum									
Sound power level to exhaust		74.3	78.0	72.3	79.5	68.1	67.0	65.5	58.4	55.3
Sound power level to intake		54.0	73.9	61.0	60.6	39.6	30.0	22.1	19.6	17.3
Sound power level to surround		50.1	70.0	56.3	56.5	39.1	32.0	27.5	21.4	15.3

Service side:

front, door with hinges and handles

Accessories:

service switch, wired KEM 310U Y/R, 10A, unlockable 1 mounted on unit

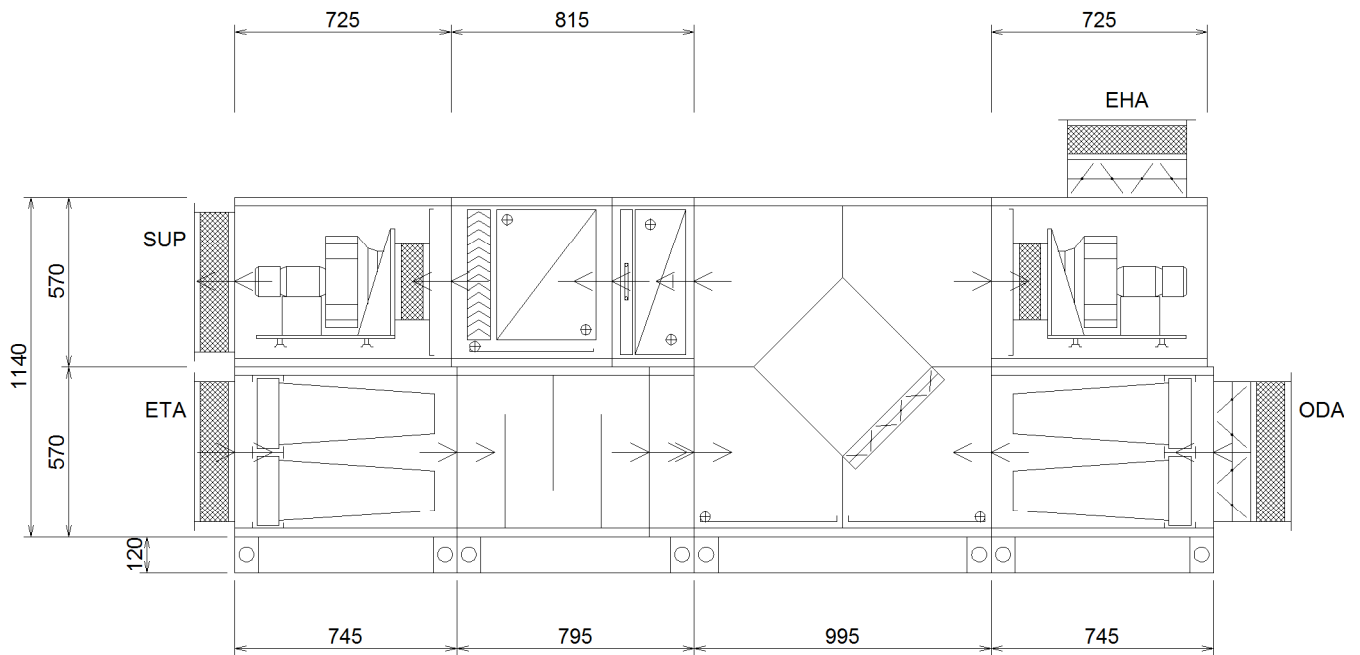
Accessories

description	Type	quantity	Section
Pressure measuring gauge with analogue display	DPG 500, 0-500Pa, 106.007.001	1	Filter supply
Pressure measuring gauge with analogue display	DPG 500, 0-500Pa, 106.007.001	1	Filter exhaust
Condensate syphon with Ball	Condensate syphon with Ball-HL136NGG	1	Plate recuperator supply
Condensate syphon with Ball	Condensate syphon with Ball-HL136NGG	1	Plate recuperator exhaust
service switch, wired	KEM 310U Y/R, 10A, unlockable	1	Fan exhaust
Condensate syphon with	Condensate syphon with Ball-HL136NGG	1	Water cooler supply
service switch, wired	KEM 310U Y/R, 10A, unlockable	1	Fan supply

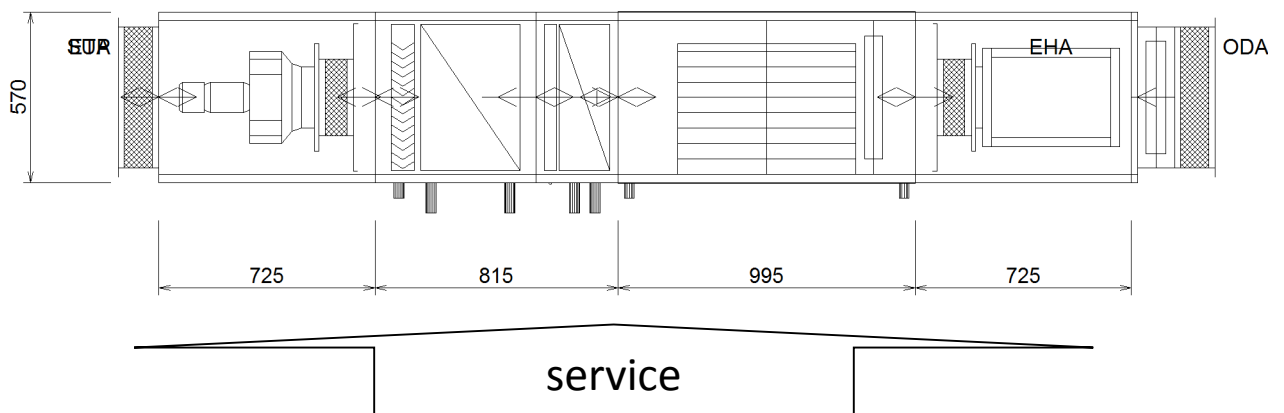
Schematic drawing

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front view



top view



HxW: ODA=470x470 mm, SUP=470x470 mm, ETA=470x470 mm, EHA=400x270 mm

Offer author: Mandik, a.s., Antonín Velebil

version 1.5.184.1 from date 8.9.2015

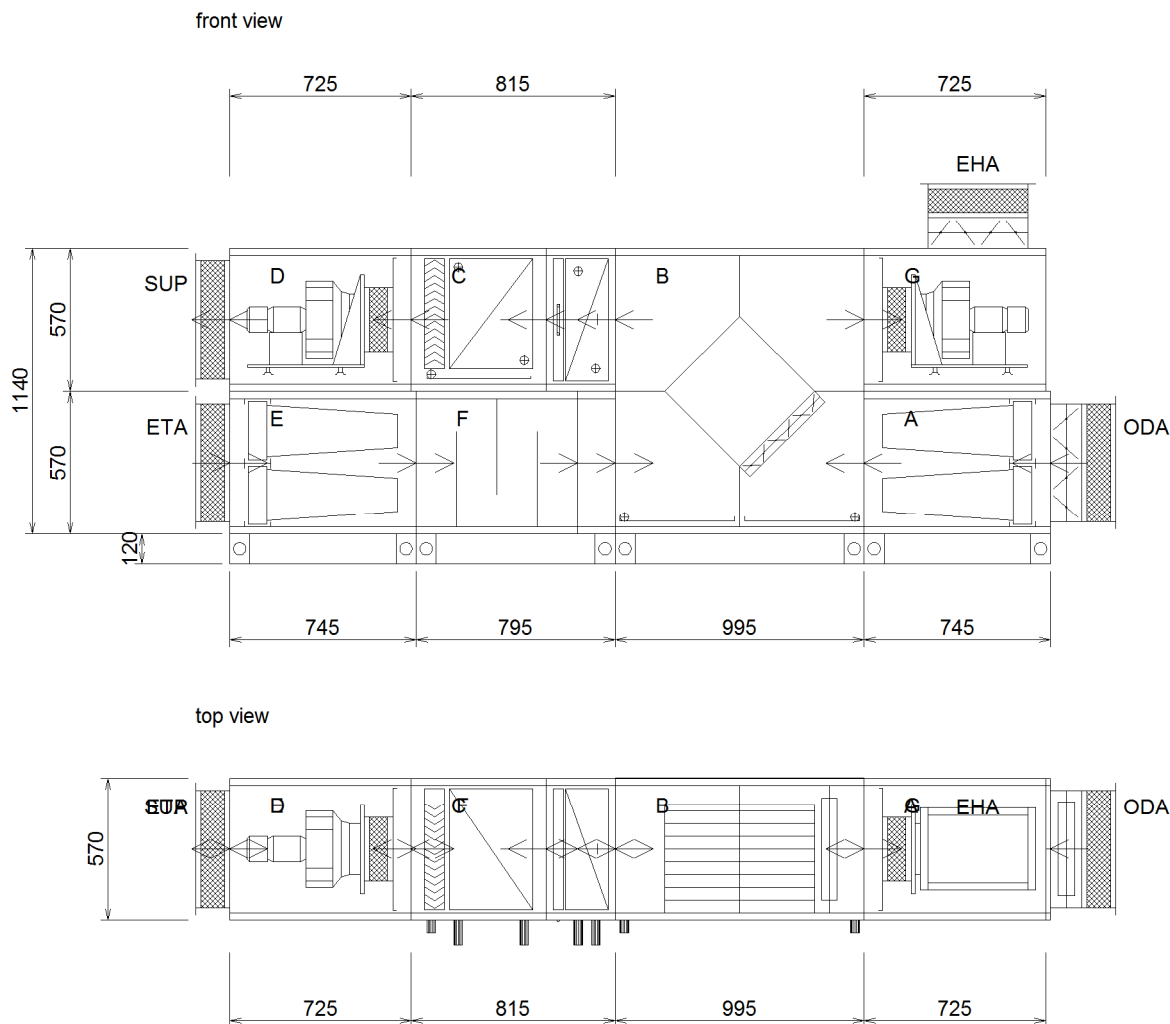
side: 5 / 6

Dim. and weights of production

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blocks

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HxW: ODA=470x470 mm, SUP=470x470 mm, ETA=470x470 mm, EHA=400x270 mm

Compact block	Part	Total dimensions (LxWxH) mm	contour dimensions mm	Weight kg
Compact block A	supply	745 x 570 x 690	1005 x 670 x 690	50
Compact block B	supply	995 x 570 x 1260	995 x 670 x 1260	104
Compact block C	supply	815 x 570 x 570	815 x 670 x 570	59
Compact block D	supply	725 x 570 x 570	860 x 670 x 570	51
Compact block E	exhaust	745 x 570 x 690	880 x 670 x 690	43
Compact block F	exhaust	795 x 570 x 690	795 x 670 x 690	52
Compact block G	exhaust	725 x 570 x 570	725 x 670 x 830	59
accessories attached to AHU				0