Technical specification

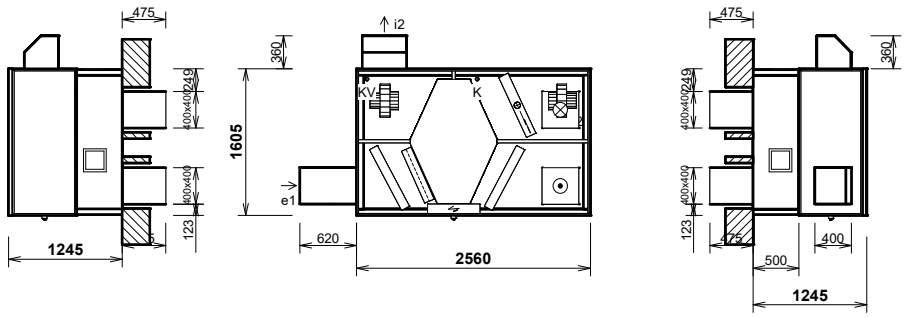
Nominal values
Offer no.:
Project:
Position no.: AHU 1

AHU **DUPLEXVENT 2500 Multi Eco-N** Specification: DUPLEXVENT 2500 Multi Eco-N / 3/not defined - Me.109.EC3 - Mi.109.EC3 - S7.C - Fe.K4 - Fi.K4 - B.LM24A - E.4200 - KH - H.400/400.DE - He1.KZ - Hi2.KZ - BF.500 - HINGLESS-RD6-CL - RD6-XDR - PFe - PFi - SW - CM.i.s - ErP 2016, 2018

AHU type
- Rooftop with a counter-flow heat exchanger
- AHU complies ErP (Ecodesign) - EU 1253/2014 regulation, valid from 1.1.2016 and 1.1.2018.

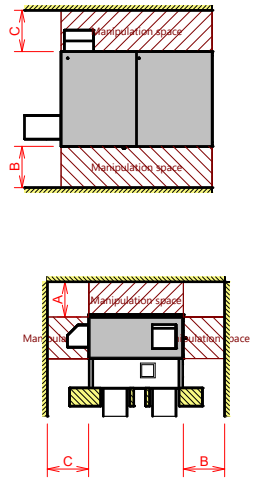
Position: **3/not defined** rooftop flat top view (from the door side)

Weight: approx. 484 kg, AHU supply as one piece



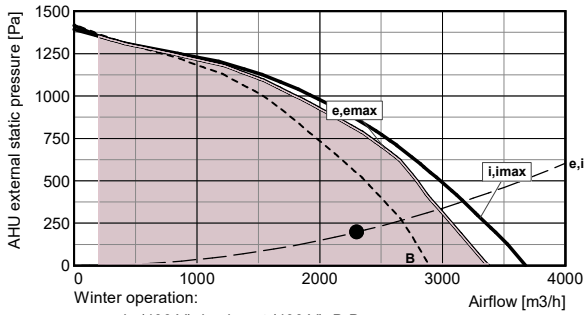
con.port	type	dimension	accessories
e1	e1 - outdoor air (ODA)		hood, droplet eliminator
e2	e2 - supply air (SUP)	400 x 400 mm	duct extension
i1	i1 - extract air (ETA)	400 x 400 mm	duct extension
i2	i2 - exhaust air (EHA)		hood
K	condensate drain	Ø 32/40 mm	trap
KV	heated Condensate drain	Ø 32/40 mm	trap

Manipulation space



A	door side	min. 600 mm
B	front space	min. 700 mm
C	back space	min. 700 mm

AHU performance curve:



Winter operation:
e-supply (400 V), i-exhaust (400 V), B-Bypass
emax-supply (400 V), imax-exhaust (400 V)

The unit consist of fans equipped with the EC technology. These fans have modulating speed control throughout the marked area.

Sound parameters:

Sound power level LwA (dB)

Frequency [Hz]	Total dB (A)	63 dB(A)	125 dB(A)	250 dB(A)	500 dB(A)	1 k dB(A)	2 k dB(A)	4 k dB(A)	8 k dB(A)
inlet e1 to surroun.	56	26	33	55	43	46	38	<25	<25
outlet e2	81	51	59	80	73	72	70	66	59
inlet i1	58	33	38	57	42	45	37	<25	<25
outlet i2 to surroun.	81	39	53	79	71	71	69	65	58
casing to surroun.	61	46	51	57	56	51	46	30	<25

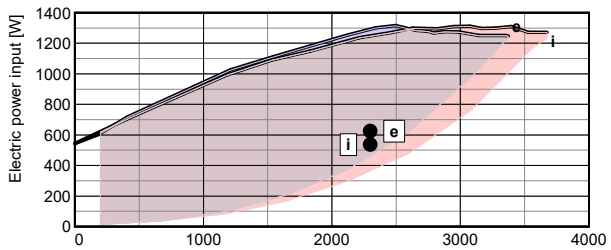
*Sound power level is calculated for simultaneous operation of **both fans** and meassured in accordance with **ISO 3744**. Sound power level at connection ports is meassured in accordance with **ISO 5136**.*

Sound pressure spectrum LpA (dB)

inlet e1 to surroun.	35	<25	<25	34	<25	25	<25	<25	<25
outlet i2 to surroun.	61	<25	33	59	51	51	48	44	37
casing to surroun.	40	25	30	36	35	31	25	<25	<25

*Sound pressure level is measured for simultaneous operation of **both fans** at 3 m distance and meassured in accordance with **ISO 3744**.*

Fans		supply	exhaust
Volume flow	m3/h	2300	2300
AHU external static pressure	Pa	200	200
Voltage (nominal)	V	400	400
Power input (at operation point)	kW	0,63	0,54
Speed (at operation point)	RPM	2349	2226
SFP	W.h/m3	0,273	0,234
Fan types		Me.109	Mi.109
Fan kinds (with variable speed)		EC3	EC3
SFPv	W.h/m3	0,507	



Fan: e - Me.109.EC3 (400 V), i - Mi.109.EC3 (400 V)

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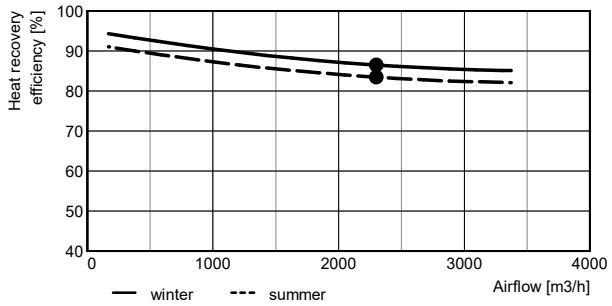
Connecting components		supply	exhaust
Inlet ports e1, i1	mm		400 x 400
connection		droplet eliminator	fixed
Outlet ports e2, i2	mm	400 x 400	
connection		fixed	
Condensate drain K	mm	2 x Ø 32/40 mm with standard trap	

Control and shutoff dampers	Actuator type
Bypass damper (integrated)	LM24A

Heat recovery core		supply	exhaust
Volume flow	m3/h	2300	2300
Inlet temperature	°C	-1	20
Outlet temp.	°C	17	4
Inlet relative humidity	% r.h.	90	40
Outlet relative humidity	% r.h.	26	100
Heat recovery efficiency winter (summer)	%	87 (84)	
Heat exch. cap. winter (summer)	kW	14,5 (4,0)	
Condensate production	l/h	2,2	
Heat recovery core type		S7.C recuperative	



Electric heating coil		supply
Volume flow	m3/h	2300
Inlet temp. (upstream of heater)	°C	17
Outlet temp. (downstr. of heater)	°C	19
Heating capacity	kW	1,8
Max. heating capacity	kW	4,0
Voltage	V	400
Heating coil type		E.4200 built-in

Filtration		supply	exhaust
Type		pleated cartridge	pleated cartridge
Filtration class		Coarse 90% (G4)	Coarse 90% (G4)
Number of filters	pcs	1	1
Filter cartridge size	mm	750x495x96	750x495x96

Accessories (part of delivery)

PFe dirty filter pressure switch for supply air
PFi dirty filter pressure switch for exhaust air

Controls: Digital controls	
AHU basic functions	RD6-CL 400V-EC / 400V-EC
Control module location	inside a unit
Total power input (at operation point)	1,17 kW
Expanders	RD6-XDR
Main switch	SW

Sensors (part of delivery)	
Outside air (ODA) temperature sensor	ANS T1
Extract air temp. sensor (ETA)	ANS T2
Exhaust air (EHA) temp. sensor	ANS TM2
Supply air (SUP) temperature sensor	ANS TM1

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ErP (NRVU)

Information for NRVUs as referred to in COMMISSION REGULATION (EU) No 1253/2014, Article 4(2)

Manufacturer's name or trade mark:	Airflow Developments Limited
Manufacturer's model identifier:	DUPLEXVENT 2500 Multi Eco-N
AHU type:	Non-residential ventilation unit (NRVU) Bidirectional ventilation unit (BVU)
Type of drive:	with variable speed
Type of heat recovery system:	plate heat recovery exchanger
Thermal efficiency of heat recovery:	84 %
Nominal flow rate:	0,64 m3/s
Effective electric power input:	1,04 kW
SFP int:	676 Ws/m3
Face velocity:	1,7 / 1,7 m/s (supply / exhaust)
Nominal external pressure:	200 / 200 Pa (supply / exhaust)
Internal pressure drop of ventilation components:	142 / 140 Pa (supply / exhaust)
Static efficiency of fans (according to 327/2011):	66,5 / 66,5 % (supply / exhaust)
Max. external leakage rate:	0,8 %
Max. internal leakage rate:	1,6 %
Energy classification of filters:	Selected filters are not subject to classification.
Warning of filter change:	Air filters in the unit must be changed regularly. Clogged air filters result in reduced performance and total efficiency of the ventilation unit.
Casing sound power level (LwA):	61 dB (A)
Internet address for the disassembly manual:	www.airflow.com

AHU complies ErP (Ecodesign) - EU 1253/2014 regulation, valid from 1.1.2016 and 1.1.2018.
(filter correction included in calculation)

Note - caution:

Always meet this conditions to operate the EPO heating coil:
- Minimum required 150 m3/h air volume flow rate
- Minimum 60 s fan stop delay