

Air handling unit model:

VERSO-CF-1300-F-E-L1-F7/M5-C5-X

TECHNICAL SPECIFICATION

Typology	NRVU
	BVU
Type of HRS	Plate heat exchanger

Air handling unit data

		Supply	Exhaust
Nominal flow rate	[m³/h]	1162	1162
	[m³/s]	0.32	0.32
Nominal external pressure	[Pa]	160	130
Face velocity at design flow rate	[m/s]	1.67	
SFPv	[kW/m³/s]	1.47	
The thermal efficiency of HRS	[%]	81	

Calculation data

		Winter	Summer
Design outdoor temperature	[°C]	-23	26
Outdoor relative humidity	[%]	82	50
Indoor temperature	[°C]	20	22
Indoor relative humidity	[%]	55	55

Atmosphere pressure	[Pa]	101325
Air density	[kg/m³]	1.2

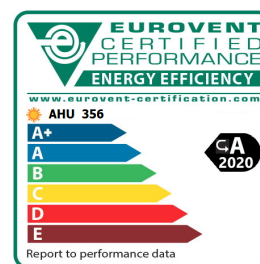
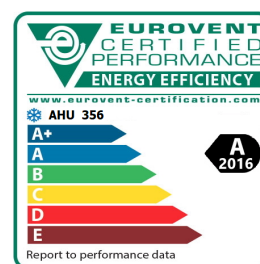
Air handling unit location		Vilnius, Lithuania
Dry-bulb temperature (TdryS)	[°C]	29.1
Wet-bulb temperature (TwetS)	[°C]	19.7
Dew-point temperature (Tdw-pS)	[°C]	14.8
Dry-bulb temperature (TdryW)	[°C]	-16.0

Electrical data

Number of electrical input	1
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AHU

Electrical connection	~400V / 50Hz / 3-phase / 5x1.5mm² / 11.1A
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COMMISSION REGULATION (EU) No 1253 (ecodesign requirements)

		Value	2018
The thermal efficiency of HRS, η_{nrvu} (EN308)	[%]	81	≥ 73
Internal specific fan power, SFPint	[W/m³/s]	903	≤ 1303
Type of drive - variable speed		Installed	Necessary
Thermal by-pass facility		Exist	Necessary
Warning - filter is clogged		Exist	Necessary
Unit conformity assessment			Complies
Int. pressure drop of ventilation components (ΔP_s , int)	[Pa]	446	
Int. pressure drop of non-ventilation components (ΔP_s , add)	[Pa]		
Effective electric power input of the fans (clean filter)	[kW]	0.48	

Casing construction STANDART4

Panels from two galvanized steel sheets, filled with thermal and sound insulation

fire-resistant min. wool ($\lambda=0,036$ W/mK).

AHU painted C3 class, RAL 7035.

Indoor unit.

When filters gets dirty, unit control panel gives notice to change the filters.

Dirty filters cause increased energy consumption, which decreases performance and energy efficiency of the unit, so it is very important to change the filters regularly.

AHU shall operate with variable speed drive.

Instructions: www.komfovent.com/en/downloads

Thermal insulation class	T2
Thermal bridging class	TB2
Casing strength	D1 (M)
Filter bypass leakage	F9 (M)
Casing air leakage	L1(R)

Casing air leakage (Model Box, EN 1886)

-400 Pa (L1)	[dm³/(s·m²)]	0.02
+700 Pa (L1)	[dm³/(s·m²)]	0.21
Maximum external leakage rate at - 400 Pa (R)	[%]	< 1
Maximum external leakage rate at + 400 Pa (R)	[%]	< 1
Maximum internal leakage rate	[%]	1.5

AHU configuration

Panels thickness	[mm]	50
Unit weight		
Weight (netto)	[kg]	175

ACOUSTIC DATA

Sound power level Lw	to the air ducts				to surrounding	
	Supply air flow [dB]		Exhaust air flow [dB]		[dB]	
F[Hz]	Inlet	Outlet	Inlet	Outlet	Lw	Lp 3m
63	54.0	64.2	54.8	65.1	51.3	43.2
125	54.8	67.2	55.5	68.0	53.4	45.3
250	56.0	70.9	55.7	70.5	58.2	44.9
500	57.3	72.3	57.4	72.4	56.4	44.4
1000	59.1	72.8	59.1	72.9	51.1	41.6
2000	54.1	70.3	54.1	71.1	37.7	26.4
4000	49.3	66.8	49.0	67.2	33.8	23.5
8000	46.0	62.0	45.8	63.1	31.3	21.1
dB(A)	62	77	62	77	56	45

Plate heat exchanger

REK+39-800-24

Atmosphere pressure [Pa] 101325

Plates AL

Efficiency bonus (E), (EU 1253) 251

		Winter		Summer	
		Supply	Exhaust	Supply	Exhaust
Temp. efficiency wet	[%]	91.1		81.3	
Temp. efficiency dry	[%]	81.4		81.6	
Capacity	[kW]	15.3		-1.3	
Air volume	[m³/h]	1162	1162	1162	1162
Inlet temperature	[°C]	-23	20	26	22
Relat. humidity	[%]	82	55	50	55
Outlet air temp.	[°C]	16.2	-5.1	22.7	25.3
Relat. humidity	[%]	4.2	95.0	60.7	45.0
Pressure drop (standard)	[Pa]	117	138	117	117
Velocity	[m/s]	1.6	1.5	1.6	1.6
Condensation	[kg/h]		-7.7	0.0	0.0

Note: The power and efficiency of the plate heat exchanger are given without defrosting. During the defrosting the designed air temperature may not be assured. Defrosting time depends on specific operating parameters (temperature, humidity, air volume)

SUPPLY AIR FLOW

Air filter

Filter correction (F), (EU 1253) 0

Type Panel air filter

Energy efficiency class

Air velocity class (EN13053) V2

Filter class F7

Filter class (EN ISO 16890)		ePM1 60%
Dimensions bxxhxl	[mm]	550×420×46
Quantity of filters		1
Pressure drop (clean filter)	[Pa]	47
Recommended max. pressure drop (EN 13779 2007)	[Pa]	160
Velocity in the AHU filter section	[m/s]	1.67

Electric air heater

Capacity	[kW]	1.5
Air volume	[m³/h]	1162
Inlet temperature	[°C]	16.2
Inlet rel. humidity	[%]	4
Outlet temperature	[°C]	20
Full load I	[A]	6.5

Max. Power	[kW]	4.5
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Power supply ~400V / 50Hz / 3 phase

Note: The power of the heater are given without defrosting. During the defrosting the designed air temperature may not be assured. Defrosting time depends on specific operating parameters (temperature, humidity, air volume)

Fan EC

Wheel diameter	[mm]	250
Air volume	[m³/h]	1162
Built-in loss	[Pa]	69
Static pressure	[Pa]	393
Speed	[1/min]	2911
Max. speed	[1/min]	3740

Motor efficiency class		IE4 (Super Premium)
Motor power	[kW]	0.50
Input current	[A]	1.1

Electric power to motor (clean filters)	[kW]	0.25
SFPv	[kW/m³/s]	0.77
Total fan efficiency	[%]	57.39
Static fan efficiency	[%]	50.74

EXHAUST AIR FLOW

Air filter

Filter correction (F), (EU 1253)		0
Type	Panel air filter	
Energy efficiency class		
Air velocity class (EN13053)		V2
Filter class		M5
Filter class (EN ISO 16890)		ePM10 50%

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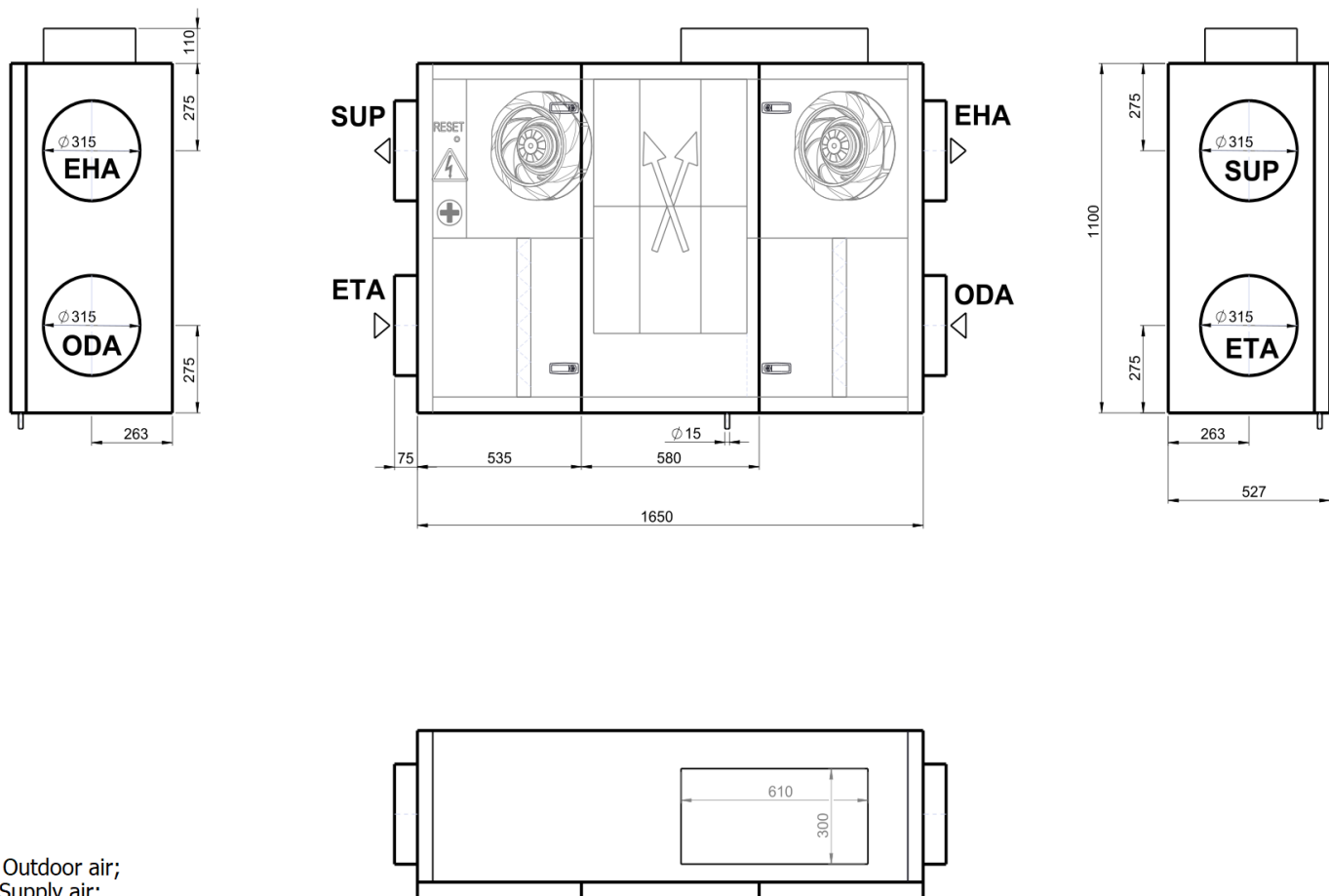
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Dimensions bxxhxl	[mm]	550×420×46
Quantity of filters		1
Pressure drop (clean filter)	[Pa]	27
Recomended max. pressure drop (EN 13779 2007)	[Pa]	100
Velocity in the AHU filter section	[m/s]	1.67

Fan EC

Designed for wet conditions		
Wheel diameter	[mm]	250
Air volume	[m³/h]	1162
Built-in loss	[Pa]	48
Static pressure	[Pa]	342
Speed	[1/min]	2818
Max. speed	[1/min]	3740
Motor efficiency class		IE4 (Super Premium)
Motor power	[kW]	0.50
Input current	[A]	1.0
Electric power to motor (clean filters)	[kW]	0.23
SFPv	[kW/m³/s]	0.7
Total fan efficiency	[%]	56.19
Static fan efficiency	[%]	48

We reserve the rights to change technical data of the products in the process of their improvement without advance notice. Validity period of presented data - 1 month



ODA - Outdoor air;
 SUP - Supply air;
 ETA - Extract air;
 EHA - Exhaust air;
 CB - Control box;