

Technical data for position 1
Offer number 76/LIVE.EUR/MS/2023
Project name Manchester /1DP.CER.009.0
12/

Type RecoveryHexHorizontal
Application Indoor
Project Tag AHU1
Size LXVVS030s
Set LXVVS030s-R-FPV/LXVVS030s-L-FPV

Insulation thickness 40 mm

Insulation Mineral Wool

Weight of the set (+/- 10%)* 420 Kg

Supply airflow 2 2340.00 m³/h

External pressure 150 Pa

Exhaust airflow 2 2340.00 m³/h

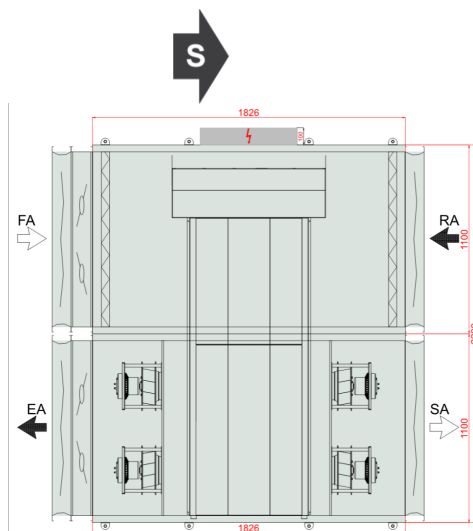
External pressure 150 Pa

SFP Winter (EN 13779) 0.93 kW/m³/s

SFP Summer (EN 13779) 0.96 kW/m³/s

Ecodesign EcoDesign_is_compatible_yes_2021

Eurovent Energy efficiency class (Winter 2016 / Summer 2020) A+ D 2020 London

Top View


Comment 1:

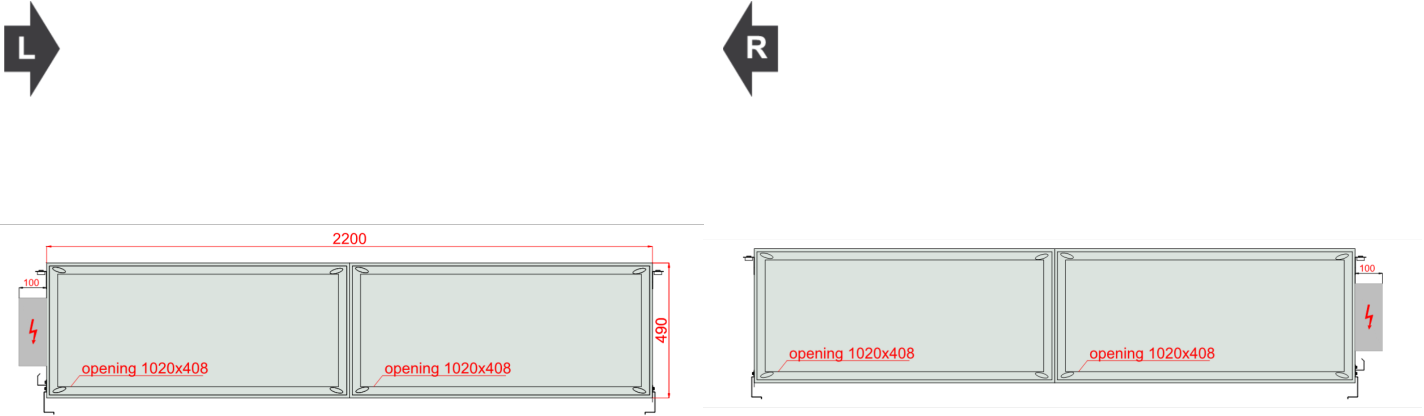


Technical data for position 1

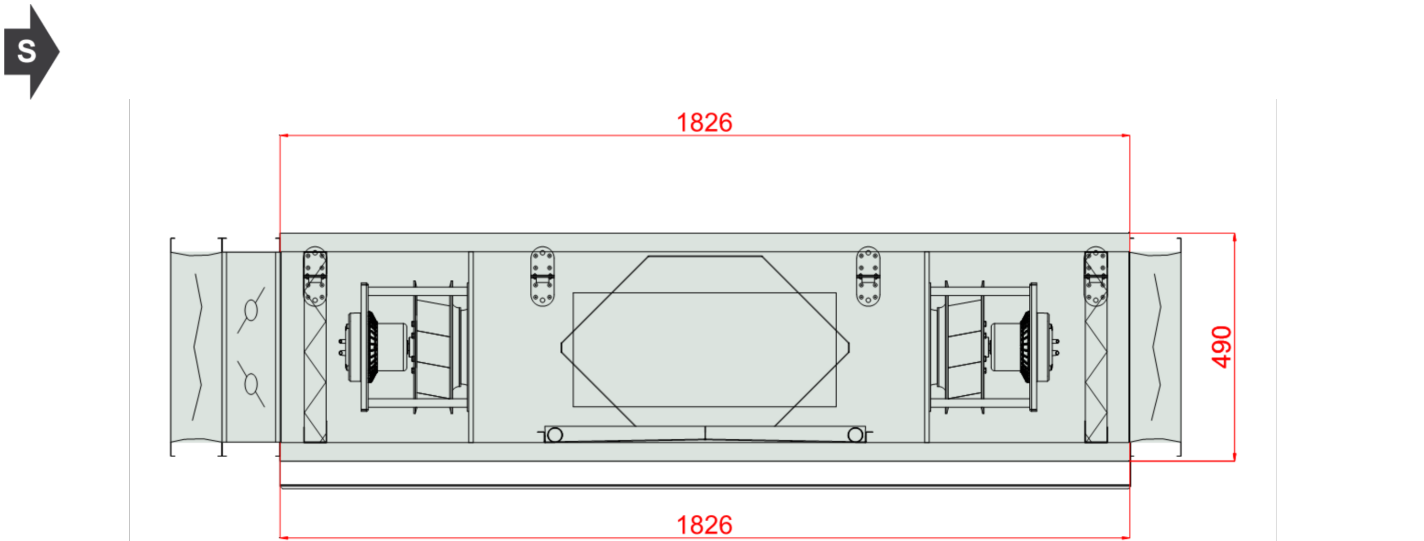
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Front View (left)

Front View (right)



Inspection Panels



Sizes [mm]

Air intake Supply	FF	1020x408	Lt 1826	Hi 410	Wi 1020
Air outlet Supply	FF	1020x408	LtA 2171	H 490	W 1100
					W2 2200
Air inlet Exhaust	FF	1020x408			
Air outlet Exhaust	FF	1020x408			

Unit design

Walls filled with MW 40mm, double skin made of steel, excluding silencer and electric heater sections

Down base unit inspection



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Casing anti-corrosion protection: Aluzinc AZ 150.

Base unit with pre-configured EC motors drives

Energy recovery efficiency meet EC 1253/2014 requirements

Temperature Conditions**Reference atmospheric pressure 101325 Pa****Winter outdoor reference temperature -5.0 °C**

	External air			Return air		
	DBT	RH	DA	DBT	RH	DA
Summer	30.0 °C	45 %	1.2000 kg/m³	25.0 °C	76 %	1.2000 kg/m³
Winter	-5.0 °C	90 %	1.2000 kg/m³	21.0 °C	37 %	1.2000 kg/m³

Supply**Panel Filter****Type F7/50.EU7MPleat.Int.Sld**

ePM2,5 65% (ISO16890) - EFF CLASS E Flat Mini-Pleat Filter[27.0]

Filter Energy Performance Class E

Winter operation

50% Dirty Air Pressure Drop	128 Pa
Initial Air Pressure Drop	57 Pa
100% Dirty Air Pressure Drop	200 Pa
Air velocity	1.51 m/s

Summer operation

50% Dirty Air Pressure Drop	128 Pa
Initial Air Pressure Drop	57 Pa
100% Dirty Air Pressure Drop	200 Pa
Air velocity	1.51 m/s

Filter Sizes

P,FLT F7 1017x410x48 (1-2-0301-0282) 1,000 x Pcs

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Counter-Flow Recuperator (Hexagonal)

Type PCR LXVVS030s Hex

AL 2.0 (SR)

Winter operation

Supply

Intake air DBT / RH	-5.0 °C / 90 %
Discharge air DBT / RH	16.9 °C / 19 %
Air velocity	1.55 m/s
Pressure drop Wet / Dry Wet	78 Pa
Air Pressure	101325 Pa
Air Density (Inlet)	1.2000 kg/m³
Air Volume Flow (inlet)	2340.00 m³/h
Recovery capacity Sensible / Total Total	17.2 kW
Actual efficiency / at balanced flow Real / BalancedFlow	84 % / 84 %
Dry efficiency in winter	78 %

Winter operation

Exhaust

Intake air DBT / RH	21.0 °C / 37 %
Discharge air DBT / RH	5.2 °C / 98 %
Air velocity	1.55 m/s
Pressure drop Wet / Dry Wet	91 Pa
Air Pressure	101325 Pa
Air Density (Inlet)	1.2000 kg/m³
Air Volume Flow (inlet)	2340.00 m³/h
Recovery Bypass	Yes
Air Damper	No
Counter-Flow (Hex)	
Max Internal Leakage 0.25%	

Summer operation

Supply

Intake air DBT / RH	30.0 °C / 45 %
Discharge air DBT / RH	26.1 °C / 56 %
Air velocity	1.55 m/s
Pressure drop Wet / Dry Wet	95 Pa
Air Pressure	101325 Pa
Air Density (Inlet)	1.2000 kg/m³
Air Volume Flow (inlet)	2340.00 m³/h
Recovery capacity Sensible / Total Total	-3.0 kW
Actual efficiency / at balanced flow Real	78 %

Summer operation

Exhaust

Intake air DBT / RH	25.0 °C / 76 %
Discharge air DBT / RH	28.4 °C / 63 %
Air velocity	1.55 m/s
Pressure drop Wet / Dry Wet	93 Pa
Air Pressure	101325 Pa
Air Density (Inlet)	1.2000 kg/m³
Air Volume Flow (inlet)	2340.00 m³/h
Eco Design Class	Eco Design

Resp_Recovery_Info_Name

PlateExchangers



Plug-Fan Set

Fan Section PLUG_DD_250_0,38_2.00

EC_IE4_F_IMB14_71_2.00p_T 771.3.550-4 250|0.38kW|2.00x1

Qty in section x 2

Fan Set Designed for wet operating conditions

The Fan System Effects Taken Into Account In The Fan Performances

Fan PLUG_VS_250_AF_Px 2



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Total Static Pressure	357 Pa	Impeller efficiency: Static / Total	71 %/75 %
Dynamic pressure	20 Pa	Shaft power	0.16 kW x 2
External pressure	150 Pa	Working revolutions	2277 1/min
Total Pressure	377 Pa		
Winter operation		Summer operation	
Air Volume Flow (inlet)	2340.00 m³/h	Air Volume Flow (inlet)	2340.00 m³/h

Motor EC_IE4_F_71_IMB14_2.00p_0.38_50x 2

771.3.550-4	EC	50Hz	
		Rated revolutions	3000 1/min
Operational Voltage	230 V/1 ph	Rated Power	0.38 kW x 2
Fan Motor Rated Voltage	230 V/1 ph/50 Hz		

EC Motor Controller

EC Controller Settings	38 Hz
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Winter operation

EPC for mean contaminated filters	0.38 kW
EPC for clean filters	0.30 kW
SFP for clean filters	0.46 kW/m³/s

Summer operation

EPC for mean contaminated filters	0.39 kW
EPC for clean filters	0.32 kW
SFP for clean filters	0.49 kW/m³/s

Resp_FanSection_PowerSupply_Info_Name

C20/1

Acoustic data

Acoustic power level [dB(A)]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lw [dB(A)]
Inlet	[dB(A)]	48.8	55.0	52.8	47.7	44.2	47.8	44.9	58.8
Outlet	[dB(A)]	47.0	60.4	66.3	66.6	64.9	60.4	54.8	71.6
Environment	[dB(A)]	34.0	45.4	51.3	47.6	47.9	28.4	20.8	54.7
Acoustic pressure level at 1 meter distance [dB(A)]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lp [dB(A)]
	[dB(A)]	27.0	38.4	44.3	40.6	40.9	21.4	13.8	47.7

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Exhaust airflow 3

Panel Filter

Type M5/50.EU5MPleat.Int.Sld

ePM10 40% - ISO 16890 - EFF CLASS E Flat Mini-Pleat Filter[26.0]

Filter Energy Performance Class E

Winter operation

50% Dirty Air Pressure Drop 121 Pa
 Initial Air Pressure Drop 43 Pa
 100% Dirty Air Pressure Drop 200 Pa
 Air velocity 1.51 m/s

Summer operation

50% Dirty Air Pressure Drop 121 Pa
 Initial Air Pressure Drop 43 Pa
 100% Dirty Air Pressure Drop 200 Pa
 Air velocity 1.51 m/s

Filter Sizes

P,FLT M5 1017x410x48 (1-2-0301-0278) 1,000 x Pcs

Plug-Fan Set

Fan Section PLUG_DD_250_0,38_2.00

EC_IE4_F_IMB14_71_2.00p_T 771.3.550-4 250|0.38kW|2.00x1

Qty in section x 2

Fan Set Designed for wet operating conditions

The Fan System Effects Taken Into Account In The Fan Performances

Fan PLUG_VS_250_AF_Px 2

Total Static Pressure	363 Pa	Impeller efficiency: Static / Total	71 %/75 %
Dynamic pressure	20 Pa	Shaft power	0.16 kW x 2
External pressure	150 Pa	Working revolutions	2288 1/min
Total Pressure	383 Pa		

Winter operation

Air Volume Flow (inlet) 2340.00 m³/h

Summer operation

Air Volume Flow (inlet) 2340.00 m³/h

Motor EC_IE4_F_71_IMB14_2.00p_0.38_50x 2

771.3.550-4 EC 50Hz

Operational Voltage	230 V/1 ph	Rated revolutions	3000 1/min
Fan Motor Rated Voltage	230 V/1 ph/50 Hz	Rated Power	0.38 kW x 2

EC Motor Controller



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EC Controller Settings 38 Hz

Winter operation

EPC for mean contaminated filters 0.38 kW
 EPC for clean filters 0.30 kW
 SFP for clean filters 0.46 kW/m³/s

Summer operation

EPC for mean contaminated filters 0.38 kW
 EPC for clean filters 0.30 kW
 SFP for clean filters 0.46 kW/m³/s

Resp_FanSection_PowerSupply_Info_Name

C20/1

Acoustic data

Acoustic power level [dB(A)]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lw [dB(A)]
Inlet	[dB(A)]	44.4	57.8	63.7	64.0	62.4	56.9	51.3	69.0
Outlet	[dB(A)]	47.1	60.5	66.4	66.7	65.1	60.5	54.9	71.7
Environment	[dB(A)]	34.1	45.5	51.4	47.7	48.1	28.5	20.9	54.8

Acoustic pressure level at 1 meter distance [dB(A)]	Frequency	125 [Hz]	250 [Hz]	500 [Hz]	1000 [Hz]	2000 [Hz]	4000 [Hz]	8000 [Hz]	Lp [dB(A)]
	[dB(A)]	27.1	38.5	44.4	40.7	41.1	21.5	13.9	47.8

Air Inlet Outlet ACCESSORIES

Supply

Exhaust

Controls Selection Mode: Functional set

Inlet Outlet Holes	Supply	Exhaust
Air Inlet	Front 1020x408	Front 1020x408
Air Outlet	Front 1020x408	Front 1020x408
AirDamper	Supply	Exhaust
Air Inlet	Provided 990x380	Not Provided
Air Outlet	Not Provided	Provided 990x380
Flexible Connection	Supply	Exhaust
Air Inlet	Provided 990x380	Provided 990x380
Air Outlet	Provided 990x380	Provided 990x380

Other Accessories

Inspection Panel
Slideway

IP.SLD_1

1 Accessories
Quantity

Control application

Functional Code AP|0|0|0|0|0|0|0|6|3|0|0|0|0|1
 Kod Aplikacji uPC3 (AP-160)
 Main Temp. Sensor Duct Supply

Human Machine Interface

Options

BMS Yes
 HMI Advanced (Settings) Yes
 HMI Basic (User) Yes
 Control Box Yes

Differential Pressure Transducer CAV



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Air damper actuators

Name	Code	Set
Air Damper Actuator ON-OFF 10Nm	ADMP.ACT.SET ON-OFF 10Nm	2
Air Damper Actuator 0-10 2Nm	ADMP.ACT.SET 0-10 2Nm	1

Temperature sensor

Name	Code	Set
Duct temperature sensor NTC 10k	Temp. Sensor NTC10k (Duct)	1
Resp_Controls_TempSensors_Temp. Sensor NTC10k (Outdoor)	Temp. Sensor NTC10k (Outdoor)	3

Transducers and Switches

Name	Code	Set
Differential Pressure Transducer CAV	PRSS.TRDC_CAV	1

AHU Connection Box

AHU Connection Box

Rated Power	1.52 kW	Full Load Amps	26.0 A
Power Connection	1x230V AC +N+PE	Power Cord	3 x 4,00 mm ²

Information for EC 1253/2014

No.	Parameter	Unit	Value
1	Manufacturer's name		Lennox
2	Manufacturer's product code		LXVVS030s-F-P-V
3	Declared type		NRVU, BVU
4	Type of drive installed		VFD(AC) or Controller(EC)
5	Type of energy recovery		Other
6	Thermal efficiency of heat recovery	%	78.00
7	Nominal NRVU flow rate		0.65 / 0.65
8	Effective electric power input	kW	0.38 / 0.38
9	Internal Specific Fan Power (SFPint)	w/m ³ /s	218.72 / 216.25
10	Face velocity	m/s	1.67
11	Nominal external pressure	Pa	150.00 / 150.00
12	Internal Pressure Drop of ventilation components $\Delta p_{s,int}$	Pa	135.18 / 133.68
13	Internal pressure drop of non-ventilation components $\Delta p_{s,add}$	Pa	71.87 / 78.95
14	Maximum Leakage Rate	%	0.01 / 0.01
15	Energy performance of filters (declared information about the calculated annual energy consumption)		EU7MPleat / F7 / - / EU5MPleat / M5 / -
16	Description of visual filter warning for NRVUs		Supported by control application
17	Casing sound power level LWA	dBA	55
18	Internet address for disassembly instructions		www.lennoxemea.com/
19	Ecodesign Compliance		EcoDesign_is_compatible_yes_2021

Section splits

Transport Sections	Mass [Kg]	LENGTH [mm]	WIDTH [mm]	HEIGHT [mm]
1	410	1826	2200	490

Transport Sections Dims



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