

ΜΕΛΕΤΗ : «ΕΝΕΡΓΕΙΑΚΗ ΑΝΑΒΑΘΜΙΣΗ ΚΑΙ ΑΝΑΚΑΙΝΙΣΗ ΔΗΜΟΤΙΚΟΥ ΘΕΑΤΡΟΥ ΜΥΤΙΛΗΝΗΣ»

ΤΕΧΝΙΚΕΣ ΠΡΟΔΙΑΓΡΑΦΕΣ ΕΞΟΠΛΙΣΜΟΥ

Ψηφιακά υπογεγραμμένο από
STYLIANOS VAVALIAROS
Ημερομηνία: 2024.07.02 14:27:58
EEST

Digitally signed by NIKOLAOS
TSOLAKOUDIS
Date: 2024.07.04 12:12:54 EEST

Ψηφιακά υπογεγραμμένο από ANDREAS
PAPACHRISTOFOROU
Ημερομηνία: 2026.06.22 07:43:56 EEST
Αιτία: ΑΚΡΙΒΕΣ ΑΝΤΙΓΡΑΦΟ

Sede
Samp S.p.A.

Via Elio Vittorini, nr. 9
IT 20863 Concorezzo (MB)
Tel.: +39 039 69 09 01
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customer **LDM**
Offer **240329**
From date **16/02/2024**
Project **MUNICIPAL THEATRE OF LESVOS ISLAND**

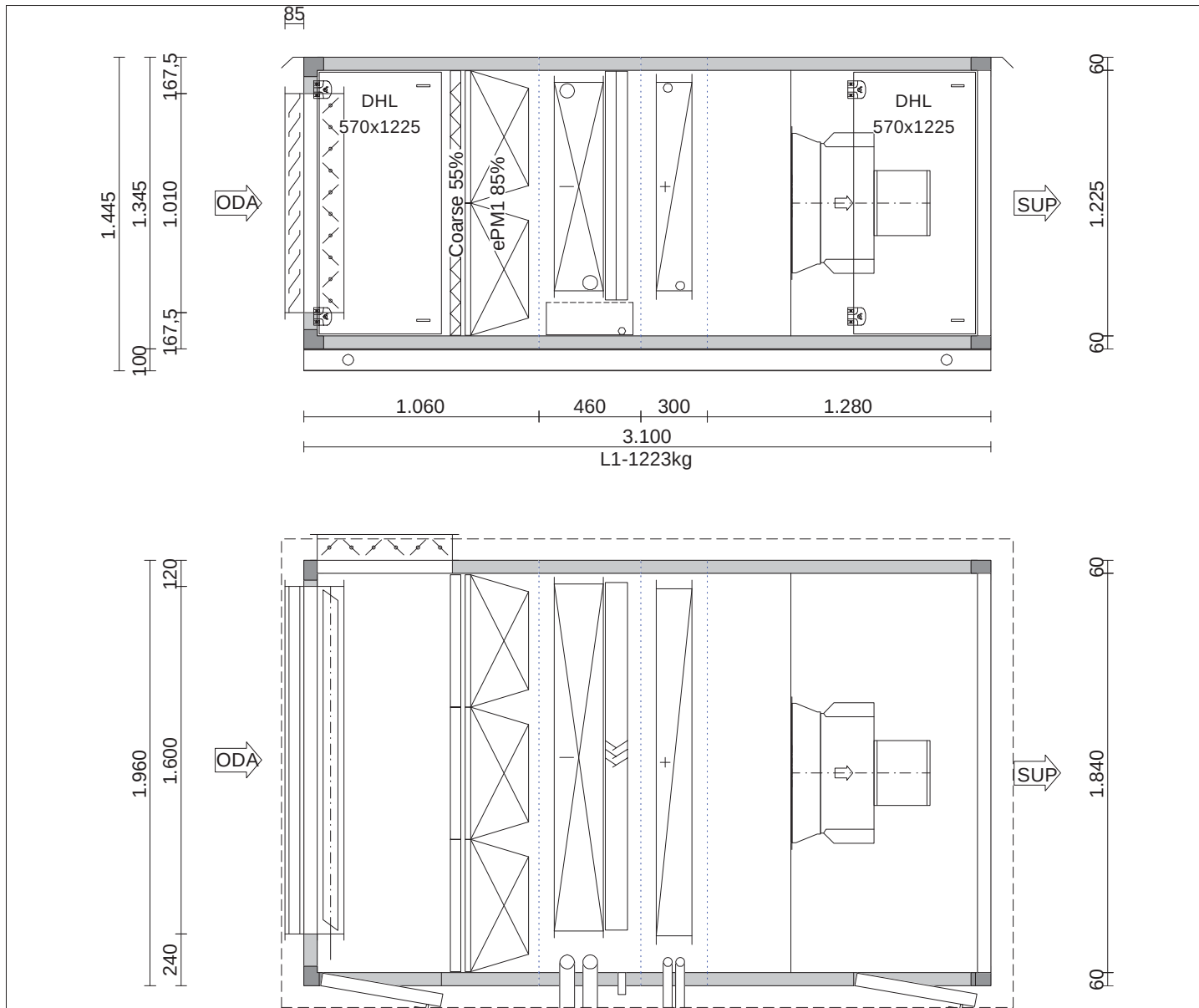
Position **01**
Drawing ID **KM-AA Rev. 3**

Quantity **1**
Collaborator **T.Khrystiuk**
Office / Agent **Samp S.p.A.**

Project city **Greece - Attica - Athens**



Serie	ECU	Supply air	14.000 m³/h
Execution	Supply air unit	External press	500 Pa
Type of unit	External unit	Motor power	1x 5,850 kW
Model 1	ECU 11.00-19-13		
Profile/Panel	P 60-46 CD-P050		
Total length	3100,00 mm	Total width	1960,00 mm
total height	1345,00 mm	Total weight	1.223 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-AA
	Position	01
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Supply air									
Unit definition:				Casing details:					
Unit size		ECU 11.00-19-13				Materials		Thickness	
Airflow [m³/h]	14.000	Length [mm]	3.100,0	Insulation [mm]		Polyurethan 45 Kg/m3		46,0	
Ext. pressure [Pa]	500	Width [mm]	1.960,0	Panel inside mm		stainless steel 304		0,60	
Tot. pressure [Pa]	1.060	Height [mm]	1.345,0	Panel outside mm		galvanized coated	RAL9073	0,60	
air velocity [m/s]	1,73	Weight [kg]	1.223,00	Panel inside bottom mm		stainless steel 304		0,60	
Class DIN EN 13053	V2			Profiles		aluminium anodized			
				Guides		stainless steel 304			
Thermal transmittance		T2	Casing leaky -400Pa		L1(M)	Mechanical stability		D1	
Thermal bridge class		TB3	Casing leaky +400 Pa		L1(M)	filter bypass leakage		F9	

Bag Filter section with prefilter				1.060,0 mm	6,28 m2	645,00 kg	310 Pa
Manufacturer	SAMP	Airflow [m³/h]	14.000				
Model	MQZ	air velocity [m/s]	1,85				
Class EN 779:2012	G4	filter length [mm]	48,0				
Klasse ISO 16890	Coarse 55%	Filter surface [m2]	3,60				
		Filter handling	Dirty air widthdrawal				
Clean dP [Pa]	53	Cells pcs x size	6 x G4-PF-48	592,0 x 592,0			
Med.dP [Pa]	101						
Dirty dP [Pa]	150						
Manufacturer	SAMP	Airflow [m³/h]	14.000				
Model	4RT9	air velocity [m/s]	1,85				
Class EN 779:2012	F9	filter length [mm]	287,0				
Klasse ISO 16890	ePM1 85%	Filter surface [m2]	111,00				
Filter energy class EN 779:2012	C	Filter handling	Dirty air widthdrawal				
Clean dP [Pa]	68	Cells pcs x size	6 x F9-TR-4V-287-GF	592,0 x 592,0			
Med.dP [Pa]	159						
Dirty dP [Pa]	250						
Revision door		Door with hinge and lever		Dimensions [mm]		570,0 x 1.225,0	
Damper:		DIN Class	2	Dimensions	1.200,0 x 610,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	14.000	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	5,31	Blades	stainless steel 304		
torque [Nm]	5,940	Pressure drop [Pa]	24	Type	DP100V2A/V2A		
Damper:		DIN Class	2	Dimensions	1.600,0 x 1.010,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	14.000	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	2,41	Blades	stainless steel 304		
torque [Nm]	13,200	Pressure drop [Pa]	5	Type	DP100V2A/V2A		
Weather louvre		Dimensions [mm]		1.600,0 x 1.010,0 x 85,0			
Type	WL	Material	aluminium anodized				

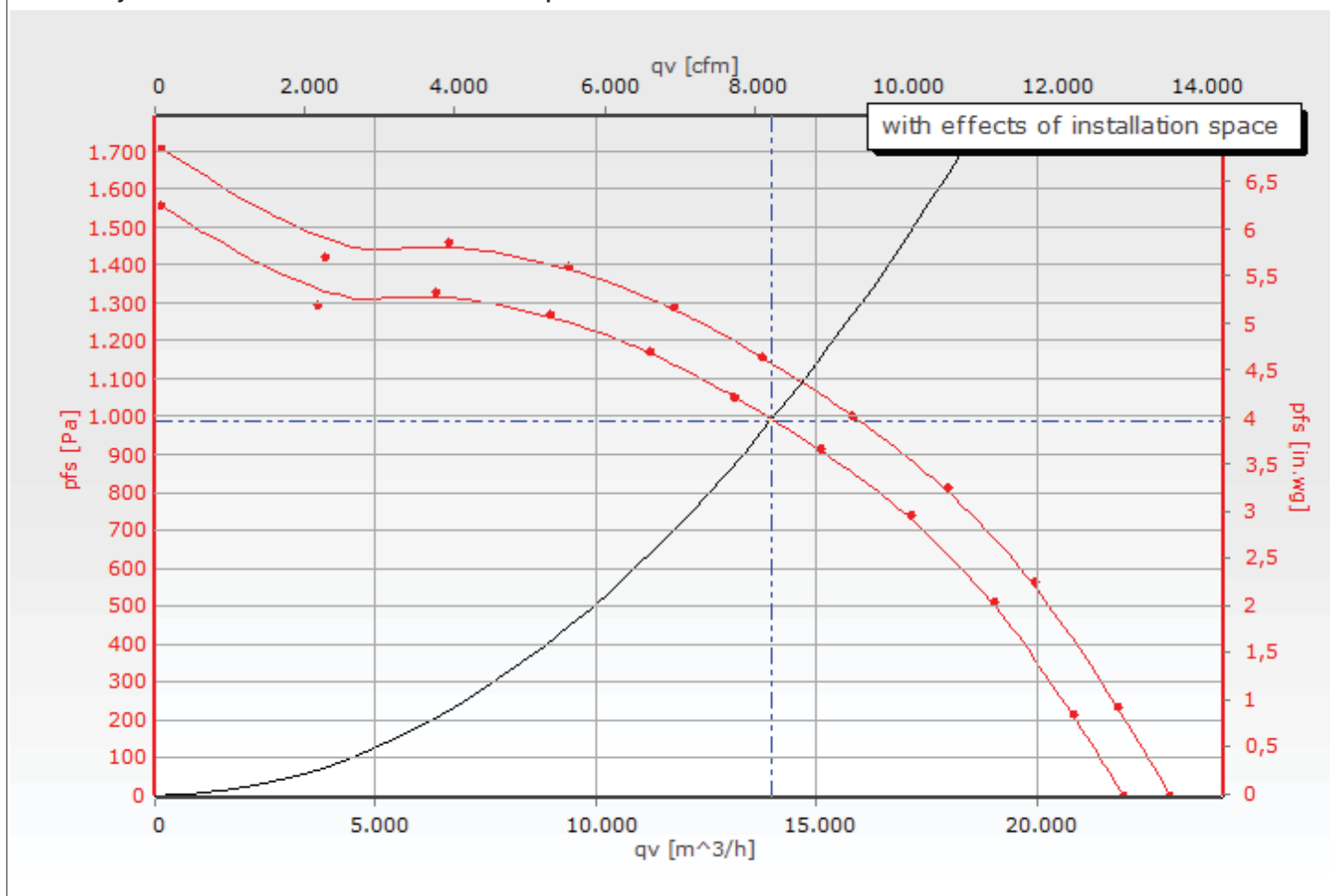
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-AA
	Position	01
	Quantity	1

Cooling coil			460,0 mm	3,04 m2	276,00 kg	130 Pa
Airflow [m³/h]	14.000		Medium			Water
air velocity [m/s]	2,53		Med. Flow [l/s]			4,5300
Air in [°C]	29,40		Med. velocity [m/s]			1,47
Humidity [%]	66,3		Med. in [°C]			7,00
Air out [°C]	19,27		Med. out [°C]			12,00
Humidity [%]	95,0		Med. pres. drop [kPa]			27,21
total capacity [kW]	95,00		SHR			0,51
Sens. capacity [kW]	48,45		Content [l]			42,300
Air press. Drop [Pa]	wet/dry 113/78					
Cu-AlPr-Inox304 P40AR 4R-24T-1600A-2.5pa 16C 2 1/2" (.11- .4- 1.5						
Rows	4		Fins	0,110mm		Aluminium
Circuits	16		Tubes	0,400mm		copper
Fin space [mm]	2,50		Header			copper
Connection in	2 1/2"		Frames	30,0mm		stainless steel 304
Connection out	2 1/2"		Fin protection			epoxy coated
Drain pan		Material	stainless steel 304	Drain connection		1 1/4"
Drip eliminator	Type 1P	Frame	stainless steel 304	Fins		PPTV

Heating coil			300,0 mm	1,99 m2	97,00 kg	40 Pa
Airflow [m³/h]	14.000		Medium			Water
air velocity [m/s]	2,53		Med. Flow [l/s]			2,1200
Air in [°C]	19,27		Med. velocity [m/s]			0,92
			Med. in [°C]			45,00
Air out [°C]	28,41		Med. out [°C]			40,00
Humidity [%]	54,7		Med. pres. drop [kPa]			10,10
Capacity [kW]	44,00		Content [l]			20,200
Air press. Drop [Pa]	40					
Cu-AlPr-Inox304 P40AC 2R-24T-1600A-3.0pa 12C 1 1/2" (.11- .4- 1.5						
Rows	2		Fins	0,110mm		Aluminium
Circuits	12		Tubes	0,400mm		copper
Fin space [mm]	3,00		Header			copper
Connection in	1 1/2"		Frames	40,0mm		stainless steel 304
Connection out	1 1/2"		Fin protection			epoxy coated

Plug fan											1.280,0 mm	8,46 m2	205,00 kg	Pa	
Fan											Motor		E15034		IE5
Supplier											Protection				IP55
Air volume [m³/h]											Insulation class				F
External press [Pa]											Power [kW]				5,850
total static pressure drop [Pa]											Speed [1/min]				1.910
Fan System Effect											Nominal current (A)				9,00
total pressure [Pa]											voltage		3x400 V / 50 Hz		
Speed [1/min]											System efficiency [%]				72,77
efficiency %											Absorbed power [kW]				5,301
Fan octave band sound power level (Lokt)											Control Signal (0-10V)				9,26
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000			Fan shaft power [kW]		4,807		
Inlet	70,3	76,0	76,0	75,9	74,5	74,1	73,3	66,4	dB-Lw5						
Outlet	74,2	80,1	76,0	81,8	81,0	78,2	76,3	70,6	dB-Lw6						
Sound Power Level [dB]											specific fan power [w/(m3/s)]		1.320/SFP3		
Sound power [dB]											K-Factor		463		

The fan system effect is taken into account in the fan performances



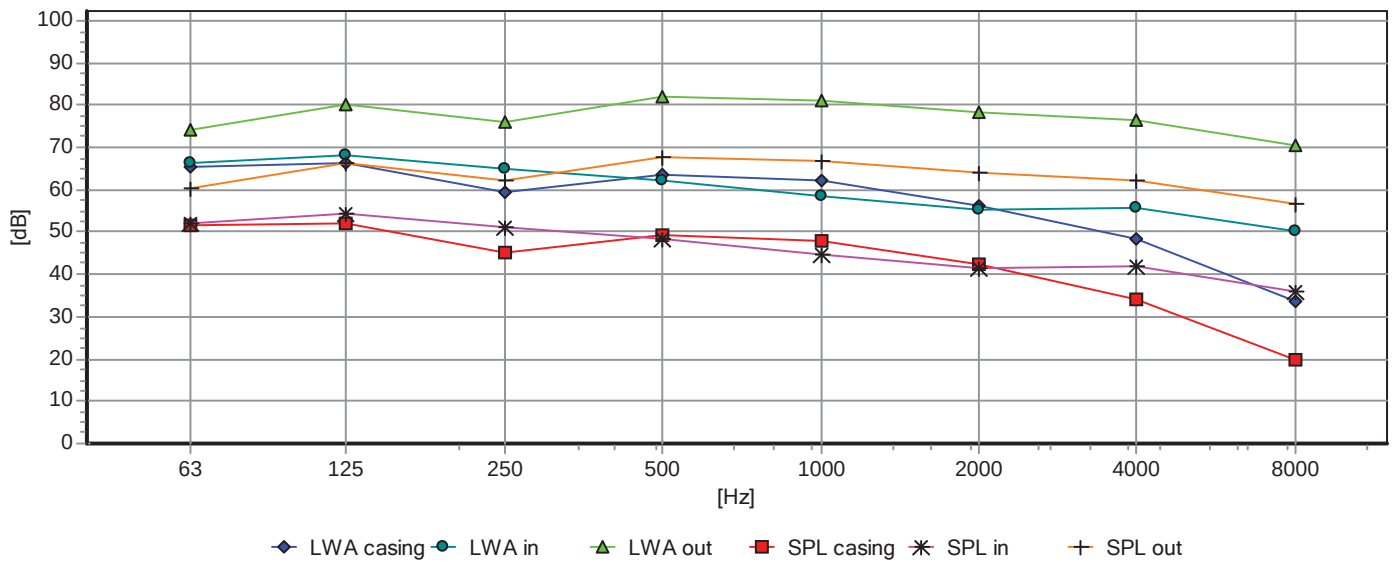
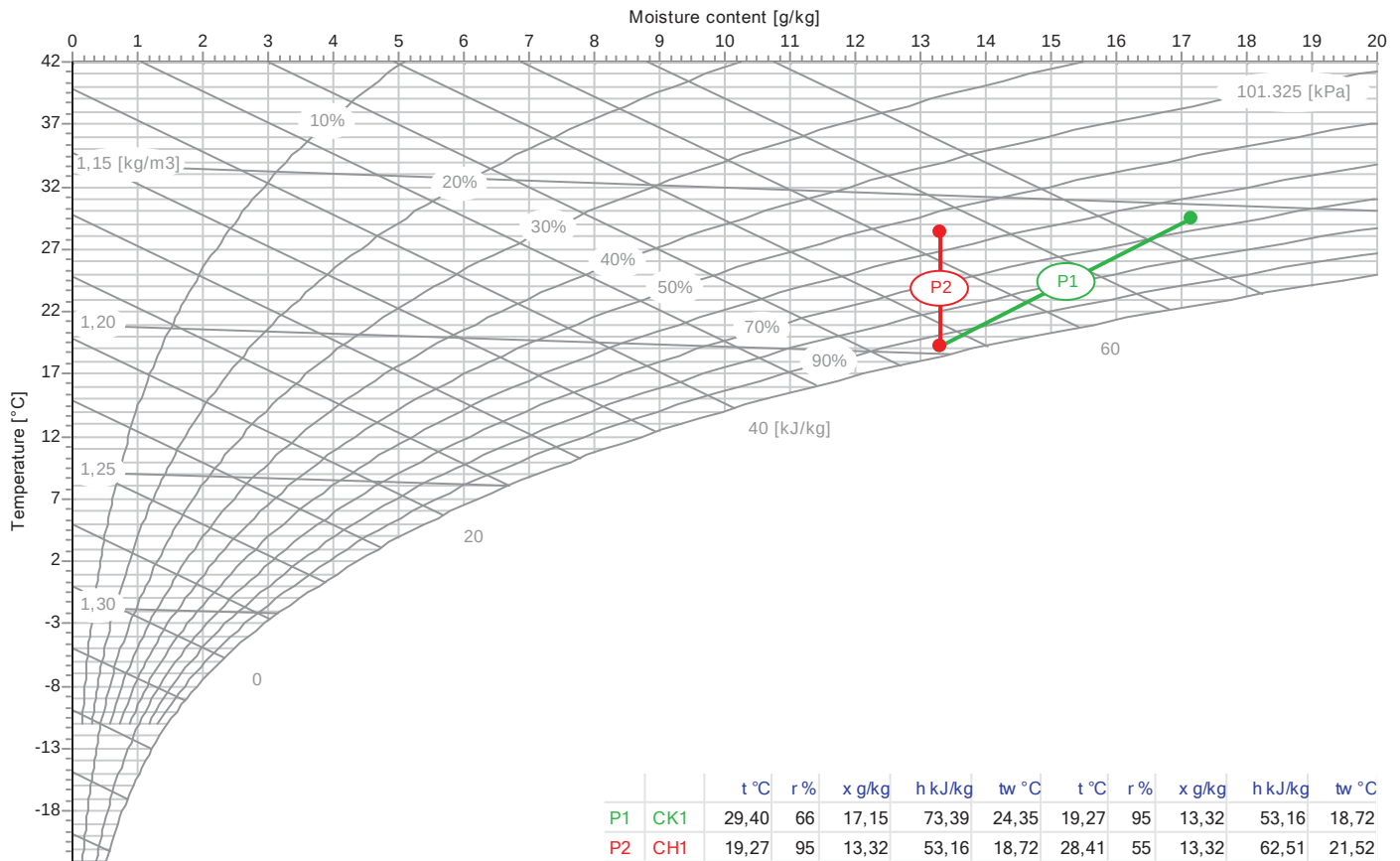
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 1.225,0
Opening	Posizione	E	Dimensions [mm] 1.840,0 x 1.225,0

	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
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	Drawing ID	KM-AA
	Position	01
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	644,0 x 644,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	66,1	68,3	64,9	62,2	58,7	55,3	55,9	50,0	65,0	
Outlet	74,2	80,1	76,0	81,8	81,0	78,2	76,3	70,6	85,5	
Casing	65,4	66,2	59,2	63,4	62,0	56,2	48,2	33,7	65,4	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	52,1	54,3	50,9	48,2	44,7	41,3	41,9	36,0	51,0	
Outlet	60,2	66,1	62,0	67,8	67,0	64,2	62,3	56,6	71,5	
Casing	51,4	52,2	45,2	49,4	48,0	42,2	34,2	19,7	51,4	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.960,0	1.345,0	3.100,0	1.223,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	14000
Total static pressure = internal w/o system loss + external [Pa]		945
Internal static pressure = total static - external [Pa]		445
Power input real [kW]		5,37
Size reference velocity [m/s]		1,73
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		19,3
Factor Fs-Pref winter		0,92
Factor Fs-Pref summer		0,98
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		35



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 11.00-19-13
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	95 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	95 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	14.000
Type of drive	VSD installation to be foreseen
Effective electric power input	5,370 kW
face velocity	1,73 m/s
External press	500 Pa
Internal pressure drop of ventilation components	68 Pa
Fan system efficiency	71,86 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede

Samp S.p.A.

Via Elio Vittorini, nr. 9

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customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

05

KM-A Rev. 2

1

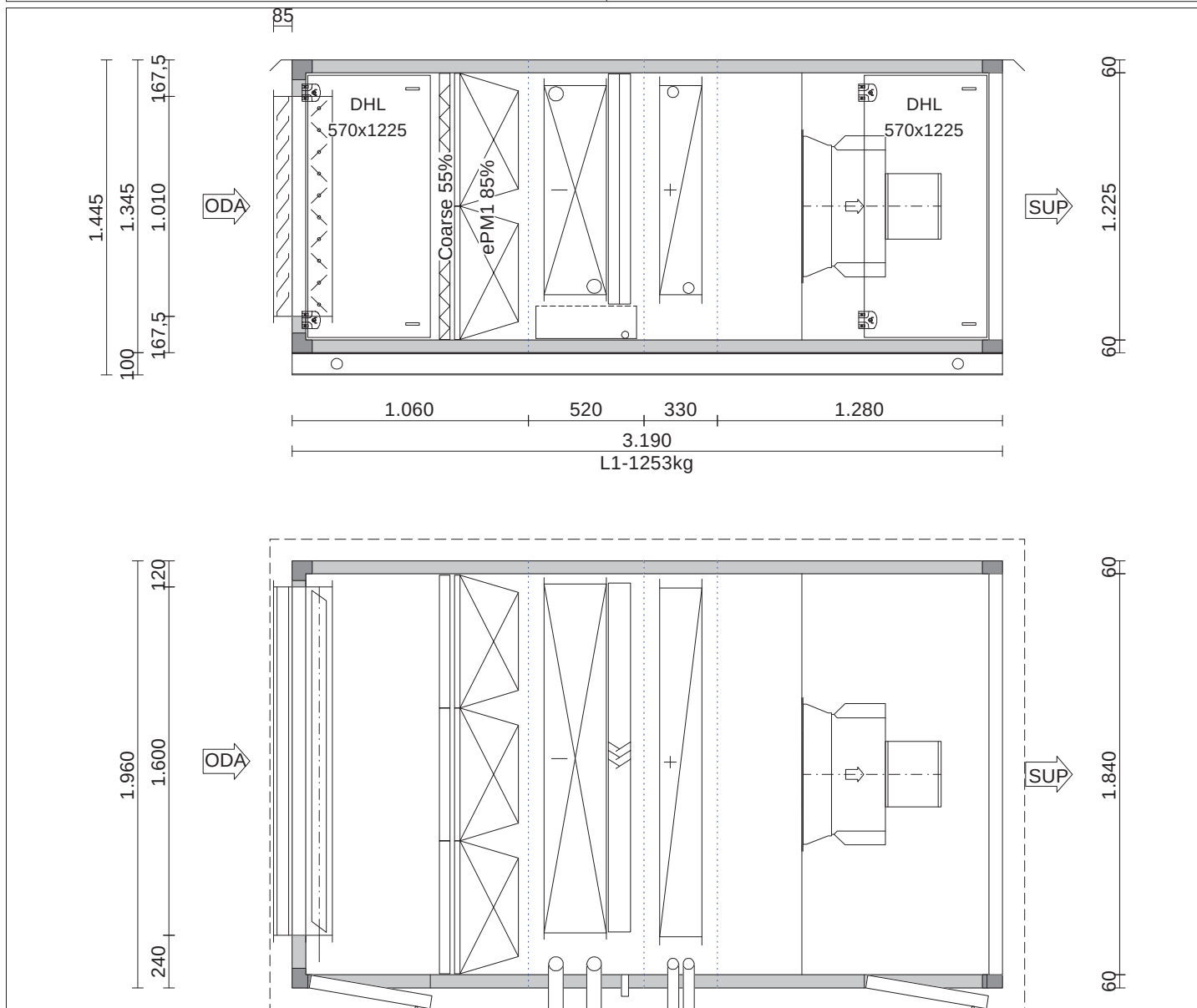
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	12.500 m³/h
Execution	Supply air unit	External press	400 Pa
Type of unit	External unit	Motor power	1x 5,850 kW
Model 1	ECU 11.00-19-13		
Profile/Panel	P 60-46 CD-P050		
Total length	3190,00 mm	Total width	1960,00 mm
total height	1345,00 mm	Total weight	1.253 kg



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	Offer	240329
	Drawing ID	KM-A
	Position	05
	Quantity	1

Supply air									
Unit definition:				Casing details:					
Unit size		ECU 11.00-19-13				Materials		Thickness	
Airflow [m³/h]	12.500	Length [mm]	3.190,0	Insulation [mm]		Polyurethan 45 Kg/m3		46,0	
Ext. pressure [Pa]	400	Width [mm]	1.960,0	Panel inside mm		stainless steel 304		0,60	
Tot. pressure [Pa]	927	Height [mm]	1.345,0	Panel outside mm		galvanized coated	RAL9073	0,60	
air velocity [m/s]	1,54	Weight [kg]	1.253,00	Panel inside bottom mm		stainless steel 304		0,60	
Class DIN EN 13053	V1			Profiles		aluminium anodized			
				Guides		stainless steel 304			
Thermal transmittance		T2	Casing leaky -400Pa		L1(M)	Mechanical stability		D1	
Thermal bridge class		TB3	Casing leaky +400 Pa		L1(M)	filter bypass leakage		F9	

Bag Filter section with prefilter				1.060,0 mm	7,01 m2	615,00 kg	273 Pa	
Manufacturer	SAMP	Airflow [m³/h]	12.500					
Model	MQZ	air velocity [m/s]	1,65					
Class EN 779:2012	G4	filter length [mm]	48,0					
Klasse ISO 16890	Coarse 55%	Filter surface [m2]	3,60					
		Filter handling	Dirty air widthdrawal					
Clean dP [Pa]	45	Cells pcs x size	6 x G4-PF-48	592,0	x	592,0		
Med.dP [Pa]	97							
Dirty dP [Pa]	150							
Manufacturer	SAMP	Airflow [m³/h]	12.500					
Model	4RT9	air velocity [m/s]	1,65					
Class EN 779:2012	F9	filter length [mm]	287,0					
Klasse ISO 16890	ePM1 85%	Filter surface [m2]	111,00					
Filter energy class EN 779:2012	C	Filter handling	Dirty air widthdrawal					
Clean dP [Pa]	60	Cells pcs x size	6 x F9-TR-4V-287-GF	592,0	x	592,0		
Med.dP [Pa]	155							
Dirty dP [Pa]	250							
Revision door				Door with hinge and lever		Dimensions [mm]		570,0 x 1.225,0
Damper:				DIN Class	2	Dimensions		1.600,0 x 1.010,0 x 120,0mm
Actuated by	Suitable for actuators	Airflow [m³/h]	12.500	Frame	stainless	steel	304	
Qta. Levers	1	air velocity [m/s]	2,15	Blades	stainless	steel	304	
torque [Nm]	13,200	Pressure drop [Pa]	4	Type	DP100V2A/V2A			
Weather louvre				Dimensions [mm]		1.600,0 x 1.010,0 x 85,0		
Type	WL	Material	aluminium anodized					

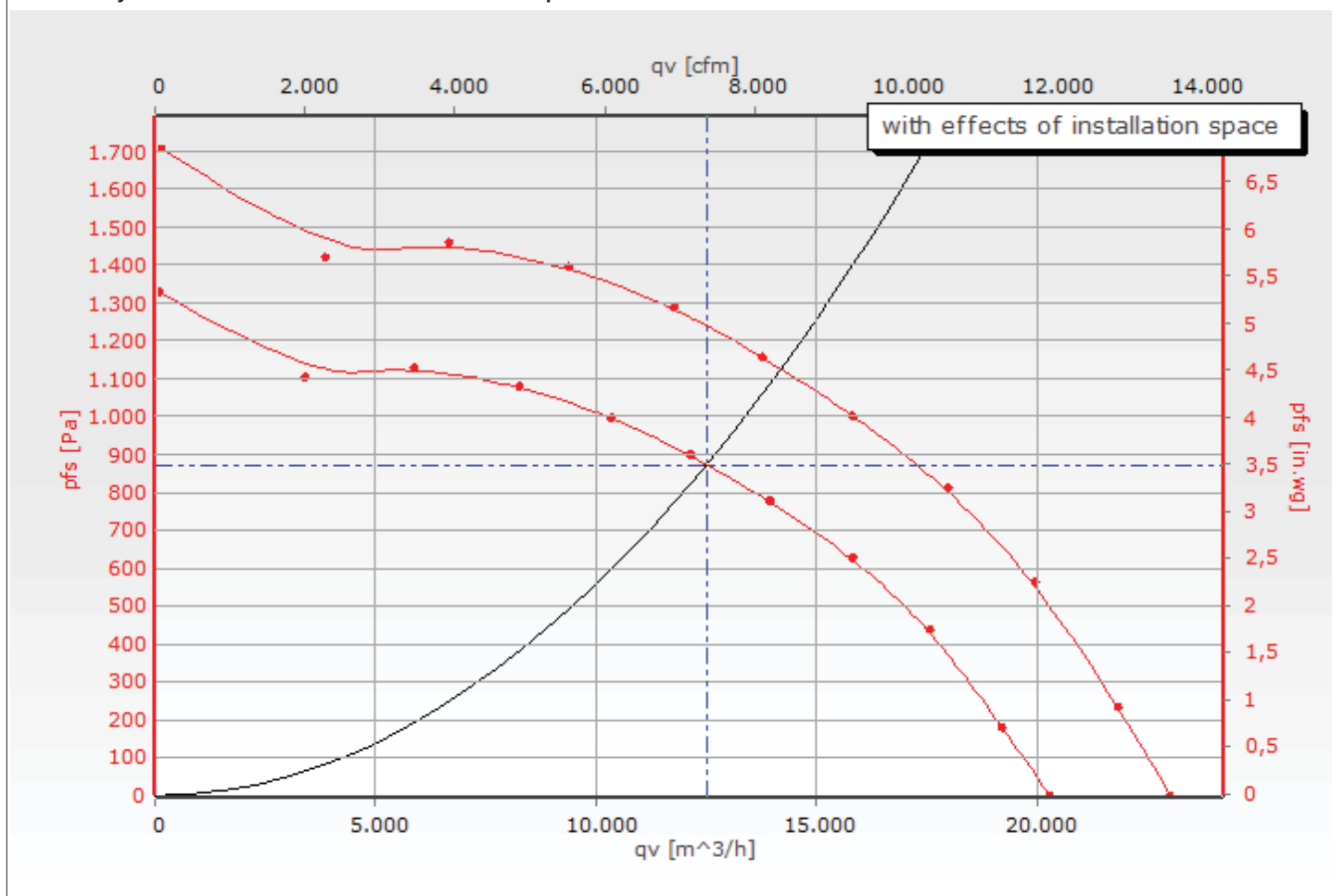
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-A
	Position	05
	Quantity	1

Cooling coil		520,0 mm	3,44 m2	316,00 kg	142 Pa
Airflow [m³/h]	12.500	Medium			Water
air velocity [m/s]	2,26	Med. Flow [l/s]			5,9600
Air in [°C]	35,00	Med. velocity [m/s]			1,29
Humidity [%]	40,6	Med. in [°C]			7,00
Air out [°C]	15,06	Med. out [°C]			12,00
Humidity [%]	100,	Med. pres. drop [kPa]			23,68
total capacity [kW]	125,00	SHR			0,68
Sens. capacity [kW]	85,00	Content [l]			58,900
Air press. Drop [Pa]	wet/dry 129/90				
Cu-AlPr-Inox304 P40AR 6R-24T-1600A-2.5pa 24C 2 1/2" (.11- .4- 1.5					
Rows	6	Fins	0,110mm		Aluminium
Circuits	24	Tubes	0,400mm		copper
Fin space [mm]	2,50	Header			copper
Connection in	2 1/2"	Frames	30,0mm		stainless steel 304
Connection out	2 1/2"	Fin protection			epoxy coated
Drain pan	Material	stainless steel 304	Drain connection		1 1/4"
Drip eliminator	Type 1P	Frame	AluZinc	Fins	PPTV

Heating coil		330,0 mm	2,18 m2	120,00 kg	48 Pa
Airflow [m³/h]	12.500	Medium			Water
air velocity [m/s]	2,26	Med. Flow [l/s]			3,3800
Air in [°C]	15,06	Med. velocity [m/s]			0,98
		Med. in [°C]			45,00
Air out [°C]	31,41	Med. out [°C]			40,00
Humidity [%]	37,1	Med. pres. drop [kPa]			10,29
Capacity [kW]	70,00	Content [l]			30,600
Air press. Drop [Pa]	48				
Cu-AlPr-Inox304 P40AC 3R-24T-1600A-2.5pa 18C 2" (.11- .4- 1.5) _V					
Rows	3	Fins	0,110mm		Aluminium
Circuits	18	Tubes	0,400mm		copper
Fin space [mm]	2,50	Header			copper
Connection in	2 0/0"	Frames	40,0mm		stainless steel 304
Connection out	2 0/0"	Fin protection			epoxy coated

Plug fan											1.280,0 mm	8,46 m2	202,00 kg	Pa	
Fan											Motor		E15034		IE5
Supplier											Protection				IP55
Air volume [m³/h]											Insulation class				F
External press [Pa]											Power [kW]				5,850
total static pressure drop [Pa]											Speed [1/min]				1.910
Fan System Effect											Nominal current (A)				9,00
total pressure [Pa]											voltage		3x400 V / 50 Hz		
Speed [1/min]											System efficiency [%]				71,73
efficiency %											Absorbed power [kW]				4,226
Fan octave band sound power level (Lokt)											Control Signal (0-10V)				8,44
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000			Fan shaft power [kW]		3,807		
Inlet	69,0	72,4	73,1	74,2	72,0	71,7	69,9	62,9	dB-Lw5		specific fan power [w/(m3/s)]		1.169/SFP3		
Outlet	72,8	76,9	73,8	80,0	78,3	75,8	73,1	67,5	dB-Lw6		K-Factor		463		
Sound Power Level [dB]											84,3				
Sound power [dB]											0,0				

The fan system effect is taken into account in the fan performances



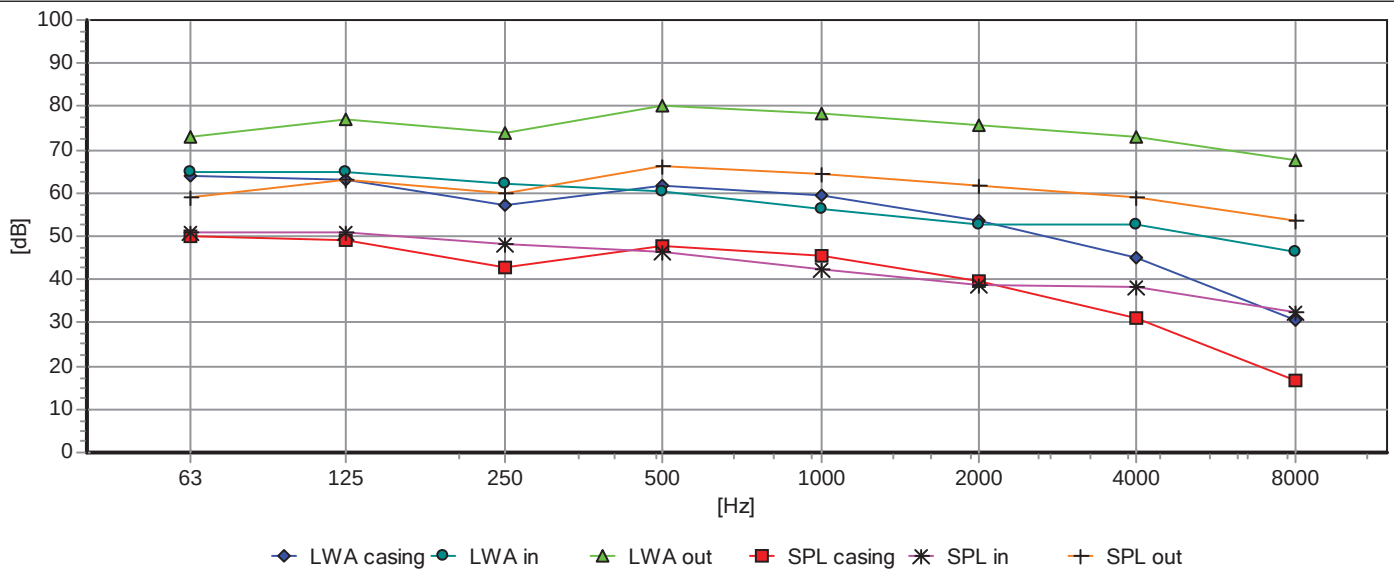
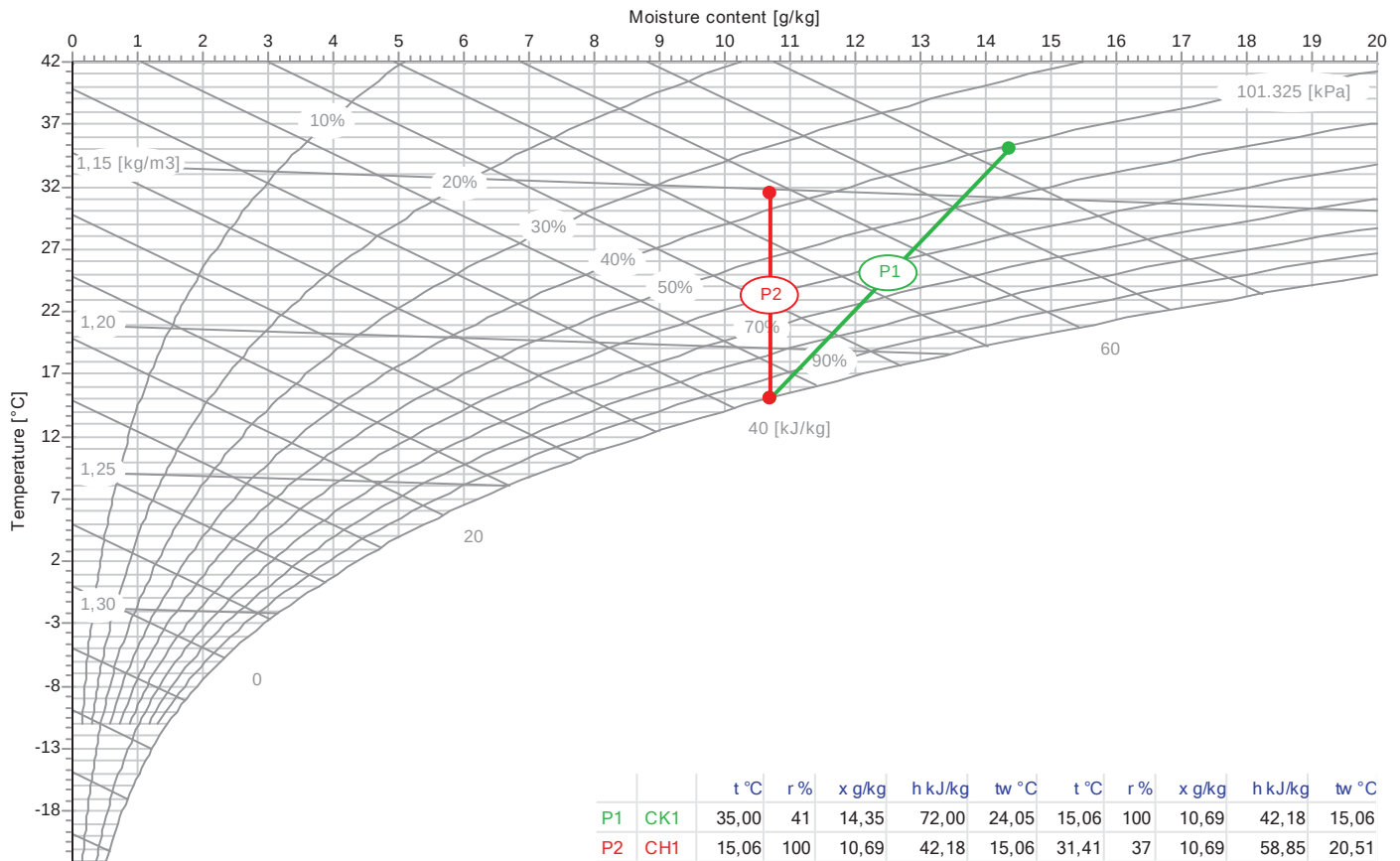
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 1.225,0
Opening	Posizione	E	Dimensions [mm] 1.840,0 x 1.225,0

	Client	LDM
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	Offer	240329
	Drawing ID	KM-A
	Position	05
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	644,0 x 644,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	64,8	64,7	62,0	60,5	56,2	52,9	52,5	46,5	62,5	
Outlet	72,8	76,9	73,8	80,0	78,3	75,8	73,1	67,5	83,0	
Casing	64,0	63,0	57,0	61,6	59,3	53,8	45,0	30,6	63,1	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	50,8	50,7	48,0	46,5	42,2	38,9	38,5	32,5	48,5	
Outlet	58,8	62,9	59,8	66,0	64,3	61,8	59,1	53,5	69,0	
Casing	50,0	49,0	43,0	47,6	45,3	39,8	31,0	16,6	49,1	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.960,0	1.345,0	3.190,0	1.253,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air 12500
Total static pressure = internal w/o system loss + external [Pa]	825
Internal static pressure = total static - external [Pa]	425
Power input real [kW]	4,44
Size reference velocity [m/s]	1,54
Efficiency HRS mass flow balanced [%]	0,0
Humidity efficiency [%]	0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]	0
Mixing ratio = recirculated air / supply air [%]	0
Electric re-heater	0
Design drybulb temperature [°C]	35,9
Design dew-point temperature [°C]	13,5
Design outdoor temperature [°C]	15,1
Factor Fs-Pref winter	1
Factor Fs-Pref summer	0,96
Reference city	Greece - Attica - Athens
Correction due to Coils + HRS winter conditions [Pa]	39



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 11.00-19-13
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	88 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	88 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	12.500
Type of drive	VSD installation to be foreseen
Effective electric power input	4,440 kW
face velocity	1,54 m/s
External press	400 Pa
Internal pressure drop of ventilation components	60 Pa
Fan system efficiency	68,23 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede

Samp S.p.A.

Via Elio Vittorini, nr. 9

IT 20863 Concorezzo (MB)

Tel.: +39 039 69 09 01

Fax +39 039 60 42 241

customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

03

KM-F1 Rev. 2

1

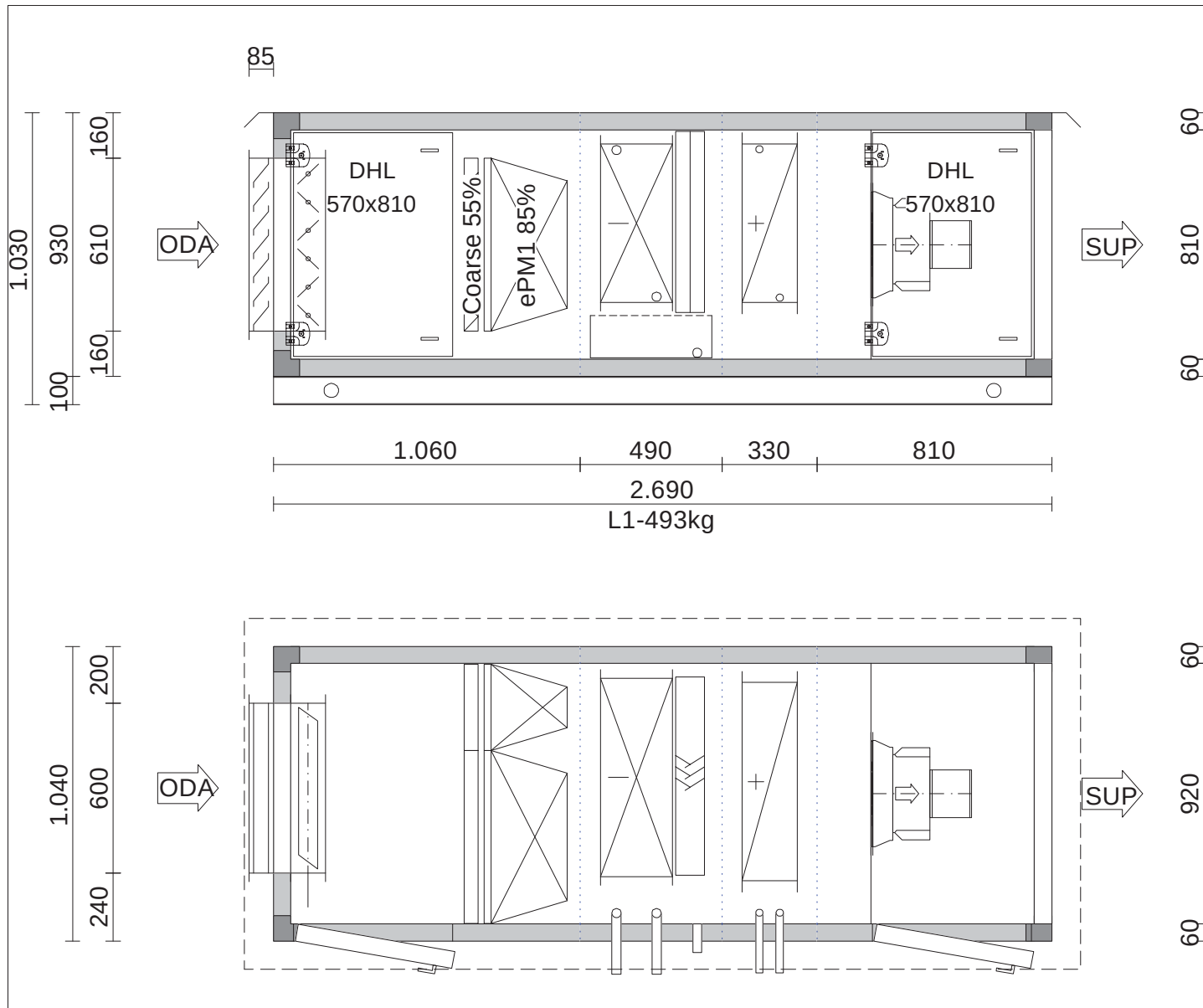
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	3.500 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 1,500 kW
Model 1	ECU 3.00-10-09		
Profile/Panel	P 60-46 CD-P050		
Total length	2690,00 mm	Total width	1040,00 mm
total height	930,00 mm	Total weight	493 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F1
	Position	03
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 3.00-10-09		Materials	Thickness	
Airflow [m³/h]	3.500	Length [mm]	2.690,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	250	Width [mm]	1.040,0	Panel inside mm	stainless steel 304 0,60
Tot. pressure [Pa]	806	Height [mm]	930,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,30	Weight [kg]	493,00	Panel inside bottom mm	stainless steel 304 0,60
Class DIN EN 13053	V1		Profiles	aluminium anodized	
			Guides	stainless steel 304	
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Bag Filter section with prefilter				1.060,0 mm	4,17 m2	240,00 kg	291 Pa
Manufacturer	SAMP	Airflow [m³/h]	3.500				
Model	MQZ	air velocity [m/s]	1,87				
Class EN 779:2012	G4	filter length [mm]	48,0				
Klasse ISO 16890	Coarse 55%	Filter surface [m2]	0,90				
		Filter handling	Dirty air widthdrawal				
Clean dP [Pa]	53	Cells pcs x size	1 x G4-PF-48	592,0 x 592,0			
Med.dP [Pa]	101		1 x G4-PF-48	287,0 x 592,0			
Dirty dP [Pa]	150						
Manufacturer	SAMP	Airflow [m³/h]	3.500				
Model	4RT9	air velocity [m/s]	1,87				
Class EN 779:2012	F9	filter length [mm]	287,0				
Klasse ISO 16890	ePM1 85%	Filter surface [m2]	27,80				
Filter energy class EN 779:2012	C	Filter handling	Dirty air widthdrawal				
Clean dP [Pa]	68	Cells pcs x size	1 x F9-TR-4V-287-GF	592,0 x 592,0			
Med.dP [Pa]	159		1 x F9-TR-4V-287-GF	287,0 x 592,0			
Dirty dP [Pa]	250						
Revision door		Door with hinge and lever		Dimensions [mm]		570,0 x 810,0	
Damper:		DIN Class	2	Dimensions	600,0 x 610,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	3.500	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	2,66	Blades	stainless steel 304		
torque [Nm]	2,970	Pressure drop [Pa]	6	Type	DP100V2A/V2A		
Weather louvre			Dimensions [mm]		600,0 x 610,0 x 85,0		
Type	WL	Material	aluminium anodized				

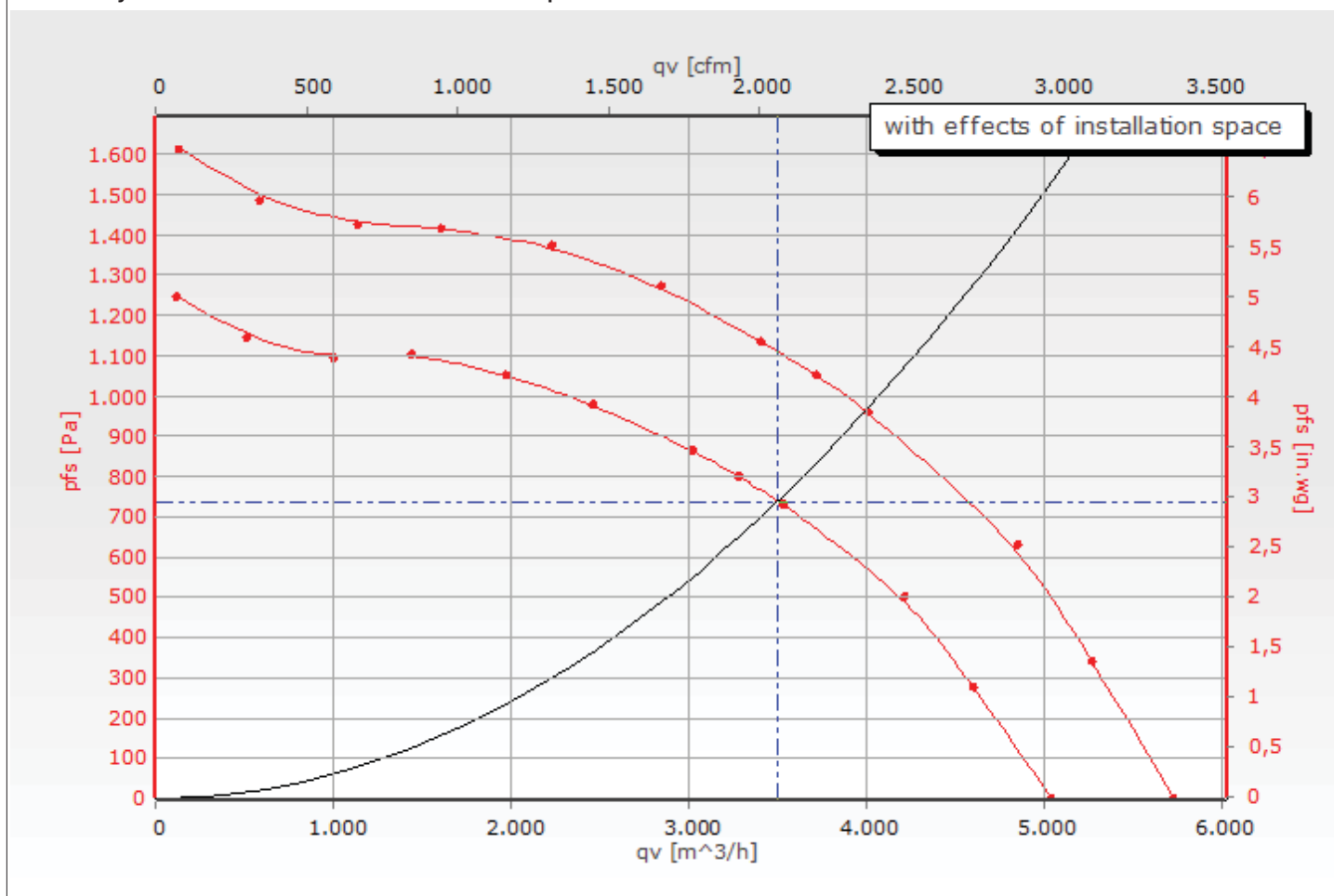
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F1
	Position	03
	Quantity	1

Cooling coil			490,0 mm	1,93 m2	128,00 kg	144 Pa
Airflow [m³/h]	3,500		Medium			Water
air velocity [m/s]	2,48		Med. Flow [l/s]			1,4300
Air in [°C]	35,00		Med. velocity [m/s]			1,49
Humidity [%]	40,6		Med. in [°C]			7,00
Air out [°C]	16,58		Med. out [°C]			12,00
Humidity [%]	99,7		Med. pres. drop [kPa]			33,16
total capacity [kW]	30,00		SHR			0,73
Sens. capacity [kW]	21,90		Content [l]			13,800
Air press. Drop [Pa]	wet/dry 128/92					
Cu-AlPr-Inox304 P40AR 5R-14T-700A-2.5pa 5C 1 1/4" (.11- .4- 1.5 -						
Rows	5		Fins	0,110mm		Aluminium
Circuits	5		Tubes	0,400mm		copper
Fin space [mm]	2,50		Header			copper
Connection in	1 1/4"		Frames	30,0mm		stainless steel 304
Connection out	1 1/4"		Fin protection			epoxy coated
Drain pan		Material	stainless steel 304	Drain connection		1 1/4"
Drip eliminator		Type 1P Frame	stainless steel 304	Fins		PPTV

Heating coil			330,0 mm	1,3 m2	56,00 kg	41 Pa
Airflow [m³/h]	3,500		Medium			Water
air velocity [m/s]	2,48		Med. Flow [l/s]			0,7200
Air in [°C]	16,58		Med. velocity [m/s]			0,94
			Med. in [°C]			45,00
Air out [°C]	29,08		Med. out [°C]			40,00
Humidity [%]	46,6		Med. pres. drop [kPa]			11,73
Capacity [kW]	15,00		Content [l]			8,500
Air press. Drop [Pa]	41					
Cu-AlPr-Inox304 P40AC 3R-14T-700A-4.0pa 4C 1" (.11- .4- 1.5)_V1						
Rows	3		Fins	0,110mm		Aluminium
Circuits	4		Tubes	0,400mm		copper
Fin space [mm]	4,00		Header			copper
Connection in	1 0/0"		Frames	40,0mm		stainless steel 304
Connection out	1 0/0"		Fin protection			epoxy coated

Plug fan										810,0 mm	3,19 m2	69,00 kg	Pa	
Fan	VBH0310CTPMS/L									Motor	E08423			IE5
Supplier	EBM-Papst									Protection				IP55
Air volume [m³/h]	3.500									Insulation class				F
External press [Pa]	250									Power [kW]				1,500
total static pressure drop [Pa]	738									Speed [1/min]				3.800
Fan System Effect	11									Nominal current (A)				2,40
total pressure [Pa]	806									voltage	3x400 V / 50 Hz			
Speed [1/min]	3.333									System efficiency [%]				65,23
efficiency %	83									Absorbed power [kW]				1,100
Fan octave band sound power level (Lokt)										Control Signal (0-10V)			8,38	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000						
Inlet	60,2	63,4	70,9	67,5	70,2	71,9	73,3	69,3	dB-Lw5	Fan shaft power [kW]			0,944	
Outlet	65,3	64,1	70,1	71,7	76,4	75,6	76,1	71,2	dB-Lw6					
Sound Power Level [dB]				83,6						specific fan power [w/(m3/s)]			1.082/SFP3	
Sound power [dB]				0,0						K-Factor			115	

The fan system effect is taken into account in the fan performances



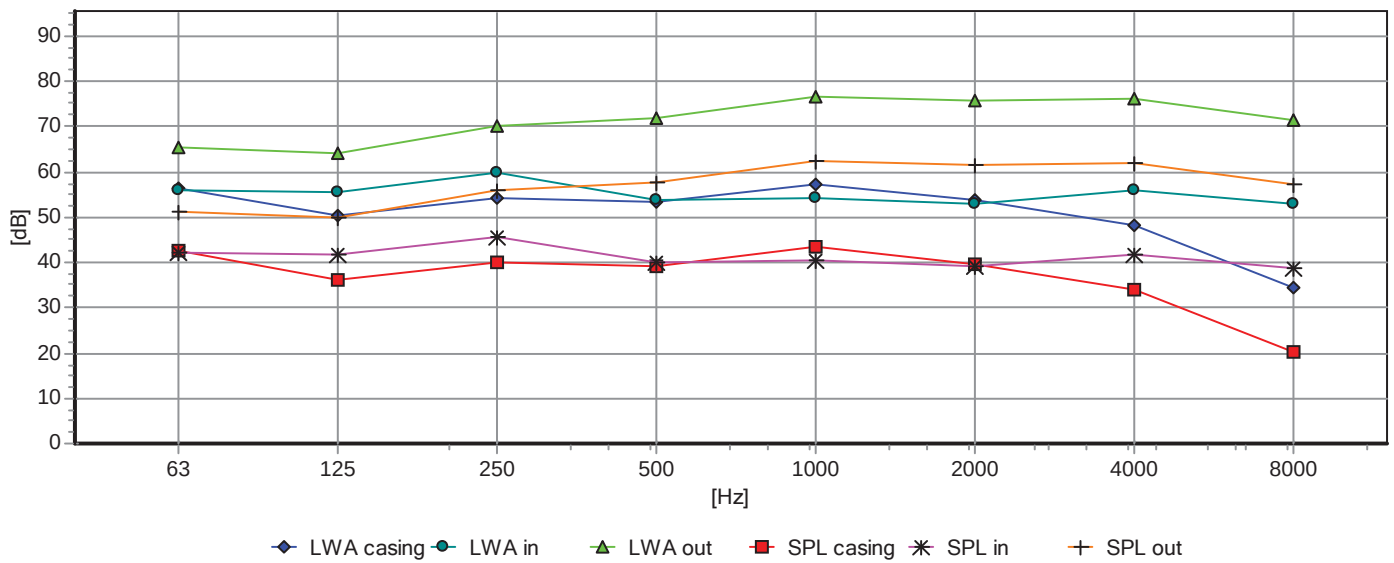
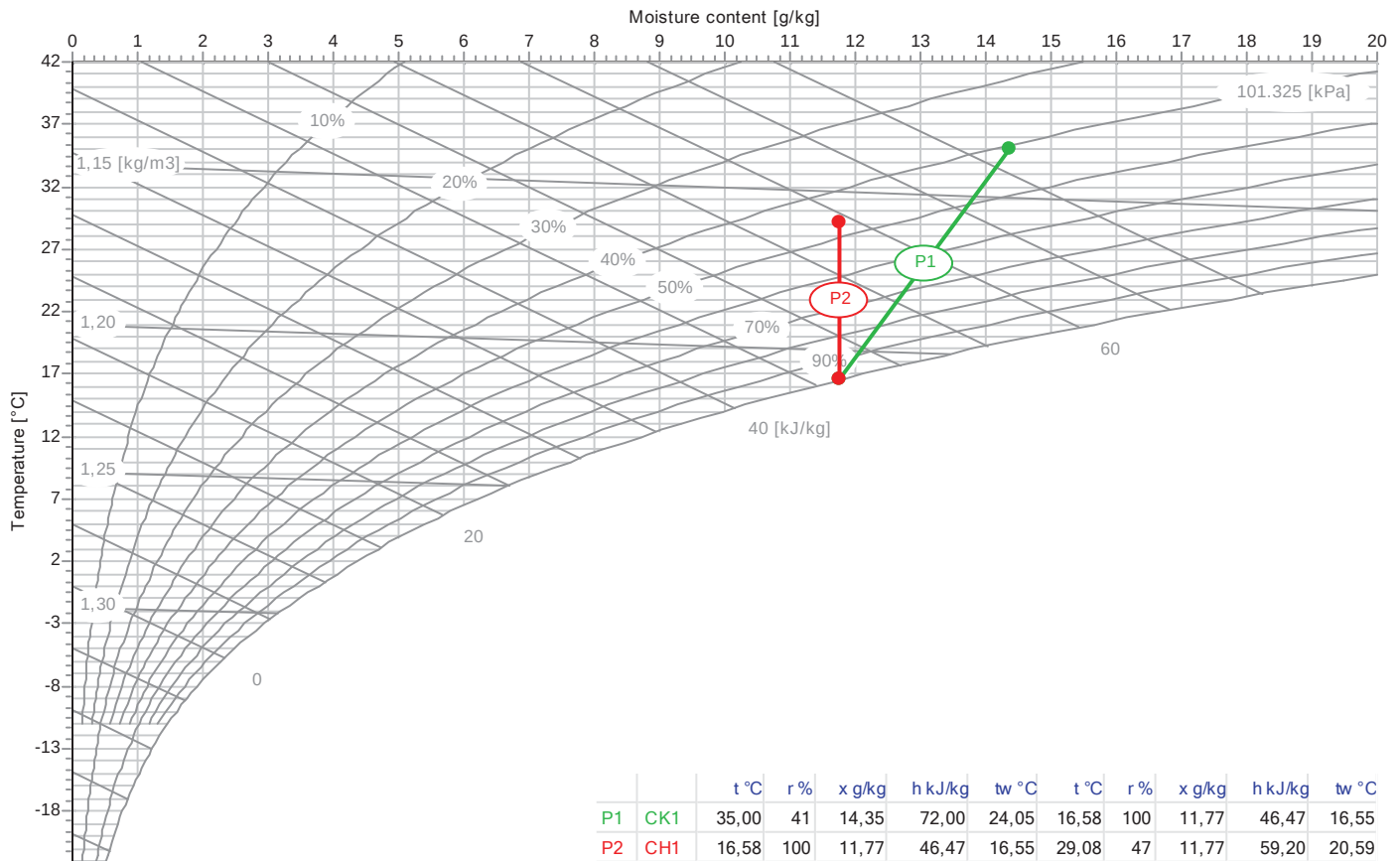
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 810,0
Opening	Posizione	E	Dimensions [mm] 920,0 x 810,0

	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F1
	Position	03
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	375,0 x 375,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	56,0	55,7	59,8	53,8	54,4	53,1	55,9	52,9	61,6	
Outlet	65,3	64,1	70,1	71,7	76,4	75,6	76,1	71,2	82,1	
Casing	56,5	50,2	54,1	53,3	57,4	53,6	48,0	34,3	60,3	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	42,0	41,7	45,8	39,8	40,4	39,1	41,9	38,9	47,6	
Outlet	51,3	50,1	56,1	57,7	62,4	61,6	62,1	57,2	68,1	
Casing	42,5	36,2	40,1	39,3	43,4	39,6	34,0	20,3	46,3	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.040,0	930,0	2.690,0	493,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	3500
Total static pressure = internal w/o system loss + external [Pa]		691
Internal static pressure = total static - external [Pa]		441
Power input real [kW]		1,16
Size reference velocity [m/s]		1,30
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		16,6
Factor Fs-Pref winter		0,88
Factor Fs-Pref summer		0,99
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		36



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 3.00-10-09
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	110 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	110 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	3.500
Type of drive	VSD installation to be foreseen
Effective electric power input	1,160 kW
face velocity	1,30 m/s
External press	250 Pa
Internal pressure drop of ventilation components	68 Pa
Fan system efficiency	61,65 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede

Samp S.p.A.

Via Elio Vittorini, nr. 9

IT 20863 Concorezzo (MB)

Tel.: +39 039 69 09 01

Fax +39 039 60 42 241

customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

06

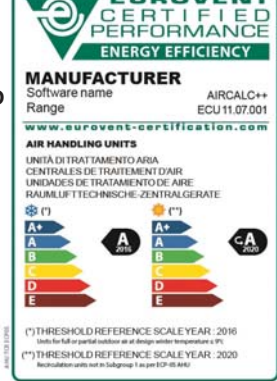
KM-F2 Rev. 2

1

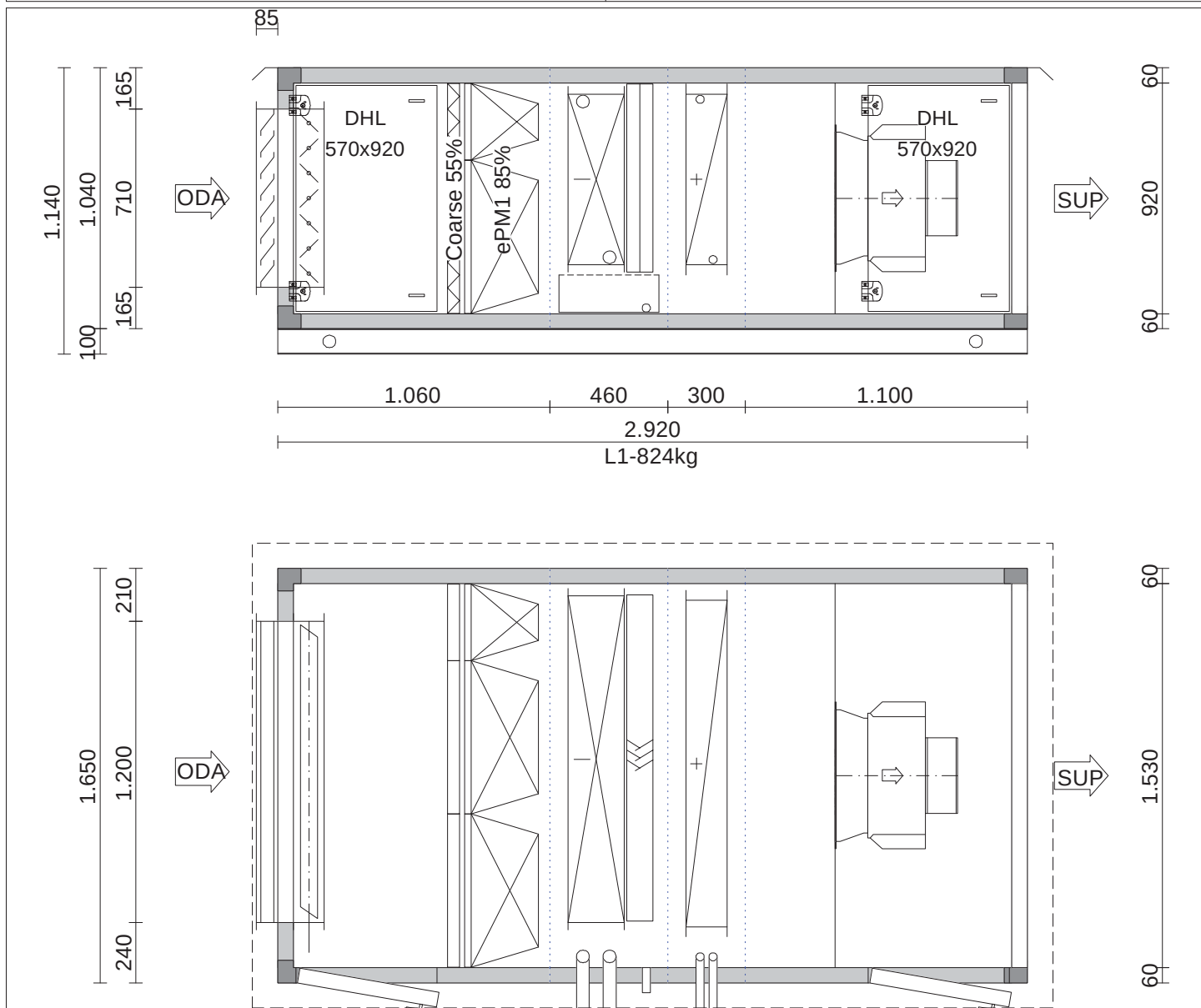
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	8.000 m³/h
Execution	Supply air unit	External press	300 Pa
Type of unit	External unit	Motor power	1x 3,350 kW
Model 1	ECU 6.50-16-10		
Profile/Panel	P 60-46 CD-P050		
Total length	2920,00 mm	Total width	1650,00 mm
total height	1040,00 mm	Total weight	825 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F2
	Position	06
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 6.50-16-10		Materials	Thickness	
Airflow [m³/h]	8.000	Length [mm]	2.920,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	300	Width [mm]	1.650,0	Panel inside mm	stainless steel 304 0,60
Tot. pressure [Pa]	805	Height [mm]	1.040,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,58	Weight [kg]	824,00	Panel inside bottom mm	stainless steel 304 0,60
Class DIN EN 13053	V1			Profiles	aluminium anodized
				Guides	stainless steel 304
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Bag Filter section with prefilter				1.060,0 mm	5,7 m2	419,00 kg	288 Pa
Manufacturer	SAMP	Airflow [m³/h]					8.000
Model	MQZ	air velocity [m/s]					1,84
Class EN 779:2012	G4	filter length [mm]					48,0
Klasse ISO 16890	Coarse 55%	Filter surface [m2]					2,10
		Filter handling					Dirty air withdrawal
Clean dP [Pa]	52	Cells pcs x size	2 x	G4-PF-48		592,0 x	592,0
Med.dP [Pa]	101		1 x	G4-PF-48		287,0 x	592,0
Dirty dP [Pa]	150		2 x	G4-PF-48		287,0 x	592,0
Manufacturer	SAMP	Airflow [m³/h]					8.000
Model	4RT9	air velocity [m/s]					1,84
Class EN 779:2012	F9	filter length [mm]					287,0
Klasse ISO 16890	ePM1 85%	Filter surface [m2]					64,90
Filter energy class EN 779:2012	C	Filter handling					Dirty air withdrawal
Clean dP [Pa]	67	Cells pcs x size	2 x	F9-TR-4V-287-GF		592,0 x	592,0
Med.dP [Pa]	158		1 x	F9-TR-4V-287-GF		287,0 x	592,0
Dirty dP [Pa]	250		2 x	F9-TR-4V-287-GF		287,0 x	592,0
Revision door		Door with hinge and lever		Dimensions [mm]		570,0 x 920,0	
Damper:		DIN Class	2	Dimensions	1.200,0 x 710,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	8.000	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	2,61	Blades	stainless steel 304		
torque [Nm]	6,930	Pressure drop [Pa]	5	Type	DP100V2A/V2A		
Weather louvre		Dimensions [mm]		1.200,0 x 710,0 x 85,0			
Type	WL	Material	aluminium anodized				

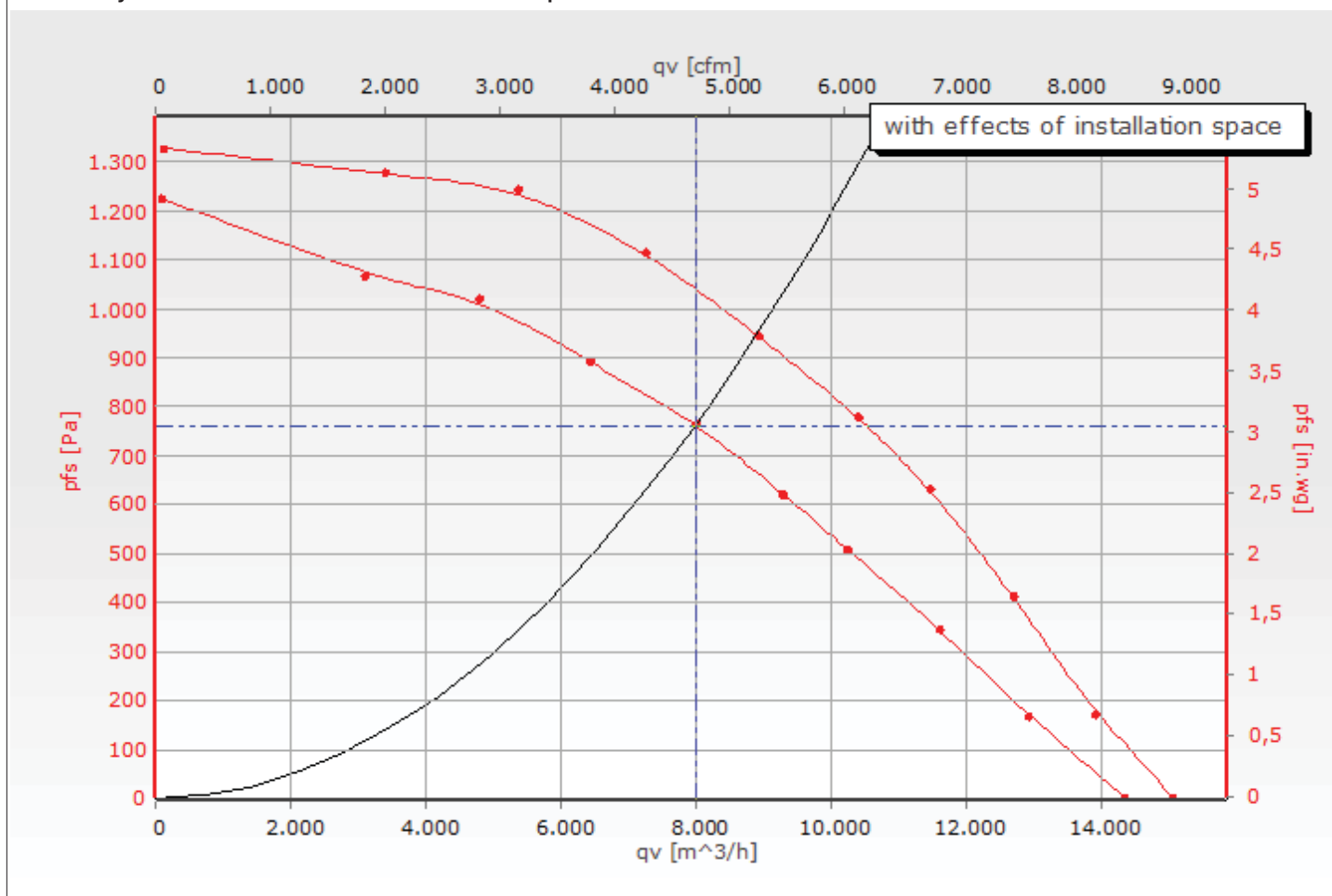
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F2
	Position	06
	Quantity	1

Cooling coil		460,0 mm	2,48 m2	193,00 kg	120 Pa
Airflow [m³/h]	8.000	Medium			Water
air velocity [m/s]	2,51	Med. Flow [l/s]			2,7200
Air in [°C]	35,00	Med. velocity [m/s]			1,28
Humidity [%]	40,6	Med. in [°C]			7,00
Air out [°C]	18,68	Med. out [°C]			12,00
Humidity [%]	93,5	Med. pres. drop [kPa]			23,63
total capacity [kW]	57,00	SHR			0,78
Sens. capacity [kW]	44,46	Content [l]			23,900
Air press. Drop [Pa]	wet/dry 103/77				
Cu-AlPr-Inox304 P40AR 4R-17T-1300A-2.5pa 11C 2" (.11- .4- 1.5 -T					
Rows	4	Fins	0,110mm	Aluminium	
Circuits	11	Tubes	0,400mm	copper	
Fin space [mm]	2,50	Header		copper	
Connection in	2 0/0"	Frames	30,0mm	stainless steel 304	
Connection out	2 0/0"	Fin protection		epoxy coated	
Drain pan	Material	stainless steel 304	Drain connection	1 1/4"	
Drip eliminator	Type 1P	Frame	AluZinc	Fins	PPTV

Heating coil		300,0 mm	1,61 m2	72,00 kg	39 Pa
Airflow [m³/h]	8.000	Medium			Water
air velocity [m/s]	2,51	Med. Flow [l/s]			1,2100
Air in [°C]	18,68	Med. velocity [m/s]			1,05
		Med. in [°C]			45,00
Air out [°C]	27,77	Med. out [°C]			40,00
Humidity [%]	53,9	Med. pres. drop [kPa]			11,78
Capacity [kW]	25,00	Content [l]			11,800
Air press. Drop [Pa]	39				
Cu-AlPr-Inox304 P40AC 2R-17T-1300A-3.0pa 6C 1 1/4" (.11- .4- 1.5)					
Rows	2	Fins	0,110mm	Aluminium	
Circuits	6	Tubes	0,400mm	copper	
Fin space [mm]	3,00	Header		copper	
Connection in	1 1/4"	Frames	40,0mm	stainless steel 304	
Connection out	1 1/4"	Fin protection		epoxy coated	

Plug fan										1.100,0 mm	5,91 m2	140,00 kg	Pa
Fan	K3G500-PA28-05									Motor	M3G150FF	IE5	
Supplier	EBM-Papst									Protection		IP55	
Air volume [m³/h]	8.000									Insulation class		F	
External press [Pa]	300									Power [kW]		3,350	
total static pressure drop [Pa]	765									Speed [1/min]		1.890	
Fan System Effect	18									Nominal current (A)		5,90	
total pressure [Pa]	805									voltage	3x400 V / 50 Hz		
Speed [1/min]	1.707									System efficiency [%]		67,81	
efficiency %	79,71									Absorbed power [kW]		2,507	
Fan octave band sound power level (Lokt)										Control Signal (0-10V)		7,65	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000					
Inlet	72,6	75,2	76,1	71,5	72,2	74,1	77,3	64,5	dB-Lw5	Fan shaft power [kW]		2,244	
Outlet	74,4	76,8	76,7	78,6	78,7	78,0	79,8	69,3	dB-Lw6				
Sound Power Level [dB]					86,6					specific fan power [w/(m3/s)]		1.094/SFP3	
Sound power [dB]					0,0					K-Factor		281	

The fan system effect is taken into account in the fan performances



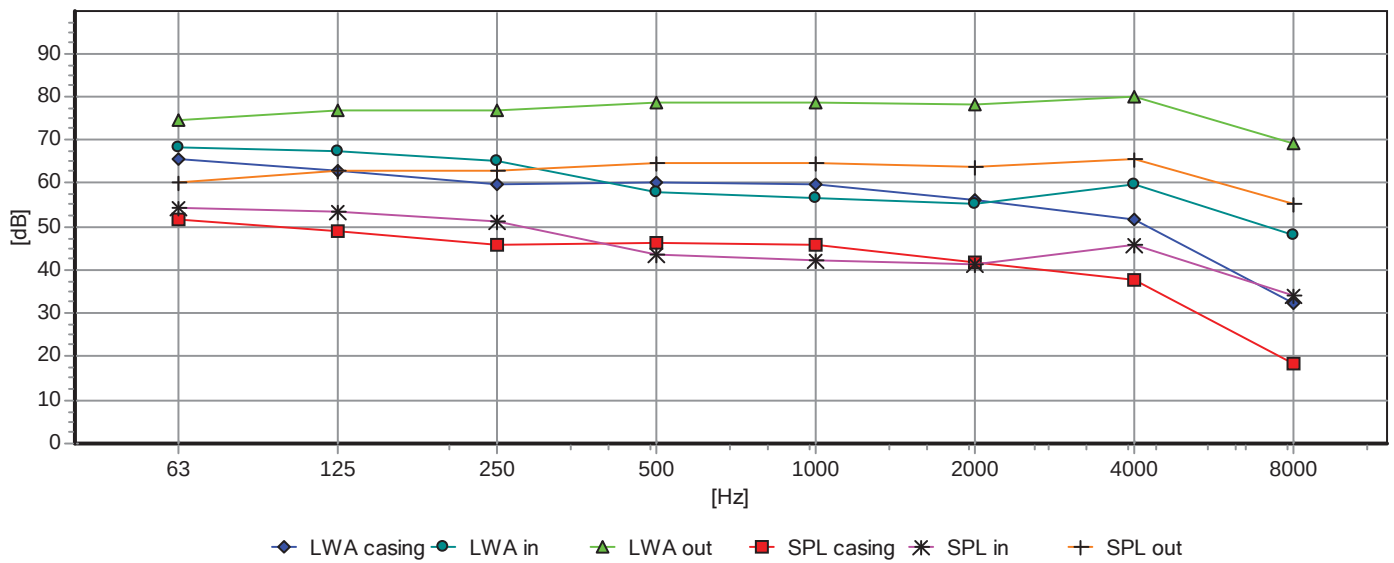
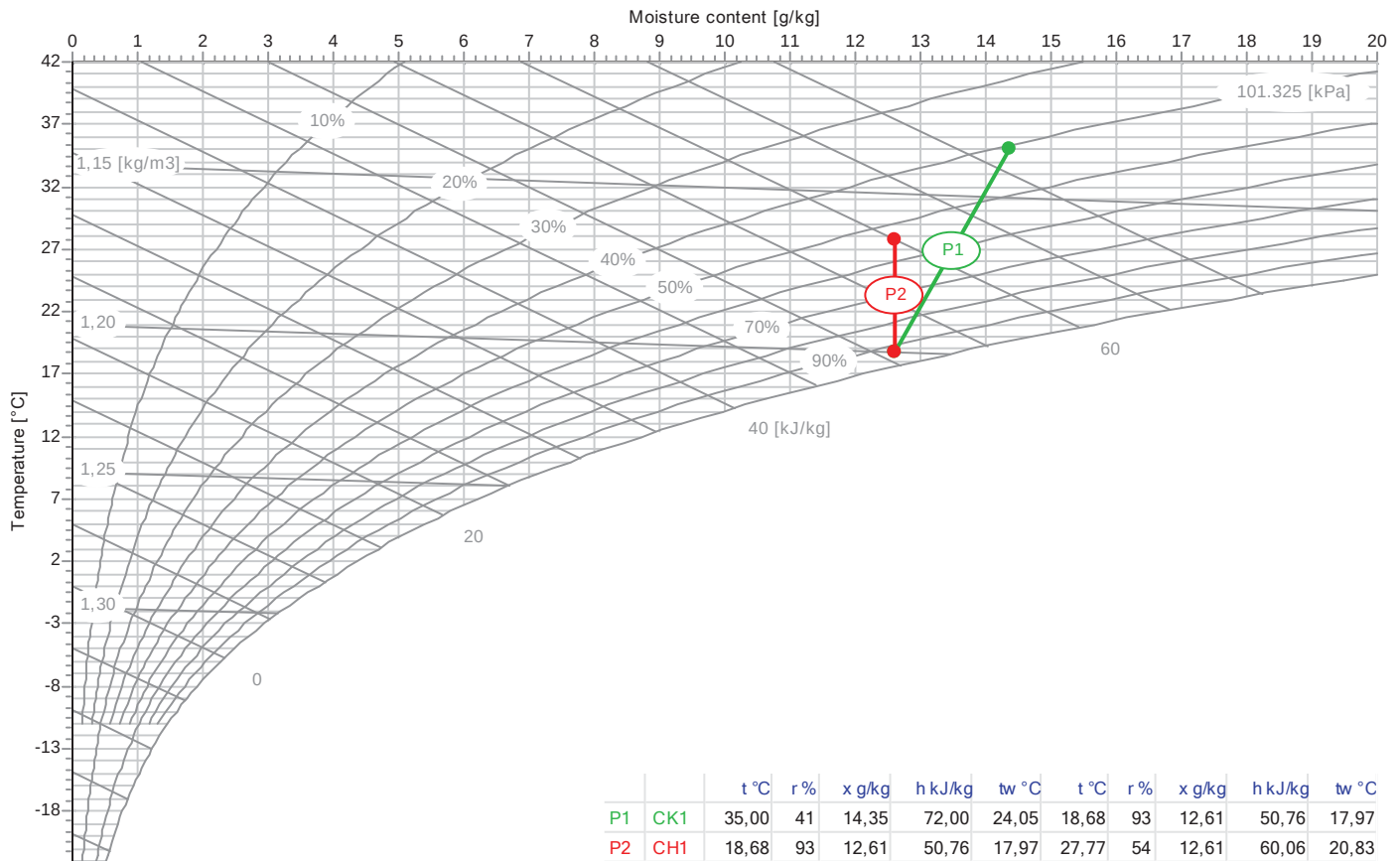
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 920,0
Opening	Posizione	E	Dimensions [mm] 1.530,0 x 920,0

	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F2
	Position	06
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	525,0 x 525,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	68,4	67,5	65,0	57,8	56,4	55,3	59,9	48,1	64,8	
Outlet	74,4	76,8	76,7	78,6	78,7	78,0	79,8	69,3	85,1	
Casing	65,6	62,9	59,9	60,2	59,7	56,0	51,7	32,4	63,7	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	54,4	53,5	51,0	43,8	42,4	41,3	45,9	34,1	50,8	
Outlet	60,4	62,8	62,7	64,6	64,7	64,0	65,8	55,3	71,1	
Casing	51,6	48,9	45,9	46,2	45,7	42,0	37,7	18,4	49,7	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.650,0	1.040,0	2.920,0	824,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	8000
Total static pressure = internal w/o system loss + external [Pa]		721
Internal static pressure = total static - external [Pa]		421
Power input real [kW]		2,62
Size reference velocity [m/s]		1,58
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		18,7
Factor Fs-Pref winter		0,91
Factor Fs-Pref summer		1
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		26



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 6.50-16-10
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	103 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	103 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	8.000
Type of drive	VSD installation to be foreseen
Effective electric power input	2,620 kW
face velocity	1,58 m/s
External press	300 Pa
Internal pressure drop of ventilation components	67 Pa
Fan system efficiency	64,87 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede

Samp S.p.A.

Via Elio Vittorini, nr. 9

IT 20863 Concorezzo (MB)

Tel.: +39 039 69 09 01

Fax +39 039 60 42 241

customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

02

KM-F3 Rev. 2

1

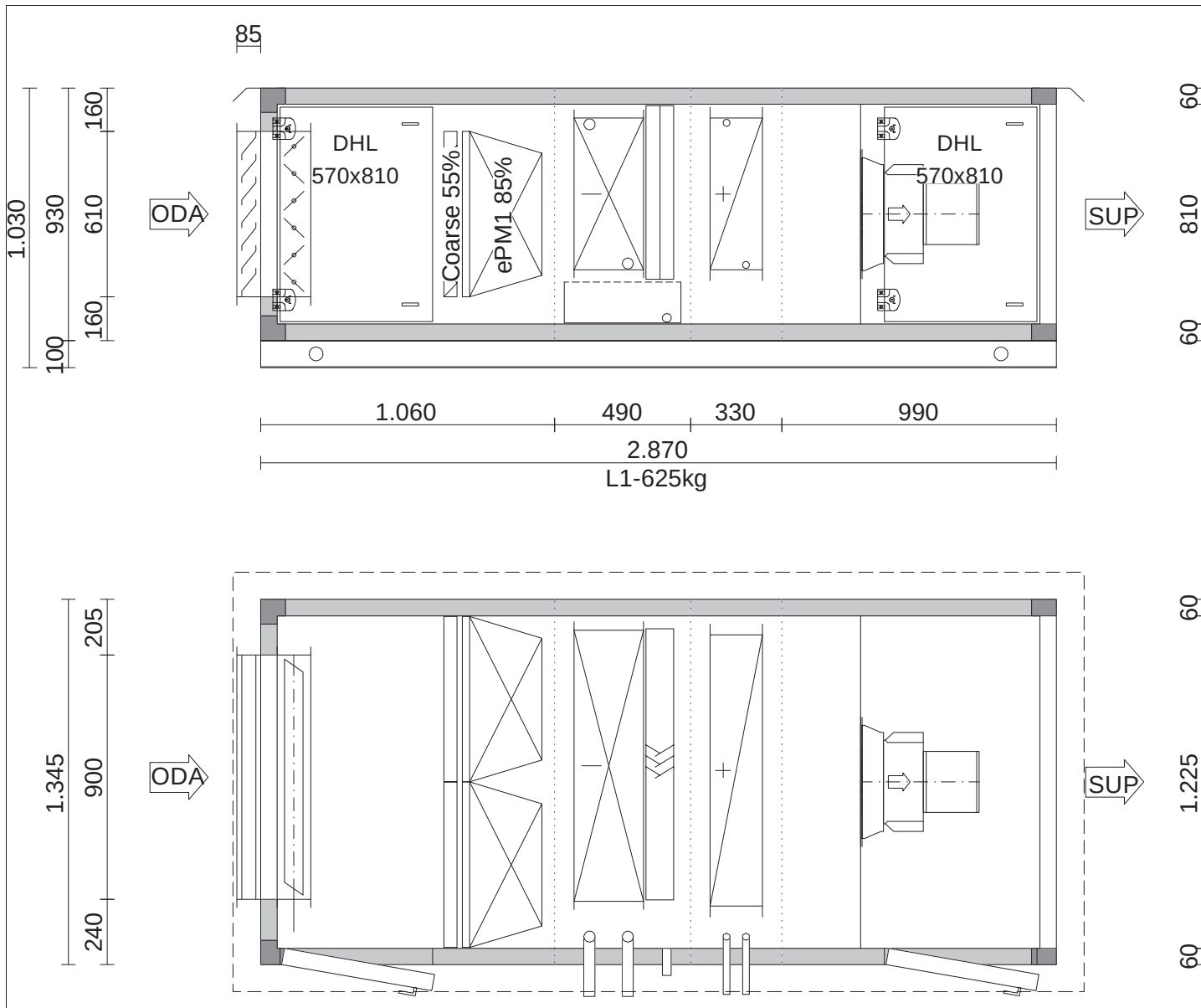
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	4.500 m³/h
Execution	Supply air unit	External press	300 Pa
Type of unit	External unit	Motor power	1x 2,750 kW
Model 1	ECU 4.00-13-09		
Profile/Panel	P 60-46 CD-P050		
Total length	2870,00 mm	Total width	1345,00 mm
total height	930,00 mm	Total weight	625 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F3
	Position	02
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 4.00-13-09		Materials	Thickness	
Airflow [m³/h]	4.500	Length [mm]	2.870,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	300	Width [mm]	1.345,0	Panel inside mm	stainless steel 304 0,60
Tot. pressure [Pa]	824	Height [mm]	930,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,26	Weight [kg]	625,00	Panel inside bottom mm	stainless steel 304 0,60
Class DIN EN 13053	V1			Profiles	aluminium anodized
				Guides	stainless steel 304
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Bag Filter section with prefilter				1.060,0 mm	4,83 m2	300,00 kg	280 Pa
Manufacturer	SAMP	Airflow [m³/h]					4.500
Model	MQZ	air velocity [m/s]					1,78
Class EN 779:2012	G4	filter length [mm]					48,0
Klasse ISO 16890	Coarse 55%	Filter surface [m2]					1,20
		Filter handling				Dirty air withdrawal	
Clean dP [Pa]	50	Cells pcs x size	2 x	G4-PF-48			592,0 x 592,0
Med.dP [Pa]	100						
Dirty dP [Pa]	150						
Manufacturer	SAMP	Airflow [m³/h]					4.500
Model	4RT9	air velocity [m/s]					1,78
Class EN 779:2012	F9	filter length [mm]					287,0
Klasse ISO 16890	ePM1 85%	Filter surface [m2]					37,00
Filter energy class EN 779:2012	C	Filter handling				Dirty air withdrawal	
Clean dP [Pa]	65	Cells pcs x size	2 x	F9-TR-4V-287-GF			592,0 x 592,0
Med.dP [Pa]	157						
Dirty dP [Pa]	250						
Revision door		Door with hinge and lever		Dimensions [mm]		570,0 x 810,0	
Damper:		DIN Class	2	Dimensions	900,0 x 610,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	4.500	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	2,28	Blades	stainless steel 304		
torque [Nm]	4,460	Pressure drop [Pa]	4	Type	DP100V2A/V2A		
Weather louvre				Dimensions [mm]		900,0 x 610,0 x 85,0	
Type	WL	Material	aluminium anodized				

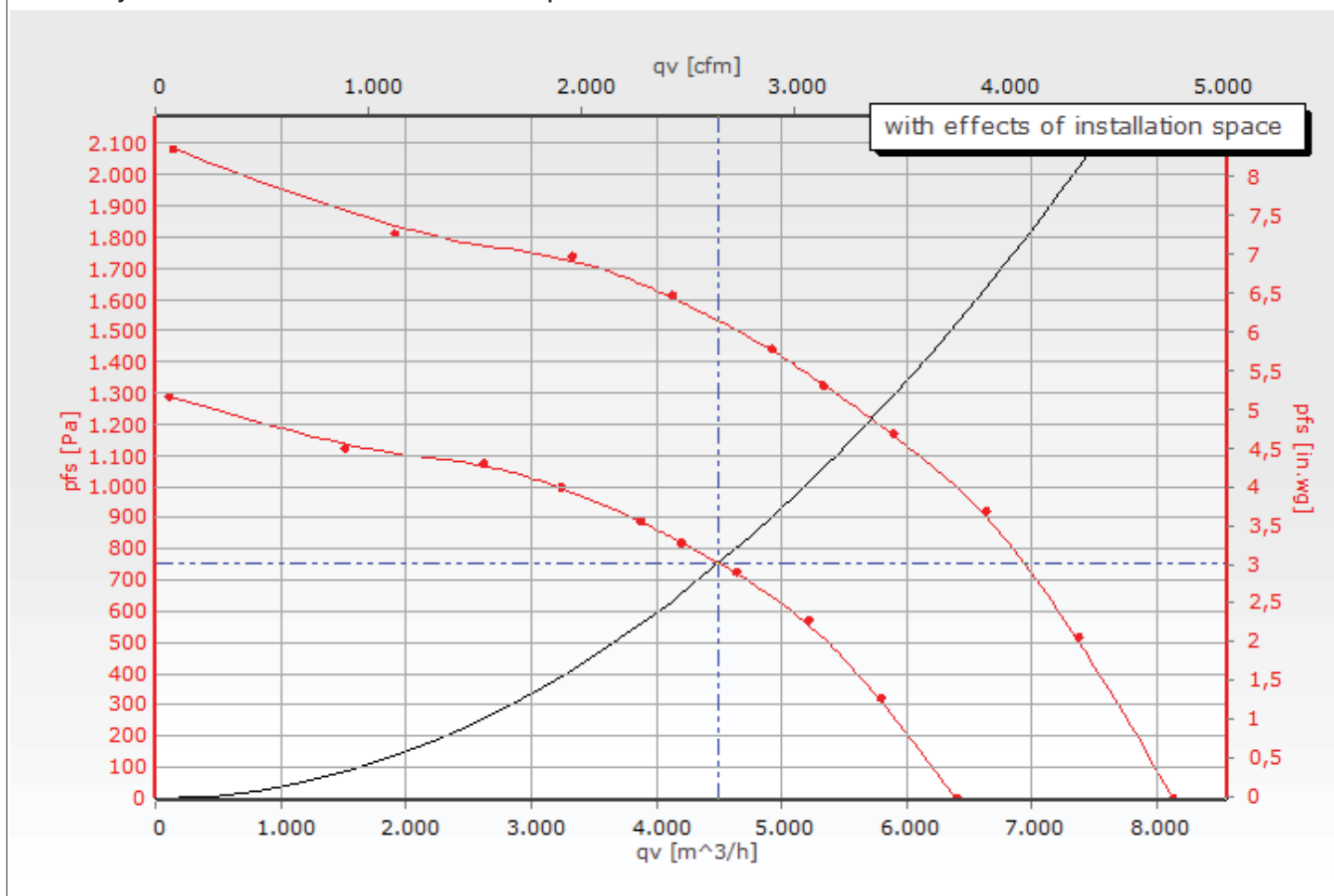
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F3
	Position	02
	Quantity	1

Cooling coil		490,0 mm	2,23 m2	158,00 kg	120 Pa
Airflow [m³/h]	4.500	Medium			Water
air velocity [m/s]	2,23	Med. Flow [l/s]			1,9100
Air in [°C]	35,00	Med. velocity [m/s]			1,65
Humidity [%]	40,6	Med. in [°C]			7,00
Air out [°C]	16,32	Med. out [°C]			12,00
Humidity [%]	99,0	Med. pres. drop [kPa]			42,57
total capacity [kW]	40,00	SHR			0,71
Sens. capacity [kW]	28,40	Content [l]			18,400
Air press. Drop [Pa]	wet/dry 107/77				
Cu-AlPr-Inox304 P40AR 5R-14T-1000A-2.5pa 6C 1 1/2" (.11- .4- 1.5					
Rows	5	Fins	0,110mm		Aluminium
Circuits	6	Tubes	0,400mm		copper
Fin space [mm]	2,50	Header			copper
Connection in	1 1/2"	Frames	30,0mm		stainless steel 304
Connection out	1 1/2"	Fin protection			epoxy coated
Drain pan		Material	stainless steel 304	Drain connection	1 1/4"
Drip eliminator		Type 1P	Frame	stainless steel 304	Fins
					PPTV

Heating coil		330,0 mm	1,5 m2	67,00 kg	42 Pa
Airflow [m³/h]	4.500	Medium			Water
air velocity [m/s]	2,23	Med. Flow [l/s]			1,0100
Air in [°C]	16,32	Med. velocity [m/s]			1,05
		Med. in [°C]			45,00
Air out [°C]	29,92	Med. out [°C]			40,00
Humidity [%]	43,4	Med. pres. drop [kPa]			17,01
Capacity [kW]	21,00	Content [l]			10,900
Air press. Drop [Pa]	42				
Cu-AlPr-Inox304 P40AC 3R-14T-1000A-3.0pa 5C 1" (.11- .4- 1.5)_V1					
Rows	3	Fins	0,110mm		Aluminium
Circuits	5	Tubes	0,400mm		copper
Fin space [mm]	3,00	Header			copper
Connection in	1 0/0"	Frames	40,0mm		stainless steel 304
Connection out	1 0/0"	Fin protection			epoxy coated

Plug fan											990,0 mm	4,5 m2	100,00 kg	Pa		
Fan											Motor		E11233		IE5	
Supplier											Protection				IP55	
Air volume [m³/h]											Insulation class				F	
External press [Pa]											Power [kW]				2,750	
total static pressure drop [Pa]											Speed [1/min]				3.800	
Fan System Effect											Nominal current (A)				4,30	
total pressure [Pa]											voltage		3x400 V / 50 Hz			
Speed [1/min]											System efficiency [%]				66,09	
efficiency %											Absorbed power [kW]				1,426	
Fan octave band sound power level (Lokt)											Control Signal (0-10V)				7,55	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000			Fan shaft power [kW]				1,222	
Inlet	66,7	64,6	73,1	68,4	69,2	68,4	73,6	70,2	dB-Lw5		specific fan power [w/(m3/s)]		1.101/SFP3			
Outlet	70,8	66,3	72,5	71,9	77,5	77,3	77,0	71,9	dB-Lw6		K-Factor		145			
Sound Power Level [dB]											84,4					
Sound power [dB]											0,0					

The fan system effect is taken into account in the fan performances



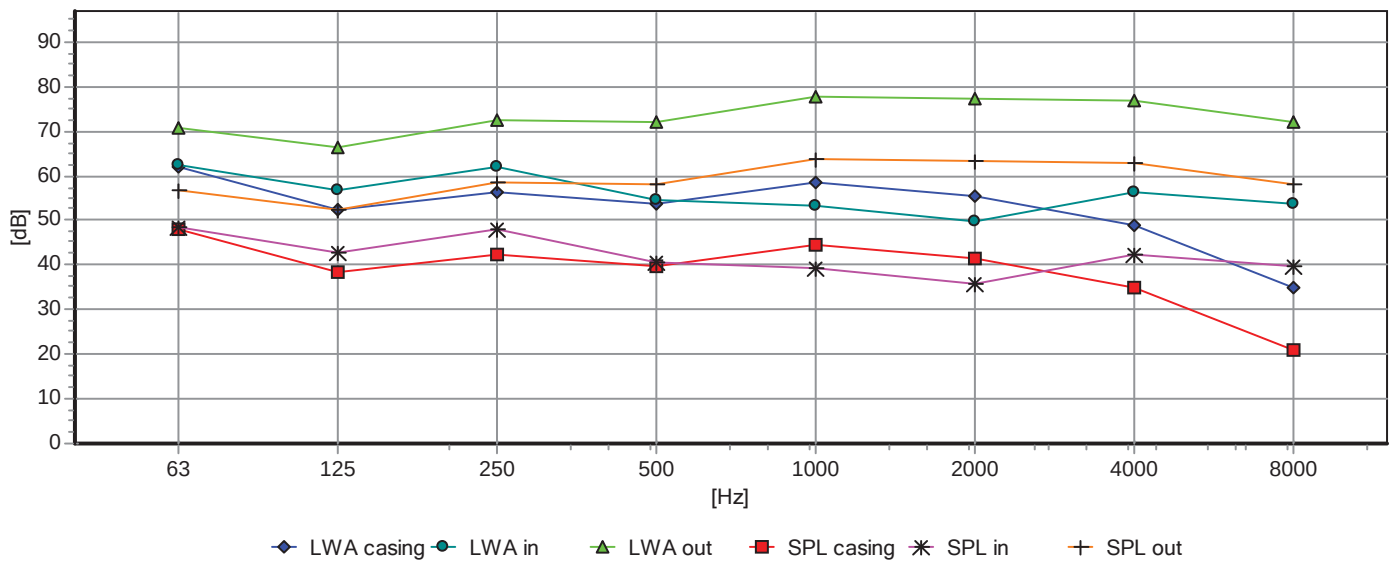
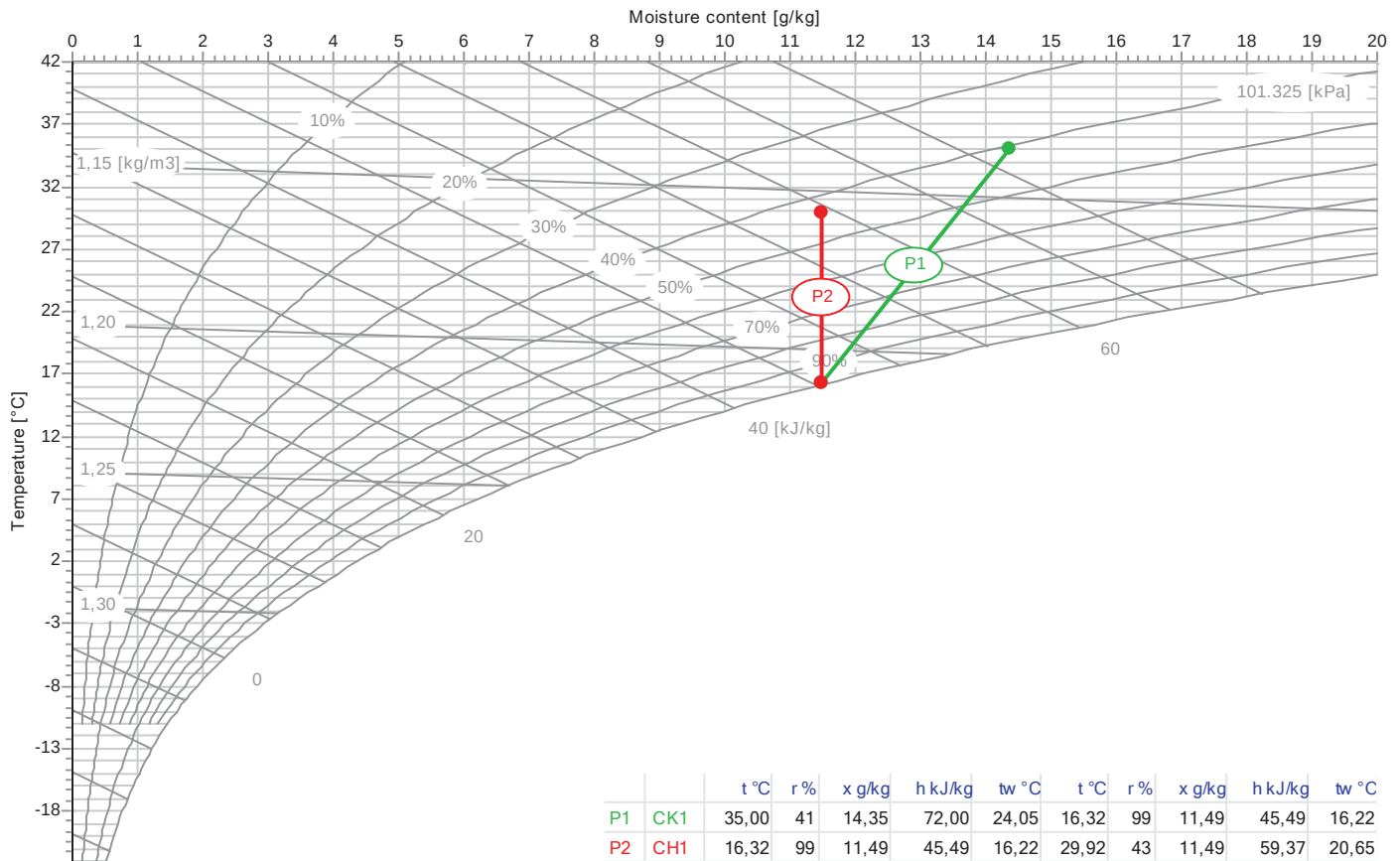
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 810,0
Opening	Posizione	E	Dimensions [mm] 1.225,0 x 810,0

	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-F3
	Position	02
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	416,0 x 416,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	62,5	56,9	62,0	54,7	53,4	49,6	56,2	53,8	61,5	
Outlet	70,8	66,3	72,5	71,9	77,5	77,3	77,0	71,9	83,3	
Casing	62,0	52,4	56,3	53,5	58,5	55,3	48,9	35,0	61,6	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	48,5	42,9	48,0	40,7	39,4	35,6	42,2	39,8	47,5	
Outlet	56,8	52,3	58,5	57,9	63,5	63,3	63,0	57,9	69,3	
Casing	48,0	38,4	42,3	39,5	44,5	41,3	34,9	21,0	47,6	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.345,0	930,0	2.870,0	625,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	4500
Total static pressure = internal w/o system loss + external [Pa]		712
Internal static pressure = total static - external [Pa]		412
Power input real [kW]		1,63
Size reference velocity [m/s]		1,26
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		16,3
Factor Fs-Pref winter		0,94
Factor Fs-Pref summer		0,88
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		30



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 4.00-13-09
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	112 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	112 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	4.500
Type of drive	VSD installation to be foreseen
Effective electric power input	1,630 kW
face velocity	1,26 m/s
External press	300 Pa
Internal pressure drop of ventilation components	65 Pa
Fan system efficiency	57,93 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede
Samp S.p.A.

Via Elio Vittorini, nr. 9
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Tel.: +39 039 69 09 01
Fax +39 039 60 42 241

customer **LDM**
Offer **240329**
From date **16/02/2024**
Project **MUNICIPAL THEATRE OF LESVOS ISLAND**

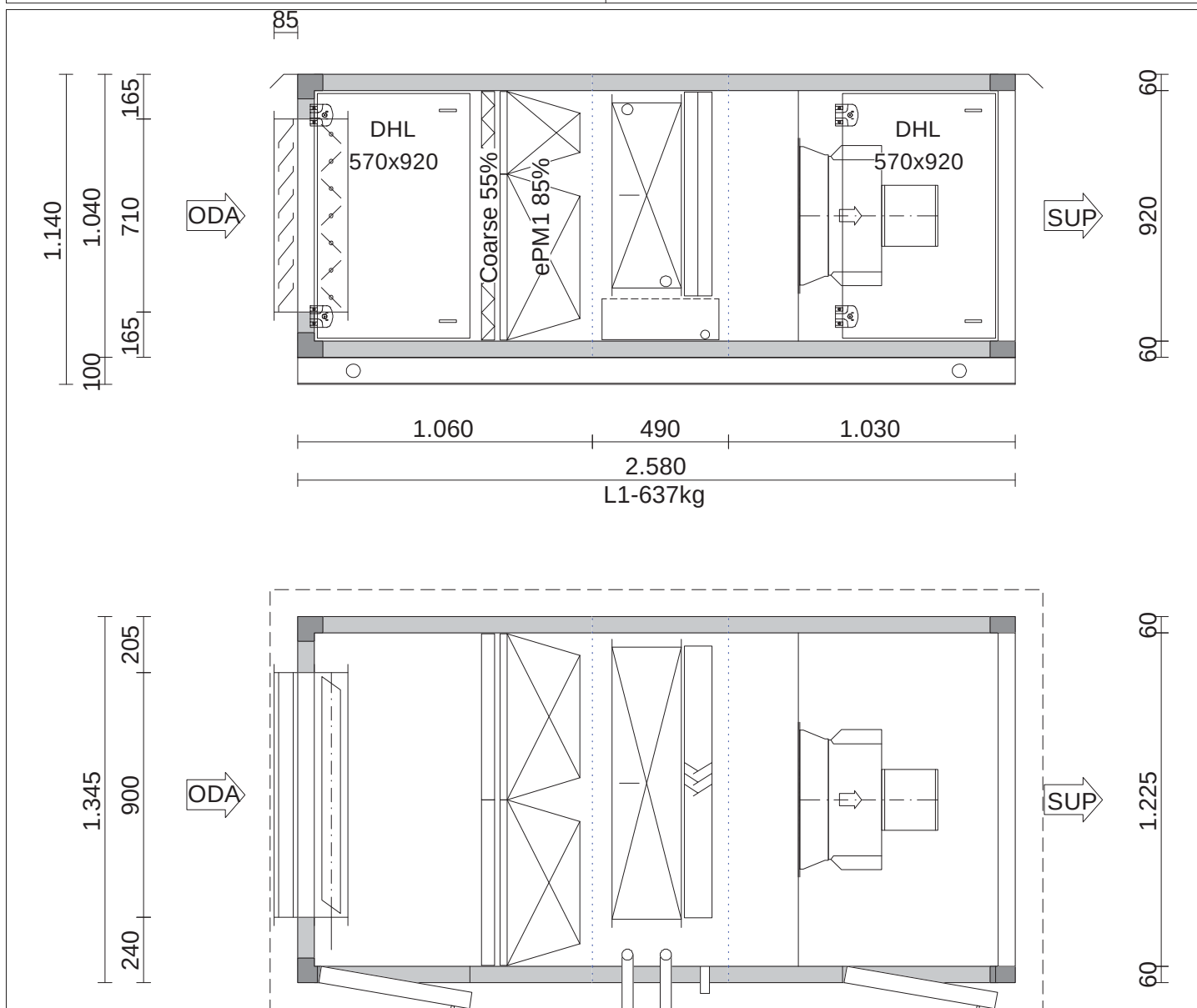
Position **04**
Drawing ID **KM-NA Rev. 2**

Quantity **1**
Collaborator **T.Khrystiuk**
Office / Agent **Samp S.p.A.**

Project city **Greece - Attica - Athens**



Serie	ECU	Supply air	5.500 m³/h
Execution	Supply air unit	External press	300 Pa
Type of unit	External unit	Motor power	1x 2,500 kW
Model 1	ECU 5.00-13-10		
Profile/Panel	P 60-46 CD-P050		
Total length	2580,00 mm	Total width	1345,00 mm
total height	1040,00 mm	Total weight	636 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-NA
	Position	04
	Quantity	1

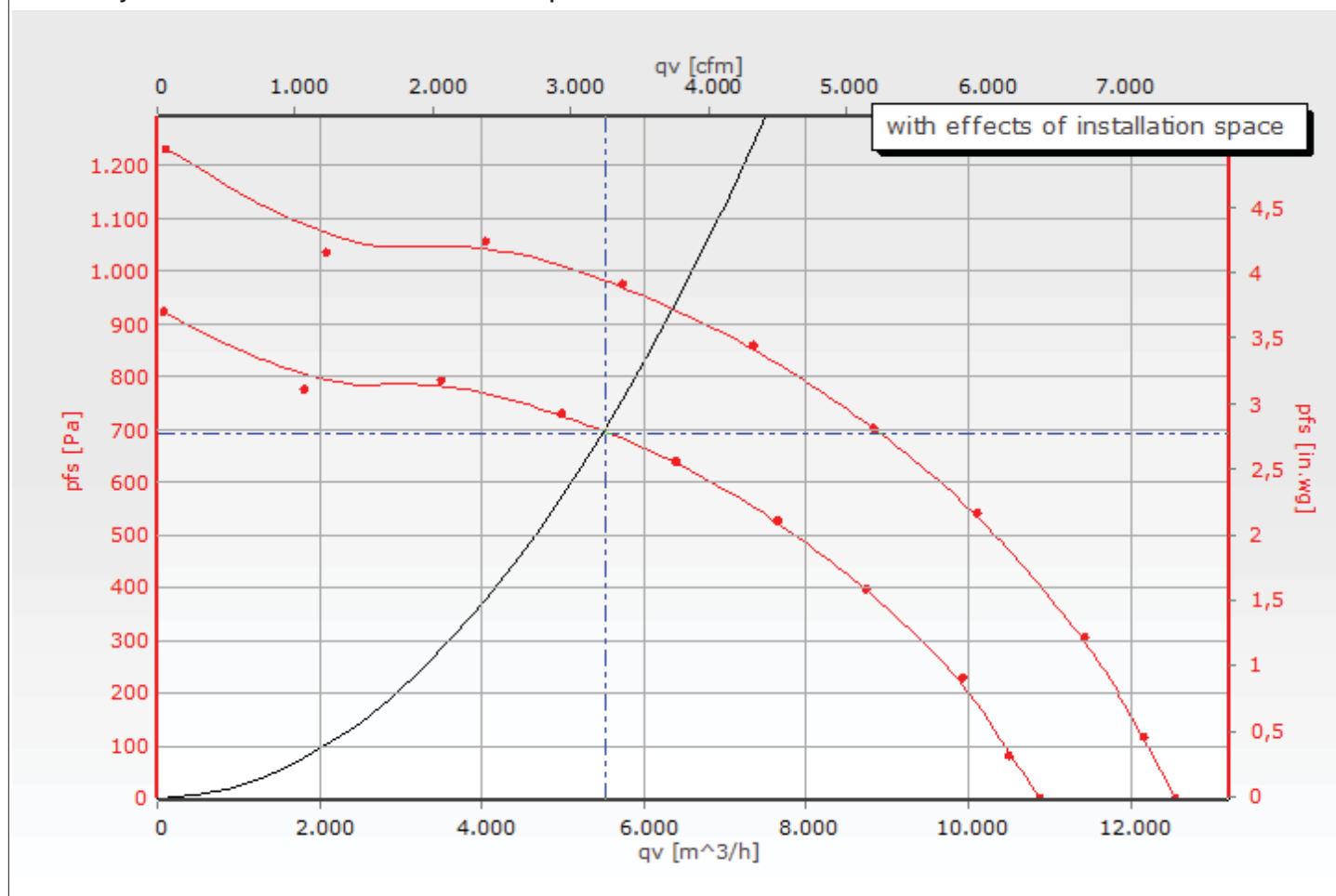
Supply air					
Unit definition:			Casing details:		
Unit size	ECU 5.00-13-10		Materials	Thickness	
Airflow [m³/h]	5.500	Length [mm]	2.580,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	300	Width [mm]	1.345,0	Panel inside mm	stainless steel 304 0,60
Tot. pressure [Pa]	723	Height [mm]	1.040,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,36	Weight [kg]	637,00	Panel inside bottom mm	stainless steel 304 0,60
Class DIN EN 13053	V1			Profiles	aluminium anodized
				Guides	stainless steel 304
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Bag Filter section with prefilter				1.060,0 mm	5,06 m2	343,00 kg	271 Pa
Manufacturer	SAMP	Airflow [m³/h]	5.500				
Model	MQZ	air velocity [m/s]	1,47				
Class EN 779:2012	G4	filter length [mm]	48,0				
Klasse ISO 16890	Coarse 55%	Filter surface [m2]	1,80				
		Filter handling	Dirty air withdrawal				
Clean dP [Pa]	39	Cells pcs x size	2 x G4-PF-48	592,0 x 592,0			
Med.dP [Pa]	94		2 x G4-PF-48	287,0 x 592,0			
Dirty dP [Pa]	150						
Manufacturer	SAMP	Airflow [m³/h]	5.500				
Model	4RT9	air velocity [m/s]	1,47				
Class EN 779:2012	F9	filter length [mm]	287,0				
Klasse ISO 16890	ePM1 85%	Filter surface [m2]	55,60				
Filter energy class EN 779:2012	C	Filter handling	Dirty air withdrawal				
Clean dP [Pa]	53	Cells pcs x size	2 x F9-TR-4V-287-GF	592,0 x 592,0			
Med.dP [Pa]	151		2 x F9-TR-4V-287-GF	287,0 x 592,0			
Dirty dP [Pa]	250						
Revision door		Door with hinge and lever		Dimensions [mm]		570,0 x 920,0	
Damper:		DIN Class	2	Dimensions	900,0 x 710,0 x 120,0mm		
Actuated by	Suitable for actuators	Airflow [m³/h]	5.500	Frame	stainless steel 304		
Qta. Levers	1	air velocity [m/s]	2,39	Blades	stainless steel 304		
torque [Nm]	5,200	Pressure drop [Pa]	5	Type	DP100V2A/V2A		
Weather louvre		Dimensions [mm]		900,0 x 710,0 x 85,0			
Type	WL	Material	aluminium anodized				

Cooling coil		490,0 mm	2,34 m2	173,00 kg	121 Pa
Airflow [m³/h]	5.500	Medium			Water
air velocity [m/s]	2,25	Med. Flow [l/s]			2,2400
Air in [°C]	35,00	Med. velocity [m/s]			1,16
Humidity [%]	40,6	Med. in [°C]			7,00
Air out [°C]	16,79	Med. out [°C]			12,00
Humidity [%]	97,9	Med. pres. drop [kPa]			18,41
total capacity [kW]	47,00	SHR			0,72
Sens. capacity [kW]	33,84	Content [l]			22,300
Air press. Drop [Pa]	wet/dry 108/78				
Cu-AlPr-Inox304 P40AR 5R-17T-1000A-2.5pa 10C 1 1/2" (.11- .4- 1.5					
Rows	5	Fins	0,110mm		Aluminium
Circuits	10	Tubes	0,400mm		copper
Fin space [mm]	2,50	Header			copper
Connection in	1 1/2"	Frames	30,0mm		stainless steel 304
Connection out	1 1/2"	Fin protection			epoxy coated
Drain pan	Material	stainless steel 304	Drain connection		1 1/4"
Drip eliminator	Type 1P	Frame	AluZinc	Fins	PPTV

Plug fan										1.030,0 mm	4,92 m2	121,00 kg	Pa	
Fan										Motor		E11233		IE5
Supplier										Protection				IP55
Air volume [m³/h]										5.500		Insulation class		F
External press [Pa]										300		Power [kW]		2,500
total static pressure drop [Pa]										697		Speed [1/min]		2.070
Fan System Effect										4		Nominal current (A)		3,90
total pressure [Pa]										723		voltage		3x400 V / 50 Hz
Speed [1/min]										1.789		System efficiency [%]		64,26
efficiency %										75,99		Absorbed power [kW]		1,657
Fan octave band sound power level (Lokt)										Control Signal (0-10V)				8,30
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000		Fan shaft power [kW]		1,454		
Inlet	68,5	78,5	71,9	70,4	66,6	66,1	64,9	58,8	dB-Lw5					
Outlet	71,3	84,7	74,1	74,7	74,1	71,2	67,0	61,0	dB-Lw6					
Sound Power Level [dB]										79,9		specific fan power [w/(m3/s)]		1.044/SFP2
Sound power [dB]										0,0		K-Factor		290

The fan system effect is taken into account in the fan performances



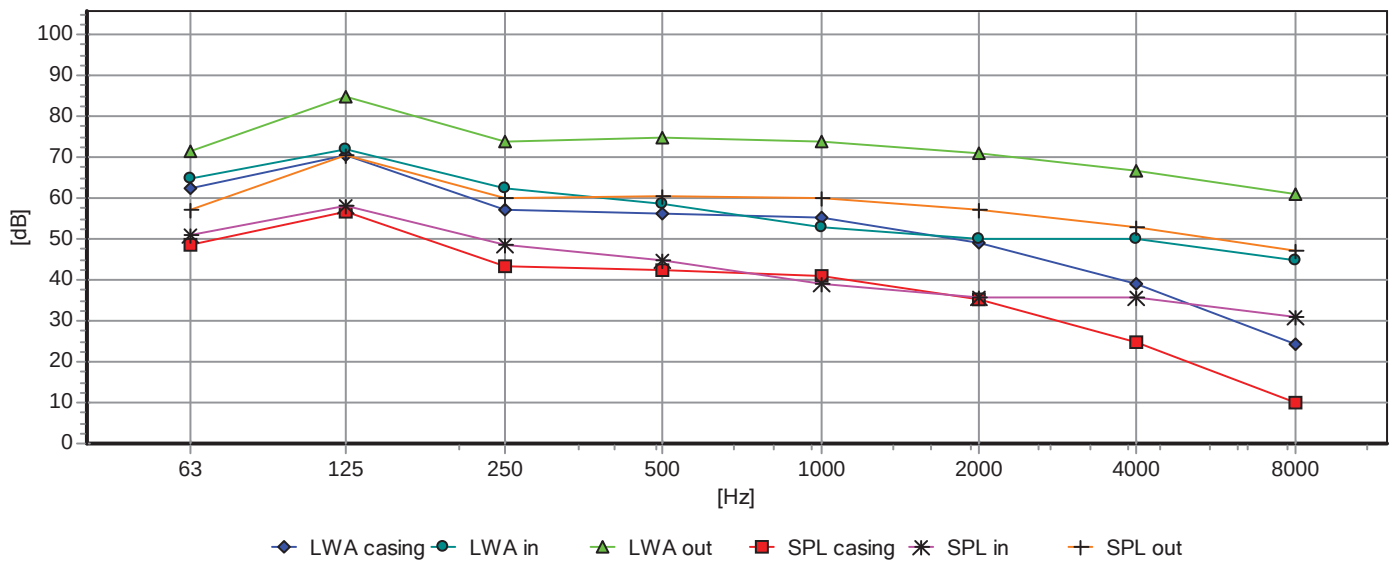
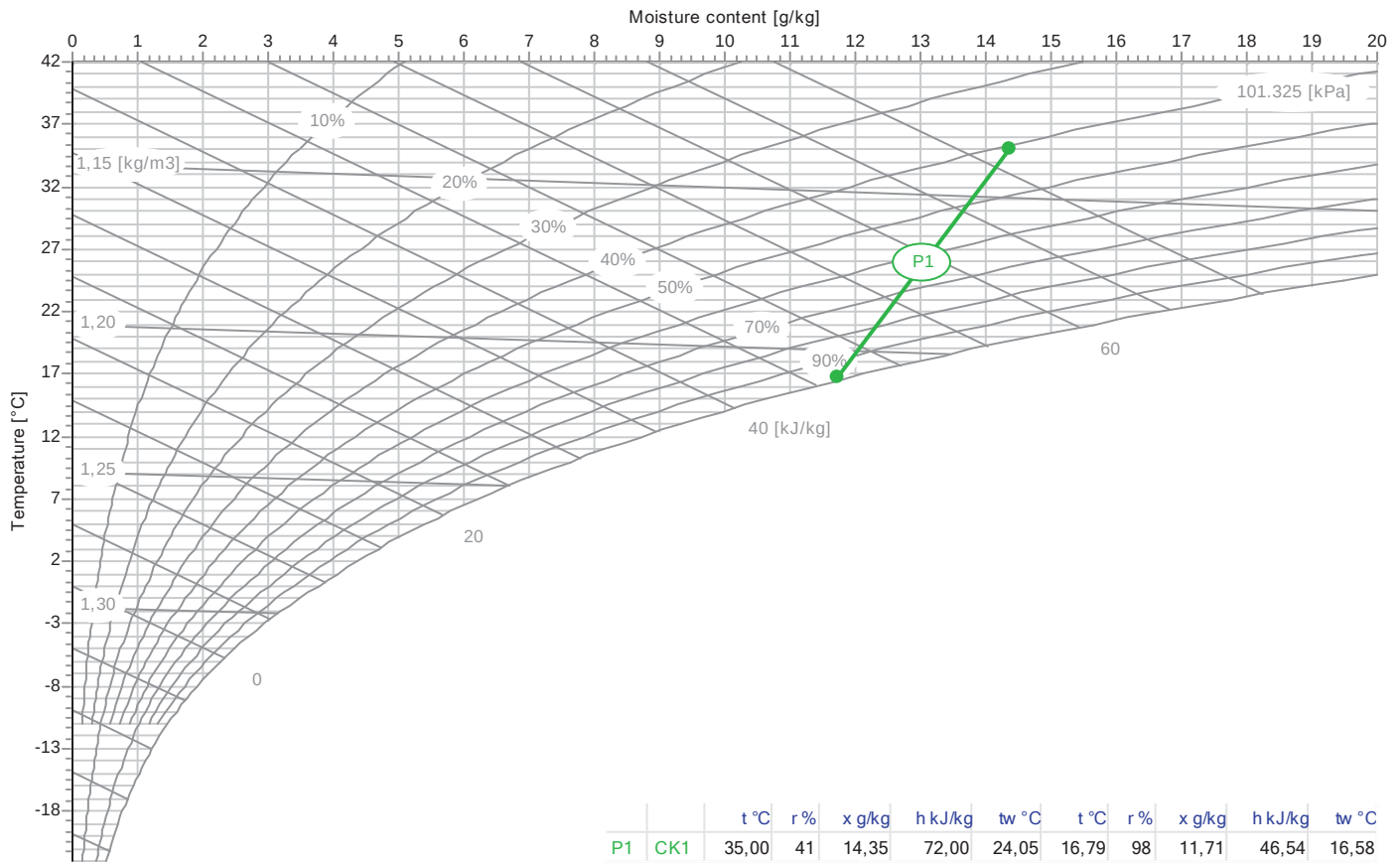
1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 920,0
Opening	Posizione	E	Dimensions [mm] 1.225,0 x 920,0

	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	KM-NA
	Position	04
	Quantity	1

Opening	Posizione	L	Dimensions [mm]	510,0 x 510,0
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noise calculation										
sound power [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	
Inlet	65,0	72,1	62,5	58,7	53,1	50,0	50,0	44,8	61,7	
Outlet	71,3	84,7	74,1	74,7	74,1	71,2	67,0	61,0	78,8	
Casing	62,5	70,8	57,3	56,3	55,1	49,2	38,9	24,1	60,1	
sound pressure level [dB]										
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	51,0	58,1	48,5	44,7	39,1	36,0	36,0	30,8	47,7	
Outlet	57,3	70,7	60,1	60,7	60,1	57,2	53,0	47,0	64,8	
Casing	48,5	56,8	43,3	42,3	41,1	35,2	24,9	10,1	46,1	
Tollerance +/- 4 dB										

Baseframe	BASE 100	Material	Aluminium	isolated	No	
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No	
1 set	Flat roof					
1 set	Grounding					
Delivery sections						
		no.	Width	Height	Length	Weight
		1	1.345,0	1.040,0	2.580,0	637,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	5500
Total static pressure = internal w/o system loss + external [Pa]		663
Internal static pressure = total static - external [Pa]		363
Power input real [kW]		1,78
Size reference velocity [m/s]		1,36
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		35,0
Factor Fs-Pref winter		0,97
Factor Fs-Pref summer		0,92
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		30



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 5.00-13-10
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	89 / 250
SFPint / SFPint limit 2018 [W/(m³/h)]	89 / 230
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	5.500
Type of drive	VSD installation to be foreseen
Effective electric power input	1,780 kW
face velocity	1,36 m/s
External press	300 Pa
Internal pressure drop of ventilation components	53 Pa
Fan system efficiency	59,75 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede
Samp S.p.A.
Via Elio Vittorini, nr. 9
IT 20863 Concorezzo (MB)
Tel.: +39 039 69 09 01
Fax +39 039 60 42 241

customer **LDM**
Offer **240329**
From date **16/02/2024**
Project **MUNICIPAL THEATRE OF LESVOS ISLAND**

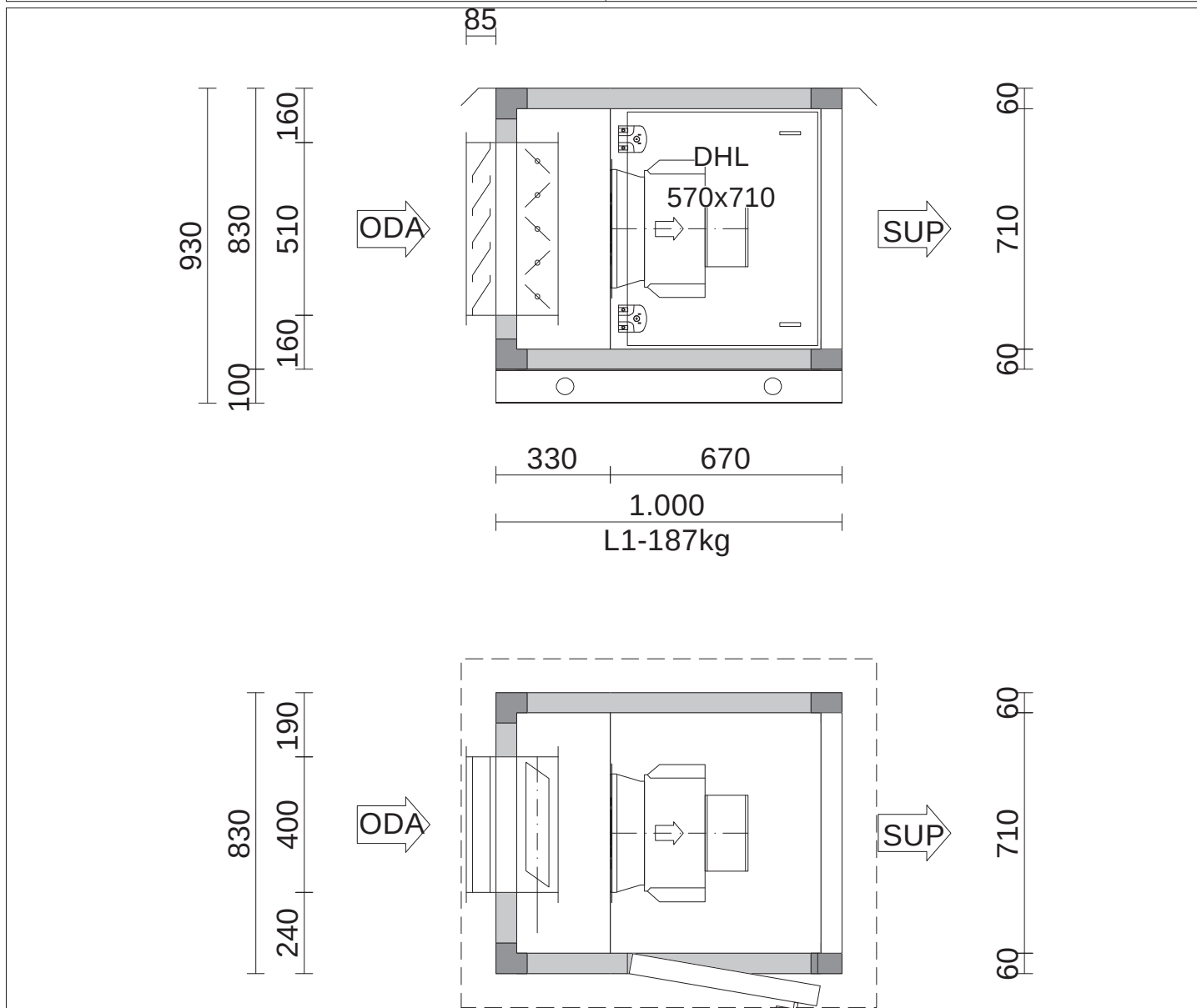
Position **09**
Drawing ID **FAN BAR Rev. 2**

Quantity **1**
Collaborator **T.Khrystiuk**
Office / Agent **Samp S.p.A.**

Project city **Greece - Attica - Athens**



Serie	ECU	Supply air	3.400 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 1,300 kW
Model 1	ECU 1.75-08-08		
Profile/Panel	P 60-46 CD-P050		
Total length	1000,00 mm	Total width	830,00 mm
total height	830,00 mm	Total weight	187 kg



	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	FAN BAR
	Position	09
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 1.75-08-08		Materials	Thickness	
Airflow [m³/h]	3.400	Length [mm]	1.000,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	250	Width [mm]	830,0	Panel inside mm	AluZinc 0,60
Tot. pressure [Pa]	397	Height [mm]	830,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,87	Weight [kg]	187,00	Panel inside bottom mm	AluZinc 0,60
Class DIN EN 13053	V3			Profiles	aluminium anodized
				Guides	AluZinc
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Empty section		330,0 mm	1,09 m2	120,00 kg	90 Pa
Damper:		DIN Class	2	Dimensions	400,0 x 510,0 x 120,0mm
Actuated by	Suitable for actuators	Airflow [m³/h]	3.400	Frame	stainless steel 304
Qta. Levers	1	air velocity [m/s]	4,63	Blades	stainless steel 304
torque [Nm]	1,650	Pressure drop [Pa]	18	Type	DP100V2A/V2A
<u>Weather louvre</u>		Dimensions [mm]	400,0 x 510,0 x 85,0		
Type	WL	Material	aluminium anodized		

Plug fan											670,0 mm	2,23 m2	67,00 kg	Pa		
Fan	K3G355-PT12-W2										Motor	M3G112EA			IE5	
Supplier	EBM-Papst										Protection				IP54	
Air volume [m³/h]	3.400										Insulation class				B	
External press [Pa]	250										Power [kW]				1,300	
total static pressure drop [Pa]	367										Speed [1/min]				2.600	
Fan System Effect	27										Nominal current (A)				2,00	
total pressure [Pa]	397										voltage	3x400 V / 50 Hz				
Speed [1/min]	1.890										System efficiency [%]				58,25	
efficiency %	76,94										Absorbed power [kW]				0,595	
Fan octave band sound power level (Lokt)											Control Signal (0-10V)			7,56		
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000			Fan shaft power [kW]			0,487		
Inlet	71,5	65,4	66,7	66,4	61,7	62,9	64,9	55,9	dB-Lw5							
Outlet	72,4	65,1	68,2	68,0	69,1	68,0	68,3	59,5	dB-Lw6							
Sound Power Level [dB]											76,1			specific fan power [w/(m3/s)]		630/SFP2
Sound power [dB]											0,0			K-Factor		148

Opening Posizione L Dimensions [mm] **350,0 x 350,0**

noise calculation

sound power [dB]

Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]
Inlet	71,5	65,4	66,7	66,4	61,7	62,9	64,9	55,9	70,5
Outlet	72,4	65,1	68,2	68,0	69,1	68,0	68,3	59,5	74,7
Casing	63,6	51,5	51,4	49,6	50,1	46,0	40,2	22,6	53,8

sound pressure level [dB]

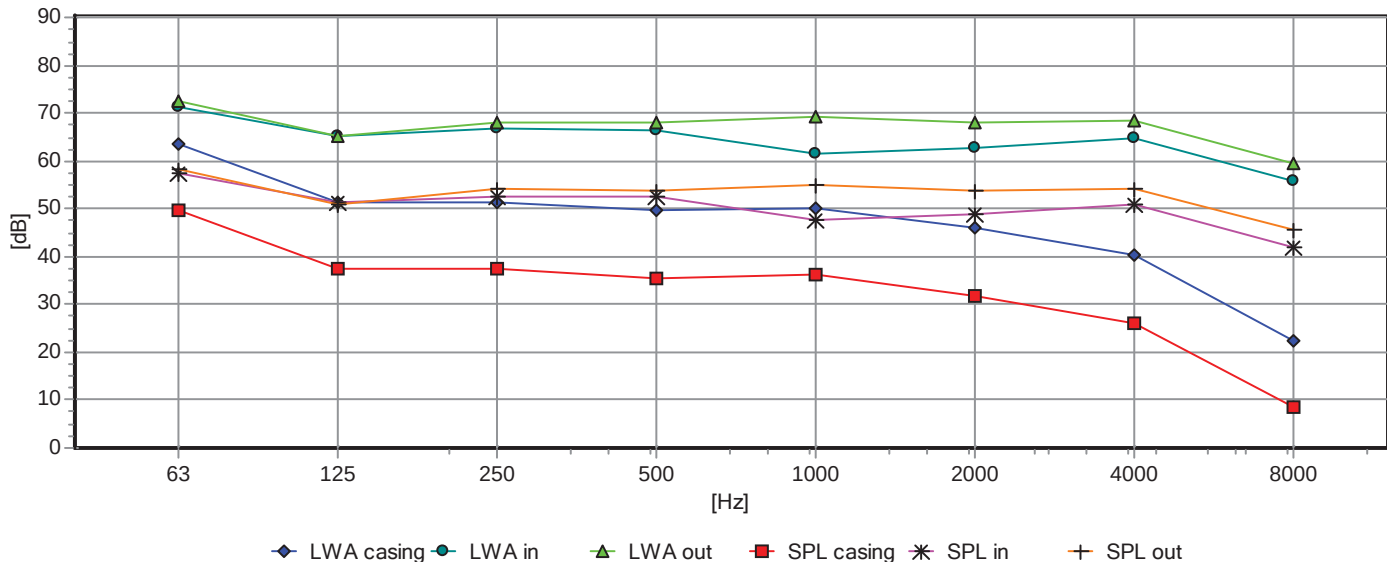
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	57,5	51,4	52,7	52,4	47,7	48,9	50,9	41,9	56,5	
Outlet	58,4	51,1	54,2	54,0	55,1	54,0	54,3	45,5	60,7	
Casing	49,6	37,5	37,4	35,6	36,1	32,0	26,2	8,6	39,8	

Tolerance +/- 4 dB

Baseframe	BASE 100	Material	Aluminium	isolated	No
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No
1 set	Flat roof				
1 set	Grounding				

Delivery sections

no.	Width	Height	Length	Weight
1	830,0	830,0	1.000,0	187,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	3400
Total static pressure = internal w/o system loss + external [Pa]		340
Internal static pressure = total static - external [Pa]		90
Power input real [kW]		0,70
Size reference velocity [m/s]		1,87
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		20,0
Factor Fs-Pref winter		0,96
Factor Fs-Pref summer		0,86
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		0



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 1.75-08-08
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	0 / 0
SFPint / SFPint limit 2018 [W/(m³/h)]	0 / 0
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	3.400
Type of drive	VSD installation to be foreseen
Effective electric power input	0,700 kW
face velocity	1,87 m/s
External press	250 Pa
Internal pressure drop of ventilation components	Pa
Fan system efficiency	49,17 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

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Sede
Samp S.p.A.

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Fax +39 039 60 42 241

customer **LDM**
Offer **240329**
From date **16/02/2024**
Project **MUNICIPAL THEATRE OF LESVOS ISLAND**

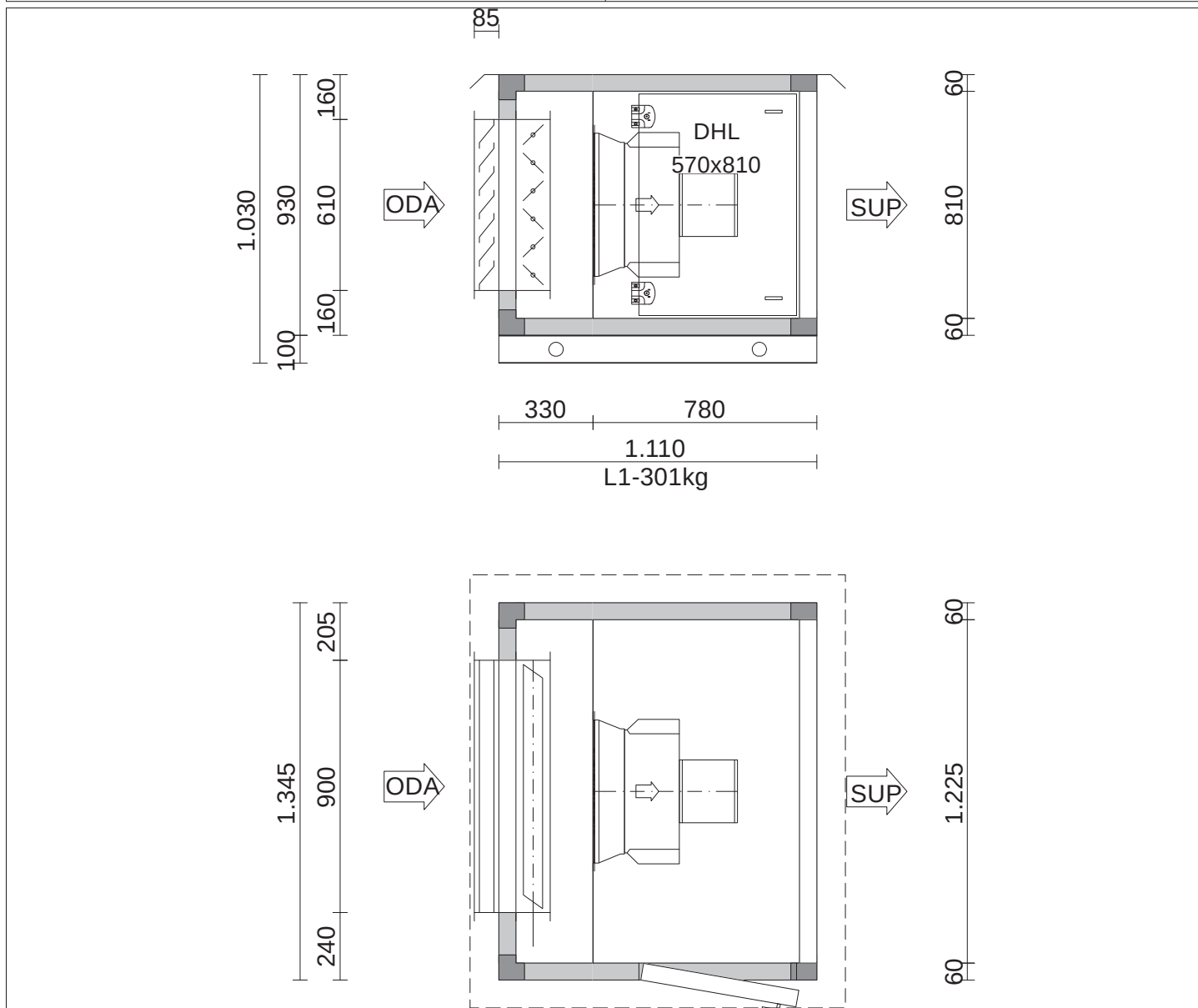
Position **10**
Drawing ID **FAN FOYAGE-1 Rev. 2**

Quantity **1**
Collaborator **T.Khrystiuk**
Office / Agent **Samp S.p.A.**

Project city **Greece - Attica - Athens**



Serie	ECU	Supply air	5.100 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 2,500 kW
Model 1	ECU 4.00-13-09		
Profile/Panel	P 60-46 CD-P050		
Total length	1110,00 mm	Total width	1345,00 mm
total height	930,00 mm	Total weight	300 kg



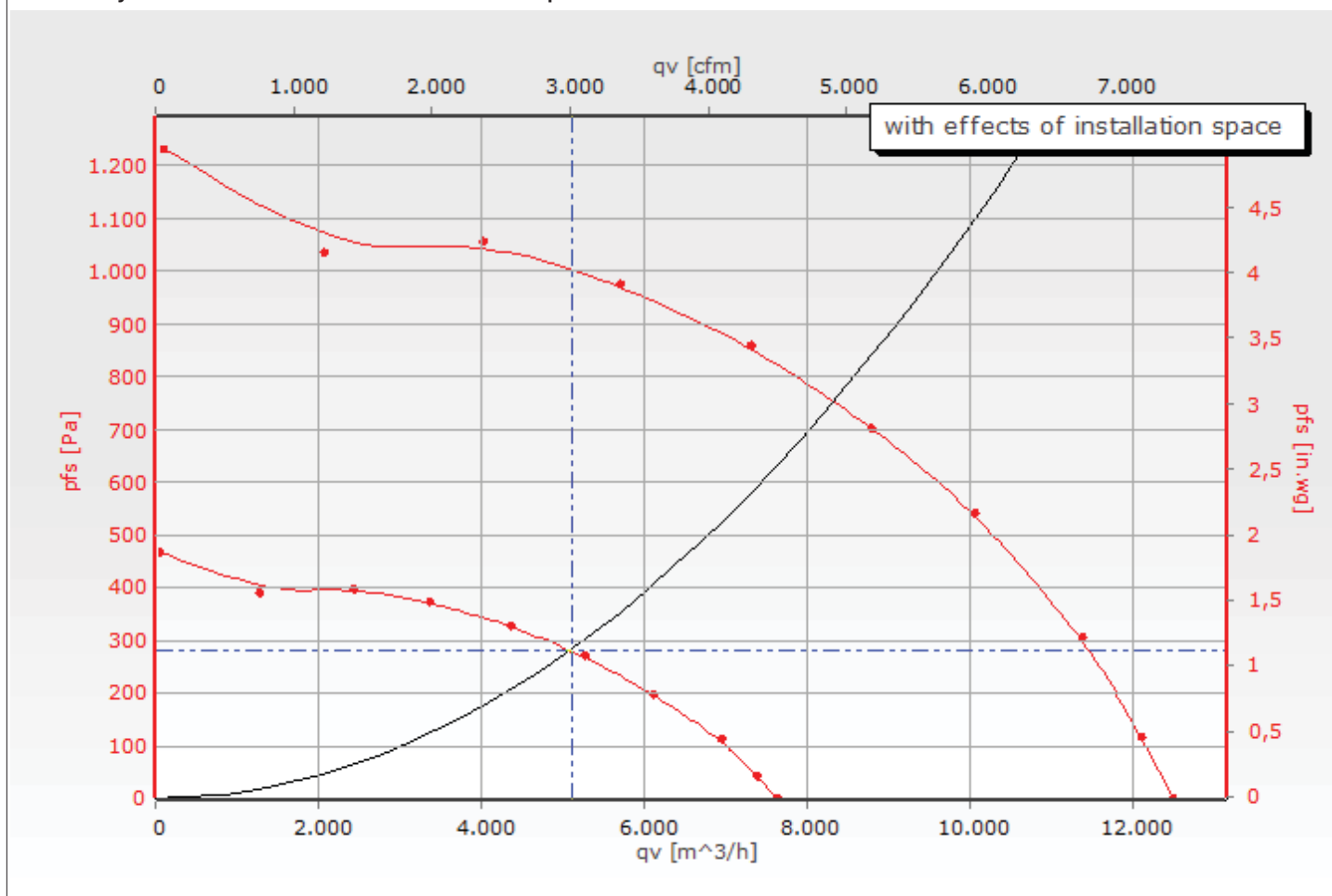
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	FAN FOYAGE-1
	Position	10
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 4.00-13-09			Materials	Thickness
Airflow [m³/h]	5.100	Length [mm]	1.110,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	250	Width [mm]	1.345,0	Panel inside mm	AluZinc 0,60
Tot. pressure [Pa]	305	Height [mm]	930,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,43	Weight [kg]	301,00	Panel inside bottom mm	AluZinc 0,60
Class DIN EN 13053	V1			Profiles	aluminium anodized
				Guides	AluZinc
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Empty section			330,0 mm	1,5 m2	200,00 kg	28 Pa
Damper:		DIN Class	2	Dimensions	900,0 x 610,0 x 120,0mm	
Actuated by	Suitable for actuators	Airflow [m³/h]	5.100	Frame	stainless steel 304	
Qta. Levers	1	air velocity [m/s]	2,58	Blades	stainless steel 304	
torque [Nm]	4,460	Pressure drop [Pa]	5	Type	DP100V2A/V2A	
Weather louvre			Dimensions [mm]		900,0 x 610,0 x 85,0	
Type	WL	Material	aluminium anodized			

Plug fan											780,0 mm	3,55 m2	101,00 kg	Pa	
Fan											Motor		E11233		IE5
Supplier											Protection				IP55
Air volume [m³/h]											Insulation class				F
External press [Pa]											Power [kW]				2,500
total static pressure drop [Pa]											Speed [1/min]				2.070
Fan System Effect											Nominal current (A)				3,90
total pressure [Pa]											voltage		3x400 V / 50 Hz		
Speed [1/min]											System efficiency [%]				63,72
efficiency %											Absorbed power [kW]				0,627
Fan octave band sound power level (Lokt)											Control Signal (0-10V)				5,89
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000			Fan shaft power [kW]		0,520		
Inlet	59,7	62,0	61,5	60,0	58,5	62,6	56,4	48,8	dB-Lw5		specific fan power [w/(m3/s)]		443/SFP1		
Outlet	62,3	64,7	64,5	65,0	65,2	66,9	58,8	50,6	dB-Lw6		K-Factor		290		
Sound Power Level [dB]											72,4				
Sound power [dB]											0,0				

The fan system effect is taken into account in the fan performances



1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 810,0
Opening	Posizione	E	Dimensions [mm] 1.225,0 x 810,0

Opening Posizione L Dimensions [mm] **510,0 x 510,0**

noise calculation

sound power [dB]

Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]
Inlet	59,7	62,0	61,5	60,0	58,5	62,6	56,4	48,8	66,5
Outlet	62,3	64,7	64,5	65,0	65,2	66,9	58,8	50,6	71,1
Casing	53,5	50,8	47,7	46,6	46,2	44,9	30,7	13,7	50,7

sound pressure level [dB]

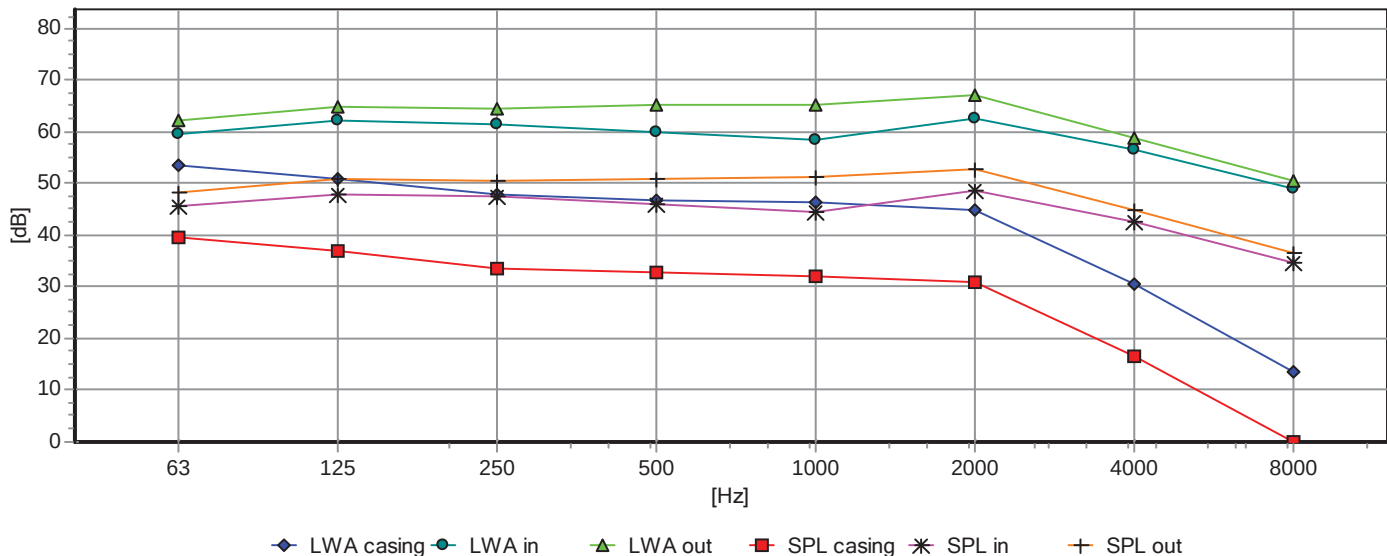
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	45,7	48,0	47,5	46,0	44,5	48,6	42,4	34,8	52,5	
Outlet	48,3	50,7	50,5	51,0	51,2	52,9	44,8	36,6	57,1	
Casing	39,5	36,8	33,7	32,6	32,2	30,9	16,7		36,7	

Tolerance +/- 4 dB

Baseframe	BASE 100	Material	Aluminium	isolated	No
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No
1 set	Flat roof				
1 set	Grounding				

Delivery sections

no.	Width	Height	Length	Weight
1	1.345,0	930,0	1.110,0	301,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	5100
Total static pressure = internal w/o system loss + external [Pa]		278
Internal static pressure = total static - external [Pa]		28
Power input real [kW]		0,84
Size reference velocity [m/s]		1,43
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		20,0
Factor Fs-Pref winter		1
Factor Fs-Pref summer		0,86
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		0



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 4.00-13-09
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	0 / 0
SFPint / SFPint limit 2018 [W/(m³/h)]	0 / 0
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	5.100
Type of drive	VSD installation to be foreseen
Effective electric power input	0,840 kW
face velocity	1,43 m/s
External press	250 Pa
Internal pressure drop of ventilation components	Pa
Fan system efficiency	47,7 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

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Sede

Samp S.p.A.

Via Elio Vittorini, nr. 9

IT 20863 Concorezzo (MB)

Tel.: +39 039 69 09 01

Fax +39 039 60 42 241

customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

07

FAN RF Rev. 2

1

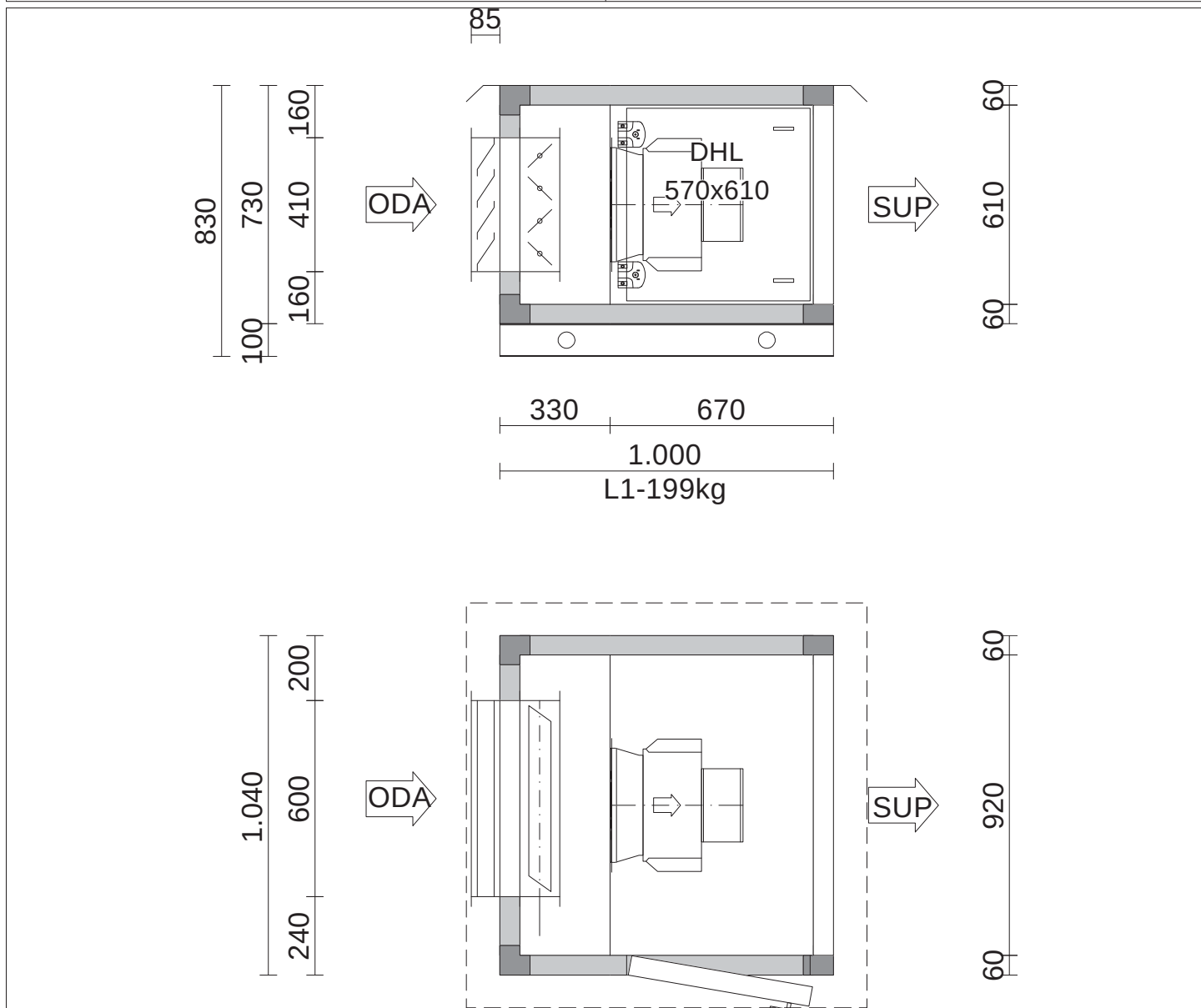
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	4.000 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 1,300 kW
Model 1	ECU 1.75-10-07		
Profile/Panel	P 60-46 CD-P050		
Total length	1000,00 mm	Total width	1040,00 mm
total height	730,00 mm	Total weight	198 kg



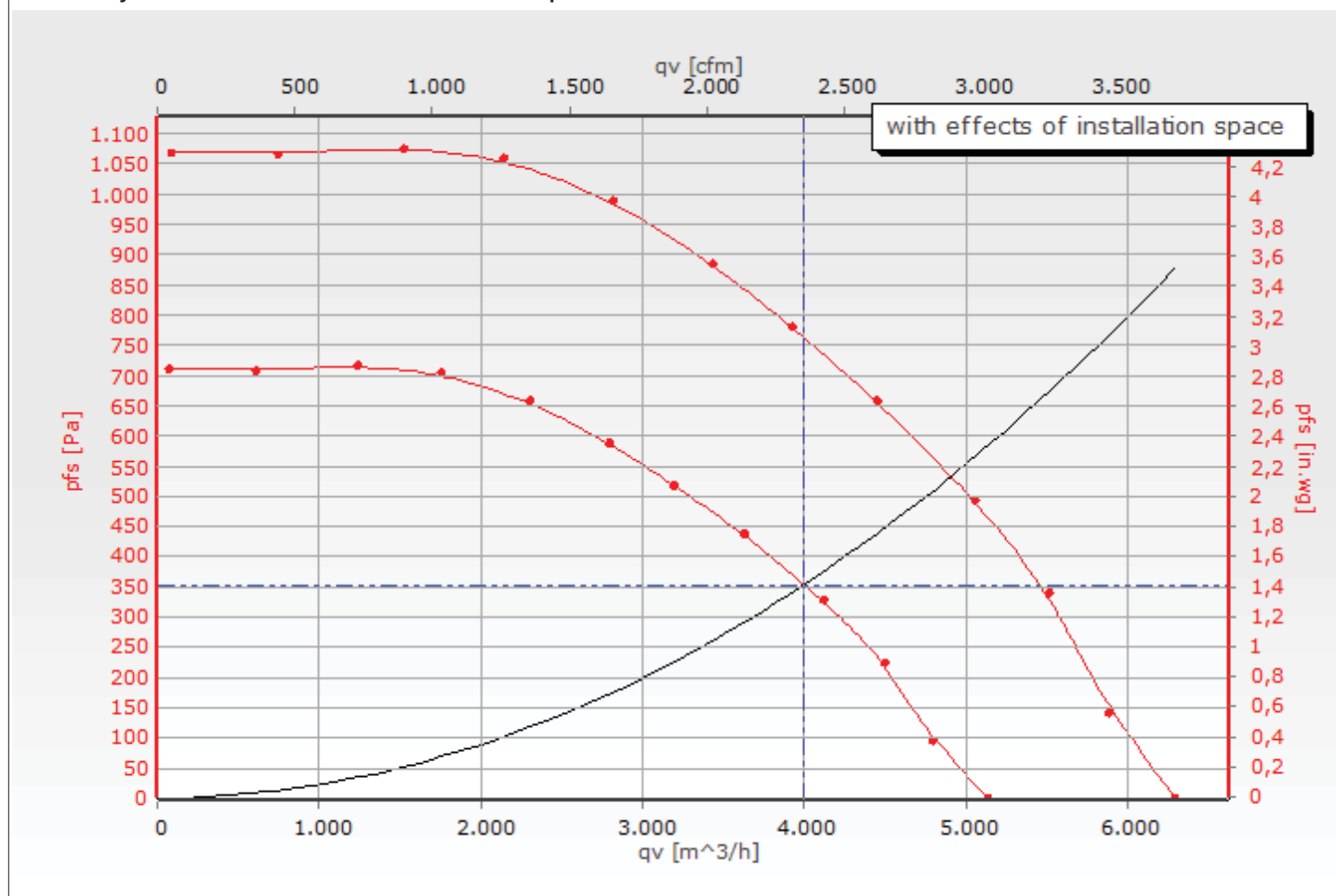
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	FAN RF
	Position	07
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 1.75-10-07			Materials	Thickness
Airflow [m³/h]	4.000	Length [mm]	1.000,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	250	Width [mm]	1.040,0	Panel inside mm	AluZinc 0,60
Tot. pressure [Pa]	396	Height [mm]	730,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	1,98	Weight [kg]	199,00	Panel inside bottom mm	AluZinc 0,60
Class DIN EN 13053	V3			Profiles	aluminium anodized
				Guides	AluZinc
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Empty section		330,0 mm	1,16 m2	127,00 kg	85 Pa
Damper:		DIN Class	2	Dimensions	600,0 x 410,0 x 120,0mm
Actuated by	Suitable for actuators	Airflow [m³/h]	4.000	Frame	stainless steel 304
Qta. Levers	1	air velocity [m/s]	4,52	Blades	stainless steel 304
torque [Nm]	1,980	Pressure drop [Pa]	17	Type	DP100V2A/V2A
<u>Weather louvre</u>		Dimensions [mm]	600,0 x 410,0 x 85,0		
Type	WL	Material	galvanized steel		

Plug fan										670,0 mm	2,38 m2	72,00 kg	Pa		
Fan										Motor				IE5	
Supplier										M3G112EA				IP54	
Air volume [m³/h]										Insulation class				B	
External press [Pa]										Power [kW]				1,300	
total static pressure drop [Pa]										Speed [1/min]				2.600	
Fan System Effect										Nominal current (A)				2,00	
total pressure [Pa]										voltage				3x400 V / 50 Hz	
Speed [1/min]										System efficiency [%]				57	
efficiency %										Absorbed power [kW]				0,690	
Fan octave band sound power level (Lokt)										Control Signal (0-10V)				8,14	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000		Fan shaft power [kW]				0,576	
Inlet	71,5	66,0	68,8	69,3	64,0	65,7	70,4	59,8	dB-Lw5	specific fan power [w/(m3/s)]				621/SFP2	
Outlet	72,4	65,8	70,8	70,4	71,5	70,6	73,4	63,3	dB-Lw6	K-Factor				148	
Sound Power Level [dB]										79,7					
Sound power [dB]										0,0					

The fan system effect is taken into account in the fan performances



1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 610,0
Opening	Posizione	E	Dimensions [mm] 920,0 x 610,0

Opening Posizione L Dimensions [mm] **350,0 x 350,0**

noise calculation

sound power [dB]

Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]
Inlet	71,5	66,0	68,8	69,3	64,0	65,7	70,4	59,8	74,3
Outlet	72,4	65,8	70,8	70,4	71,5	70,6	73,4	63,3	78,2
Casing	63,6	52,1	54,0	52,0	52,5	48,6	45,3	26,4	56,4

sound pressure level [dB]

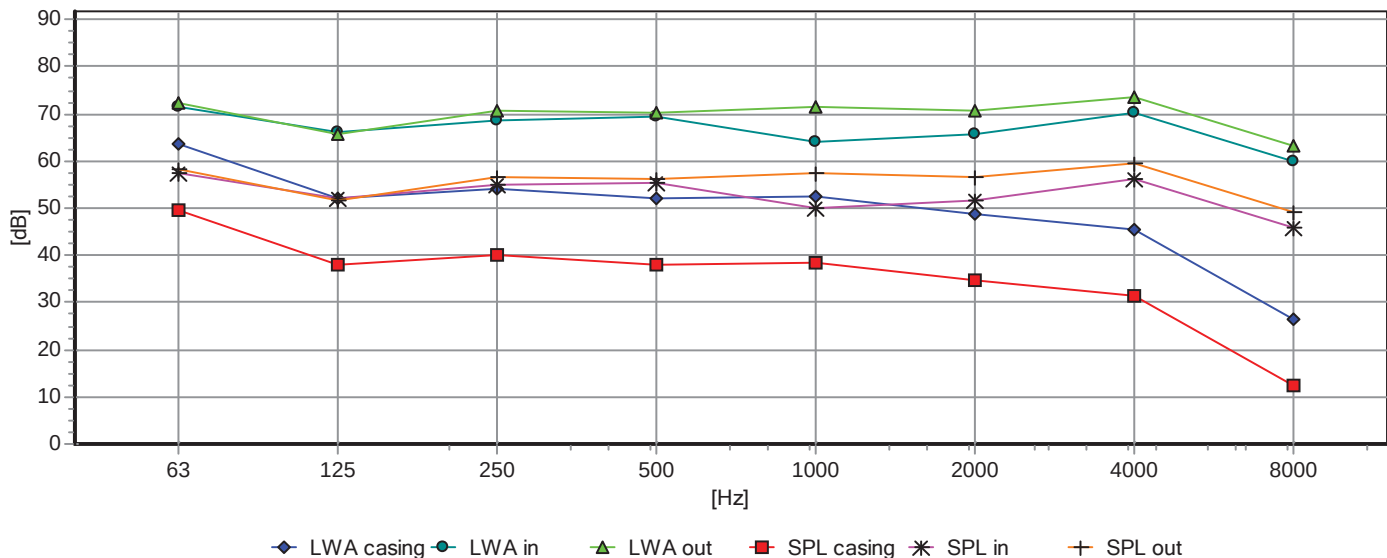
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	57,5	52,0	54,8	55,3	50,0	51,7	56,4	45,8	60,3	
Outlet	58,4	51,8	56,8	56,4	57,5	56,6	59,4	49,3	64,2	
Casing	49,6	38,1	40,0	38,0	38,5	34,6	31,3	12,4	42,4	

Tolerance +/- 4 dB

Baseframe	BASE 100	Material	Aluminium	isolated	No
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No
1 set	Flat roof				
1 set	Grounding				

Delivery sections

no.	Width	Height	Length	Weight
1	1.040,0	730,0	1.000,0	199,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	4000
Total static pressure = internal w/o system loss + external [Pa]		336
Internal static pressure = total static - external [Pa]		86
Power input real [kW]		0,79
Size reference velocity [m/s]		1,98
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		20,0
Factor Fs-Pref winter		0,96
Factor Fs-Pref summer		0,87
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		0



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 1.75-10-07
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	0 / 0
SFPint / SFPint limit 2018 [W/(m³/h)]	0 / 0
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	4.000
Type of drive	VSD installation to be foreseen
Effective electric power input	0,790 kW
face velocity	1,98 m/s
External press	250 Pa
Internal pressure drop of ventilation components	Pa
Fan system efficiency	49,94 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

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Sede

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Tel.: +39 039 69 09 01

Fax +39 039 60 42 241

customer

Offer

From date

Project

Position

Drawing ID

Quantity

Collaborator

Office / Agent

Project city

LDM

240329

16/02/2024

MUNICIPAL THEATRE OF LESVOS ISLAND

08

FAN WC Rev. 2

1

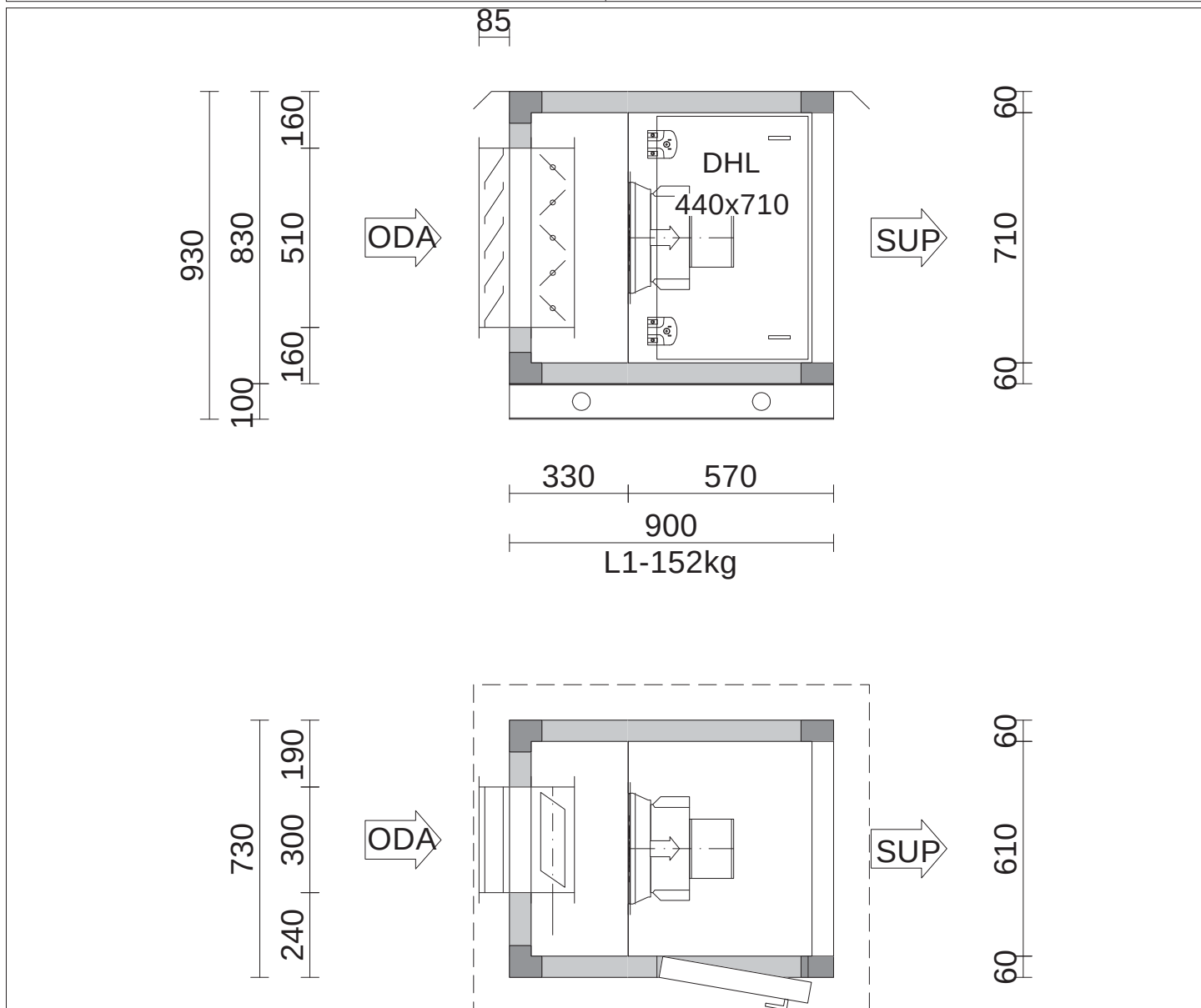
T.Khrystiuk

Samp S.p.A.

Greece - Attica - Athens



Serie	ECU	Supply air	1.700 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 0,500 kW
Model 1	ECU 1.50-07-08		
Profile/Panel	P 60-46 CD-P050		
Total length	900,00 mm	Total width	730,00 mm
total height	830,00 mm	Total weight	152 kg



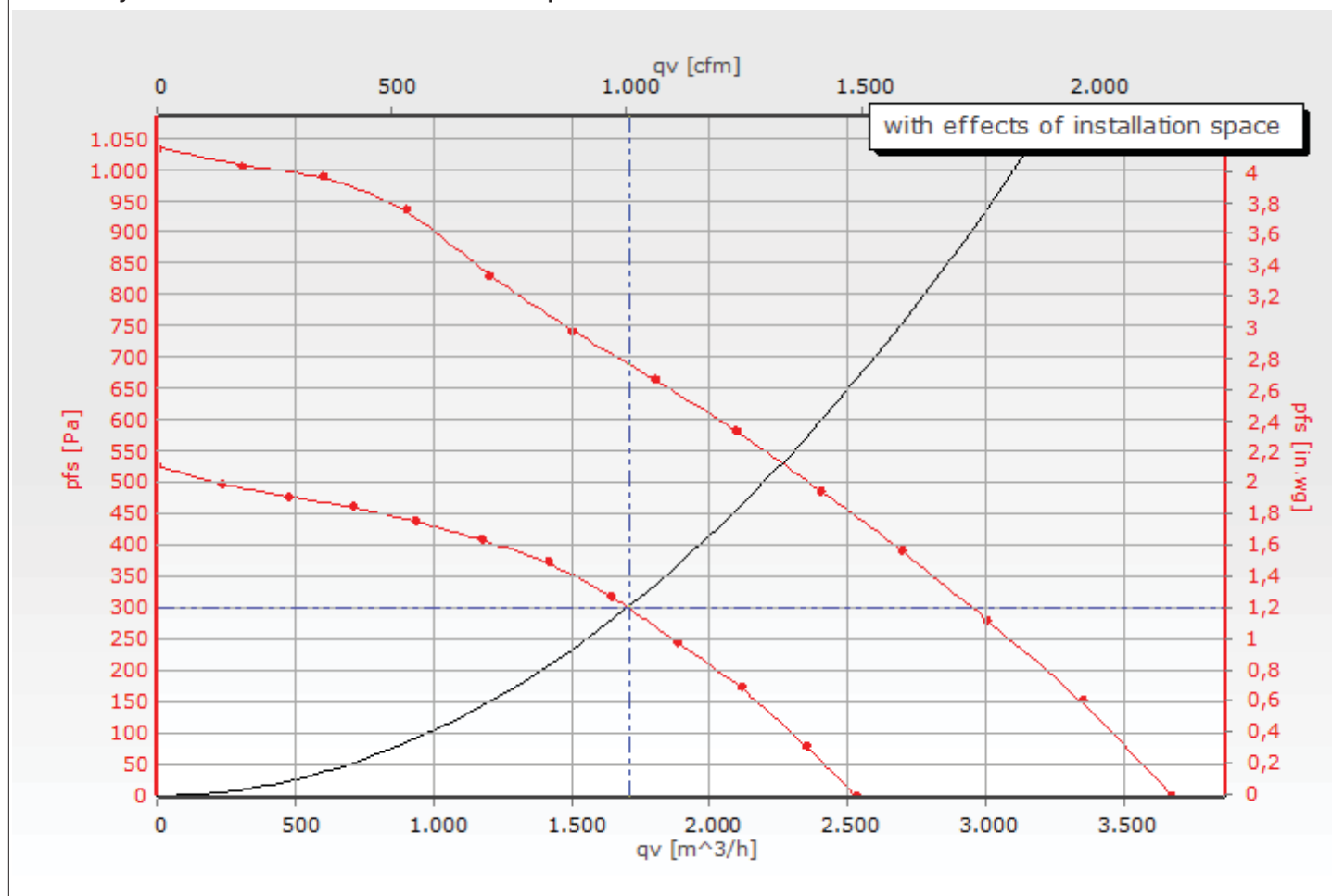
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	FAN WC
	Position	08
	Quantity	1

Supply air									
Unit definition:				Casing details:					
Unit size		ECU 1.50-07-08				Materials		Thickness	
Airflow [m³/h]	1.700	Length [mm]	900,0	Insulation [mm]	Polyurethan 45 Kg/m3			46,0	
Ext. pressure [Pa]	250	Width [mm]	730,0	Panel inside mm	AluZinc			0,60	
Tot. pressure [Pa]	325	Height [mm]	830,0	Panel outside mm	galvanized coated	RAL9073	0,60		
air velocity [m/s]	1,09	Weight [kg]	152,00	Panel inside bottom mm	AluZinc			0,60	
Class DIN EN 13053	V1			Profiles	aluminium anodized				
				Guides	AluZinc				
Thermal transmittance		T2	Casing leaky -400Pa	L1(M)	Mechanical stability				D1
Thermal bridge class		TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage				F9

Empty section			330,0 mm	1,03 m2	109,00 kg	40 Pa
Damper:		DIN Class	2	Dimensions	300,0 x 510,0 x 120,0mm	
Actuated by	Suitable for actuators	Airflow [m³/h]	1.700	Frame	stainless steel 304	
Qta. Levers	1	air velocity [m/s]	3,09	Blades	stainless steel 304	
torque [Nm]	1,240	Pressure drop [Pa]	8	Type	DP100V2A/V2A	
Weather louvre			Dimensions [mm]		300,0 x 510,0 x 85,0	
Type	WL	Material	aluminium anodized			

Plug fan										570,0 mm	1,78 m2	43,00 kg	Pa		
Fan										Motor				IE5	
Supplier										M3G084DF				IP54	
Air volume [m³/h]										Insulation class				F	
External press [Pa]										Power [kW]				0,500	
total static pressure drop [Pa]										Speed [1/min]				2.670	
Fan System Effect										Nominal current (A)				2,30	
total pressure [Pa]										voltage				1x230 V / 50 Hz	
Speed [1/min]										System efficiency [%]				57,35	
efficiency %										Absorbed power [kW]				0,247	
Fan octave band sound power level (Lokt)										Control Signal (0-10V)				6,58	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000		Fan shaft power [kW]				0,200	
Inlet	58,5	57,3	60,0	59,7	59,8	58,5	60,7	49,1	dB-Lw5	specific fan power [w/(m3/s)]				524/SFP2	
Outlet	61,3	58,7	60,8	63,4	67,5	66,4	62,7	54,1	dB-Lw6	K-Factor				77	
Sound Power Level [dB]										72,8					
Sound power [dB]										0,0					

The fan system effect is taken into account in the fan performances



1 set	Fan epoxy coated 250 um		
Revision door	Door with hinge and lever	Dimensions [mm]	440,0 x 710,0
Opening	Posizione	E	Dimensions [mm] 610,0 x 710,0

Opening Posizione L Dimensions [mm] **315,0 x 315,0**

noise calculation

sound power [dB]

Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]
Inlet	58,5	57,3	60,0	59,7	59,8	58,5	60,7	49,1	66,1
Outlet	61,3	58,7	60,8	63,4	67,5	66,4	62,7	54,1	71,8
Casing	52,5	44,8	44,0	45,0	48,5	44,4	34,6	17,2	51,2

sound pressure level [dB]

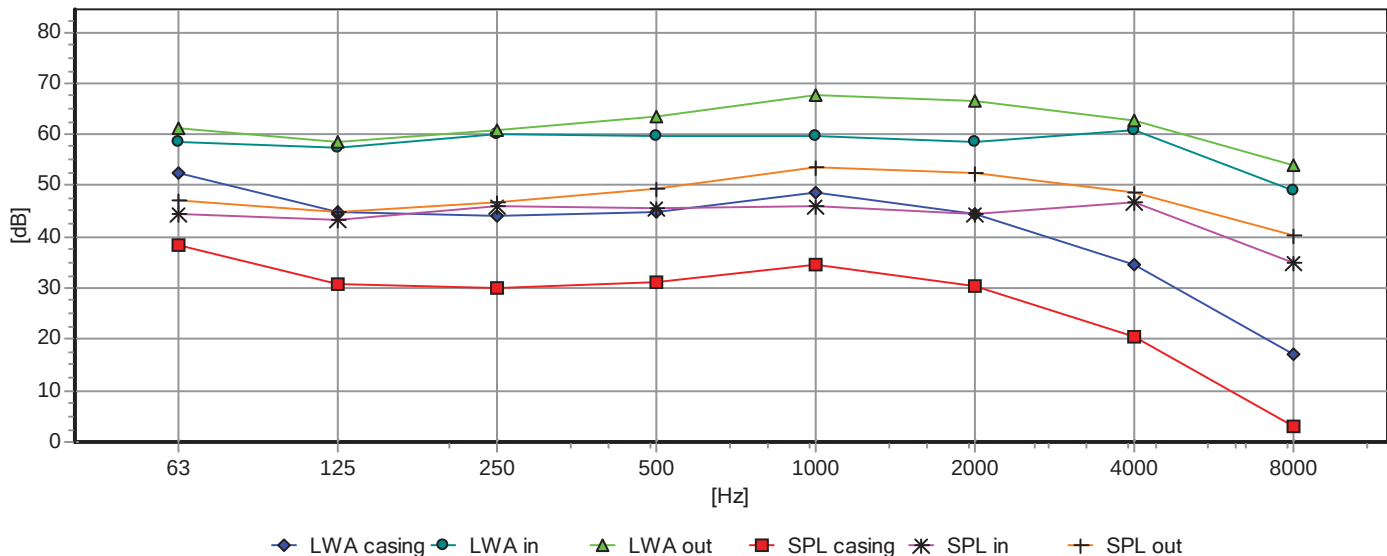
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	44,5	43,3	46,0	45,7	45,8	44,5	46,7	35,1	52,1	
Outlet	47,3	44,7	46,8	49,4	53,5	52,4	48,7	40,1	57,8	
Casing	38,5	30,8	30,0	31,0	34,5	30,4	20,6	3,2	37,2	

Tolerance +/- 4 dB

Baseframe	BASE 100	Material	Aluminium	isolated	No
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No
1 set	Flat roof				
1 set	Grounding				

Delivery sections

no.	Width	Height	Length	Weight
1	730,0	830,0	900,0	152,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air	1700
Total static pressure = internal w/o system loss + external [Pa]		291
Internal static pressure = total static - external [Pa]		41
Power input real [kW]		0,29
Size reference velocity [m/s]		1,09
Efficiency HRS mass flow balanced [%]		0,0
Humidity efficiency [%]		0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]		0
Mixing ratio = recirculated air / supply air [%]		0
Electric re-heater		0
Design drybulb temperature [°C]		35,9
Design dew-point temperature [°C]		13,5
Design outdoor temperature [°C]		20,0
Factor Fs-Pref winter		0,96
Factor Fs-Pref summer		0,96
Reference city	Greece - Attica - Athens	
Correction due to Coils + HRS winter conditions [Pa]		0



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 1.50-07-08
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	0 / 0
SFPint / SFPint limit 2018 [W/(m³/h)]	0 / 0
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	1.700
Type of drive	VSD installation to be foreseen
Effective electric power input	0,290 kW
face velocity	1,09 m/s
External press	250 Pa
Internal pressure drop of ventilation components	Pa
Fan system efficiency	49,02 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Sede
Samp S.p.A.
Via Elio Vittorini, nr. 9
IT 20863 Concorezzo (MB)
Tel.: +39 039 69 09 01
Fax +39 039 60 42 241

customer **LDM**
Offer **240329**
From date **16/02/2024**
Project **MUNICIPAL THEATRE OF LESVOS ISLAND**

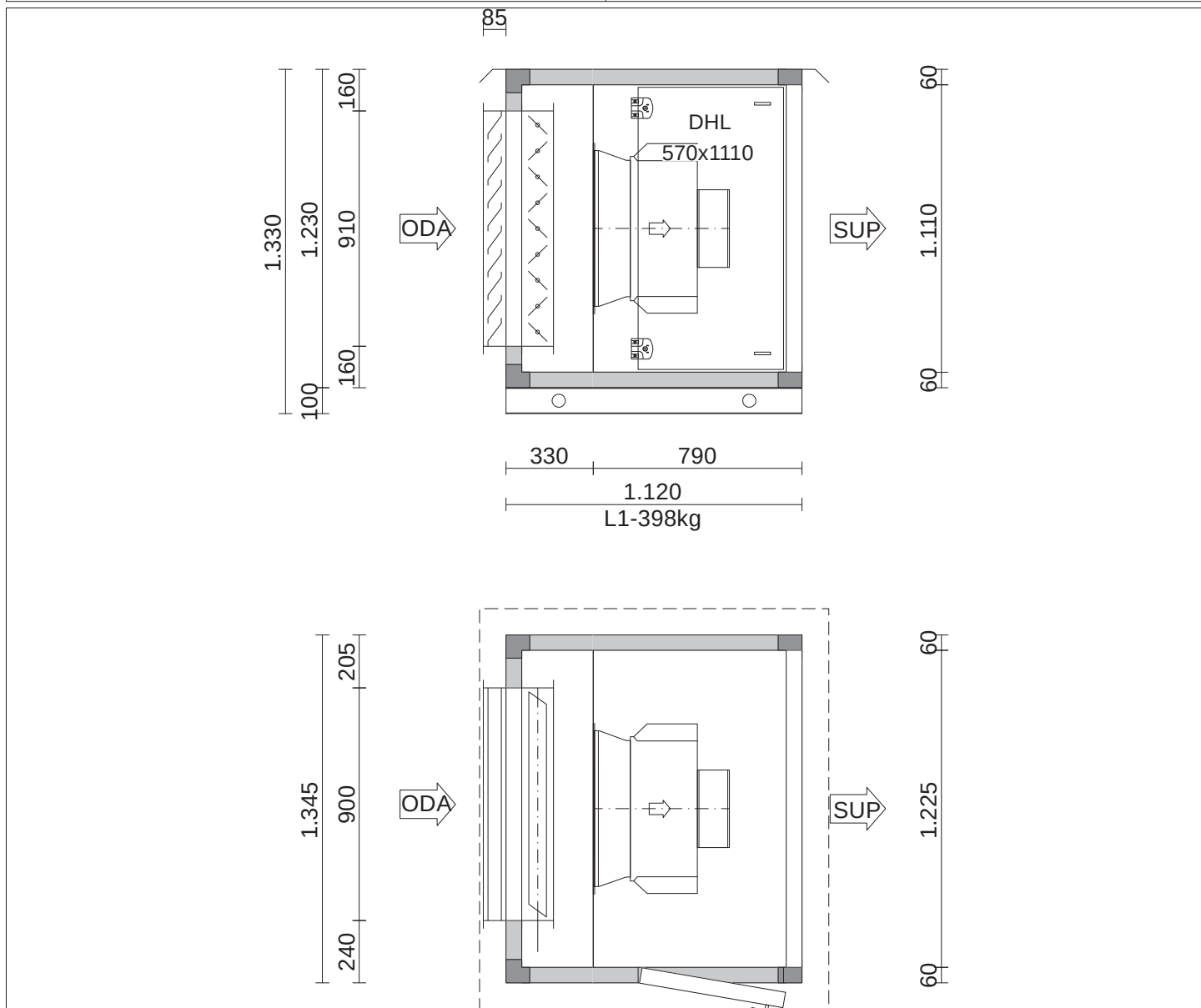
Position **13**
Drawing ID **FOYAGE BALCONY Rev. 2**

Quantity **1**
Collaborator **T.Khrystiuk**
Office / Agent **Samp S.p.A.**

Project city **Greece - Attica - Athens**



Serie	ECU	Supply air	10.200 m³/h
Execution	Supply air unit	External press	250 Pa
Type of unit	External unit	Motor power	1x 4,250 kW
Model 1	ECU 6.00-13-12		
Profile/Panel	P 60-46 CD-P050		
Total length	1120,00 mm	Total width	1345,00 mm
total height	1230,00 mm	Total weight	398 kg



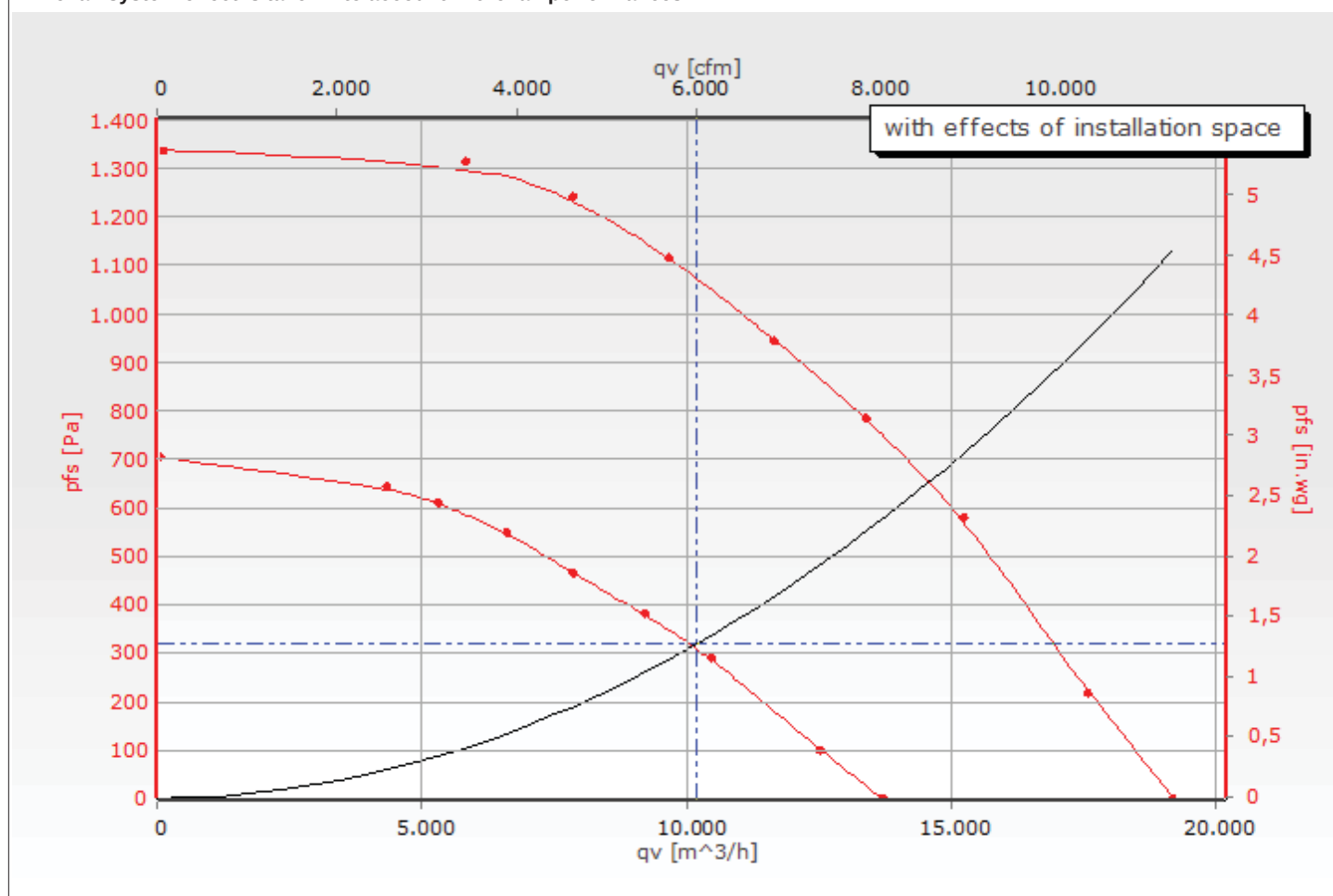
	Client	LDM
	Project	MUNICIPAL THEATRE OF LESVOS IS
	Offer	240329
	Drawing ID	FOYAGE BALCONY
	Position	13
	Quantity	1

Supply air					
Unit definition:			Casing details:		
Unit size	ECU 6.00-13-12		Materials	Thickness	
Airflow [m³/h]	10.200	Length [mm]	1.120,0	Insulation [mm]	Polyurethan 45 Kg/m3 46,0
Ext. pressure [Pa]	250	Width [mm]	1.345,0	Panel inside mm	AluZinc 0,60
Tot. pressure [Pa]	361	Height [mm]	1.230,0	Panel outside mm	galvanized coated RAL9073 0,60
air velocity [m/s]	2,08	Weight [kg]	398,00	Panel inside bottom mm	AluZinc 0,60
Class DIN EN 13053	V4		Profiles	aluminium anodized	
			Guides	AluZinc	
Thermal transmittance	T2	Casing leaky -400Pa	L1(M)	Mechanical stability	D1
Thermal bridge class	TB3	Casing leaky +400 Pa	L1(M)	filter bypass leakage	F9

Empty section		330,0 mm	1,7 m2	269,00 kg	50 Pa
Damper:		DIN Class	2	Dimensions	900,0 x 910,0 x 120,0mm
Actuated by	Suitable for actuators	Airflow [m³/h]	10.200	Frame	stainless steel 304
Qta. Levers	1	air velocity [m/s]	3,46	Blades	stainless steel 304
torque [Nm]	6,680	Pressure drop [Pa]	10	Type	DP100V2A/V2A
<u>Weather louvre</u>		Dimensions [mm]	900,0 x 910,0 x 85,0		
Type	WL	Material	galvanized steel		

Plug fan										790,0 mm	4,07 m2	129,00 kg	Pa		
Fan										Motor				IE5	
Supplier										M3G150FF				IP55	
Air volume [m³/h]										Insulation class				F	
External press [Pa]										Power [kW]				4,250	
total static pressure drop [Pa]										Speed [1/min]				1.700	
Fan System Effect										Nominal current (A)				6,50	
total pressure [Pa]										voltage				3x400 V / 50 Hz	
Speed [1/min]										System efficiency [%]				60,02	
efficiency %										Absorbed power [kW]				1,506	
Fan octave band sound power level (Lokt)										Control Signal (0-10V)				5,88	
Okt. Frq. Hz	63	125	250	500	1000	2000	4000	8000		Fan shaft power [kW]				1,355	
Inlet	72,1	73,6	73,7	67,5	69,6	70,9	73,9	64,1	dB-Lw5	specific fan power [w/(m3/s)]				532/SFP2	
Outlet	75,6	75,5	73,9	75,0	75,2	73,8	75,3	67,3	dB-Lw6	K-Factor				348	
Sound Power Level [dB]										82,9					
Sound power [dB]										0,0					

The fan system effect is taken into account in the fan performances



1 set	Fan epoxy coated 250 um			
Revision door	Door with hinge and lever	Dimensions [mm]	570,0 x 1.110,0	
Opening	Posizione	E	Dimensions [mm]	1.225,0 x 1.110,0

Opening Posizione L Dimensions [mm] **602,0 x 602,0**

noise calculation

sound power [dB]

Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]
Inlet	72,1	73,6	73,7	67,5	69,6	70,9	73,9	64,1	78,1
Outlet	75,6	75,5	73,9	75,0	75,2	73,8	75,3	67,3	81,2
Casing	66,8	61,6	57,1	56,6	56,2	51,8	47,2	30,4	60,1

sound pressure level [dB]

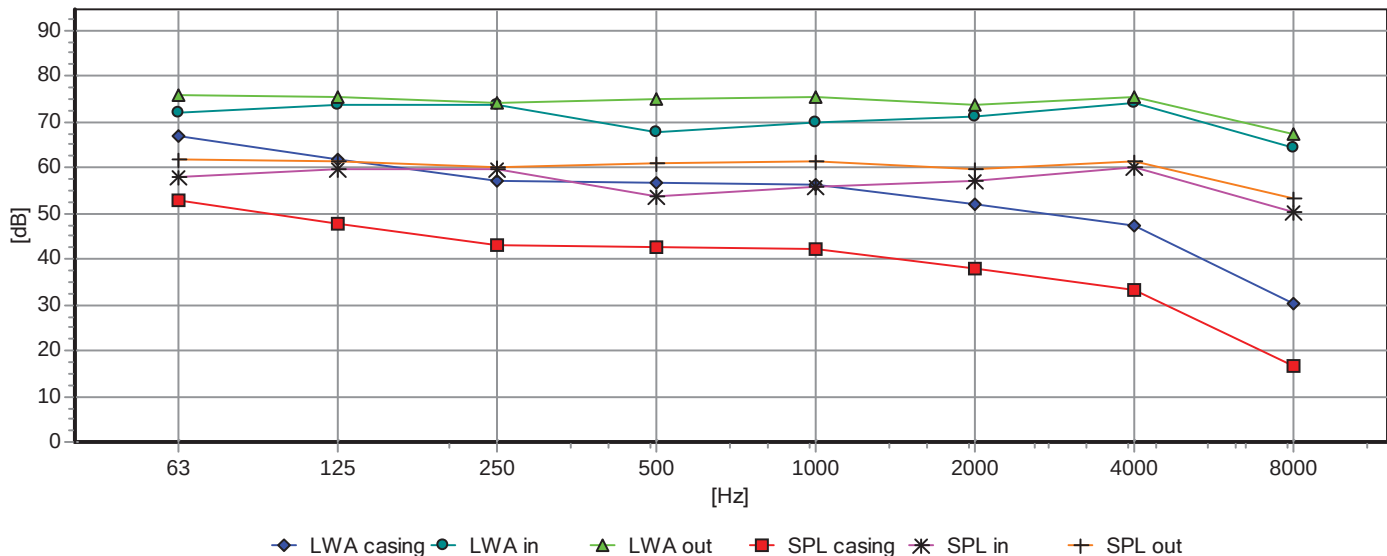
Frq. Hz	63	125	250	500	1000	2000	4000	8000	Sum [dB(A)]	measuring point at
Inlet	58,1	59,6	59,7	53,5	55,6	56,9	59,9	50,1	64,1	
Outlet	61,6	61,5	59,9	61,0	61,2	59,8	61,3	53,3	67,2	
Casing	52,8	47,6	43,1	42,6	42,2	37,8	33,2	16,4	46,1	

Tolerance +/- 4 dB

Baseframe	BASE 100	Material	Aluminium	isolated	No
Hole for crane [mm]	50,0	Height [mm]	100,0	Welded	No
1 set	Flat roof				
1 set	Grounding				

Delivery sections

no.	Width	Height	Length	Weight
1	1.345,0	1.230,0	1.120,0	398,00



EUROVENT EEC DATA

Airflow [m³/h]	Supply air 10200
Total static pressure = internal w/o system loss + external [Pa]	301
Internal static pressure = total static - external [Pa]	51
Power input real [kW]	1,85
Size reference velocity [m/s]	2,08
Efficiency HRS mass flow balanced [%]	0,0
Humidity efficiency [%]	0,0
Pressure drop HRS real at std density (1,2 Kg/m³) [Pa]	0
Mixing ratio = recirculated air / supply air [%]	0
Electric re-heater	0
Design drybulb temperature [°C]	35,9
Design dew-point temperature [°C]	13,5
Design outdoor temperature [°C]	20,0
Factor Fs-Pref winter	0,95
Factor Fs-Pref summer	1
Reference city	Greece - Attica - Athens
Correction due to Coils + HRS winter conditions [Pa]	0



ECODESIGN

Manufacturer	SAMP
Unit size	ECU 6.00-13-12
Unit type	NRVU - UVU
SFPint / SFPint limit 2016 [W/(m³/h)]	0 / 0
SFPint / SFPint limit 2018 [W/(m³/h)]	0 / 0
HRS type	
Thermal efficiency of heat recovery	
Class of casing leakage at -400Pa	L2(R)
Class of casing leakage at +400Pa	L2(R)
Maximum internal leakage rate	0.50 %
Nominal flow rate m³/h	10.200
Type of drive	VSD installation to be foreseen
Effective electric power input	1,850 kW
face velocity	2,08 m/s
External press	250 Pa
Internal pressure drop of ventilation components	Pa
Fan system efficiency	48,86 %
Internet address for disassembly instructions	www.samp-spa.com

Ecodesign compliance 2018

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

Samp S.p.a. participates in the ECP programme for: Air Handling Units (AHU). Check ongoing validity of certificate: www.eurovent-certification.com

Topvex FSU Air Handling Units

Wide range of compact floor standing units (FSU) with complete control system.



- Airflow range: 360 up to 9,500 m³/h
- High energy efficiency and space-saving design
- Rotary, Counterflow and outdoor version.

[Find more details in our online catalogue](#)

Easy to transport and install

Topvex fits through a standard door opening, larger units can be divided into sections to make installation even easier. Save time with plug-and-play operation, easy start-up and commissioning by using the start-up wizard.

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Use your own design software

Select and configure your Topvex AHU with just four simple commands, without leaving your CAD software! Our plugin for Topvex can be downloaded and used directly in Revit, AutoCAD and MagiCAD. It goes without saying that the plugin is free to use.

Wide range of sizes and airflows

The range comprises **two types** of Topvex **standardised** air handling units: Rotary and Counterflow, with side and top connected options. Plus a special outdoor version.

Heating and cooling coils

Topvex offers various heating and cooling coils, with optional 2- or 3-way valves for water-borne systems. The Systemair configurator calculates the Kvs value for the appropriate valve and you can find information about connection size in the printout. Select the corresponding valve variant from the accessories. If the water valve's size differs from the coil's, use a transition coupling during assembly.



Technical parameters

Unit		
Frequency	50; 60	Hz
Voltage (nominal)	400	V
Phases	3N~	
Recommended fuse, unit	3x13 A	
Enclosure class	IP23	
Product type	Heat recovery unit	

Supply fan		
Fan type	EC	
Voltage	400	V
Phases	3~	
Input power (P1), supply fan	2,182	W

Supply air filter		
Filter class, supply air	ePM1 60%	

Extract air filter		
Filter class, extract air	ePM10 60%	

Exchanger		
Heat exchanger	Rotating	

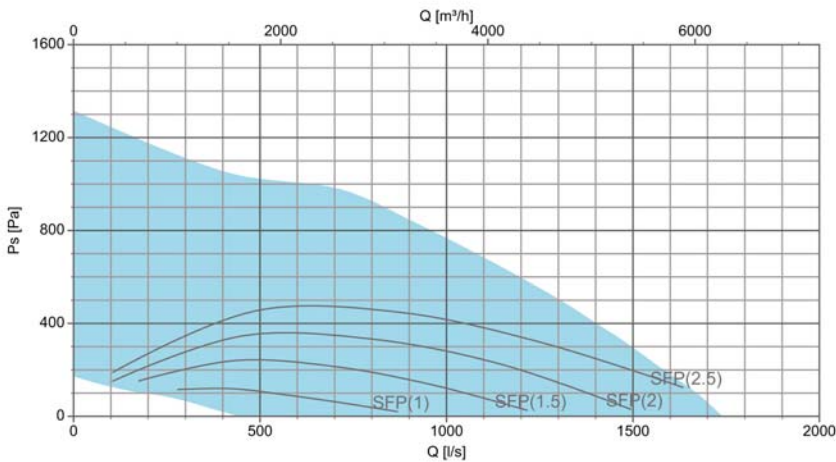
Return fan / Extract fan		
Voltage	400	V
Phases	3~	
Input power (P1), extract fan	2,115	W

Others		
Fan control	CAV, air flow control; Stepless voltage control	
Installation type	Horizontal	
Supply side	Right	

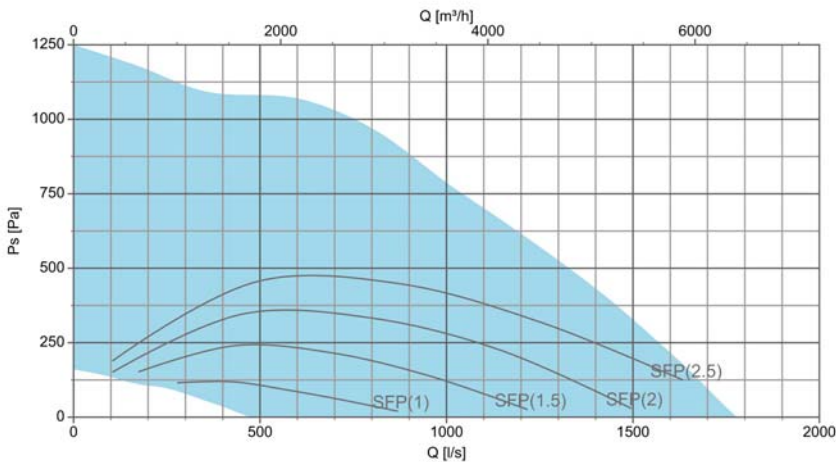
Dimensions and weights		
Weight	354	kg

Performances

Supply



Extract

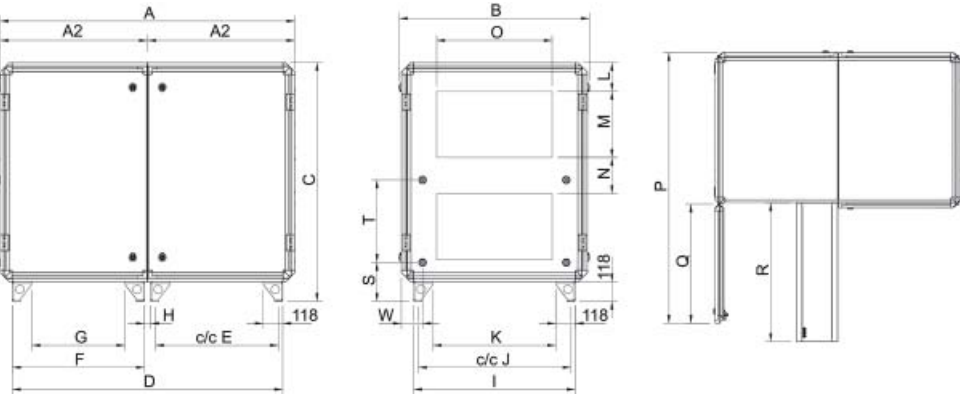


Ecodesign

Product	
Trade name	Systemair
Product name	Topvex SR60-R
Ecodesign	
ErP compliance	2018
Unit category	NRVU
Unit type	BVU
Drive	Integrated VSD

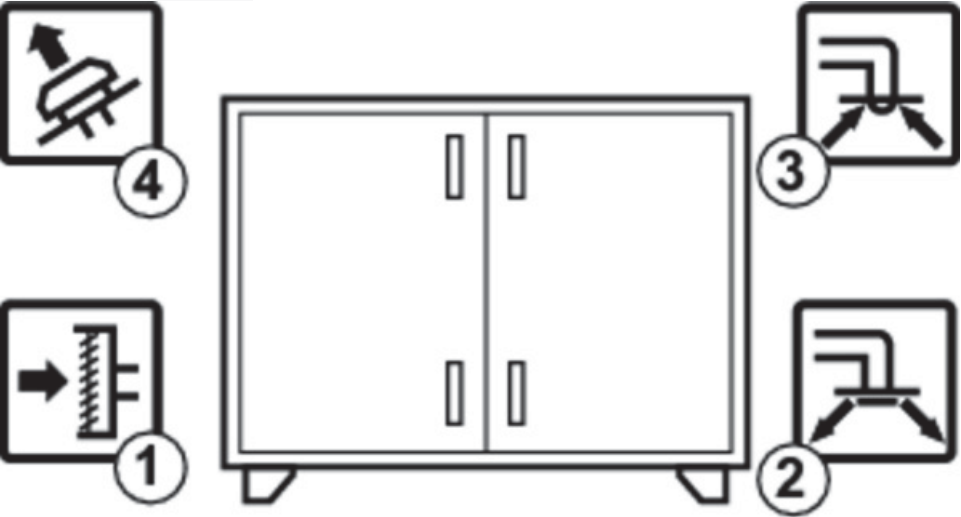
Other		
Heat recovery type	Regenerative	
Temperature ratio	81	%
qv nom	0.8	m³/s
P nom	1.232	kW
SFPint	950	W/(m³/s)
Face velocity	1.5	m/s
Ps nom	200	Pa
Ps int. Supply	330	Pa
Ps int. Extract	282	Pa
Supply Fan efficiency	64.6	%
Extract fan efficiency	64.2	%
External Leakage	2	%
Internal Leakage	3	%
Filter energy performance	1,624	kWh
Sound power (LWA)	57	dB(A)

Dimension



A	A2	B	C	D	c/c E	F	G	H	I	c/c J	K	L	M	N	O	P	Q	R	S	T	W
178	89	115	144	163	750	80	56	3	97	928	74	17	40	22	70	196	86	100	23	50	12
5	3	2	8	7		0	4	8	8		2	5	0	0	0	9	5	9	5	0	8

Symbol	Description
1	Outdoor air
2	Supply air
3	Extract air
4	Exhaust air



Accessories

- CO2RT-R-D Transmitter (6993)
- Presence detector/IR24-P (6995)
- TG-R5/PT1000 Room sensor 0-50° (5404)
- DS 70-40 Flexible connection (1551)
- FFK 70-40 Filter cassette rect (1762)
- VBR 70-40-2 Water heating batt (5468)
- BFT SR/TR60Filter Sup ePM1 60% (248002)
- CO2 traffic light with display (382790)
- Control cabinet ext. kit 3m (266145)
- CTD2 (266263)
- Drain pan SR60 (254280)
- DXRE 120-60-3-2,5 Duct cooler (254508)
- LDR-B 70-40 Silencer, baffle (9450)
- ODK Roof kit SR60 (265486)
- PFT SR/TR 60 Filter (282069)
- Protective Hood - Exh.Air SR60 (265472)
- PZZNS-1120x630-UR-S (337525)
- Room Controller ED-RUD FM (271778)
- RVAZ4 24A Actuator 0-10V (9862)
- SPLIT-AHU Kit 0-10V LNS (215221)
- TG-KH/PT1000 Duct sensor (202705)
- TUNE-S-700x400-EATR Kit (458211)
- VOC Duct sensor KLQ-W (156813)
- Water-lock (206263)
- ZTV 15-1,0 2-way valve (9823)
- PGK 70-40-3-2,0 Duct cooler (6616)
- TG-AH3/PT1000 Contact Sensor (7899)
- VAV Air Volume Control (145946)
- DXRE 70-40-3-2,5 Duct cooler (7957)
- LDR 70-40 Silencer (5074)
- BFT Deltri+ SR60 Filter Ext (890766)
- BFT SR60 Filter Ext ePM10 60% (248003)
- Control cabinet ext. kit 12m (235331)
- Control cabinet ext. kit 5m (266146)
- CTRTA (266262)
- Duct kit Topvex 70x40 (162511)
- HMM Tube Humidistat IP 54 (13209)
- NaviPad extension cable 10m (316350)
- Outdoor Louver/grill 700x400 (254501)
- PFT TR60/SR60 Kit (282033)
- Protective Hood - Out.Air SR60 (265479)
- RBXF 80-50/10,0 400V/3 (450914)
- Room Controller ED-RUD WM (271779)
- Safety switch OTP25T4M 4-pole (213045)
- SYSPLIT OUTDOOR 60 LNS-X HP R (323571)
- TUNE-AHU-SE007-700x400-LF24 (79937)
- UG-3-O duct smoke detector (41115)
- VOC Room sensor RLQ-W (156812)
- ZTR 15-1,0 valve 3-way (9672)

Documents

- ACCESS_QUICK_CONFIG_GUIDE_SW_4_0_1_05_157618_EN.PDF
- Communication Manual
- INSTALLATION__OPERATION_AND_MAINTENANCE_INSTRUCTION_SR__TR__EN_005.PDF
- QUICK_CONFIGURATION_GUIDE_ACCESS_SW_4_0-1-04_TO_4_6-1-00_157618_EN_A008.PDF
- Systemair Connect User Guide
- Eurovent Certification Diploma Topvex
- Commissioning Record
- WD000157_EN_A006.PDF

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Heating and cooling coils

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Technical parameters

Unit		
Frequency	60V50	Hz
(Voltage) nominal~	100	(
Phases	3F8	
Recommended fuse, unit	3x66 A	
Enclosure class	IP23	
Product type	Heat recovery unit	

Supply fan		
Fan type	NC	
(Voltage	100	(
Phases	38	
Input power)PG; supply fan	2,67G	W

Supply air filter		
Filter class, supply air	ePMG60%	

Extract air filter		
Filter class, extract air	ePMG 60%	

Exchanger		
Heat exchanger	Rotating	

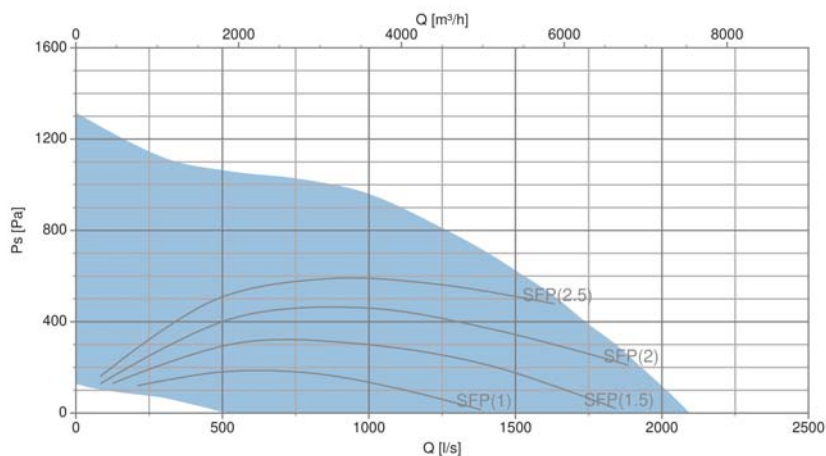
Return fan / Extract fan		
(Voltage	100	(
Phases	38	
Input power)PG; extract fan	2,65G	W

Others		
Fan control	CA(, air flow control\Stepless voltage control	
Installation type	Horizontal	
Supply side	Right	

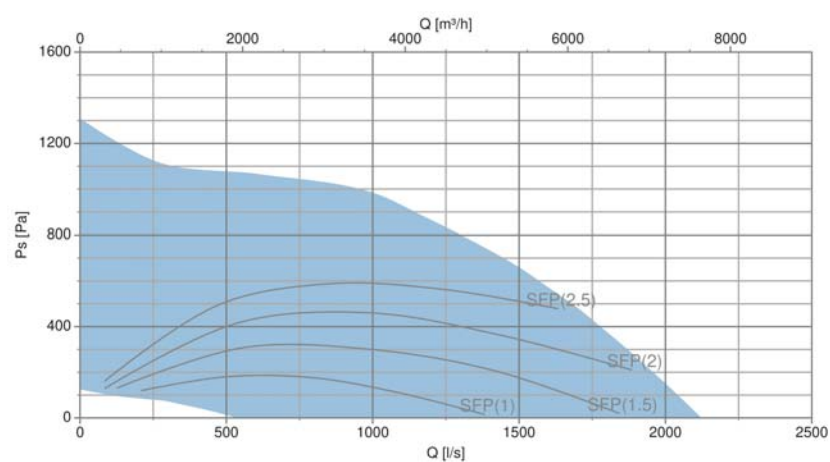
Dimensions and weights		
Weight	11G	kg

Performances

Supply



Extract



Ecodesign

Product

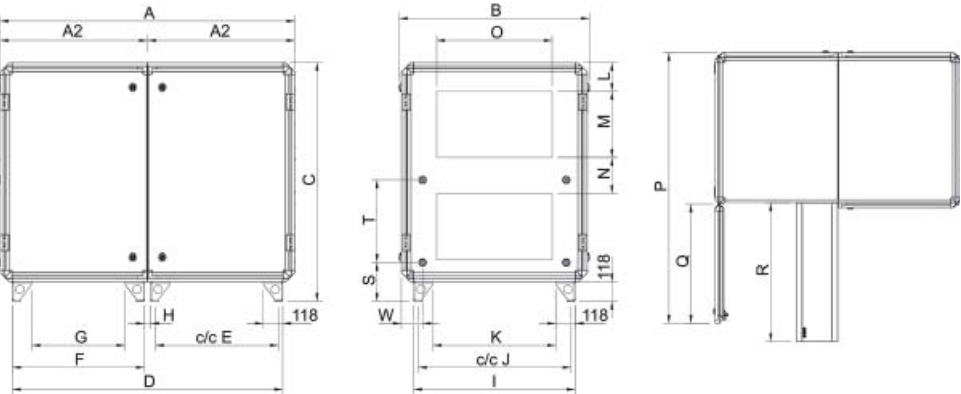
Trade name	Systemair
Product name	Topvex SR 0-R

Ecodesign

NrP compliance	20G
Unit category	FR(U
Unit type	B(U
Drive	Integrated (SD

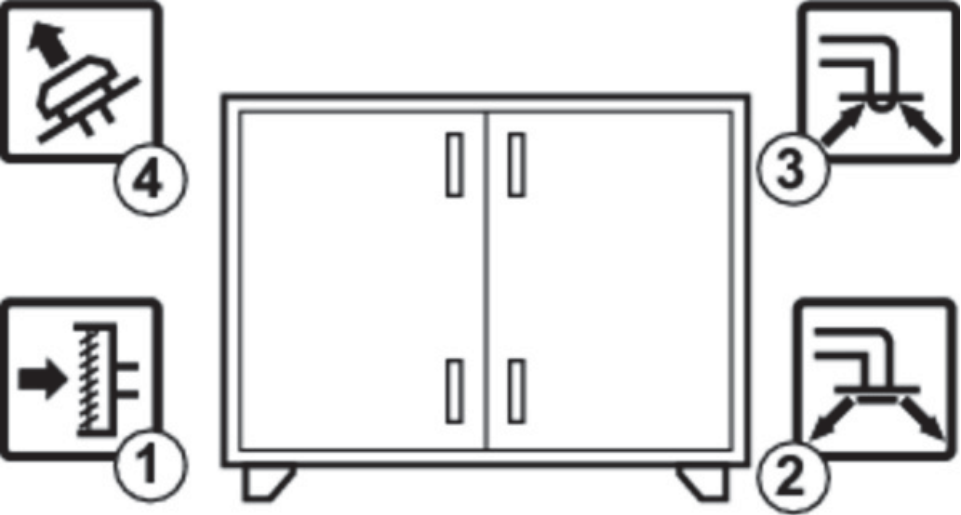
Other		
Heat recovery type	Regenerative	
Temperature ratio	G	%
; v nom	G5	m³/s
P nom	2.36	kW
SqPint	90	W/m³/s~
qace velocity	G6	m/s
Ps nom	200	Pa
Ps int. Supply	2 3	Pa
Ps int. Nxtract	279	Pa
Supply qan efficiency	60.1	%
Nxtract fan efficiency	63.1	%
Nxternal Eeakage	2	%
Internal Eeakage	3	%
qilter energy performance	3,66G	kWh
Sound power)EWA~	61	dB(A)~

Dimension



A	A2	B	C	D	c/c E	F	G	H	I	c/c J	K	L	M	N	O	P	Q	R	S	T	W
G76	193	G50	G79	G637	750	100	561	3	G33	G2	G302	200	500	20	G00	2372	165	G312	21	630	G27

Symbol	Description
G	Outdoor air
2	Supply air
3	Nxtract air
1	Nxhaust air



Accessories

- DS G00-50 flexible connection)G555~
- Presence detector/IR21-P)6995~
- TL -R5/PTG000 Room sensor 0-50°)5101~
- DXRN G00-50-3-2,5 Duct cooler)7959~
- EDR G00-50 Silencer)5067~
- (BR G00-50-2 Water heating bat)5170~
- BqT SR/TR | 0 Sup ePM 2,5 50%)255G~
- BqT SR| 0 qilter Nxt ePMG 60%)266265~
- Control cabinet ext. kit G2m)23533G~
- Control cabinet ext. kit 5m)266G~
- CTRTA)266262~
- Duct kit Topvex G00x50)250901~
- HMH Tube Humidistat IP 51)G3209~
- ODK Roof kit SR| 0)2651| ~
- PqT SR/TR | 0 qilter)2| 207G~
- Protective Hood - Nxh.Air SR| 0)265171~
- PZZFS-GI00x630-UR-S)3376G~
- Room Controller ND-RUD qM)27G7| ~
- R(AZ1 21A Actuator 0-G0()9| 62~
- SPEIT-AHU Kit 0-G0(EFS)2G622G~
- TL -KH/PTG000 Duct sensor)202705~
- TUFN-S-G000x500-NATR Kit)15| 2G~
- (OC Duct sensor KEQ-W)G56| G3~
- Water-lock)206263~
- ZT(G5-G0 2-way valve)9| 23~
- CO2RT-R-D Transmitter)6993~
- TL -AH3/PTG000 Contact Sensor)7| 99~
- (A(Air (olume Control)G15916~
- qqK G00-50 filter cassette)30237~
- PL K G00-50-3-2,0 Duct cooler)660G~
- BqT Deltri+ SR| 0 qilter Nxt)| 9077G~
- BqT SR/TR| 0qilter Sup ePMG60%)252G22~
- CO2 traffic light with display)3| 2790~
- Control cabinet ext. kit 3m)266G~
- CTD2)266263~
- Drain pan SR| 0)2512| 2~
- DXRN-D G20-60-3-2,5 DuctCooler)15090G~
- FaviPad extension cable G0m)3G6350~
- Outdoor Eouver/grill G00x500)251501~
- PqT TR| 0/SR| 0 Kit)2| 2035~
- Protective Hood - Out.Air SR| 0)2651| G~
- RBXq G20-60/G0,0 100(/3)1509G ~
- Room Controller ND-RUD WM)27G779~
- Safety switch OTP75T1M 1-pole)2G203| ~
- SYSPEIT OUTDOOR 1| EFS-X HP R)323570~
- TUFN-AHU-SN0G6-G000x500-Eq21)25G03G~
- UL -3-O duct smoke detector)1GG5~
- (OC Room sensor REQ-W)G56| G2~
- ZTR G5-G0 valve 3-way)9672~

Documents

- ACCNSS_QUICK_COFGIL_L UIDN_SW_1_0_G_05_G576G_NF.PDq
- Communication Manual
- IFSTAEATIOF__OPNRATIOF_AFD_MAIFTNFAFCN_IFSTRUCTIOF_SR__TR__NF_005.PDq
- QUICK_COFGIL URATIOF_L UIDN_ACCNSS_SW_1_0-G01_TO_1_6-G00_G576G_NF_A00|.PDq
- Systemair Connect User L uide
- Nurovent Certification Diploma Topvex
- Commissioning Record
- WD000G57_NF_A006.PDq