



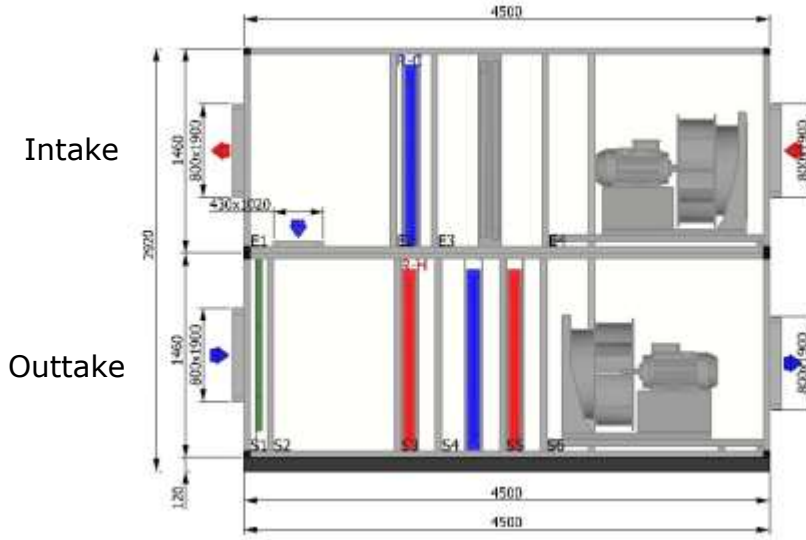
**TREMEC MEKANİK**  
**İÇ VE DIŞ TİCARET**  
**LİMİTED ŞİRKETİ**

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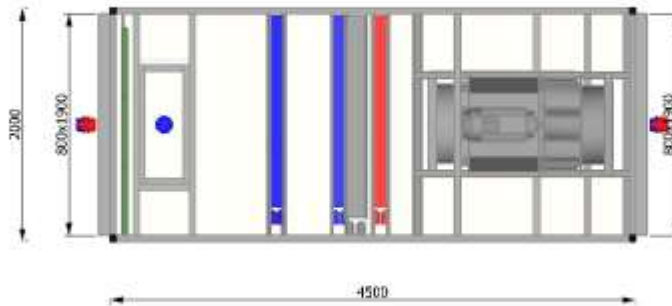
Customer name		Contact person	
Project name	Pool Dehumidifying Unit (Tbilisi)	Project code	
Create date	03.04.2024	Rev. date	03.04.2024
Order no		Offer no	

UNIT INFORMATIONS	
AHU name	Dehumidifier FHNA 250
AHU code	1
Revision no	0
Selection Type	Pool Dehumidifying Unit
Serie name	KS-50
Model name	FKS - 25
Execution Type	Outdoor
Working Condition	Designed for Wet Condition
Mixing Ratio	0 [%]
ErP Identification Code	NRVU-BVU
Energy Efficiency Class	D ↻

Front drawing



Top Drawing





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**UNIT INFORMATIONS**

<b>Supply Air Volume Flow Rate</b>	<b>Internal sheet</b>	<b>Width / Height / Length</b>
25.200 [m <sup>3</sup> /h]	Galvanized - 0,8 mm	2000 * 2920 * 4500 [mm]
<b>Supply Air Volume Flow Rate</b>	<b>External sheet</b>	<b>Weight</b>
7.01 [m <sup>3</sup> /s]	PVC Galvanized - 0,8 mm	2.765 [kg]
<b>Exhaust air volume flow rate</b>	<b>Insulation material</b>	<b>Quantity</b>
25.200 [m <sup>3</sup> /h]	Rockwool (50 mm - 70 kg/m <sup>3</sup> )	1 [pcs]
<b>Exhaust Air Volume Flow Rate</b>	<b>Corner profile</b>	<b>Place</b>
7.01 [m <sup>3</sup> /s]	Pres Aluminum Profile - 50 mm	İSTANBUL
<b>Supply Air Vel. in Casing Cross Section</b>	<b>Inner profile</b>	<b>Design Outdoor Temperature</b>
2.23 [m/s]	Pres Takviye - 50 mm	-3.00 [°C]
<b>Exhaust air vel. in casing cross section</b>	<b>Base</b>	<b>Design Outdoor Humidity</b>
2.23 [m/s]	Galvanized - 120mm	90 [%]
<b>Face velocity on coils</b>	<b>Panel Thickness</b>	<b>Air density</b>
2,61 [m/s]	50 [mm]	1,18 [kg/m <sup>3</sup> ]

**Fans**

	Supply	Exhaust	
<b>Fan name</b>	NicotraGebhardt - RLM 56-7180-4W-28-58 - (x1)	NicotraGebhardt - RLM 56-7180-4W-28-58 - (x1)	-
<b>Pressure drop total</b>	1.462	1.309 [Pa]	
<b>Speed</b>	1538	1482 [rpm]	
<b>Motor power</b>	18.5	15 [kW]	

**Others**

<b>Heating capacities</b>	S3 - 164.19 , S4 - 280.59	[kW]
<b>Cooling capacities</b>	E2 - 164.19 , S4 - 162.50	[kW]
<b>Fine filters</b>	G4	-
<b>Pre filters</b>	G4	-

**Accessories**

**Notes**



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### Sound Power Levels (dB)

	125[Hz]	250[Hz]	500[Hz]	1000[Hz]	2000[Hz]	4000[Hz]	8000[Hz]	LwA-tot
Airborne Sound Power Level	57	42	39	36	27	23	17	44 db(A)
Outlet supply air induct sound power level	96	92	91	98	93	82	76	100 db(A)
Inlet supply air induct sound power level	79	76	69	69	63	51	55	73 db(A)
Outlet exhaust air induct sound power level	95	91	90	97	92	81	75	99 db(A)
Inlet exhaust air induct sound power level	88	85	78	78	72	60	64	82 db(A)

### E1 - Empty section

Air volume flow rate		25.200	[m <sup>3</sup> /h]
Cellular pressure drop		0	[Pa]
Pressure drop accessories		0	[Pa]
Pressure drop total		0	[Pa]
Accesories			
Notes			
<b>Flange</b>			
Dimensions (W * H)		1900 * 800	[mm]
Pressure drop		0.0	[Pa]
Capacity		100	[%]
Air volume flow rate / Velocity	25.200	[m <sup>3</sup> /h]	4.61 [m/s]

### E3 - Empty section

Air volume flow rate		25.200	[m <sup>3</sup> /h]
Cellular pressure drop		0	[Pa]
Pressure drop accessories		0	[Pa]
Pressure drop total		0	[Pa]
Accesories	Condenser		
Notes	Automation panel with frequency inverter, humidity sensing, weekly program, MMC panel, DDC panel, package program		

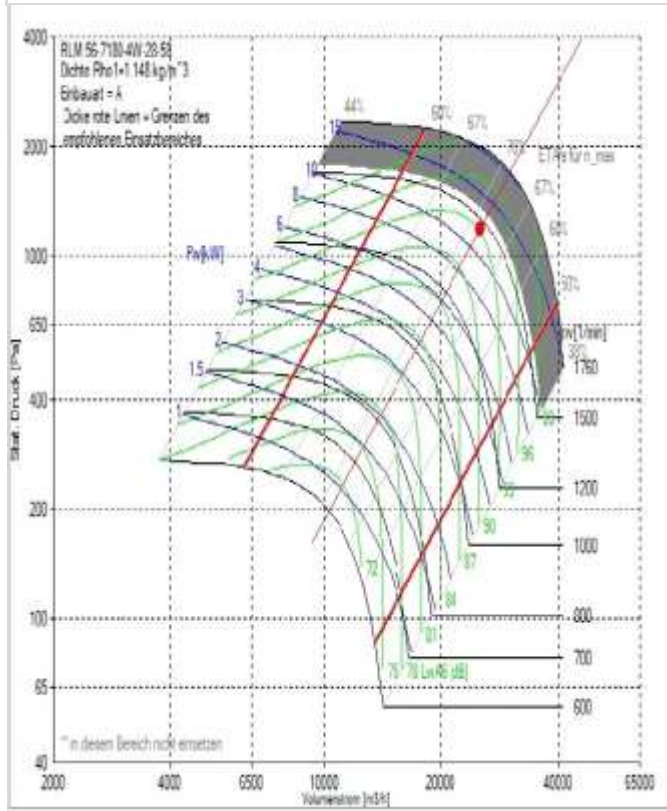
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### E4-E5 - Fan section [Exhaust Line]

Air volume flow rate	25.200 [m³/h]	Manufacturer	NicotraGebhardt
External static pressure	800 (80Hp) [Pa]	Fan Count	1
Internal static pressure	474 [Pa]	Model	RLM 56-7180-4W-28-58
Total Static Pressure	1.224 [Pa]	Efficiency	75 [%]
Dynamic pressure	85 [Pa]	Eff. for Uni-Direct. Units with no filters	0 [%]
Pressure drop total	1.309 [Pa]	Outlet velocity	12.15 [m/s]

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



Speed	1468 [rpm]
Maximum Speed	1530 [rpm]
Shaft power	11.8 [kW]
Specific Fan Power (SFP factor)	1928.57 [W/(m³/s)]
Int.Sp.Fan PW. Of vent. Comp. (SFPint)	61.02 [W/(m³/s)]
Electrical motor input power	13.4 [kW]
Freq. Inv. power	0.67 [kW]
Total Power	14.07 [kW]
Total Efficiency	59.36 [%]

#### Motor

Manufacturer	GAMAK
Model / Type	GM3E 160 L 4 / IE3
Speed	1500 [rpm]
Power	15 [kW]
Current	29 [A]
Voltage / Frequency	3x 400 / 50 [V] / [Hz]

#### Sound Power Levels (dB)

	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	LwA-tot
Inlet side	93	88	85	83	80	75	69	88
Outlet side	96	90	89	89	86	78	74	93

Accessories	
Notes	

### Flange

Dimensions (W * H)	1900 * 800			[mm]
Pressure drop				0.0 [Pa]
Capacity				100 [%]
Air volume flow rate / Velocity	25.200	[m³/h]	4.61	[m/s]



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<b>E6 - Filter section</b>			
Air volume flow rate		25.200	[m <sup>3</sup> /h]
Air Velocity on Filters		2.68	[m/s]
Filter type		Panel Filters / G4	
Energy Efficiency Class		-	
Pressure drop (Clean / Dirty / Average)		40 / 130 / 85	[Pa]
Design pressure drop		40	[Pa]
Cellular pressure drop		0	[Pa]
Pressure drop accessories		0	[Pa]
Pressure drop total		40	[Pa]
Accessories	Filter Clips, Filter Housing		
Notes			
Filter (Width*Height*Depth)-(Quantity)	1280 * 470 * 50	[mm]	4 [Pcs]
<b>Flange</b>			
Dimensions (W * H)	1900 * 800		[mm]
Pressure drop		0.0	[Pa]
Capacity		100	[%]
Air volume flow rate / Velocity	25.200	[m <sup>3</sup> /h]	4.61 [m/s]

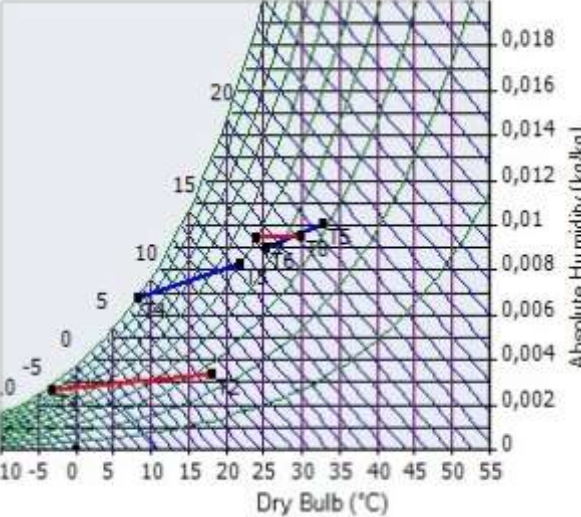
<b>S1 - Filter section</b>			
Air volume flow rate		25.200	[m <sup>3</sup> /h]
Filter type		Panel Filters / G4	
Pressure drop accessories		0	[Pa]
Pressure drop total		0	[Pa]
Accessories	Filter Clips, Filter Housing		
Notes	(592*592*50 - 6 pcs)		
<b>Flange</b>			
Dimensions (W * H)			[mm]
Pressure drop		0.0	[Pa]
Capacity		100	[%]
Air volume flow rate / Velocity	25.200	[m <sup>3</sup> /h]	15.96 [m/s]

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**S3 / E2 - Run Around Coil Section**

Manufacturer	DBM		
Exchanger designation supply	Cu-Al-FeZn P3012AC 15R-52T-1710A-2.0pa 30C 1 1/2"		
Exchanger designation exhaust	Cu-Al-FeZn P3012AR 15R-52T-1710A-2.0pa 30C 1 1/2"		
Air volume flow rate (Supply)	25200 [m3/h]	Accessories	
Air volume flow rate (Exhaust)	25200 [m3/h]		
Cellular pressure drop	0 [Pa]	Notes	
Pressure drop accessories	0 [Pa]		
Pressure drop total	291 [Pa]		

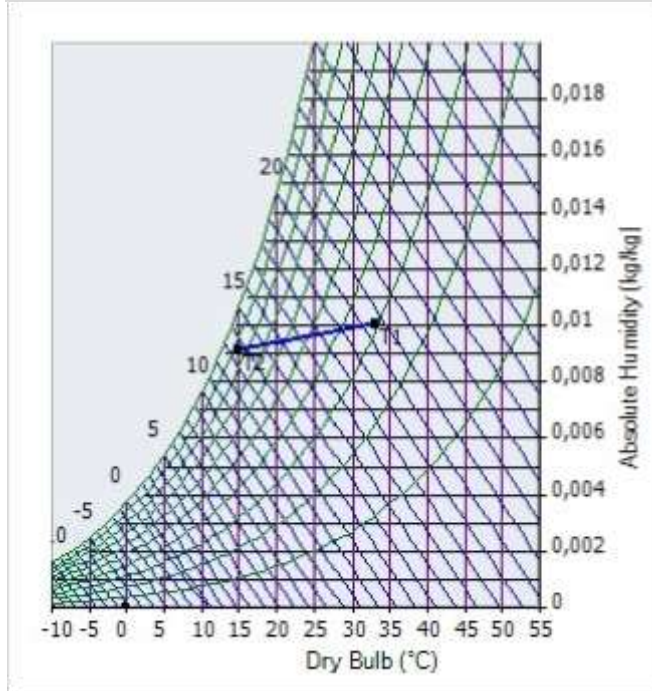
	<b>Winter</b>	<b>Supply</b>	<b>Exhaust</b>		
	Temp. (In/Out)	-3.0	18.2	22.0	8.3 [°C]
	Rel. Humidity (In/Out)	90	26.2	50	99.51 [%]
	Press. Drop (Wet/Dry)	291 / 291		387 / 302 [Pa]	
	Efficiency	68		68 [%]	
	Capacity	150.58		150.58 [kW]	
	Flow rate	7990		7990 [l/s]	
	Fluid Velocity	0.68		0.68 [m/s]	
	<b>Summer</b>	<b>Supply</b>	<b>Exhaust</b>		
	Temp. (In/Out)	33.0	25.5	24.0	29.9 [°C]
	Rel. Humidity (In/Out)	31	43.64	50	35.31 [%]
	Press. Drop (Wet/Dry)	315 / 315		312 / 312 [Pa]	
	Efficiency	68		68 [%]	
	Capacity	51.42		51.42 [kW]	
Flow rate	7250		7250 [l/s]		
Fluid Velocity	0.62		0.62 [m/s]		

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**S4 - Coil section [DX]**

Manufacturer	Friterm		
Coil type designation	40x35 1/2 CS -38T-4R-1710A-2,1P-25NC		
Air volume flow rate	25.200 [m <sup>3</sup> /h]	Capacity	162.50 [kW]
Cellular pressure drop	0 [Pa]	Face velocity on coils	2.61 [m/s]
Pressure drop accessories	0 [Pa]	Material	Copper/Aluminium
Pressure drop total	87 [Pa]	Fin / Tube thickness	0.12 0.35 [mm]
Area	329.55 [m <sup>2</sup> ]	Tube Diameter(Inner/Outer)	12.6 13.3 [mm]
Accessories			
Notes			

**Air side**

	Inlet	Outlet	
Temperature	33.0	14.9 [°C]	
Relative humidity	31	86.23 [%]	
Specific Humidity	9.67	8.97 [g/kg]	
Enthalpy	57.62	37.36 [kJ/kg]	
Eliminator pressure drop	0 [Pa]		
	Wet	Dry	
Pressure drop	87	81 [Pa]	
Total Pressure Drop	87	81 [Pa]	

**Fluid side**

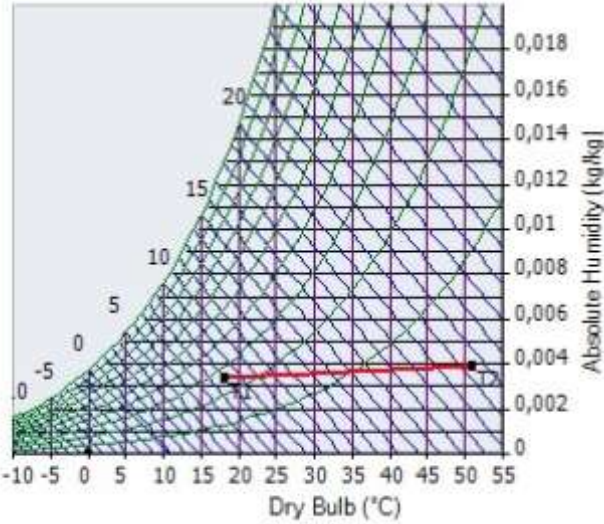
	Inlet	Outlet	
Temperature	5.0	45.0 [°C]	
Flow rate	3840489 [dm <sup>3</sup> /h]		
Pressure drop	20.4 [kPa]		
Velocity	0.3 [m/s]		
Connection	80 - 4 1/8" Cu [mm/inch]		
Fluid type	R410A		

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**S5 - Coil section [Heating]**

Manufacturer	Friterm		
Coil type designation	40x35 1/2 CS -38T-4R-1710A-3,2P-38NC		
Air volume flow rate	25.200 [m <sup>3</sup> /h]	Capacity	162.50 [kW]
Cellular pressure drop	0 [Pa]	Face velocity on coils	2.61 [m/s]
Pressure drop accessories	0 [Pa]	Material	Copper/Aluminium
Pressure drop total	66 [Pa]	Fin / Tube thickness	0.12 0.35 [mm]
Area	220.12 [m <sup>2</sup> ]	Tube Diameter (Inner/Outer)	12.6 13.3 [mm]
Accessories			
Notes			

Air side			
	Inlet	Outlet	
Temperature	18.2	51.0 [°C]	
Relative humidity	26.2	4.29 [%]	
Specific Humidity	3.37	3.37 [g/kg]	
Enthalpy	26.71	59.84 [kJ/kg]	
Pressure drop	66 [Pa]		
Fluid side			
	Inlet	Outlet	
Temperature	80.0	60.0 [°C]	
Flow rate	12328 [dm <sup>3</sup> /h]		
Pressure drop	5.42 [kPa]		
Velocity	0.72 [m/s]		
Connection	60.3 - 2" [mm/inch]		
Fluid type	Pure fluids		





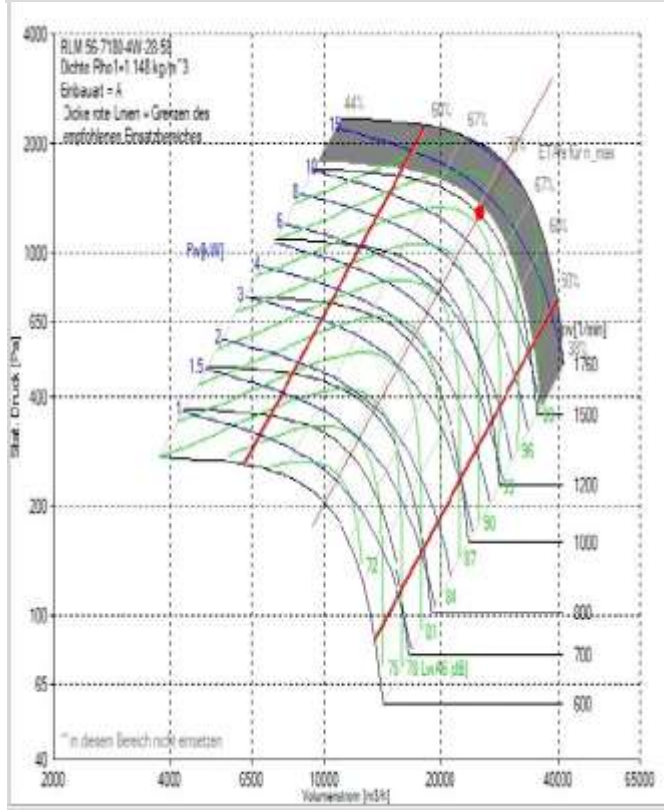
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**S6 - Fan section [Supply Line]**

Air volume flow rate	25.200 [m³/h]
External static pressure	800 [Pa]
Internal static pressure	484 [Pa]
Total Static Pressure	1.284 [Pa]
Dynamic pressure	85 [Pa]
Pressure drop total	1.369 [Pa]

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



Manufacturer	NicotraGebhardt
Fan Count	1
Model	RLM 56-7180-4W-28-58
Efficiency	75 [%]
Eff. for Uni-Direct. Units with no filters	0 [%]
Outlet velocity	12.15 [m/s]
Speed	1504 [rpm]
Maximum Speed	1530 [rpm]
Shaft power	12.8 [kW]
Specific Fan Power (SFP factor)	2068.57 [W/(m³/s)]
Int.Sp.Fan Pw.of vent.comp. (SFPint)	60.37 [W/(m³/s)]
Electrical motor input power	14.4 [kW]
Freq. Inv. power	0.72 [kW]
Total Power	15.12 [kW]
Total Efficiency	51.8 [%]

<b>Motor</b>	
Manufacturer	GAMAK
Model / Type	AGM3E 180 M 4 / IE3
Speed	1500 [rpm]
Power	18.5 [kW]
Current	34.5 [A]
Voltage / Frequency	3x 400 / 50 [V] / [Hz]

<b>Sound Power Levels (dB)</b>								
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	LwA-tot
Inlet side	94	89	86	84	81	76	70	89
Outlet side	97	91	90	90	87	79	75	94

Accessories	
Notes	

<b>Module Dimensions And Weights</b>					
Sequence	Cells	Width[mm]	Height[mm]	Length[mm]	Weight[kg]
1	S1, S2, S3, S4, S5, S6	2000	2920	4500	1608
2	E1, E2, E3, E4	2000	2920	4500	1157
<b>Total</b>					<b>2,765</b>