



Ministerio Público Fiscal de la Ciudad de Buenos Aires
Fiscalía General
Departamento de Infraestructura y Apoyo Operativo

Air System Design Load Summary for Zona 4

Project Name: Av. Cabildo 3067, 4° piso
Prepared by: SS

04/05/2011
11:08

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 33.7 °C / 23.5 °C			HEATING OA DB / WB -0.6 °C / -3.2 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	969	-	5 m²	-	-
Wall Transmission	22 m²	578	-	22 m²	727	-
Roof Transmission	19 m²	271	-	19 m²	236	-
Window Transmission	5 m²	194	-	5 m²	505	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	19 m²	0	-	19 m²	0	-
Partitions	54 m²	0	-	54 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	540 W	508	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	438	-	0	0	-
People	4	266	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	161	12	5%	73	0
>> Total Zone Loads	-	3384	252	-	1541	0
Zone Conditioning	-	3079	252	-	1400	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Return Fan Load	306 L/s	0	-	306 L/s	0	-
Ventilation Load	28 L/s	303	248	28 L/s	729	0
Supply Fan Load	313 L/s	6	-	313 L/s	-6	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	5%	169	-	5%	77	-
>> Total System Loads	-	3557	500	-	2200	0
Central Cooling Coil	-	3557	501	-	0	0
Central Heating Coil	-	0	-	-	2200	-
>> Total Conditioning	-	3557	501	-	2200	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		



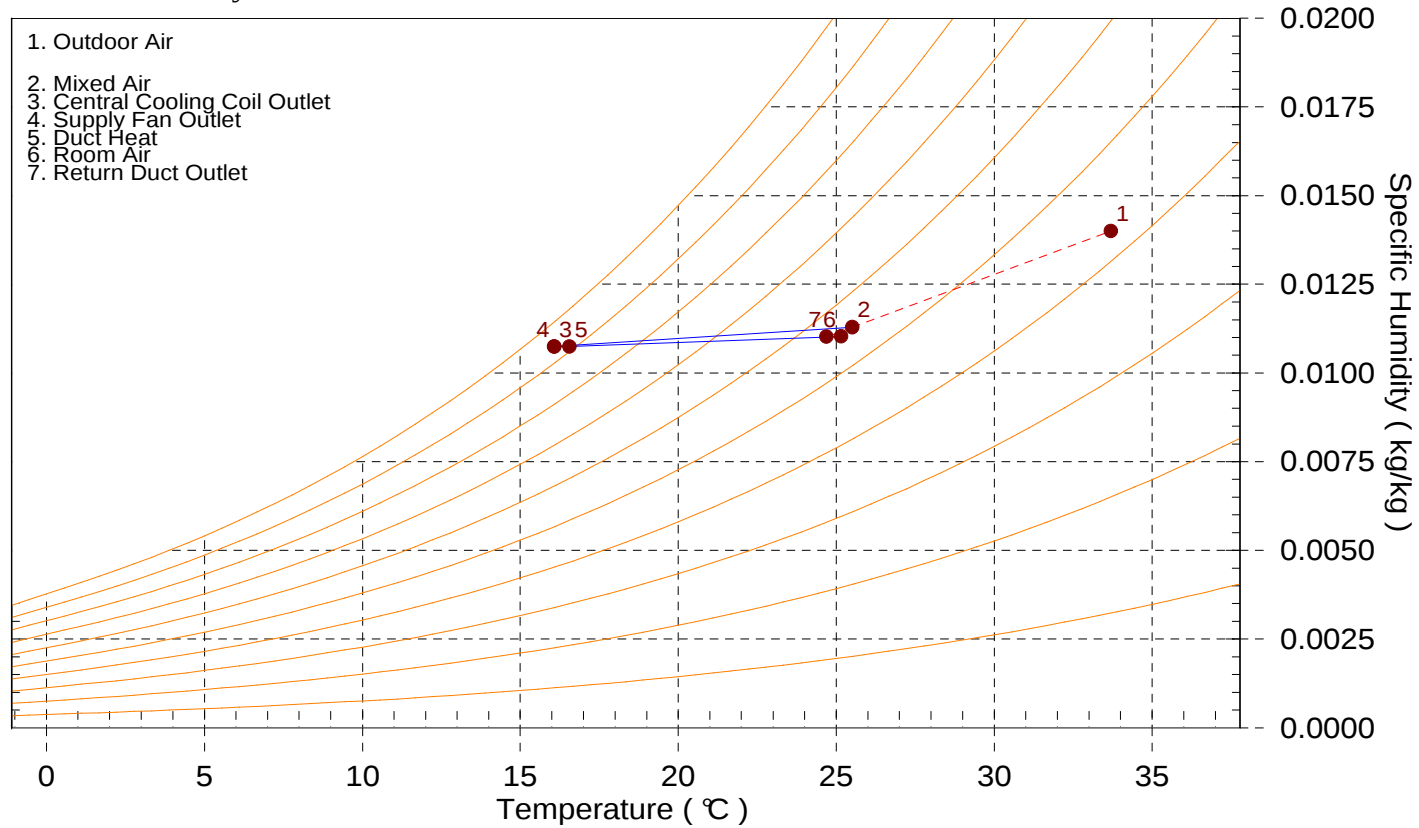
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Psychrometric Analysis for Zona 4

Project Name: Av. Cabildo 3067, 4° piso
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Location: Buenos Aires, Argentina
Altitude: 19.8 m.
Data for: January DESIGN COOLING DAY, 1700





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Space Design Load Summary for Zona 4

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TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 4 " IN ZONE " Zone 4 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700 COOLING OA DB / WB 33.7 °C / 23.5 °C OCCUPIED T-STAT 23.9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB -0.6 °C / -3.2 °C OCCUPIED T-STAT 21.1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	5 m²	969	-	5 m²	-	-
Wall Transmission	22 m²	578	-	22 m²	727	-
Roof Transmission	19 m²	271	-	19 m²	236	-
Window Transmission	5 m²	194	-	5 m²	505	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	19 m²	0	-	19 m²	0	-
Partitions	54 m²	0	-	54 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	540 W	508	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	438	-	0	0	-
People	4	266	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	161	12	5%	73	0
>> Total Zone Loads	-	3384	252	-	1541	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 4 " IN ZONE " Zone 4 "						
	Area	U-Value	Shade	COOLING TRANS	COOLING SOLAR	HEATING TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
W EXPOSURE						
WALL	7	1.529	-	149	-	231
WINDOW 1	5	4.623	0.591	194	969	505
ENE EXPOSURE						
WALL	15	1.529	-	429	-	497
H EXPOSURE						
ROOF	19	0.573	-	271	-	236



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Air System Sizing Summary for Zona 4

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Air System Information

Air System Name **Zona 4**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **20.0** m²

Sizing Calculation Information

Zone and Space Sizing Method:

Zone L/s **Sum of space airflow rates**
Space L/s **Individual peak space loads**

Calculation Months **Jan to Dec**
Sizing Data **Calculated**

Central Cooling Coil Sizing Data

Total coil load **4.1** kW
Sensible coil load **3.6** kW
Coil L/s at Jan 1700 **313** L/s
Max block L/s **313** L/s
Sum of peak zone L/s **297** L/s
Sensible heat ratio **0.877**
m²/kW **4.9**
W/m² **202.9**
Water flow @ 5.6 °K rise **N/A**

Load occurs at **Jan 1700**
OA DB / WB **33.7 / 23.5** °C
Entering DB / WB **25.5 / 19.1** °C
Leaving DB / WB **16.1 / 15.5** °C
Coil ADP **15.0** °C
Bypass Factor **0.100**
Resulting RH **55** %
Design supply temp. **14.4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0.0** °K

Central Heating Coil Sizing Data

Max coil load **2.2** kW
Coil L/s at Des Htg **313** L/s
Max coil L/s **313** L/s
Water flow @ 11.1 °K drop **N/A**

Load occurs at **Des Htg**
W/m² **110.0**
Ent. DB / Lvg DB **18.9 / 24.8** °C

Supply Fan Sizing Data

Actual max L/s **313** L/s
Standard L/s **312** L/s
Actual max L/(s-m²) **15.66** L/(s-m²)

Fan motor BHP **0.01** BHP
Fan motor kW **0.01** kW
Fan static **10** Pa

Outdoor Ventilation Air Data

Design airflow L/s **28** L/s
L/(s-m²) **1.42** L/(s-m²)

l/s/person **7.08** l/s/person



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Zone Design Load Summary for Zona 4

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Zone 4	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
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	OCCUPIED T-STAT 23.9 °C			OCCUPIED T-STAT 21.1 °C		
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Partitions	54 m²	0	-	54 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	540 W	508	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	438	-	0	0	-
People	4	266	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
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>> Total Zone Loads	-	3384	252	-	1541	0



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Sizing Calculation Information

Zone and Space Sizing Method:

Zone L/s Sum of space airflow rates
Space L/s Individual peak space loads

Calculation Months Jan to Dec
Sizing Data Calculated

Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Air Flow (L/s)	Minimum Air Flow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m²)	Zone L/(s-m²)
Zone 4	3.4	297	297	Jan 1700	1.5	20.0	14.87

Zone Terminal Sizing Data

No Zone Terminal Sizing Data required for this system.

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s-m²)
Zone 4							
Zona 4	1	3.4	Jan 1700	297	1.5	20.0	14.87