



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

Air System Design Load Summary for Zona 1

Project Name: Av. Cabildo 3076, 4° piso
 Prepared by: SS

04/05/2011
 11:03

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34.9 °C / 23.8 °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	718	-	5 m²	-	-
Wall Transmission	7 m²	122	-	7 m²	231	-
Roof Transmission	16 m²	162	-	16 m²	199	-
Window Transmission	5 m²	206	-	5 m²	505	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	16 m²	0	-	16 m²	0	-
Partitions	36 m²	0	-	36 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	346 W	322	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	436	-	0	0	-
People	4	263	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	111	12	5%	47	0
>> Total Zone Loads	-	2341	252	-	981	0
Zone Conditioning	-	2162	252	-	970	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	223 L/s	0	-	223 L/s	0	-
Ventilation Load	28 L/s	351	233	28 L/s	741	0
Supply Fan Load	226 L/s	4	-	226 L/s	-4	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	5%	117	-	5%	49	-
>> Total System Loads	-	2634	485	-	1756	0
Central Cooling Coil	-	2634	485	-	0	0
Central Heating Coil	-	0	-	-	1756	-
>> Total Conditioning	-	2634	485	-	1756	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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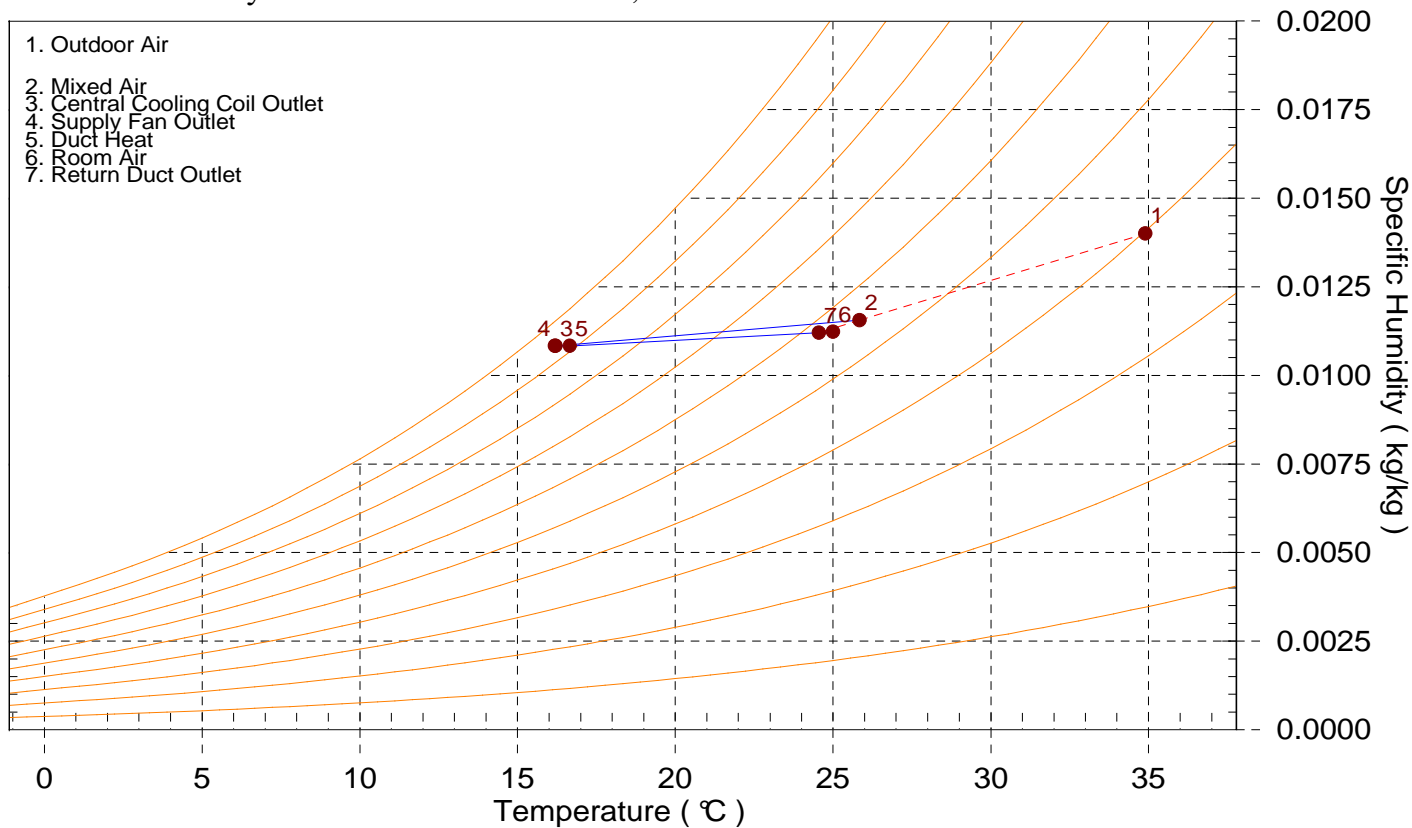
Departamento de Infraestructura y Apoyo Operativo

Psychrometric Analysis for Zona 1

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Location: Buenos Aires, Argentina
Altitude: 19.8 m.
Data for: February DESIGN COOLING DAY, 1500





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Space Design Load Summary for Zona 1

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TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 1 " IN ZONE " Zone 1 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Mar 1500 COOLING OA DB / WB 33.8 °C / 23.2 °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 m ²	878	-	5 m ²	-	-
Wall Transmission	7 m ²	127	-	7 m ²	231	-
Roof Transmission	16 m ²	124	-	16 m ²	199	-
Window Transmission	5 m ²	181	-	5 m ²	505	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	16 m ²	0	-	16 m ²	0	-
Partitions	36 m ²	0	-	36 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	346 W	322	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	436	-	0	0	-
People	4	263	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	117	12	5%	47	0
>> Total Zone Loads	-	2447	252	-	981	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 1 " IN ZONE " Zone 1 "						
	Area (m ²)	U-Value (W/(m ² ·K))	Shade Coeff.	COOLING	COOLING	HEATING
				TRANS (W)	SOLAR (W)	TRANS (W)
NNW EXPOSURE						
WALL	7	1.529	-	127	-	231
WINDOW 1	5	4.623	0.591	181	878	505
H EXPOSURE						
ROOF	16	0.573	-	124	-	199



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Air System Sizing Summary for Zona 1

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Air System Information

Air System Name	Zona 1	Number of zones	1
Equipment Class	SPLT AHU	Floor Area	16.0 m²
Air System Type	SZCAV		

Sizing Calculation Information

Zone and Space Sizing Method:

Zone L/s	Sum of space airflow rates	Calculation Months	Jan to Dec
Space L/s	Individual peak space loads	Sizing Data	Calculated

Central Cooling Coil Sizing Data

Total coil load	3.1 kW	Load occurs at	Feb 1500
Sensible coil load	2.6 kW	OA DB / WB	34.9 / 23.8 °C
Coil L/s at Feb 1500	226 L/s	Entering DB / WB	25.8 / 19.5 °C
Max block L/s	226 L/s	Leaving DB / WB	16.2 / 15.6 °C
Sum of peak zone L/s	215 L/s	Coil ADP	15.1 °C
Sensible heat ratio	0.845	Bypass Factor	0.100
m ² /kW	5.1	Resulting RH	57 %
W/m ²	194.9	Design supply temp.	14.4 °C
Water flow @ 5.6 K rise	N/A	Zone T-stat Check	1 of 1 OK
		Max zone temperature deviation	0.0 K

Central Heating Coil Sizing Data

Max coil load	1.8 kW	Load occurs at	Des Htg
Coil L/s at Des Htg	226 L/s	W/m ²	109.8
Max coil L/s	226 L/s	Ent. DB / Lvg DB	18.5 / 24.9 °C
Water flow @ 11.1 K drop	N/A		

Supply Fan Sizing Data

Actual max L/s	226 L/s	Fan motor BHP	0.01 BHP
Standard L/s	226 L/s	Fan motor kW	0.00 kW
Actual max L/(s-m ²)	14.15 L/(s-m²)	Fan static	10 Pa

Outdoor Ventilation Air Data

Design airflow L/s	28 L/s	l/s/person	7.08 l/s/person
L/(s-m ²)	1.77 L/(s-m²)		



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Zone Design Load Summary for Zona 1

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Zone 1	DESIGN COOLING			DESIGN HEATING		
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	OCCUPIED T-STAT 23.9 °C			OCCUPIED T-STAT 21.1 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m ²	878	-	5 m ²	-	-
Wall Transmission	7 m ²	127	-	7 m ²	231	-
Roof Transmission	16 m ²	124	-	16 m ²	199	-
Window Transmission	5 m ²	181	-	5 m ²	505	-
Skylight Transmission	0 m ²	0	-	0 m ²	0	-
Door Loads	0 m ²	0	-	0 m ²	0	-
Floor Transmission	16 m ²	0	-	16 m ²	0	-
Partitions	36 m ²	0	-	36 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	346 W	322	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	450 W	436	-	0	0	-
People	4	263	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	117	12	5%	47	0
>> Total Zone Loads	-	2447	252	-	981	0



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Zone Sizing Summary for Zona 1

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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 1	2.4	215	215	Mar 1500	1.0	16.0	13.44

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 1							
Zona 1	1	2.4	Mar 1500	215	1.0	16.0	13.44