



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

Air System Design Load Summary for Zona 7

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

04/05/2011
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34.0 °C / 23.7 °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	909	-	5 m²	-	-
Wall Transmission	7 m²	127	-	7 m²	231	-
Roof Transmission	70 m²	941	-	70 m²	869	-
Window Transmission	5 m²	191	-	5 m²	505	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	70 m²	0	-	70 m²	0	-
Partitions	90 m²	0	-	90 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1890 W	1769	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	5950 W	5779	-	0	0	-
People	18	1156	1051	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	544	53	5%	80	0
>> Total Zone Loads	-	11416	1104	-	1685	0
Zone Conditioning	-	11022	1104	-	1701	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	992 L/s	0	-	992 L/s	0	-
Ventilation Load	124 L/s	1361	1279	124 L/s	3245	0
Supply Fan Load	1067 L/s	20	-	1067 L/s	-20	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	5%	571	-	5%	84	-
>> Total System Loads	-	12973	2383	-	5010	0
Central Cooling Coil	-	12973	2384	-	0	0
Central Heating Coil	-	0	-	-	5010	-
>> Total Conditioning	-	12973	2384	-	5010	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

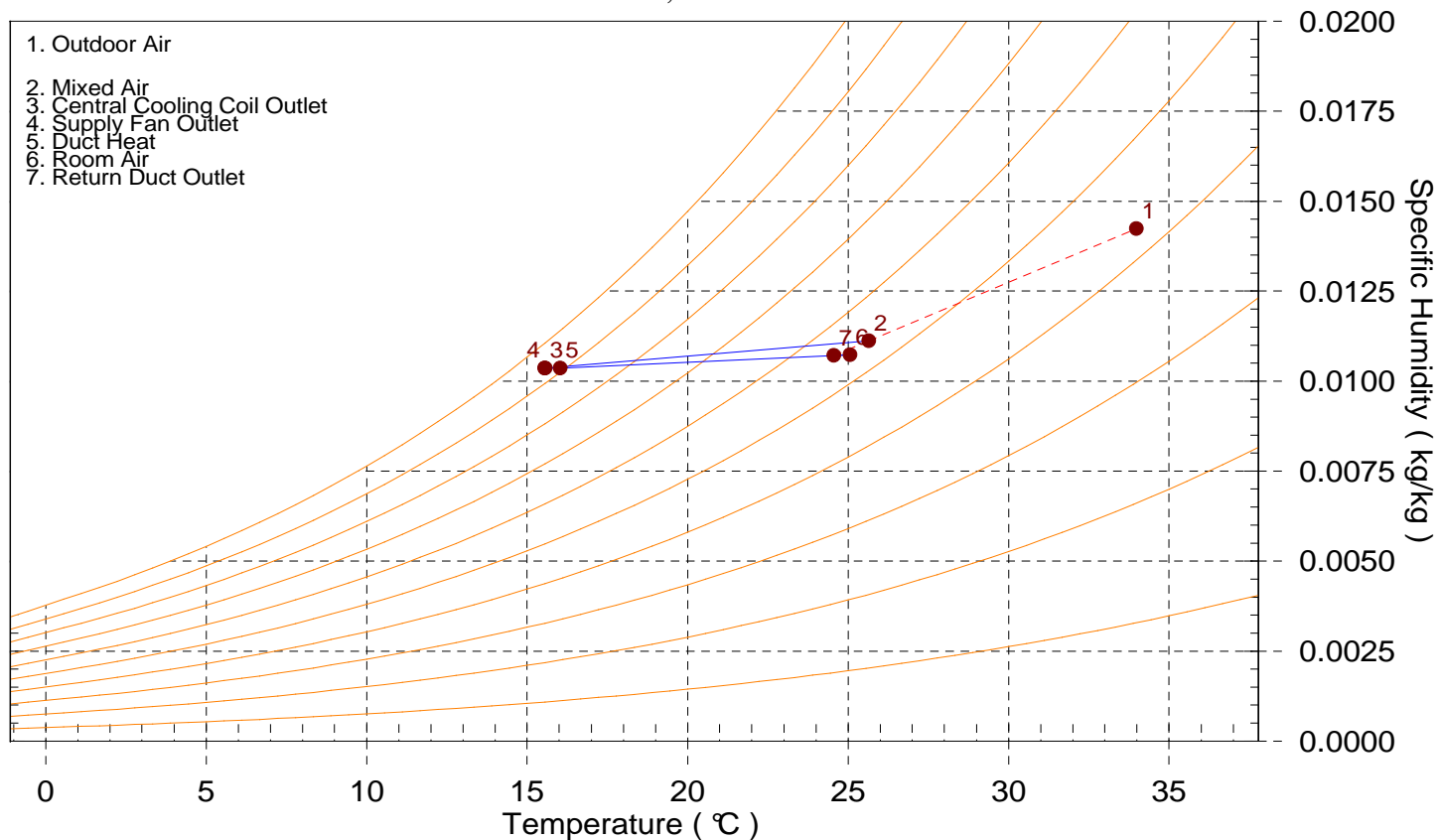


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Psychrometric Analysis for Zona 7

Project Name: Av. Cabildo 3067, 4° piso
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Location: Buenos Aires, Argentina
Altitude: 19.8 m.
Data for: December DESIGN COOLING DAY, 1600





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Space Design Load Summary for Zona 7

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TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 7 " IN ZONE " Zone 7 "						
	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 m ²	906	-	5 m ²	-	-
Wall Transmission	7 m ²	152	-	7 m ²	231	-
Roof Transmission	70 m ²	999	-	70 m ²	869	-
Window Transmission	5 m ²	194	-	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	70 m ²	0	-	70 m ²	0	-
Partitions	90 m ²	0	-	90 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	1890 W	1776	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	5950 W	5790	-	0	0	-
People	18	1162	1051	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	549	53	5%	80	0
>> Total Zone Loads	-	11528	1104	-	1685	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 7 " IN ZONE " Zone 7 "						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m ²)	(W/(m ² ·K))	Coeff.	(W)	(W)	(W)
WNW EXPOSURE						
WALL	7	1.529	-	152	-	231
WINDOW 1	5	4.623	0.591	194	906	505
H EXPOSURE						
ROOF	70	0.573	-	999	-	869



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Air System Sizing Summary for Zona 7

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Air System Information

Air System Name	Zona 7	Number of zones	1
Equipment Class	SPLT AHU	Floor Area	70.0 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	15.4 kW	Load occurs at	Dec 1600
Sensible coil load	13.0 kW	OA DB / WB	34.0 / 23.7 °C
Coil L/s at Dec 1600	1067 L/s	Entering DB / WB	25.6 / 19.1 °C
Max block L/s	1067 L/s	Leaving DB / WB	15.6 / 14.9 °C
Sum of peak zone L/s	1013 L/s	Coil ADP	14.4 °C
Sensible heat ratio	0.845	Bypass Factor	0.100
m ² /kW	4.6	Resulting RH	54 %
W/m ²	219.4	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	5.0 kW	Load occurs at	Des Htg
Coil L/s at Des Htg	1067 L/s	W/m ²	71.6
Max coil L/s	1067 L/s	Ent. DB / Lvg DB	18.7 / 22.6 °C
Water flow @ 11.1 K drop	N/A		

Supply Fan Sizing Data

Actual max L/s	1067 L/s	Fan motor BHP	0.03 BHP
Standard L/s	1064 L/s	Fan motor kW	0.02 kW
Actual max L/(s-m ²)	15.24 L/(s-m²)	Fan static	10 Pa

Outdoor Ventilation Air Data

Design airflow L/s	124 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 7

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Zone 7	DESIGN COOLING			DESIGN HEATING		
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	COOLING OA DB / WB 33.7 °C / 23.5 °C			HEATING OA DB / WB -0.6 °C / -3.2 °C		
	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	906	-	5 m ²	-	-
Wall Transmission	7 m ²	152	-	7 m ²	231	-
Roof Transmission	70 m ²	999	-	70 m ²	869	-
Window Transmission	5 m ²	194	-	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	70 m ²	0	-	70 m ²	0	-
Partitions	90 m ²	0	-	90 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	1890 W	1776	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	5950 W	5790	-	0	0	-
People	18	1162	1051	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	549	53	5%	80	0
>> Total Zone Loads	-	11528	1104	-	1685	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)
Zona 7	11.5	1013	1013	Jan 1700	1.7	70.0	14.48

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)
Zona 7							
Zona 7	1	11.5	Jan 1700	1013	1.7	70.0	14.48