



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

**Air System Design Load Summary for Zona 3**

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

04/05/2011  
 11:08

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34.5 °C / 23.7 °C			HEATING OA DB / WB -0.6 °C / -3.2 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	13 m²	2357	-	13 m²	-	-
Wall Transmission	5 m²	99	-	5 m²	179	-
Roof Transmission	18 m²	209	-	18 m²	223	-
Window Transmission	13 m²	510	-	13 m²	1262	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	18 m²	0	-	18 m²	0	-
Partitions	54 m²	0	-	54 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	486 W	455	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	530 W	515	-	0	0	-
People	4	264	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	220	12	5%	83	0
<b>&gt;&gt; Total Zone Loads</b>	-	<b>4629</b>	<b>252</b>	-	<b>1748</b>	<b>0</b>
Zone Conditioning	-	4291	252	-	1705	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	421 L/s	0	-	421 L/s	0	-
Ventilation Load	28 L/s	331	263	28 L/s	735	0
Supply Fan Load	428 L/s	8	-	428 L/s	-8	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	5%	231	-	5%	87	-
<b>&gt;&gt; Total System Loads</b>	-	<b>4861</b>	<b>515</b>	-	<b>2519</b>	<b>0</b>
Central Cooling Coil	-	4861	515	-	0	0
Central Heating Coil	-	0	-	-	2519	-
<b>&gt;&gt; Total Conditioning</b>	-	<b>4861</b>	<b>515</b>	-	<b>2519</b>	<b>0</b>
<b>Key:</b>	<b>Positive values are clg loads</b> <b>Negative values are htg loads</b>			<b>Positive values are htg loads</b> <b>Negative values are clg loads</b>		

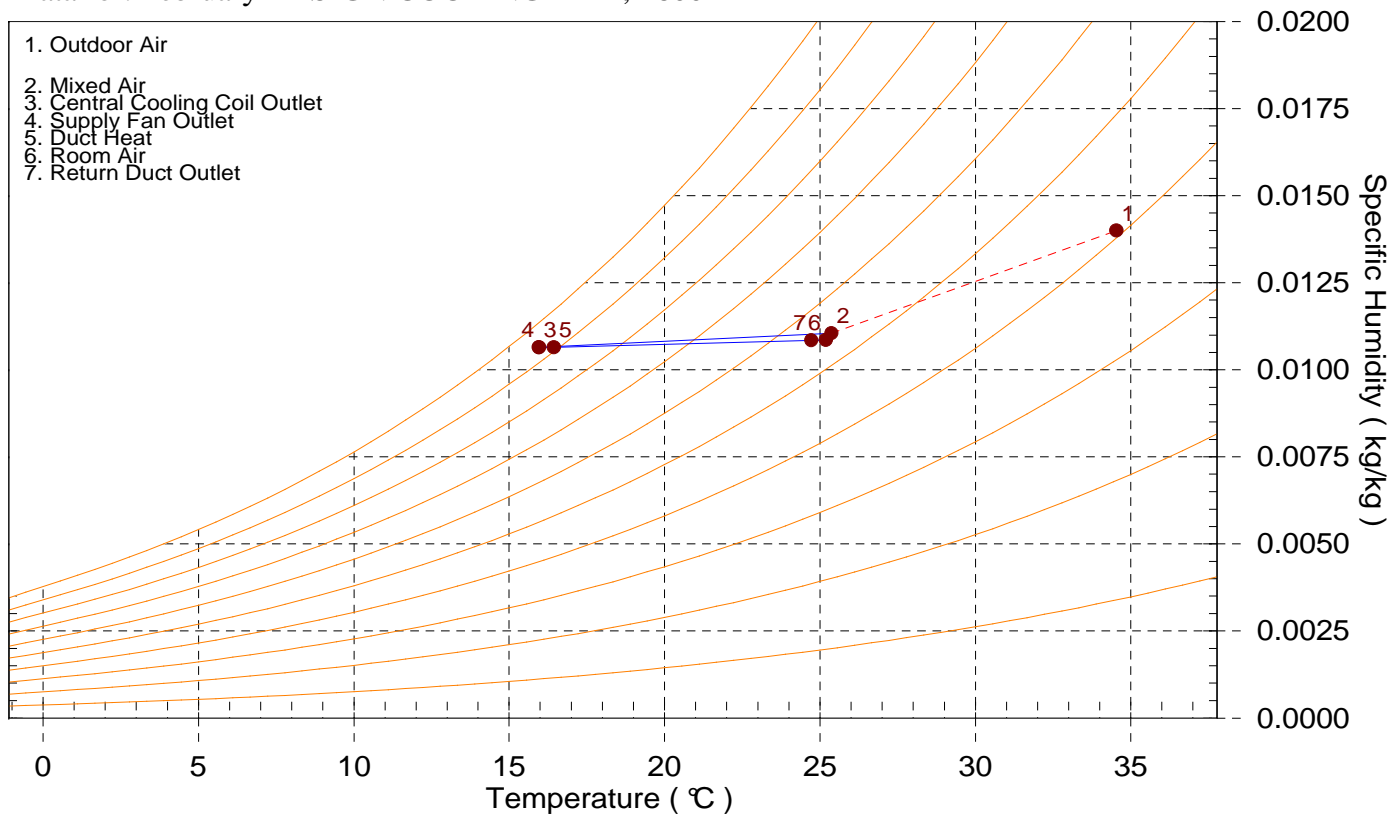


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**Psychrometric Analysis for Zona 3**

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

04/05/2011  
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Location: Buenos Aires, Argentina  
Altitude: 19.8 m.  
Data for: February DESIGN COOLING DAY, 1600





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**Space Design Load Summary for Zona 3**

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TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 3 " IN ZONE " Zone 3 "						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600 COOLING OA DB / WB 34.5 °C / 23.7 °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	13 m <sup>2</sup>	2357	-	13 m <sup>2</sup>	-	-
Wall Transmission	5 m <sup>2</sup>	99	-	5 m <sup>2</sup>	179	-
Roof Transmission	18 m <sup>2</sup>	209	-	18 m <sup>2</sup>	223	-
Window Transmission	13 m <sup>2</sup>	510	-	13 m <sup>2</sup>	1262	-
Skylight Transmission	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Door Loads	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Floor Transmission	18 m <sup>2</sup>	0	-	18 m <sup>2</sup>	0	-
Partitions	54 m <sup>2</sup>	0	-	54 m <sup>2</sup>	0	-
Ceiling	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Overhead Lighting	486 W	455	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	530 W	515	-	0	0	-
People	4	264	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	220	12	5%	83	0
<b>&gt;&gt; Total Zone Loads</b>	-	<b>4629</b>	<b>252</b>	-	<b>1748</b>	<b>0</b>

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 3 " IN ZONE " Zone 3 "						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m <sup>2</sup> )	(W/(m <sup>2</sup> ·K))	Coeff.	(W)	(W)	(W)
<b>WNW EXPOSURE</b>						
WALL	5	1.529	-	99	-	179
WINDOW 1	13	4.623	0.591	510	2357	1262
<b>H EXPOSURE</b>						
ROOF	18	0.573	-	209	-	223



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**Air System Sizing Summary for Zona 3**

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**Air System Information**

Air System Name .....	<b>Zona 3</b>	Number of zones .....	<b>1</b>
Equipment Class .....	<b>SPLT AHU</b>	Floor Area .....	<b>18.0</b> m <sup>2</sup>
Air System Type .....	<b>SZCAV</b>		

**Sizing Calculation Information**

**Zone and Space Sizing Method:**

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

**Central Cooling Coil Sizing Data**

Total coil load .....	<b>5.4</b> kW	Load occurs at .....	<b>Feb 1600</b>
Sensible coil load .....	<b>4.9</b> kW	OA DB / WB .....	<b>34.5 / 23.7</b> °C
Coil L/s at Feb 1600 .....	<b>428</b> L/s	Entering DB / WB .....	<b>25.4 / 18.9</b> °C
Max block L/s .....	<b>428</b> L/s	Leaving DB / WB .....	<b>15.9 / 15.3</b> °C
Sum of peak zone L/s .....	<b>407</b> L/s	Coil ADP .....	<b>14.9</b> °C
Sensible heat ratio .....	<b>0.904</b>	Bypass Factor .....	<b>0.100</b>
m <sup>2</sup> /kW .....	<b>3.3</b>	Resulting RH .....	<b>54</b> %
W/m <sup>2</sup> .....	<b>298.7</b>	Design supply temp. ....	<b>14.4</b> °C
Water flow @ 5.6 °K rise .....	<b>N/A</b>	Zone T-stat Check .....	<b>1 of 1</b> OK
		Max zone temperature deviation .....	<b>0.0</b> °K

**Central Heating Coil Sizing Data**

Max coil load .....	<b>2.5</b> kW	Load occurs at .....	<b>Des Htg</b>
Coil L/s at Des Htg .....	<b>428</b> L/s	W/m <sup>2</sup> .....	<b>140.0</b>
Max coil L/s .....	<b>428</b> L/s	Ent. DB / Lvg DB .....	<b>19.6 / 24.5</b> °C
Water flow @ 11.1 °K drop .....	<b>N/A</b>		

**Supply Fan Sizing Data**

Actual max L/s .....	<b>428</b> L/s	Fan motor BHP .....	<b>0.01</b> BHP
Standard L/s .....	<b>427</b> L/s	Fan motor kW .....	<b>0.01</b> kW
Actual max L/(s-m <sup>2</sup> ) .....	<b>23.80</b> L/(s-m <sup>2</sup> )	Fan static .....	<b>10</b> Pa

**Outdoor Ventilation Air Data**

Design airflow L/s .....	<b>28</b> L/s	l/s/person .....	<b>7.08</b> l/s/person
L/(s-m <sup>2</sup> ) .....	<b>1.57</b> L/(s-m <sup>2</sup> )		



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**Zone Design Load Summary for Zona 3**

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Zone 3	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34.5 °C / 23.7 °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	13 m <sup>2</sup>	2357	-	13 m <sup>2</sup>	-	-
Wall Transmission	5 m <sup>2</sup>	99	-	5 m <sup>2</sup>	179	-
Roof Transmission	18 m <sup>2</sup>	209	-	18 m <sup>2</sup>	223	-
Window Transmission	13 m <sup>2</sup>	510	-	13 m <sup>2</sup>	1262	-
Skylight Transmission	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Door Loads	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Floor Transmission	18 m <sup>2</sup>	0	-	18 m <sup>2</sup>	0	-
Partitions	54 m <sup>2</sup>	0	-	54 m <sup>2</sup>	0	-
Ceiling	0 m <sup>2</sup>	0	-	0 m <sup>2</sup>	0	-
Overhead Lighting	486 W	455	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	530 W	515	-	0	0	-
People	4	264	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	220	12	5%	83	0
<b>&gt;&gt; Total Zone Loads</b>	-	<b>4629</b>	<b>252</b>	-	<b>1748</b>	<b>0</b>



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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 3	4.6	407	407	Feb 1600	1.7	18.0	22.61

**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)
<b>Zona 3</b>							
Zona 3	1	4.6	Feb 1600	407	1.7	18.0	22.61