



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

Air System Design Load Summary for Zona 8

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

04/05/2011
 11:12

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 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		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	927	-	5 m²	-	-
Wall Transmission	7 m²	132	-	7 m²	231	-
Roof Transmission	42 m²	551	-	42 m²	521	-
Window Transmission	5 m²	204	-	5 m²	505	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	42 m²	0	-	42 m²	0	-
Partitions	18 m²	0	-	18 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1134 W	1061	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3570 W	3468	-	0	0	-
People	3	198	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	327	9	5%	63	0
>> Total Zone Loads	-	6868	189	-	1320	0
Zone Conditioning	-	6698	189	-	1407	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	633 L/s	0	-	633 L/s	0	-
Ventilation Load	21 L/s	250	226	21 L/s	558	0
Supply Fan Load	640 L/s	12	-	640 L/s	-12	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	5%	343	-	5%	66	-
>> Total System Loads	-	7303	415	-	2019	0
Central Cooling Coil	-	7303	416	-	0	0
Central Heating Coil	-	0	-	-	2019	-
>> Total Conditioning	-	7303	416	-	2019	0
Key:	Positive values are cig loads Negative values are htg loads			Positive values are htg loads Negative values are cig loads		

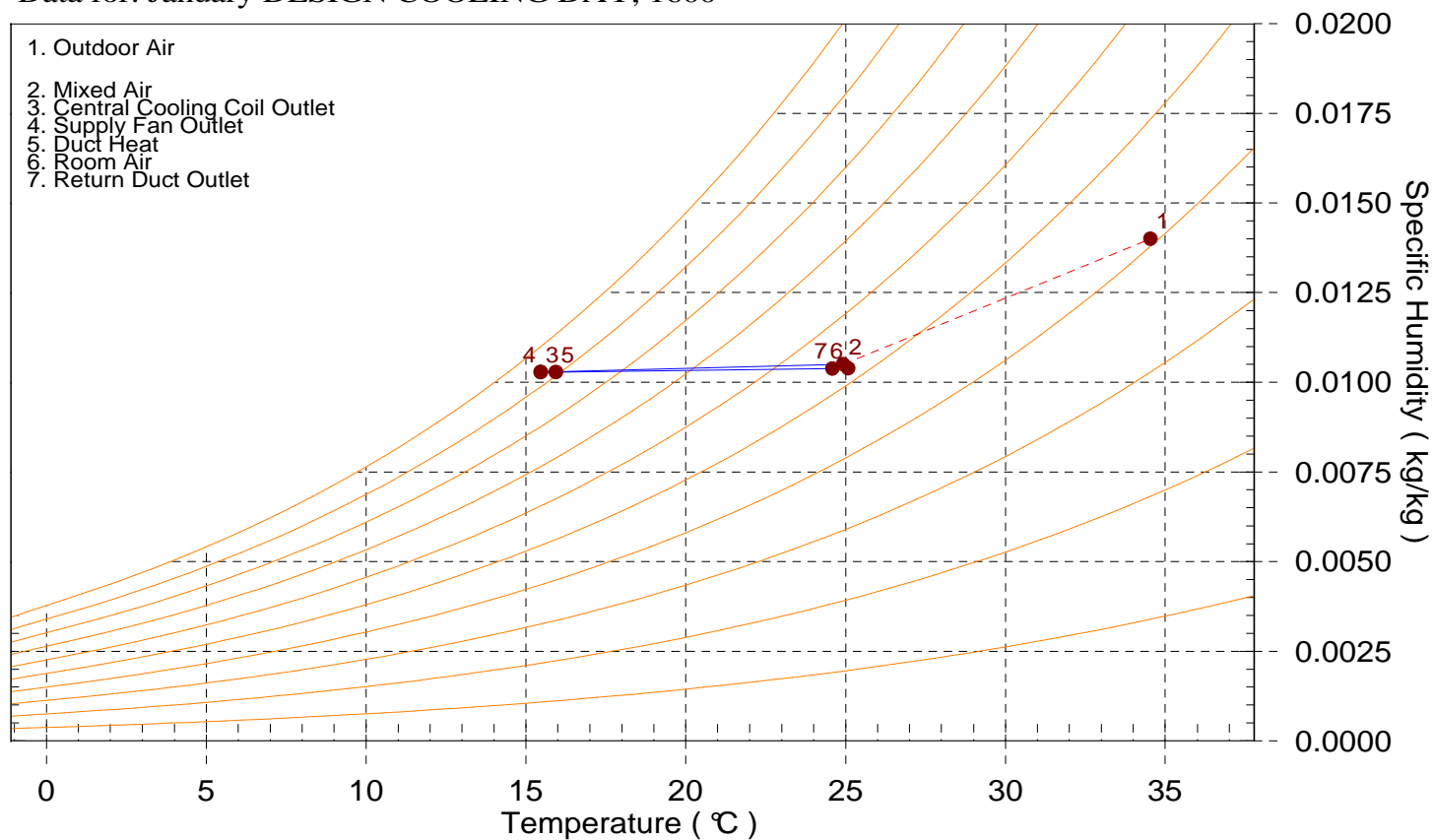


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Psychrometric Analysis for Zona 8

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, 1600





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Space Design Load Summary for Zona 8

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TABLE 1.1.A. COMPONENT LOADS FOR SPACE " Zona 8 " IN ZONE " Zone 8 "						
	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	42 m ²	599	-	42 m ²	521	-
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	42 m ²	0	-	42 m ²	0	-
Partitions	18 m ²	0	-	18 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	1134 W	1066	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3570 W	3474	-	0	0	-
People	3	199	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	329	9	5%	63	0
>> Total Zone Loads	-	6919	189	-	1320	0

TABLE 1.1.B. ENVELOPE LOADS FOR SPACE " Zona 8 " IN ZONE " Zone 8 "						
				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	42	0.573	-	599	-	521



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Air System Sizing Summary for Zona 8

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Air System Information

Air System Name	Zona 8	Number of zones	1
Equipment Class	SPLT AHU	Floor Area	42.0 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	7.7 kW	Load occurs at	Jan 1600
Sensible coil load	7.3 kW	OA DB / WB	34.5 / 23.7 °C
Coil L/s at Jan 1600	640 L/s	Entering DB / WB	24.9 / 18.3 °C
Max block L/s	640 L/s	Leaving DB / WB	15.5 / 14.8 °C
Sum of peak zone L/s	608 L/s	Coil ADP	14.4 °C
Sensible heat ratio	0.946	Bypass Factor	0.100
m ² /kW	5.4	Resulting RH	52 %
W/m ²	183.8	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	2.0 kW	Load occurs at	Des Htg
Coil L/s at Des Htg	640 L/s	W/m ²	48.1
Max coil L/s	640 L/s	Ent. DB / Lvg DB	20.6 / 23.2 °C
Water flow @ 11.1 K drop	N/A		

Supply Fan Sizing Data

Actual max L/s	640 L/s	Fan motor BHP	0.02 BHP
Standard L/s	639 L/s	Fan motor kW	0.01 kW
Actual max L/(s-m ²)	15.25 L/(s-m²)	Fan static	10 Pa

Outdoor Ventilation Air Data

Design airflow L/s	21 L/s	l/s/person	7.08 l/s/person
L/(s-m ²)	0.51 L/(s-m²)		



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Zone Design Load Summary for Zona 8

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Zone 8	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		
	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	42 m ²	599	-	42 m ²	521	-
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	42 m ²	0	-	42 m ²	0	-
Partitions	18 m ²	0	-	18 m ²	0	-
Ceiling	0 m ²	0	-	0 m ²	0	-
Overhead Lighting	1134 W	1066	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3570 W	3474	-	0	0	-
People	3	199	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	5% / 5%	329	9	5%	63	0
>> Total Zone Loads	-	6919	189	-	1320	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 8	6.9	608	608	Jan 1700	1.3	42.0	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)
Zone 8							
Zona 8	1	6.9	Jan 1700	608	1.3	42.0	14.48