



## Zone Sizing Summary for ADM GUARDA MUNIC

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo

### Air System Information

Air System Name ..... **ADM GUARDA MUNIC**  
Equipment Class ..... **SPLT AHU**  
Air System Type ..... **SZCAV**

Number of zones ..... **1**  
Floor Area ..... **22,7** m<sup>2</sup>  
Location ..... **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	3,1	271	271	Feb 1400	0,0	22,7	11,93

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1 ADM GUARDA MUNIC.	1	3,1	Feb 1400	271	0,0	22,7	11,93

## Ventilation Sizing Summary for ADM GUARDA MUNIC

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTErev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022  
08:24

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... **68** L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m²)	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)	
Zone 1	1	22.7	9.0	270.9	7.50	0.00	0.0	0.0	67.5	
<b>Totals (incl. Space Multipliers)</b>										
				<b>270.9</b>						<b>67.5</b>

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## Air System Design Load Summary for ADM GUARDA MUNIC

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1300			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 25,4 °C			HEATING OA DB / WB 22,2 °C / 15,8 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	330	-	2 m²	-	-
Wall Transmission	15 m²	621	-	15 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	102	-	2 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	23 m²	0	-	23 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	50 m²	771	-	50 m²	0	-
Overhead Lighting	363 W	278	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	9	458	541	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	3061	541	-	0	0
Zone Conditioning	-	3154	541	-	0	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	271 L/s	0	-	271 L/s	0	-
Ventilation Load	68 L/s	564	1442	68 L/s	-90	0
Supply Fan Load	271 L/s	0	-	271 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3718	1983	-	-90	0
Central Cooling Coil	-	3718	1983	-	-90	0
>> Total Conditioning	-	3718	1983	-	-90	0
<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>		

## Zone Sizing Summary for ADM TRANSITO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name ADM TRÁNSITO  
Equipment Class SPLT AHU  
Air System Type SZCAV

Number of zones 1  
Floor Area 26,7 m<sup>2</sup>  
Location Fortaleza, Brazil

### Sizing Calculation Information

Calculation Months Jan to Dec  
Sizing Data Calculated

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s·m <sup>2</sup> )
Zone 1	4,2	369	369	Dec 1600	0,0	26,7	13,81

### 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 (m <sup>2</sup> )	Space L/(s·m <sup>2</sup> )
Zone 1 ADM TRÁNSITO	1	4,2	Dec 1600	369	0,0	26,7	13,81

## Ventilation Sizing Summary for ADM TRANSITO

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTErev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022  
08:24

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 68 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1	1	26,7	9,0	368,7	7,50	0,00	0,0	0,0	67,5
ADM TRANSITO				368,7					67,5
<b>Totals (incl. Space Multipliers)</b>									



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## Air System Design Load Summary for ADM TRANSITO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



06/24

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,7 °C / 25,6 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	8 m²	1623	-	8 m²	-	-
Wall Transmission	20 m²	867	-	20 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	378	-	8 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	27 m²	0	-	27 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	427 W	340	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	500	-	0	0	-
People	9	482	541	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	4190	541	-	0	0
Zone Conditioning	-	4229	541	-	0	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	369 L/s	0	-	369 L/s	0	-
Ventilation Load	68 L/s	552	1474	68 L/s	-90	0
Supply Fan Load	369 L/s	0	-	369 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4781	2015	-	-90	0
Central Cooling Coil	-	4781	2016	-	-90	0
>> Total Conditioning	-	4781	2016	-	-90	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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## Zone Sizing Summary for ALOJAMENTO FEMININO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo

### Air System Information

Air System Name **ALOJAMENTO FEMININO**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones **1**  
Floor Area **41,3 m<sup>2</sup>**  
Location **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	3,7	328	328	Feb 1600	0,0	41,3	7,93

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1 ALOJAMENTO FEM	1	3,7	Feb 1600	328	0,0	41,3	7,93

# Ventilation Sizing Summary for ALOJAMENTO FEMININO

05/09/2022  
08:24

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTE.rev01  
Prepared by: José Mendonça Filho Segundo

1. Summary  
Ventilation Sizing Method .....  
Design Ventilation Airflow Rate ..... 90 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1	1	41,3	12,0	327,7	7,50	0,00	0,0	0,0	90,0
ALOJAMENTO FEM				327,7					90,0
<b>Totais (incl. Space Multipliers)</b>									
				<b>327,7</b>					<b>90,0</b>



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## Air System Design Load Summary for ALOJAMENTO FEMININO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,0 °C / 25,5 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	139	-	2 m²	-	-
Wall Transmission	8 m²	206	-	8 m²	0	-
Roof Transmission	41 m²	860	-	41 m²	0	-
Window Transmission	2 m²	111	-	2 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	41 m²	0	-	41 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	58 m²	936	-	58 m²	0	-
Overhead Lighting	661 W	535	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	250	-	0	0	-
People	12	616	422	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	3652	422	-	0	0
Zone Conditioning	-	3782	422	-	0	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	328 L/s	0	-	328 L/s	0	-
Ventilation Load	90 L/s	813	1987	90 L/s	-120	0
Supply Fan Load	328 L/s	0	-	328 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4595	2410	-	-120	0
Central Cooling Coil	-	4595	2410	-	-120	0
>> Total Conditioning	-	4595	2410	-	-120	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		



## Zone Sizing Summary for ALOJAMENTO MASCULINO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo

08.24

### Air System Information

Air System Name **ALOJAMENTO MASCULINO**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones **1**  
Floor Area **45,8 m<sup>2</sup>**  
Location **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s·m <sup>2</sup> )
Zone 1	4,6	404	404	Apr 1600	0,0	45,8	8,82

### 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 (m <sup>2</sup> )	Space L/(s·m <sup>2</sup> )
Zone 1							
ALOJAMENTO MASC	1	4,6	Apr 1600	404	0,0	45,8	8,82

# Ventilation Sizing Summary for ALOJAMENTO MASCULINO

05/09/2022  
08:24

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTE rev01  
 Prepared by: José Mendonça Filho Segundo

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 120 L/s  
 Sum of Space OA Airflows ..... 120 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1	1	45,8	16,0	403,9	7,50	0,00	0,0	0,0	120,0
ALOJAMENTO MASC				403,9					120,0
<b>Totals (incl. Space Multipliers)</b>				<b>403,9</b>					<b>120,0</b>



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## Air System Design Load Summary for ALOJAMENTO MASCULINO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,2 °C / 25,8 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	366	-	5 m²	-	-
Wall Transmission	10 m²	237	-	10 m²	0	-
Roof Transmission	46 m²	947	-	46 m²	0	-
Window Transmission	5 m²	224	-	5 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	46 m²	0	-	46 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	62 m²	990	-	62 m²	0	-
Overhead Lighting	733 W	583	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	250	-	0	0	-
People	16	804	563	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	4401	563	-	0	0
Zone Conditioning	-	4490	563	-	0	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	404 L/s	0	-	404 L/s	0	-
Ventilation Load	120 L/s	1094	2520	120 L/s	-160	0
Supply Fan Load	404 L/s	0	-	404 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5584	3083	-	-160	0
Central Cooling Coil	-	5584	3083	-	-160	0
>> Total Conditioning	-	5584	3083	-	-160	0
<b>Key:</b>	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

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## Zone Sizing Summary for ATENDIMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo

06:24

### Air System Information

Air System Name ATENDIMENTO  
Equipment Class SPLT AHU  
Air System Type SZCAV

Number of zones 1  
Floor Area 26,0 m<sup>2</sup>  
Location Fortaleza, Brazil

### Sizing Calculation Information

Calculation Months Jan to Dec  
Sizing Data Calculated

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	2,3	205	205	Dec 1400	0,0	26,0	7,89

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1							
ATENDIMENTO	1	2,3	Dec 1400	205	0,0	26,0	7,89

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### Ventilation Sizing Summary for ATENDIMENTO

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTE rev01  
Prepared by: José Mendonça Filho Segundo

1. Summary  
Ventilation Sizing Method .....  
Design Ventilation Airflow Rate ..... 68 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1	1	26.0	9.0	205.2	7.50	0.00	0.0	0.0	67.5
<b>Totals (incl. Space Multipliers)</b>									
<b>ATENDIMENTO</b>									
				<b>205.2</b>					<b>67.5</b>

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## Air System Design Load Summary for ATENDIMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE Rev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 26,5 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	534	-	3 m²	-	-
Wall Transmission	5 m²	261	-	5 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	133	-	3 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	26 m²	0	-	26 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	42 m²	242	-	42 m²	0	-
Overhead Lighting	416 W	325	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	300	-	0	0	-
People	9	537	712	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	2333	712	-	0	0
Zone Conditioning	-	2441	712	-	0	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	205 L/s	0	-	205 L/s	0	-
Ventilation Load	68 L/s	557	1400	68 L/s	-90	0
Supply Fan Load	205 L/s	0	-	205 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2998	2112	-	-90	0
Central Cooling Coil	-	2998	2112	-	-90	0
>> Total Conditioning	-	2998	2112	-	-90	0
<b>Key:</b>	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

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## Zone Sizing Summary for BALÇÃO DE ATENDIMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name **BALÇÃO DE ATENDIMENTO**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones **1**  
Floor Area **26,2 m<sup>2</sup>**  
Location **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	4,0	352	352	Feb 1600	0,0	26,2	13,43

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1 BALÇÃO DE ATENDIMENTO	1	4,0	Feb 1600	352	0,0	26,2	13,43



## Ventilation Sizing Summary for BALCAO DE ATENDIMENTO

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTE rev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022  
08:24

1. Summary  
 Ventilation Sizing Method ..... Sum of Space OA Airflows  
 Design Ventilation Airflow Rate ..... 30 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
BALÇÃO DE ATENDIMENTO	1	26,2	4,0	351,8	7,50	0,00	0,0	0,0	30,0
<b>Totals (incl. Space Multipliers)</b>				<b>351,8</b>					<b>30,0</b>



*[Handwritten marks]*



## Air System Design Load Summary for BALCAO DE ATENDIMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01

05/09/2022

Prepared by: José Mendonça Filho Segundo

08:24

ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1300			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 25,4 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	0 m²	0	-	0 m²	-	-
Wall Transmission	9 m²	363	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	0 m²	0	-	0 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	26 m²	0	-	26 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	43 m²	256	-	43 m²	0	-
Overhead Lighting	419 W	321	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2840 W	2840	-	0	0	-
People	4	203	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	3984	240	-	0	0
Zone Conditioning	-	4158	240	-	0	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	352 L/s	0	-	352 L/s	0	-
Ventilation Load	30 L/s	249	695	30 L/s	-40	0
Supply Fan Load	352 L/s	0	-	352 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4407	935	-	-40	0
Central Cooling Coil	-	4407	935	-	-40	0
>> Total Conditioning	-	4407	935	-	-40	0
Key:	Positive values are cig loads Negative values are htg loads			Positive values are htg loads Negative values are cig loads		



### Zone Sizing Summary for CORREGEDORIA

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo

08:24

**Air System Information**

Air System Name ..... **CORREGEDORIA**  
 Equipment Class ..... **SPLT AHU**  
 Air System Type ..... **SZCAV**

Number of zones ..... **1**  
 Floor Area ..... **15,8** m<sup>2</sup>  
 Location ..... **Fortaleza, Brazil**

**Sizing Calculation Information**

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

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

**Zone Sizing Data**

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	1,8	157	157	Feb 1400	0,0	15,8	9,97

**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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1 CORREGEDORIA	1	1,8	Feb 1400	157	0,0	15,8	9,97

LZ

## Ventilation Sizing Summary for CORREGEDORIA

05/09/2022  
08:24

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
Prepared by: José Mendonça Filho Segundo

1. Summary  
Ventilation Sizing Method .....  
Design Ventilation Airflow Rate ..... 23 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Required Outdoor Air (L/s)	Uncorrected Outdoor Air (L/s)
Zone 1	1	15.8	3.0	157.5	7.50	0.00	0.00	0.0	0.0	22.5
<b>Totals (incl. Space Multipliers)</b>										
				<b>157.5</b>						<b>22.5</b>



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## Air System Design Load Summary for CORREGEDORIA

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1300			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 25,4 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	330	-	2 m²	-	-
Wall Transmission	5 m²	196	-	5 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	102	-	2 m²	0	-
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	0 m²	0	-	0 m²	0	-
Ceiling	32 m²	503	-	32 m²	0	-
Overhead Lighting	253 W	194	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	300	-	0	0	-
People	3	153	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	1778	180	-	0	0
Zone Conditioning	-	1867	180	-	0	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	157 L/s	0	-	157 L/s	0	-
Ventilation Load	23 L/s	190	516	23 L/s	-30	0
Supply Fan Load	157 L/s	0	-	157 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2058	696	-	-30	0
Central Cooling Coil	-	2058	696	-	-30	0
>> Total Conditioning	-	2058	696	-	-30	0
<b>Key:</b>	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

## Zone Sizing Summary for JUNTA DE RECURSOS

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name **JUNTA DE RECURSOS**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones **1**  
Floor Area **14,9 m<sup>2</sup>**  
Location **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	2,3	204	204	Jan 1600	0,0	14,9	13,72

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1 JUNTA DE RECURSOS	1	2,3	Jan 1600	204	0,0	14,9	13,72

## Ventilation Sizing Summary for JUNTA DE RECURSOS

05/09/2022  
08.24

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTErev01  
Prepared by: Jose Mendonça Filho Segundo

1. Summary  
Ventilation Sizing Method .....  
Design Ventilation Airflow Rate ..... 45 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1	1	14,9	6,0	204,5	7,50	0,00	0,0	0,0	45,0
<b>Totals (incl. Space Multipliers)</b>				<b>204,5</b>					<b>45,0</b>



  


## Air System Design Load Summary for JUNTA DE RECURSOS

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,2 °C / 25,6 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	610	-	2 m²	-	-
Wall Transmission	4 m²	143	-	4 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	112	-	2 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	15 m²	0	-	15 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	40 m²	640	-	40 m²	0	-
Overhead Lighting	238 W	190	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	250	-	0	0	-
People	6	321	361	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	2265	361	-	0	0
Zone Conditioning	-	2291	361	-	0	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	204 L/s	0	-	204 L/s	0	-
Ventilation Load	45 L/s	419	950	45 L/s	-60	0
Supply Fan Load	204 L/s	0	-	204 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2710	1311	-	-60	0
Central Cooling Coil	-	2710	1311	-	-60	0
>> Total Conditioning	-	2710	1311	-	-60	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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## Zone Sizing Summary for PERITO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name ..... **PERITO**  
Equipment Class ..... **SPLT AHU**  
Air System Type ..... **SZCAV**

Number of zones ..... **1**  
Floor Area ..... **11,2 m²**  
Location ..... **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m²)	Zone L/(s-m²)
Zone 1	1,8	161	161	Dec 1300	0,0	11,2	14,35

### 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							
PERITO	1	1,8	Dec 1300	161	0,0	11,2	14,35

## Ventilation Sizing Summary for PERITO

05/09/2022  
08:24

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
Prepared by: José Mendonça Filho Segundo

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 23 L/s  
 Sum of Space OA Airflows .....

### 2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Required Outdoor Air (L/s)	Uncorrected Outdoor Air (L/s)
Zone 1	1	11,2	3,0	160,7	7,50	0,00	0,00	0,0	0,0	22,5
PERITO				160,7						22,5
<b>Totals (incl. Space Multipliers)</b>				<b>160,7</b>						<b>22,5</b>



## Air System Design Load Summary for PERITO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 25,5 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	534	-	3 m²	-	-
Wall Transmission	6 m²	270	-	6 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	133	-	3 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	11 m²	0	-	11 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	27 m²	411	-	27 m²	0	-
Overhead Lighting	179 W	140	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	180 W	180	-	0	0	-
People	3	157	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	1825	180	-	0	0
Zone Conditioning	-	1864	180	-	0	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	161 L/s	0	-	161 L/s	0	-
Ventilation Load	23 L/s	189	522	23 L/s	-30	0
Supply Fan Load	161 L/s	0	-	161 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2053	702	-	-30	0
Central Cooling Coil	-	2053	702	-	-30	0
>> Total Conditioning	-	2053	702	-	-30	0
<b>Key:</b>	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

## Zone Sizing Summary for RECEPÇÃO TÉRREO

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name **RECEPÇÃO TÉRREO**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones **1**  
Floor Area **79,0 m²**  
Location **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m²)	Zone L/(s·m²)
Zone 1	37,8	3325	3325	Dec 1400	0,0	79,0	42,09

### 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 RECEPÇÃO térreo	1	37,8	Dec 1400	3325	0,0	79,0	42,09

## Ventilation Sizing Summary for RECEPÇÃO TERREO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022  
08:24

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 329 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
RECEPÇÃO térreo	1	79,0	70,0	3324,9	4,70	0,00	0,0	0,0	329,0
<b>Totals (incl. Space Multipliers)</b>				<b>3324,9</b>					<b>329,0</b>



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## Air System Design Load Summary for RECEPÇÃO TERREO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



ZONE LOADS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 25,5 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	140 m²	23468	-	140 m²	-	-
Wall Transmission	3 m²	138	-	3 m²	0	-
Roof Transmission	79 m²	2213	-	79 m²	0	-
Window Transmission	140 m²	6216	-	140 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	79 m²	0	-	79 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	16 m²	242	-	16 m²	0	-
Overhead Lighting	1264 W	988	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	350 W	350	-	0	0	-
People	70	4180	5537	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	37796	5537	-	0	0
Zone Conditioning	-	37936	5537	-	0	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	3325 L/s	0	-	3325 L/s	0	-
Ventilation Load	329 L/s	2768	7349	329 L/s	-440	0
Supply Fan Load	3325 L/s	0	-	3325 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	40705	12886	-	-440	0
Central Cooling Coil	-	40705	12888	-	-440	0
>> Total Conditioning	-	40705	12888	-	-440	0
<b>Key:</b>	<b>Positive values are clg loads Negative values are htg loads</b>			<b>Positive values are htg loads Negative values are clg loads</b>		

## Zone Sizing Summary for SALA DE TREINAMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name ..... **SALA DE TREINAMENTO**  
Equipment Class ..... **SPLT AHU**  
Air System Type ..... **SZCAV**

Number of zones ..... **1**  
Floor Area ..... **89,8** m<sup>2</sup>  
Location ..... **Fortaleza, Brazil**

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s-m <sup>2</sup> )
Zone 1	13,0	1140	1140	Feb 1500	0,0	89,8	12,69

### 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 (m <sup>2</sup> )	Space L/(s-m <sup>2</sup> )
Zone 1							
SALA DE TREINAMENTO	1	13,0	Feb 1500	1140	0,0	89,8	12,69

## Ventilation Sizing Summary for SALA DE TREINAMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE Rev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022

08:24

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 533 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m²)	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
Zone 1									
SALA DE TREINAMENTO	1	89,8	71,0	1139,6	7,50	0,00	0,0	0,0	532,5
<b>Totals (incl. Space Multipliers)</b>				<b>1139,6</b>					<b>532,5</b>





## Air System Design Load Summary for SALA DE TREINAMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTErev01

05/09/2022

Prepared by: José Mendonça Filho Segundo



	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,2 °C / 25,6 °C			HEATING OA DB / WB 22,2 °C / 15,6 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	12 m²	2019	-	12 m²	-	-
Wall Transmission	39 m²	1267	-	39 m²	0	-
Roof Transmission	90 m²	2304	-	90 m²	0	-
Window Transmission	12 m²	596	-	12 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	90 m²	0	-	90 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	51 m²	825	-	51 m²	0	-
Overhead Lighting	1437 W	1144	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1000 W	1000	-	0	0	-
People	71	3799	4266	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	12953	4266	-	0	0
Zone Conditioning	-	13332	4266	-	0	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	1140 L/s	0	-	1140 L/s	0	-
Ventilation Load	533 L/s	4890	10375	533 L/s	-712	0
Supply Fan Load	1140 L/s	0	-	1140 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	18222	14641	-	-712	0
Central Cooling Coil	-	18222	14642	-	-712	0
>> Total Conditioning	-	18222	14642	-	-712	0
<b>Key:</b>	<b>Positive values are clg loads Negative values are htg loads</b>			<b>Positive values are htg loads Negative values are clg loads</b>		

## Zone Sizing Summary for SLA VIDEO MONITORAMENTO

Project Name: CENTRO INTEG, SEGURANÇA PÚBLICA DE HORIZONTE rev01  
05/09/2022

Prepared by: José Mendonça Filho Segundo



### Air System Information

Air System Name **SLA VIDEO MONITORAMENTO**  
Equipment Class **SPLT AHU**  
Air System Type **SZCAV**

Number of zones ..... 1  
Floor Area ..... 32,8 m<sup>2</sup>  
Location ..... Fortaleza, Brazil

### Sizing Calculation Information

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

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

### Zone Sizing Data

Zone Name	Maximum Cooling Sensible (kW)	Design Airflow (L/s)	Minimum Airflow (L/s)	Time of Peak Load	Maximum Heating Load (kW)	Zone Floor Area (m <sup>2</sup> )	Zone L/(s·m <sup>2</sup> )
Zone 1	7,4	655	655	Feb 1500	0,0	32,8	19,97

### 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 (m <sup>2</sup> )	Space L/(s·m <sup>2</sup> )
Zone 1							
SLA VIDEO MONITORAMENTO	1	7,4	Feb 1500	655	0,0	32,8	19,97

## Ventilation Sizing Summary for SLA VIDEO MONITORAMENTO

Project Name: CENTRO INTEG. SEGURANÇA PÚBLICA DE HORIZONTErev01  
 Prepared by: José Mendonça Filho Segundo

05/09/2022

08:24

1. Summary  
 Ventilation Sizing Method .....  
 Design Ventilation Airflow Rate ..... 30 L/s

2. Space Ventilation Analysis Table

Zone Name / Space Name	Mult.	Floor Area (m <sup>2</sup> )	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/s-m <sup>2</sup> )	Required Outdoor Air (L/s) (% of supply)	Required Outdoor Air (L/s)	Uncorrected Outdoor Air (L/s)
Zone 1									
SLA VIDEO MONITORAMENTO	1	32.8	4,0	655,1	7,50	0,00	0,0	0,0	30,0
<b>Totals (incl. Space Multipliers)</b>				<b>655,1</b>					<b>30,0</b>

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