

## Dedicated Outdoor Air System (DOAS) Sizing Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
09:46

### Air System Information

Air System Name ..... **VRF 1P**  
Equipment Class ..... **TERM**  
Air System Type ..... **VRF**

Number of zones ..... **19**  
Floor Area ..... **615,0** m<sup>2</sup>  
Location ..... **Brasilia, 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**

**NOTE: No other data is applicable for a Terminal Units air system without a Dedicated Outdoor Air System (DOAS).**

## Zone Sizing Summary for VRF 1P

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Equipment Class ..... **TERM**  
Air System Type ..... **VRF**

Number of zones ..... **19**  
Floor Area ..... **615,0** m<sup>2</sup>  
Location ..... **Brasilia, 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**

### Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (kW)	Sens Coil Load (kW)	Coil Entering DB / WB (°C)	Coil Leaving DB / WB (°C)	Water Flow @ 5,6 K (L/s)	Time of Peak Coil Load	Zone L/(s·m²)
1P - COORD. PEDAGÓGICA	2,5	1,5	26,9 / 21,0	15,5 / 15,0	-	Jan 1500	10,83
1P - COPA	1,4	1,3	24,7 / 18,1	15,4 / 14,8	-	Jan 1600	33,92
1P - COZINHA	10,4	7,8	25,4 / 19,0	15,4 / 14,8	-	Feb 1600	22,83
1P - LAB. INFORMÁTICA	13,4	7,3	27,7 / 21,7	15,6 / 15,1	-	Jan 1600	12,14
1P - NUTRIÇÃO	3,6	2,3	25,8 / 20,0	15,8 / 15,3	-	Feb 1600	12,95
1P - SALA DE ARTES	9,9	4,5	30,8 / 24,5	15,6 / 15,2	-	Feb 1600	10,08
1P - SALA DE AULA A102	10,5	5,0	30,1 / 23,9	15,7 / 15,3	-	Feb 1500	8,55
1P - SALA DE AULA A103	13,7	7,5	27,8 / 21,7	15,2 / 14,7	-	Jan 1500	11,33
1P - SALA DE AULA A104	11,0	5,4	29,7 / 23,4	15,4 / 14,9	-	Feb 1500	12,43
1P - SALA DE AULA A105	12,5	6,6	28,4 / 22,2	15,3 / 14,8	-	Feb 1500	12,48
1P - SALA DE AULA A106	12,3	6,5	28,5 / 22,3	15,6 / 15,1	-	Feb 1500	12,56
1P - SALA DE AULA B101	15,6	8,3	27,7 / 21,8	15,5 / 15,1	-	Dec 1600	13,59
1P - SALA DE AULA B102	12,1	5,5	30,7 / 24,4	15,4 / 15,0	-	Feb 1600	8,94
1P - SALA DE AULA B103	14,2	7,9	27,0 / 21,1	15,0 / 14,5	-	Jan 1700	12,88
1P - SALA DE AULA B104	13,1	6,2	28,9 / 23,2	15,3 / 14,9	-	Feb 1700	8,72
1P - SALA DE AULA B105	16,4	9,1	27,2 / 21,3	15,4 / 14,9	-	Jan 1700	14,78
1P - SALA DE RECURSO	2,7	1,6	26,2 / 20,4	15,4 / 14,9	-	Jan 1700	11,55
1P - SALA DE RECURSOS	5,8	3,8	25,6 / 19,7	15,3 / 14,8	-	Dec 1600	12,52
1P - SOE	2,1	1,3	25,5 / 19,8	15,6 / 15,1	-	Dec 1500	9,50

### Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (kW)	Heating Coil Ent/Lvg DB (°C)	Htg Coil Water Flow @11,1 K (L/s)	Fan Design Airflow (L/s)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (L/s)
1P - COORD. PEDAGÓGICA	1,0	17,9 / 25,9	-	121	0,000	0,000	30
1P - COPA	0,3	21,1 / 23,5	-	136	0,000	0,000	0
1P - COZINHA	2,8	19,7 / 23,3	-	733	0,000	0,000	60
1P - LAB. INFORMÁTICA	3,8	17,1 / 23,3	-	565	0,000	0,000	188
1P - NUTRIÇÃO	1,8	19,1 / 26,7	-	220	0,000	0,000	30
1P - SALA DE ARTES	3,2	12,9 / 23,7	-	279	0,000	0,000	188
1P - SALA DE AULA A102	3,7	14,0 / 24,6	-	326	0,000	0,000	188
1P - SALA DE AULA A103	4,8	16,9 / 25,0	-	559	0,000	0,000	188
1P - SALA DE AULA A104	3,4	14,6 / 23,6	-	354	0,000	0,000	188
1P - SALA DE AULA A105	4,2	16,1 / 24,3	-	473	0,000	0,000	188
1P - SALA DE AULA A106	4,3	16,1 / 24,6	-	472	0,000	0,000	188
1P - SALA DE AULA B101	4,5	16,7 / 23,2	-	646	0,000	0,000	225
1P - SALA DE AULA B102	3,9	13,0 / 23,8	-	341	0,000	0,000	225
1P - SALA DE AULA B103	4,1	17,3 / 23,5	-	614	0,000	0,000	188
1P - SALA DE AULA B104	4,7	14,7 / 24,9	-	430	0,000	0,000	225
1P - SALA DE AULA B105	5,6	17,3 / 24,6	-	729	0,000	0,000	225
1P - SALA DE RECURSO	1,1	18,4 / 25,6	-	142	0,000	0,000	28
1P - SALA DE RECURSOS	1,7	19,2 / 23,9	-	344	0,000	0,000	45
1P - SOE	1,0	19,5 / 26,6	-	127	0,000	0,000	14

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### Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
1P - COORD. PEDAGÓGICA	1,2	Jan 1600	0,7	11,2
1P - COPA	1,4	Jan 1700	0,3	4,0
1P - COZINHA	7,4	Feb 1600	2,3	32,1
1P - LAB. INFORMÁTICA	5,7	Jan 1700	1,3	46,5
1P - NUTRIÇÃO	2,2	Feb 1700	1,5	17,0
1P - SALA DE ARTES	2,8	Jan 1700	0,9	27,7
1P - SALA DE AULA A102	3,3	Jan 1600	1,3	38,1
1P - SALA DE AULA A103	5,6	Jan 1500	2,4	49,3
1P - SALA DE AULA A104	3,6	Feb 1500	1,0	28,5
1P - SALA DE AULA A105	4,7	Feb 1500	1,9	37,9
1P - SALA DE AULA A106	4,7	Feb 1500	1,9	37,6
1P - SALA DE AULA B101	6,5	Jan 1700	1,7	47,5
1P - SALA DE AULA B102	3,4	Jan 1700	1,1	38,1
1P - SALA DE AULA B103	6,2	Jan 1700	1,7	47,7
1P - SALA DE AULA B104	4,3	Feb 1800	1,7	49,3
1P - SALA DE AULA B105	7,3	Jan 1700	2,7	49,3
1P - SALA DE RECURSO	1,4	Jan 1700	0,8	12,3
1P - SALA DE RECURSOS	3,5	Jan 1700	1,2	27,5
1P - SOE	1,3	Jan 1600	0,8	13,4

### Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
<b>1P - COORD. PEDAGÓGICA</b>							
1P - COORD. PEDAGÓGICA	1	1,2	Jan 1600	121	0,7	11,2	10,83
<b>1P - COPA</b>							
1P - CPD	1	1,4	Jan 1700	136	0,3	4,0	33,92
<b>1P - COZINHA</b>							
1P - COZINHA	1	7,4	Feb 1600	733	2,3	32,1	22,83
<b>1P - LAB. INFORMÁTICA</b>							
1P - LAB. INFORMÁTICA	1	5,7	Jan 1700	565	1,3	46,5	12,14
<b>1P - NUTRIÇÃO</b>							
1P - NUTRIÇÃO	1	2,2	Feb 1700	220	1,5	17,0	12,95
<b>1P - SALA DE ARTES</b>							
1P - SALA DE ARTES	1	2,8	Jan 1700	279	0,9	27,7	10,08
<b>1P - SALA DE AULA A102</b>							
1P - SALA DE AULA A102	1	3,3	Jan 1600	326	1,3	38,1	8,55
<b>1P - SALA DE AULA A103</b>							
1P - SALA DE AULA A103	1	5,6	Jan 1500	559	2,4	49,3	11,33
<b>1P - SALA DE AULA A104</b>							
1P - SALA DE AULA A104	1	3,6	Feb 1500	354	1,0	28,5	12,43
<b>1P - SALA DE AULA A105</b>							
1P - SALA DE AULA A105	1	4,7	Feb 1500	473	1,9	37,9	12,48
<b>1P - SALA DE AULA A106</b>							
1P - SALA DE AULA A106	1	4,7	Feb 1500	472	1,9	37,6	12,56
<b>1P - SALA DE AULA B101</b>							
1P - SALA DE AULA B101	1	6,5	Jan 1700	646	1,7	47,5	13,59
<b>1P - SALA DE AULA B102</b>							
1P - SALA DE AULA B102	1	3,4	Jan 1700	341	1,1	38,1	8,94
<b>1P - SALA DE AULA B103</b>							
1P - SALA DE AULA B103	1	6,2	Jan 1700	614	1,7	47,7	12,88
<b>1P - SALA DE AULA B104</b>							
1P - SALA DE AULA B104	1	4,3	Feb 1800	430	1,7	49,3	8,72
<b>1P - SALA DE AULA B105</b>							

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Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
1P - SALA DE AULA B105	1	7,3	Jan 1700	729	2,7	49,3	14,78
<b>1P - SALA DE RECURSO</b>							
1P - SALA DE RECURSO	1	1,4	Jan 1700	142	0,8	12,3	11,55
<b>1P - SALA DE RECURSOS</b>							
1P - SALA DE RECURSOS	1	3,5	Jan 1700	344	1,2	27,5	12,52
<b>1P - SOE</b>							
1P - SOE	1	1,3	Jan 1600	127	0,8	13,4	9,50

## Ventilation Sizing Summary for VRF 1P

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### 1. Summary

Ventilation Sizing Method ..... Sum of Space OA Airflows

### 2. Space Ventilation Analysis

#### 2.1 Zone: 1P-COORD. PEDAGÓGICA

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)
<b>1P - COORD. PEDAGÓGICA</b>									
1P - COORD. PEDAGÓGICA	1	11,2	4,0	121,3	7,50	0,00	0,0	0,0	30,0
<b>Totals (incl. Space Multipliers)</b>				<b>121,3</b>					<b>30,0</b>

#### 2.2 Zone: 1P - COPA

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)
<b>1P - COPA</b>									
1P - CPD	1	4,0	0,0	135,7	4,70	0,00	0,0	0,0	0,0
<b>Totals (incl. Space Multipliers)</b>				<b>135,7</b>					<b>0,0</b>

#### 2.3 Zone: 1P - COZINHA

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)
<b>1P - COZINHA</b>									
1P - COZINHA	1	32,1	8,0	732,8	7,50	0,00	0,0	0,0	60,0
<b>Totals (incl. Space Multipliers)</b>				<b>732,8</b>					<b>60,0</b>

#### 2.4 Zone: 1P - LAB. INFORMÁTICA

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)
<b>1P - LAB. INFORMÁTICA</b>									
1P - LAB. INFORMÁTICA	1	46,5	25,0	564,6	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>564,6</b>					<b>187,5</b>

#### 2.5 Zone: 1P - NUTRIÇÃO

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)
<b>1P - NUTRIÇÃO</b>									
1P - NUTRIÇÃO	1	17,0	4,0	220,1	7,50	0,00	0,0	0,0	30,0
<b>Totals (incl. Space Multipliers)</b>				<b>220,1</b>					<b>30,0</b>

#### 2.6 Zone: 1P - SALA DE ARTES

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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)
<b>1P - SALA DE ARTES</b>									
1P - SALA DE ARTES	1	27,7	25,0	279,3	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>279,3</b>					<b>187,5</b>

### 2.7 Zone: 1P - SALA DE AULA A102

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)
<b>1P - SALA DE AULA A102</b>									
1P - SALA DE AULA A102	1	38,1	25,0	325,7	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>325,7</b>					<b>187,5</b>

### 2.8 Zone: 1P - SALA DE AULA A103

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)
<b>1P - SALA DE AULA A103</b>									
1P - SALA DE AULA A103	1	49,3	25,0	558,5	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>558,5</b>					<b>187,5</b>

### 2.9 Zone: 1P - SALA DE AULA A104

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)
<b>1P - SALA DE AULA A104</b>									
1P - SALA DE AULA A104	1	28,5	25,0	354,2	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>354,2</b>					<b>187,5</b>

### 2.10 Zone: 1P - SALA DE AULA A105

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)
<b>1P - SALA DE AULA A105</b>									
1P - SALA DE AULA A105	1	37,9	25,0	473,0	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>473,0</b>					<b>187,5</b>

### 2.11 Zone: 1P - SALA DE AULA A106

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)
<b>1P - SALA DE AULA A106</b>									
1P - SALA DE AULA A106	1	37,6	25,0	472,2	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>472,2</b>					<b>187,5</b>

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### 2.12 Zone: 1P - SALA DE AULA B101

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)
1P - SALA DE AULA B101									
1P - SALA DE AULA B101	1	47,5	30,0	645,7	7,50	0,00	0,0	0,0	225,0
<b>Totals (incl. Space Multipliers)</b>				<b>645,7</b>					<b>225,0</b>

### 2.13 Zone: 1P - SALA DE AULA B102

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)
1P - SALA DE AULA B102									
1P - SALA DE AULA B102	1	38,1	30,0	340,7	7,50	0,00	0,0	0,0	225,0
<b>Totals (incl. Space Multipliers)</b>				<b>340,7</b>					<b>225,0</b>

### 2.14 Zone: 1P - SALA DE AULA B103

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)
1P - SALA DE AULA B103									
1P - SALA DE AULA B103	1	47,7	25,0	614,2	7,50	0,00	0,0	0,0	187,5
<b>Totals (incl. Space Multipliers)</b>				<b>614,2</b>					<b>187,5</b>

### 2.15 Zone: 1P - SALA DE AULA B104

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)
1P - SALA DE AULA B104									
1P - SALA DE AULA B104	1	49,3	30,0	429,7	7,50	0,00	0,0	0,0	225,0
<b>Totals (incl. Space Multipliers)</b>				<b>429,7</b>					<b>225,0</b>

### 2.16 Zone: 1P - SALA DE AULA B105

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)
1P - SALA DE AULA B105									
1P - SALA DE AULA B105	1	49,3	30,0	728,5	7,50	0,00	0,0	0,0	225,0
<b>Totals (incl. Space Multipliers)</b>				<b>728,5</b>					<b>225,0</b>

### 2.17 Zone: 1P - SALA DE RECURSO

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)
1P - SALA DE RECURSO									

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1P - SALA DE RECURSO	1	12,3	6,0	142,0	4,70	0,00	0,0	0,0	28,2
<b>Totals (incl. Space Multipliers)</b>				<b>142,0</b>					<b>28,2</b>

### 2.18 Zone: 1P - SALA DE RECURSOS

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)
<b>1P - SALA DE RECURSOS</b>									
1P - SALA DE RECURSOS	1	27,5	6,0	344,3	7,50	0,00	0,0	0,0	45,0
<b>Totals (incl. Space Multipliers)</b>				<b>344,3</b>					<b>45,0</b>

### 2.19 Zone: 1P - SOE

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)
<b>1P - SOE</b>									
1P - SOE	1	13,4	3,0	127,3	4,70	0,00	0,0	0,0	14,1
<b>Totals (incl. Space Multipliers)</b>				<b>127,3</b>					<b>14,1</b>



## Air System Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1600 COOLING OA DB / WB 33,8 °C / 26,8 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 8,9 °C / 4,3 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	55 m²	11399	-	55 m²	-	-
Wall Transmission	220 m²	5818	-	220 m²	6372	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	55 m²	2714	-	55 m²	4127	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	125 m²	584	-	125 m²	808	-
Partitions	584 m²	4046	-	584 m²	6544	-
Ceiling	616 m²	4264	-	616 m²	6898	-
Overhead Lighting	10627 W	8900	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	11250 W	10517	-	0	0	-
People	351	20124	15995	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	6836	1600	10%	2475	0
>> Total Zone Loads	-	75201	17595	-	27223	0
Zone Conditioning	-	72893	17595	-	26349	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 L/s	0	-	0 L/s	0	-
Ventilation Load	2607 L/s	25375	64864	2607 L/s	33412	0
Ventilation Fan Load	0 L/s	0	-	0 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	98267	82459	-	59761	0
Terminal Unit Cooling	-	98267	82503	-	0	0
Terminal Unit Heating	-	0	-	-	59761	-
>> Total Conditioning	-	98267	82503	-	59761	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
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1P -COORD. PEDAGÓGICA	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 33,8 °C / 26,8 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	10 m²	267	-	10 m²	283	-
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	0 m²	0	-	0 m²	0	-
Partitions	19 m²	130	-	19 m²	211	-
Ceiling	12 m²	85	-	12 m²	138	-
Overhead Lighting	194 W	162	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	234	-	0	0	-
People	4	229	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	111	18	10%	63	0
>> Total Zone Loads	-	1218	198	-	695	0

1P - COPA	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	5 m²	139	-	5 m²	145	-
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	0 m²	0	-	0 m²	0	-
Partitions	12 m²	74	-	12 m²	129	-
Ceiling	4 m²	26	-	4 m²	45	-
Overhead Lighting	69 W	59	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1000 W	941	-	0	0	-
People	0	0	0	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	124	0	10%	32	0
>> Total Zone Loads	-	1362	0	-	350	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
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1P - COZINHA	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 33,8 °C / 26,8 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	6 m²	869	-	6 m²	-	-
Wall Transmission	30 m²	798	-	30 m²	853	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	295	-	6 m²	449	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	32 m²	150	-	32 m²	208	-
Partitions	18 m²	126	-	18 m²	204	-
Ceiling	32 m²	222	-	32 m²	358	-
Overhead Lighting	555 W	465	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3500 W	3272	-	0	0	-
People	8	491	560	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	669	56	10%	207	0
>> Total Zone Loads	-	7356	616	-	2279	0

1P - LAB. INFORMÁTICA	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	0 m²	0	-	0 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	0 m²	0	-	0 m²	0	-
Partitions	56 m²	358	-	56 m²	623	-
Ceiling	47 m²	300	-	47 m²	521	-
Overhead Lighting	804 W	684	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2500 W	2351	-	0	0	-
People	25	1459	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	515	113	10%	114	0
>> Total Zone Loads	-	5668	1238	-	1258	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - NUTRIÇÃO	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	20 m²	600	-	20 m²	578	-
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	17 m²	75	-	17 m²	110	-
Partitions	42 m²	271	-	42 m²	470	-
Ceiling	17 m²	110	-	17 m²	190	-
Overhead Lighting	294 W	250	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	470	-	0	0	-
People	4	233	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	201	18	10%	135	0
>> Total Zone Loads	-	2209	198	-	1484	0

1P - SALA DE ARTES	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	0 m²	0	-	0 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	0 m²	0	-	0 m²	0	-
Partitions	42 m²	269	-	42 m²	467	-
Ceiling	28 m²	179	-	28 m²	310	-
Overhead Lighting	479 W	408	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	25	1459	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	255	113	10%	78	0
>> Total Zone Loads	-	2804	1238	-	855	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - SALA DE AULA A102	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 33,8 °C / 26,8 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	0 m²	0	-	0 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	0 m²	0	-	0 m²	0	-
Partitions	71 m²	492	-	71 m²	796	-
Ceiling	38 m²	264	-	38 m²	427	-
Overhead Lighting	658 W	551	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	234	-	0	0	-
People	25	1431	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	297	113	10%	122	0
>> Total Zone Loads	-	3269	1238	-	1345	0

1P - SALA DE AULA A103	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34,2 °C / 26,9 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	7 m²	1070	-	7 m²	-	-
Wall Transmission	32 m²	868	-	32 m²	934	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	7 m²	357	-	7 m²	538	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	18 m²	123	-	18 m²	197	-
Ceiling	49 m²	345	-	49 m²	552	-
Overhead Lighting	852 W	700	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	232	-	0	0	-
People	25	1401	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	510	113	10%	222	0
>> Total Zone Loads	-	5607	1238	-	2444	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - SALA DE AULA A104	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34,2 °C / 26,9 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	4 m²	559	-	4 m²	-	-
Wall Transmission	6 m²	188	-	6 m²	185	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	4 m²	179	-	4 m²	269	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	10 m²	70	-	10 m²	112	-
Ceiling	29 m²	200	-	29 m²	319	-
Overhead Lighting	492 W	405	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	232	-	0	0	-
People	25	1401	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	323	113	10%	89	0
>> Total Zone Loads	-	3555	1238	-	974	0

1P - SALA DE AULA A105	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34,2 °C / 26,9 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	6 m²	931	-	6 m²	-	-
Wall Transmission	8 m²	223	-	8 m²	220	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	298	-	6 m²	449	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	38 m²	179	-	38 m²	246	-
Partitions	36 m²	249	-	36 m²	399	-
Ceiling	38 m²	265	-	38 m²	424	-
Overhead Lighting	655 W	538	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	232	-	0	0	-
People	25	1401	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	432	113	10%	174	0
>> Total Zone Loads	-	4749	1238	-	1911	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
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1P - SALA DE AULA A106	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 34,2 °C / 26,9 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	6 m²	931	-	6 m²	-	-
Wall Transmission	8 m²	223	-	8 m²	220	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	298	-	6 m²	449	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	38 m²	178	-	38 m²	244	-
Partitions	36 m²	249	-	36 m²	399	-
Ceiling	38 m²	263	-	38 m²	421	-
Overhead Lighting	650 W	534	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	232	-	0	0	-
People	25	1401	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	431	113	10%	173	0
>> Total Zone Loads	-	4740	1238	-	1905	0

1P - SALA DE AULA B101	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	7 m²	2061	-	7 m²	-	-
Wall Transmission	10 m²	398	-	10 m²	283	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	7 m²	333	-	7 m²	538	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	17 m²	110	-	17 m²	190	-
Ceiling	48 m²	306	-	48 m²	532	-
Overhead Lighting	821 W	699	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	30	1751	1350	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	589	135	10%	154	0
>> Total Zone Loads	-	6482	1485	-	1698	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

07/26/2023  
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1P - SALA DE AULA B102	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	0 m²	0	-	0 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	0 m²	0	-	0 m²	0	-
Partitions	49 m²	317	-	49 m²	551	-
Ceiling	38 m²	246	-	38 m²	427	-
Overhead Lighting	658 W	561	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	30	1751	1350	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	311	135	10%	98	0
>> Total Zone Loads	-	3420	1485	-	1075	0

1P - SALA DE AULA B103	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	7 m²	2061	-	7 m²	-	-
Wall Transmission	10 m²	398	-	10 m²	283	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	7 m²	333	-	7 m²	538	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	17 m²	110	-	17 m²	190	-
Ceiling	48 m²	307	-	48 m²	534	-
Overhead Lighting	824 W	702	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	25	1459	1125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	561	113	10%	155	0
>> Total Zone Loads	-	6166	1238	-	1701	0



## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - SALA DE AULA B104	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 31,5 °C / 26,3 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	22 m²	699	-	22 m²	636	-
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	0 m²	0	-	0 m²	0	-
Partitions	35 m²	195	-	35 m²	392	-
Ceiling	49 m²	274	-	49 m²	552	-
Overhead Lighting	852 W	737	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	236	-	0	0	-
People	30	1781	1350	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	392	135	10%	158	0
>> Total Zone Loads	-	4314	1485	-	1738	0

1P - SALA DE AULA B105	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	7 m²	2061	-	7 m²	-	-
Wall Transmission	32 m²	972	-	32 m²	934	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	7 m²	333	-	7 m²	538	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	39 m²	253	-	39 m²	440	-
Ceiling	49 m²	318	-	49 m²	552	-
Overhead Lighting	852 W	726	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	30	1751	1350	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	665	135	10%	246	0
>> Total Zone Loads	-	7313	1485	-	2711	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - SALA DE RECURSO	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	11 m²	305	-	11 m²	318	-
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	0 m²	0	-	0 m²	0	-
Partitions	23 m²	145	-	23 m²	252	-
Ceiling	12 m²	79	-	12 m²	138	-
Overhead Lighting	213 W	181	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	6	350	270	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	130	27	10%	71	0
>> Total Zone Loads	-	1426	297	-	779	0

1P - SALA DE RECURSOS	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1700			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 32,9 °C / 26,6 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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 m²	1374	-	5 m²	-	-
Wall Transmission	5 m²	211	-	5 m²	150	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	222	-	5 m²	359	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	0 m²	0	-	0 m²	0	-
Partitions	26 m²	168	-	26 m²	291	-
Ceiling	28 m²	177	-	28 m²	308	-
Overhead Lighting	475 W	405	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	235	-	0	0	-
People	6	350	270	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	314	27	10%	111	0
>> Total Zone Loads	-	3456	297	-	1219	0

## Zone Design Load Summary for VRF 1P

Project Name: EDUSESC TAGUATINGA  
Prepared by: CBR ENGENHARIA SS LTDA

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1P - SOE	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jan 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 33,8 °C / 26,8 °C			HEATING OA DB / WB 8,9 °C / 4,3 °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	0 m²	0	-	0 m²	-	-
Wall Transmission	12 m²	327	-	12 m²	347	-
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	0 m²	0	-	0 m²	0	-
Partitions	21 m²	143	-	21 m²	232	-
Ceiling	13 m²	93	-	13 m²	150	-
Overhead Lighting	232 W	194	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	234	-	0	0	-
People	3	172	135	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	10% / 10%	116	14	10%	73	0
>> Total Zone Loads	-	1278	149	-	802	0