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REITORIA

MEMORIAL DE CÁLCULO CLIMATIZAÇÃO

CLIENTE	VOLUME	REVISÃO	DATA
UFSB	01/01	01	11/09/19

Design Weather Parameters & MSHGs

UFSB-REITORIA

07/15/2019
11:21

Design Parameters:

City Name **Itabuna**
 Location **Brazil**
 Latitude **-14,8** Deg.
 Longitude **39,3** Deg.
 Elevation **54,0** m
 Summer Design Dry-Bulb **29,4** °C
 Summer Coincident Wet-Bulb **25,7** °C
 Summer Daily Range **8,2** °K
 Winter Design Dry-Bulb **22,0** °C
 Winter Design Wet-Bulb **18,9** °C
 Atmospheric Clearness Number **1,00**
 Average Ground Reflectance **0,20**
 Soil Conductivity **1,385** W/(m·°K)
 Local Time Zone (GMT +/- N hours) **3,0** hours
 Consider Daylight Savings Time **Não**
 Simulation Weather Data **Ilhéus (EXT)**
 Current Data is **User Modified**
 Design Cooling Months **January to December**

Design Day Maximum Solar Heat Gains

(The MSHG values are expressed in W/m²)

Month	N	NNE	NE	ENE	E	ESE	SE	SSE	S
January	148,4	155,3	390,4	607,9	737,9	757,3	662,5	469,0	195,4
February	159,9	262,7	513,3	676,6	738,6	706,1	567,6	337,2	141,4
March	280,9	419,2	618,3	719,1	726,6	635,5	446,8	176,2	118,1
April	450,1	551,9	680,3	711,7	661,0	515,9	281,4	100,2	100,2
May	548,5	621,0	703,0	689,9	589,6	417,0	163,9	87,5	87,5
June	578,8	642,1	704,5	678,9	548,4	372,2	123,9	81,1	81,1
July	546,3	619,3	697,2	688,4	573,3	403,4	159,8	84,0	84,0
August	447,9	549,3	675,7	706,2	652,3	506,4	271,4	93,4	93,4
September	266,5	410,2	595,3	717,8	732,1	633,4	435,8	167,0	108,2
October	149,5	260,5	506,7	681,4	753,2	710,6	561,3	315,1	129,3
November	141,9	149,8	395,7	621,0	747,1	762,0	662,8	462,7	188,5
December	145,2	146,0	343,3	587,8	735,6	774,5	696,9	516,2	245,9
Month	SSW	SW	WSW	W	WNW	NW	NNW	HOR	Mult
January	464,3	662,8	760,5	745,9	621,8	398,4	155,7	988,2	1,00
February	329,7	562,5	711,2	754,9	685,9	514,7	266,9	970,6	1,00
March	177,5	432,1	635,7	740,3	732,3	613,2	425,5	919,4	1,00
April	100,2	272,2	516,3	669,0	718,3	675,6	551,6	810,3	1,00
May	87,5	158,5	417,6	596,4	683,0	701,7	619,0	711,9	1,00
June	81,1	112,7	373,6	566,2	668,3	703,1	638,2	665,4	1,00
July	84,0	148,9	404,4	591,8	685,7	692,1	614,7	694,2	1,00
August	93,4	254,2	504,0	661,8	716,9	666,8	550,4	788,1	1,00
September	165,7	436,8	633,7	731,9	717,0	596,2	409,9	897,4	1,00
October	325,5	567,0	712,9	750,7	673,8	499,6	259,6	955,9	1,00
November	465,4	664,2	762,6	746,0	617,6	391,3	148,4	982,0	1,00
December	515,7	696,9	774,8	737,0	590,7	346,5	146,0	986,6	1,00

Mult. = User-defined solar multiplier factor.

Space Input Data

UFSB-REITORIA

07/15/2019

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1P-APOIO TERCEIRIZADOS

1. General Details:

Floor Area 23,8 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 4,7 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 14,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 150,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	14,2	3	0	0

3.1. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Slab Floor Below Grade
Floor Area 23,8 m²
Exposed Perimeter 4,0 m
Total Floor U-Value 0,568 W/(m²-°K)
Floor Depth 1,5 m
Basement Wall U-Value 0,568 W/(m²-°K)
Wall Insulation R-Value 0,00 (m²-°K)/W
Wall Insulation Depth 0,0 m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

1P-ÁREA TÉCNICA MANUT.

1. General Details:

Floor Area **9,7** m²
Avg. Ceiling Height **3,5** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s·m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **2,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	5,3	1	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
Floor Area **9,7** m²
Exposed Perimeter **2,0** m
Total Floor U-Value **0,568** W/(m²·°K)
Floor Depth **0,0** m
Basement Wall U-Value **0,568** W/(m²·°K)
Wall Insulation R-Value **0,00** (m²·°K)/W
Wall Insulation Depth **1,5** m

7. Partitions:

(No partition data).

1P-COPA CONVIVÊNCIA**1. General Details:**

Floor Area **42,5** m²
 Avg. Ceiling Height **3,5** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **4,7** L/s/person
 OA Requirement 2 **0,00** L/(s·m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **10,70** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
 Floor Area **42,5** m²
 Exposed Perimeter **0,0** m
 Total Floor U-Value **0,568** W/(m²·°K)
 Floor Depth **1,5** m
 Basement Wall U-Value **0,568** W/(m²·°K)
 Wall Insulation R-Value **0,00** (m²·°K)/W
 Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

2.4. People:

Occupancy **35,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

1P-DIRETORIA DMCD

1. General Details:

Floor Area 9,1 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	12,6	3	0	0

3.1. Construction Types for Exposure SW

Wall Type Alvenaria 150mm externa
1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy 3,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

1P-DIRETORIA DS

1. General Details:

Floor Area **9,1** m²
 Avg. Ceiling Height **3,5** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	12,6	3	0	0

3.1. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **3,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

1P-DIRETORIA DTIC

1. General Details:

Floor Area 10,6 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 3,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	4,2	1	0	0
NE	7,4	0	0	0

3.1. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NE

Wall Type Estrutura 500mm

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Slab Floor Below Grade
Floor Area 10,6 m²
Exposed Perimeter 4,0 m
Total Floor U-Value 0,568 W/(m²-°K)
Floor Depth 1,5 m
Basement Wall U-Value 0,568 W/(m²-°K)
Wall Insulation R-Value 0,00 (m²-°K)/W
Wall Insulation Depth 0,0 m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

1P-DMCD

1. General Details:

Floor Area 31,1 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 13,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 1325,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	7,3	0	0	0
SE	25,2	6	0	0

3.1. Construction Types for Exposure SW

Wall Type Estrutura 500mm

3.2. Construction Types for Exposure SE

Wall Type Alvenaria 150mm externa
1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Slab Floor Below Grade
Floor Area 31,1 m²
Exposed Perimeter 9,0 m
Total Floor U-Value 0,568 W/(m²-°K)
Floor Depth 1,5 m
Basement Wall U-Value 0,568 W/(m²-°K)
Wall Insulation R-Value 0,00 (m²-°K)/W
Wall Insulation Depth 0,0 m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

1P-DS

1. General Details:

Floor Area **43,2** m²
Avg. Ceiling Height **3,5** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **16,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **1790,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	12,3	3	0	0
SW	7,0	0	0	0

3.1. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure SW

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
Floor Area **43,2** m²
Exposed Perimeter **7,0** m
Total Floor U-Value **0,568** W/(m²-°K)
Floor Depth **1,5** m
Basement Wall U-Value **0,568** W/(m²-°K)
Wall Insulation R-Value **0,00** (m²-°K)/W
Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

1P-DTIC

1. General Details:

Floor Area **54,4** m²
Avg. Ceiling Height **3,5** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **20,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **2635,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	21,0	5	0	0
NE	7,0	0	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
Floor Area **54,4** m²
Exposed Perimeter **8,0** m
Total Floor U-Value **0,568** W/(m²-°K)
Floor Depth **1,5** m
Basement Wall U-Value **0,568** W/(m²-°K)
Wall Insulation R-Value **0,00** (m²-°K)/W
Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

1P-NÚCLEO ADM TIC

1. General Details:

Floor Area **18,1** m²
Avg. Ceiling Height **3,5** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s·m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **3,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **465,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	10,5	3	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
Floor Area **18,1** m²
Exposed Perimeter **3,0** m
Total Floor U-Value **0,568** W/(m²·°K)
Floor Depth **4,0** m
Basement Wall U-Value **0,568** W/(m²·°K)
Wall Insulation R-Value **0,00** (m²·°K)/W
Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

1P-PRÓ-REITOR

1. General Details:

Floor Area **22,0** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s·m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **9,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	13,0	3	0	0
NE	12,6	3	0	0
NE	7,0	0	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.3. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
Floor Area **22,0** m²
Exposed Perimeter **8,0** m
Total Floor U-Value **0,568** W/(m²·°K)
Floor Depth **1,5** m
Basement Wall U-Value **0,568** W/(m²·°K)
Wall Insulation R-Value **0,00** (m²·°K)/W
Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

1P-REUNIÃO**1. General Details:**

Floor Area **10,6** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **5,40** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
 Floor Area **10,6** m²
 Exposed Perimeter **0,0** m
 Total Floor U-Value **0,568** W/(m²-°K)
 Floor Depth **1,5** m
 Basement Wall U-Value **0,568** W/(m²-°K)
 Wall Insulation R-Value **0,00** (m²-°K)/W
 Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

2.4. People:

Occupancy **8,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

1P-SALA TREINAMENTO**1. General Details:**

Floor Area **33,8** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **5,40** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Slab Floor Below Grade**
 Floor Area **33,8** m²
 Exposed Perimeter **0,0** m
 Total Floor U-Value **0,568** W/(m²-°K)
 Floor Depth **1,5** m
 Basement Wall U-Value **0,568** W/(m²-°K)
 Wall Insulation R-Value **0,00** (m²-°K)/W
 Wall Insulation Depth **0,0** m

7. Partitions:

(No partition data).

2.4. People:

Occupancy **31,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

2P-DATACENTER**1. General Details:**

Floor Area **18,5** m²
 Avg. Ceiling Height **3,5** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **0,0** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **3000,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **0,0** Person
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

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2P-DIRETORIA DE ENSINO

1. General Details:

Floor Area **12,2** m²
Avg. Ceiling Height **3,5** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **3,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	4,2	1	0	0
SW	7,0	0	0	0
SE	12,4	3	0	0

3.1. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J02**

3.2. Construction Types for Exposure SW

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J02**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

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2P-DIRETORIA PERCURSOS

1. General Details:

Floor Area 10,1 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 3,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	10,2	3	0	0
ENE	7,0	0	0	0

3.1. Construction Types for Exposure SE

Wall Type Alvenaria 150mm externa
1st Window Type J02

3.2. Construction Types for Exposure ENE

Wall Type Estrutura 500mm

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space

(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

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2P-PROAF

1. General Details:

Floor Area **91,3** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **26,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **2410,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	35,0	9	0	0
NE	14,0	0	0	0
NE	12,6	2	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J02**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J02**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

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2P-PROGEAC

1. General Details:

Floor Area 112,6 m²
Avg. Ceiling Height 3,5 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.3. Electrical Equipment:

Wattage 4270,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy 34,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

Space Input Data

UFSB-REITORIA

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2P-PRÓ-REITOR PROAF

1. General Details:

Floor Area 11,6 m²
 Avg. Ceiling Height 3,6 m
 Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
 OA Requirement 1 7,5 L/s/person
 OA Requirement 2 0,00 L/(s-m²)
 Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
 Wattage 16,00 W/m²
 Ballast Multiplier 1,00
 Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
 Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
 Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	7,0	0	0	0
NE	4,2	1	0	0

3.1. Construction Types for Exposure NE

Wall Type Estrutura 500mm

3.2. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
 1st Window Type J02

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
 Design Heating 0,00 L/s
 Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space

(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy 3,0 People
 Activity Level Office Work
 Sensible 71,8 W/person
 Latent 60,1 W/person
 Schedule Administrativo

2.5. Miscellaneous Loads:

Sensible 0 W
 Schedule None
 Latent 0 W
 Schedule None

2P-PRÓ-REITOR PROGEAC**1. General Details:**

Floor Area **16,7** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s·m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **7,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

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2P-PRÓ-REITOR PROSIS

1. General Details:

Floor Area 11,1 m²
 Avg. Ceiling Height 3,6 m
 Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
 OA Requirement 1 7,5 L/s/person
 OA Requirement 2 0,00 L/(s-m²)
 Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
 Wattage 16,00 W/m²
 Ballast Multiplier 1,00
 Schedule Administrativo

2.4. People:

Occupancy 3,0 People
 Activity Level Office Work
 Sensible 71,8 W/person
 Latent 60,1 W/person
 Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
 Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
 Schedule None
 Latent 0 W
 Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
 Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	12,3	3	0	0

3.1. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
 1st Window Type J02

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
 Design Heating 0,00 L/s
 Energy Analysis 0,00 L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
 (No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

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2P-PROSIS

1. General Details:

Floor Area **48,3** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.4. People:

Occupancy **17,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

2.3. Electrical Equipment:

Wattage **1945,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	8,8	2	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J02**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

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2P-RECEPÇÃO LOUNGE***

1. General Details:

Floor Area **49,5** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **4,7** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **0,00** W/m²
Ballast Multiplier **1,00**
Schedule **None**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	25,2	3	1	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**
2nd Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **10,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

Space Input Data

UFSB-REITORIA

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11:22

2P-REUNIÃO

1. General Details:

Floor Area **21,6** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **4,7** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.3. Electrical Equipment:

Wattage **5,40** W/m²
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	7,0	0	0	0
NE	4,2	1	0	0

3.1. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

3.2. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J02**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **14,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

2P-SECRETARIA

1. General Details:

Floor Area **13,8** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.4. People:

Occupancy **4,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

2.3. Electrical Equipment:

Wattage **310,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	12,6	3	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J02**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

3P-COORD. DESENV.

1. General Details:

Floor Area **89,0** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **14,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **1860,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	27,0	6	0	0
SW	9,0	0	0	0
SW	4,5	1	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure SW

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-COORD. MANUTENÇÃO

1. General Details:

Floor Area **26,1** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **1085,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	13,3	3	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **9,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

3P-COORD. PROJETOS OBRAS

1. General Details:

Floor Area **46,5** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **13,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **1750,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	13,5	3	0	0
NE	18,0	0	0	0
SE	13,5	3	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-DINFRA

1. General Details:

Floor Area **26,2** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **705,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	13,5	3	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **9,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-DIRAD

1. General Details:

Floor Area **75,8** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.4. People:

Occupancy **18,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

2.3. Electrical Equipment:

Wattage **2720,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	18,0	4	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

3P-DIRETORIA DIRAD

1. General Details:

Floor Area **12,7** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **7,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	9,0	2	0	0
NE	9,0	0	0	0
NW	9,0	2	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-DIRETORIA DIRPLAN

1. General Details:

Floor Area 11,0 m²
 Avg. Ceiling Height 3,6 m
 Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
 OA Requirement 1 7,5 L/s/person
 OA Requirement 2 0,00 L/(s-m²)
 Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
 Wattage 16,00 W/m²
 Ballast Multiplier 1,00
 Schedule Administrativo

2.4. People:

Occupancy 3,0 People
 Activity Level Office Work
 Sensible 71,8 W/person
 Latent 60,1 W/person
 Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
 Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
 Schedule None
 Latent 0 W
 Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
 Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	13,5	3	0	0

3.1. Construction Types for Exposure SW

Wall Type Alvenaria 150mm externa
 1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
 Design Heating 0,00 L/s
 Energy Analysis 0,00 L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
 (No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-DIRETORIA PROJETOS

1. General Details:

Floor Area 12,3 m²
 Avg. Ceiling Height 3,6 m
 Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
 OA Requirement 1 7,5 L/s/person
 OA Requirement 2 0,00 L/(s-m²)
 Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
 Wattage 16,00 W/m²
 Ballast Multiplier 1,00
 Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
 Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
 Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	13,5	3	0	0

3.1. Construction Types for Exposure SE

Wall Type Alvenaria 150mm externa
 1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
 Design Heating 0,00 L/s
 Energy Analysis 0,00 L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
 (No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy 7,0 People
 Activity Level Office Work
 Sensible 71,8 W/person
 Latent 60,1 W/person
 Schedule Administrativo

2.5. Miscellaneous Loads:

Sensible 0 W
 Schedule None
 Latent 0 W
 Schedule None

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-DIRPLAN

1. General Details:

Floor Area **56,2** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **1860,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	13,5	3	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **15,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-LICITAÇÃO

1. General Details:

Floor Area **8,9** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **4,7** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **5,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **5,40** W/m²
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	4,5	1	0	0
NE	9,0	0	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

3P-PRÓ-REITOR DGP

1. General Details:

Floor Area **16,1** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **7,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	9,0	2	0	0
NW	9,0	0	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NW

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

3P-PRÓ-REITOR PROP

1. General Details:

Floor Area 15,6 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 3,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	13,5	3	0	0

3.1. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
1st Window Type J01

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

3P-REUNIÃO**1. General Details:**

Floor Area **15,9** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **10,70** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **10,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

3P-SECRETARIA**1. General Details:**

Floor Area **10,9** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

(No Roof or Skylight data).

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **3,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-ACS

1. General Details:

Floor Area **47,9** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **14,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **1240,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	13,5	3	0	0
NW	3,6	0	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	47,9	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

4P-ÁREA TÉCNICA**1. General Details:**

Floor Area **8,2** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **0,0** L/s/person
 OA Requirement 2 **0,00** L/(s·m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **3000,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	8,2	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **0,0** Person
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-ARI

1. General Details:

Floor Area **28,9** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **9,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **465,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	13,5	3	0	0
NW	3,6	0	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	28,9	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-ASSESSORIA JURÍDICA

1. General Details:

Floor Area 30,2 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 10,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 310,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	18,0	4	0	0
NE	9,0	0	0	0
NE	3,6	0	0	0
NW	9,0	2	0	0
NW	3,6	0	0	0

3.1. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NE

Wall Type Estrutura 500mm

3.3. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa

3.4. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.5. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	30,2	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-AUDITORIA INTERNA

1. General Details:

Floor Area **26,4** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **8,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **310,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	9,0	2	0	0
SW	3,6	0	0	0

3.1. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	26,4	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-CEP

1. General Details:

Floor Area **6,6** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **2,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	4,5	1	0	0
NW	3,6	0	0	0

3.1. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NW

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	6,6	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-CHEFIA DE GABINETE

1. General Details:

Floor Area **19,8** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **6,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	9,0	2	0	0
NE	9,0	0	0	0
NE	3,6	0	0	0

3.1. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure NE

Wall Type **Estrutura 500mm**

3.3. Construction Types for Exposure NE

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	19,8	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-COPA

1. General Details:

Floor Area 17,7 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 4,7 L/s/person
OA Requirement 2 0,00 L/(s·m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 9,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 1200,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	22,5	5	0	0
NW	3,6	0	0	0
SW	9,0	2	0	0

3.1. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa

3.3. Construction Types for Exposure SW

Wall Type Alvenaria 150mm externa
1st Window Type J01

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	17,7	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-DPCI E DPG

1. General Details:

Floor Area **23,6** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **8,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **930,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	18,0	4	0	0
SE	3,6	0	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	23,6	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

4P-GABINETE REITORIA

1. General Details:

Floor Area 39,2 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 11,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	22,5	5	0	0
SE	3,6	0	0	0
NE	9,0	2	0	0
NE	9,0	0	0	0

3.1. Construction Types for Exposure SE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure SE

Wall Type Alvenaria 150mm externa

3.3. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.4. Construction Types for Exposure NE

Wall Type Estrutura 500mm

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	39,2	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-GABINETE VICE-REITOR

1. General Details:

Floor Area 26,1 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 9,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	9,0	2	0	0
NE	3,6	0	0	0

3.1. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	26,1	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-INTEGRIDADE E TRANSPA

1. General Details:

Floor Area 26,2 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 7,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 465,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	9,0	2	0	0
SW	3,6	0	0	0

3.1. Construction Types for Exposure SW

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure SW

Wall Type Alvenaria 150mm externa

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	26,2	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

4P-LOUNGE REITORIA

1. General Details:

Floor Area **43,8** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **860,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	43,8	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **8,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-PROCURADORIA

1. General Details:

Floor Area 20,8 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 7,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 155,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NW	18,0	4	0	0
NW	3,6	0	0	0

3.1. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NW

Wall Type Alvenaria 150mm externa

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	20,8	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019
11:22

4P-PROPPG

1. General Details:

Floor Area **40,5** m²
Avg. Ceiling Height **3,6** m
Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
OA Requirement 1 **7,5** L/s/person
OA Requirement 2 **0,00** L/(s-m²)
Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
Wattage **16,00** W/m²
Ballast Multiplier **1,00**
Schedule **Administrativo**

2.4. People:

Occupancy **12,0** People
Activity Level **Office Work**
Sensible **71,8** W/person
Latent **60,1** W/person
Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
Schedule **None**
Latent **0** W
Schedule **None**

2.3. Electrical Equipment:

Wattage **1790,0** Watts
Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SW	9,0	2	0	0
SW	3,6	0	0	0
SW	9,0	0	0	0

3.1. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
1st Window Type **J01**

3.2. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**

3.3. Construction Types for Exposure SW

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	40,5	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
Design Heating **0,00** L/s
Energy Analysis **0,00** L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

4P-PRÓ-REITOR PROPPG**1. General Details:**

Floor Area **15,2** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.4. People:

Occupancy **3,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

2.3. Electrical Equipment:

Wattage **155,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
SE	9,0	2	0	0
SE	3,6	0	0	0
SW	9,0	2	0	0
SW	9,0	0	0	0

3.1. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

3.2. Construction Types for Exposure SE

Wall Type **Alvenaria 150mm externa**

3.3. Construction Types for Exposure SW

Wall Type **Alvenaria 150mm externa**
 1st Window Type **J01**

3.4. Construction Types for Exposure SW

Wall Type **Estrutura 500mm**

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	15,2	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s
 Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
 (No additional input required for this floor type).

7. Partitions:

(No partition data).

4P-REUNIÃO

1. General Details:

Floor Area **18,5** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s·m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **5,40** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	18,5	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **10,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

4P-SALA DO CONSELHO**1. General Details:**

Floor Area **75,6** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s·m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:**2.1. Overhead Lighting:**

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **10,70** W/m²
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	75,6	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **80,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Space Input Data

UFSSB-REITORIA

07/15/2019
11:22

4P-SECRETARIA EXECUTIVA

1. General Details:

Floor Area 39,1 m²
Avg. Ceiling Height 3,6 m
Building Weight 341,8 kg/m²

1.1. OA Ventilation Requirements:

Space Usage User-Defined
OA Requirement 1 7,5 L/s/person
OA Requirement 2 0,00 L/(s-m²)
Space Usage Defaults .. ASHRAE Standard 62.1-2007

2. Internals:

2.1. Overhead Lighting:

Fixture Type Recessed (Unvented)
Wattage 16,00 W/m²
Ballast Multiplier 1,00
Schedule Administrativo

2.4. People:

Occupancy 6,0 People
Activity Level Office Work
Sensible 71,8 W/person
Latent 60,1 W/person
Schedule Administrativo

2.2. Task Lighting:

Wattage 0,00 W/m²
Schedule None

2.5. Miscellaneous Loads:

Sensible 0 W
Schedule None
Latent 0 W
Schedule None

2.3. Electrical Equipment:

Wattage 930,0 Watts
Schedule Administrativo

3. Walls, Windows, Doors:

Exp.	Wall Gross Area (m ²)	Window 1 Qty.	Window 2 Qty.	Door 1 Qty.
NE	9,0	2	0	0
NE	3,6	0	0	0
NE	9,0	0	0	0

3.1. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa
1st Window Type J01

3.2. Construction Types for Exposure NE

Wall Type Alvenaria 150mm externa

3.3. Construction Types for Exposure NE

Wall Type Estrutura 500mm

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	39,1	0	0

4.1. Construction Types for Exposure H

Roof Type Telha Metálica

5. Infiltration:

Design Cooling 0,00 L/s
Design Heating 0,00 L/s
Energy Analysis 0,00 L/s
Infiltration occurs only when the fan is off.

6. Floors:

Type Floor Above Conditioned Space
(No additional input required for this floor type).

7. Partitions:

(No partition data).

Space Input Data

UFSB-REITORIA

07/15/2019

11:22

4P-SECRETARIA PROCURADOR

1. General Details:

Floor Area **26,6** m²
 Avg. Ceiling Height **3,6** m
 Building Weight **341,8** kg/m²

1.1. OA Ventilation Requirements:

Space Usage **User-Defined**
 OA Requirement 1 **7,5** L/s/person
 OA Requirement 2 **0,00** L/(s-m²)
 Space Usage Defaults .. **ASHRAE Standard 62.1-2007**

2. Internals:

2.1. Overhead Lighting:

Fixture Type **Recessed (Unvented)**
 Wattage **16,00** W/m²
 Ballast Multiplier **1,00**
 Schedule **Administrativo**

2.2. Task Lighting:

Wattage **0,00** W/m²
 Schedule **None**

2.3. Electrical Equipment:

Wattage **860,0** Watts
 Schedule **Administrativo**

3. Walls, Windows, Doors:

(No Wall, Window, Door data).

4. Roofs, Skylights:

Exp.	Roof Gross Area (m ²)	Roof Slope (deg.)	Skylight Qty.
H	26,6	0	0

4.1. Construction Types for Exposure H

Roof Type **Telha Metálica**

5. Infiltration:

Design Cooling **0,00** L/s
 Design Heating **0,00** L/s
 Energy Analysis **0,00** L/s

Infiltration occurs only when the fan is off.

6. Floors:

Type **Floor Above Conditioned Space**
(No additional input required for this floor type).

7. Partitions:

(No partition data).

2.4. People:

Occupancy **5,0** People
 Activity Level **Office Work**
 Sensible **71,8** W/person
 Latent **60,1** W/person
 Schedule **Administrativo**

2.5. Miscellaneous Loads:

Sensible **0** W
 Schedule **None**
 Latent **0** W
 Schedule **None**

Monthly Simulation Results for 1P-APOIO TERCEIRIZADOS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1367	1367	352	0	132	52
February	1231	1231	319	0	116	46
March	1311	1311	335	0	123	49
April	1200	1200	306	0	126	50
May	1106	1106	276	0	129	51
June	862	862	213	0	121	48
July	805	805	197	0	132	52
August	831	831	208	0	123	49
September	889	889	224	0	126	50
October	1098	1098	278	0	132	52
November	1145	1145	293	0	118	47
December	1316	1316	342	0	132	52
Total	13160	13160	3343	0	1510	595

Monthly Simulation Results for 1P-ÁREA TÉCNICA MANUT.

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	365	365	95	0	54	54
February	330	330	87	0	47	47
March	352	352	91	0	50	50
April	318	318	82	0	52	51
May	291	291	73	0	53	52
June	230	230	57	0	50	49
July	219	219	54	0	54	54
August	227	227	57	0	50	50
September	244	244	62	0	52	51
October	296	296	76	0	54	54
November	307	307	79	0	48	48
December	353	353	93	0	54	54
Total	3531	3531	904	0	617	615

Monthly Simulation Results for 1P-COPA CONVIVÊNCIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2720	2720	684	0	235	157
February	2405	2405	608	0	207	138
March	2567	2567	638	0	220	147
April	2499	2499	622	0	226	151
May	2427	2427	595	0	230	154
June	1986	1986	485	0	216	145
July	1886	1886	458	0	235	157
August	1791	1791	443	0	220	147
September	1834	1834	459	0	226	151
October	2259	2259	564	0	235	157
November	2268	2268	568	0	211	141
December	2585	2585	658	0	235	157
Total	27228	27228	6783	0	2697	1804

Monthly Simulation Results for 1P-DIRETORIA DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	622	622	165	0	50	54
February	536	536	143	0	44	47
March	522	522	138	0	47	50
April	441	441	116	0	48	51
May	381	381	98	0	49	52
June	268	268	68	0	46	49
July	245	245	61	0	50	54
August	274	274	70	0	47	50
September	320	320	82	0	48	51
October	440	440	114	0	50	54
November	522	522	137	0	45	48
December	610	610	163	0	50	54
Total	5181	5181	1355	0	577	615

Monthly Simulation Results for 1P-DIRETORIA DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	622	622	165	0	50	54
February	536	536	143	0	44	47
March	522	522	138	0	47	50
April	441	441	116	0	48	51
May	381	381	98	0	49	52
June	268	268	68	0	46	49
July	245	245	61	0	50	54
August	274	274	70	0	47	50
September	320	320	82	0	48	51
October	440	440	114	0	50	54
November	522	522	137	0	45	48
December	610	610	163	0	50	54
Total	5181	5181	1355	0	577	615

Monthly Simulation Results for 1P-DIRETORIA DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	456	456	117	0	59	54
February	411	411	106	0	52	47
March	431	431	110	0	55	50
April	400	400	102	0	56	51
May	369	369	92	0	57	52
June	281	281	70	0	54	49
July	255	255	63	0	59	54
August	261	261	66	0	55	50
September	281	281	71	0	56	51
October	357	357	91	0	59	54
November	377	377	96	0	53	48
December	441	441	115	0	59	54
Total	4319	4319	1098	0	673	615

Monthly Simulation Results for 1P-DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2273	2273	590	0	172	458
February	2000	2000	523	0	151	403
March	2037	2037	524	0	161	429
April	1858	1858	477	0	165	440
May	1700	1700	428	0	168	448
June	1293	1293	322	0	158	421
July	1195	1195	294	0	172	458
August	1229	1229	309	0	161	429
September	1354	1354	344	0	165	440
October	1759	1759	449	0	172	458
November	1903	1903	489	0	154	411
December	2216	2216	580	0	172	458
Total	20817	20817	5330	0	1973	5255

Monthly Simulation Results for 1P-DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2545	2545	657	0	239	619
February	2237	2237	581	0	210	544
March	2330	2330	595	0	224	580
April	2200	2200	562	0	229	594
May	2083	2083	522	0	234	605
June	1666	1666	413	0	220	569
July	1576	1576	386	0	239	619
August	1546	1546	387	0	224	580
September	1647	1647	417	0	229	594
October	2064	2064	524	0	239	619
November	2135	2135	546	0	214	555
December	2456	2456	640	0	239	619
Total	24485	24485	6229	0	2741	7099

Monthly Simulation Results for 1P-DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:22

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	3386	3386	871	0	301	912
February	3026	3026	783	0	264	801
March	3204	3204	815	0	282	854
April	3058	3058	777	0	289	875
May	2925	2925	729	0	294	891
June	2372	2372	585	0	277	838
July	2275	2275	555	0	301	912
August	2249	2249	560	0	282	854
September	2349	2349	591	0	289	875
October	2826	2826	714	0	301	912
November	2857	2857	728	0	270	817
December	3274	3274	851	0	301	912
Total	33801	33801	8559	0	3450	10450

Monthly Simulation Results for 1P-NÚCLEO ADM TIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	774	774	203	0	100	161
February	680	680	179	0	88	141
March	685	685	178	0	94	151
April	621	621	161	0	96	154
May	568	568	144	0	98	157
June	445	445	111	0	92	148
July	425	425	104	0	100	161
August	442	442	111	0	94	151
September	492	492	125	0	96	154
October	613	613	157	0	100	161
November	661	661	171	0	90	144
December	767	767	202	0	100	161
Total	7175	7175	1843	0	1149	1844

Monthly Simulation Results for 1P-PRÓ-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1448	1448	376	0	122	54
February	1297	1297	339	0	107	47
March	1315	1315	339	0	114	50
April	1159	1159	299	0	117	51
May	1019	1019	258	0	119	52
June	715	715	180	0	112	49
July	627	627	156	0	122	54
August	697	697	177	0	114	50
September	782	782	201	0	117	51
October	1055	1055	271	0	122	54
November	1199	1199	309	0	109	48
December	1413	1413	371	0	122	54
Total	12725	12725	3276	0	1397	615

Monthly Simulation Results for 1P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	705	705	175	0	59	20
February	626	626	156	0	52	17
March	666	666	163	0	55	19
April	636	636	157	0	56	19
May	603	603	147	0	57	19
June	460	460	113	0	54	18
July	402	402	99	0	59	20
August	386	386	97	0	55	19
September	397	397	101	0	56	19
October	539	539	135	0	59	20
November	568	568	141	0	53	18
December	660	660	167	0	59	20
Total	6646	6646	1652	0	673	227

Monthly Simulation Results for 1P-SALA TREINAMENTO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2600	2600	646	0	187	63
February	2308	2308	577	0	164	55
March	2459	2459	604	0	175	59
April	2341	2341	579	0	180	61
May	2208	2208	541	0	183	62
June	1668	1668	412	0	172	58
July	1446	1446	357	0	187	63
August	1385	1385	349	0	175	59
September	1418	1418	362	0	180	61
October	1962	1962	493	0	187	63
November	2087	2087	521	0	168	57
December	2426	2426	614	0	187	63
Total	24309	24309	6053	0	2145	724

Monthly Simulation Results for 2P-DATACENTER

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1137	1137	310	0	102	1038
February	999	999	274	0	90	912
March	1066	1066	288	0	96	972
April	1090	1090	292	0	98	996
May	1114	1114	291	0	100	1014
June	1043	1043	266	0	94	954
July	1136	1136	283	0	102	1038
August	1069	1069	271	0	96	972
September	1086	1086	279	0	98	996
October	1137	1137	298	0	102	1038
November	1023	1023	274	0	92	930
December	1132	1132	310	0	102	1038
Total	13034	13034	3435	0	1174	11898

Monthly Simulation Results for 2P-DIRETORIA DE ENSINO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	894	894	238	0	68	54
February	778	778	209	0	59	47
March	752	752	199	0	63	50
April	629	629	166	0	65	51
May	538	538	139	0	66	52
June	389	389	99	0	62	49
July	364	364	91	0	68	54
August	423	423	108	0	63	50
September	500	500	129	0	65	51
October	659	659	171	0	68	54
November	778	778	204	0	61	48
December	898	898	241	0	68	54
Total	7601	7601	1994	0	774	615

Monthly Simulation Results for 2P-DIRETORIA PERCURSOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	718	718	190	0	56	54
February	630	630	168	0	49	47
March	619	619	162	0	52	50
April	529	529	138	0	53	51
May	462	462	118	0	54	52
June	339	339	86	0	51	49
July	319	319	79	0	56	54
August	361	361	92	0	52	50
September	415	415	106	0	53	51
October	540	540	139	0	56	54
November	625	625	163	0	50	48
December	719	719	191	0	56	54
Total	6276	6276	1632	0	638	615

Monthly Simulation Results for 2P-PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	4809	4809	1259	0	506	834
February	4362	4362	1149	0	444	733
March	4668	4668	1210	0	474	781
April	4241	4241	1096	0	485	800
May	3920	3920	992	0	494	815
June	3139	3139	784	0	465	766
July	3049	3049	752	0	506	834
August	3185	3185	801	0	474	781
September	3384	3384	859	0	485	800
October	3991	3991	1021	0	506	834
November	4130	4130	1068	0	453	747
December	4686	4686	1237	0	506	834
Total	47563	47563	12226	0	5796	9558

Monthly Simulation Results for 2P-PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	5262	5262	1338	0	623	1477
February	4649	4649	1190	0	548	1298
March	4967	4967	1248	0	584	1383
April	4879	4879	1228	0	598	1418
May	4788	4788	1182	0	609	1443
June	4046	4046	989	0	573	1358
July	3967	3967	962	0	623	1477
August	3748	3748	926	0	584	1383
September	3841	3841	962	0	598	1418
October	4544	4544	1139	0	623	1477
November	4449	4449	1123	0	558	1324
December	5054	5054	1300	0	623	1477
Total	54196	54196	13588	0	7145	16935

Monthly Simulation Results for 2P-PRO-REITOR PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	487	487	126	0	64	54
February	440	440	115	0	56	47
March	464	464	119	0	60	50
April	430	430	110	0	62	51
May	401	401	101	0	63	52
June	314	314	78	0	59	49
July	295	295	73	0	64	54
August	306	306	77	0	60	50
September	323	323	82	0	62	51
October	392	392	100	0	64	54
November	413	413	106	0	58	48
December	473	473	124	0	64	54
Total	4739	4739	1208	0	736	615

Monthly Simulation Results for 2P-PRÓ-REITOR PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	744	744	186	0	93	54
February	660	660	166	0	81	47
March	704	704	174	0	87	50
April	679	679	168	0	89	51
May	653	653	160	0	90	52
June	522	522	128	0	85	49
July	479	479	117	0	93	54
August	456	456	114	0	87	50
September	470	470	119	0	89	51
October	598	598	150	0	93	54
November	612	612	153	0	83	48
December	704	704	179	0	93	54
Total	7282	7282	1811	0	1060	615

Monthly Simulation Results for 2P-PRÓ-REITOR PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	705	705	188	0	61	54
February	652	652	175	0	54	47
March	704	704	186	0	57	50
April	599	599	157	0	59	51
May	526	526	135	0	60	52
June	413	413	104	0	56	49
July	411	411	102	0	61	54
August	463	463	118	0	57	50
September	502	502	129	0	59	51
October	579	579	150	0	61	54
November	620	620	162	0	55	48
December	694	694	186	0	61	54
Total	6868	6868	1792	0	702	615

Monthly Simulation Results for 2P-PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2667	2667	686	0	267	673
February	2380	2380	616	0	235	591
March	2548	2548	648	0	250	630
April	2426	2426	617	0	257	646
May	2329	2329	581	0	261	657
June	1922	1922	474	0	246	619
July	1870	1870	457	0	267	673
August	1829	1829	455	0	250	630
September	1901	1901	479	0	257	646
October	2259	2259	571	0	267	673
November	2260	2260	577	0	240	603
December	2569	2569	668	0	267	673
Total	26959	26959	6829	0	3066	7714

Monthly Simulation Results for 2P-RECEPÇÃO LOUNGE***

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1111	1111	286	0	0	54
February	1010	1010	262	0	0	47
March	1050	1050	268	0	0	50
April	948	948	242	0	0	51
May	849	849	212	0	0	52
June	622	622	153	0	0	49
July	551	551	135	0	0	54
August	600	600	150	0	0	50
September	669	669	169	0	0	51
October	847	847	214	0	0	54
November	918	918	234	0	0	48
December	1087	1087	282	0	0	54
Total	10261	10261	2606	0	0	615

Monthly Simulation Results for 2P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1205	1205	307	0	119	40
February	1076	1076	276	0	105	35
March	1141	1141	287	0	112	38
April	1088	1088	274	0	115	39
May	1040	1040	257	0	117	39
June	832	832	204	0	110	37
July	783	783	191	0	119	40
August	774	774	192	0	112	38
September	805	805	202	0	115	39
October	986	986	248	0	119	40
November	1010	1010	256	0	107	36
December	1153	1153	297	0	119	40
Total	11892	11892	2991	0	1368	462

Monthly Simulation Results for 2P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	891	891	235	0	76	107
February	783	783	208	0	67	94
March	778	778	203	0	71	100
April	680	680	177	0	73	103
May	605	605	154	0	75	105
June	454	454	114	0	70	99
July	429	429	106	0	76	107
August	468	468	118	0	71	100
September	529	529	135	0	73	103
October	682	682	175	0	76	107
November	770	770	200	0	68	96
December	887	887	235	0	76	107
Total	7955	7955	2061	0	874	1229

Monthly Simulation Results for 3P-COORD. DESENV.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	3050	3050	794	0	493	644
February	2677	2677	701	0	433	565
March	2744	2744	706	0	461	603
April	2561	2561	658	0	473	618
May	2398	2398	603	0	481	629
June	1927	1927	477	0	453	591
July	1848	1848	452	0	493	644
August	1855	1855	463	0	461	603
September	2028	2028	512	0	473	618
October	2488	2488	633	0	493	644
November	2590	2590	666	0	441	577
December	2989	2989	785	0	493	644
Total	29155	29155	7450	0	5648	7377

Monthly Simulation Results for 3P-COORD. MANUTENÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1547	1547	399	0	144	375
February	1384	1384	360	0	127	330
March	1463	1463	374	0	135	352
April	1386	1386	354	0	139	360
May	1317	1317	330	0	141	367
June	1059	1059	262	0	133	345
July	1012	1012	247	0	144	375
August	1015	1015	253	0	135	352
September	1065	1065	269	0	139	360
October	1280	1280	325	0	144	375
November	1307	1307	334	0	129	336
December	1499	1499	391	0	144	375
Total	15334	15334	3897	0	1656	4303

Monthly Simulation Results for 3P-COORD. PROJETOS OBRAS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2554	2554	661	0	257	606
February	2271	2271	592	0	226	532
March	2358	2358	605	0	241	567
April	2209	2209	565	0	247	581
May	2069	2069	519	0	251	592
June	1643	1643	407	0	237	557
July	1566	1566	383	0	257	606
August	1590	1590	397	0	241	567
September	1704	1704	430	0	247	581
October	2087	2087	530	0	257	606
November	2163	2163	554	0	231	543
December	2495	2495	652	0	257	606
Total	24710	24710	6295	0	2951	6941

Monthly Simulation Results for 3P-DINFRA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1401	1401	362	0	145	244
February	1257	1257	326	0	127	214
March	1326	1326	339	0	136	228
April	1245	1245	318	0	139	234
May	1168	1168	292	0	142	238
June	919	919	228	0	133	224
July	862	862	212	0	145	244
August	873	873	219	0	136	228
September	920	920	233	0	139	234
October	1130	1130	287	0	145	244
November	1176	1176	301	0	130	219
December	1353	1353	353	0	145	244
Total	13630	13630	3469	0	1663	2796

Monthly Simulation Results for 3P-DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	3304	3304	853	0	420	941
February	2949	2949	766	0	369	827
March	3147	3147	804	0	393	881
April	2998	2998	765	0	403	903
May	2872	2872	718	0	410	919
June	2399	2399	591	0	386	865
July	2355	2355	574	0	420	941
August	2307	2307	573	0	393	881
September	2404	2404	604	0	403	903
October	2829	2829	716	0	420	941
November	2811	2811	718	0	376	843
December	3198	3198	833	0	420	941
Total	33573	33573	8515	0	4809	10787

Monthly Simulation Results for 3P-DIRETORIA DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1011	1011	264	0	70	54
February	923	923	243	0	62	47
March	972	972	252	0	66	50
April	856	856	221	0	67	51
May	755	755	192	0	69	52
June	544	544	137	0	65	49
July	494	494	123	0	70	54
August	540	540	137	0	66	50
September	589	589	151	0	67	51
October	758	758	195	0	70	54
November	838	838	217	0	63	48
December	974	974	257	0	70	54
Total	9255	9255	2391	0	806	615

Monthly Simulation Results for 3P-DIRETORIA DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	640	640	170	0	61	54
February	552	552	147	0	53	47
March	538	538	142	0	57	50
April	455	455	120	0	58	51
May	394	394	101	0	59	52
June	279	279	70	0	56	49
July	255	255	63	0	61	54
August	283	283	72	0	57	50
September	332	332	85	0	58	51
October	455	455	118	0	61	54
November	536	536	140	0	54	48
December	629	629	168	0	61	54
Total	5348	5348	1397	0	697	615

Monthly Simulation Results for 3P-DIRETORIA PROJETOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	944	944	246	0	68	54
February	833	833	218	0	60	47
March	835	835	215	0	64	50
April	736	736	190	0	65	51
May	651	651	165	0	66	52
June	455	455	114	0	62	49
July	398	398	99	0	68	54
August	425	425	108	0	64	50
September	479	479	123	0	65	51
October	677	677	174	0	68	54
November	778	778	201	0	61	48
December	916	916	241	0	68	54
Total	8128	8128	2094	0	777	615

Monthly Simulation Results for 3P-DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2532	2532	653	0	311	644
February	2261	2261	587	0	274	565
March	2413	2413	615	0	292	603
April	2295	2295	585	0	299	618
May	2191	2191	548	0	304	629
June	1813	1813	448	0	286	591
July	1762	1762	430	0	311	644
August	1728	1728	430	0	292	603
September	1804	1804	455	0	299	618
October	2141	2141	542	0	311	644
November	2145	2145	548	0	279	577
December	2443	2443	637	0	311	644
Total	25528	25528	6478	0	3569	7377

Monthly Simulation Results for 3P-LICITAÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	484	484	124	0	49	17
February	435	435	112	0	43	15
March	458	458	116	0	46	15
April	428	428	108	0	47	16
May	400	400	100	0	48	16
June	309	309	76	0	45	15
July	285	285	70	0	49	17
August	291	291	73	0	46	15
September	310	310	78	0	47	16
October	386	386	98	0	49	17
November	403	403	103	0	44	15
December	467	467	121	0	49	17
Total	4655	4655	1179	0	562	190

Monthly Simulation Results for 3P-PRÓ-REITOR DGP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	872	872	225	0	89	54
February	789	789	205	0	78	47
March	840	840	215	0	84	50
April	755	755	193	0	86	51
May	682	682	172	0	87	52
June	509	509	127	0	82	49
July	463	463	115	0	89	54
August	481	481	122	0	84	50
September	518	518	132	0	86	51
October	669	669	171	0	89	54
November	717	717	184	0	80	48
December	833	833	218	0	89	54
Total	8130	8130	2079	0	1024	615

Monthly Simulation Results for 3P-PRO-REITOR PROPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	635	635	167	0	87	54
February	582	582	154	0	76	47
March	620	620	162	0	81	50
April	539	539	140	0	83	51
May	477	477	121	0	85	52
June	368	368	92	0	80	49
July	354	354	88	0	87	54
August	388	388	98	0	81	50
September	423	423	108	0	83	51
October	508	508	131	0	87	54
November	540	540	140	0	78	48
December	619	619	164	0	87	54
Total	6052	6052	1565	0	992	615

Monthly Simulation Results for 3P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	963	963	239	0	88	59
February	854	854	213	0	77	52
March	910	910	223	0	82	55
April	873	873	216	0	85	57
May	833	833	203	0	86	58
June	650	650	159	0	81	54
July	582	582	143	0	88	59
August	558	558	139	0	82	55
September	573	573	145	0	85	57
October	754	754	188	0	88	59
November	782	782	195	0	79	53
December	903	903	228	0	88	59
Total	9236	9236	2294	0	1010	675

Monthly Simulation Results for 3P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	387	387	98	0	61	54
February	343	343	87	0	53	47
March	366	366	91	0	57	50
April	357	357	89	0	58	51
May	347	347	85	0	59	52
June	286	286	70	0	56	49
July	273	273	67	0	61	54
August	259	259	64	0	57	50
September	266	266	67	0	58	51
October	324	324	81	0	61	54
November	323	323	81	0	54	48
December	370	370	95	0	61	54
Total	3900	3900	975	0	694	615

Monthly Simulation Results for 4P-ACS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Ctg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2396	2396	626	0	265	429
February	2169	2169	571	0	233	377
March	2223	2223	576	0	248	402
April	1968	1968	509	0	254	412
May	1768	1768	448	0	259	419
June	1344	1344	336	0	244	394
July	1264	1264	312	0	265	429
August	1332	1332	336	0	248	402
September	1485	1485	379	0	254	412
October	1854	1854	475	0	265	429
November	2002	2002	518	0	238	384
December	2294	2294	606	0	265	429
Total	22100	22100	5692	0	3040	4918

Monthly Simulation Results for 4P-ÁREA TÉCNICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1127	1127	311	0	45	1038
February	994	994	276	0	40	912
March	1049	1049	287	0	43	972
April	1052	1052	286	0	44	996
May	1061	1061	282	0	44	1014
June	981	981	254	0	42	954
July	1067	1067	270	0	45	1038
August	1016	1016	261	0	43	972
September	1044	1044	272	0	44	996
October	1102	1102	293	0	45	1038
November	1012	1012	274	0	41	930
December	1119	1119	310	0	45	1038
Total	12625	12625	3375	0	520	11898

Monthly Simulation Results for 4P-ARI

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1483	1483	388	0	160	161
February	1349	1349	356	0	140	141
March	1385	1385	360	0	150	151
April	1191	1191	309	0	153	154
May	1046	1046	266	0	156	157
June	765	765	192	0	147	148
July	710	710	176	0	160	161
August	774	774	196	0	150	151
September	876	876	224	0	153	154
October	1113	1113	286	0	160	161
November	1231	1231	320	0	143	144
December	1417	1417	375	0	160	161
Total	13339	13339	3450	0	1831	1844

Monthly Simulation Results for 4P-ASSESSORIA JURÍDICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1791	1791	472	0	167	107
February	1643	1643	436	0	147	94
March	1671	1671	437	0	157	100
April	1426	1426	372	0	160	103
May	1231	1231	315	0	163	105
June	869	869	219	0	154	99
July	787	787	197	0	167	107
August	899	899	229	0	157	100
September	1022	1022	263	0	160	103
October	1310	1310	339	0	167	107
November	1487	1487	388	0	150	96
December	1727	1727	460	0	167	107
Total	15864	15864	4127	0	1916	1229

Monthly Simulation Results for 4P-AUDITORIA INTERNA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1253	1253	329	0	146	107
February	1112	1112	295	0	129	94
March	1095	1095	286	0	137	100
April	938	938	244	0	140	103
May	811	811	207	0	143	105
June	564	564	142	0	134	99
July	507	507	126	0	146	107
August	552	552	141	0	137	100
September	650	650	167	0	140	103
October	891	891	230	0	146	107
November	1030	1030	268	0	131	96
December	1198	1198	319	0	146	107
Total	10602	10602	2754	0	1677	1229

Monthly Simulation Results for 4P-CEP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	395	395	104	0	37	54
February	361	361	96	0	32	47
March	371	371	97	0	34	50
April	316	316	82	0	35	51
May	272	272	70	0	36	52
June	199	199	50	0	34	49
July	185	185	46	0	37	54
August	206	206	52	0	34	50
September	235	235	60	0	35	51
October	296	296	76	0	37	54
November	328	328	86	0	33	48
December	380	380	101	0	37	54
Total	3545	3545	921	0	419	615

Monthly Simulation Results for 4P-CHEFIA DE GABINETE

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	950	950	249	0	110	54
February	863	863	228	0	96	47
March	870	870	226	0	103	50
April	754	754	195	0	105	51
May	655	655	166	0	107	52
June	455	455	114	0	101	49
July	406	406	101	0	110	54
August	454	454	116	0	103	50
September	519	519	133	0	105	51
October	686	686	177	0	110	54
November	779	779	202	0	98	48
December	908	908	240	0	110	54
Total	8299	8299	2148	0	1256	615

Monthly Simulation Results for 4P-COPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1869	1869	494	0	98	415
February	1684	1684	449	0	86	365
March	1731	1731	454	0	92	389
April	1507	1507	394	0	94	398
May	1340	1340	342	0	96	406
June	1056	1056	264	0	90	382
July	1034	1034	254	0	98	415
August	1125	1125	282	0	92	389
September	1254	1254	318	0	94	398
October	1496	1496	385	0	98	415
November	1605	1605	419	0	88	372
December	1832	1832	488	0	98	415
Total	17533	17533	4543	0	1123	4759

Monthly Simulation Results for 4P-DPCI E DPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1629	1629	428	0	131	322
February	1444	1444	383	0	115	283
March	1428	1428	373	0	122	301
April	1253	1253	326	0	125	309
May	1112	1112	283	0	128	314
June	824	824	206	0	120	296
July	768	768	190	0	131	322
August	822	822	208	0	122	301
September	940	940	240	0	125	309
October	1217	1217	313	0	131	322
November	1364	1364	355	0	117	288
December	1583	1583	420	0	131	322
Total	14384	14384	3723	0	1498	3688

Monthly Simulation Results for 4P-GABINETE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2011	2011	530	0	217	54
February	1803	1803	479	0	191	47
March	1759	1759	460	0	203	50
April	1476	1476	385	0	208	51
May	1242	1242	318	0	212	52
June	828	828	209	0	199	49
July	734	734	183	0	217	54
August	862	862	220	0	203	50
September	1033	1033	266	0	208	51
October	1407	1407	364	0	217	54
November	1666	1666	434	0	194	48
December	1953	1953	520	0	217	54
Total	16774	16774	4369	0	2487	615

Monthly Simulation Results for 4P-GABINETE VICE-REITOR

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1251	1251	326	0	144	54
February	1135	1135	298	0	127	47
March	1146	1146	297	0	135	50
April	996	996	258	0	138	51
May	871	871	221	0	141	52
June	603	603	152	0	133	49
July	536	536	134	0	144	54
August	589	589	150	0	135	50
September	670	670	172	0	138	51
October	897	897	231	0	144	54
November	1024	1024	265	0	129	48
December	1189	1189	314	0	144	54
Total	10907	10907	2818	0	1654	615

Monthly Simulation Results for 4P-INTEGRIDADE E TRANSPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1234	1234	324	0	145	161
February	1094	1094	290	0	128	141
March	1080	1080	282	0	136	151
April	934	934	243	0	139	154
May	822	822	209	0	142	157
June	589	589	148	0	133	148
July	540	540	134	0	145	161
August	582	582	147	0	136	151
September	678	678	174	0	139	154
October	900	900	232	0	145	161
November	1022	1022	266	0	130	144
December	1184	1184	314	0	145	161
Total	10659	10659	2763	0	1664	1844

Monthly Simulation Results for 4P-LOUNGE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1464	1464	382	0	243	298
February	1316	1316	347	0	213	261
March	1325	1325	344	0	227	279
April	1181	1181	306	0	233	286
May	1074	1074	272	0	237	291
June	831	831	207	0	223	273
July	794	794	196	0	243	298
August	817	817	205	0	227	279
September	919	919	234	0	233	286
October	1137	1137	291	0	243	298
November	1223	1223	316	0	217	267
December	1395	1395	369	0	243	298
Total	13477	13477	3468	0	2780	3411

Monthly Simulation Results for 4P-PROCURADORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1191	1191	314	0	115	54
February	1095	1095	291	0	101	47
March	1128	1128	295	0	108	50
April	942	942	246	0	111	51
May	797	797	204	0	113	52
June	561	561	141	0	106	49
July	519	519	130	0	115	54
August	597	597	152	0	108	50
September	683	683	175	0	111	51
October	876	876	226	0	115	54
November	989	989	258	0	103	48
December	1143	1143	304	0	115	54
Total	10520	10520	2736	0	1321	615

Monthly Simulation Results for 4P-PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	2306	2306	603	0	224	619
February	2047	2047	539	0	197	544
March	2061	2061	534	0	210	580
April	1862	1862	481	0	215	594
May	1712	1712	433	0	219	605
June	1331	1331	331	0	206	569
July	1268	1268	312	0	224	619
August	1295	1295	325	0	210	580
September	1443	1443	367	0	215	594
October	1803	1803	461	0	224	619
November	1932	1932	500	0	201	555
December	2217	2217	585	0	224	619
Total	21277	21277	5471	0	2571	7099

Monthly Simulation Results for 4P-PRÓ-REITOR PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	864	864	230	0	84	54
February	758	758	204	0	74	47
March	715	715	190	0	79	50
April	580	580	153	0	81	51
May	478	478	123	0	82	52
June	317	317	80	0	77	49
July	285	285	71	0	84	54
August	346	346	88	0	79	50
September	434	434	112	0	81	51
October	594	594	154	0	84	54
November	722	722	190	0	75	48
December	850	850	228	0	84	54
Total	6944	6944	1822	0	962	615

Monthly Simulation Results for 4P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1014	1014	260	0	102	34
February	911	911	236	0	90	30
March	926	926	236	0	96	32
April	824	824	210	0	98	33
May	740	740	186	0	100	34
June	520	520	130	0	94	32
July	452	452	113	0	102	34
August	465	465	119	0	96	32
September	514	514	133	0	98	33
October	721	721	185	0	102	34
November	815	815	209	0	92	31
December	943	943	246	0	102	34
Total	8846	8846	2261	0	1171	395

Monthly Simulation Results for 4P-SALA DO CONSELHO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	7116	7116	1807	0	419	280
February	6361	6361	1626	0	368	246
March	6568	6568	1652	0	392	262
April	5979	5979	1512	0	402	269
May	5455	5455	1362	0	409	273
June	3879	3879	971	0	385	257
July	3325	3325	830	0	419	280
August	3326	3326	848	0	392	262
September	3550	3550	917	0	402	269
October	5066	5066	1292	0	419	280
November	5679	5679	1444	0	375	251
December	6584	6584	1700	0	419	280
Total	62887	62887	15962	0	4797	3208

Monthly Simulation Results for 4P-SECRETARIA EXECUTIVA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1461	1461	383	0	216	322
February	1322	1322	350	0	190	283
March	1335	1335	348	0	203	301
April	1183	1183	307	0	208	309
May	1065	1065	270	0	211	314
June	820	820	204	0	199	296
July	788	788	194	0	216	322
August	836	836	210	0	203	301
September	943	943	240	0	208	309
October	1146	1146	294	0	216	322
November	1232	1232	320	0	194	288
December	1413	1413	375	0	216	322
Total	13544	13544	3495	0	2479	3688

Monthly Simulation Results for 4P-SECRETARIA PROCURADOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Simulation Results (Table 1) :

Month	Central Cooling Coil Load (kWh)	Central Cooling Eqpt Load (kWh)	Central Unit Clg Input (kWh)	Supply Fan (kWh)	Lighting (kWh)	Electric Equipment (kWh)
January	1027	1027	268	0	147	298
February	920	920	242	0	129	261
March	935	935	242	0	138	279
April	852	852	220	0	141	286
May	790	790	199	0	144	291
June	632	632	157	0	135	273
July	616	616	151	0	147	298
August	623	623	156	0	138	279
September	687	687	174	0	141	286
October	828	828	211	0	147	298
November	866	866	224	0	132	267
December	984	984	259	0	147	298
Total	9760	9760	2502	0	1688	3411

Air System Sizing Summary for 1P-APOIO TERCEIRIZADOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-APOIO TERCEIRIZADOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **23,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,2** kW
Sensible coil load **3,0** kW
Coil L/s at Mar 1600 **259** L/s
Max block L/s **259** L/s
Sum of peak zone L/s **259** L/s
Sensible heat ratio **0,582**
m²/kW **4,6**
W/m² **219,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Mar 1600**
OA DB / WB **28,0 / 25,0** °C
Entering DB / WB **25,6 / 20,9** °C
Leaving DB / WB **15,8 / 15,4** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **61** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **259** L/s
Standard L/s **258** L/s
Actual max L/(s-m²) **10,89** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **66** L/s
L/(s-m²) **2,76** L/(s-m²)

L/s/person **4,70** L/s/person

Zone Sizing Summary for 1P-APOIO TERCEIRIZADOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-APOIO TERCEIRIZADOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **23,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,9	259	259	Apr 1600	0,0	23,8	10,89

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 ²)	Space L/(s-m ²)
Zone 1							
1P-APOIO TERCEIRIZADOS	1	2,9	Apr 1600	259	0,0	23,8	10,89

Ventilation Sizing Summary for 1P-APOIO TERCEIRIZADOS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 66 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									
1P-APOIO TERCEIRIZADOS	1	23,8	14,0	259,2	4,70	0,00	0,0	0,0	65,8
Totals (incl. Space Multipliers)				259,2					65,8

Air System Design Load Summary for 1P-APIO TERCEIRIZADOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Mar 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,0 °C / 25,0 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	983	-	5 m²	-	-
Wall Transmission	10 m²	312	-	10 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	41	-	5 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	24 m²	0	-	24 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	381 W	381	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	150 W	150	-	0	0	-
People	14	1005	841	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	-	2873	841	-	0	0
Zone Conditioning	-	2775	841	-	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	259 L/s	0	-	259 L/s	0	-
Ventilation Load	66 L/s	261	1340	66 L/s	-70	0
Supply Fan Load	259 L/s	0	-	259 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3035	2181	-	-70	0
Central Cooling Coil	-	3035	2182	-	-70	0
>> Total Conditioning	-	3035	2182	-	-70	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-ÁREA TÉCNICA MANUT.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-ÁREA TÉCNICA MANUT.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **9,7** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **1,4** kW
Sensible coil load **0,9** kW
Coil L/s at Feb 1600 **83** L/s
Max block L/s **83** L/s
Sum of peak zone L/s **83** L/s
Sensible heat ratio **0,664**
m²/kW **6,8**
W/m² **146,1**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,3 / 20,1** °C
Leaving DB / WB **15,8 / 15,4** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **83** L/s
Standard L/s **82** L/s
Actual max L/(s-m²) **8,53** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **15** L/s
L/(s-m²) **1,54** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-ÁREA TÉCNICA MANUT.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name 1P-ÁREA TÉCNICA MANUT.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 9,7 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,9	83	83	Apr 1600	0,0	9,7	8,53

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 ²)	Space L/(s-m ²)
Zone 1							
1P-ÁREA TÉCNICA MANUT.	1	0,9	Apr 1600	83	0,0	9,7	8,53

Ventilation Sizing Summary for 1P-ÁREA TÉCNICA MANUT.

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 15 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									
1P-ÁREA TÉCNICA MANUT.	1	9,7	2,0	83,0	7,50	0,00	0,0	0,0	15,0
Totals (incl. Space Multipliers)				83,0					15,0

Air System Design Load Summary for 1P-ÁREA TÉCNICA MANUT.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	280	-	2 m²	-	-
Wall Transmission	4 m²	113	-	4 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	19	-	2 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	10 m²	0	-	10 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	156 W	156	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	2	144	120	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	-	867	120	-	0	0
Zone Conditioning	-	859	120	-	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	83 L/s	0	-	83 L/s	0	-
Ventilation Load	15 L/s	85	358	15 L/s	-16	0
Supply Fan Load	83 L/s	0	-	83 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	944	478	-	-16	0
Central Cooling Coil	-	944	478	-	-16	0
>> Total Conditioning	-	944	478	-	-16	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-COPA CONVIVÊNCIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-COPA CONVIVÊNCIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **42,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **9,9** kW
Sensible coil load **4,6** kW
Coil L/s at Feb 1500 **322** L/s
Max block L/s **322** L/s
Sum of peak zone L/s **322** L/s
Sensible heat ratio **0,462**
m²/kW **4,3**
W/m² **232,1**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **27,1 / 23,1** °C
Leaving DB / WB **15,3 / 15,1** °C
Coil ADP **14,0** °C
Bypass Factor **0,100**
Resulting RH **66** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **322** L/s
Standard L/s **320** L/s
Actual max L/(s-m²) **7,58** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **165** L/s
L/(s-m²) **3,87** L/(s-m²)

L/s/person **4,70** L/s/person

Zone Sizing Summary for 1P-COPA CONVIVÊNCIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-COPA CONVIVÊNCIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **42,5** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,6	322	322	Feb 2300	0,0	42,5	7,58

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 ²)	Space L/(s-m ²)
Zone 1							
1P-COPA CONVIVÊNCIA	1	3,6	Feb 2300	322	0,0	42,5	7,58

Ventilation Sizing Summary for 1P-COPA CONVIVÊNCIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 165 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									
1P-COPA CONVIVÊNCIA	1	42,5	35,0	322,0	4,70	0,00	0,0	0,0	164,5
Totals (incl. Space Multipliers)				322,0					164,5

Air System Design Load Summary for 1P-COPA CONVIVÊNCIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	43 m²	0	-	43 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	680 W	680	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	455 W	455	-	0	0	-
People	35	2513	2103	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	-	3648	2103	-	0	0
Zone Conditioning	-	3638	2103	-	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	322 L/s	0	-	322 L/s	0	-
Ventilation Load	165 L/s	923	3200	165 L/s	-175	0
Supply Fan Load	322 L/s	0	-	322 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4562	5303	-	-175	0
Central Cooling Coil	-	4562	5303	-	-175	0
>> Total Conditioning	-	4562	5303	-	-175	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DIRETORIA DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DMCD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **9,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,8** kW
Sensible coil load **2,0** kW
Coil L/s at Dec 1600 **177** L/s
Max block L/s **177** L/s
Sum of peak zone L/s **177** L/s
Sensible heat ratio **0,730**
m²/kW **3,2**
W/m² **308,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,2 / 19,5** °C
Leaving DB / WB **15,5 / 15,0** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **177** L/s
Standard L/s **175** L/s
Actual max L/(s-m²) **19,40** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,47** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DIRETORIA DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DMCD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **9,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,0	177	177	Dec 1600	0,0	9,1	19,40

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DIRETORIA DMCD	1	2,0	Dec 1600	177	0,0	9,1	19,40

Ventilation Sizing Summary for 1P-DIRETORIA DMCD

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
1P-DIRETORIA DMCD	1	9,1	3,0	176,6	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				176,6					22,5

Air System Design Load Summary for 1P-DIRETORIA DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	1146	-	5 m²	-	-
Wall Transmission	8 m²	289	-	8 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	49	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	146 W	146	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	2000	180	-	0	0
Zone Conditioning	-	1941	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	177 L/s	0	-	177 L/s	0	-
Ventilation Load	23 L/s	106	578	23 L/s	-24	0
Supply Fan Load	177 L/s	0	-	177 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2047	758	-	-24	0
Central Cooling Coil	-	2047	758	-	-24	0
>> Total Conditioning	-	2047	758	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DIRETORIA DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **9,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,8** kW
Sensible coil load **2,0** kW
Coil L/s at Dec 1600 **177** L/s
Max block L/s **177** L/s
Sum of peak zone L/s **177** L/s
Sensible heat ratio **0,730**
m²/kW **3,2**
W/m² **308,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,2 / 19,5** °C
Leaving DB / WB **15,5 / 15,0** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **177** L/s
Standard L/s **175** L/s
Actual max L/(s-m²) **19,40** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,47** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DIRETORIA DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **9,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,0	177	177	Dec 1600	0,0	9,1	19,40

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DIRETORIA DS	1	2,0	Dec 1600	177	0,0	9,1	19,40

Ventilation Sizing Summary for 1P-DIRETORIA DS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
1P-DIRETORIA DS	1	9,1	3,0	176,6	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				176,6					22,5

Air System Design Load Summary for 1P-DIRETORIA DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	1146	-	5 m²	-	-
Wall Transmission	8 m²	289	-	8 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	49	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	146 W	146	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	2000	180	-	0	0
Zone Conditioning	-	1941	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	177 L/s	0	-	177 L/s	0	-
Ventilation Load	23 L/s	106	578	23 L/s	-24	0
Supply Fan Load	177 L/s	0	-	177 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2047	758	-	-24	0
Central Cooling Coil	-	2047	758	-	-24	0
>> Total Conditioning	-	2047	758	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DIRETORIA DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DTIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **1,6** kW
Sensible coil load **1,0** kW
Coil L/s at Mar 1400 **82** L/s
Max block L/s **82** L/s
Sum of peak zone L/s **82** L/s
Sensible heat ratio **0,590**
m²/kW **6,4**
W/m² **155,4**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Mar 1400**
OA DB / WB **28,0 / 25,0** °C
Entering DB / WB **25,4 / 20,7** °C
Leaving DB / WB **15,5 / 15,1** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **82** L/s
Standard L/s **82** L/s
Actual max L/(s-m²) **7,74** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,12** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DIRETORIA DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DIRETORIA DTIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,9	82	82	Apr 1000	0,0	10,6	7,74

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DIRETORIA DTIC	1	0,9	Apr 1000	82	0,0	10,6	7,74

Ventilation Sizing Summary for 1P-DIRETORIA DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 23 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									
1P-DIRETORIA DTIC	1	10,6	3,0	82,1	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				82,1					22,5

Air System Design Load Summary for 1P-DIRETORIA DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Mar 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,0 °C / 25,0 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	215	-	2 m²	-	-
Wall Transmission	10 m²	95	-	10 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	13	-	2 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	0 m²	0	-	0 m²	0	-
Overhead Lighting	170 W	170	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	863	180	-	0	0
Zone Conditioning	-	873	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	82 L/s	0	-	82 L/s	0	-
Ventilation Load	23 L/s	98	496	23 L/s	-24	0
Supply Fan Load	82 L/s	0	-	82 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	971	676	-	-24	0
Central Cooling Coil	-	971	676	-	-24	0
>> Total Conditioning	-	971	676	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DMCD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **31,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **8,2** kW
Sensible coil load **5,1** kW
Coil L/s at Dec 1500 **447** L/s
Max block L/s **447** L/s
Sum of peak zone L/s **447** L/s
Sensible heat ratio **0,623**
m²/kW **3,8**
W/m² **264,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,7 / 20,7** °C
Leaving DB / WB **16,1 / 15,7** °C
Coil ADP **15,1** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **447** L/s
Standard L/s **444** L/s
Actual max L/(s-m²) **14,38** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **98** L/s
L/(s-m²) **3,14** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DMCD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **31,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,1	447	447	Dec 1000	0,0	31,1	14,38

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DMCD	1	5,1	Dec 1000	447	0,0	31,1	14,38

Ventilation Sizing Summary for 1P-DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **98** 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									
1P-DMCD	1	31,1	13,0	447,1	7,50	0,00	0,0	0,0	97,5
Totals (incl. Space Multipliers)				447,1					97,5

Air System Design Load Summary for 1P-DMCD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	9 m²	1365	-	9 m²	-	-
Wall Transmission	24 m²	540	-	24 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	9 m²	100	-	9 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	0	-	31 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	498 W	498	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1325 W	1325	-	0	0	-
People	13	933	781	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	-	4761	781	-	0	0
Zone Conditioning	-	4662	781	-	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	447 L/s	0	-	447 L/s	0	-
Ventilation Load	98 L/s	470	2322	98 L/s	-104	0
Supply Fan Load	447 L/s	0	-	447 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5132	3103	-	-104	0
Central Cooling Coil	-	5132	3103	-	-104	0
>> Total Conditioning	-	5132	3103	-	-104	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **43,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **9,4** kW
Sensible coil load **5,6** kW
Coil L/s at Dec 1600 **452** L/s
Max block L/s **452** L/s
Sum of peak zone L/s **452** L/s
Sensible heat ratio **0,590**
m²/kW **4,6**
W/m² **218,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,8 / 20,9** °C
Leaving DB / WB **15,5 / 15,1** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **452** L/s
Standard L/s **449** L/s
Actual max L/(s-m²) **10,46** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **120** L/s
L/(s-m²) **2,78** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **43,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,1	452	452	Dec 1600	0,0	43,2	10,46

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DS	1	5,1	Dec 1600	452	0,0	43,2	10,46

Ventilation Sizing Summary for 1P-DS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 120 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									
1P-DS	1	43,2	16,0	451,9	7,50	0,00	0,0	0,0	120,0
Totals (incl. Space Multipliers)				451,9					120,0

Air System Design Load Summary for 1P-DS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	1146	-	5 m²	-	-
Wall Transmission	15 m²	295	-	15 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	49	-	5 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	43 m²	0	-	43 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	691 W	691	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1790 W	1790	-	0	0	-
People	16	1149	961	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	-	5120	961	-	0	0
Zone Conditioning	-	5008	961	-	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	452 L/s	0	-	452 L/s	0	-
Ventilation Load	120 L/s	549	2900	120 L/s	-128	0
Supply Fan Load	452 L/s	0	-	452 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5556	3862	-	-128	0
Central Cooling Coil	-	5556	3862	-	-128	0
>> Total Conditioning	-	5556	3862	-	-128	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DTIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **54,4** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **11,8** kW
Sensible coil load **7,1** kW
Coil L/s at Feb 1400 **604** L/s
Max block L/s **604** L/s
Sum of peak zone L/s **604** L/s
Sensible heat ratio **0,606**
m²/kW **4,6**
W/m² **216,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,8 / 20,8** °C
Leaving DB / WB **15,9 / 15,5** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **604** L/s
Standard L/s **600** L/s
Actual max L/(s-m²) **11,11** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **150** L/s
L/(s-m²) **2,76** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-DTIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **54,4** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	6,8	604	604	May 1100	0,0	54,4	11,11

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 ²)	Space L/(s-m ²)
Zone 1							
1P-DTIC	1	6,8	May 1100	604	0,0	54,4	11,11

Ventilation Sizing Summary for 1P-DTIC

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 150 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									
1P-DTIC	1	54,4	20,0	604,0	7,50	0,00	0,0	0,0	150,0
Totals (incl. Space Multipliers)				604,0					150,0

Air System Design Load Summary for 1P-DTIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	8 m²	947	-	8 m²	-	-
Wall Transmission	21 m²	398	-	21 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	91	-	8 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	54 m²	0	-	54 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	870 W	870	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2635 W	2635	-	0	0	-
People	20	1436	1202	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	-	6377	1202	-	0	0
Zone Conditioning	-	6341	1202	-	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	604 L/s	0	-	604 L/s	0	-
Ventilation Load	150 L/s	807	3445	150 L/s	-160	0
Supply Fan Load	604 L/s	0	-	604 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	7147	4646	-	-160	0
Central Cooling Coil	-	7147	4646	-	-160	0
>> Total Conditioning	-	7147	4646	-	-160	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-NÚCLEO ADM TIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-NÚCLEO ADM TIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,8** kW
Sensible coil load **2,0** kW
Coil L/s at Dec 1400 **183** L/s
Max block L/s **183** L/s
Sum of peak zone L/s **183** L/s
Sensible heat ratio **0,732**
m²/kW **6,6**
W/m² **152,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,1 / 19,6** °C
Leaving DB / WB **15,9 / 15,4** °C
Coil ADP **14,9** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **183** L/s
Standard L/s **181** L/s
Actual max L/(s-m²) **10,09** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **1,24** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 1P-NÚCLEO ADM TIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-NÚCLEO ADM TIC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,1	183	183	Dec 0900	0,0	18,1	10,09

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 (m ²)	Space L/(s-m ²)
Zone 1							
1P-NÚCLEO ADM TIC	1	2,1	Dec 0900	183	0,0	18,1	10,09

Ventilation Sizing Summary for 1P-NÚCLEO ADM TIC

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
1P-NÚCLEO ADM TIC	1	18,1	3,0	182,6	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				182,6					22,5

Air System Design Load Summary for 1P-NÚCLEO ADM TIC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	719	-	5 m²	-	-
Wall Transmission	6 m²	202	-	6 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	46	-	5 m²	0	-
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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	290 W	290	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	465 W	465	-	0	0	-
People	3	215	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	-	1937	180	-	0	0
Zone Conditioning	-	1913	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	183 L/s	0	-	183 L/s	0	-
Ventilation Load	23 L/s	107	559	23 L/s	-24	0
Supply Fan Load	183 L/s	0	-	183 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2020	740	-	-24	0
Central Cooling Coil	-	2020	740	-	-24	0
>> Total Conditioning	-	2020	740	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-PRÓ-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-PRÓ-REITOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **22,0** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,2** kW
Sensible coil load **3,1** kW
Coil L/s at Feb 1400 **258** L/s
Max block L/s **258** L/s
Sum of peak zone L/s **258** L/s
Sensible heat ratio **0,599**
m²/kW **4,2**
W/m² **237,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,9 / 20,9** °C
Leaving DB / WB **15,8 / 15,4** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **258** L/s
Standard L/s **257** L/s
Actual max L/(s-m²) **11,72** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **68** L/s
L/(s-m²) **3,07** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 1P-PRÓ-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-PRÓ-REITOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **22,0** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,9	258	258	Feb 1000	0,0	22,0	11,72

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 ²)	Space L/(s-m ²)
Zone 1							
1P-PRÓ-REITOR	1	2,9	Feb 1000	258	0,0	22,0	11,72

Ventilation Sizing Summary for 1P-PRÓ-REITOR

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

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									
1P-PRÓ-REITOR	1	22,0	9,0	258,2	7,50	0,00	0,0	0,0	67,5
Totals (incl. Space Multipliers)				258,2					67,5

Air System Design Load Summary for 1P-PRÓ-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	9 m²	1140	-	9 m²	-	-
Wall Transmission	24 m²	477	-	24 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	9 m²	109	-	9 m²	0	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	22 m²	0	-	22 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	352 W	352	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	9	646	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	-	2880	541	-	0	0
Zone Conditioning	-	2782	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	258 L/s	0	-	258 L/s	0	-
Ventilation Load	68 L/s	355	1562	68 L/s	-72	0
Supply Fan Load	258 L/s	0	-	258 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3137	2102	-	-72	0
Central Cooling Coil	-	3137	2102	-	-72	0
>> Total Conditioning	-	3137	2102	-	-72	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,7** kW
Sensible coil load **1,1** kW
Coil L/s at Feb 1400 **71** L/s
Max block L/s **71** L/s
Sum of peak zone L/s **71** L/s
Sensible heat ratio **0,413**
m²/kW **3,9**
W/m² **259,1**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **28,5 / 24,8** °C
Leaving DB / WB **15,1 / 15,0** °C
Coil ADP **13,6** °C
Bypass Factor **0,100**
Resulting RH **66** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **71** L/s
Standard L/s **70** L/s
Actual max L/(s-m²) **6,67** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **60** L/s
L/(s-m²) **5,66** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 1P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **1P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,8	71	71	Feb 2300	0,0	10,6	6,67

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 ²)	Space L/(s-m ²)
Zone 1							
1P-REUNIÃO	1	0,8	Feb 2300	71	0,0	10,6	6,67

Ventilation Sizing Summary for 1P-REUNIÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 60 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									
1P-REUNIÃO	1	10,6	8,0	70,7	7,50	0,00	0,0	0,0	60,0
Totals (incl. Space Multipliers)				70,7					60,0

Air System Design Load Summary for 1P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	11 m²	0	-	11 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	170 W	170	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	57 W	57	-	0	0	-
People	8	574	481	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	-	801	481	-	0	0
Zone Conditioning	-	807	481	-	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	71 L/s	0	-	71 L/s	0	-
Ventilation Load	60 L/s	327	1132	60 L/s	-64	0
Supply Fan Load	71 L/s	0	-	71 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1134	1612	-	-64	0
Central Cooling Coil	-	1134	1612	-	-64	0
>> Total Conditioning	-	1134	1612	-	-64	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 1P-SALA TREINAMENTO

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **1P-SALA TREINAMENTO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **33,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **10,4** kW
Sensible coil load **4,3** kW
Coil L/s at Feb 1500 **260** L/s
Max block L/s **260** L/s
Sum of peak zone L/s **260** L/s
Sensible heat ratio **0,409**
m²/kW **3,2**
W/m² **307,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **28,9 / 25,2** °C
Leaving DB / WB **15,3 / 15,2** °C
Coil ADP **13,8** °C
Bypass Factor **0,100**
Resulting RH **67** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **260** L/s
Standard L/s **259** L/s
Actual max L/(s-m²) **7,70** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **233** L/s
L/(s-m²) **6,88** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 1P-SALA TREINAMENTO

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **1P-SALA TREINAMENTO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **33,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,9	260	260	Feb 2300	0,0	33,8	7,70

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 ²)	Space L/(s-m ²)
Zone 1							
1P-SALA TREINAMENTO	1	2,9	Feb 2300	260	0,0	33,8	7,70

Ventilation Sizing Summary for 1P-SALA TREINAMENTO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 233 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									
1P-SALA TREINAMENTO	1	33,8	31,0	260,3	7,50	0,00	0,0	0,0	232,5
Totals (incl. Space Multipliers)				260,3					232,5

Air System Design Load Summary for 1P-SALA TREINAMENTO

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	34 m²	0	-	34 m²	0	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	541 W	541	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	183 W	183	-	0	0	-
People	31	2226	1862	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	-	2949	1862	-	0	0
Zone Conditioning	-	2949	1862	-	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	260 L/s	0	-	260 L/s	0	-
Ventilation Load	233 L/s	1304	4292	233 L/s	-248	0
Supply Fan Load	260 L/s	0	-	260 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4253	6154	-	-248	0
Central Cooling Coil	-	4253	6154	-	-248	0
>> Total Conditioning	-	4253	6154	-	-248	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-DATACENTER

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-DATACENTER**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,3** kW
Sensible coil load **3,3** kW
Coil L/s at Feb 2000 **291** L/s
Max block L/s **291** L/s
Sum of peak zone L/s **291** L/s
Sensible heat ratio **1,000**
m²/kW **5,6**
W/m² **179,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 2000**
OA DB / WB **25,5 / 23,6** °C
Entering DB / WB **24,7 / 8,1** °C
Leaving DB / WB **15,2 / 3,3** °C
Coil ADP **14,1** °C
Bypass Factor **0,100**
Resulting RH **0** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **291** L/s
Standard L/s **289** L/s
Actual max L/(s-m²) **15,73** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **0** L/s
L/(s-m²) **0,00** L/(s-m²)

L/s/person **0,00** L/s/person

Air System Sizing Summary for 2P-DATACENTER

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-DATACENTER**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,5** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,3	291	291	Feb 2300	0,0	18,5	15,73

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 ²)	Space L/(s-m ²)
Zone 1							
2P-DATACENTER	1	3,3	Feb 2300	291	0,0	18,5	15,73

Ventilation Sizing Summary for 2P-DATACENTER

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 0 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									
2P-DATACENTER	1	18,5	0,0	290,9	0,00	0,00	0,0	0,0	0,0
Totals (incl. Space Multipliers)				290,9					0,0

Air System Design Load Summary for 2P-DATACENTER

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 2000			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 25,5 °C / 23,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	296 W	296	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3000 W	3000	-	0	0	-
People	0	0	0	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	-	3296	0	-	0	0
Zone Conditioning	-	3311	0	-	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	291 L/s	0	-	291 L/s	0	-
Ventilation Load	0 L/s	0	0	0 L/s	0	0
Supply Fan Load	291 L/s	0	-	291 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3311	0	-	0	0
Central Cooling Coil	-	3311	0	-	0	0
>> Total Conditioning	-	3311	0	-	0	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-DIRETORIA DE ENSINO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

Air System Information

Air System Name **2P-DIRETORIA DE ENSINO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,6** kW
Sensible coil load **2,8** kW
Coil L/s at Dec 1500 **235** L/s
Max block L/s **235** L/s
Sum of peak zone L/s **235** L/s
Sensible heat ratio **0,776**
m²/kW **3,4**
W/m² **292,4**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **24,8 / 18,9** °C
Leaving DB / WB **15,0 / 14,4** °C
Coil ADP **13,9** °C
Bypass Factor **0,100**
Resulting RH **54** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **235** L/s
Standard L/s **233** L/s
Actual max L/(s-m²) **19,24** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **1,84** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 2P-DIRETORIA DE ENSINO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-DIRETORIA DE ENSINO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,7	235	235	Dec 1500	0,0	12,2	19,24

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 ²)	Space L/(s-m ²)
Zone 1							
2P-DIRETORIA DE ENSINO	1	2,7	Dec 1500	235	0,0	12,2	19,24

Ventilation Sizing Summary for 2P-DIRETORIA DE ENSINO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
2P-DIRETORIA DE ENSINO	1	12,2	3,0	234,7	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				234,7					22,5

Air System Design Load Summary for 2P-DIRETORIA DE ENSINO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	10 m²	1762	-	10 m²	-	-
Wall Transmission	14 m²	219	-	14 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	10 m²	112	-	10 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	195 W	195	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	2659	180	-	0	0
Zone Conditioning	-	2648	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	235 L/s	0	-	235 L/s	0	-
Ventilation Load	23 L/s	120	619	23 L/s	-24	0
Supply Fan Load	235 L/s	0	-	235 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2768	799	-	-24	0
Central Cooling Coil	-	2768	800	-	-24	0
>> Total Conditioning	-	2768	800	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-DIRETORIA PERCURSOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-DIRETORIA PERCURSOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,8** kW
Sensible coil load **2,1** kW
Coil L/s at Dec 1300 **197** L/s
Max block L/s **197** L/s
Sum of peak zone L/s **197** L/s
Sensible heat ratio **0,744**
m²/kW **3,6**
W/m² **274,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1300**
OA DB / WB **27,9 / 25,2** °C
Entering DB / WB **24,8 / 19,5** °C
Leaving DB / WB **16,1 / 15,6** °C
Coil ADP **15,1** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **197** L/s
Standard L/s **196** L/s
Actual max L/(s-m²) **19,63** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,24** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-DIRETORIA PERCURSOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-DIRETORIA PERCURSOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,2	197	197	Dec 0900	0,0	10,1	19,63

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 ²)	Space L/(s-m ²)
Zone 1							
2P-DIRETORIA PERCURSOS	1	2,2	Dec 0900	197	0,0	10,1	19,63

Ventilation Sizing Summary for 2P-DIRETORIA PERCURSOS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
2P-DIRETORIA PERCURSOS	1	10,1	3,0	197,2	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				197,2					22,5

Air System Design Load Summary for 2P-DIRETORIA PERCURSOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1300			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 27,9 °C / 25,2 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	8 m²	1260	-	8 m²	-	-
Wall Transmission	10 m²	105	-	10 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	65	-	8 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	161 W	161	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	1961	180	-	0	0
Zone Conditioning	-	1958	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	197 L/s	0	-	197 L/s	0	-
Ventilation Load	23 L/s	96	525	23 L/s	-24	0
Supply Fan Load	197 L/s	0	-	197 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2054	705	-	-24	0
Central Cooling Coil	-	2054	705	-	-24	0
>> Total Conditioning	-	2054	705	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-PROAF**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **91,3** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **19,1** kW
Sensible coil load **13,1** kW
Coil L/s at May 1500 **1136** L/s
Max block L/s **1136** L/s
Sum of peak zone L/s **1136** L/s
Sensible heat ratio **0,686**
m²/kW **4,8**
W/m² **209,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **May 1500**
OA DB / WB **25,5 / 24,0** °C
Entering DB / WB **24,6 / 19,3** °C
Leaving DB / WB **15,0 / 14,5** °C
Coil ADP **13,9** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **1136** L/s
Standard L/s **1128** L/s
Actual max L/(s-m²) **12,43** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **195** L/s
L/(s-m²) **2,13** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name 2P-PROAF
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 91,3 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	12,9	1136	1136	May 1500	0,0	91,3	12,43

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PROAF	1	12,9	May 1500	1136	0,0	91,3	12,43

Ventilation Sizing Summary for 2P-PROAF

Project Name: UFSB-REITORIA

Prepared by: .

07/15/2019

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 195 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									
2P-PROAF	1	91,3	26,0	1135,7	7,50	0,00	0,0	0,0	195,0
Totals (incl. Space Multipliers)				1135,7					195,0

Air System Design Load Summary for 2P-PROAF

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT May 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 25,5 °C / 24,0 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	28 m²	6594	-	28 m²	-	-
Wall Transmission	34 m²	520	-	34 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	28 m²	13	-	28 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1461 W	1461	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2410 W	2410	-	0	0	-
People	26	1867	1562	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	-	12866	1562	-	0	0
Zone Conditioning	-	12856	1562	-	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	1136 L/s	0	-	1136 L/s	0	-
Ventilation Load	195 L/s	259	4440	195 L/s	-208	0
Supply Fan Load	1136 L/s	0	-	1136 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	13115	6002	-	-208	0
Central Cooling Coil	-	13115	6003	-	-208	0
>> Total Conditioning	-	13115	6003	-	-208	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-PROGEAC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **112,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **18,1** kW
Sensible coil load **10,0** kW
Coil L/s at Feb 1400 **751** L/s
Max block L/s **751** L/s
Sum of peak zone L/s **751** L/s
Sensible heat ratio **0,551**
m²/kW **6,2**
W/m² **160,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **26,1 / 21,3** °C
Leaving DB / WB **15,1 / 14,7** °C
Coil ADP **13,9** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **751** L/s
Standard L/s **747** L/s
Actual max L/(s-m²) **6,67** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **255** L/s
L/(s-m²) **2,26** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:23

Air System Information

Air System Name **2P-PROGEAC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **112,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	8,5	751	751	Feb 2300	0,0	112,6	6,67

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PROGEAC	1	8,5	Feb 2300	751	0,0	112,6	6,67

Ventilation Sizing Summary for 2P-PROGEAC

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:23

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 255 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									
2P-PROGEAC	1	112,6	34,0	751,4	7,50	0,00	0,0	0,0	255,0
Totals (incl. Space Multipliers)				751,4					255,0

Air System Design Load Summary for 2P-PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

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11:23

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1802 W	1801	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	4270 W	4270	-	0	0	-
People	34	2441	2043	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	-	8513	2043	-	0	0
Zone Conditioning	-	8572	2043	-	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	751 L/s	0	-	751 L/s	0	-
Ventilation Load	255 L/s	1391	6064	255 L/s	-272	0
Supply Fan Load	751 L/s	0	-	751 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	9963	8107	-	-272	0
Central Cooling Coil	-	9963	8108	-	-272	0
>> Total Conditioning	-	9963	8108	-	-272	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PRÓ-REITOR PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **2P-PRÓ-REITOR PROAF**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **1,8** kW
Sensible coil load **1,1** kW
Coil L/s at Feb 1500 **101** L/s
Max block L/s **101** L/s
Sum of peak zone L/s **101** L/s
Sensible heat ratio **0,616**
m²/kW **6,5**
W/m² **153,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,5 / 20,8** °C
Leaving DB / WB **16,5 / 16,1** °C
Coil ADP **15,5** °C
Bypass Factor **0,100**
Resulting RH **62** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **101** L/s
Standard L/s **101** L/s
Actual max L/(s-m²) **8,73** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **1,94** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-PRÓ-REITOR PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 2P-PRÓ-REITOR PROAF
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 11,6 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	1,1	101	101	May 1000	0,0	11,6	8,73

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PRÓ-REITOR PROAF	1	1,1	May 1000	101	0,0	11,6	8,73

Ventilation Sizing Summary for 2P-PRÓ-REITOR PROAF

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
2P-PRÓ-REITOR PROAF	1	11,6	3,0	101,3	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				101,3					22,5

Air System Design Load Summary for 2P-PRÓ-REITOR PROAF

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	304	-	3 m²	-	-
Wall Transmission	9 m²	60	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	33	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	186 W	186	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	952	180	-	0	0
Zone Conditioning	-	958	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	101 L/s	0	-	101 L/s	0	-
Ventilation Load	23 L/s	135	500	23 L/s	-24	0
Supply Fan Load	101 L/s	0	-	101 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1094	681	-	-24	0
Central Cooling Coil	-	1094	681	-	-24	0
>> Total Conditioning	-	1094	681	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PRÓ-REITOR PROGEAC

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

Air System Information

Air System Name **2P-PRÓ-REITOR PROGEAC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,7** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,7** kW
Sensible coil load **1,2** kW
Coil L/s at Feb 1500 **82** L/s
Max block L/s **82** L/s
Sum of peak zone L/s **82** L/s
Sensible heat ratio **0,446**
m²/kW **6,2**
W/m² **161,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **27,7 / 23,8** °C
Leaving DB / WB **15,4 / 15,2** °C
Coil ADP **14,0** °C
Bypass Factor **0,100**
Resulting RH **64** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **82** L/s
Standard L/s **81** L/s
Actual max L/(s-m²) **4,89** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **3,14** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 2P-PRÓ-REITOR PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **2P-PRÓ-REITOR PROGEAC**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,7** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,9	82	82	Feb 2300	0,0	16,7	4,89

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PRÓ-REITOR PROGEAC	1	0,9	Feb 2300	82	0,0	16,7	4,89

Ventilation Sizing Summary for 2P-PRÓ-REITOR PROGEAC

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
2P-PRÓ-REITOR PROGEAC	1	16,7	7,0	81,6	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				81,6					52,5

Air System Design Load Summary for 2P-PRÓ-REITOR PROGEAC

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	267 W	267	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	7	503	421	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	-	925	421	-	0	0
Zone Conditioning	-	908	421	-	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	82 L/s	0	-	82 L/s	0	-
Ventilation Load	53 L/s	298	1079	53 L/s	-56	0
Supply Fan Load	82 L/s	0	-	82 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1206	1499	-	-56	0
Central Cooling Coil	-	1206	1499	-	-56	0
>> Total Conditioning	-	1206	1499	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PRÓ-REITOR PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

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Air System Information

Air System Name **2P-PRÓ-REITOR PROSIS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,3** kW
Sensible coil load **2,6** kW
Coil L/s at Apr 1500 **230** L/s
Max block L/s **230** L/s
Sum of peak zone L/s **230** L/s
Sensible heat ratio **0,788**
m²/kW **3,4**
W/m² **294,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Apr 1500**
OA DB / WB **27,2 / 24,6** °C
Entering DB / WB **25,0 / 19,2** °C
Leaving DB / WB **15,7 / 15,2** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **230** L/s
Standard L/s **229** L/s
Actual max L/(s-m²) **20,83** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,03** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 2P-PRÓ-REITOR PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

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Air System Information

Air System Name **2P-PRÓ-REITOR PROSIS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,6	230	230	May 1500	0,0	11,1	20,83

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PRÓ-REITOR PROSIS	1	2,6	May 1500	230	0,0	11,1	20,83

Ventilation Sizing Summary for 2P-PRÓ-REITOR PROSIS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
2P-PRÓ-REITOR PROSIS	1	11,1	3,0	230,4	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				230,4					22,5

Air System Design Load Summary for 2P-PRÓ-REITOR PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Apr 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 27,2 °C / 24,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	8 m²	1860	-	8 m²	-	-
Wall Transmission	5 m²	125	-	5 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	44	-	8 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	177 W	177	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	2576	180	-	0	0
Zone Conditioning	-	2499	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	230 L/s	0	-	230 L/s	0	-
Ventilation Load	23 L/s	66	510	23 L/s	-24	0
Supply Fan Load	230 L/s	0	-	230 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2565	690	-	-24	0
Central Cooling Coil	-	2565	690	-	-24	0
>> Total Conditioning	-	2565	690	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **2P-PROSIS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **48,3** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **9,7** kW
Sensible coil load **5,7** kW
Coil L/s at Feb 1500 **470** L/s
Max block L/s **470** L/s
Sum of peak zone L/s **470** L/s
Sensible heat ratio **0,588**
m²/kW **5,0**
W/m² **201,6**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,9 / 21,0** °C
Leaving DB / WB **15,7 / 15,3** °C
Coil ADP **14,6** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **470** L/s
Standard L/s **467** L/s
Actual max L/(s-m²) **9,73** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **128** L/s
L/(s-m²) **2,64** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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Air System Information

Air System Name **2P-PROSIS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **48,3** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,3	470	470	May 1500	0,0	48,3	9,73

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 ²)	Space L/(s-m ²)
Zone 1							
2P-PROSIS	1	5,3	May 1500	470	0,0	48,3	9,73

Ventilation Sizing Summary for 2P-PROSIS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 128 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									
2P-PROSIS	1	48,3	17,0	470,4	7,50	0,00	0,0	0,0	127,5
Totals (incl. Space Multipliers)				470,4					127,5

Air System Design Load Summary for 2P-PROSIS

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	919	-	5 m²	-	-
Wall Transmission	4 m²	87	-	4 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	65	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	773 W	773	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1945 W	1945	-	0	0	-
People	17	1221	1021	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	-	5009	1021	-	0	0
Zone Conditioning	-	4984	1021	-	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	470 L/s	0	-	470 L/s	0	-
Ventilation Load	128 L/s	740	2994	128 L/s	-136	0
Supply Fan Load	470 L/s	0	-	470 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5723	4016	-	-136	0
Central Cooling Coil	-	5723	4016	-	-136	0
>> Total Conditioning	-	5723	4016	-	-136	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-RECEPÇÃO LOUNGE***

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **2P-RECEPÇÃO LOUNGE*****
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **49,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,1** kW
Sensible coil load **2,5** kW
Coil L/s at Feb 1400 **229** L/s
Max block L/s **229** L/s
Sum of peak zone L/s **229** L/s
Sensible heat ratio **0,608**
m²/kW **12,2**
W/m² **82,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,4 / 20,8** °C
Leaving DB / WB **16,4 / 16,0** °C
Coil ADP **15,4** °C
Bypass Factor **0,100**
Resulting RH **63** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **229** L/s
Standard L/s **227** L/s
Actual max L/(s-m²) **4,62** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **47** L/s
L/(s-m²) **0,95** L/(s-m²)

L/s/person **4,70** L/s/person

Air System Sizing Summary for 2P-RECEPÇÃO LOUNGE***

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 2P-RECEPÇÃO LOUNGE***
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 49,5 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,6	229	229	Apr 1100	0,0	49,5	4,62

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 ²)	Space L/(s-m ²)
Zone 1							
2P-RECEPÇÃO LOUNGE***	1	2,6	Apr 1100	229	0,0	49,5	4,62

Ventilation Sizing Summary for 2P-RECEPÇÃO LOUNGE***

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 47 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									
2P-RECEPÇÃO LOUNGE***	1	49,5	10,0	228,9	4,70	0,00	0,0	0,0	47,0
Totals (incl. Space Multipliers)				228,9					47,0

Air System Design Load Summary for 2P-RECEPÇÃO LOUNGE

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	758	-	6 m²	-	-
Wall Transmission	19 m²	548	-	19 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	72	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	0 W	0	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	10	718	601	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	-	2251	601	-	0	0
Zone Conditioning	-	2210	601	-	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	229 L/s	0	-	229 L/s	0	-
Ventilation Load	47 L/s	265	998	47 L/s	-50	0
Supply Fan Load	229 L/s	0	-	229 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2476	1598	-	-50	0
Central Cooling Coil	-	2476	1598	-	-50	0
>> Total Conditioning	-	2476	1598	-	-50	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **2P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **21,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,4** kW
Sensible coil load **2,2** kW
Coil L/s at Feb 1500 **182** L/s
Max block L/s **182** L/s
Sum of peak zone L/s **182** L/s
Sensible heat ratio **0,509**
m²/kW **4,9**
W/m² **204,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **26,3 / 22,1** °C
Leaving DB / WB **16,0 / 15,7** °C
Coil ADP **14,9** °C
Bypass Factor **0,100**
Resulting RH **65** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **182** L/s
Standard L/s **181** L/s
Actual max L/(s-m²) **8,43** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **66** L/s
L/(s-m²) **3,05** L/(s-m²)

L/s/person **4,70** L/s/person

Air System Sizing Summary for 2P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name 2P-REUNIÃO
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 21,6 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,1	182	182	May 1000	0,0	21,6	8,43

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 ²)	Space L/(s-m ²)
Zone 1							
2P-REUNIÃO	1	2,1	May 1000	182	0,0	21,6	8,43

Ventilation Sizing Summary for 2P-REUNIÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 66 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									
2P-REUNIÃO	1	21,6	14,0	181,7	4,70	0,00	0,0	0,0	65,8
Totals (incl. Space Multipliers)				181,7					65,8

Air System Design Load Summary for 2P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	304	-	3 m²	-	-
Wall Transmission	9 m²	60	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	33	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	345 W	345	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	116 W	116	-	0	0	-
People	14	1005	841	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	-	1863	841	-	0	0
Zone Conditioning	-	1865	841	-	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	182 L/s	0	-	182 L/s	0	-
Ventilation Load	66 L/s	380	1322	66 L/s	-70	0
Supply Fan Load	182 L/s	0	-	182 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2245	2163	-	-70	0
Central Cooling Coil	-	2245	2164	-	-70	0
>> Total Conditioning	-	2245	2164	-	-70	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 2P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **2P-SECRETARIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **13,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,4** kW
Sensible coil load **2,5** kW
Coil L/s at Dec 1300 **226** L/s
Max block L/s **226** L/s
Sum of peak zone L/s **226** L/s
Sensible heat ratio **0,720**
m²/kW **4,0**
W/m² **247,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1300**
OA DB / WB **27,9 / 25,2** °C
Entering DB / WB **24,9 / 19,6** °C
Leaving DB / WB **15,8 / 15,3** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **226** L/s
Standard L/s **224** L/s
Actual max L/(s-m²) **16,38** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **30** L/s
L/(s-m²) **2,18** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 2P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 2P-SECRETARIA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 13,8 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,6	226	226	Dec 0900	0,0	13,8	16,38

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 ²)	Space L/(s-m ²)
Zone 1							
2P-SECRETARIA	1	2,6	Dec 0900	226	0,0	13,8	16,38

Ventilation Sizing Summary for 2P-SECRETÁRIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

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 (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									
2P-SECRETÁRIA	1	13,8	4,0	225,8	7,50	0,00	0,0	0,0	30,0
Totals (incl. Space Multipliers)				225,8					30,0

Air System Design Load Summary for 2P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1300			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 27,9 °C / 25,2 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	8 m²	1260	-	8 m²	-	-
Wall Transmission	5 m²	175	-	5 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	65	-	8 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	220 W	220	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	310 W	310	-	0	0	-
People	4	287	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	-	2318	240	-	0	0
Zone Conditioning	-	2323	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	226 L/s	0	-	226 L/s	0	-
Ventilation Load	30 L/s	127	713	30 L/s	-32	0
Supply Fan Load	226 L/s	0	-	226 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2450	954	-	-32	0
Central Cooling Coil	-	2450	954	-	-32	0
>> Total Conditioning	-	2450	954	-	-32	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-COORD. DESENV.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-COORD. DESENV.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **89,0** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **10,9** kW
Sensible coil load **7,3** kW
Coil L/s at Dec 1400 **604** L/s
Max block L/s **604** L/s
Sum of peak zone L/s **604** L/s
Sensible heat ratio **0,673**
m²/kW **8,2**
W/m² **122,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,3 / 19,8** °C
Leaving DB / WB **15,2 / 14,7** °C
Coil ADP **14,0** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **604** L/s
Standard L/s **600** L/s
Actual max L/(s-m²) **6,78** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **105** L/s
L/(s-m²) **1,18** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-COORD. DESENV.

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 3P-COORD. DESENV.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 89,0 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	6,8	604	604	Dec 1400	0,0	89,0	6,78

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 ²)	Space L/(s-m ²)
Zone 1							
3P-COORD. DESENV.	1	6,8	Dec 1400	604	0,0	89,0	6,78

Ventilation Sizing Summary for 3P-COORD. DESENV.

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 105 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									
3P-COORD. DESENV.	1	89,0	14,0	603,7	7,50	0,00	0,0	0,0	105,0
Totals (incl. Space Multipliers)				603,7					105,0

Air System Design Load Summary for 3P-COORD. DESENV.

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	11 m²	1755	-	11 m²	-	-
Wall Transmission	30 m²	687	-	30 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	11 m²	108	-	11 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1424 W	1424	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1860 W	1860	-	0	0	-
People	14	1005	841	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	-	6839	841	-	0	0
Zone Conditioning	-	6812	841	-	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	604 L/s	0	-	604 L/s	0	-
Ventilation Load	105 L/s	507	2721	105 L/s	-112	0
Supply Fan Load	604 L/s	0	-	604 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	7318	3562	-	-112	0
Central Cooling Coil	-	7318	3562	-	-112	0
>> Total Conditioning	-	7318	3562	-	-112	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-COORD. MANUTENÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-COORD. MANUTENÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,5** kW
Sensible coil load **3,4** kW
Coil L/s at Feb 1500 **291** L/s
Max block L/s **291** L/s
Sum of peak zone L/s **291** L/s
Sensible heat ratio **0,615**
m²/kW **4,7**
W/m² **211,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,6 / 20,7** °C
Leaving DB / WB **15,9 / 15,5** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **59** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **291** L/s
Standard L/s **289** L/s
Actual max L/(s-m²) **11,16** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **68** L/s
L/(s-m²) **2,59** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-COORD. MANUTENÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-COORD. MANUTENÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,3	291	291	May 1100	0,0	26,1	11,16

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 ²)	Space L/(s-m ²)
Zone 1							
3P-COORD. MANUTENÇÃO	1	3,3	May 1100	291	0,0	26,1	11,16

Ventilation Sizing Summary for 3P-COORD. MANUTENÇÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

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									
3P-COORD. MANUTENÇÃO	1	26,1	9,0	291,3	7,50	0,00	0,0	0,0	67,5
Totals (incl. Space Multipliers)				291,3					67,5

Air System Design Load Summary for 3P-COORD. MANUTENÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	542	-	5 m²	-	-
Wall Transmission	9 m²	247	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	58	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	418 W	418	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1085 W	1085	-	0	0	-
People	9	646	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	-	2996	541	-	0	0
Zone Conditioning	-	3001	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	291 L/s	0	-	291 L/s	0	-
Ventilation Load	68 L/s	398	1587	68 L/s	-72	0
Supply Fan Load	291 L/s	0	-	291 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3399	2128	-	-72	0
Central Cooling Coil	-	3399	2128	-	-72	0
>> Total Conditioning	-	3399	2128	-	-72	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-COORD. PROJETOS OBRAS

Project Name: UFSB-REITORIA

Prepared by: .

07/15/2019

11:24

Air System Information

Air System Name **3P-COORD. PROJETOS OBRAS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **46,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **8,8** kW
Sensible coil load **5,6** kW
Coil L/s at Feb 1400 **463** L/s
Max block L/s **463** L/s
Sum of peak zone L/s **463** L/s
Sensible heat ratio **0,642**
m²/kW **5,3**
W/m² **188,4**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,7 / 20,4** °C
Leaving DB / WB **15,6 / 15,1** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **463** L/s
Standard L/s **460** L/s
Actual max L/(s-m²) **9,97** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **98** L/s
L/(s-m²) **2,10** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-COORD. PROJETOS OBRAS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-COORD. PROJETOS OBRAS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **46,5** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,3	463	463	Feb 1000	0,0	46,5	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 ²)	Space L/(s-m ²)
Zone 1							
3P-COORD. PROJETOS OBRAS	1	5,3	Feb 1000	463	0,0	46,5	9,97

Ventilation Sizing Summary for 3P-COORD. PROJETOS OBRAS

Project Name: UFSB-REITORIA

Prepared by: .

07/15/2019

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 98 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									
3P-COORD. PROJETOS OBRAS	1	46,5	13,0	463,4	7,50	0,00	0,0	0,0	97,5
Totals (incl. Space Multipliers)				463,4					97,5

Air System Design Load Summary for 3P-COORD. PROJETO OBRAS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	9 m²	1140	-	9 m²	-	-
Wall Transmission	36 m²	537	-	36 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	9 m²	109	-	9 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	744 W	744	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1750 W	1750	-	0	0	-
People	13	933	781	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	-	5214	781	-	0	0
Zone Conditioning	-	5110	781	-	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	463 L/s	0	-	463 L/s	0	-
Ventilation Load	98 L/s	515	2355	98 L/s	-104	0
Supply Fan Load	463 L/s	0	-	463 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5625	3136	-	-104	0
Central Cooling Coil	-	5625	3135	-	-104	0
>> Total Conditioning	-	5625	3135	-	-104	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DINFRA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DINFRA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,2** kW
Sensible coil load **3,1** kW
Coil L/s at Feb 1400 **258** L/s
Max block L/s **258** L/s
Sum of peak zone L/s **258** L/s
Sensible heat ratio **0,592**
m²/kW **5,1**
W/m² **196,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,6 / 20,8** °C
Leaving DB / WB **15,8 / 15,3** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **60** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **258** L/s
Standard L/s **257** L/s
Actual max L/(s-m²) **9,86** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **68** L/s
L/(s-m²) **2,58** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 3P-DINFRA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DINFRA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,9	258	258	May 1100	0,0	26,2	9,86

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DINFRA	1	2,9	May 1100	258	0,0	26,2	9,86

Ventilation Sizing Summary for 3P-DINFRA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

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									
3P-DINFRA	1	26,2	9,0	258,3	7,50	0,00	0,0	0,0	67,5
Totals (incl. Space Multipliers)				258,3					67,5

Air System Design Load Summary for 3P-DINFRA

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	568	-	5 m²	-	-
Wall Transmission	9 m²	257	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	54	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	419 W	419	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	705 W	705	-	0	0	-
People	9	646	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	-	2650	541	-	0	0
Zone Conditioning	-	2667	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	258 L/s	0	-	258 L/s	0	-
Ventilation Load	68 L/s	388	1562	68 L/s	-72	0
Supply Fan Load	258 L/s	0	-	258 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3054	2103	-	-72	0
Central Cooling Coil	-	3054	2103	-	-72	0
>> Total Conditioning	-	3054	2103	-	-72	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **3P-DIRAD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **75,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **11,9** kW
Sensible coil load **7,6** kW
Coil L/s at Mar 1600 **624** L/s
Max block L/s **624** L/s
Sum of peak zone L/s **624** L/s
Sensible heat ratio **0,640**
m²/kW **6,4**
W/m² **157,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Mar 1600**
OA DB / WB **28,0 / 25,0** °C
Entering DB / WB **25,2 / 20,0** °C
Leaving DB / WB **15,0 / 14,6** °C
Coil ADP **13,9** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **624** L/s
Standard L/s **620** L/s
Actual max L/(s-m²) **8,23** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **135** L/s
L/(s-m²) **1,78** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 3P-DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **3P-DIRAD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **75,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	7,1	624	624	May 1500	0,0	75,8	8,23

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DIRAD	1	7,1	May 1500	624	0,0	75,8	8,23

Ventilation Sizing Summary for 3P-DIRAD

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 135 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									
3P-DIRAD	1	75,8	18,0	623,5	7,50	0,00	0,0	0,0	135,0
Totals (incl. Space Multipliers)				623,5					135,0

Air System Design Load Summary for 3P-DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Mar 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,0 °C / 25,0 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	1311	-	6 m²	-	-
Wall Transmission	12 m²	386	-	12 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	55	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1213 W	1213	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2720 W	2720	-	0	0	-
People	18	1292	1081	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	-	6977	1081	-	0	0
Zone Conditioning	-	7037	1081	-	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	624 L/s	0	-	624 L/s	0	-
Ventilation Load	135 L/s	581	3196	135 L/s	-144	0
Supply Fan Load	624 L/s	0	-	624 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	7619	4278	-	-144	0
Central Cooling Coil	-	7619	4278	-	-144	0
>> Total Conditioning	-	7619	4278	-	-144	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DIRETORIA DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRETORIA DIRAD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,7** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,2** kW
Sensible coil load **2,5** kW
Coil L/s at Mar 1500 **214** L/s
Max block L/s **214** L/s
Sum of peak zone L/s **214** L/s
Sensible heat ratio **0,610**
m²/kW **3,1**
W/m² **327,0**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Mar 1500**
OA DB / WB **28,3 / 25,1** °C
Entering DB / WB **25,4 / 20,5** °C
Leaving DB / WB **15,5 / 15,1** °C
Coil ADP **14,4** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **214** L/s
Standard L/s **212** L/s
Actual max L/(s-m²) **16,82** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **4,13** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-DIRETORIA DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRETORIA DIRAD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,7** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,4	214	214	Apr 1500	0,0	12,7	16,82

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DIRETORIA DIRAD	1	2,4	Apr 1500	214	0,0	12,7	16,82

Ventilation Sizing Summary for 3P-DIRETORIA DIRAD

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
3P-DIRETORIA DIRAD	1	12,7	7,0	213,6	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				213,6					52,5

Air System Design Load Summary for 3P-DIRETORIA DIRAD

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Mar 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,3 °C / 25,1 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	1064	-	6 m²	-	-
Wall Transmission	21 m²	337	-	21 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	56	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	203 W	203	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	7	503	421	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	-	2318	421	-	0	0
Zone Conditioning	-	2294	421	-	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	214 L/s	0	-	214 L/s	0	-
Ventilation Load	53 L/s	241	1197	53 L/s	-56	0
Supply Fan Load	214 L/s	0	-	214 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2536	1618	-	-56	0
Central Cooling Coil	-	2536	1618	-	-56	0
>> Total Conditioning	-	2536	1618	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DIRETORIA DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRETORIA DIRPLAN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,0** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,8** kW
Sensible coil load **2,1** kW
Coil L/s at Dec 1600 **182** L/s
Max block L/s **182** L/s
Sum of peak zone L/s **182** L/s
Sensible heat ratio **0,736**
m²/kW **3,9**
W/m² **259,4**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,2 / 19,6** °C
Leaving DB / WB **15,6 / 15,1** °C
Coil ADP **14,6** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **182** L/s
Standard L/s **181** L/s
Actual max L/(s-m²) **16,58** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **2,05** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-DIRETORIA DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRETORIA DIRPLAN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,0** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,1	182	182	Dec 1600	0,0	11,0	16,58

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DIRETORIA DIRPLAN	1	2,1	Dec 1600	182	0,0	11,0	16,58

Ventilation Sizing Summary for 3P-DIRETORIA DIRPLAN

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
3P-DIRETORIA DIRPLAN	1	11,0	3,0	182,1	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				182,1					22,5

Air System Design Load Summary for 3P-DIRETORIA DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	1146	-	5 m²	-	-
Wall Transmission	9 m²	321	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	49	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	176 W	176	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	2063	180	-	0	0
Zone Conditioning	-	1991	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	182 L/s	0	-	182 L/s	0	-
Ventilation Load	23 L/s	103	573	23 L/s	-24	0
Supply Fan Load	182 L/s	0	-	182 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2095	753	-	-24	0
Central Cooling Coil	-	2095	753	-	-24	0
>> Total Conditioning	-	2095	753	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DIRETORIA PROJETOS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRETORIA PROJETOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,3** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,8** kW
Sensible coil load **2,1** kW
Coil L/s at Dec 1500 **179** L/s
Max block L/s **179** L/s
Sum of peak zone L/s **179** L/s
Sensible heat ratio **0,563**
m²/kW **3,2**
W/m² **308,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,8 / 21,3** °C
Leaving DB / WB **15,9 / 15,5** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **60** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **179** L/s
Standard L/s **177** L/s
Actual max L/(s-m²) **14,58** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **4,29** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-DIRETORIA PROJETOS

Project Name: UFSB-REITORIA
Prepared by: .

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Air System Information

Air System Name **3P-DIRETORIA PROJETOS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,3** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,0	179	179	Dec 1000	0,0	12,3	14,58

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DIRETORIA PROJETOS	1	2,0	Dec 1000	179	0,0	12,3	14,58

Ventilation Sizing Summary for 3P-DIRETORIA PROJETOS

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
3P-DIRETORIA PROJETOS	1	12,3	7,0	178,6	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				178,6					52,5

Air System Design Load Summary for 3P-DIRETORIA PROJETOS

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	683	-	5 m²	-	-
Wall Transmission	9 m²	290	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	50	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	196 W	196	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	7	503	421	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	-	1877	421	-	0	0
Zone Conditioning	-	1861	421	-	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	179 L/s	0	-	179 L/s	0	-
Ventilation Load	53 L/s	268	1234	53 L/s	-56	0
Supply Fan Load	179 L/s	0	-	179 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2129	1655	-	-56	0
Central Cooling Coil	-	2129	1655	-	-56	0
>> Total Conditioning	-	2129	1655	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRPLAN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **56,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **9,3** kW
Sensible coil load **5,6** kW
Coil L/s at Feb 1500 **460** L/s
Max block L/s **460** L/s
Sum of peak zone L/s **460** L/s
Sensible heat ratio **0,608**
m²/kW **6,1**
W/m² **165,1**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,6 / 20,6** °C
Leaving DB / WB **15,4 / 15,0** °C
Coil ADP **14,3** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **460** L/s
Standard L/s **457** L/s
Actual max L/(s-m²) **8,19** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **113** L/s
L/(s-m²) **2,00** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 3P-DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-DIRPLAN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **56,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,2	460	460	May 1500	0,0	56,2	8,19

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 ²)	Space L/(s-m ²)
Zone 1							
3P-DIRPLAN	1	5,2	May 1500	460	0,0	56,2	8,19

Ventilation Sizing Summary for 3P-DIRPLAN

Project Name: UFSB-REITORIA

Prepared by: .

07/15/2019

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 113 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									
3P-DIRPLAN	1	56,2	15,0	460,4	7,50	0,00	0,0	0,0	112,5
Totals (incl. Space Multipliers)				460,4					112,5

Air System Design Load Summary for 3P-DIRPLAN

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	820	-	5 m²	-	-
Wall Transmission	9 m²	208	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	58	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	900 W	900	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1860 W	1860	-	0	0	-
People	15	1077	901	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	-	4923	901	-	0	0
Zone Conditioning	-	4973	901	-	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	460 L/s	0	-	460 L/s	0	-
Ventilation Load	113 L/s	670	2743	113 L/s	-120	0
Supply Fan Load	460 L/s	0	-	460 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5643	3644	-	-120	0
Central Cooling Coil	-	5643	3644	-	-120	0
>> Total Conditioning	-	5643	3644	-	-120	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-LICITAÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-LICITAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,9** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **1,8** kW
Sensible coil load **1,0** kW
Coil L/s at Feb 1400 **84** L/s
Max block L/s **84** L/s
Sum of peak zone L/s **84** L/s
Sensible heat ratio **0,553**
m²/kW **5,0**
W/m² **200,7**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,8 / 21,4** °C
Leaving DB / WB **16,0 / 15,6** °C
Coil ADP **14,9** °C
Bypass Factor **0,100**
Resulting RH **63** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **84** L/s
Standard L/s **83** L/s
Actual max L/(s-m²) **9,45** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **24** L/s
L/(s-m²) **2,66** L/(s-m²)

L/s/person **4,70** L/s/person

Air System Sizing Summary for 3P-LICITAÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-LICITAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,9** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,9	84	84	Apr 1000	0,0	8,9	9,45

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 ²)	Space L/(s-m ²)
Zone 1							
3P-LICITAÇÃO	1	0,9	Apr 1000	84	0,0	8,9	9,45

Ventilation Sizing Summary for 3P-LICITAÇÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 24 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									
3P-LICITAÇÃO	1	8,9	5,0	83,6	4,70	0,00	0,0	0,0	23,5
Totals (incl. Space Multipliers)				83,6					23,5

Air System Design Load Summary for 3P-LICITAÇÃO

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	189	-	2 m²	-	-
Wall Transmission	12 m²	102	-	12 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	18	-	2 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	142 W	142	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	48 W	48	-	0	0	-
People	5	359	300	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	-	858	300	-	0	0
Zone Conditioning	-	851	300	-	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	84 L/s	0	-	84 L/s	0	-
Ventilation Load	24 L/s	132	493	24 L/s	-25	0
Supply Fan Load	84 L/s	0	-	84 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	983	794	-	-25	0
Central Cooling Coil	-	983	794	-	-25	0
>> Total Conditioning	-	983	794	-	-25	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-PRÓ-REITOR DGP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-PRÓ-REITOR DGP**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,6** kW
Sensible coil load **2,0** kW
Coil L/s at Feb 1600 **163** L/s
Max block L/s **163** L/s
Sum of peak zone L/s **163** L/s
Sensible heat ratio **0,555**
m²/kW **4,5**
W/m² **220,7**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **26,0 / 21,4** °C
Leaving DB / WB **15,9 / 15,6** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **61** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **163** L/s
Standard L/s **162** L/s
Actual max L/(s-m²) **10,11** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **3,25** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 3P-PRÓ-REITOR DGP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-PRÓ-REITOR DGP**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	1,8	163	163	Apr 1600	0,0	16,1	10,11

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 ²)	Space L/(s-m ²)
Zone 1							
3P-PRÓ-REITOR DGP	1	1,8	Apr 1600	163	0,0	16,1	10,11

Ventilation Sizing Summary for 3P-PRÓ-REITOR DGP

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
3P-PRÓ-REITOR DGP	1	16,1	7,0	163,1	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				163,1					52,5

Air System Design Load Summary for 3P-PRÓ-REITOR DGP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	560	-	3 m²	-	-
Wall Transmission	15 m²	196	-	15 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	38	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	258 W	258	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	7	503	421	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	-	1710	421	-	0	0
Zone Conditioning	-	1683	421	-	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	163 L/s	0	-	163 L/s	0	-
Ventilation Load	53 L/s	291	1165	53 L/s	-56	0
Supply Fan Load	163 L/s	0	-	163 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1974	1585	-	-56	0
Central Cooling Coil	-	1974	1585	-	-56	0
>> Total Conditioning	-	1974	1585	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-PRÓ-REITOR PROPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-PRÓ-REITOR PROPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **2,6** kW
Sensible coil load **2,0** kW
Coil L/s at Apr 1600 **177** L/s
Max block L/s **177** L/s
Sum of peak zone L/s **177** L/s
Sensible heat ratio **0,746**
m²/kW **5,9**
W/m² **168,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Apr 1600**
OA DB / WB **26,9 / 24,4** °C
Entering DB / WB **25,1 / 19,5** °C
Leaving DB / WB **15,8 / 15,2** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **177** L/s
Standard L/s **175** L/s
Actual max L/(s-m²) **11,29** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **1,44** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-PRÓ-REITOR PROPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-PRÓ-REITOR PROPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,0	177	177	May 1500	0,0	15,6	11,29

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 ²)	Space L/(s-m ²)
Zone 1							
3P-PRÓ-REITOR PROPA	1	2,0	May 1500	177	0,0	15,6	11,29

Ventilation Sizing Summary for 3P-PRÓ-REITOR PROPA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
3P-PRÓ-REITOR PROPA	1	15,6	3,0	176,5	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				176,5					22,5

Air System Design Load Summary for 3P-PRÓ-REITOR PROPA

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Apr 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 26,9 °C / 24,4 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	1044	-	5 m²	-	-
Wall Transmission	9 m²	307	-	9 m²	0	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	25	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	250 W	250	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	1997	180	-	0	0
Zone Conditioning	-	1911	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	177 L/s	0	-	177 L/s	0	-
Ventilation Load	23 L/s	58	490	23 L/s	-24	0
Supply Fan Load	177 L/s	0	-	177 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1969	670	-	-24	0
Central Cooling Coil	-	1969	670	-	-24	0
>> Total Conditioning	-	1969	670	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,9** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,6** kW
Sensible coil load **1,5** kW
Coil L/s at Feb 1500 **101** L/s
Max block L/s **101** L/s
Sum of peak zone L/s **101** L/s
Sensible heat ratio **0,428**
m²/kW **4,4**
W/m² **226,7**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **28,2 / 24,4** °C
Leaving DB / WB **15,4 / 15,3** °C
Coil ADP **14,0** °C
Bypass Factor **0,100**
Resulting RH **65** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **101** L/s
Standard L/s **100** L/s
Actual max L/(s-m²) **6,34** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **75** L/s
L/(s-m²) **4,71** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 3P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **3P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,9** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	1,1	101	101	Feb 2300	0,0	15,9	6,34

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 ²)	Space L/(s-m ²)
Zone 1							
3P-REUNIÃO	1	1,1	Feb 2300	101	0,0	15,9	6,34

Ventilation Sizing Summary for 3P-REUNIÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 75 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									
3P-REUNIÃO	1	15,9	10,0	100,9	7,50	0,00	0,0	0,0	75,0
Totals (incl. Space Multipliers)				100,9					75,0

Air System Design Load Summary for 3P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	255 W	255	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	170 W	170	-	0	0	-
People	10	718	601	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	-	1143	601	-	0	0
Zone Conditioning	-	1125	601	-	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	101 L/s	0	-	101 L/s	0	-
Ventilation Load	75 L/s	419	1463	75 L/s	-80	0
Supply Fan Load	101 L/s	0	-	101 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1544	2064	-	-80	0
Central Cooling Coil	-	1544	2064	-	-80	0
>> Total Conditioning	-	1544	2064	-	-80	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 3P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 3P-SECRETARIA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,9 m²
Location Itabuna, 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

Central Cooling Coil Sizing Data

Total coil load 1,4 kW
Sensible coil load 0,7 kW
Coil L/s at Feb 1500 48 L/s
Max block L/s 48 L/s
Sum of peak zone L/s 48 L/s
Sensible heat ratio 0,495
m²/kW 7,9
W/m² 127,0
Water flow @ 5,6 °K rise N/A

Load occurs at Feb 1500
OA DB / WB 29,4 / 25,7 °C
Entering DB / WB 26,8 / 22,4 °C
Leaving DB / WB 14,9 / 14,6 °C
Coil ADP 13,6 °C
Bypass Factor 0,100
Resulting RH 60 %
Design supply temp. 14,4 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 °K

Supply Fan Sizing Data

Actual max L/s 48 L/s
Standard L/s 48 L/s
Actual max L/(s-m²) 4,40 L/(s-m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 23 L/s
L/(s-m²) 2,06 L/(s-m²)

L/s/person 7,50 L/s/person

Zone Sizing Summary for 3P-SECRETÁRIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name 3P-SECRETÁRIA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,9 m²
Location Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	0,5	48	48	Feb 2300	0,0	10,9	4,40

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 ²)	Space L/(s-m ²)
Zone 1							
3P-SECRETÁRIA	1	0,5	Feb 2300	48	0,0	10,9	4,40

Ventilation Sizing Summary for 3P-SECRETÁRIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
3P-SECRETÁRIA	1	10,9	3,0	48,1	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				48,1					22,5

Air System Design Load Summary for 3P-SECRETARIA

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	175 W	175	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	545	180	-	0	0
Zone Conditioning	-	557	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	48 L/s	0	-	48 L/s	0	-
Ventilation Load	23 L/s	130	521	23 L/s	-24	0
Supply Fan Load	48 L/s	0	-	48 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	687	701	-	-24	0
Central Cooling Coil	-	687	701	-	-24	0
>> Total Conditioning	-	687	701	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-ACS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **4P-ACS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **47,9** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **10,0** kW
Sensible coil load **6,6** kW
Coil L/s at Feb 1500 **548** L/s
Max block L/s **548** L/s
Sum of peak zone L/s **548** L/s
Sensible heat ratio **0,658**
m²/kW **4,8**
W/m² **207,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,7 / 20,3** °C
Leaving DB / WB **15,7 / 15,2** °C
Coil ADP **14,6** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **548** L/s
Standard L/s **545** L/s
Actual max L/(s-m²) **11,45** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **105** L/s
L/(s-m²) **2,19** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-ACS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

Air System Information

Air System Name **4P-ACS**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **47,9** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	6,2	548	548	Feb 1500	0,0	47,9	11,45

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 ²)	Space L/(s-m ²)
Zone 1							
4P-ACS	1	6,2	Feb 1500	548	0,0	47,9	11,45

Ventilation Sizing Summary for 4P-ACS

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:24

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate **105** 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									
4P-ACS	1	47,9	14,0	548,4	7,50	0,00	0,0	0,0	105,0
Totals (incl. Space Multipliers)				548,4					105,0

Air System Design Load Summary for 4P-ACS

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	820	-	5 m²	-	-
Wall Transmission	13 m²	291	-	13 m²	0	-
Roof Transmission	48 m²	2032	-	48 m²	0	-
Window Transmission	5 m²	58	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	767 W	767	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1240 W	1240	-	0	0	-
People	14	1005	841	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	-	6212	841	-	0	0
Zone Conditioning	-	5973	841	-	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	548 L/s	0	-	548 L/s	0	-
Ventilation Load	105 L/s	580	2559	105 L/s	-112	0
Supply Fan Load	548 L/s	0	-	548 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	6553	3400	-	-112	0
Central Cooling Coil	-	6553	3400	-	-112	0
>> Total Conditioning	-	6553	3400	-	-112	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-ÁREA TÉCNICA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-ÁREA TÉCNICA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,5** kW
Sensible coil load **3,5** kW
Coil L/s at Feb 1500 **307** L/s
Max block L/s **307** L/s
Sum of peak zone L/s **307** L/s
Sensible heat ratio **1,000**
m²/kW **2,3**
W/m² **426,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **24,3 / 7,9** °C
Leaving DB / WB **14,9 / 3,1** °C
Coil ADP **13,8** °C
Bypass Factor **0,100**
Resulting RH **0** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **307** L/s
Standard L/s **305** L/s
Actual max L/(s-m²) **37,46** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **0** L/s
L/(s-m²) **0,00** L/(s-m²)

L/s/person **0,00** L/s/person

Air System Sizing Summary for 4P-ÁREA TÉCNICA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-ÁREA TÉCNICA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,5	307	307	Dec 1500	0,0	8,2	37,46

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 ²)	Space L/(s-m ²)
Zone 1							
4P-ÁREA TÉCNICA	1	3,5	Dec 1500	307	0,0	8,2	37,46

Ventilation Sizing Summary for 4P-ÁREA TÉCNICA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 0 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									
4P-ÁREA TÉCNICA	1	8,2	0,0	307,1	0,00	0,00	0,0	0,0	0,0
Totals (incl. Space Multipliers)				307,1					0,0

Air System Design Load Summary for 4P-AREA TÉCNICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	8 m²	348	-	8 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	131 W	131	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3000 W	3000	-	0	0	-
People	0	0	0	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	-	3479	0	-	0	0
Zone Conditioning	-	3495	0	-	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	307 L/s	0	-	307 L/s	0	-
Ventilation Load	0 L/s	0	0	0 L/s	0	0
Supply Fan Load	307 L/s	0	-	307 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3495	0	-	0	0
Central Cooling Coil	-	3495	0	-	0	0
>> Total Conditioning	-	3495	0	-	0	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-ARI

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-ARI**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **28,9** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **6,4** kW
Sensible coil load **4,2** kW
Coil L/s at Feb 1600 **356** L/s
Max block L/s **356** L/s
Sum of peak zone L/s **356** L/s
Sensible heat ratio **0,661**
m²/kW **4,5**
W/m² **220,6**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,6 / 20,3** °C
Leaving DB / WB **15,8 / 15,3** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **356** L/s
Standard L/s **353** L/s
Actual max L/(s-m²) **12,33** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **68** L/s
L/(s-m²) **2,34** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-ARI

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-ARI**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **28,9** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	4,0	356	356	Mar 1600	0,0	28,9	12,33

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 ²)	Space L/(s-m ²)
Zone 1							
4P-ARI	1	4,0	Mar 1600	356	0,0	28,9	12,33

Ventilation Sizing Summary for 4P-ARI

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

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									
4P-ARI	1	28,9	9,0	355,8	7,50	0,00	0,0	0,0	67,5
Totals (incl. Space Multipliers)				355,8					67,5

Air System Design Load Summary for 4P-ARI

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	5 m²	840	-	5 m²	-	-
Wall Transmission	13 m²	376	-	13 m²	0	-
Roof Transmission	29 m²	1163	-	29 m²	0	-
Window Transmission	5 m²	57	-	5 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	462 W	462	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	465 W	465	-	0	0	-
People	9	646	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	-	4009	541	-	0	0
Zone Conditioning	-	3856	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	356 L/s	0	-	356 L/s	0	-
Ventilation Load	68 L/s	353	1615	68 L/s	-72	0
Supply Fan Load	356 L/s	0	-	356 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4209	2156	-	-72	0
Central Cooling Coil	-	4209	2157	-	-72	0
>> Total Conditioning	-	4209	2157	-	-72	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-ASSESSORIA JURÍDICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-ASSESSORIA JURÍDICA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **30,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **7,7** kW
Sensible coil load **5,2** kW
Coil L/s at Feb 1500 **434** L/s
Max block L/s **434** L/s
Sum of peak zone L/s **434** L/s
Sensible heat ratio **0,676**
m²/kW **3,9**
W/m² **253,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,4 / 19,9** °C
Leaving DB / WB **15,5 / 15,0** °C
Coil ADP **14,3** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **434** L/s
Standard L/s **431** L/s
Actual max L/(s-m²) **14,38** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **75** L/s
L/(s-m²) **2,48** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-ASSESSORIA JURÍDICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-ASSESSORIA JURÍDICA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **30,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	4,9	434	434	Mar 1500	0,0	30,2	14,38

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 ²)	Space L/(s-m ²)
Zone 1							
4P-ASSESSORIA JURÍDICA	1	4,9	Mar 1500	434	0,0	30,2	14,38

Ventilation Sizing Summary for 4P-ASSESSORIA JURÍDICA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 75 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									
4P-ASSESSORIA JURÍDICA	1	30,2	10,0	434,3	7,50	0,00	0,0	0,0	75,0
Totals (incl. Space Multipliers)				434,3					75,0

Air System Design Load Summary for 4P-ASSESSORIA JURÍDICA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	9 m²	1270	-	9 m²	-	-
Wall Transmission	34 m²	676	-	34 m²	0	-
Roof Transmission	30 m²	1281	-	30 m²	0	-
Window Transmission	9 m²	116	-	9 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	483 W	483	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	310 W	310	-	0	0	-
People	10	718	601	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	-	4854	601	-	0	0
Zone Conditioning	-	4737	601	-	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	434 L/s	0	-	434 L/s	0	-
Ventilation Load	75 L/s	437	1882	75 L/s	-80	0
Supply Fan Load	434 L/s	0	-	434 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5173	2483	-	-80	0
Central Cooling Coil	-	5173	2483	-	-80	0
>> Total Conditioning	-	5173	2483	-	-80	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-AUDITORIA INTERNA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-AUDITORIA INTERNA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,4** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,7** kW
Sensible coil load **3,7** kW
Coil L/s at Dec 1500 **309** L/s
Max block L/s **309** L/s
Sum of peak zone L/s **309** L/s
Sensible heat ratio **0,646**
m²/kW **4,6**
W/m² **216,4**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,3 / 20,1** °C
Leaving DB / WB **15,4 / 14,9** °C
Coil ADP **14,3** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **309** L/s
Standard L/s **307** L/s
Actual max L/(s-m²) **11,69** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **60** L/s
L/(s-m²) **2,27** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-AUDITORIA INTERNA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-AUDITORIA INTERNA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,4** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,5	309	309	Dec 1600	0,0	26,4	11,69

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 ²)	Space L/(s-m ²)
Zone 1							
4P-AUDITORIA INTERNA	1	3,5	Dec 1600	309	0,0	26,4	11,69

Ventilation Sizing Summary for 4P-AUDITORIA INTERNA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 60 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									
4P-AUDITORIA INTERNA	1	26,4	8,0	308,9	7,50	0,00	0,0	0,0	60,0
Totals (incl. Space Multipliers)				308,9					60,0

Air System Design Load Summary for 4P-AUDITORIA INTERNA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	732	-	3 m²	-	-
Wall Transmission	10 m²	264	-	10 m²	0	-
Roof Transmission	26 m²	1122	-	26 m²	0	-
Window Transmission	3 m²	33	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	423 W	423	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	310 W	310	-	0	0	-
People	8	574	481	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	-	3458	481	-	0	0
Zone Conditioning	-	3383	481	-	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	309 L/s	0	-	309 L/s	0	-
Ventilation Load	60 L/s	314	1542	60 L/s	-64	0
Supply Fan Load	309 L/s	0	-	309 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3696	2022	-	-64	0
Central Cooling Coil	-	3696	2022	-	-64	0
>> Total Conditioning	-	3696	2022	-	-64	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-CEP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-CEP**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **6,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **1,7** kW
Sensible coil load **1,2** kW
Coil L/s at Feb 1600 **105** L/s
Max block L/s **105** L/s
Sum of peak zone L/s **105** L/s
Sensible heat ratio **0,712**
m²/kW **3,8**
W/m² **262,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,1 / 19,5** °C
Leaving DB / WB **15,3 / 14,8** °C
Coil ADP **14,2** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **105** L/s
Standard L/s **105** L/s
Actual max L/(s-m²) **15,95** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **15** L/s
L/(s-m²) **2,27** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-CEP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-CEP**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **6,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	1,2	105	105	Mar 1600	0,0	6,6	15,95

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 ²)	Space L/(s-m ²)
Zone 1							
4P-CEP	1	1,2	Mar 1600	105	0,0	6,6	15,95

Ventilation Sizing Summary for 4P-CEP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 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									
4P-CEP	1	6,6	2,0	105,3	7,50	0,00	0,0	0,0	15,0
Totals (incl. Space Multipliers)				105,3					15,0

Air System Design Load Summary for 4P-CEP

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	2 m²	280	-	2 m²	-	-
Wall Transmission	7 m²	197	-	7 m²	0	-
Roof Transmission	7 m²	266	-	7 m²	0	-
Window Transmission	2 m²	19	-	2 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	106 W	106	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	2	144	120	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	-	1166	120	-	0	0
Zone Conditioning	-	1148	120	-	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	105 L/s	0	-	105 L/s	0	-
Ventilation Load	15 L/s	85	379	15 L/s	-16	0
Supply Fan Load	105 L/s	0	-	105 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	1233	499	-	-16	0
Central Cooling Coil	-	1233	500	-	-16	0
>> Total Conditioning	-	1233	500	-	-16	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-CHEFIA DE GABINETE

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-CHEFIA DE GABINETE**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,0** kW
Sensible coil load **2,6** kW
Coil L/s at Feb 1500 **215** L/s
Max block L/s **215** L/s
Sum of peak zone L/s **215** L/s
Sensible heat ratio **0,640**
m²/kW **4,9**
W/m² **202,6**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,7 / 20,5** °C
Leaving DB / WB **15,8 / 15,3** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **215** L/s
Standard L/s **214** L/s
Actual max L/(s-m²) **10,86** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **45** L/s
L/(s-m²) **2,27** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-CHEFIA DE GABINETE

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-CHEFIA DE GABINETE**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,4	215	215	Feb 1400	0,0	19,8	10,86

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 ²)	Space L/(s-m ²)
Zone 1							
4P-CHEFIA DE GABINETE	1	2,4	Feb 1400	215	0,0	19,8	10,86

Ventilation Sizing Summary for 4P-CHEFIA DE GABINETE

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 45 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									
4P-CHEFIA DE GABINETE	1	19,8	6,0	215,1	7,50	0,00	0,0	0,0	45,0
Totals (incl. Space Multipliers)				215,1					45,0

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	361	-	3 m²	-	-
Wall Transmission	19 m²	286	-	19 m²	0	-
Roof Transmission	20 m²	840	-	20 m²	0	-
Window Transmission	3 m²	39	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	317 W	317	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	6	431	360	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	-	2428	360	-	0	0
Zone Conditioning	-	2318	360	-	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	215 L/s	0	-	215 L/s	0	-
Ventilation Load	45 L/s	251	1082	45 L/s	-48	0
Supply Fan Load	215 L/s	0	-	215 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2569	1443	-	-48	0
Central Cooling Coil	-	2569	1443	-	-48	0
>> Total Conditioning	-	2569	1443	-	-48	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-COPA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-COPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **17,7** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **7,5** kW
Sensible coil load **5,9** kW
Coil L/s at Feb 1600 **503** L/s
Max block L/s **503** L/s
Sum of peak zone L/s **503** L/s
Sensible heat ratio **0,782**
m²/kW **2,4**
W/m² **423,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **24,9 / 18,9** °C
Leaving DB / WB **15,2 / 14,6** °C
Coil ADP **14,1** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **503** L/s
Standard L/s **500** L/s
Actual max L/(s-m²) **28,45** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **42** L/s
L/(s-m²) **2,39** L/(s-m²)

L/s/person **4,70** L/s/person

Air System Sizing Summary for 4P-COPA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-COPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **17,7** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,7	503	503	Feb 1600	0,0	17,7	28,45

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 ²)	Space L/(s-m ²)
Zone 1							
4P-COPA	1	5,7	Feb 1600	503	0,0	17,7	28,45

Ventilation Sizing Summary for 4P-COPA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 42 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									
4P-COPA	1	17,7	9,0	503,5	4,70	0,00	0,0	0,0	42,3
Totals (incl. Space Multipliers)				503,5					42,3

Air System Design Load Summary for 4P-COPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	11 m²	2006	-	11 m²	-	-
Wall Transmission	25 m²	723	-	25 m²	0	-
Roof Transmission	18 m²	712	-	18 m²	0	-
Window Transmission	11 m²	133	-	11 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	283 W	283	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1200 W	1200	-	0	0	-
People	9	646	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	-	5704	541	-	0	0
Zone Conditioning	-	5621	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	503 L/s	0	-	503 L/s	0	-
Ventilation Load	42 L/s	237	1091	42 L/s	-45	0
Supply Fan Load	503 L/s	0	-	503 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5857	1632	-	-45	0
Central Cooling Coil	-	5857	1633	-	-45	0
>> Total Conditioning	-	5857	1633	-	-45	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-DPCI E DPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-DPCI E DPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **23,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **6,5** kW
Sensible coil load **4,6** kW
Coil L/s at Dec 1400 **391** L/s
Max block L/s **391** L/s
Sum of peak zone L/s **391** L/s
Sensible heat ratio **0,697**
m²/kW **3,6**
W/m² **276,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,4 / 19,9** °C
Leaving DB / WB **15,7 / 15,2** °C
Coil ADP **14,6** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **391** L/s
Standard L/s **388** L/s
Actual max L/(s-m²) **16,56** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **60** L/s
L/(s-m²) **2,54** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-DPCI E DPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-DPCI E DPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **23,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	4,4	391	391	Dec 1400	0,0	23,6	16,56

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 ²)	Space L/(s-m ²)
Zone 1							
4P-DPCI E DPG	1	4,4	Dec 1400	391	0,0	23,6	16,56

Ventilation Sizing Summary for 4P-DPCI E DPG

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 60 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									
4P-DPCI E DPG	1	23,6	8,0	390,9	7,50	0,00	0,0	0,0	60,0
Totals (incl. Space Multipliers)				390,9					60,0

Air System Design Load Summary for 4P-DPCI E DPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	958	-	6 m²	-	-
Wall Transmission	16 m²	524	-	16 m²	0	-
Roof Transmission	24 m²	1002	-	24 m²	0	-
Window Transmission	6 m²	62	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	378 W	378	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	930 W	930	-	0	0	-
People	8	574	481	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	-	4429	481	-	0	0
Zone Conditioning	-	4279	481	-	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	391 L/s	0	-	391 L/s	0	-
Ventilation Load	60 L/s	272	1502	60 L/s	-64	0
Supply Fan Load	391 L/s	0	-	391 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4551	1983	-	-64	0
Central Cooling Coil	-	4551	1983	-	-64	0
>> Total Conditioning	-	4551	1983	-	-64	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-GABINETE REITORIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

Air System Information

Air System Name **4P-GABINETE REITORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **39,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **8,4** kW
Sensible coil load **5,7** kW
Coil L/s at Dec 1400 **494** L/s
Max block L/s **494** L/s
Sum of peak zone L/s **494** L/s
Sensible heat ratio **0,679**
m²/kW **4,7**
W/m² **214,7**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,4 / 20,0** °C
Leaving DB / WB **15,8 / 15,3** °C
Coil ADP **14,7** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **494** L/s
Standard L/s **490** L/s
Actual max L/(s-m²) **12,59** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **83** L/s
L/(s-m²) **2,10** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-GABINETE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-GABINETE REITORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **39,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	5,6	494	494	Dec 1400	0,0	39,2	12,59

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 ²)	Space L/(s-m ²)
Zone 1							
4P-GABINETE REITORIA	1	5,6	Dec 1400	494	0,0	39,2	12,59

Ventilation Sizing Summary for 4P-GABINETE REITORIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 83 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									
4P-GABINETE REITORIA	1	39,2	11,0	493,6	7,50	0,00	0,0	0,0	82,5
Totals (incl. Space Multipliers)				493,6					82,5

Air System Design Load Summary for 4P-GABINETE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	11 m²	1491	-	11 m²	-	-
Wall Transmission	34 m²	756	-	34 m²	0	-
Roof Transmission	39 m²	1665	-	39 m²	0	-
Window Transmission	11 m²	108	-	11 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	627 W	627	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	11	790	661	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	-	5592	661	-	0	0
Zone Conditioning	-	5339	661	-	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	494 L/s	0	-	494 L/s	0	-
Ventilation Load	83 L/s	378	2042	83 L/s	-88	0
Supply Fan Load	494 L/s	0	-	494 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	5717	2702	-	-88	0
Central Cooling Coil	-	5717	2701	-	-88	0
>> Total Conditioning	-	5717	2701	-	-88	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-GABINETE VICE-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-GABINETE VICE-REITOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,4** kW
Sensible coil load **3,3** kW
Coil L/s at Feb 1500 **265** L/s
Max block L/s **265** L/s
Sum of peak zone L/s **265** L/s
Sensible heat ratio **0,603**
m²/kW **4,8**
W/m² **207,2**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,9 / 20,8** °C
Leaving DB / WB **15,7 / 15,2** °C
Coil ADP **14,5** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **265** L/s
Standard L/s **263** L/s
Actual max L/(s-m²) **10,16** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **68** L/s
L/(s-m²) **2,59** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-GABINETE VICE-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-GABINETE VICE-REITOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,0	265	265	Feb 1400	0,0	26,1	10,16

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 ²)	Space L/(s-m ²)
Zone 1							
4P-GABINETE VICE-REITOR	1	3,0	Feb 1400	265	0,0	26,1	10,16

Ventilation Sizing Summary for 4P-GABINETE VICE-REITOR

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

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									
4P-GABINETE VICE-REITOR	1	26,1	9,0	264,8	7,50	0,00	0,0	0,0	67,5
Totals (incl. Space Multipliers)				264,8					67,5

Air System Design Load Summary for 4P-GABINETE VICE-REITOR

Project Name: UFSB-REITORIA
Prepared by: .

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11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	361	-	3 m²	-	-
Wall Transmission	10 m²	269	-	10 m²	0	-
Roof Transmission	26 m²	1107	-	26 m²	0	-
Window Transmission	3 m²	39	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	417 W	417	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	9	646	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	-	2995	541	-	0	0
Zone Conditioning	-	2879	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	265 L/s	0	-	265 L/s	0	-
Ventilation Load	68 L/s	377	1606	68 L/s	-72	0
Supply Fan Load	265 L/s	0	-	265 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3256	2147	-	-72	0
Central Cooling Coil	-	3256	2147	-	-72	0
>> Total Conditioning	-	3256	2147	-	-72	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-INTEGRIDADE E TRANSPA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

Air System Information

Air System Name **4P-INTEGRIDADE E TRANSPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,4** kW
Sensible coil load **3,7** kW
Coil L/s at Dec 1500 **315** L/s
Max block L/s **315** L/s
Sum of peak zone L/s **315** L/s
Sensible heat ratio **0,677**
m²/kW **4,8**
W/m² **206,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,4 / 20,0** °C
Leaving DB / WB **15,7 / 15,2** °C
Coil ADP **14,6** °C
Bypass Factor **0,100**
Resulting RH **57** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **315** L/s
Standard L/s **313** L/s
Actual max L/(s-m²) **12,02** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **2,00** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-INTEGRIDADE E TRANSPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-INTEGRIDADE E TRANSPA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,6	315	315	Dec 1600	0,0	26,2	12,02

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 ²)	Space L/(s-m ²)
Zone 1							
4P-INTEGRIDADE E TRANSPA	1	3,6	Dec 1600	315	0,0	26,2	12,02

Ventilation Sizing Summary for 4P-INTEGRIDADE E TRANSPA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:25

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
4P-INTEGRIDADE E TRANSPA	1	26,2	7,0	315,3	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				315,3					52,5

Air System Design Load Summary for 4P-INTEGRIDADE E TRANSPA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	732	-	3 m²	-	-
Wall Transmission	10 m²	264	-	10 m²	0	-
Roof Transmission	26 m²	1113	-	26 m²	0	-
Window Transmission	3 m²	33	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	420 W	419	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	465 W	465	-	0	0	-
People	7	503	421	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	-	3530	421	-	0	0
Zone Conditioning	-	3403	421	-	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	315 L/s	0	-	315 L/s	0	-
Ventilation Load	53 L/s	260	1325	53 L/s	-56	0
Supply Fan Load	315 L/s	0	-	315 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3663	1746	-	-56	0
Central Cooling Coil	-	3663	1746	-	-56	0
>> Total Conditioning	-	3663	1746	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-LOUNGE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-LOUNGE REITORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **43,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **6,2** kW
Sensible coil load **4,2** kW
Coil L/s at Dec 1400 **353** L/s
Max block L/s **353** L/s
Sum of peak zone L/s **353** L/s
Sensible heat ratio **0,676**
m²/kW **7,0**
W/m² **142,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,3 / 19,8** °C
Leaving DB / WB **15,3 / 14,8** °C
Coil ADP **14,2** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **353** L/s
Standard L/s **350** L/s
Actual max L/(s-m²) **8,05** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **60** L/s
L/(s-m²) **1,37** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-LOUNGE REITORIA

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:25

Air System Information

Air System Name **4P-LOUNGE REITORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **43,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	4,0	353	353	Dec 1500	0,0	43,8	8,05

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 ²)	Space L/(s-m ²)
Zone 1							
4P-LOUNGE REITORIA	1	4,0	Dec 1500	353	0,0	43,8	8,05

Ventilation Sizing Summary for 4P-LOUNGE REITORIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:26

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 60 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									
4P-LOUNGE REITORIA	1	43,8	8,0	352,8	7,50	0,00	0,0	0,0	60,0
Totals (incl. Space Multipliers)				352,8					60,0

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	44 m²	1860	-	44 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	701 W	701	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	860 W	860	-	0	0	-
People	8	574	481	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	-	3996	481	-	0	0
Zone Conditioning	-	3923	481	-	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	353 L/s	0	-	353 L/s	0	-
Ventilation Load	60 L/s	290	1541	60 L/s	-64	0
Supply Fan Load	353 L/s	0	-	353 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4213	2022	-	-64	0
Central Cooling Coil	-	4213	2022	-	-64	0
>> Total Conditioning	-	4213	2022	-	-64	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-PROCURADORIA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-PROCURADORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **20,8** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,3** kW
Sensible coil load **3,6** kW
Coil L/s at Feb 1600 **318** L/s
Max block L/s **318** L/s
Sum of peak zone L/s **318** L/s
Sensible heat ratio **0,685**
m²/kW **4,0**
W/m² **252,5**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **25,5 / 20,2** °C
Leaving DB / WB **16,1 / 15,6** °C
Coil ADP **15,0** °C
Bypass Factor **0,100**
Resulting RH **58** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **318** L/s
Standard L/s **316** L/s
Actual max L/(s-m²) **15,26** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **53** L/s
L/(s-m²) **2,52** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-PROCURADORIA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-PROCURADORIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **20,8** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,6	318	318	Mar 1600	0,0	20,8	15,26

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 ²)	Space L/(s-m ²)
Zone 1							
4P-PROCURADORIA	1	3,6	Mar 1600	318	0,0	20,8	15,26

Ventilation Sizing Summary for 4P-PROCURADORIA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

11:26

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 53 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									
4P-PROCURADORIA	1	20,8	7,0	317,6	7,50	0,00	0,0	0,0	52,5
Totals (incl. Space Multipliers)				317,6					52,5

Air System Design Load Summary for 4P-PROCURADORIA

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1600			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	1121	-	6 m²	-	-
Wall Transmission	16 m²	465	-	16 m²	0	-
Roof Transmission	21 m²	837	-	21 m²	0	-
Window Transmission	6 m²	76	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	333 W	333	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	7	503	421	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	-	3489	421	-	0	0
Zone Conditioning	-	3325	421	-	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	318 L/s	0	-	318 L/s	0	-
Ventilation Load	53 L/s	275	1235	53 L/s	-56	0
Supply Fan Load	318 L/s	0	-	318 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	3600	1656	-	-56	0
Central Cooling Coil	-	3600	1656	-	-56	0
>> Total Conditioning	-	3600	1656	-	-56	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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Air System Information

Air System Name **4P-PROPPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **40,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **9,3** kW
Sensible coil load **6,3** kW
Coil L/s at Dec 1400 **536** L/s
Max block L/s **536** L/s
Sum of peak zone L/s **536** L/s
Sensible heat ratio **0,676**
m²/kW **4,3**
W/m² **230,1**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **28,6 / 25,6** °C
Entering DB / WB **25,1 / 19,8** °C
Leaving DB / WB **15,3 / 14,9** °C
Coil ADP **14,3** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **536** L/s
Standard L/s **533** L/s
Actual max L/(s-m²) **13,24** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **90** L/s
L/(s-m²) **2,22** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

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Air System Information

Air System Name **4P-PROPPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **40,5** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	6,1	536	536	Dec 1600	0,0	40,5	13,24

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 ²)	Space L/(s-m ²)
Zone 1							
4P-PROPPG	1	6,1	Dec 1600	536	0,0	40,5	13,24

Ventilation Sizing Summary for 4P-PROPPG

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 90 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									
4P-PROPPG	1	40,5	12,0	536,3	7,50	0,00	0,0	0,0	90,0
Totals (incl. Space Multipliers)				536,3					90,0

Air System Design Load Summary for 4P-PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,6 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	635	-	3 m²	-	-
Wall Transmission	19 m²	213	-	19 m²	0	-
Roof Transmission	41 m²	1720	-	41 m²	0	-
Window Transmission	3 m²	31	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	648 W	648	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1790 W	1790	-	0	0	-
People	12	862	721	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	-	5899	721	-	0	0
Zone Conditioning	-	5851	721	-	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	536 L/s	0	-	536 L/s	0	-
Ventilation Load	90 L/s	449	2302	90 L/s	-96	0
Supply Fan Load	536 L/s	0	-	536 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	6300	3023	-	-96	0
Central Cooling Coil	-	6300	3024	-	-96	0
>> Total Conditioning	-	6300	3024	-	-96	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-PRÓ-REITOR PROPPG

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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Air System Information

Air System Name **4P-PRÓ-REITOR PROPPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,2** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **3,7** kW
Sensible coil load **3,0** kW
Coil L/s at Dec 1500 **266** L/s
Max block L/s **266** L/s
Sum of peak zone L/s **266** L/s
Sensible heat ratio **0,796**
m²/kW **4,1**
W/m² **246,3**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,2 / 19,3** °C
Leaving DB / WB **15,9 / 15,3** °C
Coil ADP **14,8** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **266** L/s
Standard L/s **264** L/s
Actual max L/(s-m²) **17,52** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **23** L/s
L/(s-m²) **1,48** L/(s-m²)

L/s/person **7,50** L/s/person

Zone Sizing Summary for 4P-PRÓ-REITOR PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

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Air System Information

Air System Name **4P-PRÓ-REITOR PROPPG**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,2** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	3,0	266	266	Dec 1500	0,0	15,2	17,52

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 ²)	Space L/(s-m ²)
Zone 1							
4P-PRÓ-REITOR PROPPG	1	3,0	Dec 1500	266	0,0	15,2	17,52

Ventilation Sizing Summary for 4P-PRÓ-REITOR PROPPG

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 23 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									
4P-PRÓ-REITOR PROPPG	1	15,2	3,0	265,6	7,50	0,00	0,0	0,0	22,5
Totals (incl. Space Multipliers)				265,6					22,5

Air System Design Load Summary for 4P-PRÓ-REITOR PROPPG

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	6 m²	1187	-	6 m²	-	-
Wall Transmission	25 m²	496	-	25 m²	0	-
Roof Transmission	15 m²	646	-	15 m²	0	-
Window Transmission	6 m²	67	-	6 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	243 W	243	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	155 W	155	-	0	0	-
People	3	215	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	-	3009	180	-	0	0
Zone Conditioning	-	2865	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	266 L/s	0	-	266 L/s	0	-
Ventilation Load	23 L/s	107	581	23 L/s	-24	0
Supply Fan Load	266 L/s	0	-	266 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2973	761	-	-24	0
Central Cooling Coil	-	2973	761	-	-24	0
>> Total Conditioning	-	2973	761	-	-24	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:26

Air System Information

Air System Name **4P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,5** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,5** kW
Sensible coil load **2,3** kW
Coil L/s at Feb 1400 **168** L/s
Max block L/s **168** L/s
Sum of peak zone L/s **168** L/s
Sensible heat ratio **0,500**
m²/kW **4,1**
W/m² **245,8**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **29,2 / 25,6** °C
Entering DB / WB **26,6 / 22,3** °C
Leaving DB / WB **15,3 / 15,0** °C
Coil ADP **14,1** °C
Bypass Factor **0,100**
Resulting RH **61** %
Design supply temp. **14,4** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **168** L/s
Standard L/s **167** L/s
Actual max L/(s-m²) **9,08** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **75** L/s
L/(s-m²) **4,07** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

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11:26

Air System Information

Air System Name **4P-REUNIÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,5** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	1,9	168	168	Dec 1500	0,0	18,5	9,08

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 ²)	Space L/(s-m ²)
Zone 1							
4P-REUNIÃO	1	1,9	Dec 1500	168	0,0	18,5	9,08

Ventilation Sizing Summary for 4P-REUNIÃO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 75 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									
4P-REUNIÃO	1	18,5	10,0	167,6	7,50	0,00	0,0	0,0	75,0
Totals (incl. Space Multipliers)				167,6					75,0

Air System Design Load Summary for 4P-REUNIÃO

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1400			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,2 °C / 25,6 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	19 m²	774	-	19 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	295 W	295	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	100 W	100	-	0	0	-
People	10	718	601	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	-	1887	601	-	0	0
Zone Conditioning	-	1859	601	-	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	168 L/s	0	-	168 L/s	0	-
Ventilation Load	75 L/s	411	1665	75 L/s	-80	0
Supply Fan Load	168 L/s	0	-	168 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2270	2266	-	-80	0
Central Cooling Coil	-	2270	2266	-	-80	0
>> Total Conditioning	-	2270	2266	-	-80	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-SALA DO CONSELHO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:26

Air System Information

Air System Name **4P-SALA DO CONSELHO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **75,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **31,1** kW
Sensible coil load **14,1** kW
Coil L/s at Feb 1500 **969** L/s
Max block L/s **969** L/s
Sum of peak zone L/s **969** L/s
Sensible heat ratio **0,452**
m²/kW **2,4**
W/m² **411,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **27,7 / 23,6** °C
Leaving DB / WB **15,6 / 15,3** °C
Coil ADP **14,2** °C
Bypass Factor **0,100**
Resulting RH **63** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,1** °K

Supply Fan Sizing Data

Actual max L/s **969** L/s
Standard L/s **963** L/s
Actual max L/(s-m²) **12,81** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **600** L/s
L/(s-m²) **7,94** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-SALA DO CONSELHO

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:26

Air System Information

Air System Name **4P-SALA DO CONSELHO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **75,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	11,0	969	969	Dec 1500	0,0	75,6	12,81

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 ²)	Space L/(s-m ²)
Zone 1							
4P-SALA DO CONSELHO	1	11,0	Dec 1500	969	0,0	75,6	12,81

Ventilation Sizing Summary for 4P-SALA DO CONSELHO

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 600 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									
4P-SALA DO CONSELHO	1	75,6	80,0	968,7	7,50	0,00	0,0	0,0	600,0
Totals (incl. Space Multipliers)				968,7					600,0

Project Name: UFSB-REITORIA
Prepared by: .

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	76 m²	3207	-	76 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	1210 W	1210	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	809 W	809	-	0	0	-
People	80	5744	4806	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	-	10969	4806	-	0	0
Zone Conditioning	-	10776	4806	-	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	969 L/s	0	-	969 L/s	0	-
Ventilation Load	600 L/s	3287	12273	600 L/s	-640	0
Supply Fan Load	969 L/s	0	-	969 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	14064	17079	-	-640	0
Central Cooling Coil	-	14064	17079	-	-640	0
>> Total Conditioning	-	14064	17079	-	-640	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-SECRETARIA EXECUTIVA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **39,1** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **5,9** kW
Sensible coil load **4,4** kW
Coil L/s at Feb 1500 **382** L/s
Max block L/s **382** L/s
Sum of peak zone L/s **382** L/s
Sensible heat ratio **0,747**
m²/kW **6,6**
W/m² **151,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **29,4 / 25,7** °C
Entering DB / WB **25,3 / 19,5** °C
Leaving DB / WB **15,6 / 15,1** °C
Coil ADP **14,5** °C
Bypass Factor **0,100**
Resulting RH **55** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **382** L/s
Standard L/s **380** L/s
Actual max L/(s-m²) **9,78** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **45** L/s
L/(s-m²) **1,15** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-SECRETARIA EXECUTIVA

Project Name: UFSB-REITORIA
Prepared by: .

Air System Information

Air System Name **4P-SECRETARIA EXECUTIVA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **39,1** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	4,3	382	382	Feb 1500	0,0	39,1	9,78

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 ²)	Space L/(s-m ²)
Zone 1							
4P-SECRETARIA EXECUTIVA	1	4,3	Feb 1500	382	0,0	39,1	9,78

Ventilation Sizing Summary for 4P-SECRETARIA EXECUTIVA

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 45 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									
4P-SECRETARIA EXECUTIVA	1	39,1	6,0	382,3	7,50	0,00	0,0	0,0	45,0
Totals (incl. Space Multipliers)				382,3					45,0

Air System Design Load Summary for 4P-SECRETARIA EXECUTIVA

Project Name: UFSB-REITORIA
Prepared by: .

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Feb 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 29,4 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	3 m²	361	-	3 m²	-	-
Wall Transmission	19 m²	286	-	19 m²	0	-
Roof Transmission	39 m²	1658	-	39 m²	0	-
Window Transmission	3 m²	39	-	3 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	625 W	625	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	930 W	930	-	0	0	-
People	6	431	360	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	-	4330	360	-	0	0
Zone Conditioning	-	4182	360	-	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	382 L/s	0	-	382 L/s	0	-
Ventilation Load	45 L/s	251	1140	45 L/s	-48	0
Supply Fan Load	382 L/s	0	-	382 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	4433	1500	-	-48	0
Central Cooling Coil	-	4433	1501	-	-48	0
>> Total Conditioning	-	4433	1501	-	-48	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Air System Sizing Summary for 4P-SECRETARIA PROCURADOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
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Air System Information

Air System Name ... **4P-SECRETARIA PROCURADOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,6** m²
Location **Itabuna, 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**

Central Cooling Coil Sizing Data

Total coil load **4,1** kW
Sensible coil load **2,9** kW
Coil L/s at Dec 1500 **245** L/s
Max block L/s **245** L/s
Sum of peak zone L/s **245** L/s
Sensible heat ratio **0,695**
m²/kW **6,4**
W/m² **155,9**
Water flow @ 5,6 °K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **28,8 / 25,7** °C
Entering DB / WB **25,4 / 19,8** °C
Leaving DB / WB **15,6 / 15,1** °C
Coil ADP **14,5** °C
Bypass Factor **0,100**
Resulting RH **56** %
Design supply temp. **14,4** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** °K

Supply Fan Sizing Data

Actual max L/s **245** L/s
Standard L/s **243** L/s
Actual max L/(s-m²) **9,21** L/(s-m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **38** L/s
L/(s-m²) **1,41** L/(s-m²)

L/s/person **7,50** L/s/person

Air System Sizing Summary for 4P-SECRETARIA PROCURADOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:26

Air System Information

Air System Name ... **4P-SECRETARIA PROCURADOR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **26,6** m²
Location **Itabuna, 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 ²)	Zone L/(s-m ²)
Zone 1	2,8	245	245	Dec 1500	0,0	26,6	9,21

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 ²)	Space L/(s-m ²)
Zone 1							
4P-SECRETARIA PROCURADOR	1	2,8	Dec 1500	245	0,0	26,6	9,21

Ventilation Sizing Summary for 4P-SECRETARIA PROCURADOR

Project Name: UFSB-REITORIA

07/15/2019

Prepared by: .

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows

Design Ventilation Airflow Rate 38 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									
4P-SECRETARIA PROCURADOR	1	26,6	5,0	244,9	7,50	0,00	0,0	0,0	37,5
Totals (incl. Space Multipliers)				244,9					37,5

Air System Design Load Summary for 4P-SECRETARIA PROCURADOR

Project Name: UFSB-REITORIA
Prepared by: .

07/15/2019
11:26

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Dec 1500			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 28,8 °C / 25,7 °C			HEATING OA DB / WB 22,0 °C / 18,9 °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	27 m²	1130	-	27 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	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	426 W	426	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	860 W	860	-	0	0	-
People	5	359	300	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	-	2775	300	-	0	0
Zone Conditioning	-	2698	300	-	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	245 L/s	0	-	245 L/s	0	-
Ventilation Load	38 L/s	184	965	38 L/s	-40	0
Supply Fan Load	245 L/s	0	-	245 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	2883	1266	-	-40	0
Central Cooling Coil	-	2883	1266	-	-40	0
>> Total Conditioning	-	2883	1266	-	-40	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		