

MEMORIA DE CALCULO

AIRE ACONDICIONADO

PROYECTO: CENTRO COMUNITARIO PARAJES SAN
JOSÉ

La temporada calurosa dura 3.8 meses, del 18 de mayo al 11 de septiembre, y la temperatura máxima promedio diaria es más de 32 °C. El mes más cálido del año en Ciudad Juárez es junio, con una temperatura máxima promedio de 36 °C y mínima de 21 °C.

Con los datos anteriores un adecuado diseño y desarrollo de sistemas de aire acondicionado industrial en Ciudad Juárez contribuye a mantener correctos niveles de temperatura dentro de la planta, así como también adecuado control de humedad, movimiento de aire, limpieza, ventilación y adecuadas condiciones acústicas.

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Dedicated Outdoor Air System (DOAS) Sizing Summary for Sistema CCPSJ

Project Name: CCPSJ
Prepared by: PROSERVISAA

09/05/2023
10:12p. m.

Air System Information

Air System Name **Sistema CCPSJ**
Equipment Class **TERM**
Air System Type **VRF**

Number of zones **6**
Floor Area **2230.3** ft²
Location **Ciudad Juárez, Mexico**

Sizing Calculation Information

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

Zone CFM Sizing **Sum of space airflow rates**
Space CFM Sizing **Individual peak space loads**

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

Zone Sizing Summary for Sistema CCPSJ

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Number of zones 6
Floor Area 2230.3 ft²
Location Ciudad Juárez, Mexico

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone CFM Sizing Sum of space airflow rates
Space CFM Sizing Individual peak space loads

Terminal Unit Sizing Data - Cooling

Zone Name	Total Coil Load (MBH)	Sens Coil Load (MBH)	Coil Entering DB / WB (°F)	Coil Leaving DB / WB (°F)	Water Flow @ 10.0 °F (gpm)	Time of Peak Coil Load	Zone CFM/ft²
Zone 1	46.2	42.3	78.2 / 64.6	59.1 / 57.8	-	Jul 1600	4.76
Zone 2	46.2	42.3	78.2 / 64.6	59.1 / 57.8	-	Jul 1600	4.76
Zone 3	50.2	46.0	78.1 / 64.6	59.1 / 57.8	-	Jul 1500	4.75
Zone 4	50.2	46.0	78.1 / 64.6	59.1 / 57.8	-	Jul 1500	4.75
Zone 5	12.2	11.5	76.7 / 63.9	58.9 / 57.7	-	Jul 1800	8.42
Zone 6	8.3	7.6	77.4 / 64.5	59.3 / 58.1	-	Jul 1700	5.20

Terminal Unit Sizing Data - Heating, Fan, Ventilation

Zone Name	Heating Coil Load (MBH)	Heating Coil Ent/Lvg DB (°F)	Htg Coil Water Flow @20.0 °F (gpm)	Fan Design Airflow (CFM)	Fan Motor (BHP)	Fan Motor (kW)	OA Vent Design Airflow (CFM)
Zone 1	10.2	66.6 / 71.2	-	2342	0.000	0.000	217
Zone 2	10.2	66.6 / 71.2	-	2342	0.000	0.000	217
Zone 3	12.5	67.7 / 72.8	-	2563	0.000	0.000	220
Zone 4	12.5	67.7 / 72.8	-	2563	0.000	0.000	220
Zone 5	3.4	68.6 / 73.9	-	689	0.000	0.000	27
Zone 6	3.9	67.5 / 76.7	-	444	0.000	0.000	28

VRF Outdoor Unit Sizing Data

	Cooling [MBH]	Cooling [Tons]	Heating [MBH]
Peak Coincident Indoor Unit Loads	193.8	16.1	52.7
Estimated Piping / Line Losses	0.0	0.0	0.0
Total Required ODU Capacity	193.8	16.1	52.7

Note: VRF piping / line losses are based on typical loss factors for this class of equipment. Actual line loss varies widely from one product to another. Therefore, when selecting equipment it is critical to consult manufacturer's guidance to utilize actual line loss data.

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (MBH)	Time of Peak Sensible Cooling Load	Zone Heating Load (MBH)	Zone Floor Area (ft²)
Zone 1	37.6	Jul 1800	4.4	491.6
Zone 2	37.6	Jul 1800	4.4	491.6
Zone 3	41.1	Jul 1800	5.3	539.9
Zone 4	41.1	Jul 1800	5.3	539.9
Zone 5	11.0	Jul 1800	2.6	81.8
Zone 6	7.1	Jul 1800	3.2	85.5

Zone Sizing Summary for Sistema CCPSJ

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Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Peak Sensible Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
Zone 1							
AULA 1	1	37.6	Jul 1800	2342	4.4	491.6	4.76
Zone 2							
AULA 2	1	37.6	Jul 1800	2342	4.4	491.6	4.76
Zone 3							
AULA 3	1	41.1	Jul 1800	2563	5.3	539.9	4.75
Zone 4							
AULA 4	1	41.1	Jul 1800	2563	5.3	539.9	4.75
Zone 5							
CONTROL ACCESO	1	11.0	Jul 1800	689	2.6	81.8	8.42
Zone 6							
LAVABOS	1	7.1	Jul 1800	444	3.2	85.5	5.20

Air System Design Load Summary for Sistema CCPSJ

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1500 COOLING OA DB / WB 100.5 °F / 69.7 °F			HEATING DATA AT DES HTG HEATING OA DB / WB 38.8 °F / 32.1 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	2738 ft²	6850	-	2738 ft²	9548	-
Roof Transmission	2872 ft²	10080	-	2872 ft²	7783	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	848 ft²	5432	-	848 ft²	7941	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	15 W	51	-	0	0	-
Task Lighting	15 W	51	-	0	0	-
Electric Equipment	27 W	92	-	0	0	-
People	106	25970	21730	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	124500	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	173027	21730	-	25272	0
Zone Conditioning	-	172473	21730	-	25417	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 CFM	0	-	0 CFM	0	-
Ventilation Load	929 CFM	21306	-4918	929 CFM	27251	0
Ventilation Fan Load	0 CFM	0	-	0 CFM	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	193779	16812	-	52668	0
Terminal Unit Cooling	-	193779	17104	-	0	0
Terminal Unit Heating	-	0	-	-	52668	-
>> Total Conditioning	-	193779	17104	-	52668	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Zone Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
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Zone 1	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	509 ft²	1401	-	509 ft²	1773	-
Roof Transmission	492 ft²	2212	-	492 ft²	1332	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	141 ft²	790	-	141 ft²	1316	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	27000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	37569	5125	-	4422	0

Zone 2	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	509 ft²	1401	-	509 ft²	1773	-
Roof Transmission	492 ft²	2212	-	492 ft²	1332	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	141 ft²	790	-	141 ft²	1316	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	27000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	37569	5125	-	4422	0

Zone Design Load Summary for Sistema CCPSJ

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Zone 3	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	567 ft²	1387	-	567 ft²	1978	-
Roof Transmission	540 ft²	2430	-	540 ft²	1463	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	202 ft²	1136	-	202 ft²	1893	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	30000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	41118	5125	-	5334	0

Zone 4	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	567 ft²	1387	-	567 ft²	1978	-
Roof Transmission	540 ft²	2430	-	540 ft²	1463	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	202 ft²	1136	-	202 ft²	1893	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	30000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	41118	5125	-	5334	0

Zone Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
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Zone 5	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	221 ft²	526	-	221 ft²	769	-
Roof Transmission	404 ft²	1820	-	404 ft²	1096	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	79 ft²	444	-	79 ft²	739	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	2 W	7	-	0	0	-
Task Lighting	2 W	7	-	0	0	-
Electric Equipment	2 W	7	-	0	0	-
People	3	735	615	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	7500	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	11046	615	-	2605	0

Zone 6	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
ZONE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	366 ft²	1094	-	366 ft²	1275	-
Roof Transmission	404 ft²	1820	-	404 ft²	1096	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	84 ft²	471	-	84 ft²	784	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	1 W	3	-	0	0	-
Task Lighting	1 W	3	-	0	0	-
Electric Equipment	1 W	3	-	0	0	-
People	3	735	615	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	3000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	7130	615	-	3155	0

Space Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
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TABLE 1.1.A. Component Loads For Space "AULA 1" In Zone "Zone 1"

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
SPACE LOADS	Details	Sensible (BTU/hr)	Latent (BTU/hr)	Details	Sensible (BTU/hr)	Latent (BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	509 ft²	1401	-	509 ft²	1773	-
Roof Transmission	492 ft²	2212	-	492 ft²	1332	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	141 ft²	790	-	141 ft²	1316	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	27000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	37569	5125	-	4422	0

TABLE 1.1.B. Envelope Loads For Space "AULA 1" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	97	0.112	-	216	-	338
DOOR	33	0.300	-	187	-	311
S EXPOSURE						
WALL	102	0.112	-	209	-	355
DOOR	28	0.300	-	160	-	266
E EXPOSURE						
WALL	166	0.112	-	556	-	579
DOOR	28	0.300	-	160	-	266
W EXPOSURE						
WALL	144	0.112	-	420	-	501
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	492	0.087	-	2212	-	1332

Space Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
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TABLE 2.1.A. Component Loads For Space "AULA 2" In Zone "Zone 2"

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(BTU/hr)	(BTU/hr)	Details	(BTU/hr)	(BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	509 ft²	1401	-	509 ft²	1773	-
Roof Transmission	492 ft²	2212	-	492 ft²	1332	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	141 ft²	790	-	141 ft²	1316	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	27000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	37569	5125	-	4422	0

TABLE 2.1.B. Envelope Loads For Space "AULA 2" In Zone "Zone 2"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	97	0.112	-	216	-	338
DOOR	33	0.300	-	187	-	311
S EXPOSURE						
WALL	102	0.112	-	209	-	355
DOOR	28	0.300	-	160	-	266
E EXPOSURE						
WALL	166	0.112	-	556	-	579
DOOR	28	0.300	-	160	-	266
W EXPOSURE						
WALL	144	0.112	-	420	-	501
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	492	0.087	-	2212	-	1332

Space Design Load Summary for Sistema CCPSJ

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TABLE 3.1.A. Component Loads For Space "AULA 3" In Zone "Zone 3"

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(BTU/hr)	(BTU/hr)	Details	(BTU/hr)	(BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	567 ft²	1387	-	567 ft²	1978	-
Roof Transmission	540 ft²	2430	-	540 ft²	1463	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	202 ft²	1136	-	202 ft²	1893	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	30000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	41118	5125	-	5334	0

TABLE 3.1.B. Envelope Loads For Space "AULA 3" In Zone "Zone 3"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	194	0.112	-	432	-	677
DOOR	66	0.300	-	373	-	622
S EXPOSURE						
WALL	204	0.112	-	418	-	710
DOOR	57	0.300	-	319	-	532
E EXPOSURE						
WALL	96	0.112	-	321	-	334
DOOR	28	0.300	-	160	-	266
W EXPOSURE						
WALL	74	0.112	-	215	-	257
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	540	0.087	-	2430	-	1463

Space Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
Prepared by: PROSERVISAA

09/05/2023
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TABLE 4.1.A. Component Loads For Space "AULA 4" In Zone "Zone 4"

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800 COOLING OA DB / WB 95.6 °F / 68.4 °F OCCUPIED T-STAT 75.0 °F			HEATING DATA AT DES HTG HEATING OA DB / WB 38.8 °F / 32.1 °F OCCUPIED T-STAT 70.0 °F		
		Sensible (BTU/hr)	Latent (BTU/hr)		Sensible (BTU/hr)	Latent (BTU/hr)
SPACE LOADS	Details			Details		
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	567 ft²	1387	-	567 ft²	1978	-
Roof Transmission	540 ft²	2430	-	540 ft²	1463	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	202 ft²	1136	-	202 ft²	1893	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	3 W	10	-	0	0	-
Task Lighting	3 W	10	-	0	0	-
Electric Equipment	6 W	20	-	0	0	-
People	25	6125	5125	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	30000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	41118	5125	-	5334	0

TABLE 4.1.B. Envelope Loads For Space "AULA 4" In Zone "Zone 4"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	194	0.112	-	432	-	677
DOOR	66	0.300	-	373	-	622
S EXPOSURE						
WALL	204	0.112	-	418	-	710
DOOR	57	0.300	-	319	-	532
E EXPOSURE						
WALL	96	0.112	-	321	-	334
DOOR	28	0.300	-	160	-	266
W EXPOSURE						
WALL	74	0.112	-	215	-	257
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	540	0.087	-	2430	-	1463

Space Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
Prepared by: PROSERVISAA

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TABLE 5.1.A. Component Loads For Space "CONTROL ACCESO" In Zone "Zone 5"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800 COOLING OA DB / WB 95.6 °F / 68.4 °F OCCUPIED T-STAT 75.0 °F			HEATING DATA AT DES HTG HEATING OA DB / WB 38.8 °F / 32.1 °F OCCUPIED T-STAT 70.0 °F		
		Sensible (BTU/hr)	Latent (BTU/hr)		Sensible (BTU/hr)	Latent (BTU/hr)
SPACE LOADS	Details			Details		
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	221 ft²	526	-	221 ft²	769	-
Roof Transmission	404 ft²	1820	-	404 ft²	1096	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	79 ft²	444	-	79 ft²	739	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	2 W	7	-	0	0	-
Task Lighting	2 W	7	-	0	0	-
Electric Equipment	2 W	7	-	0	0	-
People	3	735	615	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	7500	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	11046	615	-	2605	0

TABLE 5.1.B. Envelope Loads For Space "CONTROL ACCESO" In Zone "Zone 5"						
	Area	U-Value	Shade	COOLING TRANS	COOLING SOLAR	HEATING TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	85	0.112	-	190	-	297
S EXPOSURE						
WALL	85	0.112	-	175	-	297
E EXPOSURE						
WALL	36	0.112	-	121	-	126
DOOR	28	0.300	-	160	-	266
W EXPOSURE						
WALL	14	0.112	-	41	-	48
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	404	0.087	-	1820	-	1096

Space Design Load Summary for Sistema CCPSJ

Project Name: CCPSJ
Prepared by: PROSERVISAA

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TABLE 6.1.A. Component Loads For Space "LAVABOS" In Zone "Zone 6"

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800			HEATING DATA AT DES HTG		
	COOLING OA DB / WB 95.6 °F / 68.4 °F			HEATING OA DB / WB 38.8 °F / 32.1 °F		
	OCCUPIED T-STAT 75.0 °F			OCCUPIED T-STAT 70.0 °F		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(BTU/hr)	(BTU/hr)	Details	(BTU/hr)	(BTU/hr)
Window & Skylight Solar Loads	0 ft²	0	-	0 ft²	-	-
Wall Transmission	366 ft²	1094	-	366 ft²	1275	-
Roof Transmission	404 ft²	1820	-	404 ft²	1096	-
Window Transmission	0 ft²	0	-	0 ft²	0	-
Skylight Transmission	0 ft²	0	-	0 ft²	0	-
Door Loads	84 ft²	471	-	84 ft²	784	-
Floor Transmission	0 ft²	0	-	0 ft²	0	-
Partitions	0 ft²	0	-	0 ft²	0	-
Ceiling	0 ft²	0	-	0 ft²	0	-
Overhead Lighting	1 W	3	-	0	0	-
Task Lighting	1 W	3	-	0	0	-
Electric Equipment	1 W	3	-	0	0	-
People	3	735	615	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	3000	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
>> Total Zone Loads	-	7130	615	-	3155	0

TABLE 6.1.B. Envelope Loads For Space "LAVABOS" In Zone "Zone 6"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(ft²)	(BTU/(hr·ft²·°F))	Coeff.	(BTU/hr)	(BTU/hr)	(BTU/hr)
N EXPOSURE						
WALL	14	0.112	-	31	-	48
DOOR	33	0.300	-	187	-	311
S EXPOSURE						
WALL	47	0.112	-	97	-	164
E EXPOSURE						
WALL	178	0.112	-	595	-	619
W EXPOSURE						
WALL	127	0.112	-	371	-	443
DOOR	51	0.300	-	284	-	474
N EXPOSURE						
ROOF	404	0.087	-	1820	-	1096