

## Dedicated Outdoor Air System (DOAS) Sizing Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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### Air System Information

Air System Name ..... **Sistema\_izq**  
Equipment Class ..... **TERM**  
Air System Type ..... **VRF**

Number of zones ..... **1**  
Floor Area ..... **762,6** m<sup>2</sup>  
Location ..... **Cádiz, Spain**

### Sizing Calculation Information

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

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

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

## Ventilation Sizing Summary for Sistema\_izq

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### 1. Summary

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

### 2. Space Ventilation Analysis

#### 2.1 Zone: Zone 1

Zone Name / Space Name	Mult.	Floor Area (m²)	Maximum Occupants	Maximum Supply Air (L/s)	Required Outdoor Air (L/s/person)	Required Outdoor Air (L/(s·m²))	Required Outdoor Air (L/s)	Required Outdoor Air (% of supply)	Uncorrected Outdoor Air (L/s)
<b>Zone 1</b>									
P1_ConfEmp_izq	1	52,9	6,0	343,0	12,50	0,00	0,0	0,0	75,0
P1_Dsp_UCA_izq	1	15,2	2,0	438,4	12,50	0,00	0,0	0,0	25,0
P1_Incubadora_1_izq	1	19,9	3,0	127,2	12,50	0,00	0,0	0,0	37,5
P1_Incubadora_2_izq	1	21,1	3,0	111,3	12,50	0,00	0,0	0,0	37,5
P1_Incubadora_3_izq	1	23,7	4,0	270,0	12,50	0,00	0,0	0,0	50,0
P1_Incubadora_4_izq	1	30,5	4,0	166,9	12,50	0,00	0,0	0,0	50,0
P2_Despacho_izq	1	23,2	2,0	161,7	12,50	0,00	0,0	0,0	25,0
P2_IngFabLab_izq	1	99,1	10,0	1654,8	20,00	0,00	0,0	0,0	200,0
P2_S.Reunion_izq	1	30,5	16,0	326,6	12,50	0,00	0,0	0,0	200,0
P3_DesDirSecret_izq	1	26,3	2,0	115,4	12,50	0,00	0,0	0,0	25,0
P3_Despacho_Izq_(2)	1	14,9	1,0	137,3	12,50	0,00	0,0	0,0	12,5
P3_Dsp_DirGenral_izq	1	24,3	2,0	167,0	12,50	0,00	0,0	0,0	25,0
P3_Dsp_Izq_(1)	1	14,9	1,0	100,9	12,50	0,00	0,0	0,0	12,5
P3_S.Reunion_izq	1	30,5	16,0	326,6	12,50	0,00	0,0	0,0	200,0
P3_S.Trabajo_Izq	1	53,0	6,0	295,7	12,50	0,00	0,0	0,0	75,0
P4_Acustica_Izq	1	9,9	2,0	89,9	20,00	0,00	0,0	0,0	40,0
P4_Fabricacion_izq	1	50,4	12,0	521,1	20,00	0,00	0,0	0,0	240,0
P4_Impresora_Izq	1	21,3	0,0	162,7	12,50	0,00	0,0	0,0	0,0
P4_Op_Acabados_izq	1	31,2	8,0	273,7	20,00	0,00	0,0	0,0	160,0
P4_S.Reuniones_izq	1	30,5	16,0	333,7	12,50	0,00	0,0	0,0	200,0
P4_ZonaDiseño_izq	1	24,3	4,0	211,3	12,50	0,00	0,0	0,0	50,0
PB_Esp_Creativo_izq	1	52,7	10,0	407,5	12,50	0,00	0,0	0,0	125,0
PB_Recepcion_izq	1	9,2	1,0	67,6	12,50	0,00	0,0	0,0	12,5
PB_UcaCade_izq	1	53,1	6,0	256,9	12,50	0,00	0,0	0,0	75,0
<b>Totals (incl. Space Multipliers)</b>				<b>7067,2</b>					<b>1952,5</b>

## Air System Design Load Summary for Sistema\_izq

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	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C		
ZONE LOADS	Details	Sensible (W)	Latent (W)	Details	Sensible (W)	Latent (W)
Window & Skylight Solar Loads	143 m²	16238	-	143 m²	-	-
Wall Transmission	526 m²	1178	-	526 m²	3883	-
Roof Transmission	168 m²	710	-	168 m²	1493	-
Window Transmission	143 m²	3016	-	143 m²	8074	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	744 m²	2926	-	744 m²	15238	-
Partitions	814 m²	2025	-	814 m²	11250	-
Ceiling	588 m²	2108	-	588 m²	12038	-
Overhead Lighting	7626 W	6147	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	38382 W	35061	-	0	0	-
People	137	7455	8231	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	-	76863	8231	-	51977	0
Zone Conditioning	-	73246	8231	-	50047	0
Plenum Wall Load	0%	0	-	0	0	-
Plenum Roof Load	0%	0	-	0	0	-
Plenum Lighting Load	0%	0	-	0	0	-
Exhaust Fan Load	0 L/s	0	-	0 L/s	0	-
Ventilation Load	1953 L/s	20119	14336	1953 L/s	38816	0
Ventilation Fan Load	0 L/s	0	-	0 L/s	0	-
Space Fan Coil Fans	-	0	-	-	0	-
Duct Heat Gain / Loss	0%	0	-	0%	0	-
>> Total System Loads	-	93365	22567	-	88863	0
Terminal Unit Cooling	-	93365	22626	-	0	0
Terminal Unit Heating	-	0	-	-	88863	-
>> Total Conditioning	-	93365	22626	-	88863	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

## Space Load Summary for Sistema\_izq

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TABLE 1.1.A. Component Loads For Space "P1_ConfEmp_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1600 COOLING OA DB / WB 32,5 °C / 22,8 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	8 m²	1270	-	8 m²	-	-
Wall Transmission	47 m²	142	-	47 m²	346	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	165	-	8 m²	452	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	53 m²	200	-	53 m²	1084	-
Partitions	21 m²	54	-	21 m²	292	-
Ceiling	53 m²	200	-	53 m²	1084	-
Overhead Lighting	529 W	433	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1200 W	1103	-	0	0	-
People	6	333	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	-	3901	360	-	3256	0

TABLE 1.1.B. Envelope Loads For Space "P1_ConfEmp_izq" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	17	0,437	-	28	-	125
<b>SSW EXPOSURE</b>						
WALL	14	0,437	-	38	-	103
WINDOW 1	3	3,339	0,811	62	528	169
<b>ESE EXPOSURE</b>						
WALL	16	0,437	-	76	-	118
WINDOW 1	5	3,339	0,811	103	742	282

## Space Design Load Summary for Sistema\_izq

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TABLE 1.2.A. Component Loads For Space "P1_Dsp_UCA_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Oct 1600 COOLING OA DB / WB 30,3 °C / 21,7 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	4 m²	1102	-	4 m²	-	-
Wall Transmission	12 m²	37	-	12 m²	85	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	4 m²	53	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	15 m²	20	-	15 m²	311	-
Partitions	31 m²	27	-	31 m²	423	-
Ceiling	15 m²	20	-	15 m²	311	-
Overhead Lighting	152 W	124	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	3800 W	3493	-	0	0	-
People	2	111	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	-	4986	120	-	1356	0

TABLE 1.2.B. Envelope Loads For Space "P1_Dsp_UCA_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
SSW EXPOSURE						
WALL	12	0,437	-	37	-	85
WINDOW 1	4	3,339	0,811	53	1102	226

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**TABLE 1.3.A. Component Loads For Space "P1\_Incubadora\_1\_izq" In Zone "Zone 1"**

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	4 m²	335	-	4 m²	-	-
Wall Transmission	10 m²	22	-	10 m²	75	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	4 m²	84	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	20 m²	78	-	20 m²	408	-
Partitions	33 m²	88	-	33 m²	457	-
Ceiling	20 m²	78	-	20 m²	408	-
Overhead Lighting	199 W	160	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	480 W	438	-	0	0	-
People	3	163	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	-	1447	180	-	1573	0

**TABLE 1.3.B. Envelope Loads For Space "P1\_Incubadora\_1\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	10	0,437	-	22	-	75
WINDOW 1	4	3,339	0,811	84	335	226

## Space Design Load Summary for Sistema\_izq

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**TABLE 1.4.A. Component Loads For Space "P1\_Incubadora\_2\_izq" In Zone "Zone 1"**

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	2 m²	167	-	2 m²	-	-
Wall Transmission	13 m²	27	-	13 m²	94	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	42	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	21 m²	83	-	21 m²	432	-
Partitions	35 m²	92	-	35 m²	477	-
Ceiling	21 m²	83	-	21 m²	432	-
Overhead Lighting	211 W	170	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	480 W	438	-	0	0	-
People	3	163	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	-	1266	180	-	1548	0

**TABLE 1.4.B. Envelope Loads For Space "P1\_Incubadora\_2\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNE EXPOSURE						
WALL	13	0,437	-	27	-	94
WINDOW 1	2	3,339	0,811	42	167	113

## Space Design Load Summary for Sistema\_izq

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TABLE 1.5.A. Component Loads For Space "P1_Incubadora_3_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800 COOLING OA DB / WB 29,7 °C / 22,0 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	10 m²	1711	-	10 m²	-	-
Wall Transmission	17 m²	51	-	17 m²	129	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	10 m²	152	-	10 m²	565	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	24 m²	46	-	24 m²	486	-
Partitions	29 m²	39	-	29 m²	406	-
Ceiling	24 m²	46	-	24 m²	486	-
Overhead Lighting	237 W	200	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	640 W	595	-	0	0	-
People	4	230	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	-	3070	240	-	2070	0

TABLE 1.5.B. Envelope Loads For Space "P1_Incubadora_3_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNW EXPOSURE</b>						
WALL	7	0,437	-	15	-	55
WINDOW 1	5	3,339	0,811	76	589	282
<b>WSW EXPOSURE</b>						
WALL	10	0,437	-	36	-	74
WINDOW 1	5	3,339	0,811	76	1122	282



## Space Design Load Summary for Sistema\_izq

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**TABLE 1.6.A. Component Loads For Space "P1\_Incubadora\_4\_izq" In Zone "Zone 1"**

		<b>DESIGN COOLING</b>		<b>DESIGN HEATING</b>		
		<b>COOLING DATA AT Aug 1700</b>		<b>HEATING DATA AT DES HTG</b>		
		<b>COOLING OA DB / WB 31,4 °C / 22,5 °C</b>		<b>HEATING OA DB / WB 4,2 °C / 1,8 °C</b>		
		<b>OCCUPIED T-STAT 23,9 °C</b>		<b>OCCUPIED T-STAT 21,1 °C</b>		
		<b>Sensible</b>	<b>Latent</b>		<b>Sensible</b>	<b>Latent</b>
<b>SPACE LOADS</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>
Window & Skylight Solar Loads	2 m²	464	-	2 m²	-	-
Wall Transmission	22 m²	70	-	22 m²	163	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	37	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	95	-	31 m²	625	-
Partitions	31 m²	65	-	31 m²	424	-
Ceiling	31 m²	95	-	31 m²	625	-
Overhead Lighting	305 W	253	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	640 W	592	-	0	0	-
People	4	226	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
<b>&gt;&gt; Total Zone Loads</b>	<b>-</b>	<b>1898</b>	<b>240</b>	<b>-</b>	<b>1950</b>	<b>0</b>

**TABLE 1.6.B. Envelope Loads For Space "P1\_Incubadora\_4\_izq" In Zone "Zone 1"**

				<b>COOLING</b>	<b>COOLING</b>	<b>HEATING</b>
		<b>Area</b>	<b>U-Value</b>	<b>TRANS</b>	<b>SOLAR</b>	<b>TRANS</b>
		<b>(m²)</b>	<b>(W/(m²·K))</b>	<b>(W)</b>	<b>(W)</b>	<b>(W)</b>
<b>WSW EXPOSURE</b>						
WALL		22	0,437	70	-	163
WINDOW 1		2	3,339	37	464	113

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TABLE 1.7.A. Component Loads For Space "P2_Despacho_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jun 1700 COOLING OA DB / WB 30,9 °C / 22,5 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	10 m²	976	-	10 m²	-	-
Wall Transmission	15 m²	32	-	15 m²	107	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	10 m²	168	-	10 m²	565	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	16 m²	40	-	16 m²	324	-
Partitions	28 m²	47	-	28 m²	383	-
Ceiling	16 m²	40	-	16 m²	324	-
Overhead Lighting	232 W	193	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	231	-	0	0	-
People	2	113	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	-	1839	120	-	1702	0

TABLE 1.7.B. Envelope Loads For Space "P2_Despacho_izq" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
<b>NNW EXPOSURE</b>						
WALL	8	0,437	-	13	-	55
WINDOW 1	5	3,339	0,811	84	553	282
<b>NNE EXPOSURE</b>						
WALL	7	0,437	-	18	-	52
WINDOW 1	5	3,339	0,811	84	423	282

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TABLE 1.8.A. Component Loads For Space "P2_IngFabLab_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1600 COOLING OA DB / WB 32,5 °C / 22,8 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	17 m²	2409	-	17 m²	-	-
Wall Transmission	71 m²	194	-	71 m²	525	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	17 m²	351	-	17 m²	960	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	99 m²	375	-	99 m²	2030	-
Partitions	35 m²	89	-	35 m²	481	-
Ceiling	99 m²	375	-	99 m²	2030	-
Overhead Lighting	991 W	811	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	14862 W	13660	-	0	0	-
People	10	556	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	-	18820	601	-	6026	0

TABLE 1.8.B. Envelope Loads For Space "P2_IngFabLab_izq" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	31	0,437	-	51	-	230
WINDOW 1	4	3,339	0,811	83	259	226
<b>ESE EXPOSURE</b>						
WALL	17	0,437	-	79	-	123
WINDOW 1	5	3,339	0,811	103	742	282
<b>SSW EXPOSURE</b>						
WALL	23	0,437	-	64	-	172
WINDOW 1	8	3,339	0,811	165	1408	452

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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TABLE 1.9.A. Component Loads For Space "P2_S.Reunion_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1700 COOLING OA DB / WB 31,4 °C / 22,5 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	2 m²	404	-	2 m²	-	-
Wall Transmission	21 m²	61	-	21 m²	155	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	37	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	95	-	31 m²	625	-
Partitions	41 m²	87	-	41 m²	566	-
Ceiling	31 m²	95	-	31 m²	625	-
Overhead Lighting	305 W	253	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1920 W	1775	-	0	0	-
People	16	906	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	-	3714	961	-	2084	0

TABLE 1.9.B. Envelope Loads For Space "P2_S.Reunion_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
WNW EXPOSURE						
WALL	21	0,437	-	61	-	155
WINDOW 1	2	3,339	0,811	37	404	113

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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TABLE 1.10.A. Component Loads For Space "P3_DesDirSecret_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	4 m²	335	-	4 m²	-	-
Wall Transmission	14 m²	31	-	14 m²	105	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	4 m²	84	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	26 m²	103	-	26 m²	539	-
Partitions	38 m²	100	-	38 m²	522	-
Ceiling	26 m²	103	-	26 m²	539	-
Overhead Lighting	263 W	212	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	228	-	0	0	-
People	2	109	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	-	1306	120	-	1931	0

TABLE 1.10.B. Envelope Loads For Space "P3_DesDirSecret_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNE EXPOSURE						
WALL	14	0,437	-	31	-	105
WINDOW 1	4	3,339	0,811	84	335	226

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.11.A. Component Loads For Space "P3\_Despacho\_Izq\_(2)" In Zone "Zone 1"**

		<b>DESIGN COOLING</b>		<b>DESIGN HEATING</b>		
		<b>COOLING DATA AT Sep 1500</b>		<b>HEATING DATA AT DES HTG</b>		
		<b>COOLING OA DB / WB 31,9 °C / 22,4 °C</b>		<b>HEATING OA DB / WB 4,2 °C / 1,8 °C</b>		
		<b>OCCUPIED T-STAT 23,9 °C</b>		<b>OCCUPIED T-STAT 21,1 °C</b>		
		<b>Sensible</b>	<b>Latent</b>		<b>Sensible</b>	<b>Latent</b>
<b>SPACE LOADS</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>
Window & Skylight Solar Loads	5 m²	909	-	5 m²	-	-
Wall Transmission	15 m²	47	-	15 m²	110	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	87	-	5 m²	282	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	15 m²	40	-	15 m²	305	-
Partitions	20 m²	36	-	20 m²	275	-
Ceiling	15 m²	40	-	15 m²	305	-
Overhead Lighting	149 W	120	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	228	-	0	0	-
People	1	54	60	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
<b>&gt;&gt; Total Zone Loads</b>	<b>-</b>	<b>1562</b>	<b>60</b>	<b>-</b>	<b>1278</b>	<b>0</b>

**TABLE 1.11.B. Envelope Loads For Space "P3\_Despacho\_Izq\_(2)" In Zone "Zone 1"**

				<b>COOLING</b>	<b>COOLING</b>	<b>HEATING</b>
		<b>Area</b>	<b>U-Value</b>	<b>TRANS</b>	<b>SOLAR</b>	<b>TRANS</b>
		<b>(m²)</b>	<b>(W/(m²·K))</b>	<b>(W)</b>	<b>(W)</b>	<b>(W)</b>
<b>SSW EXPOSURE</b>						
WALL	8	0,437	-	21	-	56
WINDOW 1	2	3,339	0,811	35	458	113
<b>ESE EXPOSURE</b>						
WALL	7	0,437	-	26	-	54
WINDOW 1	3	3,339	0,811	52	451	169

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.12.A. Component Loads For Space "P3\_Dsp\_DirGenral\_izq" In Zone "Zone 1"**

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jun 1700 COOLING OA DB / WB 30,9 °C / 22,5 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	10 m²	976	-	10 m²	-	-
Wall Transmission	19 m²	40	-	19 m²	137	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	10 m²	168	-	10 m²	565	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	24 m²	61	-	24 m²	498	-
Partitions	28 m²	47	-	28 m²	383	-
Ceiling	24 m²	61	-	24 m²	498	-
Overhead Lighting	243 W	202	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	231	-	0	0	-
People	2	113	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	-	1900	120	-	2080	0

**TABLE 1.12.B. Envelope Loads For Space "P3\_Dsp\_DirGenral\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNW EXPOSURE</b>						
WALL	10	0,437	-	17	-	70
WINDOW 1	5	3,339	0,811	84	553	282
<b>NNE EXPOSURE</b>						
WALL	9	0,437	-	23	-	66
WINDOW 1	5	3,339	0,811	84	423	282

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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**TABLE 1.13.A. Component Loads For Space "P3\_Dsp\_Izq\_(1)" In Zone "Zone 1"**

DESIGN COOLING				DESIGN HEATING		
COOLING DATA AT Aug 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C				HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	3 m²	466	-	3 m²	-	-
Wall Transmission	17 m²	46	-	17 m²	125	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	63	-	3 m²	169	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	15 m²	59	-	15 m²	305	-
Partitions	20 m²	53	-	20 m²	275	-
Ceiling	15 m²	59	-	15 m²	305	-
Overhead Lighting	149 W	120	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	228	-	0	0	-
People	1	54	60	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	-	1148	60	-	1180	0

**TABLE 1.13.B. Envelope Loads For Space "P3\_Dsp\_Izq\_(1)" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	10	0,437	-	14	-	71
<b>ESE EXPOSURE</b>						
WALL	7	0,437	-	32	-	54
WINDOW 1	3	3,339	0,811	63	466	169



## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.14.A. Component Loads For Space "P3\_S.Reunion\_izq" In Zone "Zone 1"**

		<b>DESIGN COOLING</b>		<b>DESIGN HEATING</b>		
		<b>COOLING DATA AT Jul 1700</b>		<b>HEATING DATA AT DES HTG</b>		
		<b>COOLING OA DB / WB 31,4 °C / 22,5 °C</b>		<b>HEATING OA DB / WB 4,2 °C / 1,8 °C</b>		
		<b>OCCUPIED T-STAT 23,9 °C</b>		<b>OCCUPIED T-STAT 21,1 °C</b>		
		<b>Sensible</b>	<b>Latent</b>		<b>Sensible</b>	<b>Latent</b>
<b>SPACE LOADS</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>
Window & Skylight Solar Loads	2 m²	404	-	2 m²	-	-
Wall Transmission	21 m²	61	-	21 m²	155	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	37	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	95	-	31 m²	625	-
Partitions	41 m²	87	-	41 m²	566	-
Ceiling	31 m²	95	-	31 m²	625	-
Overhead Lighting	305 W	253	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1920 W	1775	-	0	0	-
People	16	906	961	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
<b>&gt;&gt; Total Zone Loads</b>	<b>-</b>	<b>3714</b>	<b>961</b>	<b>-</b>	<b>2084</b>	<b>0</b>

**TABLE 1.14.B. Envelope Loads For Space "P3\_S.Reunion\_izq" In Zone "Zone 1"**

				<b>COOLING</b>	<b>COOLING</b>	<b>HEATING</b>
	<b>Area</b>	<b>U-Value</b>	<b>Shade</b>	<b>TRANS</b>	<b>SOLAR</b>	<b>TRANS</b>
	<b>(m²)</b>	<b>(W/(m²·K))</b>	<b>Coeff.</b>	<b>(W)</b>	<b>(W)</b>	<b>(W)</b>
<b>WNW EXPOSURE</b>						
WALL	21	0,437	-	61	-	155
WINDOW 1	2	3,339	0,811	37	404	113

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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TABLE 1.15.A. Component Loads For Space "P3_S.Trabajo_Izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Sep 1600 COOLING OA DB / WB 31,4 °C / 22,2 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	6 m²	1031	-	6 m²	-	-
Wall Transmission	14 m²	19	-	14 m²	103	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	6 m²	102	-	6 m²	339	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	53 m²	134	-	53 m²	1086	-
Partitions	42 m²	72	-	42 m²	582	-
Ceiling	53 m²	134	-	53 m²	1086	-
Overhead Lighting	530 W	434	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1200 W	1103	-	0	0	-
People	6	333	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	-	3363	360	-	3195	0

TABLE 1.15.B. Envelope Loads For Space "P3_S.Trabajo_Izq" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
<b>SSW EXPOSURE</b>						
WALL	6	0,437	-	17	-	41
WINDOW 1	4	3,339	0,811	68	946	226
<b>NNW EXPOSURE</b>						
WALL	8	0,437	-	2	-	61
WINDOW 1	2	3,339	0,811	34	86	113

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.16.A. Component Loads For Space "P4\_Acustica\_izq" In Zone "Zone 1"**

DESIGN COOLING				DESIGN HEATING		
COOLING DATA AT Jul 1600 COOLING OA DB / WB 32,5 °C / 22,8 °C OCCUPIED T-STAT 23,9 °C				HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	2 m²	164	-	2 m²	-	-
Wall Transmission	5 m²	12	-	5 m²	39	-
Roof Transmission	10 m²	52	-	10 m²	88	-
Window Transmission	2 m²	41	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	10 m²	37	-	10 m²	203	-
Partitions	25 m²	63	-	25 m²	343	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	99 W	81	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	460	-	0	0	-
People	2	111	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	-	1022	120	-	786	0

**TABLE 1.16.B. Envelope Loads For Space "P4\_Acustica\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	5	0,437	-	12	-	39
WINDOW 1	2	3,339	0,811	41	164	113
<b>H EXPOSURE</b>						
ROOF	10	0,527	-	52	-	88

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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TABLE 1.17.A. Component Loads For Space "P4_Fabricacion_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1700 COOLING OA DB / WB 31,4 °C / 22,5 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	10 m²	1998	-	10 m²	-	-
Wall Transmission	33 m²	114	-	33 m²	245	-
Roof Transmission	50 m²	247	-	50 m²	449	-
Window Transmission	10 m²	187	-	10 m²	565	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	50 m²	158	-	50 m²	1033	-
Partitions	43 m²	91	-	43 m²	594	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	504 W	419	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	2200 W	2034	-	0	0	-
People	12	679	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	-	5926	721	-	2886	0

TABLE 1.17.B. Envelope Loads For Space "P4_Fabricacion_izq" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
<b>SSE EXPOSURE</b>						
WALL	9	0,437	-	37	-	64
WINDOW 1	3	3,339	0,811	56	373	169
<b>WSW EXPOSURE</b>						
WALL	25	0,437	-	77	-	181
WINDOW 1	7	3,339	0,811	131	1625	395
<b>H EXPOSURE</b>						
ROOF	50	0,527	-	247	-	449

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.18.A. Component Loads For Space "P4\_Impresora\_izq" In Zone "Zone 1"**

DESIGN COOLING				DESIGN HEATING		
COOLING DATA AT Jul 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C				HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	5 m²	623	-	5 m²	-	-
Wall Transmission	20 m²	56	-	20 m²	146	-
Roof Transmission	21 m²	104	-	21 m²	190	-
Window Transmission	5 m²	105	-	5 m²	282	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	10 m²	39	-	10 m²	203	-
Partitions	25 m²	66	-	25 m²	343	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	213 W	172	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	750 W	685	-	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	-	1850	0	-	1164	0

**TABLE 1.18.B. Envelope Loads For Space "P4\_Impresora\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNE EXPOSURE</b>						
WALL	14	0,437	-	29	-	100
WINDOW 1	2	3,339	0,811	42	167	113
<b>ESE EXPOSURE</b>						
WALL	6	0,437	-	27	-	46
WINDOW 1	3	3,339	0,811	63	455	169
<b>H EXPOSURE</b>						
ROOF	21	0,527	-	104	-	190

## Space Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.19.A. Component Loads For Space "P4\_Op\_Acabados\_izq" In Zone "Zone 1"**

		<b>DESIGN COOLING</b>		<b>DESIGN HEATING</b>		
		<b>COOLING DATA AT Jul 1600</b>		<b>HEATING DATA AT DES HTG</b>		
		<b>COOLING OA DB / WB 32,5 °C / 22,8 °C</b>		<b>HEATING OA DB / WB 4,2 °C / 1,8 °C</b>		
		<b>OCCUPIED T-STAT 23,9 °C</b>		<b>OCCUPIED T-STAT 21,1 °C</b>		
		<b>Sensible</b>	<b>Latent</b>		<b>Sensible</b>	<b>Latent</b>
<b>SPACE LOADS</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>	<b>Details</b>	<b>(W)</b>	<b>(W)</b>
Window & Skylight Solar Loads	4 m²	328	-	4 m²	-	-
Wall Transmission	19 m²	44	-	19 m²	137	-
Roof Transmission	31 m²	163	-	31 m²	278	-
Window Transmission	4 m²	83	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	118	-	31 m²	639	-
Partitions	81 m²	207	-	81 m²	1121	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	312 W	255	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1600 W	1471	-	0	0	-
People	8	444	481	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	0% / 0%	0	0	0%	0	0
<b>&gt;&gt; Total Zone Loads</b>	<b>-</b>	<b>3113</b>	<b>481</b>	<b>-</b>	<b>2401</b>	<b>0</b>

**TABLE 1.19.B. Envelope Loads For Space "P4\_Op\_Acabados\_izq" In Zone "Zone 1"**

				<b>COOLING</b>	<b>COOLING</b>	<b>HEATING</b>
		<b>Area</b>	<b>U-Value</b>	<b>TRANS</b>	<b>SOLAR</b>	<b>TRANS</b>
		<b>(m²)</b>	<b>(W/(m²·K))</b>	<b>Coeff.</b>	<b>(W)</b>	<b>(W)</b>
<b>NNE EXPOSURE</b>						
WALL	19	0,437	-	44	-	137
WINDOW 1	4	3,339	0,811	83	328	226
<b>H EXPOSURE</b>						
ROOF	31	0,527	-	163	-	278

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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TABLE 1.20.A. Component Loads For Space "P4_S.Reuniones_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1800 COOLING OA DB / WB 29,7 °C / 22,0 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	2 m²	441	-	2 m²	-	-
Wall Transmission	21 m²	67	-	21 m²	155	-
Roof Transmission	31 m²	179	-	31 m²	272	-
Window Transmission	2 m²	30	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	60	-	31 m²	625	-
Partitions	41 m²	54	-	41 m²	566	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	305 W	257	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1920 W	1784	-	0	0	-
People	16	922	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	-	3795	961	-	1731	0

TABLE 1.20.B. Envelope Loads For Space "P4_S.Reuniones_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
WNW EXPOSURE						
WALL	21	0,437	-	67	-	155
WINDOW 1	2	3,339	0,811	30	441	113
H EXPOSURE						
ROOF	31	0,527	-	179	-	272

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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**TABLE 1.21.A. Component Loads For Space "P4\_ZonaDiseño\_izq" In Zone "Zone 1"**

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jun 1800 COOLING OA DB / WB 29,2 °C / 22,0 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	9 m²	1170	-	9 m²	-	-
Wall Transmission	16 m²	31	-	16 m²	114	-
Roof Transmission	24 m²	142	-	24 m²	217	-
Window Transmission	9 m²	120	-	9 m²	508	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	24 m²	32	-	24 m²	498	-
Partitions	28 m²	25	-	28 m²	383	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	243 W	205	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	480 W	446	-	0	0	-
People	4	230	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	-	2403	240	-	1720	0

**TABLE 1.21.B. Envelope Loads For Space "P4\_ZonaDiseño\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>NNW EXPOSURE</b>						
WALL	16	0,437	-	31	-	114
WINDOW 1	9	3,339	0,811	120	1170	508
<b>H EXPOSURE</b>						
ROOF	24	0,527	-	142	-	217



## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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**TABLE 1.22.A. Component Loads For Space "PB\_Esp\_Creativo\_izq" In Zone "Zone 1"**

DESIGN COOLING				DESIGN HEATING		
COOLING DATA AT Aug 1600 COOLING OA DB / WB 32,5 °C / 22,8 °C OCCUPIED T-STAT 23,9 °C				HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	12 m²	1508	-	12 m²	-	-
Wall Transmission	50 m²	151	-	50 m²	366	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	12 m²	248	-	12 m²	678	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	53 m²	199	-	53 m²	1080	-
Partitions	22 m²	55	-	22 m²	298	-
Ceiling	53 m²	199	-	53 m²	1080	-
Overhead Lighting	527 W	432	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1400 W	1287	-	0	0	-
People	10	556	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	-	4634	601	-	3501	0

**TABLE 1.22.B. Envelope Loads For Space "PB\_Esp\_Creativo\_izq" In Zone "Zone 1"**

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
<b>ESE EXPOSURE</b>						
WALL	19	0,437	-	88	-	137
WINDOW 1	5	3,339	0,811	103	742	282
<b>NNW EXPOSURE</b>						
WALL	15	0,437	-	19	-	111
WINDOW 1	4	3,339	0,811	83	238	226
<b>SSW EXPOSURE</b>						
WALL	16	0,437	-	44	-	118
WINDOW 1	3	3,339	0,811	62	528	169

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
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TABLE 1.23.A. Component Loads For Space "PB_Recepcion_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1500 COOLING OA DB / WB 33,0 °C / 22,9 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	2 m²	167	-	2 m²	-	-
Wall Transmission	6 m²	13	-	6 m²	44	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	2 m²	42	-	2 m²	113	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	9 m²	36	-	9 m²	188	-
Partitions	27 m²	71	-	27 m²	370	-
Ceiling	9 m²	36	-	9 m²	188	-
Overhead Lighting	92 W	74	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	274	-	0	0	-
People	1	54	60	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	-	768	60	-	905	0

TABLE 1.23.B. Envelope Loads For Space "PB_Recepcion_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNE EXPOSURE						
WALL	6	0,437	-	13	-	44
WINDOW 1	2	3,339	0,811	42	167	113

## Space Design Load Summary for Sistema\_izq

Project Name: 1701P HAP\_Olivillo\_v2 170214 OG  
Prepared by: INGHO fm

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TABLE 1.24.A. Component Loads For Space "PB_UcaCade_izq" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Aug 1600 COOLING OA DB / WB 32,5 °C / 22,8 °C OCCUPIED T-STAT 23,9 °C			HEATING DATA AT DES HTG HEATING OA DB / WB 4,2 °C / 1,8 °C OCCUPIED T-STAT 21,1 °C		
		Sensible	Latent		Sensible	Latent
SPACE LOADS	Details	(W)	(W)	Details	(W)	(W)
Window & Skylight Solar Loads	8 m²	963	-	8 m²	-	-
Wall Transmission	30 m²	61	-	30 m²	222	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	8 m²	165	-	8 m²	452	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	53 m²	201	-	53 m²	1088	-
Partitions	52 m²	-4	-	52 m²	720	-
Ceiling	53 m²	-5	-	53 m²	1088	-
Overhead Lighting	531 W	435	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	840 W	772	-	0	0	-
People	6	333	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	-	2921	360	-	3570	0

TABLE 1.24.B. Envelope Loads For Space "PB_UcaCade_izq" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
SSW EXPOSURE						
WALL	11	0,437	-	30	-	79
WINDOW 1	4	3,339	0,811	83	704	226
NNE EXPOSURE						
WALL	19	0,437	-	32	-	143
WINDOW 1	4	3,339	0,811	83	259	226