

Dedicated Outdoor Air System (DOAS) Sizing Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

Air System Information

Air System Name Sistema_der
Equipment Class TERM
Air System Type VRF

Number of zones 1
Floor Area 734,6 m²
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_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

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)
Zone 1									
P1_Laboratorio_der	1	44,6	8,0	959,9	20,00	0,00	0,0	0,0	160,0
P1_Piloto_der	1	90,2	10,0	2095,6	8,00	0,00	0,0	0,0	80,0
P1_S.Reunion_der	1	30,5	16,0	327,8	12,50	0,00	0,0	0,0	200,0
P2_Despacho_der	1	24,3	2,0	225,6	12,50	0,00	0,0	0,0	25,0
P2_S.Reunion_der	1	30,5	16,0	328,0	12,50	0,00	0,0	0,0	200,0
P3_DspDirGener_Der	1	26,3	2,0	155,1	12,50	0,00	0,0	0,0	25,0
P3_DspDirGenral_izq	1	24,3	3,0	279,6	12,50	0,00	0,0	0,0	37,5
P3_DspSecVicer_der	1	31,3	2,0	184,4	12,50	0,00	0,0	0,0	25,0
P3_DspVicer_der	1	50,7	3,0	304,4	12,50	0,00	0,0	0,0	37,5
P3_S.Reunion_der	1	30,5	16,0	328,0	12,50	0,00	0,0	0,0	200,0
P4_DspaResp_der(2)	1	22,3	1,0	119,7	12,50	0,00	0,0	0,0	12,5
P4_DspResp_der(1)	1	11,9	1,0	99,9	12,50	0,00	0,0	0,0	12,5
P4_Escaneo_Der	1	14,5	1,0	101,7	20,00	0,00	0,0	0,0	20,0
P4_LabMicro_der	1	13,3	4,0	298,1	12,50	0,00	0,0	0,0	50,0
P4_LabProteom_der	1	49,5	12,0	734,3	12,50	0,00	0,0	0,0	150,0
P4_TrabajoPerso_Der	1	40,2	6,0	369,6	12,50	0,00	0,0	0,0	75,0
PB_Dsp_Polivte_Der	1	12,8	1,0	75,1	12,50	0,00	0,0	0,0	12,5
PB_Dsp_ERM_der	1	21,3	2,0	140,8	12,50	0,00	0,0	0,0	25,0
PB_Expo_Micro_der	1	25,7	6,0	216,4	8,00	0,00	0,0	0,0	48,0
PB_S.Reunion_Der	1	29,2	16,0	421,2	12,50	0,00	0,0	0,0	200,0
P2_LabNDst_der	1	98,6	10,0	960,9	20,00	0,00	0,0	0,0	200,0
P2_Dsp_der(2)	1	12,1	1,0	70,4	12,50	0,00	0,0	0,0	12,5
Totals (incl. Space Multipliers)				8796,3					1808,0

Air System Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Jul 1600 COOLING OA DB / WB 32,5 °C / 22,8 °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	130 m²	19877	-	130 m²	-	-
Wall Transmission	584 m²	1798	-	584 m²	4311	-
Roof Transmission	152 m²	794	-	152 m²	1352	-
Window Transmission	130 m²	2683	-	130 m²	7340	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	735 m²	2778	-	735 m²	15050	-
Partitions	652 m²	1663	-	652 m²	9007	-
Ceiling	572 m²	2165	-	572 m²	11727	-
Overhead Lighting	7346 W	6015	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	49730 W	45710	-	0	0	-
People	139	7722	8351	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	6384	585	4%	1951	0
>> Total Zone Loads	-	97590	8936	-	50738	0
Zone Conditioning	-	97609	8936	-	49022	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	1808 L/s	16982	14734	1808 L/s	36130	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	-	114592	23670	-	85151	0
Terminal Unit Cooling	-	114592	23697	-	0	0
Terminal Unit Heating	-	0	-	-	85151	-
>> Total Conditioning	-	114592	23697	-	85151	0
Key:	Positive values are clg loads Negative values are htg loads			Positive values are htg loads Negative values are clg loads		

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.1.A. Component Loads For Space "P1_Laboratorio_der" 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	12 m²	2659	-	12 m²	-	-
Wall Transmission	48 m²	159	-	48 m²	356	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	12 m²	183	-	12 m²	678	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	45 m²	87	-	45 m²	914	-
Partitions	43 m²	57	-	43 m²	594	-
Ceiling	45 m²	87	-	45 m²	914	-
Overhead Lighting	446 W	375	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	6600 W	6134	-	0	0	-
People	8	461	481	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	714	34	4%	138	0
>> Total Zone Loads	-	10917	514	-	3593	0

TABLE 1.1.B. Envelope Loads For Space "P1_Laboratorio_der" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
WSW EXPOSURE						
WALL	13	0,437	-	45	-	93
WINDOW 1	3	3,339	0,811	46	673	169
WNW EXPOSURE						
WALL	36	0,437	-	114	-	263
WINDOW 1	9	3,339	0,811	137	1985	508

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.2.A. Component Loads For Space "P1_Piloto_der" 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	15 m²	2438	-	15 m²	-	-
Wall Transmission	75 m²	285	-	75 m²	555	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	15 m²	280	-	15 m²	847	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	90 m²	282	-	90 m²	1848	-
Partitions	27 m²	56	-	27 m²	369	-
Ceiling	90 m²	282	-	90 m²	1848	-
Overhead Lighting	902 W	749	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	18750 W	17334	-	0	0	-
People	10	566	601	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	1559	42	4%	219	0
>> Total Zone Loads	-	23833	643	-	5686	0

TABLE 1.2.B. Envelope Loads For Space "P1_Piloto_der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
ENE EXPOSURE						
WALL	26	0,437	-	107	-	195
WINDOW 1	6	3,339	0,811	112	672	339
WSW EXPOSURE						
WALL	26	0,437	-	83	-	195
WINDOW 1	6	3,339	0,811	112	1393	339
SSE EXPOSURE						
WALL	22	0,437	-	94	-	165
WINDOW 1	3	3,339	0,811	56	373	169

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.3.A. Component Loads For Space "P1_S.Reunion_der" 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	198	-	2 m²	-	-
Wall Transmission	21 m²	39	-	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	40 m²	85	-	40 m²	554	-
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	7% / 7%	244	67	4%	83	0
>> Total Zone Loads	-	3728	1029	-	2155	0

TABLE 1.3.B. Envelope Loads For Space "P1_S.Reunion_der" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNW EXPOSURE						
WALL	21	0,437	-	39	-	155
WINDOW 1	2	3,339	0,811	37	198	113

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.4.A. Component Loads For Space "P2_Despacho_der" 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	1471	-	10 m²	-	-
Wall Transmission	15 m²	40	-	15 m²	109	-
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	29 m²	49	-	29 m²	402	-
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	7% / 7%	168	8	4%	83	0
>> Total Zone Loads	-	2565	129	-	2155	0

TABLE 1.4.B. Envelope Loads For Space "P2_Despacho_der" 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	10	0,437	-	27	-	72
WINDOW 1	5	3,339	0,811	84	1048	282
NNE EXPOSURE						
WALL	5	0,437	-	13	-	37
WINDOW 1	5	3,339	0,811	84	423	282

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.5.A. Component Loads For Space "P2_S.Reunion_der" 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	198	-	2 m²	-	-
Wall Transmission	21 m²	39	-	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	7% / 7%	244	67	4%	83	0
>> Total Zone Loads	-	3730	1029	-	2168	0

TABLE 1.5.B. Envelope Loads For Space "P2_S.Reunion_der" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNW EXPOSURE						
WALL	21	0,437	-	39	-	155
WINDOW 1	2	3,339	0,811	37	198	113

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.6.A. Component Loads For Space "P3_DspDirGener_Der" 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	4 m²	660	-	4 m²	-	-
Wall Transmission	17 m²	63	-	17 m²	124	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	4 m²	75	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	26 m²	82	-	26 m²	539	-
Partitions	37 m²	77	-	37 m²	504	-
Ceiling	26 m²	82	-	26 m²	539	-
Overhead Lighting	263 W	218	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	277	-	0	0	-
People	2	113	120	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	115	8	4%	77	0
>> Total Zone Loads	-	1764	129	-	2009	0

TABLE 1.6.B. Envelope Loads For Space "P3_DspDirGener_Der" 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	9	0,437	-	26	-	65
WINDOW 1	2	3,339	0,811	37	404	113
ENE EXPOSURE						
WALL	8	0,437	-	37	-	59
WINDOW 1	2	3,339	0,811	37	256	113

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.7.A. Component Loads For Space "P3_DspDirGenral_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	2057	-	9 m²	-	-
Wall Transmission	16 m²	48	-	16 m²	114	-
Roof Transmission	0 m²	0	-	0 m²	0	-
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	24 m²	32	-	24 m²	498	-
Overhead Lighting	243 W	205	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	279	-	0	0	-
People	3	173	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	208	13	4%	80	0
>> Total Zone Loads	-	3180	193	-	2081	0

TABLE 1.7.B. Envelope Loads For Space "P3_DspDirGenral_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	16	0,437	-	48	-	114
WINDOW 1	9	3,339	0,811	120	2057	508

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.8.A. Component Loads For Space "P3_DspSecVicer_der" In Zone "Zone 1"

		DESIGN COOLING		DESIGN HEATING		
		COOLING DATA AT Aug 1700		HEATING DATA AT DES HTG		
		COOLING OA DB / WB 31,4 °C / 22,5 °C		HEATING OA DB / WB 4,2 °C / 1,8 °C		
		OCCUPIED T-STAT 23,9 °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	920	-	5 m²	-	-
Wall Transmission	15 m²	55	-	15 m²	112	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	5 m²	93	-	5 m²	282	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	31 m²	98	-	31 m²	641	-
Partitions	21 m²	45	-	21 m²	292	-
Ceiling	31 m²	98	-	31 m²	641	-
Overhead Lighting	313 W	260	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	300 W	277	-	0	0	-
People	2	113	120	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	137	8	4%	79	0
>> Total Zone Loads	-	2097	129	-	2047	0

TABLE 1.8.B. Envelope Loads For Space "P3_DspSecVicer_der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
		Area	U-Value	TRANS	SOLAR	TRANS
		(m²)	(W/(m²·K))	(W)	(W)	(W)
ENE EXPOSURE						
WALL	8	0,437	-	33	-	60
WINDOW 1	2	3,339	0,811	37	224	113
WSW EXPOSURE						
WALL	7	0,437	-	22	-	52
WINDOW 1	3	3,339	0,811	56	696	169

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.9.A. Component Loads For Space "P3_DspVicer_der" 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	9 m²	1381	-	9 m²	-	-
Wall Transmission	51 m²	181	-	51 m²	377	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	9 m²	186	-	9 m²	508	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	51 m²	192	-	51 m²	1039	-
Partitions	21 m²	54	-	21 m²	292	-
Ceiling	53 m²	200	-	53 m²	1086	-
Overhead Lighting	507 W	415	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	460	-	0	0	-
People	3	167	180	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	227	13	4%	132	0
>> Total Zone Loads	-	3462	193	-	3433	0

TABLE 1.9.B. Envelope Loads For Space "P3_DspVicer_der" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
ENE EXPOSURE						
WALL	16	0,437	-	60	-	116
WINDOW 1	3	3,339	0,811	62	354	169
SSE EXPOSURE						
WALL	22	0,437	-	84	-	165
WINDOW 1	3	3,339	0,811	62	396	169
WSW EXPOSURE						
WALL	13	0,437	-	37	-	95
WINDOW 1	3	3,339	0,811	62	631	169

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.10.A. Component Loads For Space "P3_S.Reunion_der" 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	198	-	2 m²	-	-
Wall Transmission	21 m²	39	-	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	7% / 7%	244	67	4%	83	0
>> Total Zone Loads	-	3730	1029	-	2168	0

TABLE 1.10.B. Envelope Loads For Space "P3_S.Reunion_der" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNW EXPOSURE						
WALL	21	0,437	-	39	-	155
WINDOW 1	2	3,339	0,811	37	198	113

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.11.A. Component Loads For Space "P4_DspaResp_der(2)" In Zone "Zone 1"

		DESIGN COOLING		DESIGN HEATING		
		COOLING DATA AT Aug 1700		HEATING DATA AT DES HTG		
		COOLING OA DB / WB 31,4 °C / 22,5 °C		HEATING OA DB / WB 4,2 °C / 1,8 °C		
		OCCUPIED T-STAT 23,9 °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	464	-	2 m²	-	-
Wall Transmission	14 m²	45	-	14 m²	106	-
Roof Transmission	22 m²	109	-	22 m²	199	-
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	22 m²	70	-	22 m²	457	-
Partitions	35 m²	73	-	35 m²	479	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	223 W	185	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	231	-	0	0	-
People	1	57	60	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	89	4	4%	54	0
>> Total Zone Loads	-	1361	64	-	1408	0

TABLE 1.11.B. Envelope Loads For Space "P4_DspaResp_der(2)" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
WSW EXPOSURE						
WALL	14	0,437	-	45	-	106
WINDOW 1	2	3,339	0,811	37	464	113
H EXPOSURE						
ROOF	22	0,527	-	109	-	199

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.12.A. Component Loads For Space "P4_DspResp_der(1)" 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	2 m²	464	-	2 m²	-	-
Wall Transmission	7 m²	21	-	7 m²	49	-
Roof Transmission	12 m²	58	-	12 m²	106	-
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	12 m²	37	-	12 m²	244	-
Partitions	27 m²	57	-	27 m²	376	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	119 W	99	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	231	-	0	0	-
People	1	57	60	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	74	4	4%	36	0
>> Total Zone Loads	-	1137	64	-	924	0

TABLE 1.12.B. Envelope Loads For Space "P4_DspResp_der(1)" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
WSW EXPOSURE						
WALL	7	0,437	-	21	-	49
WINDOW 1	2	3,339	0,811	37	464	113
H EXPOSURE						
ROOF	12	0,527	-	58	-	106

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.13.A. Component Loads For Space "P4_Escaneo_Der" 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	235	-	2 m²	-	-
Wall Transmission	9 m²	19	-	9 m²	68	-
Roof Transmission	15 m²	85	-	15 m²	129	-
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	15 m²	28	-	15 m²	297	-
Partitions	29 m²	38	-	29 m²	399	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	145 W	122	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	500 W	465	-	0	0	-
People	1	58	60	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	76	4	4%	40	0
>> Total Zone Loads	-	1157	64	-	1047	0

TABLE 1.13.B. Envelope Loads For Space "P4_Escaneo_Der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
NNW EXPOSURE						
WALL	9	0,437	-	19	-	68
WINDOW 1	2	3,339	0,811	30	235	113
H EXPOSURE						
ROOF	15	0,527	-	85	-	129

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.14.A. Component Loads For Space "P4_LabMicro_der" In Zone "Zone 1"

		DESIGN COOLING		DESIGN HEATING		
		COOLING DATA AT Aug 1700		HEATING DATA AT DES HTG		
		COOLING OA DB / WB 31,4 °C / 22,5 °C		HEATING OA DB / WB 4,2 °C / 1,8 °C		
		OCCUPIED T-STAT 23,9 °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	745	-	4 m²	-	-
Wall Transmission	15 m²	62	-	15 m²	112	-
Roof Transmission	13 m²	65	-	13 m²	119	-
Window Transmission	4 m²	75	-	4 m²	226	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	13 m²	42	-	13 m²	272	-
Partitions	19 m²	40	-	19 m²	263	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	133 W	110	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1950 W	1803	-	0	0	-
People	4	226	240	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	222	17	4%	40	0
>> Total Zone Loads	-	3390	257	-	1031	0

TABLE 1.14.B. Envelope Loads For Space "P4_LabMicro_der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
ESE EXPOSURE						
WALL	7	0,437	-	37	-	53
WINDOW 1	2	3,339	0,811	37	281	113
WSW EXPOSURE						
WALL	8	0,437	-	25	-	59
WINDOW 1	2	3,339	0,811	37	464	113
H EXPOSURE						
ROOF	13	0,527	-	65	-	119

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.15.A. Component Loads For Space "P4_LabProteom_der" 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	8 m²	1296	-	8 m²	-	-
Wall Transmission	47 m²	193	-	47 m²	349	-
Roof Transmission	50 m²	276	-	50 m²	441	-
Window Transmission	8 m²	150	-	8 m²	452	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	50 m²	155	-	50 m²	1014	-
Partitions	33 m²	69	-	33 m²	450	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	495 W	411	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	4950 W	4576	-	0	0	-
People	12	679	721	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	546	50	4%	108	0
>> Total Zone Loads	-	8351	771	-	2814	0

TABLE 1.15.B. Envelope Loads For Space "P4_LabProteom_der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
ENE EXPOSURE						
WALL	27	0,437	-	127	-	200
WINDOW 1	5	3,339	0,811	93	641	282
SSE EXPOSURE						
WALL	12	0,437	-	41	-	89
WSW EXPOSURE						
WALL	8	0,437	-	26	-	60
WINDOW 1	3	3,339	0,811	56	655	169
H EXPOSURE						
ROOF	50	0,527	-	276	-	441

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.16.A. Component Loads For Space "P4_TrabajoPerso_Der" In Zone "Zone 1"

		DESIGN COOLING		DESIGN HEATING		
		COOLING DATA AT Jun 1800		HEATING DATA AT DES HTG		
		COOLING OA DB / WB 29,2 °C / 22,0 °C		HEATING OA DB / WB 4,2 °C / 1,8 °C		
		OCCUPIED T-STAT 23,9 °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	2057	-	9 m²	-	-
Wall Transmission	28 m²	73	-	28 m²	206	-
Roof Transmission	40 m²	235	-	40 m²	358	-
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	40 m²	54	-	40 m²	824	-
Partitions	39 m²	35	-	39 m²	540	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	402 W	338	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	720 W	669	-	0	0	-
People	6	346	360	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	275	25	4%	97	0
>> Total Zone Loads	-	4203	386	-	2534	0

TABLE 1.16.B. Envelope Loads For Space "P4_TrabajoPerso_Der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
		Area	U-Value	TRANS	SOLAR	TRANS
		(m²)	(W/(m²·K))	Coeff.	(W)	(W)
WNW EXPOSURE						
WALL	16	0,437	-	48	-	114
WINDOW 1	9	3,339	0,811	120	2057	508
NNW EXPOSURE						
WALL	12	0,437	-	25	-	92
H EXPOSURE						
ROOF	40	0,527	-	235	-	358

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.17.A. Component Loads For Space "PB_Dsp_Polivte_Der" 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	279	-	2 m²	-	-
Wall Transmission	10 m²	40	-	10 m²	72	-
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	13 m²	50	-	13 m²	262	-
Partitions	0 m²	0	-	0 m²	0	-
Ceiling	0 m²	0	-	0 m²	0	-
Overhead Lighting	128 W	103	-	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	7% / 7%	56	4	4%	18	0
>> Total Zone Loads	-	854	64	-	465	0

TABLE 1.17.B. Envelope Loads For Space "PB_Dsp_Polivte_Der" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
ENE EXPOSURE						
WALL	10	0,437	-	40	-	72
WINDOW 1	2	3,339	0,811	42	279	113

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.18.A. Component Loads For Space "PB_Dsp_ERM_der" 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	3 m²	696	-	3 m²	-	-
Wall Transmission	14 m²	45	-	14 m²	105	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	56	-	3 m²	169	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	21 m²	67	-	21 m²	436	-
Partitions	21 m²	45	-	21 m²	296	-
Ceiling	21 m²	67	-	21 m²	436	-
Overhead Lighting	213 W	177	-	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	7% / 7%	105	8	4%	58	0
>> Total Zone Loads	-	1602	129	-	1500	0

TABLE 1.18.B. Envelope Loads For Space "PB_Dsp_ERM_der" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
WSW EXPOSURE				(W)	(W)	(W)
WALL	14	0,437	-	45	-	105
WINDOW 1	3	3,339	0,811	56	696	169

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.19.A. Component Loads For Space "PB_Expo_Micro_der" 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	3 m²	696	-	3 m²	-	-
Wall Transmission	18 m²	58	-	18 m²	136	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	3 m²	56	-	3 m²	169	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	26 m²	80	-	26 m²	527	-
Partitions	39 m²	82	-	39 m²	537	-
Ceiling	26 m²	80	-	26 m²	527	-
Overhead Lighting	257 W	213	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	750 W	693	-	0	0	-
People	6	340	360	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	161	25	4%	76	0
>> Total Zone Loads	-	2461	386	-	1972	0

TABLE 1.19.B. Envelope Loads For Space "PB_Expo_Micro_der" In Zone "Zone 1"						
				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
WSW EXPOSURE						
WALL	18	0,437	-	58	-	136
WINDOW 1	3	3,339	0,811	56	696	169

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.20.A. Component Loads For Space "PB_S.Reunion_Der" In Zone "Zone 1"						
	DESIGN COOLING			DESIGN HEATING		
	COOLING DATA AT Oct 1400 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	7 m²	1428	-	7 m²	-	-
Wall Transmission	38 m²	77	-	38 m²	279	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	7 m²	84	-	7 m²	395	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	29 m²	25	-	29 m²	598	-
Partitions	22 m²	13	-	22 m²	303	-
Ceiling	29 m²	25	-	29 m²	598	-
Overhead Lighting	292 W	231	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	1920 W	1742	-	0	0	-
People	16	851	961	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	313	67	4%	87	0
>> Total Zone Loads	-	4790	1029	-	2260	0

TABLE 1.20.B. Envelope Loads For Space "PB_S.Reunion_Der" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
WSW EXPOSURE						
WALL	11	0,437	-	13	-	78
ENE EXPOSURE						
WALL	9	0,437	-	5	-	64
WINDOW 1	2	3,339	0,811	24	143	113
SSE EXPOSURE						
WALL	19	0,437	-	58	-	137
WINDOW 1	5	3,339	0,811	60	1285	282

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.21.A. Component Loads For Space "P2_LabNDst_der" 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	17 m²	3023	-	17 m²	-	-
Wall Transmission	61 m²	218	-	61 m²	451	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	17 m²	318	-	17 m²	960	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	99 m²	308	-	99 m²	2020	-
Partitions	45 m²	95	-	45 m²	625	-
Ceiling	99 m²	308	-	99 m²	2020	-
Overhead Lighting	986 W	819	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	4930 W	4558	-	0	0	-
People	10	566	601	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	715	42	4%	243	0
>> Total Zone Loads	-	10929	643	-	6319	0

TABLE 1.21.B. Envelope Loads For Space "P2_LabNDst_der" In Zone "Zone 1"

				COOLING	COOLING	HEATING
	Area	U-Value	Shade	TRANS	SOLAR	TRANS
	(m²)	(W/(m²·K))	Coeff.	(W)	(W)	(W)
SSE EXPOSURE						
WALL	8	0,437	-	32	-	57
WINDOW 1	3	3,339	0,811	56	373	169
ENE EXPOSURE						
WALL	19	0,437	-	77	-	141
WINDOW 1	5	3,339	0,811	93	560	282
WSW EXPOSURE						
WALL	34	0,437	-	108	-	253
WINDOW 1	9	3,339	0,811	168	2089	508

Space Design Load Summary for Sistema_der

Project Name: 1701P HAP_Olivillo_v2 170214 OG
Prepared by: INGHO fm

02/20/2017
11:39

TABLE 1.22.A. Component Loads For Space "P2_Dsp_der(2)" 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	1 m²	134	-	1 m²	-	-
Wall Transmission	22 m²	77	-	22 m²	164	-
Roof Transmission	0 m²	0	-	0 m²	0	-
Window Transmission	1 m²	21	-	1 m²	56	-
Skylight Transmission	0 m²	0	-	0 m²	0	-
Door Loads	0 m²	0	-	0 m²	0	-
Floor Transmission	12 m²	46	-	12 m²	248	-
Partitions	16 m²	40	-	16 m²	217	-
Ceiling	12 m²	46	-	12 m²	248	-
Overhead Lighting	121 W	99	-	0	0	-
Task Lighting	0 W	0	-	0	0	-
Electric Equipment	250 W	230	-	0	0	-
People	1	56	60	0	0	0
Infiltration	-	0	0	-	0	0
Miscellaneous	-	0	0	-	0	0
Safety Factor	7% / 7%	52	4	4%	37	0
>> Total Zone Loads	-	801	64	-	970	0

TABLE 1.22.B. Envelope Loads For Space "P2_Dsp_der(2)" In Zone "Zone 1"						
	Area	U-Value	Shade	COOLING	COOLING	HEATING
	(m²)	(W/(m²·K))	Coeff.	TRANS	SOLAR	TRANS
				(W)	(W)	(W)
SSE EXPOSURE						
WALL	12	0,437	-	36	-	89
ENE EXPOSURE						
WALL	8	0,437	-	34	-	56
WINDOW 1	1	3,339	0,811	21	134	56
WSW EXPOSURE						
WALL	3	0,437	-	8	-	19