

MEMORIAL DE CÁLCULO DE CLIMATIZAÇÃO

Cliente:

CAIXA ECONÔMICA FEDERAL

Objeto:

AGÊNCIA SAMAMBAIA

REFORMA DAS INSTALAÇÕES

Código do Projeto: 2077/20
nº do Contrato: 0747.2017.1724

INTRODUÇÃO

O presente documento contém o memorial de cálculo do sistema de climatização para instalações da agência Samambaia, da CAIXA, localizada na cidade de Brasília - DF.

O cálculo da carga térmica foi realizado por meio de simulação computacional no software TraceLoad 700, versão 6.3.1. O Trace é um programa de cálculo de carga térmica e análise econômico-energética desenvolvido pelo grupo C.D.S., da empresa Trane Company, validado no BESTEST adotado pela ASHRAE Standard 140.

O Trace utiliza o método da função de transferência (TFM) associado ao método CLTD/CLF (CoolingLoadTemperatureDifference/ CoolingLoadFactor) para analisar o comportamento térmico do edifício.

PREMISSAS DE CÁLCULO

Localização

- Brasília - DF
 - Altitude: 1068 m
 - Latitude: 15,87 S
 - Longitude: 47,93 W

Condições climáticas exteriores

- Ambientes de conforto: considerando a ABNT NBR 16.401/2008.
 - TBS = 32,1 °C
 - TBU = 21,9 °C

Condições internas de conforto:

- TBS = 23°C
- UR = 50%

Cargas internas

- Iluminação: Conforme Tabela C.2 Taxas típicas de dissipação de calor pela iluminação da ABNT NBR: 16401-1/2008 = 16 W/m²
- Pessoas: Conforme o layout arquitetônico ou adotando 2,5 m²/pessoa da ABNT NBR 16401: Parte 3 - Tabela 1
- Renovação de ar: 27 m³/h por pessoa permanente e 17m³/h por pessoa transiente, de acordo com a RE 9 da ANVISA.
- Equipamentos: Conforme o layout arquitetônico ou adotando Tabela C.6 Densidade típica de carga de equipamentos da ABNT NBR: 16401-1/2008 = 16,2 W/m²

RESULTADO DA CARGA TÉRMICA

A carga térmica total calculada foi de 129,0 kW, equivalente à 36,7 TR. As cargas de cada ambiente são apresentadas na tabela abaixo.

A tabela 1 apresenta uma relação contendo os sistemas com suas respectivas cargas térmicas sensível e latente (CT SENS. e CT LAT.).

Tabela 1 – Cálculo de carga térmica para as zonas térmicas da Agência Samambaia

SISTEMA/ AMBIENT.	Área (m²)	CT (kW)	CT (TR)	CT SEN (kW)	CT LAT (kW)	Vazão Renov. [l/s]
TE-01-AUTOATENDIMENTO	100.0	16.7	4.7	10.2	6.5	208.6
TE-02-CORREDOR DE ABASTECIMENTO	36.6	9.5	2.7	9.2	0.3	9.4
TE-03-ESPERA CAIXAS	56.8	8.8	2.5	5.0	3.8	118.9
TE-04-CAIXAS EXECUTIVOS	31.6	4.9	1.4	3.2	1.7	61.1
TE-05-ESPERA PF VAREJO	41.8	10.3	2.9	5.3	5.0	155.8
TE-06-TESOURARIA	7.1	0.8	0.2	0.6	0.2	7.5
TE-07-APOIO	9.72	1.6	0.5	1.3	0.3	15.0
TE-08-PF-VAREJO	51.6	7.8	2.2	4.8	2.9	101.7
SISTEMA TÉRREO		60.2	17.1	39.5	20.7	678.1
1P-01-TELEFONISTA	4.8	0.9	0.3	0.8	0.2	7.5
1P-02-ESPERA PF PJ	90.7	21.8	6.2	14.5	7.3	236.9
1P-03-GERENTE GERAL/CANAIS PARCEIROS/PJ	61.9	12.1	3.4	10.0	2.2	84.7
1P-04-PESSOA FÍSICA	43.5	10.9	3.1	8.0	3.0	101.7
1P-05-APOIO ATENDIMENTO	27.4	5.2	1.5	4.2	1.0	45.0
1P-06-SALA DE REUNIÕES	41.1	11.7	3.3	8.0	3.7	118.1
1P-07-EQUIPAMENTOS	13.9	5.0	1.4	4.9	0.1	4.7
SISTEMA 1PAV		68.8	19.5	51.3	17.5	598.6

As taxas de renovação utilizadas para dimensionar o sistema de exaustão foi calculada e estão apresentadas na tabela abaixo.

Tabela 2 – Cálculo de exaustão para Agência Samambaia

DADOS DE ENTRADA				DADOS DE SAÍDA
AMBIENTE	ÁREA (m²)	PD (m)	RENOVAÇÕES (h-1)	POR RENOVAÇÕES Qr (m³/h)
TE-WC PNE	5.1	2.5	15	200
EX-TE-01				200
1P-COPA	31.6	2.5	15	1200
EX-1P-02				1200
1P-ARQUIVO	20.1	2.5	6	300
EX-1P-03				300
1P-DML	3.5	2.5	12	130
EX-1P-04				130
1P-ARQUIVO	48.4	2.5	6	730
EX-1P-01				730
1P-WC	2.8	2.5	15	130
EX-1P-05				130

AGE SAMAMBAIA

Location	BRASILIA-DF
Building owner	CAIXA ECONOMICA FEDERAL
Program user	DIEGO HENRIQUE
Company	FOX ENGENHARIA
Comments	

By	FOX ENGENHARIA E CONSULTORIA
Dataset name	C:\Users\Mayara\Desktop\FOX\1.PROJETOS\CAIXA\AGE-SAMAMBAIA_NORTE\ARC\2.CALCULOS_E_SIMULACOES\1.CARGA TERMICA\TRACE\CX-SAMAMB-00.TRC

Calculation time	10:14 AM on 09/18/2020
TRACE® 700 version	6.3.4

Location	Brasilia, Brazil	
Latitude	-15.8	deg
Longitude	47.9	deg
Time Zone	3	
Elevation	1,068	m
Barometric pressure	89.1	kPa
Air density	1.0685	kg/cu m
Air specific heat	1.0234	kJ/kg·°C
Density-specific heat product	1.0928	kJ/cu m·°C
Latent heat factor	2,674.2	kJ/cu m
Enthalpy factor	1,068	J·kg/cu m·kJ
Summer design dry bulb	32.1	°C
Summer design wet bulb	21.9	°C
Winter design dry bulb	12.8	°C
Summer clearness number	1.00	
Winter clearness number	1.00	
Summer ground reflectance	0.20	
Winter ground reflectance	0.20	
Carbon Dioxide Level	400	ppm
Design simulation period	January - December	
Cooling load methodology	RTS (ASHRAE Tables)	
Heating load methodology	CLTD-CLF (ASHRAE-TFM)	



System Checksums

By FOX ENGENHARIA E CONSULTORIA

SISTEMA 1PAV

Fan Coil

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 12 / 17			Mo/Hr: Sum of		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 29 / 22 / 16			OADB: Peaks		OADB: 13			SADB			11.9	23.7		
Space	Plenum	Net	Percent	Space	Percent	Space Peak	Coil Peak	Percent	Space Sens	Coil Peak	Percent	Ra Plenum	29.7	19.7		
Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total	Space Sens	Tot Sens	Of Total	kW	Tot Sens	Of Total	Return	29.7	19.7		
kW	kW	kW	(%)	kW	(%)	kW	kW	(%)		kW	(%)	Ret/OA	29.6	19.7		
Envelope Loads					Envelope Loads					Fn MtrTD					0.0	0.0
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Fn BldTD	0.0	0.0		
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Fn Frict	0.0	0.0		
Roof Cond	0.00	21.61	21.61	31.54	0.00	0.00	0.00	0.00	0.00	-4.01	24.92					
Glass Solar	2.18	0.00	2.18	3.18	2.05	6.39	0.00	0.00	0.00	0.00	0.00					
Glass/Door Cond	1.26	0.00	1.26	1.84	1.56	4.86	0.00	0.00	-1.76	-1.76	10.94					
Wall Cond	1.70	0.23	1.93	2.82	1.68	5.24	0.00	0.00	-1.25	-1.59	9.88					
Partition/Door	3.01		3.01	4.39	3.59	11.19	0.00	0.00	-4.19	-4.19	26.04					
Floor	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Infiltration	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Sub Total ==>	8.15	21.84	29.99	43.77	8.88	27.68	Sub Total ==>	-7.20	-11.55	71.78						
Internal Loads					Internal Loads											
Lights	3.63	0.91	4.54	6.63	3.63	11.32	Lights	0.00	0.00	0.00						
People	16.68	0.00	16.68	24.35	8.63	26.90	People	0.00	0	0.00						
Misc	7.57	0.00	7.57	11.05	7.57	23.60	Misc	0.00	0.00	0.00						
Sub Total ==>	27.88	0.91	28.79	42.02	19.83	61.81	Sub Total ==>	0.00	0.00	0.00						
Ceiling Load	3.41	-3.41	0.00	0.00	3.37	10.50	Ceiling Load	-0.65	0	0.00						
Ventilation Load	0.00	0.00	14.10	20.58	0.00	0.00	Ventilation Load	0.00	0.00	0.00						
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00						
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00						
Exhaust Heat		-4.37	-4.37	-6.38			OA Preheat Diff.	1.61		-10.01						
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.	-6.15		38.22						
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat	0.00		0.00						
Duct Heat Pkup		0.00	0.00	0.00			Underflr Sup Ht Pkup		0	0.00						
Underflr Sup Ht Pkup			0	0			Supply Air Leakage		0	0.00						
Supply Air Leakage		0	0	0			Grand Total ==>	-7.85	-16.09	100.00						
Grand Total ==>	39.44	14.97	68.51	100.00	32.08	100.00	Grand Total ==>	-7.85	-16.09	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	2,649	2,649
Terminal	2,649	2,649
Main Fan	2,649	2,649
Sec Fan	0	0
Nom Vent	599	0
AHU Vent	599	0
Infil	0	0
MinStop/Rh	0	0
Return	2,649	2,649
Exhaust	599	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	22.6	0.0
Lps/m²	9.34	9.34
Lps/kW	38.67	
m²/kW	4.14	
W/m²	241.42	-56.74
No. People	115	

AIRFLOWS		
	Cooling	Heating
Diffuser	2,649	2,649
Terminal	2,649	2,649
Main Fan	2,649	2,649
Sec Fan	0	0
Nom Vent	599	0
AHU Vent	599	0
Infil	0	0
MinStop/Rh	0	0
Return	2,649	2,649
Exhaust	599	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	22.6	0.0
Lps/m²	9.34	9.34
Lps/kW	38.67	
m²/kW	4.14	
W/m²	241.42	-56.74
No. People	115	

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total	Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C			
Main Clg	68.50	50.54	2,649	29.6	19.1	11.4	11.9	11.1	9.0	Floor	284							
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	429							
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0							
										ExFlr	0							
										Roof	284	0	0					
										Wall	122	39	32					
										Ext Door	0	0	0					
Total	68.50																	

System Checksums

By FOX ENGENHARIA E CONSULTORIA

SISTEMA TERREO

Fan Coil

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 12 / 16			Mo/Hr: Sum of		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 30 / 22 / 16			OADB: Peaks		OADB: 13			SADB			12.1	23.3		
Space	Plenum	Net	Percent	Space	Percent	Space Peak	Coil Peak	Percent	Space Sens	Coil Peak	Percent	Ra Plenum	23.4	20.9		
Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total	Space Sens	Tot Sens	Of Total	kW	Tot Sens	Of Total	Return	23.4	20.9		
kW	kW	kW	(%)	kW	(%)	kW	kW	(%)		kW	(%)	Ret/OA	25.0	20.9		
Envelope Loads					Envelope Loads					Fn MtrTD					0.0	0.0
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Fn BldTD	0.0	0.0		
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Fn Frict	0.0	0.0		
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Wall Cond	2.72	0.52	3.24	5.43	3.36	9.81	Wall Cond	-2.13	-2.55	18.87						
Partition/Door	3.74		3.74	6.26	4.31	12.59	Partition/Door	-4.95	-4.95	36.64						
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00						
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00						
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00						
Sub Total ==>	6.46	0.52	6.98	11.69	7.67	22.40	Sub Total ==>	-7.08	-7.50	55.51						
Internal Loads					Internal Loads											
Lights	4.29	1.07	5.36	8.98	4.29	12.53	Lights	0.00	0.00	0.00						
People	19.29	0.00	19.29	32.30	9.98	29.15	People	0.00	0	0.00						
Misc	12.04	0.00	12.04	20.16	12.04	35.16	Misc	0.00	0.00	0.00						
Sub Total ==>	35.62	1.07	36.69	61.44	26.31	76.84	Sub Total ==>	0.00	0.00	0.00						
Ceiling Load	0.26	-0.26	0.00	0.00	0.26	0.76	Ceiling Load	-0.07	0	0.00						
Ventilation Load	0.00	0.00	16.37	27.41	0.00	0.00	Ventilation Load	0.00	0.00	0.00						
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00						
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00						
Exhaust Heat		-0.32	-0.32	-0.54			OA Preheat Diff.		3.01	-22.28						
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.		-9.02	66.77						
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat		0.00	0.00						
Duct Heat Pkup		0.00	0.00	0.00												
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00						
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00						
Grand Total ==>	42.34	1.01	59.72	100.00	34.24	100.00	Grand Total ==>	-7.15	-13.51	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	2,863	2,863
Terminal	2,863	2,863
Main Fan	2,863	2,863
Sec Fan	0	0
Nom Vent	678	0
AHU Vent	678	0
Infil	0	0
MinStop/Rh	0	0
Return	2,863	2,863
Exhaust	678	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	23.7	0.0
Lps/m²	8.54	8.54
Lps/kW	47.92	
m²/kW	5.61	
W/m²	178.09	-40.29
No. People	133	

TEMPERATURES		
	Cooling	Heating
SADB	12.1	23.3
Ra Plenum	23.4	20.9
Return	23.4	20.9
Ret/OA	25.0	20.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS		
	Cooling	Heating
Diffuser	2,863	2,863
Terminal	2,863	2,863
Main Fan	2,863	2,863
Sec Fan	0	0
Nom Vent	678	0
AHU Vent	678	0
Infil	0	0
MinStop/Rh	0	0
Return	2,863	2,863
Exhaust	678	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	23.7	0.0
Lps/m²	8.54	8.54
Lps/kW	47.92	
m²/kW	5.61	
W/m²	178.09	-40.29
No. People	133	

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION						
Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total	Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C					
Main Clg	59.73	39.18	2,863	25.0	17.7	11.5	12.1	11.1	9.0	Floor	335					Main Htg	-13.5	2,863	19.0	23.3
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	610					Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0					Preheat	0.0	0	0.0	0.0
										ExFlr	0									
										Roof	0	0	0			Humidif	0.0	0	0.0	0.0
										Wall	127	0	0			Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0			Total	-13.5			
Total	59.73																			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-01-TELEFONISTA

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 17		Mo/Hr: Heating Design					
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 31		OADB: 13					
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total		Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent	Cooling	Heating	
kW	kW	kW	(%)		kW	(%)	Space Sens	Tot Sens	Of Total			
kW	kW	kW	(%)		kW	(%)	kW	kW	(%)			
Envelope Loads							Envelope Loads					
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00	SADB	12.8
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00	Ra Plenum	29.7
Roof Cond	0.00	0.35	0.35	0.00	0.00	0.00	Roof Cond	0.00	-0.07	0.00	Return	29.7
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00	0.00	Ret/OA	29.9
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00	0.00	Fn MtrTD	0.0
Wall Cond	0.00	0.00	0.00	0.00	0.00	0.00	Wall Cond	0.00	0.00	0.00	Fn BldTD	0.0
Partition/Door	0.19	0.19	0.19	0.00	0.19	0.00	Partition/Door	-0.22	-0.22	0.00	Fn Frict	0.0
Floor	0.00	0.00	0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00		
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00		
Infiltration	0.00	0.00	0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00		
Sub Total ==>	0.19	0.35	0.54	0.00	0.19	0.00	Sub Total ==>	-0.22	-0.29	0.00		
Internal Loads							Internal Loads					
Lights	0.06	0.02	0.08	0.00	0.06	0.00	Lights	0.00	0.00	0.00	AIRFLOWS	
People	0.15	0.00	0.15	0.00	0.08	0.00	People	0.00	0	0.00	Cooling	Heating
Misc	0.08	0.00	0.08	0.00	0.08	0.00	Misc	0.00	0.00	0.00	Diffuser	42
Sub Total ==>	0.29	0.02	0.31	0.00	0.22	0.00	Sub Total ==>	0.00	0.00	0.00	Terminal	42
Ceiling Load	0.06	-0.06	0.00	0.00	0.06	0.00	Ceiling Load	-0.01	0	0.00	Main Fan	42
Ventilation Load	0.00	0.00	0.17	0.00	0.00	0.00	Ventilation Load	0.00	0.00	0.00	Sec Fan	0
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0	Nom Vent	8
Dehumid. Ov Sizing		0	0	0			Ov/Undr Sizing	0.00	0.00	0.00	AHU Vent	8
Ov/Undr Sizing	0.00	0.00	0.00	0.00	0.00	0.00	Exhaust Heat	0.00	0.00	0.00	Infil	0
Exhaust Heat	-0.05	-0.05	0.00	0.00			OA Preheat Diff.	0.00	0.00	0.00	MinStop/Rh	0
Sup. Fan Heat		0.00	0.00	0.00			RA Preheat Diff.	-0.06	0.00	0.00	Return	42
Ret. Fan Heat	0.00	0.00	0.00	0.00			Additional Reheat	0.00	0.00	0.00	Exhaust	8
Duct Heat Pkup	0.00	0.00	0.00	0.00			System Plenum Heat	0.00	0.00	0.00	Rm Exh	0
Underflr Sup Ht Pkup		0	0	0			Underflr Sup Ht Pkup	0	0	0.00	Auxiliary	0
Supply Air Leakage		0	0	0			Supply Air Leakage	0	0.00	0.00	Leakage Dwn	0
Grand Total ==>	0.54	0.26	0.97	100.00	0.47	100.00	Grand Total ==>	-0.23	-0.35	100.00	Leakage Ups	0

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg			
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg		m²	(%)	kW	L/s	°C	°C			
Main Clg	0.95	0.78	42	29.9	18.8	10.9	12.8	11.8	9.4	Floor	5		Main Htg	-0.3	42	18.5	26.0	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	22		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	0.95									Roof	5	0	0	Humidif	0.0	0	0.0	0.0
										Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-0.3			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-02-ESPERA PF PJ

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 12 / 17			Mo/Hr: 2 / 17		Mo/Hr: Heating Design					Cooling	Heating
Outside Air:		OADB/WB/HR: 29 / 22 / 16			OADB: 31		OADB: 13					SADB	8.1 23.1
Space Sens. + Lat.	Plenum Sens. + Lat.	Net Total	Percent Of Total		Space Sensible	Percent Of Total		Space Peak	Coil Peak	Percent		Ra Plenum	29.7 19.7
kW	kW	kW	(%)		kW	(%)		Space Sens	Tot Sens	Of Total		Return	29.7 19.7
								kW	kW	(%)		Ret/OA	29.6 19.7
												Fn MtrTD	0.0 0.0
												Fn BldTD	0.0 0.0
												Fn Frict	0.0 0.0
Envelope Loads					Envelope Loads								
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Roof Cond	0.00	7.58	7.58	34.17	0.00	0.00		0.00	-1.29	35.15			
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Wall Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Partition/Door	0.72	0.72	3.25		0.91	10.95		-0.95	-0.95	25.89			
Floor	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Infiltration	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Sub Total ==>	0.72	7.58	8.30	37.42	0.91	10.95		-0.95	-2.24	61.04			
Internal Loads					Internal Loads								
Lights	1.16	0.29	1.45	6.54	1.16	13.96		0.00	0.00	0.00			
People	7.11	0.00	7.11	32.06	3.68	44.28		0.00	0	0.00			
Misc	1.47	0.00	1.47	6.63	1.47	17.69		0.00	0.00	0.00			
Sub Total ==>	9.74	0.29	10.03	45.22	6.31	75.93		0.00	0.00	0.00			
Ceiling Load	1.09	-1.09	0.00	0.00	1.09	13.12		-0.21	0	0.00			
Ventilation Load	0.00	0.00	5.58	25.16	0.00	0.00		0.00	0.00	0.00			
Adj Air Trans Heat	0	0	0	0	0	0		0	0	0			
Dehumid. Ov Sizing			0	0				0.00	0.00	0.00			
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00			0.00	0.00			
Exhaust Heat		-1.73	-1.73	-7.80					1.20	-32.70			
Sup. Fan Heat			0.00	0.00					-3.00	81.74			
Ret. Fan Heat		0.00	0.00	0.00					0.00	0.00			
Duct Heat Pkup		0.00	0.00	0.00					0.37	-10.08			
Underflr Sup Ht Pkup			0	0					0	0.00			
Supply Air Leakage		0	0	0					0	0.00			
Grand Total ==>	11.55	5.05	22.18	100.00	8.31	100.00		-1.16	-3.67	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	511	511
Terminal	511	511
Main Fan	511	511
Sec Fan	0	0
Nom Vent	237	0
AHU Vent	237	0
Infil	0	0
MinStop/Rh	0	0
Return	511	511
Exhaust	237	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	46.4	0.0
Lps/m²	5.63	5.63
Lps/kW	23.04	
m²/kW	4.09	
W/m²	244.31	-40.49
No. People	49.0	540.2/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR				Gross Total	Glass			Capacity	Coil Airflow	Ent	Lvg	
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg			m²	(%)		kW	L/s	°C	°C	
Main Clg	22.17	14.82	511	29.6	20.1	12.9	8.1	5.7	5.5	Floor	91			Main Htg	-3.7	511	16.5	23.1
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	97			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0			Preheat	0.0	0	0.0	0.0
										ExFlr	0							
Total	22.17									Roof	91	0	0	Humidif	0.0	0	0.0	0.0
										Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-3.7			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-03-GERENTE GERAL/PARCEIROS/PJ

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 17		Mo/Hr: Heating Design			Cooling		Heating	
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 31		OADB: 13			SADB		Ra Plenum	
										Return		Ret/OA	
										Fn MtrTD		Fn BldTD	
										Fn Frict			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-04-PESSOA FISICA

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 12 / 17			Mo/Hr: 12 / 17		Mo/Hr: Heating Design					Cooling	Heating
Outside Air:		OADB/WB/HR: 29 / 22 / 16			OADB: 29		OADB: 13					SADB	11.7 25.2
Space Sens. + Lat. kW	Plenum Sens. + Lat. kW	Net Total kW	Percent Of Total (%)	Space Sensible kW	Percent Of Total (%)	Space Peak kW	Coil Peak kW	Percent Of Total (%)			Ra Plenum	29.7	19.7
Envelope Loads					Envelope Loads							Return	29.7 19.7
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00	Ret/OA	29.6	19.7
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00	Fn MtrTD	0.0	0.0
Roof Cond	0.00	3.16	3.16	28.47	0.00	0.00	Roof Cond	0.00	-0.61	18.05	Fn BldTD	0.0	0.0
Glass Solar	0.74	0.00	0.74	6.67	0.74	13.81	Glass Solar	0.00	0.00	0.00	Fn Frict	0.0	0.0
Glass/Door Cond	0.47	0.00	0.47	4.23	0.47	8.77	Glass/Door Cond	-0.65	-0.65	19.23			
Wall Cond	0.27	0.05	0.32	2.88	0.27	5.04	Wall Cond	-0.20	-0.28	8.28			
Partition/Door	0.75		0.75	6.76	0.75	13.99	Partition/Door	-1.05	-1.05	31.07			
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00			
Sub Total ==>	2.23	3.21	5.44	49.01	2.23	41.60	Sub Total ==>	-1.90	-2.59	76.63			
Internal Loads					Internal Loads								
Lights	0.56	0.14	0.70	6.31	0.56	10.45	Lights	0.00	0.00	0.00			
People	2.61	0.00	2.61	23.51	1.35	25.19	People	0.00	0	0.00			
Misc	0.70	0.00	0.70	6.31	0.70	13.06	Misc	0.00	0.00	0.00			
Sub Total ==>	3.87	0.14	4.01	36.13	2.61	48.69	Sub Total ==>	0.00	0.00	0.00			
Ceiling Load	0.52	-0.52	0.00	0.00	0.52	9.70	Ceiling Load	-0.10	0	0.00			
Ventilation Load	0.00	0.00	2.39	21.53	0.00	0.00	Ventilation Load	0.00	0.00	0.00			
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00			
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00			
Exhaust Heat		-0.74	-0.74	-6.67			OA Preheat Diff.		0.12	-3.55			
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.		-0.90	26.63			
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat		0.00	0.00			
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat		-0.01	0.30			
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00			
Grand Total ==>	6.62	2.09	11.10	100.00	5.36	100.00	Grand Total ==>	-2.00	-3.38	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	432	432
Terminal	432	432
Main Fan	432	432
Sec Fan	0	0
Nom Vent	102	0
AHU Vent	102	0
Infil	0	0
MinStop/Rh	0	0
Return	432	432
Exhaust	102	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	23.5	0.0
Lps/m²	9.94	9.94
Lps/kW	38.94	
m²/kW	3.92	
W/m²	255.01	-77.58
No. People	18.0	413.8/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total		Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	11.10	8.15	432	29.6	19.1	11.5	11.7	11.2	9.2	Floor	44		Main Htg	-3.4	432	18.1	25.2	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	108		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	11.10									Roof	44	0 0	Humidif	0.0	0	0.0	0.0	
										Wall	29	15 50	Opt Vent	0.0	0	0.0	0.0	
										Ext Door	0	0 0	Total	-3.4				

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-05-APOIO ATENDIMENTO

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 18		Mo/Hr: Heating Design			Cooling		Heating	
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 30		OADB: 13			SADB		Ra Plenum	
										Return		Ret/OA	
										Fn MtrTD		Fn BldTD	
										Fn Frict			

COOLING COIL SELECTION									AREAS			HEATING COIL SELECTION				
Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total	Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	5.31	4.29	213	30.0	18.9	11.1	12.5	11.2	8.9	Floor	27	Main Htg	-1.5	213	18.3	24.7
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	61	Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0	Preheat	0.0	0	0.0	0.0
										ExFlr	0					
Total	5.31									Roof	27	Humidif	0.0	0	0.0	0.0
										Wall	12	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	Total	-1.5			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-06-SALA DE REUNIOES

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES						
Peaked at Time:		Mo/Hr: 12 / 16			Mo/Hr: 2 / 16		Mo/Hr: Heating Design			Cooling			Heating			
Outside Air:		OADB/WB/HR: 30 / 22 / 16			OADB: 32		OADB: 13			SADB			10.7	24.5		
Space	Plenum	Net	Percent	Space	Percent	Space Peak	Coil Peak	Percent	Space Sens	Coil Peak	Percent	Ra Plenum	29.5	19.7		
Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total	Space Sens	Tot Sens	Of Total	Space Sens	Tot Sens	Of Total	Return	29.5	19.7		
kW	kW	kW	(%)	kW	(%)	kW	kW	(%)	kW	kW	(%)	Ret/OA	29.6	19.7		
Envelope Loads					Envelope Loads					Fn MtrTD					0.0	0.0
Skylite Solar	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00	0.00	0.00	Fn BldTD	0.0	0.0		
Skylite Cond	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00	0.00	0.00	Fn Frict	0.0	0.0		
Roof Cond	0.00	2.92	2.92	24.52	0.00	Roof Cond	0.00	-0.58	19.08							
Glass Solar	0.62	0.00	0.62	5.21	0.46	Glass Solar	0.00	0.00	0.00							
Glass/Door Cond	0.44	0.00	0.44	3.69	0.57	Glass/Door Cond	-0.56	-0.56	18.42							
Wall Cond	0.44	0.08	0.52	4.37	0.38	Wall Cond	-0.29	-0.38	12.50							
Partition/Door	0.43		0.43	3.61	0.55	Partition/Door	-0.63	-0.63	20.72							
Floor	0.00		0.00	0.00	0.00	Floor	0.00	0.00	0.00							
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00							
Infiltration	0.00		0.00	0.00	0.00	Infiltration	0.00	0.00	0.00							
Sub Total ==>	1.93	3.00	4.93	41.39	1.96	35.57	Sub Total ==>	-1.48	-2.15	70.72						
Internal Loads					Internal Loads											
Lights	0.53	0.13	0.66	5.54	0.53	9.62	Lights	0.00	0.00	0.00						
People	3.63	0.00	3.63	30.48	1.88	34.12	People	0.00	0	0.00						
Misc	0.67	0.00	0.67	5.63	0.67	12.16	Misc	0.00	0.00	0.00						
Sub Total ==>	4.83	0.13	4.96	41.65	3.08	55.90	Sub Total ==>	0.00	0.00	0.00						
Ceiling Load	0.48	-0.48	0.00	0.00	0.47	8.53	Ceiling Load	-0.10	0	0.00						
Ventilation Load	0.00	0.00	2.85	23.93	0.00	0.00	Ventilation Load	0.00	0.00	0.00						
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0						
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00						
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat	0.00	0.00	0.00						
Exhaust Heat		-0.83	-0.83	-6.97			OA Preheat Diff.	0.27	-8.88							
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.	-1.17	38.49							
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat	0.00	0.00							
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat	0.01	-0.33							
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00						
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00						
Grand Total ==>	7.24	1.82	11.91	100.00	5.51	100.00	Grand Total ==>	-1.58	-3.04	100.00						

AIRFLOWS		
	Cooling	Heating
Diffuser	409	409
Terminal	409	409
Main Fan	409	409
Sec Fan	0	0
Nom Vent	118	0
AHU Vent	118	0
Infil	0	0
MinStop/Rh	0	0
Return	409	409
Exhaust	118	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	28.9	0.0
Lps/m²	9.89	9.89
Lps/kW	34.38	
m²/kW	3.48	
W/m²	287.36	-73.36
No. People	25.0	603.9/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total		Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	11.90	8.20	409	29.6	19.3	11.8	10.7	10.3	8.7	Floor	41		Main Htg	-3.0	409	17.7	24.5	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	65		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	11.90									Roof	41	0 0	Humidif	0.0	0	0.0	0.0	
										Wall	32	13 39	Opt Vent	0.0	0	0.0	0.0	
										Ext Door	0	0 0	Total	-3.0				

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

1P-07-EQUIPAMENTOS

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 2 / 18			Mo/Hr: 2 / 18		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 30 / 22 / 15			OADB: 30		OADB: 13			SADB			15.9	21.8
										Ra Plenum			29.6	19.7
										Return			29.6	19.7
										Ret/OA			29.6	19.7
										Fn MtrTD			0.0	0.0
										Fn BldTD			0.0	0.0
										Fn Frict			0.0	0.0

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg			
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg		m²	(%)	kW	L/s	°C	°C			
Main Clg	5.04	4.90	515	29.6	18.1	10.1	15.9	13.5	10.1	Floor	14		Main Htg	-1.2	515	19.7	21.8	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	34		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	5.04									Roof	14	0	0	Humidif	0.0	0	0.0	0.0
										Wall	6	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-1.2			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-01-AUTOATENDIMENTO

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 12 / 16			Mo/Hr: 12 / 19		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 30 / 22 / 16			OADB: 28		OADB: 13			SADB			8.9	24.5
	Space	Plenum	Net	Percent	Space	Percent		Coil Peak	Percent					
	Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total	Space Peak	Tot Sens	Of Total					
	kW	kW	kW	(%)	kW	(%)	Space Sens	kW	(%)					
Envelope Loads							Envelope Loads							
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00				
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00				
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	Roof Cond	0.00	0.00	0.00				
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00	0.00				
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00	0.00				
Wall Cond	1.14	0.22	1.36	8.17	1.23	14.77	Wall Cond	-0.85	-1.02	25.56				
Partition/Door	0.90		0.90	5.41	0.89	10.68	Partition/Door	-1.20	-1.20	30.08				
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00				
Sub Total ==>	2.04	0.22	2.26	13.57	2.12	25.45	Sub Total ==>	-2.05	-2.22	55.64				
Internal Loads							Internal Loads							
Lights	1.28	0.32	1.60	9.61	1.28	15.37	Lights	0.00	0.00	0.00				
People	6.24	0.00	6.24	37.48	3.23	38.78	People	0.00	0	0.00				
Misc	1.62	0.00	1.62	9.73	1.62	19.45	Misc	0.00	0.00	0.00				
Sub Total ==>	9.14	0.32	9.46	56.82	6.13	73.59	Sub Total ==>	0.00	0.00	0.00				
Ceiling Load	0.08	-0.08	0.00	0.00	0.08	0.96	Ceiling Load	-0.02	0	0.00				
Ventilation Load	0.00	0.00	5.03	30.21	0.00	0.00	Ventilation Load	0.00	0.00	0.00				
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00				
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00				
Exhaust Heat		-0.10	-0.10	-0.60			OA Preheat Diff.		0.88	-22.06				
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.		-2.73	68.42				
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat		0.00	0.00				
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat		0.08	-2.01				
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00				
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00				
Grand Total ==>	11.26	0.36	16.65	100.00	8.33	100.00	Grand Total ==>	-2.07	-3.99	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	541	541
Terminal	541	541
Main Fan	541	541
Sec Fan	0	0
Nom Vent	209	0
AHU Vent	209	0
Infil	0	0
MinStop/Rh	0	0
Return	541	541
Exhaust	209	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	38.6	0.0
Lps/m²	5.41	5.41
Lps/kW	32.47	
m²/kW	6.01	
W/m²	166.41	-39.83
No. People	43.0	430.0/1000 m²

	Cooling	Heating
SADB	8.9	24.5
Ra Plenum	23.4	20.9
Return	23.4	20.9
Ret/OA	25.9	20.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS		
	Cooling	Heating
Diffuser	541	541
Terminal	541	541
Main Fan	541	541
Sec Fan	0	0
Nom Vent	209	0
AHU Vent	209	0
Infil	0	0
MinStop/Rh	0	0
Return	541	541
Exhaust	209	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	38.6	0.0
Lps/m²	5.41	5.41
Lps/kW	32.47	
m²/kW	6.01	
W/m²	166.41	-39.83
No. People	43.0	430.0/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
	Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total		Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	16.65	10.18	541	25.9	18.7	12.4	8.9	8.7	7.9	Floor	100		Main Htg	-4.0	541	17.8	24.5	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	152		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
										Roof	0	0	0	Humidif	0.0	0	0.0	0.0
										Wall	51	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-4.0			
Total	16.65																	

By FOX ENGENHARIA E CONSULTORIA

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 18		Mo/Hr: Heating Design			Cooling			Heating
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 30		OADB: 13						
	Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total	Space Sensible	Percent Of Total		Space Peak Space Sens	Coil Peak Tot Sens	Percent Of Total			
	kW	kW	kW	(%)	kW	(%)		kW	kW	(%)			
Envelope Loads							Envelope Loads						
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00			
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00			
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	Roof Cond	0.00	0.00	0.00			
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00	0.00			
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00	0.00			
Wall Cond	0.42	0.08	0.50	5.28	0.43	4.80	Wall Cond	-0.26	-0.31	25.62			
Partition/Door	0.68		0.68	7.18	0.68	7.59	Partition/Door	-0.72	-0.72	59.50			
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00			
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00			
Sub Total ==>	1.10	0.08	1.18	12.46	1.11	12.39	Sub Total ==>	-0.98	-1.03	85.12			
Internal Loads							Internal Loads						
Lights	0.47	0.12	0.59	6.23	0.47	5.25	Lights	0.00	0.00	0.00			
People	0.29	0.00	0.29	3.06	0.15	1.67	People	0.00	0	0.00			
Misc	7.20	0.00	7.20	76.03	7.20	80.36	Misc	0.00	0.00	0.00			
Sub Total ==>	7.96	0.12	8.08	85.32	7.82	87.28	Sub Total ==>	0.00	0.00	0.00			
Ceiling Load	0.03	-0.03	0.00	0.00	0.03	0.33	Ceiling Load	-0.01	0	0.00			
Ventilation Load	0.00	0.00	0.21	2.22	0.00	0.00	Ventilation Load	0.00	0.00	0.00			
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0			
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00			
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00			
Exhaust Heat		0.00	0.00	0.00			OA Preheat Diff.		-0.03	2.48			
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.		-0.05	4.13			
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat		0.00	0.00			
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat		-0.10	8.26			
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00			
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00			
Grand Total ==>	9.09	0.17	9.47	100.00	8.96	100.00	Grand Total ==>	-0.99	-1.21	100.00			

TEMPERATURES		
	Cooling	Heating
SADB	16.0	21.8
Ra Plenum	23.4	20.9
Return	23.4	20.9
Ret/OA	23.5	20.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS		
	Cooling	Heating
Diffuser	1,165	1,165
Terminal	1,165	1,165
Main Fan	1,165	1,165
Sec Fan	0	0
Nom Vent	9	0
AHU Vent	9	0
Infil	0	0
MinStop/Rh	0	0
Return	1,165	1,165
Exhaust	9	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	0.8	0.0
Lps/m²	31.81	31.81
Lps/kW	122.97	
m²/kW	3.87	
W/m²	258.55	-33.03
No. People	2.0	54.6/1000 m²

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Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-03-ESPERA CAIXAS

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 11 / 15			Mo/Hr: 2 / 17		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 30 / 22 / 17			OADB: 31		OADB: 13			SADB			8.4	23.7
										Ra Plenum			23.4	20.9
										Return			23.4	20.9
										Ret/OA			26.3	20.9
										Fn MtrTD			0.0	0.0
										Fn BldTD			0.0	0.0
										Fn Frict			0.0	0.0

COOLING COIL SELECTION									AREAS			HEATING COIL SELECTION				
Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total	Glass m² (%)		Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	8.79	5.03	265	26.3	19.2	13.0	8.4	8.3	7.8	Floor	57	Main Htg	-1.9	265	17.3	23.7
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	106	Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0	Preheat	0.0	0	0.0	0.0
Total	8.79									ExFlr	0	Humidif	0.0	0	0.0	0.0
										Roof	0	Opt Vent	0.0	0	0.0	0.0
										Wall	0	Total	-1.9			
										Ext Door	0					

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-04-CAIXAS EXECUTIVOS

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES		
Peaked at Time: Mo/Hr: 12 / 16					Mo/Hr: 2 / 18			Mo/Hr: Heating Design					
Outside Air: OADB/WB/HR: 30 / 22 / 16					OADB: 30			OADB: 13					
Space Sens. + Lat. kW	Plenum Sens. + Lat. kW	Net Total kW	Percent Of Total (%)		Space Sensible kW	Percent Of Total (%)		Space Peak kW	Coil Peak kW	Percent Of Total (%)	Cooling	Heating	
Envelope Loads								Envelope Loads					
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	SADB	11.3	24.5
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	Ra Plenum	23.4	20.9
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	Return	23.4	20.9
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	Ret/OA	25.3	20.9
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	Fn MtrTD	0.0	0.0
Wall Cond	0.53	0.10	0.63	12.99	0.55	20.83		-0.33	-0.39	28.68	Fn BldTD	0.0	0.0
Partition/Door	0.32		0.32	6.60	0.41	15.53		-0.46	-0.46	33.82	Fn Frict	0.0	0.0
Floor	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Infiltration	0.00		0.00	0.00	0.00	0.00		0.00	0.00	0.00			
Sub Total ==>	0.85	0.10	0.95	19.59	0.96	36.36		-0.79	-0.85	62.50			
Internal Loads								Internal Loads					
Lights	0.40	0.10	0.50	10.31	0.40	15.15		0.00	0.00	0.00			
People	1.45	0.00	1.45	29.90	0.75	28.41		0.00	0	0.00			
Misc	0.51	0.00	0.51	10.52	0.51	19.32		0.00	0.00	0.00			
Sub Total ==>	2.36	0.10	2.46	50.72	1.66	62.88		0.00	0.00	0.00			
Ceiling Load	0.02	-0.02	0.00	0.00	0.02	0.76		-0.01	0	0.00			
Ventilation Load	0.00	0.00	1.47	30.31	0.00	0.00		0.00	0.00	0.00			
Adj Air Trans Heat	0		0	0	0	0		0	0	0			
Dehumid. Ov Sizing			0	0				0.00	0.00	0.00			
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00			0.00	0.00			
Exhaust Heat		-0.03	-0.03	-0.62					0.10	-7.35			
Sup. Fan Heat			0.00	0.00					-0.64	47.06			
Ret. Fan Heat		0.00	0.00	0.00					0.00	0.00			
Duct Heat Pkup		0.00	0.00	0.00					0.03	-2.21			
Underflr Sup Ht Pkup			0	0					0	0.00			
Supply Air Leakage		0	0	0					0	0.00			
Grand Total ==>	3.23	0.15	4.85	100.00	2.64	100.00		-0.80	-1.36	100.00			

AIRFLOWS		
	Cooling	Heating
Diffuser	208	208
Terminal	208	208
Main Fan	208	208
Sec Fan	0	0
Nom Vent	61	0
AHU Vent	61	0
Infil	0	0
MinStop/Rh	0	0
Return	208	208
Exhaust	61	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	29.3	0.0
Lps/m²	6.60	6.60
Lps/kW	42.86	
m²/kW	6.50	
W/m²	153.80	-43.10
No. People	10.0	316.5/1000 m²

COOLING COIL SELECTION									AREAS			HEATING COIL SELECTION				
Total Capacity kW	Sens Cap. kW	Coil Airflow L/s	Enter DB/WB/HR °C °C g/kg			Leave DB/WB/HR °C °C g/kg			Gross Total	Glass m²	(%)	Capacity kW	Coil Airflow L/s	Ent °C	Lvg °C	
Main Clg	4.86	3.15	208	25.3	18.1	11.8	11.3	10.7	32			Main Htg	-1.4	208	18.5	24.5
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	48			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0			Preheat	0.0	0	0.0	0.0
									0							
									0	0	0	Humidif	0.0	0	0.0	0.0
									0	0	0	Opt Vent	0.0	0	0.0	0.0
Total	4.86								20			Total	-1.4			
									0	0	0					

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-05-ESPERA PF VAREJO

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES		
Peaked at Time: Mo/Hr: 11 / 15					Mo/Hr: 2 / 17		Mo/Hr: Heating Design					
Outside Air: OADB/WB/HR: 30 / 22 / 17					OADB: 31		OADB: 13					
Space Sens. + Lat.	Plenum Sens. + Lat	Net Total	Percent Of Total		Space Sensible	Percent Of Total	Space Peak	Coil Peak	Percent			
kW	kW	kW	(%)		kW	(%)	Space Sens	Tot Sens	Of Total			
Envelope Loads							Envelope Loads					
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00	SADB	Cooling
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00	Ra Plenum	Heating
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	Roof Cond	0.00	0.00	0.00	Return	5.2
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00	0.00	Ret/OA	23.3
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00	0.00	Fn MtrTD	20.9
Wall Cond	0.00	0.00	0.00	0.00	0.00	0.00	Wall Cond	0.00	0.00	0.00	Fn BldTD	20.9
Partition/Door	0.38	0.38	3.68		0.53	12.44	Partition/Door	-0.55	-0.55	27.92	Fn Frict	0.0
Floor	0.00	0.00	0.00		0.00	0.00	Floor	0.00	0.00	0.00		0.0
Adjacent Floor	0.00	0.00	0.00		0.00	0.00	Adjacent Floor	0.00	0.00	0.00		0.0
Infiltration	0.00	0.00	0.00		0.00	0.00	Infiltration	0.00	0.00	0.00		0.0
Sub Total ==>	0.38	0.00	0.38	3.68	0.53	12.44	Sub Total ==>	-0.55	-0.55	27.92		0.0
Internal Loads							Internal Loads					
Lights	0.54	0.13	0.67	6.49	0.54	12.68	Lights	0.00	0.00	0.00	AIRFLOWS	
People	4.79	0.00	4.79	46.37	2.48	58.22	People	0.00	0	0.00	Cooling	Heating
Misc	0.68	0.00	0.68	6.58	0.68	15.96	Misc	0.00	0.00	0.00	Diffuser	218
Sub Total ==>	6.01	0.13	6.14	59.44	3.70	86.85	Sub Total ==>	0.00	0.00	0.00	Terminal	218
Ceiling Load	0.03	-0.03	0.00	0.00	0.03	0.70	Ceiling Load	-0.01	0	0.00	Main Fan	218
Ventilation Load	0.00	0.00	3.88	37.56	0.00	0.00	Ventilation Load	0.00	0.00	0.00	Sec Fan	0
Adj Air Trans Heat	0	0	0	0	0	0	Adj Air Trans Heat	0	0	0	Nom Vent	156
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00	AHU Vent	156
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00	Infil	0
Exhaust Heat		-0.07	-0.07	-0.68			OA Preheat Diff.	1.29	-65.48		MinStop/Rh	0
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.	-2.67	135.53		Return	218
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat	0.00	0.00		Exhaust	156
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat	-0.04	2.03		Rm Exh	0
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00	Auxiliary	0
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00	Leakage Dwn	0
Grand Total ==>	6.42	0.03	10.33	100.00	4.26	100.00	Grand Total ==>	-0.56	-1.97	100.00	Leakage Ups	0

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR				Gross Total	Glass			Capacity	Coil Airflow	Ent	Lvg	
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg			m²	(%)		kW	L/s	°C	°C	
Main Clg	10.32	5.28	218	27.9	20.8	14.7	5.2	5.1	6.2	Floor	42			Main Htg	-2.0	218	15.1	23.3
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	66			Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0			Preheat	0.0	0	0.0	0.0
										ExFlr	0							
Total	10.32									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
										Wall	0	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-2.0			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-06-TESOURARIA

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES				
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 17		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 31		OADB: 13			SADB			13.1	25.9
Space Sens. + Lat.		Plenum Sens. + Lat		Net Total	Percent Of Total	Space Sensible		Percent Of Total	Space Peak		Coil Peak	Return		20.9
kW		kW		kW	(%)	kW		(%)	Space Sens		Tot Sens	Ret/OA		20.9
									kW		kW	Fn MtrTD		0.0
												Fn BldTD		0.0
												Fn Frict		0.0
Envelope Loads							Envelope Loads							
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	0.00				
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	0.00				
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	Roof Cond	0.00	0.00	0.00				
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00	0.00				
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00	0.00				
Wall Cond	0.00	0.00	0.00	0.00	0.00	0.00	Wall Cond	0.00	0.00	0.00				
Partition/Door	0.25		0.25	0.00	0.25	0.00	Partition/Door	-0.26	-0.26	0.00				
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00	0.00				
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00	0.00				
Sub Total ==>	0.25	0.00	0.25	0.00	0.25	0.00	Sub Total ==>	-0.26	-0.26	0.00				
Internal Loads							Internal Loads							
Lights	0.09	0.02	0.11	0.00	0.09	0.00	Lights	0.00	0.00	0.00				
People	0.15	0.00	0.15	0.00	0.08	0.00	People	0.00	0	0.00				
Misc	0.12	0.00	0.12	0.00	0.12	0.00	Misc	0.00	0.00	0.00				
Sub Total ==>	0.36	0.02	0.38	0.00	0.29	0.00	Sub Total ==>	0.00	0.00	0.00				
Ceiling Load	0.01	-0.01	0.00	0.00	0.01	0.00	Ceiling Load	0.00	0	0.00				
Ventilation Load	0.00	0.00	0.17	0.00	0.00	0.00	Ventilation Load	0.00	0.00	0.00				
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0				
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00				
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat		0.00	0.00				
Exhaust Heat		0.00	0.00	0.00			OA Preheat Diff.		0.00	0.00				
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.		-0.06	0.00				
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat		0.00	0.00				
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat		-0.01	0.00				
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup		0	0.00				
Supply Air Leakage		0	0	0			Supply Air Leakage		0	0.00				
Grand Total ==>	0.62	0.01	0.80	100.00	0.55	100.00	Grand Total ==>	-0.26	-0.33	100.00				

AIRFLOWS		
	Cooling	Heating
Diffuser	50	50
Terminal	50	50
Main Fan	50	50
Sec Fan	0	0
Nom Vent	8	0
AHU Vent	8	0
Infil	0	0
MinStop/Rh	0	0
Return	50	50
Exhaust	8	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	15.0	0.0
Lps/m²	7.02	7.02
Lps/kW	63.20	
m²/kW	9.00	
W/m²	111.06	-47.53
No. People	1.0	140.8/1000 m²

AIRFLOWS		
	Cooling	Heating
Diffuser	50	50
Terminal	50	50
Main Fan	50	50
Sec Fan	0	0
Nom Vent	8	0
AHU Vent	8	0
Infil	0	0
MinStop/Rh	0	0
Return	50	50
Exhaust	8	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	15.0	0.0
Lps/m²	7.02	7.02
Lps/kW	63.20	
m²/kW	9.00	
W/m²	111.06	-47.53
No. People	1.0	140.8/1000 m²

COOLING COIL SELECTION										AREAS			HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR				Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg	
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg			m²	(%)	kW	L/s	°C	°C	
Main Clg	0.79	0.62	50	24.6	17.0	10.7	13.1	12.0	9.5	Floor	7		Main Htg	-0.3	50	19.7	25.9
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	27		Aux Htg	0.0	0	0.0	0.0
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0
										ExFlr	0						
Total	0.79									Roof	0	0	Humidif	0.0	0	0.0	0.0
										Wall	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	Total	-0.3			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-07-APOIO

COOLING COIL PEAK					CLG SPACE PEAK			HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 2 / 17			Mo/Hr: 2 / 18		Mo/Hr: Heating Design			Cooling			Heating	
Outside Air:		OADB/WB/HR: 31 / 22 / 15			OADB: 30		OADB: 13			SADB			13.1	26.1
										Ra Plenum			23.4	20.9
										Return			23.4	20.9
										Ret/OA			24.6	20.9
										Fn MtrTD			0.0	0.0
										Fn BldTD			0.0	0.0
										Fn Frict			0.0	0.0

AIRFLOWS		
	Cooling	Heating
Diffuser	97	97
Terminal	97	97
Main Fan	97	97
Sec Fan	0	0
Nom Vent	15	0
AHU Vent	15	0
Infil	0	0
MinStop/Rh	0	0
Return	97	97
Exhaust	15	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	15.5	0.0
Lps/m²	9.95	9.95
Lps/kW	60.85	
m²/kW	6.11	
W/m²	163.46	-70.50
No. People	2.0	205.8/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg			
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg		m²	(%)	kW	L/s	°C	°C			
Main Clg	1.59	1.25	97	24.6	17.0	10.8	13.1	11.8	9.4	Floor	10		Main Htg	-0.7	97	19.6	26.1	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	39		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
Total	1.59									Roof	0	0	0	Humidif	0.0	0	0.0	0.0
										Wall	10	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-0.7			

Room Checksums

By FOX ENGENHARIA E CONSULTORIA

TE-08-PF VAREJO

COOLING COIL PEAK					CLG SPACE PEAK		HEATING COIL PEAK			TEMPERATURES			
Peaked at Time:		Mo/Hr: 3 / 16			Mo/Hr: 4 / 19		Mo/Hr: Heating Design			Cooling		Heating	
Outside Air:		OADB/WB/HR: 30 / 22 / 16			OADB: 28		OADB: 13			SADB	10.9	24.3	
	Space	Plenum	Net	Percent	Space	Percent		Coil Peak	Percent	Ra Plenum	23.4	20.9	
	Sens. + Lat.	Sens. + Lat	Total	Of Total	Sensible	Of Total	Space Peak	Tot Sens	Of Total	Return	23.4	20.9	
	kW	kW	kW	(%)	kW	(%)	Space Sens	kW	(%)	Ret/OA	25.5	20.9	
Envelope Loads					Envelope Loads					Fn MtrTD	0.0	0.0	
Skylite Solar	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Solar	0.00	0.00	Fn BldTD	0.0	0.0	
Skylite Cond	0.00	0.00	0.00	0.00	0.00	0.00	Skylite Cond	0.00	0.00	Fn Frict	0.0	0.0	
Roof Cond	0.00	0.00	0.00	0.00	0.00	0.00	Roof Cond	0.00	0.00				
Glass Solar	0.00	0.00	0.00	0.00	0.00	0.00	Glass Solar	0.00	0.00				
Glass/Door Cond	0.00	0.00	0.00	0.00	0.00	0.00	Glass/Door Cond	0.00	0.00				
Wall Cond	0.57	0.11	0.68	8.74	0.87	20.62	Wall Cond	-0.53	-0.64				
Partition/Door	0.41		0.41	5.27	0.46	10.90	Partition/Door	-0.61	-0.61				
Floor	0.00		0.00	0.00	0.00	0.00	Floor	0.00	0.00				
Adjacent Floor	0.00	0.00	0.00	0.00	0.00	0.00	Adjacent Floor	0.00	0.00				
Infiltration	0.00		0.00	0.00	0.00	0.00	Infiltration	0.00	0.00				
Sub Total ==>	0.98	0.11	1.09	14.01	1.33	31.52	Sub Total ==>	-1.14	-1.25				
Internal Loads					Internal Loads					AIRFLOWS			
Lights	0.66	0.17	0.83	10.67	0.66	15.64	Lights	0.00	0.00	0.00	Cooling	Heating	
People	2.61	0.00	2.61	33.55	1.35	31.99	People	0.00	0	0.00	Diffuser	319	319
Misc	0.84	0.00	0.84	10.80	0.84	19.91	Misc	0.00	0.00	0.00	Terminal	319	319
Sub Total ==>	4.11	0.17	4.28	55.01	2.85	67.54	Sub Total ==>	0.00	0.00	0.00	Main Fan	319	319
Ceiling Load	0.04	-0.04	0.00	0.00	0.04	0.95	Ceiling Load	-0.01	0	0.00	Sec Fan	0	0
Ventilation Load	0.00	0.00	2.45	31.49	0.00	0.00	Ventilation Load	0.00	0.00	0.00	Nom Vent	102	0
Adj Air Trans Heat	0		0	0	0	0	Adj Air Trans Heat	0	0	0	AHU Vent	102	0
Dehumid. Ov Sizing			0	0			Ov/Undr Sizing	0.00	0.00	0.00	Infil	0	0
Ov/Undr Sizing	0.00		0.00	0.00	0.00	0.00	Exhaust Heat	0.00	0.00	0.00	MinStop/Rh	0	0
Exhaust Heat		-0.04	-0.04	-0.51			OA Preheat Diff.	0.21	-10.05		Return	319	319
Sup. Fan Heat			0.00	0.00			RA Preheat Diff.	-1.11	53.11		Exhaust	102	0
Ret. Fan Heat		0.00	0.00	0.00			Additional Reheat	0.00	0.00		Rm Exh	0	0
Duct Heat Pkup		0.00	0.00	0.00			System Plenum Heat	0.06	-2.87		Auxiliary	0	0
Underflr Sup Ht Pkup			0	0			Underflr Sup Ht Pkup	0	0	0.00	Leakage Dwn	0	0
Supply Air Leakage		0	0	0			Supply Air Leakage	0	0	0.00	Leakage Ups	0	0
Grand Total ==>	5.13	0.20	7.78	100.00	4.22	100.00	Grand Total ==>	-1.15	-2.09	100.00	ENGINEERING CKS		
											Cooling	Heating	
										% OA	31.9	0.0	
										Lps/m²	6.18	6.18	
										Lps/kW	41.02		
										m²/kW	6.64		
										W/m²	150.45	-40.64	
										No. People	18.0	348.8/1000 m²	

	Cooling	Heating
SADB	10.9	24.3
Ra Plenum	23.4	20.9
Return	23.4	20.9
Ret/OA	25.5	20.9
Fn MtrTD	0.0	0.0
Fn BldTD	0.0	0.0
Fn Frict	0.0	0.0

AIRFLOWS		
	Cooling	Heating
Diffuser	319	319
Terminal	319	319
Main Fan	319	319
Sec Fan	0	0
Nom Vent	102	0
AHU Vent	102	0
Infil	0	0
MinStop/Rh	0	0
Return	319	319
Exhaust	102	0
Rm Exh	0	0
Auxiliary	0	0
Leakage Dwn	0	0
Leakage Ups	0	0

ENGINEERING CKS		
	Cooling	Heating
% OA	31.9	0.0
Lps/m²	6.18	6.18
Lps/kW	41.02	
m²/kW	6.64	
W/m²	150.45	-40.64
No. People	18.0	348.8/1000 m²

COOLING COIL SELECTION										AREAS				HEATING COIL SELECTION				
Total Capacity	Sens Cap.	Coil Airflow	Enter DB/WB/HR			Leave DB/WB/HR			Gross Total	Glass		Capacity	Coil Airflow	Ent	Lvg			
kW	kW	L/s	°C	°C	g/kg	°C	°C	g/kg		m²	(%)	kW	L/s	°C	°C			
Main Clg	7.77	4.83	319	25.5	18.2	12.0	10.9	10.5	8.9	Floor	52		Main Htg	-2.1	319	18.3	24.3	
Aux Clg	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Part	63		Aux Htg	0.0	0	0.0	0.0	
Opt Vent	0.00	0.00	0	0.0	0.0	0.0	0.0	0.0	0.0	Int Door	0		Preheat	0.0	0	0.0	0.0	
										ExFlr	0							
										Roof	0	0	0	Humidif	0.0	0	0.0	0.0
										Wall	32	0	0	Opt Vent	0.0	0	0.0	0.0
										Ext Door	0	0	0	Total	-2.1			
Total	7.77																	