

MEMORIAL DESCRITIVO E ESPECIFICAÇÕES TÉCNICAS

REFORMA DO PONTO DE PRESENÇA DA REDE NACIONAL DE ENSINO E PESQUISA NO ESTADO DA GOIAS (POP-GO)

AR CONDICIONADO

21/03/25

1 MEMORIA DE CÁLCULO E CARGA TÉRMICA

Condições Gerais:

APLICAÇÃO: A intervenção objetiva a reforma do ponto de presença da rede nacional de ensino e pesquisa no estado de Goiás (POP-GO), localizado na PRAÇA UNIVERSITÁRIA - NÚMERO 1488 - QUADRA 86 - CEP: 74605-220 - GOIÂNIA.

A seguir segue memória de cálculo de carga térmica para o ambiente DATA CENTER e a partir do software HAP da Carrier.

Air System Sizing Summary for SPLIT		03/07/2025 04:59	
Project Name: POP GO Prepared by: DANIEL			
Air System Information			
Air System Name	SPLIT	Number of zones	1
Equipment Class	SPLIT AHU	Floor Area	41,8 m²
Air System Type	SZCAV	Location	GOIANIA, Brazil
Sizing Calculation Information			
Calculation Months	Jan to Dec	Zone L/s Sizing	Sum of space airflow rates
Sizing Data	Calculated	Space L/s Sizing	Individual peak space loads
Central Cooling Coil Sizing Data			
Total coil load	47,7 kW	Load occurs at	Dec 1300
Sensible coil load	47,5 kW	OA DB / WB	32,0 / 20,4 °C
Coil L/s at Dec 1300	4526 L/s	Entering DB / WB	24,4 / 17,5 °C
Max block L/s	4526 L/s	Leaving DB / WB	14,9 / 14,2 °C
Sum of peak zone L/s	4526 L/s	Coil ADP	13,8 °C
Sensible heat ratio	0,998	Bypass Factor	0,100
m³/kW	0,9	Resulting RH	52 %
W/m²	1140,2	Design supply temp.	14,4 °C
Water flow @ 5,6 °K rise	N/A	Zone T-stat Check	1 of 1 OK
		Max zone temperature deviation	0,0 °K
Central Heating Coil Sizing Data			
No central heating coil loads occurred during this calculation.			
Supply Fan Sizing Data			
Actual max L/s	4526 L/s	Fan motor BHP	0,00 BHP
Standard L/s	4138 L/s	Fan motor kW	0,00 kW
Actual max L/(s-m²)	108,27 L/(s-m²)	Fan static	0 Pa
Outdoor Ventilation Air Data			
Design airflow L/s	38 L/s	L/s/person	0,00 L/s/person
L/(s-m²)	0,90 L/(s-m²)		

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s-m²)
Zone 1							
DATA CENTER	1	47,2	Jan 1300	4526	0,0	41,8	108,27