



**CONSÓRCIO
SAÚDE**

CONCREMAT | MEP

MEMÓRIA DE CÁLCULO SISTEMA DE HVAC CER4

PROJETO EXECUTIVO

**ABRIL/ 2026
VERSÃO R02**

ASSUNTO:	MEMÓRIA DE CÁLCULO SISTEMA DE HVAC - CER4	
LOCAL:	DIVERSOS (PROJETO PADRÃO)	
CONTRATANTE:	SECRETARIA DA SAÚDE DO ESTADO DA BAHIA (SESAB)	CNPJ: 13.937.131/0001-41
CONTRATADA:	CONSÓRCIO SAÚDE CONCREMAT-MEP	CNPJ: 60.255.454/0001-35

ESTATÍSTICAS:			
PROJETOS PADRÃO	ÁREA ESTIMADA	ÁREA ESTIMADA DO TERRENO	
UBSI TIPO I	250,00	1.000,00	CONTRATANTE: SECRETARIA DA SAÚDE DO ESTADO DA BAHIA (SESAB) CNPJ: 13.937.131/0001-41 AUTOR DO MEMORIAL: JOSIMAR FRAGOSO ENGENHEIRA MECÂNICA CREA nº 77379BA ESCALA: INDICADA DATA: ABRIL/2026 TEXTO: CONSÓRCIO SAÚDE CONCREMAT- MEP REVISÃO: R02
UBSI TIPO II	400,00	1.000,00	
UBS TIPO II	650,00	2.000,00	
UBS TIPO III	750,00	2.500,00	
UBS TIPO IV	930,00	3.000,00	
CER TIPO II	1.650,00	4.000,00	
CER TIPO III	1.910,00	5.000,00	
CER TIPO IV	2.100,00	6.000,00	
UA	450,00	2.000,00	
CAPS I	630,00	2.000,00	
CAPS III	820,00	2.500,00	
LMRR	670,00	3.000,00	
REGIONAL			
HEMOCENTRO	730,00	3.000,00	
REGIONAL			
TOTAL	11.940,00m²	37.000,00m²	

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1. APRESENTAÇÃO

Esta memória de cálculo visa apresentar os cálculos de renovação de ar, exaustão e de carga térmica para a implantação dos sistemas de climatização das Centro Especializado em Reabilitação (CER) Tipo IV.

2. NORMAS DE REFERÊNCIA

Considera-se como referências técnicas para a elaboração desta memória de cálculo as seguintes normas:

- RESOLUÇÃO ANVISA - RDC Nº 50, DE 21 DE FEVEREIRO DE 2002 - Regulamento Técnico para planejamento, programação, elaboração e avaliação de projetos físicos de estabelecimentos assistenciais de saúde;
- ABNT NBR 7256:2022 – Tratamento de ar em ambientes assistenciais de saúde (EAS) – Requisitos para projeto e execução das instalações;
- ABNT NBR 16401:2024 – Instalações Centrais de Ar Condicionado – Sistemas Centrais e Unitários – Parte 1 – Projetos de Instalações;
- ABNT NBR 16401:2024 – Instalações Centrais de Ar Condicionado – Sistemas Centrais e Unitários – Parte 2 – Parâmetros de Conforto Térmico Conforto;
- ABNT NBR 16401:2024 – Instalações Centrais de Ar Condicionado – Sistemas Centrais e Unitários – Parte 3 – Qualidade do Ar Interior;
- PORTARIA Nº 3.523, DE 28 DE AGOSTO DE 1998, do Ministério da Saúde;
- LEI Nº 13.589, DE 4 DE JANEIRO DE 2018.

3. DOCUMENTOS ESPECÍFICOS DE REFERÊNCIA

Considera-se como referências específicas para a elaboração desta memória de cálculo os seguintes documentos:

- 0015-PP-CER4-ARQ-PE-002-00-LAY– CER TIPO IV – Arquitetura – Planta de Lay out;
- 0015-PP-CER4-ARQ-MDB-PEIFC – Modelagem BIM CER 43

4. PREMISSAS PARA CÁLCULO DE CARGA TÉRMICA

Para o cálculo da carga térmica foi empregando o "software" HAP 40, versão 5.1, da Carrier. O sistema HAP emprega o método de cálculo "Transfer Function" da ASHRAE e permite além do cálculo de carga térmica, a simulação hora a hora das 8.760 horas/ano.

1. Condições Externas de Ambiente

Consideramos a implantação da unidade em clima tropical, Salvador / Bahia, com frequência anual 0,4%, adotando-se para o ar exterior os parâmetros indicados pela NBR-16.401, parte 1, Anexo A, Tabela A-4, a saber:

- Temperatura bulbo seco (TBS): 32,6 °C (verão)
- Temperatura bulbo úmido (TBU): 26,6 °C (verão)

2. Taxas para Cálculo da Carga Térmica

- Para os itens: ocupação, equipamentos, iluminação e calor dissipado pelas pessoas foram consideradas as recomendações da ABNT NBR-16.401, parte 1, Anexo C.

3. Condições Internas para ambientes climatizados

- Pé Direito (m) = 2,70
- Temperatura de Bulbo Seco = 20 °C a 24 °C
- Umidade Relativa = 60% (máxima)
- Vazão mínima de ar exterior (renovações por hora) = 2,0

5. CÁLCULO DA VAZÃO DE RENOVAÇÃO – INSUFLAMENTO

Para o cálculo da vazão de ar exterior dos ambientes, foi adotada a taxa mínima de 2 (duas) renovações de ar por hora.

Segue conforme tabelas abaixo:

Ambientes				Norma	Vazão adotada		N. Trocas de ar
Tipo	Pé direito	Área (m²)	NºPessoas		Ar externo (m³/h)		
ALMOXARIFADO/	2,7	18,7	1	NBR 16401	27	100	2,0
SALA MULTIUSO	2,7	27,3	13	NBR 16401	351	350	4,7
SALA ADM	2,7	13,86	2	NBR 16401	54	75	2,0
APOIO ADM	2,7	19,63	4	NBR 16401	108	110	2,1
SALA DE COODERNAÇÃO	2,7	13,92	5	NBR 16401	135	115	3,1
ÁREA DE ESTAR EQ.	2,7	27,86	11	NBR 16401	297	300	4,0
SALA DE REUNIÃO	2,7	36,79	21	NBR 16401	567	555	5,6
COPA/ REFEITÓRIO	2,7	27,84	14	NBR 16401	378	350	4,7
COPA/ REFEITÓRIO	2,7	41,18	20	NBR 16401	540	500	4,5
SALA DE TI	2,7	5,02		NBR 16401	0	0	0,0
ARQUIVO	2,7	12,52	2	NBR 16401	54	70	2,1
SALA DE AMAMENTAÇÃO	2,7	7,33	2	NBR 16401	54	55	2,8

CV-01	CAIXA DE VENTILAÇÃO MODELO TITAN SGSD 317, EQUIPADA COM FILTRO G4 + F8, ARRANJO 4, CLASSE 1, DESCARGA HORIZONTAL, POTÊNCIA DE 0,50 CV, PRESSÃO ESTÁTICA DISP. 300PA, VAZÃO 2.630 m³/h, MOTOR DE 4 POLOS, TRIFÁSICO, 60Hz. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Ambientes		Vazão adotada	
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Tipo	Pé direito	Área (m²)	Pessoas	Norma	Ar externo (m³/h)		N. Trocas de ar
RECEPÇÃO/ SL ESPERA	2,7	77,88	25	NBR 16401	675	680	3,2
CONSULTÓRIO INTERD.	2,7	11	3	NBR 7256	59	60	2,0
SL. ATEND. INFATIL 01	2,7	19,94	10	NBR 7256	108	110	2,0
SL. ATEND. INFATIL 02	2,7	19,94	10	NBR 7256	108	110	2,0
SL DE ATIVIDADE DE VIDA	2,7	24,2	2	NBR 7256	131	130	2,0
SL. DE ATEND. EM GRUPO ADULTO 01	2,7	19,97	10	NBR 7256	108	110	2,0
SL. DE ATEND. EM GRUPO ADULTO 02	2,7	19,92	10	NBR 7256	108	110	2,0
SL. ESTIMULAÇÃO PREC. 01	2,7	18,8	2	NBR 7256	102	105	2,1
SL. ESTIMULAÇÃO PREC. 02	2,7	18,83	2	NBR 7256	102	105	2,1

CV-02	CAIXA DE VENTILAÇÃO MODELO FH 400, VAZÃO DE 1840 m³/h, PRESSÃO ESTÁTICA DISP. 250PA, POTÊNCIA DE 486 W, TENSÃO 220 V – 1F, COM FILTRO G4 +F8 REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO
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Ambientes				Norma	Vazão adotada		
Tipo	Pé direito	Área (m²)	Pessoas		Ar externo (m³/h)		N. Trocas de ar
GINÁSIO DE GINESIOTERAPIA	2,7	108,5	10	NBR 7256	586	590	2,0
SL. DE CINESIOTERAPIA INFANTIL	2,7	24,9	2	NBR 7256	134	135	2,0
AMBULATÓRIO ESTOMIA	2,7	12	2	NBR 7256	65	65	2,0
ACOLHIMENTO FAMILIAR	2,7	46,23	16	NBR 7256	250	250	2,0
CONSULT. MULTIPROFISSIONAL 01	2,7	10,09	3	NBR 7256	54	55	2,0
CONSULT. MULTIPROFISSIONAL 02	2,7	10,09	3	NBR 7256	54	55	2,0
CONSULT. FISIATRIA/ORTOPEDIA	2,7	11,23	3	NBR 7256	61	60	2,0
SALA DE TI	2,7	4,85		NBR 16401	0	0	0,0
SL. INTEGRAÇÃO	2,7	29,79	3	NBR 7256	161	160	2,0
SL. DE ESTIMULAÇÃO	2,7	23,51	16	NBR 7256	127	130	2,0
SL DE PROCED. INTERNOS	2,7	12,82	2	NBR 7256	69	70	2,0
GUARDA DE RECURSOS	2,7	6,62	2	NBR 7256	36	35	2,0
CONSULTÓRIO NEUROLOGIA	2,7	11,13	2	NBR 7256	60	60	2,0
CONSULTÓRIO MULTIPROF. 01	2,7	11,03	2	NBR 7256	60	60	2,0
CONSULTÓRIO MULTIPROF. 02	2,7	11,09	3	NBR 7256	60	60	2,0

EQUIPAMENTO ADOTADO

CV-03	CAIXA DE VENTILAÇÃO MODELO FH 400, VAZÃO DE 1980 m³/h, PRESSÃO ESTÁTICA DISP. 250PA POTÊNCIA DE 486 W, TENSÃO 220 V – 1F, COM FILTRO G4 + F8. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Ambientes				Norma	Vazão adotada		
Tipo	Pé direito	Área (m²)	Pessoas		Ar externo (m³/h)		N. Trocas de ar
SL. EXAME PEATE-BERA	2,7	8,82	3	NBR 7256	48	50	2,1
SL OARA SELEÇÃO DE AASI	2,7	9,98	3	NBR 7256	54	55	2,0
AVALIAÇÃO AUDIOLÓGICA	2,7	10,79	3	NBR 7256	58	60	2,1
CONSULTÓRIO MULTIPROF. 01	2,7	10,06	3	NBR 7256	54	55	2,0
CONSULTÓRIO MULTIPROF. 02	2,7	10,04	3	NBR 7256	54	55	2,0
CONSULTÓRIO OTORRIN.	2,7	10,08	3	NBR 7256	54	55	2,0

EQUIPAMENTO ADOTADO

CV-04	CAIXA DE VENTILAÇÃO MODELO FH 200, VAZÃO DE 340 m³/h, PRESSÃO ESTÁTICA DISP. 250PA POTÊNCIA DE 160 W, TENSÃO 220 V – 1F, COM FILTRO G4+F8. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO
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Ambientes				Norma	Vazão adotada		N. Trocas de ar
Tipo	Pé direito	Área (m²)	Pessoas		Ar externo (m³/h)		
LAB. DE PRÓTESE OCULAR	2,7	12,16	2	NBR 7256	66	65	2,0
SL. DE ORIENTAÇÃO	2,7	21,25	2	NBR 7256	115	115	2,0
CONSUL. DE OFTALMOLOGIA	2,7	16,41	2	NBR 7256	89	90	2,0
CONSULT. MULTIPROFSSIONAL	2,7	10,56	2	NBR 7256	57	60	2,1
SL. DE ORIENTAÇÃO	2,7	16,38	2	NBR 7256	88	90	2,0

EQUIPAMENTO ADOTADO

CV-05	CAIXA DE VENTILAÇÃO MODELO FH 200, VAZÃO DE 435 m³/h, PRESSÃO ESTÁTICA DISP. 250PA, POTÊNCIA DE 182 W, TENSÃO 220 V – 1F, COM FILTRO G4 + F8. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Ambientes				Norma	Vazão adotada	
Tipo	Pé direito	Área (m²)	Pessoas		Ar externo (m³/h)	N. Trocas de ar

ESTERILIZ. E DISTRIB. CME	2,7	5,46	2	NBR 7256	29	30	2,0
RECEPÇÃO E LAVAGEM CME	2,7	4,8	2	NBR 7256	26	30	2,3
					Total	60	

5. CÁLCULO DA VAZÃO DE EXAUSTÃO

Exaustão						
Mínima vazão de ar por ambiente						ADOTADA
Ambientes	Área	Pé direito	Renovações por hora (T/h)	Vazão (m³/h)	Vazão (L/s)	Vazão (m³/h)
Vest. Func. Masc.	12,79	2,7	10	345	96	345
Banheiro Func. PCD	4,81	2,7	10	130	36	130
Vest. Func. FEM	22,13	2,7	10	598	166	600
DML	3,76	2,7	10	102	28	100
COPA	27,84	2,7	10	752	209	750
COPA	41,18	2,7	10	1112	309	1110
DML	3,75	2,7	10	101	28	100
ARQUIVO	12,52	2,7	10	338	94	340
SANIT. PUB MASC PCD	3,52	2,7	10	95	26	95
SANIT. PUB. EM.PCD	3,39	2,7	10	92	25	95
BANHEIRO PCD	5,43	2,7	10	147	41	150
Vazão mínima total:				3810	1058	3815

EX-01	CAIXA DE VENTILAÇÃO MODELO TITAN SGSD 277, PRESSÃO ESTÁTICA DISP. 350PA, VAZÃO 3815 m³/h, SEM FILTRO, ARRANJO 4, CLASSE 1, DESCARGA HORIZONTAL, POTÊNCIA DE 0,75 CV, MOTOR DE 4 POLOS, TRIFÁSICO, 60 HZ, PRESSÃO REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Exaustão						
Mínima vazão de ar por ambiente						ADOTADA
Ambientes	Área	Pé direito	Renovações por hora (T/h)	Vazão (m³/h)	Vazão (L/s)	Vazão (m³/h)

VEST. PÚB. MASC. PCD	5,07	2,7	10	137	38	140
SALA DE UTILIDADES	5,60	2,7	10	151	42	150
DML	3,12	2,7	10	84	23	85
SL HIGIENIZAÇÃO	4,46	2,7	10	120	33	120
SANITÁRIO OSTOMIA	4,32	2,7	10	117	32	120
SANIT. PÚB. FEM. PCD	3,50	2,7	10	95	26	95
SANIT. PÚB. MASC. PCD	3,49	2,7	10	94	26	95
FRALDÁRIO ADULTO	4,39	2,7	10	119	33	120
SANIT. PUB. PCD FRALD.	3,61	2,7	10	97	27	100
DML	3,46	2,7	10	93	26	95
Vazão mínima total:				1108	308	1120

EX-02	CAIXA DE VENTILAÇÃO MODELO FH 250, PRESSÃO ESTÁTICA DISP. 250PA, VAZÃO 1200 m³/h, POTÊNCIA DE 182 W, TENSÃO 220 V – 1F, SEM FILTRO. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Exaustão						
Mínima vazão de ar por ambiente						ADOTADA
Ambientes	Área	Pé direito	Renovações por hora (T/h)	Vazão (m³/h)	Vazão (L/s)	Vazão (m³/h)
ESTERILIZ. E DISTRIB. CME	5,46	2,7	10	147	41	600
RECEPÇÃO E LAVAGEM CME	3,29	2,7	10	89	25	600
Vazão mínima total:				236	66	1200

Os ambientes da Central de Material e Esterilização (CME) exigem exaustão total do ar insuflado pelo sistema de climatização, além de manter pressão negativa nas áreas classificadas como sujas. Para isso, foi adotada vazão de exaustão dimensionada de forma a garantir o correto gradiente de pressão entre os ambientes, em conformidade com a NBR 7256 e recomendações da ASHRAE.

EX-03	CAIXA DE VENTILAÇÃO MODELO FH 250, PRESSÃO ESTÁTICA DISP. 250PA, VAZÃO 1200 m³/h POTÊNCIA DE 182 W, TENSÃO 220 V – 1F, SEM FILTRO. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO.
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Exaustão						
Mínima vazão de ar por ambiente						ADOTADA
Ambientes	Área	Pé direito	Renovações por hora (T/h)	Vazão (m³/h)	Vazão (L/s)	Vazão (m³/h)

SANIT. FUNC. MASC	2,58	2,7	10	70	19	70
SANIT. FUNC. FEM.	2,60	2,7	10	70	20	70
SANIT. PUB. MASC. PCD	3,29	2,7	10	89	25	90
SANIT. PUB. FEM. PCD	3,29	2,7	10	89	25	90
Foram previstos microexaustores, devidamente dimensionados para garantir a exaustão contínua do ar e a manutenção de pressão negativa em relação às áreas adjacentes.						
ME-01	MICROEXAUSTOR MODELO SONORA 11, VAZÃO DE 90 m³/h, PRESSÃO ESTÁTICA 50Pa, POTÊNCIA DE 17 W, TENSÃO 127/220 V – 1F. REFERÊNCIA: SICFLUX OU EQUIVALENTE TÉCNICO					

6. ESPECIFICAÇÃO EQUIPAMENTOS DE CLIMATIZAÇÃO

RELAÇÃO EQUIPAMENTOS SPLIT INVERTER						
Tipo	Área (m²)	CARGA TÉRMICA (Kw)	CAPACIDADE ADOTADA (kW)	CAPACIDADE ADOTADA (BTU/h)		QTDE
ALMOXARIFADO/	18,7	3,3	5,3	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA MULTIUSO	27,3	8,8	7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA ADM	13,86	2,3	3,5	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1

APOIO ADM	19,63	4,7	5,3	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA DE COODERNAÇÃO	13,92	3,4	3,5	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
ÁREA DE ESTAR EQ.	27,86	7,2	7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA DE REUNIÃO	36,79	12,6	8,8	30000	Split tipo Cassete 4 vias, modelo: 30.000 BTU/h, Potência: 3400W - 220/1F/60Hz, condensadora de descarga vertical.	1
COPA/ REFEITÓRIO	27,84	9	7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1

COPA/ REFEITÓRIO	41,18	13,9	5,3	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	2
SALA DE TI	5,02	1,9	3,5	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	2
ARQUIVO	12,52	3,3	2,6	9000	Split tipo Hi-Wall, modelo: 9.000 BTU/h, Potência: 810W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA DE AMAMENTAÇÃO	7,33	1,9	2,6	9000	Split tipo Hi-Wall, modelo: 9.000 BTU/h, Potência: 810W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA DE TI	4,85	2,3	3,5	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	2

RECEPÇÃO/ SL ESPERA	77,88	25,7	30,1	72000	Split tipo Piso Teto vias, modelo: 36.000 BTU/h, Potência: 4300W - 220/1F/60Hz, condensadora de descarga vertical	2
CONSULTÓRIO INTERD.	11	3	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL. ATEND. INFANTIL 01	19,94	5,5	5,7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL DE ATIVIDADE DE VIDA	24,2	5,5	5,7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL. ESTIMULAÇÃO PREC. 02	18,83	4	4	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1

SL. DE ATEND. EM GRUPO ADULTO	19,92	4,9	5,7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL. ESTIMULAÇÃO PREC. 01	18,8	4,1	5,7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
GINÁSIO DE GINESIOTERAPIA	108,5	19,8	22,9	108000	Split tipo Piso Teto vias, modelo: 36.000 BTU/h, Potência: 4300W - 220/1F/60Hz, condensadora de descarga vertical	3
SL. DE CINESIOTERAPIA INFANTIL	24,9	5,7	5,7	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
AMBULATÓRIO ESTOMIA	12	3,4	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1

ACOLHIMENTO FAMILIAR	46,23	13,5	15,1	48000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	2
CONSULT. MULTIPROFISSIONAL 01	10,09	2,5	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULT. MULTIPROFISSIONAL 02	10,09	3,5	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULT. FISIATRIA/ORTOPEDIA	11,23	3,2	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL. INTEGRAÇÃO	29,79	6	7,5	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1

SL. DE ESTIMULAÇÃO	23,51	7,1	7,5	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL DE PROCED. INTERNOS	12,82	3,6	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO NEUROLOGIA	11,13	2,9	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO MULTIPROF. 01	11,03	2,7	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO MULTIPROF. 02	11,09	3,3	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1

SL. EXAME PEATE-BERA	8,82	3,5	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SL OARA SELEÇÃO DE AASI	9,98	3,5	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
AVALIAÇÃO AUDIOLÓGICA	10,79	3,9	5,7	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO MULTIPROF. 01	10,06	3,7	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO MULTIPROF. 02	10,04	3,5	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1

CONSULTÓRIO OTORRIN.	10,08	3,5	4		Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	
ESTERILIZ. E DISTRIB. CME	5,46	6,9	10,55	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
RECEPÇÃO E LAVAGEM CME	4,8	6,9	4	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO DE OFTALMOLOGIA	16,41	2,7	5,3	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
CONSULTÓRIO MULTIPROFISSIONAL	10,56	3,7	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1

SALA DE ORIENTAÇÃO DE BAIXA VISÃO	16,38	3,9	5,3	18000	Split tipo Hi-Wall, modelo: 18.000 BTU/h, Potência: 1600W - 220/1F/60Hz, condensadora de descarga vertical.	1
LABORATÓRIO PROTESE OCULAR	12,16	4,3	4	12000	Split tipo Hi-Wall, modelo: 12.000 BTU/h, Potência: 1100W - 220/1F/60Hz, condensadora de descarga vertical.	1
SALA DE ORIENTAÇÃO DE MOBILIDADE	21,25	5	7,5	24000	Split tipo Hi-Wall, modelo: 24.000 BTU/h, Potência: 2100W - 220/1F/60Hz, condensadora de descarga vertical.	1

7. RELATÓRIO DE CÁLCULO DE CARGA TÉRMICA

Air System Information

Air System Name **13_RECEPÇÃO ESPERA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **77,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **25,7** kW
Sensible coil load **16,9** kW
Coil L/s at Dec 1600 **965** L/s
Max block L/s **965** L/s
Sum of peak zone L/s **965** L/s
Sensible heat ratio **0,658**
L/(s kW) **37,5**
m²/kW **3,0**
W/m² **330,0**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **24,2 / 17,8** °C
Leaving DB / WB **9,6 / 9,2** °C
Coil ADP **8,0** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **12,9** kW
Coil L/s at Des Htg **965** L/s
Max coil L/s **965** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **165,9**
Ent. DB / Lvg DB **8,7 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **965** L/s
Standard L/s **965** L/s
Actual max L/(s·m²) **12,39** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **189** L/s
L/(s·m²) **2,43** L/(s·m²)

L/s/person **7,56** L/s/person

Zone Sizing Summary for 13_RECEPÇÃO ESPERA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 13_RECEPÇÃO ESPERA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 77,9 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	965	965	12,39	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
TÉRREO	10,7	May 1400	0,5	77,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
TÉRREO							
T13_RECEPÇÃO ESPERA	1	10,7	May 1400	965	0,5	77,9	12,39

Ventilation Sizing Summary for 13_RECEPÇÃO ESPERA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 189 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T13_RECEPÇÃO ESPERA	1	77,9	25,0	965,2	0,00	0,00	189,0	0,0	189,0
Totals (incl. Space Multipliers)				965,2					189,0

Air System Sizing Summary for 14_CONSULTÓRIO INTERD.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **14_CONSULTÓRIO INTERD.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,0** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,0** kW
Sensible coil load **2,2** kW
Coil L/s at Dec 1600 **132** L/s
Max block L/s **132** L/s
Sum of peak zone L/s **132** L/s
Sensible heat ratio **0,721**
L/(s kW) **43,8**
m²/kW **3,6**
W/m² **274,2**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **23,6 / 16,9** °C
Leaving DB / WB **10,0 / 9,4** °C
Coil ADP **8,4** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,8** kW
Coil L/s at Des Htg **132** L/s
Max coil L/s **132** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **160,6**
Ent. DB / Lvg DB **9,0 / 20,1** °C

Supply Fan Sizing Data

Actual max L/s **132** L/s
Standard L/s **132** L/s
Actual max L/(s·m²) **12,02** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,55** L/(s·m²)

L/s/person **5,67** L/s/person

Zone Sizing Summary for 14_CONSULTÓRIO INTERD.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 14_CONSULTÓRIO INTERD.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 11,0 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	132	132	12,02	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,5	Apr 1400	0,1	11,0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T14_CONSULTÓRIO INTERD.	1	1,5	Apr 1400	132	0,1	11,0	12,02

Ventilation Sizing Summary for 14_CONSULTÓRIO INTERD.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T14_CONSULTÓRIO INTERD.	1	11,0	3,0	132,2	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				132,2					17,0

Air System Sizing Summary for 15_ATEND. INFATIL 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 15_ATEND. INFATIL 01
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 19,9 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 6,1 kW
Sensible coil load 4,3 kW
Coil L/s at Dec 1500 245 L/s
Max block L/s 245 L/s
Sum of peak zone L/s 245 L/s
Sensible heat ratio 0,701
L/(s kW) 40,0
m²/kW 3,2
W/m² 308,2
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1500
OA DB / WB 31,4 / 26,8 °C
Entering DB / WB 23,6 / 16,9 °C
Leaving DB / WB 9,1 / 8,6 °C
Coil ADP 7,5 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 3,3 kW
Coil L/s at Des Htg 245 L/s
Max coil L/s 245 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 164,6
Ent. DB / Lvg DB 8,7 / 19,7 °C

Supply Fan Sizing Data

Actual max L/s 245 L/s
Standard L/s 245 L/s
Actual max L/(s·m²) 12,33 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 31 L/s
L/(s·m²) 1,56 L/(s·m²)

L/s/person 3,10 L/s/person

Zone Sizing Summary for 15_ATEND. INFATIL 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 15_ATEND. INFATIL 01
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 19,9 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	245	245	12,33	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,7	May 1400	0,1	19,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T15_ATEND. INFATIL 01	1	2,7	May 1400	245	0,1	19,9	12,33

Ventilation Sizing Summary for 15_ATEND. INFATIL 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 31 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T15_ATEND. INFATIL 01	1	19,9	10,0	245,4	0,00	0,00	31,0	0,0	31,0
Totals (incl. Space Multipliers)				245,4					31,0

Air System Sizing Summary for 16_ATEND. INFATIL 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **16_ATEND. INFATIL 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **6,5** kW
Sensible coil load **4,6** kW
Coil L/s at Dec 1600 **270** L/s
Max block L/s **270** L/s
Sum of peak zone L/s **270** L/s
Sensible heat ratio **0,716**
L/(s kW) **41,9**
m²/kW **3,1**
W/m² **324,6**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1600**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **23,5 / 16,7** °C
Leaving DB / WB **9,3 / 8,8** °C
Coil ADP **7,7** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **3,6** kW
Coil L/s at Des Htg **270** L/s
Max coil L/s **270** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **181,2**
Ent. DB / Lvg DB **8,7 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **270** L/s
Standard L/s **270** L/s
Actual max L/(s·m²) **13,59** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **31** L/s
L/(s·m²) **1,56** L/(s·m²)

L/s/person **3,10** L/s/person

Zone Sizing Summary for 16_ATEND. INFATIL 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 16_ATEND. INFATIL 02
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 19,9 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	270	270	13,59	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	3,0	Apr 1400	0,2	19,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T16_ATEND. INFATIL 02	1	3,0	Apr 1400	270	0,2	19,9	13,59

Ventilation Sizing Summary for 16_ATEND. INFATIL 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 31 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T16_ATEND. INFATIL 02	1	19,9	10,0	270,4	0,00	0,00	31,0	0,0	31,0
Totals (incl. Space Multipliers)				270,4					31,0

Air System Sizing Summary for 17_SL. ATIVID..DE VIDA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 17_SL. ATIVID..DE VIDA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 24,2 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 5,5 kW
Sensible coil load 4,0 kW
Coil L/s at Feb 1500 255 L/s
Max block L/s 255 L/s
Sum of peak zone L/s 255 L/s
Sensible heat ratio 0,735
L/(s kW) 46,3
m²/kW 4,4
W/m² 227,5
Water flow @ 5,6 K rise N/A

Load occurs at Feb 1500
OA DB / WB 32,0 / 26,8 °C
Entering DB / WB 24,0 / 17,2 °C
Leaving DB / WB 10,8 / 10,2 °C
Coil ADP 9,4 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 3,4 kW
Coil L/s at Des Htg 255 L/s
Max coil L/s 255 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 140,8
Ent. DB / Lvg DB 9,1 / 20,2 °C

Supply Fan Sizing Data

Actual max L/s 255 L/s
Standard L/s 255 L/s
Actual max L/(s·m²) 10,54 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 36 L/s
L/(s·m²) 1,49 L/(s·m²)

L/s/person 18,00 L/s/person

Zone Sizing Summary for 17_SL. ATIVID..DE VIDA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 17_SL. ATIVID..DE VIDA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 24,2 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	255	255	10,54	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,8	Jan 1400	0,1	24,2

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T17_SL. ATIVID..DE VIDA	1	2,8	Jan 1400	255	0,1	24,2	10,54

Ventilation Sizing Summary for 17_SL. ATIVID..DE VIDA

Project Name: CER 4
Prepared by: J FRAGOSO

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 36 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T17_SL. ATIVID..DE VIDA	1	24,2	2,0	255,1	0,00	0,00	36,0	0,0	36,0
Totals (incl. Space Multipliers)				255,1					36,0

Air System Sizing Summary for 18_SL. ATEND. ADULTO 01

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name **18_SL. ATEND. ADULTO 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **5,6** kW
Sensible coil load **3,7** kW
Coil L/s at Dec 1500 **205** L/s
Max block L/s **205** L/s
Sum of peak zone L/s **205** L/s
Sensible heat ratio **0,673**
L/(s kW) **36,8**
m²/kW **3,6**
W/m² **278,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **24,1 / 17,5** °C
Leaving DB / WB **9,0 / 8,5** °C
Coil ADP **7,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,7** kW
Coil L/s at Des Htg **205** L/s
Max coil L/s **205** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **137,5**
Ent. DB / Lvg DB **8,4 / 19,5** °C

Supply Fan Sizing Data

Actual max L/s **205** L/s
Standard L/s **204** L/s
Actual max L/(s·m²) **10,28** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **31** L/s
L/(s·m²) **1,56** L/(s·m²)

L/s/person **3,10** L/s/person

Zone Sizing Summary for 18_SL. ATEND. ADULTO 01

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name **18_SL. ATEND. ADULTO 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,9** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	205	205	10,28	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,3	Jan 1400	0,1	19,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T18_SL. ATEND. ADULTO 01	1	2,3	Jan 1400	205	0,1	19,9	10,28

Ventilation Sizing Summary for 18_SL. ATEND. ADULTO 01

Project Name: CER 4
Prepared by: J FRAGOSO

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1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 31 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T18_SL. ATEND. ADULTO 01	1	19,9	10,0	204,5	0,00	0,00	31,0	0,0	31,0
Totals (incl. Space Multipliers)				204,5					31,0

Air System Sizing Summary for 19_SL. ATEND. ADULTO 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **19_SL. ATEND. ADULTO 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **4,9** kW
Sensible coil load **3,1** kW
Coil L/s at Dec 1500 **151** L/s
Max block L/s **151** L/s
Sum of peak zone L/s **151** L/s
Sensible heat ratio **0,625**
L/(s kW) **31,0**
m²/kW **4,1**
W/m² **245,1**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **24,4 / 18,0** °C
Leaving DB / WB **7,7 / 7,3** °C
Coil ADP **5,8** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,0** kW
Coil L/s at Des Htg **151** L/s
Max coil L/s **151** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **101,4**
Ent. DB / Lvg DB **9,3 / 20,3** °C

Supply Fan Sizing Data

Actual max L/s **151** L/s
Standard L/s **151** L/s
Actual max L/(s·m²) **7,60** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **31** L/s
L/(s·m²) **1,56** L/(s·m²)

L/s/person **3,10** L/s/person

Zone Sizing Summary for 19_SL. ATEND. ADULTO 02

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name **19_SL. ATEND. ADULTO 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **19,9** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	151	151	7,60	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,7	Jan 2100	0,0	19,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T19_SL. ATEND. ADULTO 02	1	1,7	Jan 2100	151	0,0	19,9	7,60

Ventilation Sizing Summary for 19_SL. ATEND. ADULTO 02

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **31** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T19_SL. ATEND. ADULTO 02	1	19,9	10,0	151,3	0,00	0,00	31,0	0,0	31,0
Totals (incl. Space Multipliers)				151,3					31,0

Air System Sizing Summary for 20_SL. ESTIMUL. PREC 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **20_SL. ESTIMUL. PREC 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,0** kW
Sensible coil load **1,8** kW
Coil L/s at Dec 1500 **98** L/s
Max block L/s **98** L/s
Sum of peak zone L/s **98** L/s
Sensible heat ratio **0,597**
L/(s kW) **32,4**
m²/kW **6,2**
W/m² **160,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **25,3 / 19,3** °C
Leaving DB / WB **10,0 / 9,6** °C
Coil ADP **8,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,3** kW
Coil L/s at Des Htg **98** L/s
Max coil L/s **98** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **70,5**
Ent. DB / Lvg DB **8,4 / 19,6** °C

Supply Fan Sizing Data

Actual max L/s **98** L/s
Standard L/s **98** L/s
Actual max L/(s·m²) **5,21** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **29** L/s
L/(s·m²) **1,54** L/(s·m²)

L/s/person **14,50** L/s/person

Zone Sizing Summary for 20_SL. ESTIMUL. PREC 01

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name 20_SL. ESTIMUL. PREC 01
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 18,8 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	98	98	5,21	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,1	Jan 2100	0,1	18,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T20_SL. ESTIMUL. PREC 01	1	1,1	Jan 2100	98	0,1	18,8	5,21

Ventilation Sizing Summary for 20_SL. ESTIMUL. PREC 01

Project Name: CER 4
Prepared by: J FRAGOSO

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1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **29** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T20_SL. ESTIMUL. PREC 01	1	18,8	2,0	97,9	0,00	0,00	29,0	0,0	29,0
Totals (incl. Space Multipliers)				97,9					29,0

Air System Sizing Summary for 21_SL. ESTIMUL. PREC 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **21_SL. ESTIMUL. PREC 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **18,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,6** kW
Sensible coil load **1,4** kW
Coil L/s at Dec 1500 **70** L/s
Max block L/s **70** L/s
Sum of peak zone L/s **70** L/s
Sensible heat ratio **0,540**
L/(s kW) **26,4**
m²/kW **7,1**
W/m² **140,7**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **26,4 / 20,7** °C
Leaving DB / WB **9,4 / 9,2** °C
Coil ADP **7,5** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **0,9** kW
Coil L/s at Des Htg **70** L/s
Max coil L/s **70** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **49,5**
Ent. DB / Lvg DB **9,2 / 20,2** °C

Supply Fan Sizing Data

Actual max L/s **70** L/s
Standard L/s **70** L/s
Actual max L/(s·m²) **3,72** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **29** L/s
L/(s·m²) **1,54** L/(s·m²)

L/s/person **14,50** L/s/person

Zone Sizing Summary for 21_SL. ESTIMUL. PREC 02

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name 21_SL. ESTIMUL. PREC 02
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 18,8 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	70	70	3,72	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	0,8	Jan 2100	0,0	18,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T21_SL. ESTIMUL. PREC 02	1	0,8	Jan 2100	70	0,0	18,8	3,72

Ventilation Sizing Summary for 21_SL. ESTIMUL. PREC 02

Project Name: CER 4
Prepared by: J FRAGOSO

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1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **29** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T21_SL. ESTIMUL. PREC 02	1	18,8	2,0	69,9	0,00	0,00	29,0	0,0	29,0
Totals (incl. Space Multipliers)				69,9					29,0

Air System Sizing Summary for 22_GINÁSIO DE GINESIOT.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 22_GINÁSIO DE GINESIOT.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 108,5 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 15,5 kW
Sensible coil load 8,7 kW
Coil L/s at Dec 1500 450 L/s
Max block L/s 450 L/s
Sum of peak zone L/s 450 L/s
Sensible heat ratio 0,563
L/(s kW) 29,0
m²/kW 7,0
W/m² 142,9
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1500
OA DB / WB 31,4 / 26,8 °C
Entering DB / WB 26,0 / 20,1 °C
Leaving DB / WB 9,9 / 9,6 °C
Coil ADP 8,1 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 6,1 kW
Coil L/s at Des Htg 450 L/s
Max coil L/s 450 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 56,4
Ent. DB / Lvg DB 8,4 / 19,6 °C

Supply Fan Sizing Data

Actual max L/s 450 L/s
Standard L/s 450 L/s
Actual max L/(s·m²) 4,15 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 164 L/s
L/(s·m²) 1,51 L/(s·m²)

L/s/person 16,40 L/s/person

Zone Sizing Summary for 22_GINÁSIO DE GINESIOT.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 22_GINÁSIO DE GINESIOT.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 108,5 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	450	450	4,15	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	5,0	Jan 2100	0,5	108,5

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T22_GINÁSIO DE GINESIOT.	1	5,0	Jan 2100	450	0,5	108,5	4,15

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 164 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T22_GINÁSIO DE GINESIOT.	1	108,5	10,0	449,8	0,00	0,00	164,0	0,0	164,0
Totals (incl. Space Multipliers)				449,8					164,0

Air System Sizing Summary for 23_SL. DE GIN. INFANTIL

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name 23_SL. DE GIN. INFANTIL
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 24,9 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 5,8 kW
Sensible coil load 4,3 kW
Coil L/s at Jan 1400 272 L/s
Max block L/s 272 L/s
Sum of peak zone L/s 272 L/s
Sensible heat ratio 0,736
L/(s kW) 46,5
m²/kW 4,3
W/m² 234,6
Water flow @ 5,6 K rise N/A

Load occurs at Jan 1400
OA DB / WB 31,8 / 26,8 °C
Entering DB / WB 23,8 / 17,0 °C
Leaving DB / WB 10,7 / 10,1 °C
Coil ADP 9,2 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 3,6 kW
Coil L/s at Des Htg 272 L/s
Max coil L/s 272 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 145,8
Ent. DB / Lvg DB 8,7 / 19,8 °C

Supply Fan Sizing Data

Actual max L/s 272 L/s
Standard L/s 272 L/s
Actual max L/(s·m²) 10,91 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 38 L/s
L/(s·m²) 1,53 L/(s·m²)

L/s/person 19,00 L/s/person

Zone Sizing Summary for 23_SL. DE GIN. INFANTIL

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 23_SL. DE GIN. INFANTIL
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 24,9 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	272	272	10,91	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	3,0	May 1400	0,2	24,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T23_SL. DE GIN. INFANTIL	1	3,0	May 1400	272	0,2	24,9	10,91

Ventilation Sizing Summary for 23_SL. DE GIN. INFANTIL

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **38** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T23_SL. DE GIN. INFANTIL	1	24,9	2,0	271,7	0,00	0,00	38,0	0,0	38,0
Totals (incl. Space Multipliers)				271,7					38,0

Air System Sizing Summary for 24_AMB. ESTOMIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **24_AMB. ESTOMIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,0** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,4** kW
Sensible coil load **2,6** kW
Coil L/s at Dec 1500 **166** L/s
Max block L/s **166** L/s
Sum of peak zone L/s **166** L/s
Sensible heat ratio **0,763**
L/(s kW) **48,9**
m²/kW **3,5**
W/m² **283,4**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **23,7 / 16,8** °C
Leaving DB / WB **10,8 / 10,2** °C
Coil ADP **9,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,2** kW
Coil L/s at Des Htg **166** L/s
Max coil L/s **166** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **185,3**
Ent. DB / Lvg DB **9,0 / 20,1** °C

Supply Fan Sizing Data

Actual max L/s **166** L/s
Standard L/s **166** L/s
Actual max L/(s·m²) **13,87** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **18** L/s
L/(s·m²) **1,50** L/(s·m²)

L/s/person **9,00** L/s/person

Zone Sizing Summary for 24_AMB. ESTOMIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **24_AMB. ESTOMIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,0** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	166	166	13,87	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,8	May 1400	0,1	12,0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T24_AMB. ESTOMIA	1	1,8	May 1400	166	0,1	12,0	13,87

Ventilation Sizing Summary for 24_AMB. ESTOMIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 18 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T24_AMB. ESTOMIA	1	12,0	2,0	166,4	0,00	0,00	18,0	0,0	18,0
Totals (incl. Space Multipliers)				166,4					18,0

Air System Sizing Summary for 25_ACOLHIMENTO FAMILIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **25_ACOLHIMENTO FAMILIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **46,2** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **13,5** kW
Sensible coil load **9,9** kW
Coil L/s at Feb 1400 **597** L/s
Max block L/s **597** L/s
Sum of peak zone L/s **597** L/s
Sensible heat ratio **0,733**
L/(s kW) **44,2**
m²/kW **3,4**
W/m² **292,6**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Feb 1400**
OA DB / WB **31,8 / 26,8** °C
Entering DB / WB **23,6 / 16,7** °C
Leaving DB / WB **9,8 / 9,2** °C
Coil ADP **8,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **8,0** kW
Coil L/s at Des Htg **597** L/s
Max coil L/s **597** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **172,5**
Ent. DB / Lvg DB **8,8 / 19,9** °C

Supply Fan Sizing Data

Actual max L/s **597** L/s
Standard L/s **596** L/s
Actual max L/(s·m²) **12,92** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **69** L/s
L/(s·m²) **1,49** L/(s·m²)

L/s/person **4,31** L/s/person

Zone Sizing Summary for 25_ACOLHIMENTO FAMILIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 25_ACOLHIMENTO FAMILIA
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 46,2 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	597	597	12,92	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	6,6	May 1400	0,3	46,2

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T25_ACOLHIMENTO FAMILIA	1	6,6	May 1400	597	0,3	46,2	12,92

Ventilation Sizing Summary for 25_ACOLHIMENTO FAMILIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 69 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T25_ACOLHIMENTO FAMILIA	1	46,2	16,0	596,9	0,00	0,00	69,0	0,0	69,0
Totals (incl. Space Multipliers)				596,9					69,0

Air System Sizing Summary for 26_CONS. MULTPROF. 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **26_CONS. MULTPROF. 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,1** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,5** kW
Sensible coil load **1,8** kW
Coil L/s at Dec 1400 **106** L/s
Max block L/s **106** L/s
Sum of peak zone L/s **106** L/s
Sensible heat ratio **0,701**
L/(s kW) **41,5**
m²/kW **4,0**
W/m² **251,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **23,9 / 17,2** °C
Leaving DB / WB **9,9 / 9,4** °C
Coil ADP **8,4** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,4** kW
Coil L/s at Des Htg **106** L/s
Max coil L/s **106** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **139,5**
Ent. DB / Lvg DB **8,7 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **106** L/s
Standard L/s **105** L/s
Actual max L/(s·m²) **10,45** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **15** L/s
L/(s·m²) **1,49** L/(s·m²)

L/s/person **5,00** L/s/person

Zone Sizing Summary for 26_CONS. MULTPROF. 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **26_CONS. MULTPROF. 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,1** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	106	106	10,45	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,2	Jan 1400	0,1	10,1

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T26_CONS. MULTPROF. 01	1	1,2	Jan 1400	106	0,1	10,1	10,45

Ventilation Sizing Summary for 26_CONS. MULTPROF. 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T26_CONS. MULTPROF. 01	1	10,1	3,0	105,5	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				105,5					15,0

Air System Sizing Summary for 27_CONS. MULTPROF. 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 27_CONS. MULTPROF. 02
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,1 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 3,5 kW
Sensible coil load 2,7 kW
Coil L/s at Dec 1500 173 L/s
Max block L/s 173 L/s
Sum of peak zone L/s 173 L/s
Sensible heat ratio 0,780
L/(s kW) 49,9
m²/kW 2,9
W/m² 343,9
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1500
OA DB / WB 31,4 / 26,8 °C
Entering DB / WB 23,2 / 16,3 °C
Leaving DB / WB 10,3 / 9,7 °C
Coil ADP 8,8 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 2,3 kW
Coil L/s at Des Htg 173 L/s
Max coil L/s 173 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 228,7
Ent. DB / Lvg DB 8,8 / 19,8 °C

Supply Fan Sizing Data

Actual max L/s 173 L/s
Standard L/s 173 L/s
Actual max L/(s·m²) 17,15 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 15 L/s
L/(s·m²) 1,49 L/(s·m²)

L/s/person 5,00 L/s/person

Zone Sizing Summary for 27_CONS. MULTPROF. 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 27_CONS. MULTPROF. 02
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,1 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	173	173	17,15	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,9	May 1400	0,1	10,1

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T27_CONS. MULTPROF. 02	1	1,9	May 1400	173	0,1	10,1	17,15

Ventilation Sizing Summary for 27_CONS. MULTPROF. 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T27_CONS. MULTPROF. 02	1	10,1	3,0	173,2	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				173,2					15,0

Air System Sizing Summary for 28_CONS. FISIATRIA/ORTO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **28_CONS. FISIATRIA/ORTO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,2** kW
Sensible coil load **2,4** kW
Coil L/s at Feb 1500 **149** L/s
Max block L/s **149** L/s
Sum of peak zone L/s **149** L/s
Sensible heat ratio **0,745**
L/(s kW) **46,0**
m²/kW **2,7**
W/m² **364,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **32,0 / 26,8** °C
Entering DB / WB **23,6 / 16,7** °C
Leaving DB / WB **10,1 / 9,6** °C
Coil ADP **8,7** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,0** kW
Coil L/s at Des Htg **149** L/s
Max coil L/s **149** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **224,0**
Ent. DB / Lvg DB **8,6 / 19,7** °C

Supply Fan Sizing Data

Actual max L/s **149** L/s
Standard L/s **149** L/s
Actual max L/(s·m²) **16,78** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,91** L/(s·m²)

L/s/person **5,67** L/s/person

Zone Sizing Summary for 28_CONS. FISIATRIA/ORTO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **28_CONS. FISIATRIA/ORTO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,9** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	149	149	16,78	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,7	Dec 1500	0,1	8,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T28_CONS. FISIATRIA/ORTO	1	1,7	Dec 1500	149	0,1	8,9	16,78

Ventilation Sizing Summary for 28_CONS. FISIATRIA/ORTO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T28_CONS. FISIATRIA/ORTO	1	8,9	3,0	149,3	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				149,3					17,0

Air System Sizing Summary for 29_SALA DE TI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **29_SALA DE TI**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **4,9** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,3** kW
Sensible coil load **2,3** kW
Coil L/s at Dec 1700 **163** L/s
Max block L/s **163** L/s
Sum of peak zone L/s **163** L/s
Sensible heat ratio **0,972**
L/(s kW) **69,6**
m²/kW **2,1**
W/m² **477,5**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1700**
OA DB / WB **30,8 / 26,7** °C
Entering DB / WB **23,1 / 15,5** °C
Leaving DB / WB **11,5 / 10,8** °C
Coil ADP **10,2** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **0 of 1** OK
Max zone temperature deviation **0,3** K

Central Heating Coil Sizing Data

Max coil load **2,2** kW
Coil L/s at Des Htg **163** L/s
Max coil L/s **163** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **441,8**
Ent. DB / Lvg DB **8,5 / 19,5** °C

Supply Fan Sizing Data

Actual max L/s **163** L/s
Standard L/s **163** L/s
Actual max L/(s·m²) **33,24** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **0** L/s
L/(s·m²) **0,00** L/(s·m²)

L/s/person **0,00** L/s/person

Zone Sizing Summary for 29_SALA DE TI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 29_SALA DE TI
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 4,9 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	163	163	33,24	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,8	Jan 1400	0,0	4,9

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T29_SALA DE TI	1	1,8	Jan 1400	163	0,0	4,9	33,24

Ventilation Sizing Summary for 29_SALA DE TI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 0 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T29_SALA DE TI	1	4,9	1,0	162,9	0,00	0,00	0,0	0,0	0,0
Totals (incl. Space Multipliers)				162,9					0,0

Air System Sizing Summary for 30_SL INTREGAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **30_SL INTREGAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **29,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **6,0** kW
Sensible coil load **4,2** kW
Coil L/s at Jan 1500 **253** L/s
Max block L/s **253** L/s
Sum of peak zone L/s **253** L/s
Sensible heat ratio **0,696**
L/(s kW) **42,1**
m²/kW **5,0**
W/m² **201,4**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Jan 1500**
OA DB / WB **32,0 / 26,8** °C
Entering DB / WB **24,2 / 17,6** °C
Leaving DB / WB **10,5 / 10,0** °C
Coil ADP **9,0** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **3,4** kW
Coil L/s at Des Htg **253** L/s
Max coil L/s **253** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **113,3**
Ent. DB / Lvg DB **8,8 / 19,9** °C

Supply Fan Sizing Data

Actual max L/s **253** L/s
Standard L/s **253** L/s
Actual max L/(s·m²) **8,48** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **44** L/s
L/(s·m²) **1,48** L/(s·m²)

L/s/person **14,67** L/s/person

Zone Sizing Summary for 30_SL INTREGAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 30_SL INTREGAÇÃO
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 29,8 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	253	253	8,48	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,8	Apr 1400	0,2	29,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T30_SL INTREGAÇÃO	1	2,8	Apr 1400	253	0,2	29,8	8,48

Ventilation Sizing Summary for 30_SL INTREGAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 44 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T30_SL INTREGAÇÃO	1	29,8	3,0	252,7	0,00	0,00	44,0	0,0	44,0
Totals (incl. Space Multipliers)				252,7					44,0

Air System Sizing Summary for 31_SL ESTIMULAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **31_SL ESTIMULAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **23,5** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **8,3** kW
Sensible coil load **5,8** kW
Coil L/s at Dec 1300 **330** L/s
Max block L/s **330** L/s
Sum of peak zone L/s **330** L/s
Sensible heat ratio **0,707**
L/(s kW) **40,0**
m²/kW **2,8**
W/m² **351,2**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1300**
OA DB / WB **30,8 / 26,6** °C
Entering DB / WB **23,4 / 16,6** °C
Leaving DB / WB **8,7 / 8,2** °C
Coil ADP **7,1** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **4,4** kW
Coil L/s at Des Htg **330** L/s
Max coil L/s **330** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **187,3**
Ent. DB / Lvg DB **8,7 / 19,7** °C

Supply Fan Sizing Data

Actual max L/s **330** L/s
Standard L/s **330** L/s
Actual max L/(s·m²) **14,04** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **36** L/s
L/(s·m²) **1,53** L/(s·m²)

L/s/person **2,25** L/s/person

Zone Sizing Summary for 31_SL ESTIMULAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 31_SL ESTIMULAÇÃO
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 23,5 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	330	330	14,04	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	3,7	May 1400	0,2	23,5

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T31_SL ESTIMULAÇÃO	1	3,7	May 1400	330	0,2	23,5	14,04

Ventilation Sizing Summary for 31_SL ESTIMULAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **36** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T31_SL ESTIMULAÇÃO	1	23,5	16,0	330,0	0,00	0,00	36,0	0,0	36,0
Totals (incl. Space Multipliers)				330,0					36,0

Air System Sizing Summary for 32_SL DE PROCED. INTERN

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **32_SL DE PROCED. INTERN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,6** kW
Sensible coil load **2,8** kW
Coil L/s at Dec 1500 **178** L/s
Max block L/s **178** L/s
Sum of peak zone L/s **178** L/s
Sensible heat ratio **0,765**
L/(s kW) **49,2**
m²/kW **3,5**
W/m² **282,4**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **23,5 / 16,6** °C
Leaving DB / WB **10,6 / 10,0** °C
Coil ADP **9,2** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,4** kW
Coil L/s at Des Htg **178** L/s
Max coil L/s **178** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **185,4**
Ent. DB / Lvg DB **8,8 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **178** L/s
Standard L/s **178** L/s
Actual max L/(s·m²) **13,90** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **19** L/s
L/(s·m²) **1,48** L/(s·m²)

L/s/person **9,50** L/s/person

Zone Sizing Summary for 32_SL DE PROCED. INTERN

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **32_SL DE PROCED. INTERN**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,8** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	178	178	13,90	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,0	May 1400	0,1	12,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T32_SL DE PROCED. INTERN	1	2,0	May 1400	178	0,1	12,8	13,90

Ventilation Sizing Summary for 32_SL DE PROCED. INTERN

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 19 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T32_SL DE PROCED. INTERN	1	12,8	2,0	177,9	0,00	0,00	19,0	0,0	19,0
Totals (incl. Space Multipliers)				177,9					19,0

Air System Sizing Summary for 33_CONSULTÓRIO NEUROL.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **33_CONSULTÓRIO NEUROL.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,9** kW
Sensible coil load **2,1** kW
Coil L/s at Feb 1600 **131** L/s
Max block L/s **131** L/s
Sum of peak zone L/s **131** L/s
Sensible heat ratio **0,735**
L/(s kW) **45,6**
m²/kW **3,9**
W/m² **259,0**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **31,8 / 26,8** °C
Entering DB / WB **23,7 / 16,9** °C
Leaving DB / WB **10,4 / 9,8** °C
Coil ADP **8,9** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,7** kW
Coil L/s at Des Htg **131** L/s
Max coil L/s **131** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **157,6**
Ent. DB / Lvg DB **8,8 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **131** L/s
Standard L/s **131** L/s
Actual max L/(s·m²) **11,81** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,53** L/(s·m²)

L/s/person **8,50** L/s/person

Zone Sizing Summary for 33_CONSULTÓRIO NEUROL.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **33_CONSULTÓRIO NEUROL.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1 m²**
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	131	131	11,81	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
TÉRREO	1,5	Apr 1400	0,1	11,1

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
TÉRREO							
T33_CONSULTÓRIO NEUROL.	1	1,5	Apr 1400	131	0,1	11,1	11,81

Ventilation Sizing Summary for 33_CONSULTÓRIO NEUROL.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T33_CONSULTÓRIO NEUROL.	1	11,1	2,0	131,1	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				131,1					17,0

Air System Sizing Summary for 34_CONSULT MULTIPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **34_CONSULT MULTIPROF 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,7** kW
Sensible coil load **1,9** kW
Coil L/s at Jan 1500 **117** L/s
Max block L/s **117** L/s
Sum of peak zone L/s **117** L/s
Sensible heat ratio **0,717**
L/(s kW) **43,6**
m²/kW **4,1**
W/m² **241,0**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Jan 1500**
OA DB / WB **32,0 / 26,8** °C
Entering DB / WB **24,0 / 17,3** °C
Leaving DB / WB **10,4 / 9,8** °C
Coil ADP **8,9** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,6** kW
Coil L/s at Des Htg **117** L/s
Max coil L/s **117** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **140,1**
Ent. DB / Lvg DB **8,7 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **117** L/s
Standard L/s **116** L/s
Actual max L/(s·m²) **10,50** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,53** L/(s·m²)

L/s/person **8,50** L/s/person

Zone Sizing Summary for 34_CONSULT MULTIPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **34_CONSULT MULTIPROF 01**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1 m²**
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	117	117	10,50	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
TÉRREO	1,3	Apr 1400	0,1	11,1

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
TÉRREO							
T34_CONSULT MULTIPROF 01	1	1,3	Apr 1400	117	0,1	11,1	10,50

Ventilation Sizing Summary for 34_CONSULT MULTIPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method **Sum of Space OA Airflows**
Design Ventilation Airflow Rate **17** L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T34_CONSULT MULTIPROF 01	1	11,1	2,0	116,6	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				116,6					17,0

Air System Sizing Summary for 35_CONSULT MULTIPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **35_CONSULT MULTIPROF 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **11,1** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,3** kW
Sensible coil load **2,5** kW
Coil L/s at Feb 1500 **163** L/s
Max block L/s **163** L/s
Sum of peak zone L/s **163** L/s
Sensible heat ratio **0,771**
L/(s kW) **49,4**
m²/kW **3,4**
W/m² **297,7**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Feb 1500**
OA DB / WB **32,0 / 26,8** °C
Entering DB / WB **23,7 / 16,7** °C
Leaving DB / WB **10,8 / 10,2** °C
Coil ADP **9,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,2** kW
Coil L/s at Des Htg **163** L/s
Max coil L/s **163** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **196,1**
Ent. DB / Lvg DB **8,8 / 19,8** °C

Supply Fan Sizing Data

Actual max L/s **163** L/s
Standard L/s **163** L/s
Actual max L/(s·m²) **14,71** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,53** L/(s·m²)

L/s/person **8,50** L/s/person

Zone Sizing Summary for 35_CONSULT MULTIPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 35_CONSULT MULTIPROF 02
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 11,1 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	163	163	14,71	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,8	Dec 1500	0,1	11,1

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T35_CONSULT MULTIPROF 02	1	1,8	Dec 1500	163	0,1	11,1	14,71

Ventilation Sizing Summary for 35_CONSULT MULTIPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T35_CONSULT MULTIPROF 02	1	11,1	2,0	163,2	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				163,2					17,0

Air System Sizing Summary for 36_SL EXAME PEATE-BERA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **36_SL EXAME PEATE-BERA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,5** kW
Sensible coil load **2,7** kW
Coil L/s at Dec 1400 **175** L/s
Max block L/s **175** L/s
Sum of peak zone L/s **175** L/s
Sensible heat ratio **0,782**
L/(s kW) **50,2**
m²/kW **2,5**
W/m² **396,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **23,3 / 16,4** °C
Leaving DB / WB **10,4 / 9,8** °C
Coil ADP **9,0** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,3** kW
Coil L/s at Des Htg **175** L/s
Max coil L/s **175** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **265,6**
Ent. DB / Lvg DB **8,8 / 19,9** °C

Supply Fan Sizing Data

Actual max L/s **175** L/s
Standard L/s **175** L/s
Actual max L/(s·m²) **19,91** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **15** L/s
L/(s·m²) **1,70** L/(s·m²)

L/s/person **5,00** L/s/person

Zone Sizing Summary for 36_SL EXAME PEATE-BERA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **36_SL EXAME PEATE-BERA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **8,8** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	175	175	19,91	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,9	Dec 1400	0,1	8,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T36_SL EXAME PEATE-BERA	1	1,9	Dec 1400	175	0,1	8,8	19,91

Ventilation Sizing Summary for 36_SL EXAME PEATE-BERA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T36_SL EXAME PEATE-BERA	1	8,8	3,0	175,2	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				175,2					15,0

Air System Sizing Summary for 37_SL PARA SEL. AASI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 37_SL PARA SEL. AASI
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,0 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 3,5 kW
Sensible coil load 2,7 kW
Coil L/s at Dec 1600 175 L/s
Max block L/s 175 L/s
Sum of peak zone L/s 175 L/s
Sensible heat ratio 0,781
L/(s kW) 50,1
m²/kW 2,9
W/m² 349,7
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1600
OA DB / WB 31,3 / 26,8 °C
Entering DB / WB 23,2 / 16,3 °C
Leaving DB / WB 10,3 / 9,7 °C
Coil ADP 8,8 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 2,3 kW
Coil L/s at Des Htg 175 L/s
Max coil L/s 175 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 233,6
Ent. DB / Lvg DB 8,8 / 19,9 °C

Supply Fan Sizing Data

Actual max L/s 175 L/s
Standard L/s 175 L/s
Actual max L/(s·m²) 17,51 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 15 L/s
L/(s·m²) 1,50 L/(s·m²)

L/s/person 5,00 L/s/person

Zone Sizing Summary for 37_SL PARA SEL. AASI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 37_SL PARA SEL. AASI
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,0 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	175	175	17,51	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,9	May 1400	0,1	10,0

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T37_SL PARA SEL. AASI	1	1,9	May 1400	175	0,1	10,0	17,51

Ventilation Sizing Summary for 37_SL PARA SEL. AASI

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T37_SL PARA SEL. AASI	1	10,0	3,0	175,1	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				175,1					15,0

Air System Sizing Summary for 38_SL AVALIAÇÃO AUD

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **38_SL AVALIAÇÃO AUD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,8** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **4,0** kW
Sensible coil load **3,2** kW
Coil L/s at Jan 1600 **204** L/s
Max block L/s **204** L/s
Sum of peak zone L/s **204** L/s
Sensible heat ratio **0,792**
L/(s kW) **51,2**
m²/kW **2,7**
W/m² **368,4**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Jan 1600**
OA DB / WB **31,8 / 26,8** °C
Entering DB / WB **23,3 / 16,3** °C
Leaving DB / WB **10,4 / 9,8** °C
Coil ADP **9,0** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,7** kW
Coil L/s at Des Htg **204** L/s
Max coil L/s **204** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **251,7**
Ent. DB / Lvg DB **8,9 / 20,0** °C

Supply Fan Sizing Data

Actual max L/s **204** L/s
Standard L/s **203** L/s
Actual max L/(s·m²) **18,85** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,57** L/(s·m²)

L/s/person **5,67** L/s/person

Zone Sizing Summary for 38_SL AVALIAÇÃO AUD

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **38_SL AVALIAÇÃO AUD**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,8** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	204	204	18,85	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,3	May 1400	0,1	10,8

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T38_SL AVALIAÇÃO AUD	1	2,3	May 1400	204	0,1	10,8	18,85

Ventilation Sizing Summary for 38_SL AVALIAÇÃO AUD

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T38_SL AVALIAÇÃO AUD	1	10,8	3,0	203,6	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				203,6					17,0

Air System Sizing Summary for 39_CONSULT. MULTPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 39_CONSULT. MULTPROF 01
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,6 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 3,7 kW
Sensible coil load 2,9 kW
Coil L/s at Dec 1400 189 L/s
Max block L/s 189 L/s
Sum of peak zone L/s 189 L/s
Sensible heat ratio 0,792
L/(s kW) 51,3
m²/kW 2,9
W/m² 347,8
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1400
OA DB / WB 31,3 / 26,8 °C
Entering DB / WB 23,1 / 16,2 °C
Leaving DB / WB 10,3 / 9,7 °C
Coil ADP 8,9 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 2,5 kW
Coil L/s at Des Htg 189 L/s
Max coil L/s 189 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 237,9
Ent. DB / Lvg DB 8,8 / 19,9 °C

Supply Fan Sizing Data

Actual max L/s 189 L/s
Standard L/s 189 L/s
Actual max L/(s·m²) 17,84 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 15 L/s
L/(s·m²) 1,42 L/(s·m²)

L/s/person 5,00 L/s/person

Zone Sizing Summary for 39_CONSULT. MULTPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 39_CONSULT. MULTPROF 01
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,6 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	189	189	17,84	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,1	May 1400	0,1	10,6

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T39_CONSULT. MULTPROF 01	1	2,1	May 1400	189	0,1	10,6	17,84

Ventilation Sizing Summary for 39_CONSULT. MULTPROF 01

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T39_CONSULT. MULTPROF 01	1	10,6	3,0	189,1	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				189,1					15,0

Air System Sizing Summary for 40_CONSULT. MULTPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **40_CONSULT. MULTPROF 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,4** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,5** kW
Sensible coil load **2,8** kW
Coil L/s at Feb 1600 **178** L/s
Max block L/s **178** L/s
Sum of peak zone L/s **178** L/s
Sensible heat ratio **0,787**
L/(s kW) **50,4**
m²/kW **2,9**
W/m² **339,7**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Feb 1600**
OA DB / WB **31,8 / 26,8** °C
Entering DB / WB **23,3 / 16,3** °C
Leaving DB / WB **10,4 / 9,8** °C
Coil ADP **8,9** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,4** kW
Coil L/s at Des Htg **178** L/s
Max coil L/s **178** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **228,4**
Ent. DB / Lvg DB **8,8 / 19,9** °C

Supply Fan Sizing Data

Actual max L/s **178** L/s
Standard L/s **178** L/s
Actual max L/(s·m²) **17,13** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **15** L/s
L/(s·m²) **1,44** L/(s·m²)

L/s/person **5,00** L/s/person

Zone Sizing Summary for 40_CONSULT. MULTPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

Air System Information

Air System Name **40_CONSULT. MULTPROF 02**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,4** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	178	178	17,13	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,0	Dec 1400	0,1	10,4

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T40_CONSULT. MULTPROF 02	1	2,0	Dec 1400	178	0,1	10,4	17,13

Ventilation Sizing Summary for 40_CONSULT. MULTPROF 02

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T40_CONSULT. MULTPROF 02	1	10,4	3,0	178,1	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				178,1					15,0

Air System Sizing Summary for 41_CONSULT. OTORRIN.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 41_CONSULT. OTORRIN.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 16,4 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 3,5 kW
Sensible coil load 2,7 kW
Coil L/s at Feb 1500 175 L/s
Max block L/s 175 L/s
Sum of peak zone L/s 175 L/s
Sensible heat ratio 0,784
L/(s kW) 50,1
m²/kW 4,7
W/m² 212,7
Water flow @ 5,6 K rise N/A

Load occurs at Feb 1500
OA DB / WB 32,0 / 26,8 °C
Entering DB / WB 23,4 / 16,4 °C
Leaving DB / WB 10,4 / 9,8 °C
Coil ADP 9,0 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 2,3 kW
Coil L/s at Des Htg 175 L/s
Max coil L/s 175 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Des Htg
W/m² 142,1
Ent. DB / Lvg DB 8,7 / 19,7 °C

Supply Fan Sizing Data

Actual max L/s 175 L/s
Standard L/s 175 L/s
Actual max L/(s·m²) 10,66 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 15 L/s
L/(s·m²) 0,91 L/(s·m²)

L/s/person 5,00 L/s/person

Zone Sizing Summary for 41_CONSULT. OTORRIN.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 41_CONSULT. OTORRIN.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 16,4 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	175	175	10,66	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,9	Dec 1600	0,1	16,4

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T41_CONSULT. OTORRIN.	1	1,9	Dec 1600	175	0,1	16,4	10,66

Ventilation Sizing Summary for 41_CONSULT. OTORRIN.

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 15 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T41_CONSULT. OTORRIN.	1	16,4	3,0	174,9	0,00	0,00	15,0	0,0	15,0
Totals (incl. Space Multipliers)				174,9					15,0

Air System Sizing Summary for 42_LAB PRÓTESE OCULAR

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **42_LAB PRÓTESE OCULAR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,2** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **4,3** kW
Sensible coil load **3,5** kW
Coil L/s at Jan 1500 **229** L/s
Max block L/s **229** L/s
Sum of peak zone L/s **229** L/s
Sensible heat ratio **0,813**
L/(s kW) **53,8**
m²/kW **2,9**
W/m² **348,7**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Jan 1500**
OA DB / WB **32,0 / 26,8** °C
Entering DB / WB **23,3 / 16,3** °C
Leaving DB / WB **10,8 / 10,2** °C
Coil ADP **9,4** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **3,1** kW
Coil L/s at Des Htg **229** L/s
Max coil L/s **229** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **250,7**
Ent. DB / Lvg DB **9,0 / 20,0** °C

Supply Fan Sizing Data

Actual max L/s **229** L/s
Standard L/s **229** L/s
Actual max L/(s·m²) **18,78** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **18** L/s
L/(s·m²) **1,48** L/(s·m²)

L/s/person **9,00** L/s/person

Zone Sizing Summary for 42_LAB PRÓTESE OCULAR

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **42_LAB PRÓTESE OCULAR**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **12,2** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	229	229	18,78	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,5	May 1400	0,1	12,2

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T42_LAB PRÓTESE OCULAR	1	2,5	May 1400	229	0,1	12,2	18,78

Ventilation Sizing Summary for 42_LAB PRÓTESE OCULAR

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 18 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T42_LAB PRÓTESE OCULAR	1	12,2	2,0	229,1	0,00	0,00	18,0	0,0	18,0
Totals (incl. Space Multipliers)				229,1					18,0

Air System Sizing Summary for 43_SL. ORIENTAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **43_SL. ORIENTAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **21,3** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **5,9** kW
Sensible coil load **4,6** kW
Coil L/s at Dec 1500 **298** L/s
Max block L/s **298** L/s
Sum of peak zone L/s **298** L/s
Sensible heat ratio **0,774**
L/(s kW) **50,5**
m²/kW **3,6**
W/m² **276,6**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **23,6 / 16,7** °C
Leaving DB / WB **10,9 / 10,3** °C
Coil ADP **9,5** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **4,0** kW
Coil L/s at Des Htg **298** L/s
Max coil L/s **298** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **186,7**
Ent. DB / Lvg DB **8,9 / 20,0** °C

Supply Fan Sizing Data

Actual max L/s **298** L/s
Standard L/s **298** L/s
Actual max L/(s·m²) **13,98** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **32** L/s
L/(s·m²) **1,50** L/(s·m²)

L/s/person **16,00** L/s/person

Zone Sizing Summary for 43_SL. ORIENTAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **43_SL. ORIENTAÇÃO**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **21,3** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	298	298	13,98	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	3,3	Apr 1400	0,2	21,3

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T43_SL. ORIENTAÇÃO	1	3,3	Apr 1400	298	0,2	21,3	13,98

Ventilation Sizing Summary for 43_SL. ORIENTAÇÃO

Project Name: CER 4
Prepared by: J FRAGOSO

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05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 32 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T43_SL. ORIENTAÇÃO	1	21,3	2,0	297,8	0,00	0,00	32,0	0,0	32,0
Totals (incl. Space Multipliers)				297,8					32,0

Air System Sizing Summary for 44_CONSUL. OFTALMOLOGIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **44_CONSUL. OFTALMOLOGIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,4** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **2,7** kW
Sensible coil load **1,7** kW
Coil L/s at Dec 1500 **91** L/s
Max block L/s **91** L/s
Sum of peak zone L/s **91** L/s
Sensible heat ratio **0,608**
L/(s kW) **33,2**
m²/kW **6,0**
W/m² **166,5**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **25,1 / 19,0** °C
Leaving DB / WB **9,9 / 9,5** °C
Coil ADP **8,2** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **1,2** kW
Coil L/s at Des Htg **91** L/s
Max coil L/s **91** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **74,6**
Ent. DB / Lvg DB **8,4 / 19,6** °C

Supply Fan Sizing Data

Actual max L/s **91** L/s
Standard L/s **90** L/s
Actual max L/(s·m²) **5,52** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **25** L/s
L/(s·m²) **1,52** L/(s·m²)

L/s/person **12,50** L/s/person

Zone Sizing Summary for 44_CONSUL. OFTALMOLOGIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **44_CONSUL. OFTALMOLOGIA**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **16,4** m²
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	91	91	5,52	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	1,0	Jan 2100	0,1	16,4

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T44_CONSUL. OFTALMOLOGIA	1	1,0	Jan 2100	91	0,1	16,4	5,52

Ventilation Sizing Summary for 44_CONSUL. OFTALMOLOGIA

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 25 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T44_CONSUL. OFTALMOLOGIA	1	16,4	2,0	90,5	0,00	0,00	25,0	0,0	25,0
Totals (incl. Space Multipliers)				90,5					25,0

Air System Sizing Summary for 45_CONSUL. MULTPROF

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **45_CONSUL. MULTPROF**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **10,6** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,7** kW
Sensible coil load **2,9** kW
Coil L/s at Dec 1500 **192** L/s
Max block L/s **192** L/s
Sum of peak zone L/s **192** L/s
Sensible heat ratio **0,792**
L/(s kW) **51,8**
m²/kW **2,9**
W/m² **349,3**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1500**
OA DB / WB **31,4 / 26,8** °C
Entering DB / WB **23,4 / 16,4** °C
Leaving DB / WB **10,7 / 10,1** °C
Coil ADP **9,3** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,6** kW
Coil L/s at Des Htg **192** L/s
Max coil L/s **192** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **241,7**
Ent. DB / Lvg DB **8,9 / 20,0** °C

Supply Fan Sizing Data

Actual max L/s **192** L/s
Standard L/s **192** L/s
Actual max L/(s·m²) **18,11** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **17** L/s
L/(s·m²) **1,60** L/(s·m²)

L/s/person **8,50** L/s/person

Zone Sizing Summary for 45_CONSUL. MULTPROF

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 45_CONSUL. MULTPROF
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 10,6 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	192	192	18,11	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,1	May 1400	0,1	10,6

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T45_CONSUL. MULTPROF	1	2,1	May 1400	192	0,1	10,6	18,11

Ventilation Sizing Summary for 45_CONSUL. MULTPROF

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 17 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T45_CONSUL. MULTPROF	1	10,6	2,0	191,9	0,00	0,00	17,0	0,0	17,0
Totals (incl. Space Multipliers)				191,9					17,0

Air System Sizing Summary for 46_SL. ORIENTAÇÃO.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **46_SL. ORIENTAÇÃO.**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **15,4** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **3,9** kW
Sensible coil load **2,9** kW
Coil L/s at Dec 1400 **180** L/s
Max block L/s **180** L/s
Sum of peak zone L/s **180** L/s
Sensible heat ratio **0,728**
L/(s kW) **45,7**
m²/kW **3,9**
W/m² **255,9**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **23,8 / 17,1** °C
Leaving DB / WB **10,6 / 10,0** °C
Coil ADP **9,1** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,4** kW
Coil L/s at Des Htg **180** L/s
Max coil L/s **180** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Des Htg**
W/m² **156,4**
Ent. DB / Lvg DB **9,0 / 20,1** °C

Supply Fan Sizing Data

Actual max L/s **180** L/s
Standard L/s **180** L/s
Actual max L/(s·m²) **11,70** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **25** L/s
L/(s·m²) **1,62** L/(s·m²)

L/s/person **12,50** L/s/person

Zone Sizing Summary for 46_SL. ORIENTAÇÃO.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 46_SL. ORIENTAÇÃO.
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 15,4 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	180	180	11,70	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	2,0	Jan 1400	0,1	15,4

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T46_SL. ORIENTAÇÃO.	1	2,0	Jan 1400	180	0,1	15,4	11,70

Ventilation Sizing Summary for 46_SL. ORIENTAÇÃO.

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 25 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T46_SL. ORIENTAÇÃO.	1	15,4	2,0	180,1	0,00	0,00	25,0	0,0	25,0
Totals (incl. Space Multipliers)				180,1					25,0

Air System Sizing Summary for 47_ESTER, DISTRIB. CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 47_ESTER, DISTRIB. CME
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 5,5 m²
Location Salvador, Brazil

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

Central Cooling Coil Sizing Data

Total coil load 8,4 kW
Sensible coil load 3,5 kW
Coil L/s at Dec 1500 125 L/s
Max block L/s 125 L/s
Sum of peak zone L/s 125 L/s
Sensible heat ratio 0,417
L/(s kW) 14,8
m²/kW 0,7
W/m² 1530,9
Water flow @ 5,6 K rise N/A

Load occurs at Dec 1500
OA DB / WB 31,4 / 26,8 °C
Entering DB / WB 31,4 / 26,8 °C
Leaving DB / WB 8,2 / 8,6 °C
Coil ADP 5,6 °C
Bypass Factor 0,100
Resulting RH 45 %
Design supply temp. 12,8 °C
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0,0 K

Central Heating Coil Sizing Data

Max coil load 1,9 kW
Coil L/s at Dec 0700 125 L/s
Max coil L/s 125 L/s
Water flow @ 11,1 K drop N/A

Load occurs at Dec 0700
W/m² 353,5
Ent. DB / Lvg DB 7,8 / 20,7 °C

Supply Fan Sizing Data

Actual max L/s 125 L/s
Standard L/s 125 L/s
Actual max L/(s·m²) 22,73 L/(s·m²)

Fan motor BHP 0,00 BHP
Fan motor kW 0,00 kW
Fan static 0 Pa

Outdoor Ventilation Air Data

Design airflow L/s 125 L/s
L/(s·m²) 22,73 L/(s·m²)

L/s/person 62,50 L/s/person

Zone Sizing Summary for 47_ESTER, DISTRIB. CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 47_ESTER, DISTRIB. CME
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 5,5 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	125	125	22,73	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	0,3	Jan 2300	0,0	5,5

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T47_ESTER, DISTRIB. CME	1	0,3	Jan 2300	125	0,0	5,5	22,73

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 125 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T47_ESTER, DISTRIB. CME	1	5,5	2,0	125,0	0,00	0,00	125,0	0,0	125,0
Totals (incl. Space Multipliers)				125,0					125,0

Air System Sizing Summary for 48_ESTER, DISTRIB. CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name **48_ESTER, DISTRIB. CME**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **2,2** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **1,9** kW
Sensible coil load **0,8** kW
Coil L/s at Dec 1400 **27** L/s
Max block L/s **27** L/s
Sum of peak zone L/s **27** L/s
Sensible heat ratio **0,419**
L/(s kW) **14,4**
m²/kW **1,2**
W/m² **851,4**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **31,3 / 26,8** °C
Leaving DB / WB **7,2 / 7,7** °C
Coil ADP **4,5** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **0,4** kW
Coil L/s at Jul 0700 **27** L/s
Max coil L/s **27** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Jul 0700**
W/m² **168,7**
Ent. DB / Lvg DB **7,6 / 19,0** °C

Supply Fan Sizing Data

Actual max L/s **27** L/s
Standard L/s **27** L/s
Actual max L/(s·m²) **12,27** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **27** L/s
L/(s·m²) **12,27** L/(s·m²)

L/s/person **27,00** L/s/person

Zone Sizing Summary for 48_ESTER, DISTRIB. CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name 48_ESTER, DISTRIB. CME
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 2,2 m²
Location Salvador, Brazil

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

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m ²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	27	27	12,27	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m ²)
TÉRREO	0,2	Jan 2300	0,0	2,2

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m ²)	Space L/(s·m ²)
TÉRREO							
T48_PARAM. A. LIMPA CME	1	0,2	Jan 2300	27	0,0	2,2	12,27

Ventilation Sizing Summary for 48_ESTER, DISTRIB. CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 27 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T48_PARAM. A. LIMPA CME	1	2,2	1,0	27,0	0,00	0,00	27,0	0,0	27,0
Totals (incl. Space Multipliers)				27,0					27,0

Air System Sizing Summary for 49_RECEPÇÃO LAVAGEM CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name ... **49_RECEPÇÃO LAVAGEM CME**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **5,5** m²
Location **Salvador, Brazil**

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**

Central Cooling Coil Sizing Data

Total coil load **8,5** kW
Sensible coil load **3,5** kW
Coil L/s at Dec 1400 **125** L/s
Max block L/s **125** L/s
Sum of peak zone L/s **125** L/s
Sensible heat ratio **0,417**
L/(s kW) **14,7**
m²/kW **0,6**
W/m² **1546,3**
Water flow @ 5,6 K rise **N/A**

Load occurs at **Dec 1400**
OA DB / WB **31,3 / 26,8** °C
Entering DB / WB **31,3 / 26,8** °C
Leaving DB / WB **7,8 / 8,2** °C
Coil ADP **5,2** °C
Bypass Factor **0,100**
Resulting RH **45** %
Design supply temp. **12,8** °C
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0,0** K

Central Heating Coil Sizing Data

Max coil load **2,0** kW
Coil L/s at Dec 0300 **125** L/s
Max coil L/s **125** L/s
Water flow @ 11,1 K drop **N/A**

Load occurs at **Dec 0300**
W/m² **355,3**
Ent. DB / Lvg DB **7,8 / 20,7** °C

Supply Fan Sizing Data

Actual max L/s **125** L/s
Standard L/s **125** L/s
Actual max L/(s·m²) **22,73** L/(s·m²)

Fan motor BHP **0,00** BHP
Fan motor kW **0,00** kW
Fan static **0** Pa

Outdoor Ventilation Air Data

Design airflow L/s **125** L/s
L/(s·m²) **22,73** L/(s·m²)

L/s/person **62,50** L/s/person

Zone Sizing Summary for 49_RECEPÇÃO LAVAGEM CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

Air System Information

Air System Name ... **49_RECEPÇÃO LAVAGEM CME**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **5,5 m²**
Location **Salvador, Brazil**

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**

Zone Terminal Sizing Data

Zone Name	Design Supply Airflow (L/s)	Minimum Supply Airflow (L/s)	Zone L/(s·m²)	Reheat Coil Load (kW)	Reheat Coil Water L/s @ 11,1 K	Zone Htg Unit Coil Load (kW)	Zone Htg Unit Water L/s @ 11,1 K	Mixing Box Fan Airflow (L/s)
TÉRREO	125	125	22,73	0,0	-	0,0	-	0

Zone Peak Sensible Loads

Zone Name	Zone Cooling Sensible (kW)	Time of Peak Sensible Cooling Load	Zone Heating Load (kW)	Zone Floor Area (m²)
TÉRREO	0,3	Jan 2300	0,0	5,5

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (kW)	Time of Peak Sensible Load	Air Flow (L/s)	Heating Load (kW)	Floor Area (m²)	Space L/(s·m²)
TÉRREO							
T49_RECEPÇÃO LAVAGEM CME	1	0,3	Jan 2300	125	0,0	5,5	22,73

Ventilation Sizing Summary for 49_RECEPÇÃO LAVAGEM CME

Project Name: CER 4
Prepared by: J FRAGOSO

12/19/2025
05:12

1. Summary

Ventilation Sizing Method Sum of Space OA Airflows
Design Ventilation Airflow Rate 125 L/s

2. Space Ventilation Analysis

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)
TÉRREO									
T49_RECEPÇÃO LAVAGEM CME	1	5,5	2,0	125,0	0,00	0,00	125,0	0,0	125,0
Totals (incl. Space Multipliers)				125,0					125,0